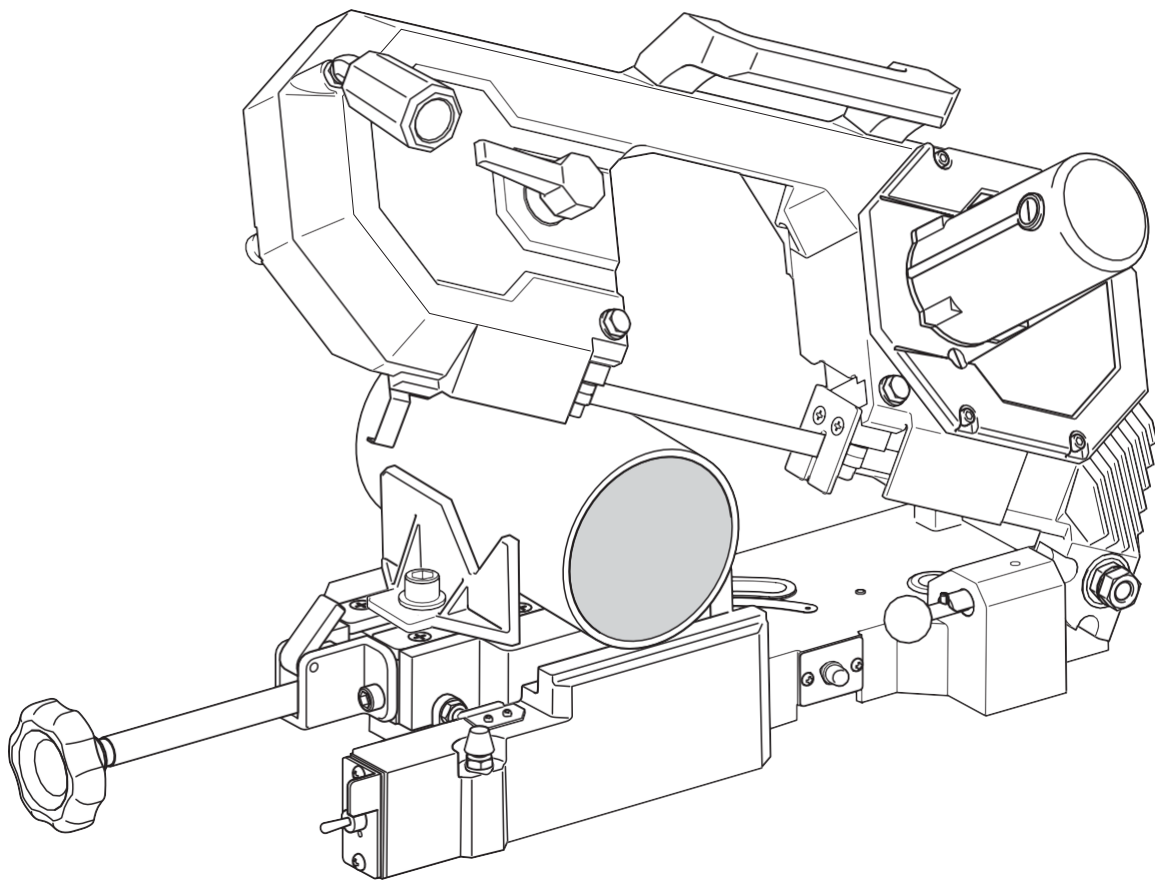


# MBS 4 BAND SAW

## INSTRUCTION



【Read through this manual carefully before using the machine】

# MBS 4 BANDSAW

## SAFETY PRECAUTIONS

Thank you for choosing the Steelmax MBS 4 Bandsaw.

\*This Instruction manual must be retained by the user of this machine.

\* Read this manual thoroughly to understand the usage, capacity, cautions, and simple repairs that ensure the proper operation of this bandsaw.

\* Operate the machine responsibly to optimize its functions and ensure a safe working environment.

\*Use the machine for the intended application only to ensure best results and optimal safety

\*Upon receiving the machine, check the following.

Check that the machine is built conforming to the specifications stated in your order.

Check the overall machine for any damage or deformation caused in transit due to accidents or other circumstances.

Check that all items and accessories are delivered.

If any discrepancy is found, immediately report it to your purchase location or our sales office.

(The contents of this manual are subject to change without prior notice.)

## CLASSIFICATION OF CAUTIONS

Precautionary signs are classified into the following 3 levels.



**DANGER**

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

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# MBS 4 BANDSAW

## OPERATING INSTRUCTIONS

- Please observe “OPERATING INSTRUCTIONS” to prevent fire, electric shock or injury.
- Before using, please obtain understanding of all the contents of “OPERATING INSTRUCTIONS” and adhere to the instructions.
- After reading this manual, please keep it easily accessible for reference and use.



### DANGER

- Always ground the machine to avoid electric shock or resultant death.
- Do not touch Power Plug with wet hands.
- Do not expose the machine to rain or water, nor use it in damp or wet locations. Humidity may deteriorate the motor insulation and lead to electric shock.
- If damaged immediately replace Power Plug, Power Cord or the extension cord.
- Never pull the power plug directly from the receptacle; instead, grasp the plug itself. Additionally, avoid placing the machine on the power cord to prevent any damage to cord.
- Any extension cord used should be a three-core cable having an earth wire. Use a thick and durable cord for outdoor use.



### WARNING

- Always use the machine at the voltage indicated on Machine Plate to reduce the risk of the machine becoming hot, emitting smoke or catching fire.
- When cutting do not force the machine in a manner that produces motor stops due to an overload.
- If the machine has emitted smoke or caught fire, do not disassemble it, but request inspection or repair.
- Never ground the machine with a gas pipe as it may cause an explosion.
- Do not use the machine in the presence of flammable liquids or gases such as gasoline and thinner.
- The machine and other parts coast for a while after the machine is turned off. Never touch them while they are moving.
- Cut surfaces are very sharp, do not touch them with bare hands.
- When it is required to touch Saw Blade and the moving parts for replacement, etc., turn off and unplug machine before replacing any parts or accessories.
- Check that the machine is turned off before plugging it in. If the machine is turned on, it will start suddenly and may lead to unexpected accidents or injury.
- During operation keep your hands and face away from the moving parts to avoid potential injury.
- Do not use gloves for work such as cutting. There is risk of being caught in the moving parts and suffering injury.
- Do not wear neckties, open-sleeved clothing, knitted gloves, loose clothing or jewelry (such as necklaces). They increase the danger of being caught in moving parts.

# MBS 4 BANDSAW

## WARNING

- Wear caps or protective hair covering to contain long hair to reduce the danger of being caught in moving parts.
- When not using, servicing, cleaning, checking or replacing parts, turn off and unplug the machine. If the machine remains plugged in, it may start suddenly, leading to accident or injury.
- Do not leave the machine during operation, This is a hazard to others who may get caught in the moving parts.
- Use Pipe Support for long or heavy workpieces to avoid shaking and distortion. Otherwise, the workpieces are distorted and the weight of the workpiece tilts the machine.
- Wear safety glasses during operation to prohibit chips from entering your eyes or nose.
- Do not blow off chips with compressed air. They may get into your eyes and loss of eyesight may result.
- Wear a face or dust mask for operations that produce dust, as chips and dirt may enter your eyes and nose.
- Take sufficient measures to prevent dust and scattering.  
Use caution when cutting materials containing ingredients harmful to the human body.
- Do not use the product in environments near asbestos (including removal work). Asbestos is a substance that causes serious health problems such as lung cancer in humans.
- Avoid touching freshly cut surfaces with bare hands as they are hot.
- When lifting the machine, bend your knees to avoid a load on your waist.
- The machine with chip is slippery. Take precaution to not drop machine while lifting it.
- Do not install the machine on an incline or unstable surface; this may result in the machine falling and causing injury.
- Always keep proper footing and balance.
- Do not operate the machine when you cannot concentrate on your work, e.g. when you are tired or while under the influence of alcohol, medication or drugs.
- Remove hand tools from the machine before turning it on, to prevent accidents or injuries.
- Use only the accessories and attachments given in this manual and our catalogs. A failure to do so may lead to accident or injury.
- Immediately stop the machine if you have noticed unusual smell, vibration, sound, etc. during operation, and refer to "BEFORE ASKING FOR REPAIRS" in this manual and follow the corresponding instructions.
- Only our authorized representatives should conduct repairs, Self-repair may result in incomplete Machine performance or injury. Contact your purchase location or our office for assistance.

# MBS 4 BANDSAW

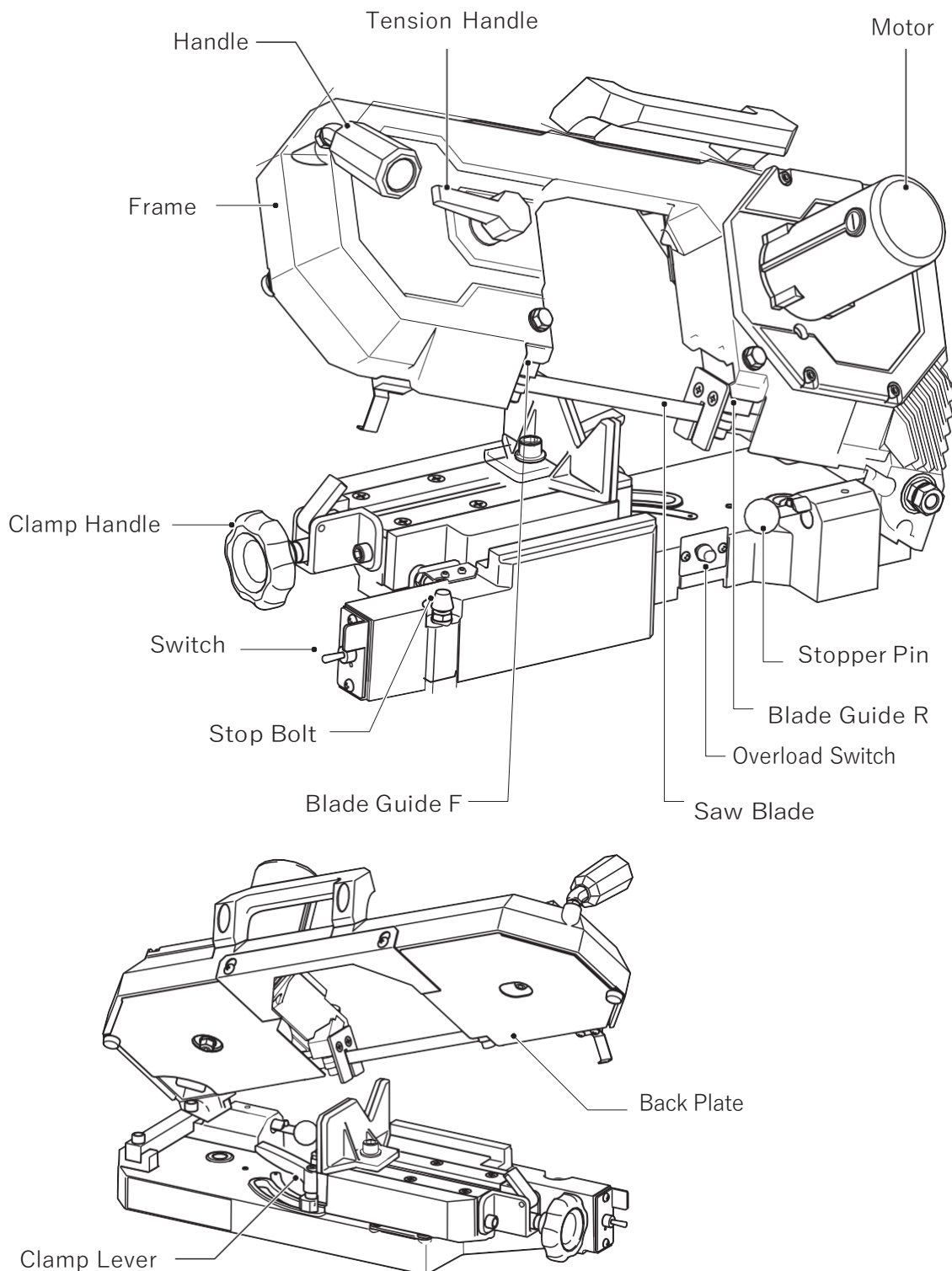
## CAUTION

- Watch the position of your fingers while lowering frame to avoid pinching of fingers.
- Do not leave the machine with a long workpiece set on it. You may tumble and get injured.
- Securely install accessories in accordance with this manual. Otherwise, accident or injury may result.
- Before further use of a damaged machine it should be carefully checked to determine that it will operate properly and perform its intended function.
- If you have dropped or hit the machine accidentally, carefully check for damage, crack or deformation. If the machine is used with such defect, poor cutting accuracy, accident and injury can result.
- If leaving the machine for an extended amount of time disconnect Power Plug.
- The workpiece with chip is slippery. Do not drop it on your feet.
- Keep your work bench and area organized, neat and well lit. Cluttered areas and benches invite injuries.
- Do not let visitors touch the machine, Power Cord or operate the machine.
- When not in use, machines should be stored in dry and high or locked up place out of reach of children.
- We cannot accept repairs of Power Tools that have been used in an environment around asbestos.

# MBS 4 BANDSAW

## COMPONENTS OF THE MACHINE

### Main Parts



# MBS 4 BANDSAW

## Specifications

Item			MBS 4 Bandsaw
Cutting Capacity	0°	Round	ϕ 4.72" (120 mm)
		Square	□ 4.0" (100 mm)
	45°	Round	ϕ 2.0" (50 mm)
		Square	□ 2.0" (50 mm)
Blade speed	No Load		279' (85m)/min (50/60Hz)
	Cutting		180' (55 m)/min (50/60Hz)
Motor			120V
Dimension (L×W×H)			23.6" x 9.9" x 11.5" (600 × 250 × 290 mm)
Weight			36.3 lbs (16.5kg)
Standard Accessories			71167 SAW BLADE BB4A HSS 14T

\*Specifications are subject to change without prior notice.

## Optional Accessories

Code No.	Description	Pcs/Box	Remarks
71167	SAW BLADE SM-BB-HS-14	5 pcs	Steel Pipe over 1.1/2, Steel over t=4mm
71168	SAW BLADE SM-BB-HS-18	5 pcs	Steel under t=4mm, Conduit thin wall pipe
BA910	Pipe Support 4A	1 pcs	Min height 3" (75mm), Max height 4" (100mm,) Max load 176 lbs (80kg)

# MBS 4 BANDSAW

## Saw Blade Selection Chart

		14T	18T
Steel Pipe (Size)	Under 1.1/4"		○
	1.1/2"~2.1/2"	○	○
	3"~4"	○	
Conduit Pipe	Thin wall		○
	Thick wall	○	
Shaped Steel & Rods (Thickness, mm)	Under 3.9		○
	4.0~4.9	○	○
	5.0~	○	
Stainless Steel Pipe (Thickness, mm)	~3.9		○
	4.0~	○	○
PVC Pipe		○	
Ductile Cast Iron Pipe for Drain (Excluding Mortared Cast Iron Pipe)		○	

- \*1. In Saw Blade selection, select suitable T.P.I. Two or more teeth should be in the thickness of the workpiece.
- \*2. The above chart is provided as a guideline. In case of cutting accuracy is not good with thin wall materials and PCV Pipes, cut them slowly holding Frame during cutting process.



# MBS 4 BANDSAW

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# MBS 4 BANDSAW

## INSTALLATION

### Carrying the Machine

#### ⚠ WARNING

- When lifting the machine, bend your knees to avoid a load on your waist.
- The machine with chip is slippery. Do not drop the machine while lifting it.

### Installation

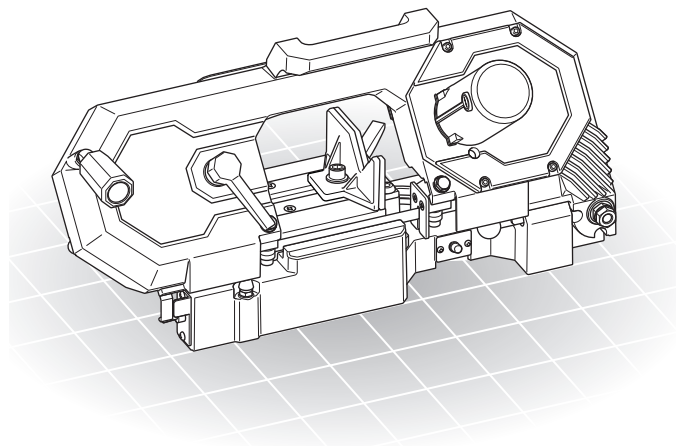
#### ⚠ DANGER

- Always ground the machine to avoid electric shock or resultant death.
- Do not touch Power Plug with wet hands.
- Do not expose the machine to rain and water and use it in damp or wet locations. Humidity may deteriorate the motor insulation and it leads to electric shock.
- Immediately replace Power Plug, Power Cord or the extension cord, if damaged.
- An extension cord used should be a three-core cable having an earth wire. Use a thick and durable cord for outdoor use.

#### ⚠ WARNING

- Never install an earth wire to a gas pipe as it may cause an explosion.
- Do not use the machine in the presence of flammable liquids or gases such as gasoline and thinner. Otherwise, ignition or explosion may take place.

1. Put the machine in a place free from moisture.
2. Put the machine on a flat surface without play or on a flat work bench.
3. Secure a sufficient space around the machine. Even wider space is needed when cutting long workpieces.
4. In case of cutting long workpiece, use Pipe Support. Be careful not to apply excessive force to the machine.
5. Make sure that the power source is equipped with a ground fault circuit breaker to avoid electric shock.
6. Use an earth clip when a power receptacle without a base for grounding is used.(\*1)
7. When an extension cord is used, use the one conforming to the applicable regulations.(\*2)



# MBS 4 BANDSAW

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## \*1 Confirmation of Earth (Grounding) and Earth Leakage Circuit Breaker

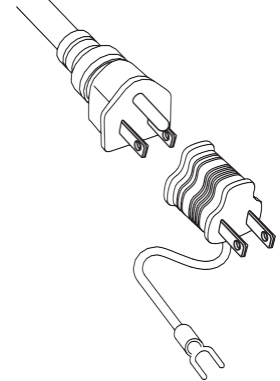
Before starting use of the machine, make sure that the power supply to which this machine will be connected is fitted with an earth leakage circuit breaker for prevention of electric shock (earth leakage circuit breaker) which conforms to the occupational safety and health law, electrical equipment technical standard, etc.

Always ground this machine. It is recommended to ground the machine for your own safety if it is used with a power supply which is fitted with a current-operated earth leakage circuit breaker having the rated sensitivity current of 15 milliamperes (mA) max. And the operating time of 0.1 seconds max.

When the receptacle used does not have a ground slot, confirm that the earth clip and earth wire are without fault.

When you have a tester or an insulation resistance meter, check for continuity between the earth clip and the machine's metal frame.

Grounding work (for example, burying the earth pole (earth plate, earth bar) in the ground and connecting the earth (ground) wire) must be done by a qualified electrician.



## \*2 Extension Cord

When an extension cord is required with a distant power supply, it should be thick enough to carry a current and ensure that the product is used at maximum efficiency without a failure.

The extension cord used must be a three-cord cable having one earth (grounding) core.

## \*3 Proper Working Environment

Make sure work spaces are in proper condition according to "OPERATING INSTRUCTIONS".

### Noise Prevention Control

Noise is controlled as set forth in relevant regulations. The machine must be operated at less than the control value to avoid discomfort to the neighborhood.

Sound barriers may be required under some circumstances.

# MBS 4 BANDSAW

## OPERATION

### Preparing for Operation

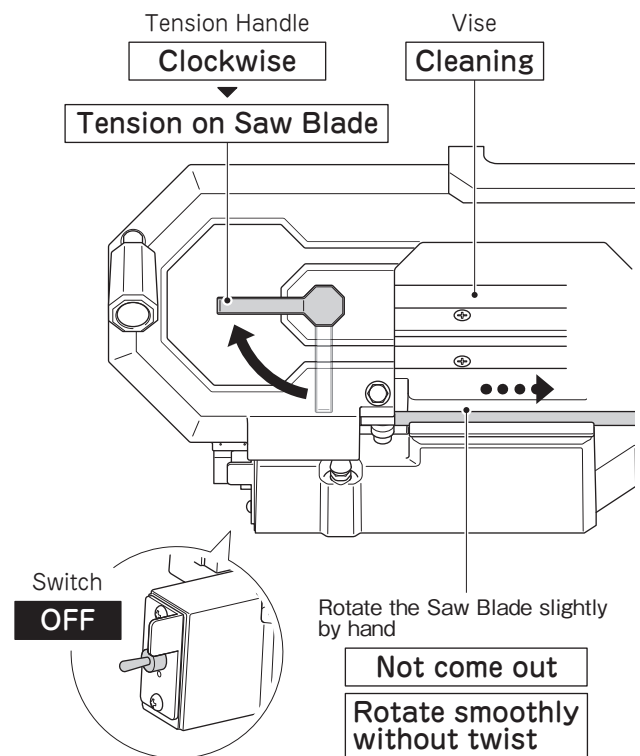
#### ⚠ CAUTION

- Select a suitable Saw Blade for the workpiece, referring to Saw Blade Selection Chart.
- Do not turn on the machine while Saw Blade is put on the workpiece.  
,because this might cause the machine to experience failure.
- When cutting starts, Lower Saw Blade to the workpiece after Saw Blade has fully rotated.  
Do not hurry it down or force it in to avoid a machine failure or an accident.

1. Eliminate the sand, soil, chips, and dust, etc. on Vise.  
(In case of a new machine, wipe off the rust prevention oil on the vise surface with a clean cloth)
2. Turn Tension Handle clockwise to give a tension on Saw Blade.
3. Check if Saw Blade rotates smoothly by rotating it by hands.
4. Plug in Power Cord after checking the machine is turned off.

#### ⚠ WARNING

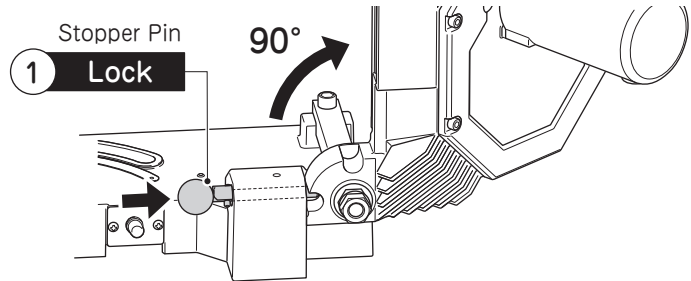
- Before preparation and adjustment work, always disconnect Power Cord.  
The machine may start suddenly and it may lead to injury or accident.
- When opening Back Plate, guard against Saw Blade which may spring out of the machine.
- After setting Saw Blade to the machine, always close Back Plate.



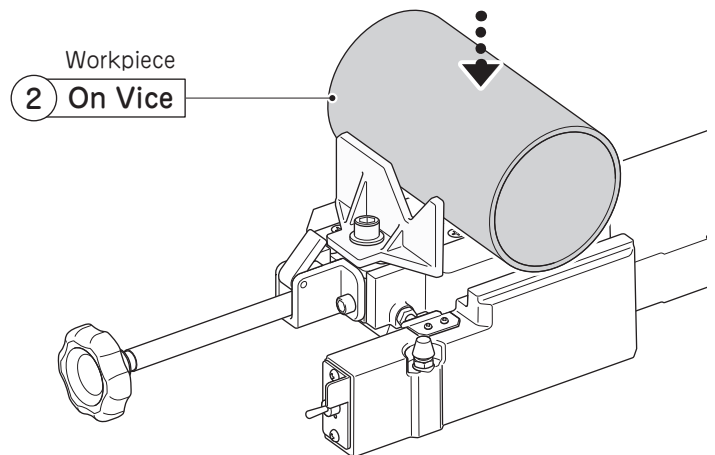
# MBS 4 BANDSAW

## Setting a Workpiece

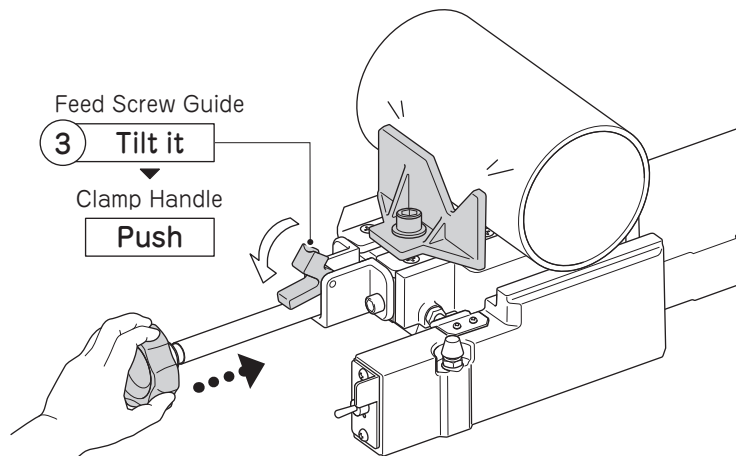
1. Pull out Frame to 90° and fix the position with Stopper Pin.



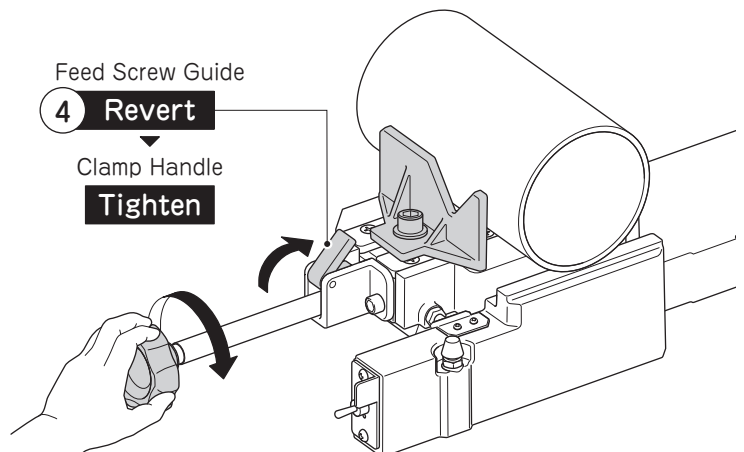
2. Place a workpiece on the vise surface in a stable position.



3. Tilt Feed Screw Guide to the opposite side of material and push Clamp Handle to the workpiece.



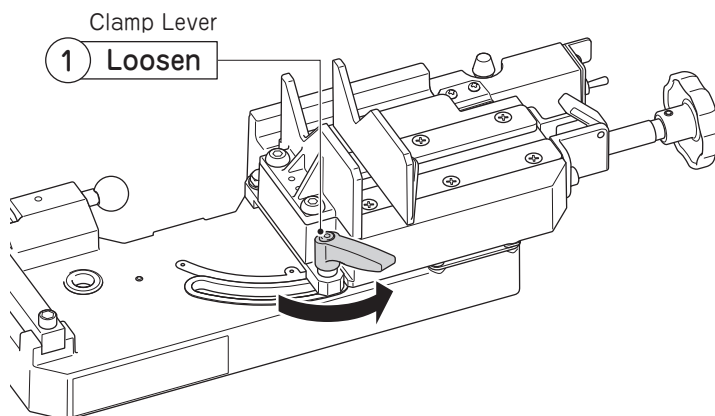
4. Once Flat Vise F contacted the workpiece, revert Feed Screw Guide and turn Clamp Handle clockwise to clamp the workpiece firmly.



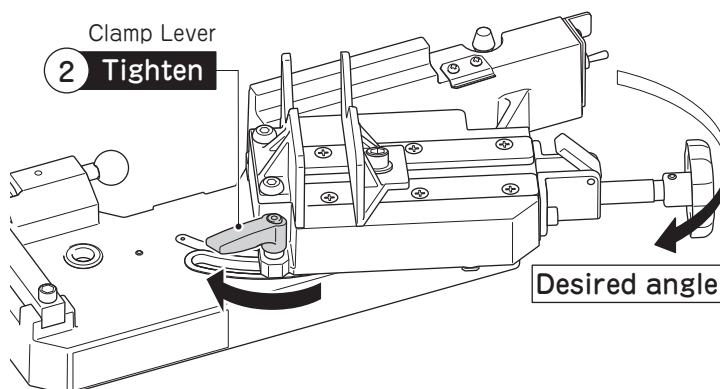
# MBS 4 BANDSAW

## Miter Cutting

1. Turn Clamp Lever counterclockwise to loosen the vise part.

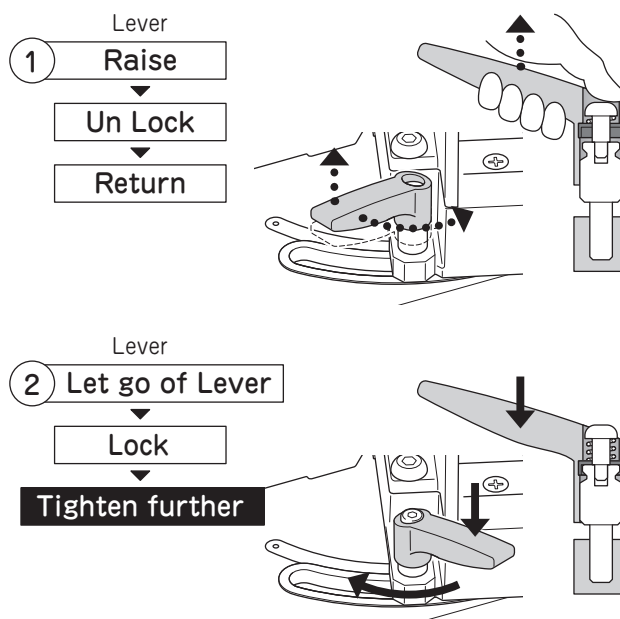


2. Turn the vise part to the desired angle and fix the position by turning Clamp Lever clockwise.



When raising Clamp Lever, only it can be turned and Bolt will not be turned (as shown in Figure 1).

### When tightening further



# MBS 4 BANDSAW

## Cutting

1. Pull out Stopper Pin and unlock Frame.

2. Turn on the machine and check that Saw Blade is rotating smoothly. Lower Frame and place Saw Blade on the workpiece.

When miter cutting, hold Frame for a while until Saw Blade gets into the workpiece and stable.

3. The machine will be turned off automatically after cutting.

### ! CAUTION

Slowly move Saw Blade closer to the workpiece.

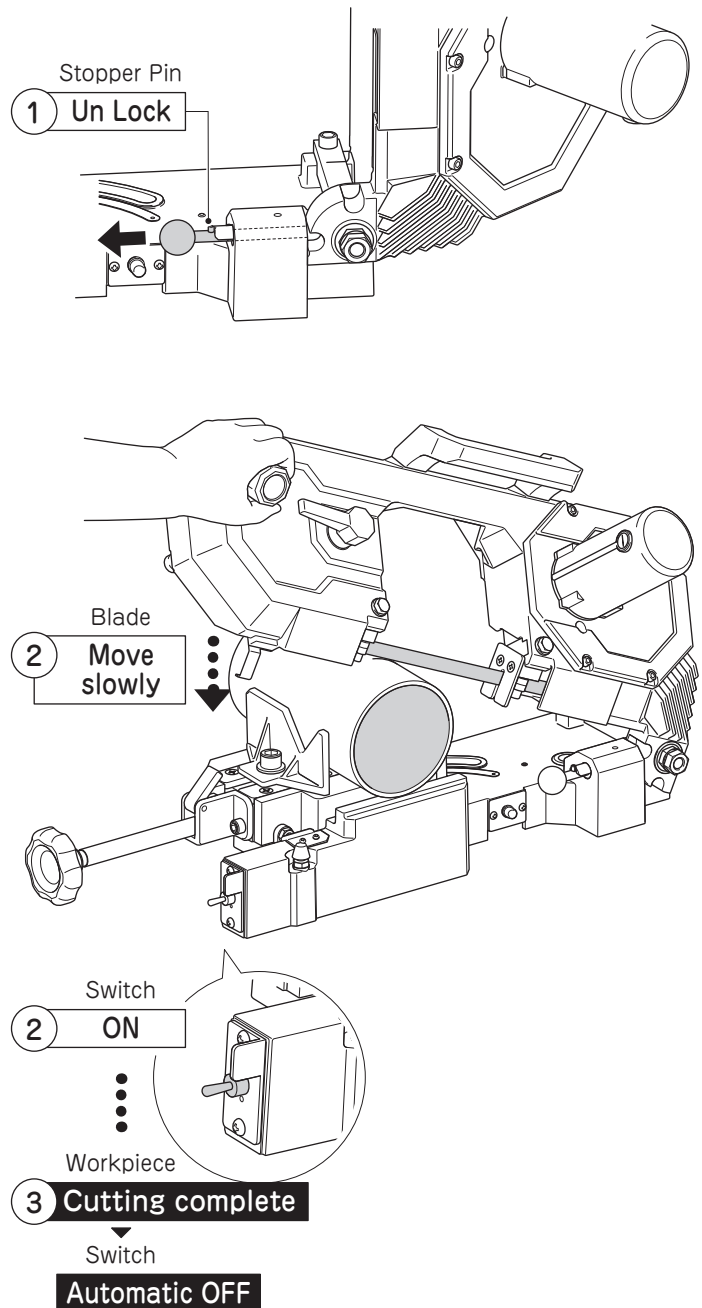
Dropping Saw Blade suddenly or Forcing it in may cause breakdown of the machine, accident or injury.

When a new Saw Blade is used, test cuts are required as it is liable to cut obliquely.

Cut the workpiece slowly once or twice while supporting Handle with your hand.

When cutting a workpiece with a wall thickness of less than 3mm, cut the workpiece while supporting the Handle with your hand.

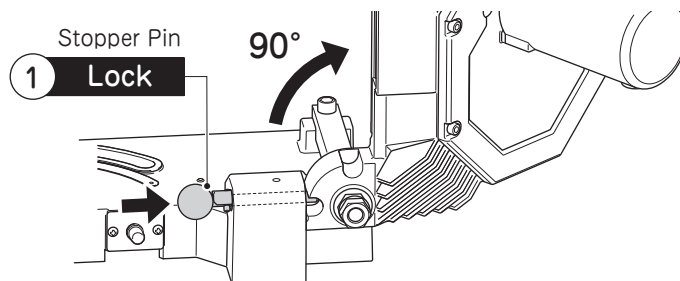
Failure to do so may result in loss of accuracy or machine breakdown.



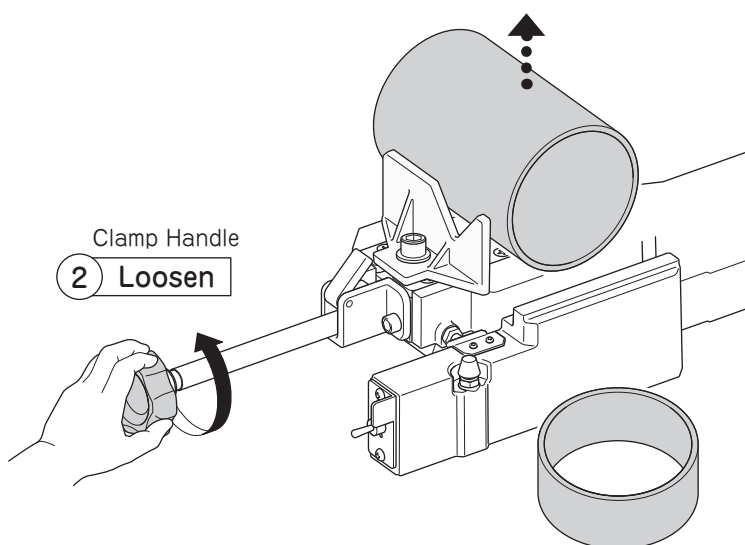
# MBS 4 BANDSAW

## Removing Workpiece

1. After cutting, raise Frame to 90° and lock it with Stopper Pin.



2. Loosen Clamp Handle and remove the workpiece.



### CAUTION

-Immediately after cutting, cut surfaces are hot. Do not touch them with bare hands.

Otherwise you may get burned.



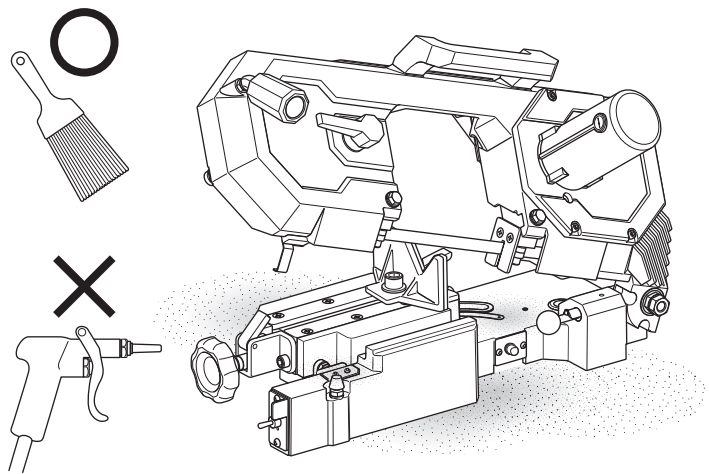
# MBS 4 BANDSAW

## Cleaning After Use

### ⚠ WARNING

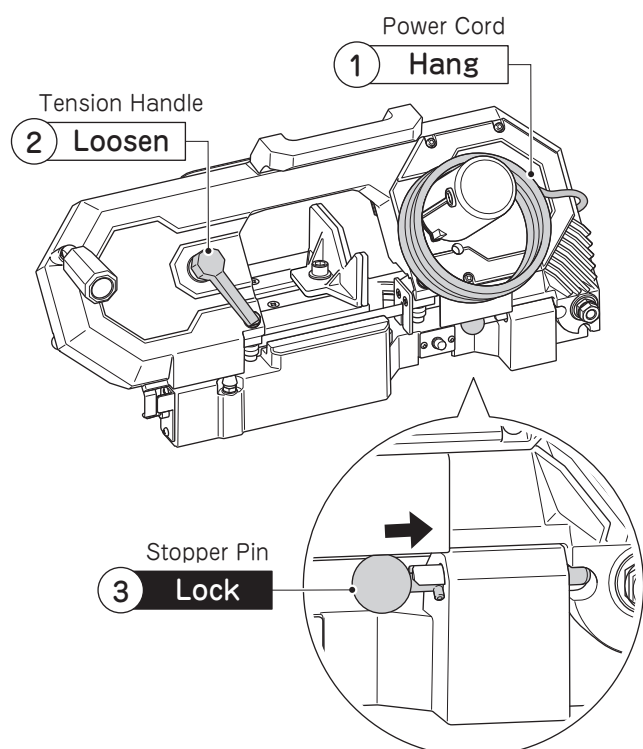
- Do not blow off chips using compressed air.  
They may get into eyes and loss of eyesight may result.
- Chips are sharp. Do not touch them with bare hands. Always wear gloves.

Remove chips scattered on the machine or in the area.



## Safekeeping

- 1.Coil Power Cord into a proper circle and hang it on Motor.
- 2.Turn Tension Handle counterclockwise.  
Do safekeeping in the state.
- 3.Keep Frame in the lowered position with Stopper Pin inserted.



# MBS 4 BANDSAW

## MAINTENANCE & INSPECTION

### Replacing Saw Blade

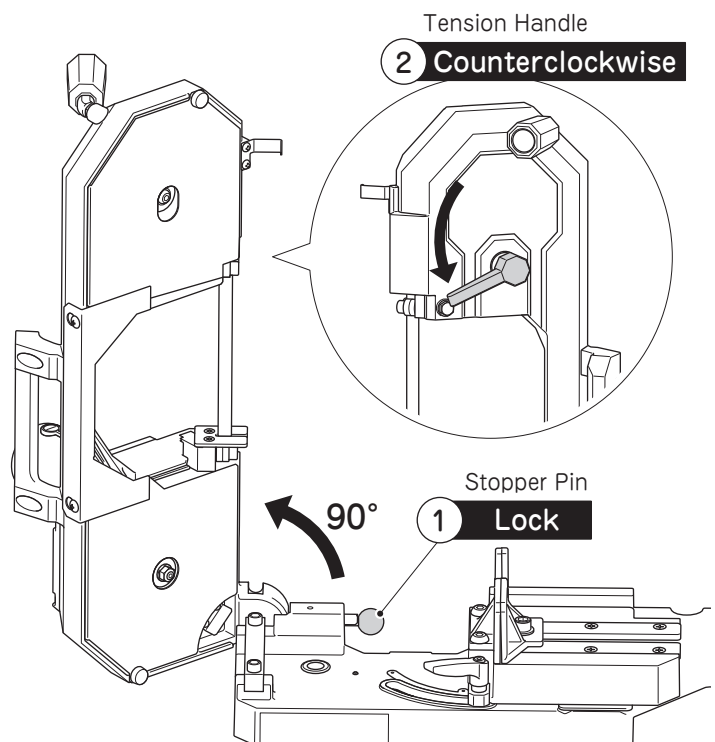
#### WARNING

- Before replacing Saw Blade, always unplug the machine.  
The machine may start suddenly, it may lead to injury.
- When opening Back Plate, be careful with Saw Blade which may spring out of the machine.
- After correct setting of Saw Blade to the machine, always close Back Plate.  
You may get injured when Saw Blade is broken or comes off.

#### CAUTION

- Install Saw Blade after completely wiping oil and dirt off. Otherwise, Saw Blade may slip or come off.
- Fix Back Plate with Screws after confirming it is correctly set.  
When Back Plate is not fixed correctly, it may cause a damage on Back Plate or Saw Blade may come off.
- When a new Saw Blade is used, test cuts are required as it is liable to cut obliquely.  
Cut the workpiece slowly once or twice while supporting the handle with your hand.
- Saw blade is very sharp. Do not touch with bare hand.

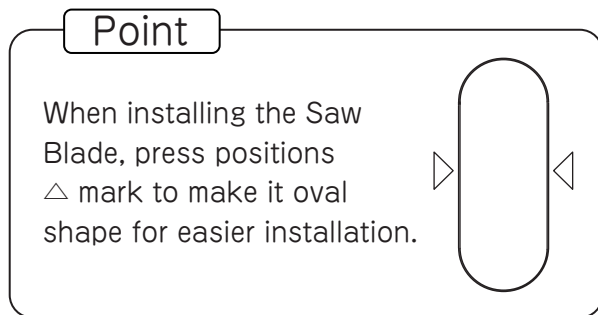
1. Raise Frame to 90° and lock it with Stopper Pin.
2. Turn Tension Handle counterclockwise.  
The tension of Saw Blade will get loosen.



# MBS 4 BANDSAW

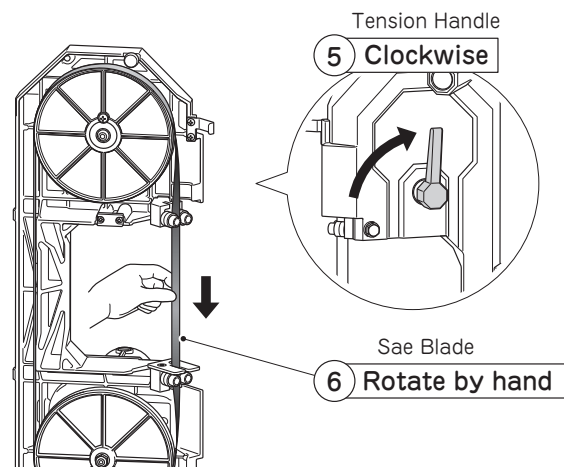
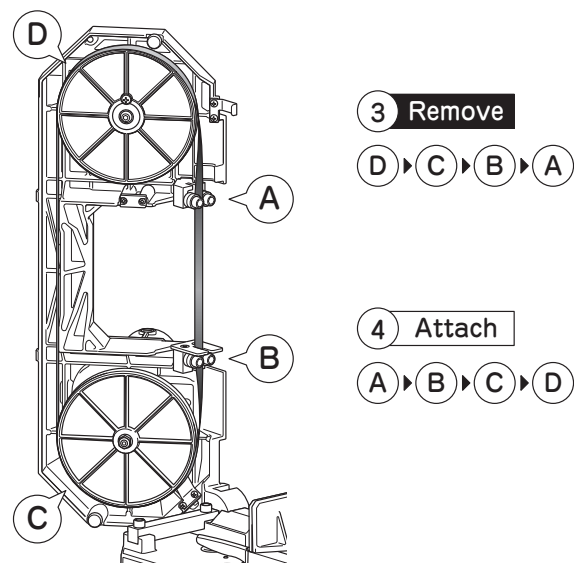
3. Open Back Plate and remove Saw Blade in the order D → C → B → A as the drawing.

4. Install a new Saw Blade in the order A → B → C → D as the drawing.



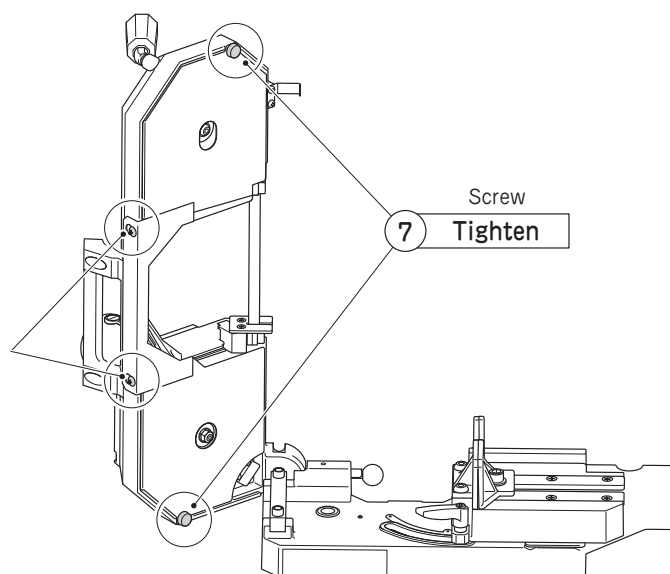
5. Turn Tension Handle clockwise and give tension on Saw Blade

6. Check if Saw Blade rotates smoothly by hand.



7. Reinstall Back Plate with Screws.

2 points are used for hooking



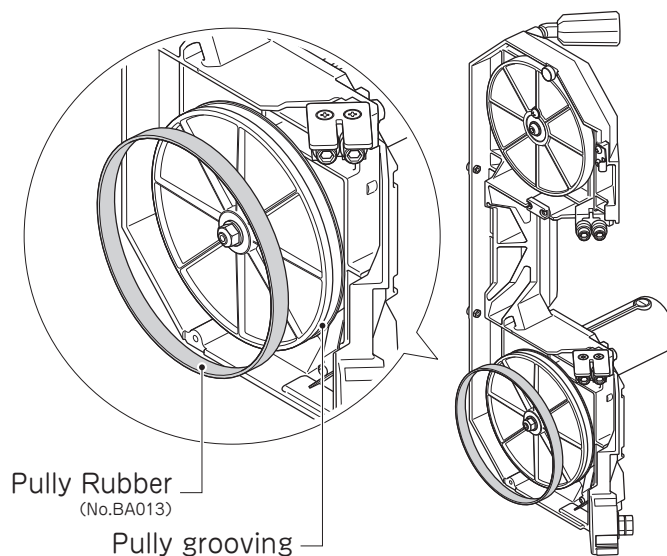
# MBS 4 BANDSAW

## Replacing Pulley Rubber

### WARNING

- Before replacing Pulley Rubber, always unplug the machine.  
The machine may start suddenly, it may lead to an accident or injury.
- When opening Back Plate, be careful with Saw Blade which may spring out of the machine.

1. Remove Saw Blade referring to Replacing Saw Blade (1)-(3)
2. Pull out Pulley Rubber by pinching it with hand.
3. Put a new Pulley Rubber along with the pulley grooving.
4. Install Saw Blade referring to Replacing Saw Blade (4)-(7).



# MBS 4 BANDSAW

## Replacing Carbon Brush

### ⚠ WARNING

Unplug the machine to avoid electric shock.

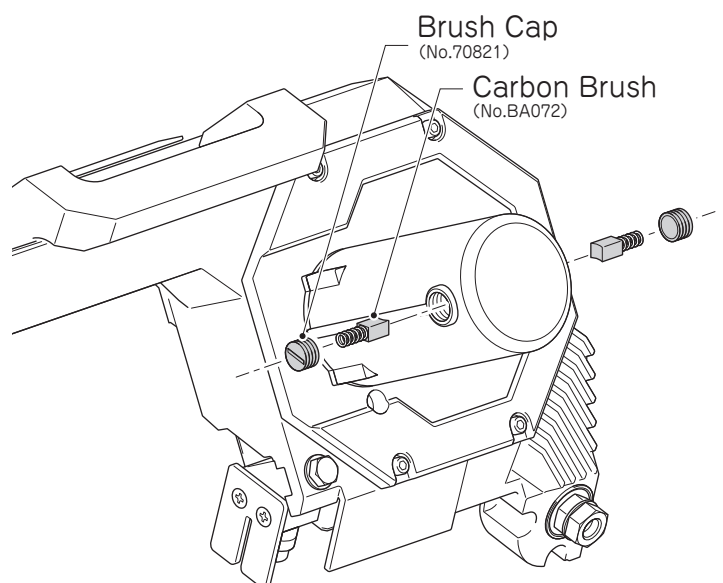
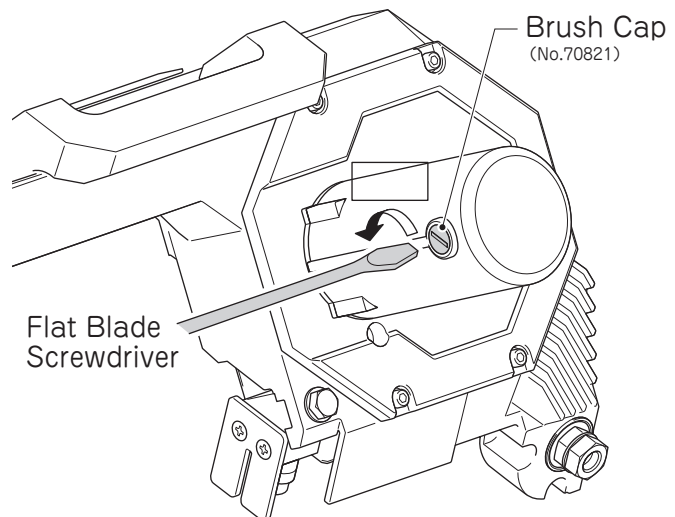
### ⚠ CAUTION

Do not get oil, chips, etc. on the new Carbon Brush.

Do not get dirt of gloves, etc. on the new Carbon Brush.

Motor has Carbon Brushes, which are consumable parts. Once Carbon Brush is wearing out, replace it with a new one. If Carbon Brush is worn out, it may cause a damage on Motor.

1. Remove Carbon Brush Caps with a Flat-Blade Screwdriver or similar tool and take out Carbon Brush.
2. Align a new Carbon Brush with the square hole in Brush Holder and push it into the hole with your finger.
3. While holding Carbon Brush with Carbon Brush Cap, tighten it with a Flat Blade Screwdriver, etc.



# MBS 4 BANDSAW

## Daily Inspection and Maintenance

### ⚠ CAUTION

Do not wet Motor with water.

-If Power Plug, Power Cord or the extension cord is damaged, replace it immediately.

-Check if Saw Blade is chipped or damaged.

If Saw Blade is chipped or damaged, replace Saw Blade. (Refer to Replacing Saw Blade )

-Inspect Back Stop Ball Bearings and Saw Blade Holder Ball Bearings. If they are not in correct position, it may cause poor cutting accuracy. If Ball Bearings are worn out, replace them with new ones. (replace all of them on both sides at the same time).

-Check that the mounting screws of each part are not loose. If they get loosened retighten them, as using the machine with loosened screws is dangerous.

-Wipe off any dust or chips on the machine.

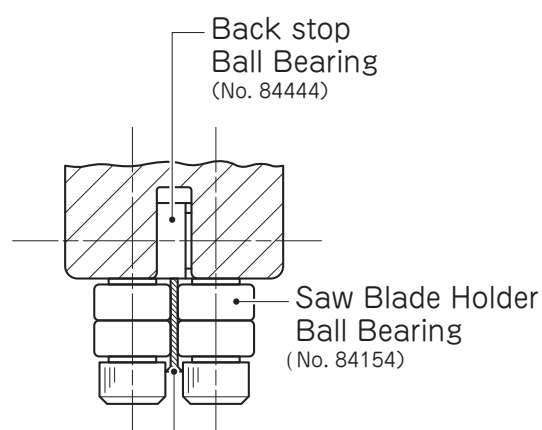
-If the machine is not to be used for a long period of time, store it with a rust-proofing coating.



Damage of Plug, Power Cord and Extension Cord



Damage of Saw Blade



# MBS 4 BANDSAW

## BEFORE ASKING FOR REPAIRS

Trouble	Possible Cause	Solution
Oblique cutting	Test cuts are not enough.	When a new Saw Blade is used, it is liable to cut obliquely and test cuts must be required. Once oblique cutting occurred, it easily happens again with the same Saw Blade even after correction of oblique cutting. Replace Saw Blade and do test cuts certainly.
	Improper cutting speed.	Support Frame with your hands and cut the workpiece.
	Improper Saw Blade setting.	Securely set Saw Blade into Blade Guide Bearings.
	Saw Blade used caused oblique cut before, or Saw Blade is worn out.	Replace the Saw Blade. (Refer to page17)
	Improper Saw Blade select.	Select Saw Blade matched the workpiece. (Refer to page7)
	Blade Guide Bearings are worn out.	Replace the bearings. (Replace all of them on both sides at the same time)
	Workpiece moved during cutting.	Clamp the workpiece firmly.
	Improper Workpiece setting.	For rectangular shapes, tighten them so that the height is as low as possible.
	Saw Blade is not genuine.	Use genuine Saw Blade.
Long cutting time	Improper Saw Blade select.	Select Saw Blade matched to the workpiece. (Refer to page7)
	Saw Blade is worn out.	Replace Saw Blade.
Saw Blade is chipped	Improper cutting speed.	Support Frame with your hands and cut the workpiece.
	Workpiece moved during cutting.	Clamp the workpiece firmly.
	Saw Blade hit the workpiece.	Put Saw Blade onto the workpiece gently.
	Improper Saw Blade select.	Select Saw Blade matched to workpiece. (Refer to page7)

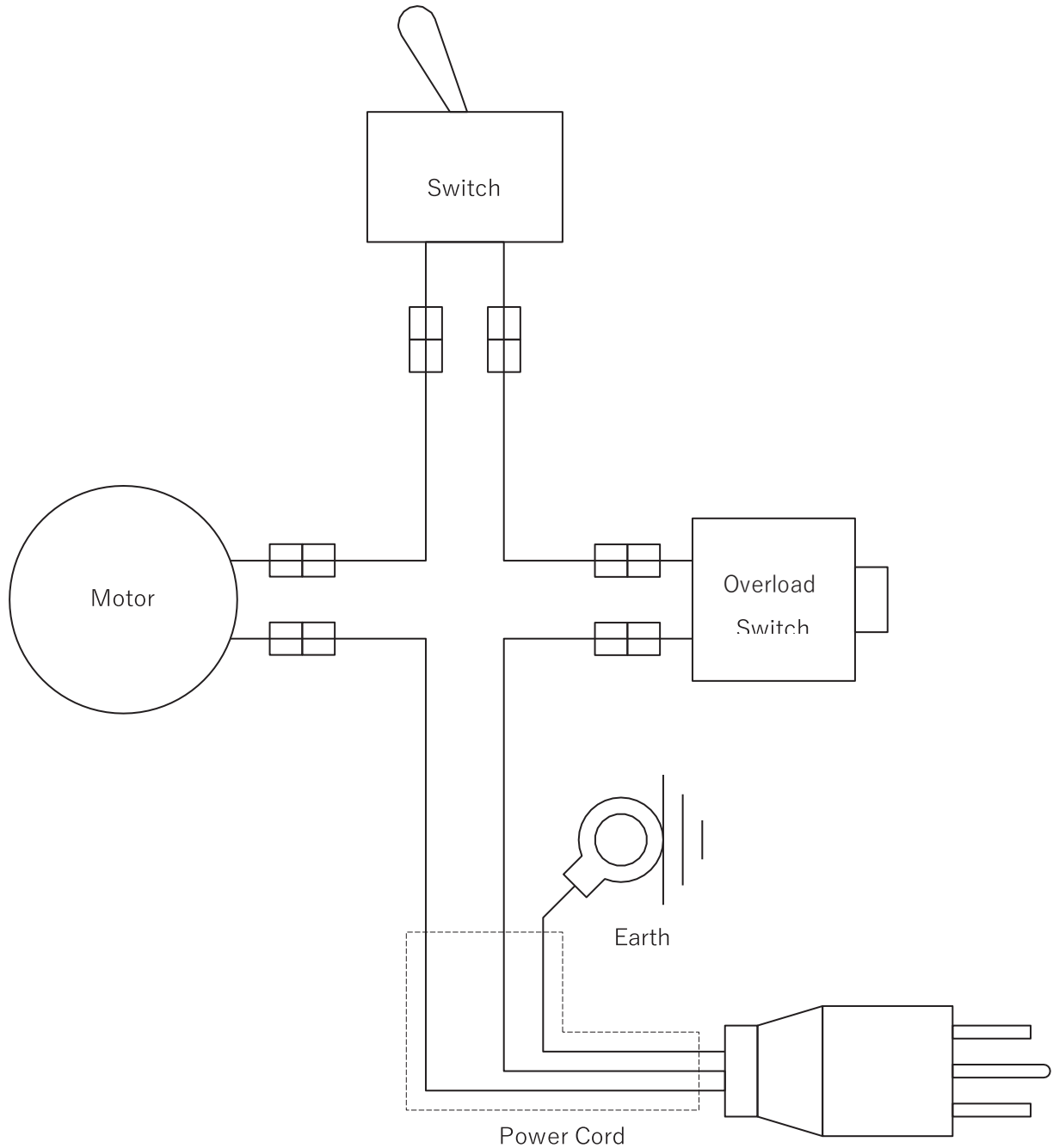
# MBS 4 BANDSAW

Trouble	Possible Cause	Solution
Vibration during cutting	Saw Blade is chipped.	Replace the Saw Blade.
	Improper Tension Handle setting.	Turn Tension Handle clockwise fully.
	Back Plate is not closed correctly.	Attach Back Plate correctly.
Saw Blade comes off	Improper Saw Blade select.	Select Saw Blade matched the workpiece. (Refer to page7)
	Improper Saw Blade setting.	Securely set Saw Blade into Blade Guide Bearings.
	Saw Blade, Pulley Rubber, Workpiece, Blade Guide or Bearing is stained with oil.	Wipe off any oil on it/them.
	The movement of Following Pulley is not smooth.	Eliminate foreign matter to run Following Pulley smoothly.
	Improper Tension Handle tightening.	Turn Tension Handle clockwise fully.
	Pulley Rubber is worn out.	Replace Pulley Rubber.
Saw Blade sank	Saw Blade sank lower than the workpiece at end of cutting.	Adjust Stop Bolt to raise the Saw Blade stopping position.
Motor does not run	Overload Switch is activated.	Turn off the machine and press Overload Switch.
	Voltage drop or a long Extension Cord used. Various machines connected to the same receptacle.	Use an extension cord with large capacity.



# MBS 4 BANDSAW

## ELECTRICAL WIRING DIAGRAM



# MBS 4 BANDSAW

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# MBS 4 BANDSAW

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## ● Customer Memo

Please fill in for your record in the future.

The information is helpful for inquiry and ordering parts.

Products Number :

Date Purchased :

Store Purchased the Unit :



**Corporate Offices**

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**Warehouse & Service Center:**

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