

INSTRUCTION MANUAL

Original Instructions

18" Oscillating Spindle Sander

ITEM # 21103

WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

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, 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.

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INTRODUCTION

Manual Accuracy

We are proud to provide a high-quality owner's manual with your new machine!

We made every effort to be exact with the instructions, specifications, drawings, and photographs in this manual. Sometimes we make mistakes, but our policy of continuous improvement also means that **sometimes the machine you receive is slightly different than shown in the manual.**

If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version.

Contact Info

We stand behind our machines! If you have questions or need help, contact us with the information below. Before contacting, make sure you get the **serial number** and **manufacture date** from the machine ID label. This will help us help you faster.

CHANSEN INDUSTRIES CO., LED

Tel: 86 25 8497695

E-mail: sales@chansenmachinery.com

www.chansenmachinery.com

We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

Identification

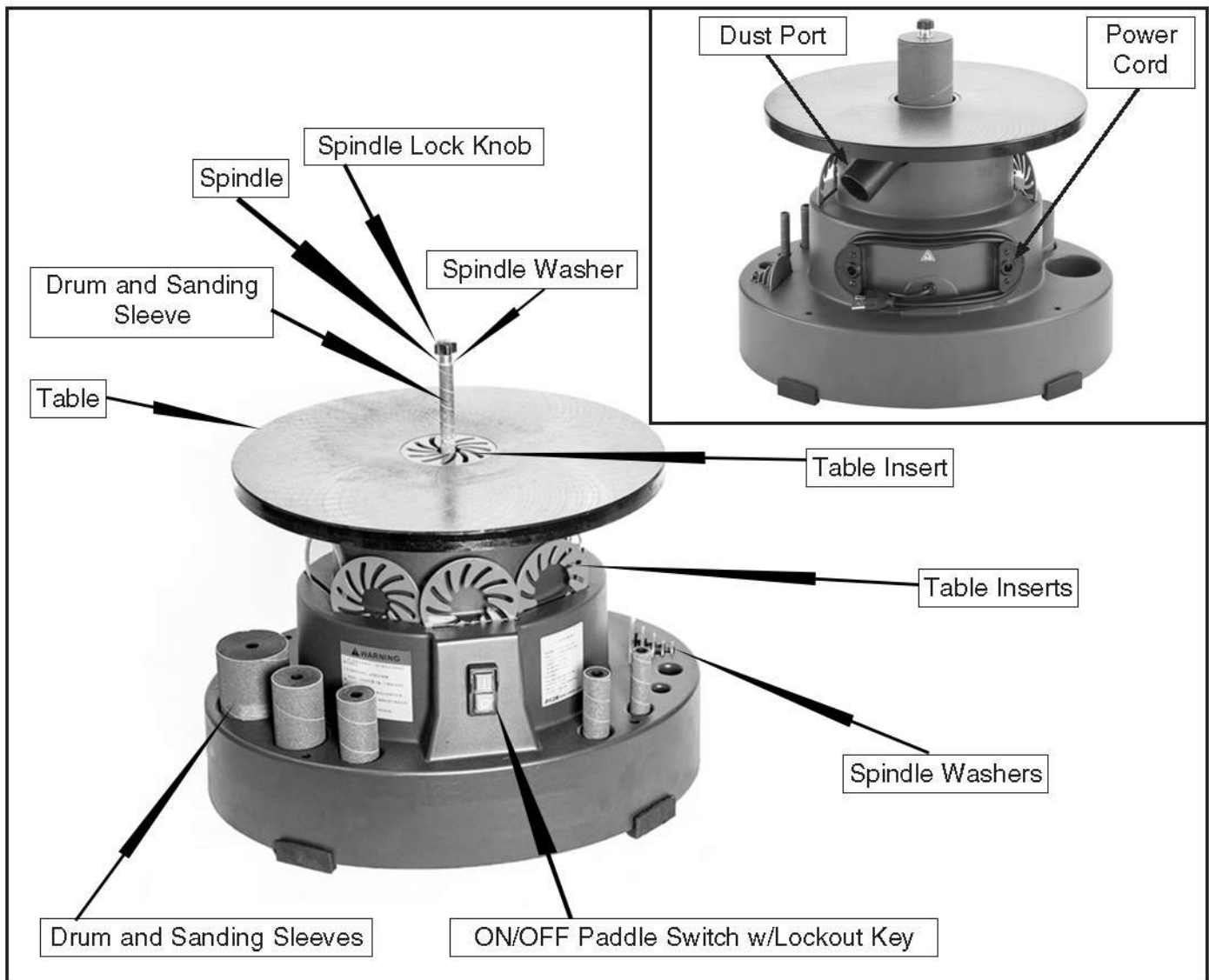


Figure 1. Model G0723 Identification



MACHINE DATA SHEET

MODEL 22103 ENCHTOP OSCILLATING SANDER

Product Dimensions:

Weight..... 46 lbs.
Width (side-to-side) x Depth (front-to-back) x Height..... 22-7/8 x 18 x 20 in.
Footprint (Length x Width)..... 22-1/4 x 16-3/4 in.

Shipping Dimensions:

Type..... Cardboard Box
Content..... Machine
Weight..... 56 lbs.
Length x Width x Height..... 25 x 20 x 22 in.

Electrical:

Power Requirement..... 220V, Single-Phase, 50 Hz
Prewired Voltage..... 220V
Minimum Circuit Size..... 15A
Connection Type..... Cord & Plug
Power Cord Included..... Yes
Power Cord Length..... 6 ft.
Power Cord Gauge..... 18 AWG
Plug Included..... Yes

Motors:

Main

Type..... TEFC Capacitor-Start Induction
Horsepower..... 550W
Phase..... Single-Phase
Speed..... 1450 RPM
Power Transfer..... Direct Drive
Bearings..... Shielded & Permanently Lubricated

Main Specifications:

Spindle Sander Info

Sanding Drum Diameters..... 1/2, 3/4, 1, 1-1/2, 2, 3 in.
Sanding Drum Length..... 4-1/2 in.
Spindle Speed..... 1450 RPM
Spindle Oscillation..... 25 SPM
Stroke Length..... 1 in.
Table Length..... 18 in.
Table Width..... 18 in.
Table Thickness..... 11/16 in.
Table-to-Floor Height..... 15-1/2 in.
Spindle Shaft Diameter..... 1/2 in.
Number of Table Inserts..... 5
Included Sanding Sleeve Grit Size..... 100

Construction Materials

Base..... Plastic
Table..... Cast Iron

Other Related Info

Dust Port Size..... 2 in.

Other Specifications:

Country of Origin China
Warranty 1 Year
Approximate Assembly & Setup Time 15 Minutes
Serial Number Location ID Label on Front of Machine
ISO 9001 Factory No
Certified by a Nationally Recognized Testing Laboratory (NRTL) Yes

Features:

A spacious 18 inch table leaves plenty of room to navigate while smoothing curved edges.
Sanding drums store neatly in the base for easy, organized access.
Space-saving benchtop style.
ON/OFF paddle switch with removable key.
Includes 6 sanding sleeves from 1/2" to 3" in diameter.

SECTION 1: SAFETY

For Your Own Safety, Read Instruction Manual Before Operating This Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures. Always use common sense and good judgment.



Indicates an imminently hazardous situation which, if not avoided, **WILL** 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, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the machine.

Safety Instructions for Machinery



OWNER'S MANUAL. Read and understand this owner's manual **BEFORE** using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make your workshop kid proof!

DANGEROUS ENVIRONMENTS. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

DISCONNECT POWER FIRST. 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.

EYE PROTECTION. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are **NOT** approved safety glasses.

WARNING

WEARING PROPER APPAREL. 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 risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

HAZARDOUS DUST. Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. Always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly **BEFORE** operating machine.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine **OFF** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

DAMAGED PARTS. Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace **BEFORE** operating machine. For your own safety, **DO NOT** operate machine with damaged parts!

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—**NOT** the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine!

Additional Safety for Spindle Sanders

WARNING

Serious injury or death can occur from fingers, clothing, jewelry or hair getting entangled in rotating spindle or other moving components. Abrasion injuries can occur from touching rotating sanding drum with bare skin. Workpieces thrown by drum can strike operator or bystanders with moderate force, causing impact injuries. Long-term respiratory damage can occur from using sander without proper use of a respirator. To reduce the risk of these hazards, operator and bystanders **MUST** completely heed the hazards and warnings below.

HAND PLACEMENT. Rotating sanding drums can remove a large amount of flesh in a few seconds. Always keep hands away from drum during operation. Never touch moving drum on purpose. Use a brush to clean table of sawdust and chips.

FEEDING WORKPIECE. Forcefully jamming workpiece into sanding surface could cause workpiece to eject back at operator or damage machine. Always allow spindle to reach full speed. Firmly hold workpiece with both hands and ease it against spindle using light pressure.

DRUM DIRECTION. Feeding workpiece incorrectly can cause it to be thrown from machine, allowing your hands to slip into the rotating drum or striking yourself or bystanders. To reduce these risks, feed workpiece against direction of rotation, and never sand tapered or pointed stock with point facing feed direction.

SANDING SLEEVE CONDITION. Worn or damaged sanding sleeves can tear apart and become entangled in spindle, resulting in subsequent injuries from operator loss of workpiece control. Replace worn or damaged sanding sleeves promptly.

SANDING DUST. Sanding creates large amounts of dust and flying chips that can lead to eye injury or serious respiratory illness. Reduce your risk by always wearing approved eye and respiratory protection when using sander. Never operate without adequate dust collection system in place and running. However, dust collection is not a substitute for using a respirator.

AVOIDING ENTANGLEMENT. DO NOT wear loose clothing, gloves, or jewelry, and tie back long hair. Keep all guards in place and secure.

WORKPIECE INSPECTION. Nails, staples, knots, or other imperfections in workpiece can be dislodged and thrown from sander at high rate of speed into operator or bystanders, or cause damage to sanding sleeves or drum. Never sand stock that has embedded foreign objects or questionable imperfections.

TABLE INSERTS. A pinch point for fingers and workpieces exists in the gap between table and oscillating drum. Always use table insert that fits closest to diameter of installed drum to keep this gap as small as possible and reduce risk of injury.

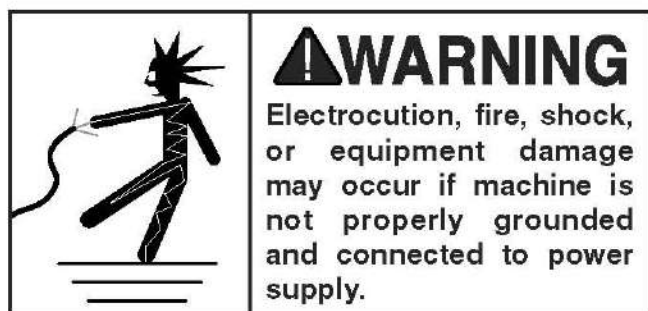
POWER DISCONNECT. An accidental startup while changing sleeves can result in entanglement or abrasion injuries. Always disconnect machine from power source before changing sanding sleeve to avoid this risk.

WORKPIECE INTEGRITY. Sanding fragile workpieces can result in loss of control, resulting in entanglement, impact injuries, or damage to the sanding sleeve or drum. Only sand solid workpieces that can withstand power sanding forces. Make sure shape of workpiece is properly supported; avoid sanding workpieces without flat bottom surfaces unless some type of jig is used to maintain support and control when sanding force is applied.

SECTION 2: POWER SUPPLY

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.



Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the specified circuit requirements.

Circuit Requirements

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

Nominal Voltage220V
Cycle.....50 Hz
Phase..... Single-Phase
Power Supply Circuit 15 Amps

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

!CAUTION

For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or electrical codes in your area.

Note: *Circuit requirements in this manual apply to a dedicated circuit—where only one machine will be running on the circuit at a time. If machine will be connected to a shared circuit where multiple machines may be running at the same time, consult an electrician or qualified service personnel to ensure circuit is properly sized for safe operation.*

Grounding & Plug Requirements

This machine **MUST** be grounded. In the event of certain malfunctions or breakdowns, grounding reduces the risk of electric shock by providing a path of least resistance for electric current.

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug. Only insert plug into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances. **DO NOT** modify the provided plug!

⚠ WARNING

Serious injury could occur if you connect machine to power before completing setup process. **DO NOT** connect to power until instructed later in this manual.

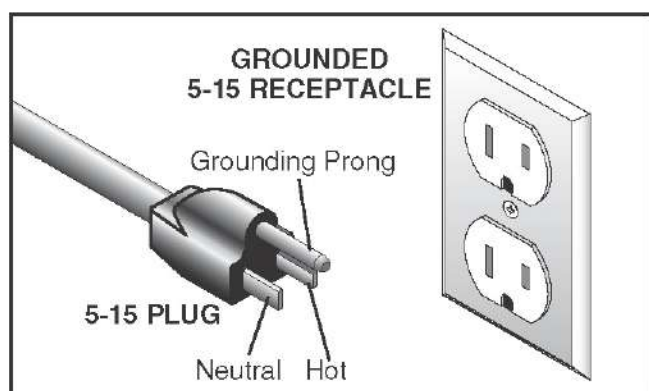


Figure 2. Typical 5-15 plug and receptacle.

⚠ CAUTION



SHOCK HAZARD!

Two-prong outlets do not meet the grounding requirements for this machine. Do not modify or use an adapter on the plug provided—if it will not fit the outlet, have a qualified electrician install the proper outlet with a verified ground.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

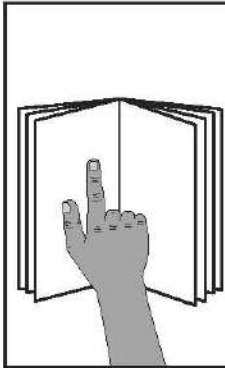
We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must be in good condition and contain a ground wire and matching plug/receptacle. Additionally, it must meet the following size requirements:

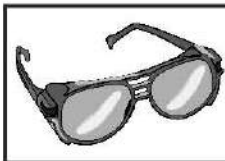
Minimum Gauge Size16 AWG
Maximum Length (Shorter is Better).....50 ft.

SECTION 3: SETUP



!WARNING

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!



!WARNING

Wear safety glasses during the entire setup process!

Needed for Setup

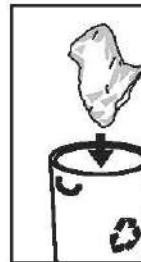
The following are needed to complete the setup process, but are not included with your machine.

Description	Qty
• Safety Glasses	1
• Cleaner/Degreaser.....	As Needed
• Disposable Shop Rags.....	As Needed
• Straightedge 4'	1
• Screwdriver Phillips #2	1
• Screwdriver Flat Head #2.....	1
• Dust Collection System	1
• Dust Hose 2"	1
• Hose Clamps 2"	2

Unpacking

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. ***If items are damaged, please call us.***

IMPORTANT: Save all packaging materials until you are completely satisfied with the machine and have resolved any issues between CHANSEN or the shipping agent. ***You MUST have the original packaging to file a freight claim. It is also extremely helpful if you need to return your machine later.***



!WARNING

SUFFOCATION HAZARD!

Keep children and pets away from plastic bags or packing materials shipped with this machine. Discard immediately.

Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

If any non-proprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

Inventory (Figure 3)	Qty
A. Spindle Sander Assembly	1
B. Spindle Lock Knob	1
C. Sanding Sleeves 1/2", 3/4", 1", 1 1/2", 2", 3"	6
D. Sanding Drums 3/4", 1", 1 1/2", 2", 3"	5
E. Table Inserts 1/2", 3/4", 1", 1 1/2", 2", 3"	6
F. Drum Washers 3/4", 1", 1 1/2", 2", 3"	5

NOTICE

If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

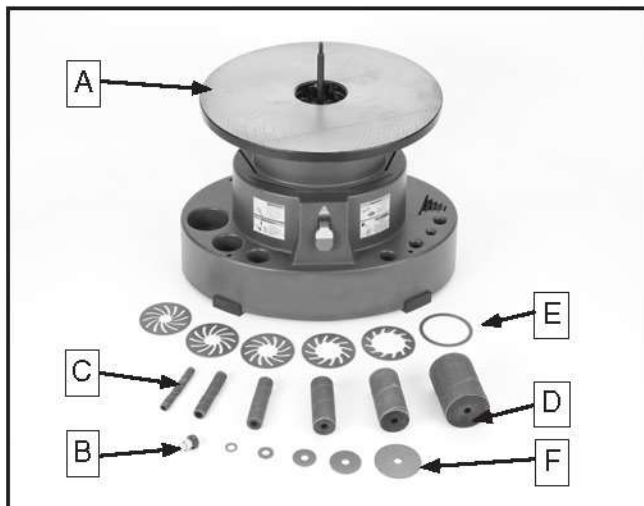


Figure 3. Box Contents

Cleanup

The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage. This rust preventative works extremely well, but it will take a little time to clean.

Be patient and do a thorough job cleaning your machine. The time you spend doing this now will give you a better appreciation for the proper care of your machine's unpainted surfaces.

There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

Before cleaning, gather the following:

- Disposable rags
- Cleaner/degreaser (WD-40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

Basic steps for removing rust preventative:

1. Put on safety glasses.
2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.
3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.
4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.

NOTICE

Avoid chlorine-based solvents, such as acetone or brake parts cleaner, that may damage painted surfaces.

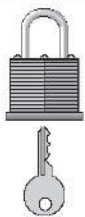
Site Considerations

Weight Load

Refer to the **Machine Data Sheet** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. **See below for required space allocation.**



CAUTION

Children or untrained people may be seriously injured by this machine. Only install in an access restricted location.

Physical Environment

The physical environment where the machine is operated is important for safe operation and longevity of machine components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°–104°F; the relative humidity range exceeds 20%–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave enough space around machine to disconnect power supply or apply a lockout/tagout device, if required.

Lighting

Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

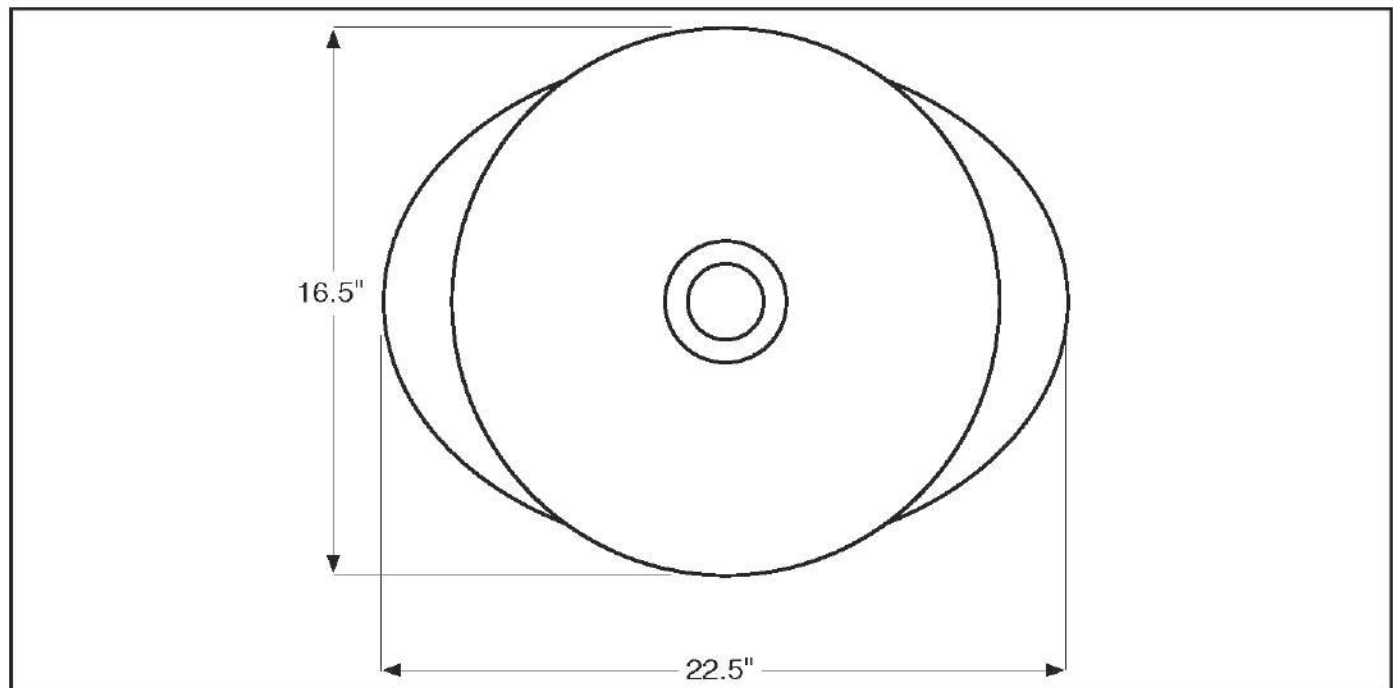


Figure 4. working clearances.

Mounting

The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

The strongest mounting option is a "Through Mount" (see example below) where holes are drilled all the way through the workbench—and hex bolts, washers, and hex nuts are used to secure the machine in place.

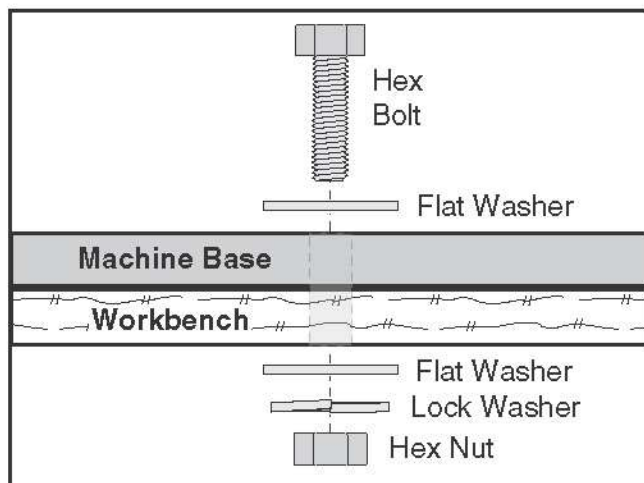


Figure 5. Example of a "Through Mount" setup.

Another option is a "Direct Mount" (see example below) where the machine is secured directly to the workbench with lag screws and washers.

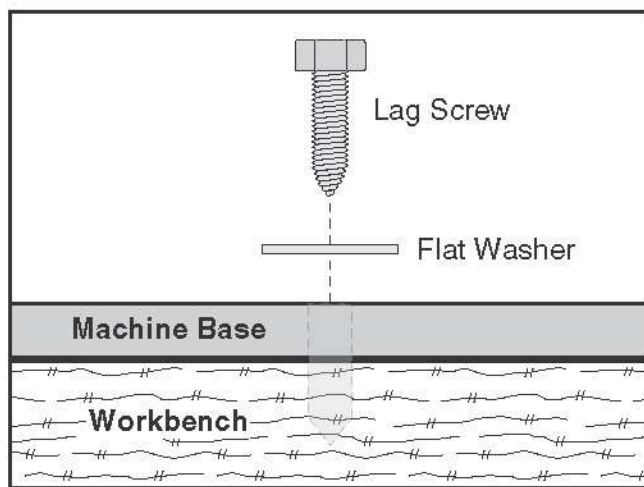


Figure 6. Example of a "Direct Mount" setup.

Assembly

Place the lock knob, table inserts, sanding drums and sleeves, and drum washers in their designated accessory slots beneath the table (see **Figure 7**).



Figure 7. fully assembled.

Dust Collection

!CAUTION

DO NOT operate the Model G0723 without an adequate dust collection system. This sander creates substantial amounts of wood dust while operating. Failure to use a dust collection system can result in short and long-term respiratory illness.

Recommended CFM at Dust Port: 400 CFM

Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must consider these variables: (1) CFM rating of the dust collector, (2) hose type and length between the dust collector and the machine, (3) number of branches or wyes, and (4) amount of other open lines throughout the system. Explaining how to calculate these variables is beyond the scope of this manual. Consult an expert or purchase a good dust collection "how-to" book.

To connect a dust collection hose:

1. Fit a 2" dust hose over the dust port shown in the photo below, and secure in place with a hose clamp.
2. Tug the hose to ensure it does not come off.
Note: A tight fit is necessary for proper performance.

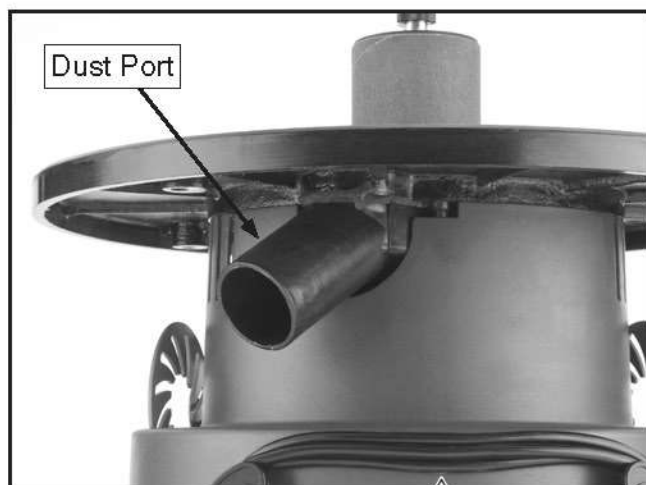


Figure 8. Location to install dust hose.

Power Connection

After you have completed all previous setup instructions and circuit requirements, the machine is ready to be connected to the power supply.

To avoid unexpected startups or property damage, use the following steps whenever connecting or disconnecting the machine.

Connecting Power

1. Turn the machine power switch **OFF**.
2. Insert the power cord plug into a matching power supply receptacle. The machine is now connected to the power source.

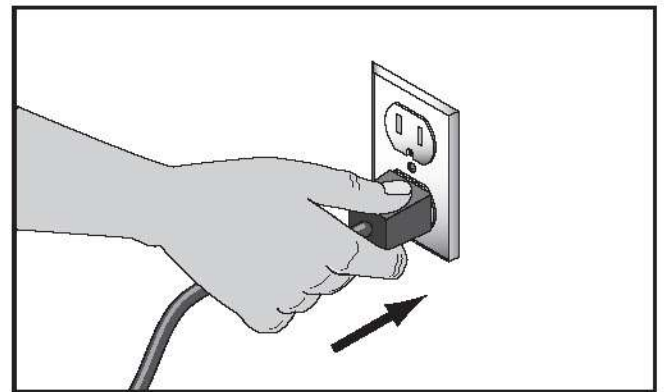


Figure 9. Connect power.

Disconnecting Power

1. Turn the machine power switch **OFF**.
2. Grasp the molded plug and pull it completely out of the receptacle. Do not pull by the cord as this may damage the wires inside.

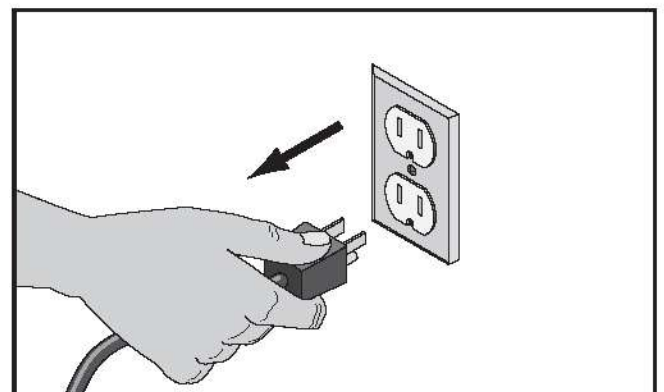


Figure 10. Disconnect power.

Test Run

Once the assembly is complete, test run your machine to make sure it runs properly and is ready for regular operation.

The test run consists of verifying the following:

- 1) The motor powers up and runs correctly, and
- 2) the safety disabling mechanism on the switch works correctly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting** on **Page 22**.

If you still cannot remedy a problem, contact our Tech Support.

To test run the machine:

1. Make sure you have read the safety instructions at the beginning of the manual and that the machine is assembled properly.
2. Make sure all tools and objects used during setup are cleared away from the machine.
3. Connect the machine to the power source.
4. Verify that the machine is operating correctly by turning it **ON**.

—When operating correctly, the machine runs smoothly with little or no vibration or rubbing noises.

—Investigate and correct strange or unusual noises or vibrations before operating the machine further. Always disconnect the machine from power when investigating or correcting potential problems.

5. Turn the machine **OFF**.

6. Remove the switch disabling key, as shown in **Figure 11**.

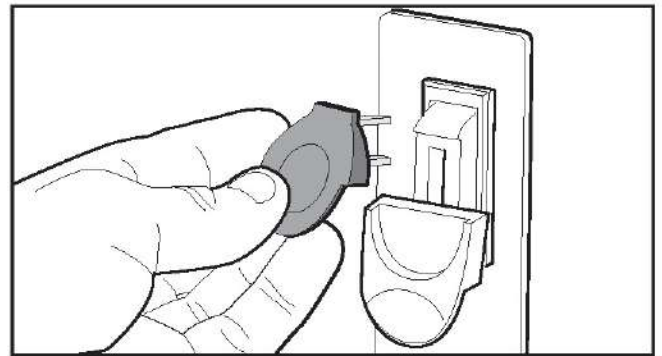


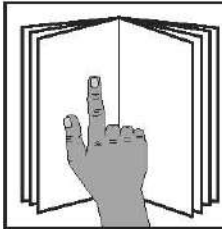
Figure 11. Disabling switch by removing key.

7. Try to start the machine with the paddle switch.

—If the machine *does not* start, the switch disabling feature is working as designed.

—If the machine *does* start, immediately disconnect power. The switch disabling feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

SECTION 4: OPERATIONS

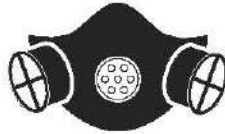


!WARNING

To reduce your risk of serious injury, read this entire manual **BEFORE** using machine.

!WARNING

To reduce risk of eye injury from flying chips or lung damage from breathing dust, always wear safety glasses and a respirator when operating this machine.



NOTICE

If you are not experienced with this type of machine, **WE STRONGLY RECOMMEND** that you seek additional training outside of this manual. Read books/magazines or get formal training before beginning any projects. Regardless of the content in this section, Chansen Industrial will not be held liable for accidents caused by lack of training.

Disabling Switch

The switch can be disabled by removing the key, as shown below. Disabling the switch in this manner can prevent unauthorized operation of the machine, which is important if it is not kept inside an access-restricted building or in a location where children may be present.

IMPORTANT: Disabling the switch only restricts its function. It is not a substitute for disconnecting machine from power when adjusting or servicing.

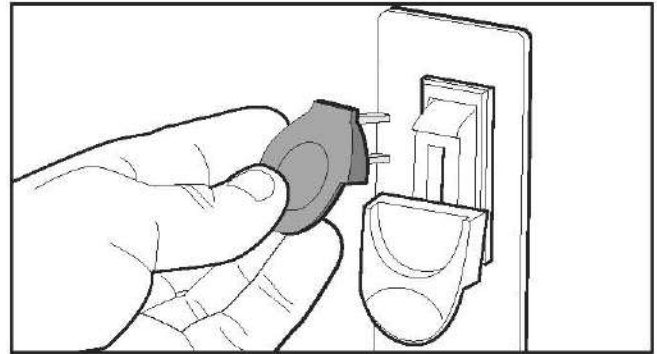


Figure 12. Disabling switch by removing key.

!WARNING

Children or untrained people can be seriously injured by this machine. This risk increases with unsupervised operation. To help prevent unsupervised operation, always disable switch before leaving machine unattended. Make sure to place key in a well-hidden or secure location!

Sleeve Selection

The Model **21103** comes with six different-sized sanding drums and sleeves. Refer to the table below when determining the appropriate table insert, sanding drum, and drum washer size for a particular sleeve.

Part Diameters

Table Inserts	Sanding Drums	Sanding Sleeves	Drum Washers
1/2"	N/A	1/2"	N/A
3/4"	3/4"	3/4"	3/4"
1"	1"	1"	1"
1 1/2"	1 1/2"	1 1/2"	1 1/2"
2"	2"	2"	2"
3"	3"	3"	3"

Sleeve Installation

To install or replace a sanding sleeve:

1. Remove the lock knob, drum washer, sanding sleeve, sanding drum and table insert.
2. Clean the table insert and spindle areas as necessary.
3. Replace the table insert.
4. Referencing the table on **Page 17**, install the table insert that corresponds to your desired sanding drum.
5. Install the desired sanding drum on the spindle shaft, then install the corresponding sanding sleeve on the drum, referencing **Page 17**, as is shown in **Figure 13**.

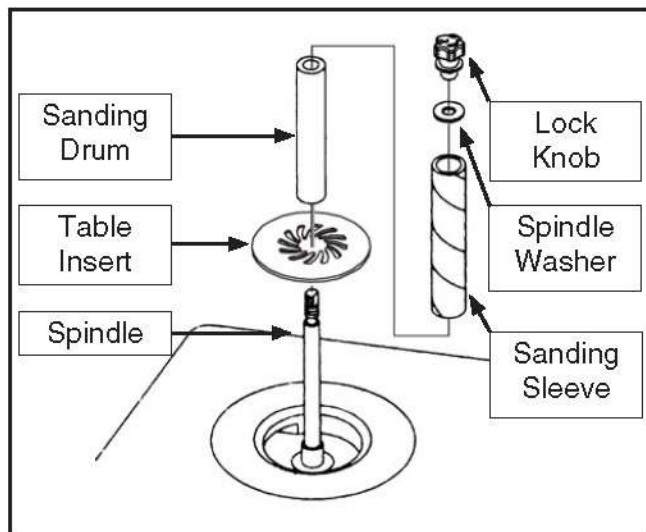


Figure 13. Sleeve installation order.

6. Secure the sanding drum with the appropriate drum washer and lock knob, then lock until the rubber sanding drum places slight pressure on the sanding sleeve. DO NOT overtighten the lock knob.

Sanding

To sand a workpiece:

1. Ensure that the lock knob is secured tightly and that the work area is free of obstructions and obstacles.
2. Turn the spindle sander **ON** and allow it to reach full speed.
3. Using both hands, guide the workpiece against the sanding sleeve in a right-to-left manner, as shown in **Figure 14**. DO NOT force the workpiece against the sanding sleeve.

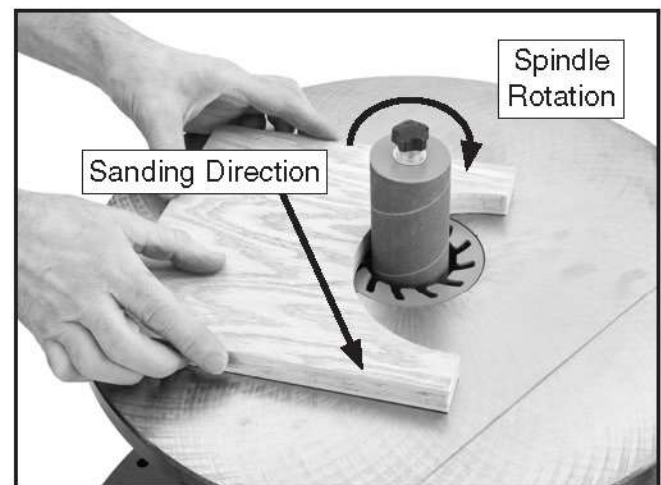


Figure 14. Sanding workpiece.

SECTION 5: ACCESSORIES

⚠ WARNING

Installing unapproved accessories may cause machine to malfunction, resulting in serious personal injury or machine damage. To reduce this risk, only install accessories recommended for this machine by Chansen.

NOTICE

Refer to our website or latest catalog for additional recommended accessories.



Figure 16. Our most popular eye protection.



Figure 17. Half-mask respirators.

SECTION 6: MAINTENANCE



Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Before Each Use

- Inspect the sanding drums and sleeves for wear or damage.
- Check for worn or damaged wires.
- Check for any other unsafe condition that could hamper operation of this machine or cause potential injury.

After Each Use

- Turn the sander **OFF**.
- Clean up any sawdust or particle residue from the machine.
- Protect table.

Weekly Maintenance

- Thoroughly clean the spindle area and beneath the table insert.

Monthly Maintenance

- Clean/vacuum dust buildup from inside the sander body and off of the motor.

Cleaning

Cleaning the Model 21103 is relatively easy. Follow the **Sleeve Installation** instructions on **Page 18**, taking special care to clean every area thoroughly. Sawdust and other particles can also work their way under the table insert, so this area also needs to be cleaned.

To clean the table:

1. Remove the lock knob, drum washer, sanding sleeve, sanding drum and table insert.
2. Wipe or vacuum out any dust or particles that have accumulated beneath the table insert area, shown in **Figure 18**.
3. Follow **Steps 3-6** of the instructions on **Page 18** to re-install the sleeve.



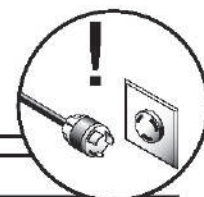
Figure 18. Table insert area.

4. To protect the table from rust, coat the table surface with a quality metal protectant.

SECTION 7: SERVICE

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support. **Note:** Please gather the serial number and manufacture date of your machine before calling.

Troubleshooting



Symptom	Possible Cause	Possible Solution
Motor will not start.	<ol style="list-style-type: none"> 1. Switch disabling key removed. 2. Low voltage. 3. Open circuit in motor or loose connections. 	<ol style="list-style-type: none"> 1. Insert key to enable power. 2. Check power line voltage and correct if necessary. 3. Inspect all motor connections for loose or open connections.
Motor will not start; fuses or circuit breakers blow.	<ol style="list-style-type: none"> 1. Short circuit in line cord or plug. 2. Short circuit in motor or loose connections. 3. Incorrect fuses or circuit breakers in power line. 	<ol style="list-style-type: none"> 1. Inspect cord and plug for damaged insulation or shorted wires. 2. Inspect all motor connections for loose or shorted terminals or worn insulation. 3. Install correct fuses or circuit breakers.
Motor overheats.	<ol style="list-style-type: none"> 1. Motor overloaded. 	<ol style="list-style-type: none"> 1. Reduce load on motor.
Motor stalls (resulting in blown fuses or tripped circuit).	<ol style="list-style-type: none"> 1. Motor overloaded. 2. Short circuit in motor or loose connections. 3. Low voltage. 4. Incorrect fuses or circuit breakers in power line. 	<ol style="list-style-type: none"> 1. Reduce load on motor. 2. Inspect connections on motor for loose or shorted terminals or worn insulation. 3. Check power line voltage and correct if necessary. 4. Install correct fuses or circuit breakers.
Machine slows when operating.	<ol style="list-style-type: none"> 1. Workpiece pressure is too great. 	<ol style="list-style-type: none"> 1. Reduce workpiece pressure on spindle.
Machine vibrates excessively.	<ol style="list-style-type: none"> 1. Machine not secured to workbench. 2. Incorrect motor mounting. 	<ol style="list-style-type: none"> 1. Secure machine to workbench. 2. Check/adjust motor mounting.
Deep sanding grooves or scars in workpiece.	<ol style="list-style-type: none"> 1. Sanding sleeve too coarse for the desired finish. 2. Workpiece sanded across the grain. 3. Too much sanding force on workpiece. 	<ol style="list-style-type: none"> 1. Use a finer grit sanding sleeve. 2. Sand with the grain. 3. Reduce pressure on workpiece while sanding.
Grains rub off the sanding sleeve.	<ol style="list-style-type: none"> 1. Sanding sleeve has been stored in an incorrect environment. 2. Sanding sleeve has been folded or smashed. 	<ol style="list-style-type: none"> 1. Store sanding sleeve away from extremely dry or hot temperatures. 2. Store sanding sleeves separately and not folded or flat.
Sanding surfaces clog quickly or burn.	<ol style="list-style-type: none"> 1. Too much pressure against sleeve. 2. Sanding softwood. 	<ol style="list-style-type: none"> 1. Reduce pressure on workpiece while sanding. 2. Either use different stock or accept the characteristics of the stock and plan on cleaning/replacing belts frequently.
Burn marks on workpiece.	<ol style="list-style-type: none"> 1. Using too fine of sanding grit. 2. Using too much pressure. 3. Work held still for too long. 	<ol style="list-style-type: none"> 1. Use a coarser grit sanding sleeve. 2. Reduce pressure on workpiece while sanding. 3. Do not keep workpiece in one place for too long.

SECTION 8: WIRING

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

WARNING

Wiring Safety Instructions

SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

MODIFICATIONS. Modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire. This includes the installation of unapproved after-market parts.

WIRE CONNECTIONS. All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

CIRCUIT REQUIREMENTS. You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

WIRE/COMPONENT DAMAGE. Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components.

MOTOR WIRING. The motor wiring shown in these diagrams is current at the time of printing but may not match your machine. If you find this to be the case, use the wiring diagram inside the motor junction box.

CAPACITORS/INVERTERS. Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

EXPERIENCING DIFFICULTIES. If you are experiencing difficulties understanding the information included in this section, contact our Technical Support.

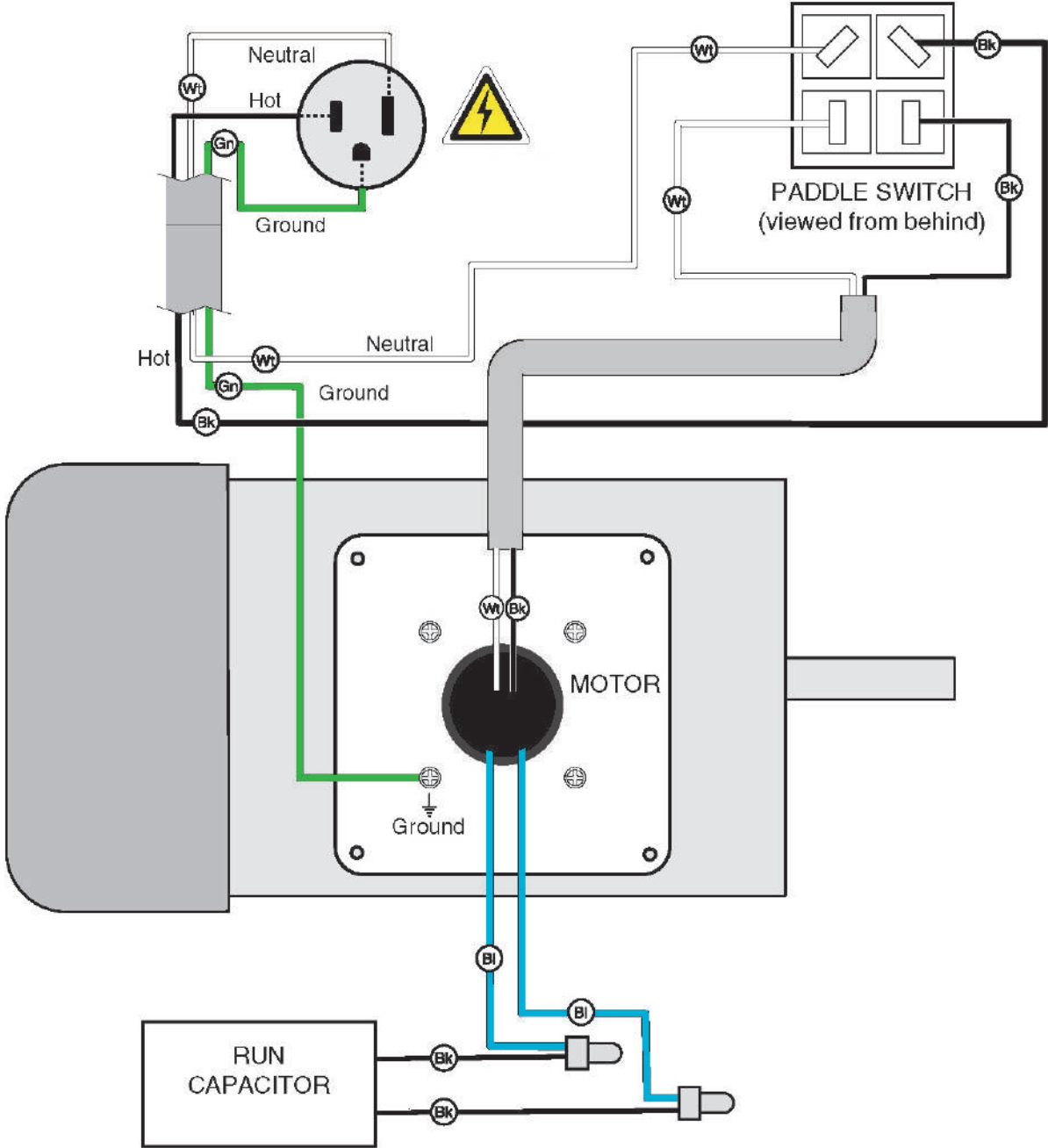
NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color.

COLOR KEY

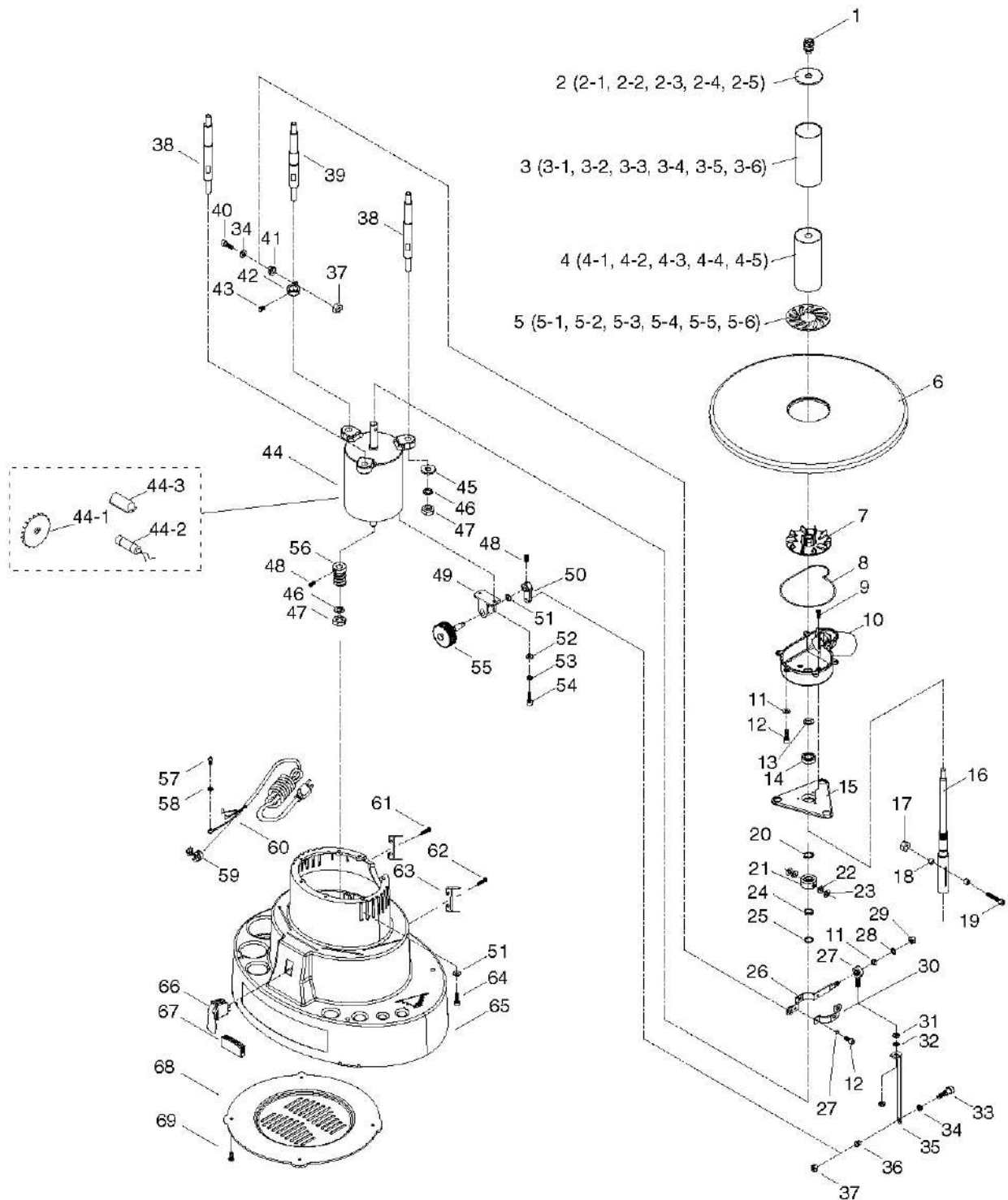
BLACK		BLUE		YELLOW		LIGHT BLUE	
WHITE		BROWN		YELLOW GREEN		BLUE WHITE	
GREEN		GRAY		PURPLE		TURQUOISE	
RED		ORANGE		PINK			

Wiring Diagram



SECTION 9: PARTS

Main Breakdown



Main Parts List

REF DESCRIPTION

1	KNOB M8-1.25 LH
2	DRUM WASHER SET OF 5
2-1	DRUM WASHER 3/4"
2-2	DRUM WASHER 1"
2-3	DRUM WASHER 1-1/2"
2-4	DRUM WASHER 2"
2-5	DRUM WASHER 3"
3	ABRASIVE SLEEVE SET OF 6
3-1	ABRASIVE SLEEVE 1/2"
3-2	ABRASIVE SLEEVE 3/4"
3-3	ABRASIVE SLEEVE 1"
3-4	ABRASIVE SLEEVE 1-1/2"
3-5	ABRASIVE SLEEVE 2"
3-6	ABRASIVE SLEEVE 3"
4	RUBBER DRUM SET OF 5
4-1	RUBBER DRUM 3/4"
4-2	RUBBER DRUM 1"
4-3	RUBBER DRUM 1-1/2"
4-4	RUBBER DRUM 2"
4-5	RUBBER DRUM 3"
5	TABLE INSERT SET OF 6
5-1	TABLE INSERT 1/2"
5-2	TABLE INSERT 3/4"
5-3	TABLE INSERT 1"
5-4	TABLE INSERT 1-1/2"
5-5	TABLE INSERT 2"
5-6	TABLE INSERT 3"
6	TABLE
7	FAN
8	GASKET 10 X 10 X 500
9	FLAT HD CAP SCR M5-.8 X 10
10	FAN HOUSING
11	FLAT WASHER 5MM
12	CAP SCREW M5-.8 X 12
13	SEAL 16 X 30 X 2.5
14	BALL BEARING 6003ZZ
15	MOTOR PLATE
16	SPINDLE
17	HEX NUT M5-.8
18	BUSHING
19	CAP SCREW M5-.8 X 40
20	EXT RETAINING RING 17MM
21	COLLAR
22	RING 7 X 16 X 2
23	WAVY WASHER 8 X 14 X 0.4
24	BALL BEARING 6903ZZ
25	INT RETAINING RING 30MM

REF DESCRIPTION

26	BRACKET
27	ROD END BEARING M8-1.25-6G
28	LOCK WASHER 5MM
29	HEX NUT M5-.8
30	BRACKET
31	HEX NUT M8-1.25
32	LOCK WASHER 8MM
33	SHOULDER SCREW M8 X 10, M6-1 X 16
34	FLAT WASHER 8MM
35	LINK
36	BUSHING
37	HEX NUT M6-1
38	MOTOR STANDOFF
39	MOTOR STANDOFF W/GROOVE
40	SHOULDER SCREW
41	BUSHING 8MM
42	PIVOT
43	SET SCREW M6-1 X 8
44	MOTOR
44-1	MOTOR FAN
44-2	R CAPACITOR
44-3	CAPACITOR COVER
45	FLAT WASHER 10MM
46	LOCK WASHER 10MM
47	HEX NUT M10-1.5
48	SET SCREW M5-.8 X 6
49	BLOCK
50	CAM
51	EXT RETAINING RING 15MM
52	FLAT WASHER 6MM
53	LOCK WASHER 6MM
54	CAP SCREW M6-1 X 16
55	WORM GEAR W/SPINDLE
56	WORM
57	PHLP HD SCR M5-.8 X 10
58	EXT TOOTH WASHER 5MM
59	STRAIN RELIEF STRT SNAP-IN 6P-4
60	POWER CORD
61	TAP SCREW M4.8 X 25
62	TAP SCREW M4.8 X 32
63	CORD WRAP BRACKET
64	CAP SCREW M6-1 X 12
65	BASE
66	PADDLE SWITCH
67	FOOT
68	BASE COVER
69	TAP SCREW M5 X 10