

Owner's Manual

CRAFTSMAN[®]

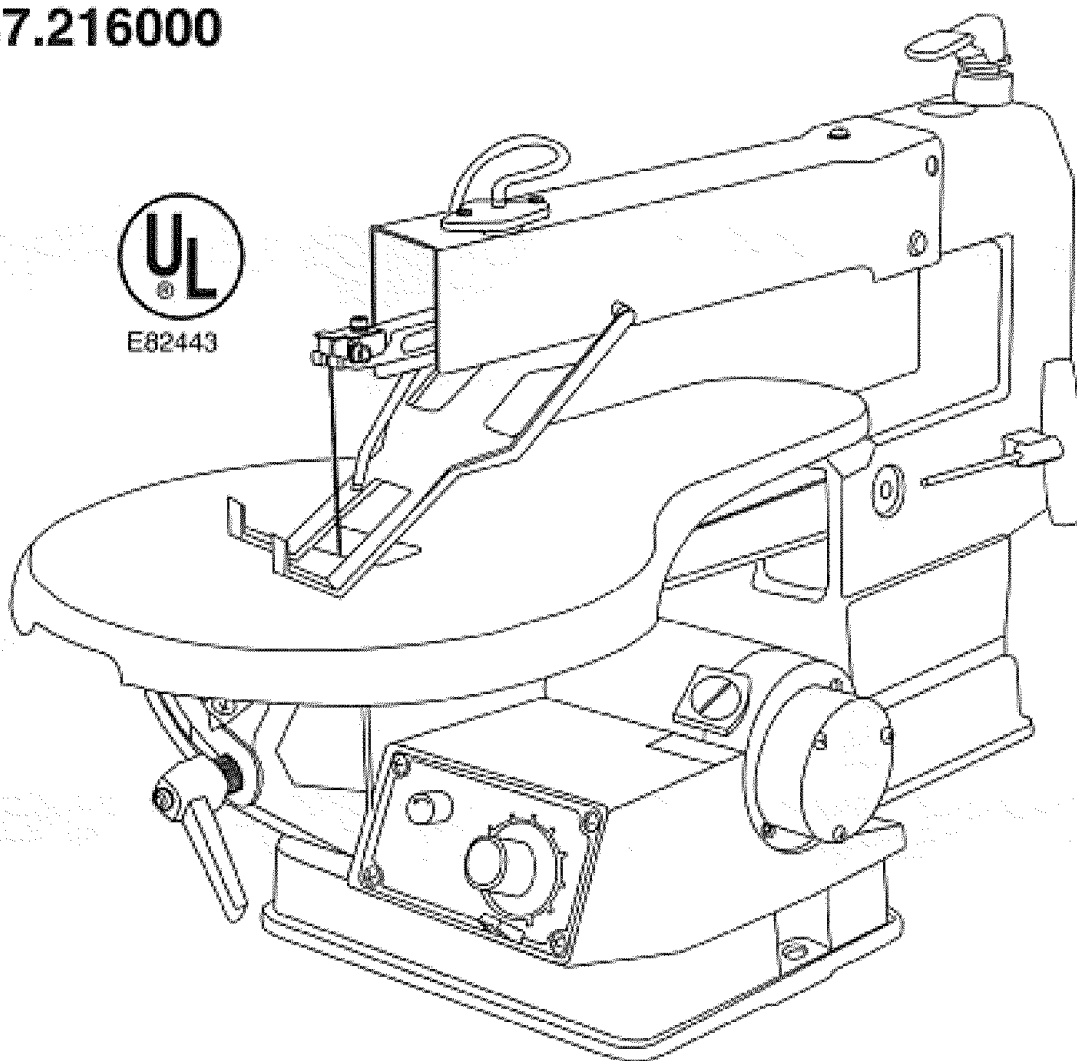
VARIABLE SPEED SCROLL SAW

Model No.

137.216000



E82443



CAUTION:

Before using this Scroll Saw, read this manual and follow all its Safety Rules and Operating Instructions.

- Safety Instructions
- Installation
- Operation
- Maintenance
- Parts List

Sears, Roebuck and Co., Hoffman Estates, IL 60179 USA

Part No. 216000001

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WARRANTY

FULL ONE-YEAR WARRANTY

If this product fails due to a defect in material or workmanship within one year from the date of purchase, Sears will repair it free of charge.

WARRANTY SERVICE IS AVAILABLE BY RETURNING THIS PRODUCT TO THE NEAREST SEARS SERVICE CENTER IN THE UNITED STATES.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Dept. 817 WA, Hoffman Estates, IL 60179

PRODUCT SPECIFICATIONS

MOTOR

Maximum developed Hp	1/6
Volts	120
Hertz	60
Amperes	2
Speed	400-1800 SPM
Fuse	Automotive type, 125 V, 3 A
Blade length	.5" plain or pin end
Cutting capacity	.2" at 0° table tilt
Table tilt	0° to 45° left
Table size	10-1/8" x 17-1/8"
Weight	38.2 lb.

▲ WARNING

To avoid electrical hazards, fire hazards, or damage to the tool, use proper circuit protection.

Your scroll saw is wired at the factory for 120V operation. Connect to a 120V, 15 amp branch circuit and use a 15 amp time delay fuse or circuit breaker. To avoid shock or fire, replace power cord immediately if it is worn, cut or damaged in any way.

SAFETY

GENERAL SAFETY INSTRUCTIONS

Safety is a combination of common sense, staying alert and knowing how to use your grinder.

BEFORE USING THE SCROLL SAW

▲ WARNING

To avoid mistakes that could cause serious injury, do not plug the scroll saw in until you have read and understood the following:

1. **READ** and become familiar with this entire instruction manual. **LEARN** the tool's applications, limitations, and possible hazards.
2. **GROUND ALL TOOLS.** If the tool is equipped with a 3-prong plug, it must be plugged into a 3-contact electric outlet. The third prong is a ground to provide protection against accidental electric shock. Never remove the third prong on a grounded plug. See **GROUNDING INSTRUCTIONS** on page 4.
3. **AVOID DANGEROUS CONDITIONS. DO NOT** use power tools in wet or damp areas or expose them to rain.
4. **DO NOT** use power tools in the presence of flammable liquids or gases.
5. **ALWAYS** keep your work area clean, uncluttered and well lit. **DO NOT** work on floor surfaces that are slippery from sawdust or wax.
6. **KEEP VISITORS AND CHILDREN AWAY.** Other people should keep a safe distance from the work area, especially when tool is operating.
7. **DO NOT FORCE THE TOOL.** Never force a tool to do a job for which it was not designed. It will do a better and safer job by only using on jobs for which it was designed.
8. **DRESS FOR SAFETY. DO NOT** wear loose clothing, gloves, neckties, or jewelry (rings, watches); they can get caught and draw you into moving parts. **ALWAYS** wear non-slip footwear; tie back long hair.
9. **ALWAYS WEAR EYE PROTECTION.** Any scroll saw can throw foreign objects into the eyes, which could cause permanent eye damage. **ALWAYS** Wear Safety Goggles (not glasses) that comply with ANSI safety standard Z87.1. Everyday eyeglasses have only impact-resistant lenses...they ARE NOT safety glasses. Safety Goggles are available at Sears. **NOTE:** Glasses or goggles not in compliance with ANSI Z87.1 could seriously hurt you when they break.
10. **WEAR A FACE MASK OR DUST MASK IF SAWING OPERATION PRODUCES DUST.**
11. **ALWAYS** remove the power cord plug from the electric outlet when making adjustments, changing parts, cleaning, or working on tool.
12. **KEEP GUARDS IN PLACE AND IN WORKING ORDER.**
13. **AVOID ACCIDENTAL STARTING.** Ensure that the power switch is in the "OFF" position before plugging in the power cord.
14. **REMOVE ADJUSTING TOOLS.** Form habit of checking to see that tools and adjusting wrenches are removed from the saw before turning it on.
15. **USE ONLY RECOMMENDED ACCESSORIES.** Using improper accessories can be hazardous. If in doubt, check the instruction manual that comes with that accessory.
16. **NEVER LEAVE A TOOL RUNNING UNATTENDED.** Turn the power switch to "OFF". **DO NOT** leave tool until it has come to a complete stop.
17. **NEVER STAND ON A TOOL.** Serious injury could result if the tool tips or you accidentally hit the scroll saw. **DO NOT** store anything above or near the tool where anyone might stand on the tool to reach it.
18. **DON'T OVERREACH.** Keep proper footing and balance at all times. Wear oil-resistant rubber-soled footwear. Keep floor clear of oil, scrap and other debris.
19. **MAINTAIN TOOLS WITH CARE.** Always keep tools clean and in good working order.



SAVE THESE INSTRUCTIONS

20. **CHECK DAMAGED PARTS.** Before each use of 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 or any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
21. **MAKE WORKSHOP CHILDPROOF** by use of padlocks, master switches, or by removing starter keys.
22. **DRUGS, ALCOHOL, OR MEDICATIONS. DO NOT** operate tool if you are under the influence of drugs, alcohol, or medication that could affect your ability to use the tool properly.
23. **SECURE ALL WORK.** When practical, use clamps or a vise to hold work. It is safer than using your hands and prevents round or odd-shaped pieces from turning.
24. **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The table below shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

GUIDELINES FOR EXTENSION CORDS

If you are using an extension cord outdoors, be sure it is marked with the suffix "W-A" ("W" in Canada) to indicate that it is acceptable for outdoor use.

Be sure your extension cord is properly wired, and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.

Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

MINIMUM GAUGE FOR EXTENSION CORDS (AWG)					
(when using 120 volts only)					
Ampere Rating		Total length of cord in feet			
more than	not more than	25'	50'	100'	150'
0	6	18	16	15	14
6	10	18	16	14	12
10	12	16	16	14	12

GROUNDING INSTRUCTIONS

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and grounding plug. The plug **MUST** be plugged into a matching outlet that is properly installed and grounded in accordance with ALL local codes and ordinances.

DO NOT MODIFY THE 3-PRONG PLUG...if it will not fit the outlet, have the proper outlet installed by a qualified electrician. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green (sometimes, but not always with yellow stripes) is the equipment-grounding conductor.

NOTE: If repair or replacement of the electric cord or plug is ever necessary, **DO NOT** connect the equipment-grounding conductor to a live terminal.

If you have any doubts as to whether the tool is properly grounded or if the grounding instructions are unclear, check with a qualified electrician or service personnel.

USE ONLY 3-WIRE EXTENSION CORDS THAT HAVE 3-PRONG GROUNDING PLUGS AND 3-POLE RECEPTACLES THAT ACCEPT THE TOOL'S PLUG.

REPAIR OR REPLACE DAMAGED OR WORN CORD IMMEDIATELY.

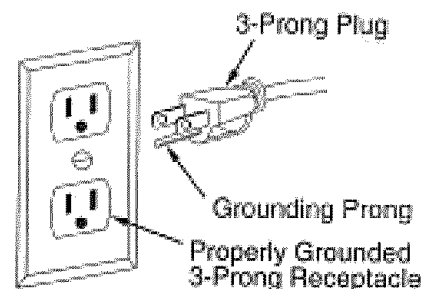


FIGURE A

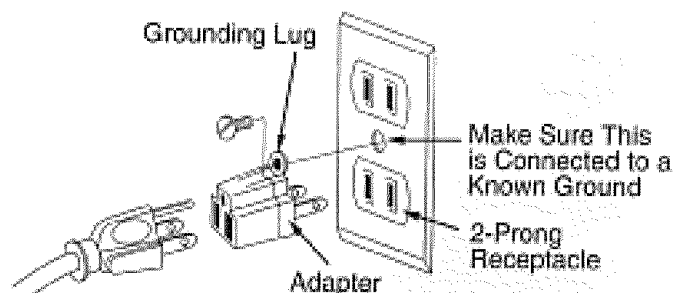


FIGURE B

SAVE THESE INSTRUCTIONS

FIGURE (A)...shows a 3-wire electrical plug and receptacle that has a grounding conductor. If a properly grounded receptacle is not available, an adapter (**FIGURE B**) can be used to temporarily connect this plug to a 2-contact ungrounded receptacle (**FIGURE B**).

The adapter (**FIGURE B**) has a green rigid grounding lug extending from it that **MUST** be connected to a permanent earth ground, such as a properly grounded receptacle box.

THE ADAPTER SHOULD ONLY BE USED UNTIL A PROPERLY GROUNDED RECEPTACLE CAN BE INSTALLED BY A QUALIFIED ELECTRICIAN.

▲ WARNING

When using a grounded tool around other ungrounded devices, be sure that the ungrounded devices are in good condition. An ungrounded device can function, yet have internal electrical problems that could cause a hazard when brought in contact with a grounded tool.

SPECIFIC SAFETY INSTRUCTIONS FOR THE SCROLL SAW

▲ WARNING

Do not operate your scroll saw until it is completely assembled and installed according to the instructions.

1. **YOUR SCROLL SAW MUST BE SECURELY FASTENED** to a stand or workbench. If there is any tendency for the stand or workbench to move during operation, the stand or workbench **MUST** be fastened to the floor.
2. **THIS SCROLL SAW** is intended for indoor use only.
3. **TENSION BLADE PROPERLY** before starting saw. Recheck and adjust tension as needed.
4. **BLADE TEETH MUST POINT** downward (toward table).
5. **TABLE MUST BE CLEARED** of all debris before operating saw. Do not perform layout, set up or assembly work on the table when the saw is in operation.
6. **TO PREVENT INJURIES**, avoid awkward hand or finger positions when operating saw.
7. **HOLD WORKPIECE FIRMLY** against the table top.
8. **NEVER CUT MATERIAL** that is too small to be held safely.
9. **DO NOT USE** dull or bent blades.
10. **TURN THE SAW "OFF" AND UNPLUG THE CORD** if the blade binds in the saw kerf while being backed out of the workpiece.
11. **DO NOT START** the saw with workpiece pressing against the blade. Slowly feed the workpiece into the moving blade.
12. **WHEN CUTTING** a large workpiece **MAKE SURE** the material is supported at table height.
13. **EXERCISE CAUTION** when cutting workpieces that are round or irregularly shaped. Round items will roll and irregularly shaped workpieces can pinch the blade.
14. **ALWAYS** release blade tension before loosening the blade holder screw.
15. **MAKE CERTAIN** table tilting lock is tightened before starting the machine.
16. **NEVER REACH** under the scroll saw table when motor is running.
17. **CHECK FOR DAMAGED PARTS** before each use. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting or any other conditions that may affect operation. Parts that are damaged should be properly repaired or replaced before using the tool.
18. **THINK SAFETY.**

SAVE THESE INSTRUCTIONS

ACCESSORIES AND ATTACHMENTS

AVAILABLE ACCESSORIES

Visit your Sears Hardware Department or see the Sears Power and Hand Tool Catalog for the following accessories:

- Pin-type saw blades
- Plain-end saw blades
- Scroll saw handbook
- Scroll saw pattern kit

Sears may recommend other accessories not listed in this manual.

See your nearest Sears store or Power and Hand Tool Catalog for other accessories.

Do not use any accessory unless you have completely read the instruction or owner's manual for that accessory.

▲ WARNING

Use only accessories recommended for this scroll saw. Using other accessories may be dangerous.

CARTON CONTENTS

UNPACKING AND CHECKING CONTENTS

▲ WARNING

If any part is missing or damaged, do not plug the scroll saw in until the missing or damaged part is replaced, and assembly is complete.

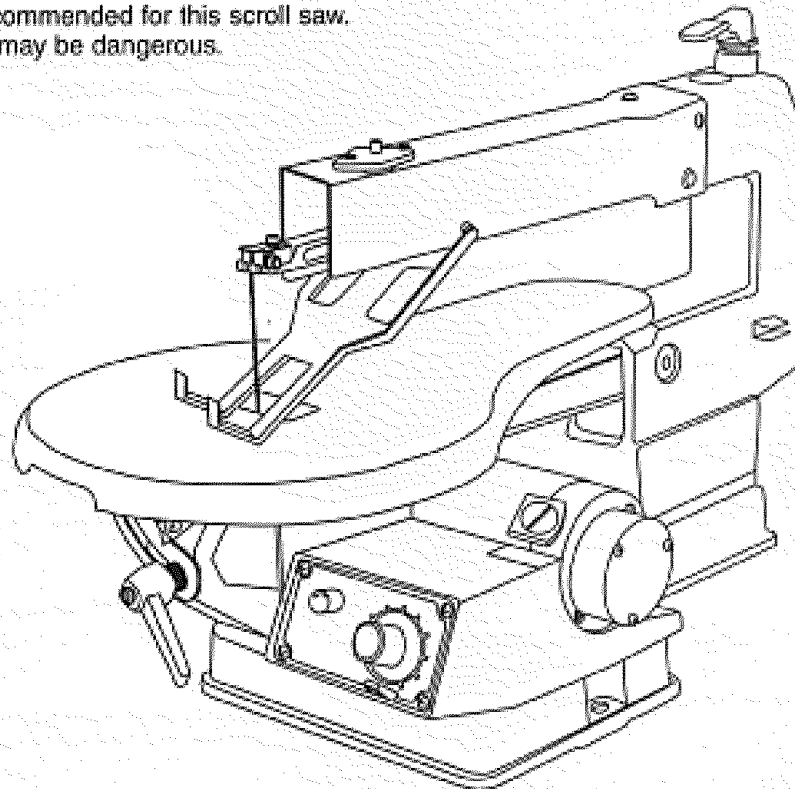
Carefully unpack the scroll saw and all its parts, and compare against the illustration below.

Remove the scroll saw from the carton by lifting the saw by the back of the upper frame. Place the saw on a secure surface and examine it carefully.

CAUTION: Do not lift this saw by the arm that holds the blade; the saw will be damaged.

▲ WARNING

To avoid fire and toxic reaction, never use gasoline, naphtha, acetone, lacquer, thinner, or similar highly volatile solvents to clean the scroll saw.



Scroll saw



Air tubing



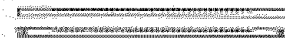
Sawdust blower tube



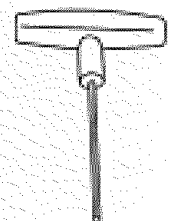
Blower adjusting knob



Blower adjusting clamp

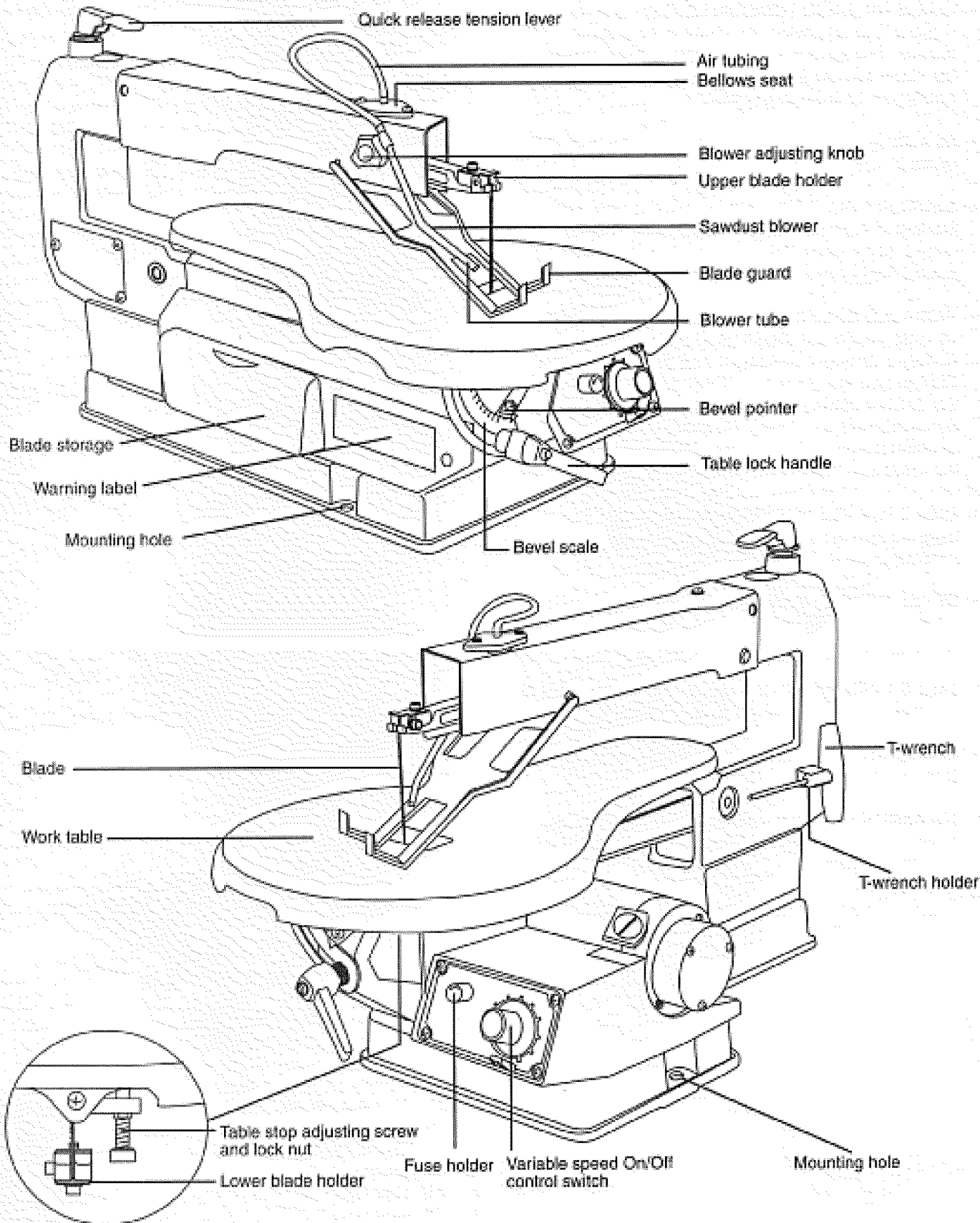


10 extra blades
(* includes blade
installed on scroll saw)



T-wrench (3 mm)

KNOW YOUR SCROLL SAW



GLOSSARY OF TERMS

- **QUICK RELEASE TENSION LEVER** - quickly loosens and retightens the blade to its original tension. The tension lever quickly sets and resets the blade tension when performing interior cutting operations or changing blades.
- **BLADE GUARD** - helps to protect fingers from blade contact.
- **SAWDUST BLOWER** - keeps sawdust from covering the line of sight for more accurate cuts. The best results occur when the blower tube is directed toward the blade and workpiece.
- **VARIABLE SPEED ON/OFF CONTROL SWITCH** - variable switch dial allows greater versatility when cutting a variety of materials. Pull the control knob OUT to turn the scroll saw "ON". Adjust the speed to the desired setting, between 400 to 1800 strokes per minute (SPM), by turning the control knob clockwise or counterclockwise. Push the control knob IN to turn the scroll saw "OFF".
- **TABLE TOP SET SCREW AND LOCK NUT** - allows easy adjustment to ensure the table is set perpendicular to the blade.
- **BEVEL SCALE** - represents an approximate degree angle from 0 to 45 degrees when the table is tilted for bevel cutting.
- **TABLE LOCK HANDLE** - securely locks the table at the angle desired for angle or bevel cutting.
- **BLADE STORAGE** - provides convenient access to extra pin and plain end blades.
- **T-WRENCH HOLDER** - allows quick easy storage of the T-wrench when changing blades, to avoid loss or misplacement.

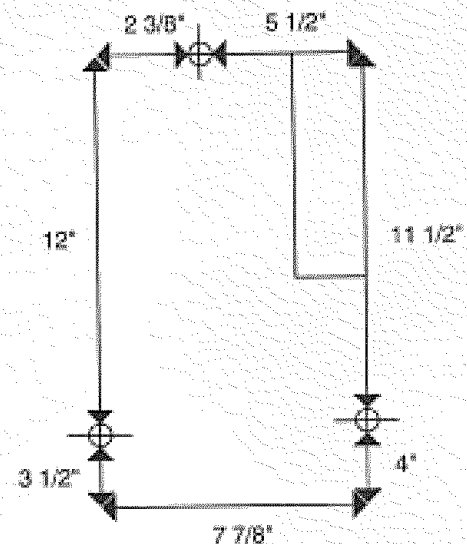
ASSEMBLY

ASSEMBLY INSTRUCTIONS

MOUNTING SCROLL SAW TO WORK SURFACE (FIGURE A, B)

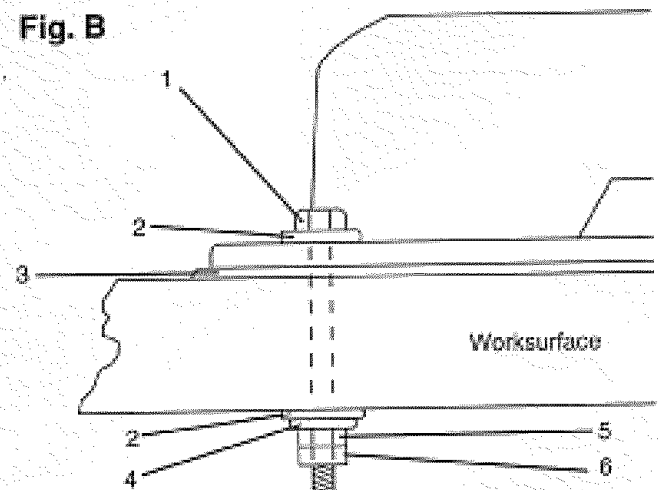
1. If mounting the scroll saw to a workbench, a solid wood bench is preferred over a plywood board, to reduce noise and vibration.
2. Holes should be pre-drilled through the supporting surface, using the dimensions shown in FIG. A.

Fig. A



3. The hardware to mount this saw is NOT supplied with the saw. The hardware as shown in FIG. B should be used:

Fig. B



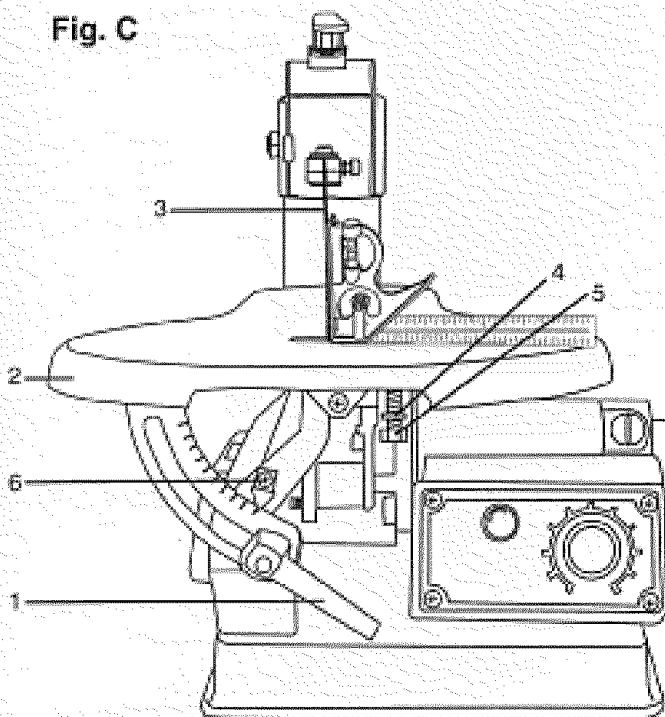
1. (3) Hex head bolts; length as required
2. (6) Flat washers
3. Foam pad or carpet (optional)
4. (3) Lockwashers
5. (3) Hex nuts
6. (3) Jam nuts

ALIGNING THE BEVEL INDICATOR (FIGURE C)

NOTE: Your scroll saw has been adjusted but should be rechecked prior to use for best operation by positioning a square on the table against the blade.

1. Loosen the table bevel lock handle (1) and move the table (2) until it is perpendicular or at a right angle to the blade (3).
2. Loosen the lock nut (4) and adjusting screw (5) under the table.
3. Use a small square, as shown, to set the table at 90 degrees to the blade. If there is a space between the square and blade, adjust the table angle until the space is removed.
4. Lock the table lock handle (1) under the table to secure movement. Tighten the adjusting screw (5) and lock nut (4) under the table.
5. Loosen the screw holding the bevel pointer (6) and adjust the pointer to 0 degrees. Tighten the screw.

Fig. C

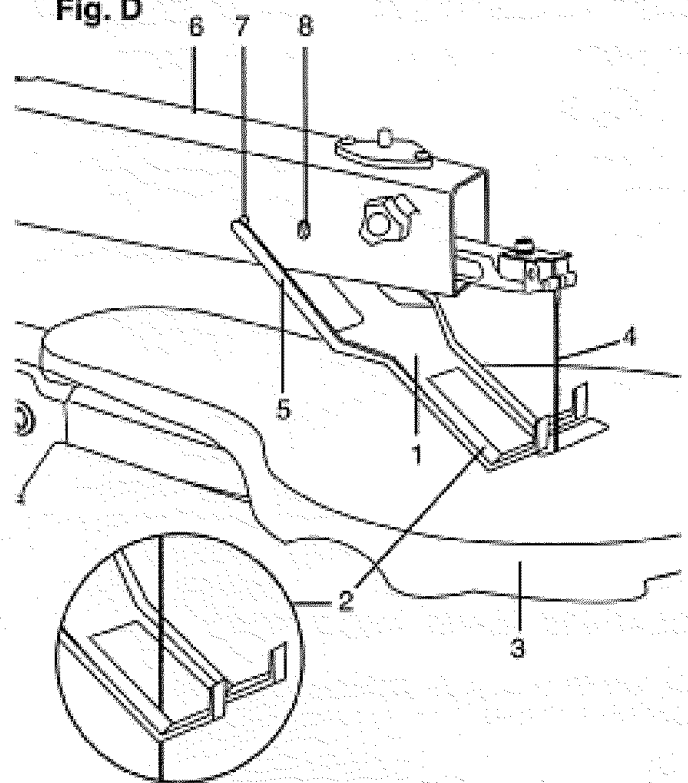


INSTALLING THE BLADE GUARD ASSEMBLY (FIGURE D)

1. Locate the plastic blade guard (1). Position the foot end (2) of the blade guard against the table (3) and in back of the blade (4) as shown.
2. Carefully spread the two extensions (5) slightly apart. Slide the blade guard onto the arm (6), and guide it so that the extension posts (7) slip into the holes (8) on both sides of the arm housing.
3. Adjust the blade guard (1) so the blade is positioned in the center of the foot (2), as shown.

NOTE: When in use the blade guard should always rest on top of the workpiece.

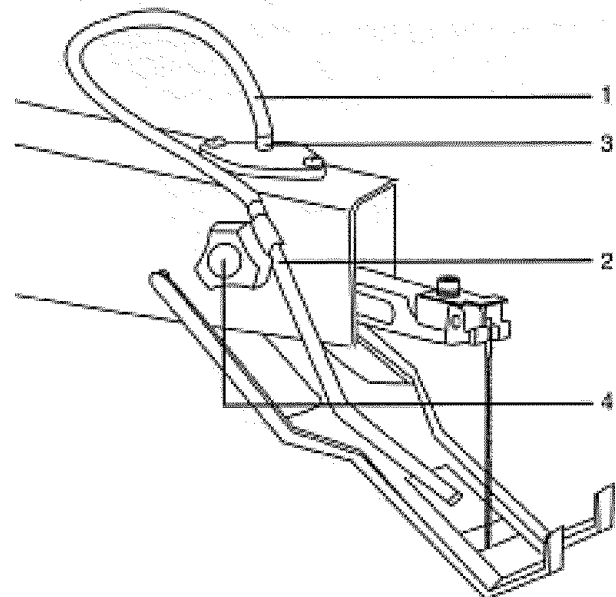
Fig. D



INSTALLING THE DUST BLOWER SYSTEM (FIGURE E)

1. Locate the air tubing (1).
2. Carefully connect one end of the air tube to the sawdust blower tube (2) and the other end to the bellows seat (3) on the top of the saw arm, placing the air tube in the clamp at the sawdust blower knob (4).
3. Position the sawdust blower (2), pointing to the blade and workpiece. Tighten the knob (4) to hold the sawdust blower position.

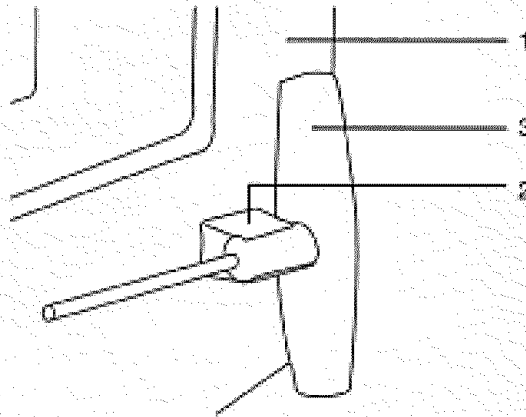
Fig. E



STORING THE T-WRENCH (FIGURE F)

The right rear side of the scroll saw body (1) has a U-shaped holder (2) designed to store the T-wrench (3). Position the shaft of the T-wrench handle into the holder as shown.

Fig. F



BLADE REMOVAL AND INSTALLATION

PLAIN-END BLADE REMOVAL AND INSTALLATION

This scroll saw accepts 5 inch plain-end and pin-end type blades to cut a wide variety of materials.

Plain-end type blades are recommended whenever fine, accurate, and intricate work is being performed on 3/4" or thinner material. It will take slightly longer to install the blade with proper tension, but you will also be able to use finer blades cutting a smaller kerf in the workpiece.

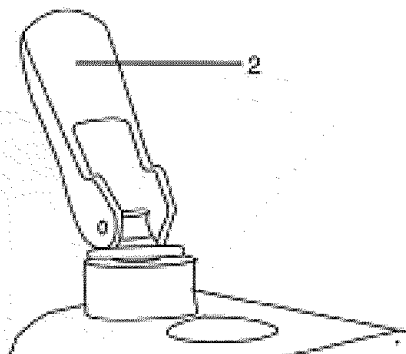
⚠ WARNING

To avoid injury from accidental starting, always turn the switch off and remove the power cord plug from the power source before removing or replacing the blade.

PLAIN-END BLADE REMOVAL (FIGURE G, H, I)

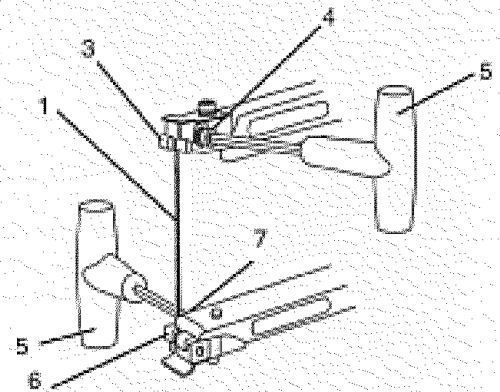
1. To remove the blade (1), loosen the tension on the blade by lifting up the quick release tension lever (2) (FIG. G).

Fig. G



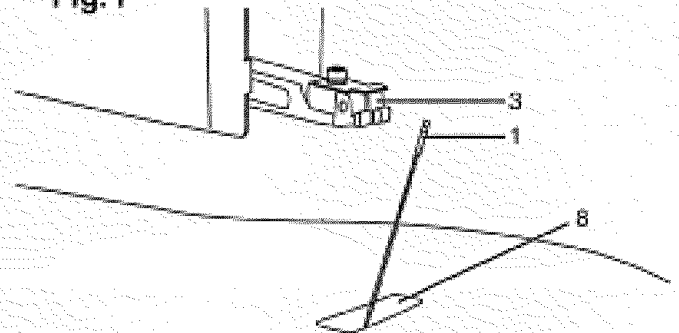
2. Loosen the upper blade holder (3) by turning the set screw (4) counterclockwise with the T-wrench (5) (FIG. H).

Fig. H



3. Loosen the lower blade holder (6) by inserting the T-wrench (5) under the table, and turning the set screw (7) counterclockwise (FIG. H).
4. Remove the blade (1) from the upper (3) and lower (6) blade holders by pulling forward and lifting the blade through the access hole (8) in the table (FIG. I).

Fig. I



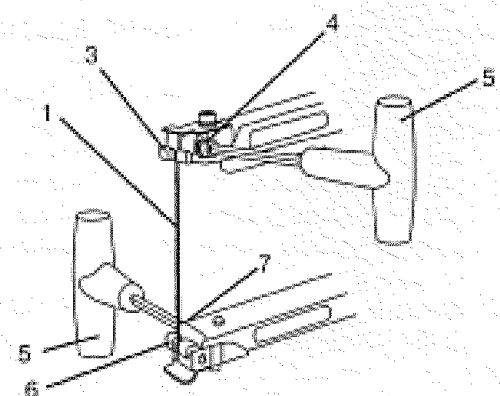
PLAIN-END BLADE INSTALLATION (FIGURE I, J, K)

1. Insert the blade (1) through the access hole (8) in the table. (FIG. I)

CAUTION: In order to avoid uncontrolled lifting of the workpiece, the teeth of the blade should always point downward.

2. Insert the blade (1) into the lower blade holder slot (6). Tighten by inserting the T-wrench (5) under the table and turning the set screw (7) clockwise (FIG. J).

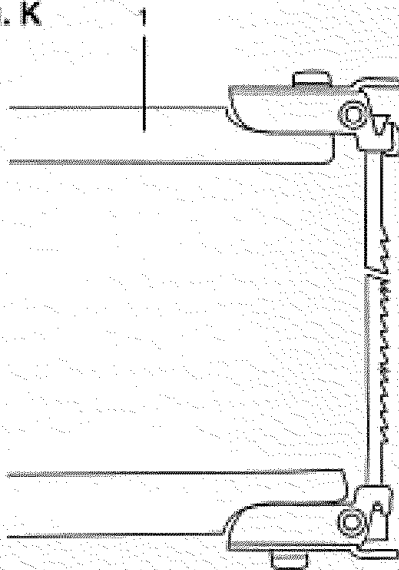
Fig. J



3. Insert the other end of the blade into the upper blade holder slot (3). Tighten by turning the set screw (4) clockwise with the T-wrench (5) (FIG. J).

NOTE: Slight downward pressure against the upper arm (1) may be helpful when installing the blade into the upper blade holder. (FIG. K)

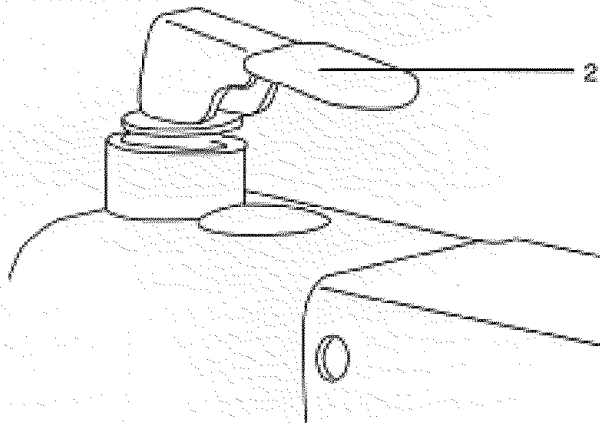
Fig. K



4. Tighten the tension on the blade (1) by turning the quick release lever (2) clockwise until proper tension is set on the blade. If loose, turn the lever clockwise; if too tight, turn the lever counterclockwise. (FIG. L)

NOTE: The lever handle must always be down to make the tension adjustments. Release the lever upward only during blade changing operations.

Fig. L



PIN-END BLADE REMOVAL AND INSTALLATION

▲ WARNING

To prevent personal injury always turn the saw "OFF" and disconnect the plug from the power source before changing blades or making adjustments.

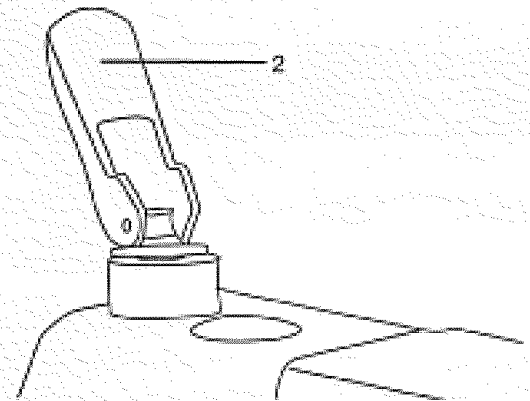
Pin-end type blades are thicker for stability and for faster assembly. These blades are used whenever faster cutting on a variety of materials and 3/4 inch thickness or greater are required. Use whenever less precision or thicker kerf cutting is acceptable.

NOTE: When installing pin-end blades, the set screws located on the upper and lower blade holders should not be over or under tightened. The slot must be slightly wider than the thickness of the blade. After the blade is installed, the blade tension mechanism will keep the pin-end in place.

PIN-END BLADE REMOVAL (FIGURE M, N)

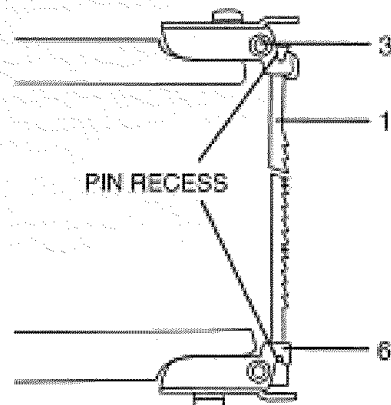
1. To remove the blade (1), loosen the tension on the blade by lifting up the quick release tension lever (2) (FIG. M).

Fig. M



2. Remove the blade (1) from the upper (3) and lower (6) blade holder. (FIG. N).

Fig. N



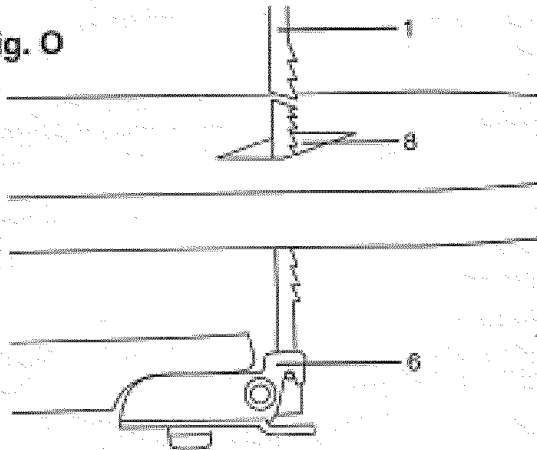
NOTE: Slight downward pressure against the upper arm may be helpful when removing the blade from the upper blade holder.

PIN-END BLADE INSTALLATION (FIGURES O, P)

CAUTION: In order to avoid uncontrollable lifting of the workpiece, the teeth of the blade should always point downward.

1. Install the blade (1) by inserting one end of the blade through the access hole (8) in the table, and hook the blade pin in the pin recess in the lower blade holder (6) (FIG. O).

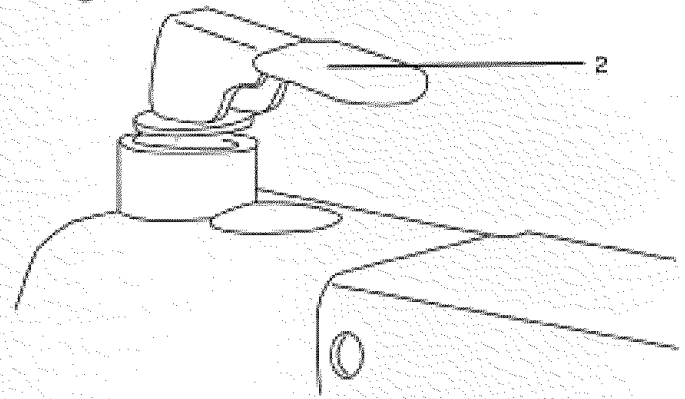
Fig. O



2. Check to see that the pins are properly located in the upper (3) and the lower (6) blade holders.
3. To tension the blade (1), lower the quick release tension lever (2). Check the tension on the blade; if too tight, turn the lever counterclockwise. If loose, turn the lever clockwise (FIG. P).

NOTE: If the blade is over tensioned, the lever is difficult to lower.

Fig. P



BLADE SELECTION

▲ WARNING

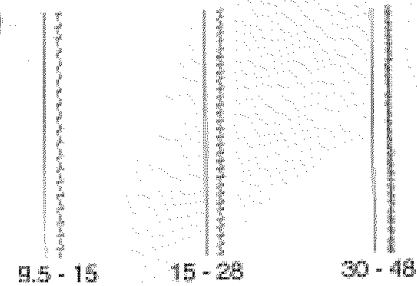
To avoid injury from accidental starting, always turn the switch "OFF" and unplug the scroll saw before moving, replacing the blade, or making adjustments.

This scroll saw accepts 5" length blades with a wide variety of blade thickness and widths. The type of material and intricacies of cutting operations (size of radius or curve) will determine the number of teeth per inch. As a general rule, always select the narrowest blades for intricate curve cutting and the widest blades for straight and large curve cutting operations. The following table represents suggestions for various materials. When purchasing blades, refer to the back of the package for the best use of blades and speeds on various materials. Use this table as an example, but practice and your own personal preference will be the best selection method.

NOTE: When using blades, sometimes speeds must change to compensate for smaller curves, radii, or smaller diameters. Thinner blades will have more possibilities for blade deflection when cutting angles which are not perpendicular to the table. Read BASIC SCROLL SAW OPERATION (page 13) for more suggestions.

NOTE: The blade must be installed with the teeth pointing downward, as shown in FIG. O, to prevent the workpiece from being pulled upward by the saw blade action.

Fig. Q



TEETH/INCH	WIDTH	THICKNESS	SPEED /SPM	MATERIAL CUT
9.5 to 15	0.11	0.018	1000-1500	Medium turns on 1/4" to 1-3/4" wood, soft metal, hardwood
15-28	.022-.062	.010-.020	1200-1800	Small turns on 1/8" to 1-1/2" wood, soft metal, hardwood
30-48	.024-.041	.012-.019	Varies	Non-ferrous metals/hardwoods using very slow speeds

OPERATION

VARIABLE SPEED CONTROL ON/OFF SWITCH

▲ WARNING

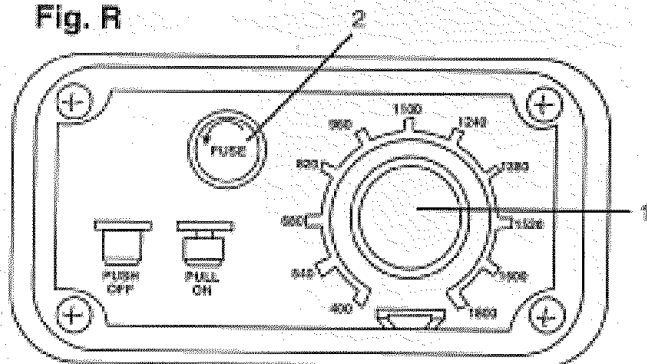
For your own safety, always push the control knob "OFF" when the scroll saw is not in use. Also, in the case of power failure (all of your lights go out) push the knob "OFF". Remove the plug from the power source outlet to avoid accidental starting.

The variable speed control allows greater versatility to cut a variety of materials such as wood, plastics, non-ferrous metals, etc. Depending on the hardness and thickness of material, the speed should be reduced to allow the blade teeth to remove cut material from the kerf.

SWITCH CONTROL (FIGURE R)

1. Position fingers on the control knob (1) and pull the control knob OUT to turn the scroll saw "ON".
2. The variable speed control may be adjusted to the approximate speeds on the control plate behind the knob. Turn the control knob clockwise to increase the strokes per minute (SPM). Turn the control knob counterclockwise to reduce the strokes per minute (SPM).
3. Position fingers on the control knob and push the control knob IN to turn the scroll saw "OFF".

Fig. R



FUSE REPLACEMENT (FIGURE R)

NOTE: If the unit stops running during operation, the fuse may have blown due to excessive force of pushing the material against the blade. The blade set may be lost causing excessive friction in the kerf.

1. Push the control knob (1) IN to avoid accidental starting, and remove the plug from the power source outlet.
2. Remove the fuse by turning the fuse cap (2) counterclockwise.
3. Replace the fuse with a 3 Amp 125V automotive type fuse available at most automotive stores, identical to the current fuse.
4. Place the new fuse in the fuse cap (2) and install in the control panel by turning the fuse cap clockwise.

BASIC SCROLL SAW OPERATION

▲ WARNING

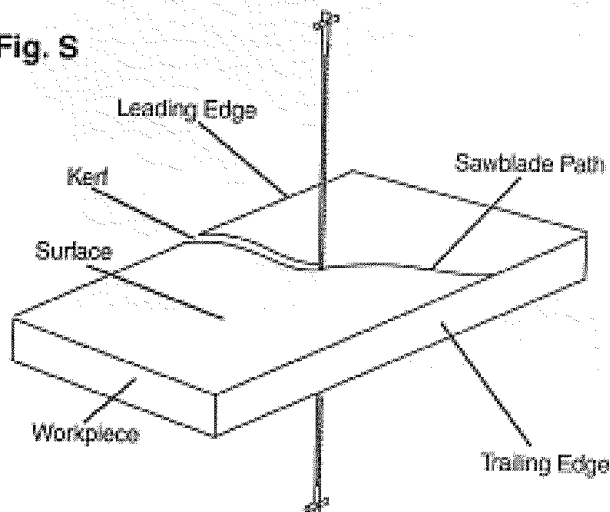
To avoid injury from accidental starting, always push the switch "OFF" and unplug the scroll saw before moving, replacing the blade or making adjustments.

A scroll saw is basically a "curve cutting" machine. It can also be used for cutting operations such as scrolling or freehand cutting; rip, crosscutting or straight line cutting; and beveling or angle cutting operations. Please read and understand the following items about your scroll saw before attempting to use the saw.

WOODWORKING TERMS (FIGURE S)

- **KERF** - the slot cut by the blade.
- **LEADING EDGE** - the front edge of the workpiece pushed into the blade.
- **SAW BLADE PATH** - area or line of sight of the workpiece moving in line toward the saw blade edge.
- **BLADE TOOTH SET** - the total width of the kerf, based on the distance from the outside point of one bent tooth to the outside point of the next bent tooth, establishing a "set" of teeth.
- **TRAILING EDGE** - the end of the workpiece that the saw blade cuts last.
- **SURFACE** - the top of the workpiece being cut.
- **WORKPIECE** - the material on which the cutting operation is being performed.
- **FEED** - the rate the material to be cut is moved into the blade.
- **DEFLECTION** - Slight movement of the blade in a horizontal direction while the blade is moving in line during cutting operations. This may be caused by the blade following the grain or the path of least resistance.

Fig. S



RECOMMENDATIONS FOR CUTTING OPERATIONS

- When feeding the workpiece into the blade do not force material against the blade, causing blade deflection. Allow the saw to cut material by guiding the workpiece into the blade as it cuts.
- The blade teeth cut material ONLY on the down stroke.
- You must guide the wood into the blade slowly because the teeth of the blade are very small and they can only remove wood when they are on the down stroke.
- There is a learning curve for each person who wants to use this saw. During that period of time it is expected that some blades will break until you learn how to use the saw and receive the greatest benefit from the blades.
- Best results are achieved when cutting wood less than one inch thick.
- When cutting wood thicker than one inch the user must guide the wood very, very slowly into the blade, taking extra care not to bend or twist the blade while cutting, in order to maximize blade life.
- Teeth on scroll saw blades wear out and must be replaced frequently for best cutting results. Scroll saw blades generally stay sharp for 1/2 hour to 2 hours of cutting.
- To get accurate cuts be prepared to compensate for the blade's tendency to follow the wood grain as you are cutting.
- This scroll saw is intended to cut wood or wood products. For cutting precious and non-ferrous metals, the variable control switch must be set at very slow speeds. Precious and non-ferrous metals perform well on machines that have variable speed capability and should be lubricated with machine oil or beeswax.
- When choosing a blade to use with your scroll saw, consider very fine, narrow blades to scroll cut in thin wood 1/4" thick or less. Use wider blades for thicker materials, but this will reduce the ability to cut tight curves.
- This saw uses 5" long pin and plain-end type blades only.
- Blades wear faster when cutting plywood or particle board which is very abrasive. Angle cutting in hardwoods reduces the blade set faster due to the blade deflection.

FREEHAND CUTTING OPERATIONS

▲ WARNING

To avoid injury from accidental starting, always push the switch "OFF" and unplug the scroll saw before moving, replacing the blade or making adjustments.

1. Lay out the desired design or secure a design to the workpiece.
2. Raise the blade guard by lifting gently.
3. Position the workpiece against the blade and lower the blade guard on the top surface of the workpiece.
4. Remove the workpiece from the blade prior to turning the scroll saw "ON". Pull the speed control knob out and set the desired speed by turning the control knob clockwise or counterclockwise.

CAUTION: In order to avoid uncontrollable lifting of the work piece and reduce blade breakage, do not pull the control knob "ON" while the workpiece is against the blade.

5. When turning the scroll saw on, position the workpiece against a leading piece of scrap wood prior to touching the leading edge of the workpiece against the blade.
6. Slowly feed the workpiece into the blade, guiding and pressing the workpiece down against the table.

CAUTION: Do not force the leading edge of the workpiece into the blade. The blade will deflect, reducing accuracy of cut, and may break. Use a leading scrap wood, and allow the blade to cut without forcing it.

7. When the cut is complete, move the trailing edge of the workpiece beyond the blade guard. Push the control knob in to turn scroll saw "OFF".

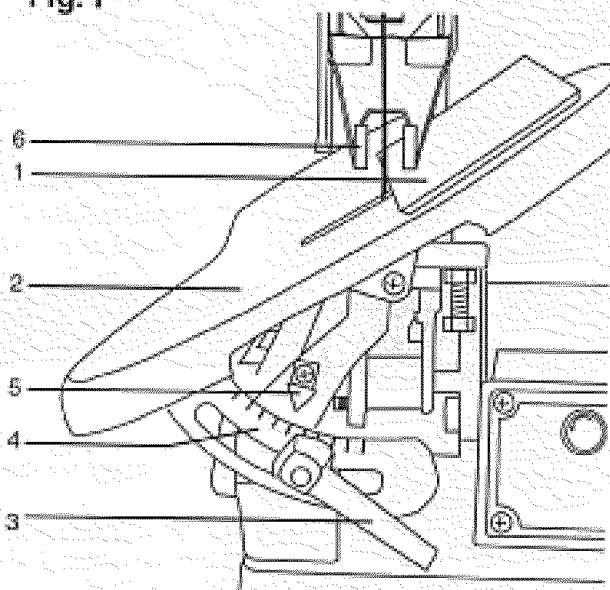
ANGLE CUTTING OPERATIONS (BEVEL CUTTING) (FIGURE T)

⚠ WARNING

To avoid injury from accidental starting, always push the switch "OFF" and unplug the scroll saw before moving, replacing the blade or making adjustments.

1. Layout or secure a design to the workpiece (1).
2. Tilt the table (2) to the desired angle by loosening the table lock handle (3) and moving the table to the proper angle using the degree scale (4) and the pointer (5).
3. Tighten the table lock handle securely.
4. Position the workpiece on the right side of the blade and place the blade guard (6) against the surface.
5. Follow items 4-7 under FREE HAND CUTTING OPERATIONS (page 14).

Fig. T



RIP OR STRAIGHT LINE CUTTING OPERATIONS (FIGURE U)

⚠ WARNING

To avoid injury from accidental starting, always push the switch "OFF" and unplug the scroll saw before moving, replacing the blade or making adjustments.

TOOLS NEEDED

Quantity	Description
2	C-clamps
1	Ruler or measuring tape
1	12" Straight scrap wood, (Thickness to match work piece)

1. Measure from the inside tip of the blade (1) to the desired distance. Position the scrap wood (2) at that point, parallel to the blade.
2. Clamp (3) the scrap wood to the table (4).
3. Recheck your measurements, using the workpiece to be cut, and make sure the scrap wood is secure.
4. Position the workpiece against the blade and place the blade guard foot (5) on the top surface of the workpiece.
5. Remove the workpiece from the blade prior to turning the scroll saw "ON". Pull the speed control knob out and set desired speed by turning the control knob clockwise or counterclockwise.

CAUTION: In order to avoid uncontrollable lifting of the work piece and reduce blade breakage, do not pull the control knob "ON" while the work piece is against the blade.

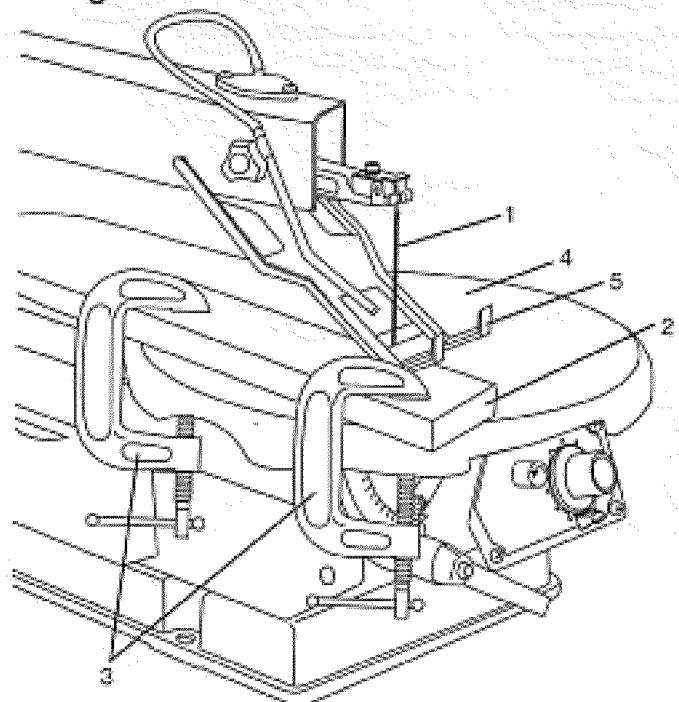
6. Position the workpiece against the scrap wood (2) prior to touching the leading edge of the workpiece against the blade (1).
7. Slowly feed the workpiece into the blade, guiding it against the straight edge of the scrap wood, and pressing the workpiece down against the table.

CAUTION: Do not force the leading edge of workpiece into the blade. It will deflect, reducing accuracy of cut, and may break the blade. Allow the blade to cut into the workpiece without forcing it.

8. When the cut is complete, move the trailing edge of the workpiece beyond the blade guard. Push the control knob in to turn scroll saw "OFF".

NOTE: When cutting a narrow workpiece use push sticks.

Fig. U



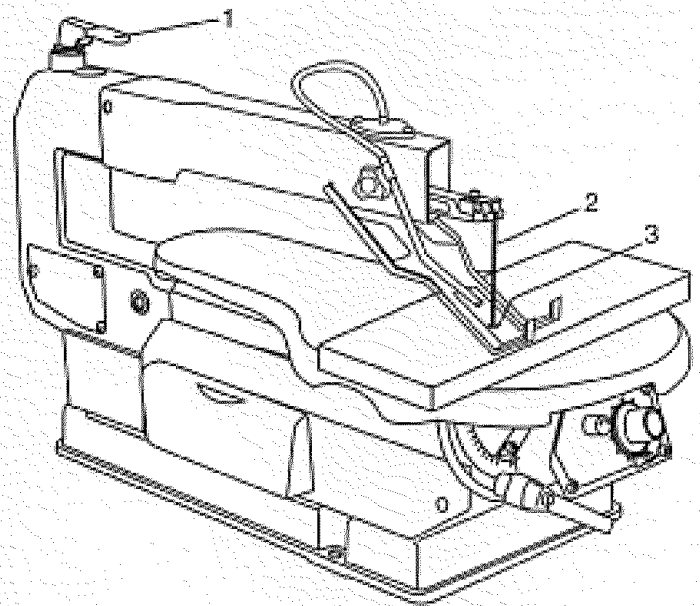
INTERIOR CUTTING OPERATIONS (FIGURE V)

▲ WARNING

To avoid injury from accidental starting, always push the switch "OFF" and unplug the scroll saw before moving, replacing the blade or making adjustments.

1. Layout the design or secure a design to the workpiece. Drill a 1/4 inch hole in the workpiece area you will use to perform inside cutting.
2. Release the quick release tension lever (1), remove the blade (2). Refer to **BLADE REMOVAL AND INSTALLATION** (Page 10).
3. Place the workpiece on the saw table with the hole (3) in the board over the access hole in the table.
4. Install the blade (2) through the hole (3) in the board and lower the quick release tension lever (1). Adjust the blade tension.
5. Follow the process, items 3-7, under **FREEHAND CUTTING OPERATIONS** (page 14).
6. When finished making the interior scroll cuts, simply turn scroll saw "OFF", remove the blade from the upper blade holder, and remove the workpiece from the table.

Fig. V



MAINTENANCE

▲ WARNING

For your own safety, turn the switch "OFF" and remove the plug from the power source outlet before maintaining or lubricating your saw.

GENERAL

An occasional coat of paste wax on the work table will allow the wood being cut to glide smoothly across the work surface.

MOTOR

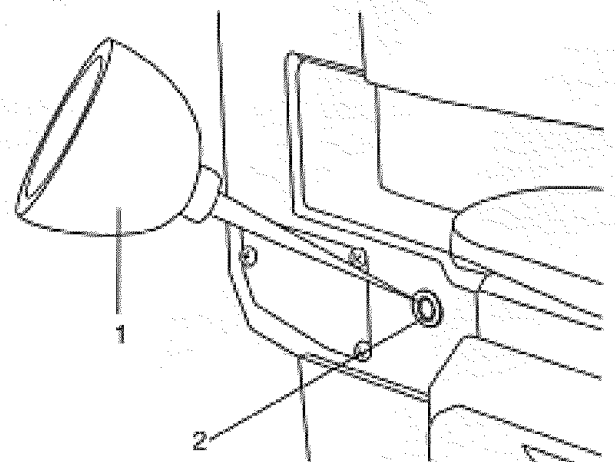
1. If the power cord is worn, cut, or damaged in any way, have it replaced immediately.
2. Do not attempt to oil the motor bearings or service the motor internal parts.

ARM BEARINGS (FIGURE W)

Lubricate the arm bearings after every 50 hours of use.

1. Turn the saw on its side.
2. Squirt a generous amount of SAE 20 (lightweight) oil (1) around the shaft end and bronze bearing (2).
3. Let the oil soak in overnight in this condition.
4. The next day repeat the above procedures for the opposite side of the saw.

Fig. W



TROUBLESHOOTING

▲ WARNING

For your own safety, turn the switch "OFF" and remove the plug from the power source outlet before troubleshooting your scroll saw.

PROBLEM	PROBABLE CAUSE	REMEDY SUGGESTED
Breaking Blades	<ol style="list-style-type: none"> 1. Wrong tension 2. Overworking blades. 3. Wrong blade application 4. Twisting blade in wood 	<ol style="list-style-type: none"> 1. Adjust blade tension. 2. Reduce feed rate. 3. Use narrow blades. 4. Avoid side pressure on blade.
Motor will not run	<ol style="list-style-type: none"> 1. Defective cord or plug. 2. Defective motor. 3. Blown fuse. 	<ol style="list-style-type: none"> 1. Replace defective parts before using saw again. 2. Consult Service Center. Any attempt to repair this motor may create a HAZARD unless report is done by a qualified service technician. 3. Replace fuse, check circuit breaker.
Excessive vibration NOTE: There will always be some vibration present when the saw is running because of motor operation.	<ol style="list-style-type: none"> 1. Improper mounting of saw. 2. Unsuitable mounting surface. 3. Loose table or table resting against motor. 4. Loose motor mounting. 	<ol style="list-style-type: none"> 1. See mounting instructions in this manual for proper mounting technique. 2. The heavier your work bench is the less vibration will occur. A plywood workbench will not be as good work surface as the same size solid lumber. Use common sense in choosing a mounting surface. 3. Tighten table lock knob. 4. Tighten motor mounting screws.
Blade run out Blade not in line with arm motion.	<ol style="list-style-type: none"> 1. Blade holders not aligned. 	<ol style="list-style-type: none"> 1. Loosen cap screws holding blade holders to arms. Adjust position of blade holders. Retighten holders.

PARTS

VARIABLE SPEED SCROLL SAW

MODEL NUMBER 137.216000

▲WARNING

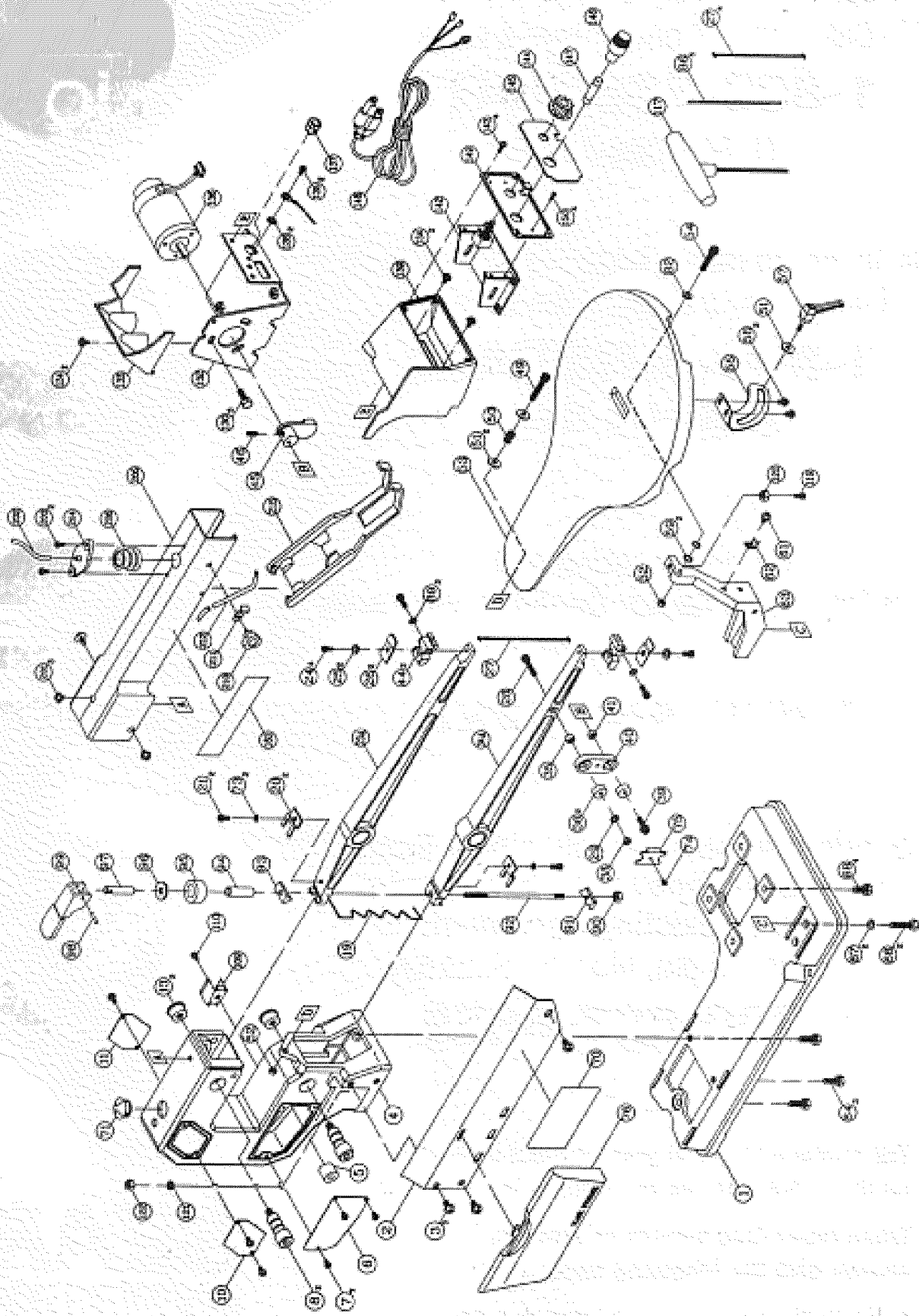
When servicing use only CRAFTSMAN replacement parts. Use of any other parts may create a HAZARD or cause product damage.

▲WARNING

Any attempt to repair or replace electrical parts on this Scroll Saw may create a HAZARD unless repair is done by a qualified service technician. Repair service is available at your nearest Sears Service Center.

Always order by PART NUMBER not by key number

Key no.	PART NUMBER	Description	Size	Key no.	PART NUMBER	Description	Size
1	17100101	Base		89	2501MBDN05	Flat washer	
2	17100204	Plate cover		90	2705FBD106	Lock nut	M6x1.0
3	2669BBDA39	Cr. Re. Fan hd. screw	M6x1.0	91	14709902	Clamp bolster	
4	17100404	Body		92	18102102	Linkage bar	
5	17100501	Bumper		93	15000601	Clamp bolster	
6	17100601	Caution label		94	18109201	Spacer	
7	2637BBDA23	Cr. re. truss hd. screw	M5x0.8	95	18112501	Bush	
8	17100801	Hex. soc. hd. cap bolt		96	2501MBDN27	Flat washer	
10	17101059	Label		97	18109301	Shaft-pivot	
11	17101159	Label		98	2536MBE803	Spring pin	
13	17101301	Bush		99	17109901	Knob	
19	17101901	Segment spring		109	16710601	Handle seat	
20	14706501	Set plate		110	2620BBDC18	Pan hd. screw and washer	
21	2602BBLA09	Hex. soc. hd. cap screw	M4x0.7	117	16712101	Handle	
23	17102303A1	Upper Arm rocker assy		119	2602BBLA28	Hex. soc. hd. cap bolt	M5x0.8
24	2602BBLA10	Hex. soc. hd. cap bolt	M4x0.7	120	2701FBD105	Hex. nut	M5x0.8
25	2502ABC401	Spring washer		121	2502NBC406	Spring washer	
26	17102604	Set plate		122	2701FBD106	Hex. nut	M6x1.0
27	15802103	Blade		130	2615BBDG21	Hex. hd. bolt	M5x1.0
28	2602BBLA28	Hex. soc. hd. cap screw	M5x0.8	132	14710701	Motor bracket	
29	2502ABC406	Spring washer		133	14710801	Motor rear cover	
34	17103402A1	Bottom arm rocker assy		134	2621BBDG10	Pan hd. screw and washer	M5x0.8
36	14704801	Shaft sleeve		135	2668BZDA22	Cr. Re. Pan hd. screw	M5x0.8
36	2001ZZD625	Ball bearing		136	6356088904	Motor	
38	2701FBD105	Hex. nut	M5x0.8	137	2601DBHA04	Strain relief	
39	2617BBLG15	Hex. soc. hd. cap screws	M5x0.8	138	2504M2C005	Tooth washer	
40	17104001	Bearing seat		139	14710901	Switch box	
41	14701101	Washer		142	19700802A1	Controller assy	
44	17104402	Blade holder		143	2662MBCE11	Pan hd. tapping screw	M4x16
45	14700301	Eccentric		144	2616AHAB01	Indicated button	
46	2606BBLA52	Hex. soc. set screw	M8x1.25	145	14711102	Operation plate	
49	2602BBLB44	Hex. soc. hd. cap bolt	M5x1.0	146	2603AA5001	Fuze seat	
50	14703801	Compression spring		147	2604AB8501	Fuze	
51	2501MBDN12	Flat washer		148	2607BBDGJ5	Power cord	
52	2701FBD106	Hex nut	M6x1.0	149	14720001	Controller plate	
53	17105304	Table		150	2662MBCB14	Pan hd. tapping screw	M4x16
54	2602BBLB43	Hex. soc. hd. cap bolt	M6x1.0	150	17118004	Craftsman nameplate	
55	17106501	Bracket til		160	2636BBDA23	Round washer hd. screw	M5x0.8
57	18204202A1	Tension handle assy		202	18106001	Air tube	
58	2656BBDA23	Cr. re. pan hd. screw	M5x0.8	203	2637BBDA07	Cr. re. truss hd. screw	M4x0.7
59	2506MBN006	Wave washer		204	19511501	Bellows seal	
61	2656BBDA37	Cr. re. pan hd. screw	M6x1.0	205	17120501	Flacker arm cover	
62	15805401	Needle pointer		206	18123803	Bellows	
63	17106302	Support		210	19106501	Lock knob	
64	2615BBDG20	Hex. hd. screw and washer		211	17403901	Clamp	
66	2601BBDAA57	Hex. hd. bolt	M8x1.25	212	18410801	Brass tube	
67	2502NBC607	Spring washer		215	14707602	Blade guard	
68	2615MBDC01	Hex. hd. screw and washer		*	216000001	Owner's manual	
70	17107029	Warning label					
71	17107101	Plunger					
73	2502NBC402	Spring washer					
74	2660MBCE10	Pan hd. tapping screw	M4x16				
75	15808001	Bearing protector					
76	18200101	Blade box					
76	15809001	Bearing protector					
76	18200101	Blade box					
82	2502NBC406	Spring washer					
88	14708401	Blade					
				Not shown*			

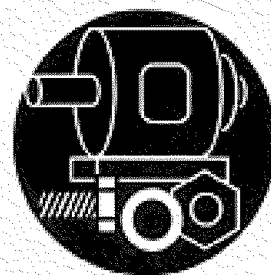


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**The model number of your product is located
on the name plate on the front of the scroll saw.**

**When requesting service or ordering parts,
always give the following information:**

- Product Type
- Part Number
- Model Number
- Part Description

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