

AMC

Automation Machinery Corporation

OPERATION MANUAL

Clamshell Die Cutter Platen

Model: **ML-1600B**



REV 01/22

Serial: **JY202155#**

US

English



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Chapter 1: SAFETY

This document is aimed for the people, who, for different reasons, directly or indirectly are responsible of the machine handling. The people who interact with the machine, have different levels of training and expertise. Thus, in order to ensure a high level of security, it's necessary that the people that directly interacting with the machine, are well trained and with experienced.

The customer has to make sure that the operator is adequately qualified and trained for the tasks he performs. This manual is intended for anyone involved in the usage of the machine. As far as general safety standards are concerned, this document is directed to the machine operator and user, who are most prone to accidents, as well as people who interact directly with the machine.

A) General

1. Users are advised to carefully read this manual and follow general instructions.
2. This document is a tool necessary for the previous understanding of the **Clamshell Die Cutter Platen ML-1600B** that will be used.
3. Its reading and understanding are mandatory before using the machine, as it is necessary to know all its operation, maintenance and safety aspects.
4. Correct operation shall be determined by its appropriate installation and use.
5. Any modification performed on this mechanical or electrical parts can compromise the safety parameters arranged by **AMC Automation Machinery Corporation**. **AMC Automation Machinery Corporation** declines all responsibilities such as accidents or damages caused by safety systems tampering attempts concerns.
6. It is advised to only utilize replacement parts recommended by the manufacturer. In case of detecting any shortcoming, the manufacturer must be informed to mend it.
7. Repairs for this unit as well as its periodical maintenance, should be performed by qualified professionals.
8. Before commissioning, cleaning or making any adjustments to the machine, be sure all moving parts are in standby.
9. In case of detecting any deficiency, the manufacturer must be informed in order to solve it.
10. Necessary information shall be provided to workers using the machine, as well as a specific training for its use.
11. This instruction manual shall be made available imperatively to the workers.
12. Appropriate individual protective equipments recommended by the manufacturer shall be provided to each worker. A documental record of maintenance, revisions and malfunctions of the machine shall be carried out.

B) Safety Warning Labels

It is important to know that in this document **AMC Automation Machinery Corporation** gathers all the information necessary to use the machine in safety conditions, it cannot however obviate them in the whole.

As a complete and capillary test on every machine always shows residual dangers, that is to say those dangers that can not be avoided or sufficiently reduced through planning and against which protections are not completely effective, **the operator must take the safety warning labels applied on the machine and the following advice into serious considerations:**

1. The Operators must memorize the exact position of control devices able to stop the machine in case of emergency.
2. The Operators must control their workmates in case they are operating in dangerous area.
3. It is forbidden to perform maintenance work on the machine before interrupting voltage, or before the starting up device of the part to be inspected or on which maintenance has to be carried out is deactivated.
4. Each foreign object placed on parts in movement such as keys, screw drivers and bolts, must be removed before machine is started up.
5. The machine's working signaling must be kept cleaned and easily legible, in particularly the warning one.
6. It is widely recommended not to remove barriers and protection devices restricting the access to the machine components.
7. Examine the efficiency of safety device periodically in order to keep the unit's reliability if required.
8. Do not use the machine until all security devices have been restored.
9. Guards and panels opened or removed in order to carry out repairs must be always closed and replaced.
10. Do not execute repairs or adjusting operations on operation parts. Whenever it is necessary to perform such operations, safety precautions must be taken in order to protect workers.
11. When an emergency occurs, press the "emergency stop switch" to cut off electrical power boxes and stop the machine action.
12. Wear proper working garments, such as clothing, protective helmets and gloves.
13. Wear rubber shoes to avoid electrical shock.
14. Always follow the instructions on the warning labels attached to the equipment.
15. Never handle the switches with wet hands.

16. Before operating any switch, always confirm its position and function.
17. Before running the machine, always tidy up your work area to ensure safe working conditions.
18. Make sure there are not other people or obstacles on the protective covers or rotating parts.
19. Always enter the machine after it has completely stopped.
20. In order to protect the operator, all the driving parts of the machine are equipped with protective cover.
21. If you have noticed any unusual noise, vibration and/or electronic control system's failure, immediately stop the machine.
22. The electric part must have a good grounding protection when the machine is to be installed.
23. If the machine is not working, please check whether the power is working properly or whether the fuse has blown
24. The working voltage must be consistent with specification.
25. In the event of the machine being used after a transfer or a long period of inactivity, it is advisable to ask for the assistance of **AMC Automation Machinery Corporation**.
26. In case you are not able to solve a malfunction by yourself or find yourself in difficulties, do not make risky repair attempts, please call an agent of **AMC Automation Machinery Corporation** of your district.

The following safety warning labels are attached to this machine. The operators and maintenance personnel must follow the safety warnings. If any of the safety warnings has come off or become unreadable, always attach a new warning label.

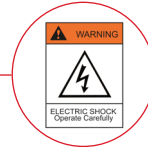
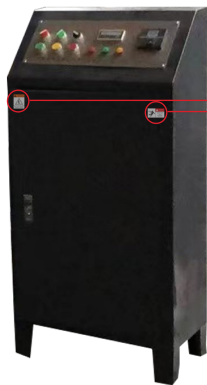
Safety Warning Labels are used on the machine and procedures on this manual, they alert the user of its existence and relative degree of hazards, it contains important information about personal safety during operation or near the machine. Understanding safety alert symbols guarantee operator safety, review carefully following symbols.

Safety Alert Symbols

 CAUTION	Potentially destructive situation which if not avoided, may result in damage or reduce the longevity of the equipment.
 WARNING	Potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
 DANGER	Potentially hazardous situation, which if not avoided, could result in death or serious injury.

Review the safety warning labels that are applied on the machine, which shows the warning positions:

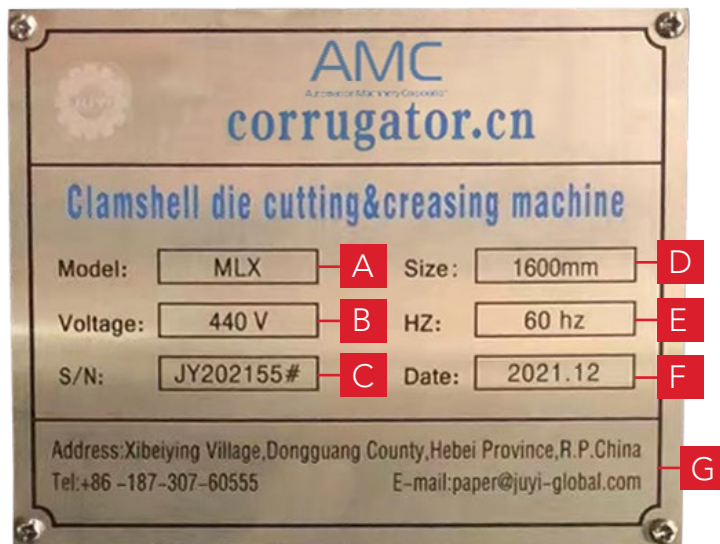
	ALWAYS, keep hands away from machine when running.
	ALWAYS, turn off all power before starting maintenance or do inspection.
	ALWAYS, turn off all power before starting maintenance or do inspection.



Chapter 2:

MACHINE IDENTIFICATION

A) Identification Plate



Here, after taking note of the name plate attached to our machines. Which is generally placed on the top, on the left or right side, it can be consulted by customers each time it is necessary.

The following data is reported on the name plate:

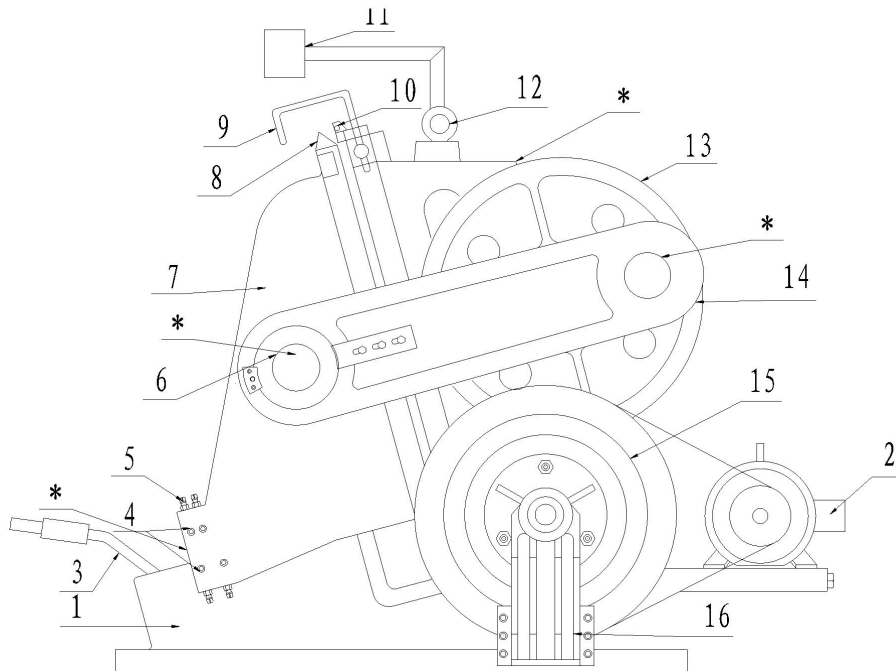
Code	Description
A	Machine Model
B	Voltage
C	Serial Number
D	Size
E	Hertz
F	Date
G	Manufacturer's Data

Chapter 3:

MACHINE DESCRIPTION

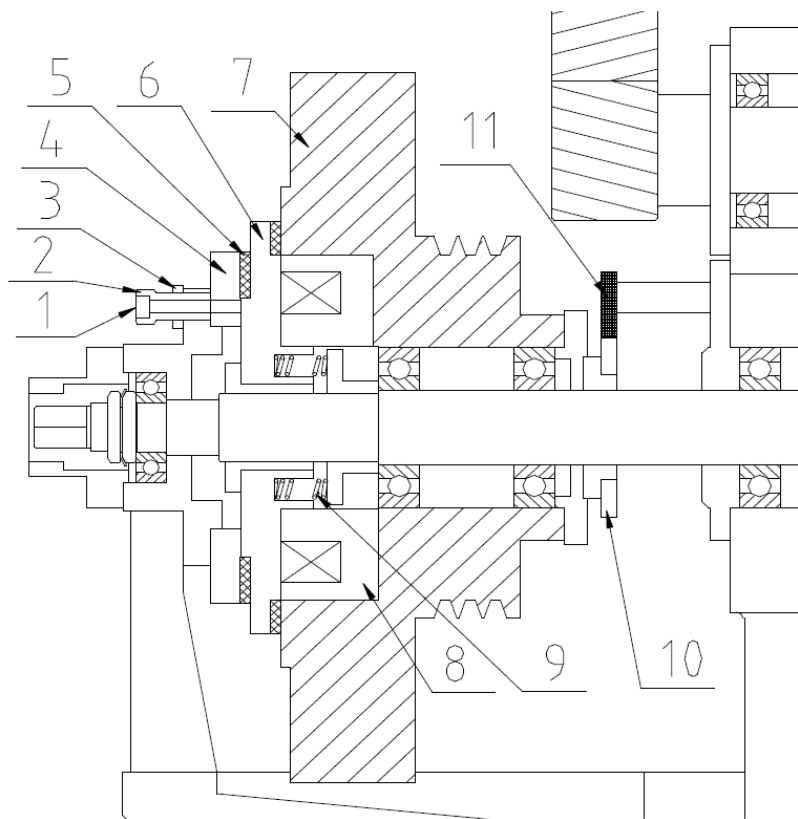
MACHINE DESCRIPTION

A) Main Machine Diagram



Code	Description
1	Fuselage
2	Motor
3	Handle Insurance
4	Adjusting Block
5	Adjusting Screw
6	Eccentric Gear
7	Pressure Frame
8	Triangle Insurance
9	The Goal of Insurance
10	Chase
11	Button Box
12	Hoisting Ring
13	Big Gear
14	Connecting Rod
15	Flywheel
16	Bracket
*	Oil Filling Position

B) Safety Device



Code	Description
1	The Within Screw
2	The Outside Screw
3	Lock Nut
4	Brake Block
5	Brake Belt
6	Clutch Plate
7	Flywheel
8	Electromagnetic Coil
9	Spring
10	JZR
11	Carbon Brush

C) Main Machine



Code	Description
1	Main Machine
2	Control Panel

Chapter 4:

TECHNICAL PARAMETER



Automation Machinery Corporation

CLAMSHELL DIE CUTTER PLATEN MODEL ML-1600B			
Electrical Requirements		Product	Clamshell Die Cutter Platen
Voltage	440V	Brand	Juyi
Phase	3 PH	Model	ML-1600B
Frequency	60 Hz	Origin	China
		Application	Die Cutting & Creasing
Operation Conditions		Overall Dimensions	
Operating Temperature (°C)	50°C	Length	2170 mm
Maximum Operating Temperature (°C)	50°C	Wide	2560 mm
Installation Place Room Temperature (°C)	Min 5°C Max 30°C	High	2130 mm
Relative Humidity (%)	Min 30% Max 75%	Weight	9000 Kg.
Elevation (m)	1798 m Above Sea Level	Floor Area Requirement	
Installation Place	Guanajuato, México	2500 mm x 3000 mm x 2500 mm	
Technical Specifications			
Max. Length Area	1600 x 1250 mm		
Working Speed	18 ± 2 Strokes / min		
Working Length Size	<50 m		
Motor Power	11 Kw		
Press Cutting Force	More than 160°		
Electric Components Brand	Schneider Brand		

Chapter 5:

INSTALLATION INSTRUCTIONS

A) General

The machine is usually installed by **AMC Automation Machinery Corporation** technicians. In case it must be removed, the operation must be performed by skilled and authorized personnel. Once they have reached the customer, our technicians begin the machine/plant loading/unloading operations. Afterwards, they must control packings are undamaged, which means, the machine has not suffered any damages caused by shocks, wrong handling or atmospheric elements.

The technician will check the integrity of the equipment also during the phases subsequent to the packing's first opening. The technician also must control the foundation's conditions and relative pre-arrangements necessary for installation; which means: the accuracy of foundations, cement quality and drilling testing on the area where the rails are going to be installed. **When apply.**

Prearrangements must be provided by: water supply distribution, compressed-air distribution, the presence of a power supply cable, and the installation of a line side isolate. The installation starts, with the installation of main tracks, using the suitable tools for subsequent levelling. When apply.

The technician concludes the mechanical assembling and checks that each part is closed down, adjusted and tightened so it can perform its final functions.

Now there is nothing left but, to supply of power to the main control panel, so it's required the customer provides an adequately electric infrastructure.

Each group of functionality at this point, is tested and it is advisable that from now on and for on, your maintenance personnel and your production manager or operator, support our technician, because, it is very useful for them, to follow functional test operations in order to know the functions of each operation, mechanisms and even the ones that in the future the operator will never have to adjust or repair.

The technician, makes sure each button of the control panel correlates to the suitable function: Start, stop, acoustic signal, pressure raising or lowering, movements, etc.

These operating mechanisms, responsible for the safety of workers assigned to the machine or plant are very carefully controlled: Stop button and alarms to signalize that photocells limiting the access are working.

According to us, the operations above mentioned must be performed with the assistance of your personnel, thereby, will become acquainted with troubleshooting problems that often occur during this phase. In order to achieve a correct professional personnel training, the technician, will perform adjusting, inspecting and working operations.

The technician will mention the dangerous maneuvering for the safety of workers. The operator must maintain a safe distance from the machine and not to stand under the fastening bands or under the machine.

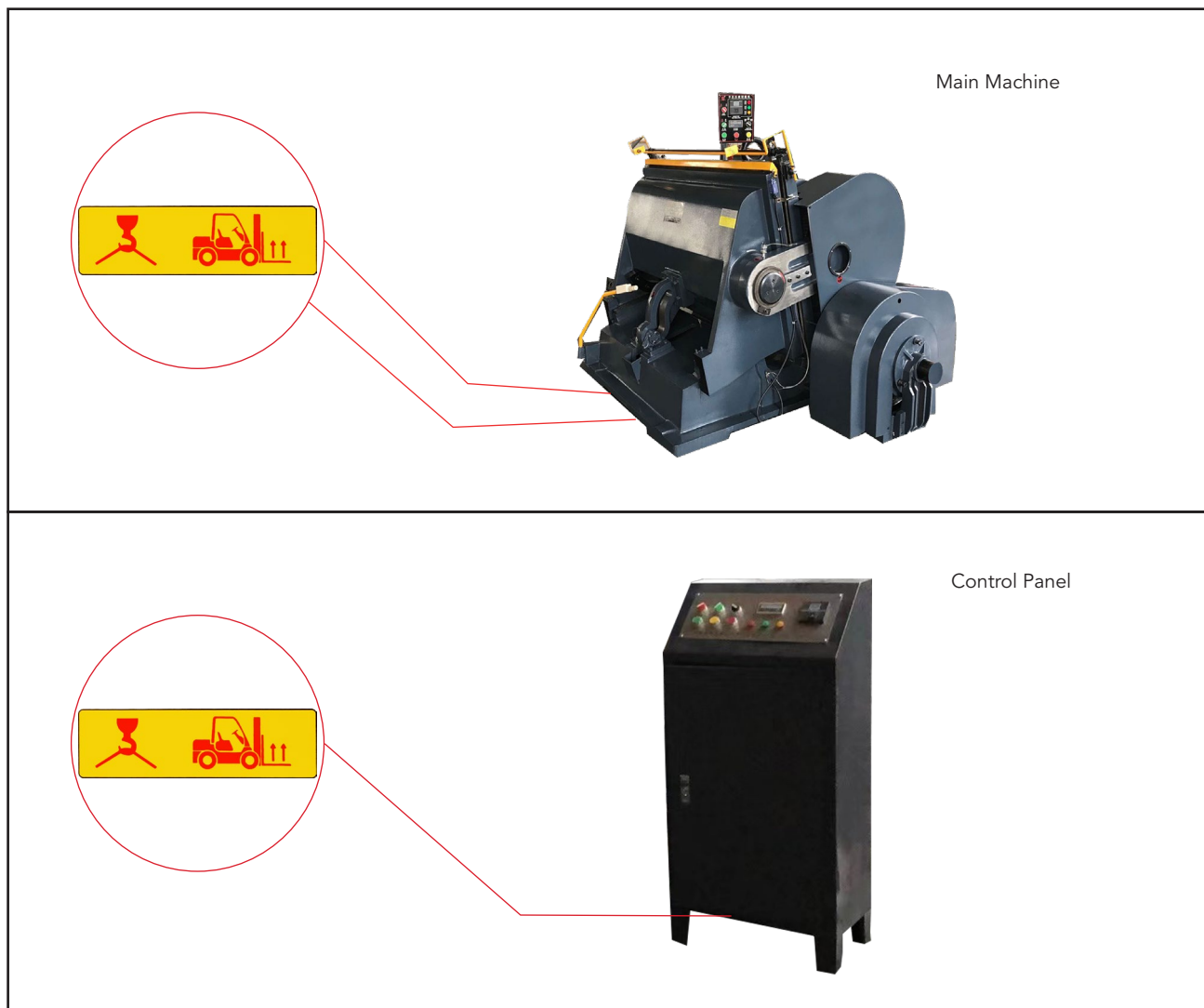
The personnel have to learn all production cycles in order to become familiar with the machine's main functions and its operating mechanism until it is self-sufficient, always under technician's control.

The technician will also simulate with personnel possible emergency conditions, in order to control that operators perfectly remember the position of stop and emergency buttons at the plant.

The machine arrives to customer's facilities, in a plywood box, handle with care and unloaded according to the following **Unloading Equipment Requirements**, the operator must keep a safe distance from the machine and not to stand under the fastening bands or under the machine.

Photo	Description	Unloading Equipment Requirements
	Main Machine	Forklift 12 Ton.
	Control Panel	Forklift 5 Ton. or Crane 5 Ton.

Make sure to do the unloading of the Conveyors, Main Control Platform, Main Module and Conveyor Bed, from the unloading points already determined, which are located in each unit, please see the photos below.



B) Pre-Installation

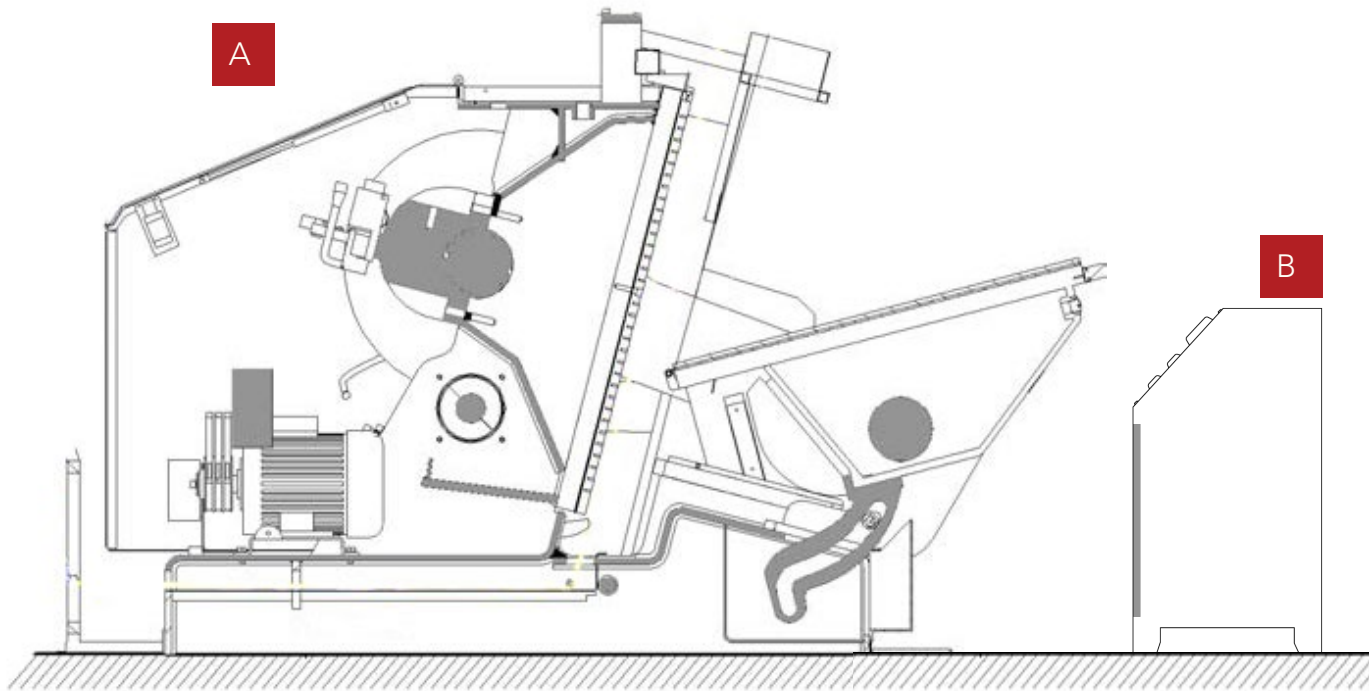
- 1) Remove the plastic film.
- 2) Check each unit of the machine and in case of finding any unit damaged, take some pictures and get in touch with an agent from **AMC Automation Machinery Corporation**.

C) Installation

In order to install the **Clamshell Die Cutter Platen ML-1600B**, it is not required any type of special equipment, it should be installed on a flat concrete ground.

I.- Steps for installation

- 1) Determine the area on the floor according with the Layout.



Code	Description
A	Main Machine
B	Control Panel



A



B

Chapter 6:

OPERATION INSTRUCTIONS

WARNING

The machine must be started up and used only after that service and maintenance personnel has carefully read the present manual. The entrusted personnel must have fully read and understood its contents. The firm **AMC Automation Machinery Corporation** declines all responsibility for each failure occurring in consequence of improper and incautious operations, not in conformity with the present manual directions, carried out by unskilled or skilled personnel.

The present instructions are directed to qualified or experienced operators. In order to avoid damaging people or things, AMC Automation Machinery Corporation recommends Customers to adequately inform operators about the risk deriving from the use of the machine. In case of the machine being used by inexperienced personnel, it is advised that qualified personnel supports inexperienced workers at using the device. The operator must always make use of their personal protection means by law and what the employer places at his disposal.

Personnel responsible for the equipment maintenance must be experienced and fitting for the kind of duties, they must show the necessary reliability in order to ensure safety and scrupulous controls and maintenance works.

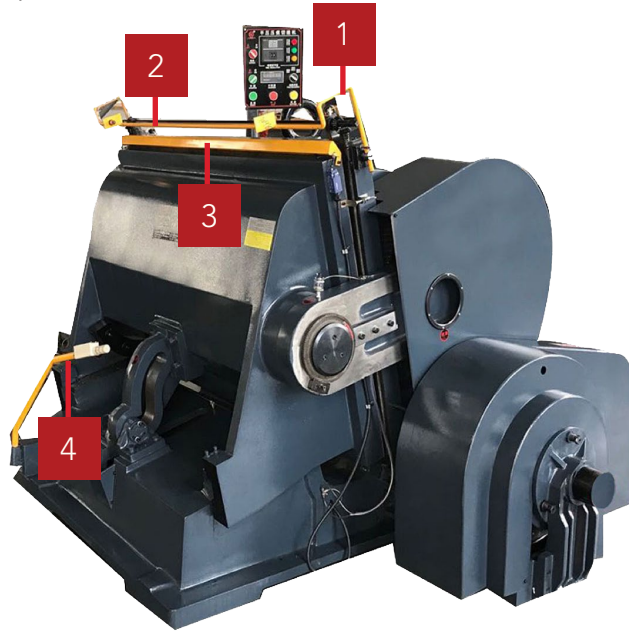
A) Power On/Power Off



Code	Description
A	Power
B	Counter
C	Start
D	Time Regulator Panel
E	Counter Panel
F	Stop
G	Power (Time Regulator)
H	Start (Time Regulator)
I	Cuttin (Time Regulator)
J	Function Switch
K	Cutting

I. Power On

- 1) Make sure the main power supply is consistent with the equipment's requirements, three-phase, 440V.
- 2) Clean all tools, dirt and peripheral materials on the equipment to avoid any mechanical perils.
- 3) Connect the equipment with three-phase/440V power source.
- 4) Turn on the main switch.
- 5) Turn on the power switch manually for a few times to see that all parts can run properly.
- 6) Verify the four safety points.



- 7) Make sure the motor and other electrical installations are clear, dry and their insulation is proper.
- 8) Be sure that all the oil cups and oil holes, make sure that all movable parts are properly lubricated.
- 9) After the power switch has been on, press the start button, hold down until the machine runs steadily.
- 10) Make sure the control operation lever stops the machine promptly and the safety guard bar on the movable platen works properly and smoothly.
- 11) The transmission mechanism should be in proper working order.
- 12) Oil must be replenished two or three times during each shift.
- 13) The machine must make a run without load, before starting to operate the machine.
- 14) Mount the chase which carries the blades on the fixed platen. Cut off the power supply while mounting. Check or adjust the distance between the platens.
- 15) The distance between the platens is set upon 27mm when delivered. The distance may be readjusted according to the actual thickness of the cardboard in operation.
- 16) In operation, if the cardboard is displaced or the pressed article cannot be taken out in time, the machine should be stopped instantly by either pushing downward the control operation lever, pressing the stopping button, or pulling down the idling handle immediately to spoilage. After the cardboard is set right in position or the pressed article has been taken out, push the idling handle to its original position.

II. Power Off

- 1) Make sure the device has stopped or the operation is finished.
- 2) Remove unfinished products from the device before stopping operation.
- 3) All the doors and fences have been closed.
- 4) Turn off the switch.

B) Cutting Die Installation

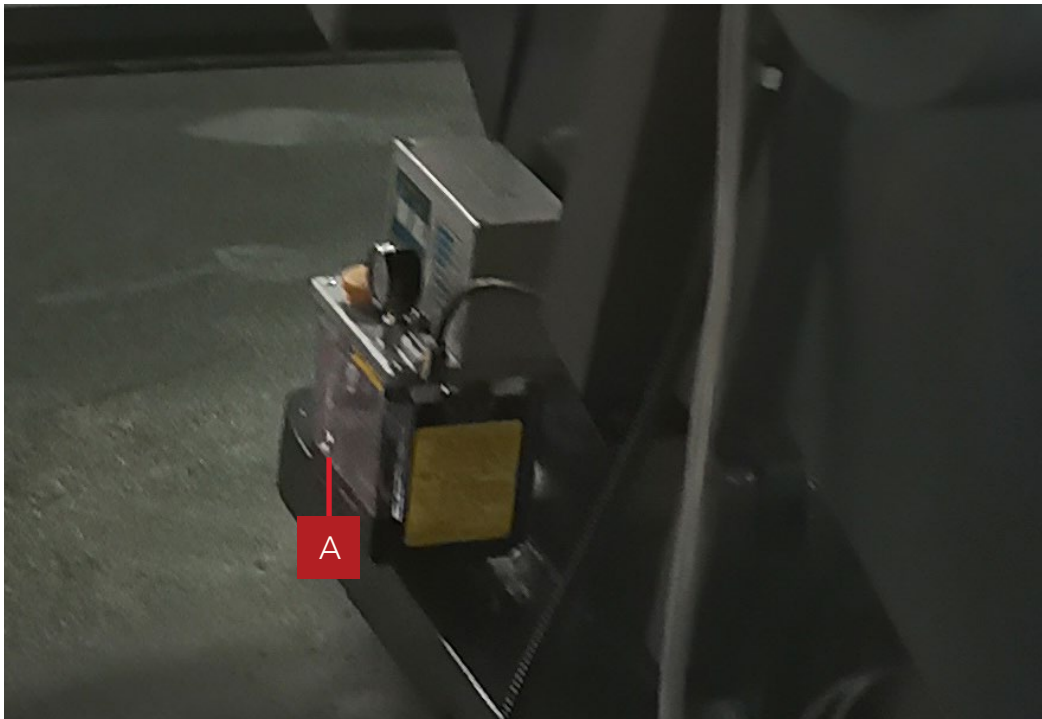
1. Make sure the machine is completely off before placing the cutting die.
2. Place the cutting die on the platen.
3. Turn the screws located at the ends of the support bar counterclockwise.
4. Turn the crank until the die sits firmly on the platen.
5. Turn the screws located at the ends of the support bar clockwise.



Code	Description
A	Left Screw
B	Right Screw
C	Crank

C) Manual Lubrication

1. Prolonged and repeated contact with the skin should be avoided as far as possible. Areas of the skin splashed with lubricant should be cleaned with soap and water. Apply skin protection while working and a greasing skin cream after completing work. Where appropriate, wear oil-resistant protective clothing (e. g. gloves, apron). Do not wash your hands with petroleum, solvents or cooling lubricants which can be or are already mixed with water. Oil mist must be extracted at the point where it arises.
2. Identify the lubrication pump, it is located at the bottom of the left side.
3. Periodically replenish the grease and feed the machine through the manual lubrication pump, using the crank.

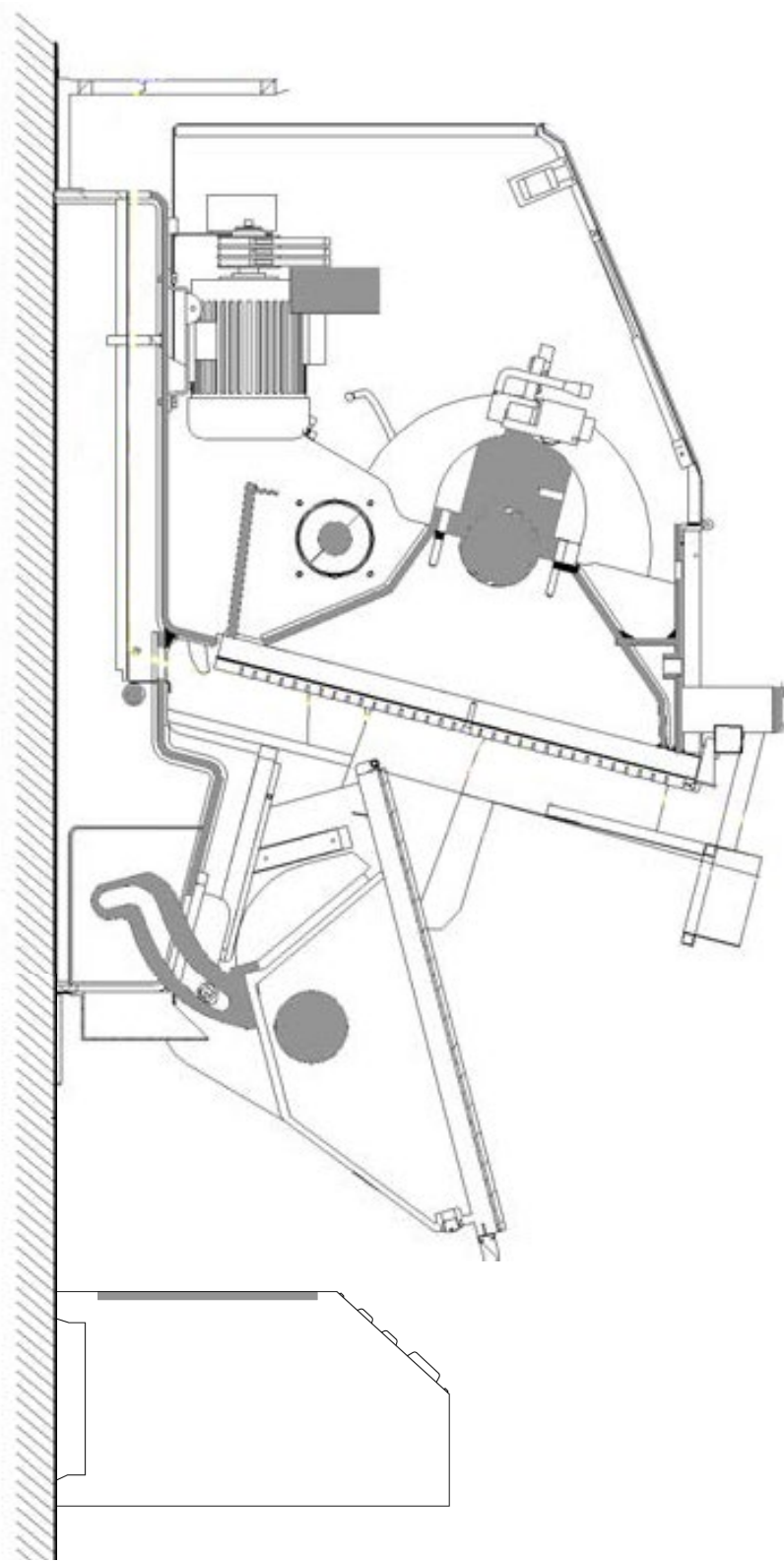


Code	Description
A	Lubrication Pump

D) Troubleshooting

Problem	Possible Cause
Jamming Of The Platens	- When the jamming occurs, the movable platen stops moving and V-belts slip or the motor stops turning. The chief may be the distance between the platens is not correctly adjusted or the excess of cardboard, or it may be that the V-belts are loosely mounted. In case the jamming occurs check the motor first and then the V-belts to see that they are tightened. Then try to pull down the idling handle or apply the socket wrench provided (the socket wrench may be lengthened with tubes) to turn the transmission shaft till it can move smoothly. And finally readjust the distance. - The jamming may also be caused by overheating of the bearings or insufficient lubrication of the moving parts. Check each oil channel to make sure that it is in proper order and each oil hole and oil cup is properly replenished. If the lubricating system is proved to be in proper order the jamming may either be that the bearings on each moving part are short of lubricant or that some foreign matter has gotten into them. In this case the bearings should be dismantled for examining.
Control Circuit Break Down	Poor connection or ineffectiveness of the electrical components. Send an electrician to find out the cause and to adjust or change certain electrical components.

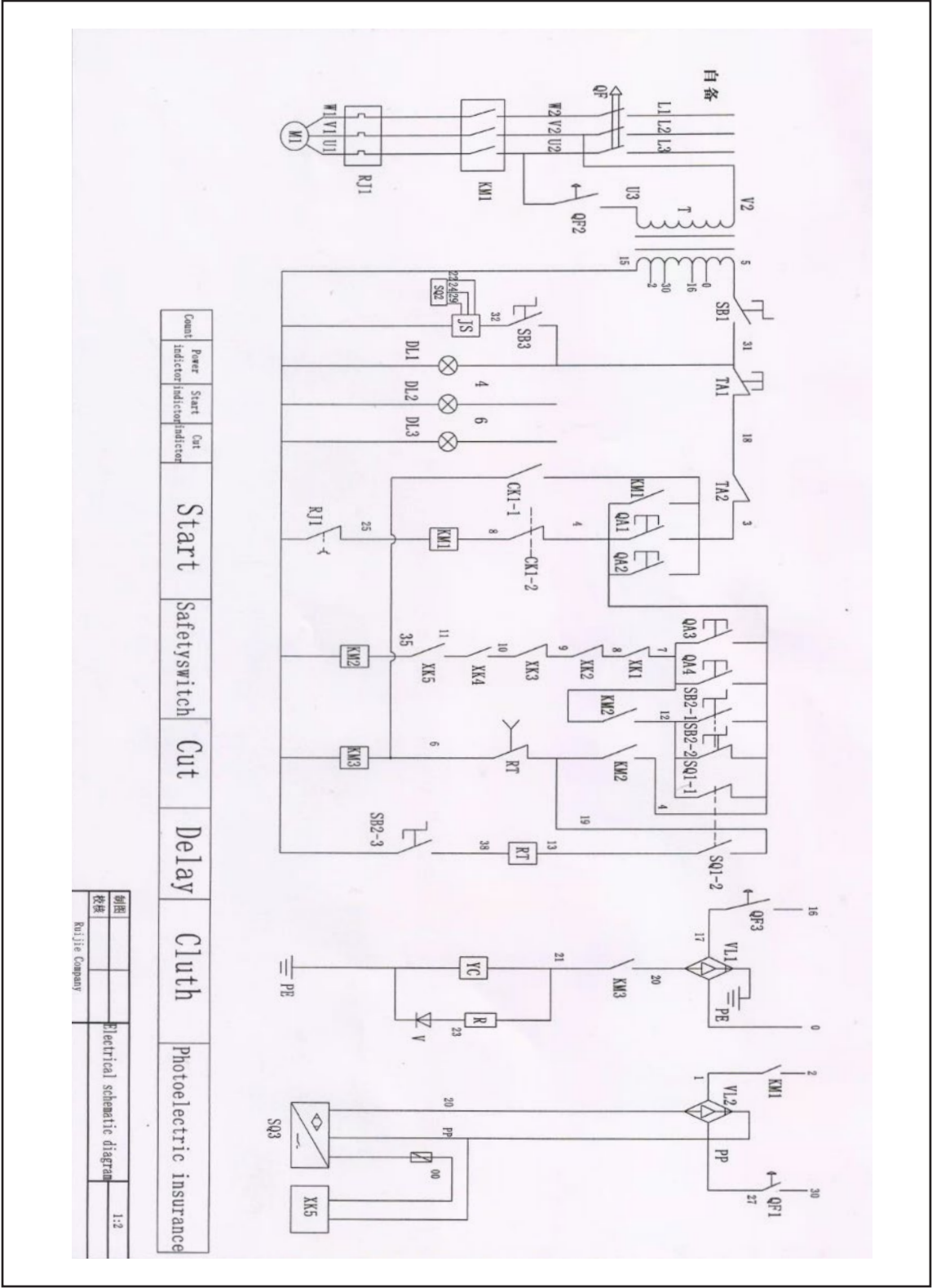
Chapter 7: LAYOUT



Chapter 8:

ELECTRICAL DIAGRAMS

Electrical Diagram #1



Chapter 9: MAINTENANCE

A) Maintenance Spare Parts

- a) All the oil cups and moving parts must be replenished with lubricating oil frequently. This should be done not less than two or three times during each shift.
- b) Pay constant attention to the movement of the machine. If anything seems to be unusual, stop the machine immediately for examining.
- c) Keep the machine clean.
- d) Make sure the machine undergoes a thorough overhaul every year.

List of Recommended Consumable Parts

Piece name	Code's name	Picture	Quantity	Notes
Bridge Cone	SP-001-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B
Bridge Cone	SP-002-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B
Button	SP-003-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B

Carbon Brush	SP-004- ML1600B		1	For Clamshell Die Cutter Platen ML- 1600B
Copper Sets	SP-005- ML1600B		1	For Clamshell Die Cutter Platen ML- 1600B
Counter	SP-006- ML1600B		1	For Clamshell Die Cutter Platen ML- 1600B
Delay Switch	SP-007- ML1600B		1	For Clamshell Die Cutter Platen ML- 1600B
Hand Rod	SP-008- ML1600B		1	For Clamshell Die Cutter Platen ML- 1600B
Handle Button	SP-009- ML1600B		1	For Clamshell Die Cutter Platen ML- 1600B

Photoelectric Probe	SP-010-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B
Proximity Switch	SP-011-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B
Small White Switch	SP-012-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B
Time Delay	SP-013-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B
Triangle Safety Switch	SP-014-ML1600B		1	For Clamshell Die Cutter Platen ML-1600B

Chapter 10:

WARRANTY CONDITIONS

1. AMC Automation Machinery Corporation warrants that the equipment is guaranteed to be free from defects in material and workmanship at time of shipment. If during the first year of the date of shipment, the buyer establishes to the seller's satisfaction that any parts manufactured by **AMC Automation Machinery Corporation** were defective at the time of shipment, **AMC Automation Machinery Corporation** will, at its own expense, repair or replace (but not install) replacement parts.

Sellers liability under this warranty is limited to replacement parts only and the seller will make no allowance for corrective work to be done unless agreed to by the seller in writing. Charges for correction of defects by others will not be acceptable, unless authorized in writing, prior to the work being performed, by an officer of the company.

Damage caused by deterioration due to extraordinary wear, improper maintenance or lubrication and improper storage prior to installation, shall not be taken as manufacturing defects. Failure to install equipment properly shall not be taken as manufacturing defects. Warranty does not cover consumable items. Warranty does not cover adjustment to installation or periodic adjustment that may be required during normal operation.

2. The term of guarantee is equal to 12 (twelve) months from the date when the installation and commissioning of the equipment fulfilled. Within one year from the date of accomplishing the installation and commissioning of the equipment fulfilled (don't guarantee the serving life of the wearing parts).

Within the period of quality guarantee, in case of any defects or malfunctions of mechanical parts, which have been proven to be caused by seller's poor materials and assembly technology, upon receipt of the buyer's information in writing and photos, the seller will post spare parts which were mentioned by the buyer as soon as possible at its own cost and the spare parts should be installed by the buyer. The expense of the spare parts and the freight will be borne by the buyer.

3. The following components are not covered by the warranty;

- a. The repair, service and/or installation of any electric component or related replacement part for use with the equipment.
- b. The consumables, that are parts that have limited life expectancy and are designed to be replaced.

4. AMC Automation Machinery Corporation has made no representation, warranties, or guarantees, expressed or implied, not expressly set forth on above paragraph. **AMC Automation Machinery Corporation** shall not be liable hereunder for any consequential damages, losses of profit, loss of production, or contract, financial, economic or any other indirect loss or consequential damage that in any form could suffer the other party.

5. No representative of **AMC Automation Machinery Corporation** has been conferred with any authority to waive, alter, vary or add to the terms of the warranty state herein, without prior authorization in writing executed by an officer of the company.

Chapter 11:

CONTACT INFORMATION

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