



KING KING CANADA

16" VARIABLE SPEED SCROLL SAW

09/2015



MODEL: KC-163SSC-V-6

INSTRUCTION MANUAL

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WARRANTY INFORMATION

**2-YEAR
LIMITED WARRANTY
FOR THIS 16" SCROLL SAW**

**KING CANADA TOOLS
OFFERS A 2-YEAR LIMITED WARRANTY
FOR NON-COMMERCIAL USE.**

PROOF OF PURCHASE

Please keep your dated proof of purchase for warranty and servicing purposes.

REPLACEMENT PARTS

Replacement parts for this product are available at our authorized King Canada service centers across Canada.

LIMITED TOOL WARRANTY

King Canada makes every effort to ensure that this product meets high quality and durability standards. King Canada warrants to the original retail consumer a 2-year limited warranty as of the date the product was purchased at retail and that each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, normal wear and tear, negligence or accidents, repairs done by an unauthorized service center, alterations and lack of maintenance. King Canada shall in no event be liable for death, injuries to persons or property or for incidental, special or consequential damages arising from the use of our products.

To take advantage of this limited warranty, return the product at your expense together with your dated proof of purchase to an authorized King Canada service center. Contact your retailer or visit our web site at www.kingcanada.com for an updated listing of our authorized service centers. In cooperation with our authorized serviced center, King Canada will either repair or replace the product if any part or parts covered under this warranty which examination proves to be defective in workmanship or material during the warranty period.

NOTE TO USER

This instruction manual is meant to serve as a guide only. Specifications and references are subject to change without prior notice.

PARTS DIAGRAM & PARTS LISTS

Refer to the Parts section of the King Canada web site for the most updated parts diagram and parts list.

KING CANADA INC. DORVAL, QUÉBEC, CANADA H9P 2Y4

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GENERAL SAFETY INSTRUCTIONS FOR POWER TOOLS

1. KNOW YOUR TOOL

Read and understand the owners manual and labels affixed to the tool. Learn its application and limitations as well as its specific potential hazards.

2. GROUND THE TOOL.

This tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire.

NEVER connect the green wire to a live terminal.

3. KEEP GUARDS IN PLACE.

Keep in good working order, properly adjusted and aligned.

4. REMOVE ADJUSTING KEYS AND WRENCHES.

Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

5. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents. Make sure the floor is clean and not slippery due to wax and sawdust build-up.

6. AVOID DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations or expose them to rain. Keep work area well lit and provide adequate surrounding work space.

7. KEEP CHILDREN AWAY.

All visitors should be kept a safe distance from work area.

8. MAKE WORKSHOP CHILD-PROOF.

-with padlocks, master switches or by removing starter keys.

9. USE PROPER SPEED.

A tool will do a better and safer job when operated at the proper speed.

10. USE RIGHT TOOL.

Don't force the tool or the attachment to do a job for which it was not designed.

11. WEAR PROPER APPAREL.

Do not wear loose clothing, gloves, neckties or jewelry (rings, watch) because they could get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Roll up long sleeves above the elbows.

12. ALWAYS WEAR SAFETY GLASSES.

Always wear safety glasses (ANSI Z87.1). Everyday eye-glasses only have impact resistant lenses, they are **NOT** safety glasses. Also use a face or dust mask if cutting operation is dusty.

13. DON'T OVERREACH.

Keep proper footing and balance at all times.

14. MAINTAIN TOOL WITH CARE.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. DISCONNECT TOOLS.

Before servicing, when changing accessories or attachments.

16. AVOID ACCIDENTAL STARTING.

Make sure the switch is in the "OFF" position before plugging in.

17. USE RECOMMENDED ACCESSORIES.

Consult the manual for recommended accessories. Follow the instructions that accompany the accessories. The use of improper accessories may cause hazards.

18. NEVER STAND ON TOOL.

Serious injury could occur if the tool tips over. Do not store materials such that it is necessary to stand on the tool to reach them.

19. CHECK DAMAGED PARTS.

Before further use of the tool, a guard or other parts that are damaged should be carefully checked to ensure that they will operate properly and perform their intended function. Check for alignment of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other parts that are damaged should be properly repaired or replaced.

20. NEVER LEAVE MACHINE RUNNING UNATTENDED.

Turn power "OFF". Don't leave any tool running until it comes to a complete stop.

ADDITIONAL SAFETY INSTRUCTIONS FOR YOUR SCROLL SAW

1. DO NOT ALTER OR MISUSE THE TOOL.

These tools are precision built. Any alteration or modification not specified is misuse and may result in dangerous conditions.

2. AVOID GASEOUS AREAS.

Do not operate electric tools in gaseous or explosive environments. Motors in these tools normally spark and may result in dangerous conditions.

3. BEFORE CONNECTING TO THE POWER SOURCE.

Make sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with a voltage greater than that specified for the tool can result in serious injury to the operator, as well as damage to the tool. If in doubt, **DO NOT PLUG IN TOOL.** Using a power source with a voltage less than the nameplate rating is harmful to the motor.

4. STABILITY OF THE SCROLL SAW.

Your scroll saw must be bolted securely to a stand or a workbench. In addition, if there is any tendency for the scroll saw to tip over or move during certain operations, such as cutting long, heavy boards, bolt your scroll saw stand or workbench to the floor.

5. LOCATION.

This scroll saw is intended for indoor use only.

6. MISSING OR MALFUNCTIONING PARTS.

If any part of the scroll saw is missing, malfunctioning, has been damaged or broken...such as the motor switch, or other operating control, a safety device or the power cord...cease operating immediately until the particular part is properly repaired or replaced.

7. CUTTING SMALL PIECES.

Do not cut a piece too small to hold by hand. **HINT:** When making very small cutouts, always secure the workpiece to a scrap piece of plywood with double faced tape. This way, the workpiece is supported and your fingers are away from the blade.

8. CLEARING THE TABLE OF ALL OBJECTS.

Never turn your scroll saw on before clearing the table of all ob-

jects (tools, scraps of wood...) except for the workpiece and related feed and support devices for the operation planned.

9. AVOID AWKWARD HAND POSITIONS.

A sudden slip could cause a hand to move into the blade.

10. ALWAYS ADJUST THE DROP FOOT.

Adjust the drop foot to just clear the workpiece to protect the operator, it keeps blade breakage to a minimum and provides maximum support for the blade.

11. BLADE TENSION.

Always adjust the blade tension correctly.

12. BLADE TEETH DIRECTION.

The scroll saw should cut on the down stroke. Always make sure the blade teeth are oriented downwards towards the table.

13. SUPPORT WORKPIECE.

Hold the workpiece firmly against the table. When cutting a large piece of material, make sure it is supported at table height.

14. FEEDING SPEED.

Do not feed the material too fast while cutting. Only feed the material fast enough so that the blade will cut. Keep fingers away from the blade.

15. CUTTING IRREGULAR MATERIAL.

Use caution when cutting off material which is irregular in cross section, it could pinch the blade before the cut is completed. A piece of moulding, for example, must lay flat on the table as to not rock while being cut.

16. CUTTING ROUND MATERIAL.

Use caution when cutting off round material such as dowel rods or tubing. They have the tendency to roll while being cut, causing the blade to "bite". Secure round material at all times.

17. DO NOT perform any layout, assembly or setup work on the table while the scroll saw is operating.

**NOTE AND FOLLOW THE SAFETY WARNINGS AND INSTRUCTIONS
THAT APPEAR ON THE SCROLL SAW**

ELECTRICAL INFORMATION

WARNING

ALL ELECTRICAL CONNECTIONS MUST BE DONE BY A QUALIFIED ELECTRICIAN. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY! ALL ADJUSTMENTS OR REPAIRS MUST BE DONE WITH THE COMPRESSOR DISCONNECTED FROM THE POWER SOURCE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY!

POWER SUPPLY

WARNING: YOUR SCROLL SAW MUST BE CONNECTED TO A 120V WALL OUTLET, WITH A MINIMUM 15-AMP. BRANCH CIRCUIT AND USE A 15-AMP TIME DELAY FUSE OR CIRCUIT BREAKER. FAILURE TO CONNECT IN THIS WAY CAN RESULT IN INJURY FROM SHOCK OR FIRE.

GROUNDING

Your scroll saw must be properly grounded. Not all outlets are properly grounded. If you are not sure if your outlet is properly grounded, have it checked by a qualified electrician.

WARNING: IF NOT PROPERLY GROUNDED, THIS SCROLL SAW CAN CAUSE ELECTRICAL SHOCK, PARTICULARLY WHEN USED IN DAMP LOCATIONS. TO AVOID SHOCK OR FIRE, IF THE POWER CORD IS WORN OR DAMAGED IN ANY WAY, HAVE IT REPLACED IMMEDIATELY.

If this scroll saw should malfunction or breakdown, grounding provides a path of least resistance for electric current, to reduce the risk of electric shock. This scroll saw is equipped with a cord having an equipment-grounding conductor and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING: TO MAINTAIN PROPER GROUNDING, DO NOT REMOVE OR ALTER THE GROUNDING PRONG IN ANY MANNER.

120V OPERATION

As received from the factory, your scroll saw is ready to run for 120V operation. This machine is intended for use on a circuit that has an outlet and a plug which looks like the one illustrated in Fig.1.

WARNING: DO NOT USE A TWO-PRONG ADAPTOR(S) FOR THEY ARE NOT IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES. NEVER USE IN CANADA.

EXTENSION CORDS

The use of any extension cord will cause some loss of power. If you do not have a choice, use the table in Fig.2 to determine the minimum wire size (A.W.G-American Wire Gauge) extension cord needed. Use only 3-wire extension cords which have 3-prong grounding type plugs and 3-hole receptacles which accept the tool's plug.

For circuits that are further away from the electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the scroll saw motor. Refer to Fig.2 for wire length and size.

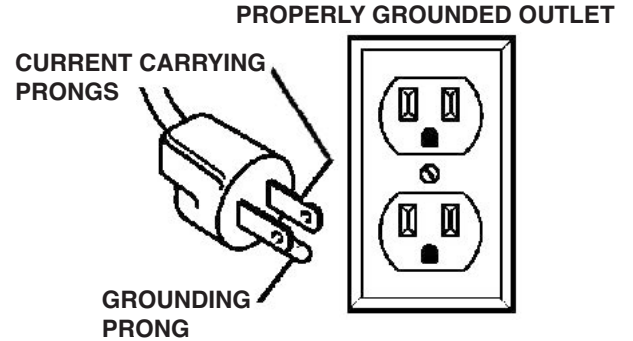


Figure 1

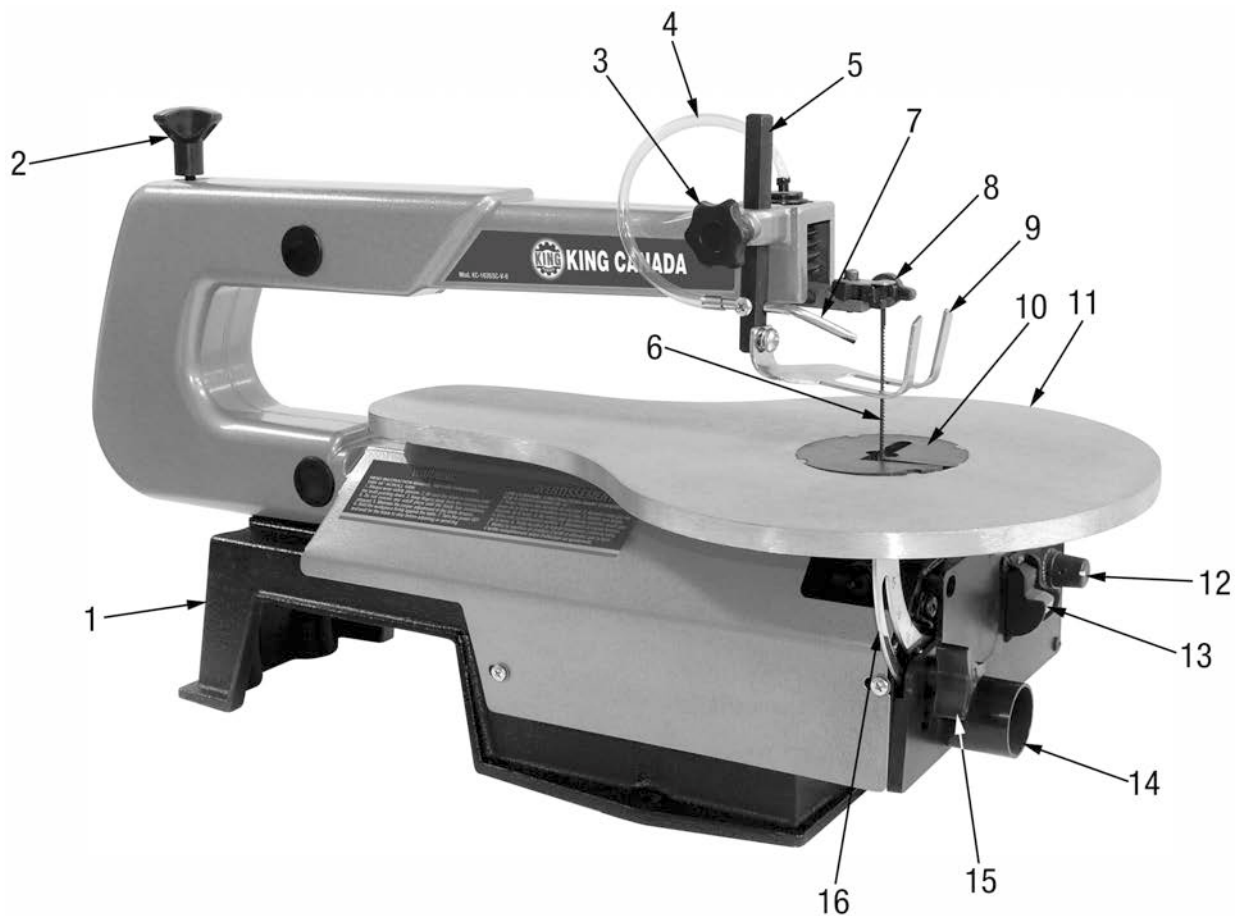
<u>LENGTH OF CONDUCTOR</u>	<u>WIRE SIZES REQUIRED (AMERICAN WIRE GAUGE)</u>
0-25 FEET	<u>110V LINES</u> NO.14
26-50 FEET	NO.12
51-100 FEET	Not recommended

Figure 2

GETTING TO KNOW YOUR SCROLL SAW

SPECIFICATIONS

Model	KC-163SSC-V-6
Capacity.....	16"
Maximum thickness.....	2"
Variable speed	550-1650 SPM
Blade length.....	5"
Motor	1.2A
Voltage	120V, 1 phase, 60 Hz
Dimensions/weight	24-1/2" x 11" x 13" / 23 lbs



Getting to know your Scroll Saw

1. Base with mounting holes.
2. Blade tension knob.
3. Drop foot lock knob.
4. Blower tube.
5. Drop foot post.
6. 5" Blade.
7. Blower tip.
8. Blade lock knob (1 of 2).
9. Drop foot.
10. Table insert.
11. Tilting table.
12. Variable speed control knob.
13. On/Off switch.
14. Dust chute (1-3/16" I.D.).
15. Table angle lock knob.
16. Table degree scale.

ADJUSTING & OPERATING YOUR SCROLL SAW

MOUNTING YOUR SCROLL SAW TO A BENCH

1. When mounting this scroll saw base (A) Fig.3 to a workbench (C), a solid bench is preferable over a plywood bench where noise and vibration will be more noticeable.
2. The hardware to mount this saw to a workbench is NOT SUPPLIED with the saw. However, we recommend the hardware used be no smaller than the following:
QTY DESCRIPTION
4 Hex. bolts -1/4 - 20 (D) Fig.3
4 Washers 9/32" (E) Fig.3
4 Lock washers 9/32" (F) Fig.3
8 Hex. nuts 1/4 - 20 (G) Fig.3
3. A soft foam pad (B) Fig.3 to place between your scroll saw and your workbench is not supplied but we recommend the use of such a pad to reduce noise and vibration. The size of the pad should be 24"x12"x1/2". See mounting illustration in Fig.3.

DO NOT OVERTIGHTEN THE MOUNTING BOLTS- leave some cushion in the foam pad for absorbing noise and vibration.

SETTING THE TABLE FOR HORIZONTAL OR BEVEL CUTTING

1. Loosen the table lock knob (A) Fig.4, the saw table (B) can be tilted to the left and locked at any angle from 0° horizontal cutting position and up to 45° for bevel cutting.
2. A degree scale (C) is provided under the table as a convenient reference for setting the approximate table angle for bevel cutting. When greater precision is required, make practice cuts and adjust the table as necessary for your requirements.
3. NOTE: When cutting at angles, the drop foot (A) Fig.6 can be tilted so it is parallel to the table and rests flat against the workpiece. To tilt the drop foot, loosen the pan hd screw (B) which holds the drop foot in place and tilt it parallel to the table and securely retighten the pan hd screw.

ALIGNING THE DEGREE SCALE POINTER

1. Loosen the table lock knob (A) Fig.4 and move the table (B) until it is approximately perpendicular, or at a right angle to the blade.
2. Place a small square on the table next to the blade to check if the table is 90° to the blade, see Fig.5. If an adjustment is needed, raise or lower the table until it is 90° to the blade and securely tighten the table lock knob.
3. Loosen the screw holding the degree scale pointer (D) Fig.4, move the pointer to the 0 degree mark and securely tighten the screw. Remember, the degree scale is a convenient guide but should not be relied upon for precision. Make practice cuts in scrap wood to determine if your angle settings are correct.

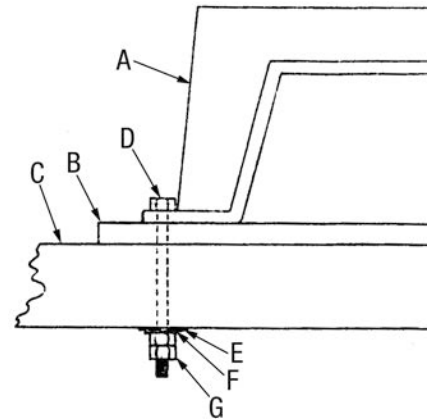


Figure 3

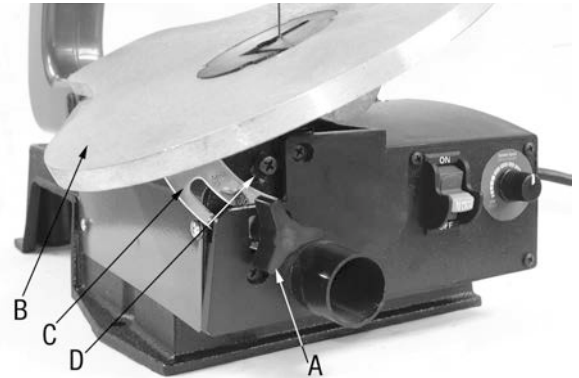


Figure 4

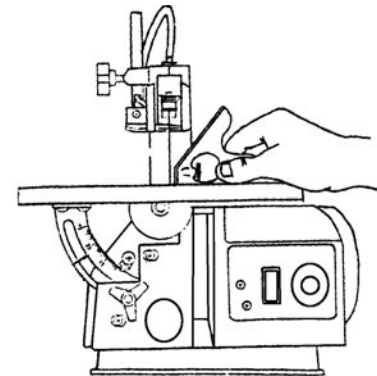


Figure 5

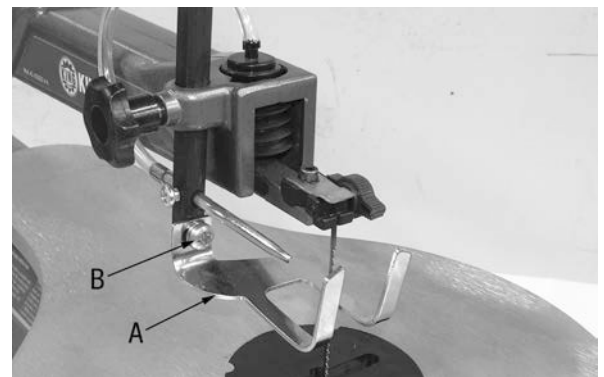


Figure 6

ADJUSTING & OPERATING YOUR SCROLL SAW

ADJUSTING DROP FOOT AND BLOWER

1. After placing your workpiece on the table (before turning scroll saw to the "On" position), the drop foot (A) Fig.7 must be adjusted just above the top but not in contact with the workpiece. Loosen drop foot lock knob (B), lower drop foot assembly to recommended height and retighten lock knob (B).
2. Position the blower tip (C) Fig.7 so that it points directly at the blade. Loosen screw (D), pivot blower tip in the recommended position and retighten screw.

USING ON/OFF SWITCH WITH REMOVABLE SAFETY KEY

The On/Off switch (A) Fig.8 is used to turn the scroll saw on and off. To turn the scroll saw "On", move the switch upwards (On position), to turn the scroll saw "Off", move the switch downwards (Off position).

This switch comes with a removable safety key (B). When the safety key is removed from the switch and placed in a safe location, unauthorized persons or children can't turn the switch to the On position. It is recommended to always remove the safety key from the switch whenever the scroll saw is not in use. To remove the safety key, make sure the switch is in the Off position and simply pull out the safety key.

ADJUSTING SCROLL SAW SPEED

This scroll saw is capable of 550-1,650 strokes per minute (SPM), the speed is controlled by the variable speed control dial (C) Fig.8. Turning the control dial clockwise will increase the blade speed, turning the control dial counterclockwise will decrease the blade speed.

REMOVING AND INSTALLING BLADES

PIN BLADES

1. Rotate the blade tension knob (A) Fig.9 counterclockwise to release the blade tension.
2. Remove the table insert (A) Fig.10 and loosen the top and bottom lock knobs (B & C), then remove the blade (D) from the upper and lower blade holders (E) by pulling forward on the blade and then lifting the blade through the access hole in the table. Slight downward pressure against the upper arm may be helpful when removing the blade from the upper holder.
3. To install a new pin blade, repeat steps 1 to 2 backwards. Make sure the blade teeth are pointing downwards towards you and retighten the blade tension knob (A) Fig.9.

PINLESS BLADES

1. Rotate the blade tension knob (A) Fig.9 counterclockwise to release the blade tension.
2. Remove the table insert (A) Fig.10 and loosen the top and bottom lock knobs (B & C), then remove the blade (D) from the upper and lower blade holders (E) by pulling forward on the blade and then lifting the blade through the access hole in the table.
3. To install a new pinless blade, repeat steps 1 and 2 backwards. Make sure the pinless end of the blade is positioned securely inbetween the blade holders (E). Also make sure the blade teeth are pointing downwards towards you and retighten the blade tension knob (A) Fig.9. Do not overtighten the blade tension knob, this may cause the blade to slip out of one or both blade holders.

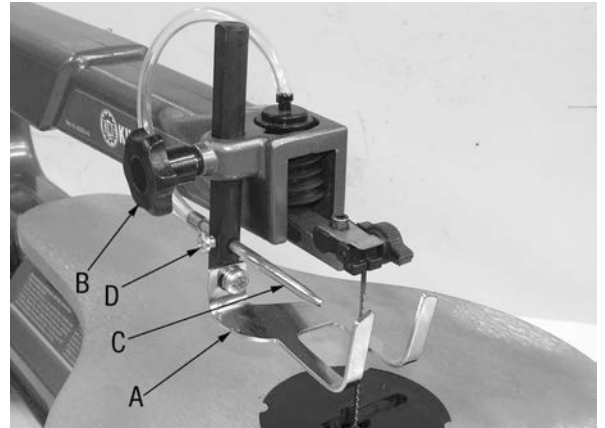


Figure 7

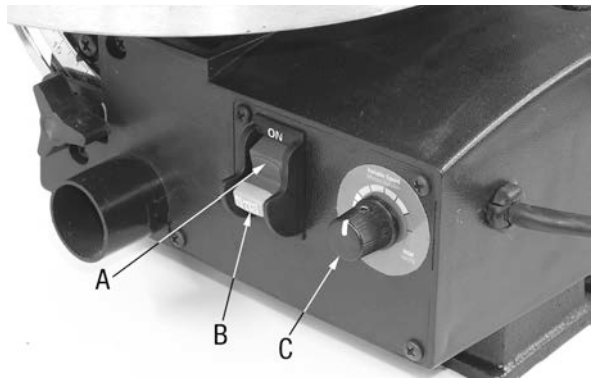


Figure 8



Figure 9

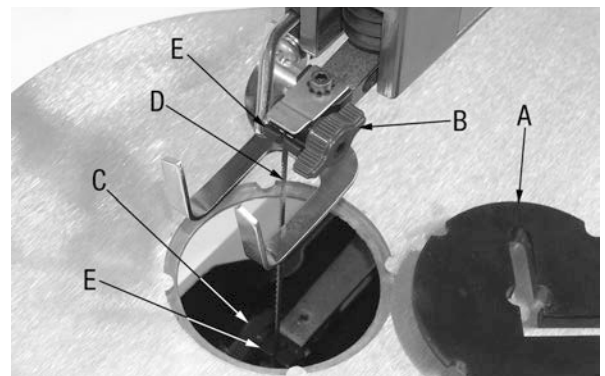


Figure 10

BASIC OPERATION & MAINTENANCE

BASIC OPERATION

Follow these instructions for operating your scroll saw to get the best results and to minimize the likelihood of personal injury.

WARNING! To avoid being pulled into the blade- **DO NOT WEAR:** Loose fitting gloves, necktie, loose clothing, jewelry. **TIE BACK LONG HAIR AND ROLL UP SLEEVES ABOVE THE ELBOWS.**

1. You must feed 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. The blade will flex backwards when you'll apply too much feeding pressure. Too much feeding pressure will cause blade breakage.
2. There is a learning curve for each person who wants to use this scroll saw. During that period of time it is expected that some blades will break until you learn how to use the scroll saw and receive the greatest benefit from the blades.
3. Best results are achieved when cutting wood less than 1" thick.
4. When cutting wood thicker than 1" the user must feed the wood very slowly into the blade, increase the blade tension and take extra care not to bend or twist the blade while cutting in order to maximize the blade life.
5. The teeth on the scroll saw blade wear out and as such must be replaced frequently for best cutting results. Scroll saw blades generally stay sharp for 1/2 hour to 2 hours of cutting.
6. To get accurate cuts be prepared to compensate for the blade's tendency to follow the grain of the wood as you are cutting.
7. When you are choosing a blade to use with your scroll saw, consider the following carefully:
 - A. Choose a blade that allows at least three teeth to be in contact with the workpiece at all times.
 - B. Very fine, narrow blades should be used to cut in thin wood (1/4" thick or less).
 - C. To cut thicker wood, use wider blades with fewer teeth per inch.
 - D. Wider blades can't cut curves as tight or small as thinner blades.
 - E. This saw uses 5" long, pin or plain- end type blades only.
 - F. Blades wear faster when (1) cutting plywood, which is very abrasive, (2) when cutting thick wood, and (3) when cutting hardwood, or when side pressure is placed on the blade.

MAINTAINING YOUR SCROLL SAW

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

GENERAL

Frequently blow out any dust that might accumulate inside the motor. An occasional coat of paste wax on the work table will allow the wood being cut to slide smoothly across the table.

CAUTION! Certain cleaning agents and solvents damage plastic parts. Some of these are: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household detergents that contain ammonia. Avoiding the use of these and other types of cleaning agents minimizes the probability of damage.

WARNING! To avoid shock or fire hazard, if the power cord is worn or cut, or damaged in any way, have it replaced immediately.

WARNING! All repairs, electrical or mechanical, should be done by a qualified service repairman.

LUBRICATION

ARM BEARINGS- Lubricate the arm bearings (Fig.11) with oil after 10 hours of use. Re-oil after every 50 hours of use or whenever there is a squeak coming from the bearings.

1. Turn scroll saw onto its side, remove the 2 rubber covers (A) Fig.11.
2. Squirt a generous amount of SAE 20 oil around the shaft end and the bearing (B).
3. Let the oil soak in overnight in the same position.
4. On the next day, repeat the above procedure for the opposite side of the scroll saw.



Figure 11

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SOLUTION
Breaking blades	<ol style="list-style-type: none"> 1. Wrong tension. 2. Overworking blade. 3. Wrong blade application. 4. Twisting blade in wood. 5. Incorrect teeth per inch. 	<ol style="list-style-type: none"> 1. Adjust the blade tension. 2. Reduce the feed rate. 3. Use narrow blades for cutting thin wood, wide blades for thicker wood. 4. Avoid side pressure on the blade. 5. Blade should have a minimum of 3 teeth in contact with the workpiece.
Motor will not run	<ol style="list-style-type: none"> 1. Defective cord or plug. 2. Defective motor. 3. Defective wire connections. 	<ol style="list-style-type: none"> 1. Replace defective parts before using your saw again. 2/3. Consult your local service centre. Any attempt to repair the motor may create a HAZARD unless the repair is done by a qualified service technician.
Vibration. NOTE: There will always be some vibration present when the saw is running because of the motor operation	<ol style="list-style-type: none"> 1. Improper mounting of the saw. 2. Unsuitable mounting surface. 3. Loose table or the table is resting against the motor. 	<ol style="list-style-type: none"> 1. See "Mounting your scroll saw to a workbench". 2. The heavier the workbench is, less vibration. A plywood workbench would not be as effective. Use common sense in choosing a mounting surface. 3. Tighten the table lock knob.
Blade runout- blade not in line with the arm motion	<ol style="list-style-type: none"> 1. Blade holders not aligned. 	<ol style="list-style-type: none"> 1. Loosen the screws holding the blade to the upper and lower arms. Adjust the position of the blade holders.