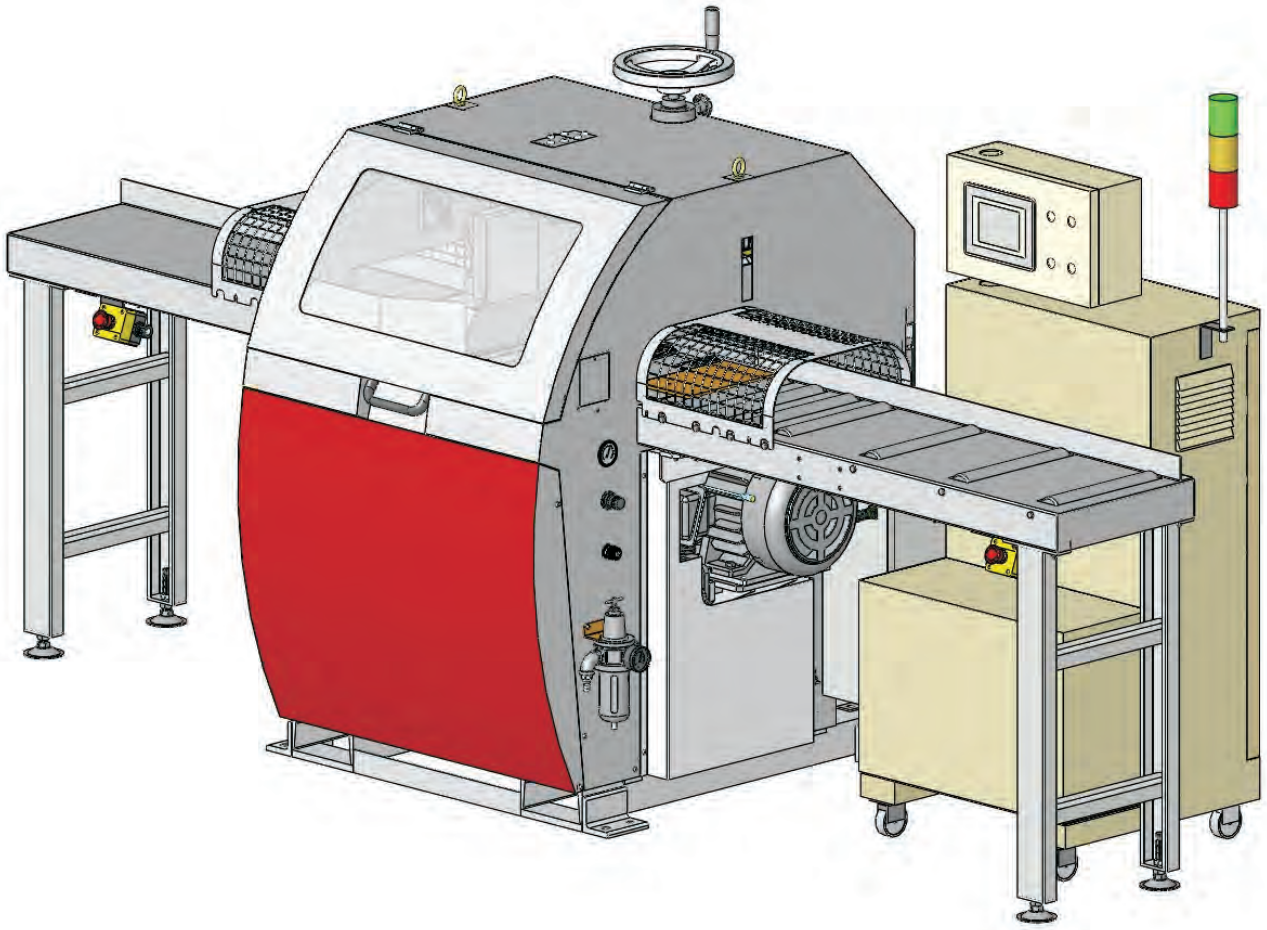
OLIVER

SEMI-OPTIMIZING CUT-OFF SAW

CE



M-5045.002

OPERATION & BREAK-DOWN

SPECIFICATIONS

Model NO.: M-5045.002

Serial NO.: 14100019

Production date: MAY.2014

Operating volt: 220 Volt

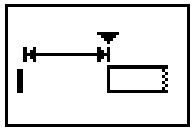
Drive specifications:

Saw arbor motor	1 set	10 HP	230 V	60 Hz
Feed motor	1 set	2 KW	220 V	

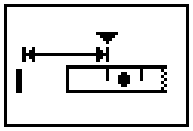
Belt specifications:

Saw arbor	1 pc	ribbed belt 720-8M-40
Conveyor rollers(servo motor)	1 pc	ribbed belt 720-8M-40
Conveyor rollers	1 pc	ribbed belt 2400-8M-40

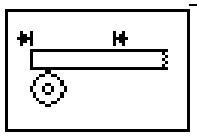
Basic parameters:



_____(refer to Ch.3-2)



_____(refer to Ch.3-2)



_____(refer to Ch.3-2)

PREFACE

This manual explains how to install, operate, and maintain the M-5045.002 SEMI-OPTIMIZING CUT-OFF SAW. Please make certain to read the information contained herein to ensure safe operation and to achieve the longest life span and finest results possible.

When your saw requires professional repair or maintenance, contact your local dealer giving him the following information:

- ☑ Model number
- ☑ Serial number
- ☑ Date of purchase
- ☑ Precise details of the fault or problem

Your dealer can provide parts and service authorized by head office ensuring safe and efficient operation.

CONTENTS

CHAPTER1: INTRODUCTION

1-1 SAFETY PRECAUTIONS

1-1.1 GENERAL INFORMATION

This instruction manual is used for the safe operation and maintenance of the Cut-off Saw.

Always keep this manual available at the place of machine operation.

Ensure that work on and with the machine is only carried out by reliable personnel who have the relevant training, are authorized, and have been certified for this type of work. Personnel should be familiar with the local conditions or by instructed persons under the direction and supervision of a manager. This applies not only to operation of the machine, but also to special work within the scope of its use (Commissioning, Maintenance, etc.) and particularly for work on hydraulics, pneumatics, electrics and software.

Do not modify electrical circuits, electrical components, parts or anything on the machine unless authorized by the manufacturer. The manufacturer will not accept any liability for personal injury or material damage, arising on account of the following actions:

- ☑ Non-observant of operating instructions.
- ☑ Non-observant of the details on the order confirmation.
- ☑ Non-observant of general and country-specific valid conditions and regulations.

All of the figures and diagrams in this instruction manual provide the most up-to-date information applicable to this machine. Upon receipt of the Cut-off saw, customers are required to make sure the model number on the cover of the instruction manual is the same as the machine purchased. As long as all of the conditions are being met for proper usage and maintenance (and assuming that it is operated under normal working conditions) a one (1) year warranty will take affect. If the damage of the machine is due to improper usage, maintenance, or any unforeseen catastrophic, natural disaster, the warranty does not apply.

1-1.2 GENERAL SAFETY REGULATIONS

- ☑ This machine is intended exclusively for wood cutting. Unauthorized materials, i.e. metal are not to be used. Any other use than that designated will be construed as improper.
- ☑ Machine operators are to be only qualified personnel who have been adequately trained.
- ☑ Personnel must be trained in all areas of safety regulations and requirements.
- ☑ Operators are to familiarize themselves with all areas of the operation manual carefully before operating machine. It is important to pay attention to the directions on the labels attached to the machine.
- ☑ During installation, properly ground the machine to prevent electric shock hazards.
- ☑ All guards and covers shall be closed at all times except when maintenance is required.
- ☑ Inspect machine only when it is turned off.
- ☑ Do not attempt to clear the chips from work piece before actuating spindle motor. Let the saw blade run idle for at least five (5) minutes.
- ☑ Disconnect electrical power before installing saw blade or performing routine maintenance.
- ☑ Wear goggles, mouthpiece, ear protection and safety shoes when operating machine.
- ☑ Do not wear loose clothing, long sleeves or neckties during operation.
- ☑ Wear protective hair covering or hard hat to prevent long hair from falling down during operation.
- ☑ Keep the area around machine clean and dry. Remove clogs and scraps.
- ☑ Test machine operation manually before operating in automatic mode.
- ☑ Never operate the machine unattended; when switching off, remain at the machine until all motion stops.
- ☑ Do not change feed speed while machine is running. During cutting, clear all unnecessary objects other than work piece on the machine or table.
- ☑ After switching off the spindle motor, allow the spindle to stop freely. Never attempt to stop the spindle by hand or other objects.
- ☑ During cutting, do not try to adjust the dust hood or pressure mechanism roll after spindle starts. The dust collector is to be switched on before commencing machining.
- ☑ Never modify mechanical functions and capacity of machine without being approved.
- ☑ Only a qualified operator should be allowed to operate the machine.
- ☑ Never open the electrical cabinet without approval. Consult an electrical technician or qualified electrical engineer for trouble shooting.
- ☑ This machine cannot be used in a spark generated or explosive environment.

1-1.3 GENEARL SAFE WORKING PRACTICES

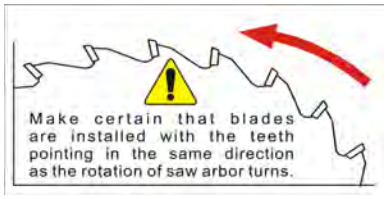
The information given in this annex should be included in the instruction handbook. The manufacturer should also include any other information specific to the machine, which concerns its safe use.

- ☑ Only persons who are properly trained shall operate the machine. The training shall include information concerning the dangers associated with the use of the machine and the precautions to be observed. An unobstructed working area around the machine is fundamental to its safe operation. The floor shall be level, well maintained and kept free from loose materials, i.e. chips and shavings.
- ☑ Adequate general or localized lighting of the work place shall be provided.
- ☑ Personnel protective devices, i.e. ear protection shall be used whenever necessary when the machine is in use. Gloves shall be used when handling tools or rough materials. The operator shall not leave the machine running while unattended.
- ☑ Any defects or faults in the machine including guards or tools shall be reported as soon as they are discovered and appropriate action taken.
- ☑ Procedures for safe cleaning, maintenance, fault finding and correction shall be used.
- ☑ Only tools which comply with EN 847-1 shall be used.
- ☑ Tool manufacturer’s instructions for use, adjustment and repair of tools shall be followed.
- ☑ The maximum rotation speed marked on the tools must not be exceeded.
- ☑ It is important to ensure that any spacing collars used are suitable for the purpose and as stated by the manufacturer.
- ☑ The work piece shall be properly supported using additional support if necessary, i.e. for longer lengths. To ensure work pieces are effectively retained it is important to maintain a common batch stock size.
- ☑ No attempt shall be made to remove any splinters or other part of the work piece from the cutting area while the machine is running.
- ☑ Machine shall not be used unless all of the guards and other safety devices necessary for the machining are in position, are in good working order and are properly maintained.
- ☑ Operators shall be trained and instructed in the proper use of the guards. In addition, they shall be instructed to carry out regular examination of such guards and safety devices.
- ☑ Ground the machine. It should make sure the "PE" terminal being connection before machine operating and disconnect the electrical power before any electrical service against electrical shock due to indirect contact.
- ☑ Don't use machines in damp or wet locations, or expose them to rain. Please provide a suitable illumination around the machine for safety operation.

- ☑ It is necessary to wait for the complete standstill of the machine before opening the guard(s).
- ☑ SHUT OFF the powers, removed the products, and isolated energy before leaving the machine. Shut off the power and lockout only when the machine is stationary before inspection, maintenance, adjustment and cleaning.


- ☑ If a blockage is likely to occur, please the EMS button to stop the machine, the use special-key to release the safety guard and use tools to help remove the blockage wood by step.
- ☑ The floor area around the machine to be level, well maintained and free from loose material e.g. chips and off-cuts.
- ☑ Adequate general or localized lighting to be provided.
- ☑ Stock and finished workpieces to be located close to the operator normal working position.
- ☑ Please wear hearing protection to reduce the risk of induced hearing loss.
- ☑ Please wear respiratory protection to reduce the risk of inhalation of harmful dust.
- ☑ Please wear gloves for handling saw blades.
- ☑ To stop the machine running whilst unattended.
- ☑ To report faults in the machine, including guards or saw blades, as soon as they are discovered.
- ☑ To adopt safe procedures for clearing, maintenance and remove chips and dust regularly to avoid the risk of fire.
- ☑ To follow manufacturers instructions for use, adjustment and repair of saw blades.
- ☑ To observe the maximum speed marked on the saw blades.
- ☑ To use correctly sharpened saw blades follow manufacturers required process.
- ☑ To ensure that any spacers and spindle rings used are suitable for the purpose as stated by the manufacturer.
- ☑ To refrain from removing any off-cut or other part of the workpiece from the cutting area until the saw blade has stopped.
- ☑ To ensure that guards and other safety devices necessary for machine operation are in position, in good working order and properly maintained.
- ☑ The training of the operator should be carried out by our authorized agent or service engineer in an oral/practical in site of the ordered sawing machine, including explanation of protective device, mechanism, adjustment and operation/use.

1-1.4 CONTESTS OF WARNING LABELS

Dangerous area and Working Environment		
Hazards Location	Precaution	Marking Label
Working area	High noise! High dust environment! Be careful for eject-out of material! Please wear gloves during operation.	
Warning sign	Warning on the electrical cabinet and terminal box. Be sure to connect the earth line on control box, electric cabinet.	
Sawing area	Rotating saw-blade! Do not open guard before the movements are stopped standstill.	
Working area	High speed! Don't put fingers, hands or any part of body into sawing area before the saw-blade stop standstill. Shut down the machine before inspection, maintenance, adjustment and cleaning.	
Driving area	Do not access the driving belt during machine operation. Shut down the machine before inspection, maintenance, adjustment and cleaning. Keep safety guard in place.	
Outfeed area	Impact hazard. Do not stand outfeed area during operation.	

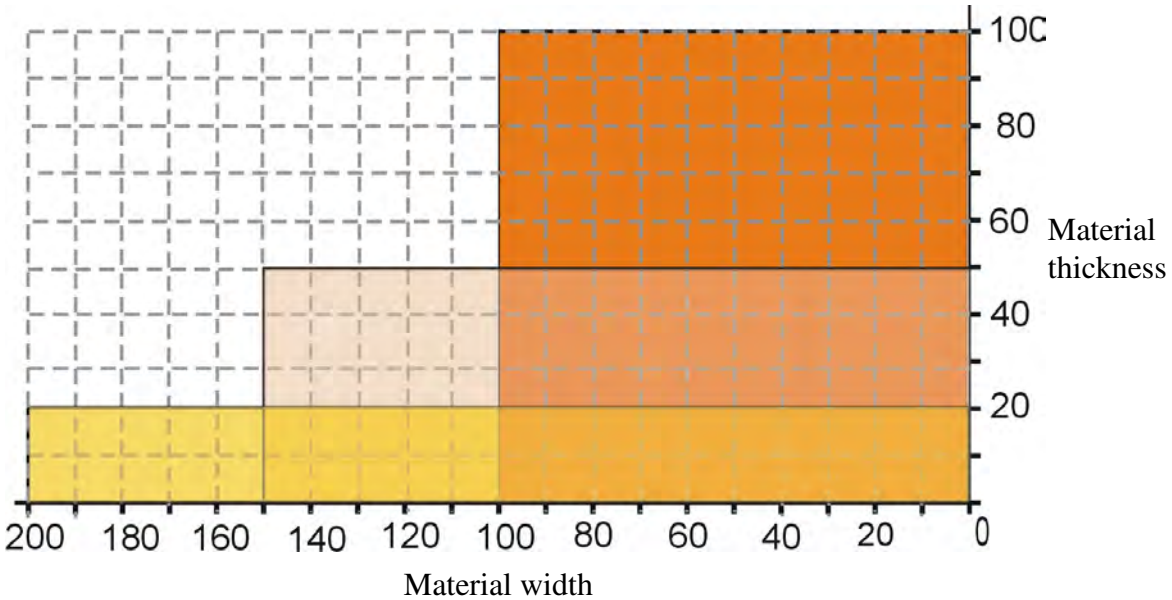
✱Operator MUST follows all safety principles and warning stickers on machine.

1-2 SPECIFICATIONS

Saw motor	10HP
Feed motor	2 kw
Saw spindle speed	3400 r.p.m
Feed speed	80 m/min
Circular saw diameter	∅455mm (18")
Saw spindle diameter	∅30mm
Height of bed〔H〕	900mm
Minimum distance of marks	20mm
Minimum cutting size (L×W×H)	300×30×10mm
Mini. cutting length (for cutting the last piece of product)	150mm(200mm)
Cutting size	See the diagram of cutting range
Max. loading weight of material	25kg
Cutting tolerance (for material length up to 1m)	±1mm
Cutting tolerance (for material length up to 2m)	±2mm
Air pressure	7-9 kg/cm²
Dust outlet	∅100mm x 2
Machine weight	900kgs
Machine dimension(L×W×H)	1170×1210×1200mm (W/O roller table)

✱We reserve the right to amend any of the above specifications without prior notice.

CUTTIG RANGE DIAGRAM:

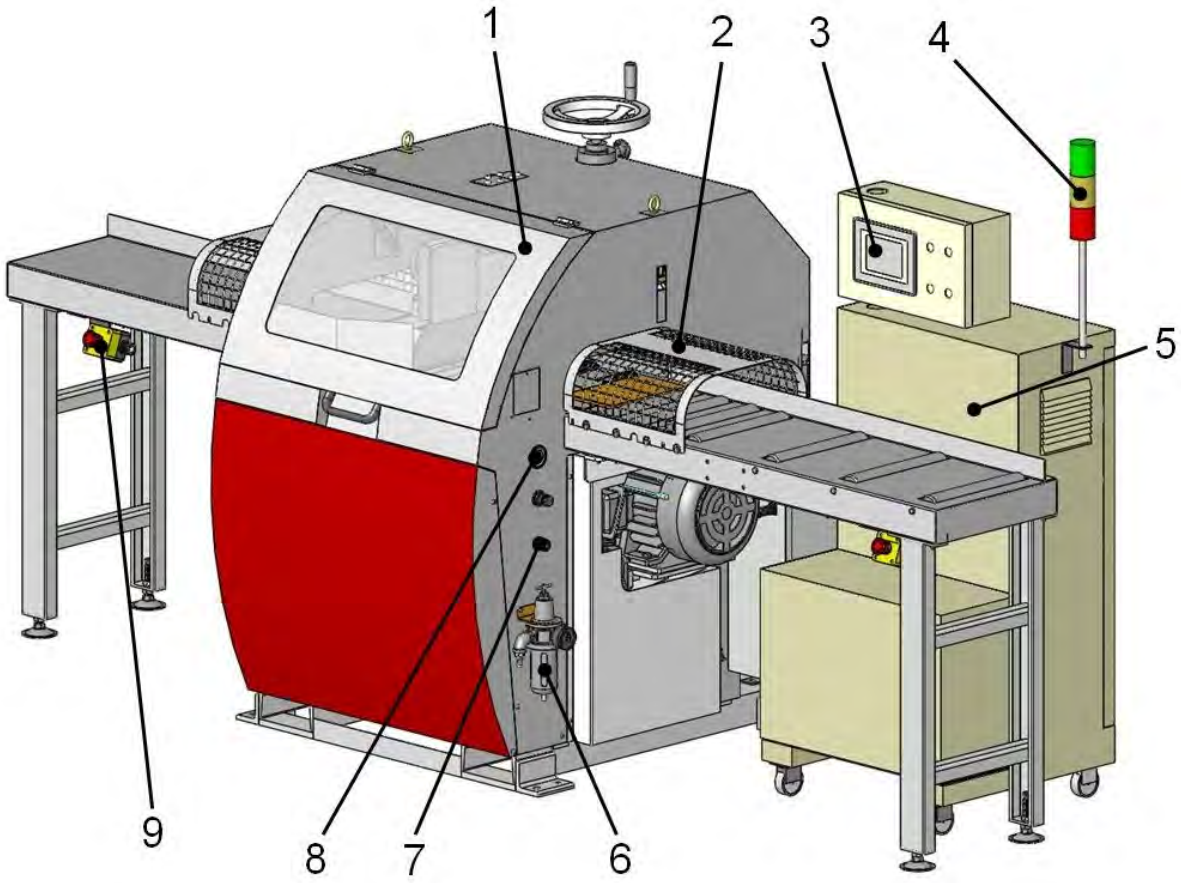


1-3 FEATURES

This economically priced, compact, easy to operate saw provides extremely high cutting accuracy at high feed speeds up to 80 meters per minute.

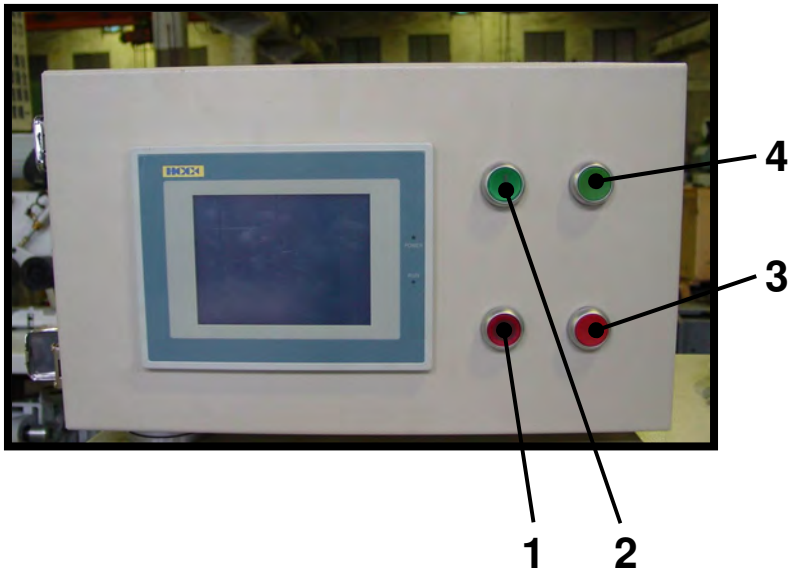
- High cutting accuracy within ±1mm.
- Comprehensive safety guards reduce noise and minimize danger.
- Employs servo motor and driver which feature compact construction, high speed response capability, high torque and comprehensive protection features.
- The machine employs fluorescent crayons to indicate the defective parts. And then a photoelectric sensor will sense the crayon lines and guide the blade to cut off the defective parts.

1-4 LOCATION OF PARTS



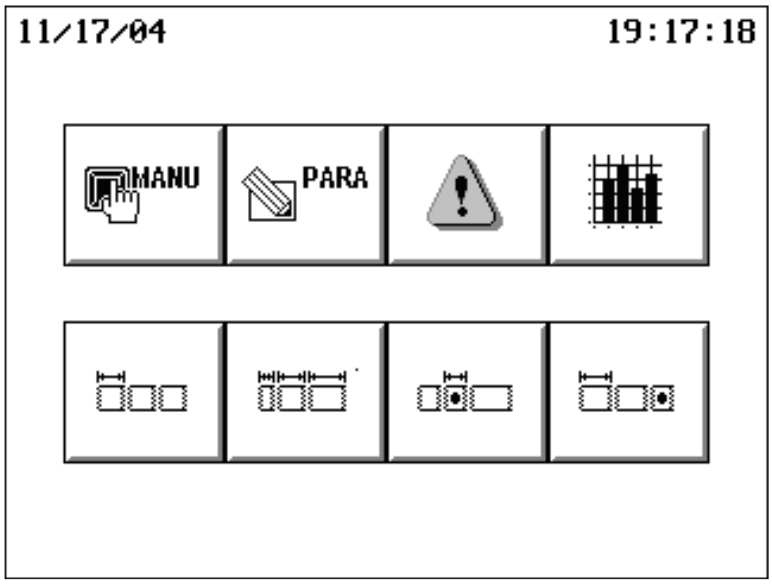
1. Safety door
2. Infeed screen safeguard
3. Control panel
4. Warning lamp
5. Electrical control box
6. Filter/regulator unit
7. Cutting speed regulator
8. Air pressure gauge for pressure rollers
9. Emergency stop switch

CONTROL PANEL:

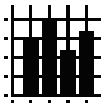
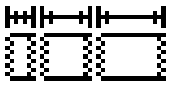
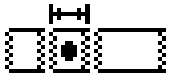
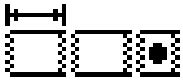


1. Power OFF switch – button (red)
2. Power ON switch – button (green)
3. Stop button (red) – for terminal
4. Start button (green) – for terminal

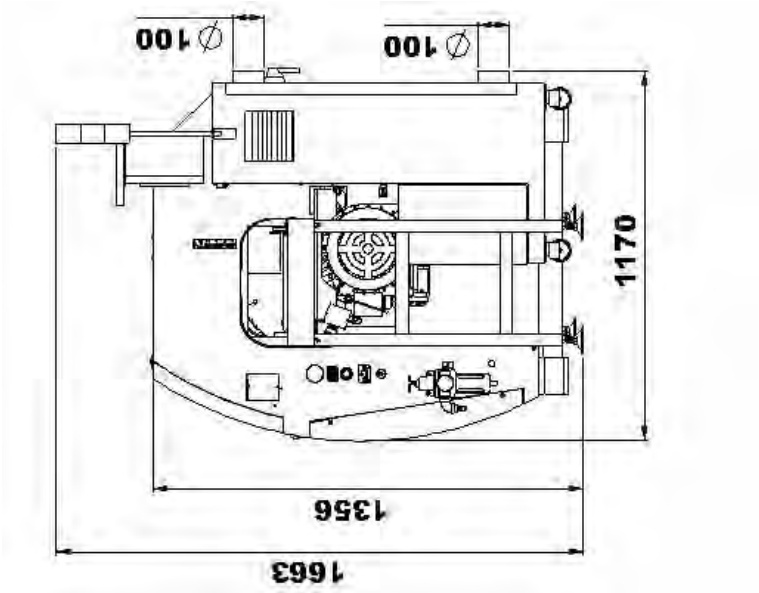
LCD SCREEN:

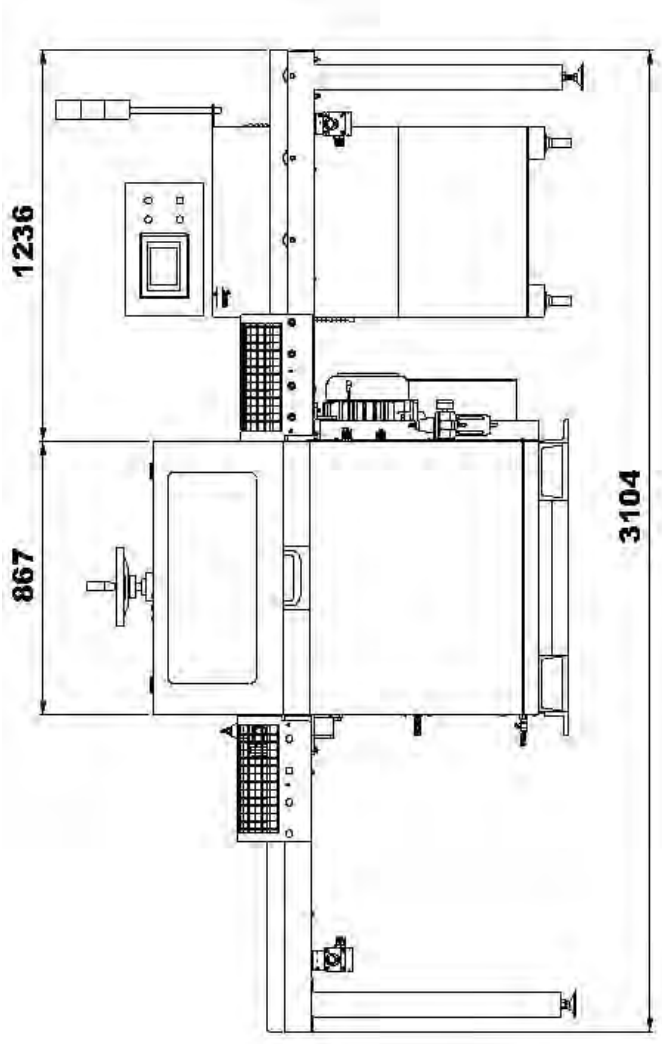


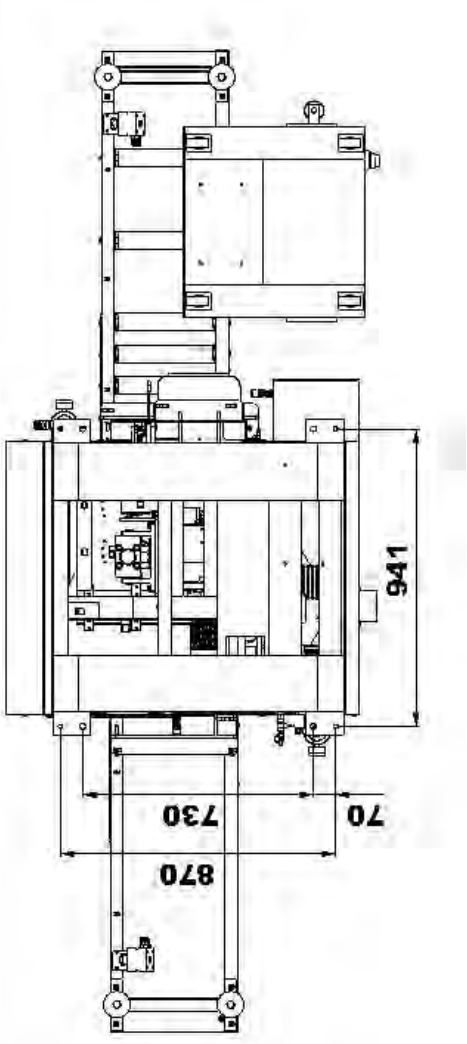
All functions can be selected on this page:

	Manual test function		Setting parameter
	Checkup window		Statistics
	Fix length cutting mode		Sequential cutting mode
	Mark Line cutting mode		Mixed cutting mode (Fix + Mark)

MACHINE DIMENSIONS:







CHAPTER 2: INSTALLATION

2-1 PRE-INSTALLATION INSPECTION

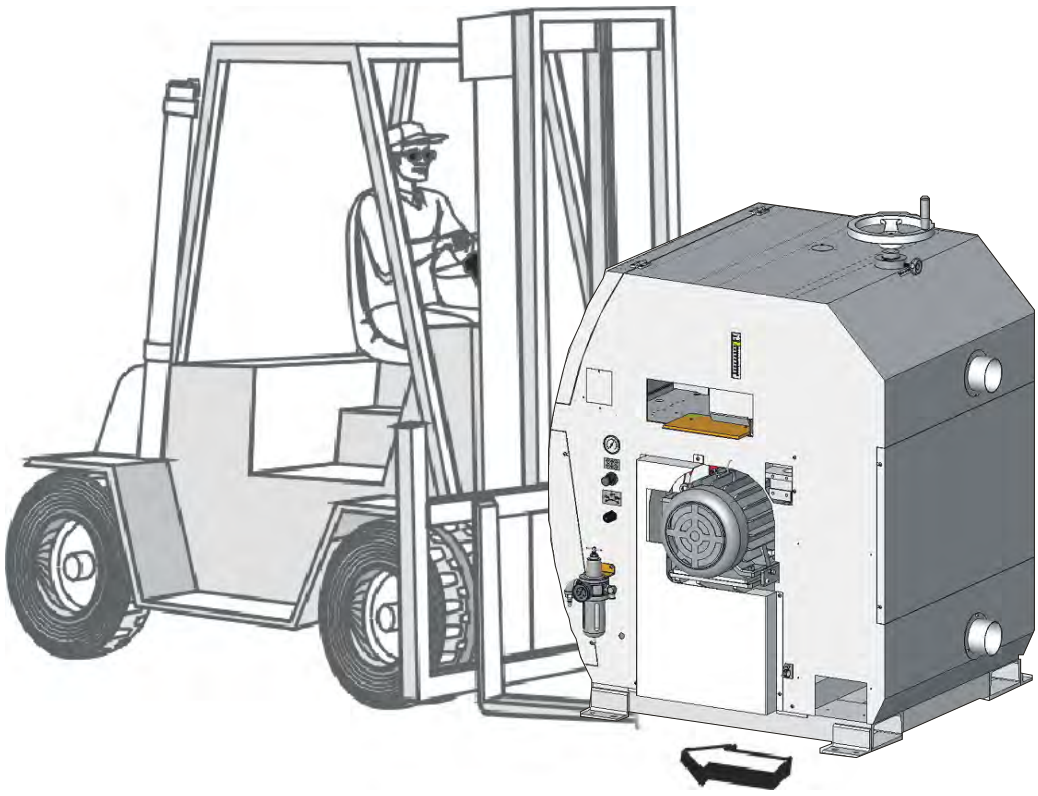
To ensure optimum performance from your machine, the following checks should be made before installation:

- ◎ Is there any damage to the crate containing the machine?
- ◎ Does the machine show any signs of having been dropped or mishandled?

If the answer to either of these questions is "yes", please contact your dealer immediately and the matter will be handled by qualified technicians.

2-2 MOVING THE MACHINE

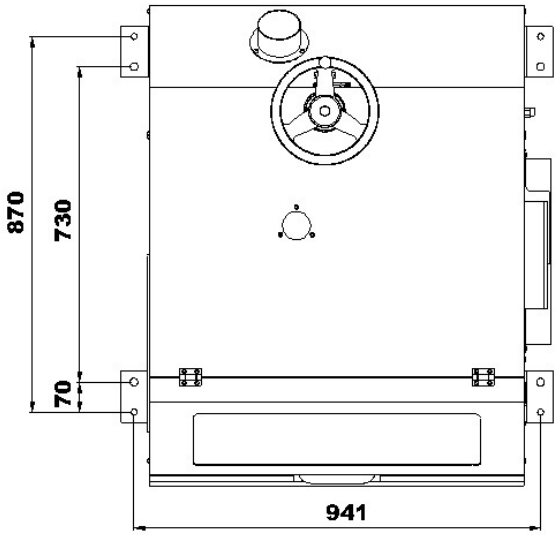
Remove the screws that fasten the machine to the bottom of the wooden crate. Use a forklift of at least two tons capacity to lift the machine from the bottom. (The position indicated by arrows in figure below)

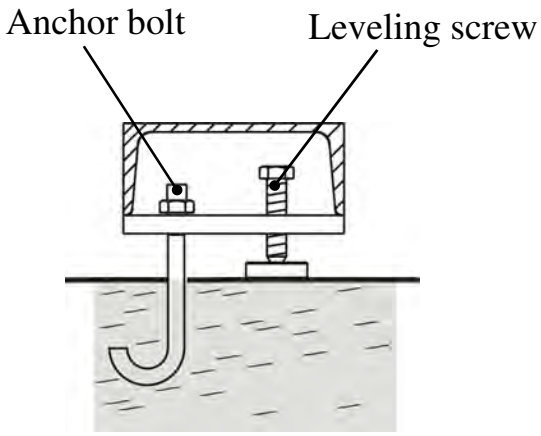


2-3 POSITIONING THE MACHINE

1. INSTALLATION SITE

◎ The concrete floor must be rigid enough to support the weight of the machine and vibration. The machine vibration occurs during operation. Therefore, the anchor bolts should be locked into the concrete.





◎ Operation convenience for the machine used in a production line should be considered when installing.

2. ADJUST THE MACHINE LEVELING

Place a precision level gauge on the machine table. According to the reading on the level gauge, adjust the machine leveling by turning the leveling screws located under the 4 corners of the machine. The leveling accuracy (level tolerance) for the X and Y-axes should be within 0.3mm/M. After finishing the level adjustment, be sure to tighten the nuts and leveling screws securely.

2-4 CONNECT AIR SOURCE (Compressed air)

The machine consumes a considerable volume of compressed air. To ensure a stable air supply, it is suggested that the machine be fitted with an air reservoir. Connect it to the filter/regulator unit. The working pressure for this machine should be set between 6 kg/cm^2 and 9 kg/cm^2; consumption of the entire machine requires at least 160 m^3/hr.

There are two sets of filter/regulator unit:

1. The one at the right front of the machine (fig. 1) is for sawblade and pressure rollers going up/down.
2. The one at the left rear of the machine (fig.2) is for waste blowing.

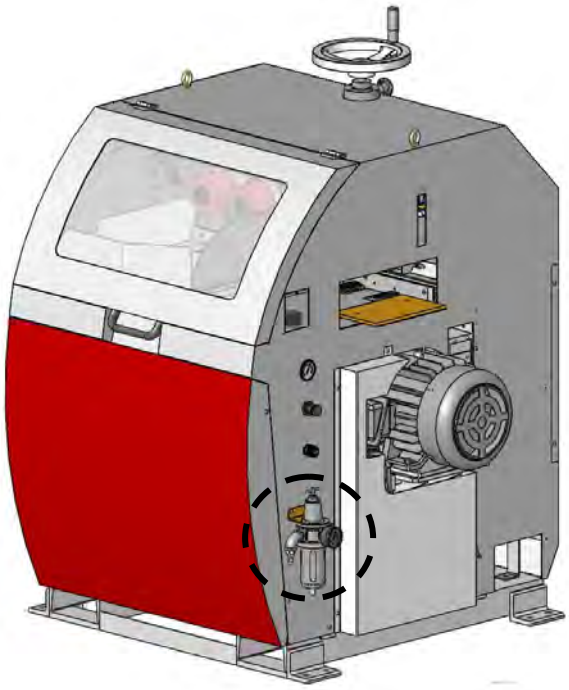


Fig. 1

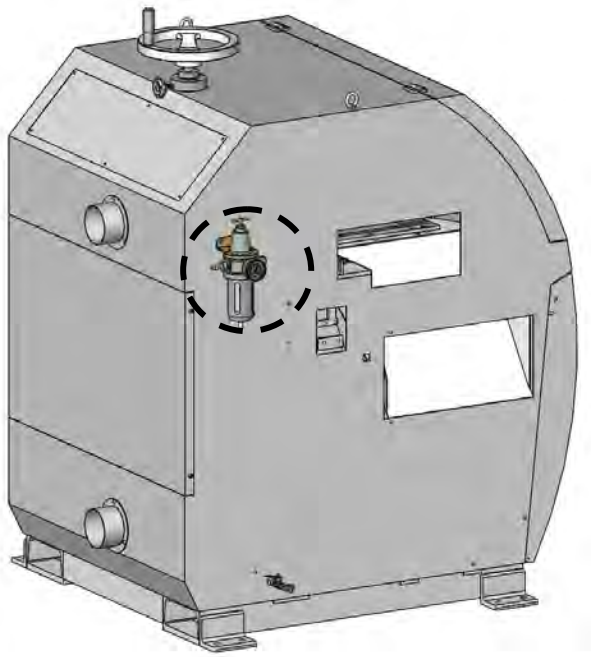
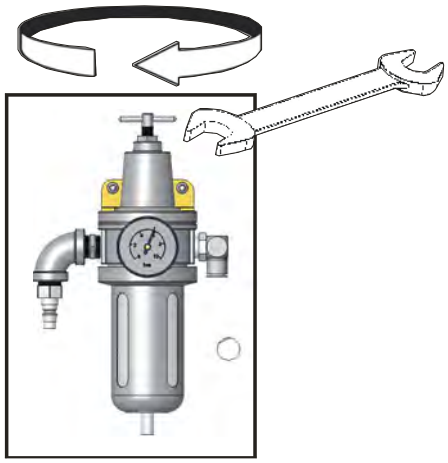


Fig. 2

ADJUST THE AIR PRESSURE:

Loosen the hex. nut with a spanner. Turn it clockwise to increase the air pressure and counter-clockwise to decrease the air pressure. Tighten the hex. nut after finishing the adjustment.



2-5 POWER CONNECTION

☞The power source should be connected by a qualified electrician.

◎ All wiring must be conform to international safety guidelines, choose a most suitable size of cable subject to the voltage and mounting motors.

◎ A suitable breaker should be installed in the cable which connects the main power supply and the machine. So that the power supply to the machine may be turned off from this breaker when the machine is not in use.

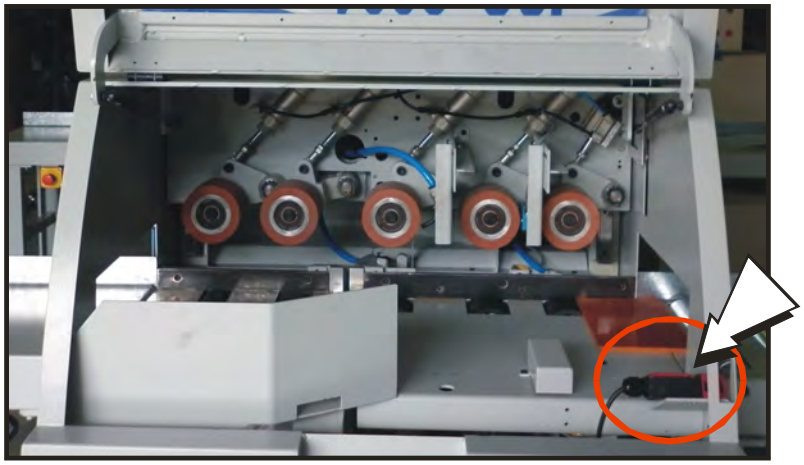
◎ **Be sure the machine is properly grounded before use to avoid unnecessary interference to affect electronic and program storage devices, moreover, it can protect the operator from electric shock.**

2-6 CHECK THE SAFETY GUARD DEVICES AND STARTING TEST

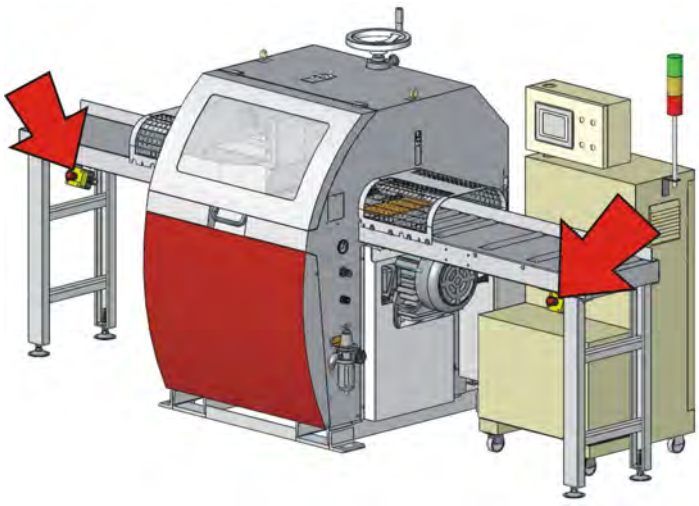
Make sure there are no obstacles around the machine, and the machine has been properly installed. Then the user must inspect the safety devices and perform the start test as follows:

- ✧ Check to see if “emergency stop switches” and “safety interlock switch” have been opened? Make sure that these switches are in position and then turn on “electric power main switch”. At this moment, the “illuminated Power-OFF push button switch (red)” should be bright. If this illuminated switch is not bright, it means the external switches have been opened or the external power supply has not been connected properly. Please inspect the external power source exactly.

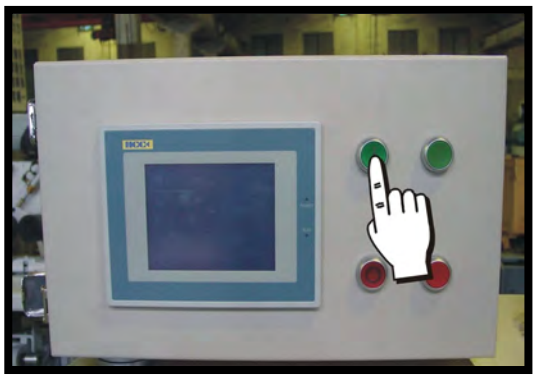
1. Inspect safeguard devices
   (1) Check up and make sure the door (which is arrowed in the following picture) has been positioned (it means that “safety interlock switch” is in position).



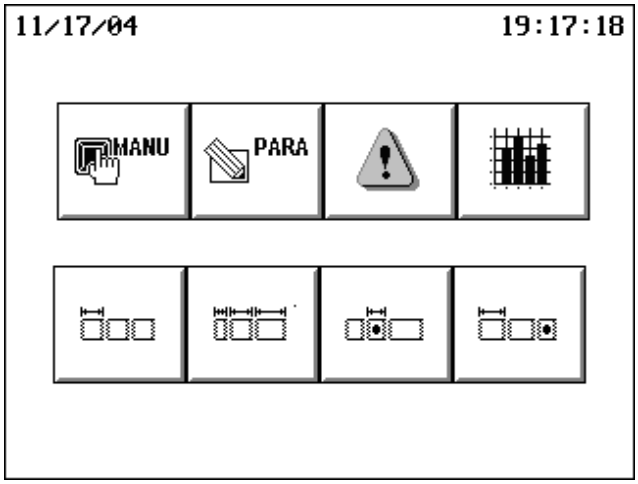
   (2) Make sure the emergency stop switch is not pressed.



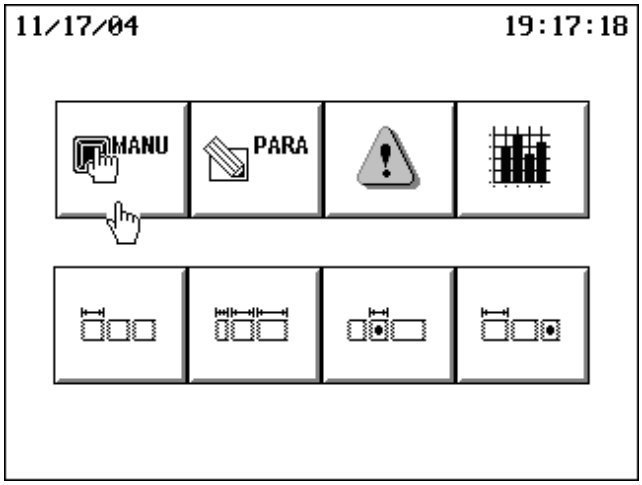
2. Perform the start test
   (1) Make sure the power supply is connected properly, press the “illuminated power ON push button switch (green)”. Check to see if this illuminated switch has been bright.



   (2) Manual test function

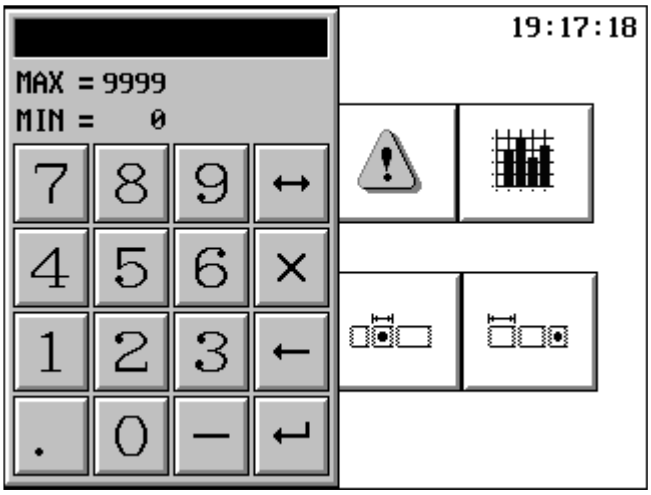


Operation Home Page

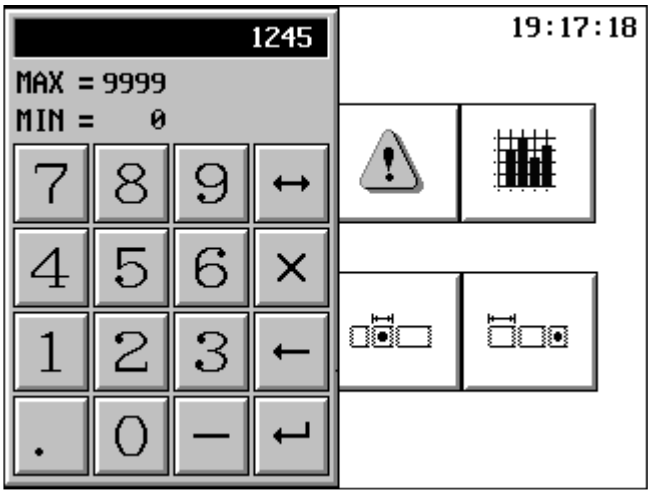


Touch the icon 

“manual test function” on the screen



Then, a keyboard will jump out on the screen

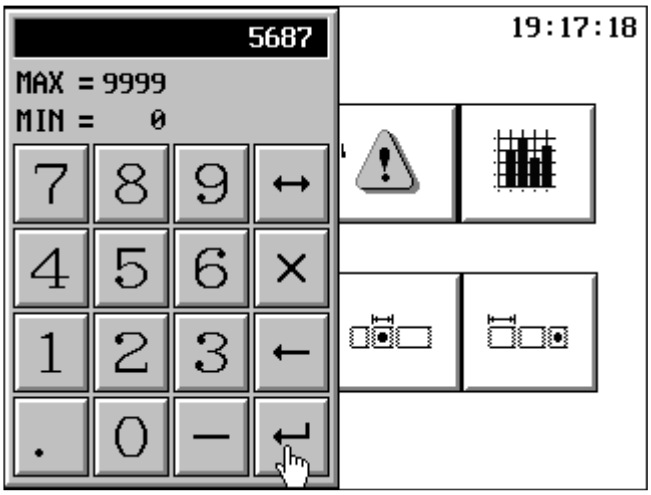


Key in the correct password

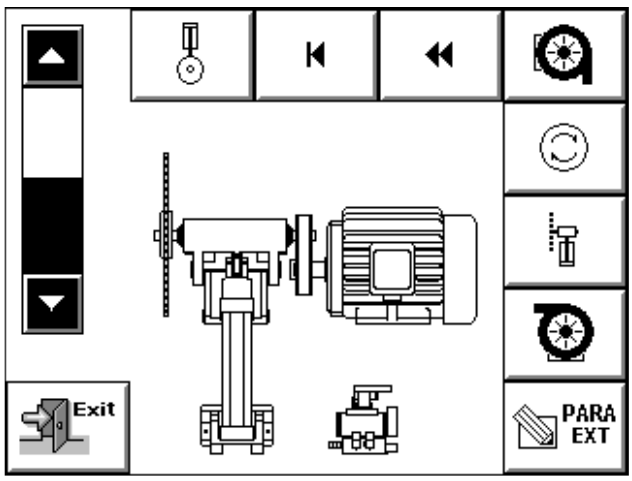
If the password is incorrect, the above page will be appeared.

Touch icon 

to leave this page and you will be back to the operation home page again. Press the icon of “manual test function” again, you can enter the page of keying in password.

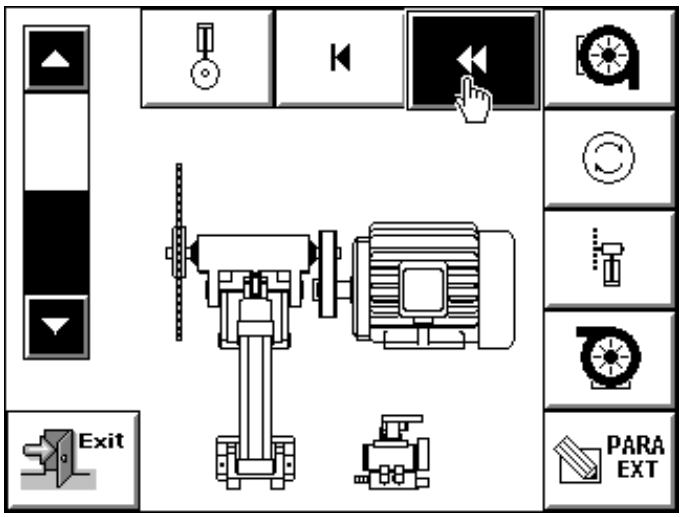


Key in the correct password (***5687***). If the password is correct, you can enter the page of “manual test function”.



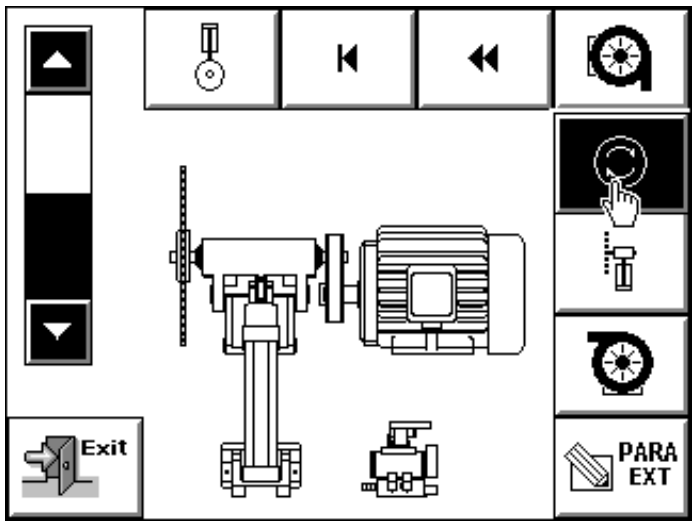
Page of “manual test function”

On this page, the operator can examine to see if the function of each device is working normally. Meanwhile, it can allow the operator to adjust, check and repair each device. Only need to touch the icons on the screen when necessary.



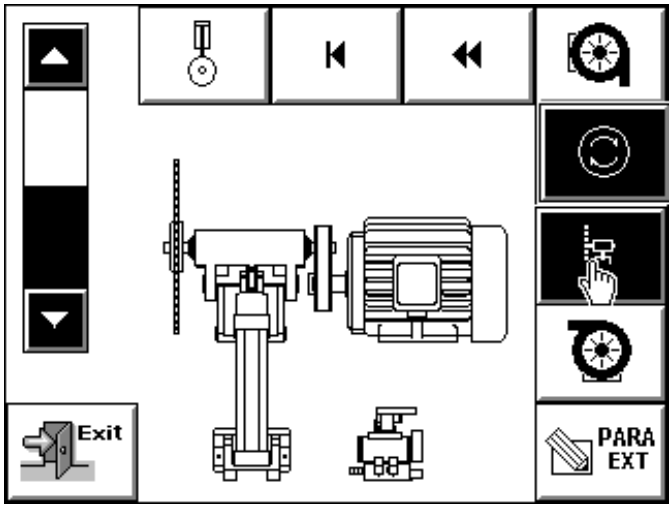
Manual feeding

Caution: The user can do manual feeding as he wants, but it is not allowed during cutting (there is a program protection). Only when the cutting is finished (the saw blade goes down and below the table, and "lower cutting limit switch - M14" is ON), the manual feeding can be moved freely.

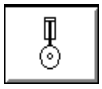


Saw motor running

Make sure the rotation direction of saw arbor is in anti-clockwise. If not, cut off the power supply immediately and interchange any two of the three phase power wires. Then start the machine again. (CAUTION: Do not judge the wiring is correct or not by checking the feeding direction)



Manual cutting

 Manual cutting rear holddown

 Manual single-cut feeding (refer to Extra parameter )

 Manual continuous-cut feeding

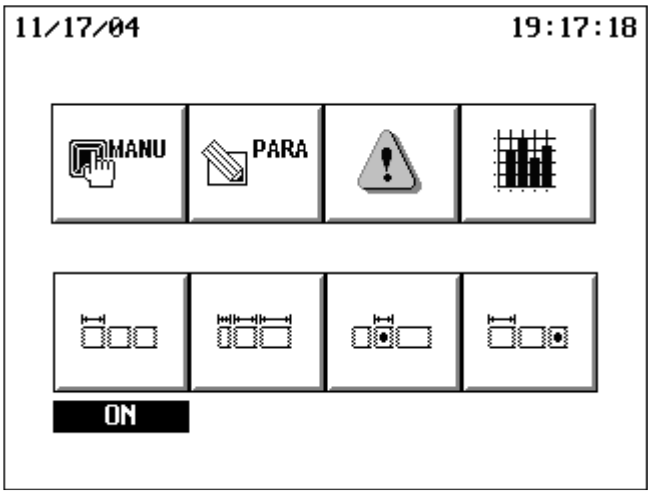
 Manual lateral blowoff

 Manual saw arbor running

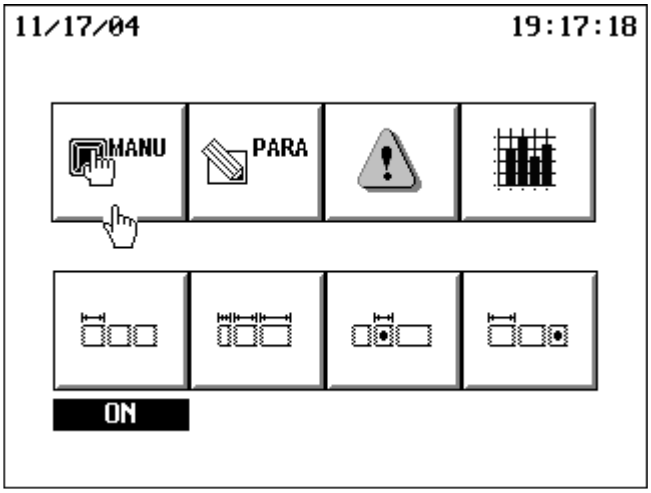
 Manual cutting operation

 Manual rear blowoff

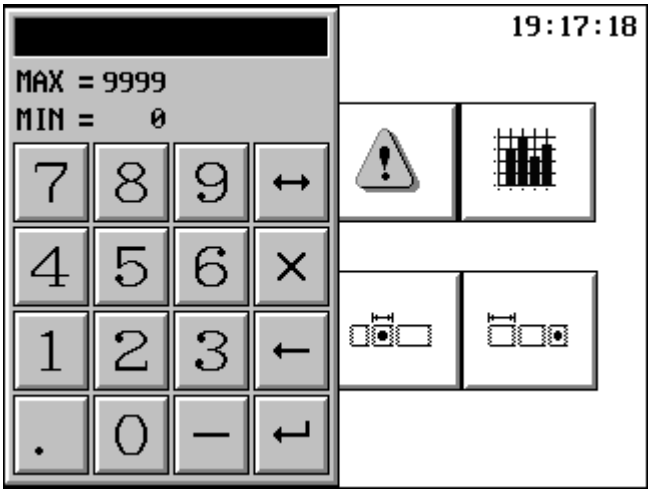
Remark: When the machine is running under any kind of cutting modes, it is impossible to enter the page of manual test function.



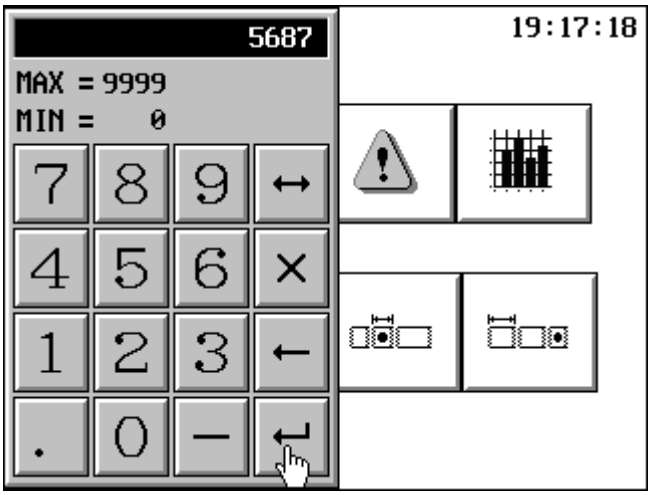
If the machine is running under any kind of cutting modes



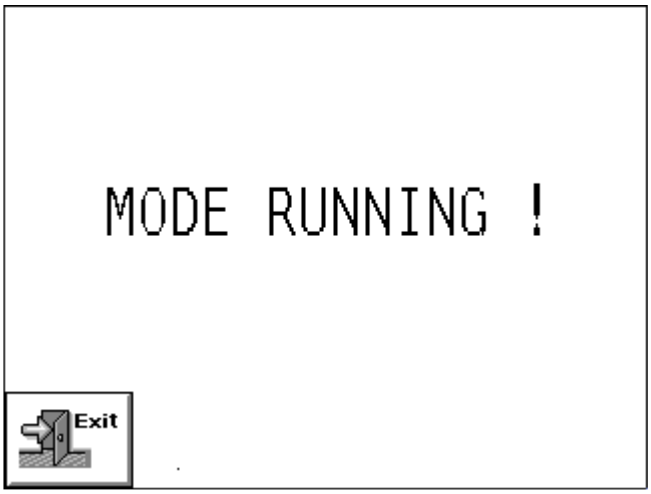
The user still touch the icon of MANU "manual test function" on the screen



A digit keyboard will jump out on the screen at this moment

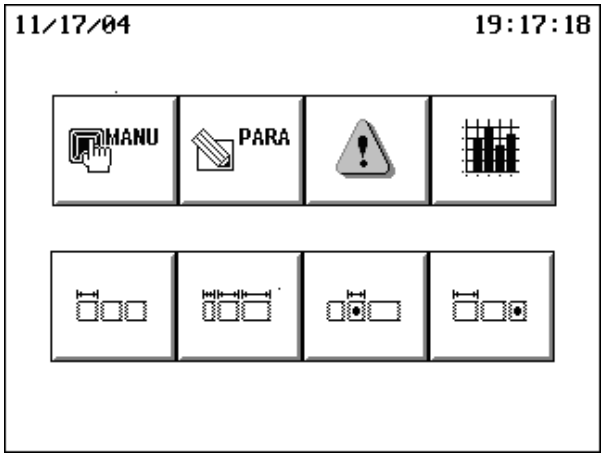


Key in the correct password

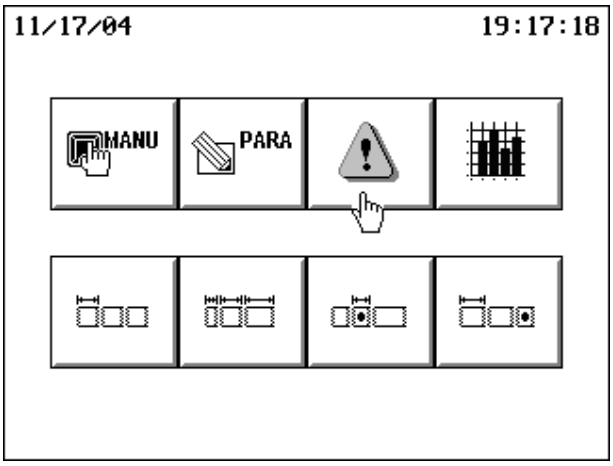


Even though the password is correct, you still can not enter the page of “manual test function” because the machine is in running situation and you will find the terminal showing the above page.

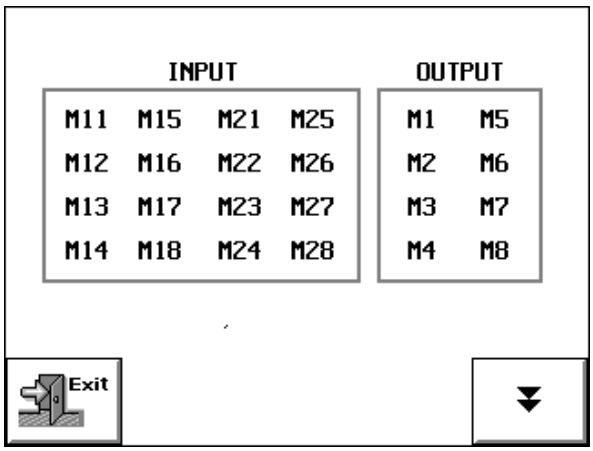
(3) Checkup Page:
Through this page, the user can see the ON/OFF situations of each input signal and each output terminal, therefore, it can provide the references for repair or maintenance.



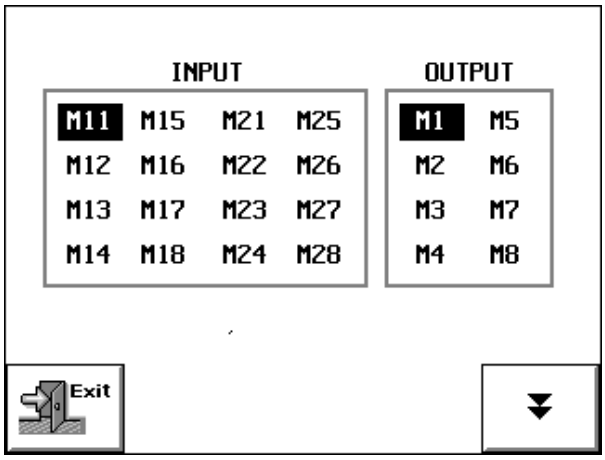
Home Page



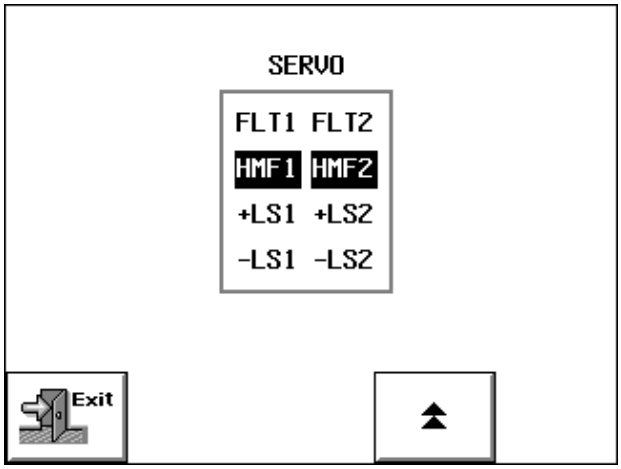
Touch the icon  on the screen



M1：saw motor
M2：cutting cylinder
M3：operation light
M4：stop light/warning light
M5：
M6：
M7：
M8：

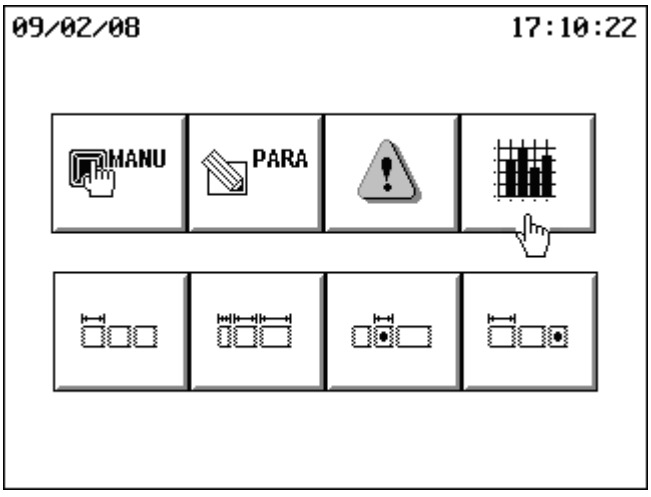


M11：START (N.O)
M12：STOP (N.C)
M13：saw blade limit - UP
M14：saw blade limit -DOWN
M15：
M16：
M17：
M18：saw motor overload (A connection)

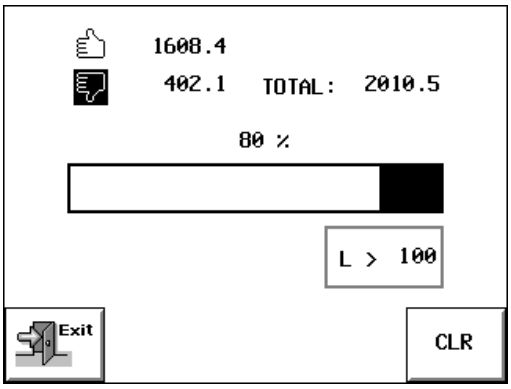


HMF1：LENGTH MEASURING SENSOR (N.O)
HMF2：MARK SENSOR (N.O)

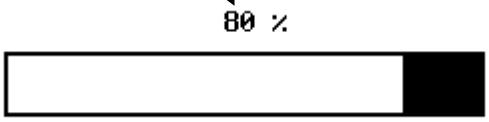
Remark:
The left page showing the HMF1 and HMF2 are bright. It means they are sensing the material now.



Touch the icon  for Statistics function key



The percentage of good timber (L>100)

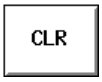


Statistics page

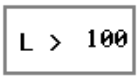

Total output of good timber (1608m)


Total output of bad timber (402m)

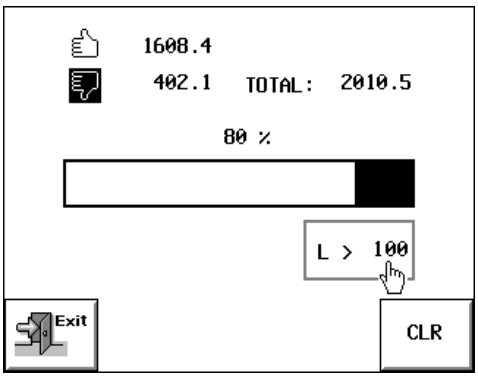
TOTAL Total length of material be processed (2010m)

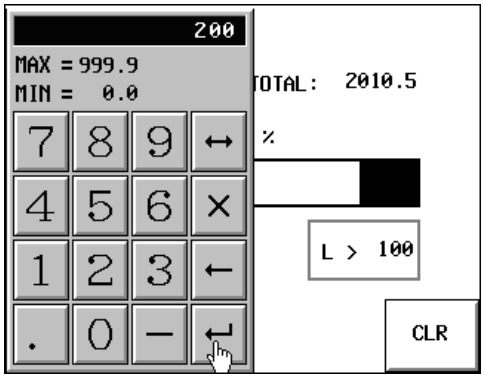


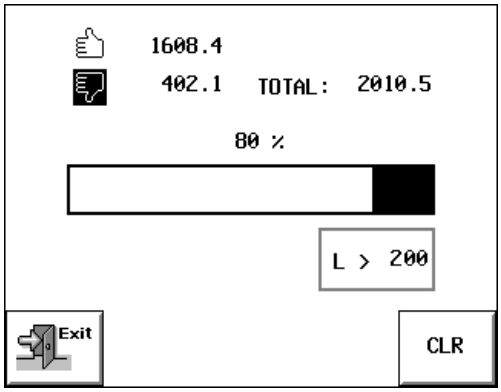
Clear the statistics data



Set the length of good timber (set by the user)

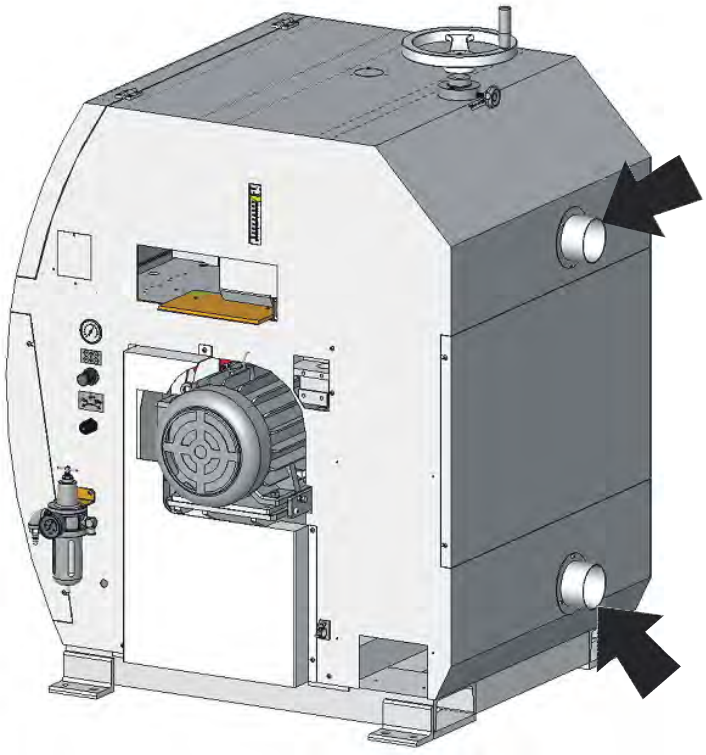






2-7 CONNECT DUST COLLECTION EQUIPMENT

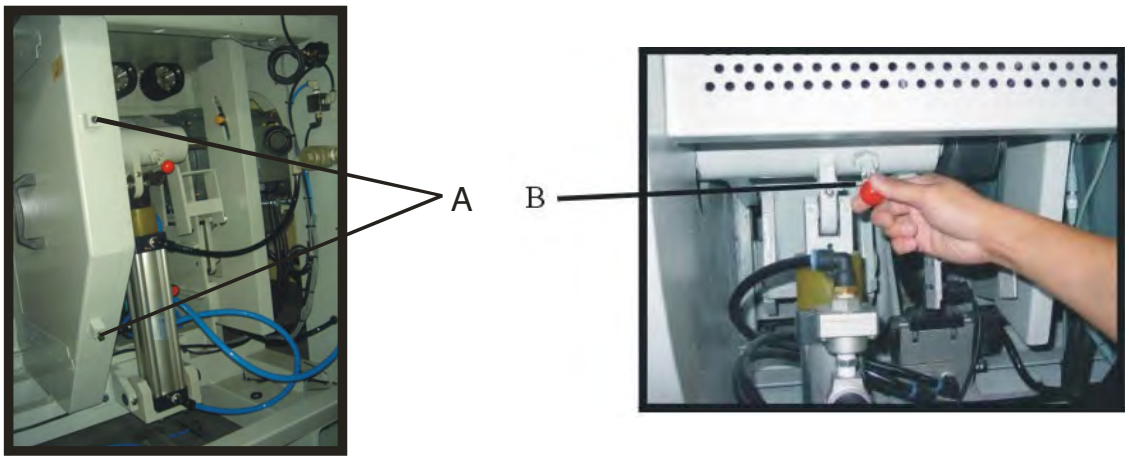
Use a 4" dia. flexible hose to connect the two Ø100mm dust outlets to the dust collector. The minimum air consumption for one 4" dia. flexible hose can not be less than 705 m^3/hr. The total consumption of this machine can not be less than 1410 m^3/hr.

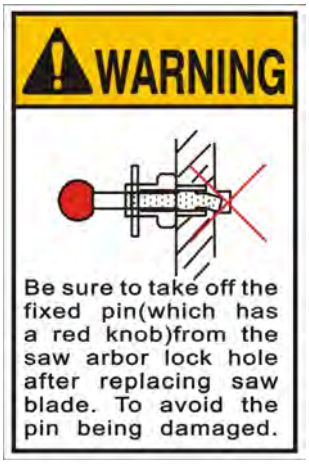


CHAPTER 3: OPERATION

3-1 INSTALL AND REMOVE SAW BLADE

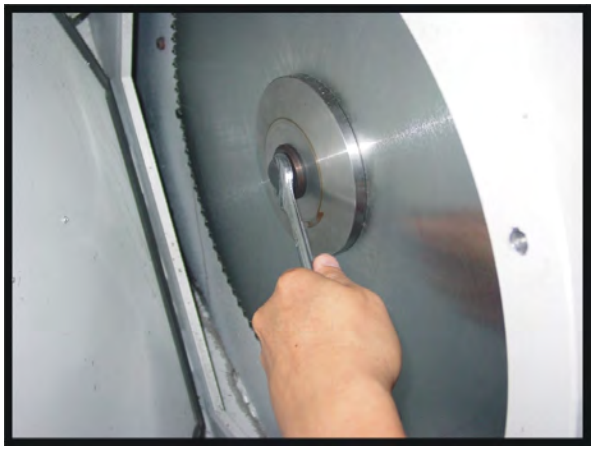
1. Open the lower doors which located at the front side of the machine. Loosen the screw (A) to open the saw arbor cover. There is a fixed pin with red knob (B) on the saw arbor quill. Pull it slightly and turn the pin 90°. Turn the saw arbor slowly until the fixed pin is inserted into the lock hole of saw arbor.

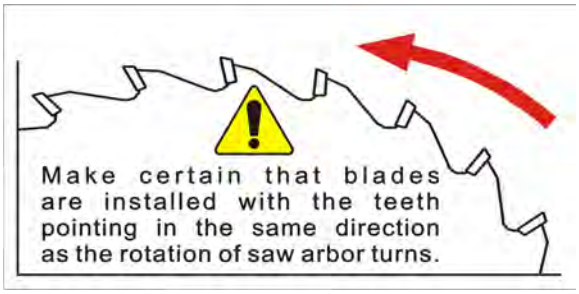


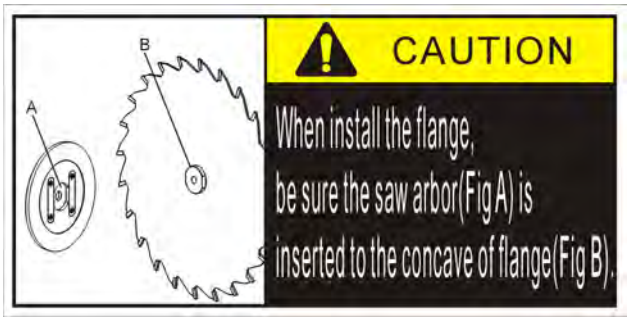


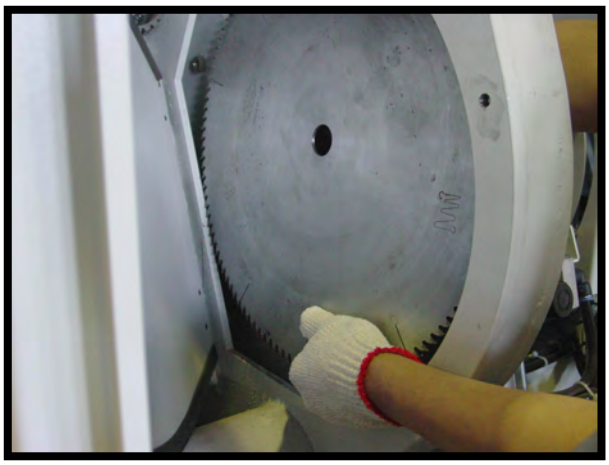
Remark: Be sure to disengage the saw arbor by taking off the fixed pin (which has a red knob) from the saw arbor lock hole after finishing the installation. Otherwise the saw arbor will not move when restart the machine, moreover, it will damage the belts and motor.

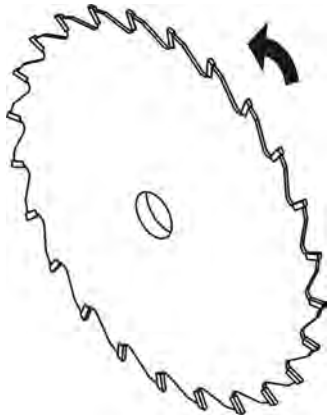
2. Loose the screw on the flange counterclockwise, you can take off the saw blade form the saw arbor. When installing the saw blade, make sure the sawblade teeth are pointed in the counterclockwise direction, then put on the flange and screw. Finally, use a 19mm open-end wrench to turn the lock screw clockwise to tighten the sawblade securely. Finally, put back the saw arbor cover and tighten the screw.





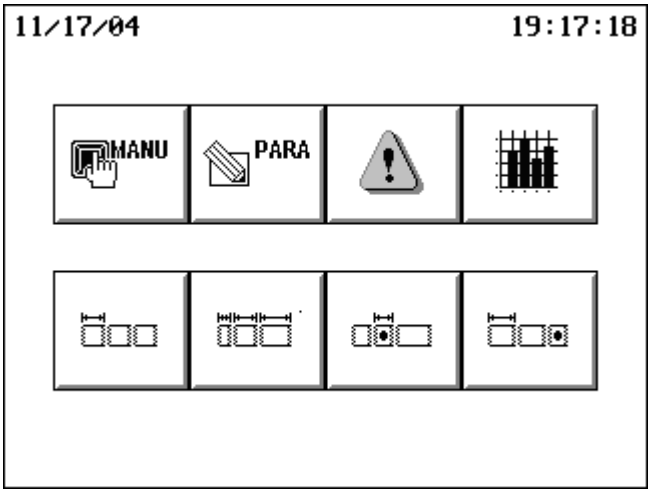




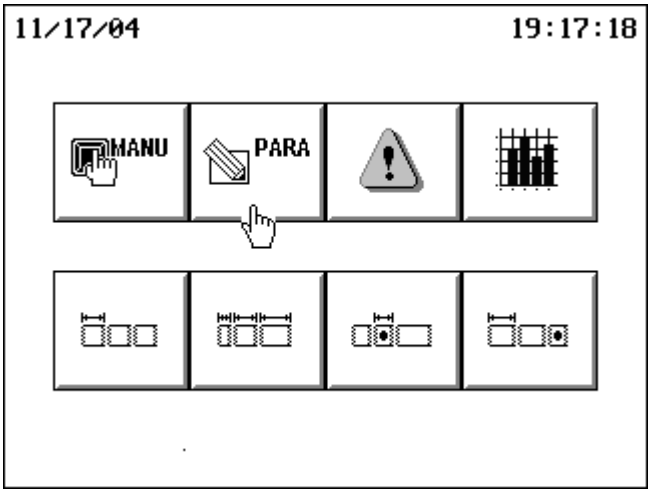


The direction of blade.

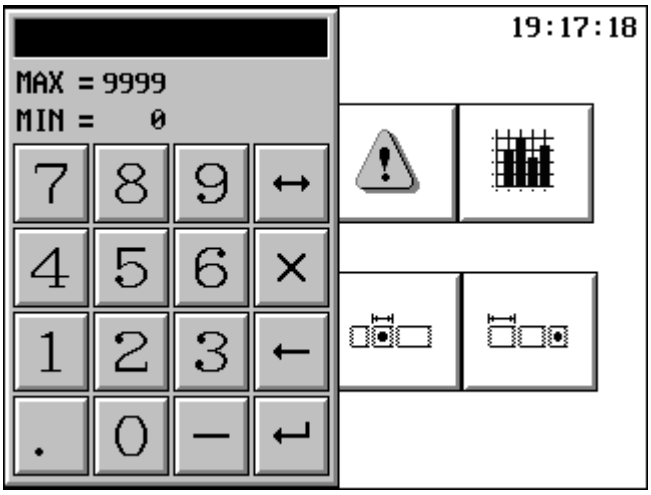
3-2 SETTING BASIC PARAMETERS



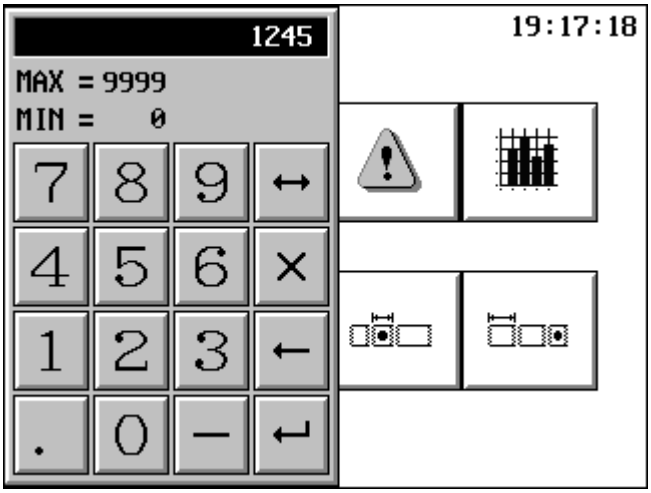
Operation Home Page



Touch the parameter-setting icon  on the screen.



Then, a keyboard will show on the screen.

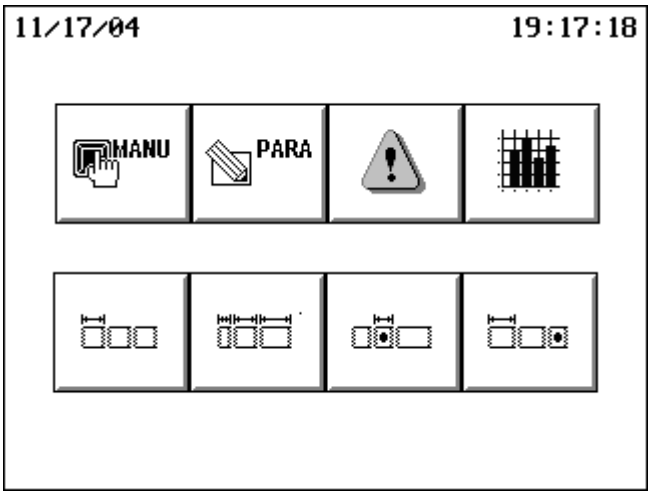


Key in the correct password (PS. The above showing the wrong pass word).

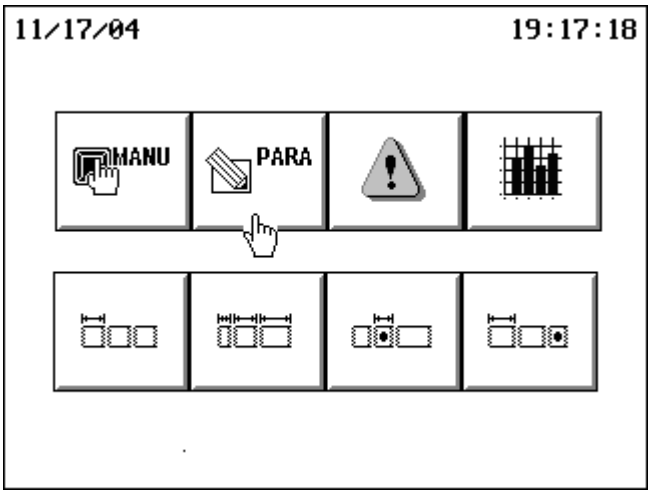
If the password is wrong, the above message will appear on the screen.

At this time, press the key of 

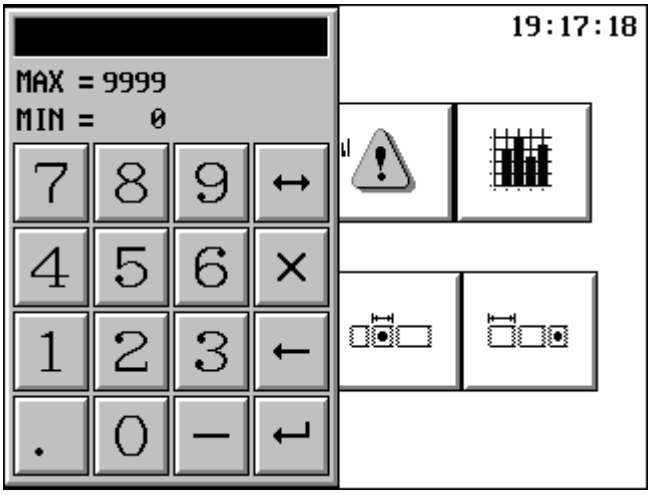
to exit this page.



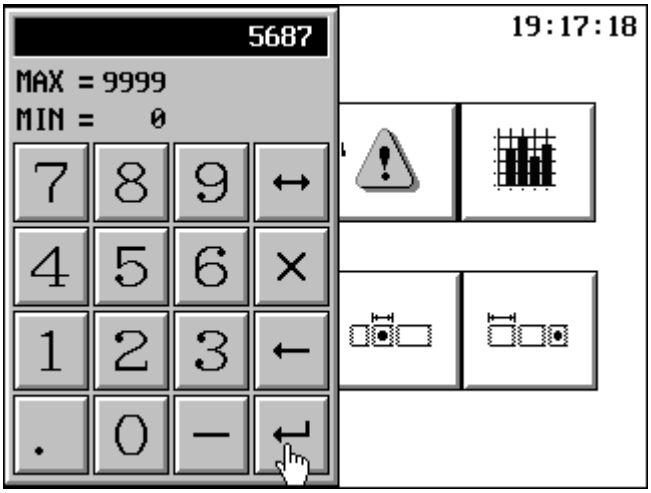
Back to the Operation Home Page



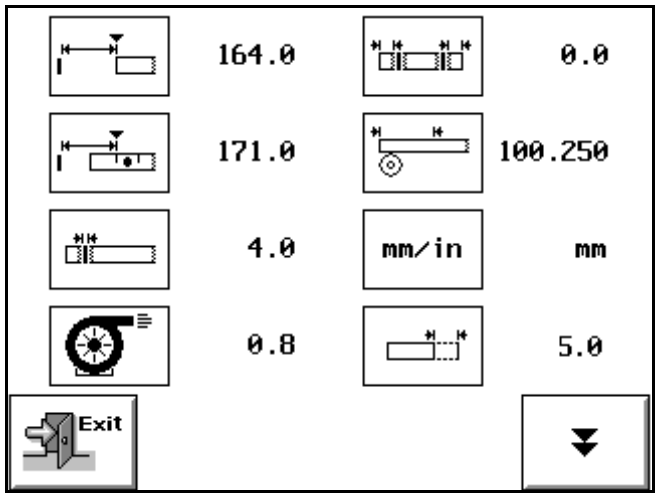
Touch the parameter setting key PARA on the screen



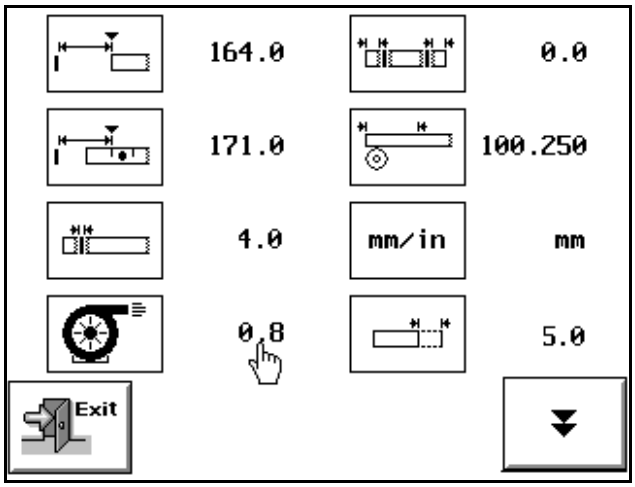
A keyboard will appear on the screen



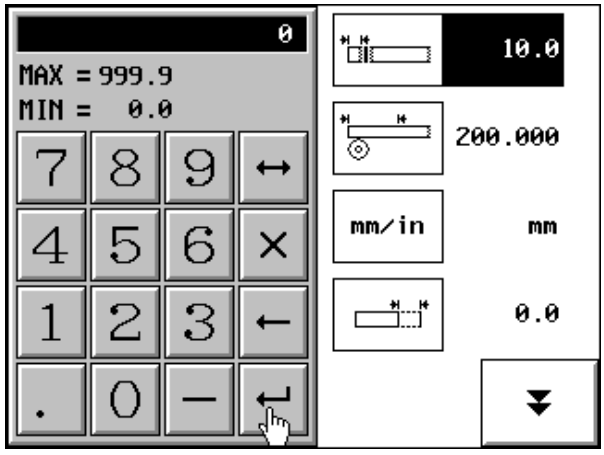
Key in the correct password – 5687.
Then you can enter to the page of Parameter-setting.



The page of Parameter-setting

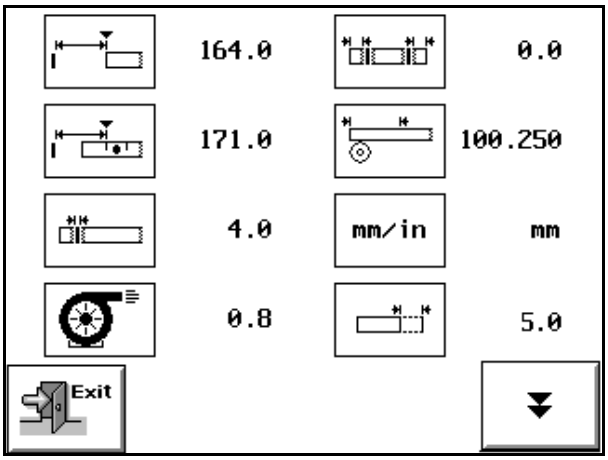


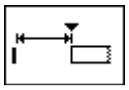
If you want to change any of setting value, only need to touch the numbers on the screen

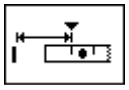


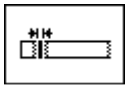
Then, a keyboard will appear on the screen.
Key in the new value and then press “enter key” to finish the change.

✱Explanation for the icons on the screen:

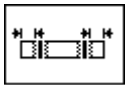


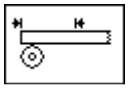

Comparative distance between “length-detective photoelectric sensor” and cutting point.

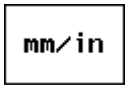

Comparative distance between “MARK photoelectric sensor” and cutting point.


Thickness of saw blade.

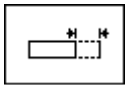

Blow time (blow off the waste)


Length of head-trimming / end-trimming

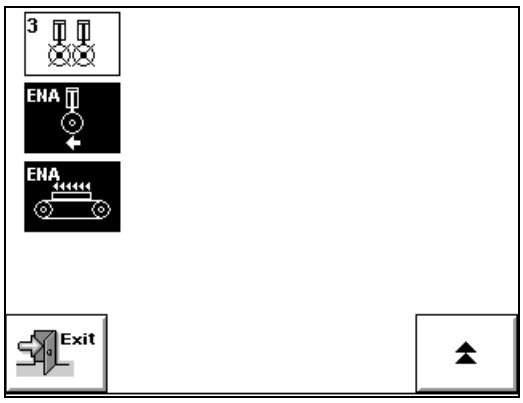

Ratio (unit: pls/mm)

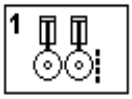


Switch measurement unit (mm or inch)

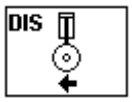

Compensation value for the real length after cutting

✱The detailed explanation for operating the above icons:



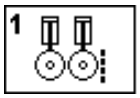


Action mode setting of the outfeed pressure roller.



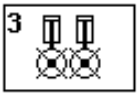
Action mode setting of the first infeed pressure roller.

- The details of Outfeed pressure rollers action mode:



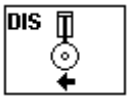
When the sawn wood passes through the saw blade for 150mm, the outfeed pressure roller will press down. As soon as the wood piece passes through the pressure roller completely, the outfeed pressure roller will go up.

The outfeed pressure rollers are always in the press-down condition.



The outfeed pressure rollers are always in the up condition.

- The details of the first infeed pressure roller action mode (Optional):

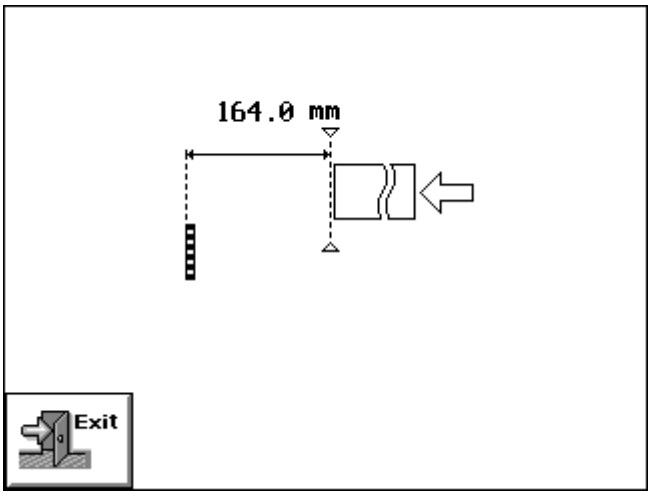


The first infeed pressure roller is always in the press-down condition.

When the wood piece passes the detecting sensor, the first pressure roller will press down. As soon as the wood piece passes the sensor completely, the first pressure roller will go up.

Power feeding mode.

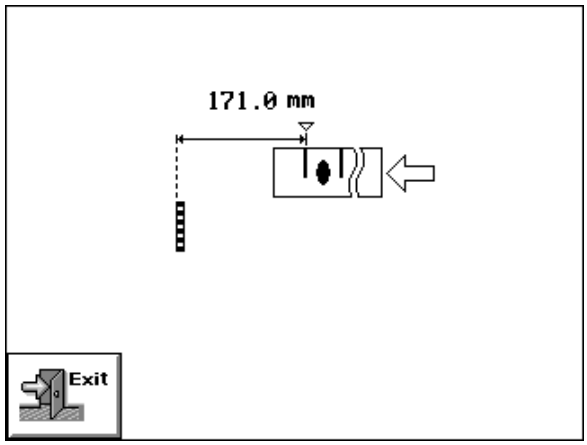
(1) The detailed pictorial explanation for the comparative distance between length-detective photoelectric sensor and cutting point

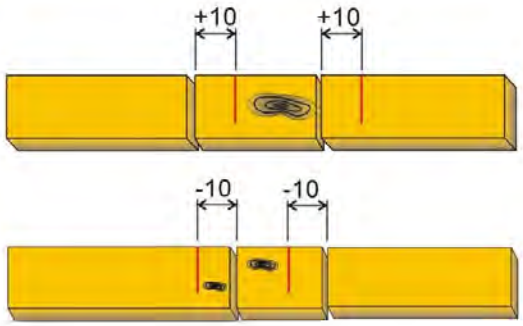


When the length of real head-trimming is different from the preset length, you can rectify this error by adjusting the value of "comparative distance between length-detective photoelectric sensor and cutting point". For example: Preset length of head-trimming: 50mm, the thickness of saw blade: 4mm. In theory, the actual length of the head be cut off should be in 50 – 4 = 46(mm). If the actual length is longer than the calculated length, please deduct this difference from the preset value of "comparative distance between length-detective photoelectric sensor and cutting point". If the original setting is 164mm, the actual length of the head be cut off is 51mm and the calculated length is 46mm, then, the new preset value should be 159mm.

New preset value	=	original setting value	+	calculated length of the head be cut off	-	actual length of the head be cut off
	=	164	+	(46-51)		
	=	164	+	(–5)		
	=	159				

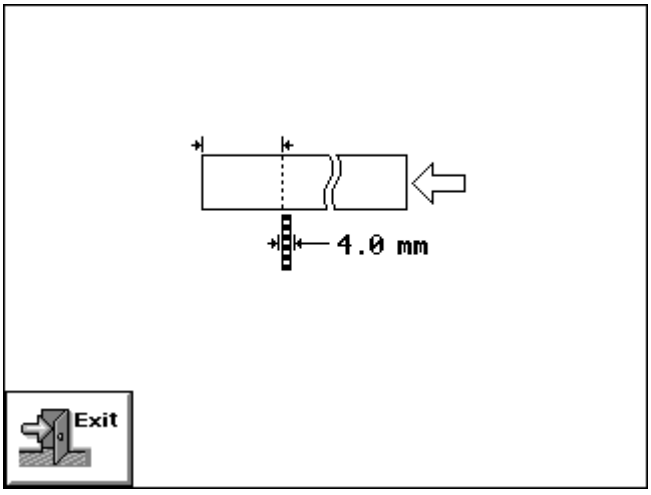
(2) The detailed pictorial explanation for the comparative distance between MARK photoelectric sensor and cutting point





When the machine does not cut exactly on the mark line during running in the "MARK" cutting mode, the user can adjust the comparative distance between MARK photoelectric sensor and cutting point to rectify this error.
(when cutting point prior to the MARK) New setting = Original setting + Difference
(when cutting point behind the MARK) New setting = Original setting – Difference

(3) The detailed pictorial explanation for thickness of saw blade.

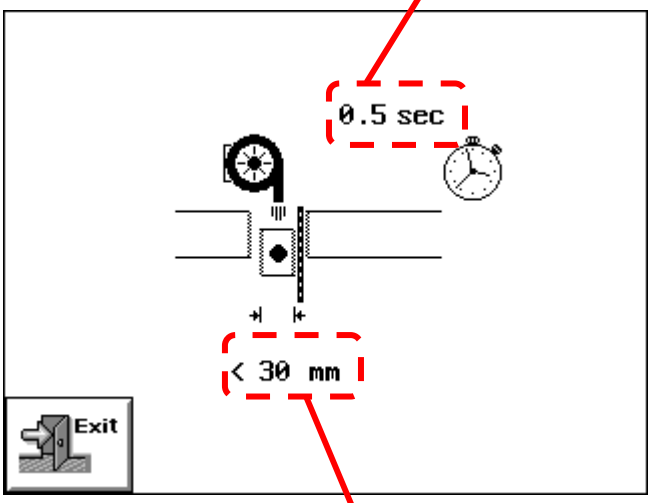


Touch the place of number and key in the actual thickness of saw blade in order to cut the fixed size correctly.

(4) The page of Parameter-setting for Blow System

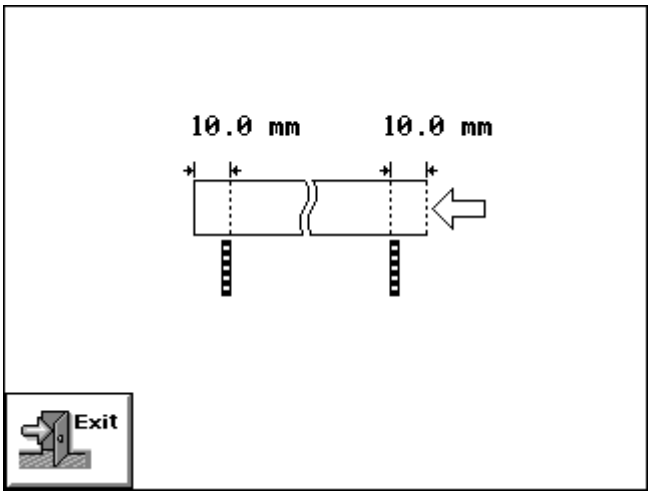
Touch the key of  on the screen, you can enter into the parameter setting of “Blow System”. The following page will appear on the screen.

This value stands for the time of blowing air. Touch on the number, you can change the value. (According to the real cutting situation and the compressed air the factory supplies, the user can set this value at 0.5 ~ 1.0 second.)



Picture shows when the length of waste is shorter than 30mm, the blow function will work. If longer, the machine will not blow.
Touch on the number, you can change the value. Please note the length of waste must be set shorter than 70mm.

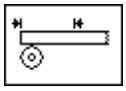
(5) The detailed pictorial explanation for head trimming / end-trimming setting.

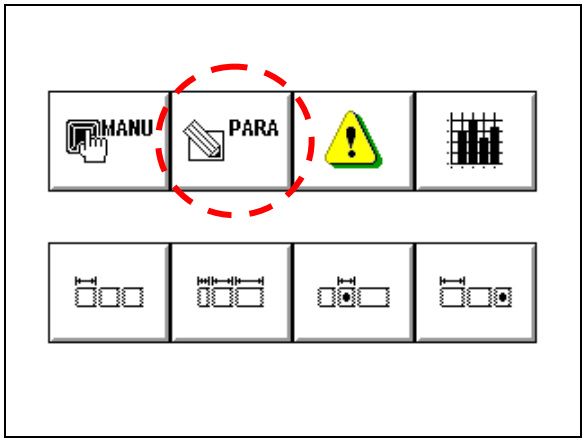


Generally speaking, head-trimming is to cut off the irregular front end of material and we see the cut off portion as a waste mostly. So, the consumption of the thickness of saw blade during cutting should be included in the length of head-trimming. Therefore, the actual length of the material be cut off is the preset value of head-trimming less the thickness of saw blade.

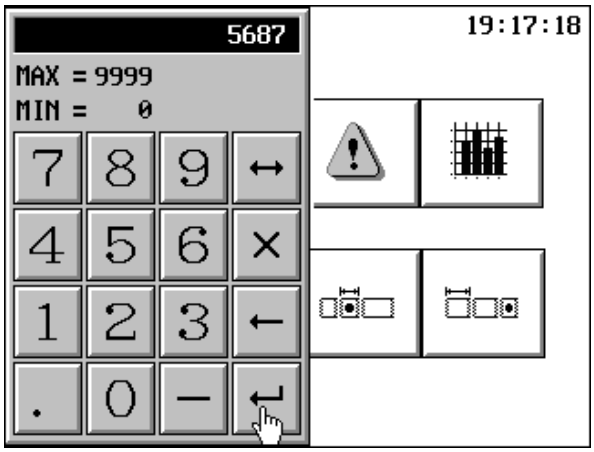
Actual length of the head be cut off = Preset value of head-trimming - Thickness of saw blade

- ✧ The function of head-trimming can work in all of the cutting modes.
- ✧ The function of end-trimming can ONLY work in the MARK cutting mode. Also, its function works only when the end-trimming is not “0”.

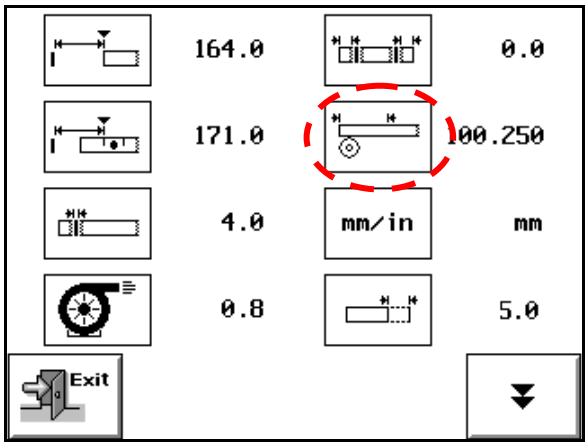
(6)  Ratio Unit (pls/mm)

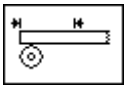


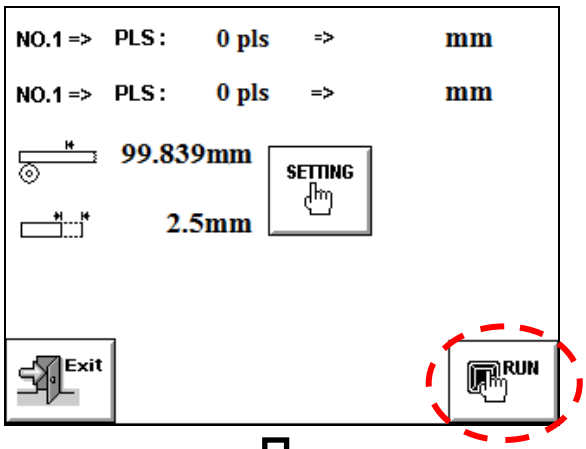
Touch  to enter the Parameters setting page.



Key in the password: 5687.

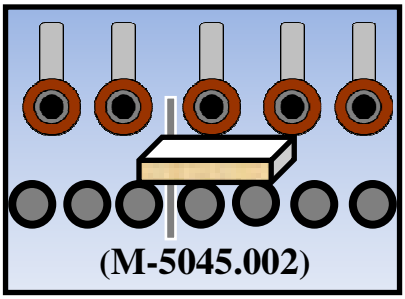


Touch  icon to enter the next page.

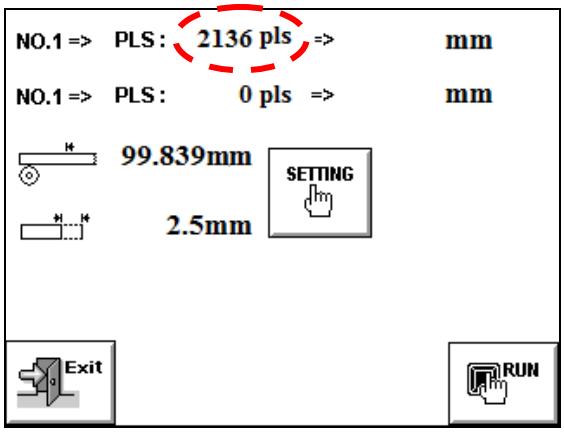


Touch 

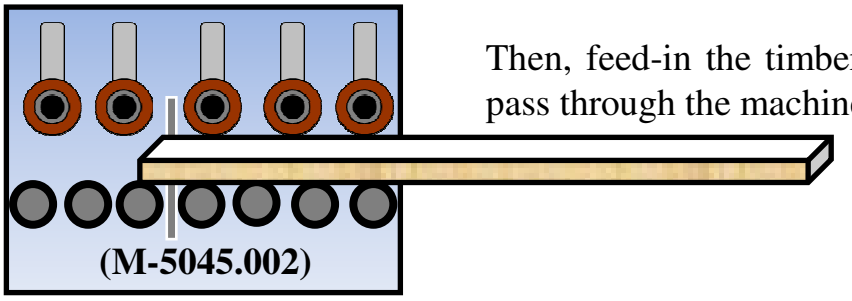
to start the scanning.



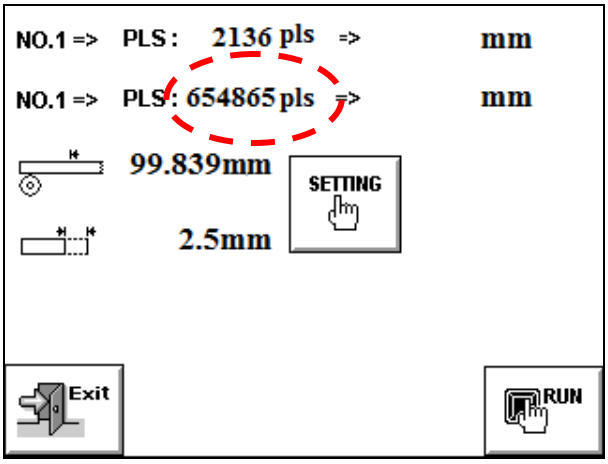
Feed-in the timber, about 350mm, to pass through the machine.



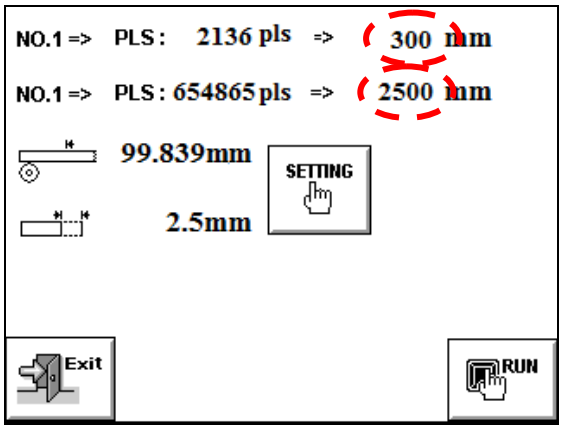
The scanning result will automatically show up.



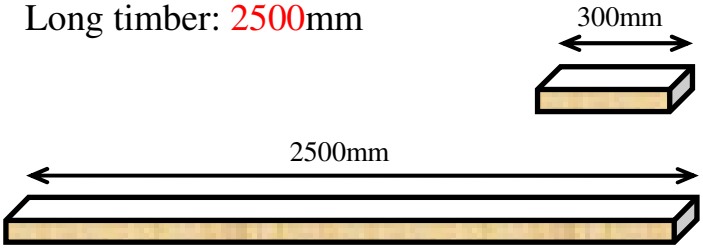
Then, feed-in the timber, about 4M, to pass through the machine.

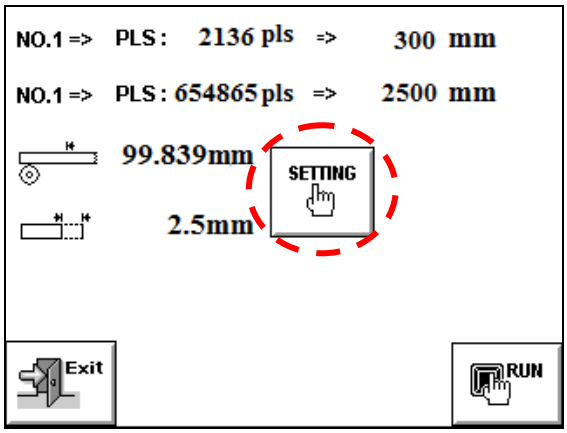


The scanning result will automatically show up.

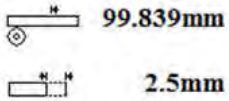


Measure the actual length of these two timbers, and key-in them to the system.
Short timber: 300mm
Long timber: 2500mm



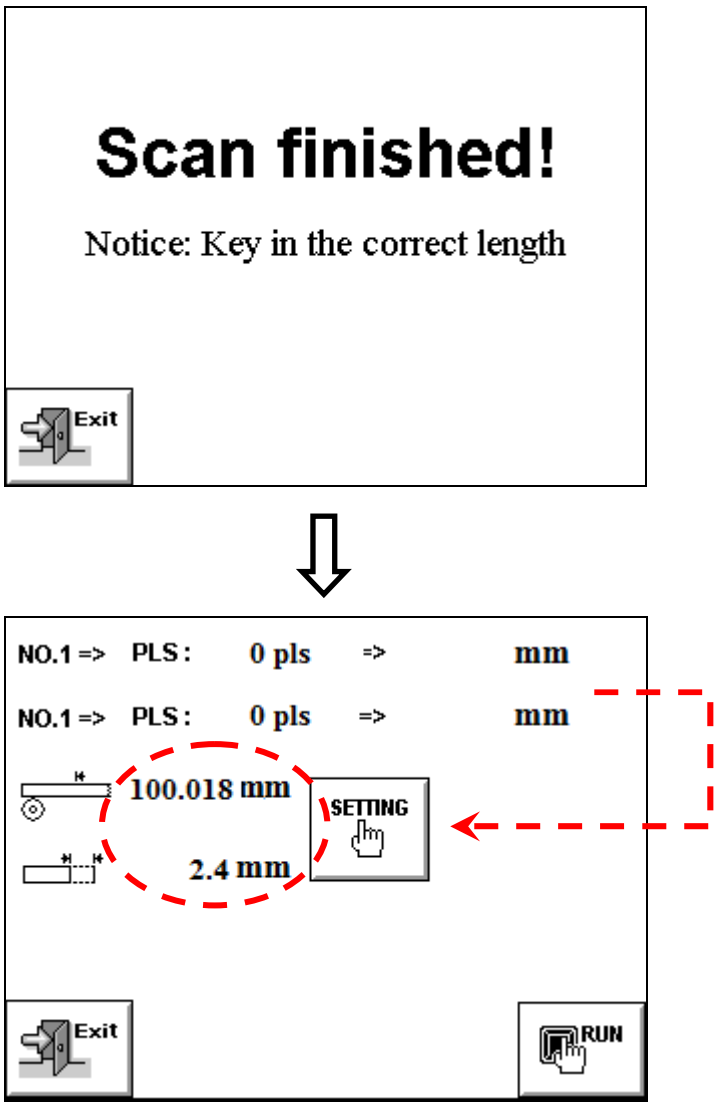


The original parameters:

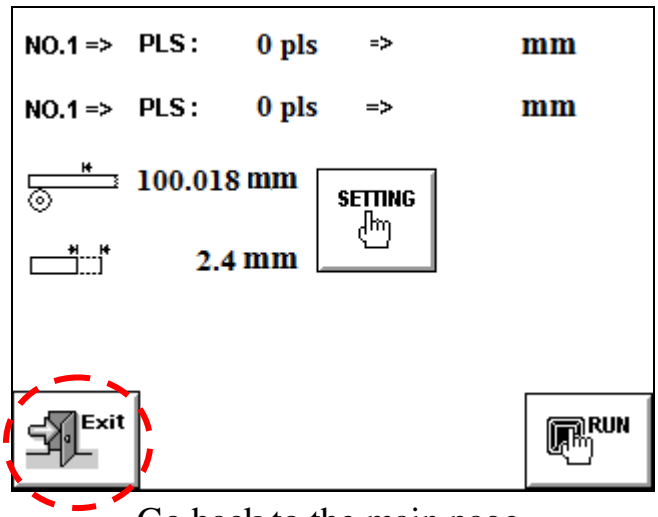


Touch 

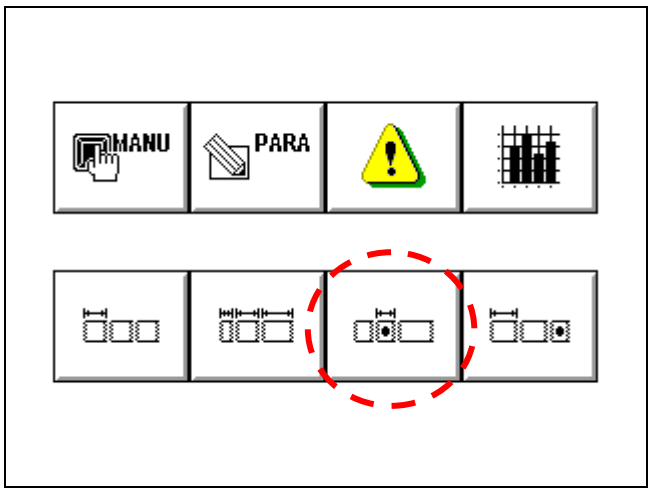
, the system will automatically calculate the new value.



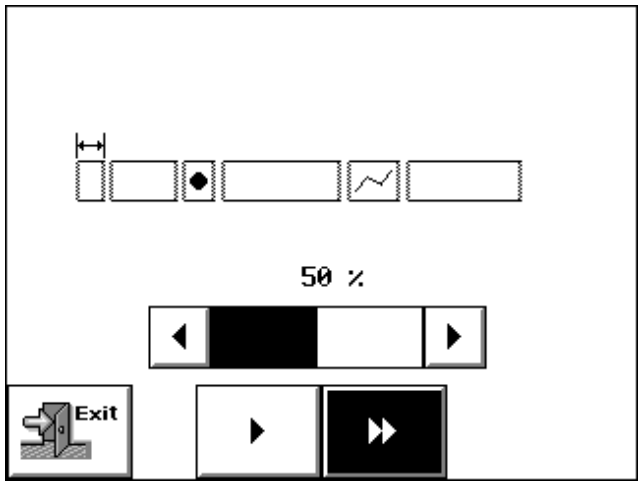
New value



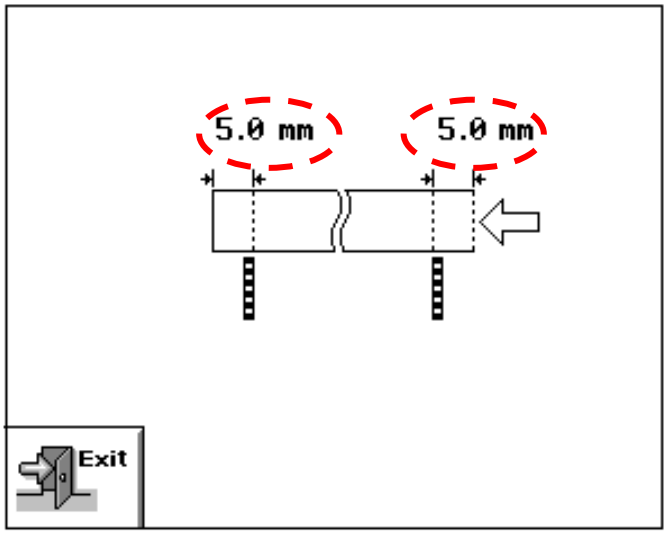
Go back to the main page.



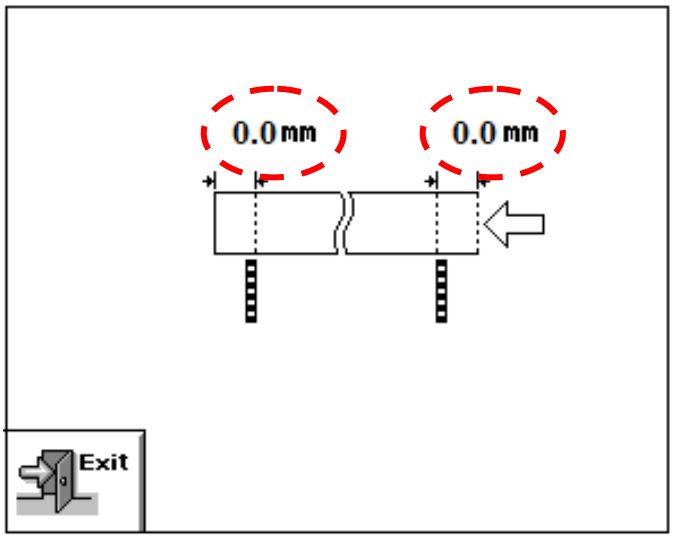
Go into the marking lines cutting mode.



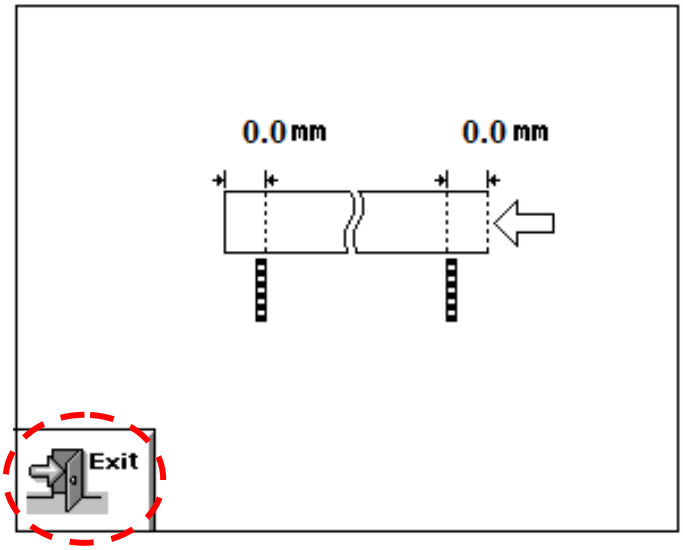
Touch  icon to into the next page.



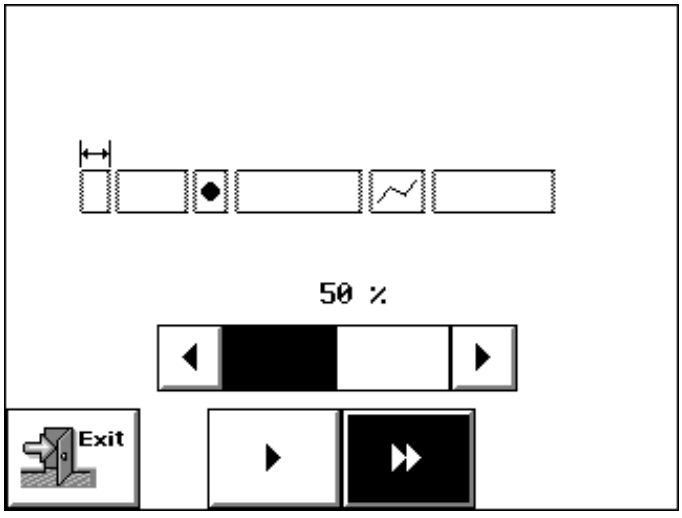
Head-Trimming and End-Trimming setting page.

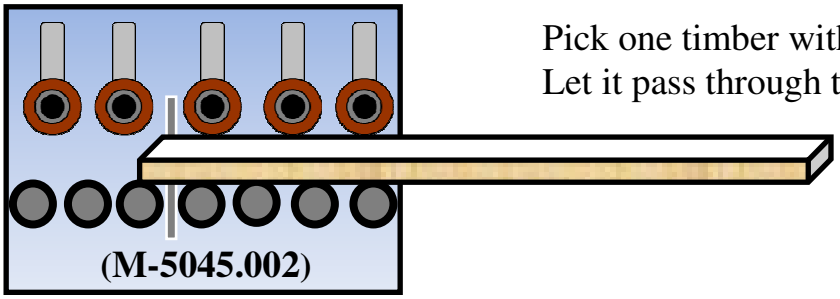


Set them to be zero.

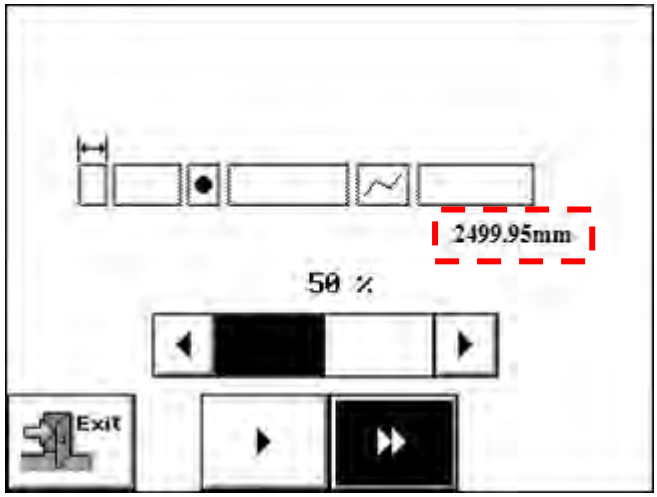


Exit to the previous page.





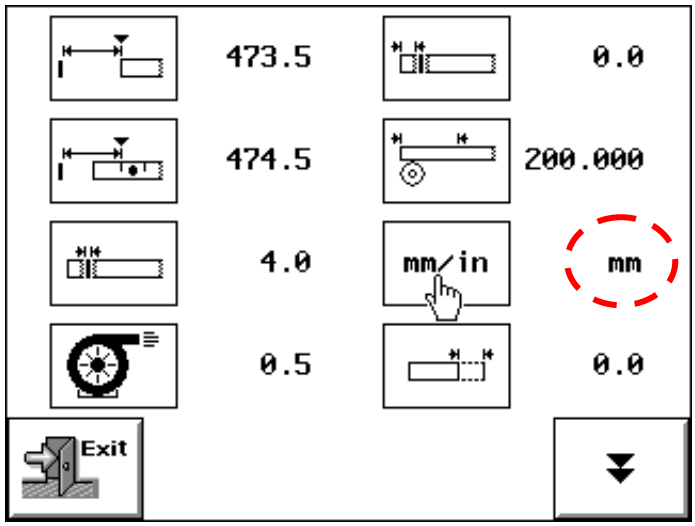
Pick one timber without marking lines.
Let it pass through the machine.



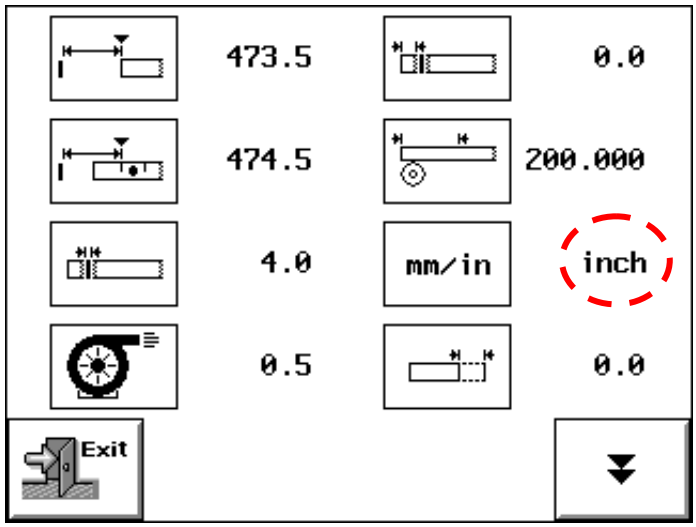
The scanning result is 2499.95mm, very close to its actual length 2500mm. The scale parameter has successfully calibrated.

<If the scanning length doesn't comply with the actual length, please repeat the procedure above.>

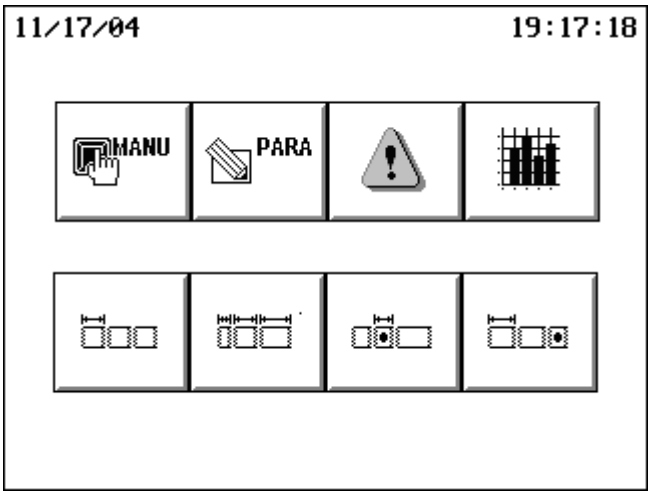
(7) Switch measurement unit



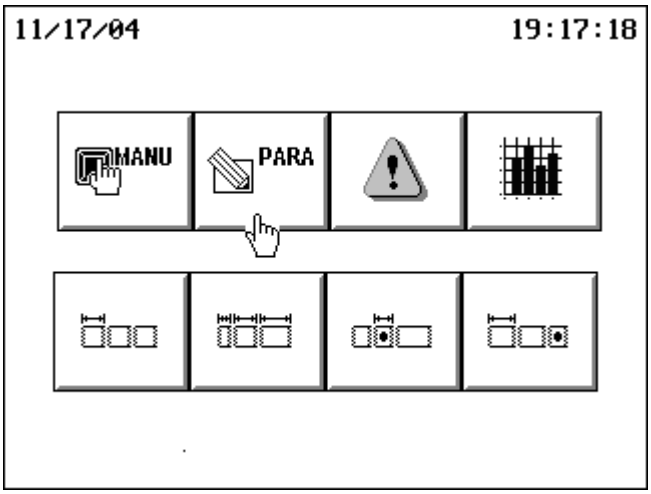
You can change the measurement unit easily, only by touching the icon on the screen (shown as above).



(8) Program Restore

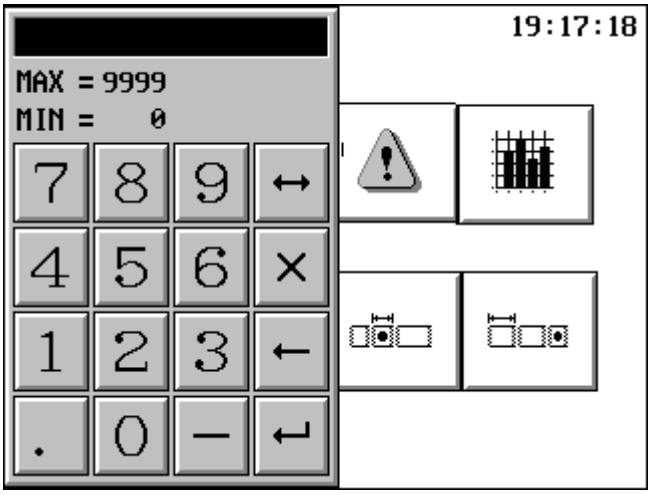


Back to the Operation Home Page

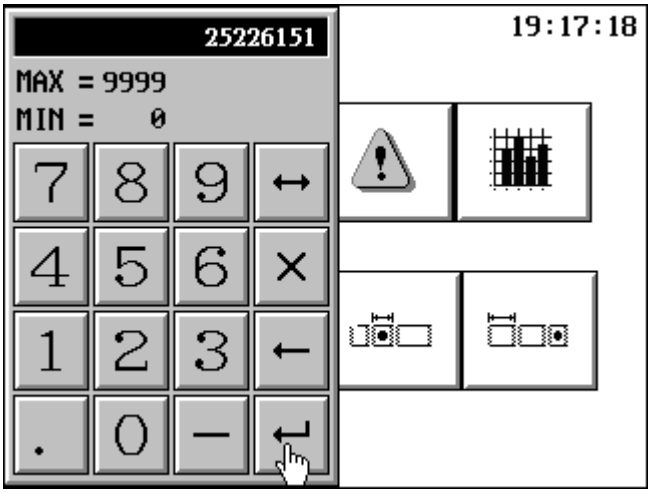


Touch the parameter setting key 

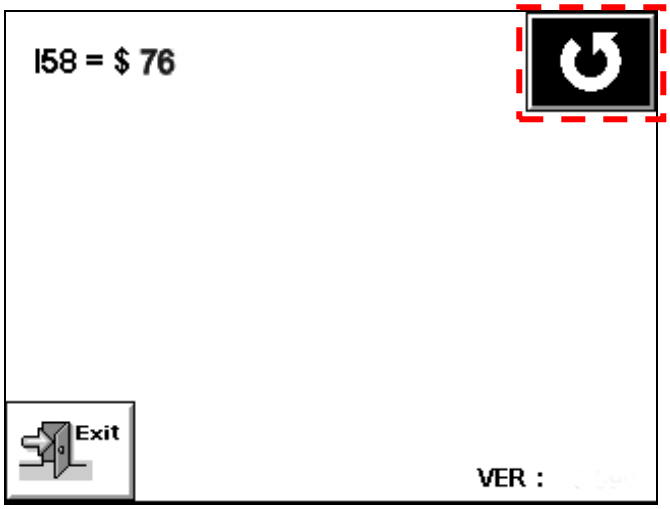
on the screen



A keyboard will appear on the screen

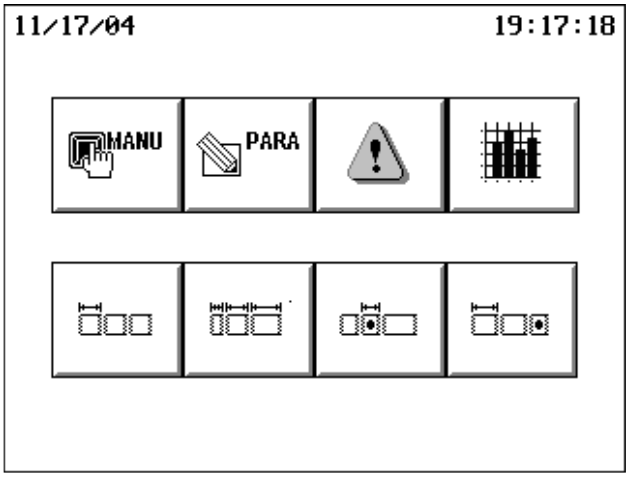


Key in the correct password – 25226151.
Then you can enter to the page of Parameter-setting.

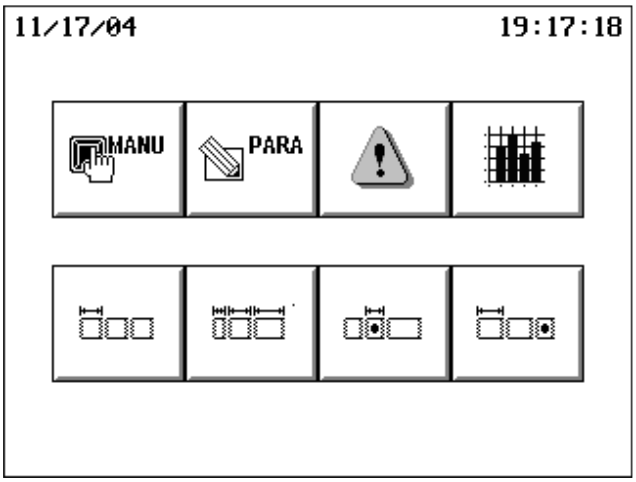


Press the symbol 3 seconds, the system will reboot automatically and successfully restore.

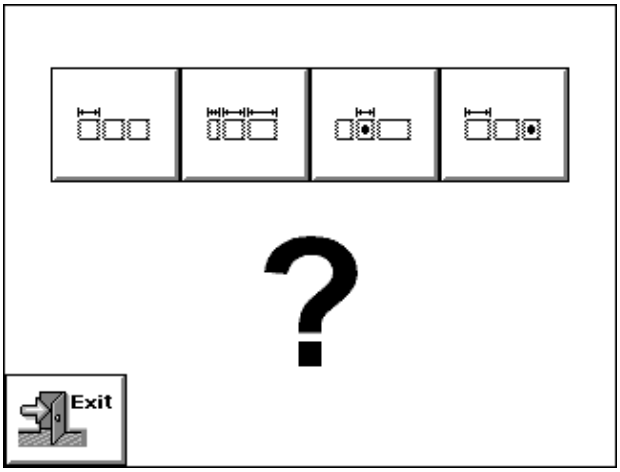
3-3 SELECT THE CUTTING MODE



Operation Home Page

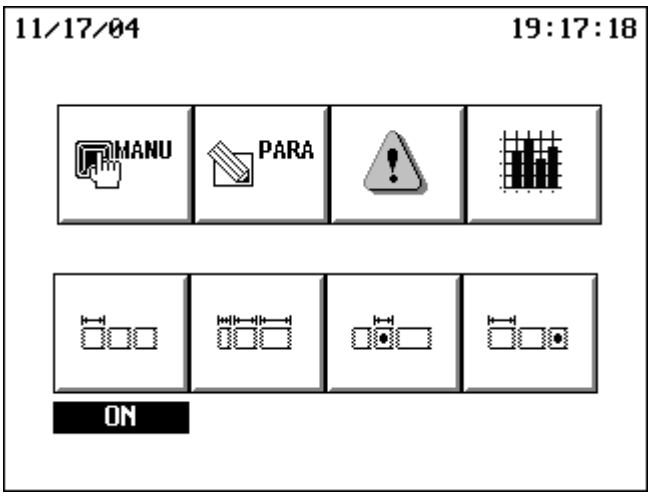


If you push the program start button directly without choosing the cutting mode at first, you will see the following page.

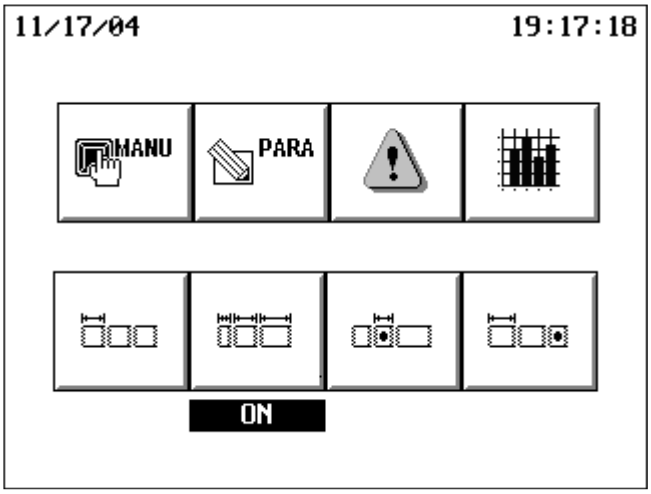


If you do not choose the cutting mode, the control system will inform the user to choose the proper cutting mode to enter.

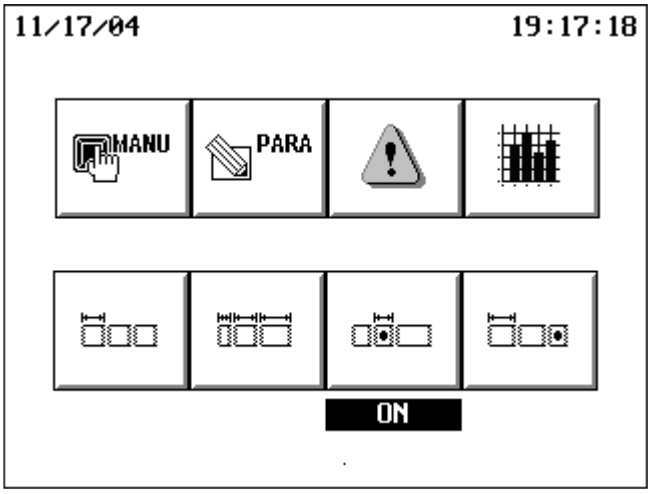
After entering the chosen cutting mode, push the program start button. Then the control system will operate according to the cutting function of the chosen icon. See the images of Home page for different cutting modes in running situation as below:



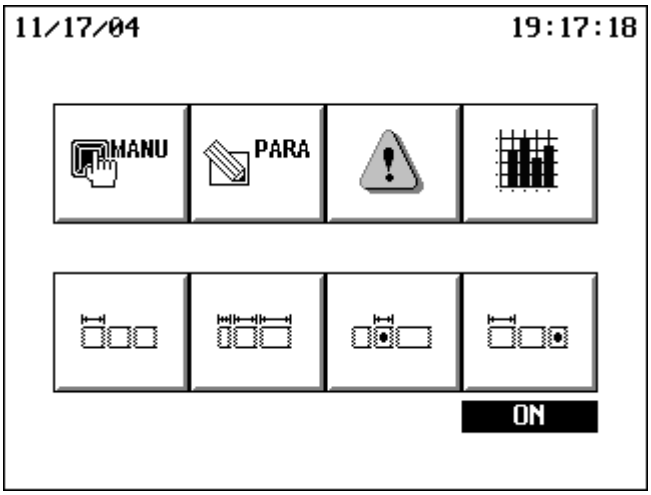
Fixed length cutting mode



Sequential cutting mode



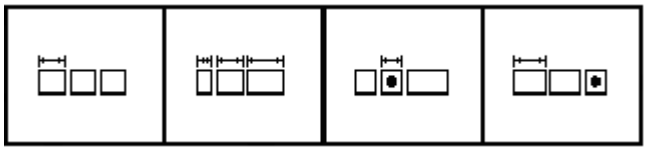
Marking line cutting mode

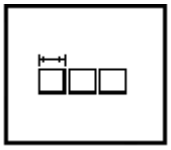


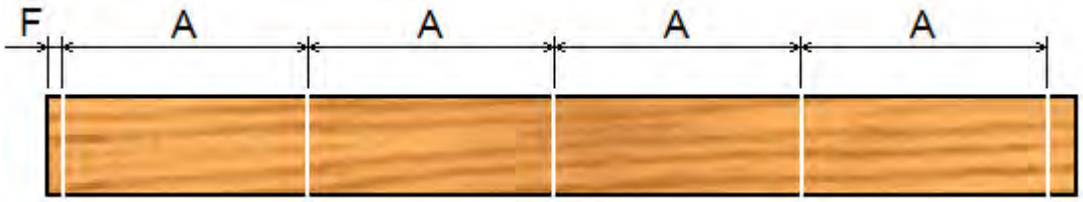
Mixed cutting mode (Mark + Fix)

If the user back to the HOME page during operation, he will find that a situation indication “ON” showing below the cutting mode in operation to notice him which cutting mode is running right now. The user can enter and exit the different pages freely, but he can not change any setting value at this moment.

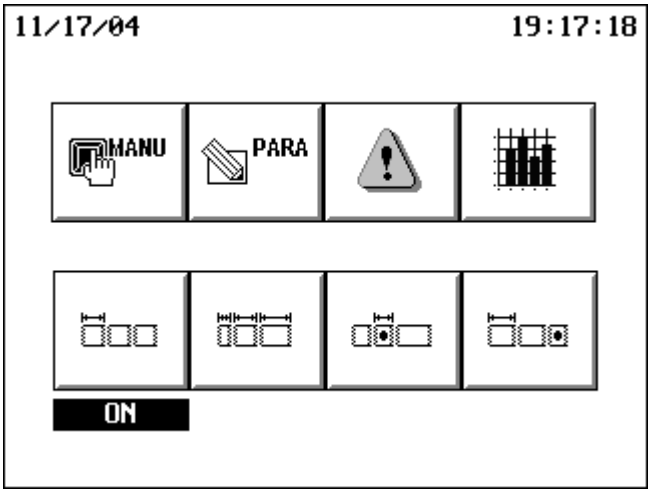
The machine provides 4 cutting modes. According to the job demand, select the icon on the screen directly. See the details as below:



1.  : FIXED LENGTH CUTTING MODE

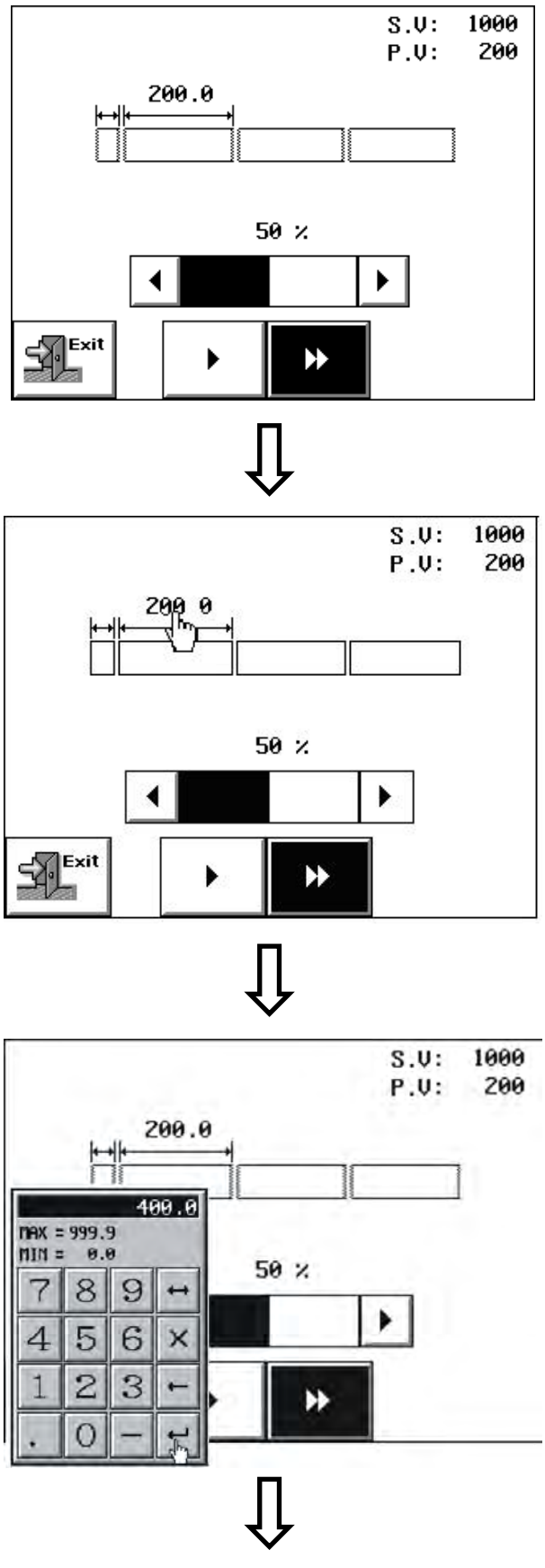


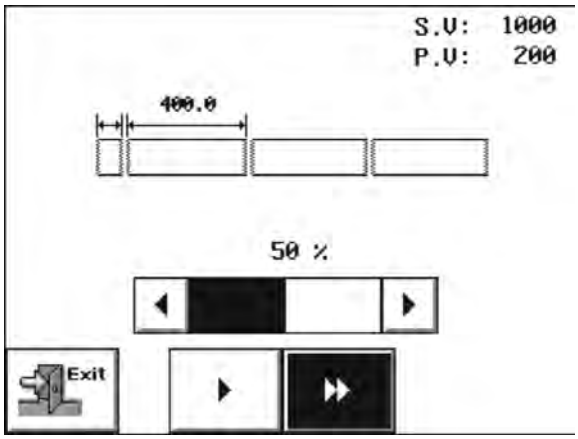
OPERATION INSTRUCTION:



PAGE EXPLANATION:

Touch the numbers on the screen, it will spring out a window for keying in value. At this time, key in the size you want and you finish the setting.



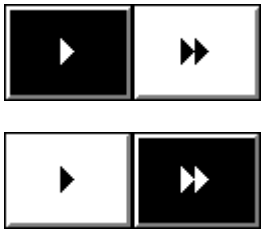


The page of Fixed Cutting Length Mode

The value of this page: **S.V – Setting quantity**
P.V – Present quantity

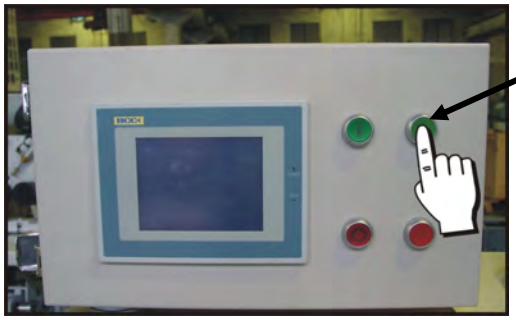
P.S:

1. When the value of SV ＞ 0 and the value of SV = PV, the machine will stop cutting and become “standby” condition.
2. When the value of SV = 0, the value of PV will not cause the machine to be “standby” condition.



Single cutting

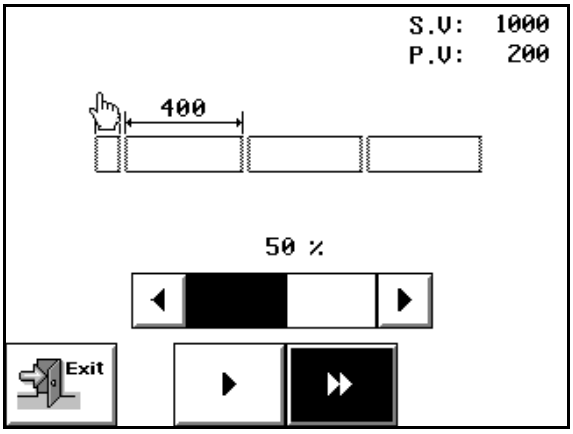
Continuous cutting

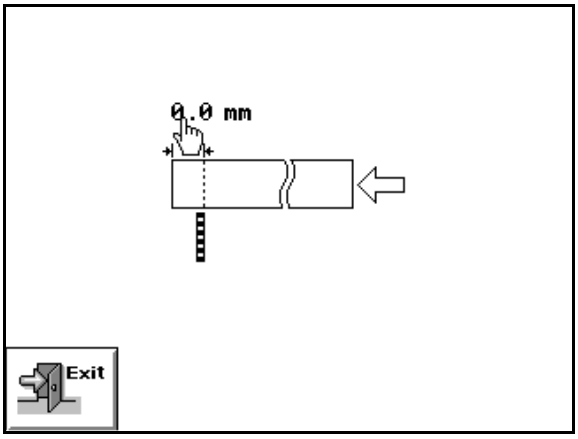


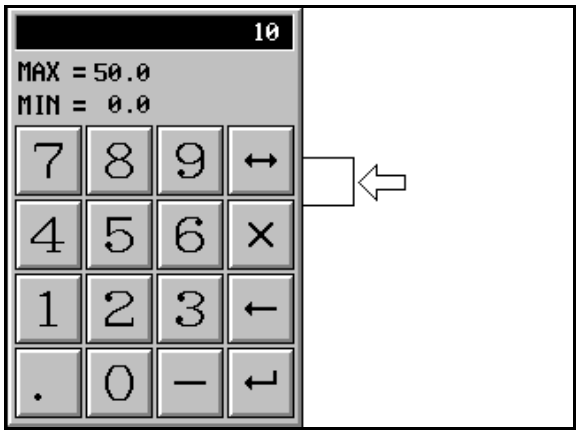
When working with “Single cutting”, press the button one time, the saw blade cuts one time.

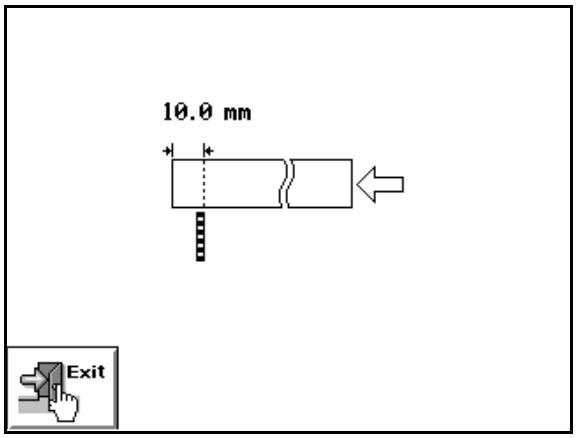
Trim the beginning:

For single cutting, press START for one cutting. Select trimming amount on the screen, “Trimming the beginning” appears on the screen; select the measurement, a dialogue window appears. Set the cutting measurement and then press Exit.

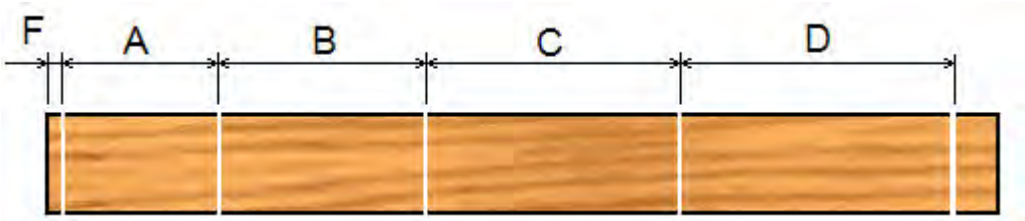




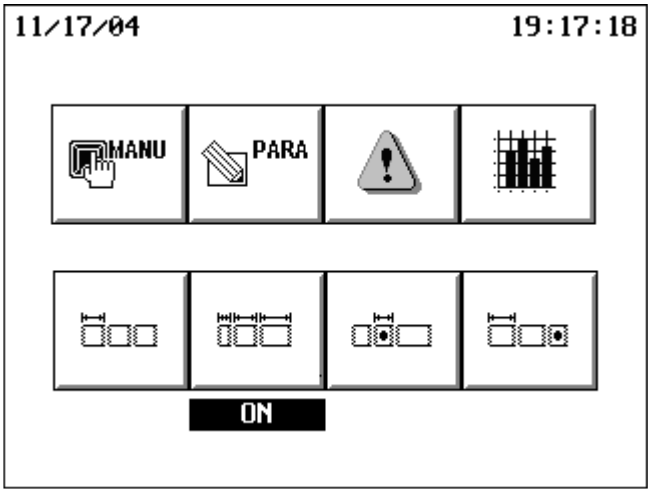




2. : SEQUENTIAL CUTTING MODE

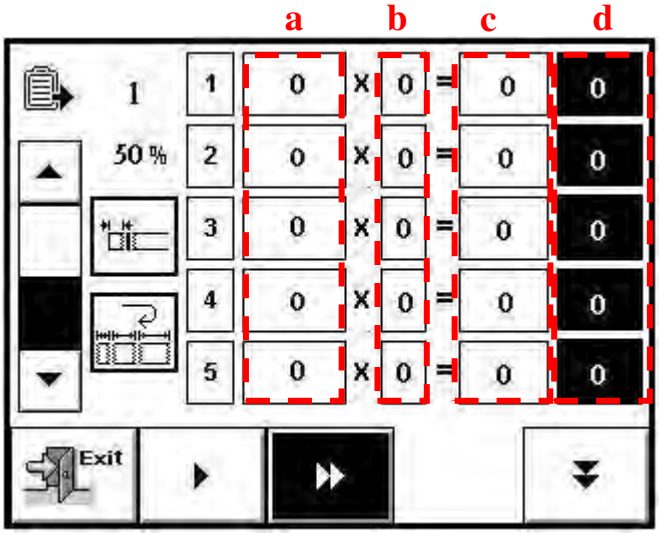


OPERATION INSTRUCTION:



PAGE EXPLANATION:

Touch the digits (the cutting size, cut per one times, needs, eg. 150.0), a keyboard will be appeared. Key in the new size, times, needs, current times you want, then touch “enter” key to finish the setting.

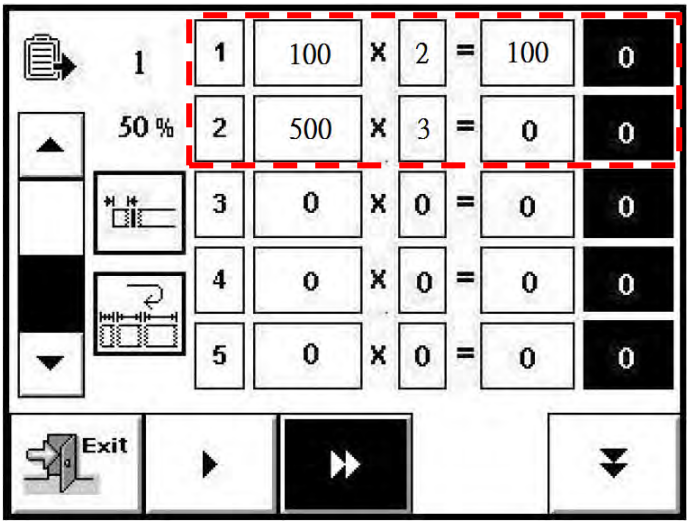


Sequential Cutting Mode

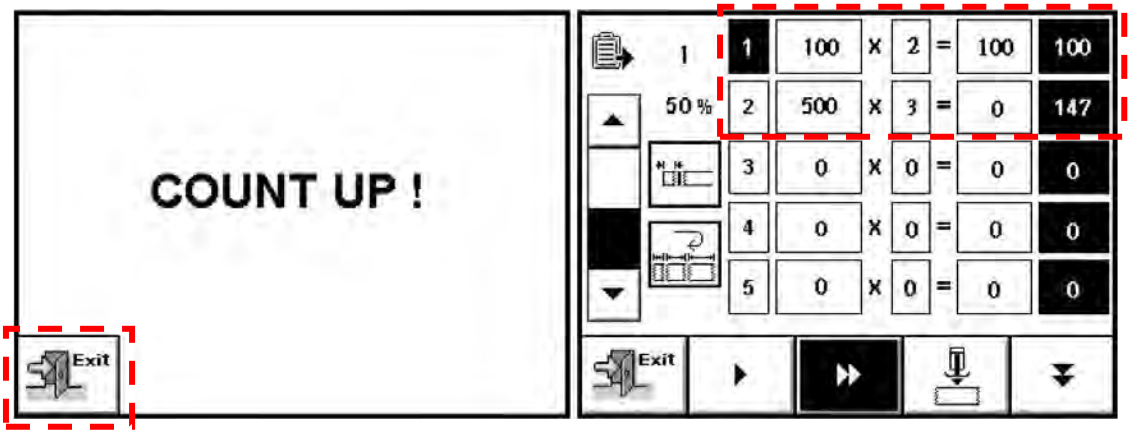
a. Size – set the cutting size
b. Times – set the cutting times per one wood of each size
c. Needs – set the number of needs of each size
d. Current counts – the times of cutting by machine

NOTE:

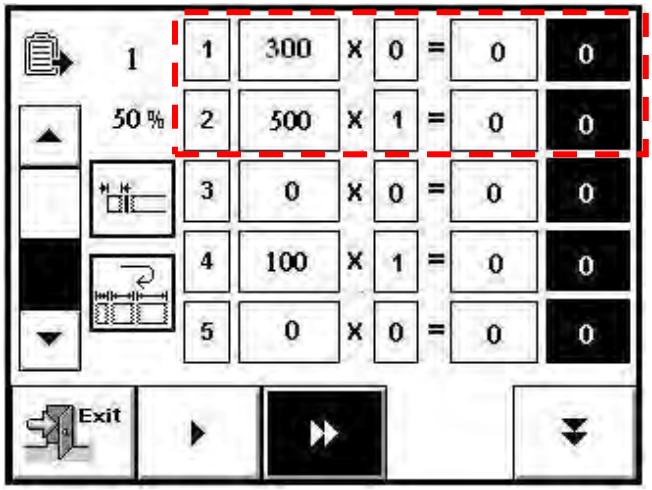
- When the value of need＞0 and the value of Current counts = Need, the machine will show the "count up picture" and stop cutting and become "standby" condition.



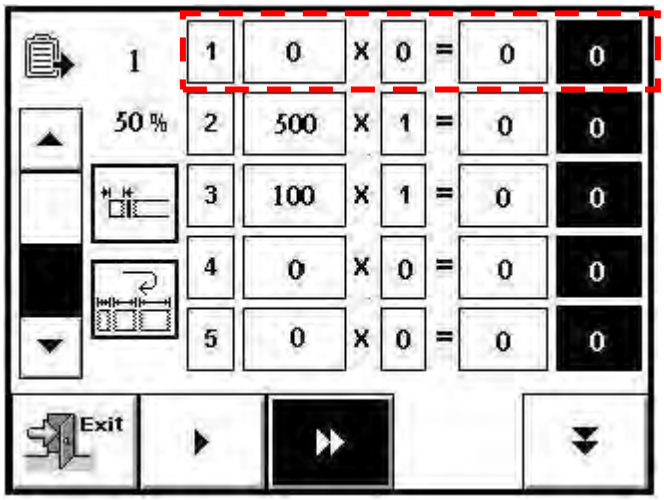
- When the current counts of first size is full as the needs, the program will show the count up picture out, stop the machine automatically. Touch the Exit will back to the Sequential cutting mode and the program will show which needs of size is the same like current counts in black.



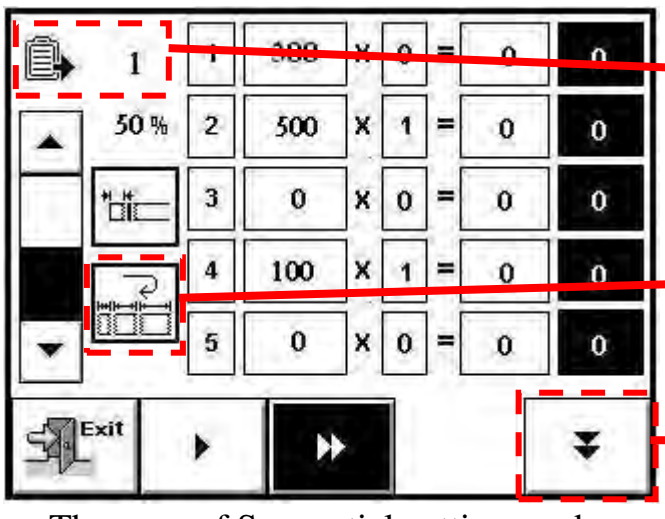
➢ If the sizes or times are not be set, the program will run the cutting size first, second without fourth.



➢ If the first size or time of first is not be set, the program will run without cutting .



The machine will start up without cutting.



The page of Sequential cutting mode

Exchange the size lists, total in 10 sets.

Non-repeat cutting

Repeat cutting

Exchange the Sequential size of 1 list, 10 sizes per 1 list.

For example: (non-repeat cutting)

When the preset sizes are 200, 200, 200, 400, 500, 500 in order. The settings will be as the Figure a.

- ✧ If the wood to be cut is 2053mm long, the machine will cut these 5 sizes in order, as the Figure b.
- ✧ If the wood to be cut is 1608mm long, the machine will cut the wood as the Figure c.

When use this cutting mode, it is necessary to arrange the cutting sizes according to the total length of the batch of timer, in order to minimize the waste and reach the best capacity.

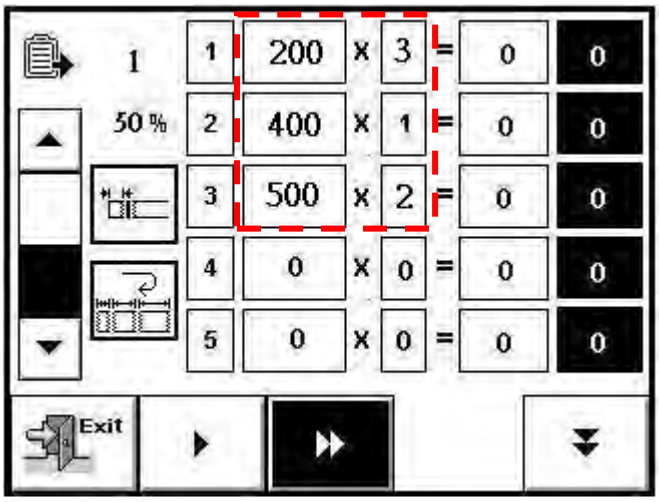


Figure a

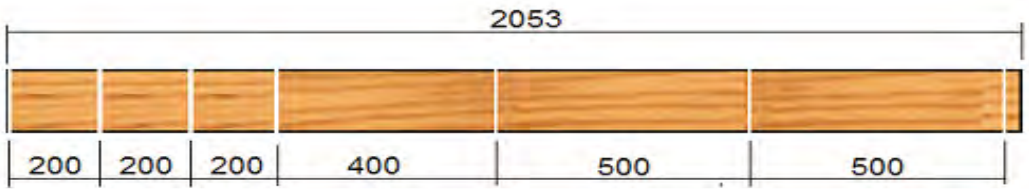


Figure b

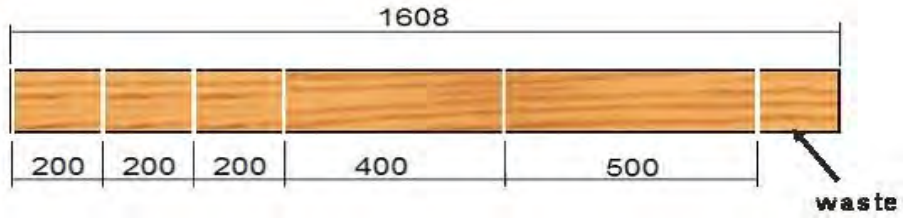
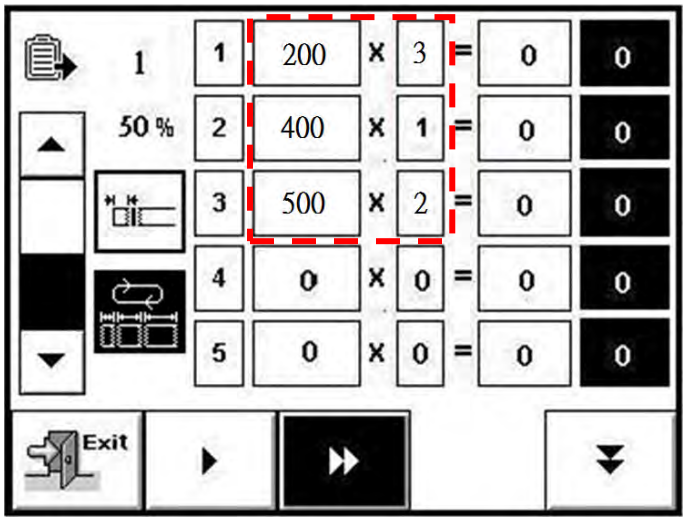
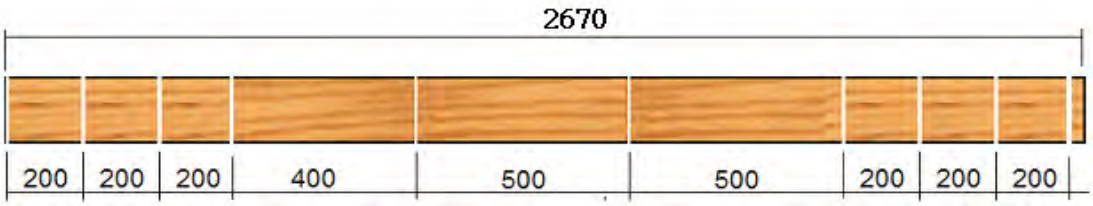


Figure c

For example :(Repeat cutting)

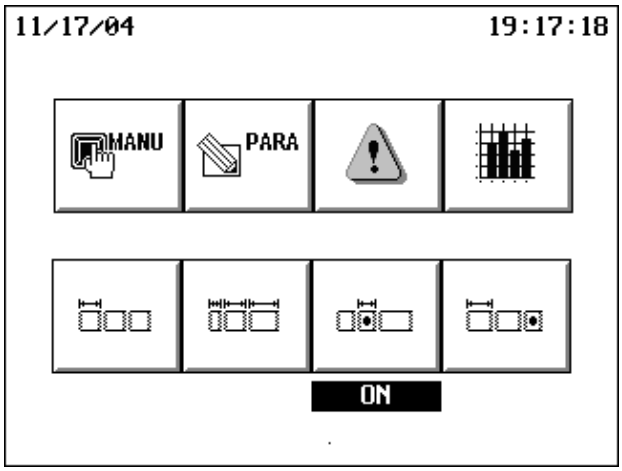
When the preset sizes are 200, 200, 200, 400, 500, 500 in order, the wood to be cut is 2670 mm long. The machine will cut the wood in these 3 sizes in order repeatedly until the wood is too short to cut.





3. : MARKING LINES CUTTING MODE

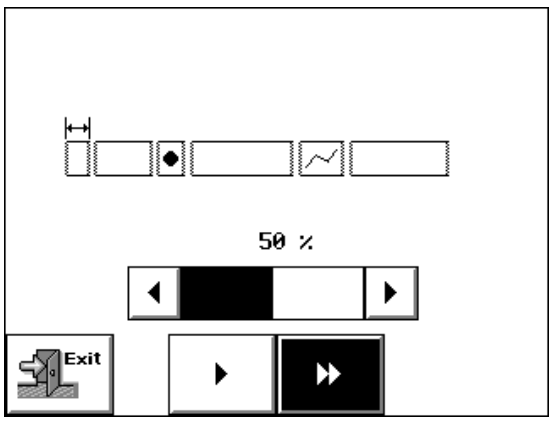
OPERATION INSTRUCTION:



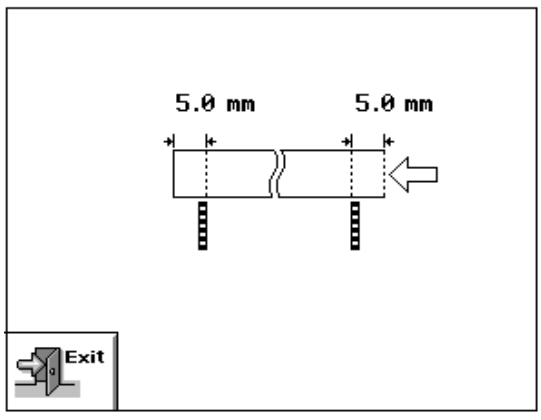
Use a fluorescent crayon to mark on the both side of the defective part of wood. When the sensor detects the marked lines, the machine will cut on the marked lines. It means any crayon mark on the wood will lead the machine to cut on this mark.

PAGE EXPLANATION:

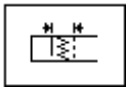
The user can set to trim the beginning or the end. Touch “Trimming the beginning” and a dialogue window appears for setting the measurement.



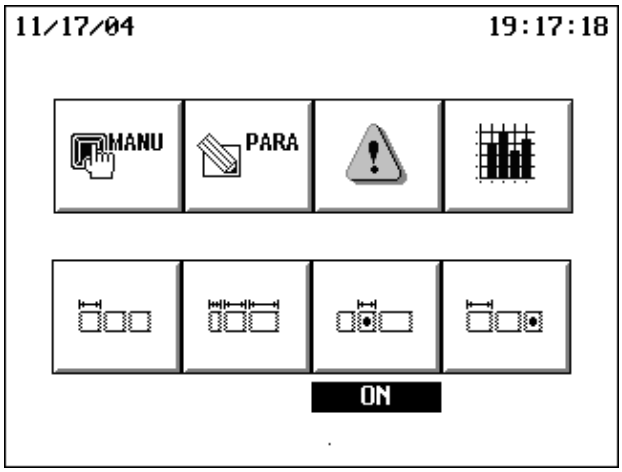
The page of Mark cutting mode.



The page of setting head-trimming and end-trimming.

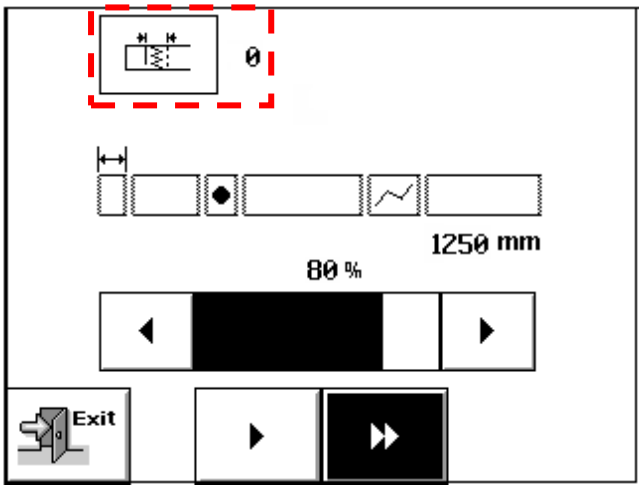
◎  **Two times cutting by one marked line (OPTION)**

Operation Instruction:



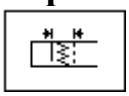
Page Explanation:

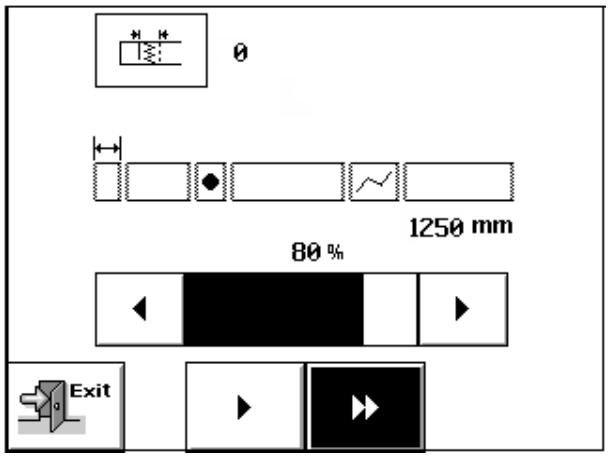
This Optional function is to mark one crayon line in front of the defective part of wood. When the sensor detects the marked line, the machine will cut on the marked line and one preset size. It means any crayon line on the wood will lead the machine to do 2 cuts when set parameter correctly.



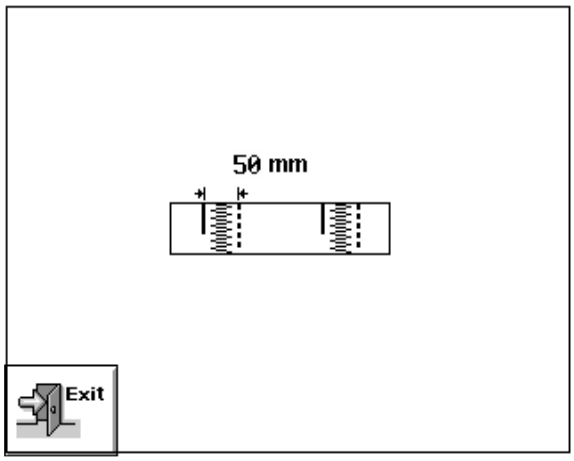
The page of Mark cutting mode

How to Operate:

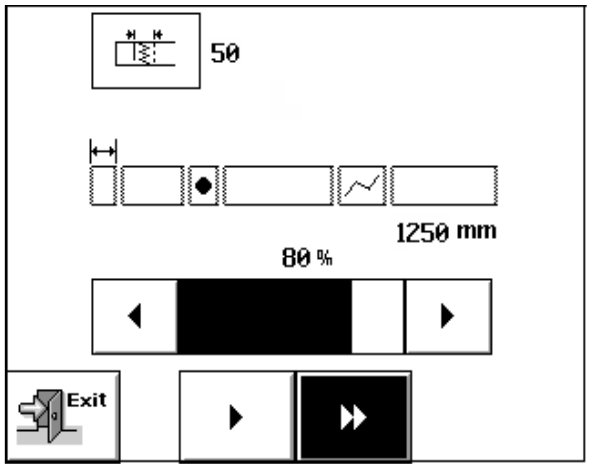
Touch  and screen will appear a "setting page" to set the value of the 2nd cut. The range of setting value: $10 < X \leqq 300$ (mm)

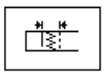


The page of Mark cutting mode

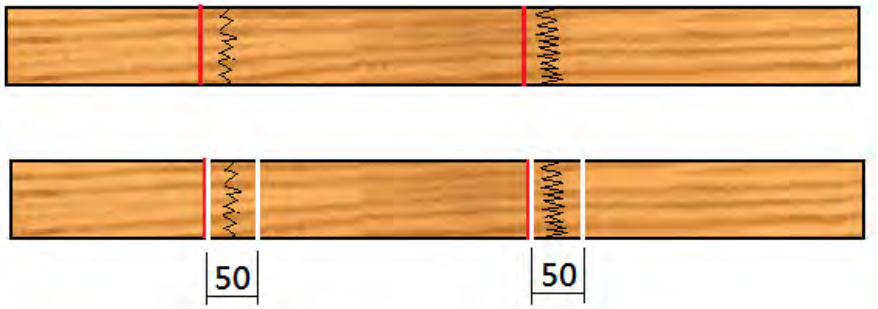


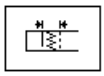
The Setting page for the 2nd cut.
The above shows the set-size of 50mm.



Example 1: When the preset size is 50mm 

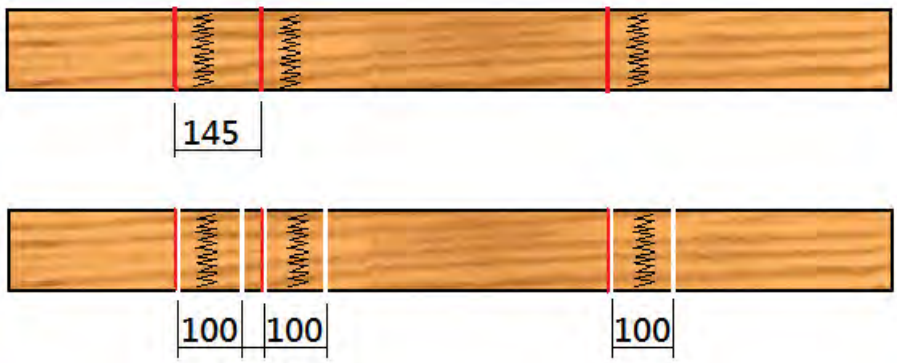
, the machine does 2 cuts on the crayon line and programmed size as below.



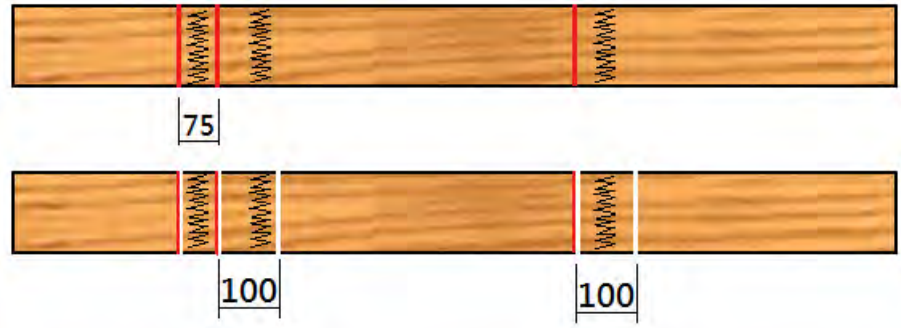
Example 2: When the preset size is 100mm 

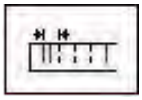
, the machine does the cutting the crayon line and programmed size as below.

Picture A: When the distance between 2 marked lines is bigger than the preset size, the cutting results showing as below.

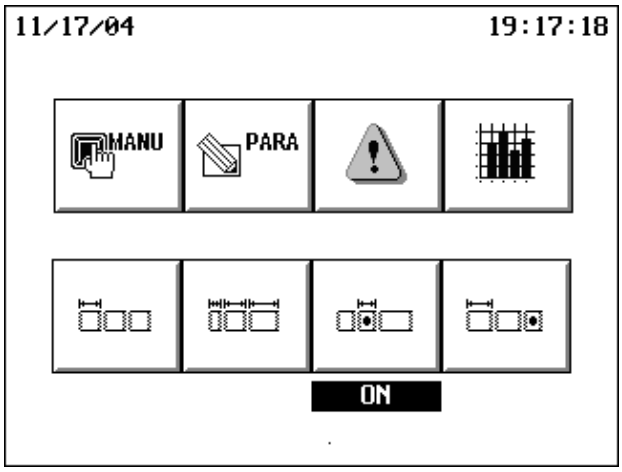


Picture B: When the distance between 2 marked lines is smaller than the preset size, the cutting results showing as below.



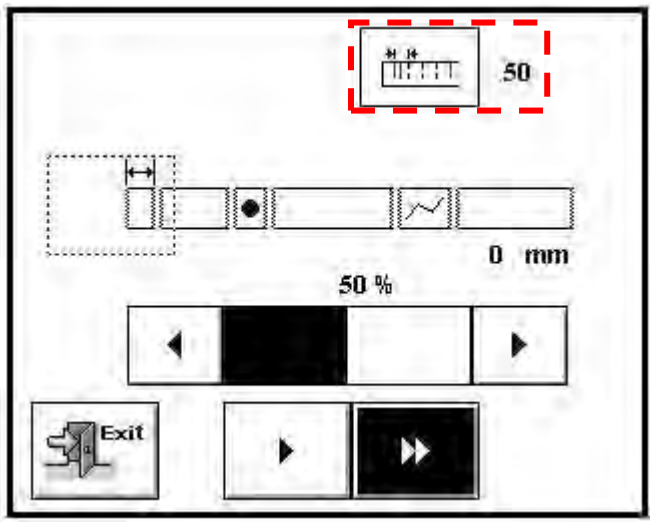
◎  **Reused waste timber by two marked line (OPTION)**

Operation Instruction:



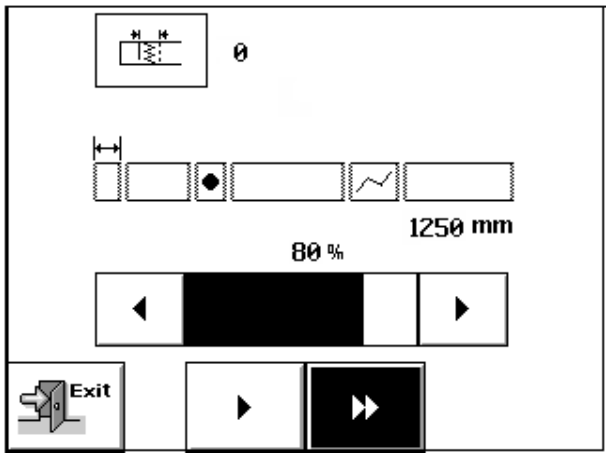
Page Explanation:

This Optional function is to reuse the long defective part of wood. Mark two lines on one side, one line on another side for defective part of wood. When the sensor detects the two marked lines on wood, the machine will start to cut a preset size on the first marked line until the mark line on another side. It means any crayon mark two line on the wood will lead the machine to cut a preset size on the defective part of wood.

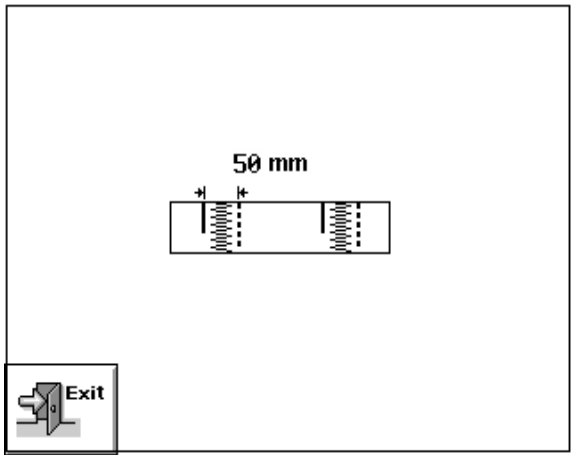


How to Operate:

Touch  and screen will appear a "setting page" to set the value of the size cut. The range of setting value: $10 < x \leqq 100$ (mm)

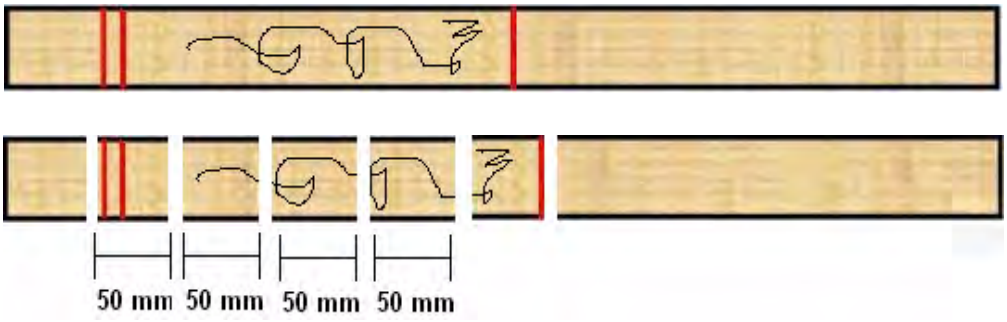


The page of Mark cutting mode



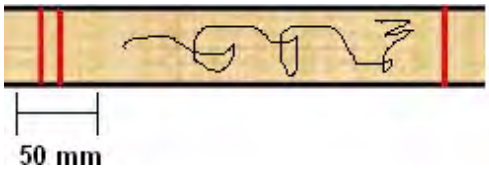
The Setting page is for the reuse size.
The above shows the set-size of 50mm.

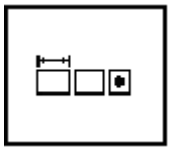
Example: When the preset size is 50mm  50, the machine does cut the size from the 2 crayon lines to the 1 crayon line and programmed size as below.

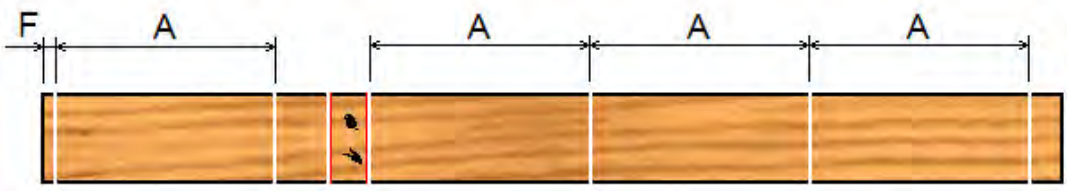


NOTICE:

The distance between two lines is less than 50mm, the mode does start.

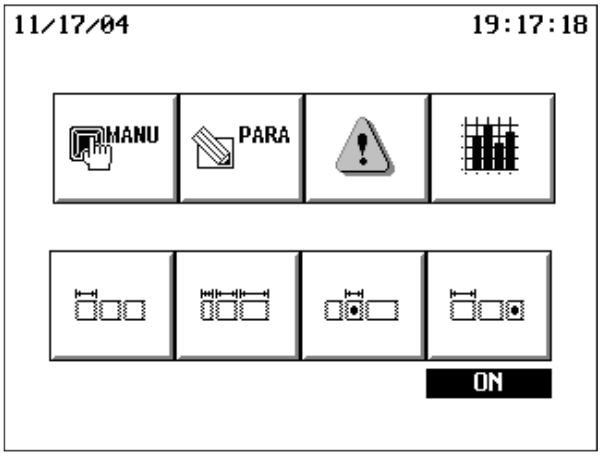


4.  : MIXED CUTTING MODE



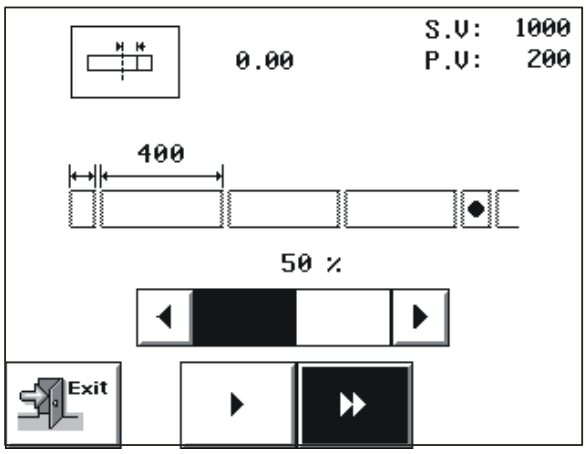
OPERATION INSTRUCTION :

Set the cutting sizes the same as the MODE 1.

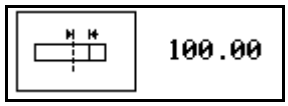


PAGE EXPLANATION:

This mode is used to cut fixed measurement while the knuckle of the wood needs to be removed. The user can set to trim the beginning or the end. Touch "Trimming the beginning" and a dialogue window appears for setting the measurement.

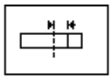


The page of Mixed cutting mode

◎ **Remainder optimum usage:** 

Setting

When the machine is working in the Mixed cutting mode, it can process the remainder of material with the optimum calculation. Thus, it can prevent the remainder from becoming the waste due to its length is too short for finger-joint.

Touch  and screen will appear a "setting page" to set the value of remainder length. **Please note that the value of remainder must be less than 160mm.**

For example: Set the Fixed length to be 400mm and the remainder to be 100mm.

1. When the remainder (the distance to the mark line) is bigger than 100mm, machine will cut this separate section to be used for "finger-joint" (refer to the Figure a).
2. When the remainder (the distance to the mark line) is smaller than 100mm, the computer will combine the fixed length with the remainder to be a longer piece in order to utilize the timber fully (refer to the Figure b).

Note: Minimum number: 90mm
Maximum number: 300mm (160mm-optional)

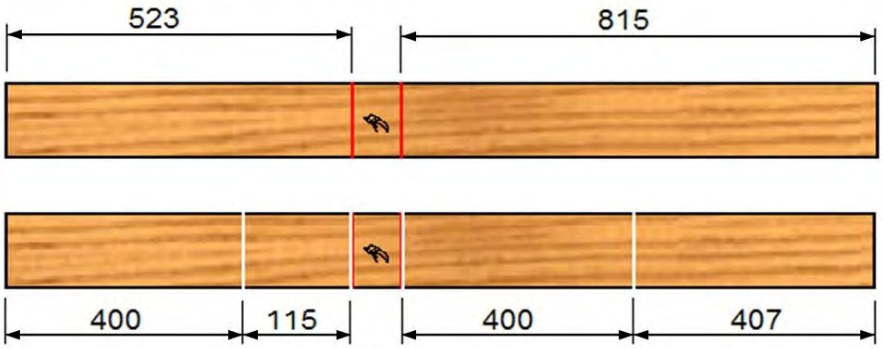


Figure a

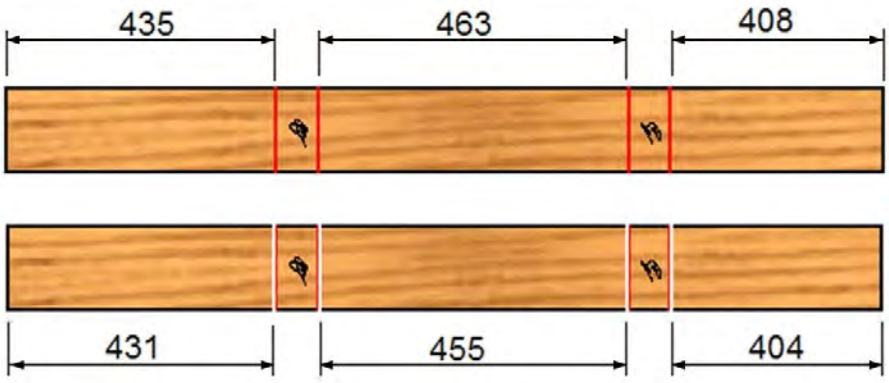
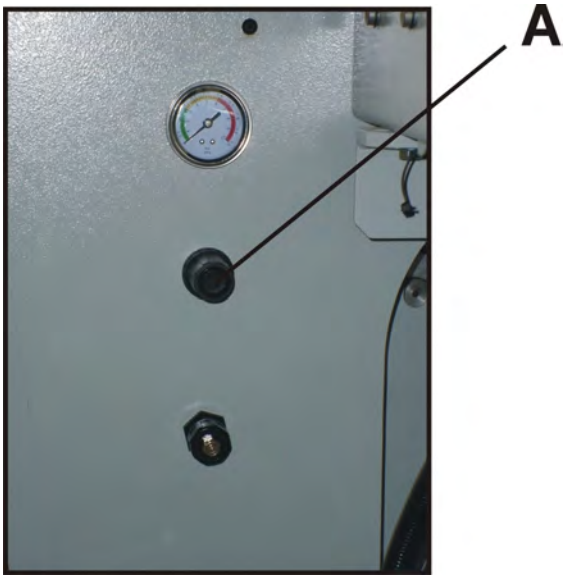


Figure b

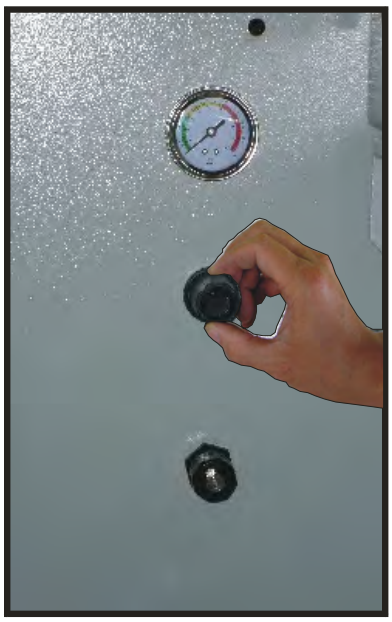
3-4 ADJUST THE AIR PRESSURE OF PRESSURE ROLLER

In order every pressure roller gives a certain force to the workpiece, we install an air cylinder on every pressure roller. There is an air pressure regulator knob (see A on the following picture) on the control panel. This knob can adjust the air pressure of all the pressure rollers, it can adjust the degree of pressure according to the length, width and thickness of wood. (Generally, the pressure is set at 4~5 kg/cm^2.)



ADJUSTMENT INSTRUCTION:

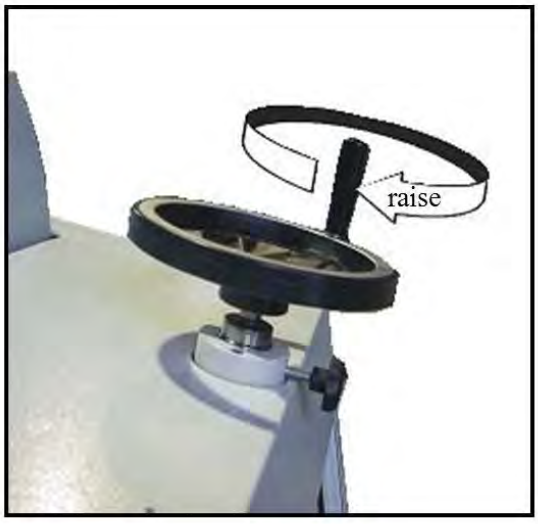
Turn the regulator knob clockwise to increase the air pressure. Turn it counter-clockwise to decrease the air pressure.



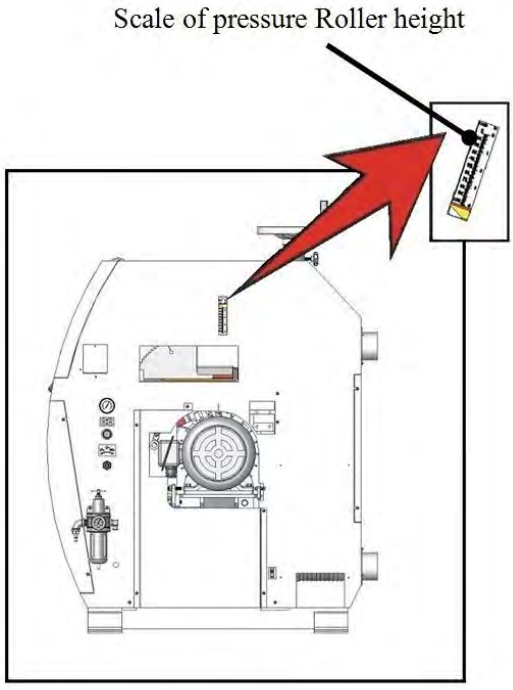
3-5 ADJUST HEIGHT OF PRESSURE ROLLERS

The height of pressure rollers is adjusted with the height adjustment handwheel (picture A). The user can read the height of rollers easily from the scale (picture B). Turn the handwheel clockwise to raise the height of pressure rollers and counter-wise to lower the height. Always set the height of pressure rollers lower than the real thickness of wood to be cut for 3~5mm.

For example: if the thickness of wood is 70mm, adjust the height of pressure rollers to the position of 65~67mm on the scale.



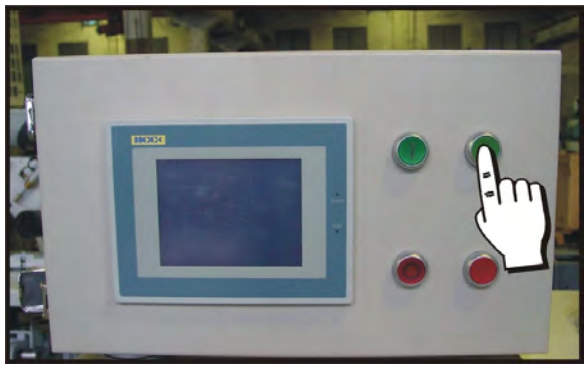
A



B

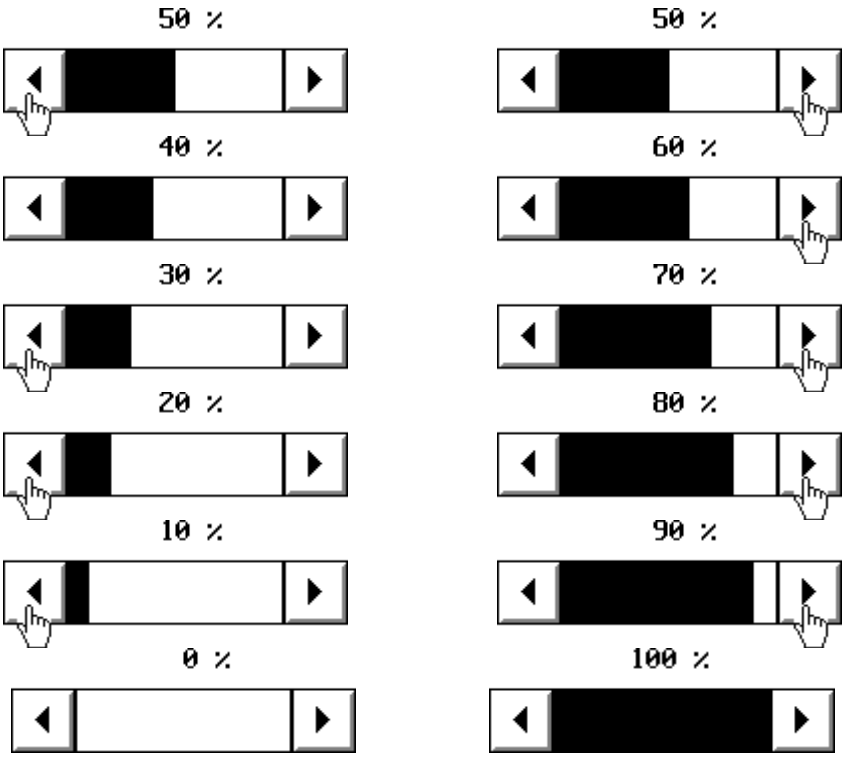
3-6 START THE MACHINE

Select the desired cutting mode according to the instructions given in section 3-3, or pressure the start button on the control panel. Then, the feed rollers and the saw arbor will start running simultaneously.



3-7 ADJUST FEED SPEED

The feed speed has 10 steps adjustment, the adjustment range is 0~100%, the highest speed is 80M/min. Left key for decelerating speed (slow down); Right key for accelerating speed (speed up).



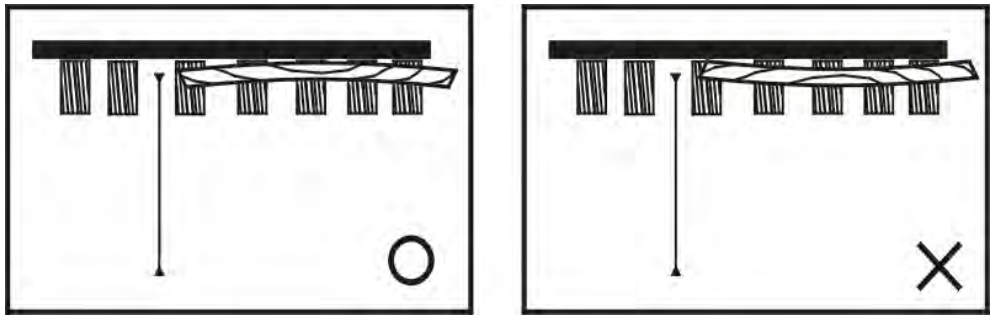
3-8 FEED THE WORKPIECE

The machine is designed with a tilting infeed mechanism, so the workpiece is simply fed against the fence. Gently push the workpieces into the machine, and they will move straight forward.

Give attention when choose the wood to be cut:

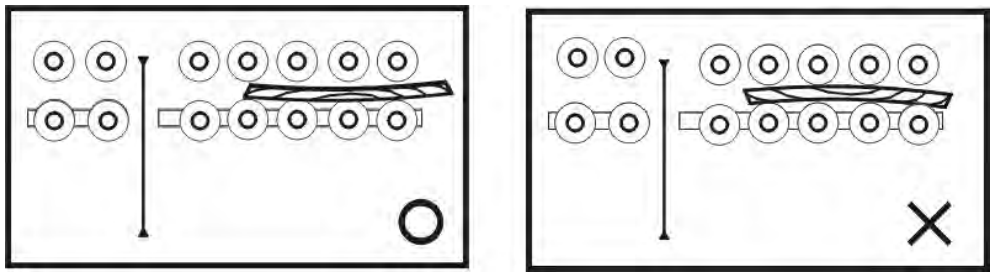
◎ When the wood is bent or/and deformed: should put its convex side face to and against the guide fence and do the cutting.

Vertical view:



◎ When the wood is bent or/and deformed: should put its convex side face to the feed roller and do the cutting.

Vertical view:

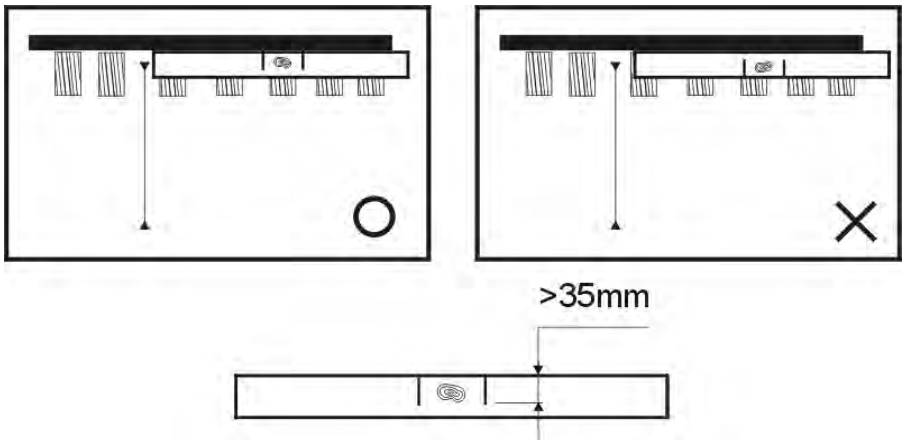


3-9 ADJUST SAWBLADE CUTTING SPEED

The sawblade cutting speed regulator knob is located at the control panel of the front side of machine. Turn this regulator knob clockwise to reduce the cutting speed. Turn it counter-clockwise to increase the cutting speed. When the workpiece is rough in cross-section, use a lower cutting speed or use a sawblade with more teeth.

3-10 MARK THE CRAYON LINE

When mark the crayon line on the work piece, be sure to mark line on the side next to fence, also the length of mark line has to over 35mm.



CHAPTER 4: MAINTENANCE

Disconnect the machine from the power source before performing maintenance. Follow the instructions below absolutely to prevent injury.

4-1 CLEANING AND LUBRICATING

Always keep the machine parts and working environment clean to ensure safe operation and extend the service life of the machine. The operator must make a periodic maintenance book for record. Be sure to periodically check the machine condition and do a proper lubrication according to the following timing. The methods as below:

DAILY MAINTENANCE:

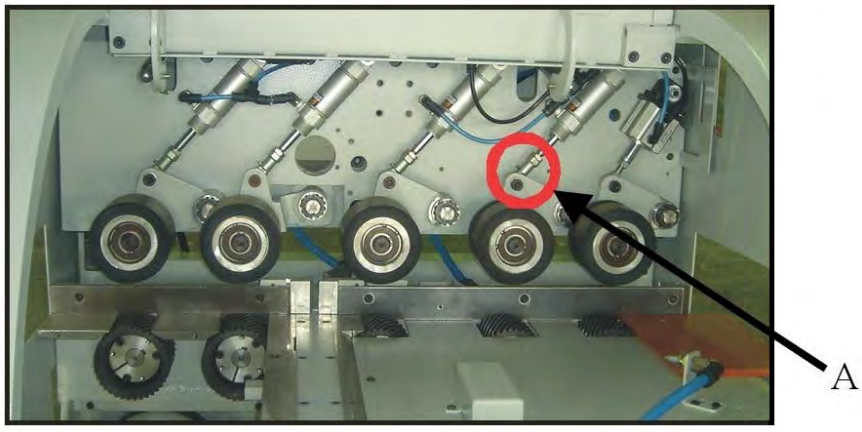
- ◎ Excessive dust may influence the fluorescent sensor (LUT1B-31325) and workpiece sensor (CTD-1500N). Clean both sensors everyday.
- ◎ Clean the inner of sawblade guard and dust collection device to ensure dust collection efficiency.
- ◎ Check to see if the sawblade is cracked or dulled.
- ◎ Check and clean the upper pressure rollers.

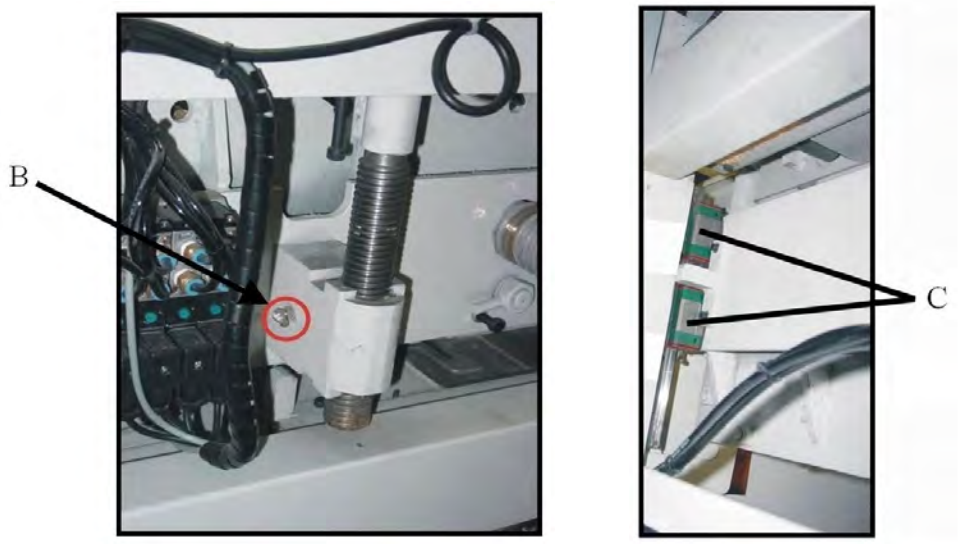
WEEKLY MAINTENANCE:

- ◎ Thoroughly clean the machine.
- ◎ Check the filter/regulator unit (See instructions in section 4-3).

MONTHLY MAINTENANCE:

- ◎ Lubricate the workpiece pressure mechanism, including air cylinder end bearing (A) on the upper pressure roller, pressure roller elevation screw (B), and slide block (C) of the linear motion guide.





◎ The choice of grease:
In order to maintain the operation life of the machine, it is important to choose the good quality of grease. We suggest using the grease offered by the machine manufacturer or its agents.

We suggest using the following lubricants:

Name		Grease
Usage		Bearing
Viscosity cst@ 40℃		NLGI NO.2
Brand	CPC	Mulyi-Purpose No.2
	Mobil	Mobillux 2
	ESSO	Estan No.2
	SHELL	Alvania No.2

EVERY 3 MONTHS:

◎ Inspect the upper pressure rollers to see if they work normally, and their rubber portion is wearing or not.
◎ Check the width of the slot on sawblade center plate (See section 4-2).
◎ Inspect all pneumatic connections.

EVERY HALF-YEAR:

◎ Inspect the saw arbor, making sure the belt tension is correct and the belt is not damaged.
◎ Inspect the timing belt for correct tension and damage.
◎ Check the electric box, and clean the fan and filter on the heat exchanger.

4-2 REPLACE THE CENTER PLATE FOR SAWBLADE

The center plate is made of plastic, which can be cut through by the sawblade. The cutting slot is within 5mm wide. However, after operating the machine for a period of time, the slot will be getting wider and it is necessary to replace with a new plate. Otherwise the small wood pieces may be jammed in the gap, or fallen down into the sawblade guard.

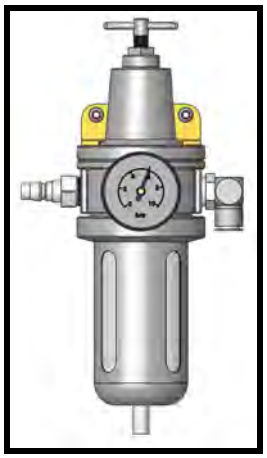
Note:

1. There is **no slot** on the new plastic plate. The user has to cut the slot himself.
2. After replacing with a new plastic plate, raise the sawblade at a **very slow speed** (adjust to slow speed, see picture) to cut through the plate, otherwise the plate will be deformed easily. **Be sure to file the burrs until the edge is smooth after cutting the slot.**

4-3 FILTER/REGULATOR

1. FEATURES:

This unit consists of pressure reducing valve, filter, pressure gauge and assortment of hardware. Its function is to filter the impurities contained in the compressed air, which is then condensed into water and to regulate the air pressure to all valves and air cylinders.



2. TECHNICAL INFORMATION:

Connector thread	3/8”
Working pressure	6-9 kg/cm^2
Working temperature	under 50°C

✱Caution: The source of compressed air must be supplied steady continuously, or supplied by a separate air compressor.

3. CLEANING:

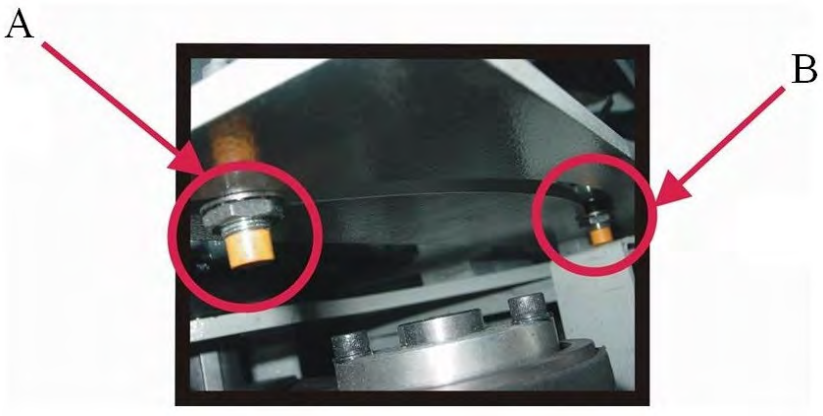
Use only soap and water to wash the containers (cups).

4. NOTES:

◎ Do not try to dismantle any pneumatic parts unless the compressed air supply is disconnected.

◎ Protect the air circuit from impacts and vibration during operation.

4-4 ADJUST PROXIMITY SWITCHES FOR SAW ARBOR ELEVATION CONTROL



◎ The saw arbor elevation limits are controlled by the upper proximity switch (A) and the lower proximity switch (B). The switches are used for identification by the computer programs. If these two proximity switches are not sensed, a "CYCL ERR" message will display on the LCD.

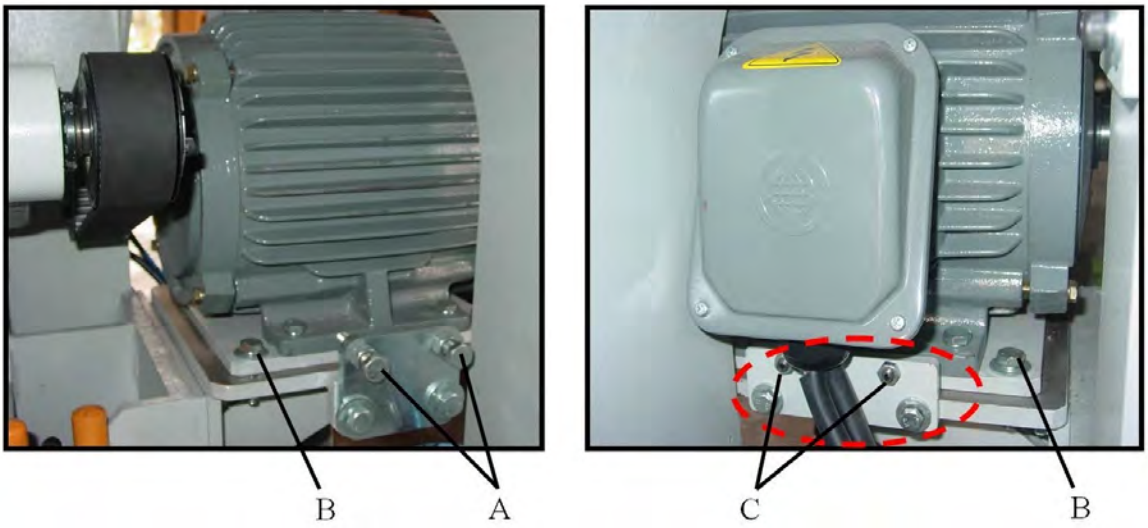
◎ The positions of two proximity switches have been properly set before shipment for maximum depth of cut. Adjustment of these positions is not recommended.

◎ If the thickness of workpiece is not so big (See cutting capacity diagram on page 1), lower the proximity switch A position to a proper distance to reduce the cycle time of sawblade. To adjust, simply loosen the two fix screws, but do not remove them. Tighten them securely after adjustment.

◎ The proximity switch B is used for extreme low limit control. Do not raise the switch B as you wish, otherwise it will cause a serious damage to the machine.

4-5 REPLACE THE TIMING BELT OF SAW ARBOR

After the machine has been operated for a period of time, the Timing belt which transmits machine power must be worn and this can affect the machine efficiency. So, it is necessary to replace with new timing belt to reduce belt wearing and the loss of power transmission.



Replacement:
Loosen “fixed bolt A” and “motor bracket fixed bolt B”, then the motor can be moved forward and take off the saw arbor belt. After replacing with new belt, screw the “fixed bolt A” to “position bolt C” tight to fix the position. At last, screw the “motor bracket fixed bolt B” tight to finish the complete belt replacement.

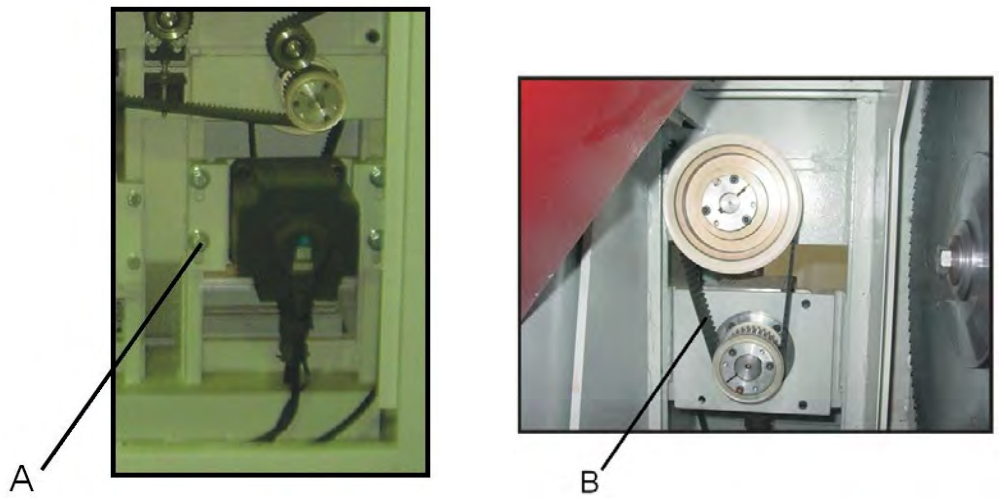
※ Note: “Position bolt C” is the position standard of saw motor and arbor, never take it off at will.

4-6 REPLACE THE TRANSMISSION TIMING BELT

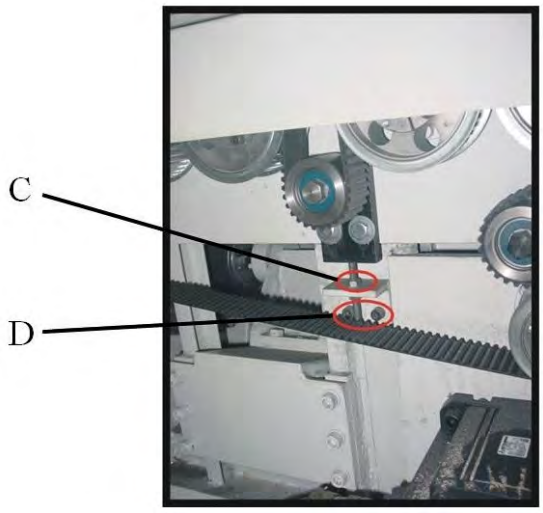
The timing belt tension is adjusted through the idle wheel. Over-loose belt tension may cause inaccurate positioning of the workpiece.
This machine uses 2 types of timing belts, the specifications are "720-8M-40" and "2400-8M-40", 1 piece of each type.

The way of replacement:

◎ Loosen the "Fixed bolt A", replace with a new belt (720-8M-40). After replacement, must fasten "Fixed bolt A".

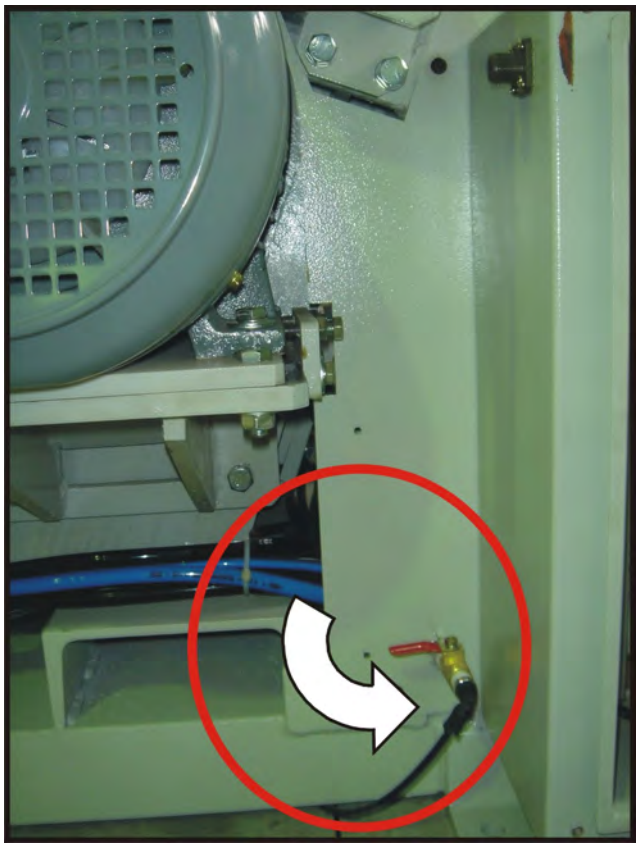


◎ Tighten the two screws (D) securely after tension adjustment. Loosen the two fix screws (D). Adjust two nuts (C) until proper belt tension is obtained. (Turn the nuts clockwise to increase and counter-clockwise to reduce belt tension) Tighten the two screws (D) securely after tension adjustment.



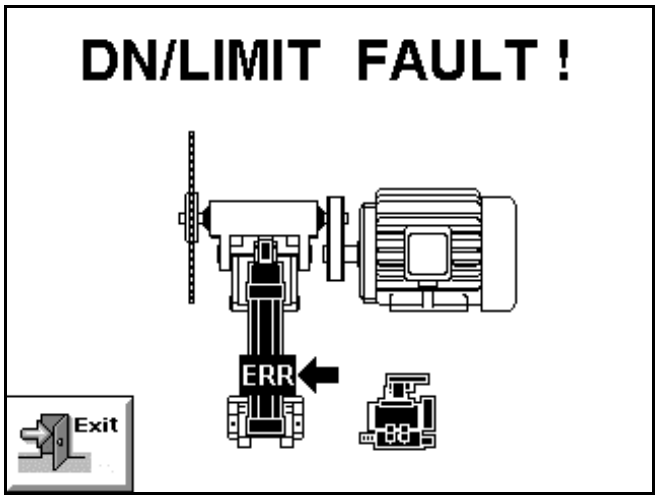
4-7 DRAIN WATER FROM THE PRESSURE AIR RESERVIOR

There is a compressed air reservoir inside of machine, it can supply the pressure needed for saw arbor and pressure rollers adequately. Water will be collected inside of the compressed air reservoir. his will influence the capacity of the reservoir and damage the pneumatic accessories. So, it is necessary to drain water every day after work (as the following picture shown).



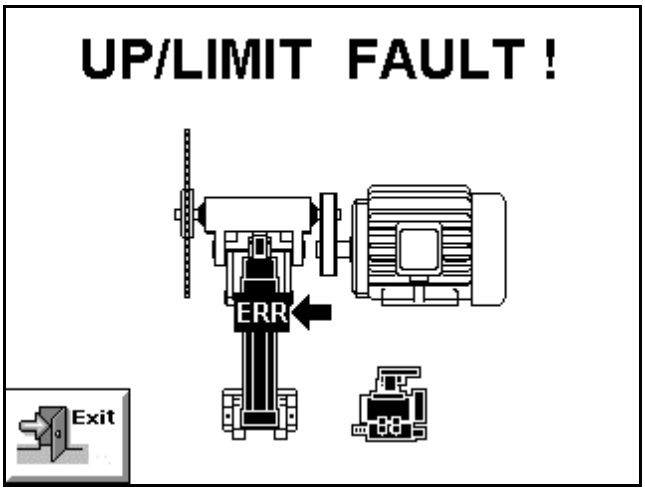
4-8 TROUBLE SHOOTING

1. This icon indicates the cutting cylinder (saw arbor cylinder) is abnormal. The machine can't detect the lower limit of cylinder (M14 ON), so it judges the cutting cylinder is malfunction.



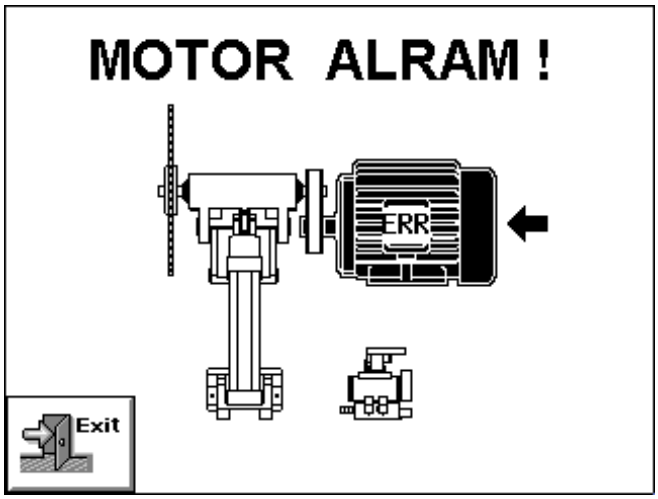
Malfunction figure 1 ─ Sensor error of lower cutting limit

2. This icon indicates the cutting cylinder (saw arbor cylinder) is abnormal. The cutting cylinder can't up to the position while operating (M13 ON), so it judges the cutting cylinder is malfunction.

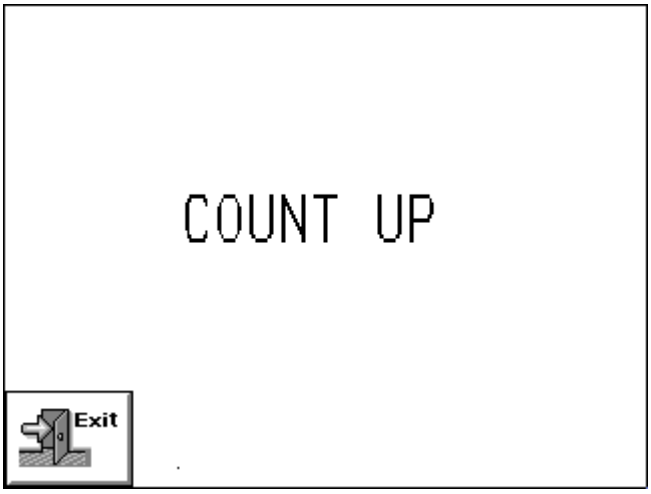


Malfunction figure 2 ─ Sensor error of upper cutting limit

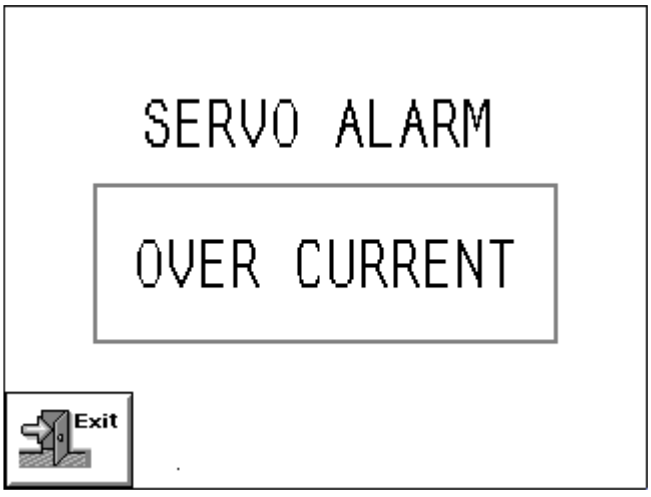
3. The magnetic switch for saw motor is jump off (TRIP).



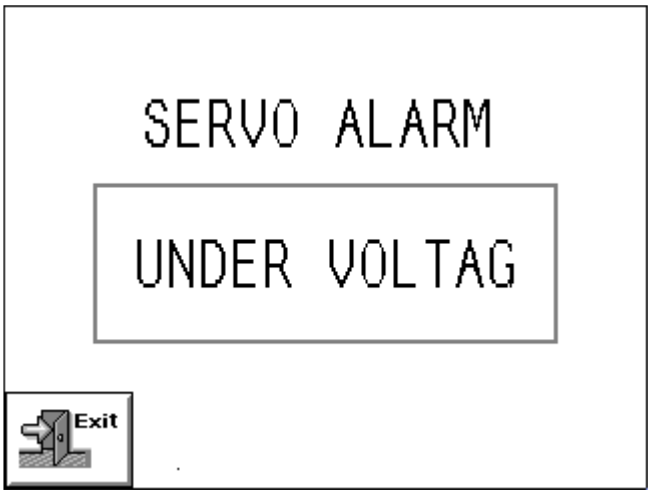
Malfunction figure 3 ─ Overload error of saw motor



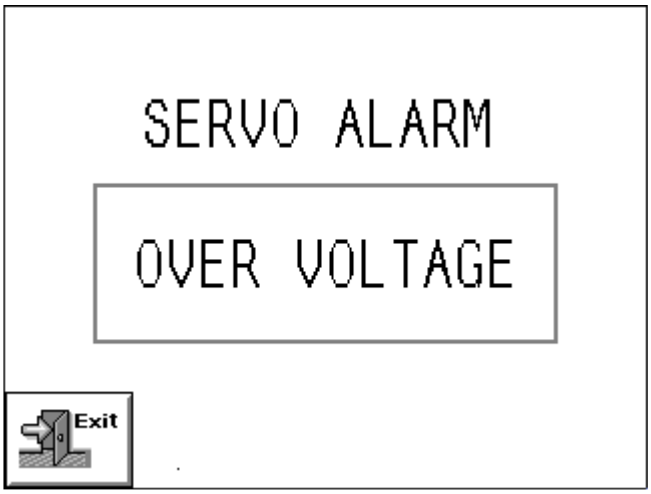
Warning figure 4 – Count up



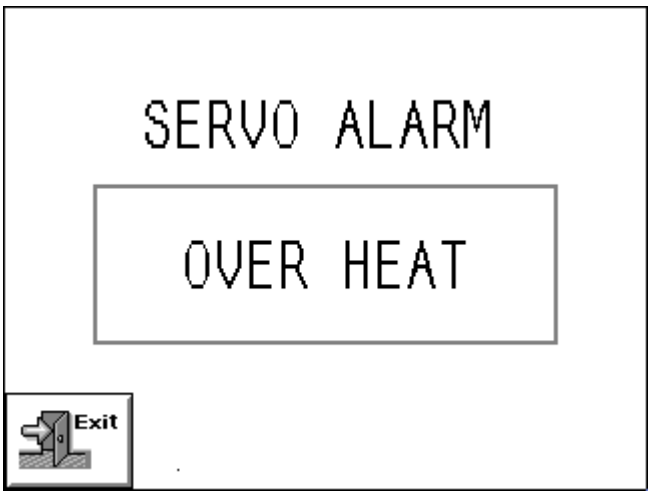
Warning figure 5-1 – Servo system alarm (OVER CURRENT)



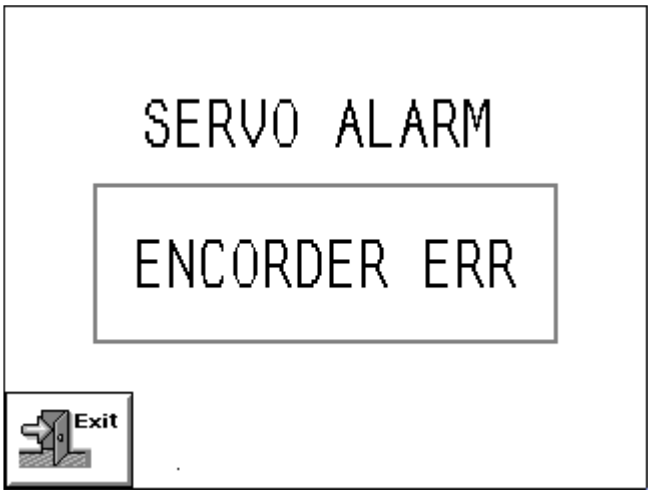
Warning figure 5-2 – Servo system alarm (UNDER VOLTAGE)



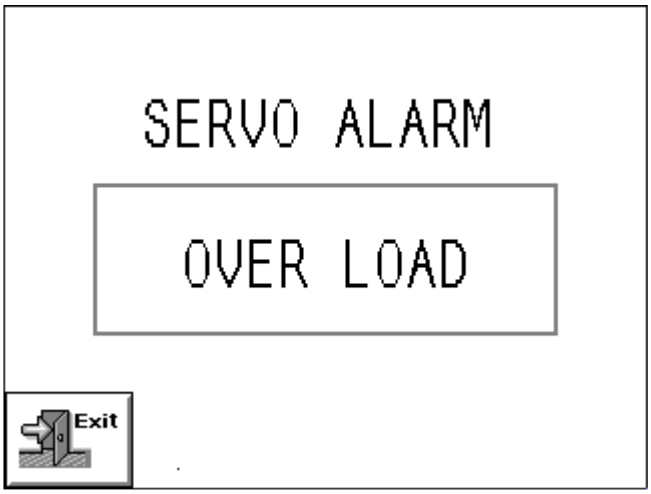
Warning figure 5-3 – Servo system alarm (OVER VOLTAGE)



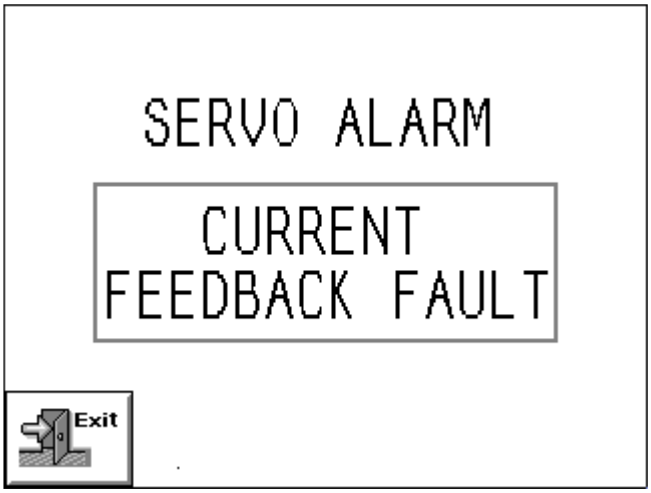
Warning figure 5-4 – Servo system alarm (OVER HEAT)



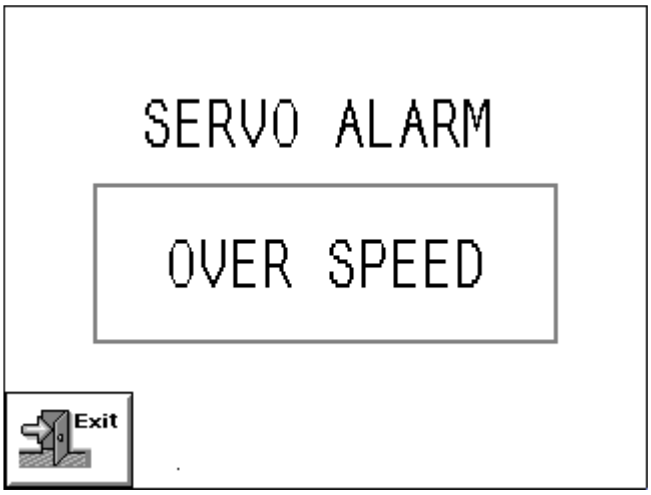
Warning figure 5-5 – Servo system alarm (ENCODER ERROR)



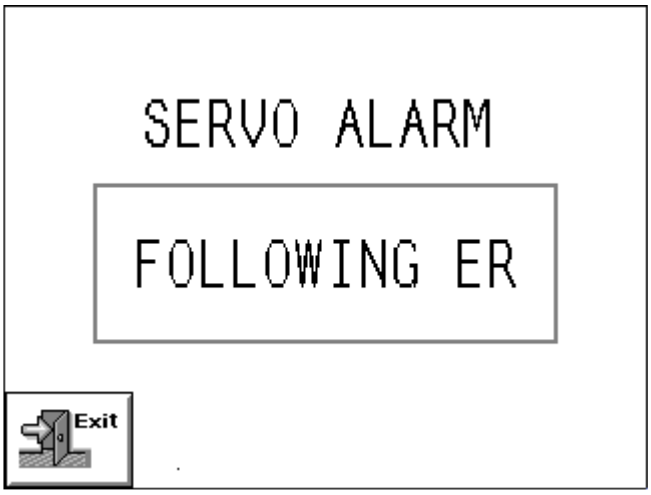
Warning figure 5-6 – Servo system alarm (OVER LOAD)



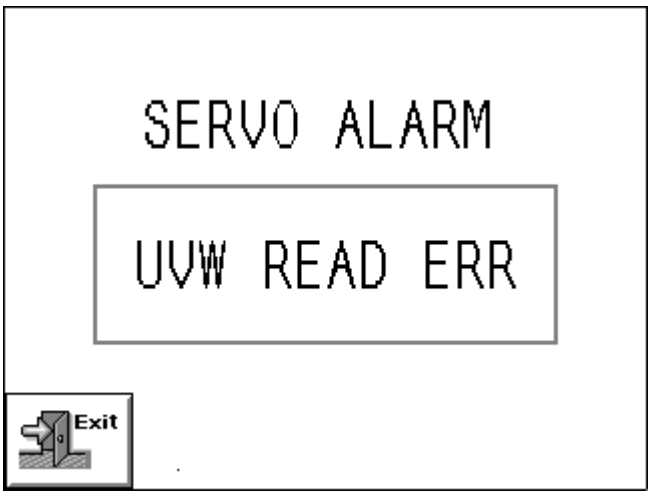
Warning figure 5-7 – Servo system alarm (CURRENT FEEDBACK FAULT)



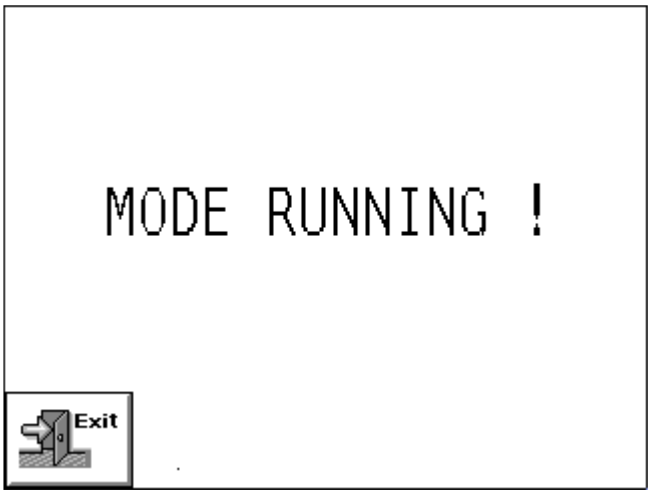
Warning figure 5-8 – Servo system alarm (OVER SPEED)



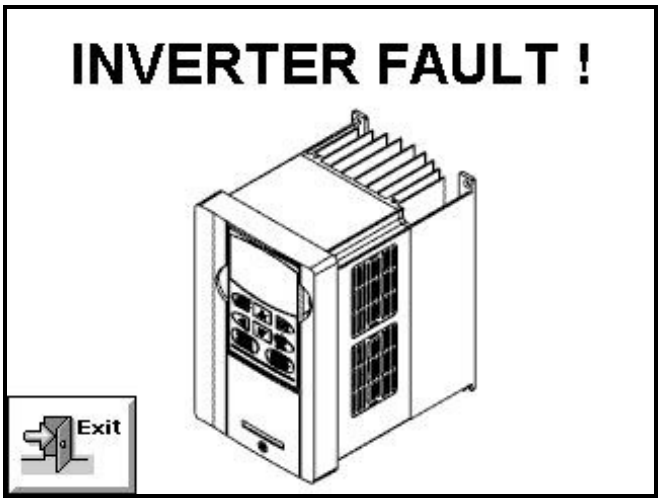
Warning figure 5-9 – Servo system alarm (FOLLOWING ERROR)



Warning figure 5-10 – Servo system alarm (UVW READ ERR)



Warning figure 6 – in operation alarm

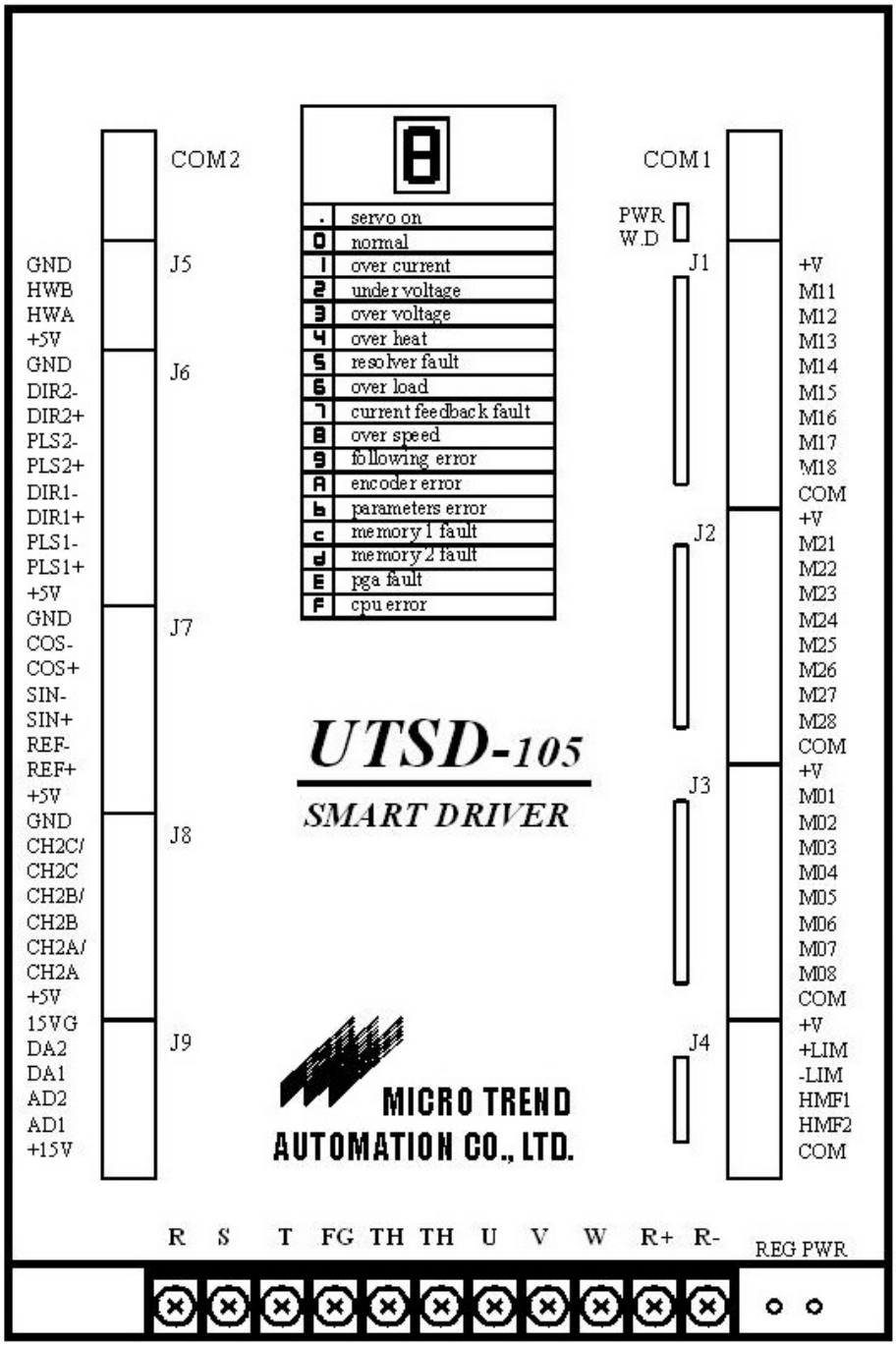


Warning figure 7 – Inverter fault

There are many reasons to cause Servo Alarm, the message in the square showing the cause of malfunction. This can help the user to understand the causing reason and easy to checkup and fix the problem.

However, if you can't see any of above warnings on the touch screen, please open the electric box compulsory and check what "error code" showing on the Driver UTSD-105. According to the error code, you can understand what the problem is and how to fix it. Please check the detail as below:

UTSD-105 Front View

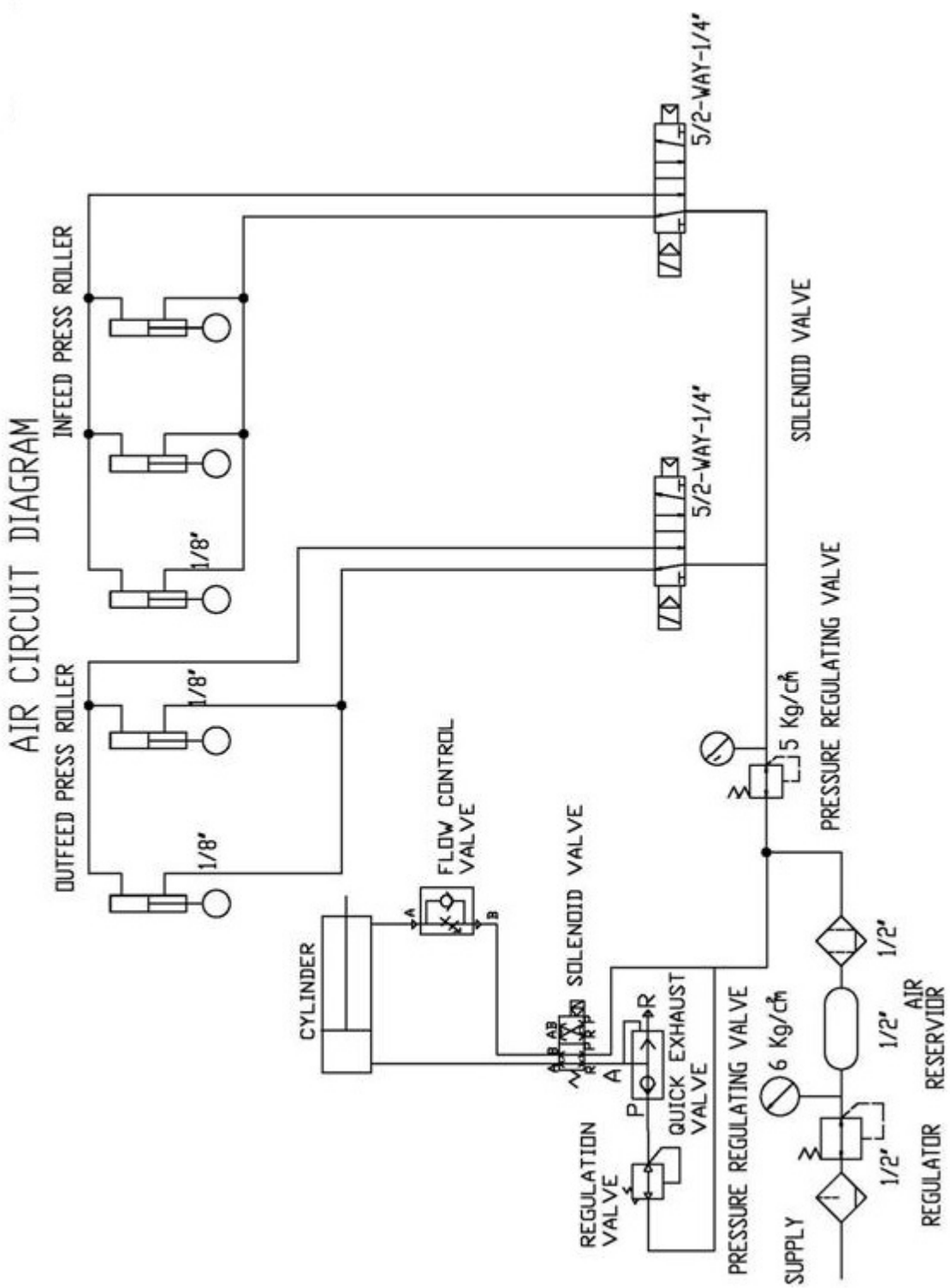


(this UTSD-105 Driver has included a Controller inside)

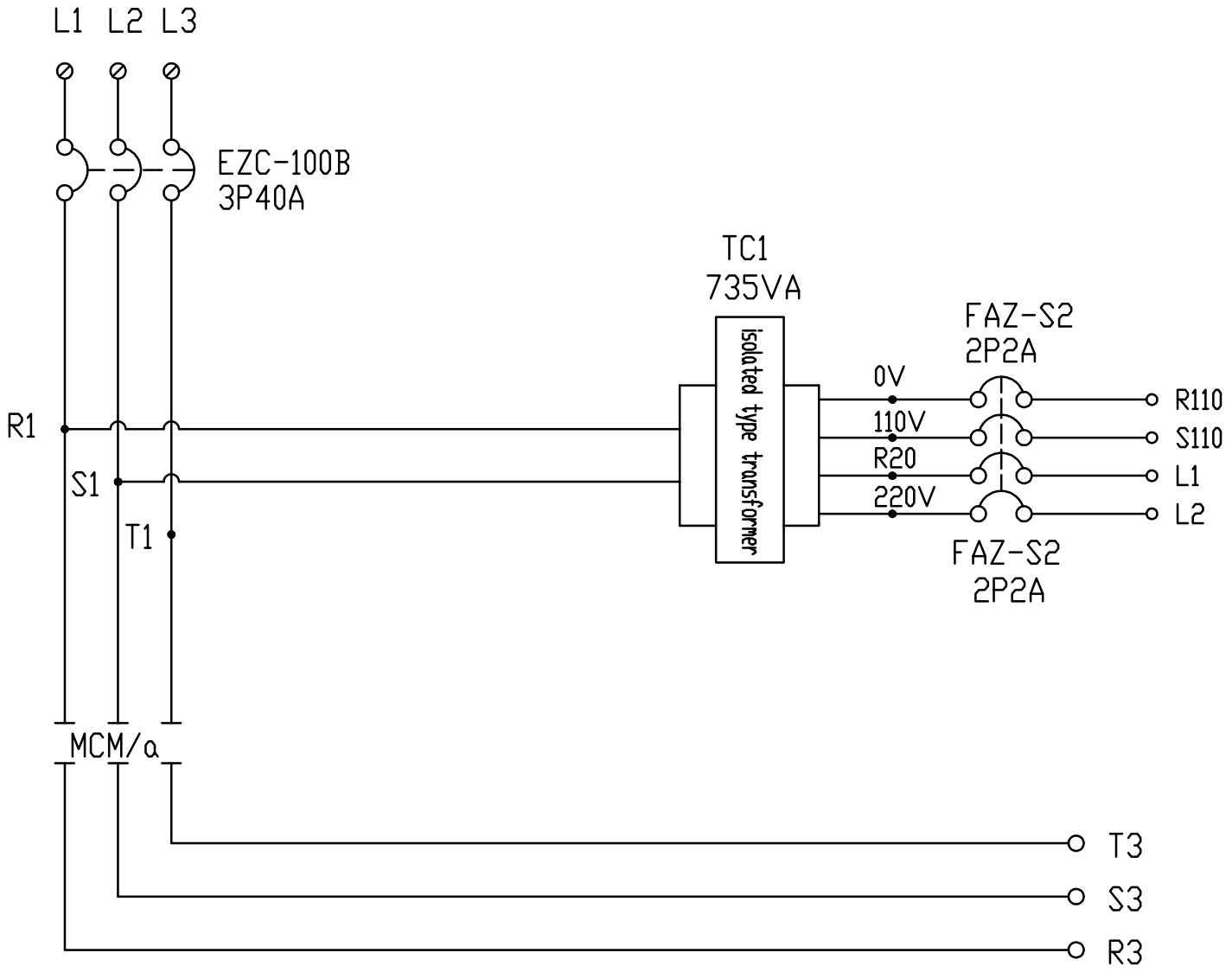
Servo Malfunction Code List

NO.	CODE	NAME	DESCRIPTION
1	**OC**	Over Current	Protection functioned – when the power device of driver has over current due to short circuit or earth short circuit.
2	**UV**	Under Voltage	Protection functioned – when power voltage is lower than the standard.
3	**OV**	Over Voltage	Protection functioned – when the capacitor of DC BUS capacitor is over-voltage (higher than 420V).
4	**OH**	Overheated	Protection functioned – when the temperature of heatsink is over 80°C (> 80°C) or motor thermal switch tripped
5	**RSL**	Resolver error	Motor resolver feedback faulty or off-line
6	**OL**	Overloaded	Motor or Driver has overload situation
7	**CSE**	Current feedback error	Current feedback error, the origin value is 0.5 % bigger than the peak current.
8	**OS**	Over speed	Protection functioned - when motor rotation speed is over 115% of rated speed.
9	**FE**	Following error	Protection functioned – when the following error is bigger than the parameter setting value.
A	**ENC**	Encoder signal error	The 1st encoder is failed to connect or off-line.
B	**PME**	Parameter setting error	The range of parameter setting values is wrong.
C	**ME1**	Memory error	RAM or FLASH is damaged or interfered by noise.
D	**ME2**	Memory error - II	PLC and PROGRAM checksum error
E	**WDT**	Watchdog malfunction	Servo circuit or PGA abnormal
F	**CPU**	CPU error	System program error
0			System operation normal
.			When the System is in “Servo on” condition, the decimal point is on (“**.**” displayed) When the System is in “Servo off” condition, the decimal point is off (no “**.**” displayed)

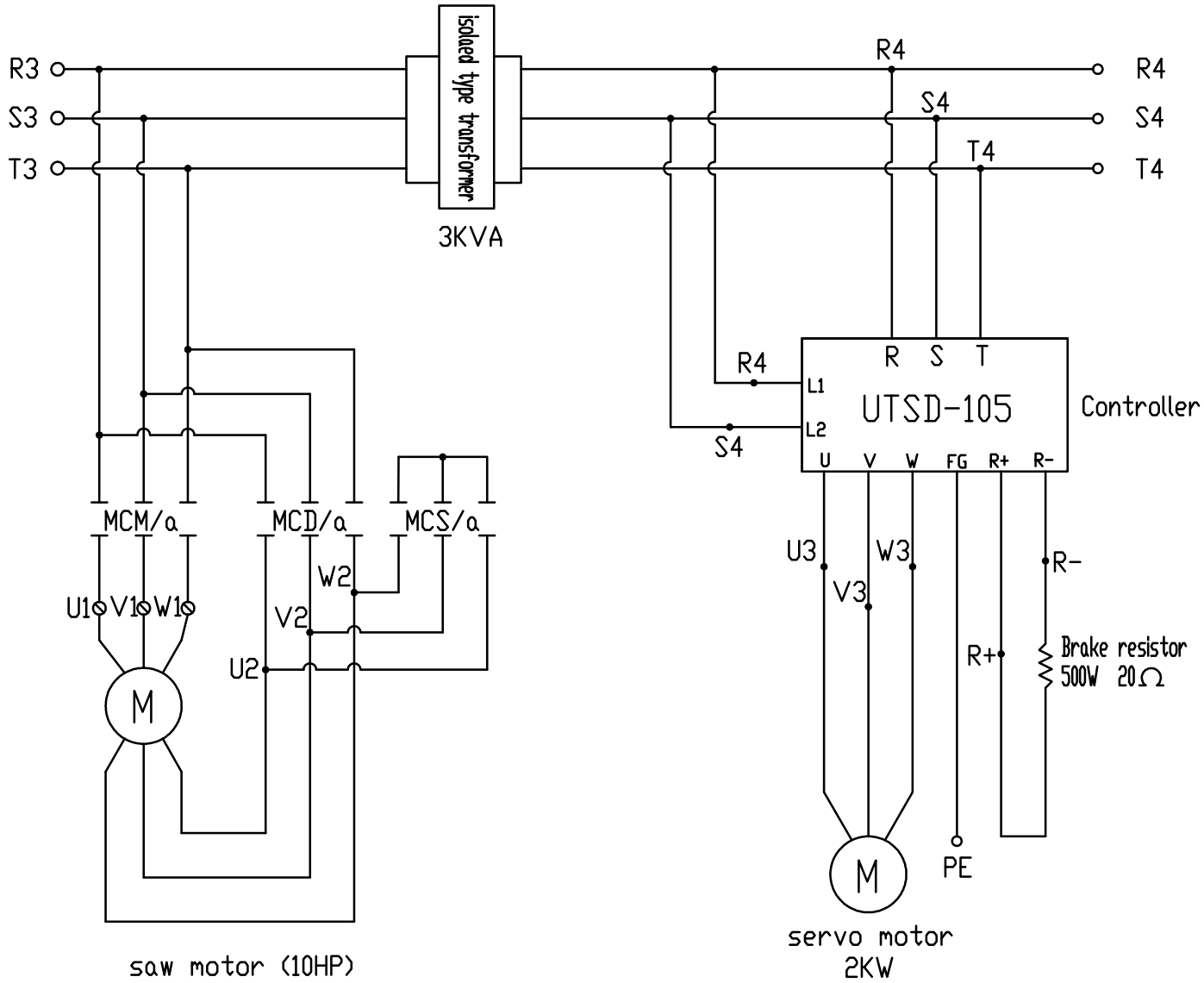
Appendix: Air circuit diagram



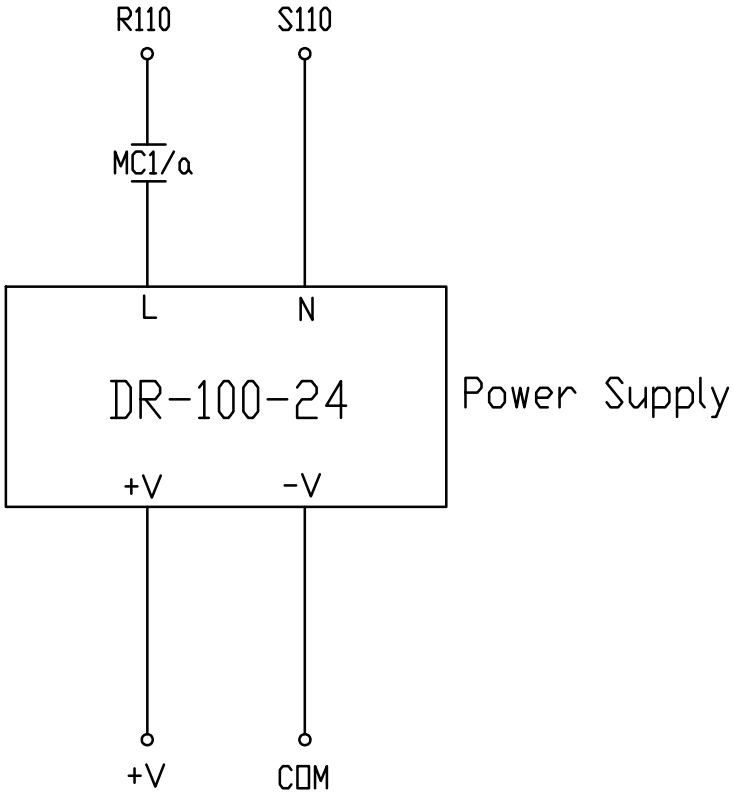
C10A-02A-2-P1


L1
L2
L3
EZC-100B
3P40A
TC1
735VA
isolated type transformer
FAZ-S2
2P2A
0V
110V
R20
220V
R110
S110
L1
L2
FAZ-S2
2P2A
R1
S1
T1
MCM/a
T3
S3
R3

C10A-02A-2-P2

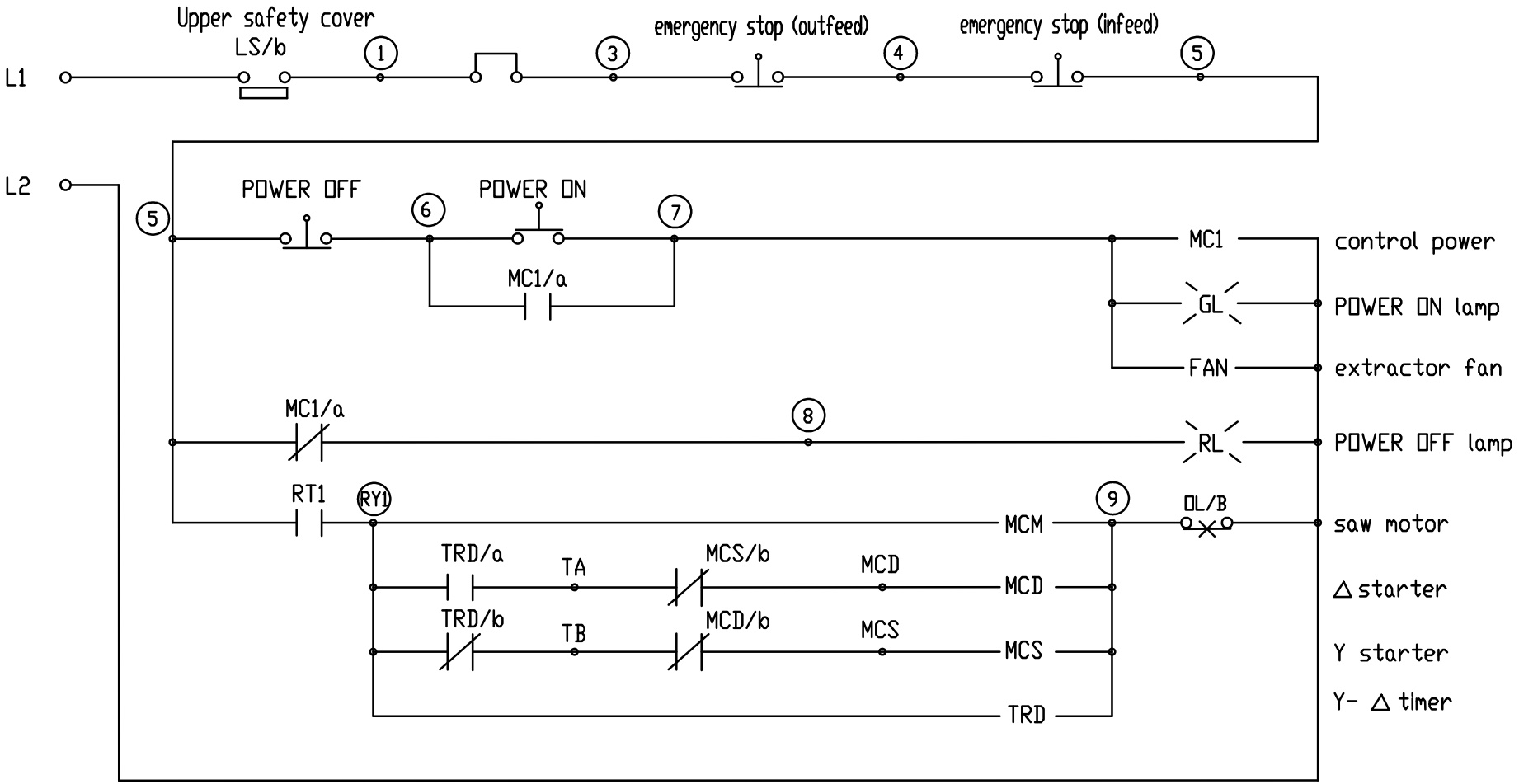

R3
S3
T3
isolaed type transformer
3KVA
R4
S4
T4
R4
S4
T4
R S T
R4
L1
L2
S4
UTSD-105
Controller
U V W FG R+ R-
MCM/a
MCD/a
MCS/a
U1 V1 W1
W2
V2
U2
M
saw motor (10HP)
U3
V3
W3
R-
R+
Brake resistor
500W 20Ω
M
PE
servo motor
2KW

C10A-02A-2-P3

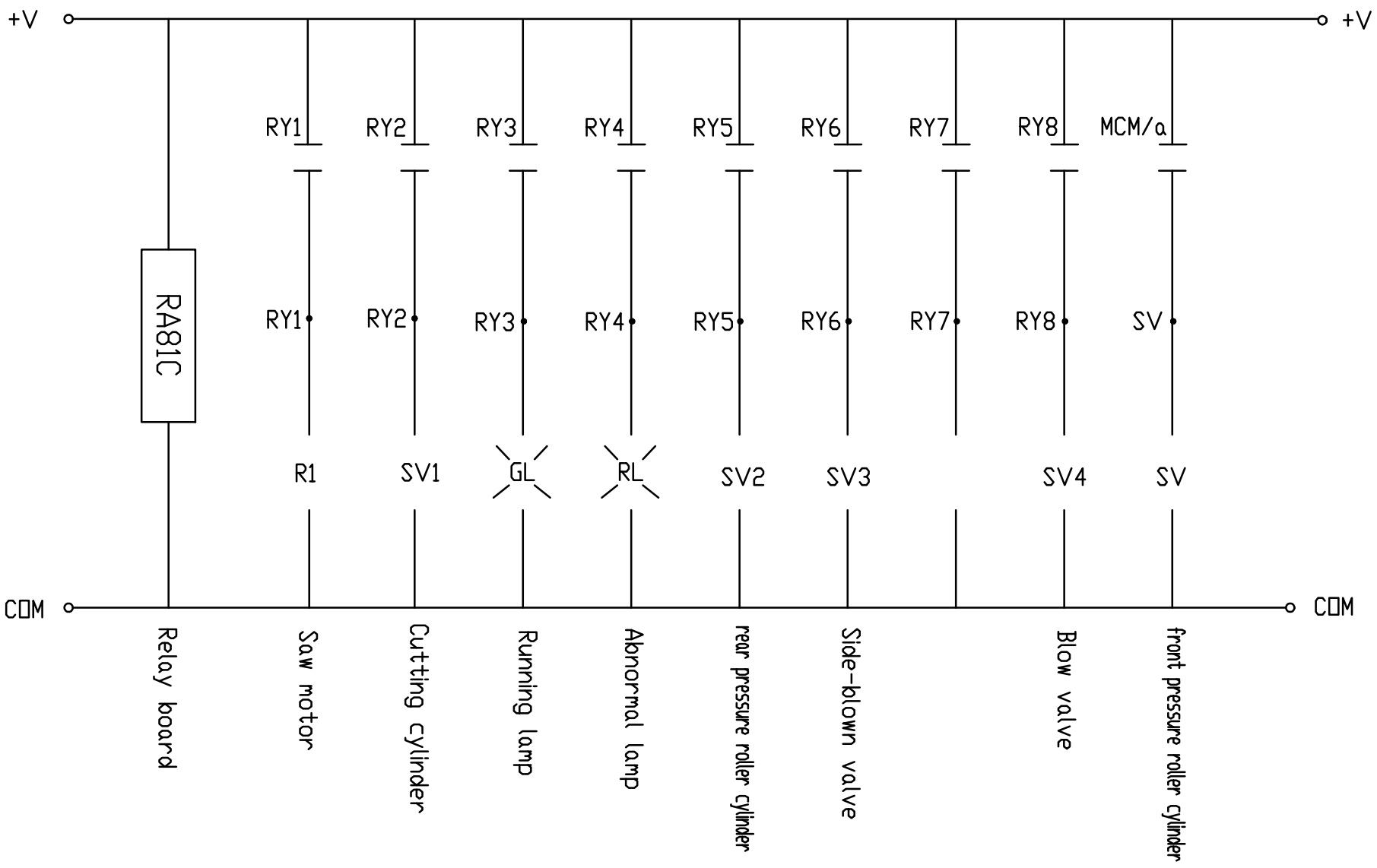


	5	7	R110
A	B	A	A
MC1 auxiliary contact			
A	B	A	A
	8	6	10

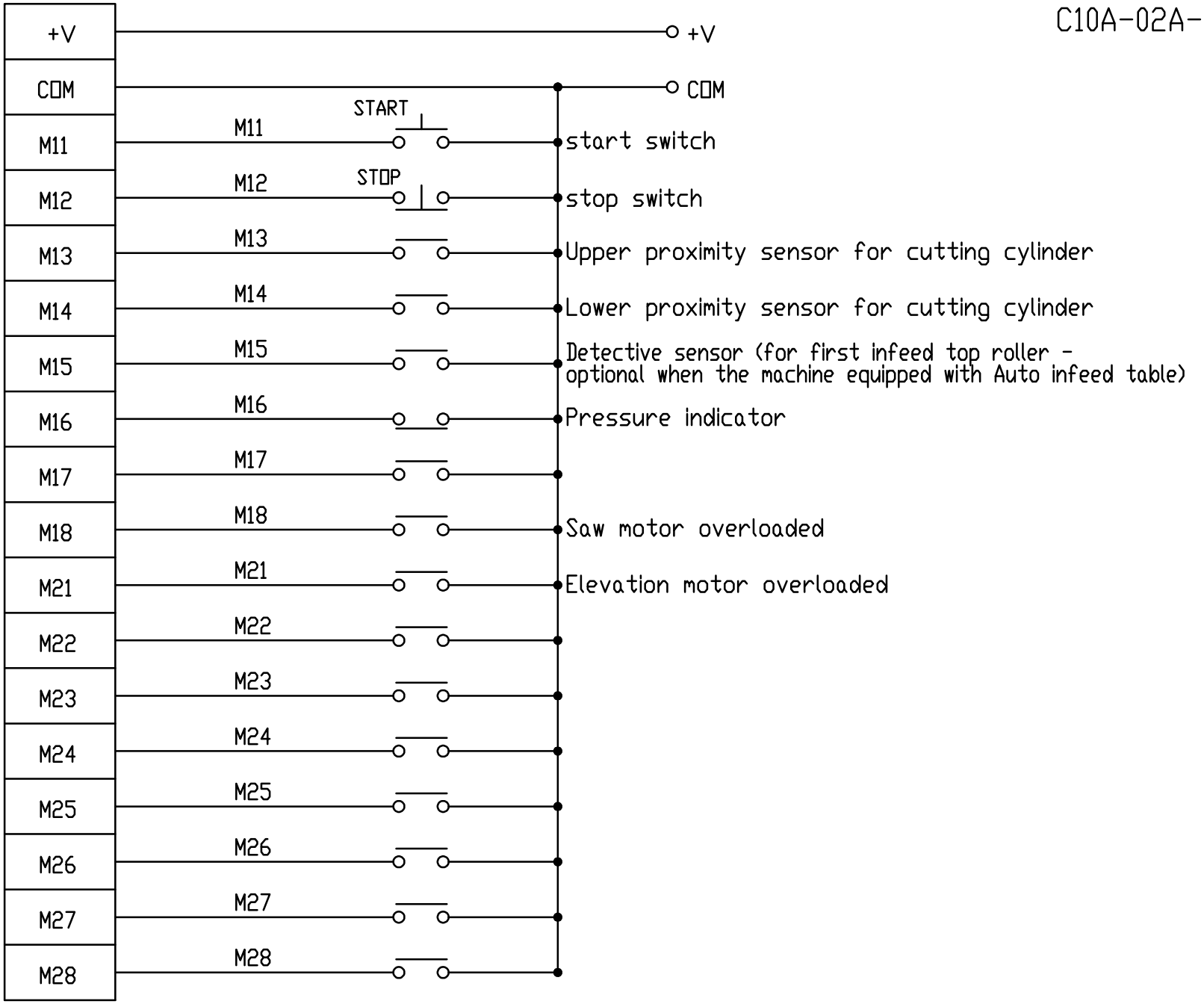
C10A-02A-2-P4


L1
L2
Upper safety cover
LS/b
emergency stop (outfeed)
emergency stop (infeed)
POWER OFF
POWER ON
MC1/a
MC1
GL
FAN
RL
RT1
RY1
MCM
OL/B
TRD/a
TA
MCS/b
MCD
TRD/b
TB
MCD/b
MCS
TRD
control power
POWER ON lamp
extractor fan
POWER OFF lamp
saw motor
△ starter
Y starter
Y- △ timer

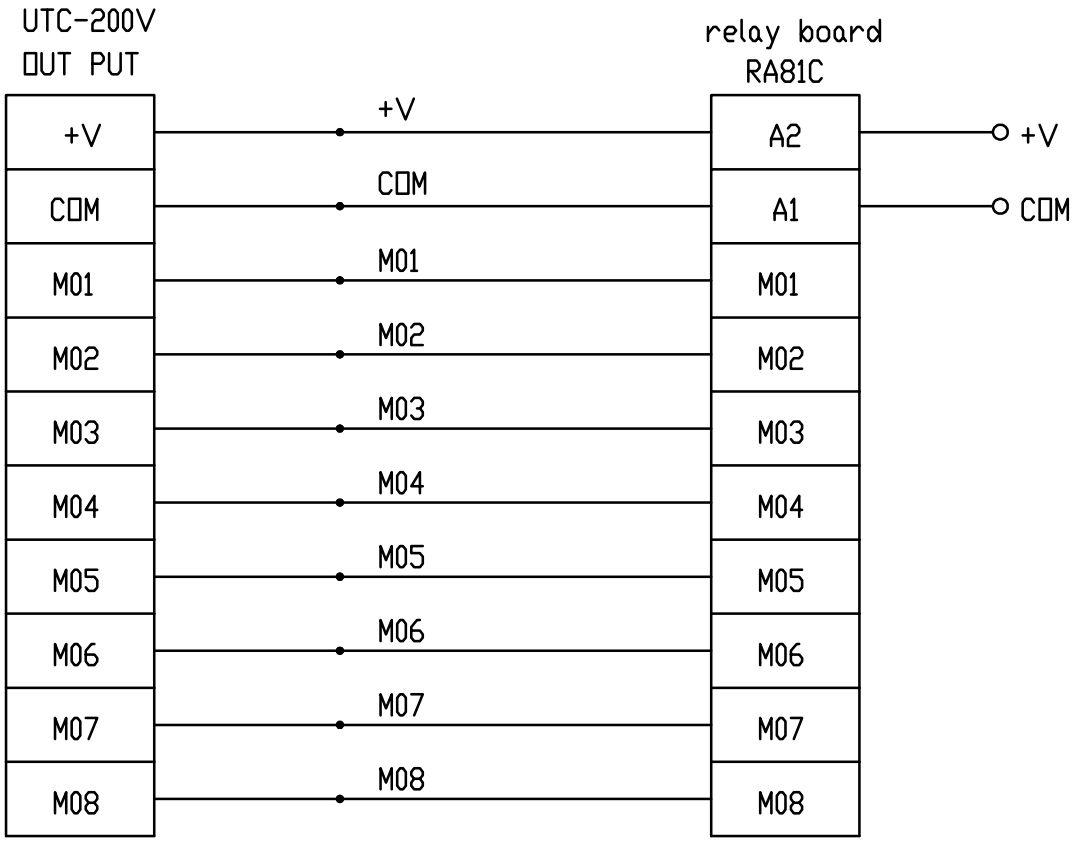
C10A-02A-2-P5


+V
+V
RY1
RY2
RY3
RY4
RY5
RY6
RY7
RY8
MCM/a
RA81C
RY1
RY2
RY3
RY4
RY5
RY6
RY7
RY8
SV
R1
SV1
GL
RL
SV2
SV3
SV4
SV
COM
COM
Relay board
Saw motor
Cutting cylinder
Running lamp
Abnormal lamp
rear pressure roller cylinder
Side-blown valve
Blow valve
front pressure roller cylinder

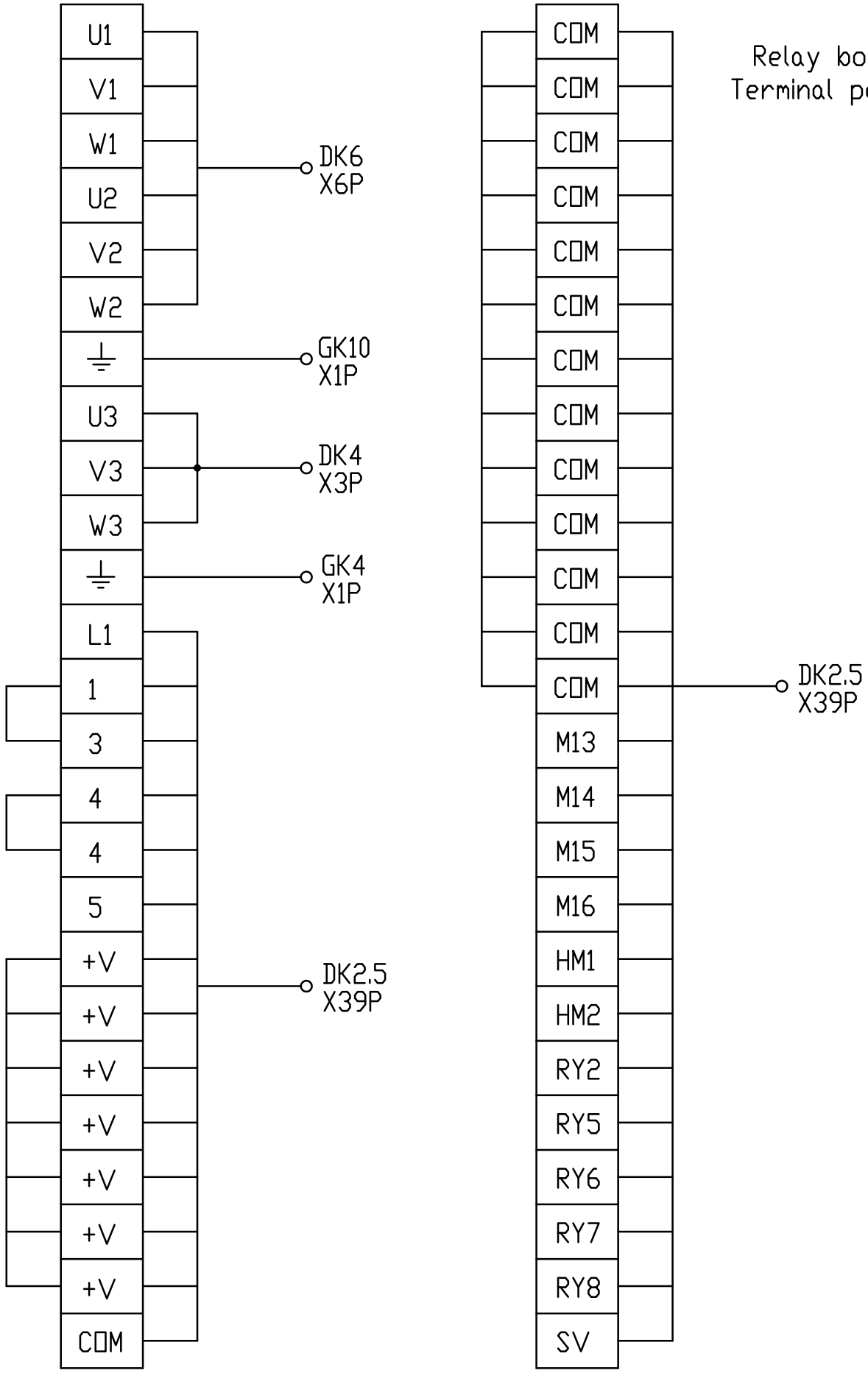
C10A-02A-2-P6

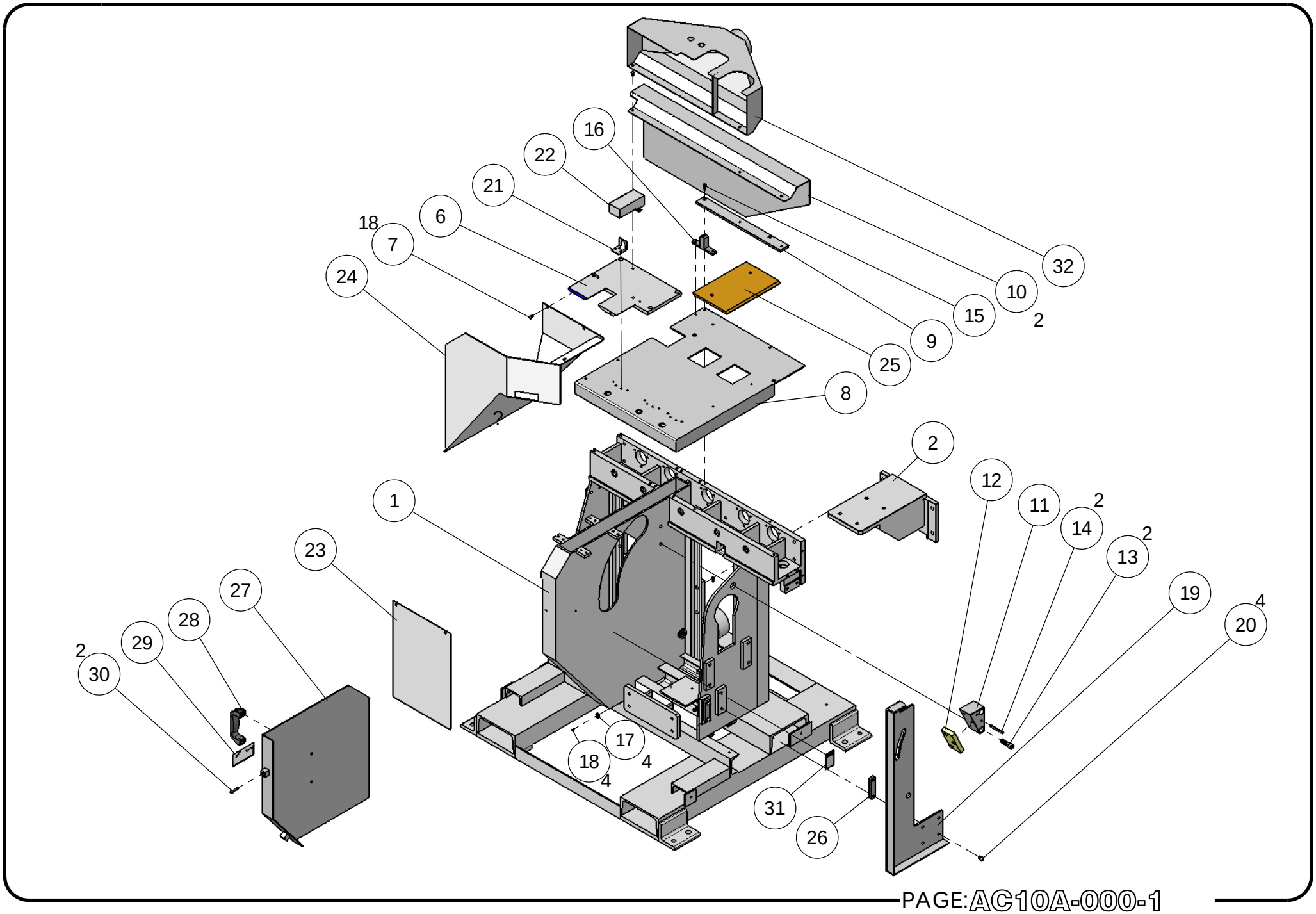

+V
COM
M11
M12
M13
M14
M15
M16
M17
M18
M21
M22
M23
M24
M25
M26
M27
M28
+V
COM
START
STOP
start switch
stop switch
Upper proximity sensor for cutting cylinder
Lower proximity sensor for cutting cylinder
Detective sensor (for first infeed top roller -
optional when the machine equipped with Auto infeed table)
Pressure indicator
Saw motor overloaded
Elevation motor overloaded

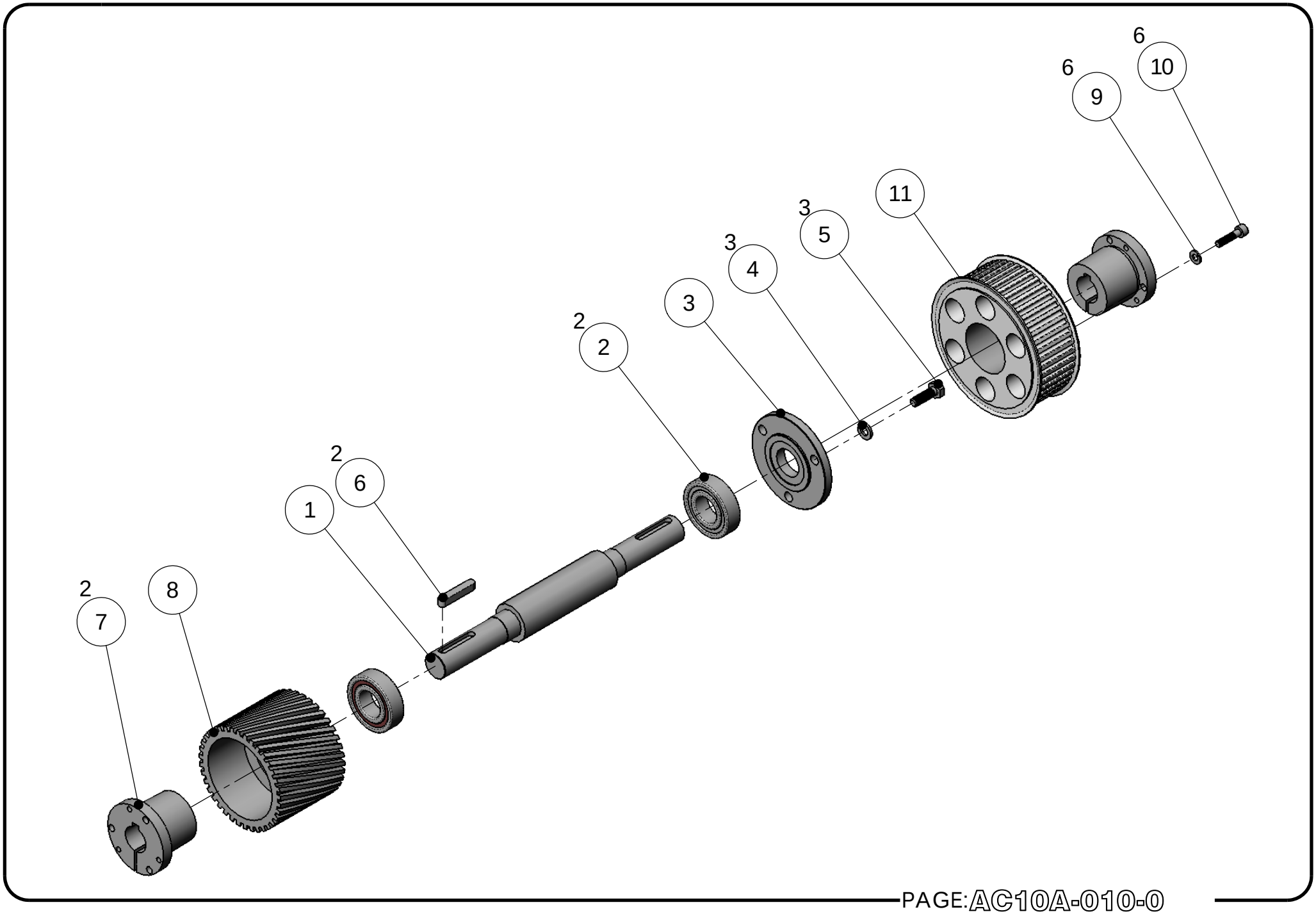
C10A-02A-2-P7

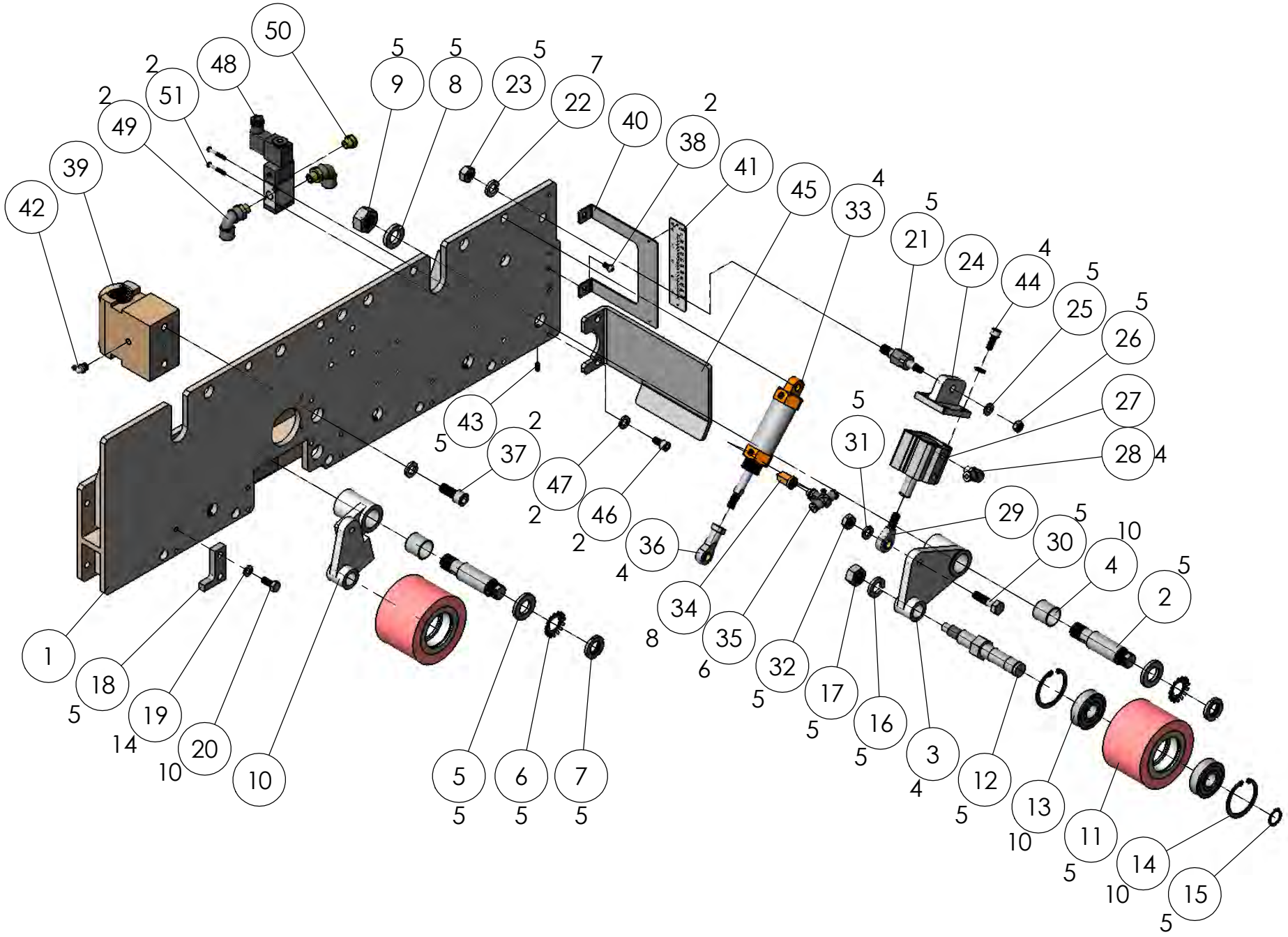

UTC-200V
OUT PUT
+V
COM
M01
M02
M03
M04
M05
M06
M07
M08
+V
COM
M01
M02
M03
M04
M05
M06
M07
M08
relay board
RA81C
A2
A1
M01
M02
M03
M04
M05
M06
M07
M08
+V
COM

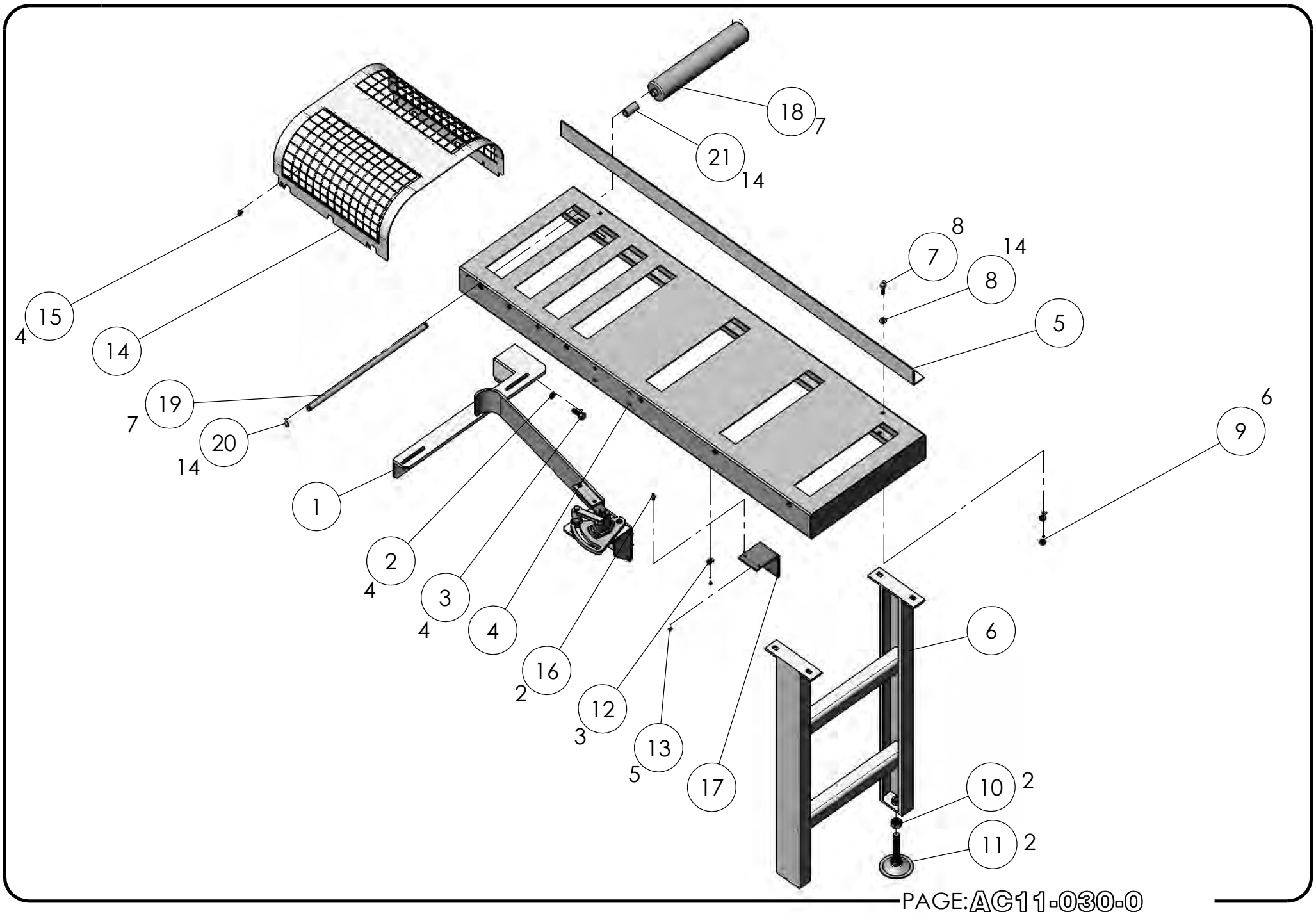
C10A-02A-2-P8

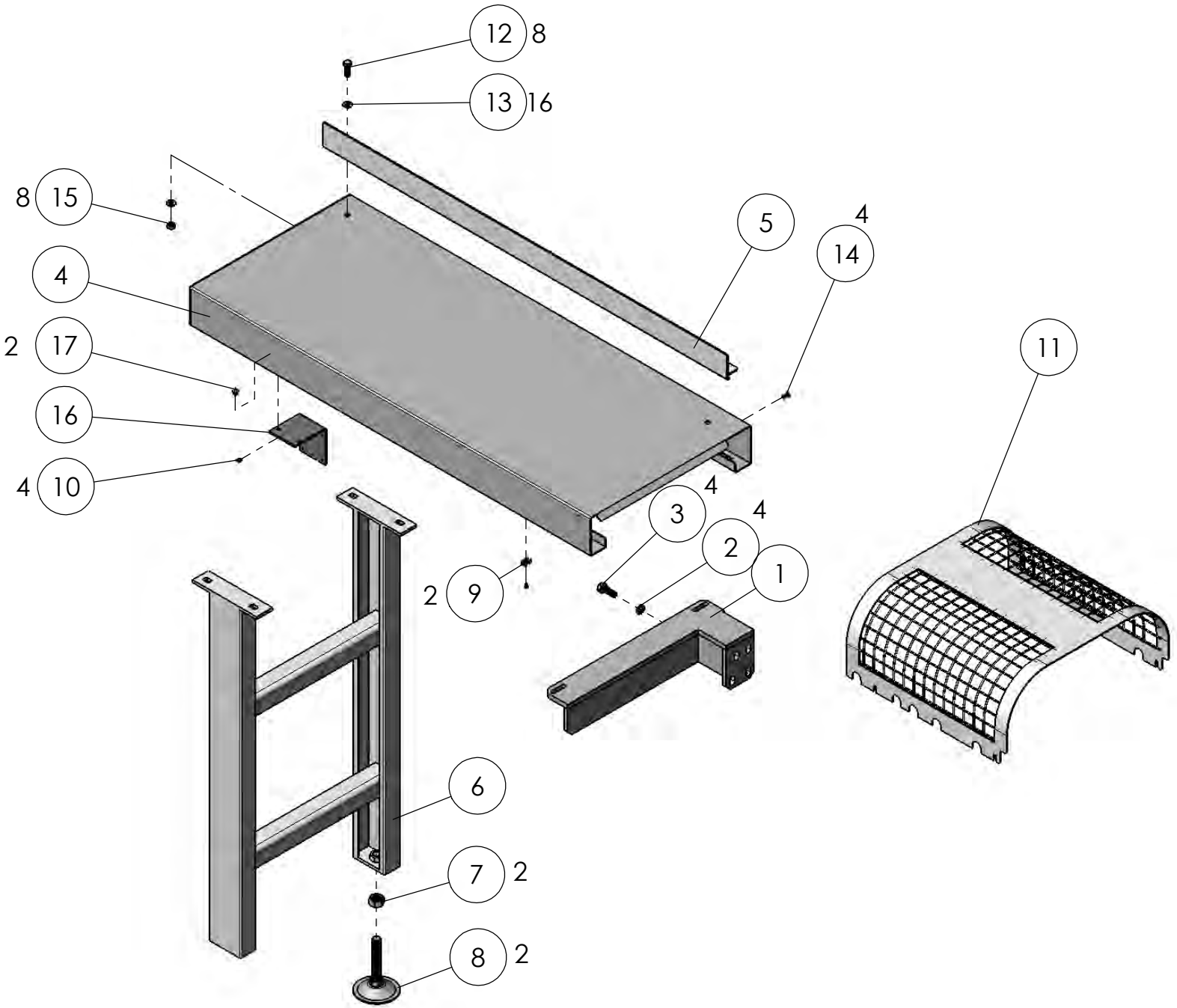

U1
V1
W1
U2
V2
W2
U3
V3
W3
L1
1
3
4
4
5
+V
+V
+V
+V
+V
+V
+V
COM
DK6
X6P
GK10
X1P
DK4
X3P
GK4
X1P
DK2.5
X39P
COM
COM
COM
COM
COM
COM
COM
COM
COM
COM
COM
COM
M13
M14
M15
M16
HM1
HM2
RY2
RY5
RY6
RY7
RY8
SV
DK2.5
X39P
Relay box
Terminal pad

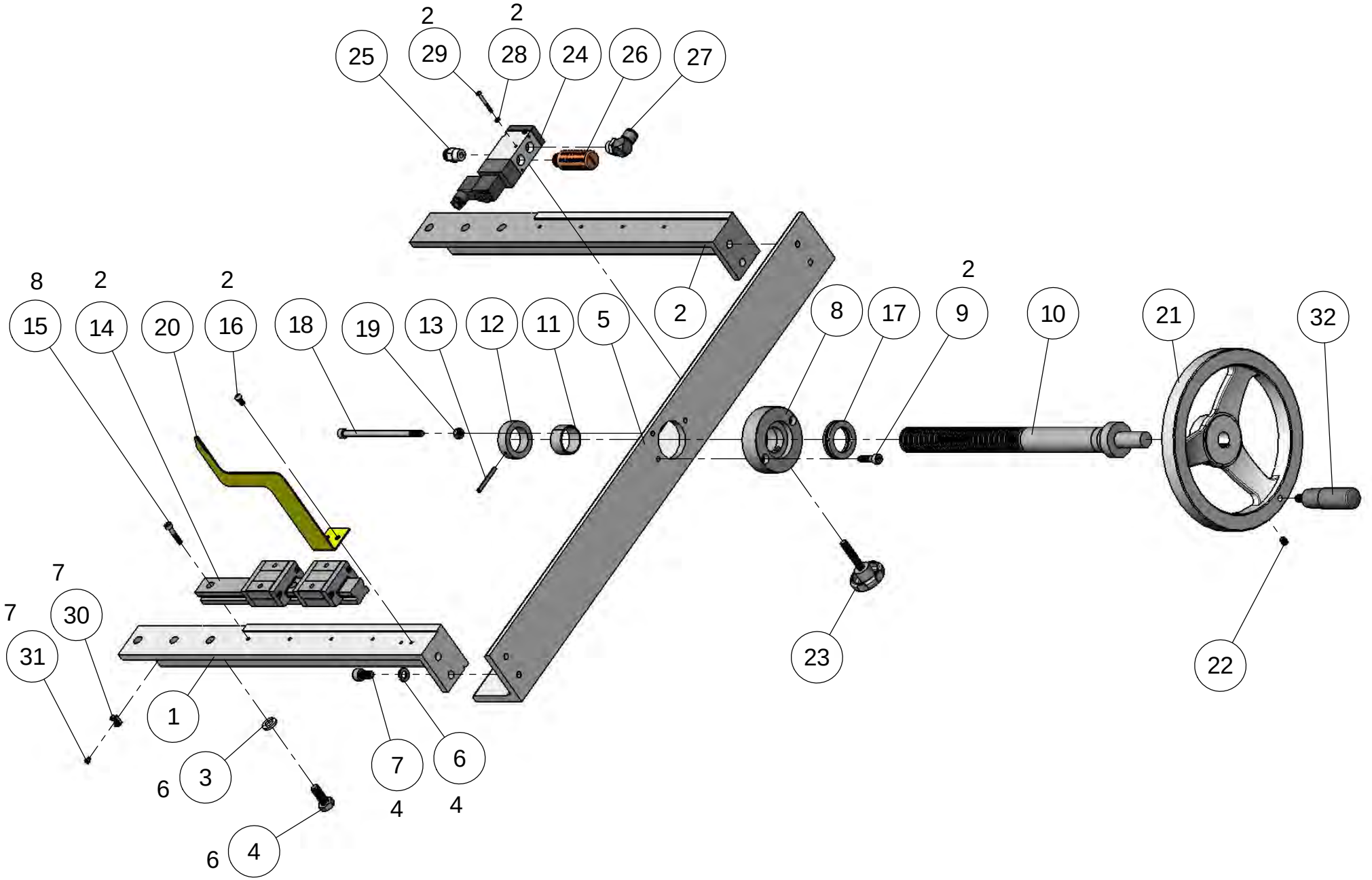

16
22
21
18
6
7
24
32
10
15
9
25
8
2
2
12
11
14
13
2
2
19
4
20
1
23
27
28
29
2
30
17
4
18
4
31
26

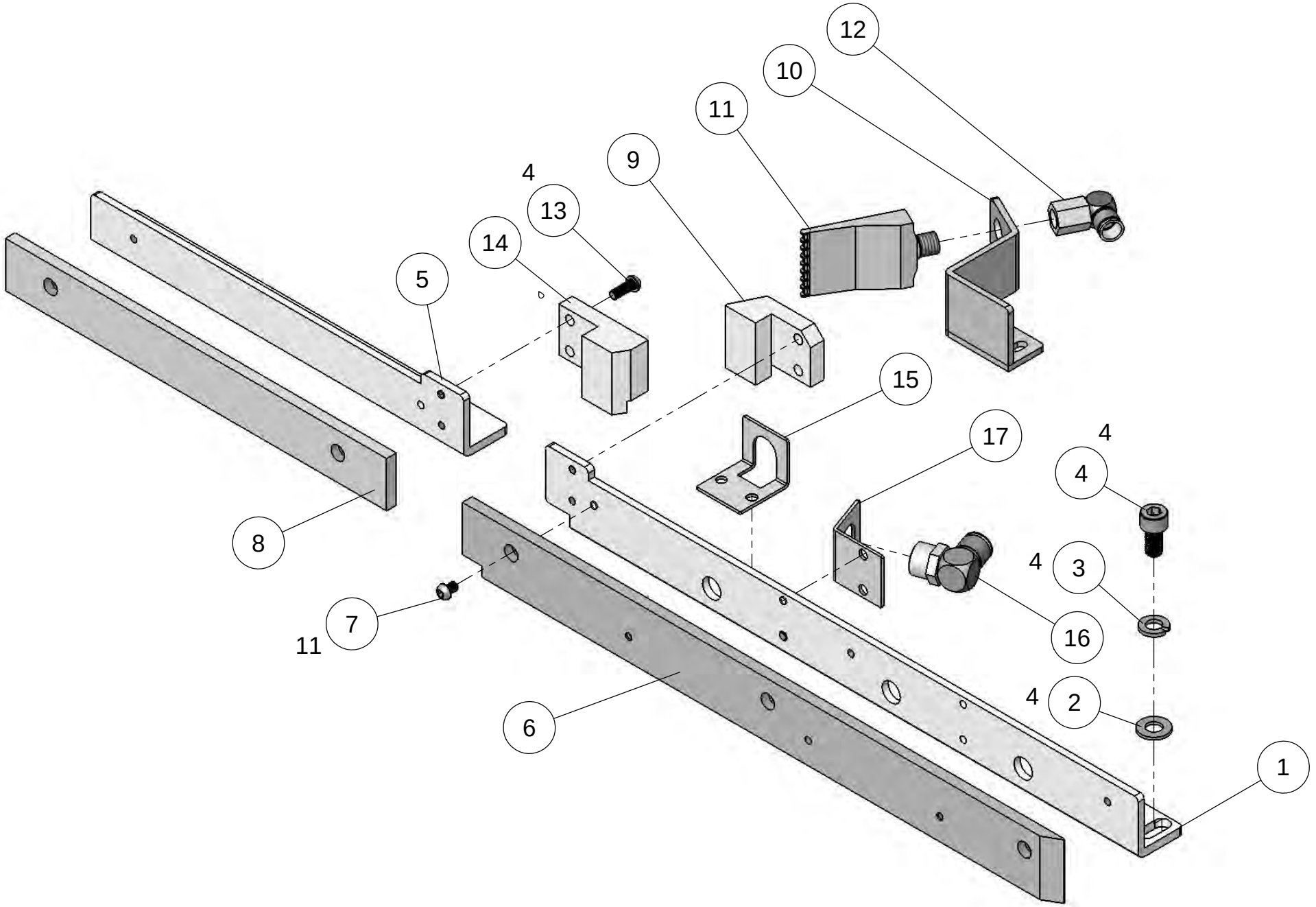

6
6
10
9
11
3
5
3
4
3
2
2
2
6
1
2
8
7

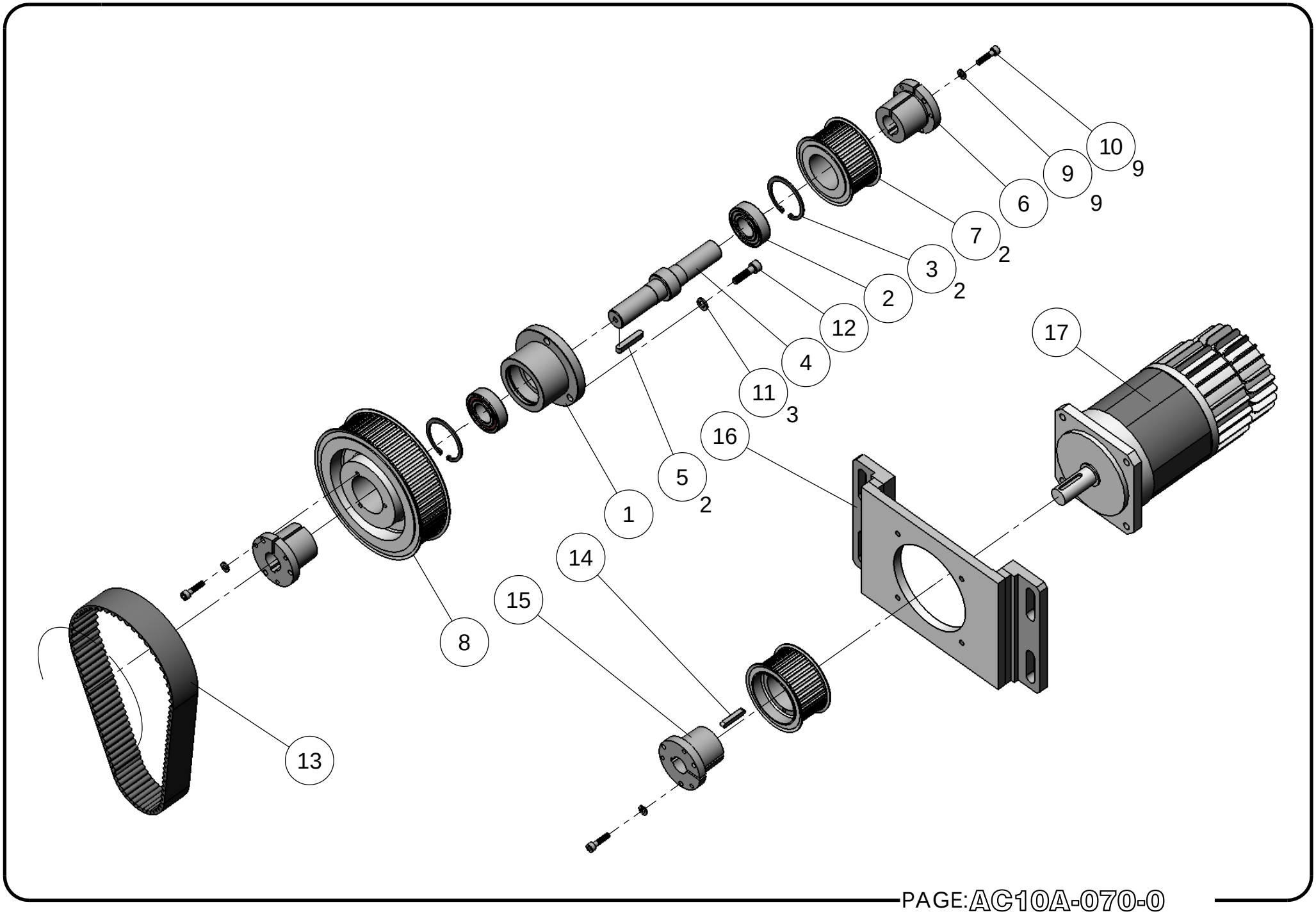

50
48
2
51
2
49
42
39
9
5
8
5
23
5
22
7
40
38
2
41
45
33
4
21
5
24
44
4
25
5
26
5
27
28
4
31
5
43
5
37
2
47
2
46
2
36
4
34
8
35
6
32
5
17
5
16
5
3
4
12
5
13
10
11
5
14
10
15
5
29
30
5
4
10
2
5
1
18
5
19
14
20
10
10
5
5
6
5
7
5

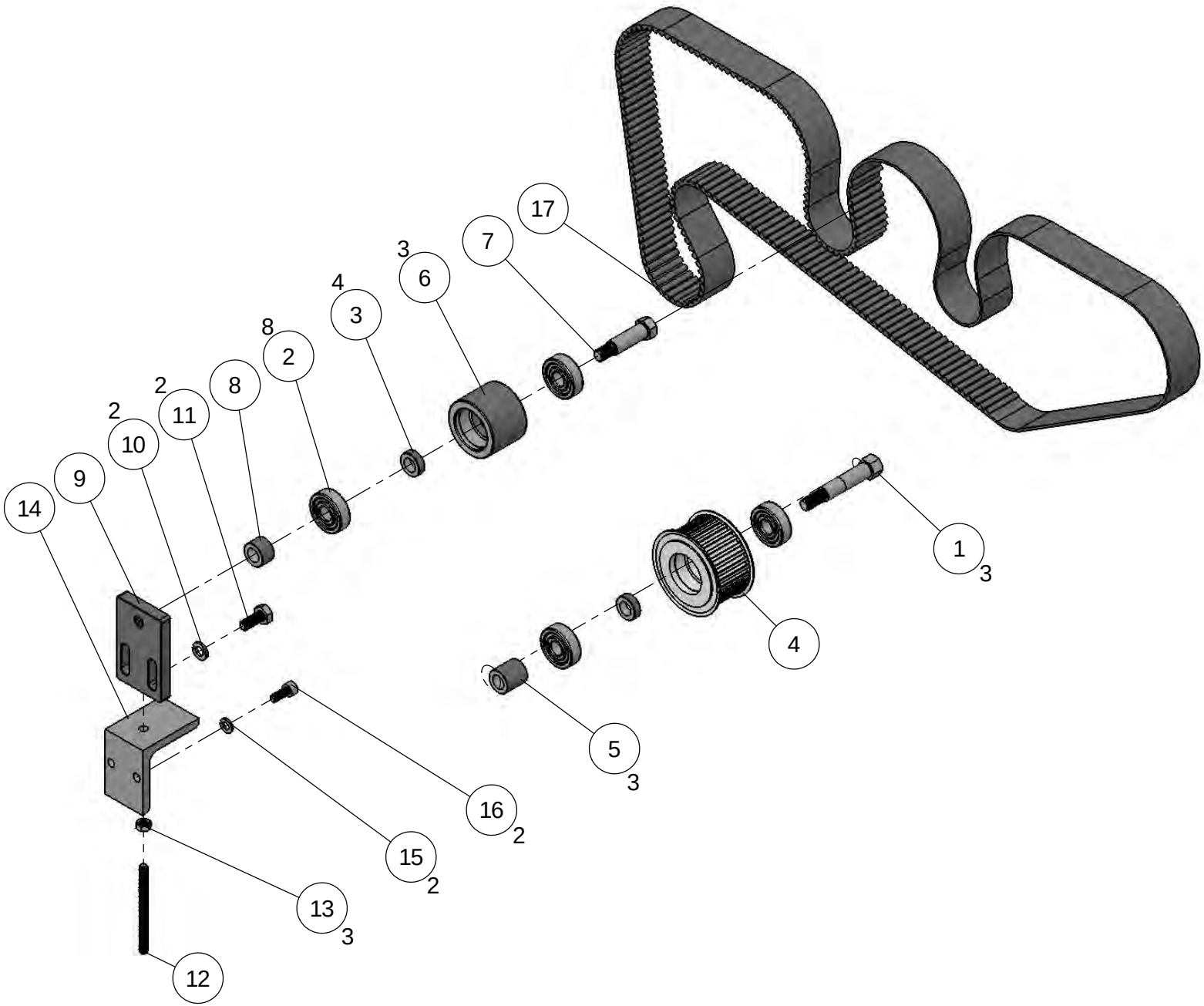

18
7
21
14
15
4
14
8
7
14
8
5
19
7
20
14
6
9
1
2
4
3
4
4
16
2
12
3
13
5
17
6
10
2
11
2

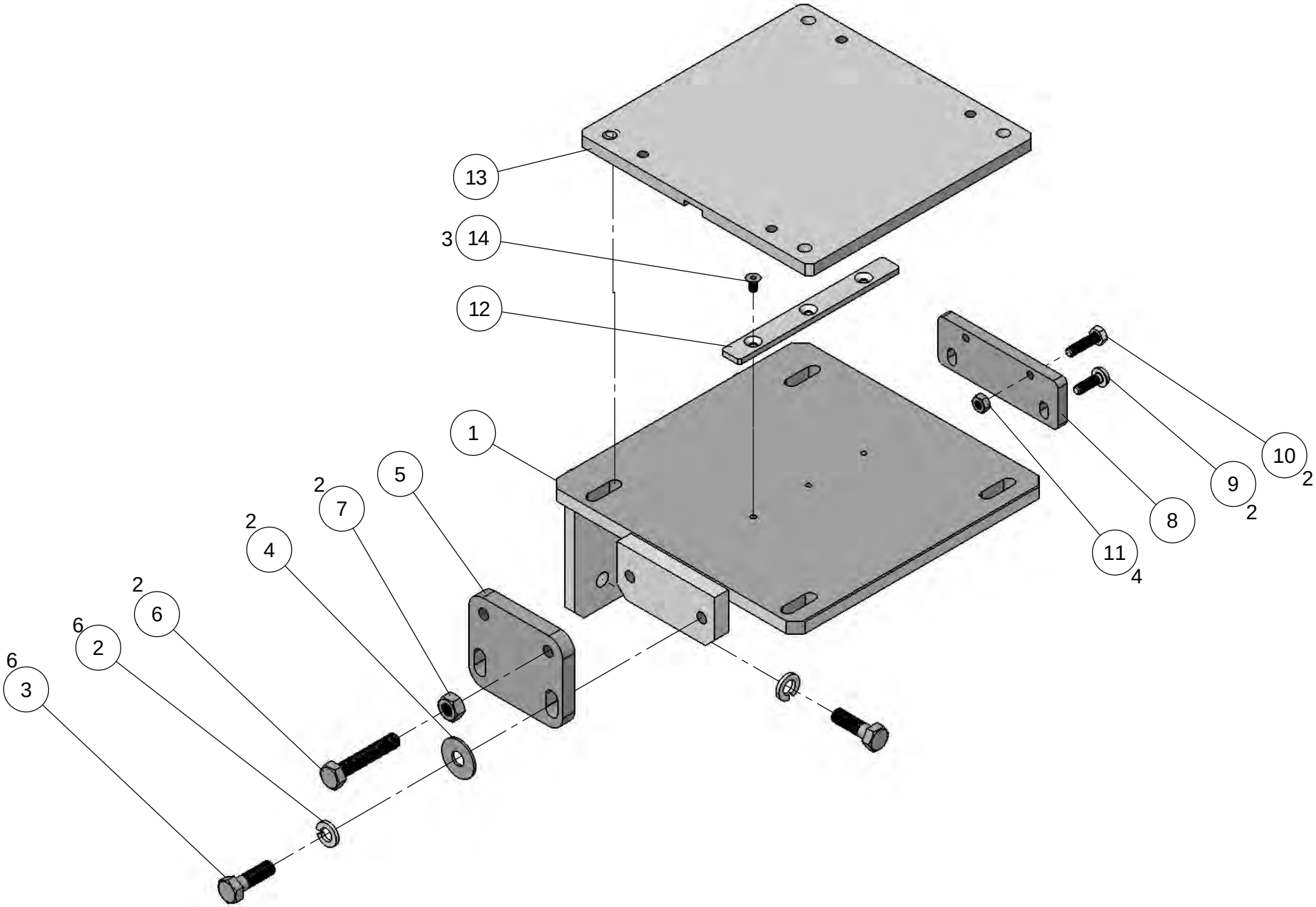

12 8
13 16
8 15
4
2 17
16
4 10
5
4
14
11
4
3
4
2
1
2 9
6
7 2
8 2

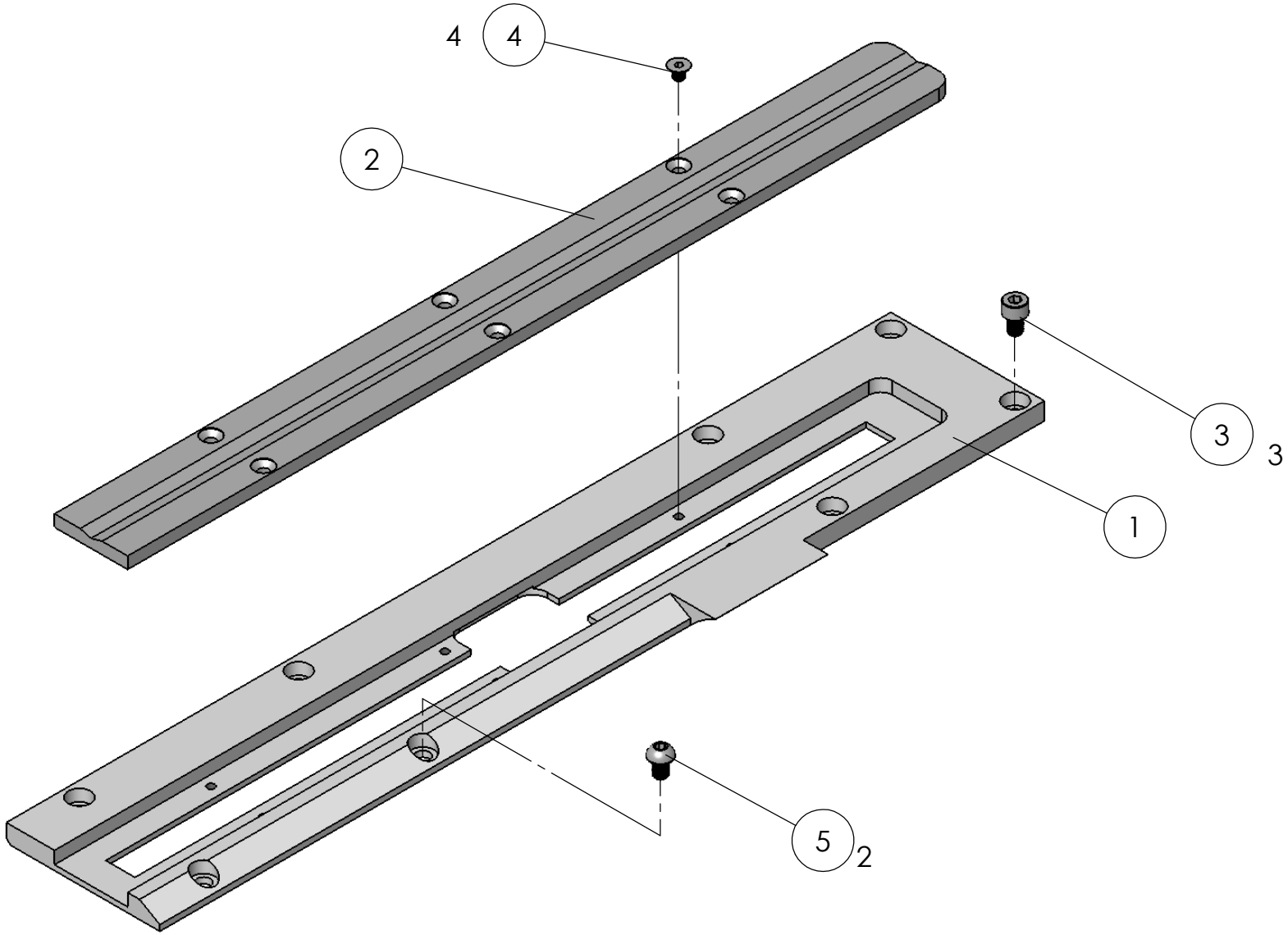

2
2
25
29
28
24
26
27
8
2
2
15
14
20
16
18
19
13
12
11
5
2
8
17
9
2
10
21
32
7
7
30
31
1
6
3
6
4
7
4
6
4
23
22

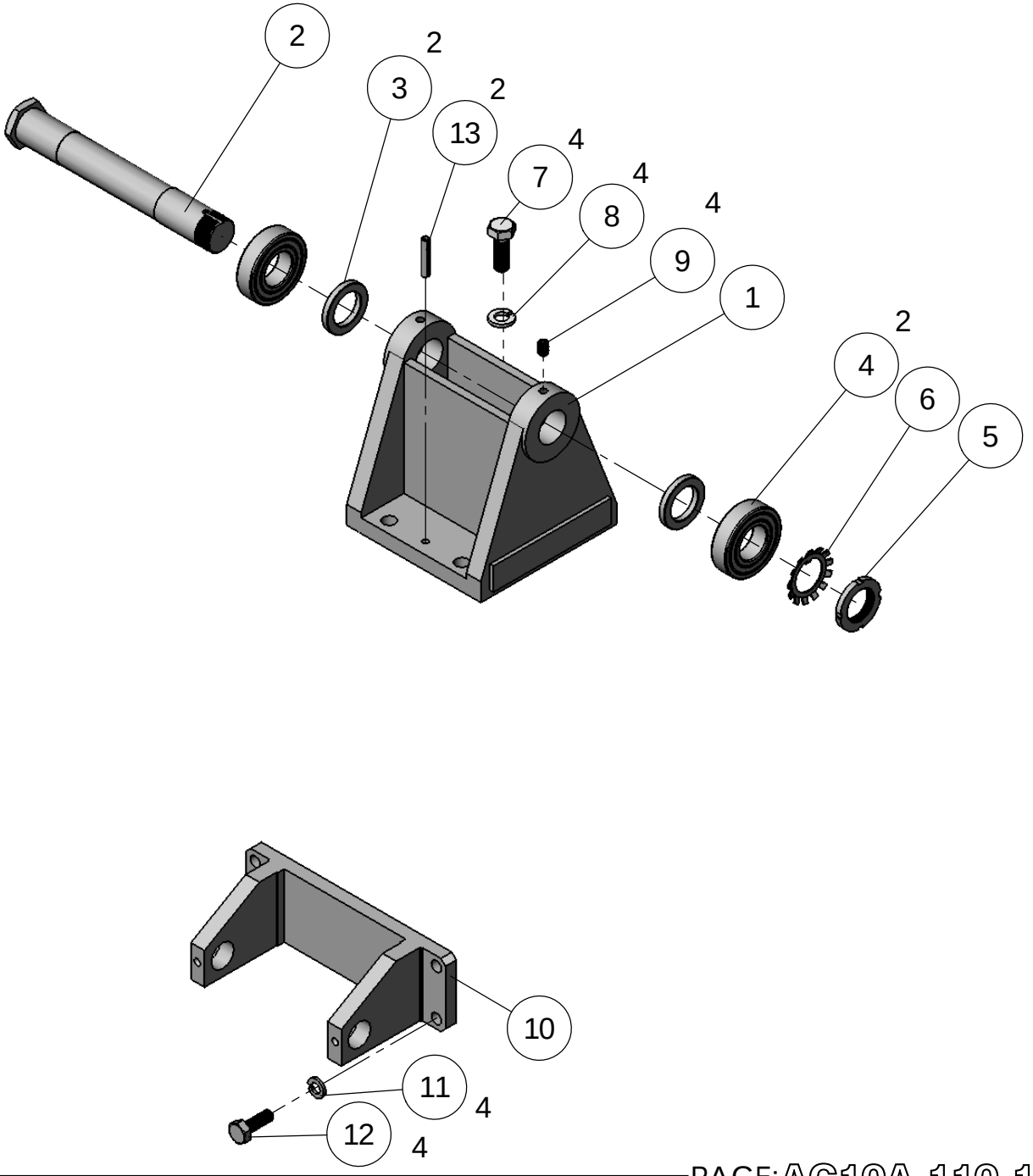

12
10
11
9
4
13
14
5
15
17
4
4
8
4
3
11
7
16
4
2
6
1

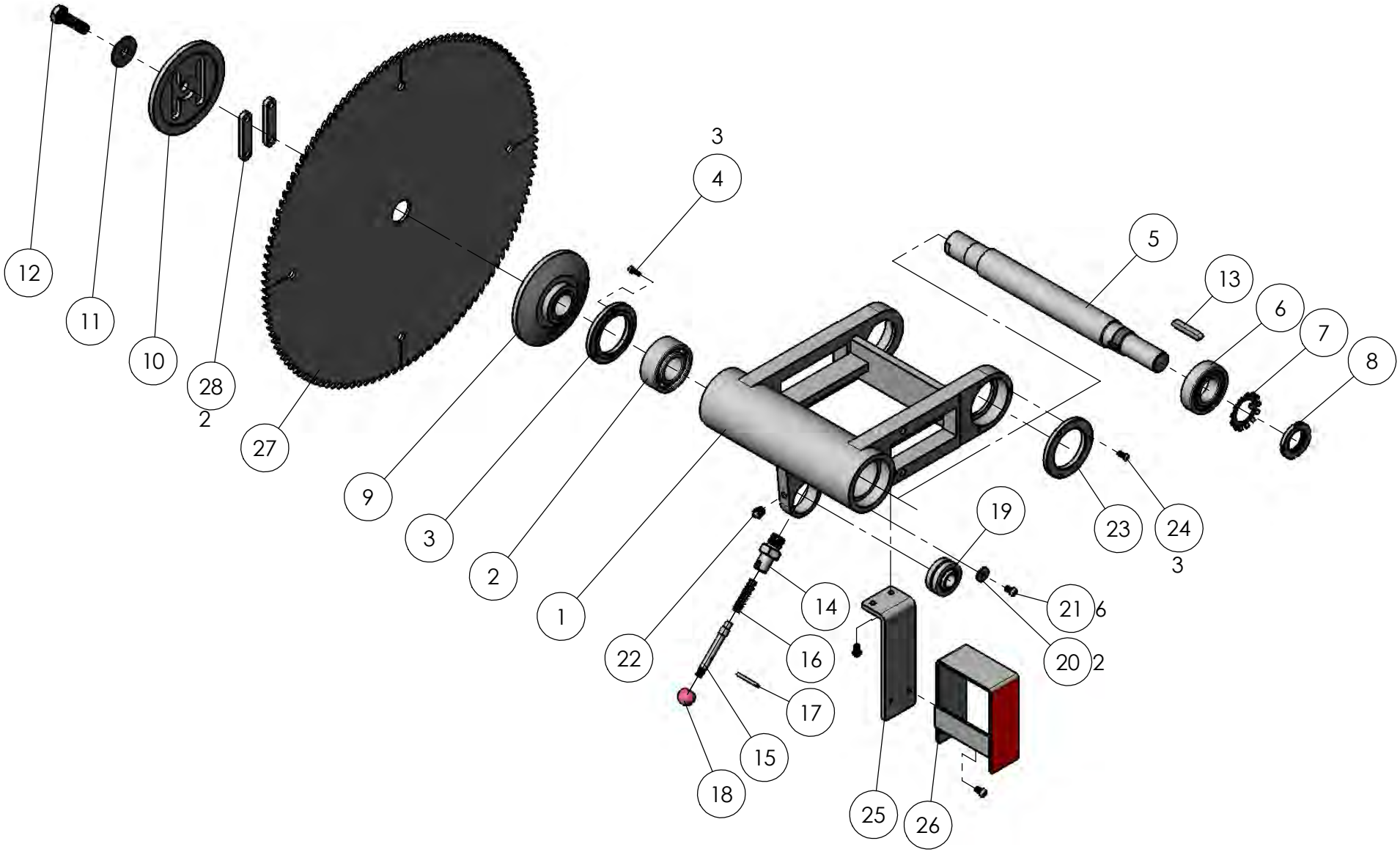

10
9
9
9
6
7
2
3
2
2
12
4
11
3
5
2
1
16
17
14
15
8
13

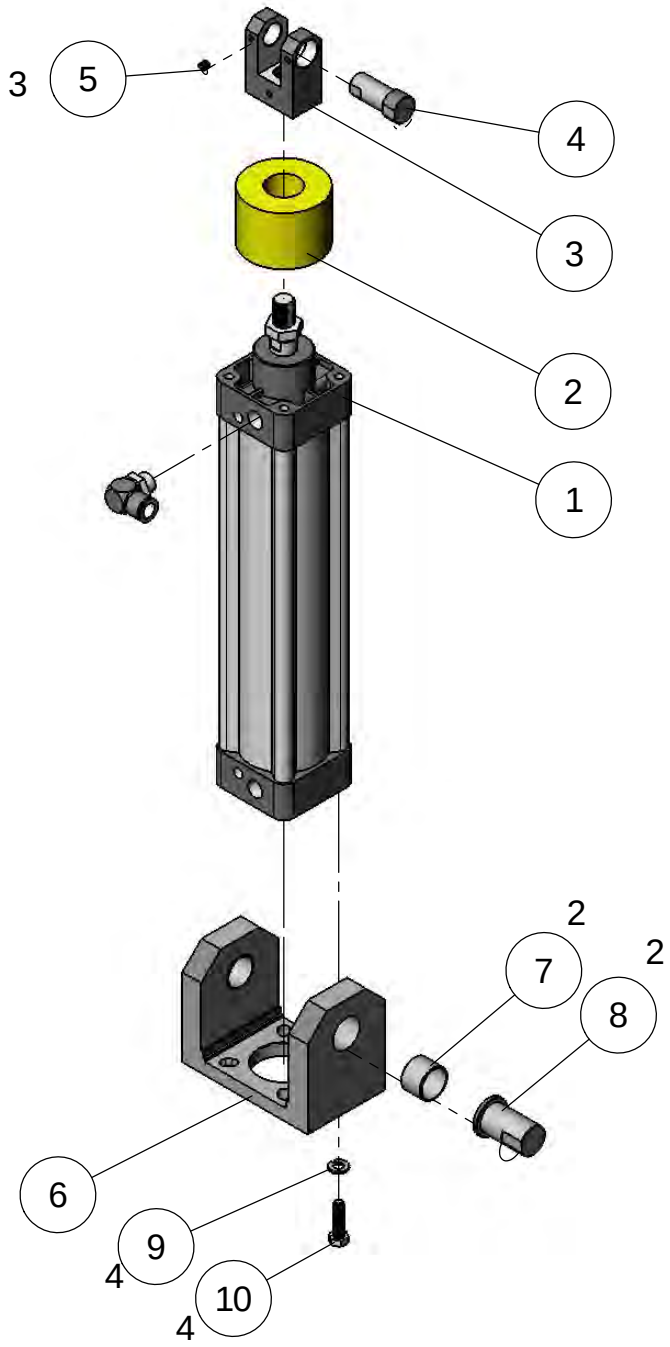

17
7
3
6
4
3
8
2
2
8
2
11
2
10
9
14
1
3
4
5
3
16
2
15
2
13
3
12

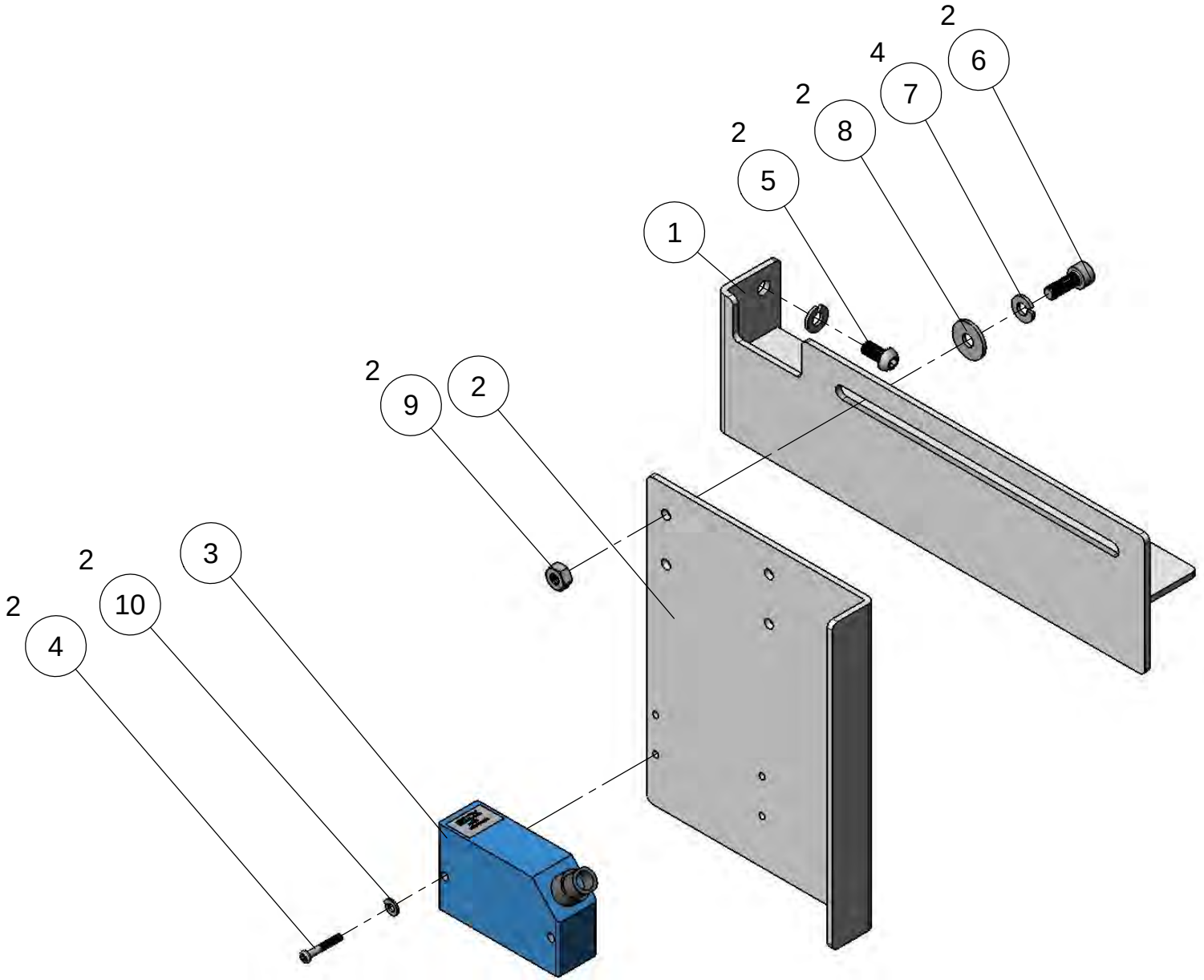

13
3
14
12
1
10
2
9
2
8
11
4
5
2
7
2
4
2
6
6
2
6
3

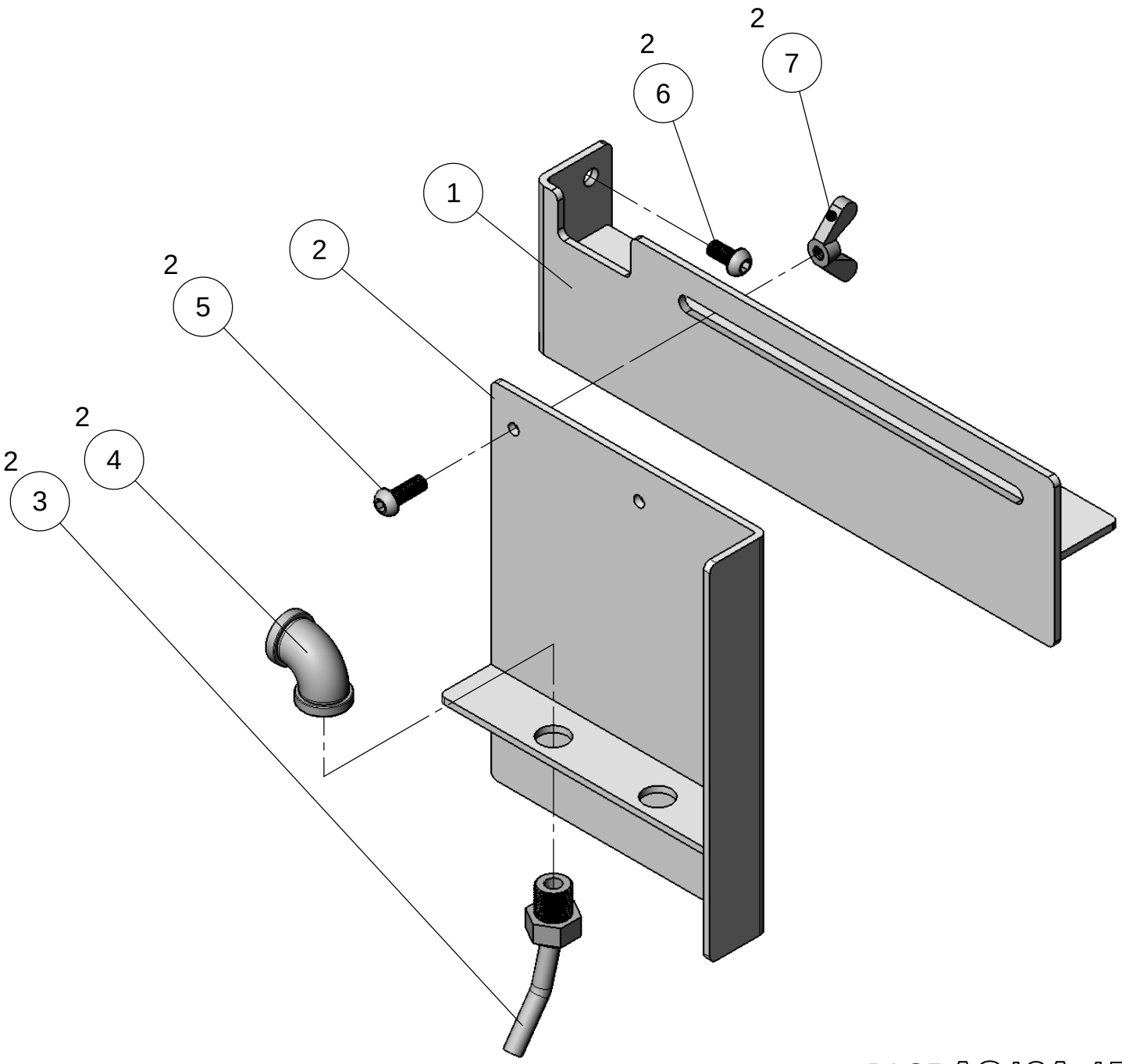

4
4
2
3
3
1
5
2

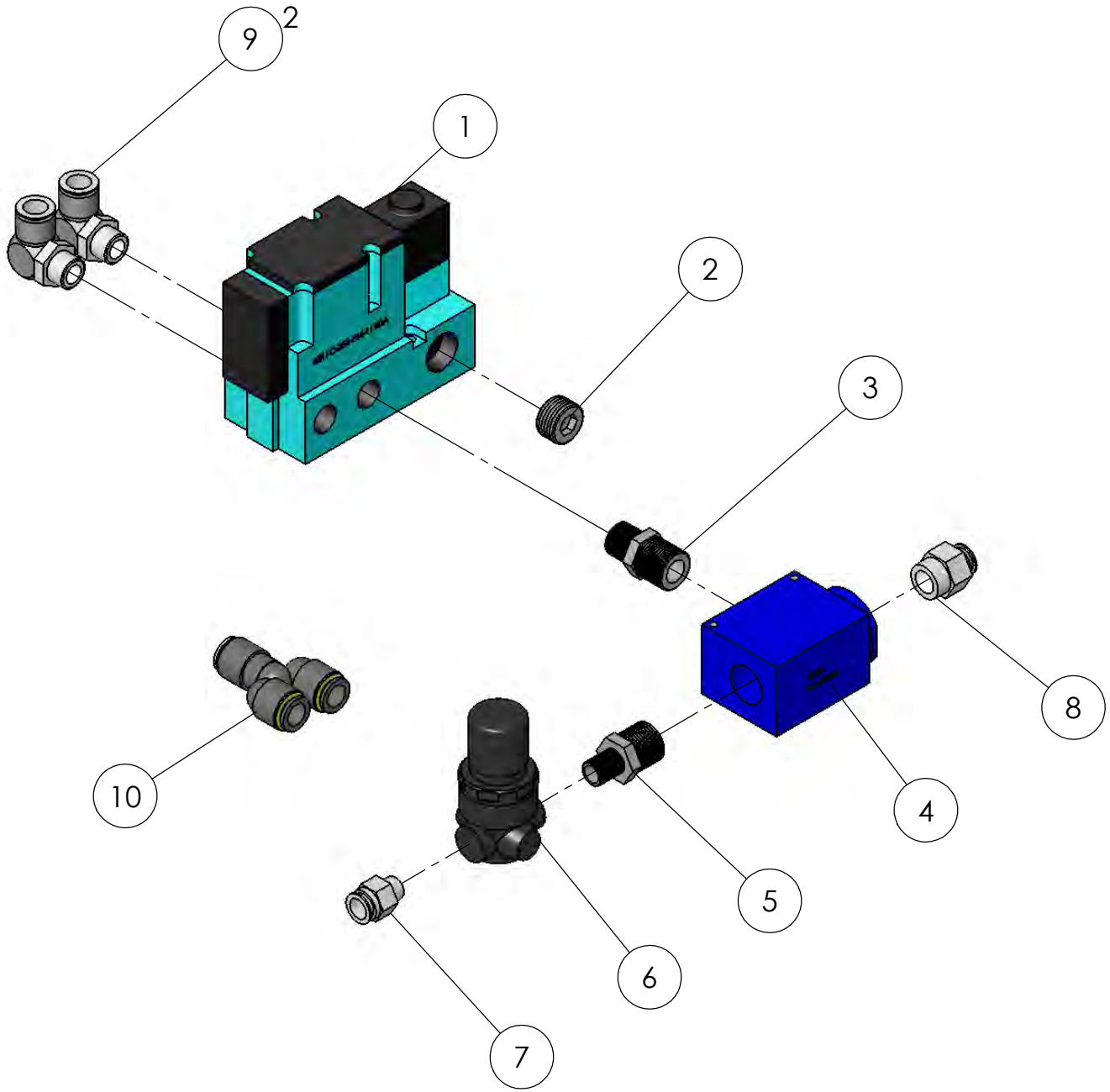

2
2
3
2
13
4
7
4
8
4
9
1
2
4
6
5
10
11
4
12
4

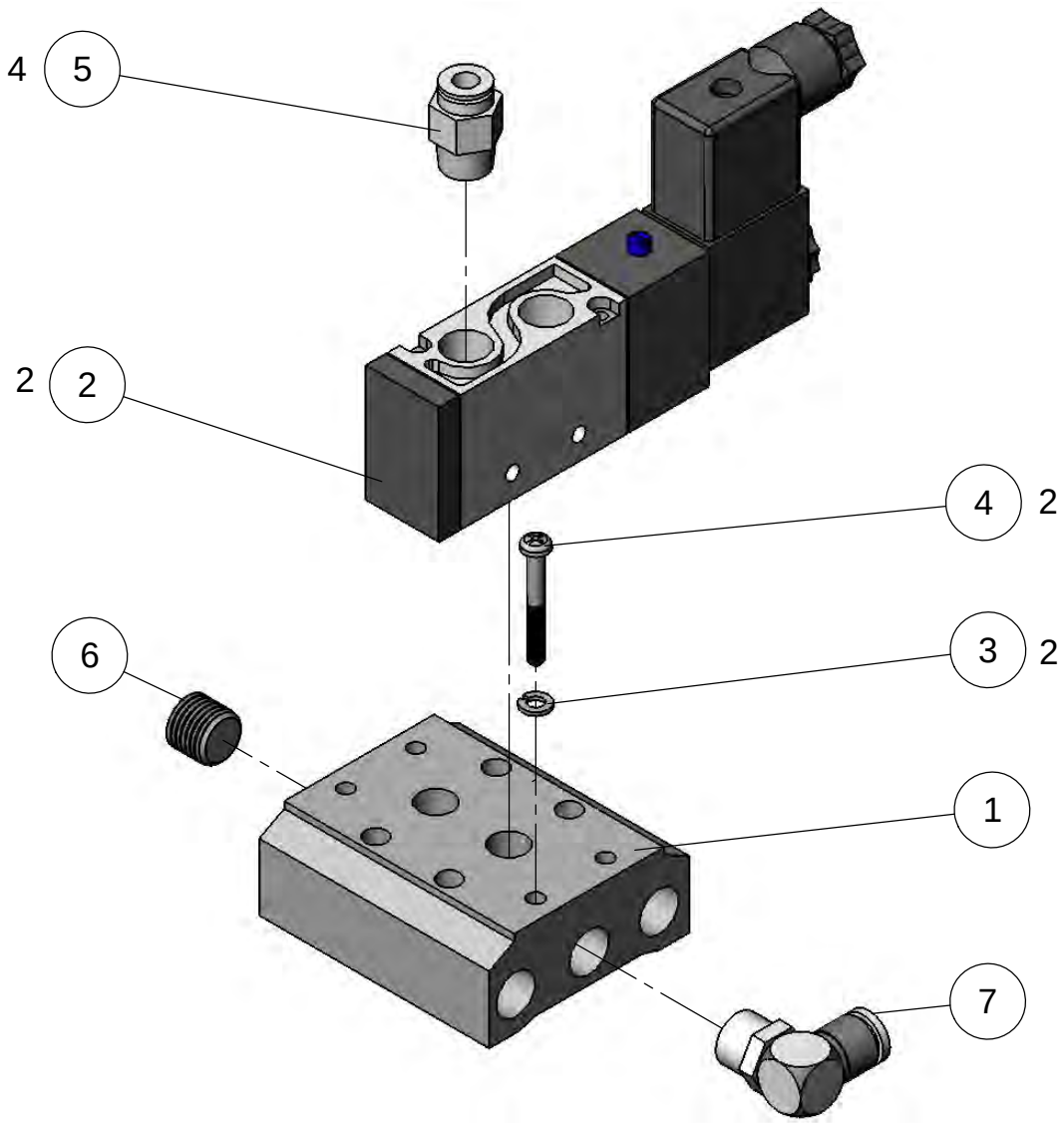

12
11
10
28
2
27
9
3
2
1
3
4
5
13
6
7
8
23
24
3
19
14
16
17
15
18
22
21
6
20
2
25
26

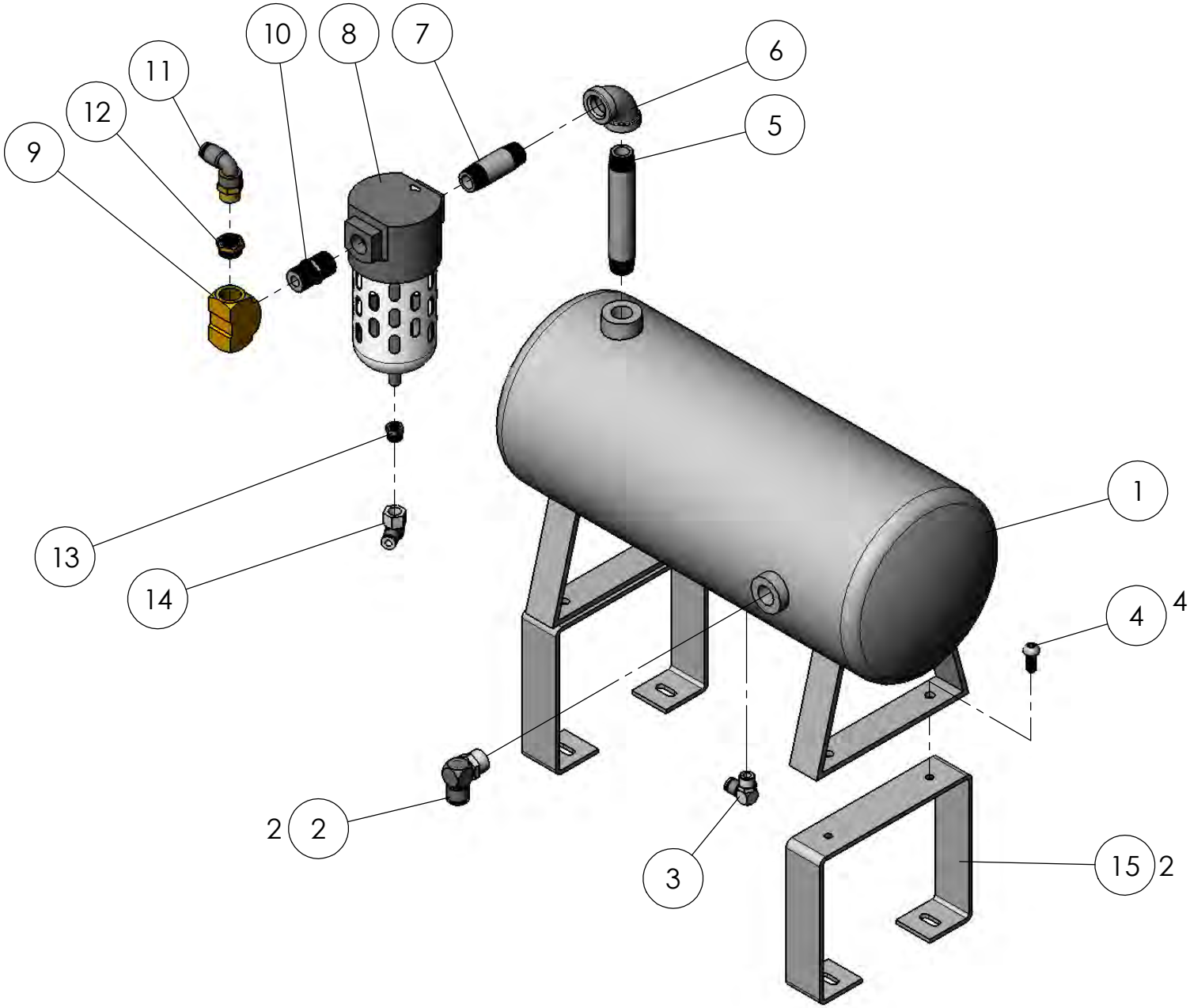

3
5
4
3
2
1
2
7
2
8
6
9
4
10
4

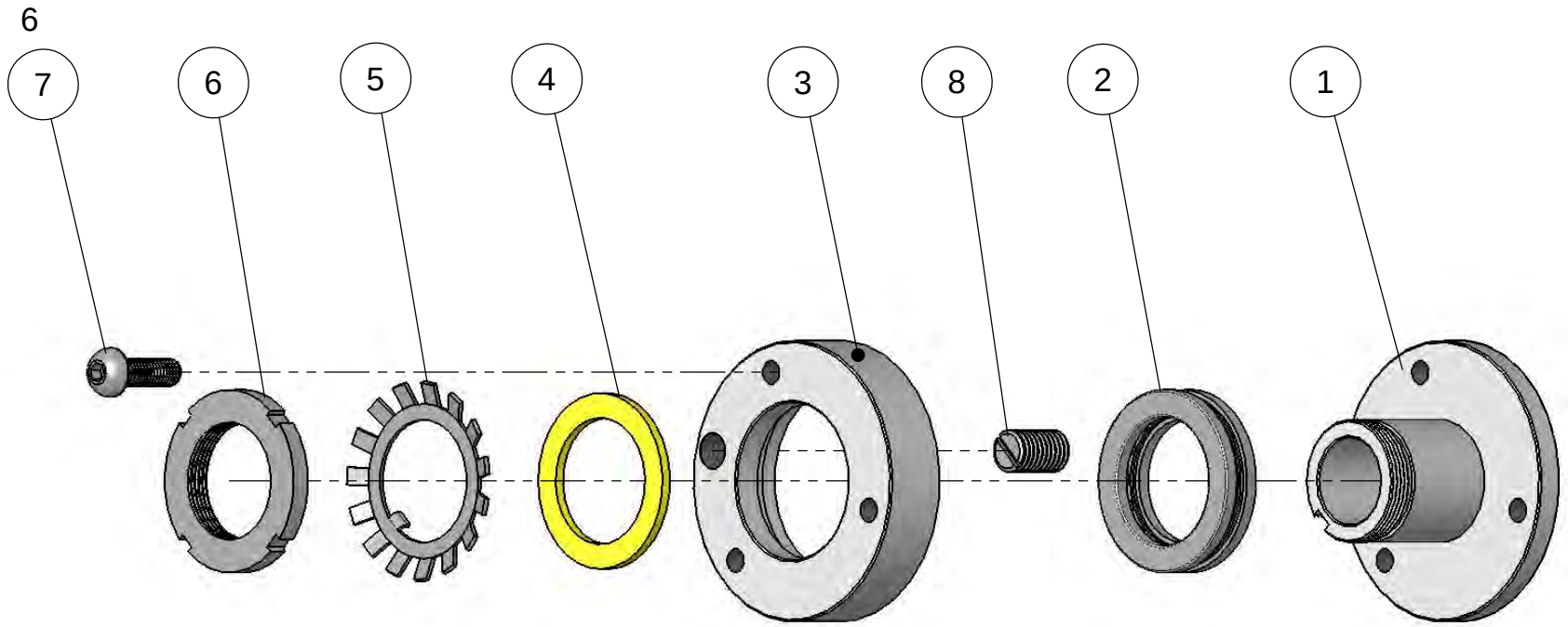

2
6
4
7
2
8
2
5
1
2
9
2
3
2
10
2
4

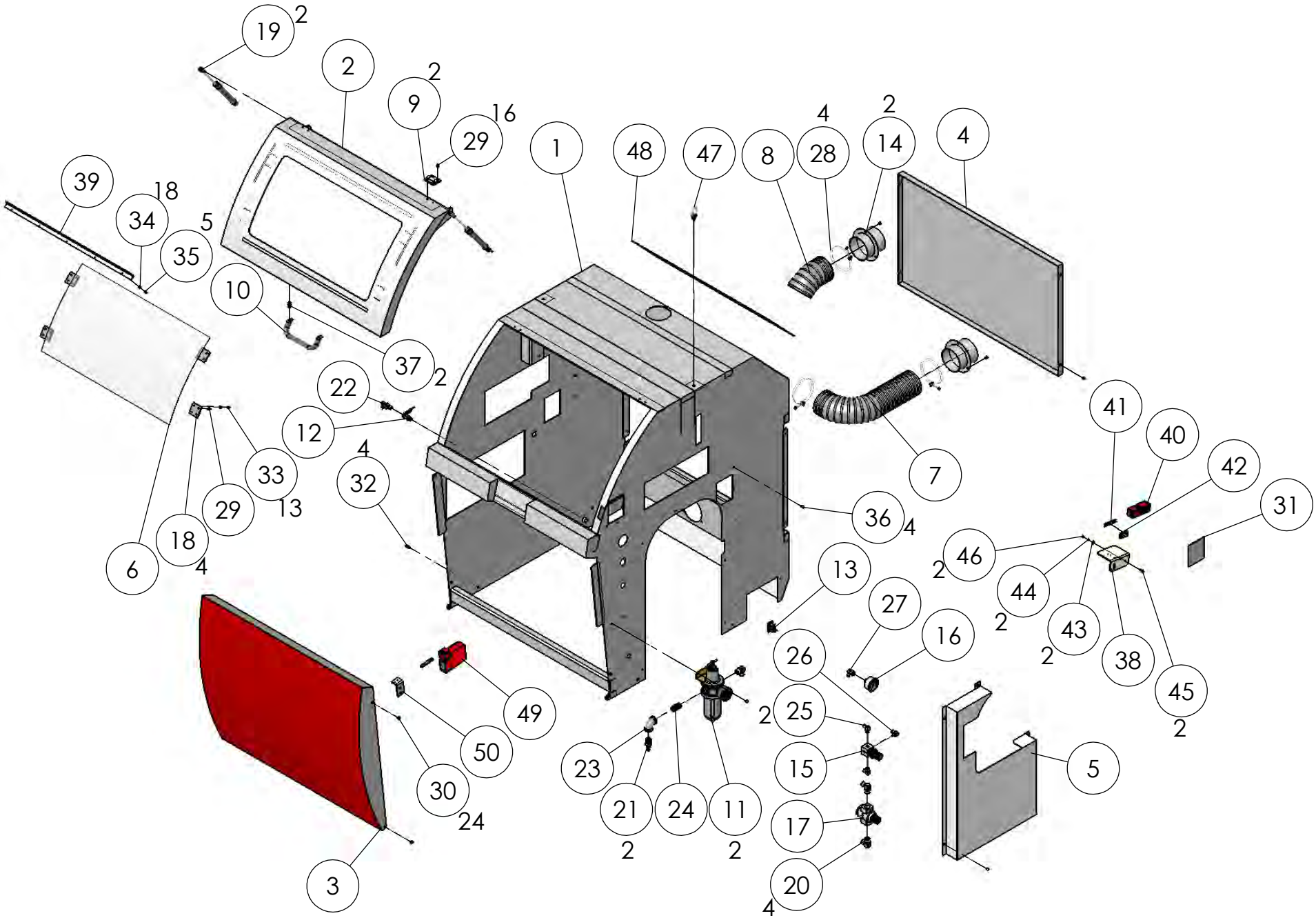

2
2
7
6
1
2
2
5
2
4
2
3

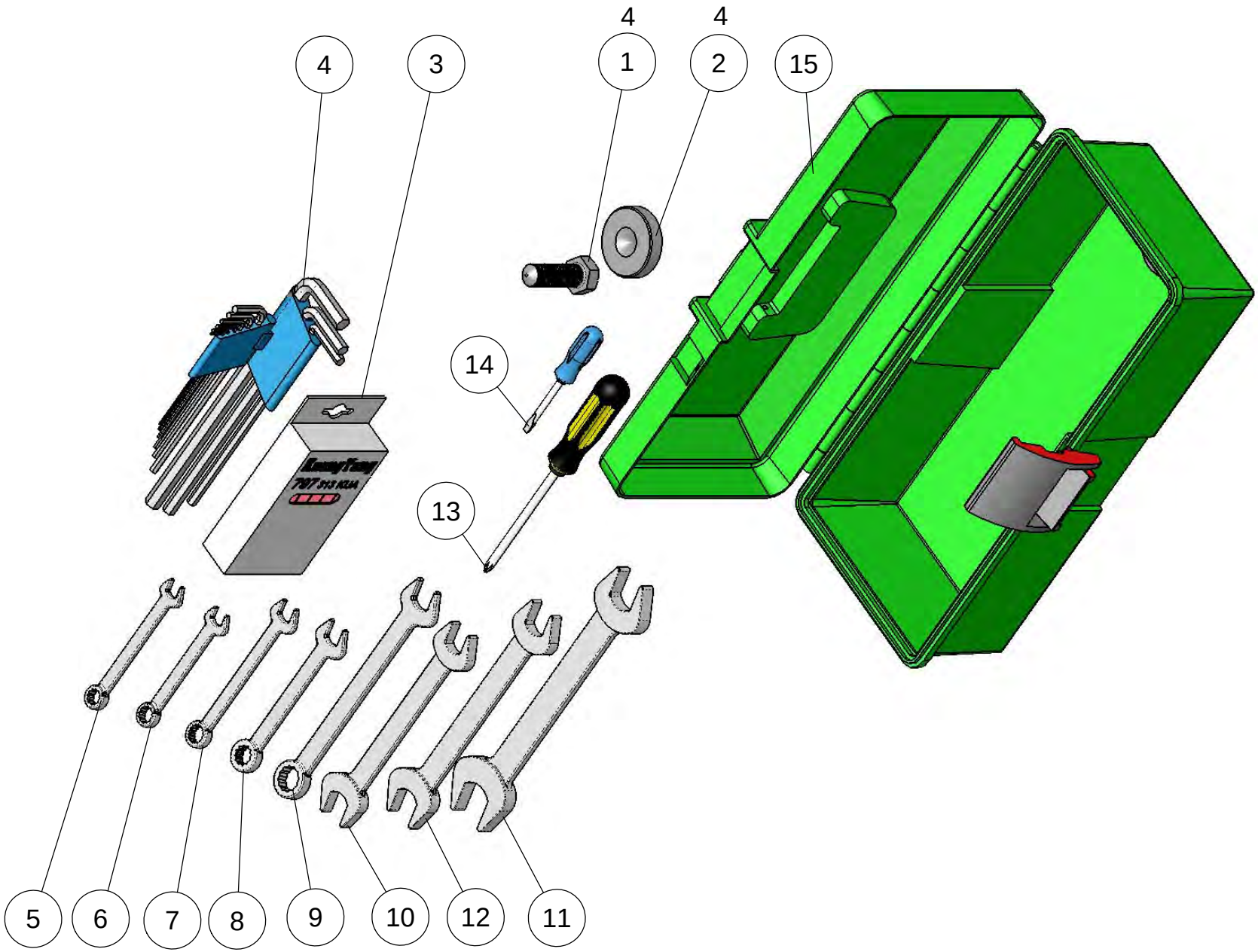

9
2
1
2
3
8
10
4
5
6
7

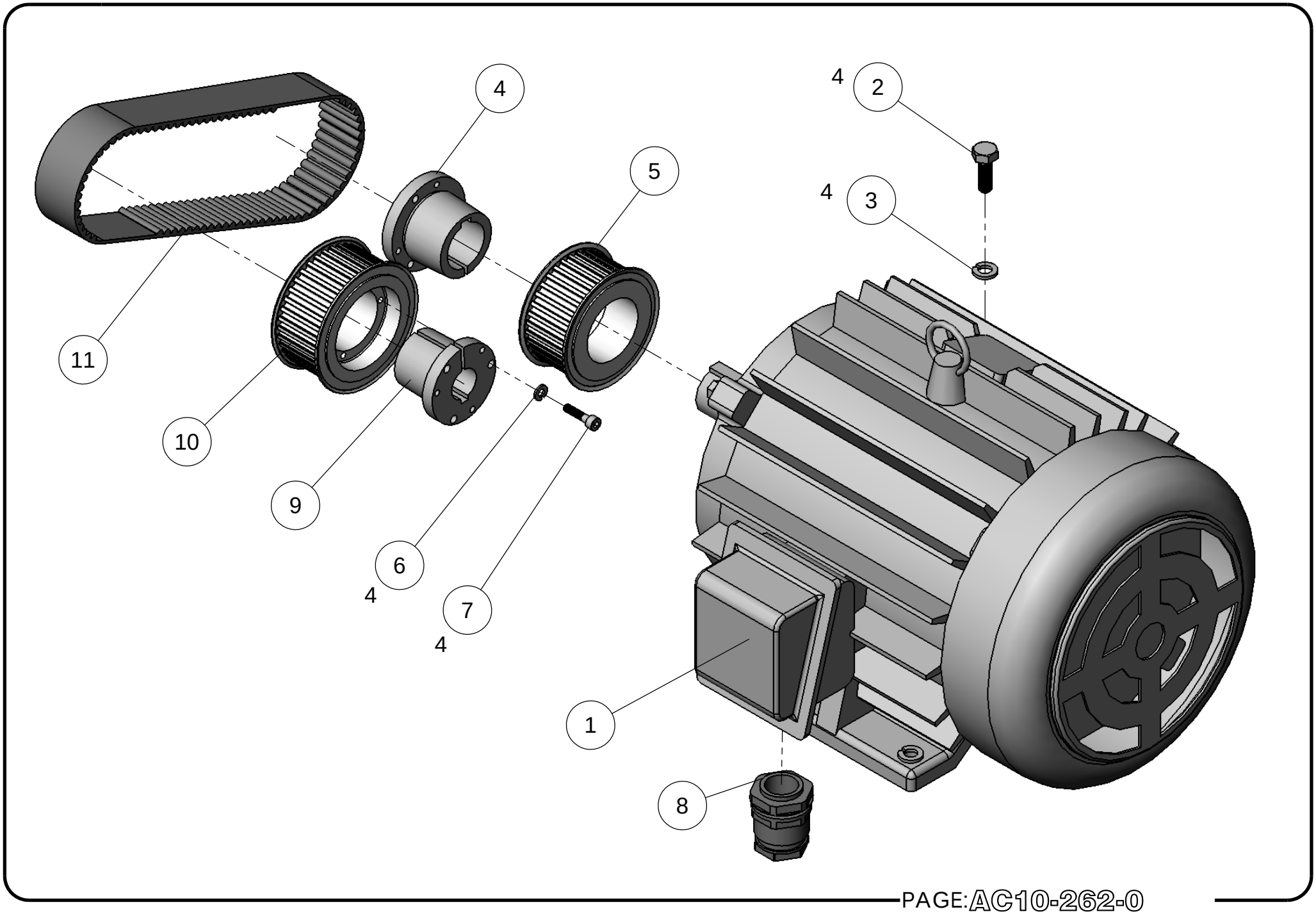

4
5
2
2
4
2
6
3
2
1
7


10
8
7
6
11
12
5
9
13
14
1
4
4
2
2
3
15
2


6
7
6
5
4
3
8
2
1


19 2
2
9 2
16
29
1
48
47
8
4
28
2
14
4
39
18
34
5
35
10
37 2
22
12
4
32
33
13
29
18
4
6
36 4
7
41
40
42
31
46 2
44 2
43 2
38
45 2
13
27
16
26
2
25
15
17
20 4
23
21 2
24
11 2
49
50
30
24
3
5


4
4
4
3
1
2
15
14
13
5
6
7
8
9
10
12
11


4
2
4
3
5
11
10
9
6
4
7
4
1
8