

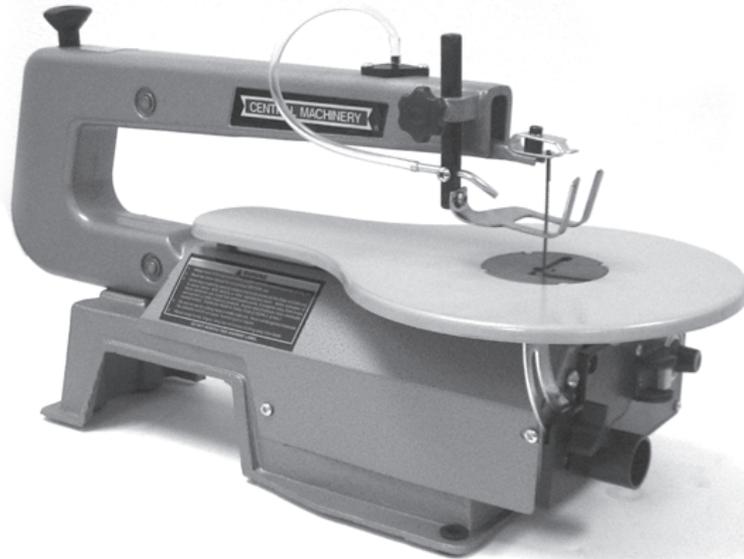
CENTRAL MACHINERY

®

**16 INCH VARIABLE SPEED
SCROLL SAW**

Model 93012

ASSEMBLY AND OPERATING INSTRUCTIONS



Distributed Exclusively by



**HARBOR FREIGHT
TOOLS**



®

3491 MISSION OAKS BLVD., CAMARILLO, CA 93011
VISIT OUR WEB SITE AT [HTTP://WWW.HARBORFREIGHT.COM](http://www.harborfreight.com)

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For technical questions and replacement parts, please call 1-800-444-3353

SPECIFICATIONS

Motor	120 VAC, single phase, 60 Hz, 0.4A (startup)
Power Cord	6' 7" (L), three-prong grounded
Switch	Toggle, On/Off, with removable locking key
Table Tilt	0 to 45 degrees (left)
Cutting Depth	2 inches (maximum)
Blade Type	5" L Pin End blade; Can use plain end blade with provided adapters. 15 TPI blade mounted on machine
Throat Depth	16 inches
Blade Stroke	1 inch
Cutting Speed	400 (min.) to 1600 Strokes per Minute; Variable
Overall Dimensions	11-3/4 (H) x 10 (W) x 24 (L) inches
Base Dimensions	8-3/4 (at widest) x 15-5/8 (L) inches
Base Mounting Holes	4 - 5/16 inch (dia.) holes
Weight	23 lbs.
Accessories	2 - Hex Wrenches (2.5 and 4 mm); 2 - Plain end Blade Adapters; 1 - Spare 18 TPI Saw Blade
Features	Drop foot adjustment, Integrated bellows air pump, 1-1/2" OD Vacuum port



SAVE THIS MANUAL

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES

 **WARNING!**

READ AND UNDERSTAND ALL INSTRUCTIONS. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

SAVE THESE INSTRUCTIONS

Work Area

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.**

Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

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Electrical Safety

4. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
5. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
6. **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
7. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system.
8. **Do not abuse the Power Cord. Never use the Power Cord to carry the tools or pull the Plug from an outlet. Keep the Power Cord away from heat, oil, sharp edges, or moving parts. Replace damaged Power Cords immediately.** Damaged Power Cords increase the risk of electric shock.
9. **When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W”.** These extension cords are rated for outdoor use, and reduce the risk of electric shock.

Personal Safety

10. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
11. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
12. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Plugging in power tools with the Power Switch on, invites accidents.
13. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
14. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.

Tool Use and Care

16. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
17. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
18. **Do not use the power tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.
19. **Disconnect the Power Cord Plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
20. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
21. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with a sharp cutting edge are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.
22. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool’s operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
23. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

Service

24. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
25. **When servicing a tool, use only identical replacement parts. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES FOR THIS PRODUCT

1. **Maintain labels and nameplates on the Scroll Saw.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. **Always wear ANSI approved safety impact eye goggles, dust mask and heavy work gloves when using the Scroll Saw.** Using personal safety devices reduce the risk for injury. Safety impact eye goggles and heavy work gloves are available from Harbor Freight Tools.

3. **Maintain a safe working environment.** Keep the work area well lit. Make sure there is adequate surrounding workspace. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use a power tool in areas near flammable chemicals, dusts, and vapors. Do not use this product in a damp or wet location.
4. **Avoid unintentional starting.** Make sure you are prepared to begin work before turning on the Scroll Saw.
5. **Do not force the Scroll Saw.** This tool will do the work better and safer at the speed and capacity for which it was designed.
6. **Always unplug the Scroll Saw from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.**
7. **Never leave the Scroll Saw unattended while running.** Turn power off if you have to leave the Scroll Saw.
8. **Before each use, check all nuts, bolts, and screws for tightness.** Vibration during use may cause these to loosen.
9. **Keep extension cord off the ground and away from water.**
10. **Always connect the Line Cord to a Ground Fault Circuit Interrupter (GFCI) protected electrical outlet.**
11. **Install this product on a proper surface.** Locate on a flat, level, and solid surface that is capable of supporting the weight of the Scroll Saw.
12. **Do not try to cut material too small to be securely held by hand.** Cuts to hands can occur.
13. **Avoid awkward hand positions where a sudden slip could cause hand contact with the blade.**
14. **When cutting a long piece of material, make sure it is supported off the table at the same table height.**
15. **Hold the workpiece firmly against the table.**
16. **Do not feed material too fast while cutting.**
17. **Use caution when cutting off round material such as dowel rods or tubing.** They have a tendency to roll while being cut causing the Blade to “bite.”
18. **If the blade binds in the workpiece when backing out of the cut, immediately turn the saw power Off and carefully back material off Blade.**

 **WARNING! People with pacemakers should consult their physician(s) before using this product. Operation of electrical equipment in close proximity to a heart pacemaker could cause interference or failure of the pacemaker.**

⚠ WARNING! Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are: lead from lead-based paints, crystalline silica from bricks and cement or other masonry products, arsenic and chromium from chemically treated lumber. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles. (*California Health & Safety Code 25249.5, et seq.*)

GROUNDING

⚠ WARNING!

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool or product. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

Grounded Tools with Three Prong Plugs

1. Tools marked with “Grounding Required” have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)
2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool’s grounding system and must never be attached to an electrically “live” terminal. (See Figure A.)
3. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration. (See Figure A.)

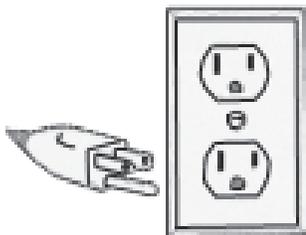


Figure A

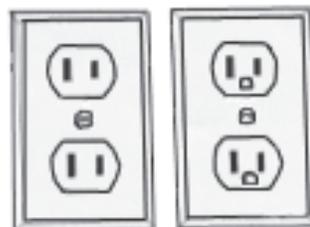


Figure B

EXTENSION CORDS

1. Grounded tools require a three wire extension cord. Double Insulated tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. (See Table A.)
3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. (See Table A.)
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. (See Table A.)
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. (See Table A.)
6. If you are using an extension cord outdoors, make sure it is marked with the suffix “W-A” (“W” in Canada) to indicate it is acceptable for outdoor use.
7. Make 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 electrician before using it.
8. Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

Table A

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (120 VOLT)					
NAMEPLATE AMPERES (At Full Load)	EXTENSION CORD LENGTH				
	25 Feet	50 Feet	75 Feet	100 Feet	150 Feet
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	16	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-
* Based on limiting the line voltage drop to five volts at 150% of the rated amperes.					

SYMBOLOLOGY

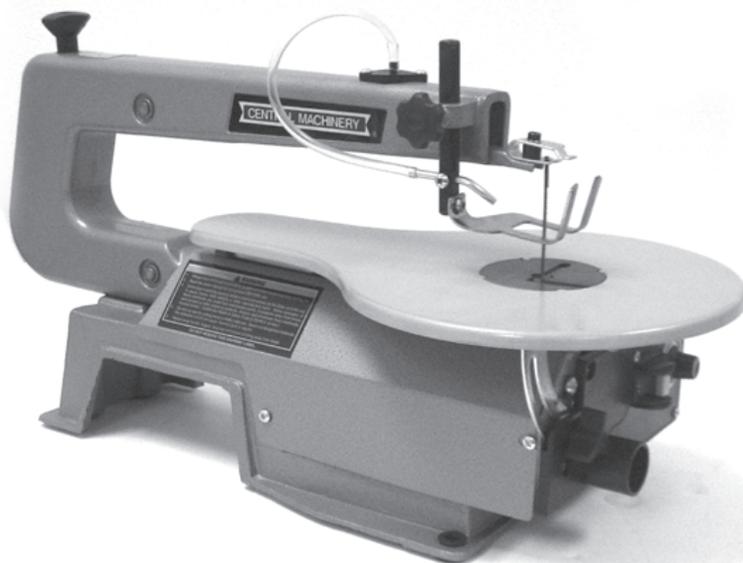
Table B

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
	Volts Alternating Current
	Amperes
	No Load Revolutions per Minute (RPM)

UNPACKING

When unpacking, check to make sure that all the parts are included. Refer to the Assembly section, and the Assembly Drawing and Parts List at the end of this manual.

If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.



Accessories



- 2 – Hex Wrenches (2.5 and 4 MM);
- 2 – Plain End Blade Adapters;
- 1 – Spare Saw Blade

ASSEMBLY INSTRUCTIONS

Mounting Scroll Saw to Workbench

1. Pick a solid, wood workbench to mount the saw. The workbench must be stable, and able to support the weight of the Scroll Saw and the material being cut.
2. Find the four 5/16 inch mounting holes in the Base (9) and mark through the holes for drilling with a 3/8 inch drill bit. Remove Scroll Saw to drill holes.
3. Replace Scroll Saw over holes and mount with the following hardware (not supplied): 4 - Hex Head Screws, 1/4 inch x 20 x length required; 4 - Flat Washers, 9/32 I.D.; 4 - Lock Washers, 9/32 I.D.; and 4-Hex Nuts, 1/4 x 20.
4. Check that all Scroll Saw screws and nuts are tight before using the machine.

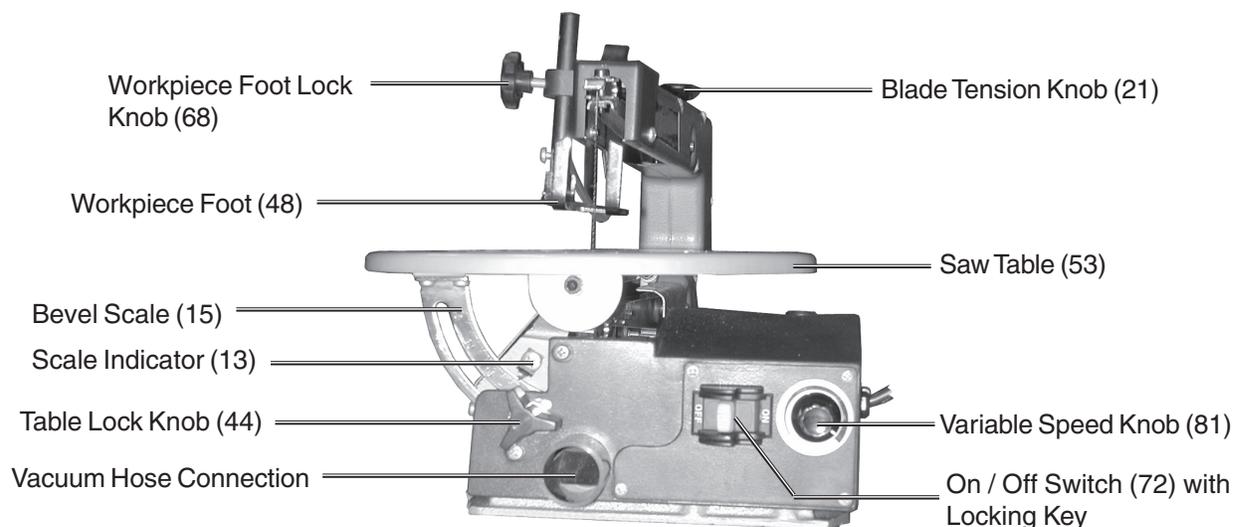
Check and Align Bevel Indicator

1. Loosen Table Lock Knob (44) and move the table until it is approximately perpendicular (right angle) to the blade. See photo below.
2. Use a small combination square to set the table at 90 degrees to the blade.
3. Tighten the Table Lock Knob (44).
4. Loosen Pan Screw (14) holding the bevel Scale Indicator (13), and adjust Indicator to point to "0" degrees. Retighten Pan Screw.

Note: The bevel Scale Indicator (13) is a guide and should not be relied upon for precision settings. Make practice cuts in scrap wood to determine if the angle settings are correct.

OPERATING INSTRUCTIONS

Controls and Indicators



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Turning On and Adjusting Speed

The On/Off locking Switch (72) needs to have the Switch key inserted before the switch can be used. This feature prevents unauthorized use of the saw.

1. Insert plastic Switch Key into On/Off Switch (72).
2. To turn saw On, place finger on left side of switch and push right.
3. To turn saw Off, place finger on right side of switch and push left.
4. Turn the Variable Speed Knob (81) clockwise to increase the strokes per minute.
5. To lock switch in Off position, pull out the Switch key and store in a safe place.

 **WARNING: Keep hands and fingers away from the moving Saw Blade.**

Table Angle Adjustment

The Saw Table (53) can be adjusted between 0 and 45 degrees as follows:

1. Loosen Table Lock Knob (44) and move the table until the desired angle is reached as indicated on the Bevel Scale (15). Refer to the photo at the bottom of page 9.
2. Tighten the Table Lock Knob (44).

Straight, Cross, Bevel Cuts, and Ripping

1. Using a pencil, mark the cut-line on the workpiece.
2. Slide the workpiece underneath the Workpiece Foot (48).
If necessary, adjust the Workpiece Foot by loosening the Workpiece Foot Lock Knob (68) and sliding the Workpiece Foot (up or down) until it lightly rests on the workpiece. Tighten the Workpiece Foot Lock Knob (68).
3. Set the On/Off Switch (72) to the On position. The Saw Blade starts moving.
4. Using both hands, carefully guide the workpiece into the blade to cut.
Press down on the workpiece and slowly guide it through the Saw Blade (45). Do not force the material through the Blade or the Blade could break.

Inside Cuts

1. Using a pencil, mark the cut-line on the workpiece.
2. Drill a 1/4 inch hole in the workpiece.
3. Follow the procedures for removing and installing the Saw Blade (45) as described on page 13.
4. Place the workpiece on the Saw Table (53) so that the hole is centered over the Blade access hole.
5. Insert the Blade through the hole in the workpiece and the Saw Table (53).
6. Reinstall the Blade and properly adjust tension. Refer to page 13.
Make sure Blade teeth are facing forward and down.

7. While holding the workpiece with one hand, set the On/Off Switch (72) to the On position.
8. Hold the workpiece with both hands while guiding and pressing down on the workpiece until the cut is complete.
9. Set the On/Off Switch to the Off position.
10. Follow the procedures for removing and installing the Saw Blade (45) as described on page 13.
11. With the Blade removed, the workpiece can be removed from the Saw Table.
12. Reinstall the Blade and set the proper tension as described on the next page.

Curved Cuts

1. Mark the entire cutting line with a pencil. If a template is available, use it as a marking guide.
2. Slide the workpiece underneath the Drop Foot (48) without touching the Saw Blade (45).
3. Set the On/Off Switch (72) to the On position.
4. Using both hands, carefully guide the workpiece into the Saw Blade to cut.

Press down on the workpiece and slowly guide it through the Blade. Do not force the material through the Blade. When cutting curves, be careful not to twist the Blade out of line.

5. If the curve cut is forced off the cut-line, back the material off the Saw Blade and start a new, straight cut through a scrap section of the material. Begin the curved cut again from an appropriate angle point.
6. Set the On/Off Switch (72) to the Off position when finished cutting.

Jamming of Saw Blade and Workpiece

1. When the Saw Blade (45) jams in the workpiece, immediately press the On/Off Switch (72) to the Off position, and unplug the Line Cord from the electrical outlet.
2. Wait until the Saw Blade has come to a complete stop, then remove the Saw Blade as described on page 13. The workpiece will come with it.
3. Place a flat bladed screwdriver in the cut and force it open. Remove the Saw Blade.
4. Reinstall the Saw Blade on the machine as described on page 13.

Removing and Installing Blades

INSPECTION, MAINTENANCE, AND CLEANING

⚠ WARNING! Make sure the power On/Off Switch (72) of the Scroll Saw is in its “OFF” position and that the tool is unplugged from its electrical outlet before performing any inspection, maintenance, or cleaning procedures. **Note: All repairs should be done by a qualified technician.**

1. **Before each use**, inspect the general condition of the Scroll Saw. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use. **Do not use damaged equipment.**
2. Periodically recheck all nuts, bolts, and screws for tightness.
3. Applying a light coat of paste wax on the Saw Table allows the material being cut to glide smoothly across the Saw Table (53) surface. Buff the wax off with a clean cloth after application.
4. If the Power Cord (2) is worn, cut, or damaged in any way, replace it immediately.
6. Clean the Scroll Saw by using compressed air to blow off dirt and dust.
7. Store in a clean and dry location.
8. Over time, if the performance of the Scroll Saw diminishes, or it stops working completely, it may be necessary to replace the Carbon Brushes in the Motor (51) by removing the Carbon Brush Holder (84) and inspecting the Carbon Brushes (83). This procedure should be completed by a qualified technician. If the Carbon Brushes are not worn down, try cleaning the Carbon Brush tips with an ink eraser.

Lubrication

1. Lubricate the Oil Bushings (25) of Lower Rocker Arm (22) and Upper Rocker Arm (29) after the first 10 hours of use. After that, oil them every 50 hours of use, or whenever noise is heard from the Oil Bushings.

Caution: Do not attempt to oil the motor bearings or service the motor internal parts.

2. Carefully place the Scroll Saw on its side as shown below.
3. Squirt a few drips of light oil on the end of the Oil Bushings.
4. Leave the Scroll Saw in this position over night to allow the oil to seep in.
5. The next day, repeat steps 1 to 4 on the other side of the Scroll Saw.
6. Wipe up excess oil with a cloth.

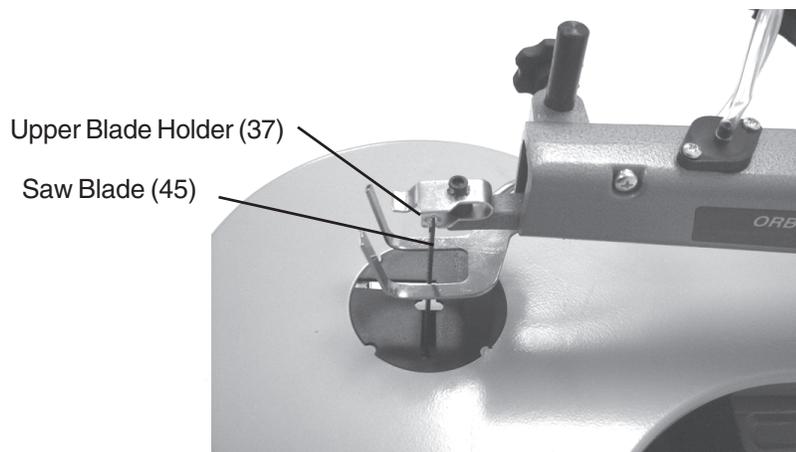


1. Loosen the Blade Tension Knob (21) by turning counterclockwise about two full turns. Refer to the photo at the bottom of page 9.
2. Push down slightly on the Upper Rocker Arm (29) and remove Saw Blade (45) from Upper Blade Holder (37) by pulling forward. See photo on next page.
3. Remove Blade from Lower Blade Holder (40) and pull up through the access hole.

Note: The Saw Blade must be installed so that its teeth are facing forward (front cutting), or to the side (side cutting), and always pointing down.

4. Attach a new (5 inch) Saw Blade through access hole and hook pins into Lower Blade Holder (40).
5. Attach upper Saw Blade hook pins into the Upper Blade Holder (37).
Make sure the pins of the Blade are in the slots of the Blade Holders.
6. Tighten the Blade Tension Knob (21) by turning clockwise about two full turns.

Note: The Blade is at the proper tension when the slack is just barely removed. Over or under tensioning of the blade causes premature breakage during operation.



The Scroll Saw can use a variety of blade widths and thicknesses, as long as they are five inches long and have the cross pin for mounting. These are used for cutting various types of materials as listed below:

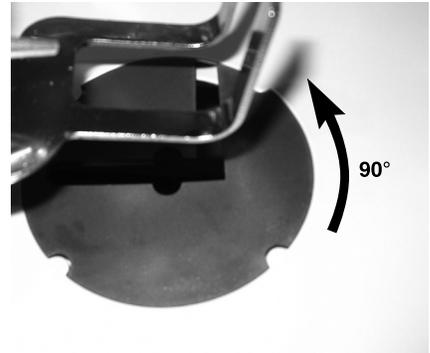
Teeth / Inch	Width	Thickness	Material Cut
10	0.11 in.	0.020 in.	Medium turns on 1/4 to 1-3/4 inch wood, soft metals, wallboard, hardboard.
15	0.11 in.	0.020 in.	Same as above except for wood. Cuts wood from 1/8 to 1-1/2 inch thick.
18	0.095 in.	0.10 in.	Extra thin cuts on soft woods and other materials up to 1/4 inch.

Mounting Plain Ended Blades

Included as an accessory are two Plain End Blade Adapters. When installed, they enable the mounting of plain end saw blades (not included). To install blades of this type:

1. Using a Hex Wrench, loosen both set screws on each of the Plain End Blade Adapters.
2. Slide the gap between the two set screws over each end of the blade.
3. Evenly tighten all set screws. Pull on the Adapters slightly to make sure they are secure.
4. Remove the old blade. Pull the Insert out and rotate it 90° to the position shown at right.
5. Loosen the Blade Tension Knob (21) by turning counterclockwise about two full turns.
6. Place the Blade Adapter's bar under the end of the Lower Blade Holder (40). Make sure that the blade's teeth point the right direction.
7. Push down slightly on the Upper Rocker Arm (29), and place the Blade Adapter's other bar over the end of the Upper Blade Holder (37).
8. Tighten the Blade Tension Knob (21) by turning clockwise about two full turns.

Turn the Insert 90° Counterclockwise to this position.



TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	SUGGESTED REMEDY
Blades breaking	<ol style="list-style-type: none"> 1. Wrong blade tension 2. Over-working blade. 3. Wrong blade application 4. Blade twisting in wood 	<ol style="list-style-type: none"> 1. Adjust blade tension. 2. Reduce feed cut rate. 3. Use narrow blades for cutting thin wood, wide blades for cutting thicker wood. 4. Avoid side pressure on blade.
Motor does not run	<ol style="list-style-type: none"> 1. No power at outlet. 2. Defective power cord or plug. 3. Defective motor. 	<ol style="list-style-type: none"> 1. Check power source. 2. Repair or replace defective parts. 3. Have motor repaired or replaced by an authorized service technician.
Excessive Vibration	<ol style="list-style-type: none"> 1. Improper Base mounting. 2. Unsuitable mounting surface. 3. Loose motor mounting. 	<ol style="list-style-type: none"> 1. Make sure mounting hardware is secure. 2. The heavier the work bench, the less vibration will occur. 3. Tighten motor mounting hardware.
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 Blade Holder Hex Bolts and re-align Upper and Lower Blade Holders. Tighten Hex Bolts.

PARTS LIST

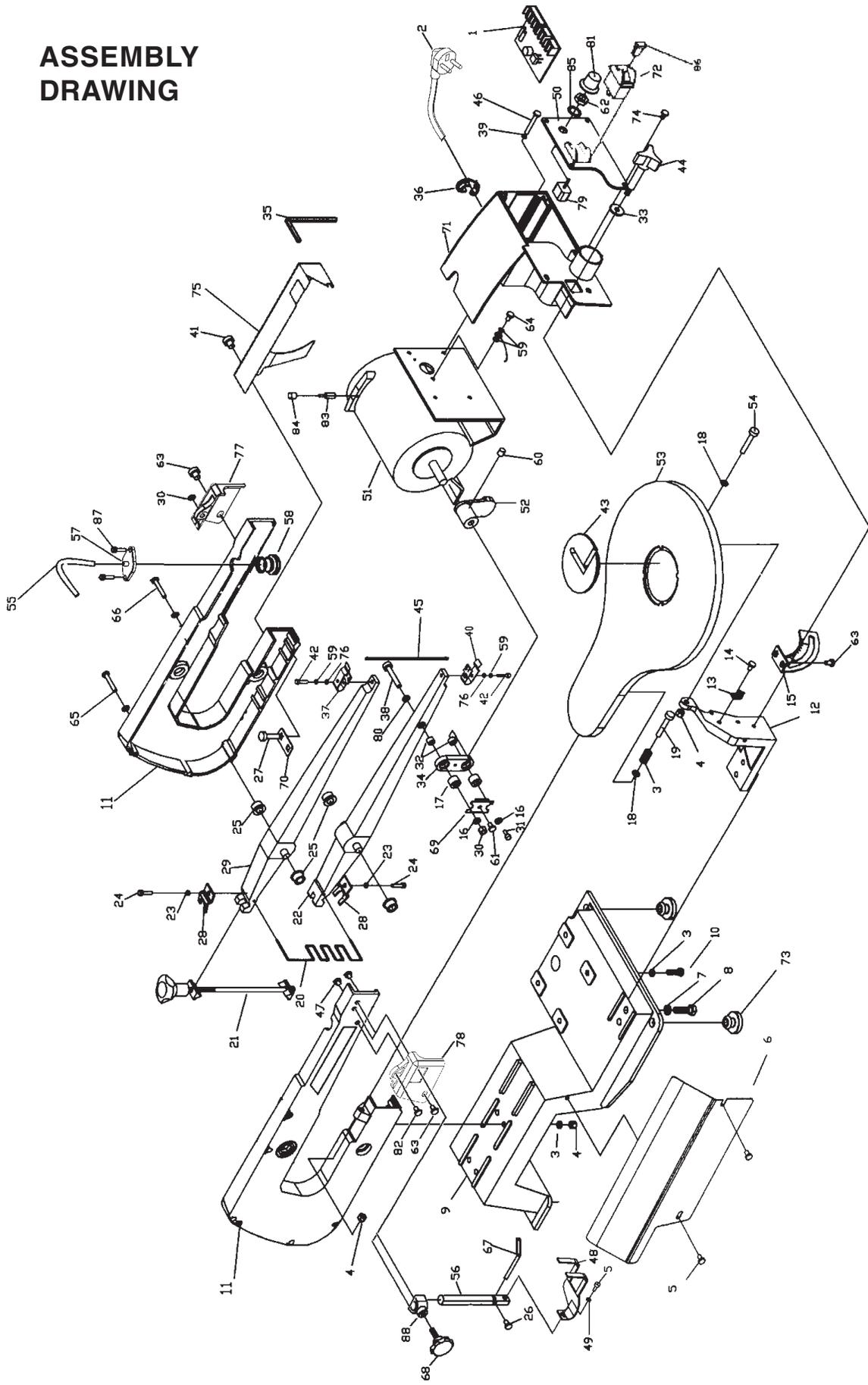
No.	Description	No.	Description
1	PC Board	44	Table Lock Knob
2	Power Cord	45	15 TPI Saw Blade
3	Spring Washer 6	46	Cross Recessed Pan Head Screw M4x16
4	Hex Nut M6	47	Cross Recessed Pan Head Screw M4x10
5	Cross Recessed Pan Head Screw M5x10	48	Workpiece Foot
6	Plate Cover	49	Cross Recessed Pan Head Screw M5x25
7	Spring Washer 8	50	Switch Plate
8	Bolt M8x25	51	Motor
9	Base	52	Eccentric
10	Bolt M6x16	53	Saw Table
11	Arm Housing Set	54	Hex Socket Cap Head Screw M6x35
12	Support Table	55	Plastic Tubing
13	Scale Indicator	56	Adjustment Level
14	Cross Recessed Pan Head Screw M6x12	57	Bellows Lock
15	Bevel Scale	58	Bellows
16	Spring Washer 5	59	Tooth Washer 4
17	625ZZ Bearing	60	Hex Socket Set Screw M8x8
18	Washer 6	61	Pan Head Tapping Screw ST4.2x8
19	Hex Socket Cap Head Screw M6x40	62	Hex Nut M10
20	Spring	63	Cross Recessed Pan Head Screw M5x8
21	Blade Tension Knob	64	Cross Recessed Pan Head Screw M4x6
22	Rocker Arm, Lower	65	Cross Recessed Pan Head Screw M5x35
23	Spring Washer 4	66	Cross Recessed Pan Head Screw M5x30
24	Hex Socket Cap Head Screw M4x10	67	Saw Dust Blower
25	Oil Bushing	68	Workpiece Foot Lock Knob
26	Cross Recessed Pan Head Screw M5x6	69	Bearing Retainer
27	Cup Head Square Neck Bolt M6x25	70	Bolt Retainer
28	Retainer	71	Switch Box
29	Rocker Arm, Upper	72	On/Off Switch
30	Hex Nut M5	73	Rubber Foot
31	Hex Socket Cap Head Screw M5x20	74	Pan Head Tapping Screw ST4.2x13
32	Spacer	75	Plate Cover
33	Large Washer 6	76	Spacer
34	Link	77	Arm Housing Right Cover
35	4mm Hex Key	78	Arm Housing Left Cover
36	Strain Relief	79	Potentiometer
37	Upper Blade Holder	80	Washer 5
38	Hex Socket Cap Head Screw M5x25	81	Variable Speed Knob
39	Washer 4	82	Cross Recessed Pan Head Screw M5x10
40	Lower Blade Holder	83	Carbon Brush
41	Pan Head Tapping Screw ST4.2x10	84	Carbon Brush Cover
42	Hex Socket Cap Head Screw M4x16	85	Lock washer 10
43	Throat Plate	86	Switch key

PLEASE READ THE FOLLOWING CAREFULLY

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ASSEMBLY DRAWING



NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.