# Busy Bee Tools

# Operator's Manual

## Woodworking Scroll Saw

# BBSS22

**CAUTION: Read and follow all Safety Rules and Operating Instructions before First Use of this Product. Save this manual for future reference.**

## Introduction

We take great pride in introducing the Model BBSS22 scroll saw, a distinguished addition to the expanding Busy Bee Tools family of exceptional woodworking machinery. When adhering to the comprehensive guidelines outlined in this manual, you can anticipate years of reliable and enjoyable performance, serving as a testament to Busy Bee Tools' unwavering commitment to customer satisfaction.

We are delighted to provide you with this manual for the Model BBSS22. It has been meticulously crafted to assist you in the assembly process, ensure safety compliance, and cover essential operational procedures. Our goal is to deliver the most comprehensive documentation possible to facilitate your experience.

The specifications, drawings, and photographs featured in this manual accurately depict the Model BBSS22 as it was configured when this manual was produced. Nevertheless, in line with Busy Bee Tools' continuous improvement policy, adjustments and enhancements may be implemented at any time, with no obligation on Busy Bee Tools' part.

To enhance your convenience, we maintain an up-to-date repository of Busy Bee Tools manuals on our website at www.busybeetools.com. Any updates or modifications to your machine will be promptly reflected in these manuals. We encourage you to visit our website regularly to access the latest revisions to this manual and to stay informed about your equipment's optimal operation. Your satisfaction and safety are our top priorities, and we are committed to ensuring that your experience with the Model BBSS22 is exceptional.

In the case you require additional assistance or have any further questions, please do not hesitate to contact our dedicated Customer Service and Technical Support Department at:

Busy Bee Tools Head Office
130 Great Gulf Drive
Concord ON, L4K 5W1
Or at any of our branches across Canada.
Visit our website for the latest deals and for more information at www.busybeetools.com
Call us Toll Free: 1-800-461-2879.
Email us at: cs@busybeetools.com

Our team of experts is here to provide you with the guidance and support you need to ensure the safe and efficient operation of your machine. Your satisfaction and safety are our top priorities, and we are committed to assisting you in any way we can.

# PRODUCT SPECIFICATIONS

Become familiar with the names and locations of the control sand features shown below to better understand the instructions in this manual.

Figure 1: Machine Identification

**Attention:** Please choose sufficient power source, voltage and frequency that are shown in the table for your scroll saw.

| **Model** | **SS22** |
|---|---|
| **Motor Power** | 80W |
| **Throat depth** | 560mm (22″) |
| **Max. Cutting Height** | 50mm(2″) |
| **Strokes per Minute(SPM)** | 550-1550<br>Variable Speed |
| **Stroke** | 20mm(3/4″) |
| **Blade length** | 130mm(5″) |
| **Working Table** | 650X352mm |
| **Blade tilting angle** | -30(Left)~+45°（Right） |
| **Dust port diameter** | 35mm |
| **Weight** | 29KG |
| **Product dimensions (width x depth x height)** | 360X 870X440mm |

## Characteristics and Noise Values

Noise characteristic values according to EN ISO 3744.

The given values are emission values and do not also present safe working values. Although there is a correlation between emission and nuisance levels, the relationship is not dependable as an indicator as to whether additional safety measures are necessary or not. Factors specific to the workplace can influence the nuisance level, such as the length of the activity, the characteristics of the workroom, other sources of noise, etc., for instance the number of machines and other nearby activities. Dependable workplace values can also vary from country to country. This information should, nonetheless, allow a better estimation of possible dangers and risks.

| | Noise power level | Sound pressure level at the workplace |
|---|---|---|
| No-load | 75 dB(A) | 64 dB(A) |
| Active work | 85 dB(A) | 72 dB(A) |

The factor of measurement uncertainty is 4 dB(A).

# SAFETY INSTRUCTIONS

## SYMBOLS

**Read and understand the entire instruction manual before attempting assembly or operation.**

**Attention，General safety notice.**

**Risk of electric shock! Risk of personal injury by electric shock.**

**Always wear safety goggles and ear protection。**
**Always wear dust protection.**

**Always tie back or cover long hair**.

**DANGER! Keep hands and fingers away from moving saw blade.**

**Any damaged or disposed electric or electronic devices must be delivered to appropriate collection centers. Batteries, oil, and similar substances must not enter the environment.**

## SAFETY INSTRUCTIONS

1. Read and understand the entire owner's manual before starting, using, servicing, and carrying out any other operation on the machine.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace warning labels if they become obscured or removed.
4. This scroll saw is designed and intended for use by trained and experienced personnel only. If you are not familiar with the proper and safe operation of a scroll saw, do not use it until proper training and knowledge have been obtained.
5. Do not use this scroll saw for other than its intended use.
6. Always wear approved safety glasses or a face shield while using this machine. (Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.)
7. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.
8. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or

cover long hair. Wear non-slip footwear to reduce the risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

9. Keep the work area clean. Cluttered areas and benches invite accidents.
10. 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.
11. Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.
12. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
13. Make certain machines properly grounded.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Always keep safety guards in place when the machine is in use. If removed for maintenance purposes, use extreme caution, and replace the guards immediately after completion of maintenance.
16. Check damaged parts. Before further use of machine, 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 and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Keep the floor around machine clean and free of scrap material, oil, and grease.
18. Keep visitors a safe distance from work area. Keep children away.
19. Give your work undivided attention. Looking around, carrying on a conversation, etc. are careless acts that can result in serious injury.
20. Always maintain a balanced stance so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
21. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
22. Use recommended accessories; improper accessories may be hazardous.
23. Maintain the machine with care. Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
24. Turn off the machine before cleaning. Use a brush or compressed air to remove chips or debris— not your hands.
25. Do not stand on the machine. Serious injury could occur if machine tips over.
26. Never leave the machine running unattended.
27. Remove loose items and unnecessary work pieces from area before starting machine.
28. Keep hands and fingers away from moving saw blade.
29. Don’t use it in dangerous environment. Do not expose machine to rain or use in wet or damp locations. Keep the work area well lighted.
30. Blade guards and covers protect operators from moving saw blades. ONLY operate scroll saw with blade guard in proper position.
31. This machine is intended for cutting natural and man-made wood products and laminate covered wood products. This machine is NOT designed to cut metal, glass, stone, tile, etc.

32. Connect the dust suction hoods to an adequate suction system; suction must always be activated when the machine is switched on.
33. The scroll saw must be secured to a sturdy foundation. If there is a tendency for the stand or workbench to move, it must also be secured to the floor.
34. Blade must be properly tensioned before operating. Failure to do so could result in blade breakage and possible injury.
35. Never start saw with workpiece contacting blade.
36. Always keep fingers and hands away from blade. Avoid awkward hand positions where a sudden slip might cause hand to move into or toward the blade.
37. Always hold stock firmly against table. The hold-down provided should be correctly positioned over the workpiece.
38. Do not attempt to saw any stock that does not have a flat surface, without suitable support. Do not cut pieces of material too small to hold by hand.
39. Care must be taken when cutting material with an irregular cross section. The blade could pinch before the cut is completed. Any stock, such as frame molding, must lie flat on the table surface and not be allowed to rock.
40. Dowels or tubing tend to roll while being cut and cause the blade to "bite." Round material should be held firmly against the table.
41. Turn off saw before backing stock out of an incomplete cut. Only remove jammed cut-off pieces after the blade has stopped.
42. Make "relief" cuts before cutting long curves.
43. When cutting large or oversize stock, always make sure material is supported at table height.
44. Do not feed the workpiece too fast while cutting. Feed the workpiece only fast enough for the blade to cut.
45. Make sure the blade teeth face down toward the table and the blade is properly tensioned before operating.
46. Always support and feed the small workpiece with push sticks, jig, vise, or some type of clamping fixture.
47. Always allow the blade to come to full speed before starting cut.
48. Never use your hands to move cut-offs away from the blade while the saw is running.

## RESIDUAL RISKS

**WARNING:** Despite the abidance of all safety regulations and rules described in this manual, some extra risks may still happen, and the following are most often observed:

- Contact with tool
- Contact with moving parts
- Recoil of the piece or part of it
- Accidents due to wood splinters or fragments
- Tool insert ejection
- Electrocution from contact with live parts
- Danger due to incorrect tool installation
- Danger due to incorrect electrical connection

- Danger due to dust inhalation in case of working without vacuum cleaner

# ELECTRICAL REQUIREMENTS

**POWER SUPPLY AND MOTOR SPECIFICATIONS**

**WARNING:** To avoid electrical hazards, fire hazards, or damage to the tool, use proper circuit protection. Use a separate electrical circuit for your tools. To avoid shock or fire, if power cord is worn or cut, or damaged in any way, have it replaced immediately.

**GROUNDING INSTRUCTIONS**

**WARNING:** This tool must be grounded while in use to protect the operator from electrical shock.

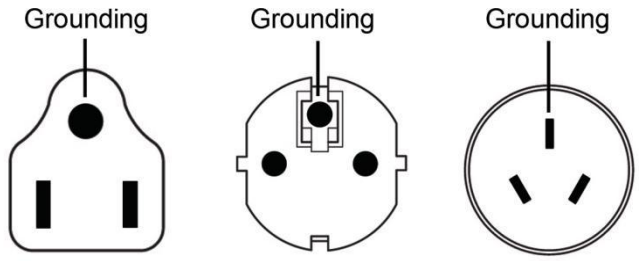
**IN THE EVENT OF A MALFUNCTION OR BREAKDOWN,** grounding provides a path of least resistance for electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug MUST be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.

**DO NOT MODIFY THE PLUG PROVIDED.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.

**IMPROPER CONNECTION** of the equipment-grounding conductor can result in risk of electric shock. The conductor with green insulation (with or without yellow stripes) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, DO NOT connect the equipment-grounding conductor to a live terminal.

**CHECK** with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

Refer to either picture:




**WARNING:** Improper connection of equipment grounding conductor can result in the risk of electrical shock. equipment should be grounded while in use to protect operator from electrical shock.

-Check with a qualified electrician if you do not understand grounding instructions or if you are in doubt as to whether the tool is properly grounded.

-Do not remove or alter grounding prong in any manner. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical shock.

**WARNING:** This machine is for indoor use only. Do not expose to rain or use in damp locations.

## GUIDELINES FOR EXTENSION CORDS

**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 cause overheating.

**Ensure your extension cord is properly wired** and in good 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.

# ACCESSORIES AND ATTACHMENTS

## RECOMMENDED ACCESSORIES

**WARNING:** To avoid injury:

- Use only accessories recommended for this machine.
- Follow instructions that accompany accessories. Use of improper accessories may cause hazards.
- Use only accessories designed for this machine to avoid injury from thrown broken parts or workpieces.
- Do not use any accessory unless you have completely read the instruction or operator's manual for that accessory.

# PACKAGING CONTENTS

## UNPACKING AND CHECKING CONTENTS

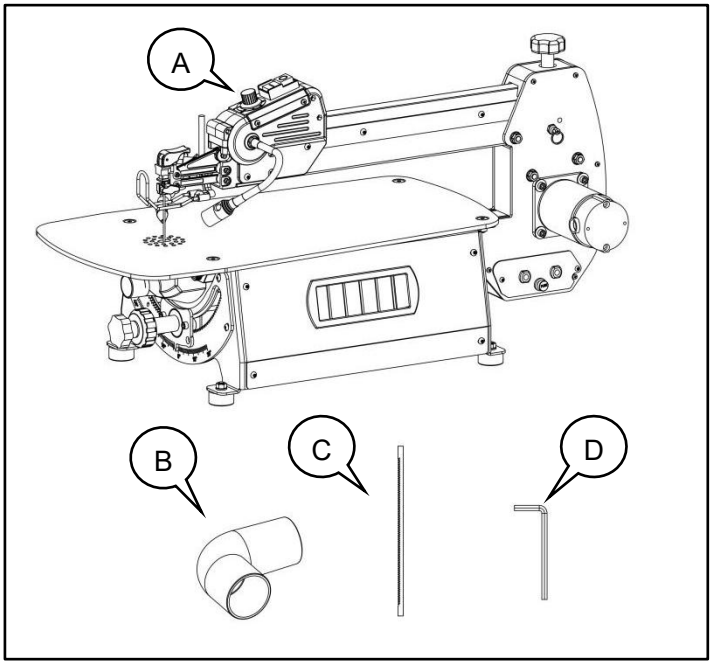
Carefully unpack the scroll saw and all its parts and compare against the illustration following.

**WARNING:**

- To avoid injury from unexpected starting, do not plug the power cord into a power source receptacle during unpacking and assembly. This cord must remain unplugged whenever you are assembling or adjusting the scroll saw.
- 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.

## TABLE OF LOOSE PARTS

Unpack carton; check your machine to see parts listed below:

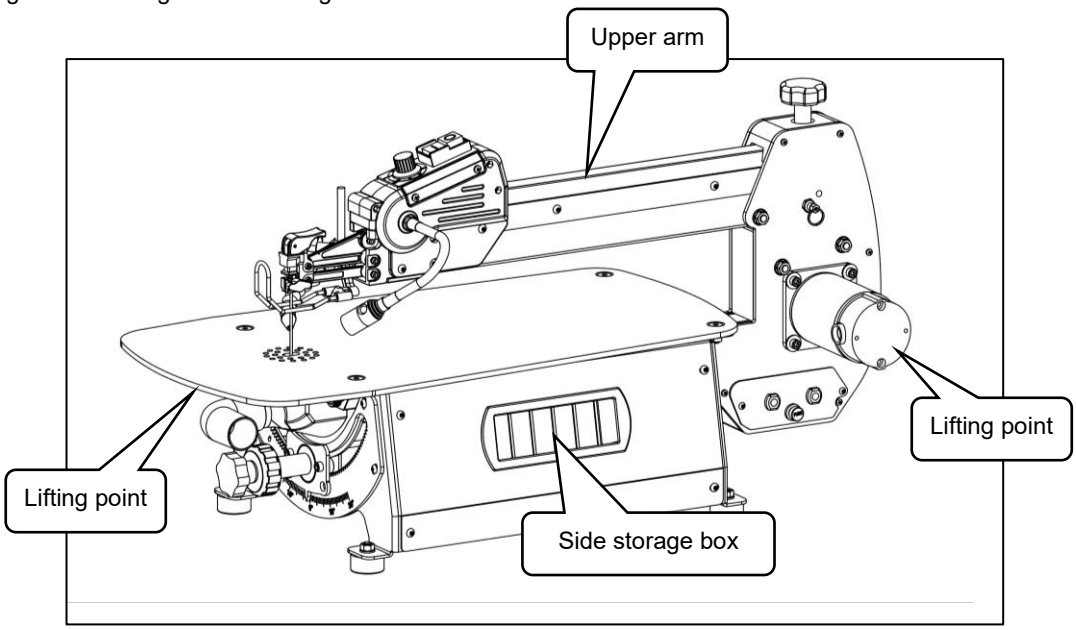



| Code | Name | Quantity |
|---|---|---|
| A | Scroll saw | 1 |
| B | L hose fitting | 1 |
| C | Saw blade | 1 |
| D | Hex wrench 4mm | 1 |

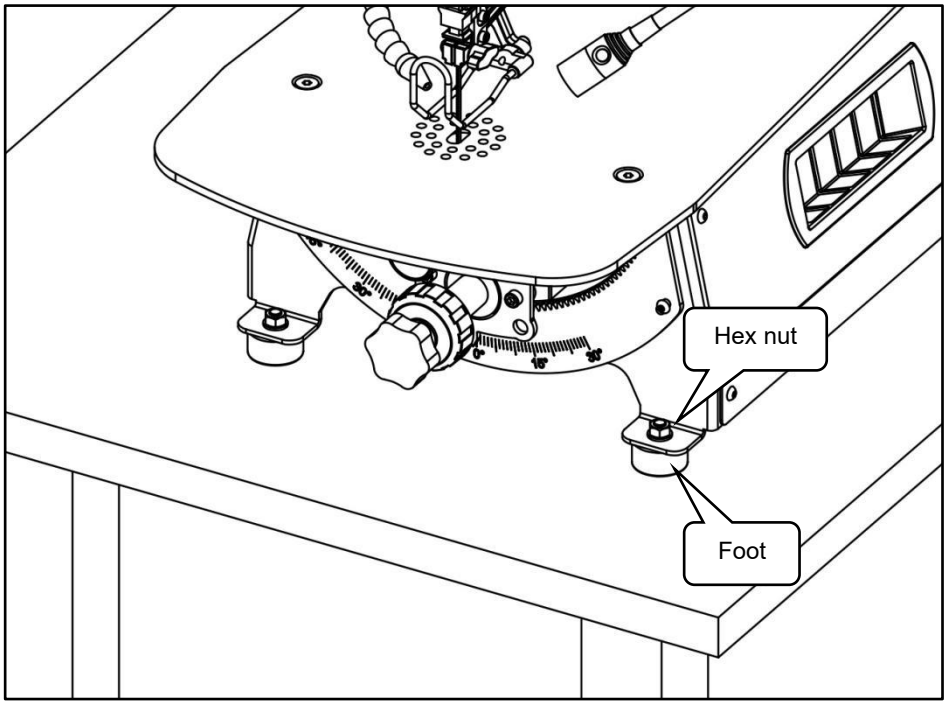
# INSTALLATION

## 1. Transporting and mounting the saw

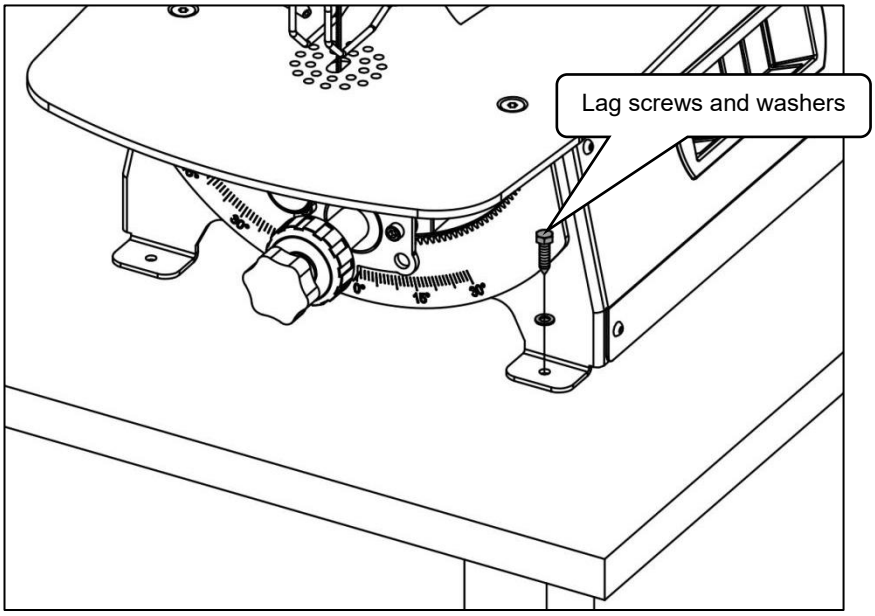
- Do not lift or move the scroll saw using the upper arm, or internal linkage system could be damaged. Lift using side storage box or using motor and edge of the table.




- The bottom of the machine is fitted with four rubber feet, which help to reduce vibration.
  If the workbench is not level, loosen the hex nuts and adjust the height of the feet to make the machine more stable on the workbench.



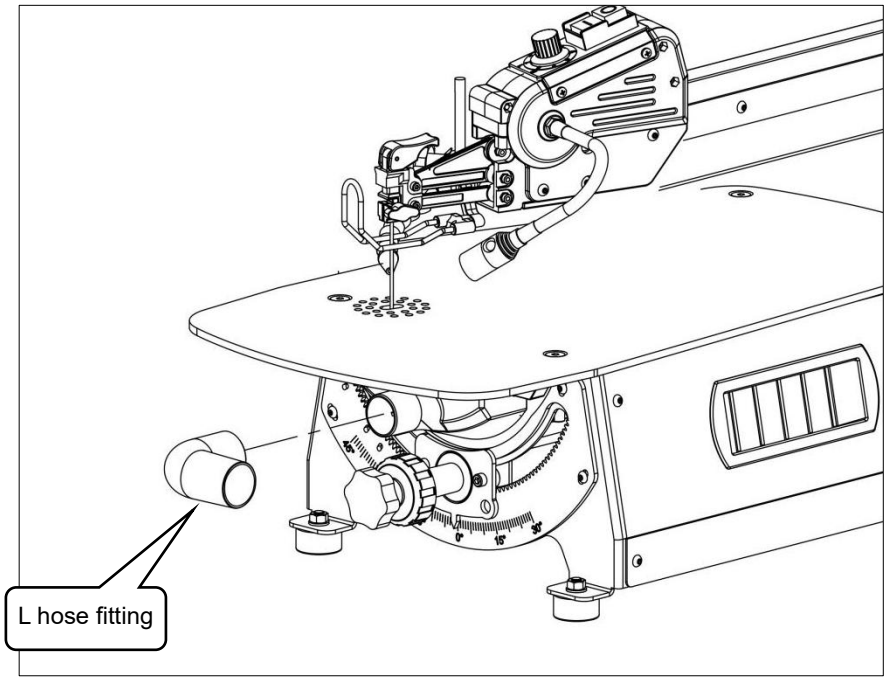
- To improve stability, minimize vibration and prevent the machine from moving while working, we recommend remove the hex nuts and feet, fasten the scroll saw base to a workbench by using lag screws and washers.



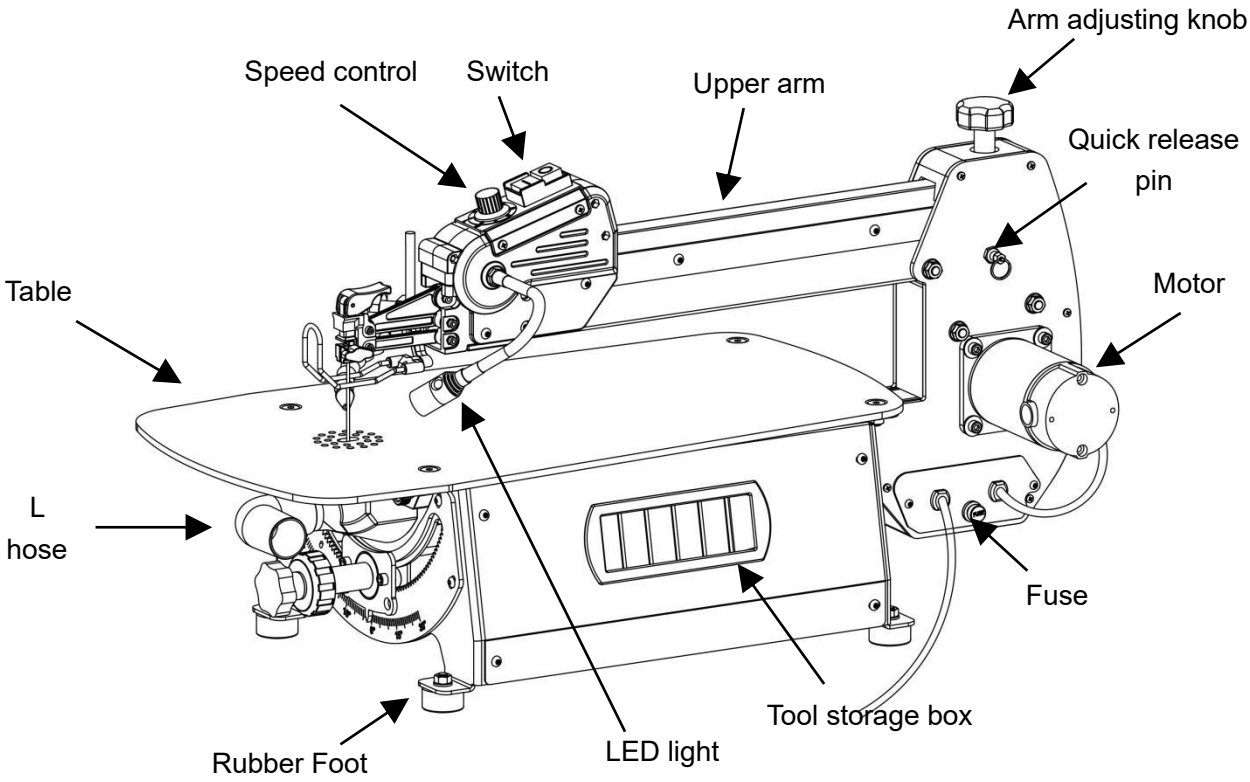

## 2. Connecting to dust collection system

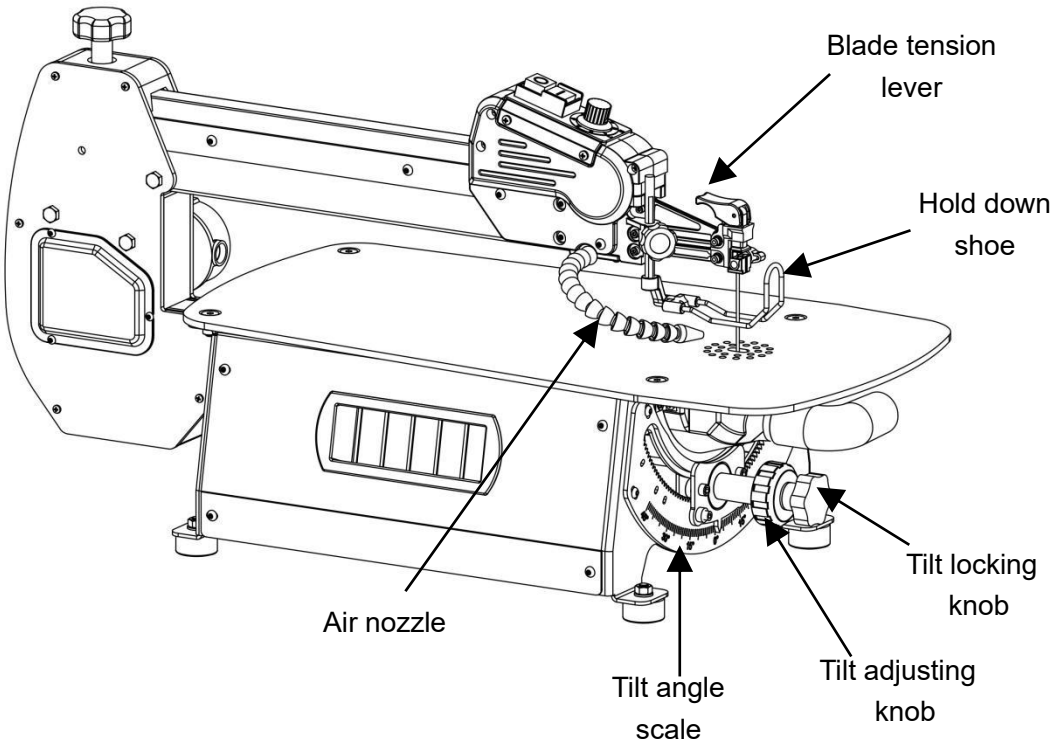
**Warning: DO NOT operate the scroll saw without an adequate dust collection system.**

- Attach the **L** hose fitting to the dust port on the lower guard, The **L** hose fitting should be connected with dust collection system when operating the scroll saw.
- The recommended air suction capacity of dust collection system is 300m³/h at least.



# IDENTIFICATION



# ADJUSTING

**WARNING: Always be sure that the machine is switched off and unplugged before any adjustments.**

## 1. Tilting arm

- The arm can tilt up to 30°left or 45°right for bevel cut, so the so the workpiece is always in a horizontal position, with no risk of sliding off the table. The tilt controls are located at the front of the saw.

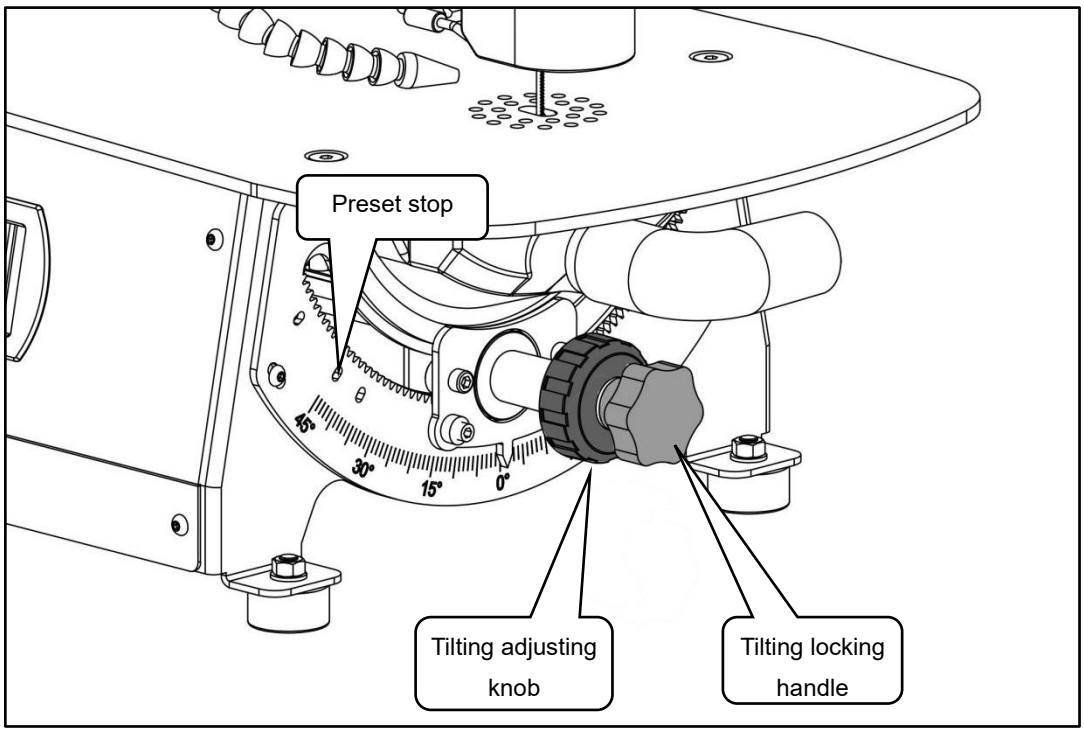
  **To tilt arm:**

  Make sure the upper guard, air nozzle and LED light will not conflict with the table.

  Loosen and hold the tilting locking knob, rotate the adjusting knob to desired angle.

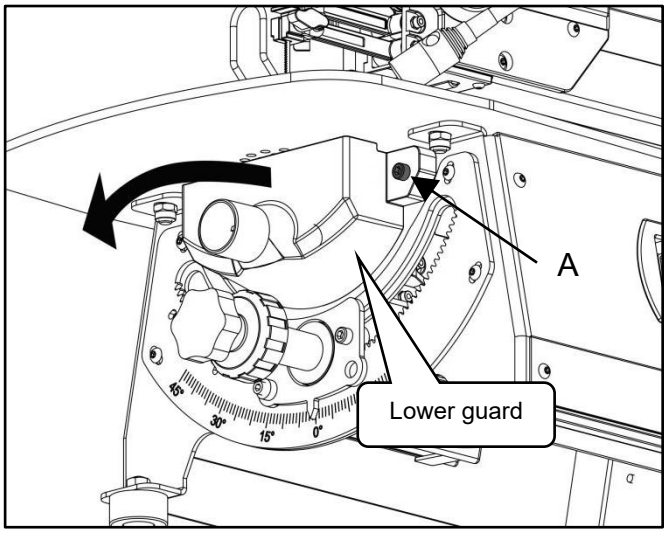
  Tighten the tilting locking knob again.

  For quick setup to commonly used angles, there are preset stops at 0°, 22.5°, 30°left and 22.5°, 30°, 45° right.



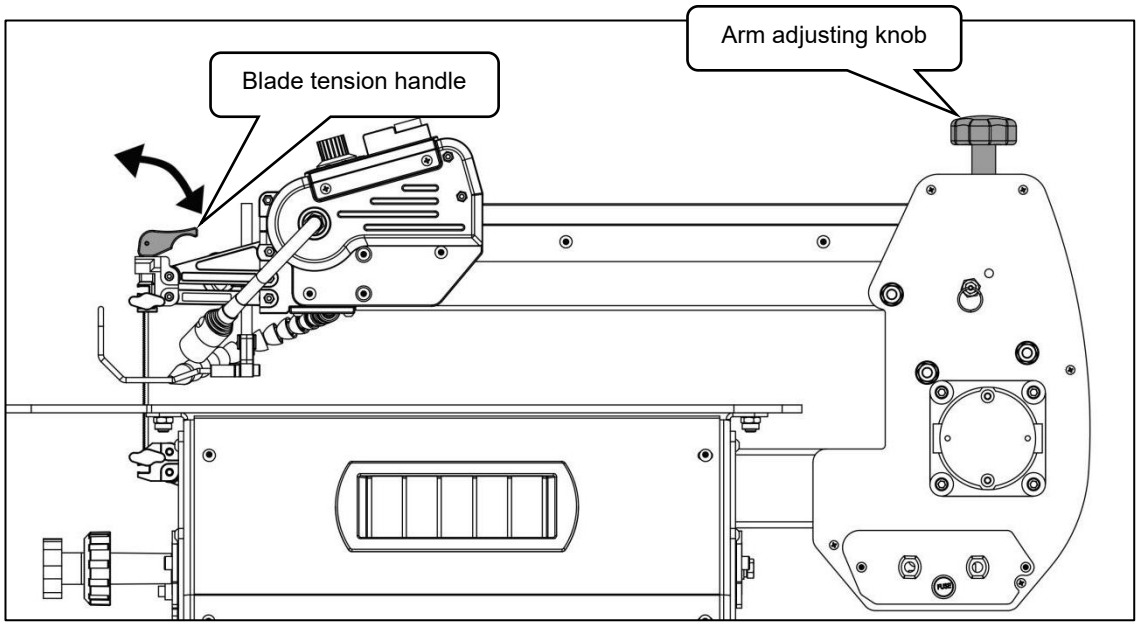

## 2. Replacing blade

- Remove the L hose fitting from the lower guard, Loosen the screw **A** and swing open the lower guard.



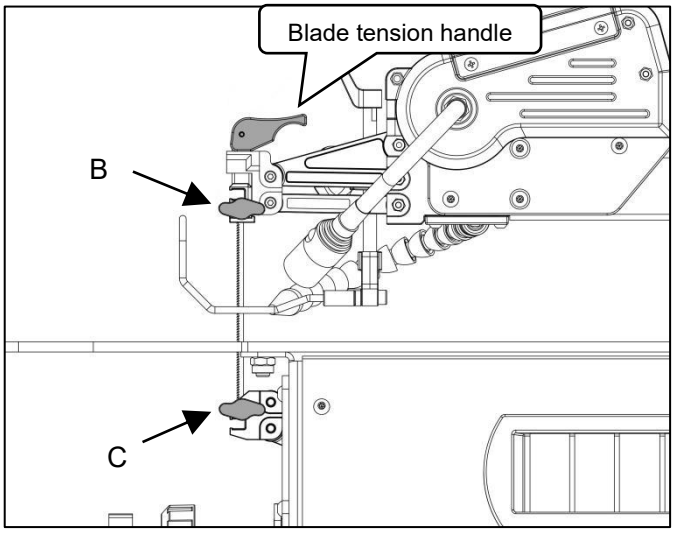
**For pin-end blades**

- Rotate the blade tension handle upward to release tension.
  If needed, rotate the arm adjusting knob to lower the upper arm.
- Remove the old blade from the upper and lower blade mounting brackets.
- Place a new blade trough the table slot onto the blade mounting brackets, with the blade's teeth facing toward you and pointing down.
- Rotate the blade tension handle downward and rotate the arm adjusting knob to tension the blade properly.




**For plain-end blades**

- Rotate the blade tension handle upward to release tension.
- Loosen the blade locking knob **B** and **C**.
- Remove the old blade from the upper and lower blade mounting brackets.
- Place a new blade trough the table slot onto the blade mounting brackets, with the blade's teeth facing toward you and pointing down.
- Tighten the blade locking knob **B** and **C**.
- Rotate the blade tension handle downward and rotate the arm adjusting knob to tension the blade properly.

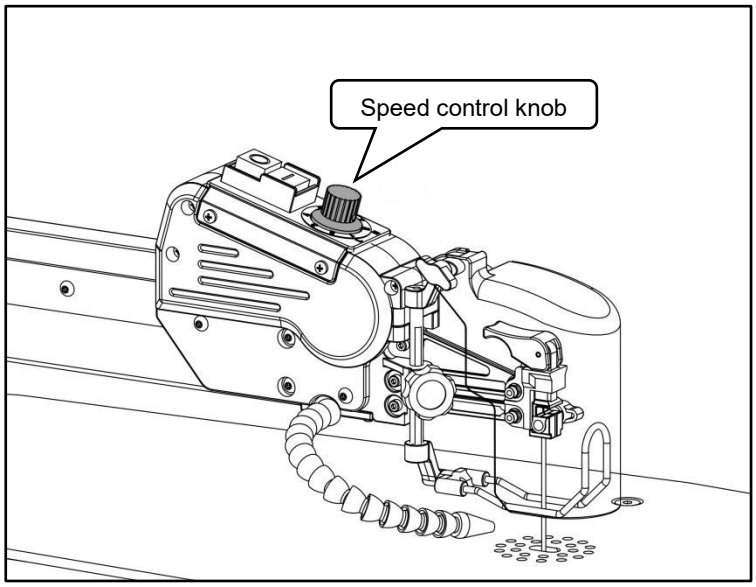



Replace the upper guard, the lower guard and hose fitting after replacing a blade.

## 3. Adjusting blade speed

Rotate speed control knob while saw is running clockwise to increase blade strokes per minute, counterclockwise to decrease.

To reduce the risk of injury from unexpectedly fast speed at startup, always rotate the speed control knob all the way counterclockwise before starting and after stopping the scroll saw.

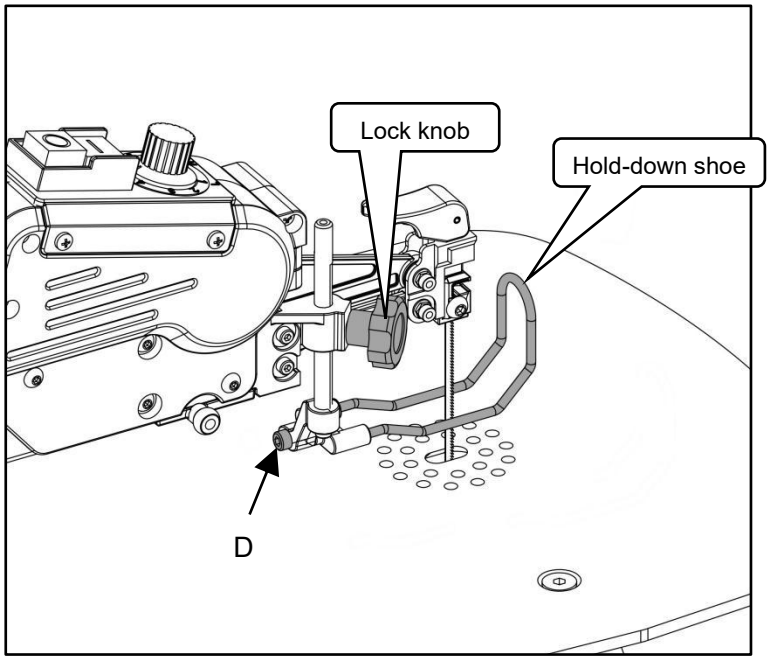



## 4. Adjusting the hold-down shoe

The hold-down shoe keeps the workpiece from raising up from the force of the moving blade.

Loosen hold-down shoe lock knob. Adjust shoe lightly touching workpiece. Tighten the hold-down shoe lock knob, then verify workpiece moves smoothly under shoe.

If necessary, loosen screw **D**, adjust the hold-down shoe so that it is parallel to the table, and retighten screw D.



# OPERATIONS

## Basic Cutting Tips

- Always use a clean, sharp blade.
- Guide the wood into the blade slowly to prevent blade breakage.
- You will achieve the best results when cutting wood less than 25mm (1″) thick. When cutting stock thicker than 25mm (1″), guide the stock very slowly into the blade, taking care not to bend or twist the blade.
- Blade should always have a minimum of 3 teeth in contact with workpiece.
- Make relief cuts as needed to prevent binding of blade in workpiece.
- A blade has a tendency to follow the wood grain. Be prepared to compensate for this to achieve accurate cuts.
- Use caution when sawing round pieces, such as dowels, which tend to roll while cutting.
- Keep fingers away from cutting path. Avoid awkward hand positions or getting fingers wedged between saw arm and workpiece when cutting small workpieces.
- For fretwork, drill all needed pilot holes at the same time before moving to the scroll saw. Drill pilot holes as close as possible to reference lines.
- As a general rule, select the narrowest blades recommended for intricate curve cutting, and widest blades for straight cuts or large curve cuts.
- Run saw only at high enough speed to efficiently do the work. Constant running at maximum speed is not necessary for most operations, it may reduce control of the cutting process and may hasten wear on the saw.
- When approaching a tight radius, slow down feed rate, but don't stop. Give teeth time to make cut. Forcing the workpiece through curve will cause the blade to twist or break.

### 1. Make straight cuts or outside curve cuts

Position blower nozzle and hold-down shoe, turn on the LED light if needed.

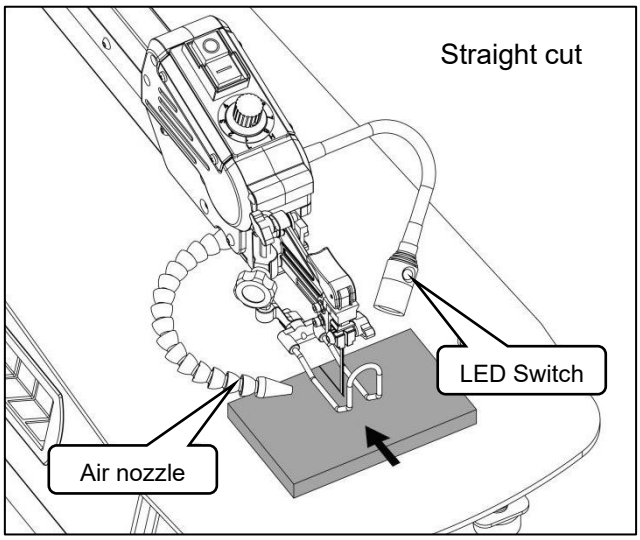
Turn on saw and allow blade to reach full operating speed.

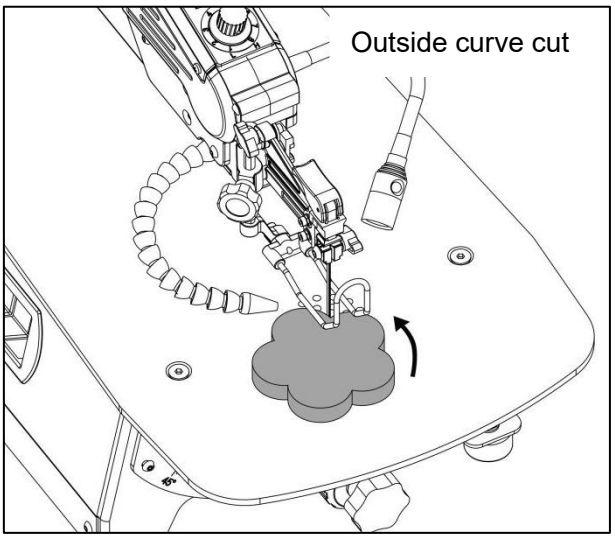
Set speed using variable control knob.

Hold the workpiece firmly against the table and feed the workpiece directly into front edge of blade with steady pressure.

Do not use excessive pressure – allow the blade to do the work.

DO NOT turn the workpiece without pushing it through the blade at same time; otherwise, the blade could twist and break.




### 2. Make inside cuts

Drill pilot holes in workpiece just large enough for blade insertion.

Rotate the blade tension handle and loosen the upper blade lock knob to release the blade upper end.

Raise upper arm until the quick release pin automatically pops in to hold it in place.

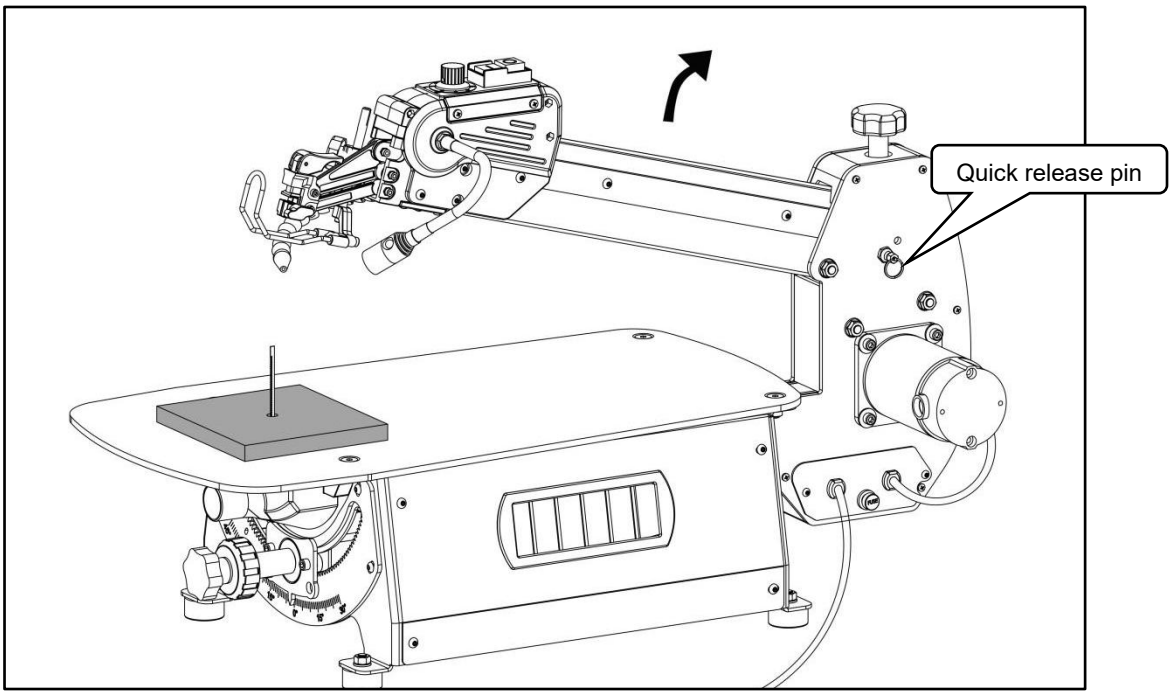
Place the workpiece hole through the blade and over the slot in table.

Pull out quick release pin and lower upper arm.

Refasten the upper end of the saw blade and tension the blade.

Hold the workpiece tightly against the table and turn on saw. Set speed using variable control knob.

Smoothly guide workpiece into blade, using light pressure. Avoid coming to a complete stop while cutting.



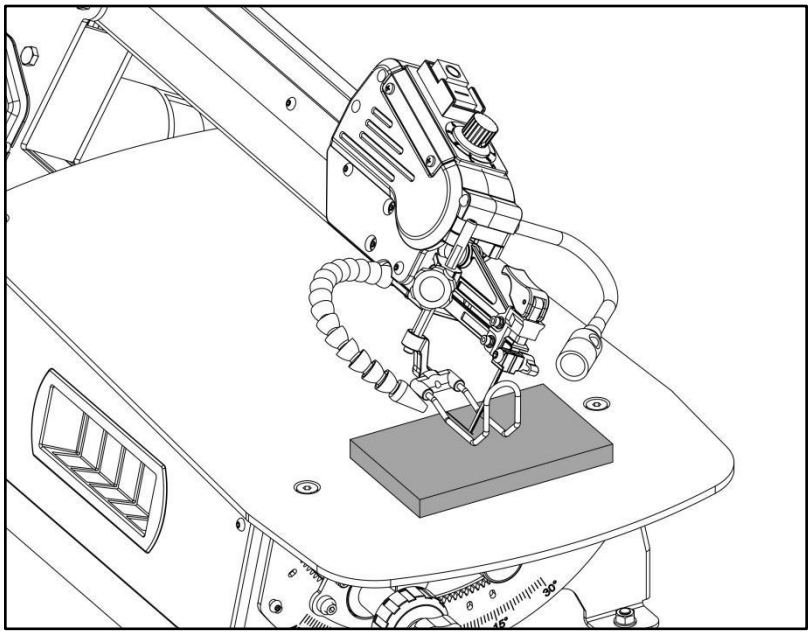

### 3. Make bevel cuts

Adjust the arm to desired angle, position the hold-down shoe and guard.

Turn on saw and allow blade to reach full operating speed.

Set speed using variable control knob.

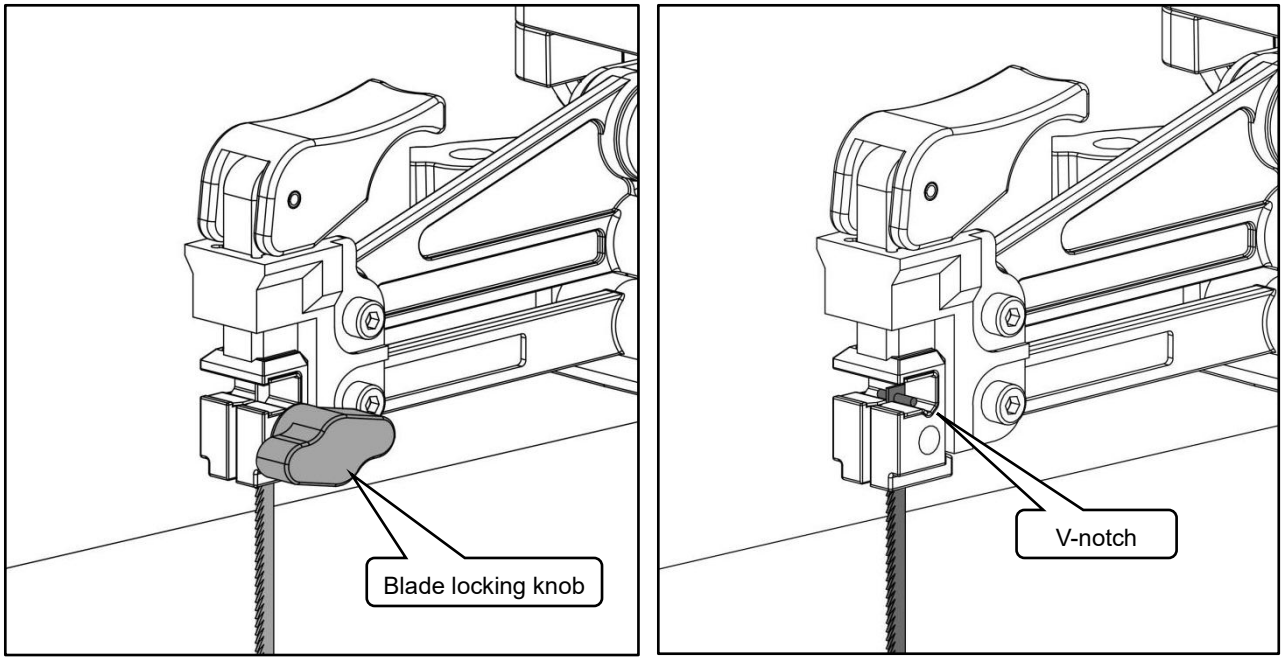
Hold and feed the workpiece slowly and evenly into blade, remembering not to force the workpiece through cut.



## 4. Saw blade selection

Scroll saw blades are classified as either "pin-end" (mounting pins at the ends of the blade) or "plain-end" (no pins), Both can be used on this scroll saw.

The plan-end saw blade is mounted with locking handle, and the pin-end saw blade is mounted by positioning the pin in the v-notch.




When choosing a saw blade, it is usually important to consider：

- Type of material to be cut (hardwood, softwood?)
- Thickness of the workpiece (thicker workpieces require larger blades)
- Features of workpiece (straight cuts, sweeping curves or tight fretwork?)

Combine these factors to choose the right saw blade with the TPI, width and tooth form.

Always refer to the blade manufacturer's technical data for a complete explanation when choosing a scroll saw blade.

# TROUBLESHOOTING

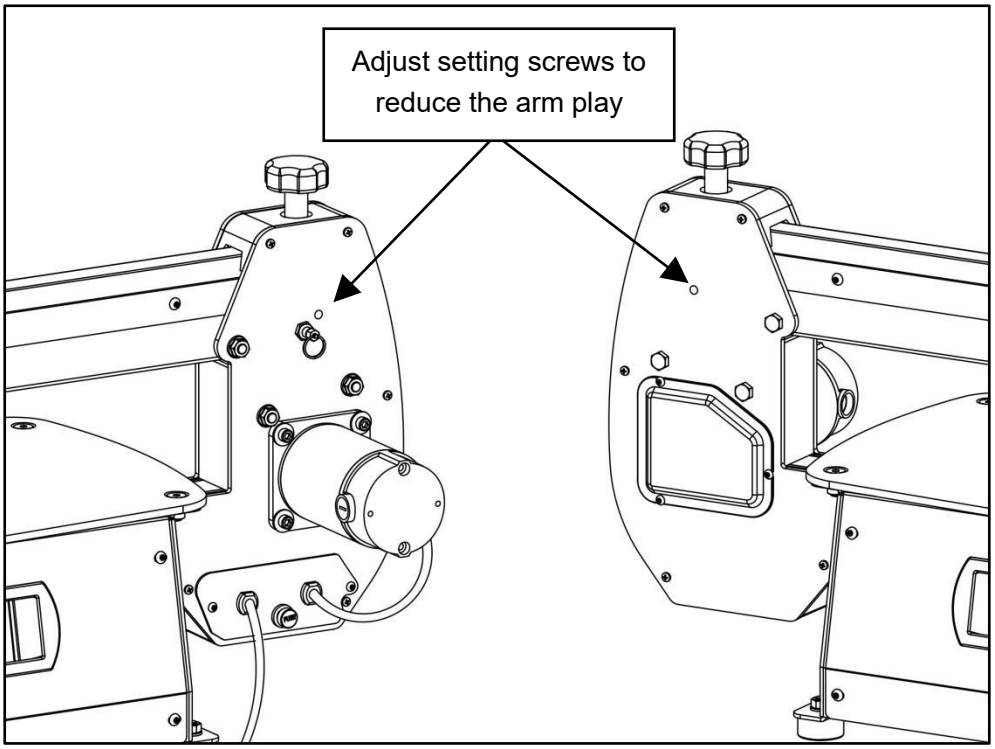
| Trouble | Possible Cause | Solution |
|---|---|---|
| Motor will not start. | Incorrect power supply voltage | Ensure correct power supply voltage |
| | Damaged cord or plug. | Inspect and replace. |
| | Carbon brushes worn. | Replace brushes. |
| | Blown fuse. | Replace fuse/ensure no shorts |
| | Switch at fault. | Replace switch. |
| | Circuit board at fault. | Inspect/replace if at fault. |
| | Incorrect fuses or circuit breakers | Install correct fuses or circuit breakers. |
| Blades frequently break. | Incorrect blade tension. | Set proper tension. |
| | Blade being overworked. | Reduce feed rate. |
| | Wrong blade for job. | Select proper blade. |
| | Blade twisting in workpiece. | Avoid side pressure on the blade. Reduce feed |
| | Too few teeth per inch. | Blade should have a minimum of 3 teeth in contact with workpiece. |
| Blade drift. | Some drift is unavoidable depending upon the size of blade and type of cut. | Compensate by manipulation of workpiece into blade. |
| | Incorrect blade tension. | Increase tension. |
| | Too much pressure on blade. | Reduce pressure on workpiece. |
| Excessive vibration. | Saw improperly mounted. | Secure saw properly to bench or stand. |
| | Unsuitable mounting surface. | Less vibration will occur with a heavier work bench. Use pads or fiber washers at mounting contact points. |
| | Arms/linkage system are not tight. | Tighten tilting lock knob. |

# MAINTENANCE

**Warning! Always be sure the machine is switched off and disconnect the plug from the power supply before inspection and maintenance.**

- **Adjusting upper arm tension**

  With regular use the arm may develop play, which thus has a bad influence on performance. Regularly check the play in the arm and adjust if necessary.

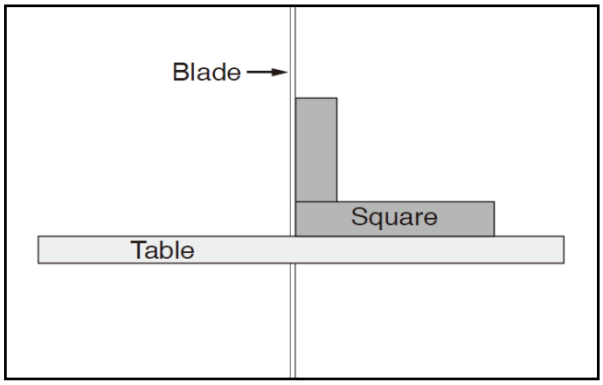



- **Checking and squaring blade to table**

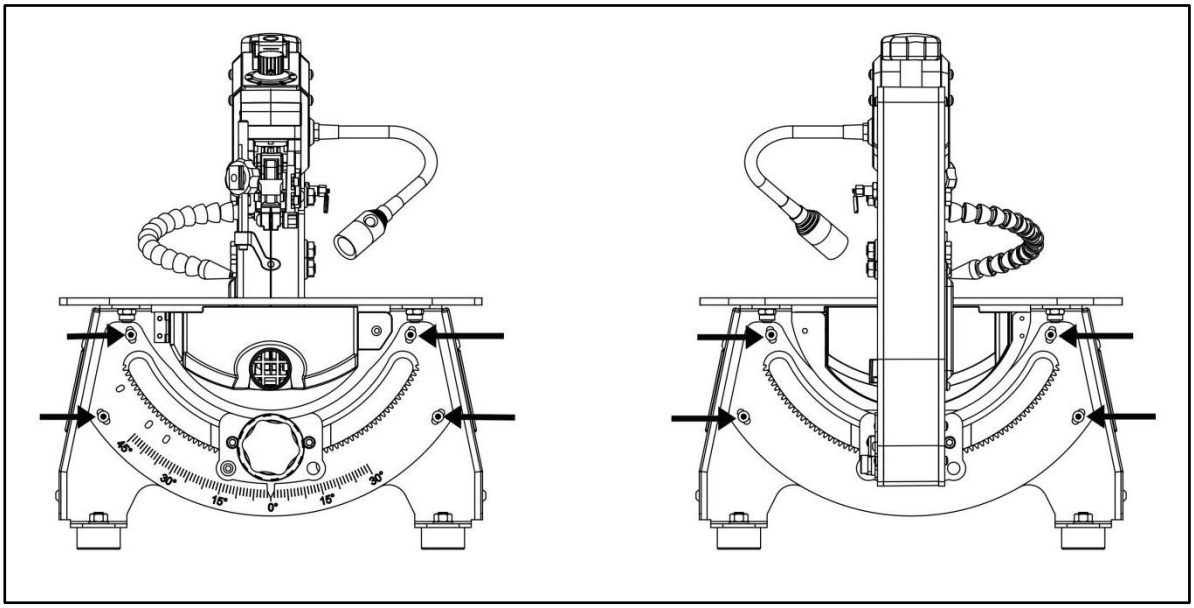
  The blade may get out of alignment with the table over time, depending upon how often the saw is used, and frequent usage of the tilting mechanism.

  To square blade to table:

  1. Tilt arm to 0° and tighten tilting lock lever.
  2. Remove the hold-down shoe and upper guard.
  3. Place a machinist's square flat on table against side of blade.



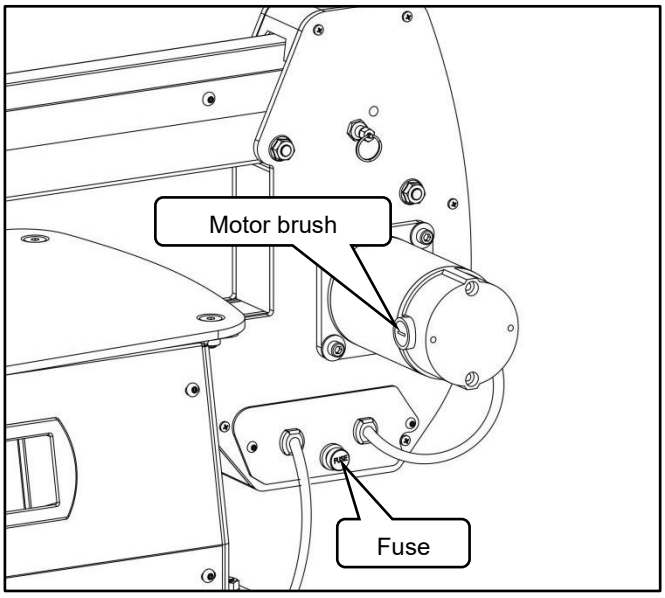

  4. If blade is not square, Loosen (8) button head cap screws on front and rear trunnions.



5. Carefully move the frame to bring blade square with table.
6. Tighten front and rear button head cap screws.
7. Install hold-down shoe and upper guard.

- **Checking and replacing motor brush**

The motor is equipped with two long-life carbon brushes—one on each side of the motor. Motor loads and usage affect the brush life. Worn brushes will result in intermittent operation and difficulty starting the motor.




- **Fuse replacement**

The scroll saw is equipped with a 1-amp fuse for overload protection. If the saw stops working, inspect fuse:

1. Unscrew fuse cap and pull fuse out of cap.
2. If fuse has blown, replace it.
3. Install new fuse into cap, then screw cap into hole.

- **FREQUENT INSPECTION**

The scroll saw should be inspected frequently.

The cord, in-lead, plug and switch should be inspected whether they be in good condition.

Whether there is any damage on the drive part.

- **CLEANING**

Clean wood dust from the saw frequently, by using a vacuum or compressed air, or damp cloth. Use a soft bristle brush for crevices.

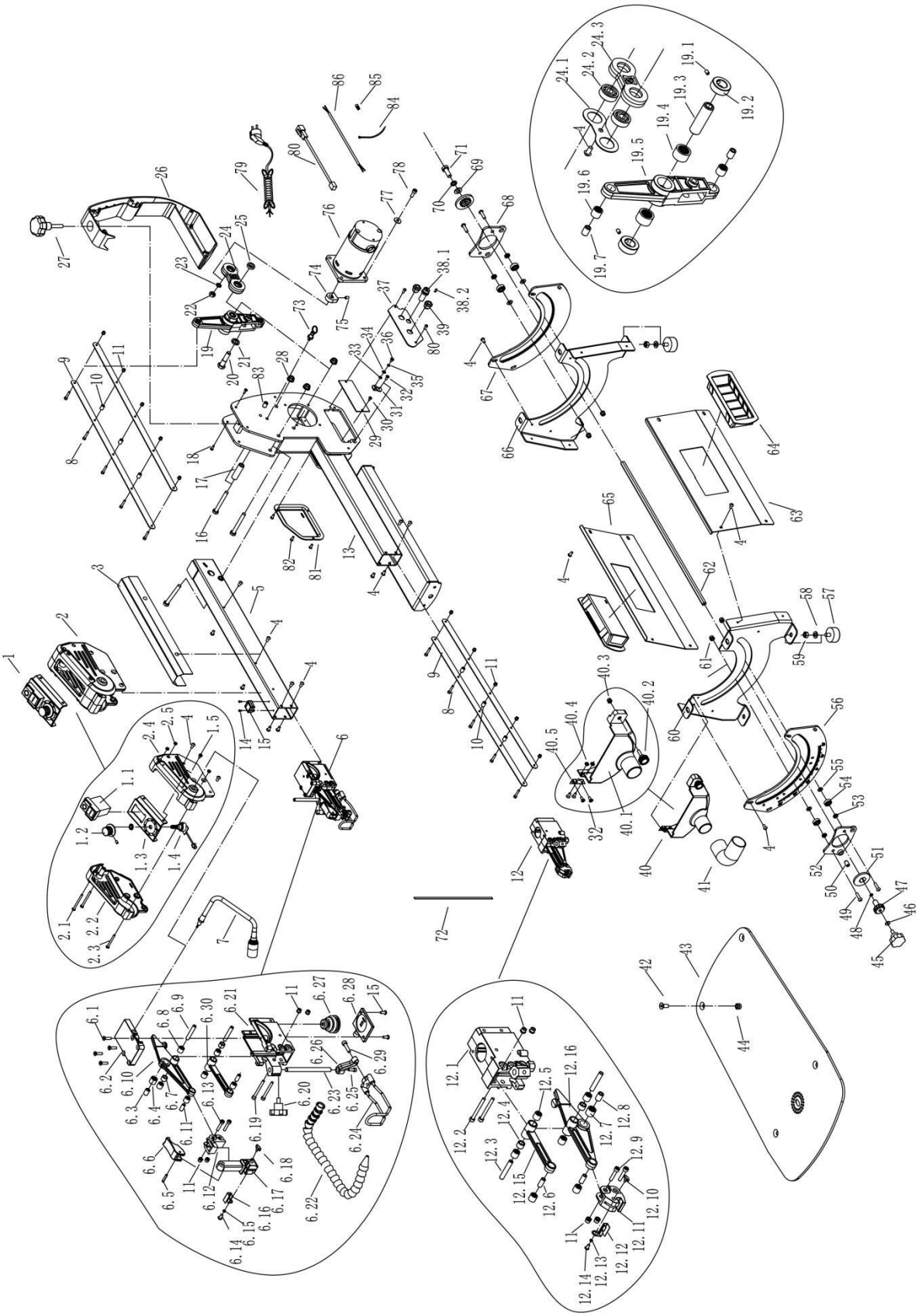
- **LUBRICATION**

Periodically apply light dabs of grease to front and rear trunnions where parts slide against one another.

- **KEEP IN STORAGE**

The scroll saw should be kept at dry clean and non-corrosive environment.

# Assembly Diagram



# PART LIST

| No. | Part Number | Description | QTY. |
|---|---|---|---|
| 1 | PBBSS2201 | Control Panel Assembly | 1 |
| 1.1 | PBBSS2201.1 | Switch | 1 |
| 1.2 | PBBSS2201.2 | Speed control knob | 1 |
| 1.3 | PBBSS2201.3 | Switch mounting plate | 1 |
| 1.4 | PBBSS2201.4 | Speed dial | 1 |
| 1.5 | PBBSS2201.5 | Self-tapping screw | 4 |
| 2 | PBBSS2202 | Switch box assembly | 1 |
| 2.1 | ZPHSM407025 | Pan head screw M4X25 | 2 |
| 2.2 | PBBSS2202.2 | Left cover | 1 |
| 2.3 | ZPHSM407040 | Pan head screw M4X40 | 1 |
| 2.4 | PBBSS2202.4 | Right cover | 1 |
| 2.5 | ZHXNM407000 | Hex nut M4 | 3 |
| 3 | PBBSS2203 | Top cover plate | 1 |
| 4 | ZCHSM50808 | Socket pan head screw M5X8 | 33 |
| 5 | PBBSS2205 | Upper arm | 1 |
| 6 | PBBSS2206 | Upper bracket assembly | 1 |
| 6.1 | ZFHSM407020 | Flat head screw M4X20 | 4 |
| 6.2 | PBBSS2206.2 | Bracket cover | 1 |
| 6.3 | PBBSS2206.3 | Bushing | 1 |
| 6.4 | ZBRGNHK0810 | Needle bearing HK0810 | 1 |
| 6.5 | PBBSS2206.5 | Spring pin 3X18mm | 1 |
| 6.6 | PBBSS2206.6 | Blade tension handle | 1 |
| 6.7 | PBBSS2206.7 | Bushing | 2 |
| 6.8 | ZBRGNHK00609 | Needle bearing HK00609 | 6 |
| 6.9 | PBBSS2206.9 | Bushing | 2 |
| 6.10 | PBBSS2206.10 | Rocker arm | 1 |
| 6.11 | PBBSS2206.11 | Bushing | 2 |
| 6.12 | PBBSS2206.12 | Clamp bracket | 1 |
| 6.13 | ZCSSM407020 | Socket head screw M4X20 | 2 |
| 6.14 | ZPHSM610010 | Socket pan head screw M6X10 | 1 |
| 6.15 | PBBSS2206.15 | Flat washer 6mm | 1 |
| 6.16 | PBBSS2206.16 | V-notch plate | 1 |
| 6.17 | PBBSS2206.17 | Blade mounting block | 1 |
| 6.18 | ZBFSM610010 | Wing screw M6X10 | 1 |

| No. | | Description | QTY. |
|---|---|---|---|
| 6.19 | ZCSSM407040 | Socket head screw M4X40 | 2 |
| 6.20 | PBBSS2206.20 | Lock knob | 1 |
| 6.21 | PBBSS2206.21 | Upper bracket | 1 |
| 6.22 | PBBSS2206.22 | Air nozzle | 1 |
| 6.23 | PBBSS2206.23 | Hold-down rod | 1 |
| 6.24 | PBBSS2206.24 | Hold-down shoe | 1 |
| 6.25 | ZCSSM407012 | Socket head screw M4X12 | 1 |
| 6.26 | PBBSS2206.26 | Connecting base | 1 |
| 6.27 | PBBSS2206.27 | Bellows | 1 |
| 6.28 | PBBSS2206.28 | Nozzle base | 1 |
| 6.29 | ZCSSM508020 | Socket head screw M5X20 | 1 |
| 6.30 | PBBSS2206.30 | Strut | 1 |
| 7 | PBBSS2207 | LED light | 1 |
| 8 | ZCSSM407020 | Socket head screw M4X20 | 10 |
| 9 | PBBSS2209 | Link plate | 4 |
| 10 | PBBSS2210 | Plastic bushing | 6 |
| 11 | ZLKNM407000 | Locknut M4 | 18 |
| 12 | PBBSS2212 | Lower bracket assembly | 1 |
| 12.1 | PBBSS2212.1 | Lower bracket | 1 |
| 12.2 | ZCSSM407040 | Socket head screw M4X40 | 2 |
| 12.3 | PBBSS2212.3 | Bushing | 2 |
| 12.4 | PBBSS2212.4 | Bushing | 2 |
| 12.5 | ZBRGNHK0609 | Needle bearing HK0609 | 6 |
| 12.6 | PBBSS2212.6 | Bushing | 2 |
| 12.7 | ZBRGNHK0810 | Needle bearing HK0810 | 1 |
| 12.8 | PBBSS2212.8 | Bushing | 1 |
| 12.9 | ZCSSM407020 | Socket head screw M4X20 | 2 |
| 12.10 | ZBFSM610010 | Wing screw M6X10 | 1 |
| 12.11 | PBBSS2212.11 | Lower blade mounting bracket | 1 |
| 12.12 | PBBSS2212.12 | Lower V-notch plate | 1 |
| 12.13 | ZPHSM610010 | Socket pan head screw M6X10 | 1 |
| 12.14 | PBBSS2212.14 | Flat washer 6mm | 1 |
| 12.15 | PBBSS2212.15 | Strut | 1 |
| 12.16 | PBBSS2212.16 | Rocker arm | 1 |
| 13 | PBBSS2213 | Frame | 1 |
| 14 | ZPHSM40708 | Socket pan head screw M4X8 | 7 |
| 15 | PBBSS2215 | Led driver | 1 |
| 16 | ZHCBM812565 | Hex head bolt M8X65 | 3 |

| NO. | Part Number | Description | Qty |
|---|---|---|---|
| 17 | PBBSS2217 | Spacer pipe | 1 |
| 18 | PBBSS2218 | Self-tapping screw | 10 |
| 19 | PBBSS2219 | Rocker cam assembly | 1 |
| 19.1 | PBBSS2219.1 | Set screw M6X8 | 2 |
| 19.2 | PBBSS2219.2 | Limit collar | 2 |
| 19.3 | PBBSS2219.3 | Shaft | 1 |
| 19.4 | ZBRGNHK1412 | Needle bearing HK1412 | 2 |
| 19.5 | PBBSS2219.5 | Rocker cam | 1 |
| 19.6 | ZBRGNHK0810 | Needle bearing HK0810 | 2 |
| 19.7 | PBBSS2219.7 | Bushing | 2 |
| 20 | PBBSS2220 | Screw | 1 |
| 21 | ZWLM1000000 | Lock washer 10mm | 1 |
| 22 | ZHXNLHM8125 | Left theard hex nut M8 | 1 |
| 23 | ZWLM800000 | Lock washer 8mm | 1 |
| 24 | PBBSS2224 | Motor cam assembly | 1 |
| 24.1 | PBBSS2214.1 | Cover plate | 1 |
| 24.2 | ZBRG628ZZ000 | Ball bearing 628-2RS | 2 |
| 24.3 | PBBSS2224.3 | Motor cam | 1 |
| 25 | PBBSS2225 | Spacer | 1 |
| 26 | PBBSS2226 | Real cover | 1 |
| 27 | PBBSS2227 | Arm adjusting knob | 1 |
| 28 | ZLKNM812400 | Flange nut M8 | 3 |
| 29 | PBBSS2229 | Motor driver | 1 |
| 30 | PBBSS2230 | Self-tapping screw | 2 |
| 31 | PBBSS2231 | Grounding plate | 1 |
| 32 | ZFHSM407010 | Flat head screw M4X10 | 5 |
| 33 | ZWSM400000 | Serrated washer 4mm | 1 |
| 34 | ZWFM400000 | Flat washer 4mm | 1 |
| 35 | ZWLM400000 | Lock washer 4mm | 1 |
| 36 | ZPHSM407006 | Pan head screw M4X6 | 1 |
| 37 | PBBSS2237 | Cover | 1 |
| 38.1 | PBBSS2238.1 | Fuse holder | 1 |
| 38.2 | PBBSS2238.2 | Fuse | 1 |
| 39 | PBBSS2239 | Strain reliefe | 2 |
| 40 | PBBSS2240 | Lower guard assembly | 1 |
| 40.1 | PBBSS2240.1 | Lower guard | 1 |
| 40.2 | ZCSSM508020 | Socket head screw M5X20 | 1 |
| 40.3 | ZLKNM508000 | Lock nut M5 | 1 |

| NO. | Part Number | Description | Qty |
|---|---|---|---|
| 40.4 | ZHXNM407000 | Hex nut M4 | 2 |
| 40.5 | PBBSS2240.5 | Hinge | 1 |
| 41 | PBBSS2241 | L hose fitting | 1 |
| 42 | ZFHSM812420 | Flat head screw M8X20 | 4 |
| 43 | PBBSS2243 | Table | 1 |
| 44 | ZHXNM812500 | Lock nut M8 | 4 |
| 45 | PBBSS2245 | Tilting lock knob | 1 |
| 46 | ZWFM800000 | Flat washer 8mm | 1 |
| 47 | PBBSS2247 | Tilting adjust knob | 1 |
| 48 | PBBSS2248 | Rubber ring | 1 |
| 49 | ZCSSM610025 | Socket head screw M6X25 | 4 |
| 50 | PBBSS2250 | Set screw | 1 |
| 51 | PBBSS2251 | Gear | 2 |
| 52 | PBBSS2252 | Front bearing support plate | 1 |
| 53 | ZWFM600000 | Flat washer 6mm | 4 |
| 54 | ZBRG606ZZ | Ball bearing 606-2RS | 4 |
| 55 | ZWFM60000 | Washer | 4 |
| 56 | PBBSS2256 | Front trunnion plate | 1 |
| 57 | PBBSS2257 | Rubber foot | 4 |
| 58 | ZWFM800000 | Flat washer 8mm | 4 |
| 59 | ZHXNM812300 | Hex nut M8 | 4 |
| 60 | PBBSS2260 | Front support plate | 1 |
| 61 | ZLKNM610000 | Lock nut M6 | 4 |
| 62 | PBBSS2262 | Tilt rod | 1 |
| 63 | PBBSS2263 | Right side cover | 1 |
| 64 | PBBSS2264 | Tool storage box | 2 |
| 65 | PBBSS2265 | Left side cover | 1 |
| 66 | PBBSS2266 | Rear support plate | 1 |
| 67 | PBBSS2267 | Rear trunnion plate | 1 |
| 68 | PBBSS2268 | Rear bearing support plate | 1 |
| 69 | ZWFM800000 | Flat washer 8mm | 1 |
| 70 | ZWLM800000 | Lock washer 8mm | 1 |
| 71 | ZHXBM812420 | Hex head bolt M8X20 | 1 |
| 72 | PBBSS2272 | Blade | 1 |
| 73 | PBBSS2273 | Quick release pin | 1 |
| 74 | PBBSS2274 | Balance block | 1 |
| 75 | ZCHSM610010 | Set screw M6X10 | 1 |
| 76 | BBSS22MOT | Motor | 1 |

| NO. | Part Number | Description | Qty |
|---|---|---|---|
| 77 | ZWFM600000 | Flat washer 6mm | 4 |
| 78 | ZCSSM610016 | Socket head screw M6X16 | 4 |
| 79 | PBBSS2279 | Power cord | 1 |
| 80 | PBBSS2280 | Inner cable | 1 |
| 81 | PBBSS2281 | Plastic cover | 1 |
| 82 | PBBSS82 | Socket pan head screw M4X10 | 2 |
| 83 | PBBSS83 | Nylon set screw | 2 |
| 84 | PBBSS2284 | Cable tie | 2 |
| 85 | PBBSS2285 | Terminal | 2 |
| 86 | PBBSS2286 | Inner cable | 1 |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Busy Bee Tools warrants every product to be free from defects in materials and agrees to correct such defects where applicable. This warranty covers *two years* for parts and 90 days for labor (unless specified otherwise), to the original
purchaser from the date of purchase but does not apply to malfunctions arising directly or indirectly from misuse, abuse,
improper installation or assembly, negligence, accidents, repairs or alterations or lack of maintenance.
*Proof of purchase is necessary.* All warranty claims are subject to inspection of such products or part thereof and Busy Bee Tools reserves the right to inspect any returned item before a refund or replacement may be issued. This warranty shall not apply to consumable products such as blades, bits, belts, cutters, chisels, punches etc.
Busy Bee Tools shall in no event be liable for injuries, accidental or otherwise, death to persons or damage to property or for incidental contingent, special or consequential damages arising from the use of our products.
IF THE MACHINE IS ALTERED IN ANY WAY, THE WARRANTY SHALL BE NULL AND VOID.
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To return, repair, or replace a Busy Bee Tools product, you must visit the appropriate Busy Bee Tools showroom or call 1-800-461-BUSY. For replacement parts directly from Busy Bee Tools, for this machine, please call 1-800-461-BUSY (2879), and have your model number and part number & payment option ready.
• All returned merchandise will be subject to a minimum charge of 15% for re-stocking and handling with the following qualifications.
• Returns must be pre-authorized by us in writing.
• We do not accept collect shipments.
• Items returned for warranty purposes must be insured and shipped pre-paid to the nearest warehouse
• Returns must be accompanied by a copy of your original invoice as proof of purchase. Returns must be unused
condition and shipped in their original packaging a letter explaining your reason for the return. Incurred shipping and handling charges are not refundable.
• Busy Bee will repair or replace the item at our discretion and subject to our inspection.
• Repaired or replaced items will be returned to you pre-paid by our choice of carriers.
• Busy Bee reserves the right to refuse reimbursement or repairs or replacement if a third party without our prior authorization has carried out repairs to the item.
• Repairs made by Busy Bee Tools are warranted for 30 days on parts and labor.
• Any unforeseen repair charges will be reported to you for acceptance prior to making the repairs.
• The Busy Bee Parts & Service Departments are fully equipped to do repairs on all products purchased from us with the
exception of some products that require the return to their authorized repair depots. A Busy Bee representative will provide you with the necessary information to have this done.
• For faster service it is advisable to contact the nearest Busy Bee location for parts availability prior to bringing your
product in for repairs.