

Instruction manual

MODEL 748 with
Dual Cutting Action,
Keyless *Quik-Change*™
Blade Clamp,
Keyless *Quik-Change*™
Guide Shoe

MODEL 746 with
Keyless *Quik-Change*™
Blade Clamp,
Keyless *Quik-Change*™
Guide Shoe

MODEL 745

PORTER-CABLE®

Double Insulated Variable Speed TIGER SAW® All- Purpose Saws



IMPORTANT

Please make certain that the person who is to use this equipment carefully reads and understands these instructions before starting operations.

SAFETY GUIDELINES - DEFINITIONS

It is important for you to read and understand this manual. The information it contains relates to protecting YOUR SAFETY and PREVENTING PROBLEMS. The symbols below are used to help you recognize this information.



▲ 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.

CAUTION

used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

CALIFORNIA PROPOSITION 65

▲ WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints
- crystalline silica from bricks and cement and other masonry products
- arsenic and chromium from chemically-treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, always wear NIOSH/OSHA approved, properly fitting face mask or respirator when using such tools.

GENERAL SAFETY RULES

⚠ WARNING

Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term "power tool" in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.



SAVE THESE INSTRUCTIONS

1) Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

3) Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Avoid accidental starting. Ensure the switch is in the off-position before plugging in.** Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

GENERAL SAFETY RULES continued

- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust-related hazards.

4) Power tool use and care











- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

5) Service

- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

ADDITIONAL SPECIFIC SAFETY RULES

1. **Hold power tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
2. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
3. **Keep blades sharp.** Sharp blades will do the job better and safer.
4. **Keep hands away from cutting area.** When sawing never reach underneath or behind the material being cut for any reason.
5. **When you have finished a cut be careful not to come into contact with the blade.** Turn off the motor immediately.
6. **Exercise extreme caution when blind cutting.** Be certain that there are no foreign objects such as electrical wire, conduit, plumbing pipes, etc., that may come into contact with the blade.
7. **⚠WARNING Wear eye and hearing protection. Always use safety glasses.** Everyday eyeglasses are NOT safety glasses. USE CERTIFIED SAFETY EQUIPMENT. Eye protection equipment should comply with ANSI Z87.1 standards. Hearing equipment should comply with ANSI S3.19 standards.
8. **⚠WARNING Use of this tool can generate and disburse dust or other airborne particles, including wood dust, crystalline silica dust and asbestos dust.** Direct particles away from face and body. Always operate tool in well ventilated area and provide for proper dust removal. Use dust collection system wherever possible. Exposure to the dust may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. Allowing dust to get into your mouth or eyes, or lay on your skin may promote absorption of harmful material. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

SYMBOL	DEFINITION
V	volts
A	amperes
Hz	hertz
W	watts
kW	kilowatts
F	farads
μ F	microfarads
l	litres
g	grams
kg	kilograms
bar	bars
Pa	pascals
h	hours
min	minutes
s	seconds
n_0	no-load speed
.../min or ...min ⁻¹	Revolutions or reciprocations per minute
 or d.c.	direct current
 or a.c.	alternating current
2 	two-phase alternating current
2N 	two-phase alternating current with neutral
3 	three-phase alternating current
3N 	three-phase alternating current with neutral
 A	rated current of the appropriate fuse-link in amperes
	time-lag miniature fuse-link where X is the symbol for the time/current characteristic, as given in IEC 60127
	protective earth
	class II tool
IPXX	IP symbol

MOTOR

Many Porter-Cable 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 or W 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 230V	25 Ft. 50 Ft.	50 Ft. 100 Ft.	100 Ft. 200 Ft.	150 Ft. 300 Ft.	200 Ft. 400 Ft.	250 Ft. 500 Ft.	300 Ft. 600 Ft.	400 Ft. 800 Ft.	500 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		

FUNCTIONAL DESCRIPTION

FOREWORD

The Porter-Cable **TIGER SAW®** is designed for cutting wood up to 12" thick, metal up to $\frac{3}{4}$ " thick and various other materials, such as plastics, fiberglass, hard rubber, etc.

CARTON CONTENTS

- * **TIGER SAW®**
- * Blade
- * $\frac{3}{16}$ " hex wrench (745 only)
- * $\frac{5}{32}$ " hex wrench (745 only)

ASSEMBLY

NOTE: This tool is shipped completely assembled. No assembly time or tools are required.

OPERATION

SELECTING THE BLADE

For best performance, longer blade life, and smoother cut, select the proper blade for the job. A complete line of accessories is available from your Porter-Cable•Delta Supplier, Porter-Cable•Delta Factory Service Centers, and Porter-Cable Authorized Service Stations.

When cutting metal always select a blade which will allow at least three teeth to be engaged in the thickness of material.

BLADE CLAMP FEATURES

1. **Model 745** is supplied with a standard hex key blade clamp.
2. **Models 746 and 748** are supplied with a keyless *Quik-Change*™ blade clamp.

INSTALLING THE BLADE MODEL 745

⚠ WARNING Disconnect tool from power source.

1. Use hex wrench (supplied with **Model 745**), to loosen blade clamp screw (A) Fig. 1, by turning counterclockwise three to four turns.
2. Insert the blade into the blade clamp until it bottoms, (A) Fig. 2. When the blade is properly positioned: the hole in the blade shank will align with the hole (B) Fig. 3, in the backside of blade clamp.
3. Firmly tighten clamp screw.
4. To remove blade, loosen blade clamp screw three to four turns and pull blade from clamp.

⚠ WARNING Never touch blade immediately after use, as it may be extremely hot.

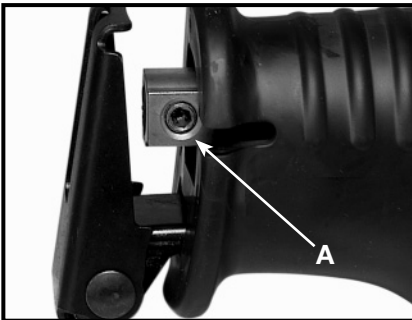


Fig. 1

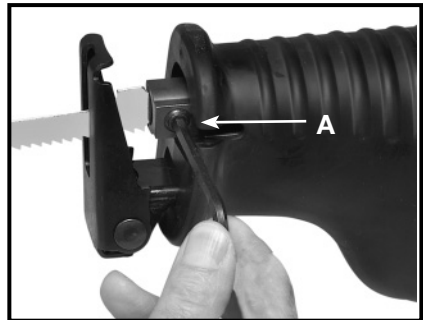


Fig. 2

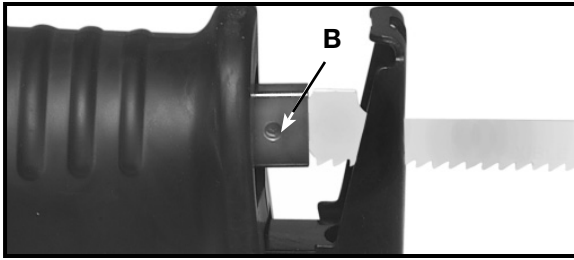


Fig. 3

INSTALLING THE BLADE, MODELS 746 and 748 with Keyless Quik-Change™ Blade Clamp

1. The reciprocating shaft must be fully extended to permit access to the Quik-Change™ blade release collar (A) Fig. 4. If necessary, gently squeeze the trigger switch to move the reciprocating shaft to its outermost position (as shown in Fig. 4).

▲WARNING Disconnect tool from power source.

2. Pivot the guide shoe (A) Fig. 6, forward to improve access to the blade clamp (B) Fig. 6.
3. To open the blade clamp: rotate and hold the blade release collar (A) Fig. 7, counterclockwise (as viewed from the front of the saw).
4. Insert the blade into the clamp until it bottoms. Allow the release collar to rotate clockwise to lock the blade in place, (A) Fig. 4.
5. To remove blade: repeat steps 1 through 3, and pull blade from blade clamp (while the release collar is being held in the open position).

▲WARNING Never touch blade immediately after use, as it may be extremely hot.

NOTES: If the blade clamp collar resists rotation to remove a blade, work the blade up and down while rotating the clamp (in a counterclockwise direction).

If the blade breaks leaving nothing to grasp (to pull it from the clamp), it may be necessary to use another blade as a tool to aid in removing the broken piece (see Fig. 5). While holding the release collar in the open position, use the tip of another blade to “hook” the broken piece and pull it from the clamp. (A thin, fine-toothed, metal-cutting blade works best.)

Periodically clean the blade clamp with dry compressed air. DO NOT lubricate the blade clamp. Lubricant can attract contamination.

▲WARNING Wear ANSI Z87.1 safety glasses while using compressed air.

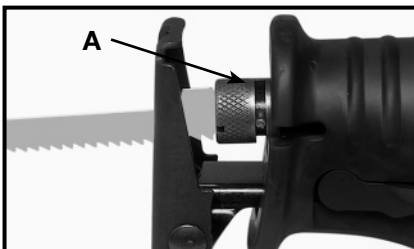


Fig. 4

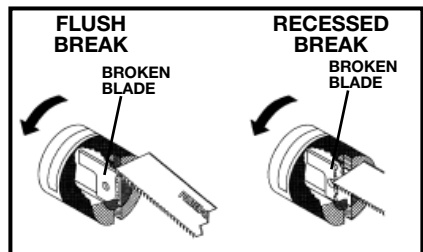


Fig. 5

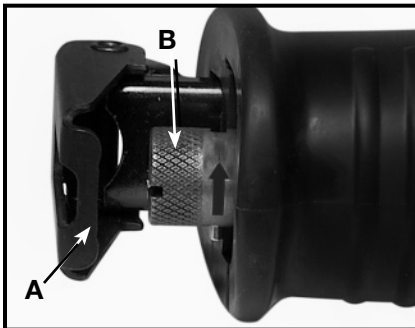


Fig. 6

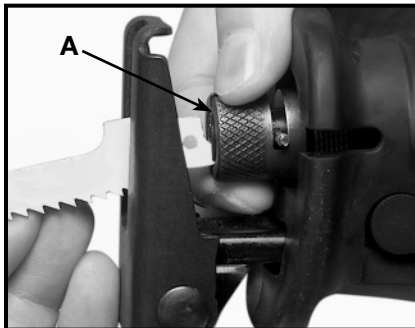


Fig. 7

HANDLE FEATURES

1. **Model 745** is supplied with a standard handle.
2. **Models 746 and 748** are supplied with a soft grip handle.

HOW TO HOLD SAW MODEL 745 and 746

Hold saw as shown in Fig. 8. The gear housing, intermediate plate, blade and pivoting guide shoe may be made live if the blade cuts into live wiring within a wall.

⚠ WARNING To prevent accidental electrical shock the saw must be held as shown in Fig. 8 and must have the rubber front housing cover properly installed and not damaged.



Fig. 8

TO START AND STOP SAW

1. Make sure power circuit voltage is the same as shown on the specification plate on the saw. Connect saw to power circuit.
2. Hold saw firmly. Squeeze trigger switch (A) Fig. 9, to start motor. Release trigger to stop motor.

VARIABLE SPEED

The saw is equipped with a variable speed control (0 to 2600 SPM). As the switch trigger is squeezed, the speed of the saw blade increases.

The lower speeds are recommended for most metal cutting, while the higher speeds are recommended for wood. A few practice cuts at various speeds (on scrap material), will aid you in choosing the best speed for obtaining the desired results on your application.

DUAL BLADE MOTION (Model 748 only)

The **Model 748** has dual blade motion: you have a choice of straight reciprocating motion, as shown in Fig. 10, or orbital motion as shown in Fig. 11. Straight reciprocating motion should be used for all metal cutting operations, and for wood cutting applications where finish is more important than speed. Orbital motion is used for fast cutting of wood.

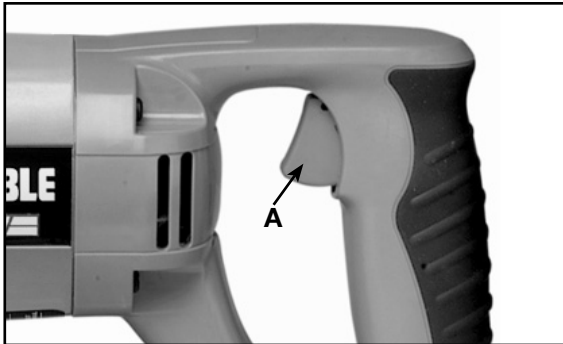


Fig. 9

To set saw for straight reciprocating motion: rotate knob (A) Fig. 10, clockwise so that the bar is vertical (opposing arrow symbol up), as shown in Fig. 10.

To set saw for orbital motion: rotate knob (A) Fig. 11, counterclockwise so that the bar is horizontal (oval arrow symbol up), as shown in Fig. 11.

▲WARNING **ELECTROCUTION RISK.** Do not use the tool if knob (A) Fig. 10 & 11 is broken. Exposed metal parts may be made live if the blade cuts into live wiring within a wall.

PIVOTING GUIDE SHOE FEATURES

1. **Model 745** is supplied with a standard hex key guide shoe.
2. **Models 746 and 748** are supplied with a keyless *Quik-Change™* guide shoe.

ADJUSTING PIVOTING GUIDE SHOE

▲WARNING Disconnect tool from power source.

▲WARNING Do not operate the Tiger Saw® with the guide shoe removed.

The pivoting guide shoe (A) Fig. 12, serves as a rest while making a cut and it can be adjusted to accommodate many types of cutting applications.

1. The **Model 745** pivoting guide shoe is adjusted by loosening the two hex screws (with wrench supplied) located on the bottom of the front gear housing (A) Fig. 12A. Loosen both screws enough to allow the pivoting

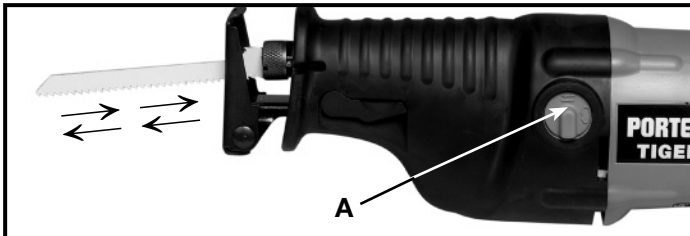


Fig. 10

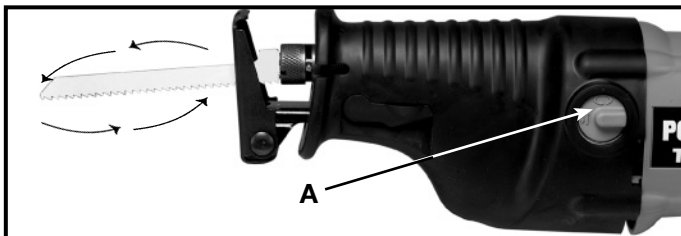


Fig. 11

guide shoe to move freely. Adjust to desired position and securely tighten both screws.

NOTE: Do not adjust the pivoting guide shoe out so far that it loses contact with the back screw. Doing so will cause the guide shoe to be unstable.

After adjusting, make sure both screws are securely fastened.

2. The **Models 746 and 748** are supplied with a keyless *Quik-Change*[™] pivoting guide shoe. To adjust, rotate lever (A) Fig. 12B. releasing the pivoting guide shoe (B). Adjust to desired position and close lever (A) Fig. 12C. The keyless *Quik-Change*[™] pivoting guide shoe is designed with a raised lip (C) at the end that prevents the guide shoe from locking in position if it is extended out too far. After adjusting, make sure the locking lever is completely closed in the locked position (A) Fig. 12C.

NOTE: DO NOT force the locking lever closed. Adjust shoe enough to allow the lever to lock in position without force.

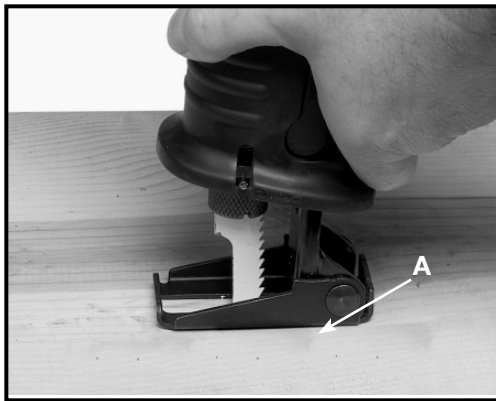


Fig. 12

BEFORE YOU START TO WORK

Select the blade best suited for the material to be cut. For greatest economy, use the shortest blade suitable for the thickness of the material to be cut.

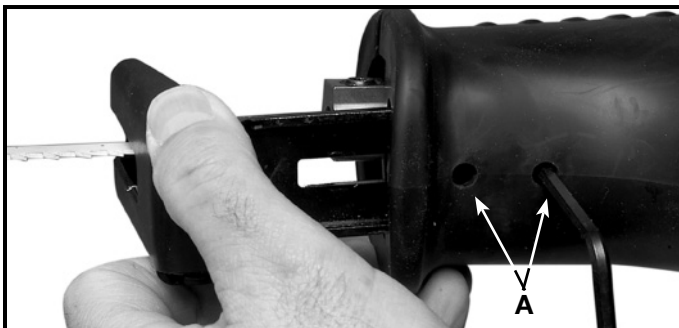


Fig. 12A

Be sure the material to be cut is rigid. Small work pieces should be securely clamped in a bench vise or with clamps to the work table. As the work progresses in scroll or curved cut-out pieces, the material may be readjusted to accommodate the movement of the saw. The saw cuts freely with only slight feed pressure. Forcing the saw will not make it cut faster.

SAWING WOOD

The **TIGER SAW**[®] is used much the same as a hand saw in that it is moved toward the operator during the cutting operation. However, since the blade cuts on the up-stroke instead of the down-stroke as in the case of the hand saw, the good or finish side of the work should face down during the cutting operation.

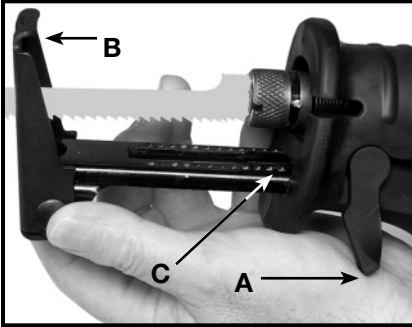


Fig. 12B

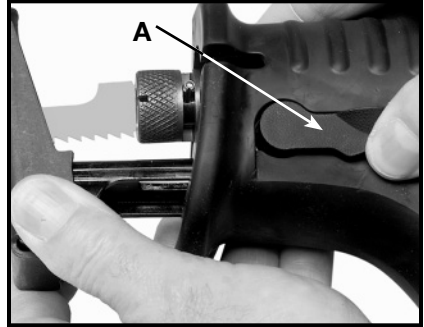


Fig. 12C

PLUNGE CUTS

The **TIGER SAW**[®] can be used for plunge cutting wood, plywood, wallboard, and plastic materials. DO NOT attempt to plunge cut metal.

Clearly mark line of cut on the work. Grasp front housing with one hand and rear handle with the other hand. To start cut, rest saw on pivoting guide shoe bracket, align blade with the marked line of cut, (blade NOT touching work), as shown in Fig. 13. Start saw. Using guide shoe bracket as a pivot point, roll saw forward by raising rear handle, as shown in Fig. 14. When blade has cut through the work, continue raising the rear handle until saw is perpendicular to the work surface. Keep saw in this position and move blade along line of cut.

SAWING METAL

When cutting angle, H-beam, I-beam, channel, etc., start the cut on the surface where the greatest number of teeth will contact the work. To make a pocket cut, drill a starting hole first. To extend blade life, cutting oil can be applied to the work surface along the line of the cut.



Fig. 13



Fig. 14

MAINTENANCE

KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. 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.

▲ WARNING Wear ANSI Z87.1 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.

LUBRICATION

This tool has been lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. No further lubrication is necessary.

BRUSH INSPECTION (If applicable)

For your continued safety and electrical protection, brush inspection and replacement on this tool should ONLY be performed by an AUTHORIZED PORTER-CABLE SERVICE STATION or a PORTER-CABLE•DELTA FACTORY SERVICE CENTER.

At approximately 100 hours of use, take or send your tool to your nearest authorized Porter-Cable Service Station to be thoroughly cleaned and inspected. Have worn parts replaced and lubricated with fresh lubricant. Have new brushes installed, and test the tool for performance.

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.