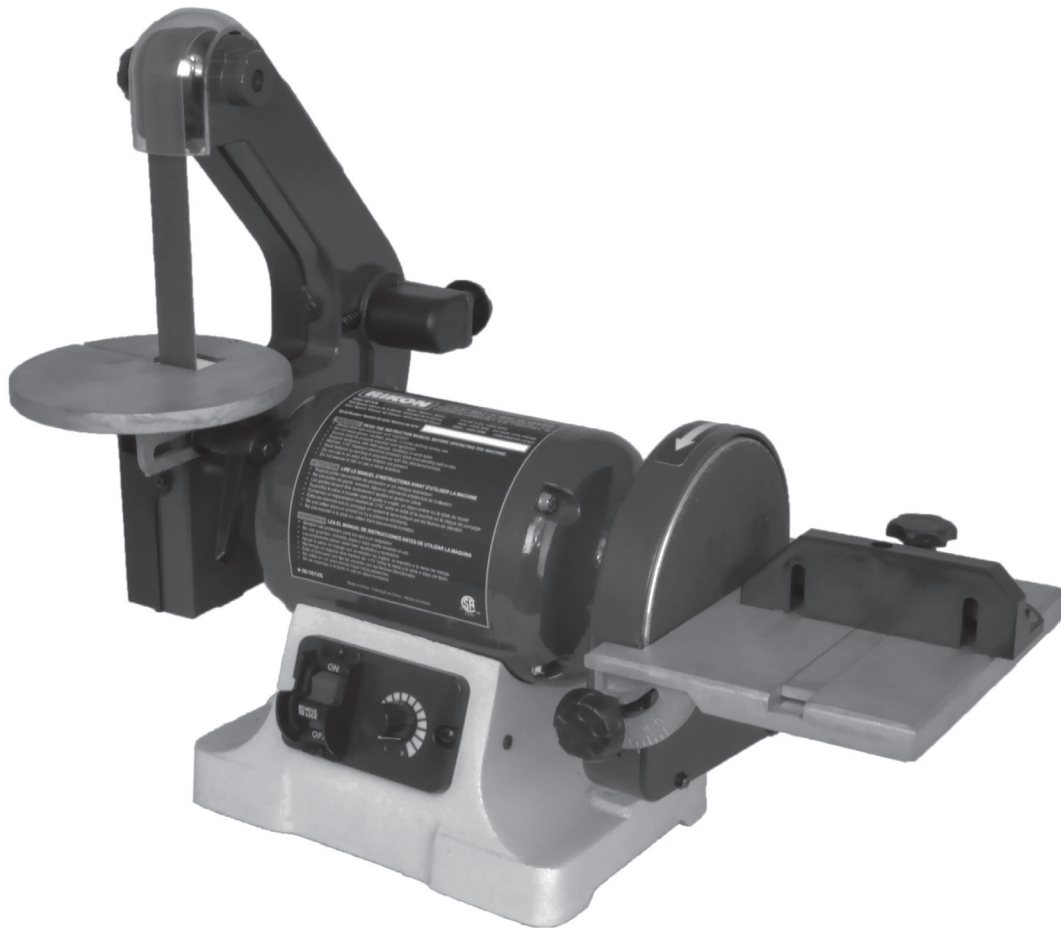


## 1" x 30" Belt / 6" Disc Variable Speed Sander



# Operator's Manual

Record the serial number and date of purchase in your manual for future reference.

Serial Number: \_\_\_\_\_ Date of purchase: \_\_\_\_\_

For technical support or parts questions, email [techsupport@rikontools.com](mailto:techsupport@rikontools.com) or call toll free at (877)884-5167

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## SPECIFICATIONS

Motor .....	3/4HP, 120V, 4A, 60Hz
Motor Speed (variable) .....	2,000 - 3,400 RPM
Belt Size .....	1" x 30"
Belt Speed (variable) .....	1,909 - 3,248 SFPM
Belt Table Size .....	5-3/4" Diameter
Belt Table Tilt .....	0-45°
Disc Size .....	6" PSA
Disc Speed (variable) .....	2,000 - 3,400 RPM
Disc Table .....	8" x 5-5/16"
Disc Table Tilt .....	0-45°
Miter Gauge .....	Included
Miter Gauge Slot .....	5/8" x 1/4"
Machine Height .....	16-3/4"
Machine Width .....	20-1/2"
Machine Depth .....	12"
Base Size .....	9-1/4" x 6-3/4"
Dust Ports (2) .....	1-3/4" OD/ 1-1/2" ID & 1-1/2" OD/ 1-1/4" ID
Net Weight .....	30.2 lbs.
Shipping Weight .....	32.6 lbs.
Shipping Carton .....	18-3/4" x 16-3/8" x 12-5/8"

**This owner's manual is not a teaching aid and is intended to show assembly, adjustments, and general use.**

**NOTE:** The specifications, photographs, drawings and information in this manual represent the current model when the manual was prepared. Changes and improvements may be made at any time, with no obligation on the part of RIKON Power Tools, Inc. to modify previously delivered units. Reasonable care has been taken to ensure that the information in this manual is correct, to provide you with the guidelines for the proper safety, assembly and operation of this machine.

# SAFETY SYMBOLS

**IMPORTANT!** Safety is the single most important consideration in the operation of this equipment. **The following instructions must be followed at all times.** Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

There are certain applications for which this tool was designed. We strongly recommend that this tool not be modified and/or used for any other application other than that for which it was designed. If you have any questions about its application, do not use the tool until you have contacted us and we have advised you.

## SAFETY SYMBOLS



**SAFETY ALERT SYMBOL:** Indicates DANGER, WARNING, or CAUTION. This symbol may be used in conjunction with other symbols or pictographs.



Indicates an imminently hazardous situation, which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation, which, if not avoided, could result in minor or moderate injury.

**NOTICE:** Shown without Safety Alert Symbol indicates a situation that may result in property damage.

## GENERAL SAFETY

**KNOW YOUR POWER TOOL.** Read the owner's manual carefully. Learn the tool's applications, work capabilities, and its specific potential hazards.

### BEFORE USING YOUR MACHINE

To avoid serious injury and damage to the tool, read and follow all of the Safety and Operating Instructions before operating the machine.

1. Some dust created by using power tools contains 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, cement, and 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.

2. **READ** the entire Owner's Manual. **LEARN** how to use the tool for its intended applications.

3. **GROUND ALL TOOLS.** If the tool is supplied with a 3 prong plug, it must be plugged into a 3-contact electrical receptacle. The 3rd prong is used to ground the tool and provide protection against accidental electric shock. **DO NOT** remove the 3rd prong. See Grounding Instructions on the following pages.

4. **AVOID A DANGEROUS WORKING ENVIRONMENT.** **DO NOT** use electrical tools in a damp environment or expose them to rain.

5. **DO NOT** use electrical tools in the presence of flammable liquids or gases.

6. **ALWAYS** keep the work area clean, well lit, and organized. **DO NOT** work in an environment with floor surfaces that are slippery from debris, grease, and wax.

7. **KEEP VISITORS AND CHILDREN AWAY. DO NOT** permit people to be in the immediate work area, especially when the electrical tool is operating.

8. **DO NOT FORCE THE TOOL** to perform an operation for which it was not designed. It will do a safer and higher quality job by only performing operations for which the tool was intended.

9. **WEAR PROPER CLOTHING. DO NOT** wear loose clothing, gloves, neckties, or jewelry. These items can get caught in the machine during operations and pull the operator into the moving parts. The user must wear a protective cover on their hair, if the hair is long, to prevent it from contacting any moving parts.

10. **CHILDPROOF THE WORKSHOP AREA** by removing switch keys, unplugging tools from the electrical receptacles, and using padlocks.

11. **ALWAYS UNPLUG THE TOOL FROM THE ELECTRICAL RECEPTACLE** when making adjustments, changing parts or performing any maintenance.

# SAFETY INSTRUCTIONS

**12. KEEP PROTECTIVE GUARDS IN PLACE AND IN WORKING ORDER.**

**13. AVOID ACCIDENTAL STARTING.** Make sure that the power switch is in the “OFF” position before plugging in the power cord to the electrical receptacle.

**14. REMOVE ALL MAINTENANCE TOOLS** from the immediate area prior to turning “ON” the machine.

**15. USE ONLY RECOMMENDED ACCESSORIES.** Use of incorrect or improper accessories could cause serious injury to the operator and cause damage to the tool. If in doubt, check the instruction manual that comes with that particular accessory.

**16. NEVER LEAVE A RUNNING TOOL UNATTENDED.** Turn the power switch to the “OFF” position. **DO NOT** leave the tool until it has come to a complete stop.

**17. DO NOT STAND ON A TOOL.** Serious injury could result if the tool tips over, or you accidentally contact the tool.

**18. DO NOT** store anything above or near the tool where anyone might try to stand on the tool to reach it.

**19. MAINTAIN YOUR BALANCE. DO NOT** extend yourself over the tool. Wear oil resistant rubber soled shoes. Keep floor clear of debris, grease, and wax.

**20. MAINTAIN TOOLS WITH CARE.** Always keep tools clean and in good working order. Keep all blades and tool bits sharp, dress grinding wheels and change other abrasive accessories when worn.

**21. EACH AND EVERY TIME, CHECK FOR DAMAGED PARTS PRIOR TO USING THE TOOL.** Carefully check all guards to see that they operate properly, are not damaged, and perform their intended functions. Check for alignment, binding or breaking of moving parts. A guard or other part that is damaged should be immediately repaired or replaced.

**22. DO NOT OPERATE TOOL WHILE TIRED, OR UNDER THE INFLUENCE OF DRUGS, MEDICATION OR ALCOHOL.**

**23. SECURE ALL WORK.** Use clamps or jigs to secure the work piece. This is safer than attempting to hold the work piece with your hands.

**24. STAY ALERT, WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE WHEN OPERATING A POWER TOOL.**

A moment of inattention while operating power tools may result in serious personal injury.

**25. ALWAYS WEAR A DUST MASK TO PREVENT INHALING DANGEROUS DUST OR AIRBORNE PARTICLES,** including wood dust, crystalline silica dust and asbestos dust. Direct particles away from face and body. Always operate tool in well ventilated area and provide for proper dust removal. Use dust collection system wherever possible. Exposure to the dust may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. Allowing dust to get into your mouth or eyes, or lay on your skin may promote absorption of harmful material. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

**26. USE A PROPER EXTENSION CORD IN GOOD CONDITION.** When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. The table on the following page shows the correct size to use depending on cord length and nameplate amperage rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the larger diameter of the extension cord. If in doubt of the proper size of an extension cord, use a shorter and thicker cord. An undersized cord will cause a drop in line voltage resulting in a loss of power and overheating.  
**USE ONLY A 3-WIRE EXTENSION CORD THAT HAS A 3-PRONG GROUNDING PLUG AND A 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL’S PLUG.**

**27. ADDITIONAL INFORMATION** regarding the safe and proper operation of this product is available from:

- Power Tool Institute  
1300 Summer Avenue  
Cleveland, OH 44115-2851  
[www.powertoolinstitute.org](http://www.powertoolinstitute.org)
- National Safety Council  
1121 Spring Lake Drive  
Itasca, IL 60143-3201  
[www.nsc.org](http://www.nsc.org)
- American National Standards Institute  
25 West 43rd Street, 4th Floor  
New York, NY 10036  
[www.ansi.org](http://www.ansi.org)
- ANSI 01.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor regulations  
[www.osha.gov](http://www.osha.gov)

**28. SAVE THESE INSTRUCTIONS.** Refer to them frequently and use them to instruct others.

# SAFETY INSTRUCTIONS

## ELECTRICAL SAFETY

**⚠ WARNING:** THIS TOOL MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

**IN THE EVENT OF A MALFUNCTION OR BREAKDOWN,** grounding provides the 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 requires a grounding plug (not included). The plug **MUST** be plugged into a matching electrical receptacle that is properly installed and grounded in accordance with **ALL** local codes and ordinances.

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

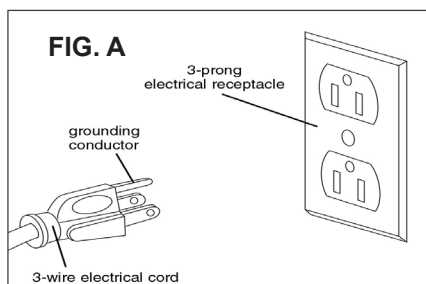
**IMPROPER ELECTRICAL CONNECTION** of the equipment grounding conductor can result in risk of electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment grounding conductor. **DO NOT** connect the equipment grounding conductor to a live terminal if repair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

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

**USE ONLY A 3-WIRE EXTENSION CORD THAT HAS THE PROPER TYPE OF A 3-PRONG GROUNDING PLUG THAT MATCHES THE MACHINE'S 3-PRONG PLUG AND ALSO THE 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL'S PLUG. \***

**REPLACE A DAMAGED OR WORN CORD IMMEDIATELY.**

This tool is intended for use on a circuit that has an electrical receptacle as shown in **FIGURE A**. It shows a 3-wire electrical plug and electrical receptacle that has a grounding conductor. If a properly grounded electrical receptacle is not available, an adapter as shown in **FIGURE B** can be used to temporarily connect this plug to a 2-contact ungrounded receptacle. The adapter has a rigid lug extending from it that **MUST** be connected to a permanent earth ground, such as a properly grounded receptacle box. **THIS ADAPTER IS PROHIBITED IN CANADA.**



## EXTENSION CORDS

**⚠ WARNING:** THE USE OF AN EXTENSION CORD WITH THIS MACHINE IS NOT RECOMMENDED. For best power and safety, plug the machine directly into a dedicated, grounded electrical outlet that is within the supplied cord length of the machine.

If an extension cord needs to be used, it should only be for a limited operation of the machine. The extension cord should be as short as possible in length, and have a minimum gauge size of 14AWG.

**⚠ WARNING:** Check extension cords before each use. If damaged replace immediately. Never use a tool with a damaged cord, since touching the damaged area could cause electrical shock, resulting in serious injury.

Use a proper extension cord. Only use cords listed by Underwriters Laboratories (UL). Other extension cords can cause a drop in line voltage, resulting in a loss of power and overheating of tool. When operating a power tool outdoors, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

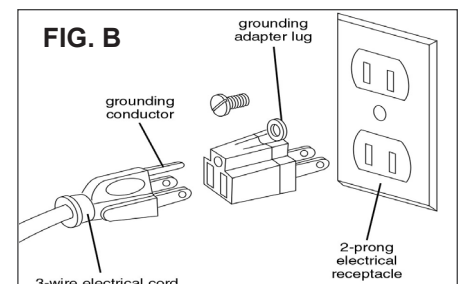
### MINIMUM RECOMMENDED GAUGE FOR EXTENSION CORDS (AWG)

120 VOLT OPERATION ONLY				
	25' LONG	50' LONG	100' LONG	150' LONG
0 to 6 Amps	18 AWG	16 AWG	16 AWG	14 AWG
6 to 10 Amps	18 AWG	16 AWG	14 AWG	12 AWG
10 to 12 Amps	16 AWG	16 AWG	14 AWG	12 AWG

**⚠ WARNING:** Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with your power tool.

\* Canadian electrical codes require extension cords to be certified SJT type or better.

\*\* The use of an adapter in Canada is not acceptable.





# SAFETY INSTRUCTIONS

## SPECIFIC SAFETY INSTRUCTIONS FOR SANDERS

This machine is intended for the surfacing of natural, solid woods and composite materials. Any other use not as specified, including modification of the machine or use of parts not tested and approved by the equipment manufacturer can cause unforeseen damage, and invalidate the warranty.

**ATTENTION:** Use of this sander still presents risks that cannot be eliminated by the manufacturer. Therefore, the user must be aware that wood working machines are dangerous if not used with care and all safety precautions are adhered to.

1. Do not operate this machine until you have read all of the following instructions.
2. Do not attempt to operate this machine until it is completely assembled.
3. Do not turn ON this machine if any pieces are damaged or missing.
4. This machine must be properly grounded.
5. If you are not familiar with the operation of the machine, obtain assistance from a qualified person.
6. It is highly recommended that this machine be firmly mounted to a flat and secure work surface or stand.
7. Always wear protective eyewear prior to operating this machine.
8. Always wear a dust mask and use adequate dust collection and proper ventilation. Use of sanders can produce harmful particles while sanding certain types of woods.
9. Do not wear loose clothing or jewelry when operating this machine. Keep long hair tied back.
10. Always make sure the power switch is in the OFF position prior to plugging in the machine.
11. Always make sure the power switch is in the OFF position when doing any assembly or setup operation.
12. Make sure all safety guards and hardware are securely tightened before operating the machine.
13. The use of any accessories or attachments not recommended may cause injury to you and damage your machine.
14. Abrasive discs and belts should be the recommended width and length of the manufacturer.
15. Replace worn, frayed or torn abrasives, as injury to the user, or the machine, may result.
16. Always keep your face and hands clear of moving parts such as belts, discs and pulleys.
17. Keep power supply cords free of moving parts of the sander. Damaged cords can result in electric shock.
18. Maintain a minimal gap clearance (1/16" or less) between the sanding disc or the sanding belt and their tables.
19. Always support the workpiece with the table or backstop during sanding.
20. Carefully feed work into the rotating sanding belt, or disc, on the downward direction, so that the abrasive action pushes the work down onto the tables where it can be controlled.
21. Do not force the work into the abrasives, as burning of the wood or stalling of the machine may result.
22. Remove material or debris from the work area. Keep work area neat and clean.

**SAVE THESE INSTRUCTIONS. Refer to them often.**

**This owner's manual is not a teaching aid and is intended to show assembly, adjustments, and general use.**

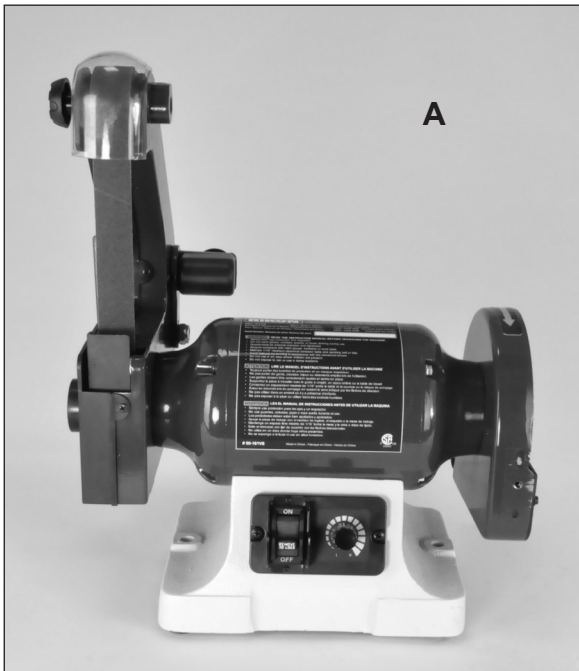
**CALIFORNIA PROPOSITION 65 WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Your risk from exposure to these chemicals varies, depending on how often you do this type of work. To reduce your exposure, work in a well-ventilated area and with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

For more detailed information about California Proposition 65 log onto [rikontools.com](http://rikontools.com).

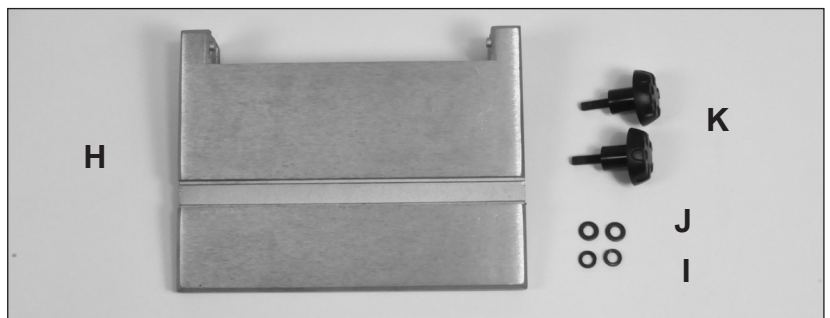
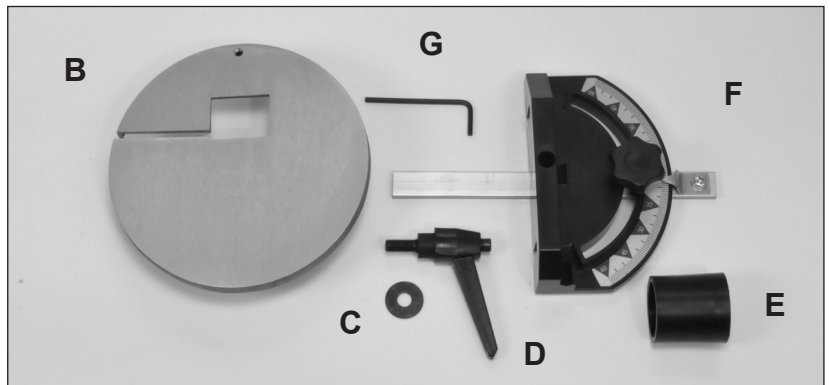
# CONTENTS OF PACKAGE

## UNPACKING AND CLEAN-UP

1. Carefully remove all contents from the shipping carton. Compare the contents with the list of contents to make sure that all of the items are accounted for, before discarding any packing material. Place parts on a protected surface for easy identification and assembly. If any parts are missing or broken, please call RIKON Customer Service (877-884-5167) as soon as possible for replacements. DO NOT turn your machine ON if any of these items are missing. You may cause injury to yourself or damage to the machine.
2. Report any shipping damage to your local distributor. Take photographs for any possible insurance claims.
3. Clean all rust protected surfaces with ordinary house hold type grease or spot remover. Do not use; gasoline, paint thinner, mineral spirits, etc. These may damage painted surfaces.
4. Apply a coat of paste wax to the table to prevent rust. Wipe all parts thoroughly with a clean dry cloth.
5. Set packing material and shipping carton aside. Do not discard until the machine has been set up and is running properly.



**TABLE OF LOOSE PARTS**

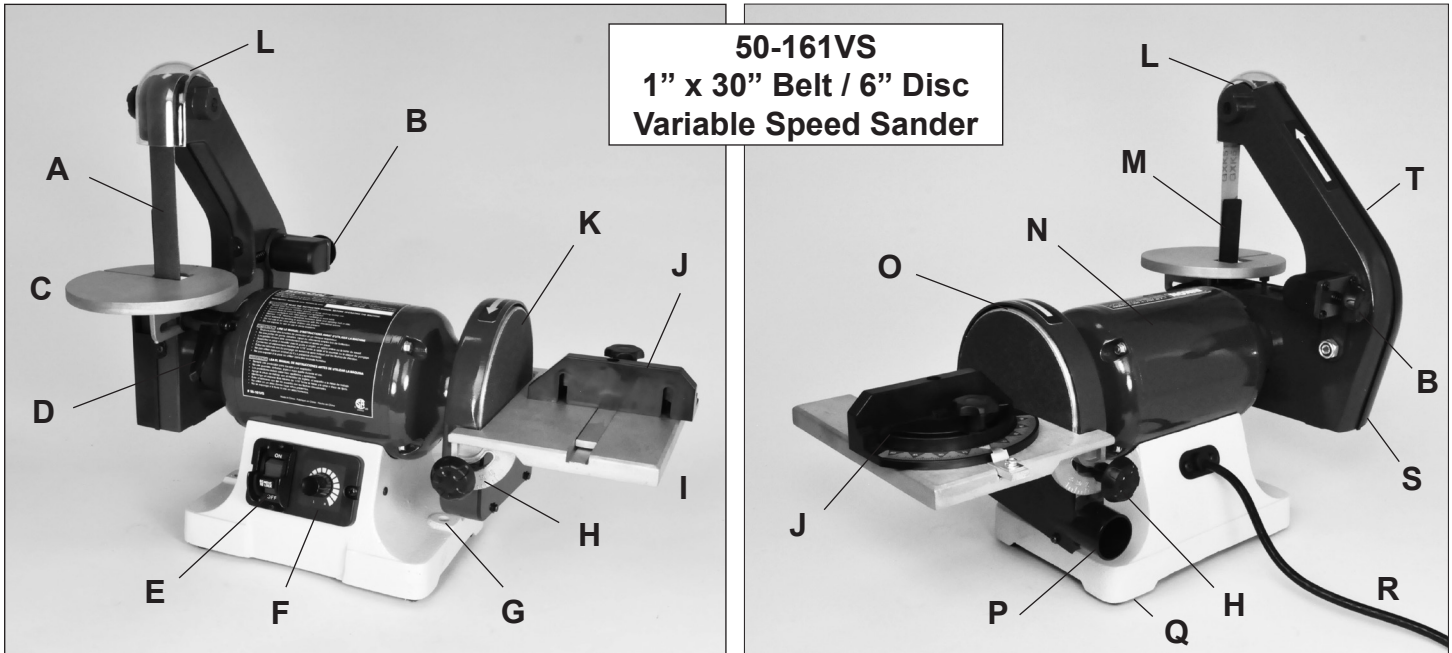


- A. Belt & Disc Sander Assembly
- B. Sanding Belt Table
- C. Washer 8mm
- D. Lever Handle for Sanding Belt Table
- E. Dust Nozzle Adapter (1-1/2" O.D., 1-1/4" I.D.)
- F. Miter Gauge

- G. Hex Wrench 3mm
- H. Sanding Disc Table
- I. Spring Washers 6mm (2)
- J. Washers 6mm (2)
- K. Locking Handles for Sanding Disc Table (2)
- L. Manual & Warranty Card (not shown)

**See pages 17 - 19 for the full Parts Diagram and Parts List**

## GETTING TO KNOW YOUR SANDER



**50-161VS**  
**1" x 30" Belt / 6" Disc**  
**Variable Speed Sander**

- A. Sanding Belt 1" x 30"
- B. Sanding Belt Tracking Knob
- C. Sanding Belt Table
- D. Sanding Belt Table Lock Handle
- E. ON/OFF Safety Switch
- F. Speed Control Switch
- G. Mounting Hole in Base
- H. Disc Table Angle Scale & Lock Knob
- I. Sanding Disc Table
- J. Miter Gauge

- K. Sanding Disc 6" (PSA)
- L. Sanding Belt Safety Cover
- M. Platen for Sanding Belt
- N. Motor
- O. Sanding Disc Aluminum Disc
- P. Sanding Disc Guard & Dust Port
- Q. Rubber Machine Feet (4)
- R. Power Cord 120V
- S. Sanding Belt Dust Port (not shown)
- T. Sanding Belt Guard

## INSTALLATION

### MOVING & INSTALLING THE SANDER

**CAUTION** When moving the sander, lift the machine with your hands positioned under the motor ends or belt and disc housings. DO NOT carry or move it using the attached work tables.

1. The machine should be firmly bolted to a stand or solid, level workbench to avoid any movement of the machine during use. The sander's base has holes for this purpose (mounting hardware is not included).

For portability and secure clamping of the sander to a workbench, the machine can be first permanently

bolted to a piece of plywood. Then the sander can be positioned on your workbench, or other solid surface, and the plywood can be clamped in place to secure the sander for use. After use, the plywood can be unclamped and the sander stored for future use.

2. When positioning the machine for work, locate it in an area that has ample space around the sander for the moving of projects to be sanded. Align the machine so that it will not face aisles, doorways, or other work areas that bystanders may be in. Do not locate or use the machine in damp or wet conditions. Use a Dust Collector to capture the fine dust that is created when sanding. See the safety instructions.

## ASSEMBLY

### Tools Required for Assembly:

- Hex Wrench 3mm
- #2 Phillips Screwdriver (not supplied)



# ASSEMBLY

**⚠ WARNING** THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL FULL ASSEMBLY AND ALL ADJUSTMENTS ARE COMPLETE.

## MOUNTING THE SANDER TO A WORKBENCH

**CAUTION:** If during operation there is any tendency for the sander to tip over, slide or walk on the supporting surface, the sander should be properly mounted to a workbench or stand, and at a suitable, safe height for your sanding work to be carried out.

1. Rubber feet are fastened to this sander prior to shipping. They may, or may not, be used when attaching the sander to a bench or stand.
2. Position the sander on the workbench.
3. Mark the workbench through the two mounting holes located in the left and right sides of the sander base (between the holes for rubber feet).
4. Drill holes in the workbench at the 2 marks.
5. Using long bolts, washers, lock-washers and nuts; or lag bolts; (fasteners not supplied), secure the sander to the workbench. FIG. A.

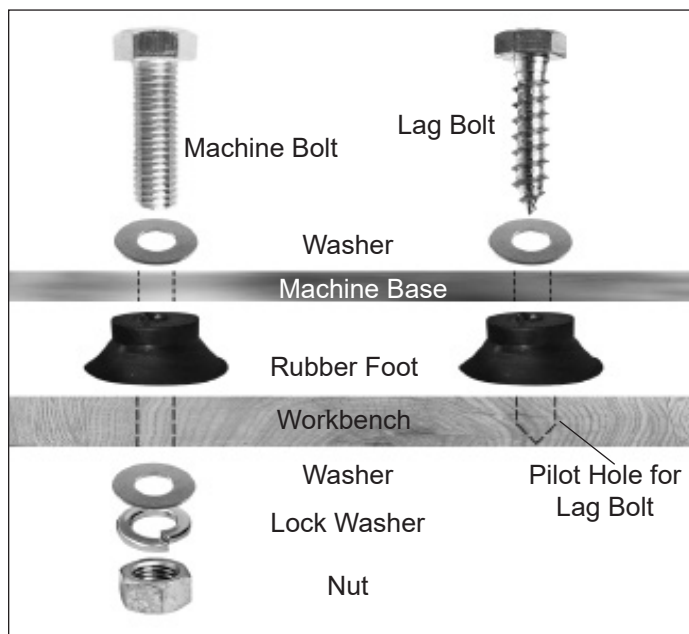


FIG. A

## DUST CHUTE INSTALLATION – DISC SANDER

1. If not already pre-assembled by the factory, fasten the sanding disc dust chute and cover (Part #36) to the machine using the four Phillips M4 screws and washers (#37). FIG. B.

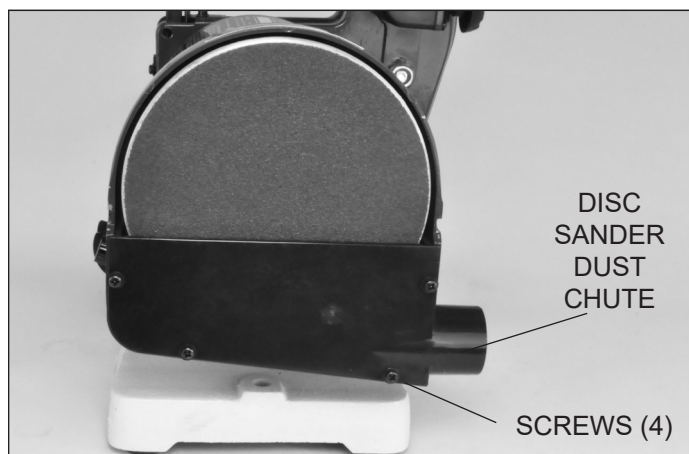


FIG. B

## ASSEMBLING THE BELT SANDER TABLE

**⚠ WARNING:** When assembling the belt & disc sander, ensure the machine is disconnected from any power source.

1. Locate the round shaped belt-sanding table (#62).
2. Position the table by threading the belt and plate through the table's slot and square opening.
3. Fasten the table to the frame by using the table-adjustment knob and 8mm washer (#63, 64). FIG. C.
4. Bring the adjustment knob's screw through the slot in the bracket opening on the underside of the table, then into the threaded hole in the frame that houses the hex nut (#58).
5. Fasten the table in place by using the adjustment handle to turn its integral screw into the nut.

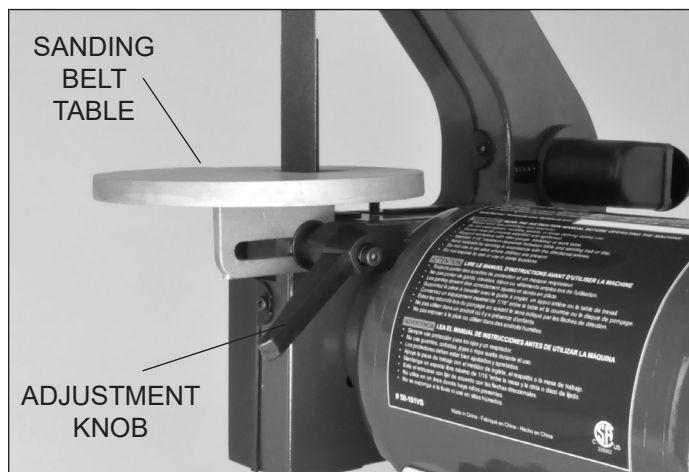


FIG. C

# ASSEMBLY & ADJUSTMENTS

## ASSEMBLING THE SANDING DISC TABLE

1. Attach the disc-sanding table (#38) to the sanding disc guard (#16) by tipping the table up, and slide the two small nipples extending from the rectangular mouth of the table, onto the 2 'L' mounting slots in the sides of the disc sander guide's frame. FIG. D.
2. Align the two screw holes in the guard with the arched slots above the angle gauges, so that the knobs & washers (#39, 95, 94) will travel through the angle-gauge openings on either side of the disc and into the mounting holes on the disc sander.
3. Using the disc-table adjustment handles, fasten the table to the sander.
4. When required for sanding small parts or for sanding to specific angles, use the miter gauge which slides in the slot that is in the disc-sanding table.

## BELT TABLE ADJUSTMENTS

For most sanding operations, the table will likely remain at a 90° angle to the belt. A positive stop is provided with your sander to ensure fast positioning of the table at 90 degrees to the belt. To ensure and check the positive-stop 90° angle, proceed as follows:

1. Loosen the table-locking lever / knob (#63).
2. Tilt the table back to the rear as far as possible.
3. Using a square or protractor, measure the angle of the table against the platen (#84). FIG. E. To adjust the table angle to ensure a 90° angle, turn the table's rear adjustment screw (#61) as needed, and once the 90° is setting is found, lock it in place with the hex nut (#60), that is under the table.
4. To set the table to a different angle, tilt the table forward until it is at the required angle. FIG. F.
5. Tighten the table-locking lever to lock the table in position for sanding.

**NOTE:** To get the full range of table angling, the table-locking handle lever must be very loose, so that it slides along the slot in the table bracket. The table can then be moved back to get maximum angles.

## INSTALLING & CHANGING SANDING DISCS

### DISC TABLE ADJUSTMENTS

1. To check the trueness of the 90° angle of the disc-sanding table, place a square or other measuring device on the table with the other end against the sanding disc. FIG. G, page 11.

**⚠ WARNING** THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL FULL ASSEMBLY AND ALL ADJUSTMENTS ARE COMPLETE.

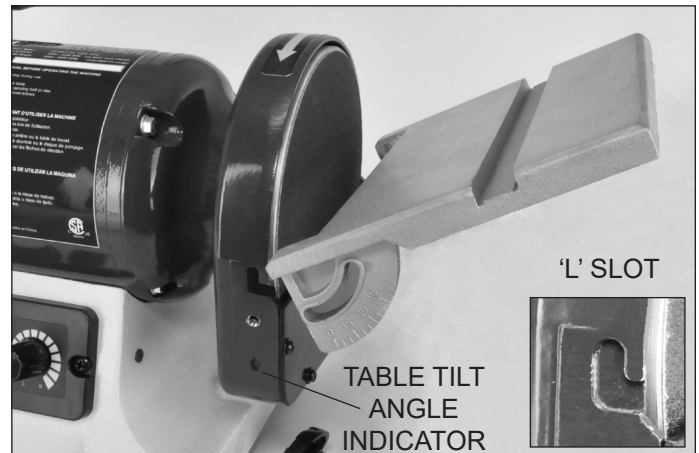


FIG. D

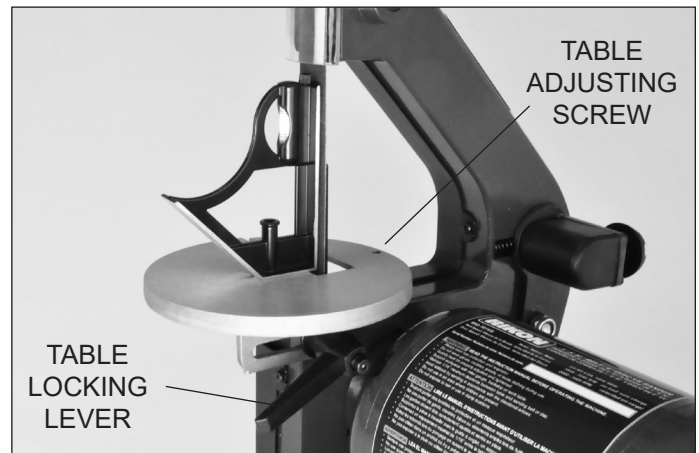


FIG. E

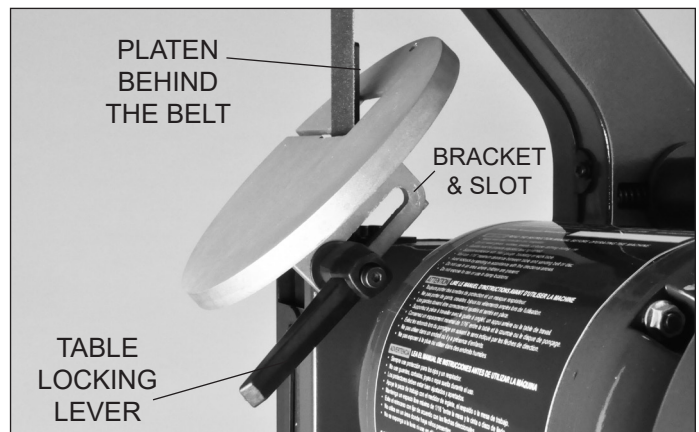


FIG. F

# ADJUSTMENTS

## DISC TABLE ADJUSTMENTS - continued

2. Loosen the 2 disc-table adjustment handles (#39), and adjust table angle to 90°.
3. Re-tighten the 2 disc-table adjustment handles.
4. To adjust the disc-table to another angle, loosen the 2 disc-table adjustment handles.
5. Set the table at the desired angle. FIG. H.
6. Re-tighten the 2 disc-table adjustment handles.

## CHANGING THE SANDING DISC

**NOTE:** Hook & Loop sanding discs cannot be used with this sander! Only 6" sanding discs with pressure sensitive adhesive (PSA) backing can be used.

The sandpaper disc can be removed with the table installed or with the table removed to give more working access to the disc, if needed.

### DISC CHANGING WITH THE TABLE IN PLACE:

1. Angling the disc table down will reveal more of the sanding disc and make removing the disc easier.
2. Peel the used abrasive disc from the metal sanding disc plate. A putty knife and hair dryer may help in this process. FIG. I.
3. Make sure that the disc plate is clean of any residue. Mineral spirits will soften the PSA adhesives for its removal. Rotate the disc by hand may be necessary to get access to all of the disc surface.
4. Peel the protective backing from the new PSA 6" abrasive sanding disc, then center and press the sanding disc firmly onto the disc plate.

### DISC CHANGING WITH THE TABLE REMOVED:

1. Remove and set aside the miter gauge.
2. Completely remove the 2 disc-table adjustment handles and washers (#39, 95, 94).
3. Tip the table up and remove it from the guard frame by slipping the table back out of the slots in the guard.
4. Peel the used abrasive disc from the metal sanding disc plate. A putty knife and hair dryer may help in this process. FIG. I.
5. Make sure that the disc plate is clean of any residue. Mineral spirits will soften the PSA adhesives for its removal. Rotate the disc by hand may be necessary to get access to all of the disc surface.
6. Peel the protective backing from new sanding disc.
7. Center and press the new PSA sanding disc firmly onto the disc-plate.
8. Replace the sanding table and handles that were removed in step 2 (above).

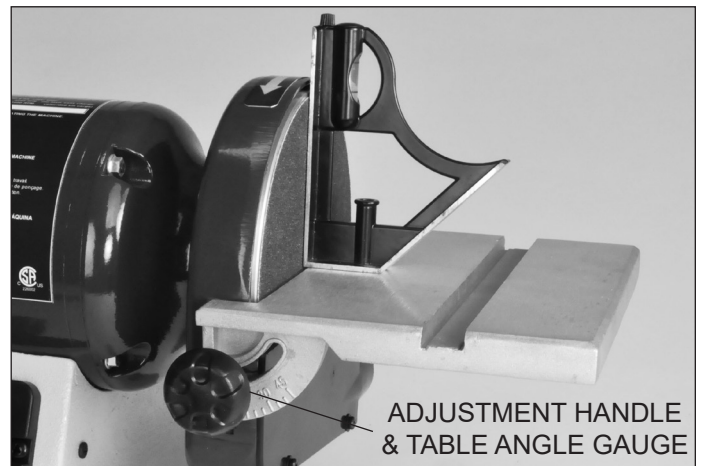


FIG. G

**WARNING** THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL FULL ASSEMBLY AND ALL ADJUSTMENTS ARE COMPLETE.



FIG. H



FIG. I



# ADJUSTMENTS

## INSTALLING & CHANGING SANDING BELTS

### SANDING BELT REMOVAL:

1. Remove the top lock-knob (#52), clear plastic belt guard (#53), and three Phillips screws (#37) that secure the side cover (#54) to the sander's frame.
2. Remove the side cover.
3. Loosen the rear tracking knob (#80) to release the belt tension. FIG. J.

**NOTE:** the whole spring-loaded tracking knob assembly can be moved/pulled forward to assist in removing or installing the belt over the last rear idler wheel.

4. Remove the belt from the three wheels.

### SANDING BELT INSTALLATION:

5. Install the new belt around the top wheel, the large drive wheel, and then the rear idler wheel.
6. Replace the side cover and re-install the 3 Phillips screws, clear top guard and lock-knob.
7. Before using, check the belt tracking as described in "Belt Tracking" section, and adjust as necessary.

### BELT TRACKING

The belt-tracking adjustment is set at the factory so that the abrasive belt will run true on the pulleys. If, however, the belt should track to one side or the other, an adjustment can be made by turning the tracking knob (#80), which is located on the back side of the machine. FIG. J.

- Turning the knob *clockwise* will cause the belt to track to the right, towards the sander's frame.
- Turning the knob *counterclockwise* will cause the belt to track to the left, towards the side guard.

### BELT SANDER PLATEN

The platen (# 84) is a heavy steel support plate that is positioned behind the sanding belt, rising from the table level to a point several inches above the table surface. Its purpose is to support the belt when sanding. The platen should be adjusted so that it is almost touching the back of the sanding belt. This can be done by loosening the two hex screws (#86) that fasten the bottom of the platen to the sander frame. If the platen is out of alignment for some reason, loosen these two screws, adjust the platen, and re-tighten the two screws. FIG. K.

To remove the platen for operations such as curved surface sanding, stropping, polishing or other special operations, remove the two screws that fasten the bottom of the platen to the frame, and remove the platen.

**⚠ WARNING** THE MACHINE MUST NOT BE PLUGGED IN AND THE POWER SWITCH MUST BE IN THE OFF POSITION UNTIL FULL ASSEMBLY AND ALL ADJUSTMENTS ARE COMPLETE.

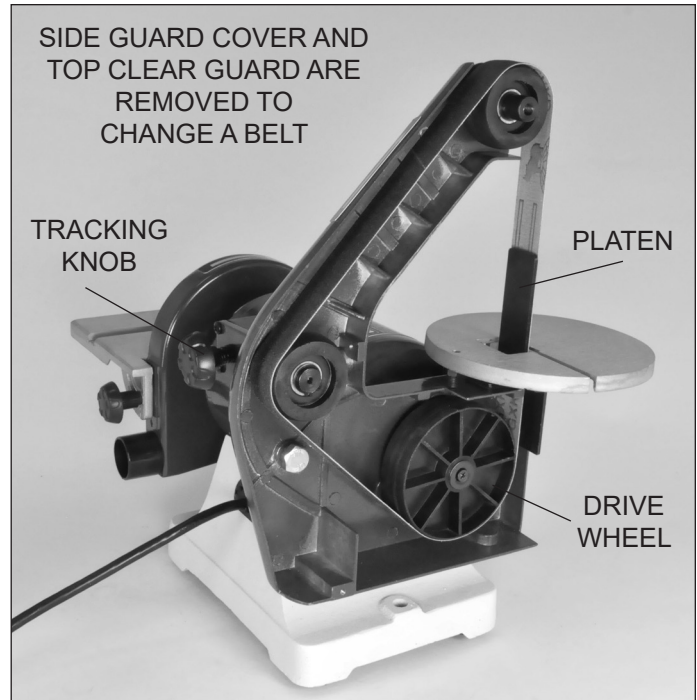


FIG. J

**⚠ CAUTION** Never walk away from sander when machine is running. Always lock the switch in the 'OFF' position and unplug from the power supply when not in use.



FIG. K

## GENERAL USAGE

### ON/OFF & VARIABLE SPEED SWITCHES

1. To start the sander, the Power Switch must be in the "OFF" position and the Variable Speed Switch must be turned to its slowest setting by turning it all the way to the left until solid resistance is felt. FIG. L.
2. Stand to the side of the sander and plug in the power cord to a suitable power source.
3. Remain to the side of the sander and turn it "ON" by moving the power switch to the up position.
4. Allow the sander to come up to a steady speed for at least one minute. The RPM wheel speed can then be increased to the desired speed for the particular sanding job, or material being worked, by rotating the Variable Speed Switch clockwise.
5. Place the work piece flat on the appropriate work table for sanding. Firmly hold onto the work piece to avoid any 'chattering' or unwanted work piece movement that could ruin the project or damage the paper.
6. When turning the sander OFF, also turn the Variable Speed Dial counterclockwise to return the grinder to its slowest RPM setting.
7. Unplug the Sander from the power source.

**NOTE:** To prevent unauthorized use of the sander, the power switch has a removable locking key. With the power switch in the "OFF" position, pull the locking key out. The sander cannot be turned "ON" with the key removed. Insert the locking key back into the power switch to resume sanding operations.

### DUST CHUTES / PORTS

Sanding operations are inherently dusty. To help minimize the amount of dust that escapes into the surrounding air, this sander is equipped with two dust chutes (aka: ports) that can be easily connected to a dust-collection system. FIG. M.

There is one dust chute for the belt-sanding system and another for the disc-sanding system. Attach your dust collector to the proper dust chute according to which sanding mode (belt or disc) is being used.

**NOTE:** A 1-1/2" O.D. / 1-1/4" I.D. nozzle adapter is included with the sander for dust collection with smaller diameter hoses.

### MITER GAUGE

A miter gauge is supplied with your sander, and can be used on the disc table, which has a slot in its design to fit the miter gauge's bar. The miter gauge head can be set anywhere up to 45° (right or left) by loosening the lock-knob, setting the miter gauge head to the desired angle and re-tightening the lock-knob. FIG. N.

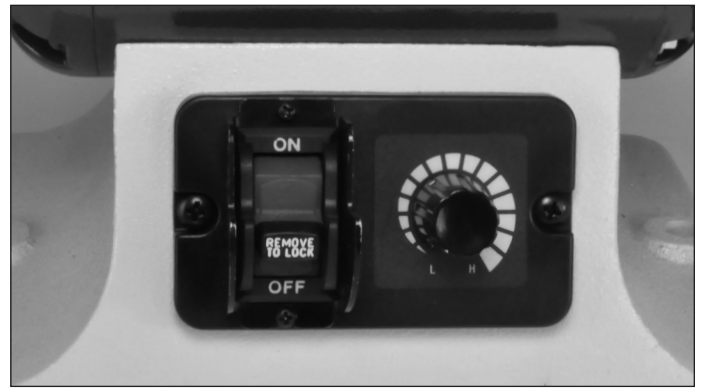


FIG. L

**CAUTION** Never start the machine with work in contact with the sanding belt or disk, or damage to the machine, your project, or personal injury may result from the sudden 'kick-back' of the parts.

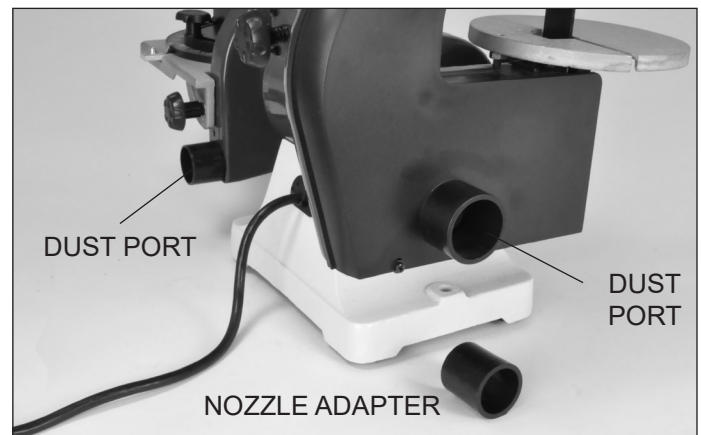


FIG. M

**NOTE:** It is strongly recommended that users employ a dust-collection system when using this belt & disc sander. Use of a mask or respirator is still recommended, even when a dust-collection system is in use.

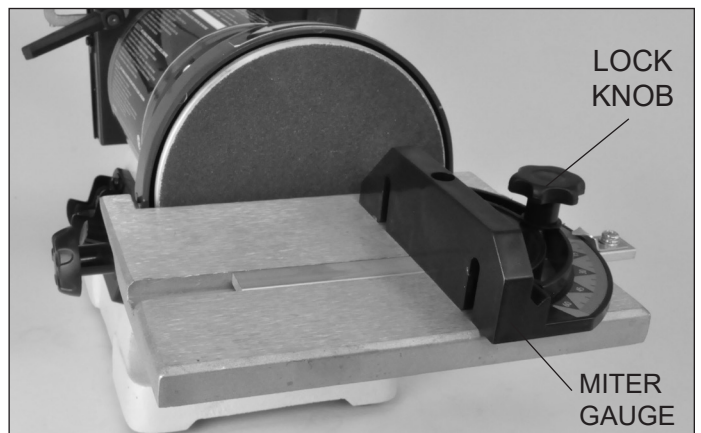


FIG. N



# TROUBLESHOOTING

**Service on these tools should only be performed by an authorized, qualified technician.**

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Motor will not start.	<ol style="list-style-type: none"> <li>1. Low voltage</li> <li>2. Open circuit in motor or loose connections.</li> <li>3. Blown fuse or breaker</li> <li>4. Low Temperature</li> </ol>	<ol style="list-style-type: none"> <li>1. Check power source for proper voltage.</li> <li>2. Inspect all lead connections on motor for loose or open connections. (Send for Servicing.)</li> <li>3. Short circuit. Improper match between tool and circuit, fuse or breaker.</li> <li>4. Start motor at high speed.</li> </ol>
<p>Motor will not start – fuses or circuit breakers tripping or blowing.</p> <p>Motor overheats.</p>	<ol style="list-style-type: none"> <li>1. Short circuit in line, cord or plug.</li> <li>2. Short circuit in motor or loose connections.</li> <li>3. Incorrect fuses or circuit breakers in power line.</li> <li>4. Motor is overloaded.</li> <li>5. Extension cord is too long and of insufficient gauge (weight).</li> <li>6. Poor air circulation around the motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect cord or plug for damaged insulation and shorted wires.</li> <li>2. Inspect all connections on motor for loose or shorted terminals and/or worn insulation.</li> <li>3. Install correct fuses or circuit breakers or switch tool to an appropriately sized circuit.</li> <li>4. Reduce load on motor (pressure on the sandpaper from the object being sanded.)</li> <li>5. Utilize an extension cord of appropriate gauge and length or plug tool directly into outlet.</li> <li>6. Reduce the motor run time.</li> </ol>
Motor stalls or runs slow - resulting in blown fuses or tripped circuit.	<ol style="list-style-type: none"> <li>1. Motor is overloaded.</li> <li>2. Short circuit in the motor or loose connections.</li> <li>3. Low line voltage.</li> <li>4. Incorrect fuses or circuit breakers in the power line.</li> <li>5. Motor capacitor has failed.</li> <li>6. Belt tension is too tight.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce the load on the motor.</li> <li>2. Inspect connections on motor for loose or shorted terminals or worn insulation.</li> <li>3. Correct low voltage conditions (for example: improper extension cord length and/or wire gauge).</li> <li>4. Install <b>CORRECT</b> fuses or circuit breakers or plug tool into an appropriate circuit, matched to an appropriate fuse or breaker.</li> <li>5. Replace motor capacitor.</li> <li>6. Decrease belt tension.</li> </ol>
Machine slows down when operating.	<ol style="list-style-type: none"> <li>1. Feed rate is too great.</li> <li>2. Undersized circuit or use of undersized extension cord.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce the rate at which the work is fed into the sandpaper.</li> <li>2. Ensure circuit wires or extension cords are proper gauge, or eliminate use of extension cords.</li> </ol>
Machine vibrates excessively or makes excess noise.	<ol style="list-style-type: none"> <li>1. Incorrect motor mounting.</li> <li>2. Incorrect sanding-belt tension.</li> <li>3. Weak or broken belt tension spring.</li> <li>4. Idler roller is too loose.</li> <li>5. Broken/defective sanding belt or disc.</li> <li>6. Drive belt is too tight</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure all fasteners are tightened.</li> <li>2. Adjust tension-adjustment knob.</li> <li>3. Replace belt tension spring by service technician.</li> <li>4. Have service technician adjust idler roller.</li> <li>5. Replace sanding belt/disc.</li> <li>6. Decrease belt tension.</li> </ol>

## TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Burn marks on workpiece.	<ol style="list-style-type: none"> <li>1. Using a sanding grit that is too fine.</li> <li>2. Using too much pressure.</li> <li>3. Work held still for too long against the sandpaper.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a coarser-grit sandpaper.</li> <li>2. Reduce work piece pressure on the sandpaper while sanding.</li> <li>3. Do not keep the work piece sanding in one place for too long.</li> </ol>
Deep sanding grooves or scars in work piece.	<ol style="list-style-type: none"> <li>1. Sanding belt/disc grit is too coarse for the desired finish.</li> <li>2. Work piece is being sanded across the grain.</li> <li>3. Too much sanding force on the work piece.</li> <li>4. Work piece held still against the belt-disc for too long.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a finer-grit sanding belt or disc.</li> <li>2. Sand with the grain of the wood.</li> <li>3. Reduce pressure on workpiece while sanding.</li> <li>4. Keep work piece moving while sanding.</li> </ol>
Sanding surface clogs quickly	<ol style="list-style-type: none"> <li>1. Too much pressure against the belt or disc.</li> <li>2. Sanding softwood or highly resinous woods.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce pressure on work piece while sanding.</li> <li>2. Use different stock, sanding grits, or accept that this will happen and plan on cleaning or replacing belts &amp; discs frequently.</li> </ol>
Sanding grains easily rub off the belt or disc.	<ol style="list-style-type: none"> <li>1. Sandpaper has been stored in an incorrect environment.</li> <li>2. Sandpaper has been damaged or folded.</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure sandpaper is stored away from extremely hot &amp; dry or damp/humid conditions.</li> <li>2. Store sanding accessories flat – not bent or folded.</li> </ol>
Workpiece lifts up from the sanding disc-table.	<ol style="list-style-type: none"> <li>1. Sanding on the “up” , right side of the disc, where rotation is up and away from the table.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sand on left side of sanding disc, where the disc rotates down towards the table.</li> </ol>

## MAINTENANCE

**⚠ WARNING:** Turn the power switch “OFF” and disconnect the plug from the outlet prior to adjusting or maintaining the sander. DO NOT attempt to repair or maintain the electrical components of the motor. Take the sander to a qualified service technician for this type of maintenance.

### MAINTENANCE REQUIRED

1. Check the power cord for any damage.
2. Check sanding belts and discs for damage.
3. Check all guards and hardware to make sure they are secure.
4. Check all moving parts for alignment and binding issues.
4. Dress/Clean sanding surfaces for best abrasive action.
5. Replace sanding belts or discs when worn or damaged.
6. Clean and vacuum dust from the motor housing and other sander parts.

### FREQUENCY

- Before each use.  
 Before each use.  
 Before each use.  
 Before each use.  
 As needed  
 As needed.  
 As needed.

**Service beyond recommended maintenance on these tools should only be performed by an authorized, qualified technician.**

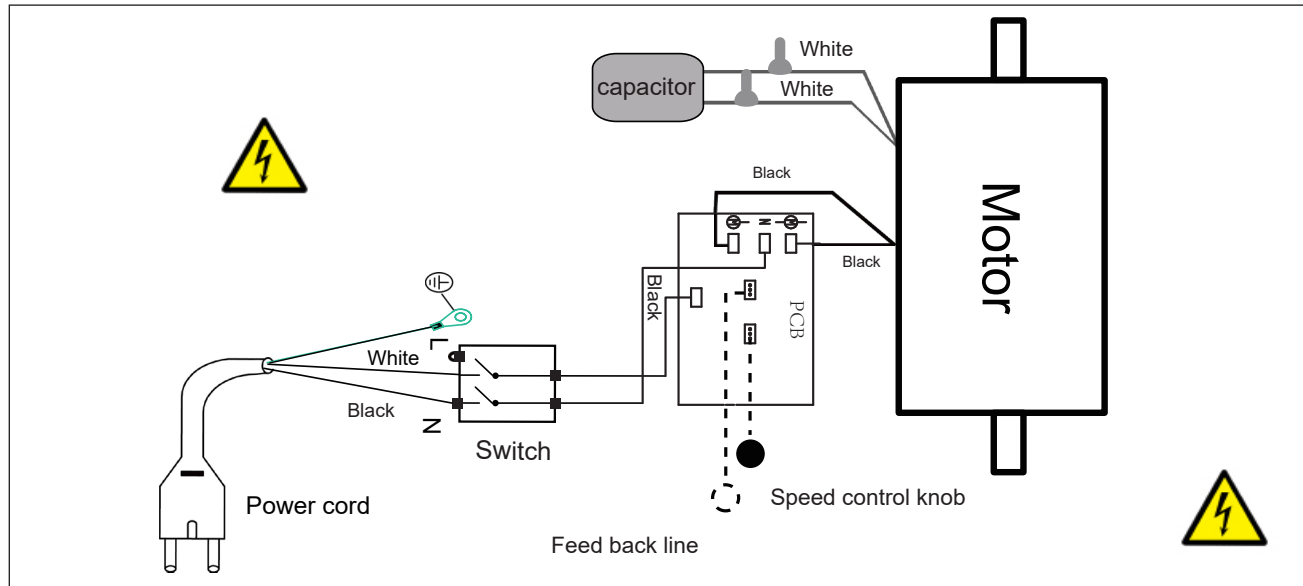
## WIRING DIAGRAM



### WARNING:

This machine must be grounded. Replacement of the power supply cable should only be done by a qualified electrician. See page 5 for additional electrical information.

This tool is intended for use on a circuit that has a 120 volt electrical receptacle. The illustration on page 5 shows the type of 120V, 3-wire electrical plug and receptacle that has a grounding conductor that is required.



## WARRANTY

# RIKON

POWER TOOLS

## 5-Year Limited Warranty

RIKON Power Tools Inc. ("Seller") warrants to only the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship for a period of five (5) years from the date the product was purchased at retail. This warranty may not be transferred.

This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs, alterations, lack of maintenance or normal wear and tear. Under no circumstances will Seller be liable for incidental or consequential damages resulting from defective products. All other warranties, expressed or implied, whether of merchantability, fitness for purpose, or otherwise are expressly disclaimed by Seller. This five-year warranty does not cover products used for commercial, industrial or educational purposes. The warranty term for these claims will be limited to a two-year period.

This limited warranty does not apply to accessory items such as blades, drill bits, sanding discs, grinding wheels, belts, guide bearings and other related items.

Seller shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special, or consequential damages arising from the use of our products.

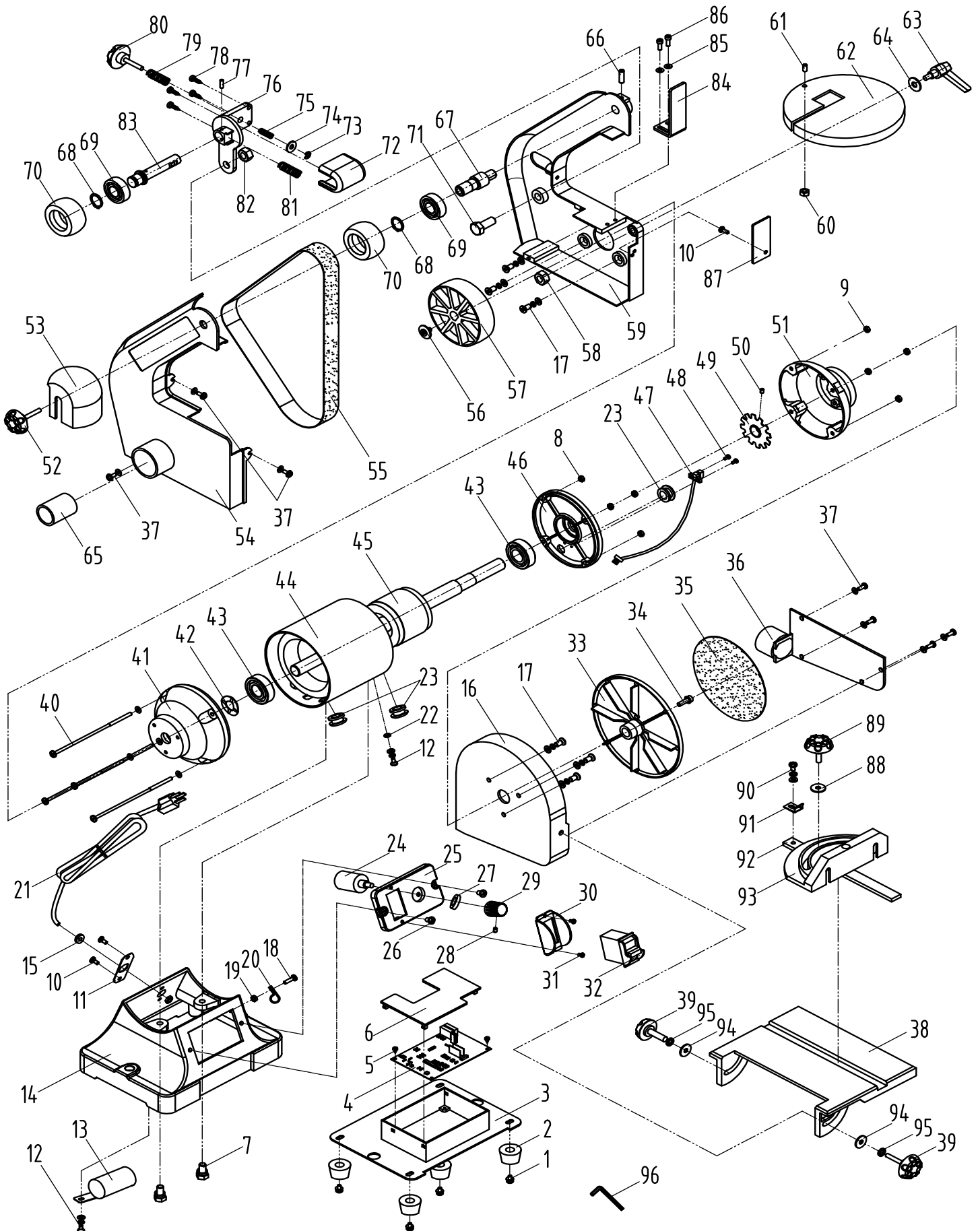
To take advantage of this warranty, proof of purchase documentation must be provided which has the date of purchase and an explanation of the complaint.

The Seller reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

To take advantage of this warranty, please fill out the enclosed warranty card and send it to:  
RIKON Warranty, 16 Progress Rd., Billerica, MA 01821

The card must be entirely completed in order for it to be valid. If you have any questions please contact us at 877-884-5167 or [warranty@rikontools.com](mailto:warranty@rikontools.com).

# PARTS DIAGRAM



# PARTS LIST

KEY NO.	DESCRIPTION	QTY.	PART NO.
1	Phillips screw+flat washer M5x16	4	P50-161VS-1
2	Rubber foot	4	P50-161VS-2
3	Bottom plate	1	P50-161VS-3
4	PCB	1	P50-161VS-4
5	Phillips screw ST2.9x5	2	P50-161VS-5
6	PCB plate	1	P50-161VS-6
7	Hex bolt+spring washer M8x22	2	P50-161VS-7
8	Hex screw M5	4	P50-161VS-8
9	Hex screw M5	4	P50-161VS-9
10	Phillips screw M4x8	3	P50-161VS-10
11	Cord fixing plate	1	P50-161VS-11
12	Phillips screw+spring & flat washer M4x8	2	P50-161VS-12
13	Capacitor	1	P50-161VS-13
14	Base	1	P50-161VS-14
15	Cord clip	1	P50-161VS-15
16	Disc guard	1	P50-161VS-16
17	Phillips screw+spring & washer M5x12	6	P50-161VS-17
18	Phillips screw M4x16	1	P50-161VS-18
19	Hex nut M4	1	P50-161VS-19
20	Fastening screw 3/16"	1	P50-161VS-20
21	Power cord	1	P50-161VS-21
22	Outer toothed locking washer $\phi$ 4	1	P50-161VS-22
23	Cord bushing	3	P50-161VS-23
24	Potentiometer	1	P50-161VS-24
25	Switch plate	1	P50-161VS-25
26	Phillips screw M5x8	2	P50-161VS-26
27	Rubber washer	1	P50-161VS-27
28	Hex screw	1	P50-161VS-28
29	Variable speed knob	1	P50-161VS-29
30	Switch cover	1	P50-161VS-30
31	Phillips screw M3x10	2	P50-161VS-31
32	Locking switch	1	P50-161VS-32
33	Aluminum disc	1	P50-161VS-33
34	Hex screw+washer M6x16	1	P50-161VS-34
35	Sandpaper disc 6" 80 grit	1	P50-161VS-35
36	Disc cover	1	P50-161VS-36
37	Phillips screw+flat washer M4x8	7	P50-161VS-37
38	Work table	1	P50-161VS-38
39	Work table locking knob	2	P50-161VS-39
40	Phillips screw+flat washer M5x160	4	P50-161VS-40
41	Left end cap	1	P50-161VS-41
42	Wavy washer D40	1	P50-161VS-42
43	Ball bearing 6203RZ	2	P50-161VS-43
44	Stator	1	P50-161VS-44
45	Rotor	1	P50-161VS-45
46	Right end cap	1	P50-161VS-46
47	Feedback line	1	P50-161VS-47
48	Phillips screw M2.5x6	2	P50-161VS-48
49	Feedback plate	1	P50-161VS-49
50	Hex screw M5x6	1	P50-161VS-50
51	Right guard cover	1	P50-161VS-51
52	Locking knob	1	P50-161VS-52
53	Belt cover	1	P50-161VS-53
54	Belt support cover	1	P50-161VS-54
55	Sanding Belt 1" x 60" 100 grit	1	P50-161VS-55

**NOTE:** Please reference the Manufacturer's Part Number when calling for Replacement Parts.  
 For Parts under Warranty, the Serial Number of your machine is required.



# PARTS LIST

KEY NO.	DESCRIPTION	QTY.	PART NO.
56	Phillips screw+lock washer M5x16 left	1	P50-161VS-56
57	Drive wheel	1	P50-161VS-57
58	Hex nut M8	1	P50-161VS-58
59	Belt support	1	P50-161VS-59
60	Hex nut M6	1	P50-161VS-60
61	Hex screw M6x20	1	P50-161VS-61
62	Belt work table	1	P50-161VS-62
63	Locking knob	1	P50-161VS-63
64	Big flat washer $\phi$ 8	1	P50-161VS-64
65	Dust port adapter	1	P50-161VS-65
66	Hex screw M6x8	1	P50-161VS-66
67	Idler shaft	1	P50-161VS-67
68	Washer for shaft $\phi$ 15	2	P50-161VS-68
69	Ball bearing 6202RZ	2	P50-161VS-69
70	Idler pulley	2	P50-161VS-70
71	Hex bolt M10x25	1	P50-161VS-71
72	Adjusting cover	1	P50-161VS-72
73	Opening washer $\phi$ 3.5	1	P50-161VS-73
74	Flat washer $\phi$ 5	1	P50-161VS-74
75	Adjusting spring II	1	P50-161VS-75
76	Adjusting fixing plate	1	P50-161VS-76
77	Spring pin 3x20	1	P50-161VS-77
78	Phillips screw 4.2x16	4	P50-161VS-78
79	Adjusting spring I	1	P50-161VS-79
80	Adjusting handle	1	P50-161VS-80
81	Adjusting spring	1	P50-161VS-81
82	Locking nut M10	1	P50-161VS-82
83	Adjusting shaft	1	P50-161VS-83
84	Belt work rest	1	P50-161VS-84
85	Flat washer $\phi$ 4	2	P50-161VS-85
86	Hex bolt M4x10	2	P50-161VS-86
87	Belt guard plate	1	P50-161VS-87
88	Big flat washer $\phi$ 6	1	P50-161VS-88
89	Miter gauge knob	1	P50-161VS-89
90	Phillips screw+spring & flat washer M5x8	1	P50-161VS-90
91	Miter gauge pointer	1	P50-161VS-91
92	Slide bar	1	P50-161VS-92
93	Miter gauge	1	P50-161VS-93
94	Flat washer $\phi$ 6	2	P50-161VS-94
95	Spring washer $\phi$ 6	2	P50-161VS-95
96	Hex wrench 3mm	1	P50-161VS-96

# ACCESSORIES

## SANDING BELTS

1" x 30" Aluminum Oxide

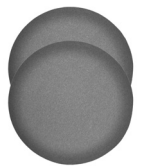


<b>50-9080</b>	80 Grit	Pack of 10
<b>50-9120</b>	120 Grit	Pack of 10
<b>50-9150</b>	150 Grit	Pack of 10
<b>50-9180</b>	180 Grit	Pack of 10
<b>50-9220</b>	220 Grit	Pack of 10
<b>50-9999</b>	Assortment	Pack of 10

2 each 5 grits

## SANDING DISCS

6" Diameter, PSA, Aluminum Oxide



<b>50-6080D</b>	80 Grit	Pack of 2
<b>50-6120D</b>	120 Grit	Pack of 2
<b>50-6150D</b>	150 Grit	Pack of 2
<b>50-6180D</b>	180 Grit	Pack of 2
<b>50-6220D</b>	220 Grit	Pack of 2
<b>50-6999D</b>	Assortment	Pack of 6

2 each 80, 150 & 220 grits



**For more information:  
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techsupport@rikontools.com**