MAGENETIC
SHEET METAL BRAKE

★ Model: MSMB650E-R ★



Operator's Manual

MechMaxx

www. mechmaxx.com

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SPECIFICATIONS

MODEL	MSMB650E-R	MSMB1250E-R	MSMB2500E
Power	110V (±5%), 1ph, 60hz, 8A	220V (±5%), 1ph, 60hz, 12A	220V (±5%), 1ph, 60hz, 15A
Max Matrial Width	610mm(24inch)	1220mm(48 inch)	2438mm(96 inch)
Max Capacity of Mild Steel and Aluminum	16. gauge mild steel	16. gauge mild steel	18. gauge mild steel
Max Capacity of Stainless Steel	20. gauge stainless steel	20. gauge stainless steel	21. gauge stainless steel
Duty Cycle	30%	30%	30%
Rotation Angle	180°	180°	180°
Clamping Force	3 Tonne	6 Tonne	12 Tonne
Overall Assembled Dimensions (L x W x H)	27.17" × 37.01" × 35.43" (690*940*900mm)	51.97"×37.80"× 35.43" (1320*960*900mm)	101.97" ×36.22"× 35.43" (2590*920*900mm)
Shiping Dimensions (L x W x H)	33.46" × 15.75" × 16.54" (850*400*420mm)	57.09"× 15.75"× 17.72" (1450*400*450mm)	106.30"× 15.75"×17.72" (2700*400*450mm)
Shipping Weight	189.6 lbs(86kg)	385.8 lbs(175kg)	551.2 lbs(250kg)
Foot Pedal	Included	Included	Included

INTRODUCTION

Your new Magenetic Sheet Metal Brake is designed to exceed your expectations. Manufactured under stringent quality standards, it meets superior performance criteria. You will find it easy and safe to operate, and with proper care, it will provide many years of reliable service.

If you encounter any issues, please refer to the manual for guidance. If a solution cannot be found, contact us for assistance. Be sure to have the machine's serial number and production year (located on the nameplate) ready. For replacement parts, refer to the assembly numbers provided in the parts list drawings.

For more information, visit our website:
www.mechmaxx.com

WARNING

This manual contains essential safety guidelines for the proper setup, operation, maintenance, and servicing of this machine/equipment. Failure to read, understand, and follow the instructions may result in serious injury, including amputation, electrocution, or even death.

The owner is fully responsible for the safe use of this machine/equipment. This includes, but is not limited to, ensuring proper installation in a secure environment, training and authorizing personnel, conducting regular inspections and maintenance, ensuring the manual is accessible and understood, utilizing safety devices, maintaining blade/cutter integrity, and wearing personal protective equipment.

The manufacturer shall not be held liable for any injury or property damage caused by negligence, insufficient training, unauthorized modifications, or misuse of the equipment.

SAFETY FOR USE



PROTECT YOUR EYES:

Wear safety glasses at all times during setup, operation, and when working near the machinery.



HAND OR OTHER BODY PROTECTION :

Be aware of the clamping leaf on this equipment. This machine contains multiple moving parts that may cause injury to you or others nearby.
Loose hair and clothing can become entangled in the equipment, leading to serious injury. Always secure loose items before operation.
Never place any part of your body inside the equipment while it is in use.



BEWARE OF ELECTRICAL AND MAGNETIC FIELDS:

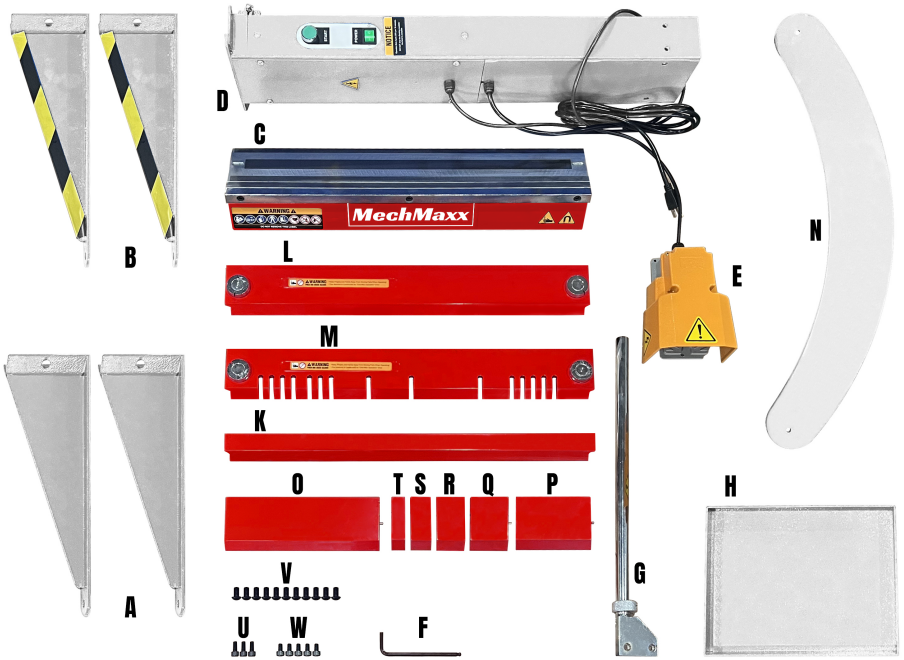
Electric currents generate magnetic fields, also known as electromagnetic fields (EMF). These fields may interfere with pacemakers, medical implants, sensitive electronic devices, and unattended metal objects.Individuals with pacemakers or medical implants should maintain a minimum distance of 12 inches (30 cm) from the equipment.Prolonged exposure to EMF may have potential health effects that are not yet fully understood.



HIGH VOLTAGE

Exercise extreme caution when operating this machinery, especially around high-voltage areas. Never assume the power supply is turned off—always verify before proceeding. Ensure proper safety measures are in place at all times.

PACKING LIST



CONTENTS		QTY	CONTENTS		QTY
Leg, Rear	A	2	Foot Plate	N	1
Leg, Front (with striped tape)	B	2	11"x 4" Clamp Bar	O	1
24" Magenetic Sheet Metal Brake Assembly	C	1	5.5"x 4" Clamp Bar	P	1
Support Colum with Angle Indicator	D	1	2.75"x 4" Clamp Bar	Q	1
Foot Pedal, Power Cord	E	1	2"x 4" Clamp Bar	R	1
6mm Hex Key	F	1	1.5"x 4" Clamp Bar	S	1
Handle w/ Scale, Stop Collar	G	1	1"x 4" Clamp Bar	T	1
Tray and Backstop Clamp with Wing Screw	H	1	M8x16 Socket Head Screw	U	2
24"x 2" Solid Clamp Bar	K	1	M10x16 Rounded Socket Head Screw	V	10
24"x 4" Solid Adjustable Clamp Bar	L	1	M8x12 Socket Head Screw	W	4
24"x 4" Slotted Adjustable Clamp Bar	M	1			

INSTALLATIONS

IMPORTANT

DO NOT run the magnetic brake without material between the clamping bar and the electromagnetic work bench. After releasing the electromagnet, residual magnetism could still hold down the clamp bar.

1. Install the Support Column and Legs

- Place the Four Legs[A][B] on the ground and position the Support Column[D] in the center.
- Ensure that the Two Legs with striped tape[B] are the front legs.
- Secure all Four Legs using M10x16 Rounded Socket Head Screws.
- Lift the Front Legs and attach the Foot Plate[N] underneath.
- If the Metal Sheet Brake is anchored directly to the floor, the Foot Plate installation is not required.

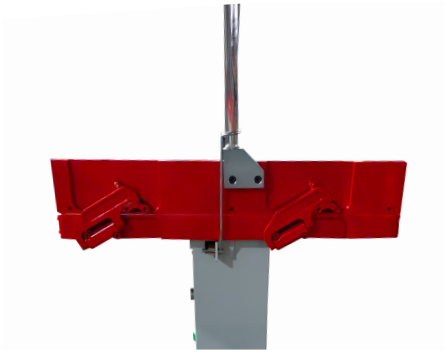


2. Install the Magenetic Sheet Metal Brake

- Use a Forklift or Lifting Equipment to pass the lifting section through the lifting straps of the Magnetic Magenetic Sheet Metal Brake beam[D].
- Lift Magenetic Sheet Metal Brake to the appropriate position, rotate it 180 degrees, and place it on top of the Support Column.
- Adjust the power cables of the Magenetic Sheet Metal Brake to prevent them from being pinched.
- Secure the Magenetic Sheet Metal Brake to the Support Column completely using M8x12 Socket Head Screws before removing the lifting straps.

3. Install the Handle and Angle Indicator

- Adjust the Stop Collar on the Handle w/ Scale, moving the Stop Collar[G] inward against the mounting tab.
- Lower the Handle through the Angle Indicator, ensuring the inset Angle Gauge faces outward.
- Rotate the Angle Indicator and Handle upward, aligning the Bending Beam with the Handle.
- Align the holes in the Handle with the threaded holes in the Bending Beam.
- Fasten the Handle using two M8x16 Socket Head Screws.
- Ensure the Handle is square with the Bending Beam before final tightening.



4. Install the Tray

- Attach the Tray [B] to the rear of the Magenetic Sheet Metal Brake using two M8x12 Socket Head Screws.

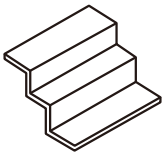
OPRERATIONS

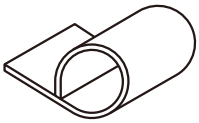
OPERATION SAFTY

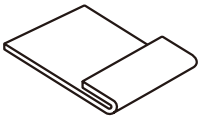
Always wear safety goggles with side shields, protective footwear, and leather gloves to prevent injuries from burrs and sharp edges. When handling large or heavy materials, ensure they are properly supported. Keep hands and fingers away from the clamping beam, and stand to the side of the machine to avoid being hit by the bending apron as it moves upward. The bending brake presents a pinching hazard, so make sure no body part or clothing gets caught between the clamping bar and the bending leaf.

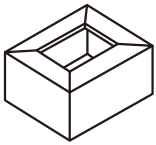
DO NOT run the magnetic brake without material between the clamping bar and the electromagnetic work bench. After releasing the electromagnet, residual magnetism could still hold down the clamp bar.

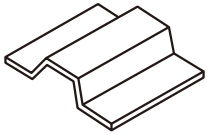
BEND CONFIGURATIONS

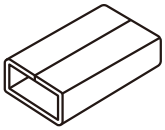

Return Bends

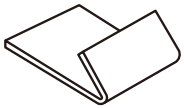

Rolled Edge

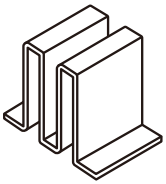

Hem


Box


Stiffening Rib


Closed Channel


Angle Bend


Fins

GENERAL USAGE

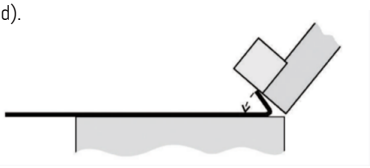
• Ensure that the power is ON at the power outlet and that the full-length clamp bar is positioned on the machine with its lifting balls resting in the locating grooves at each end.
• Adjust for workpiece thickness by rotating the eccentric adjusters at either end of the clamp bar. Lift the bending beam up to the 90°position and check that it is parallel to the edge of the clamp bar. If necessary, readjust the eccentric lifters. (For optimum results, the gap between the clamp bar edge and the surface of the bending beam should be set slightly greater than the thickness of the metal to be bent.)
• Insert the workpiece, then tilt the front edge of the clamp bar down and align the bend line with the bending edge.
• Press and hold the START button to apply pre-clamping. With the other hand, pull on the handle. Full clamping is now automatically applied, and the START button should be released. Continue bending until the required angle is reached.
• The bending beam may be reversed by approximately 10 ° to 15 ° to relieve pressure on the workpiece for checking the bend angle. Reversing by more than 15 ° automatically turns the machine off and releases the workpiece.

CREATING A HEMMED/CRIMPED EDGE ON A PANEL(HEM)

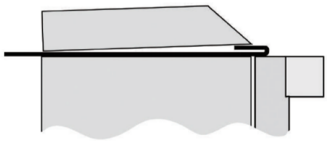
The technique used for folding lips depends on the workpiece thickness and, to some extent, on its length and breadth.

THIN WORKPIECES (UP TO 0.03 INCH)

1. Proceed as for normal bending but continue the bend as far as possible (135°).
2. Remove the clamp bar and leave the workpiece on the machine, but move it rearward about 0.394inch (10mm). Now, swing the bending beam over to compress the lip. (Clamping does not need to be applied).



3. With thin workpieces and/or when the lip is not too narrow, a more complete flattening can be achieved by following up with magnetic clamping only.

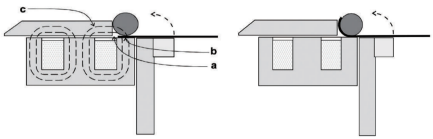


FORMING A ROLLED EDGE

Rolled edges are formed by wrapping the workpiece around a round steel bar or a piece of thick-walled pipe.

1.Position the workpiece, clamp bar, and rolling bar as shown.
• Ensure that the clamp bar does not overlap the front pole of the machine at point “a,” as this would allow magnetic flux to bypass the rolling bar, resulting in weak clamping.
• Make sure the rolling bar is resting on the steel front pole of the machine (“b”) and not further back on the aluminum part of the surface.
• The purpose of the clamp bar is to provide a magnetic pathway (“c”) into the rolling bar.

2.Wrap the workpiece as far as possible and repeat, then reposition as shown.

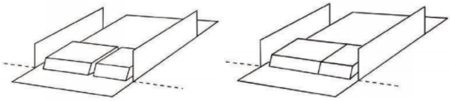


MAKING BOXES

The Bender is used in the same way as for normal straight bends, but instead of one of the 24" Clamp Bars, the appropriate width of Short Clamp Bars is used for the secondary sides of the box.

• Operate the Bender normally for the first two opposite ends of the box.
• Determine the width of the Short Clamp Bars required for the bends needed to form the secondary width of the box.
• Position the partially formed box workpiece on the Base Deck.
• Place the Short Clamp Bars over the inside of the box workpiece.
• Operate the Bender normally using the Short Clamp Bars to form the box sides.

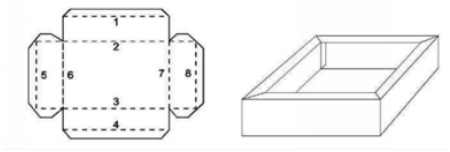
As you gain experience in forming boxes, more complex features like tabs, flaps, and flanges can be added to the sides of the box.



FORMING TRAYS (USING THE SLOTTED CLAMP BAR)

As features like tabs, flaps, and flanges are incorporated into the box sides, the clearance provided by the slots in the Slotted Clamp Bar becomes necessary. The Slotted Clamp Bar is used together with the Short Clamp Bars.

• Follow the procedure described in NORMAL, STRAIGHT BENDS for the initial bends of the tray sides.
• The Slotted Clamp Bar is set up similarly to the Solid Clamp Bar, but the open slots will allow the tray sides and flaps to pass through as the project becomes more intricate.



CAUTION

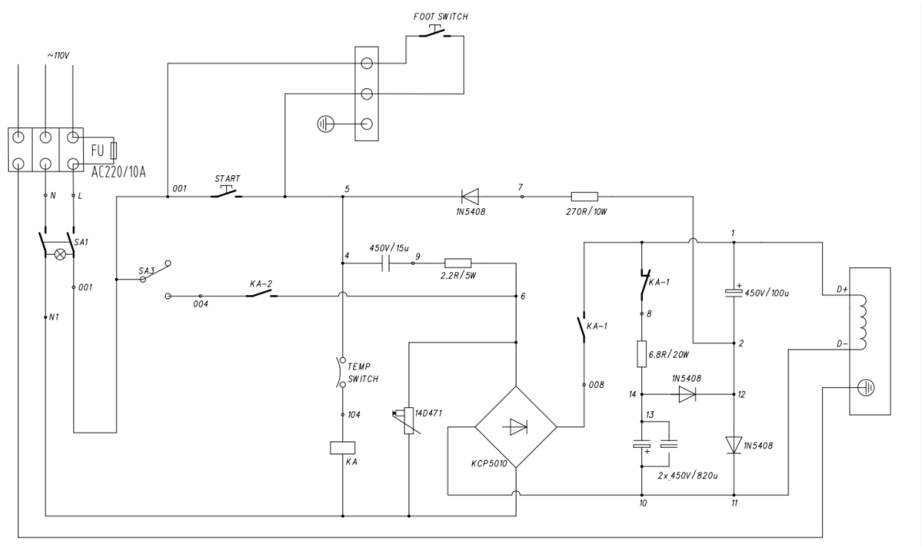
To avoid the risk of damaging the bending edge of the clamp bar or denting the top surface of the magnet body, do not place small objects under the clamp bar. The recommended minimum bend length using the standard clamp bar is 0.591inch(15mm), except when the work-piece is very thin or soft.

The clamping force of the magnet is reduced when it is hot. Therefore, to achieve the best performance, apply clamping for no longer than necessary to complete the bend.

MAINTENANCE

- Use a liberal amount of a good quality, heavy bodied chassis grease on the slide surfaces of the two hinges.
- Apply a thin motor or suitable lubricating oil to the pivoting portion of the hinges.
- Always keep the magnetic Base Deck of the Bender clean and free of any dirt accumulation or metal chips.
- Keep the surfaces of the Clamping Bars free of dirt and metal chips.
- Always keep Magenetic Sheet Metal Brake in a dry location and store with a suitable cover in place.
- Keep all bare metal areas including the Base Deck lightly oiled to prevent rust formation when not in use.

ELECTRICAL SCHEMATIC



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