

# OPERATING MANUAL



## 5 6046 0010 4" Electric Band Saw



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# SAFETY INSTRUCTIONS

## GROUNDING INSTRUCTIONS

This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with an approved three-conductor cord and three-prong grounding type plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal.

If your unit is for use on less than 150 Volts, the power cord is equipped with a plug that has two flat, parallel current-carrying prongs and one longer, round or "U"-shaped, ground prong which requires a mating 3-conductor grounded type receptacle, as shown in Fig. 1.

An adapter, shown in Fig. 2, is available for connecting 3-prong grounding type plugs that are used on units less than 150 Volts to 2-prong receptacles. **THIS ADAPTER IS NOT ALLOWED IN CANADA.** The green colored rigid ear, lug, etc., must be connected to a permanent ground such as a properly grounded outlet box, as shown in Fig. 2.

If your unit is for use on 150 to 250 Volts, the power cord is equipped with a plug that has two flat current-carrying prongs in tandem, and one round or "U"-shaped, longer ground prong, as shown in Fig. 3. This plug is used only with the proper mating 3-conductor grounding type receptacle, as shown in Fig. 3. No adapter is available for this type plug.

**IN ALL CASES, MAKE SURE THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED.**

**NEVER REMOVE GROUNDING PRONG FROM POWER PLUG.**

## EXTENSION CORDS

Use only three-wire extension cords which have three-prong grounding type plugs and three-pole receptacle which accept the tool's plug. Replace damaged or worn cord immediately. **DO NOT ATTEMPT TO REPAIR POWER CORD.**

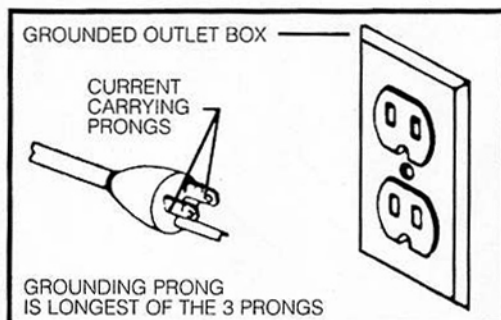


Fig. 1

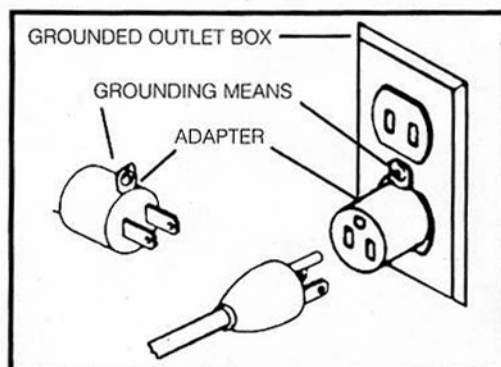


Fig. 2

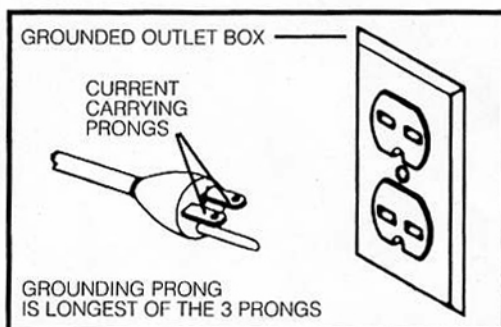


Fig. 3

# IMPORTANT SAFETY INSTRUCTIONS

**WARNING:** When using electric tools, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following:

READ AND FOLLOW ALL INSTRUCTIONS.

There are certain applications for which this tool was designed. We strongly recommend that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application

- 1. KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
- 2. AVOID DANGEROUS ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep area well lit. Avoid chemical or corrosive environment. Do not use tool in presence of flammable liquids or gases.
- 3. GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.
- 4. KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
- 5. STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place – out of reach of children.
- 6. DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
- 7. USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy duty tool. Don't use tool for purpose not intended – for example – do not use a circular saw for cutting tree limbs or logs.
- 8. DRESS PROPERLY.** Do not wear loose clothing or jewelry. Loose clothing, draw strings and jewelry can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- 9. USE SAFETY GLASSES.** Wear safety glasses or goggles while operating power tools. Also face or dust mask if operation creates dust. All persons in the area where power tools are being operated should also wear safety glasses and face or dust mask.
- 10. DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges. Have damaged or worn power cord and strain reliever replaced immediately. **DO NOT ATTEMPT TO REPAIR POWER CORD.**
- 11. SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- 12. DON'T OVERREACH.** Keep proper footing and balance at all times.

**13. MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged; have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Have all worn, broken or lost parts replaced immediately. Keep handles dry, clean and free from oil and grease.

**14. DISCONNECT TOOLS** when not in use, before servicing, and when changing accessories such as blades, bits, cutters, etc.

**15. REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.

**16. AVOID UNINTENTIONAL STARTING.** Do not carry a plugged-in tool with finger on switch. Be sure switch is off when plugging in. Keep hands, body and clothing clear of blades, bits, cutters, etc. when plugging in the tool.

**17. OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords marked "Suitable for use with outdoor appliances – store indoors when not in use."

**18. STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired or while under the influence of medication, alcohol or drugs.

**19. CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

**20. WEAR EAR PROTECTION** to safeguard against possible hearing loss.

SAVE THESE INSTRUCTIONS

## **ADDITIONAL SAFETY RULES FOR PORTABLE BAND SAWS**

- 1. KEEP HANDS AWAY FROM CUTTING AREA.**
- 2. KEEP BLADES SHARP.**
- 3. MAKE SURE** the material to be cut is firmly held to prevent movement.
- 4. STAY CLEAR OF END PIECES** that may fall after being cut off.
- 5. NEVER USE A LIQUID COOLANT** with portable band saws.
- 6. WARNING:** EXERCISE EXTREME CAUTION WHEN CUTTING BLIND INTO CONDUIT AND PIPE. BE CERTAIN THE OBJECT BEING CUT DOES NOT CONTAIN ELECTRICAL WIRES, GASES, WATER, ETC., WHICH COULD CREATE HAZARDOUS CONDITIONS CAUSING PERSONAL INJURY AND PROPERTY DAMAGE.

## **REPLACEMENT PARTS**

When servicing use only identical replacement parts.

## MOTOR

tools will operate on either D.C., or single phase 25 to 60 cycle A.C. current and voltage within plus or minus 5 percent of that shown on the specification plate on the tool. Several models, however, are designed for A.C. current only. Refer to the specification plate on your tool for proper voltage and current rating.

**CAUTION:** Do not operate your tool on a current on which the voltage is not within correct limits. Do not operate tools rated A.C. only on D.C. current. To do so may seriously damage the tool.

## EXTENSION CORD SELECTION

If an extension cord is used, make sure the conductor size is large enough to prevent excessive voltage drop which will cause loss of power and possible motor damage. A table of recommended extension cord sizes will be found in this section. This table is based on limiting line voltage drop to 5 volts (10 volts for 230 volts) at 150% of rated amperes.

If an extension cord is to be used outdoors it must be marked with the suffix W-A following the cord type designation. For example – SJTW-A to indicate it is acceptable for outdoor use.

### RECOMMENDED EXTENSION CORD SIZES FOR USE WITH PORTABLE ELECTRIC TOOLS

		Length of Cord in Feet									
		115V	25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
		230V	50 Ft.	100 Ft.	200 Ft.	300 Ft.	400 Ft.	500 Ft.	600 Ft.	800 Ft.	1000 Ft.
Nameplate Ampere Rating	0-2	18	18	18	16	16	14	14	12	12	
	2-3	18	18	16	14	14	12	12	10	10	
	3-4	18	18	16	14	12	12	10	10	8	
	4-5	18	18	14	12	12	10	10	8	8	
	5-6	18	16	14	12	10	10	8	8	6	
	6-8	18	16	12	10	10	8	6	6	6	
	8-10	18	14	12	10	8	8	6	6	4	
	10-12	16	14	10	8	8	6	6	4	4	
	12-14	16	12	10	8	6	6	6	4	2	
	14-16	16	12	10	8	6	6	4	4	2	
	16-18	14	12	8	8	6	4	4	2	2	
18-20	14	12	8	6	6	4	4	2	2		

# OPERATING INSTRUCTIONS

## FOREWORD

Portable Band Saw is designed to cut various types of material up to  $4\frac{3}{4}$ " diameter or  $4\frac{1}{2}$ " x  $4\frac{3}{4}$ " rectangular shape.

## TO START AND STOP SAW

1. Make sure power circuit voltage is the same as that shown on the specification plate on the saw. Connect machine to power circuit.

2. Squeeze trigger switch (A) Fig. 1, to start motor. Release trigger to stop motor.

3. A lock button (B), Fig. 1, is provided to keep the saw running without holding the switch trigger "ON". To lock the switch trigger "ON", squeeze the trigger as far as it will go and push in the lock button and release trigger.

To UNLOCK the lock, squeeze trigger allowing lock button free to spring out and release trigger.

4. is equipped with an adjustable variable speed control. The speed is adjusted by turning the control knob (C), Fig. 1.

The control knob is numbered "1" through "6" with "1" being the slowest speed (approximately 90 SFM) and "6" being the fastest speed (approximately 240 SFM). The speed control may be adjusted with or without the motor running.

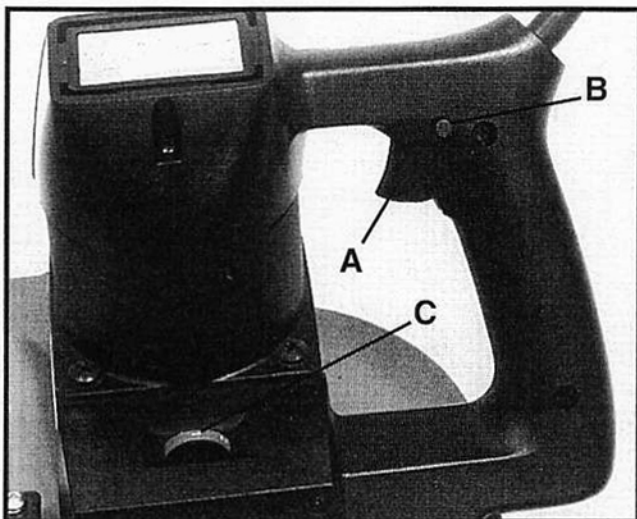


Fig. 1

## SELECTING THE BLADE

### BAND SAW BLADES

Band Saw requires blades that are .020 thick;  $\frac{1}{2}$ " wide; and  $44\frac{7}{8}$ " long.

**NOTE:** Blades for stationary band saws are of different thickness than above and WILL NOT fit the precision blade guides on portable band saws. Therefore, they MUST NOT be used.

REFER TO THE BLADE SELECTION CHART for types of blades available and their recommended usages. This chart is provided as a guide only. Due to the many materials that can be cut, operator's experience will determine which blade will have the longest life for any specific operation.

## WHICH BLADE TO USE

In general, select a blade which will allow at least two teeth to be engaged in the material thickness. The thinner or the harder the material, the finer the blade teeth. The thicker or the softer the material, the coarser the blade teeth. The hi-speed steel blades stay sharp longer than alloy steel blades.

## USE OF LUBRICANTS

NEVER USE LIQUID COOLANT WITH YOUR BAND SAW. Damage to the blade guide bearings or rubber tires on the pulleys may result.

“Lube Wax” is provided with your saw and recommended when cutting aluminum, brass and thick materials. Cast iron should be cut dry.

With the saw running, apply the wax momentarily to both sides of the blade. Reapply wax intermittently as needed.

**WARNING: EXERCISE EXTREME CARE TO PREVENT HANDS FROM CONTACTING THE BLADE.**

After prolonged cutting, the wax will cling to the pulleys of your BAND SAW. This does not affect the operation of the machine. All that is necessary is to disconnect the machine from the power source and wipe the wax from the pulleys.

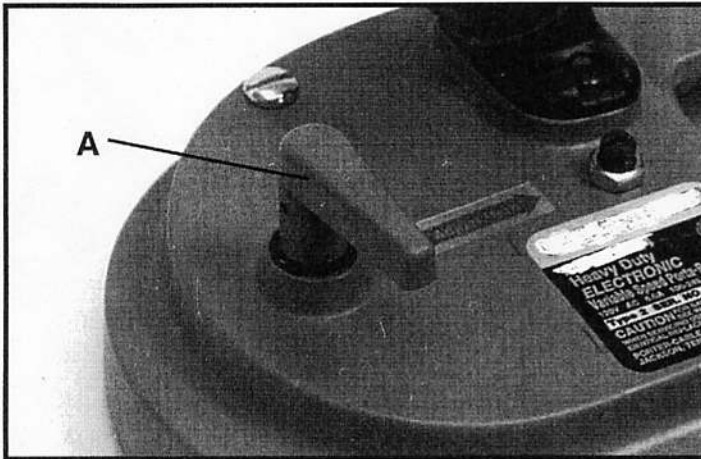


Fig. 2

## TO CHANGE SAW BLADES

**CAUTION: DISCONNECT SAW FROM POWER SOURCE.**

TO REMOVE BLADE – Turn handle (A), Fig. 2, clockwise to release tension on the saw blade. Remove the blade, first from the pulleys and then from the blade guide.

Before installing a blade, clean chips and wax, which may have accumulated on blade guides and pulley tires. TO INSTALL BLADE – install blade in blade guides and then position on pulleys. MAKE SURE TEETH ON LEFT SIDE OF MACHINE POINT TOWARD THE REAR OF THE MACHINE. See Fig. 3.

Turn handle (A), Fig. 2, counterclockwise as far as it will go. This reinstates tension on saw blade.

Start and stop saw two or three times to seat blade on pulleys.

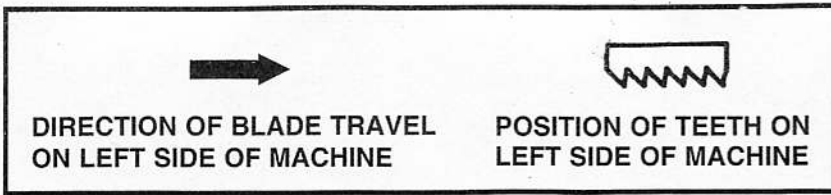


Fig. 3

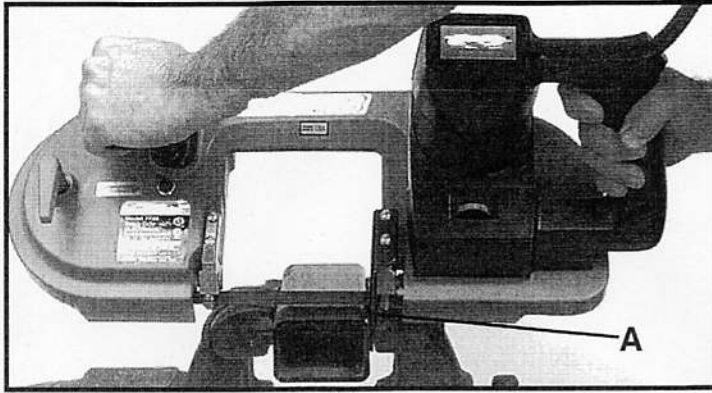


Fig. 4

## TO ADJUST BLADE TRACKING

This Band Saw is equipped with an adjustable Blade Tracking Mechanism. When properly adjusted: the back edge of the blade will run lightly against at least one of the back-up rollers, but will not press heavily against the roller. If the blade fails to track correctly, adjust as follows:

1. **CAUTION:** DISCONNECT SAW FROM POWER SOURCE.
2. Use a  $\frac{9}{16}$ " wrench to loosen the adjustment locking nut (A) Fig. 5, by turning it counterclockwise, one or two turns.
3. Use a flat screwdriver to turn the tracking screw (B) Fig. 5,  $\frac{1}{4}$  turn. Turning the screw clockwise will move the blade further up, toward the blade guide rollers. Turning the screw counterclockwise will move the blade down, away from the blade guide rollers.
4. Tighten the adjustment locking nut.
5. Following the directions in TO START AND STOP SAW, operate the saw and observe blade tracking.
6. Repeat Steps 1 through 5 as necessary to achieve proper tracking.

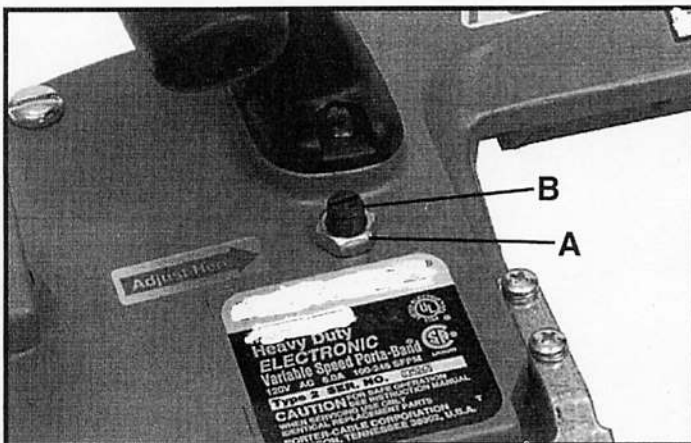


Fig. 5



## HOW TO USE A PORTABLE BAND SAW

1. Verify material to be cut is firmly held to prevent movement.
2. Set variable speed switch in desired position. Speed CAN be changed while machine is running.
3. Hold the saw as shown in Fig. 4, with the work stop (A) contacting the work and blade teeth clear of the work.
4. Turn saw "ON" and lower onto work. Allow weight of saw to control cutting pressure. Additional pressure will slow down speed of the blade and reduce cutting efficiency.
5. Hold saw straight in the cut. Any twisting or cocking of the blade results in shorter blade life.
6. **CAUTION:** Stay clear of end pieces that may fall after being cut off.
7. At completion of cut DO NOT allow saw to fall against work. HOLD SAW SECURELY.
8. Fig. 6 shows the proper cutting position for various shapes.

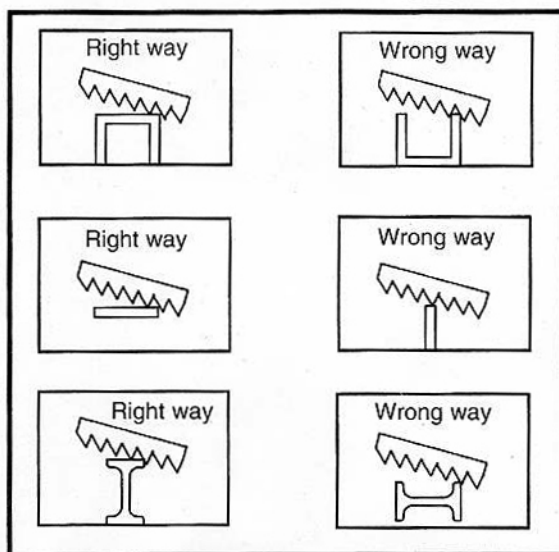


Fig. 6

## MAINTENANCE

### KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. Remove wax and chip buildup from pulley tires and blade guides. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

**CAUTION:** Wear safety glasses while using compressed air.

### FAILURE TO START

Should your tool fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check for blown fuses or open circuit breakers in the line.

## **BRUSH INSPECTION AND LUBRICATION**

Brushes should be checked after approximately 100 hours of use depending on the load the machine has been subjected. To inspect and replace the brushes it is necessary to dismantle the tool. This operation should always be handled by the nearest Authorized Service Center and we suggest lubrication be inspected during brush inspection.

The bearings in your machine are sealed bearings which are lubricated at the time of assembly with sufficient lubricant to last their lives. Further lubrication of the bearings is not required.

Any loss of power before the above maintenance check may indicate the need for immediate servicing of your tool. **DO NOT CONTINUE TO OPERATE TOOL UNDER THIS CONDITION.** If proper operating voltage is present, return your tool to the Service Station for immediate service.

## **SERVICE AND REPAIRS**

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations, including brush inspection and replacement, should **ONLY** be performed by either an **AUTHORIZED SERVICE STATION** or a **SERVICE CENTER**. All repairs made by these agencies are fully guaranteed against defective material and workmanship. We cannot guarantee repairs made or attempted by anyone other than these agencies.

Should you have any questions about your tool, feel free to write us at any time. In any communications, please give all information shown on the nameplate of your tool (model number, type, serial number, etc.).

## **ACCESSORIES**

The testing of this tool has been accomplished with the following accessories. For safest operation, it is recommended that only these accessories be used with this product.

**WARNING:** Since accessories other than those listed have not been tested with this product, use of such accessories could be hazardous.

CARRYING CASE

LUBE WAX