

RYOBI

OWNER'S OPERATING MANUAL

405mm VARIABLE SPEED SCROLL SAW

MODEL SC-1600VL



Pay close attention to the Rules for Safe Operation, Warnings, and Cautions. If you use your saw properly and only for what it is intended, you will enjoy years of safe, reliable service. Thank you again for buying Ryobi tools.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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SCROLL SAW

MODEL SC-1600VL

SPECIFICATIONS

Voltage.....	230V-50Hz
Power input.....	S1: 70W
.....S2: 30min: 90W	
.....5min: 125W	
No load speed.....	550-1700 s/min
Blade stroke.....	20mm
Max. cutting thickness.....	52mm
Max. cutting capacity.....	405mm
Blade length.....	127mm
Net weight.....	12kg

THANK YOU FOR BUYING A RYOBI SCROLL SAW

Your new scroll saw has been engineered and manufactured to Ryobi's high standard of dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble free performance. If you use your scroll saw properly and only for what it is intended, you will enjoy years of safe, reliable service.

CAUTION: Carefully read through this entire owner's manual, paying close attention to the general safety rules and rules for safe operation, before using.

KEEP THIS MANUAL FOR FUTURE REFERENCE

RULES FOR SAFE OPERATION

The purpose of safety rules is to attract your attention to possible dangers. The safety symbols and the explanations with them, require your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SAFETY ALERT SYMBOL: Indicates caution or warning. May be used in conjunction with other symbols or pictograms.

WARNING: Failure to obey a safety warning can result in serious injury to yourself or to others. Always follow the safety procedures to reduce the risk of fire, electric shock and personal injury.

WARNING: Do not attempt to operate the tool until you have read thoroughly and understood completely, safety rules, etc. contained in this manual. Failure to comply can result in accidents involving fire, electric shock or serious personal injury. Save owners manual and review frequently for continuing safe operation and instructing others who may use this tool.

The operation of any tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields and a full face shield when needed. We recommend Wide Vision Safety Mask for use with eye glasses or standard safety glasses with side shields.

- KNOW YOUR POWER TOOL.** Read owners manual carefully. Learn its applications and limitations as well as the specific potential hazards related to this tool.
- GUARD AGAINST ELECTRICAL SHOCK BY PREVENTING MOISTURE FROM CONTACT WITH GROUNDED SURFACES.** For example, pipes, radiators, ranges, refrigerator enclosures.
- KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- AVOID DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations or expose to rain. Keep work area well lit.

- KEEP CHILDREN AND VISITORS AWAY.** Visitors should wear safety glasses and be kept a safe distance from work area. Do not let visitors contact tool or extension cord.
- STORE BLEED TOOLS.** When not in use, tools should be stored in a dry and high or locked-up place, out of reach of children.
- DON'T FORCE TOOL.** It will do the job better and safer at the rate at which it was designed.
- USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy duty tool. Don't use tool for purpose not intended.
- DRESS PROPERLY.** Do not wear loose clothing or jewellery. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Also wear protective hair covering to contain long hair.
- ALWAYS WEAR SAFETY GLASSES.** Everyday eyeglasses have only impact resistant lenses. They are not safety glasses.
- PROTECT YOUR LUNGS.** Wear a dust mask if operation is dusty.
- PROTECT YOUR HEARING.** Wear hearing protection during extended periods of operation.
- DONT OVERREACH.** Keep proper footing and balance at all times. Do not use tool on a ladder or unstable support. Secure tools when working at elevated levels.
- MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for fabricating and changing accessories.
- REMOVE ADJUSTING KEYS AND WRENCHES.** Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- NEVER USE IN AN EXPLOSIVE ATMOSPHERE.** Normal sparking of the motor could ignite fumes.
- KEEP HANDLES DRY, CLEAN AND FREE FROM OIL AND GREASE.** Always use a clean cloth when cleaning. Never use brake fluids, gasoline, petroleum based products, or any other flammable liquid to clean your tool.
- STAY ALERT AND EXERCISE CONTROL.** Watch what you are doing and use common sense. Do not operate tool when you are tired. Do not rush operation of tool.
- CHECK DAMAGED PARTS.** Before further use of the tool, check for any other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for

RULES FOR SAFE OPERATION

- alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or any other part that is damaged should be properly repaired or replaced by an authorized service center.
- DO NOT USE TOOL IF SWITCH DOES NOT TURN IT ON AND OFF.** Have defective switches repaired by authorized service center.
- DO NOT OPERATE THIS TOOL WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR ANY MEDICATION.**
- THE APPLIANCE IS NOT INTENDED FOR USE BY YOUNG OR INFIRM PERSONS WITHOUT SUPERVISION. YOUNG CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE.**

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

Due to continued product refinement policy, product features and specifications can and will change without notice. Check current features and specifications with your retailer.

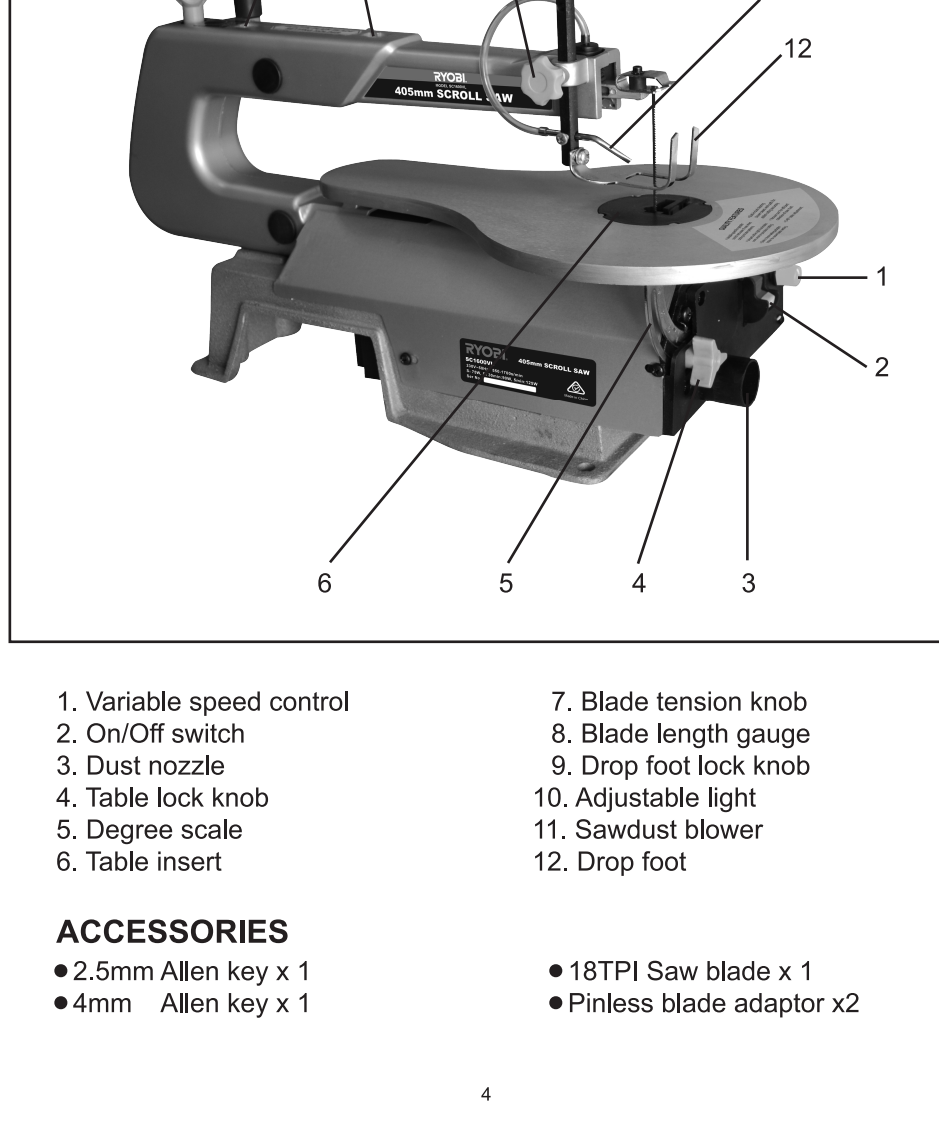
GETTING TO KNOW YOUR SCROLL SAW

This versatile scroll saw is great for making toys, puzzles, games, fretwork and jewellery, and because of its cutting capacity, is a handy-do-it-yourself tool to cut wood up to 52mm thick as well as plastics.

- TABLE:** Provides working surface to support your workpiece.
- SAWDUST BLOWER:** Keeps workpiece clean for more accurate scroll cuts. For best results, always direct air flow from blower tube at blade and workpiece. To adjust, loosen set screw in the tool assembly, position tube and tighten screw.
- VACUUM HOOK-UP:** Your scroll saw is equipped with a vacuum hook-up. This feature will allow you to use a 30mm vacuum hose into the hole provided for convenient sawdust removal.
- DROP FOOT:** The foot should always be lowered until it just rests on top of the workpiece to prevent workpieces from being burred so much that the workpiece drags.

- DROP FOOT LOCK KNOB:** Allows you to raise or lower the table lock and lock it at desired height.
- BLADE TENSION KNOB:** Allows you to loosen or tighten the blade tension by rotating the knob.
- TABLE LOCK KNOB:** Allows you to tilt the table and lock at desired angle up to 45°.
- DEGREE SCALE:** Shows the degree the table is tilted.
- TABLE INSERT:** Should always be in place and flush with table during cutting operation.
- ON/OFF AND VARIABLE SPEED SWITCH:** Allows you to regulate the speed from fast-cutting to slow for intricate pattern work.
- ADJUSTABLE LIGHT:** Illuminates the work piece and blade for more accurate cutting.

DESCRIPTION



- Variable speed control
- On/Off switch
- Dust nozzle
- Table lock knob
- Degree scale
- Table insert
- Blade tension knob
- Blade length gauge
- Drop foot lock knob
- Adjustable light
- Sawdust blower
- Drop foot

- ACCESSORIES**
- 2.5mm Allen key x 1
 - 4mm Allen key x 1
 - 18TPI Saw blade x 1
 - Pinless blade adaptor x2

OPERATING ADJUSTMENTS

SETTING THE TABLE FOR HORIZONTAL OR BEVEL CUTTING

- Loosen the table lock knob, and the saw table can be tilted to the left and locked at any angle from 0° horizontal cutting position up to 45° for bevel cutting.
- A degree scale is also provided under the work 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.
- NOTE:** When cutting at angles, the drop foot can be tilted so parallel to the table and rests flat against the workpiece. To tilt drop foot, loosen allen screw, tilt foot so it parallel to table and securely tighten screw. (Fig. 1)

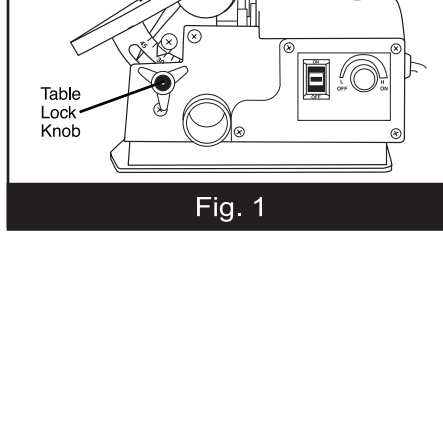


Fig. 1

PREVENTING THE DEGREE POINTER

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

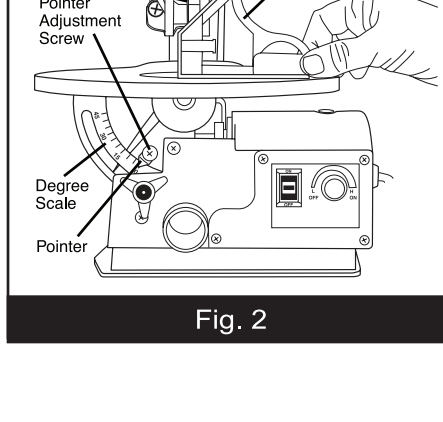


Fig. 2

BASIC SCROLL SAW OPERATIONS

BLADES

Your new scroll saw accepts 127mm pin type blades. Your saw is also equipped with blade adaptors that allow you to use a variety of 127mm pin and blades.

WARNING: To prevent personal injury always disconnect the power cord from power source before changing blades or making adjustments. Blades are secure before connecting saw to power supply. Saw should never be connected to power supply when you are assembling parts, making adjustments, installing or removing blades, or when not in use.

REMOVING AND INSTALLING PIN TYPE BLADES

- Rotate the blade tension knob anti-clockwise to release blade tension.
- Remove table insert and remove blade by pulling forward on blade and then lifting the blade through the access hole in the table. Slight downward pressure against the upper holder may be helpful when removing blade from upper holder.

OPERATING ADJUSTMENTS

Put up the switch to turn on the saw. Your scroll saw also features variable speed control which allows you to regulate the correct speed for the material and shape to be cut. For straight cutting, turn the speed control clockwise to high speed. For intricate pattern cutting, turn the speed control anti-clockwise to low speed. (Fig. 3)

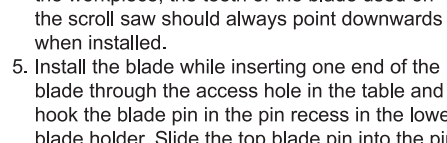


Fig. 3

LOOK AT THE BLADE HOLDERS CLOSELY AND NOTICE THE BLADE SLITS AND PIN RECESSES IN THE BLADE HOLDERS. THE BLADE HOLDERS ARE MADE SO YOU CAN POSITION THE BLADE FOR CUTTING FROM THE FRONT OR FROM ONE SIDE OF THE SAW AS SHOWN. CUTTING FROM THE SIDE OF THE SAW WILL BE NECESSARY WHEN YOUR WORK PIECE EXCEEDS 405mm IN LENGTH. IT ALWAYS YOUR SCROLL SAW TO CUT THE A BAND SAW.

FOR 0° HORIZONTAL CUTTING ONLY (Fig. 4)

- In order to cut, and avoid uncontrollable lifting of the blade, the bevel of the blade used on the scroll saw should always point downwards when installed.
- Install the blade while inserting one end of the blade through the access hole in the table and hook the blade pin in the pin recess in the lower blade holder. Slide the top blade pin into the pin recess of the inner upper blade holder. You may need to press down lightly on the upper blade holder to install the blade.
- Securely tighten the blade by rotating the blade tension knob clockwise just until you feel the slack in the blade removed. Double check to see that the pins are properly located in the blade holder. Then turn the blade tension knob ONE full turn clockwise. This amount of blade pressure should do well for most cutting operations and blades.

BASIC SCROLL SAW OPERATIONS

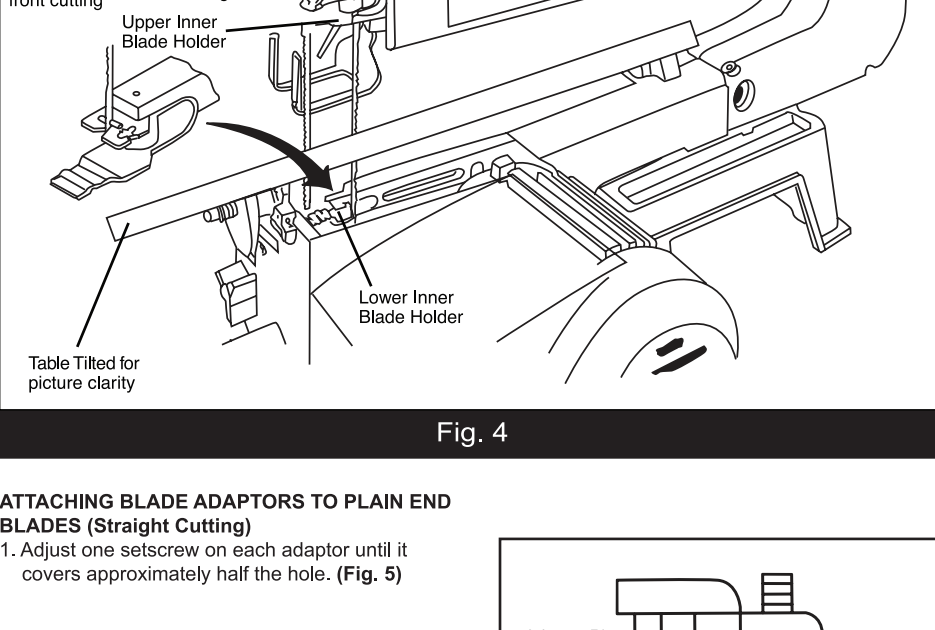


Fig. 4

ATTACHING BLADE ADAPTORS TO PLAIN END BLADES (Straight Cutting)

- Adjust one setscrew on each adaptor until it covers approximately half the hole. (Fig. 5)

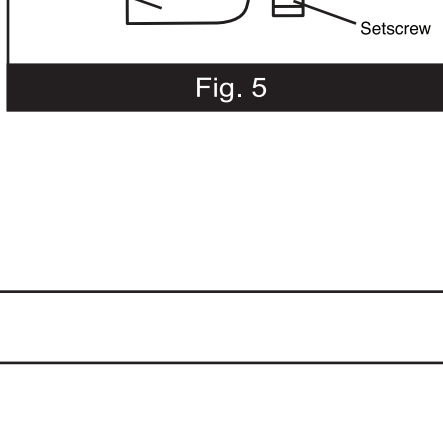


Fig. 5

BASIC SCROLL SAW OPERATIONS

- Remove the other setscrews just enough to slide one adaptor onto each end of the blade as shown. (Fig. 6)

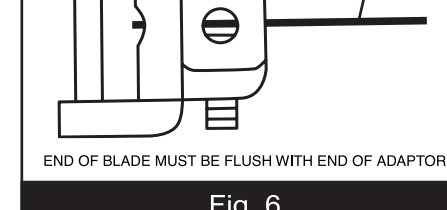


Fig. 6

- Place the blade and adaptors into the gauge to set the blade to the proper length in the table, and securely tighten the other setscrew with the wrench provided. (Fig. 7)

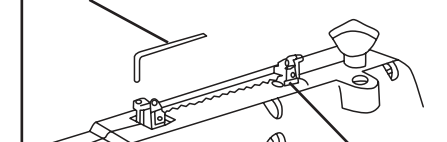


Fig. 7

ATTACHING BLADE ADAPTORS TO PLAIN END BLADES (Side Cutting)

- Remove both setscrews from each blade adaptor, thread them into the opposite holes in the blade adaptor perpendicular to the adjustment pin, and repeat steps 1, 2 & 3 of above when the blade in the side cutting position. Cutting from the side of the saw will be necessary when your workpiece exceeds 405mm in length. With the blade positioned for side cutting, the table must always remain in the 0° level position. (Fig. 8)



Fig. 8

WARNING: Do not attempt to cut a bevel with the blade positioned for side cutting.

BASIC SCROLL SAW OPERATIONS

REMOVING AND INSTALLING PLAIN-END BLADES

- Rotate the blade tension knob anti-clockwise to release blade tension.
- Remove table insert and remove blade from outer section of the upper and lower blade holders by pulling forward and lifting the blade and adaptor through the access hole in the table. Slight downward pressure against the upper blade holder may be helpful when removing blade from upper blade holder.
- Install the blade while inserting one end of the blade and adaptor through the access hole in the table and hooking the blade adaptor onto the outer section of the lower blade holder. Slide top adaptor onto pin recess between adaptor guard and outer section of the upper blade holder. You may need to press down lightly on the upper blade holder to install the blade. (Fig. 9)

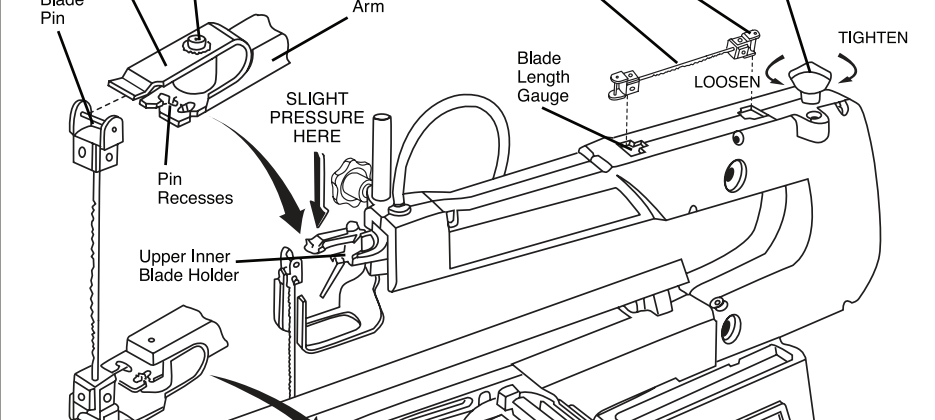


Fig. 9

BASIC SCROLL SAW OPERATIONS

MAKING INTERIOR SCROLL CUT

One of the features of this saw is that it can be used to make scroll cuts on the interior of a board without breaking or cutting into the outline or perimeter of the board.

- Drill a 6mm hole in the board you will use to make interior cuts.
- Place the board on the saw table with the hole in the board over the access hole in the table.
- Insert blade through hole in board, install blade and adjust blade tension. (Fig. 10)
- Lower drop foot until it just rests on top of the workpiece and you're ready to begin cutting.
- When finished making the interior scroll cuts simply remove the blade from the blade holders.

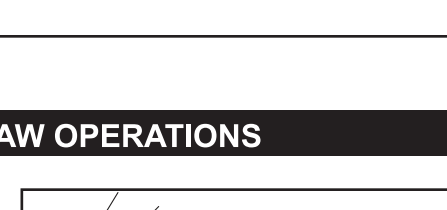


Fig. 10

MOUNTING THE SCROLL SAW TO A BENCH

When mounting this saw to a workbench, a solid bench is preferable to a plywood bench where noise and vibration will be more noticeable. However, we highly recommend the use of such a pad to reduce noise and vibration.

- Loose cap screws holding blade to upper and lower arms. Adjust position of blade holder-weigher holders.

SCROLL SAWBENCH



Fig. 11

ATTENTION: When inserting the front right hex head bolt, it will be necessary to insert hex head bolt from bottom side of workbench, and secure with hex nut from top side of scroll saw base.

Quantity	Description
4	Hex Head Bolts, 1/4-20 length required
4	Flat Washers, 3/32" ID
4	Lockwashers, 3/32" ID
8	Hex Nuts, 1/4-20

3. Soft foam pad to place between your scroll saw and workbench is NOT supplied with the saw. However, we highly recommend the use of such a pad to reduce noise and vibration.

Quantity	Description
1	Soft foam pad, such as carpet padding

DO NOT overtighten mounting bolts - leave some cushion in the foam pad for absorbing noise and vibration. (Fig. 11)

WARNING: When inserting the front right hex head bolt, it will be necessary to insert hex head bolt from bottom side of workbench, and secure with hex nut from top side of scroll saw base.

MAINTAINING YOUR SCROLL SAW

MAINTENANCE

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

GENERAL

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

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 use of these and other types of cleaning agents minimizes the probability of damage.

WARNING: To avoid shock or fire hazard, if the powered saw is worn or cut or damaged in any way, have it replaced immediately.

WARNING: All repairs, electrical or mechanical, should only be attempted by trained repairmen. Contact your nearest Ryobi service centre.

LUBRICATION (Fig. 12)

Oil Bearings - Lubricate the arm bearings 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.

- Turn saw on its side.
- Squirt a generous amount of SAE 20 oil around the shaft end and bronze bearing.
- Let the oil soak in overnight in this condition.
- Repeat the above procedure for the opposite side of the saw.

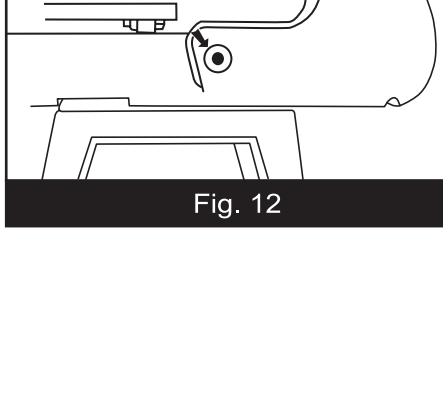


Fig. 12

TROUBLE SHOOTING

WARNING: Turn switch "OFF" and always remove power cord from the power source before trouble shooting.

TROUBLE	PROBLEM	REMEDY
Breaking Blades	1. Wrong Tension. 2. Over working blade. 3. Wrong blade application. 4. Twisting blade in wood. 5. Incorrect teeth per inch.	1. Adjust blade tension. See "REMOVING & INSTALLING BLADES". 2. Use narrow blades for cutting thin wood. Use wide blades for thicker wood. 3. Use narrow blades for cutting thin wood. Use wide blades for thicker wood. 4. Avoid side pressure on blade. 5. Blade should maintain minimum 3mm in contact with workpiece.
Motor Will Not Run	1. Defective cord or plug. 2. Defective motor.	1. Replace defective parts by seeing saw again. 2. Consult local service agent. Any attempt to repair this motor may create a hazard unless repair is done by a qualified service technician.
Vibration (There will always be some vibration present when the saw is running because of motor operation.)	1. Improper mounting of saw. 2. Unstable mounting surface. 3. Loose table or table resting when the saw is running. 4. Loose motor mounting.	1. See "MOUNTING YOUR SCROLL SAW TO A BENCH". 2. The heavier your workbench is, the less vibration will occur. A plywood workbench will not be as good a work surface as the same size solid timber. 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.	1. Blade holders not aligned.	1. Loose cap screws holding blade to upper and lower arms. Adjust position of blade holder-weigher holders.

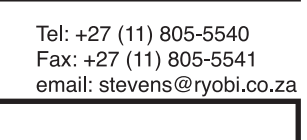
RYOBI POWER EQUIPMENT WARRANTY

WARRANTY

Subject to the warranty conditions below, this RYOBI tool (hereinafter called "the Product"), is warranted by Ryobi (herein called the "Company") to be free from defects in material or workmanship for a period of 24 months from the date of original purchase covering both parts and labour. Under the terms of this warranty, the repair or replacement of any part shall be the obligation of the Company or its authorised agent. Should service become necessary during the warranty period, the owner should contact the authorised Ryobi retailer from whom the product was purchased, or the nearest Company branch office. In order to obtain the authorised Ryobi service, the owner must indicate the Sales Docket and Warranty Certificate to confirm date of purchase. This Product is sold by the dealer or agent as principal and the dealer has no authority from the Company to give any additional warranty or guarantee on the Company's behalf except as herein contained or herein referred to.

Warranty Conditions
This warranty only applies provided that the Product has been used in accordance with the manufacturer's recommendations under normal use and reasonable care (in the opinion of the Company) and such warranty does not cover consumable components, damage, malfunction or failure resulting from misuse, neglect, abuse, or used for a purpose for which it was not designed, or is not suited and no repairs, alterations or modifications have been attempted by other than an Authorised Service Agent. This guarantee will not apply if the tool is damaged by accident or if repairs arise from normal wear and tear.

The Company accepts no additional liability pursuant to this warranty for the costs of travelling or transportation of the Product or parts to and from the service dealer or agent - which costs are not included in the warranty. Nothing herein shall have the effect of excluding, restricting or modifying any conditions, warranty, right or liability imposed, to the extent only that such exclusion, restriction or modification would render any term herein void.



STEVENS & CO (Pty) Ltd P O Box 4059
1644 16th Street, Halfway House
Midrand, South Africa 1685, South Africa

THIS WARRANTY FORM SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES.
For your record and to assist in establishing date of purchase (necessary for in-warranty service), please keep your purchase docket and this form, completed with the following particulars.

PURCHASED FROM.....
ADDRESS OF DEALER.....
DATE..... MODEL NO..... SERIAL NO.....

Present this form with your Purchase Docket when Warranty Service is required.

RYOBI	ARTWORK	JOB DESCRIPTION	manual	ARTWORK SCALE	1:1	SOLID COLOURS
PRODUCT NAME	SCROLL SAW	CREATED BY	QINGDAO XIAOLONG POWER EQUIPMENT CO., LTD	NUMBER	DIEMENSION	PROCESS COLOURS
MODEL NO.	SC-1600VL	MATERIAL	paper	20080320A1	145mm x 210mm	BLACK