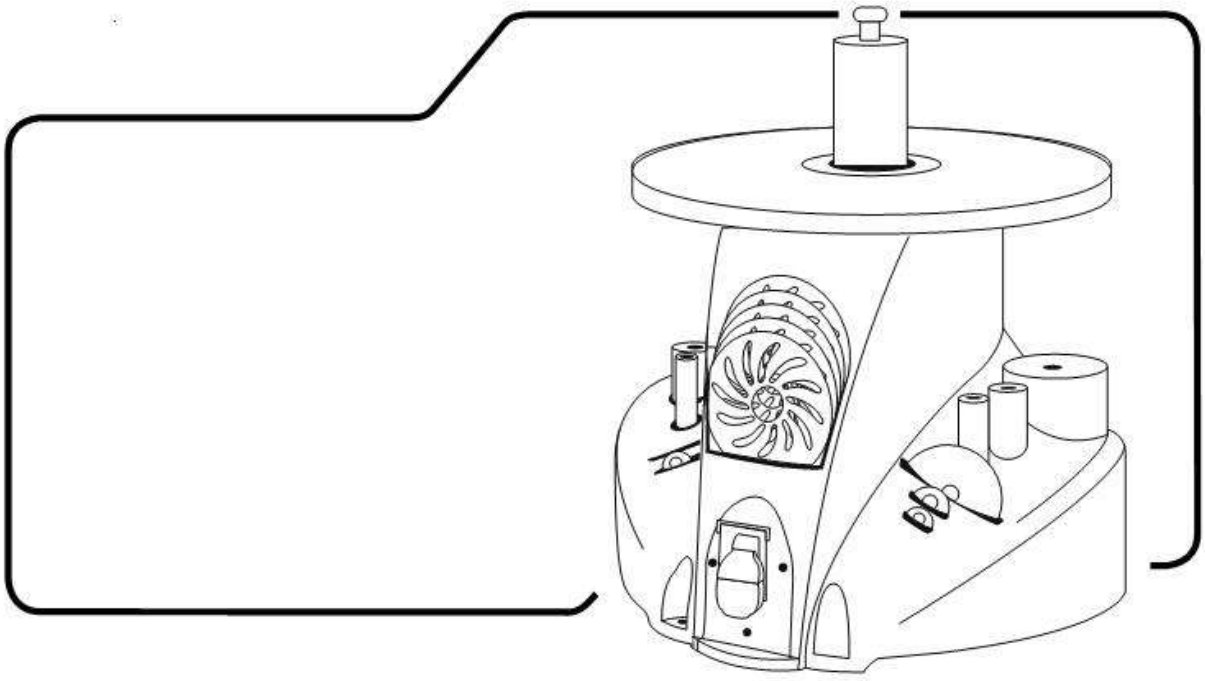
Owner's Manual

14 "
OSCILLATING SPINDLE SANDER



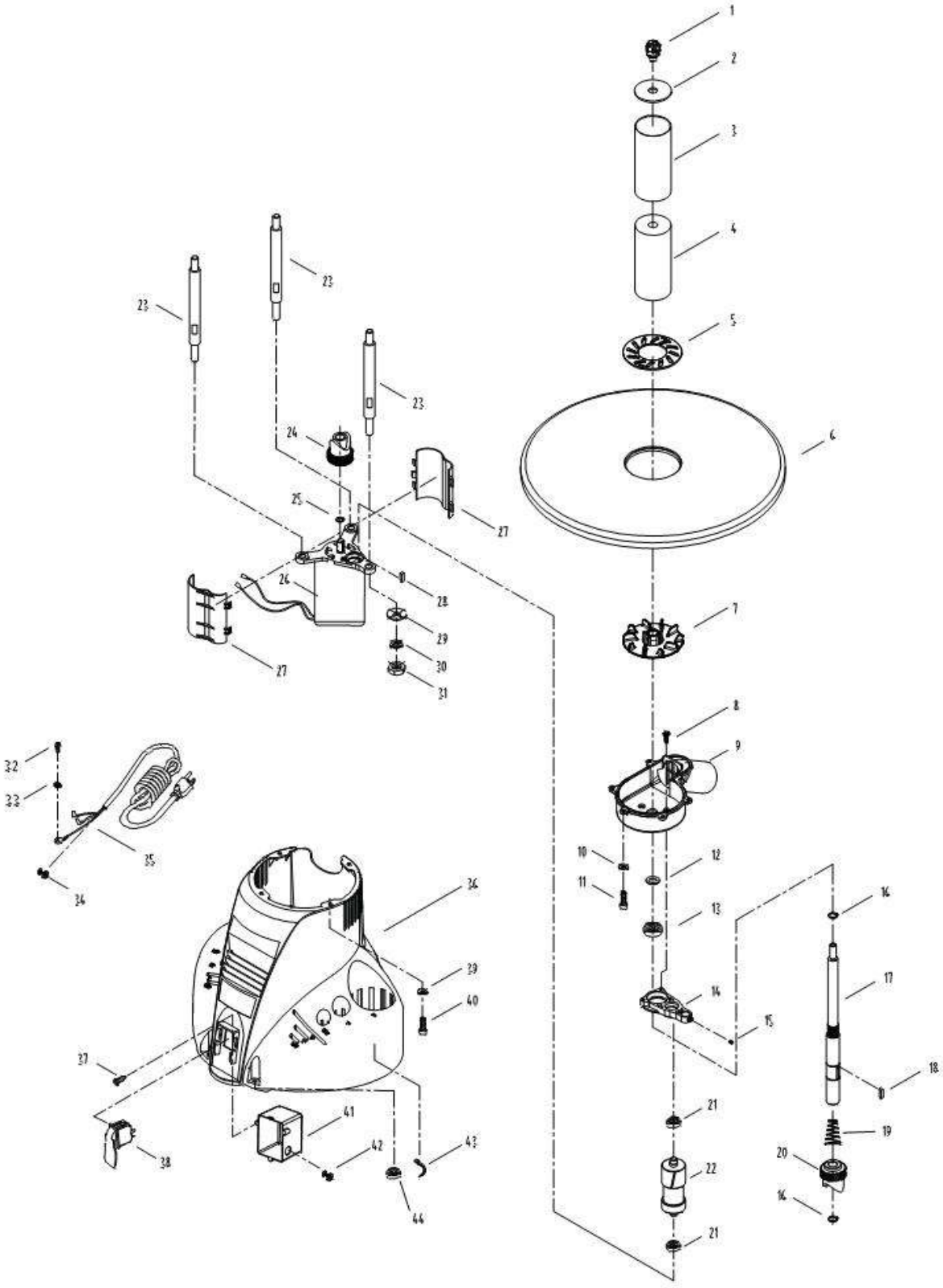
14” Oscilling Spindle Sander

Model: 21104

Specifications

Rated voltage: 230v, single phase
Rated power: 350w
Table diameter: 356mm
Spindle speed: 1450RPM
Spindle lifting travel: 19mm
Spindle oscilling speed: 25times/min
Sanding spindle diameter: 13/19/26/38/51/76mm
Dust port size: 50.8mm
Machine size: 405mmx405mmx460mm
Machine weight: 13kgs

OSCILLATING SPINDLE SANDER PARTS ILLUSTRATION



OSCILLATING SPINDLE SANDER PARTS LIST

Key No.	Description	Key No.	Description
1	Knob	23	Motor Stud
2	Drum Washer	24	Flange Straight Gear
3	Abrasive Sleeve	25	Circlip For Shaft
4	Rubber Drum	26	Motor
5	Table Inserts	27	Sound Insulation Cover
6	Table	28	Diode rectfier bridge
7	Fan	29	Flat Washer
8	Hex Sunk Screw	30	Spring Washer
9	Fan Housing	31	Hexnut
10	Flat washer	32	Hex Pan Head Screw
11	Hex Socket Head Bolt	33	Serrated Washer
12	Seal	34	Strain Relief
13	Bearing	35	Power Cord
14	top bearing bracket	36	Base
15	Set Screw	37	Hex Pan Head Tapping Screw
16	Circlip For Shaft	38	Switch (4 claws)
17	shaft	39	Flat Washer
18	A model (round) flat key	40	Hex Socket Head Screw
19	Spring	41	Switch Box
20	Flange Bevel Gear	42	Strain Relief
21	Bearing	43	Nylon Ribbon
22	Gear Shaft	44	Foot

SAFETY RULES

⚠WARNING

For your own safety, read and understand all warnings and operating instructions before using any tool or equipment.

⚠WARNING

Some dust created by operation of power tool contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment. Always wear OSHA/NIOSH approved, properly fitting face mask or respirator when using such tools.

⚠WARNING

Failure to follow these rules may result in serious personal injury. Remember that being careless for even a fraction of a second can result in severe personal injury.

WORK PREPARATION

- Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts of the tool.
- Nonslip protective footwear is recommended.
- Wear protective hair covering to contain logn hair.
- Wear eye and hearing protection. Always use safety glasses.
- Wear face mask or dust mask if operation is dusty.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.

WORK AREA PREPARATION

- Keep work area clean. Cluttered work areas and benches invite accidents.
- Work area should be properly lighted.
- Do not use the machine in a dangerous environment. The use of power tools in damp or wet locations or in rain can cause shock or electrocution.
- Three-prong plug should be plugged directly into properly grounded, three-prong receptacle.
- Use the proper extension cord. Make sure your extension cord is in good condition and should have a grounding prong and the three wires of extension cord should be of the correct gauge.
- Keep children and visitors away. Your shop is a potentially dangerous environment. Children and visitors can be injured.
- Make your workshop childproof with padlocks, master switches or remove switch keys to prevent any unintentional use of power tools.

TOOL MAINTENANCE

- Turn the machine "OFF", and disconnect the machine from the power source prior to inspection.
- Maintain all tools and machines in peak condition. Keep tools sharp and clean for best and safest performance.
- Follow instructions for lubricating and changing accessories.
- Check for damaged parts. Check for alignment of moving parts, binding, breakage, mounting and any other condition that may affect tool's operation.
- Poorly maintained tools and machines can further damage the tool or machine and/or cause injury.
- A guard or any other part that is damaged should be repaired or replaced. Do not perform makeshift repairs.

TOOL OPERATION

- Avoid accidental start-up. Make sure that the tool is in the "OFF" position before plugging in.
- Use the right tool for your job. Do not force your tool or attachment to do a job for which it was not designed.
- Disconnect tool when changing parts.
- Don't force the workpiece on the machine. Damage to the machine and/or injury may result.
- Never leave tool running unattended. Turn the power off and do not leave tool until it comes to a complete stop.
- Do not overreach. Loss of balance can make you fall into a working machine, causing injury.
- Never stand on tool. Injury could occur if the tool tips, or if you accidentally contact the cutting tool.
- Know your tool. Learn the tool's operation, application and specific limitations before using it.
- Use recommended accessories. Use of improper accessories may cause damage to the machine or injury to the user.
- Handle workpiece correctly. Keep hands away from moving parts.
- Turn tool off if it jams. .
- Always feed workpiece against the direction of the sanding rotation. To maintain control, properly support long or wide work-pieces.

CAUTION: Think safety! Safety is a combination of operator common sense and alertness at all times when tool is being used.

⚠WARNING

Do not attempt to operate tool until it is completely assembled according to the instructions.

ASSEMBLY

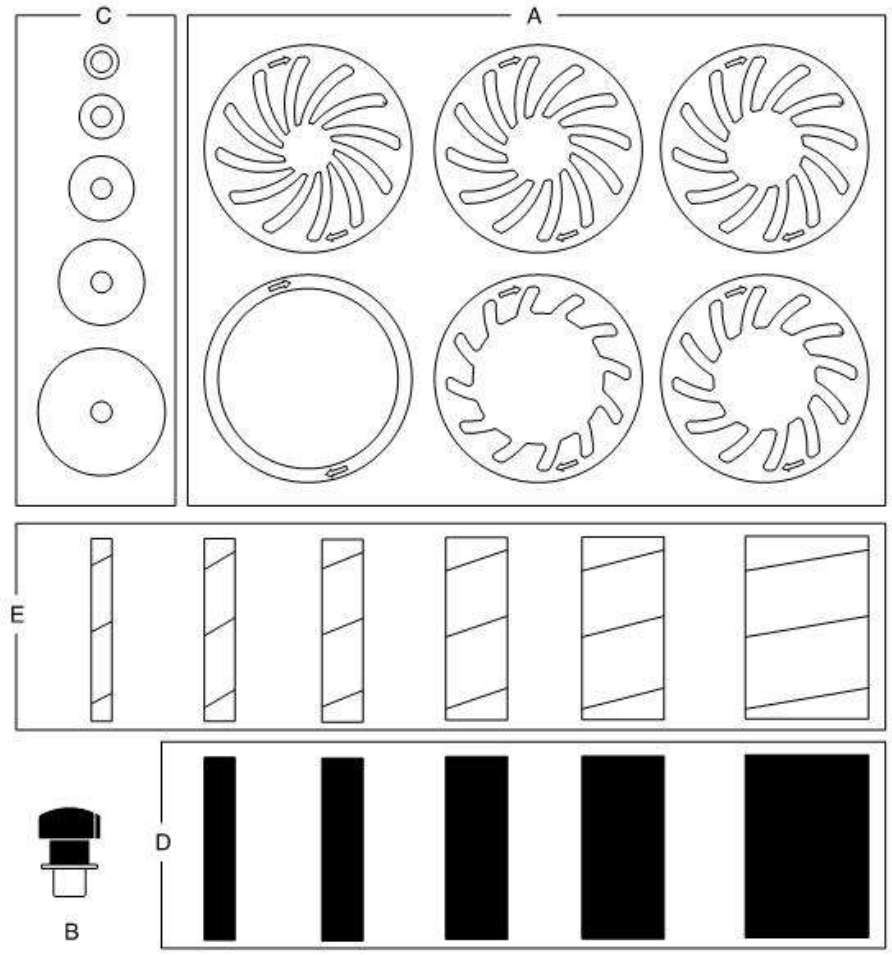
UNPACKAGING

Refer to Figure 1.

Check for shipping damage. If damage has occurred, a claim must be filled with carrier. Check to ensure all parts are present. Immediately report missing parts to dealer. The sander comes assembled as one unit. Additional parts should be located and accounted for before assembling.

A Table Inserts (6), (½", ¾", 1", 1½", 2" and 3")
B Spindle Knob
C Drum Washers (5), (¾", 1", 1½", 2" and 3")
D Spindle Drums (5), (¾¾", 1", 1½", 2" and 3")
E Abrasive Sleeves (6), (½", ¾", 1", 1½", 2" and 3")

Figure 1 - Unpacking



Refer to Figures 2 - 5.
CAUTION: Do not attempt assembly if parts are missing. Use this manual to order replacement parts.

⚠WARNING

Do not operate machine until completely assembled.
Do not operate machine until you have completely read and understood this manual.

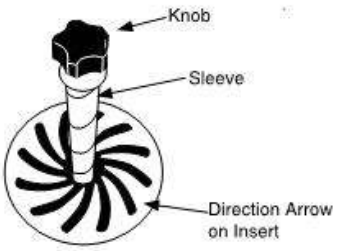
ATTACH ABRASIVE SLEEVES

Refer to Figures 2 and 3.

TO ATTACH ½ ABRASIVE SLEEVE

- Place the ½ table insert over spindle and onto the table. The top side of the insert has directional arrows, as shown.
- Slide sleeve over the spindle.
- Tighten the knob by turning counterclockwise to secure sleeve in positon so that sleeve will not spin loose during operation.

Figure 2- Attaching the 1/2" Sleeve

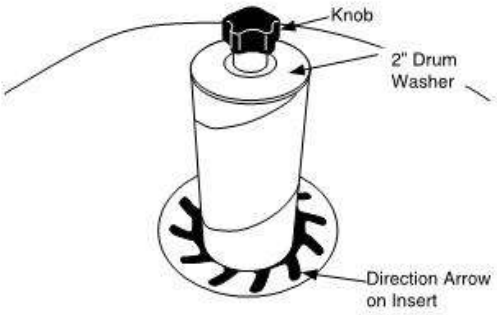


TO ATTACH ¾" – 3" ABRASIVE SLEEVES

Example: 2"

- Place the 2" table insert over spindle and onto the table. The top side of the insert has directional arrows, as shown.
- Slide 2" sleeve over the 2" drum first, then slide drum with sleeve onto spindle.
- Place 2" drum washer on drum.
- Tighten the knob to secure drum in position. Knob and washer must hold the drum securely so that it does not spin loose during operation.

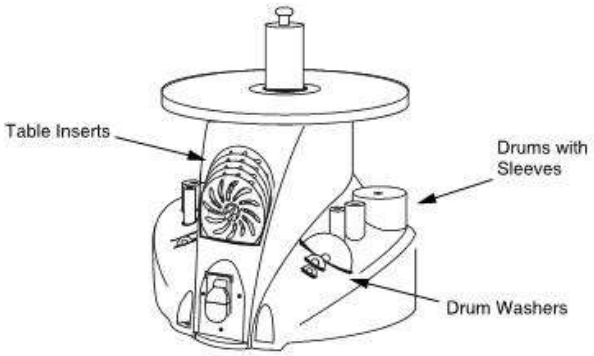
Figure 3- Attaching 2" Drum with Sleeve



ONBOARD STORAGE

Onboard storage is provided to hold drums, inserts and washers.

Figure 4- Onboard Storage



OPERATION

Refer to Figures 8 and 9.

DESCRIPTION

The Oscillating Spindle Sander makes sanding irregular shapes and curves in wood easy and convenient.
Sander features a large 14" cast iron table, dust port and onboard storage of durms, inserts and washers.
Six sizes of drums are included.

⚠WARNING

Operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety goggles before commencing power tool operation.

CAUTION: Always observe following safety precautions.

SAFETY PRECAUTIONS

- When adjusting or replacing any parts on the tool, turn switch OFF and unplug the power cord.
- Make sure all moving parts are free and clear of any interference.
- Make sure all guards are properly attached and fastened in position.
- Make sure all fasteners are tight and have not vibrated loose.
- Always wear eye protection or face shield.
- Test operation by hands for clearance and adjust if necessary. Do this only when the power is off.
- The drum should trun clockwise.
- Allow drum to come up to full speed before starting sanding.
- Do not attemp to stall motor or reduce speed. Do not force the work into the abrasives.
- Keep your hands clear of any moving parts.
- Avoid kickback of the workpiece by sanding in accordance with the directional arrows.
- Never push a sharp object rapidly against sleeve. Abrasive backing may be damaged.
- Never use the machine for wet sanding, which can result in hazard of electrical shock.
- Make sure workpiece is well supported by table during operation.
- Replace abrasives when they become worn or glazed.

ON/OFF SWITCH

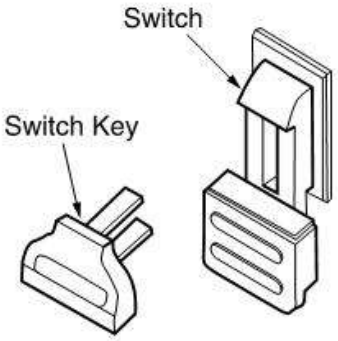
Refer to Figure 8.

The ON/OFF switch is located on the sander base. To turn the sander ON, pull the switch to the up position. To turn the sander OFF, push the switch to the down position.

NOTE: when the machine is not in use, the switch should be locked in the "OFF" position to prevent unauthorized use.

- To lock the machine, turn the switch to "OFF" position. Pull the key out. The switch can't be turned on without the key.
- If the key is removed when the switch is at the "ON" position, the switch can be turned off but can not be turned on again.
- To unlock, place the key into the slot on switch unit until it snaps.

Figure 8 - Locking Switch in OFF Position



BASIC SANDING OPERATION

NOTE: This tool is designed for sanding wood and wood products only.

• Use the desired sanding sleeve and drum for the particular application. Choose the size that is similar to the contour of your workpiece.

⚠WARNING

Failure to use the correct size table insert with its matching sanding sleeve could result in injuries to fingers or the workpiece being pulled down between the table insert and sanding sleeve.

For best results, start with a coarse grit and sand until the surface is uniform. Medium grit may then be used to remove scratches from by the coarser grit and finer grit used for the final finishing.

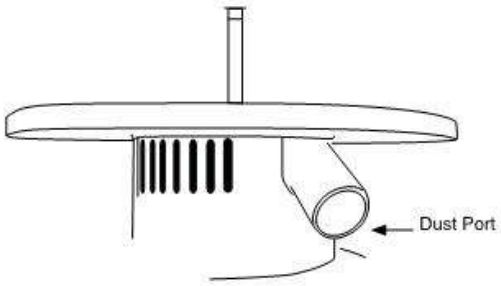
DUST COLLECTION

Refer to Figure 9.

A dust collection port has been provided; it is located beneath the work table on the rear side of the sander. The dust port is sized to fit many commomly used wet/dry vacuums.

The use of dust collection is highly recommended. Sawdust buildup beneath the table may prevent the spindle from oscillating completely, causing damage to the tool.

Figure 9 - Location of Dust Port



MAINTENANCE

⚠WARNING

Disconnect the unit from power source before servicing or disassembling any components.

CLEANING

Keep machine and workplace clean. Avoid accumulation of sawdust on the tool.
Be certain motor is kept clean and free of dust.
Use soap and water to clean painted parts, rubber parts and plastic guards.

LUBRICATION

The shielded ball bearings in this unit are permanently lubricated at the factory. They require no more lubrication.

- A light coat of paste wax on the work table, will make it easier to feed the workpiece and prevent rust.

KEEP TOOL IN REPAIR

- If power cord is worn, cut, or damaged in any way, do not operate the machine.
- Replace any worn, damaged, or missing parts. Use parts list to order parts.

Any attempt to repair motor may create a hazard unless repair is done by a qualified service technician.

ASSEMBLY

POWER SOURCE

⚠WARNING

Do not connect to the power source until the machine is completely assembled.
The machine is wired for 230 volts, 50 HZ alternating current. Before connecting the machine to the power source, make sure the switch is in the "OFF" position. Running the unit on voltages which are not within range may cause overheating and motor burn-out. Heavy loads require that voltage at motor terminals be no less than the voltage specified on nameplate.

- Power supply to the motor is controlled by a single pole locking rocker switch. Remove the key to prevent unauthorized use.

TROUBLESHOOTING

SYMPTON	POSSIBLE CAUSE(S)	SOLUTIONS
Motor will not start	1. Low voltage 2. Short circuit in line cord or plug 3. Short circuit in motor 4. Open circuit or loose connection in motor 5. Incorrect fuses or circuit breakers 6. Defective switch	1. Check power supply for proper voltage 2. Inspect line cord and plug for faulty insulation or shorted connection 3. Inspect connection on motor. 4. Inspect connection on motor 5. Replace with correct fuses or circuit breakers 6. Replace switch
Motor stalls or fails to reach full speed	1. Power overload 2. Low voltage from power supply 3. Undersized line cord 4. Motor overload 5. Short circuit or loose connection in motor 6. Incorrect fuses or circuit breakers	1. Reduce workload on the power supply 2. Check power supply for proper voltage 3. Use line cord of adequate size or reduce length of wiring 4. Reduce load on motor 5. Inspect the connection in motor for loose or shorted connection 6. Replace with correct fuses or circuit breakers
Motor overheats	Motor overloaded	Reduce load on motor. Turn off the machine until motor cools down
Machine slows down while operating	Applying too much pressure during operation	Ease up on pressure
Sandpaper slips on drum	1. Applying too much pressure during operation 2. Spindle knob loose	1. Ease up on pressure 2. Tighten spindle knob
Sandpaper not removing wood	Sandpaper glazed or loaded with sawdust	Replace sandpaper
Wood burns while sanding	Sandpaper glazed or loaded with sawdust	Replace sandpaper
Spindle cannot complete the entire oscillating circle	1. Too much sawdust builds up 2. Faulty oscillating mechanism	1. Vacuum clean the machine 2. Inspect the oscillating mechanism
Excessive noise or vibration	1. Spindle and motor not aligned properly 2. Drum and sleeve not secured properly	1. Adjust motor and spindle alignment and tighten all fasteners 2. Adjust and tighten spindle knob properly to secure drum and sleeve in position