

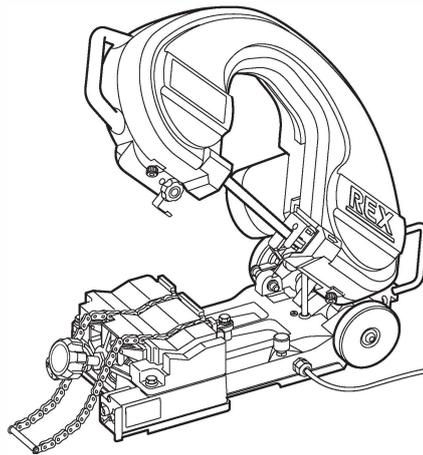
50/60Hz

REX Band Saw Cutter

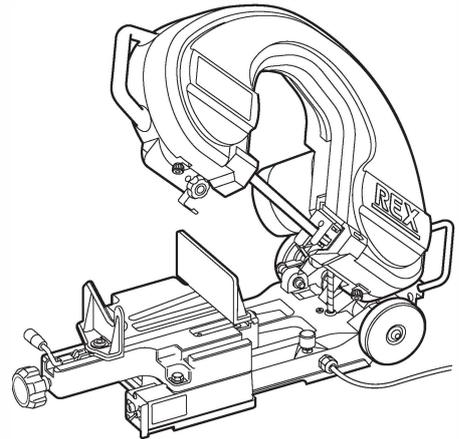
MANTIS 180WS • 180WA

XB180WS • XB180WA

Operation Manual



XB180WS
(Chain Vice)



XB180WA
(Flat Vice)



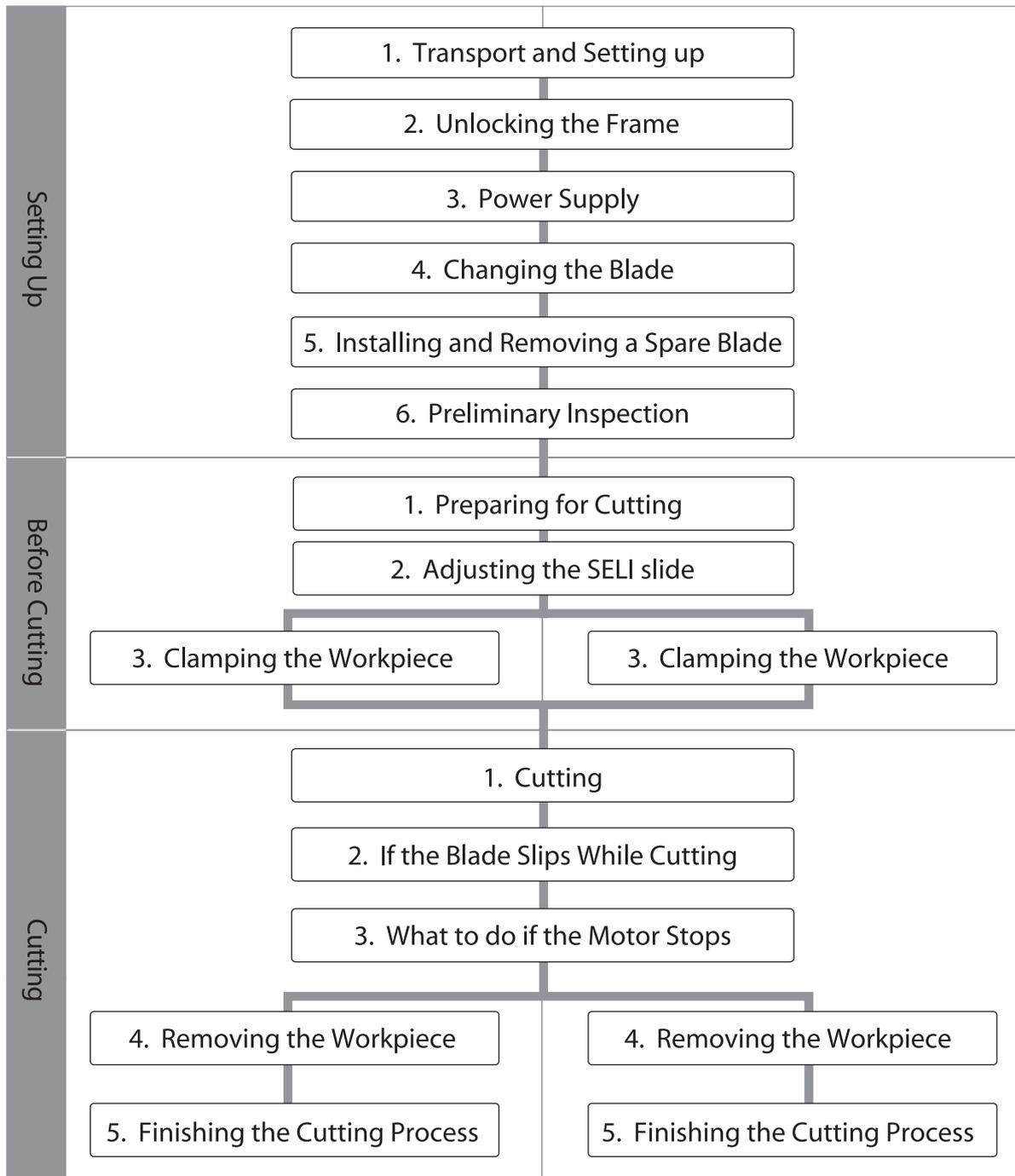
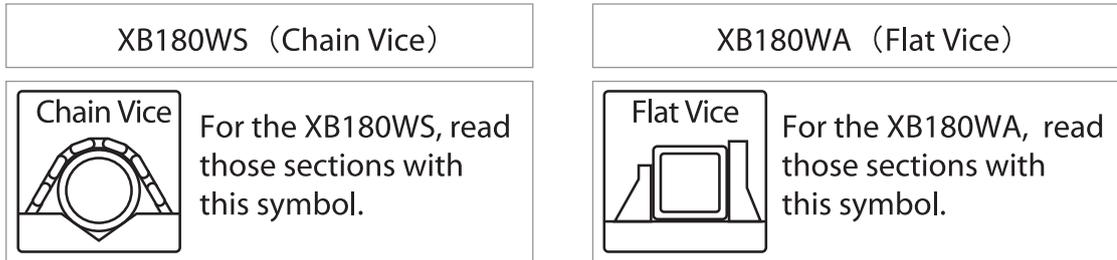
Be sure to read this manual before using the machine.

- Be sure to give this Operation Manual to the user.
- To ensure safe and efficient use, read this Operation Manual carefully before use.
- Keep this manual handy so the user can refer to it when necessary.

Date of Purchase: Year Month

Sales Agent:

Thank you very much for purchasing a REX MANTIS Series Band Saw.
 The contents of this manual apply to both the XB180WS (Chain Vice) and the XB180WA (Flat Vice). However, some operations differ and you should therefore refer to the diagram below and follow the instructions according to the model you purchased.



- To prevent fire and electric shock or other injury, be sure to observe the Safety Considerations on pages 1 - 2.
- Before use, read all Safety Considerations carefully and follow the instructions given.
- Do not use the machine for purposes other than those noted in this Operation Manual.

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Definitions of WARNING and CAUTION

In this Operation Manual, warnings are divided into  WARNING and  CAUTION .

 WARNING : indicates actions that could possibly result in death or severe injury to the user if the machine is used incorrectly.

 CAUTION : indicates actions that could possibly result in injury to the user, or physical damage to property or to the machine if the machine is used incorrectly.

Even items described as  CAUTION could have serious results under certain conditions.

Be sure to observe these warnings carefully as they greatly affect safety.

- If this Operation Manual is lost or damaged, promptly order a replacement from our sales office or distributor.
- Due to improvements in quality, performance or safety regulations, parts and specifications are subject to change without prior notice. In such cases, the contents, photographs, illustrations etc. in this manual may differ from the product you have purchased.

Safety Considerations

⚠ WARNING

- (1) **Make sure the voltage is correct.**
 - Be sure to use the rated voltage displayed on the label on the unit or in the Operation Manual. Using other voltages may produce heat, smoke or fire.
- (2) **Check to make sure the ON / OFF switch is in the "OFF" position before plugging in the unit.**
 - Plugging in the unit with the ON/OFF switch in the "ON" position will cause the unit to begin operating unexpectedly, possibly resulting in accident or injury. Always check to make sure that the ON/OFF switch is in the "OFF" position before plugging in the unit.
- (3) **Be careful of electrical shock.**
 - Do not touch the plug with wet hands.
 - Do not use the unit in the rain or in other situations in which water may get inside the machine.
 - Be sure to ground the unit. Failure to do so may result in electric shock.
- (4) **Check to make sure the workplace is safe.**
 - Do not use this product in the rain or in humid or wet locations, or in any other situation in which water may get inside the unit. Exposure to humidity may also degrade the motor insulation and lead to electrical shock.
 - Do not use this product near gasoline, paint thinner or other flammable liquids or gases. Failure to observe this precaution may result in fire or explosion.
- (5) **Use only the recommended accessories and attachments.**
 - Do not use accessories and attachments other than the recommended ones listed in the Operation Manual and REX catalogues as doing so may result in accident or injury.
- (6) **In the event of any of the following, turn the ON/OFF switch to the "OFF" position and unplug the unit.**
 - When the unit is not in use, or when replacing parts, performing repairs, cleaning or inspection.
 - When changing accessories.
 - In other potentially dangerous situations (including a power outage)
If the unit is left plugged in, it may operate unexpectedly, leading to accident or injury.
- (7) **Turn the unit off in the event of any abnormality**
 - Turn off the unit immediately if it seems to be operating strangely or vibrates, or if you detect an unusual noise or odour
 - Use the table in the "Troubleshooting" section of this manual to determine the cause of the problem and then take the appropriate action. Continuing to use the unit when it is operating abnormally may result in heat, smoke or fire and may lead to accident or injury.
 - In the event that the unit heats up or produces smoke, do not attempt to disassemble it yourself. Have it inspected and repaired by an authorised repair technician.
- (8) **Maintain safety by keeping the workplace neat and clean.**
 - Make every effort to keep the workbench and work area neat and clean, and make sure the area is well lit.
A messy work area and workbench may lead to accidents.
- (9) **Keep unauthorised personnel away from the work area.**
 - Do not allow unauthorised personnel to touch the unit or cord, or operate the machine.
 - Make sure only authorised work personnel are allowed to enter the work area. Be particularly careful of children entering the area during work operations. Failure to observe these precautions may result in injury.
- (10) **Use the tool properly.**
 - Do not use this tool for anything other than its intended purpose. Using it for other purposes, or for jobs that exceed its capacity, may result in damage to the tool and/or accident or injury.
 - Do not use the tool for operations beyond its capacity that may cause the motor to lock. This may result in smoke or fire.
- (11) **Wear proper clothing.**
 - Do not wear neckties, clothing with open sleeves, baggy clothing or necklaces or other accessories when operating the unit. Fasten all buttons, zip fasteners etc. on your clothing before beginning any operation. Failure to observe these precautions may result in clothing getting caught in the unit's moving parts, resulting in accident and serious injury.
 - When working outdoors, the use of rubber gloves and slip-proof footwear is recommended. Wearing slippery gloves and footwear may result in injury.
 - Put long hair inside a cap or hair cover. Do not wear a scarf, etc. during work operations. Long hair, mufflers and the like may get caught in the unit's moving parts, leading to accident and serious injury.
 - Depending on the work environment, it may also be necessary to wear a safety helmet and work boots.

WARNING

(12) Work in a safe place and in a stable position.

- Always keep both feet firmly on the ground and be sure to maintain a proper balance while working. Failure to do so may result in falling over and injuring yourself.

(13) Be sure to remove wrenches and other tools.

- Before turning on the unit, check to make sure that all tools used for inspection and adjustment have been removed. Operating the unit with tools still attached may result in accident or injury

(14) Exercise proper caution during use.

- Operate the unit carefully and pay careful attention to handling methods, operating methods, your surroundings and so on. Failure to exercise proper caution during operation may result in accident or injury
- Do not operate the unit if you are tired, if you are sick and taking medications, if you have consumed alcoholic beverages, or if for any other reason you are unable to concentrate on operating the unit properly. Failure to observe this precaution may result in accident or injury

(15) Treat the cord with respect.

- Never carry the unit by its cord or pull on the cord to remove it from the outlet.
- Keep the cord away from hot items, oil and grease, blades and sharp corners.
- Plug in the cord at an appropriate location, making sure that the cord will not be stepped on, will not become caught on anything, and will not be subjected to excessive force and damage. Failure to observe these precautions may cause electric shock or short-circuit resulting in fire.

(16) Maintain the unit with care on a regular basis.

- When replacing accessories and parts, do so in accordance with the instructions in the Operation Manual.
- Inspect the power cord and plug regularly. In the event of damage, request repair from your dealer or a REX sales office. Failure to observe this precaution may cause electric shock or short-circuit resulting in fire.
- When using an extension cord, inspect it regularly and replace it in the event of damage. When using the unit outdoors, use an extension cord designed for outdoor use. Failure to observe this precaution may cause electric shock or short-circuit resulting in fire.
- Keep the handles clean and dry, and do not get oil or grease on them, as this may cause it to slip, resulting in injury

(17) Inspect the unit to make sure none of the parts is damaged.

- Prior to use, inspect the unit carefully to make sure that protective covers and other parts are not damaged, and check to make sure that it operates properly and performs the prescribed functions.
- Check for proper positioning and tightening of moving parts, the presence of damaged parts, correct installation, and all other points that may affect operation.
- Do not use the unit if the cord or plug is damaged. Failure to observe this precaution may cause electric shock or short-circuit resulting in fire.
- Do not use the unit if it cannot be turned on and off using the ON/OFF switch.
- Follow the instructions in the Operation Manual for repair or replacement of damaged protective covers or other parts. If such operations are not specified in the Operation Manual, ask your dealer or a REX sales office to repair or replace the affected parts.

(18) Store the unit properly when not in use.

- This product should be stored in a dry place that can be locked and is out of the reach of children.

(19) Always have the unit disassembled and repaired at an authorised service center

- REX products are designed to meet applicable safety standards. Do not attempt to modify the machine yourself.
- Always have the unit repaired by your dealer or a REX sales office. If this product is repaired by a person who does not have the proper knowledge or technical skill to do so, it may not operate properly, or accident or injury may result.

(20) Do not use for any purpose other than for what it is intended.

- Using the machine for any purpose other than its intended use may result in injury or damage to the machine.

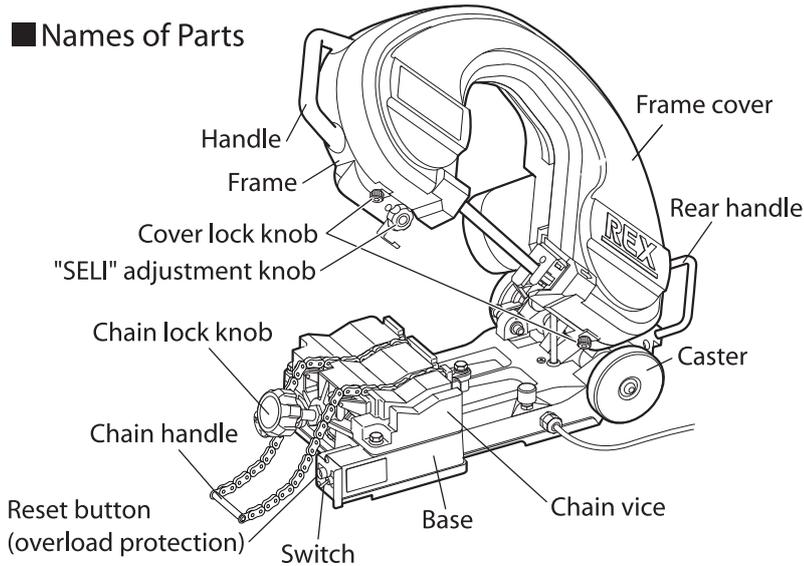
Precautions When Using the Mantis 180WS / 180WA

WARNING

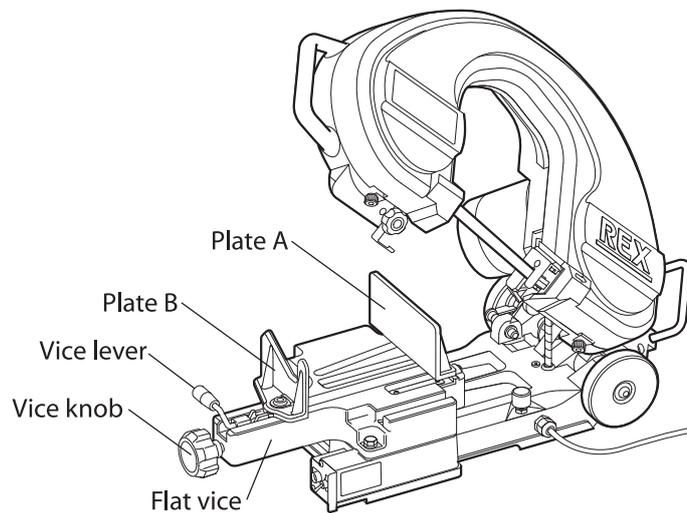
- (1) Keep away from the blade when it is rotating.
 - Even after the unit has been turned off, the blade will continue to rotate due to inertia. NEVER TOUCH THE BLADE OR MOVING PARTS WHILE THEY ARE IN MOTION. You may get caught in the mechanism, resulting in an accident or serious injury.
- (2) Do not wear gloves while operating the unit.
 - If gloves are worn during the cutting operation, they may become caught in the moving parts, leading to accident or injury. Avoid wearing gloves while operating the unit.
- (3) Do not touch the workpiece or blade with bare hands immediately after it has been cut.
 - Immediately after the cutting process, the workpiece and blade will be very hot. You may be burned if you touch them with bare hands.
- (4) Turn off the unit immediately in the event of an abnormality.
 - Turn off the unit immediately and unplug it if it starts acting strangely, or if you notice any other abnormality during operation.
- (5) Make sure the frame cover is in place.
 - To ensure safety during the cutting operation, always make sure the frame cover is in place. If the frame cover is not in place, you may get caught in the blade or rotating parts, leading to accident or serious injury.
- (6) Install the unit on level ground and in a stable position.
 - Avoid installing the unit on an incline. Always install it on level ground. Failure to observe this precaution may result in the unit toppling over during operation, resulting in accident or injury.
 - Be particularly careful of the unit toppling over when performing contour cutting. Check to make sure the frame will not topple forward.
- (7) Check to make sure the unit is turned OFF before changing the blade or clamping the workpiece.
 - Particularly when changing the blade, set the ON/ OFF switch to the "OFF" position and unplug the unit before changing the blade.
- (8) Make sure the frame does not drop down unexpectedly.
 - Make sure the frame does not drop down unexpectedly, as this may damage the blade.
- (9) Do not subject the unit to violent shocks.
 - This product contains precision parts that may be damaged if the unit is dropped, hit or otherwise subjected to shock.
 - Be particularly careful not to drop the unit during transport. This may result in damage to the machine or injury if it should land on your foot, etc.
- (10) Make sure that the voltage is correct.
 - Be sure to use a power supply with the proper voltage shown on the label. Using a power supply of a different voltage may not only damage the motor but could also lead to injury.
- (11) Clamp the workpiece securely.
 - If the workpiece is not fastened securely in place, it may move during the cutting process. This may cause the tool to vibrate or place excessive stress on the blade, resulting in breakage.
 - When cutting several workpieces at the same time, check to make sure that none of them move before beginning the cutting process.
- (12) Use a blade of the recommended type that matches the material to be cut.
 - Select a blade that is appropriate for the material to be cut.
 - Use only the recommended blades.
- (13) Use a cutting load setting that matches the workpiece.
 - Do not use a load setting that is too high or press the frame against the workpiece while cutting. This may cause slanted cutting or result in blade chipping / breakage, or the motor locking or the like.
- (14) Make sure the blade is attached securely.
 - If the blade is not attached securely, it may come off during the cutting operation, resulting in accident or injury.
- (15) Wipe off any oil from the blade or workpiece before cutting.
 - Before shipment from the factory, blades are coated with oil to prevent rust. Be sure to wipe away the oil before attaching blades. Failure to do so may cause the blade to slip or come loose.
 - If there is any oil on the workpiece, be sure to wipe it off as well.
 - Do not apply cutting oil or the like to the blade during use.

Names of Parts, Standard Specifications and Standard Accessories

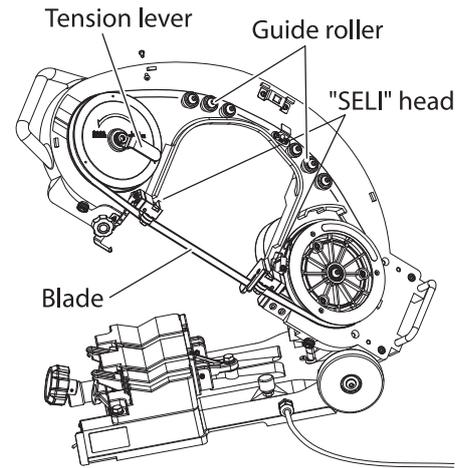
Names of Parts



XB180WS (Chain Vice)

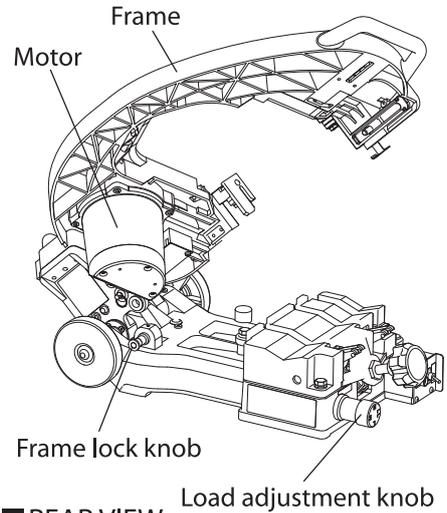


XB180WA (Flat Vice)



INSIDE THE FRAME

Fig. 1



REAR VIEW

Fig. 2

Standard Specifications and Standard Accessories

Model	XB180WS	XB180WA
Vice type	Chain Vice	Flat Vice
Cutting capacity	Pipes	ϕ 180mm □150mm
	Round bar (Soft steel bar)	ϕ 80mm
	45°	ϕ 80mm □80mm
Power	Single-phase alternating current 220V (50/60Hz)	
Motor	Split-phase induction motor 250W (Output)	
Pully rotation	70 rpm (50Hz) ,84 rpm (60Hz)	
Unit size (mm)	865 (l) × 355 (w) × 415 (h) mm	
Weight	37kg	44kg
Standard accessories	Blade for high-speed band saw (14-tooth; Product No.475211) : 1	
	Hex wrench (5mm) : 1	Socket wrench (17mm) : 1
		Hex wrench (5mm) × : 1

Table 1

Types of Blades (Optional extras)

Be sure to use only recommended blades.

Code no.	Material	No. of teeth (teeth / inch)	No. of blades included
475200	Alloy	8	10
475201		10	
475202		14	
475203		18	
475204		24	
475210	High-speed steel (Bimetal)	10	5
475211		14	
475212		18	
475213		24	
475220	Grid saw	-	

Table 2

Selecting the Cutting Load and Blade

Use the table below to select the blade and cutting load that are appropriate for the type, diameter, wall thickness etc. of the material to be cut.

Material		Alloy					High-speed steel				Grid saw	
		* 8	10	14	18	24	10	14	18	24		
Steel pipe	8A~25A			L	L			L	L			
	32A~80A			M	M			M	M			
	90A~150A			H	H			H	H			
Stainless steel	Schedule 40	8A~25A						L	L			
		32A~80A						M	M			
		90A~150A							H	H		
	Thin wall stainless steel (SU pipe)	13~125Su									LL	
		150Su								LL	L	
Resin pipe (Polyethylene pipe / Vinyl chloride pipe)				LL	LL			LL	LL			
Conduit	Thick steel				M				M			
	Thin steel				L	L			L	L		
Cast iron pipe				H				H				
Mortar-lined cast-iron pipe	≤ 1.9mm										H	
Steel	Section steel	2~3.4mm					LL			LL		
		3.5~4.9mm			L	L			L	L		
		5~7.9mm			M	M			M	M		
		≥ 8mm		M	H			M	H			
		≤ 15mm		H	H			H	H			
	Round bar	16~50mm			M	M			M	M		
		51~80mm			H				H			
			H	H				H	H			

LL = ultra-light load L = light load M = medium load H = heavy load * = teeth

Table 3

Notes:

- The figures in the table are examples only. Select the blade and cutting load to match the actual material to be cut.
- When selecting the proper number of teeth in the blade, use the following guideline: thickness of material = 2 teeth.

Using the Machine

- Cutting various mild steel materials such as steel pipes, steel bars, etc.
Note: Do not use to cut hard materials such as quenched steel etc. or the blade will become extremely worn.
- Cutting stainless steel and resin pipes.
Note: Do not use heat-sensitive plastic materials. The heat generated when cutting may melt such materials, which may clog the blade and cause the motor to burn.

Replacement Vice: Chain Vice ⇔ Flat Vice (Optional)

With this latest machine you can remove and change the vice. By purchasing the optional vice, the machine can be changed from a chain vice to a flat vice or vice versa. Changing from one vice to another simply requires removing and then retightening three bolts.

Code no.	475190
Product name	Chain Vice unit

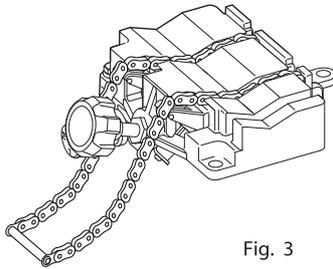


Fig. 3

Code no.	475192
Product name	Flat Vice unit

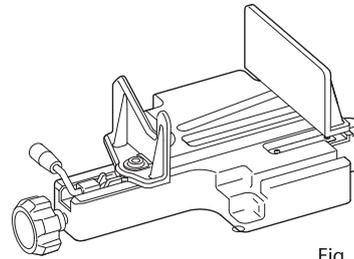


Fig. 4

1. Changing the Vice (Fig. 5~7)

- (1) Undo the 3 bolts and remove together with the washers. (Fig. 5)
- (2) Lift the vice up off the base. (Fig. 6)
Note: Be careful not to lose the two pins in the base of the vice.
- (3) Place the vice on the base, aligning the pins in the base with their corresponding holes in the vice. (Fig. 7)
- (4) Retighten the bolts.

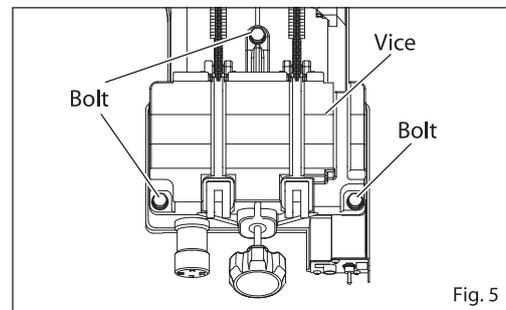


Fig. 5

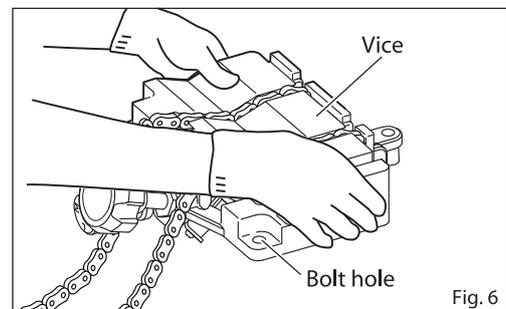


Fig. 6

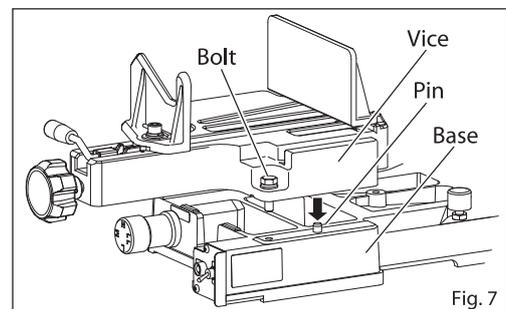


Fig. 7

⚠ CAUTION

- Before you install the new vice, clean the contacting surfaces of the vice and base or cutting precision may be adversely affected.
- Make sure the bolts are firmly tightened. If they are not, then not only will cutting precision be affected but damage to the blade may also result.
- When changing the vice, be careful not to sandwich your fingers between the vice and the base.

Getting Ready

1. Transport and Setting up (Figs. 8 & 9)

⚠ WARNING

Be particularly careful not to drop the unit during transport. This may result in damage to the machine or injury if it should land on your foot, etc.

Transport

(1) The frame is locked before the product is packed. Hold up the handle. The casters will contact the ground, allowing you to roll the unit along. (Fig. 8)

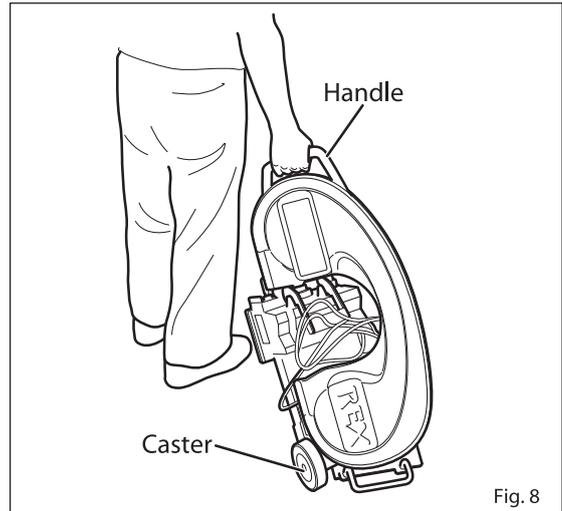


Fig. 8

(2) When moving the unit by carrying it, lift it from both the front and rear handles. DO NOT TRY TO LIFT IT BY YOURSELF. The unit should always be carried by two or more people. (Fig. 9)

Setting up

(1) Place the unit on level ground.

⚠ CAUTION

Place the unit on level ground and in a stable position. If it is placed on an incline, it may topple during operation, resulting in accident or injury.

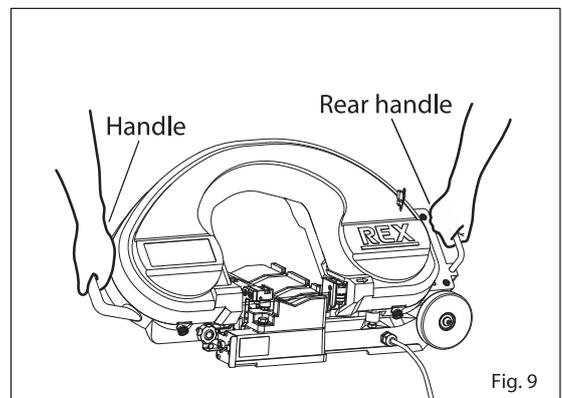


Fig. 9

2. Unlocking the Frame (Figs. 10 & 11)

(1) Pull the frame lock knob on the bottom left hand side of the motor and, at the same time, turn it 90° either clockwise or anti-clockwise. (Fig. 10)

(2) When the frame lock knob is protruding, the frame is unlocked. When transporting the unit, use the same process in reverse to lock the frame prior to transport.

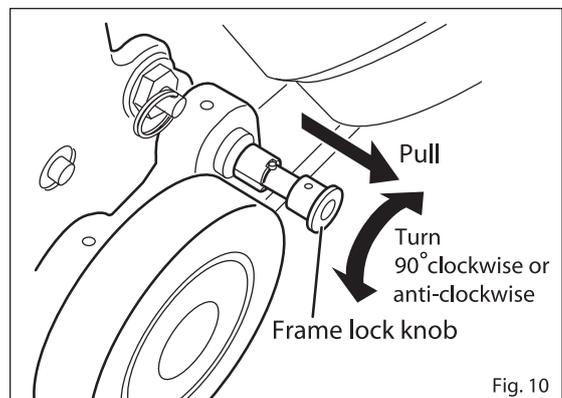


Fig. 10

⚠ WARNING

Frame Lock Precautions (Fig. 11)

When the frame is locked, check to make sure that the frame lock knob is tightly against the end of the collar. If there is a gap and the lock pin is not completely inserted into the hole, the unit may become unlocked during transport, resulting in accident or injury.

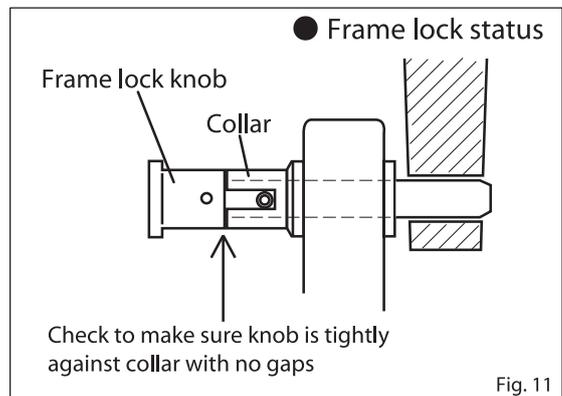


Fig. 11

3. Power Supply (Fig. 12)

Use a 220V AC power supply. Also check the following:

Leakage breaker

To prevent electric shock, check to make sure that the power supply connected to the unit is equipped with a leakage breaker as specified by local regulations governing standards for electrical equipment, worker safety, etc.

Grounding

Be sure to ground the unit prior to use.

To ensure safety, be sure to ground the unit even if the power supply is equipped with a leakage breaker.

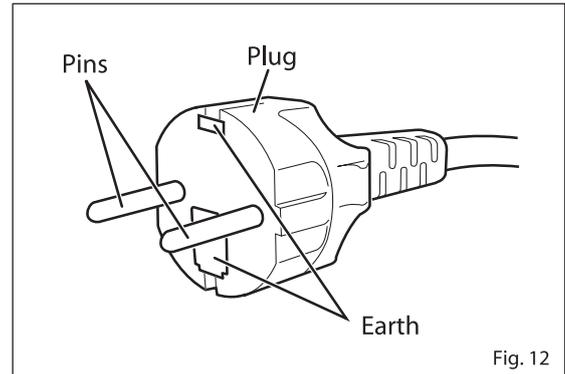


Fig. 12

⚠ WARNING

NEVER GROUND THE UNIT BY CONNECTING IT TO A GAS PIPE.
This may result in an explosion.

⚠ WARNING

Be sure to use an extension cord that is not damaged.

Getting Ready

4. Changing the Blade (Figs. 13 ~ 18)

Check to make sure the blade matches the material to be cut (see Page 5). If it does not, replace the blade.

⚠ WARNING

- Be sure to unplug the unit from the power supply before changing the blade. If the unit is left plugged in, it may start up unexpectedly, leading to injury.
- Do not touch the blade directly with bare hands. This may result in injury. When changing the blade, wear gloves and protective goggles.

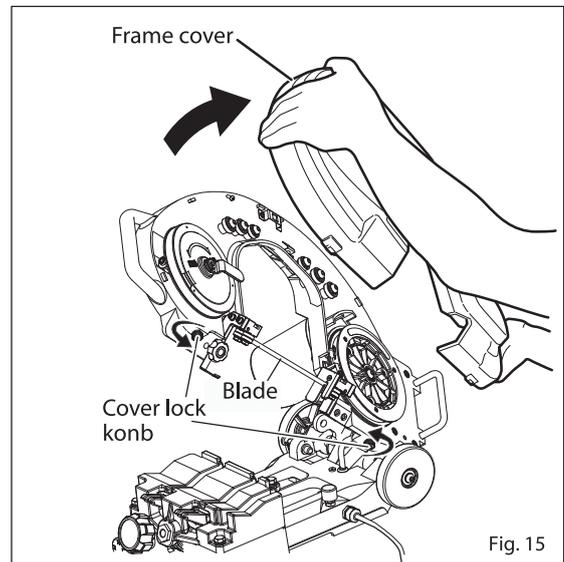
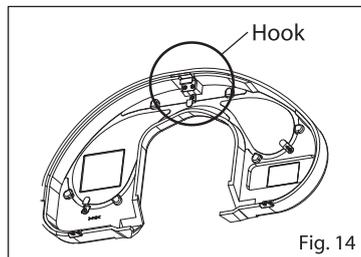
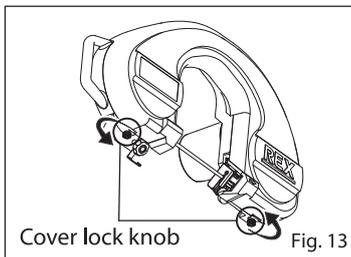
When attaching new blades

- (1) To prevent the blade from slipping, wipe away all rustproofing oil from the blade before attaching the blade. Also wipe away any oil sticking to the pulley and bearings.
- (2) New blades tend to be chipped easily or make slanted cuts, so be sure to perform trial cutting.
Trial cutting: set the load to Light (L) and make one or two cuts in a gas pipe measuring 50A or larger.

Removing the frame cover

- (1) With the frame lifted up, loosen the 2 cover lock knobs on the underside of the frame by turning them anti-clockwise. (Fig. 13)
- (2) Hold the frame cover and slide it upward to remove. (Fig. 15)

Note : There is a hook at the top of the frame cover.
Slide it upwards to unhook it. (Fig. 14)

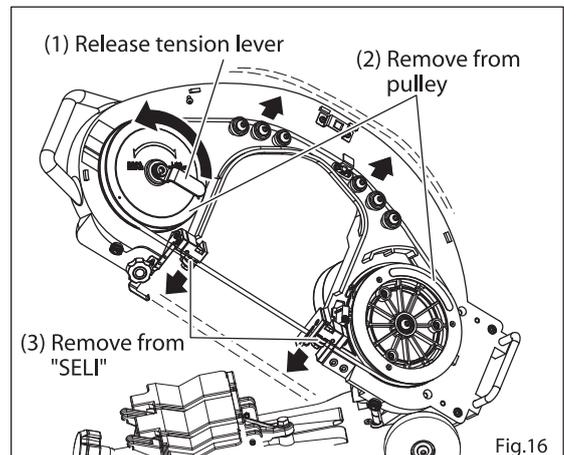


⚠ WARNING

When removing the frame cover, make sure the blade does not spring out unexpectedly, which could result in accident or injury.
This is particularly likely to happen when replacing broken blades, so remove the frame cover slowly and carefully.

Removing the blade (Fig. 16)

- (1) Turn the pulley tension lever on the handle side anti-clockwise to release the blade tension.
- (2) Remove the blade from the pulley.
- (3) Remove the blade from the "SELI".



Attaching the blade (Fig. 17)

- Attach the blade, using steps (1) through (5) in Fig. 17. Then turn the tension lever clockwise (6) to apply tension to the blade.

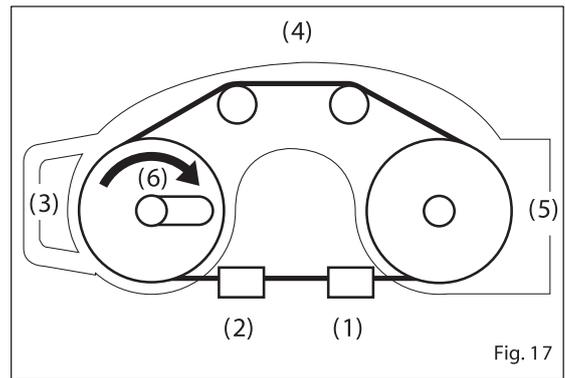


Fig. 17

Checking the blade is attached correctly (Fig. 18)

- (1) Check to make sure the blade is properly attached.
 - Make sure the "SELI" bearings are inserted all the way.
 - Make sure the blade has not climbed up over the pulley flange.
- (2) By hand, turn pulley A (on the wheel side) slowly anti-clockwise and check to make sure the blade does not become misaligned or come loose.
- (3) When you have finished attaching the blade, be sure to replace the frame cover.

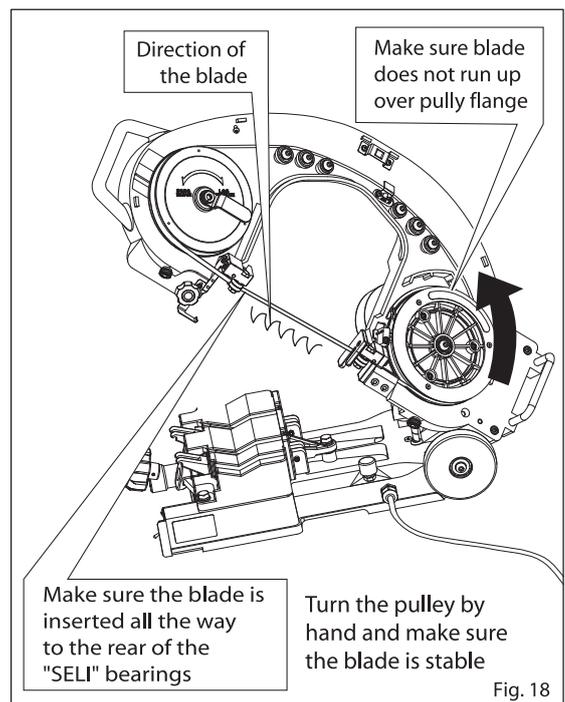


Fig. 18

Getting Ready

5. Installing and Removing a Spare Blade

⚠ WARNING

- Do not touch the blade with your bare hands as this could result in accident or injury. Always wear gloves and protective goggles when installing or removing a blade.
- Never attempt to use more than one blade at a time or the blade(s) could spring out and injure you.
- The blade is springy. Always take care when installing or removing a blade in case it springs out and injures you.

Installing the spare

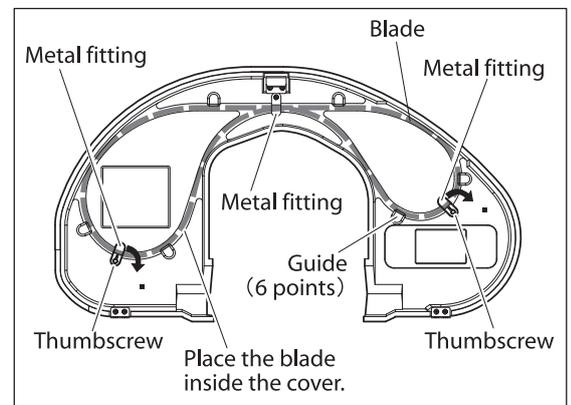
- (1) Remove the frame cover and place on a flat surface.

Note : Refer to the previous section for how to remove the cover.

- (2) Loosen the 2 thumbscrews a little and turn the metal fittings 90° in the direction indicated by the arrows in Fig. 19.
- (3) Hold the blade as shown in Fig. 20, with the teeth of the blade facing towards the frame.

Note: Be careful not to bend the blade to such an extent that you make a kink in it.

- (4) First place the middle portion of the blade just under the middle metal fitting, then insert the blade on the inside of the 6 guides. (Fig. 19)
- (5) Turn the metal fittings so that they are at right angles to the blade.
- (6) Tighten the thumbscrews firmly.

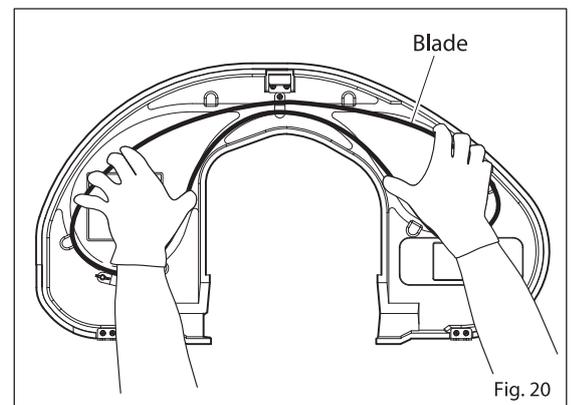


Removing the spare blade

- (1) Remove the frame cover and place on a flat surface.
- (2) Loosen the 2 thumbscrews a little and turn the metal fittings 90° in the direction indicated by the arrows in Fig. 19.
- (3) Remove the blade, holding it as shown in Fig. 20.

Note : Be carefull not to be bend the blade to such an extent that you make a kink in it.

- (4) Turn the metal fittings back to their original positions.
- (5) Tighten the thumbscrews firmly.



⚠ WARNING

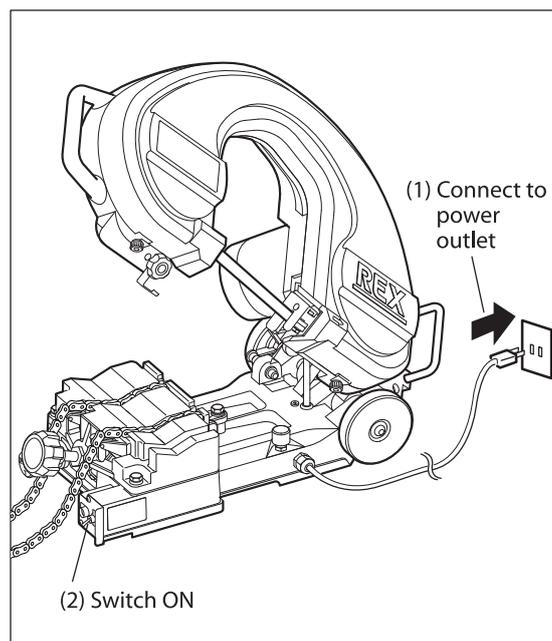
After installing or removing the blade, always check that the thumbscrews are not loose. If they are, then the blade or metal fittings could get caught in the roatating parts, which will not only damage the machine but could lead to an accident or injury.

6. Preliminary Inspection (Fig. 21)

- (1) Insert the power plug into the outlet.
- (2) With the frame open, set the ON/OFF switch on the right at the front of the base to the "ON" position.
- (3) Check the following:
 - Make sure there is no abnormal noise coming from the motor or moving parts.
 - Make sure the blade does not become misaligned or come loose.
 - Lower the frame and make sure the switch moves to the "OFF" position.
- (4) When all of the above have been checked, remove the plug from the outlet.

⚠ WARNING

Be sure to inspect the unit with the frame cover attached. If the blade should come loose during inspection, it may fly out and strike you in the face or otherwise lead to accident or injury.



Preparing for Cutting

1. Preparing for Cutting (Fig. 22)

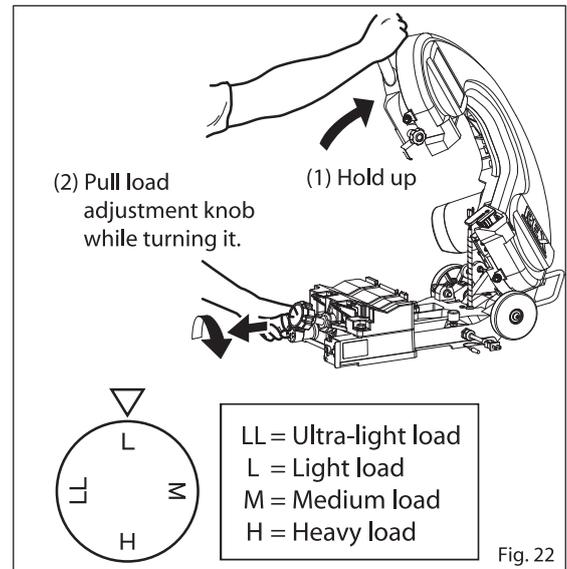
1. Adjusting the Cutting Load (Fig. 22)

The load will affect the cutting precision and life of the blade. Refer to Page 5 to select the most appropriate cutting load for the workpiece.

When precision is particularly important, it is best to use a lighter load than suggested in the chart.

- (1) Raise the frame to its highest point.
- (2) Pull the load adjustment knob while turning it, and set it to a load setting that matches the material to be cut.
- (3) Slowly lower the frame.

Note : The frame stopper may be disengaged, so lower the frame carefully.



2. Adjusting the SELI Slide (Fig. 23)

Adjustment of the SELI slide will affect the cutting precision and life of the blade.

Set SELI head B as close as possible to the workpiece. If it is too far away, both cutting precision and the life of the blade will be adversely affected.

⚠ CAUTION

After moving SELI head B, always tighten the SELI knob securely. If it is not tight enough, then SELI head B will move about when cutting and cutting precision will not only be reduced but the blade could also be damaged.

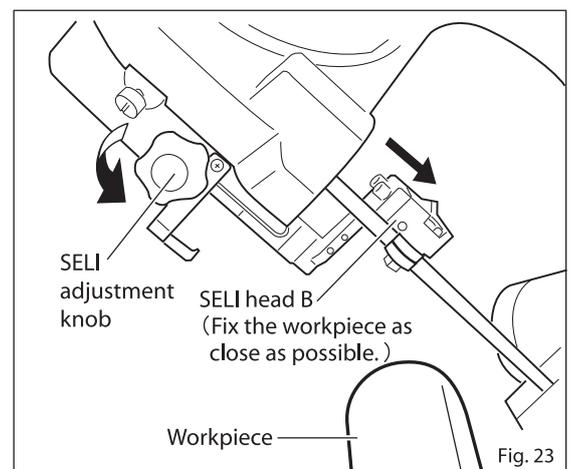
- (1) Turn the SELI adjustment knob anti-clockwise and loosen it until you can move SELI head B.

- (2) Move SELI head B with your hands and position it close to the workpiece.

Note: Adjust the workpiece and SELI head B so as not to hit each other.

- (3) Tighten the SELI adjustment knob firmly.

Note : Adjusting the SELI slide greatly affects cutting precision. To obtain the highest degree of precision, make sure it matches the size of the workpiece.



3. Clamping the Workpiece

⚠ WARNING

Do not mount or remove a workpiece while the blade is still rotating. If the workpiece, or your hand etc. gets caught in the rotating blade, it can lead to serious accident or injury.

⚠ CAUTION

Make sure the workpiece is clamped securely. If the workpiece is not fastened securely in place, cutting will be unstable, resulting in damage to the machine or in accident or injury.



XB180WS Chain Vice

(Fig. 24~Fig. 25)

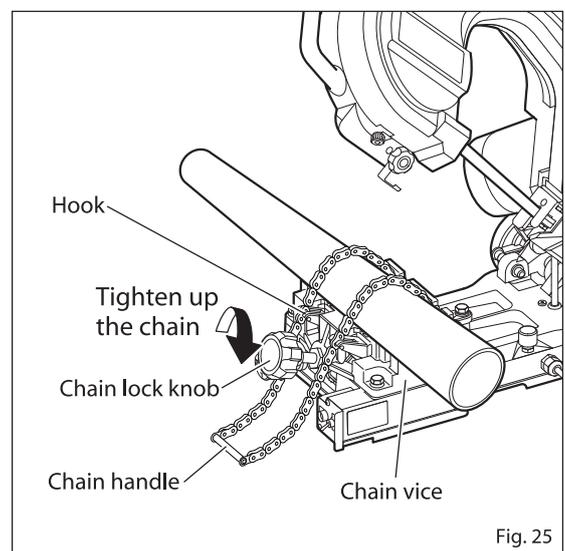
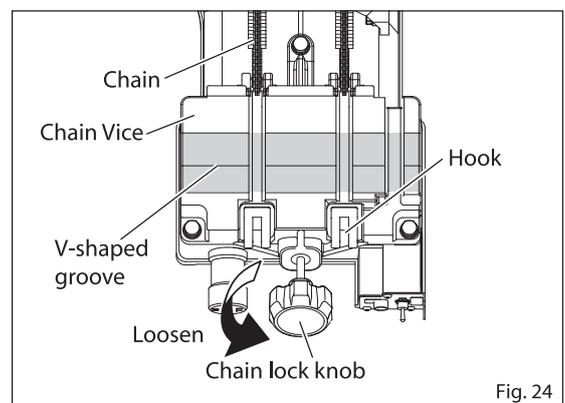
⚠ CAUTION

If the chain is looser than it should be when you place it over the hook, it may not be fixed properly, so pull the chain over as tightly as possible. Check that the workpiece is fixed securely or cutting will be unstable and not only may the machine be damaged, it could cause accident or injury.

- (1) Turn the chain lock knob anti-clockwise and raise the hook to its highest point. (Fig. 24)
- (2) Place the chain in the wells behind the vice. (Fig. 24)
- (3) Place the workpiece on the V-shaped groove on the chain vice. (Fig. 24)

Note : If the object to be cut is very long, then rest it on a support on one side.

- (4) Hold the chain handle and pull the chain over the hook. (Fig. 25)
- (5) Turn the chain lock knob clockwise, tighten the chain and fix the workpiece securely in place. (Fig. 25)



Preparing for Cutting



XB180WA Flat Vice (Fig. 26~Fig. 31)

How to move Plate B (Fig. 26)

- (1) Turn the Vice knob anti-clockwise to release the lock. (Fig. 26)
- (2) If you pull the vice lever up and move it backwards and forwards, Plate B will move likewise at the same time. (Fig. 26)

Right angle cuts (90°)

- (1) Place the workpiece in the vice carefully aligning it with Plate A. (Fig. 26)

Note : Position the workpiece so that there is no abrupt change in the thickness of the material being cut. (Fig. 27)

If there is a sudden change in the thickness of the material while cutting, the blade may be damaged, the cut may not be straight or the motor may lock.

Note : If the object to be cut is very long, then rest it on a support on one side.

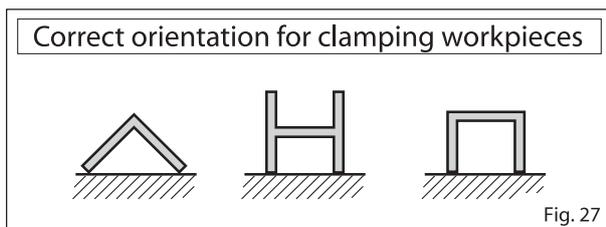


Fig. 27

- (2) Pull the vice lever up and push it forward so as to move Plate B into contact with the workpiece. (Fig. 28)
- (3) Turn the Vice knob clockwise and fix the workpiece securely in position. (Fig. 28)

Note : The workpiece should be placed securely in the vice base so that it does not wobble.

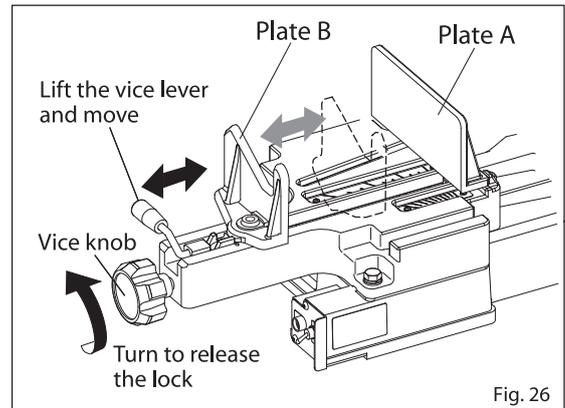


Fig. 26

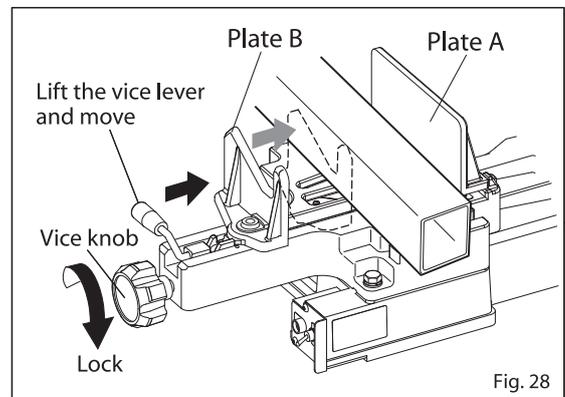
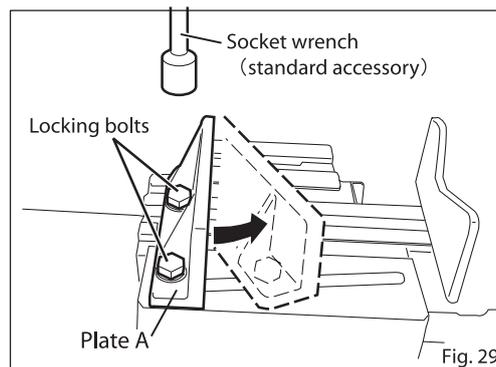


Fig. 28

Preparing for Cutting

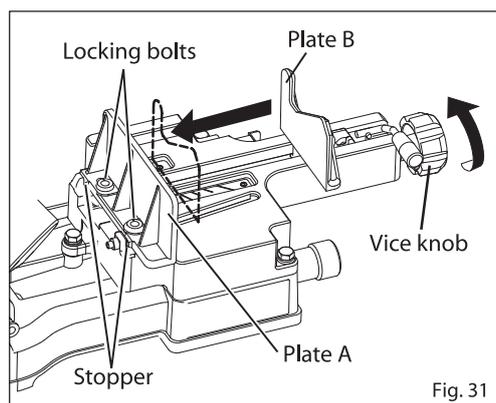
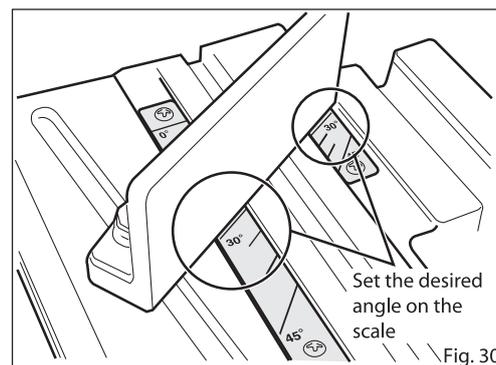
Cutting at an angle (0~45°)

- (1) Loosen the 2 bolts on Plate A with the socket wrench provided with the machine. (Fig. 29)
- (2) Set Plate A at the desired angle on the scale and tighten the bolts firmly. (Fig. 30)
- (3) Fasten the workpiece in the same way as making 90° cuts.



To revert from an angle cut to a 90° cut. (Fig. 31)

- (1) Use the socket wrench included with the unit to untighten the 2 locking bolts on Plate A.
- (2) Remove any scrap or foreign objects stuck to the Flat Vice or the stopper on Plate A.
- (3) Move Plate A and the stopper until they come into contact with the stopper on the Flat Vice.
- (4) Move Plate A and Plate B into contact with each other and tighten by turning the vice knob clockwise.
- (5) Tighten the two locking bolts on Plate A with the socket wrench provided with the unit.



Cutting

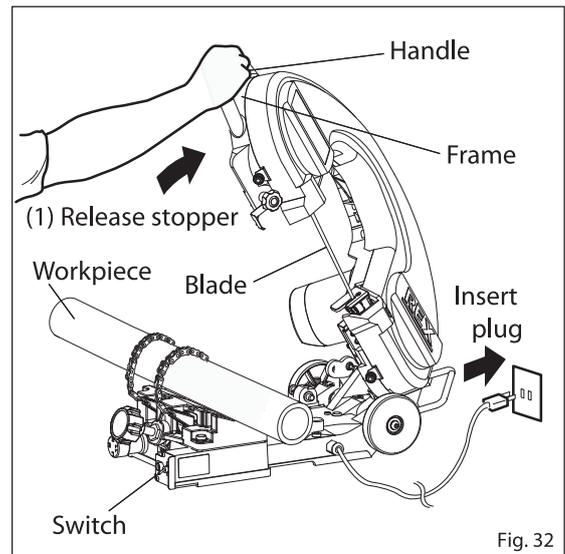
1. Cutting (Figs. 32 - 34)

(1) Insert the plug into the outlet. (Fig. 32)

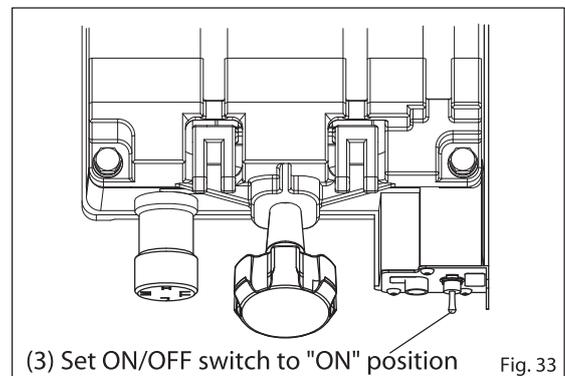
⚠ CAUTION

Always check to make sure that the ON/OFF switch is in the "OFF" position before plugging in the unit. If the unit is plugged in with the switch in the "ON" position, the unit will operate unexpectedly, possibly resulting in accident or injury. Do not wear gloves while operating the unit. They may become caught in the moving parts, leading to accident or injury.

(2) Hold the handle and lift the frame to its highest point and release the stopper. (Fig. 32)



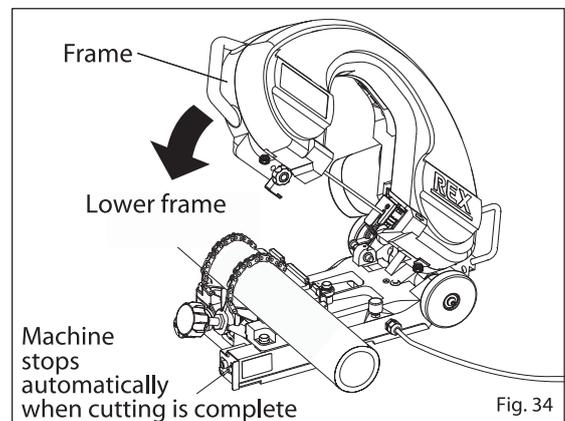
(3) Set the ON/OFF switch at the front of the base on the right to the "ON" position. The blade will start turning. (Fig. 33)



(4) When the blade has reached the proper speed of rotation, slowly place the blade against the top of the workpiece.

Notes : Do not place the blade against the top of the workpiece and then set the ON/OFF switch to the "ON" position. This may damage the blade or result in slanted cutting. Do not lower the blade onto the workpiece too suddenly. This may damage the blade or result in slanted cutting.

(5) From this point on, the unit will cut automatically. When cutting is complete, the switch will shift to the "OFF" position and the motor will stop. (Fig. 34)



⚠ CAUTION

Immediately after being cut, the workpiece and blade will be very hot. You may burn yourself if you touch them with bare hands.

2. If the Blade Slips While Cutting

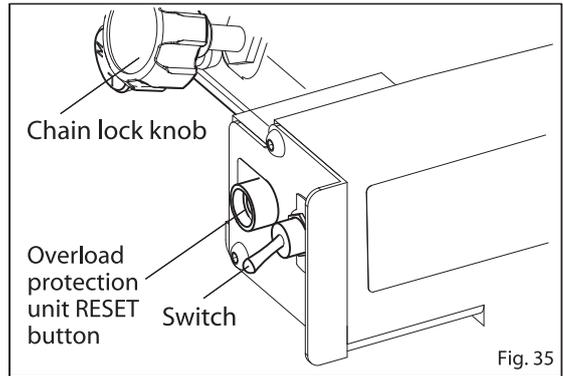
- If there is oil, grease or similar on the workpiece or the machine parts (blade, pulley or bearings), the blade and pulley may slip during the cutting process and the pulley may begin simply idling. If this happens, immediately turn the ON/OFF switch to the "OFF" position and remove the plug from the outlet. Then use a rag to wipe the oil from the workpiece and machine parts.

Note: Continuing to operate the unit after the blade has slipped may burn the rubber ring on the pulley or damage the pulley.

3. What to do if the Motor Stops (Fig. 35)

- If an excessive load is applied during cutting or if the blade gets caught in the workpiece and locks, the overload protection unit will be activated and the motor will stop. If the overload protection unit has been activated, reset the unit as follows:

- (1) Set the ON/OFF switch to the "OFF" position.
- (2) Eliminate the cause.
- (3) Press the RESET button below the ON/OFF switch (Fig. 36)
Note: If the motor has overheated, it may not be possible to reset the unit immediately. In such a case, wait a few minutes and then press the RESET button again.

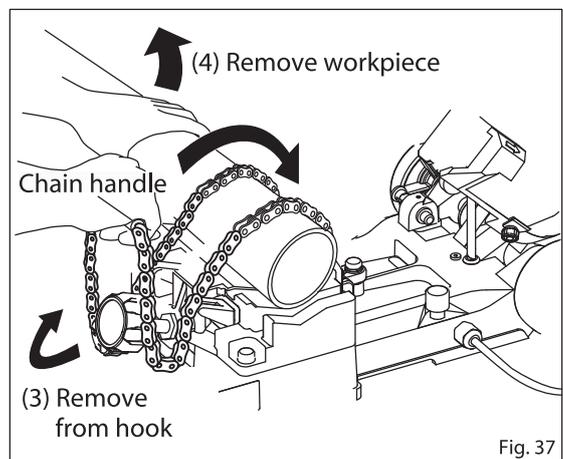
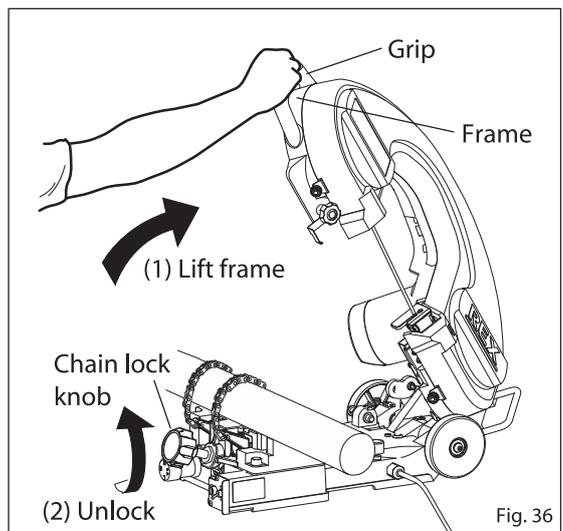


4. Removing the Workpiece (Fig. 36 - 37)



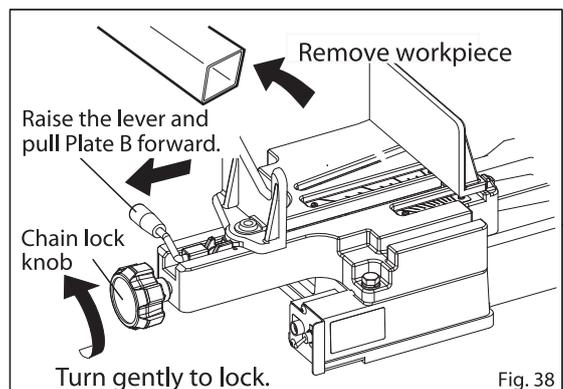
XB180WS Chain Vice (Fig. 36 - 37)

- (1) Hold the handle and lift the frame to its highest point. Check to make sure the frame has been stopped by the stopper (Fig. 36)
- (2) Turn the chain lock knob anti-clockwise, and raise the hook to its highest point (Fig. 36)
- (3) Hold the chain handle and remove the chain from the hook. (Fig. 37)
- (4) Remove the workpiece. (Fig. 37).



XB180WS Flat Vice (Fig. 38)

- (1) Hold the handle and raise the frame to its highest point, making sure the stopper is engaged.
- (2) Turn the vice knob anti-clockwise and release the lock.
- (3) Hold the vice lever up, pull it towards you and remove the workpiece.



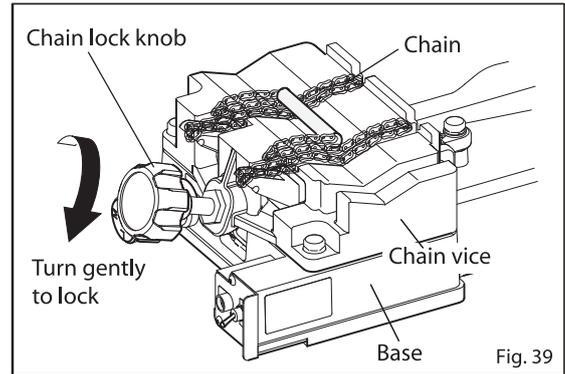
Cutting

5. Finishing the Cutting Process (Figs. 39 & 40)



XB180W Chain Vice (Fig. 39)

- Place the chain over the hook without allowing any slack, fix the chain lock knob by turning it lightly in a clockwise direction, and place any slack on the chain vice and base.

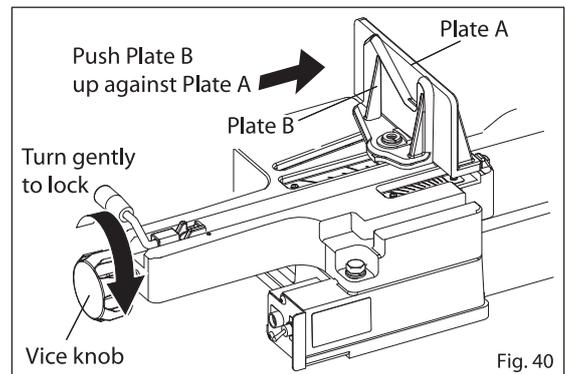


XB180WA Flat Vice (Fig. 40)

- With Plate B up against Plate A, turn the vice knob by turning it lightly clockwise so as to fix Plate B in place.

Note : Clean away any chips that have been produced during cutting.

Note : When cladding tubes etc. have been cut, resin chips or the like may stick to the pulley inside the frame and cause the blade to slip. Be sure to wipe away these chips etc.



1. Contour Cutting (Figs. 41 - 43)

This tool can be used for contour cutting. Use the following procedure to perform contour cutting, while observing the warnings noted below.

⚠ WARNING

- Always perform contour cutting on level ground and in a stable position. If contour cutting is done with the machine tilted or in an unstable position, the frame may topple over during operation, resulting in accident or injury.
- Do not wear gloves while operating the unit. They may become caught in the moving parts, leading to accident or injury.
- Always wear protective goggles when cutting materials that produce lots of dust or chips.
- Do not perform contour cutting on round workpieces. The workpiece may turn during the cutting operation, resulting in accident or injury.
- When performing contour cutting, make sure the workpiece is supported securely with both ends of the workpiece at least 10 cm from the blade. If the workpiece is too close, it may get caught in the blade, resulting in accident or injury.

- (1) Pull the stopper pin ring to the left of the motor, while simultaneously holding the handle and lifting the frame so it is vertical. (Figs. 41 & 42)
- (2) Set the ON/OFF switch to the "ON" position. The blade will start rotating.
- (3) Place the workpiece on a contour table and cut it slowly. (Fig. 43)

Notes:

- Cut particularly slowly when cutting inward or downward.
- When cutting downward, press the blade against the workpiece with less force and make sure your body does not lunge forward.

- (4) When cutting is complete, immediately turn the ON/OFF switch to the "OFF" position. If you are not going to continue to use the unit, remove the power plug from the outlet as a fail-safe precaution.
- (5) Pull the stopper pin, while simultaneously holding the handle and lowering the frame. This will return the unit to the normal cutting position.

Notes:

- The blade is for straight line cutting only. It cannot be used for curved cutting. Forcing the blade to cut in a curve may chip it or make it able to cut only in a curve.
- Blades used for contour cutting tend to end up cutting only in a curve. To perform normal cutting, replace the blade with a new one.

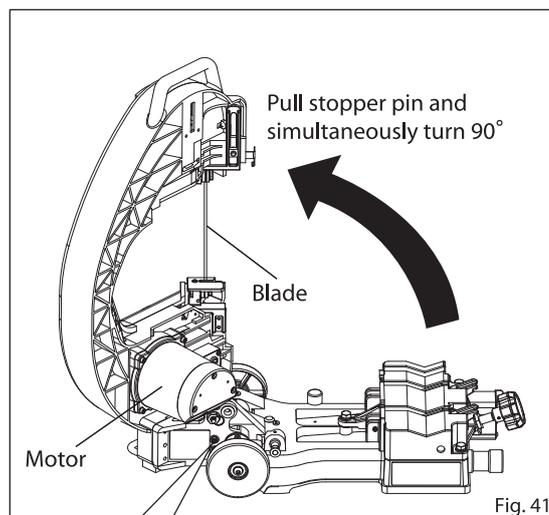


Fig. 41

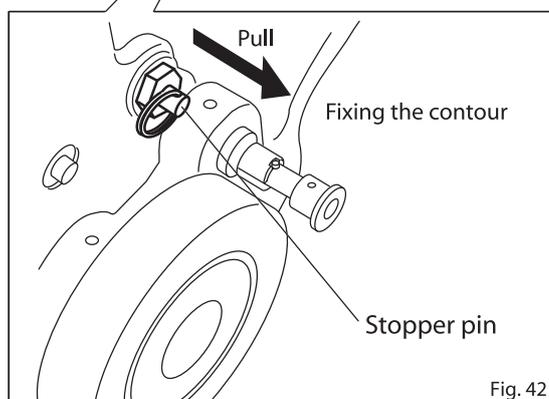


Fig. 42

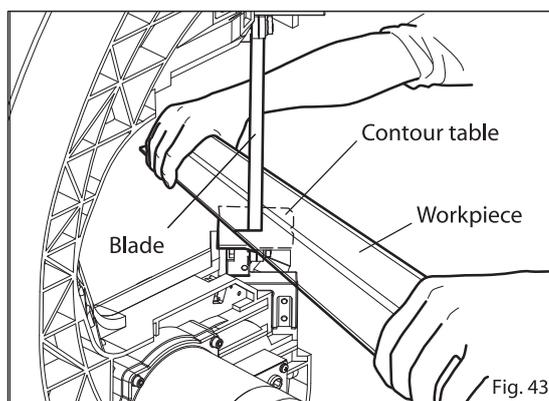


Fig. 43

Maintenance

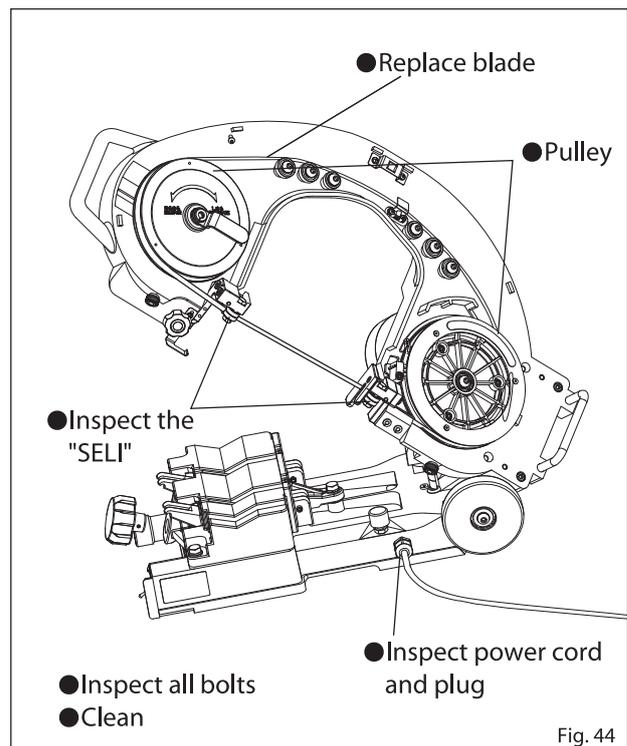
⚠ WARNING

- Before inspection or maintenance, be sure to turn OFF the switch and also remove the battery from the unit. If the battery is not removed, the tool may activate unexpectedly, causing serious injury.
- When an abnormality is found during inspection or maintenance, identify the problem referring to the descriptions in "Troubleshooting" and then follow the relevant instructions. Using the product as is (without correcting the abnormality) may generate heat, fumes or fire, causing serious accidents or injury.

1. Maintenance of Parts (Fig. 44)

- Check the blade.
 - Check to make sure the blade is not chipped or otherwise damaged. If it is, replace it.
 - If the blade becomes worn, replace it as soon as possible. Continued use of a worn blade may result in slanted cutting.
- Check all bolts.
 - Make sure all bolts are fastened tightly. Tighten any that need it.
- Check the power cord and plug.
 - Check the power cord and plug for damage. If the cord is damaged, replace it.
- Inspect the "SELI" heads.
 - Check to make sure that both "SELI" heads are adjusted properly.
 - Check to see if the "SELI" head bearings are worn. If they are, replace them.
- Keep the unit clean.
 - Using a cloth or rag, periodically wipe away any chips, dust and so on from the frame and pulley sections.

Note: Be careful not to get the motor wet.



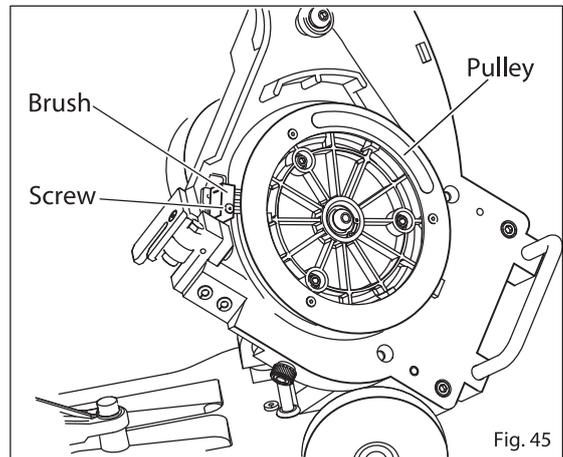
2. Changing the Brush (Fig. 45)

A brush has been installed on the pulley on the drive-side of the machine, which is designed to reduce blade slippage by removing any resin-based scrap.

As the brush is a consumable item, change it when it fails to clean properly.

How to change the brush

- Undo the screw with a plus screwdriver and remove both the screw and the brush.
- Replace as before with a new brush and tighten the screw again.



Servicing & Repair

This unit is a precision instrument. If it fails to function properly do not try to repair it yourself. Contact your local REX dealer, sales office or distributor.

If you have questions or need parts or other supplies, feel free to contact **REX Industries Co., Ltd.**

Availability of Replacement parts

Replacement parts are maintained for a period of 7 years after production of this model has been terminated. Electrical parts, however, will remain available for a period of 5 years.

Troubleshooting

⚠ WARNING

- If the problem you have and the appropriate remedy are not shown in the table below, do not attempt to disassemble or repair the unit yourself.
- If the problem and remedy are not shown in the table, or if the table indicates that you should have the unit repaired or serviced, consult your dealer or REX.
- If this product is repaired by someone who does not have the proper knowledge or technical skill to do so, the product may not operate properly, or an accident or injury may occur. In the event of a problem, always check the table before contacting REX Industries or your dealer.

Problem	Cause	Remedy
Saw cuts at an angle	Cutting load is not adjusted properly.	Adjust the cutting load to match the material being cut. (Page 5)
	Blade is not installed correctly.	Place blade firmly on the "SELI" heads, guide roller and pulley.
	Blade is lowered too suddenly.	Move blade down gently.
	Blade was being used improperly or is worn.	Replace blade.
	Number of blade teeth does not match material being cut.	Use a blade that matches the material being cut. (Page 5)
	"SELI" head bearings are worn.	Replace bearings. (have the unit repaired or serviced)
	Workpiece moves during cutting.	Make sure workpiece is fastened securely in the V-shaped groove.
	Workpiece is not clamped properly.	Clamp oblong workpieces so their height is as low as possible.
	Tension lever is not set properly.	Set tension lever firmly to the "REINSTATE" position.
	Blade is not one of the recommended type.	Use blades of the recommended type.
Cutting takes a long time	The "SELI" adjustment knob is too loose or isn't tightened properly.	Tighten the adjustment knob firmly.
	Cutting load is set too light.	Set the load to match the material being cut. (Page 5)
	Number of blade teeth does not match material being cut.	Replace blade with one that matches the material being cut. (Page 5)
Saw vibrates during cutting	Blade is worn.	Replace blade.
	Tension lever is not set to the "REINSTATE" position.	Set tension lever to "REINSTATE" position.
	Workpiece is not clamped securely.	Clamp workpiece securely.
	Blade is chipped or cracked.	Replace blade.
	The spare blade hasn't been installed properly.	Install the spare blade correctly. (Page 11)

Troubleshooting

Problem	Cause	Remedy
Blade slips or comes loose	Blade is not installed properly	Install blade properly on "SELI" heads, guide rollers and pulley.
	There is oil on blade.	Wipe away oil from blade and reinstall.
	There is oil on workpiece.	Wipe away oil from workpiece.
	There is oil on pulleys, guide rollers or "SELI" head bearings.	Wipe away oil.
	Tension lever is not set firmly in place.	Turn tension lever to proper position.
	Rubber ring on pulley is worn out.	Replace rubber ring on pulley. (Have unit repaired or serviced.)
	There is resin or chips sticking to rubber ring on pulley.	Wipe rubber ring with a rag.
	The brush is worn.	Replace with a new blade. (Page 22)
Motor does not work	Overload protection unit has been activated.	Use the procedure on Page 18 to reset.
	Power plug has come out of electric outlet.	Insert plug into outlet.
	There is a short in the power cord.	Have unit repaired or serviced.
	Switch is faulty.	Have unit repaired or serviced.
	Motor is faulty.	Have unit repaired or serviced.
Motor stops when cutting	Overload protection unit has been activated.	Use the procedure on Page 18 to reset.
	Line voltage is too low.	Reconnect to a power supply of the appropriate voltage for the machine.
	Blade does not match material being cut.	Replace blade with one that matches the material being cut. (Page 5)
	Cutting load is not adjusted properly.	Adjust the cutting load to match the material being cut. (Page 5)
	Workpiece moves during cutting.	Make sure workpiece is fastened securely in the V-shaped groove.

Table 6

Guarantee and Exemption from Liability

1. Should the machine happen to break down for no apparent reason despite normal and correct use, repairs and service parts shall be provided free of charge as outlined below.

Guarantee period, repairing dates, procedures and methods for providing repairs and service parts shall be decided in consultation with the customer and distributor.

Repairs and service parts may be charged.

Repairs may be charged even under the following circumstances:

- if the machine has not been used according to the instructions in the Operation Manual.
- if it has been used for anything other than its intended purpose.
- if it has not been repaired according to the Operation Manual or if it has been remodeled.
- if blades or consumables need replacing.
- if the machine has been handled in an inappropriate way.

2. REX will accept no responsibility under the following circumstances:

- fire, damage from flood, earthquakes, lightning or other natural disasters.
- malfunction or accident resulting from pollution or abnormal voltage.
- when the machine has not been operated according to the Operation Manual.
- when the machine has been used incorrectly, repaired or remodelled inappropriately.

3. Any costs incurred by the manufacturer shall not exceed the purchase price of the machine.

REX

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