



ISITAN

USER`S MANUAL

MODEL IRM

ASSYMETRICAL 3 ROLLS PLATE BENDING MACHINE



Order Code S795D

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GENERAL NOTES

1. Introduction

Thank you for choosing a Isitan Machine. We are proud to have you in our long list of satisfied customers all over the world.

This User's Manual is absolutely for your safety and is essential for the machine to have a long production life. As long as you keep up with our Manual you will be able to run your machine smoothly and safely. Keep in mind that the machine is designed absolutely to perform maximum safety and for efficient working.

In this Manual you can find instructions and information about:

- Correct installations of the machine
- Description of the functional parts of the machine
- Set-up and start-up adjustments
- Correct standard and scheduled maintenance
- Simple safety regulations and accident prevention.

Therefore, as far as the user's safety is concerned, in this handbook the possible risks connected with machine operation are pointed out as follows:



Attention: Showing the risks of accident, if instructions are not followed.



Warning: Showing the probable damages to the machine or equipment, if the instructions are not strictly followed.



Note: It gives useful information.

It is certainly necessary that the operator should read and understand all the **Attention, Warning, Note** specified in this Manual before starting with operation of the machine and before any lubrication or maintenance intervention

On all steps of installation, operation and maintenance safety must be your first concern for the protection of yourself, other users and the service of the machine. In case of any failure please first refer to this Manual, and then if a solution cannot be found contact first of all the distributor where you purchased our product. Do not forget to refer to the drawings and the numbers for any spare part needed or to define any problem. Make sure you have the serial number and production year of the machine.

Our technical staff will make their best to help you in the most convenient way.

2. Transport

As soon as you receive the machine, check for any visible transport damages. Should there be any visible damages; report it straight away to the transporter company and of course Isitan Makine San.Tic.Ltd.Şti. or your supplier.

Remove any protective crates around the machine and read the instructions on related chapters of this Manual carefully to set up the machine. If the machine is damaged while transport, **immediately take some photographs for insurance** claims.

Take precautions while loading / unloading or moving the machine to avoid any injuries. Refer also to related chapter of this Manual for the best way of handling the machine.

3. Electrical Information

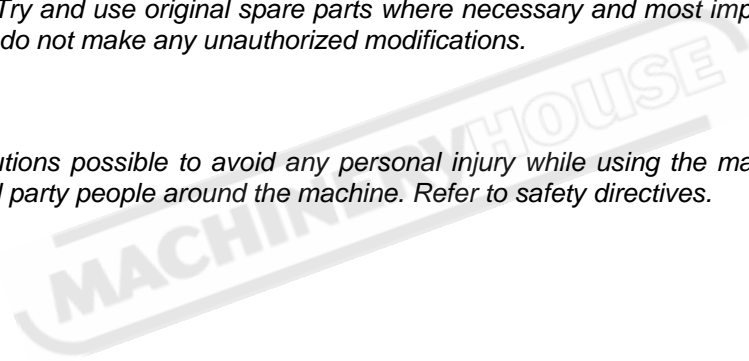
All necessary connection procedure can be found on this Manual. Do not try to connect the machine before reading these procedures and fully understanding the drawings. For any unclear matters get in touch with Isitan Makine San.Tic.Ltd.Şti. or any of the Isitan distributors. Have the machine connected by a qualified electric technician. For, as we made clear in the “general conditions of guarantee”, under no circumstances installing mistakes, including electrical connection mistake, can not be covered by guarantee agreement. Always turn off power before making any connections or disconnecting the machine.

4. Maintenance

Your machine is designed and produced to work efficiently and smoothly. To achieve this you should also take care while operating the machine. Regard Maintenance sections to have the longest life from your machine. Try and use original spare parts where necessary and most importantly do not overload the machine or do not make any unauthorized modifications.

5. Safety

Take all precautions possible to avoid any personal injury while using the machine. Keep in mind to protect the third party people around the machine. Refer to safety directives.



GENERAL WARRANTY TERMS

- *Your machine is covered by manufacturer's guarantee for a period of 12 months from the date of purchase against manufacture defects. The warranty period does not exceed 18 months from the date of delivery from the manufacturer's factory.*
- *Warranty covers only manufacture defective parts and / or components that are reported as "defective" by a Isitan Technician or the Agent Technician and must be reported to Isitan in writing by fax or email.*
- *The manufacturer is responsible for the supply of free of charge spares only and cannot be held responsible for loss of work.*
- *Shipping and customs fees for the spare part must be paid by the end-user.*
- *If a technician travel is necessary Isitan will not charge for labor and workmanship costs but the customer must pay traveling and accommodation charges.*
- *A Warranty claim does not relieve the Customer from payment obligations.*
- *The Customer can not ask or demand any reimbursement of damage nor the Customer will have the right to extend or delay payment obligations nor the cancellation of order and the refunding of damages as the guarantee is given for the defective parts of the machine and not for the job.*



Note: All warranty claims must be applied with the Model, Serial Number and the Manufacture Year of the machine.

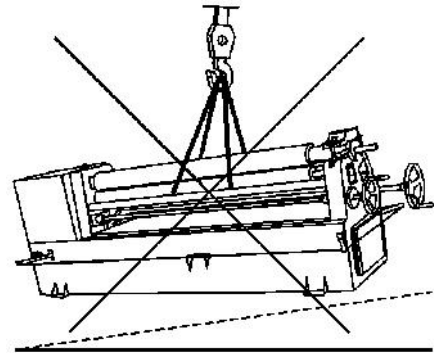
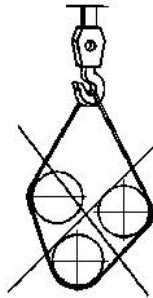
MACHINERYHOUSE

TRANSPORT AND LIFTING OF THE MACHINE

The machine weight is approximately. Use necessary cranes and lift as shown. Please take extra care during lifting and moving. If necessary consult with specialized companies for lifting.

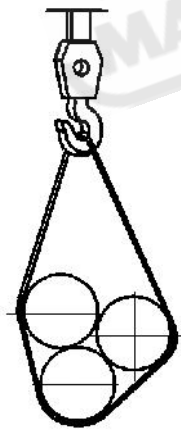
APPROX MACHINE WEIGHT

Model	Weight
IRM 1050x110	990 Kg
IRM 1050x130	1200 Kg
IRM 1270x120	1115 Kg
IRM 1270x140	1350 Kg
IRM 1550x110	1200 Kg
IRM 1550x140	1420 Kg
IRM 2050x110	1380 Kg
IRM 2050x130	1500 Kg
IRM 2550x140	1850 Kg

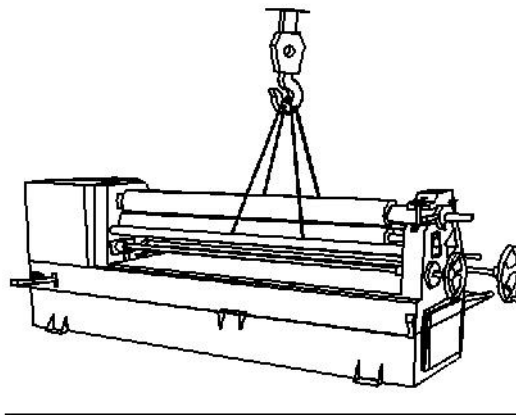


FALSE

FALSE



TRUE



TRUE

OPENING THE PACKAGE

If any visible damage exist on the machine when you receive the machine immediately informs the dealer or manufacturer. Also never forget to state the visible damage on transport documents.

The packing material is completely safe and do not consist any environmentally dangerous articles. However they must be kept out reach of children as some nylon products in packing may cause suffocation if used as a toy etc.

TECHNICAL PROPERTIES

The IRM Model Asymmetrical Three Roll Benders have these specifications:

MODEL: IRM Technical Properties										
MODEL		IRM1050 x110	IRM1050 x130	IRM1270 x120	IRM1270 x140	IRM1550 x110	IRM1550 x140	IRM2050 x110	IRM2050 x130	IRM2550 x140
Bending capacity	mm	4.0	5.0	4.0	5.0	3.0	4.0	2.0	3.0	2.5
Roll Diameters	à mm	110	130	120	140	110	140	110	130	140
Dimensions	mm	2200x750x 1000	2200x750 x1000	2470x700 x1000	2470x750 x100	2700x750 x1000	2700x750 x1000	3200x750 x1000	3200x750 x1000	3700x750 x1000
Useful length	mm	1050	1050	1270	1270	1550	1550	2050	2050	2550
Weight	kg	990	1200	1115	1350	1200	1420	1380	1500	1850

Note : Machine dimensions are approximate

TECHNICAL SPECIFICATIONS AND STANDARD EQUIPMENTS

- Two rolls powered by a gearbox and gear system
- SAE 1050 Quality certificated steel rolls with high tensile strength
- Spheroid cast iron main frame
- Swivel control panel with joysticks
- Conical bending device
- Precision bending with brake motor
- Worldwide available components used in production (Telemecanique, Siemens for electric)
- User manual book
- Expanded roll stufts
- Built according to EC safety directives (CE – Mark)

OPTIONAL ACCESSORIES

- Digital read-out for rear roll
- Induction hardened rolls
- Motorised back roll adjustment



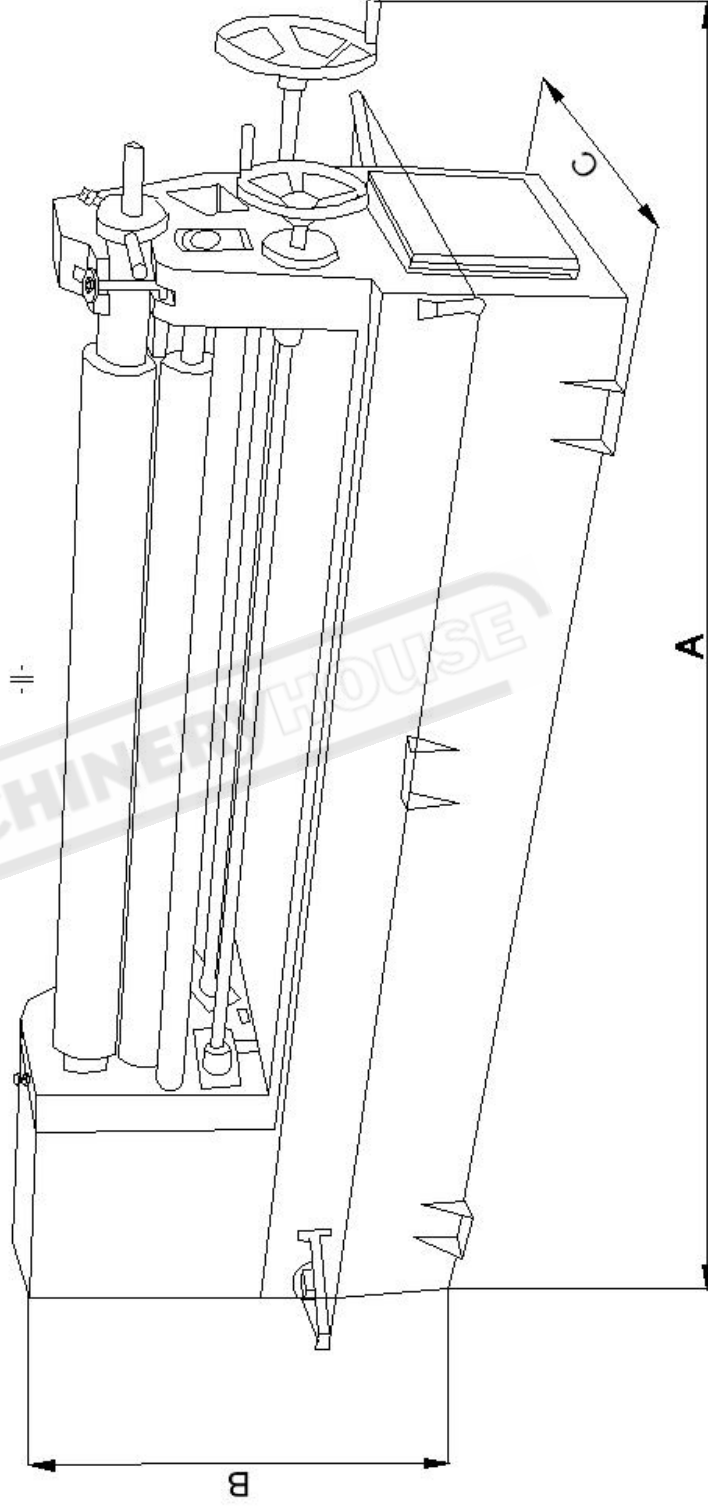
Warning: Do not feed profiles having a higher thickness than specified for the capacity of the machine. Do not feed more than one piece at a time. Do not use the machine for any other job the one for which it has been designed.



Sultan

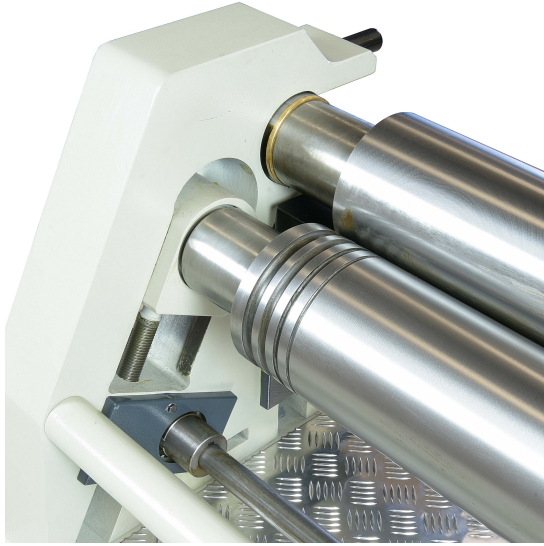
Main Dimensions of The Machine

MODEL	A	B	C
IRM 1050x110	2200	750	1000
IRM 1050x130	2200	750	1000
IRM 1270x120	2470	750	1000
IRM 1270x140	2470	750	1000
MODEL	A	B	C
IRM 1550x110	2700	750	1000
IRM 1550x140	2700	750	1000
IRM 2050x110	3200	750	1000
IRM 2050x130	3200	750	1000
IRM 2550x140	3700	750	1000

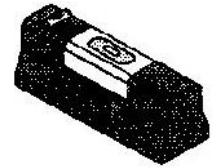


ADJUSTMENT FOR PARALLELISM

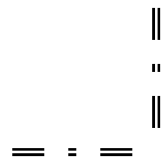
Check parallelism of the rolls before bending with a round bar.



Note: After placing the machine make sure all areas of the machine is flat and check parallelism of the machine periodically with a machine level .



MACHINERY



ELECTRICAL CONNECTIONS



Warning :

All electrical connections must be performed and completed by a qualified electric technician in order to minimize chance of personnel injury or damage caused by wrong connection.

The cable must be directly connected to the machine. No intermediates should be used. The following pages contain the necessary diagram of electrical connections. Double-check the grounding for a safe operation. (look at electricity plan)

ROTATION OF MOTOR

After all the electrics have been completed, start the machine as below and check the rotationally axis of the motor.

- Main Switch to Pos 1
- Key Switch to Pos 1
- Push start button
- Push the foot pedal
- Check the rotation direction of the rolls.

If necessary reverse connect the electrics by qualified electric technician to achieve right rotation direction.

INSTALLATION FIGURE

Connection of the mobile operation control panel plug to the machine;



START-UP INSTRUCTIONS

1. Materials and Products

The machine is mainly steel and it is not designed for handling inflammable or detrimental products. It is duty of the customer to check if the processed materials respond to these requirements. Also, it is duty of the customer to check if the processed materials can be dangerous for the operator working nearby.

When selecting the most appropriate operation material you should keep in mind those instructions:

- Material must be clean out of oil and dry (without oil).
- Material diameter must be regular with advised instructions.
- Hardness value must always be same thorough the material.
So, we recommend you to buy certificated steel.
- Parts to be bended should have smooth surface to fulfill the procession correctly and easily.



Note: The thorough cleaning of the rolls is absolutely necessary in order to avoid possible sliding of the profile due to grease residues on the rolls.

2. Electrical Connection

Have a qualified electrician connect the machine to the electric supply. In some cases inverse electrical connection causes the motor burn out. To avoid such an undesirable event, after having connect the machine see that the motor turns to the direction shown by arrow when activated. Or you can check to see if the rolls are rotating to the same direction of the pedals. That is, if the right pedal is pushed, the rolls should rotate right and if the left pedal is pushed, the rolls should rotate left. If the machine does not comply then inverse the electric cables.

3. Electric Box

The IRM model's electric box includes very important controls of the machine and is also connected to the below shown foot pedals. The keys on the electric box are shown and explained here:

1. Main switch
2. Start indicator and push button
3. Stop indicator and push button
4. Electric on

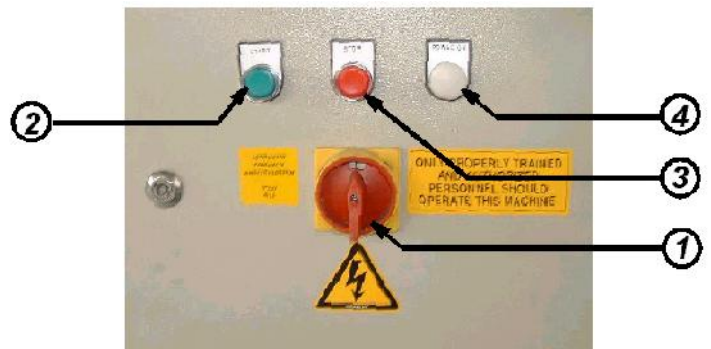


Figure 1



Attention: Do not open electric box except for maintenance or adjustment.



Warning: It is suggested to protect the main electric line from possible overloads by means of safety switches.

4. Standard Foot Pedal

The standard foot pedal is equipped with an “emergency stop button” which instantly stops all the machine activity by disabling the electric supply until released.



5. Starting The Machine

Following steps will help you start the machine and get ready for the bending operation. See the sections identifying the necessary switches and buttons.

- Make sure the electrical connection is correct
- Turn on the “main switch”
- You will see electric on “indicator”
- Push “start button”
- Use the “foot pedals” to rotate the rolls
- Make bending
- Use the “emergency button” on “foot pedal” to stop the machine
- Turn off the “main switch”

6. Basic Operation Terms

The IRM models has two rolls powered. The all rolls are driven by a motor and a gear system. Top roll is fixed. Therefore, bending operation is simple and smooth however requires experience for efficient working.

Following recommendations will be helpful during operation:

- It is recommended that the user have basic bending information with this kind of machines.
- Making a tight bend in one pass is not possible. So you need several passes before you can achieve a certain radius. Tighter curves and full radius always need more passes.
- During operation never wear garments with loose parts, which may be dragged by the machine parts, long loose hair, necklaces, rings etc.
- Use emergency button in case of any emergency.

OPERATING INSTRUCTIONS (OPTIONAL/BACK ROLL MOTORIZED AND DIGITAL)

First Start-Up

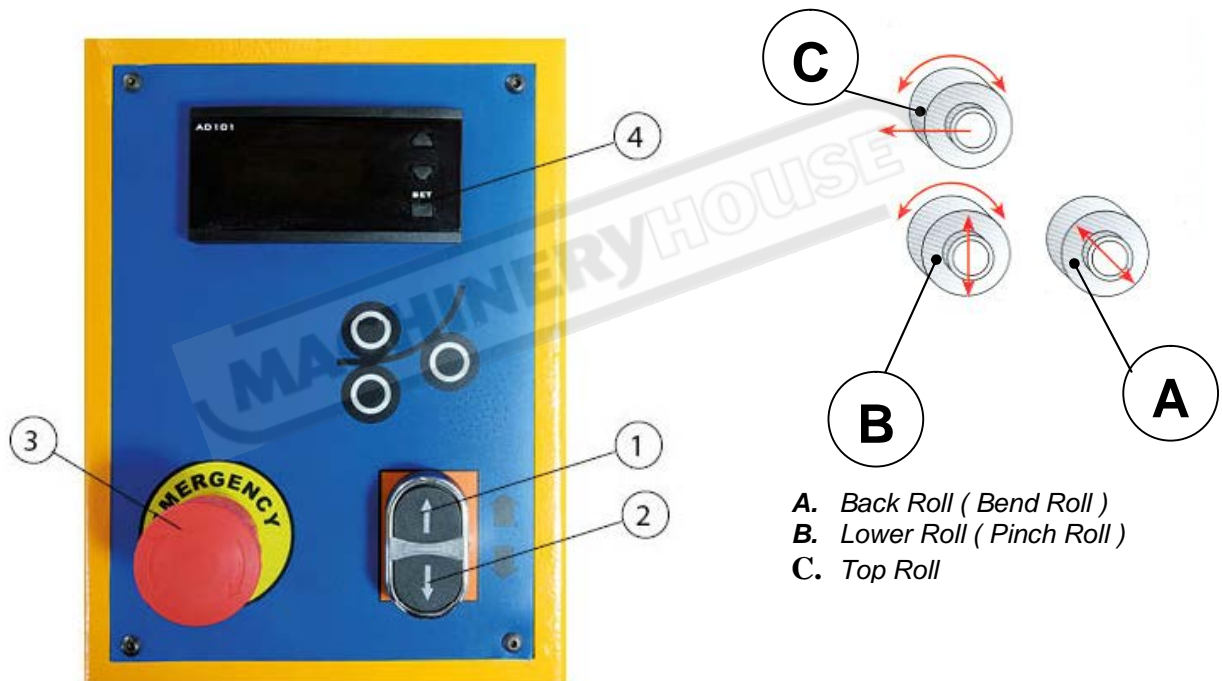
- When you see the Power On Indicator press the Start Button. The motor should start up and after a few seconds you should hear the machine running
- Test the movements of the machine by pressing rotation and up-down buttons

Normal Operation

Before starting to operate the machine, you must read and understand the electric panel's explanation.

A diagram of the Operator's Panel is given below;

1. Back roll – Up
2. Back roll – Down
3. Emergency stop
4. Digital display (optional)



SAFETY DIRECTIVES

The ISITAN LTD.ŞTİ. three-roll plate bending machine is supplied with necessary guards to protect from injuries by worm-type gearbox and other gears. The only other area which needs to be carefully monitored during use is the rotational area of the rolls.

Also abuses and misuses risk the following:

- Serious injury of the user
- Serious damage to the machine

All persons who are in the machine should carefully read and fully understand this manual for their own benefit.

This is for your safety !

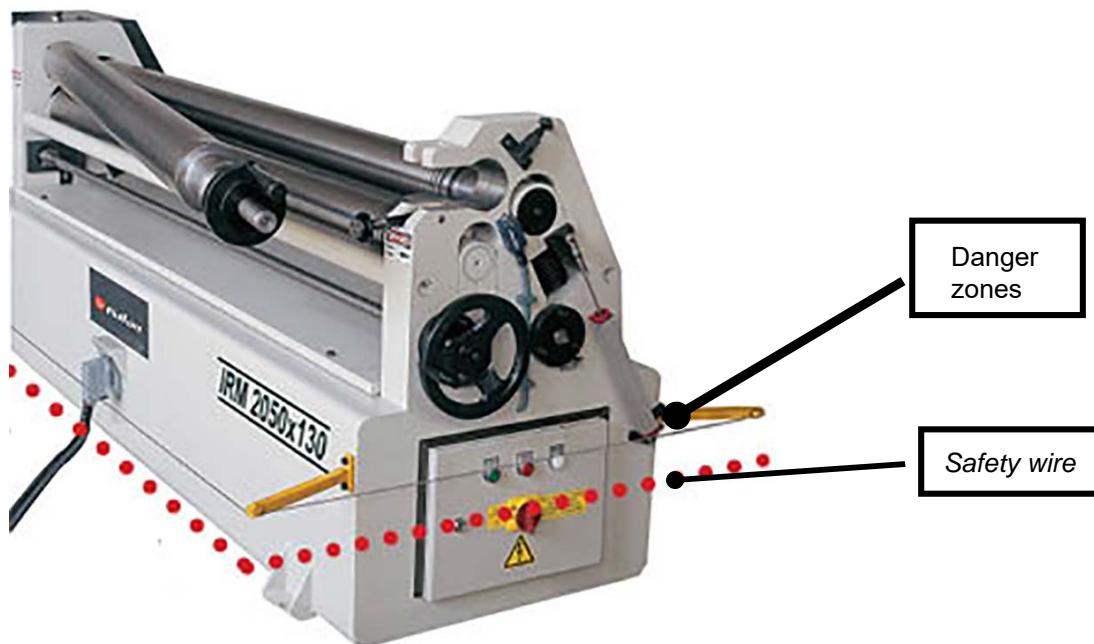


Attention:

- Never try to bend very hard or fragile material on the machine (e.g. hard steel, glass)
- Any modification on the machine without written confirmation from the manufacturer is strictly forbidden as such changes in the machine can cause unintended damages and injuries.
- All orders and advises in this machine should be strictly obeyed for a safe working environment.

DANGER ZONES

The below shown danger zones must be kept clear during operation



NOISE: The noise of the machine is about <70 dB.

EXPLANATION FOR OPERATOR

Operator under age of 16 years to operate the machine is strictly forbidden (EC-Directive). The operator of the machine should carefully read this manual and understand the danger he might be in if he misuses or abuses the machine. If any part of this manual is unreadable or illegible please contact to the dealer and manufacturer

The owner of the machine should be responsible for operating the machine with qualified personnel.

PERSONAL PROTECTION

Gloves and safety glasses and safety cap are recommended during operator.



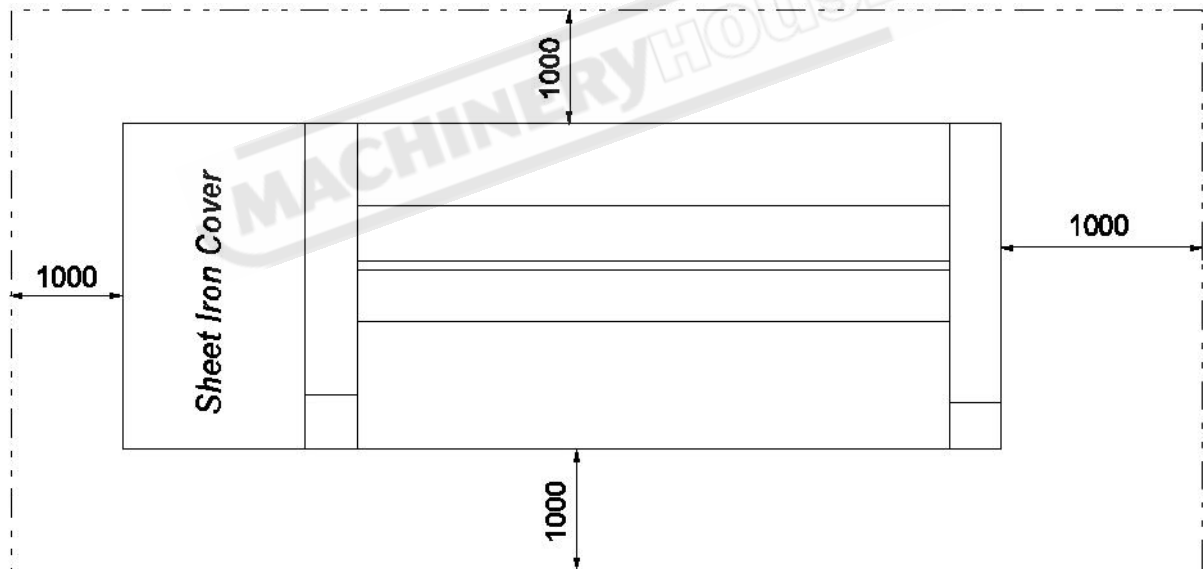
Attention:

- No material should be fed if the machine is running.
- All emergency stop must be easily accessible.
- The user must be careful for third persons entering the operation area of the machine.



Note : If any labels are lost or unreadable contact the manufacturer for new supplies.

WORKING AREA OF THE MACHINE



Attention: Before the first use of the machine always check this list carefully for a safe start.

1. Check the emergency stop button on the command panel
2. Make sure that the security wire around the machine is free
3. Check for visible oil leak
4. Control of the buttons on the command panel



SAFETY AND ACCIDENT PREVENTION INSTRUCTIONS

General Safety Instructions

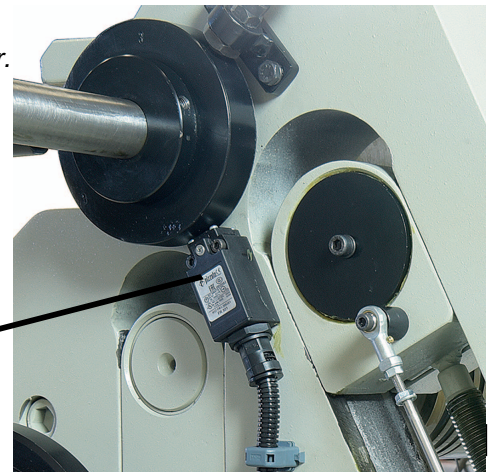
Following instructions are meant for the operator of the machine and it is the End-User's responsibility to make sure the operator reads and understands the following and the User's Manual for safe operation.

- Read the User's manual before operating the machine.
- Never touch rotating or moving parts.
- Always inform electric faults to electric technicians.
- Keep your working dress or long hair or necklace etc away from rotating parts.
- Make sure you know the position of Emergency Stop Buttons on the machine.
- Switch off the machine when **NOT** working.
- Work with necessary safety clothes if necessary (safety shoes, glasses , earplugs etc).
- Control the Safety features before working and ensure they are working properly.
- See and understand Safety Labels on the machine.
- Perform periodic maintenance.
- **DO NOT** overload the machine.
- If you see abnormal behavior of the machine, stop the machine and inform your supervisor immediately.
- Be careful of other people around the machine during operation.
- Never modify electric unit.
- Never remove any mechanic or electronic safety features from the machine.
- Be extremely careful during transport or re-placement of the machine and follow transport instructions in the manual to safety handle the machine.

MOTORIZED TOP ROLL SAFETY SWITCH (OPTIONAL)

The motorized top roll has a safety switch shown as side
When the roll is at its lowest point the switch will stop the motor.

Safety
Switch



EXPLANATION FOR SAFETY SWITCH

The machine has been equipped with a security switch and wire for the operators safety. When the safety wire is pushed it pulls the below shown ring, this acts as an emergency stop and stops all machine activity.

To restart, pull the blue knob (shown by ① in fig.1) while pulling the safety wire when engaged. You should see green (shown by ② in fig.2) line under the blue knob. Now you can restart the machine from the control panel.

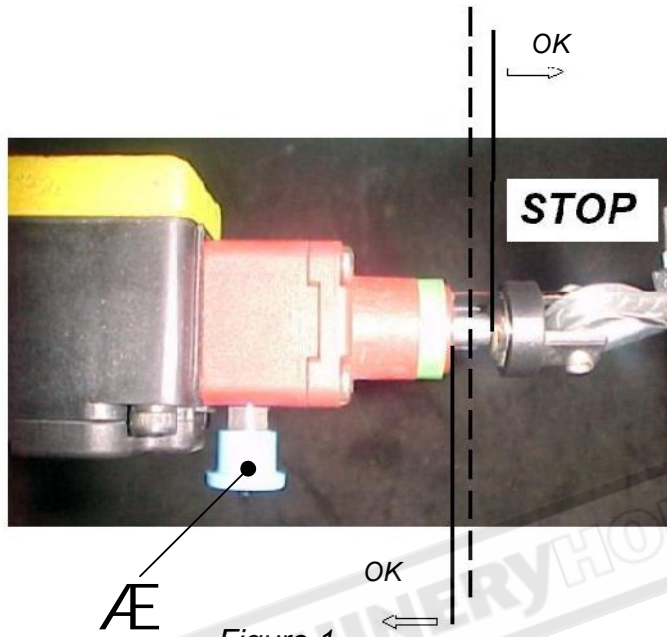
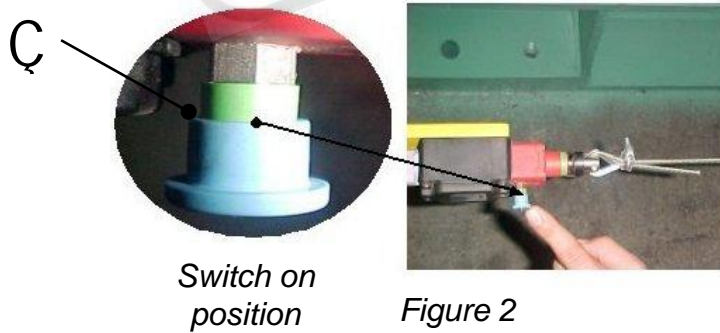


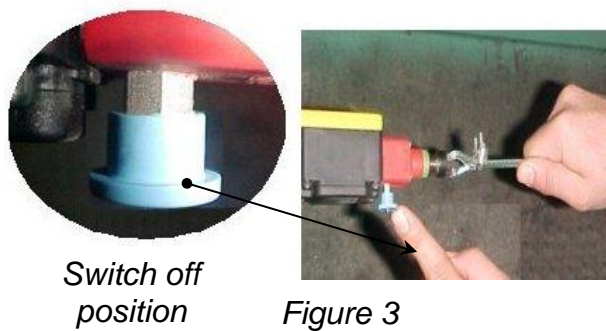
Figure 1

Safety switch's on and off positions as given below.



Switch on position

Figure 2



Switch off position

Figure 3



The safety wire comes unassembled for packing reasons and must be assembled by the customer as shown above to completely surround the machine.

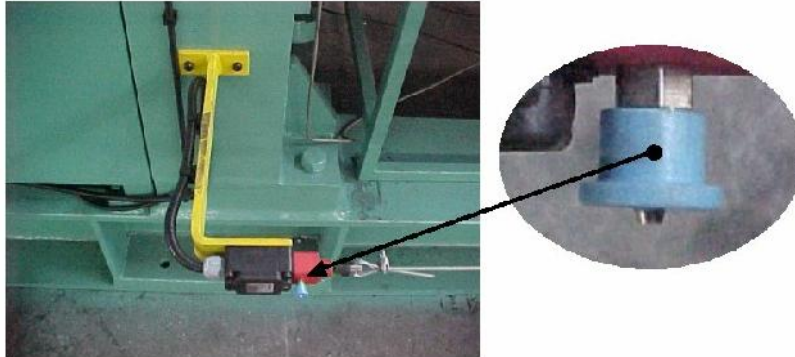


Figure 4



Attention:

The safety wire is an important safety measure and must never be removed while the machine is setup. It should be only removed for transport purposes.

While assembling it is important to fit the wire to the safety switch lock securely as shown below.

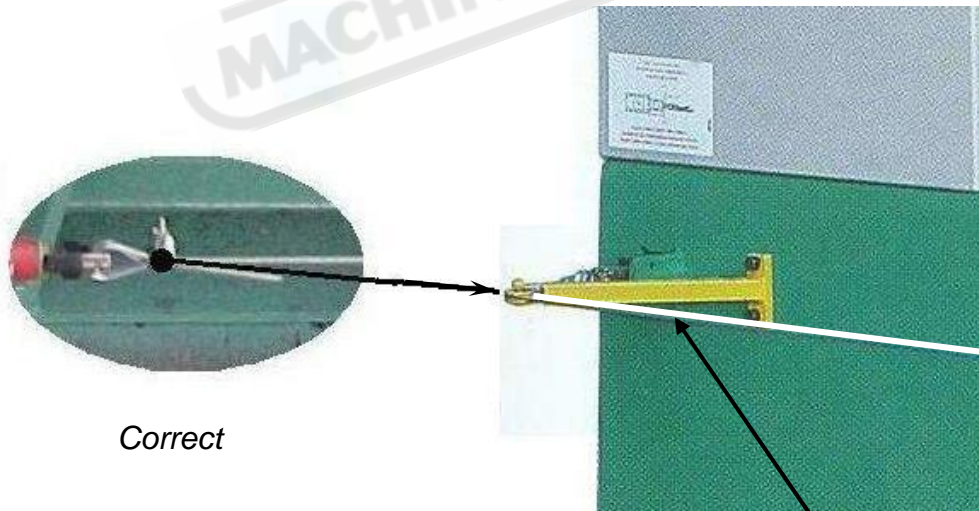


Figure 5

Safety wire around the machine



BENDING OPERATIONS

3 ROLL BENDING PRINCIPLES

Bending must be done by qualified personnel who have experience on such machines. Each step of the bending and pre-bending or conical bending must be done very carefully. Remember that you can always make the radius tighter by bending a little more but once you bend it too much there is no way of turning back.



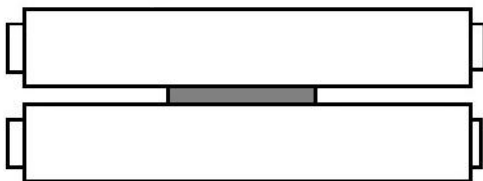
Note: Before operating the machine, be sure that this manual is thoroughly read and understood by the personnel who will directly operate the machine and others concerned with it.

PRE-BENDING OPERATION

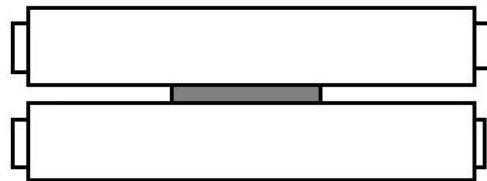
Pre-bending is the operation where the edges of the material is bent to the same radius of the end radius. This is used to get best results in full circle bending (i.e. pipe making)or in operations where there must not be any flat edges.

Before operation:

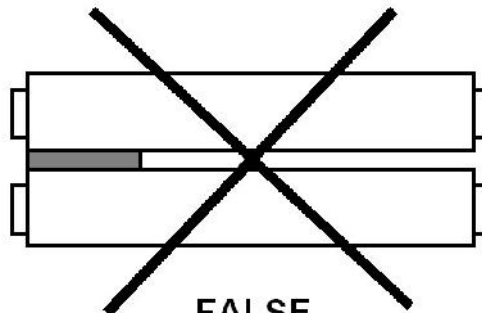
1. Clean the material and the rolls from dust, or grease
2. Make sure there are no chips or flame cutting left-over on the edges of the material
3. Keep in mind that if the material is cut by flame that side will be harder than the other side
4. Check the surface of the material carefully make sure its flat
5. It's a good idea to have template of the required radius when making a bend. To make a template cut a hard cardboard or carton piece with the necessary radius
6. Always work in the center of the rolls as shown below.



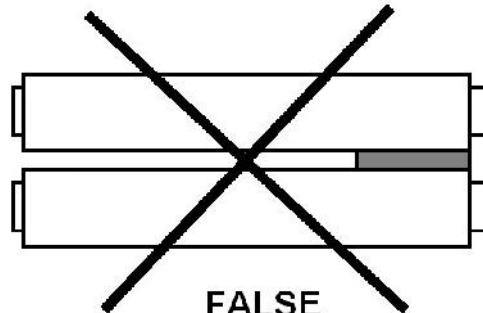
TRUE



TRUE



FALSE



FALSE

Sheet Bending Position

Figure 1

Top roll and lower roll in a flat position.

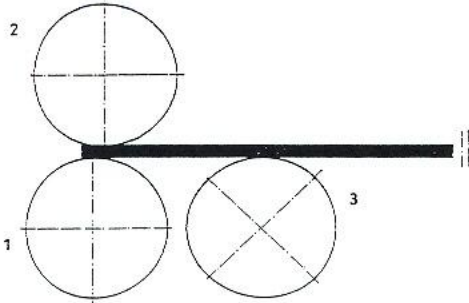


Figure 1

Figure 2

Move the back roll up to complete the pre-bending.

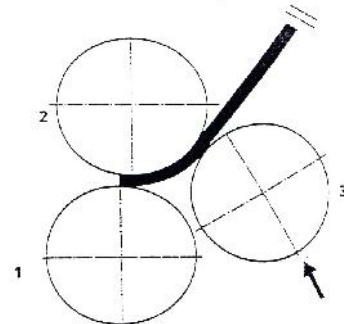


Figure 2

Figure 3

Reverse the sheet and place for second pre-bending.

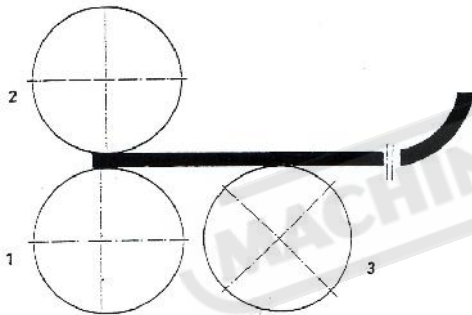


Figure 3

Figure 4

Move the back roll up to complete Pre-bending.

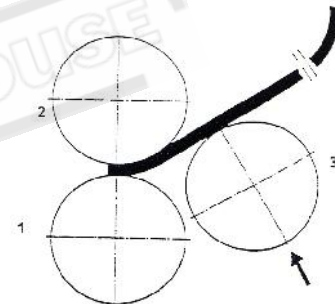


Figure 4

Figure 5

Roll until required diameter is achieved.

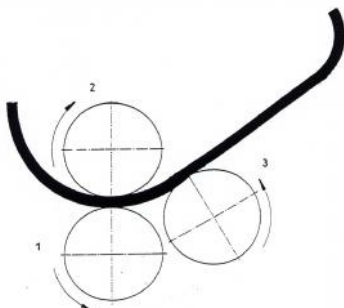


Figure 5

Figure 6

Finish operation shown as below.

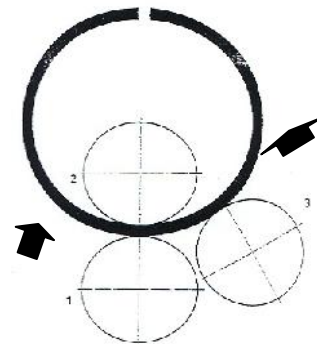


Figure 6



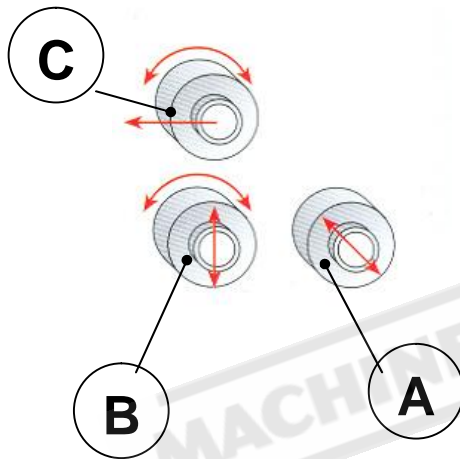
Note: That the material will progressively harden with each pass.



Note: If you are working with stainless steel it is important to finish the job in a few passes. Because stainless steel is a work hardening material.



Attention : Be sure to clean any oil or grease on the rolls before operation.



- A. Back Roll (Bend Roll)
- B. Lower Roll (Pinch Roll)
- C. Top Roll



CONICAL BENDING

Conical bending is more difficult than normal bending. So machine capacity must be reduced to %30 - %50 to determine conical bending capacity of the machine. Also machine must be prepared for conical bending operation as shown.



Figure-1

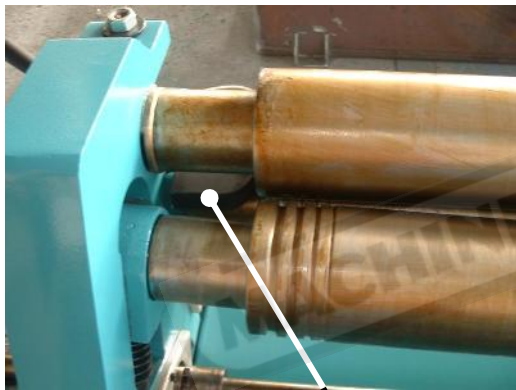


Figure-3
(View from Back Roll)

Conical bending Device



Figure-2



Note: When bending conical the overall max. thickness capacity decreases by 30 - 50 %

Figure -1

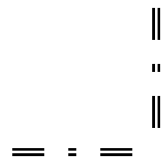
Move both lower roll and back roll to the lowest position as shown above

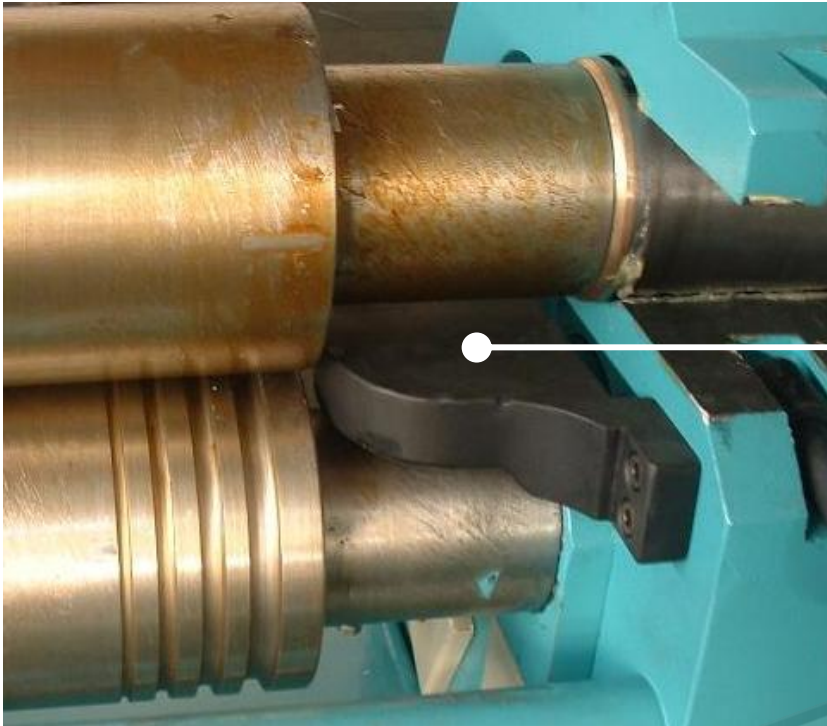
Figure-2

Remove couplings by a hand tool on the drop end side so that only that side of the rolls will move when you use the handwheels

Figure-3

When you move the handwheels the rolls will move only in one side so that you can make conical bending. You can now put the material by the conical bending device and start bending





Conical Bending Device

Conical Bending Device as shown above has been designed and hardened for supporting the part of the plate held against it during the conical bending operation.

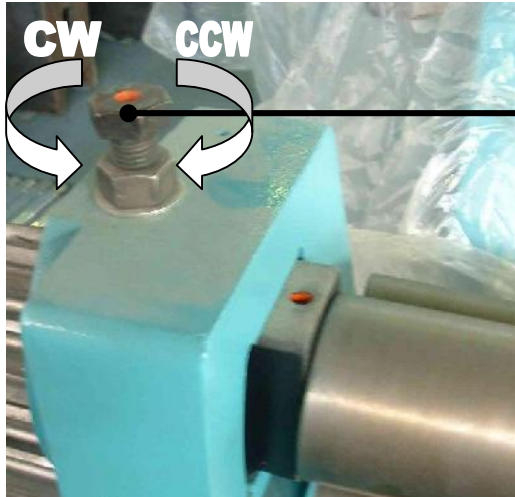
Normal Bending after Conical Bending

You must adjust the rolls back to parallel position after working conical. To do this simply :

- 1- Move the drop end side rolls to the lowest position by the handwheels.
- 2- Connect the couplings on Figure-2 above
- 3- The machine should be parallel to work normal bending

Counter Balance System ;

There is a counter balance bolt located on top of the top roll bushing. This is to prevent the top roll from inclining down too much, when opened.



Balance bolt

- Tighten CW to counter more.
- Loosen CCW to decrease counter force.



OPENING THE TOP ROLL



Mechanical
Lock

Figure – 1



Figure – 2



Safety
Microswitch

Figure – 3

Opening the top roll is easy and safe. Once the top roll is open the machine will not function. There is a safety microswitch (Figure – 3) that prevents the machine from operating while the top roll is open.

1. Release the mechanical lock to move the handle on top roll (Figure – 1)
2. Move the handle as far as you can and see that the roll can move in the housing (Figure – 2)
3. Pull the top roll out (Figure – 3)
4. Reverse above steps to close the top roll and make sure the mechanical lock is secure.



Warning:

Do **NOT** modify this safety device. **NEVER** operate any function of the machine while the top roll is open.

MAINTENANCE

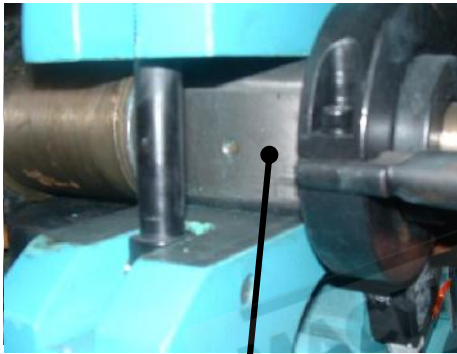
PERIODIC CONTROLS

The rolls of the machine must **NEVER** be greased or lubricated. Because, then the rolls will slip the material and will not bend. Always keep the rolls clean and free from grease or any lubricant. Also make sure that the material is free from grease and dirt.

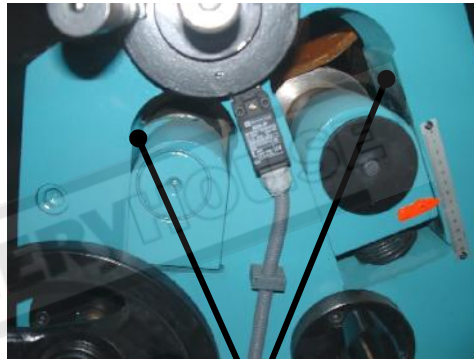
These points must be greased periodically at least once a month or more if daily usage exceeds 8 hours a day. Note that some of these points are actually inside the machine cover and the front cover must be removed in order to reach them. Any standard commercial grease can be used for lubrication.

NUMBER	PERIOD	WHAT TO DO
1- Moving Parts	Once a month	Oil
2- Housing and Gearbox	Twice a year	Grease

The reduction gearbox of the machine is inside the front cover and is maintenance free. Only you should control it periodically and tighten the bolts fixing it to motor and to the frame, if necessary.

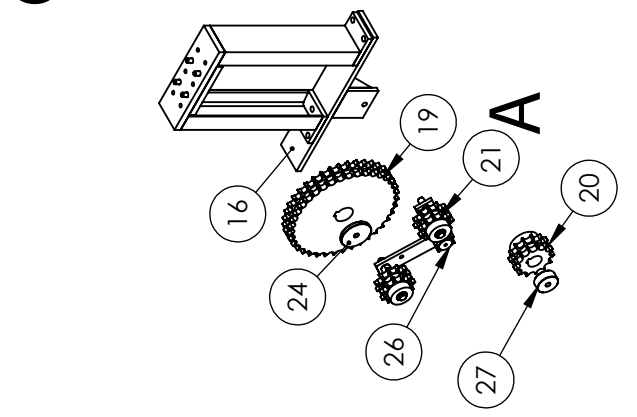
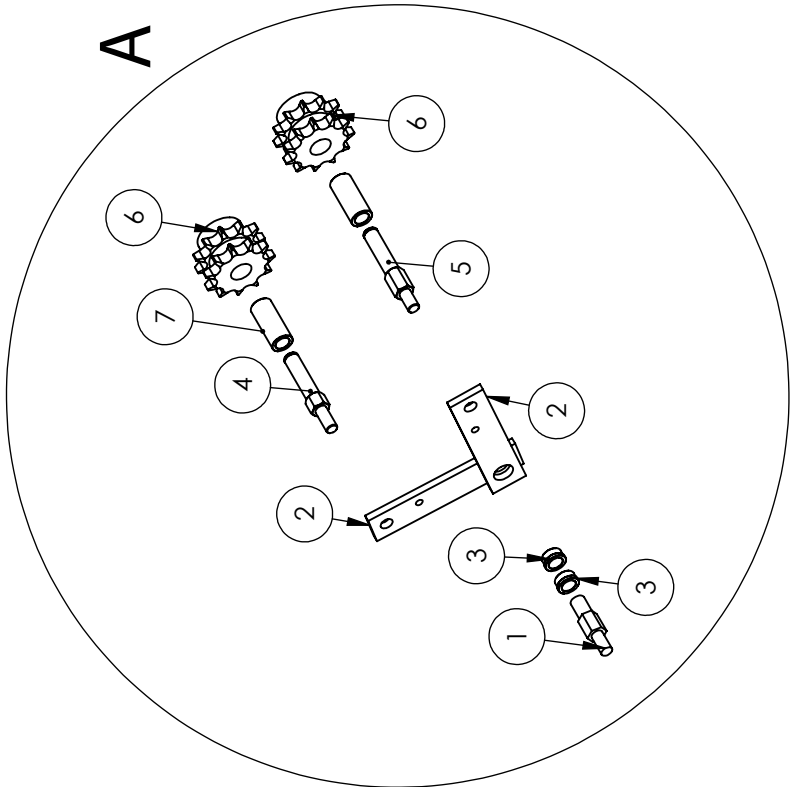
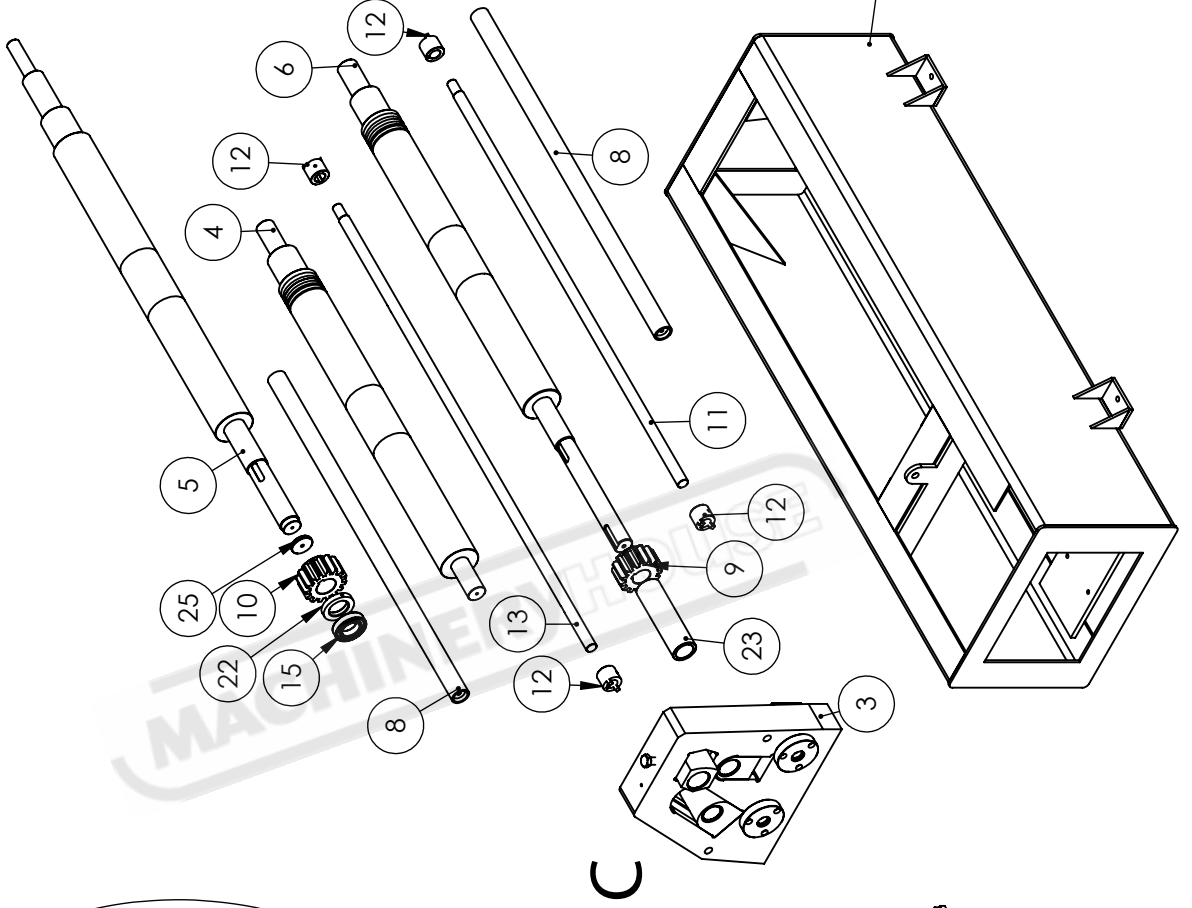
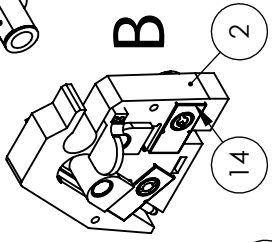
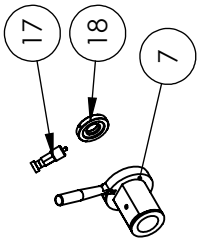


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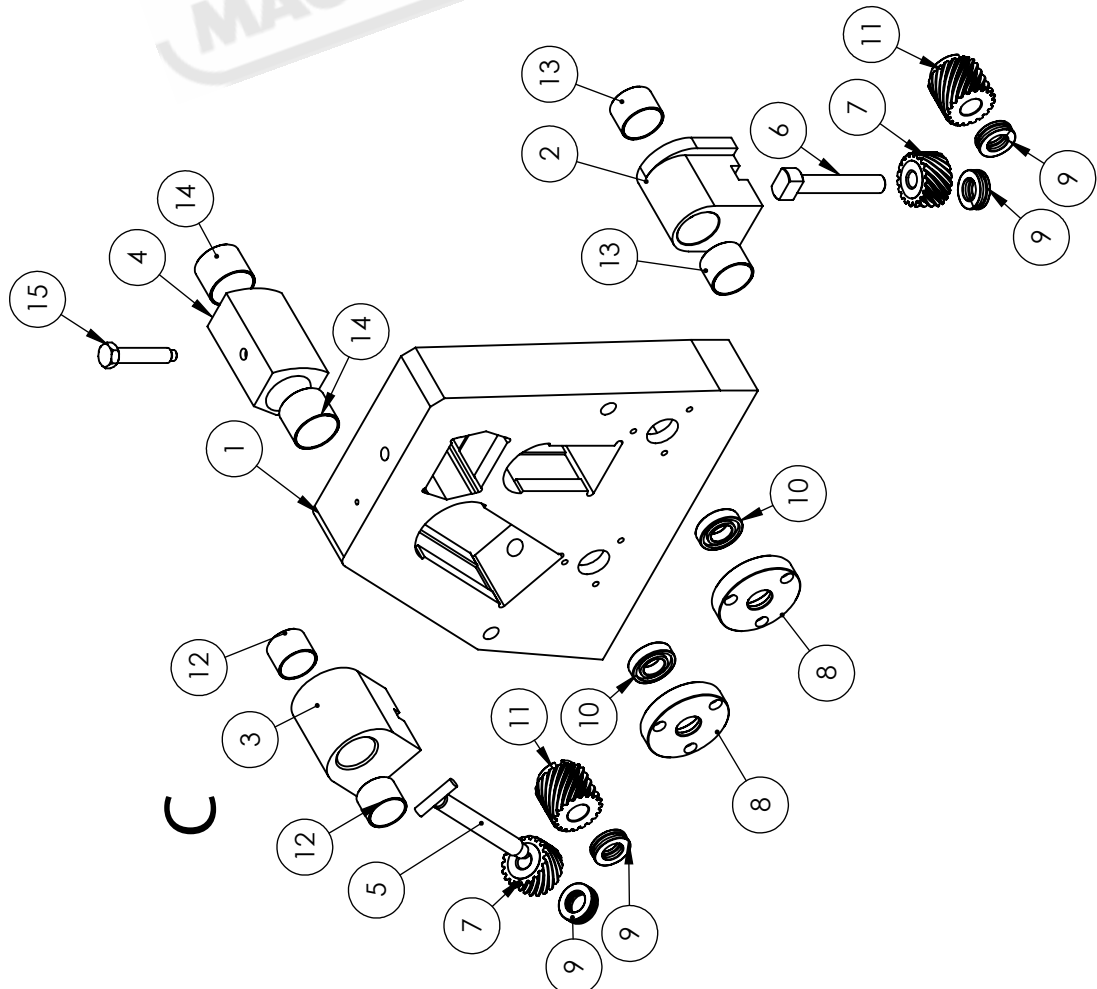
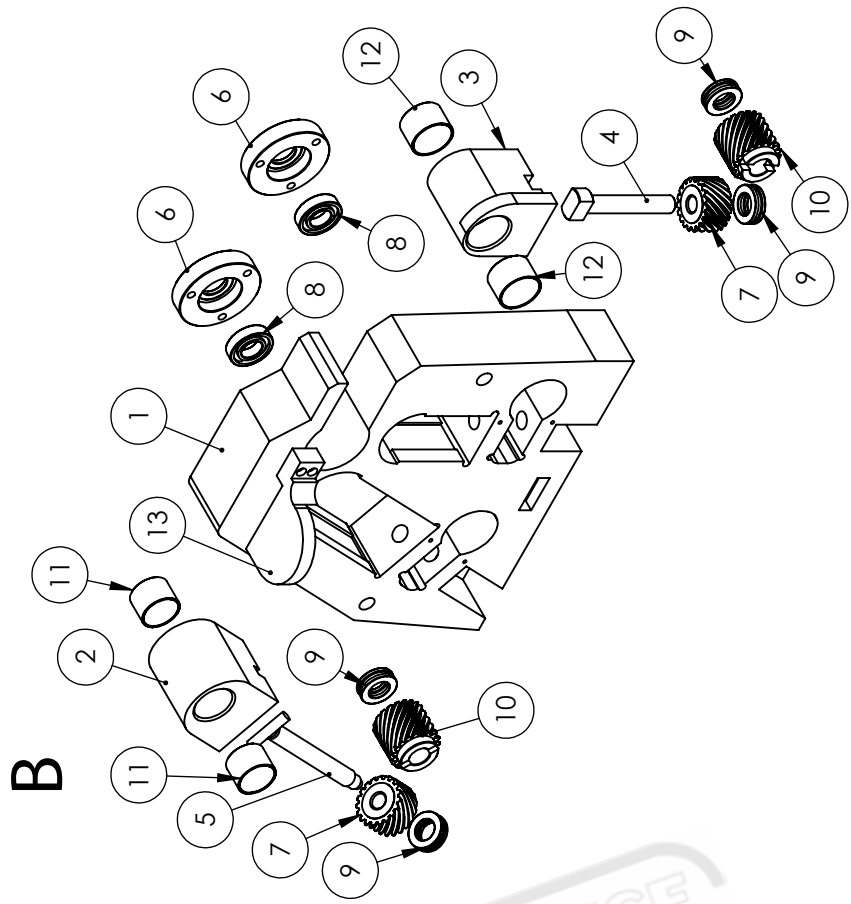


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Main Montage List / Ana Montaj Listesi			Tension Group / Gerdirme Grubu (A)		
Part No:	Description	Tanım	Part No:	Description	Tanım
1	Chasis	Şase	1	Gear Rod	Gerdirme Dişli Mili
2	Open-Side Group	Açık Ayak Grubu	2	Tension Lever	Zincir Gerdirme Kolu
3	Motor-Side Group	Kapalı Ayak Grubu	3	Bushing	Burç
4	Lateral Roll	Yan Mil	4	Tension Rod – Short	Gerdirme Dişli Mili - Kısa
5	Top Roll	Üst Mil	5	Tension Rod – Long	Gerdirme Dişli Mili - Uzun
6	Bottom Roll	Alt Mil	6	Chain Gear	Gerdirme Dişlisi
7	Top Roll Drop End	Üst Mil Eksantrığı	7	Chain Gear Bushing	Gerdirme Dişli Burcu
8	Torsion Bar	Ara Bağlantı			
9	Bottom Roll Drive Gear	Alt Mil Tahrik Dişlisi			
10	Top Roll Drive Gear	Üst Mil Tahrik Dişlisi			
11	Bottom Roll Lift Bar	Alt Top Kaldırma Mili			
12	Bottom Roll Lift Bar Coupling	Kavrama			
13	Lateral Roll Lifting Rod	Arka Top Kaldırma Mili			
14	Helical Gear Cap	Helis Dişli Kapağı			
15	Bearing	Rulman			
16	Support Group	Dayama Alt Grubu			
17	Lock	Kilit			
18	Drop-End Bushing	Üst Mil Eksantrik Bileziği			
19	Bottom Roll Chain Gear	Alt Mil Zincir Dişli			
20	Motor Chain Gear	Motor Dişlisi			
21	Chain Tension Group (A)	Gerdirme Grubu (A)			
22	Chain Gear Bushing	Dişli Bileziği			
23	Bottom Roll Housing Tube	Alt Mil Ara Borusu			
24	Bottom Roll Chain Gear Cap	Alt Mil Dişli Kapağı			
25	Top Roll Bearing Cap	Üst Mil Rulman Kapağı			
26	Tension Gear Washer	Gerdirme Dişli Pulu			
27	Motor Gear Washer	Motor Dişlisi Pulu			



Motor-Side Frame List (C)

Part No :	Description	Tanım
1	Motor – Side Frame	Kapalı Ayak
2	Bottom Roll Housing	Alt Mil Yatağı
3	Back Roll Housing	Arka Mil Yatağı
4	Top Roll Housing	Üst Mil Yatağı
5	Back Roll Lead Screw	Arka Top Vidalı Mili
6	Bottom Roll Lead Screw	Alt Top Vidalı Mili
7	Helical Gear	Helis Dişli
8	Bearing Housing	Rulman Yatağı
9	Bearing – 51206	Rulman - 51206
10	Bearing – 6206	Rulman - 6206
11	Helical Gear – Counter	Helis Dişli - Karşılık
12	50 x 55 x 40 Bushing	50 x 55 x 40 Burç
13	55 x 60 x 40 Bushing	55 x 60 x 40 Burç
14	60 x 65 x 50 Bushing	60 x 65 x 50 Burç

Open-Side Frame List (B)

Part No:	Description	Tanım
1	Open – Side Frame	Açık Ayak
2	Back Roll Housing	Arka Mil Yatağı
3	Bottom Roll Housing	Alt Mil Yatağı
4	Bottom Roll Lead Screw	Alt Top Kaldırma Vidalı Mili
5	Back Roll Lead Screw	Arka Top Kaldırma Vidalı Mili
6	Bearing Housing	Rulman Yatağı
7	Helical Gear	Helis Dişli
8	Bearing – 6206	Rulman - 6206
9	Bearing – 51206	Rulman - 51206
10	Helical Gear – Counter	Helis Dişli - Karşılık
11	50 x 55 x 40 Bushing	50 x 55 x 40 Burç
12	55 x 60 x 40 Bushing	55 x 60 x 40 Burç
13	Conical Bending Device	Konik Dayama Aparatı