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S782

R1270 X 75mm ROLLS

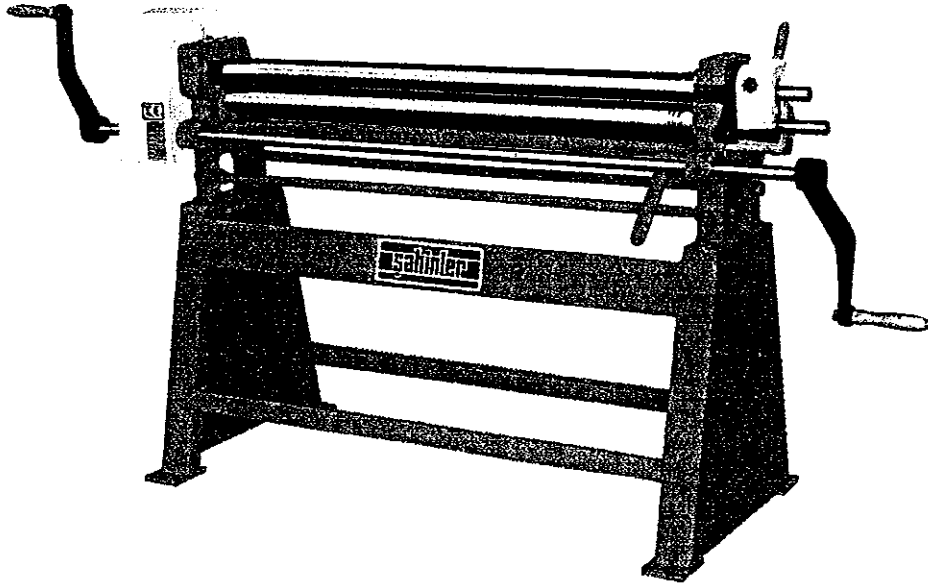
MANUAL

14-01-03



sahinler
METAL MAKİNE ENDÜSTRİ A.Ş.

**USER'S MANUAL
MODEL R
3 ROLLS MANUAL
PLATE BENDING MACHINE**



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ŞAHİNLER
METAL MAKİNE ENDÜSTRİ A.Ş.



CE DECLARATION

We as

ŞAHİNLER METAL MAKİNE END. A.Ş.
İzmir Yolu 22.km
Mümin Gençoğlu Caddesi
Bursa / TÜRKİYE

confirm that the machine

MODEL R 1270 x 75

Serial Number :
Production Year :

complies with

EC MACHINES DIRECTIVE 98 / 37 / EWG / CEE
replaced with **EC-Directives 91 / 368 / EWG and**
93 / 44 / EWG and
93 / 68 / CEE
EC-Low Voltage 73 / 23 / EWG
EC - Noise Level Directives 86 / 188 / EWG

and the machine also harmonized with the standards

DIN EN 60204 Part 1

Name : Orhan ŞAHİN
Position : General Director

BURSA, on

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GENERAL NOTES

1. Introduction

Thank you for choosing a Şahinler Sheet / Metal Working 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 Şahinler Metal Mak. End. A.Ş. 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. 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.

4. 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 Sahinler Technician or the Agent Technician and must be reported to Sahinler 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 Sahinler 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.*

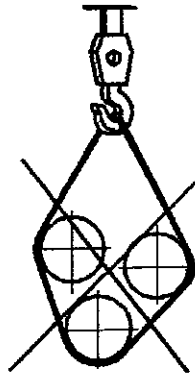
 **Note:** *All warranty claims must be applied with the Model, Serial Number and the Manufacture Year of the machine.*

TRANSPORT AND LIFTING OF THE MACHINE

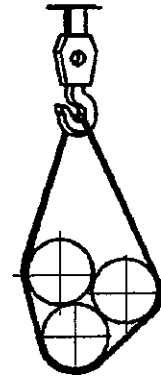
The machine weight is approximately. Use necessary cranes and lift as shown. Please take extra care during lifting and moving. If necessary consult with specialized companies for lifting.

APPROX MACHINE WEIGHT

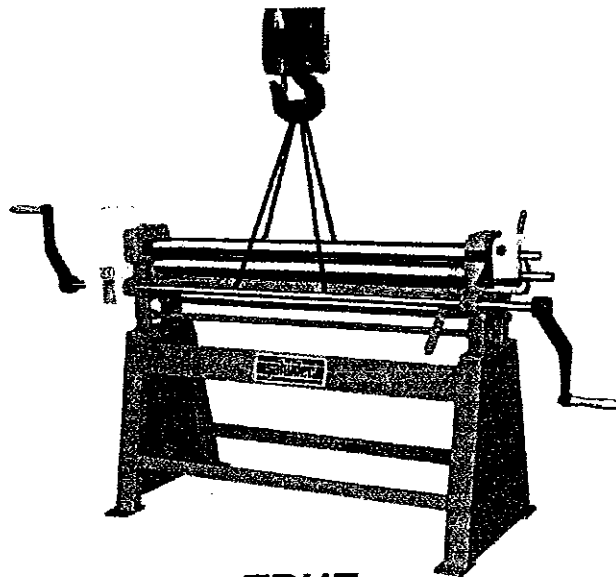
Model	Weight
R 1050x68	325Kg
R 1050x75	350Kg
R 1270x68	340Kg
R 1270x75	370Kg
R 1550x68	360Kg
R 1550x75	395Kg
R 2050x75	470Kg



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 R Model Manual Benders have these specifications:

TECHNICAL SPECIFICATIONS AND STANDARD EQUIPMENTS

- Two rolls powered by a gear system
- SAE 1050 Quality certified steel rolls with high tensile strength
- Cast iron main frame
- Conical bending device
- User manual book
- Built according to EC safety directives (CE – Mark)

MODEL		R1050x68	R1050x75	R1270x68	R1270x75	R1550x68	R1550x75	R2050x75
Bending capacity	mm	1.5	2.0	1.2	1.5	1.0	1.2	1.0
Roll Diameters	∅ mm	68	75	68	75	68	75	75
Dimensions	mm	1930x1160x700	1930x1160x700	2150x1160x700	2150x1160x700	2430x1160x700	2430x1160x700	2930x1160x700
Useful length	mm	1050	1050	1270	1270	1550	1550	2050
Weight	kg	325	350	340	370	360	395	470



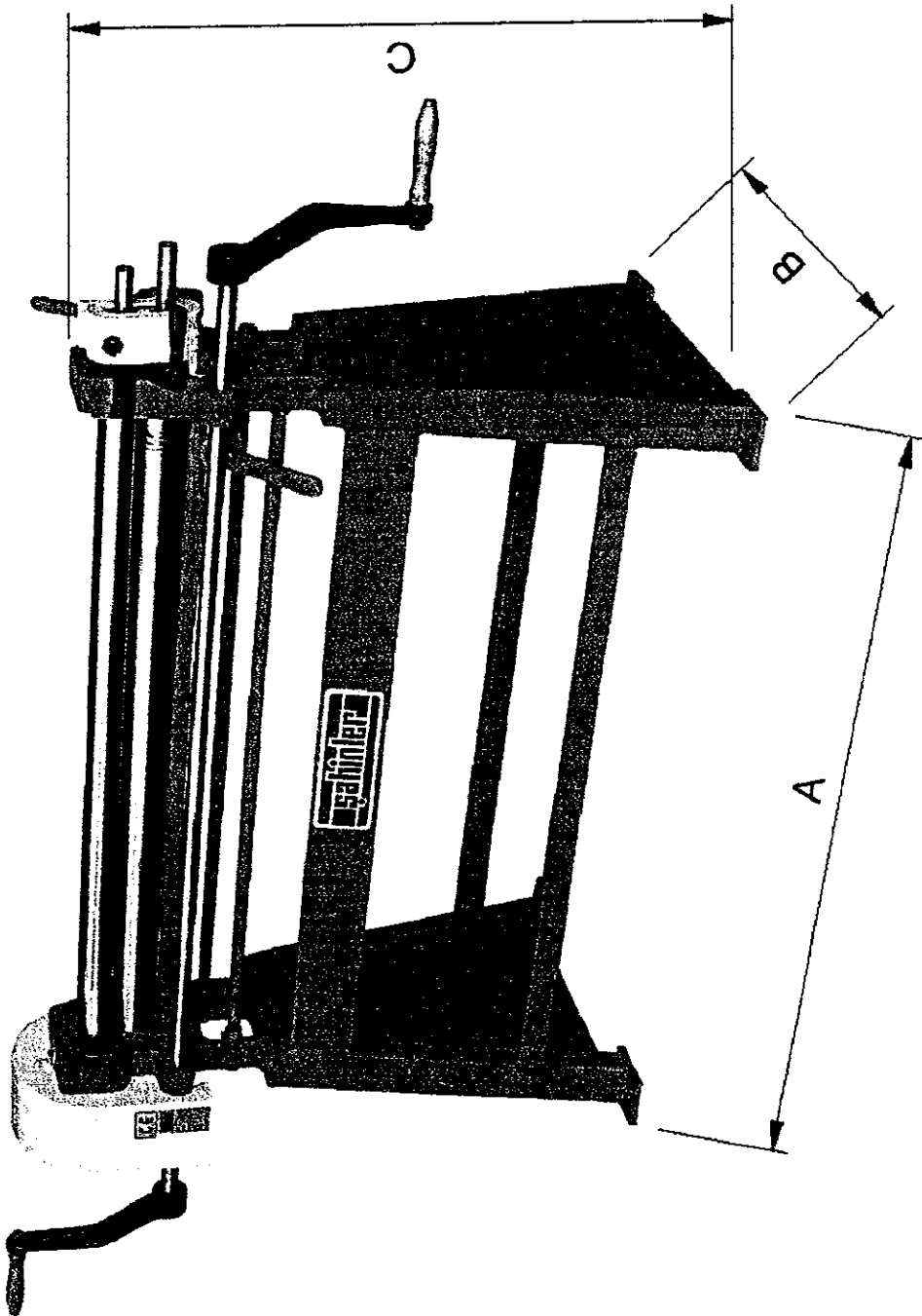
Note : Machine dimensions are approximate

OPTIONAL ACCESSORIES

- Induction hardened rolls



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.



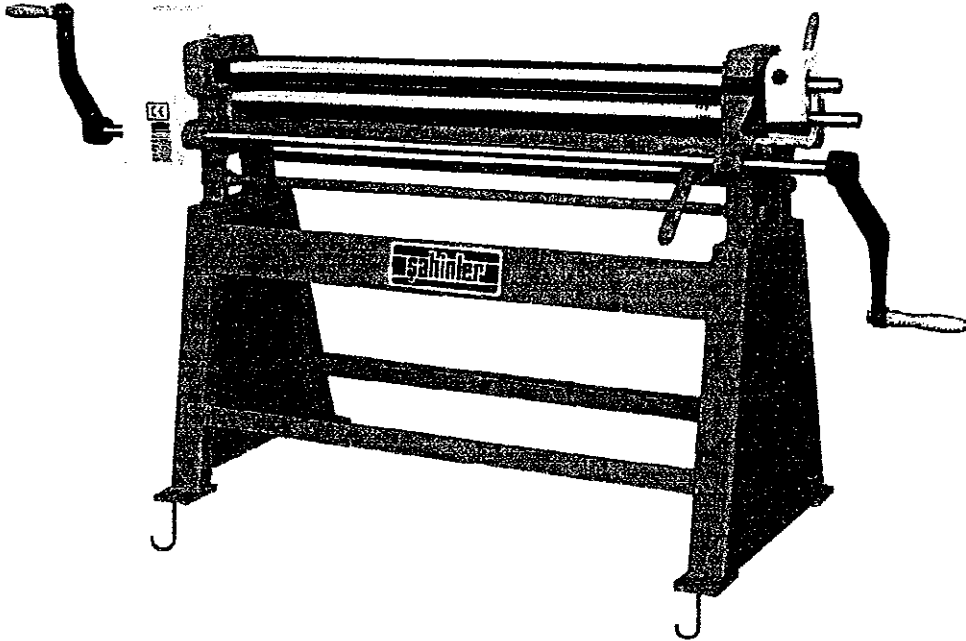
MODEL	A	B	C
R1050x68	1930	700	1160
R1050x75	1930	700	1160
R1270x68	2150	700	1160
R1270x75	2150	700	1160
R1550x68	2430	700	1160
R1550x75	2430	700	1160
R2050x75	2930	700	1160

START-UP INSTRUCTIONS

The machine can be bolted to the ground as shown below. The bolts must be tightly screwed for the machine not to move under strain. Also check these bolts for breaking periodically.

- Please drill the ground about 100mm long
- Please clean the ground
- Replace screws machine body to the ground carefully
- Please check the screws in the ground at every six months.

Foundation Plan



Environment Conditions

While setting up the machine dimension that should be taken as reference are given in the machines working area.

To get a higher working performance and to lengthen the life time of the machine and for the security of the environment and the replacement place take care to these:

- Keep away from, the machines that make dust and sawdust
- Keep away from, the machines that may cause vibration
- Should be replaced on a concrete surface against vibration
- Under necessary conditions it is useful to separate the placing surfaces.

Cleaning Of The Rust Cover

Please clean the every part in the rust cover, and use Nitro or Triklörütflen for cleaner.

Adjustment (set up)

All of machines must adjust goodly and carefully to take smooth working from machine. Machine adjustment must make with water balance equipment.

Sensitive: 0,04mm/m. adjust the machine from main screws or feed the machine adduced sensitive and control the adjustment time after time.

SAFETY DIRECTIVES

The ŞAHİNLER A.Ş. 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 is in of the machine should carefully read and fully understand this manual for the of benefit themselves.

This is for your safety !

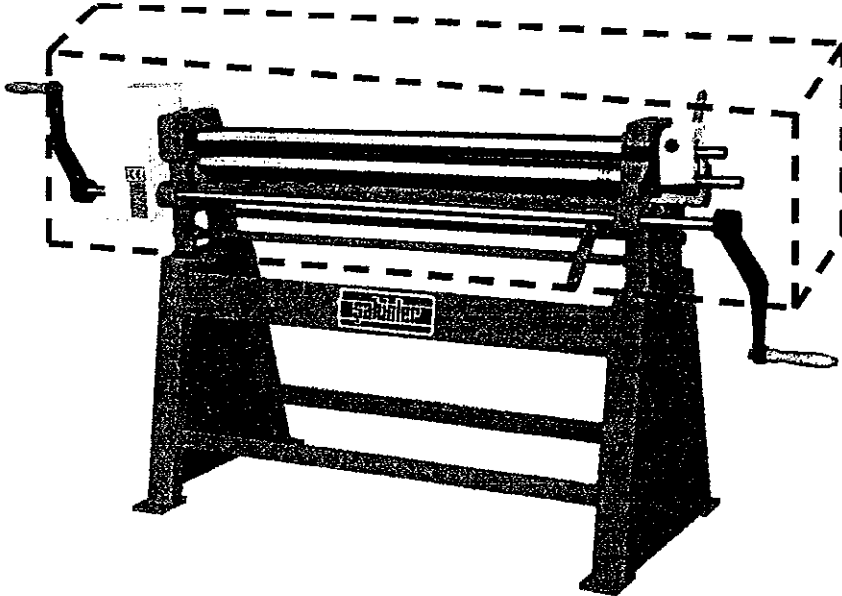


Attention:

- 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



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.



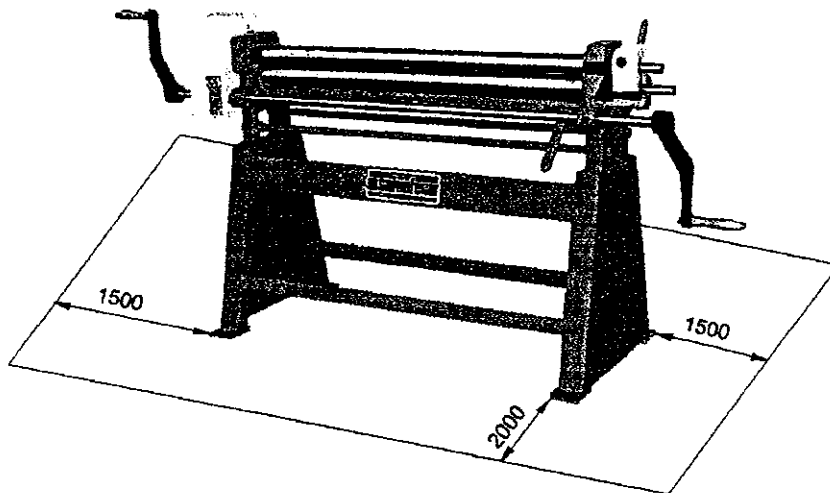
Attention:

- No material should be fed if the machine is running.
- 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



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.
- Keep your working dress or long hair or necklace etc away from rotating parts.
- Work with necessary safety clothes if necessary (safety shoes, glasses , earplugs etc).
- 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.
- Be extremely careful during transport or re-placement of the machine and follow transport instructions in the manual to safety handle 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.



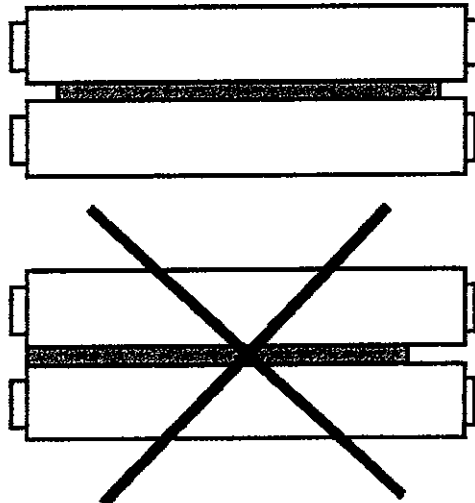
Note: Before operating the machine, be sure that this manual is thoroughly read and understood by the personnel who will directly operate the machine and others concerned with it.

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.



Sheet Bending Position

Figure 1

Top roll and lower roll in a flat position.

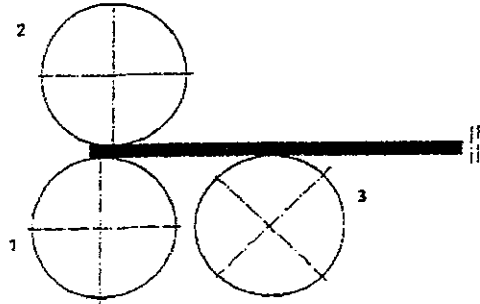


Figure 1

Figure 2

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

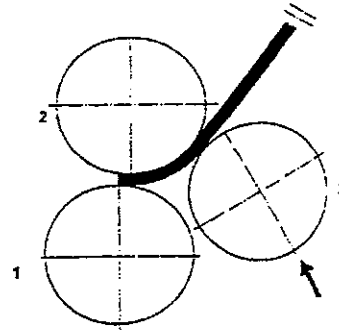


Figure 2

Figure 3

Reverse the sheet and place for second pre-bending.

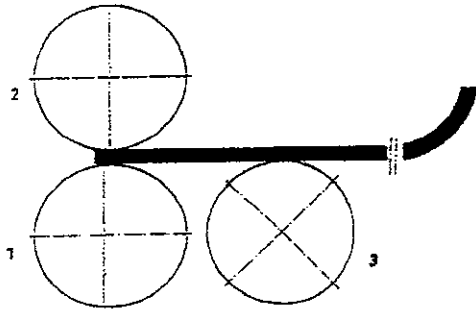


Figure 3

Figure 4

Move the back roll up to complete Pre-bending.

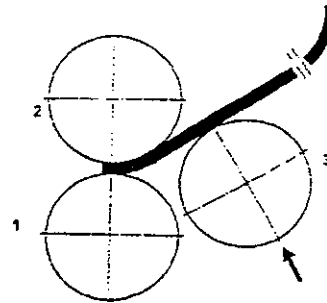


Figure 4

Figure 5

Roll until required diameter is achieved.

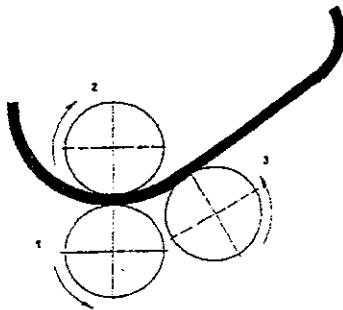


Figure 5

Figure 6

Finish operation shown as below.

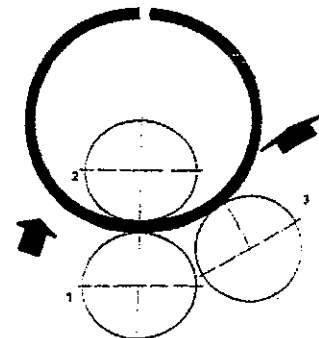
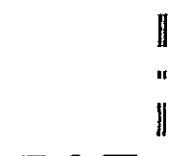


Figure 6

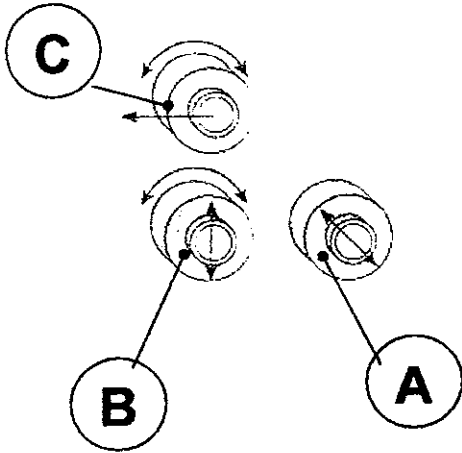




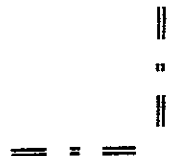
Note: If you are working with stainless steel it is important to finish the job in a few passes. Because stainless steel is a work hardening material.



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



MODEL "R" 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.

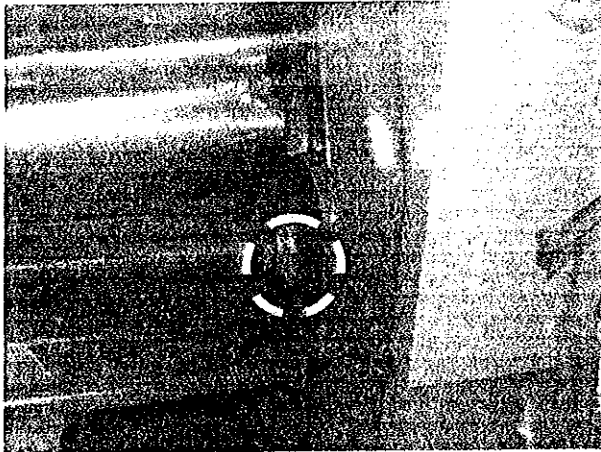


Figure-1
(View from Back Roll)



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

STEP -1

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

STEP-2

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

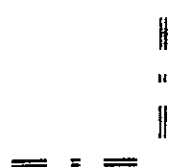
STEP-3

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

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 screw on Figure-1 above
- 3- The machine should be parallel to work normal bending





OPENING THE TOP ROLL

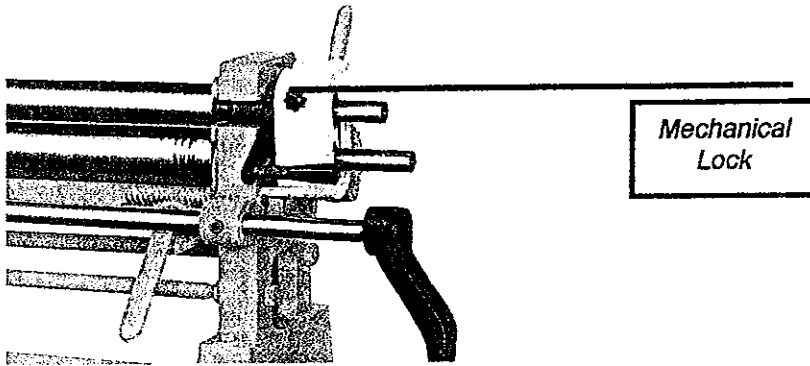


Figure – 1

Opening the top roll is easy and safe.

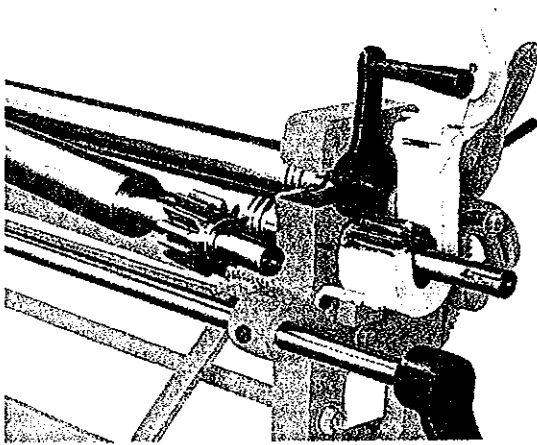


Figure – 2

Once the top roll is open the machine will not function.

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) and Pull the top roll out*
3. *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

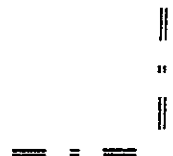
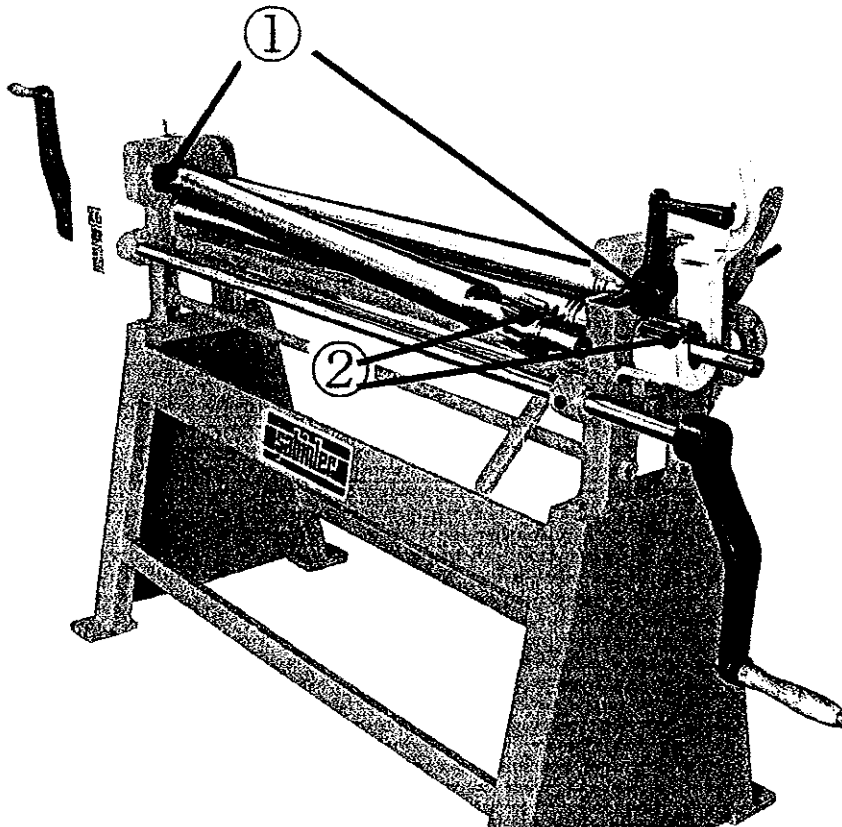
PERIODIC CONTROLS

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- Bushing 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, if necessary.



PARTS LIST

Assembly No	Part Identification	Assembly No	Part Identification
1	Frame leg	29	Bottom Roll Support Arm
2	Support bar	30	Bottom Roll Movement Lever
3	Main frame	31	Bottom Roll Washer
4	Main frame	32	Bottom Roll Lever Bolt M10 x70
5	Top roll	33	Bottom Roll Lever Nut M10
6	Idle roll	34	Bottom Roll Support Arm Washer
7	Bottom roll	35	Bottom Roll Arm Bolt M10x70
8	Bottom roll bushing	36	Idle Roll Movement Shaft
9	Idle roll bushing	37	Idle Roll Movement Bushing
10	Top roll bushing	38	Idle Roll Leverage Pin
11	Bottom roll bushing	39	Pinion
12	Idle roll bushing	40	Rack Bolt M12x60
13	Top roll removal lever	41	Rack
14	Top roll gear	42	Rack Lever
15	Bottom Roll Gear	43	Rack Spring
16	Support gear	44	Idle Roll Lever
17	Support shaft	45	Rack Washer
18	Support shaft Nut (M20)	46	Rack Nut M12
19	Bottom roll leverage pin	47	Conical Bending Bushing
20	Frame To Leg Bolt M12x60	48	Conical Bending Bushing Washer
21	Frame To Leg Nut M12	49	Conical Bending Bushing Bolt M12x40
22	Centering Bolt M 16x70	50	Centering Grescent Pinion Bolt
23	Centering Nut M16	51	Centering Grescent Pinion Bolt M10x25
24	Roll Rotation Shaft	52	Lubrication Point
25	Connecting Pin	53	Roll Rotation Shaft Bolt M10 x40
26	Counter Gear For Support Gear	54	Manuel Power Hand Lever
27	Lever Pin	55	Lever Nut M10
28	Lever		

