

**sandwox**

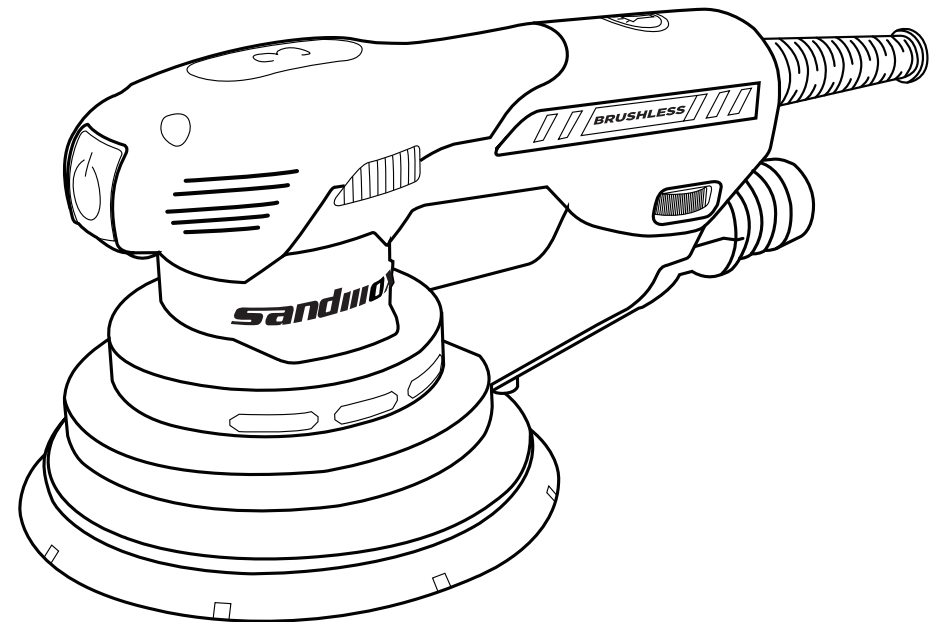
# Operating Manual

## With Spare Part List

**Random-Orbit Electric Sander  
150mm (6in)**

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**SX653  
SX655**





**SANDWOX (CHANGZHOU) NEW MATERIALS  
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## SAFETY INFORMATION: READ AND SAVE THESE INSTRUCTIONS

Please read understand and follow all safety information contained In these Instructions prior to the use of this tool. Retain these Instructions for future reference.

### Explanation of Signal Word Consequences

-  **WARNING:** Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
-  **CAUTION:** Indicates a potentially hazardous situation, which, if not avoided, could result in minor or moderate injury and/or property damage.

## GENERAL POWER TOOL SAFETY WARNINGS

 **WARNING:** Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.** The term "powertool" in the warnings refers to your mains -operated (corded) power tool or battery-operated (cordless) power tool.

### 1) Work Area Safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Powertools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2) Electrical Safety

- a) **Power tools plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

### 3) Personal Safety

- a) **Stay alert watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating powertools may result in serious personal injury.
- b) **Use personal protective equipment Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying powertools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

### 4) Power Tool Use and Care

- a) **Do not force the powertool. Use the correct power tool for your application.** The correct powertool will do the job better and safer at the rate for which it was designed.
- b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

## GENERAL POWER TOOL SAFETY WARNINGS

- c) **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) **Store idle power tools out of reach of the children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Powertools are dangerous in the hands of untrained users.
- e) **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **Use the power tool, accessories and tool bits, etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

### 5) Service

**Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the powertool is maintained.

## WARNINGS

**To reduce the risks associated with impact from abrasive product, pad, or tool breakup, sharp edges, vibration and noise:**

- If you notice any abnormal noise or vibration when operating the tool, immediately discontinue its use and inspect for worn or damaged components. Correct or replace the suspect component, if abnormal noise or vibration still exists, return the tool to SANDWOX for repair or replacement. Refer to warranty instructions.
- Immediately discontinue use of tool if its noise reduction muffler system has been damaged or is otherwise not functioning properly. Have tool repaired before placing back into use.
- Operators and other personnel must always wear protection for eyes, ears, and respiratory protection when in the work area or while operating this product. Follow your employer's safety policy for FFE and/or AHSI287-1 or local/national standards for eyewear and other personal protective equipment requirements.
- Wear protective apparel, taking into consideration the type of work being done.
- Proper eye protection must be worn at all times.
- Only personnel who are properly trained should be allowed to service this tool.
- Never allow this tool to be used by untrained people.
- Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.
- Prior to use, inspect abrasive product and back-up pad for possible damage, if damaged, replace with new abrasive product and back-up pad available from SANDWOX.
- On overhead work, wear a safety helmet
- Read, understand and follow the safety information contained in these instructions prior to the use of this tool. Retain these instructions for future reference.
- Do not modify this sander. Modifications may reduce the effectiveness of safety measures and increase the risks to operator.
- Tool is not to be operated in the presence of bystanders.
- Never operate this tool without all safety features in place and in proper working order.
- Never over-ride or disable the safety features of the start-stop control such that it is in the on position.
- Only use accessories supplied or recommended by SANDWOX.

**To reduce the risks associated with hazardous dust ingestion or eye/skin exposure:**

- Dusts and fumes generated when using sanders cause ill health (for example: cancer, birth defects, asthma and/or dermatitis); risk assessment of these hazards and implementation of appropriate controls is essential.
- Risk assessment should include dust created by the use of the tool and the potential for disturbing existing dust
- Operate and maintain the sander as recommended in these instructions, to minimize dust or fume emissions.
- Direct the exhaust so as to minimize disturbance of dust in a dust-filled environment
- Where dusts or fumes are created, the priority shall be to control them at the point of emission.
- All integral features or accessories for dust collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
- Select, maintain and replace the consumable as recommended in these instructions, to prevent an unnecessary increase in dust or fumes.
- Use respiratory protection as instructed by your employer and as required by occupational health and safety regulations.
- Use appropriate respiratory and skin protection, or local exhaust as stated in the SDS of the material being worked on.

## ⚠ WARNINGS

### To reduce the risks associated with fire and/or explosion:

- Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. The abrasives are able to create sparks when working material, resulting in the ignition of the flammable dust or fumes.
- Refer to SDS of material being worked as to potential for creating fire or explosion hazard.

### To reduce the risks associated with hazardous vibration:

- If any physical hand/wrist discomfort is experienced, work should be stopped promptly to seek medical attention. Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

### To reduce the risks associated with hazardous noise:

- Unprotected exposure to high noise levels can cause permanent, disabling, hearing loss and other problems such as tinnitus (ringing, buzzing, whistling or humming in the ears).
- Always wear hearing protection while operating this tool. Follow your employer's safety policy.
- Local/national standards for personal protective equipment requirements.

### To reduce the risks associated with fly off of abrasive product or parts:

- An inadequately tightened disc pad could cause the threaded shaft to break causing damage to the tool and work piece and possible injury to the operator or bystanders.

## ⚠ CAUTION

### To reduce the risks associated with skin abrasion, burns, cuts, or entrapment:

- Keep hands, hair, and clothing away from the rotating part of the tool.
- Wear suitable protective gloves while operating tool.
- Do not touch the rotating parts during operation for any reason.
- Do not force tool or use excessive force when using tool.

### To reduce the risks associated with fly off of abrasive product or parts:

- Use care in attaching abrasive product and pad; following the instructions to ensure that they are securely attached to the tool before use.
- Never free speed the tool.
- Never point this product in the direction of yourself or another person.
- Never over-tighten backup pad.
- Do not allow the tool to be started unintentionally.

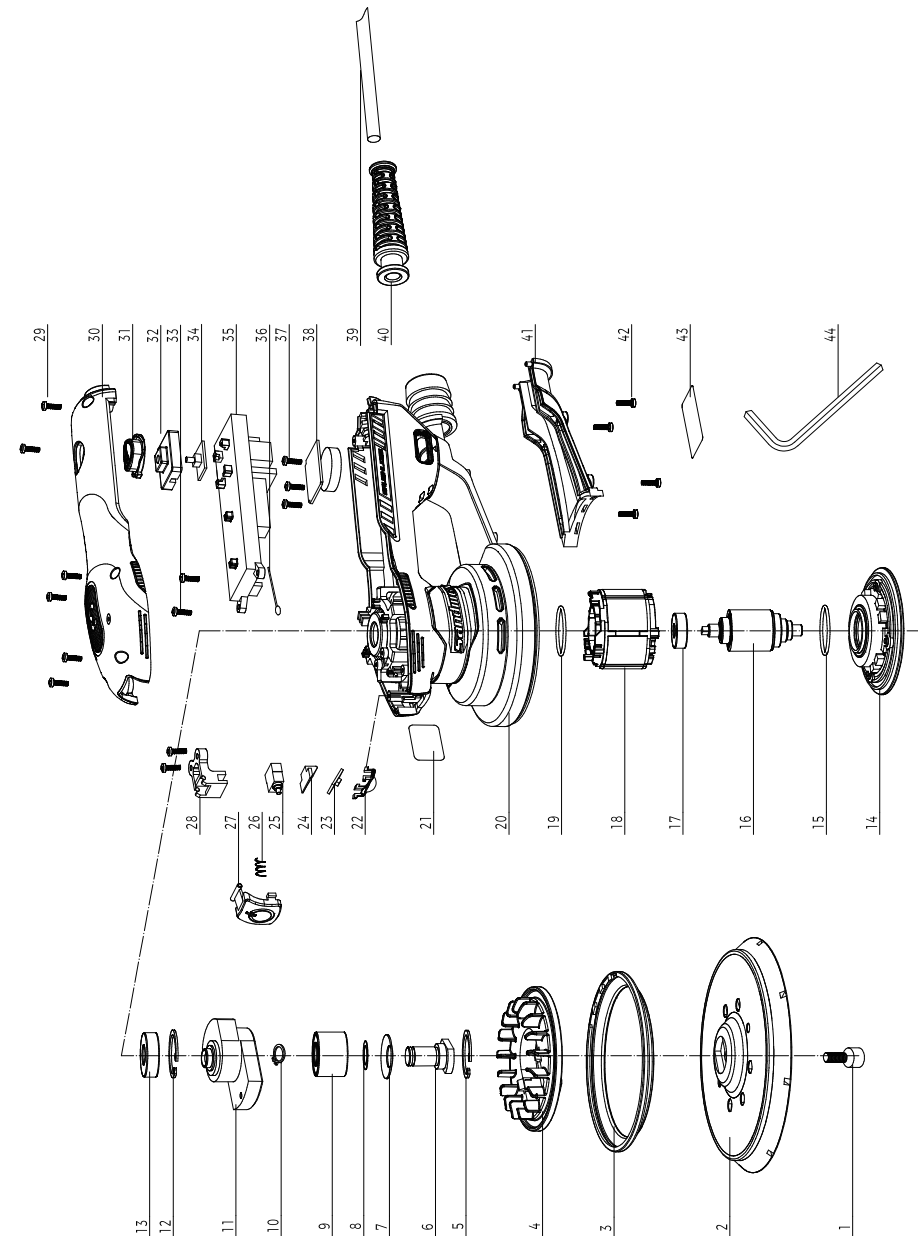
### To reduce the risk associated with environmental contamination:

- Dispose of electronic waste in accordance with all applicable regulations.
- Dispose of all process dust in accordance with all applicable regulations.

## ⚠ ADDITIONAL SAFETY WARNINGS

- Hold power tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

## Spare Part Page & Assembly Instructions



## Spare Part List

Number	Code	Description	Qty
1	SX650001	Hexagonal socket screw with washer M8 × 16	1
2	SX650002	Polishing disc	1
3	SX650003	Rubber ring	1
4	SX650004	Eccentric block fan blade	1
5	SX650005	Single layer VKM-28 for spiral retaining ring hole	1
6	SX650006	Flat output shaft	1
7	SX650007	Butterfly gasket 28 × 14.2 × 0.8	1
8	SX650008	Dust washer 0.3	1
9	SX650009	Bearing 5001	1
10	SX650010	Elastic retaining ring for shaft 12	1
11	SX650011	Eccentric block	1
12	SX650012	Elastic retaining ring for reverse hole 28	1
13	SX650013	Bearing 6001	1
14	SX650014	Motor mounting bracket	1
15	SX650015	O-ring 25 × 1.8	1
16	SX650016	Brushless rotor	1
17	SX650017	Bearing 608	1
18	SX650018	Brushless stator	1
19	SX650019	O-ring 26.5 × 1.8	1
20	SX650020	Shell	1
21	SX650021	Labeling	1
22	SX650022	Lamp cover	1
23	SX650023	LED light board component	1
24	SX650024	LED light cover plate	1
25	SX650025	Switch components	1
26	SX650026	Spring	1
27	SX650027	Switch button	1
28	SX650028	Switch fixing bracket	1
29	SX650029	One character plum blossom self tapping screw ST2.9 × 14	6
30	SX650030	Cover on the casing	1
31	SX650031	Button	1
32	SX650032	Button cover	1
33	SX650033	Cross self tapping screw ST2.9 × 12	8
34	SX650034	LED switch board	1
35	SX650035	Circuit board components 110V - 120V	1
		Circuit board components 220V - 240V	
36	SX650036	Temperature probe component	1
37	SX650037	Cross round head self tapping screw with gasket ST2.2 × 10×6	3
38	SX650038	Governor components	1
39	SX650039	Cable	1
40	SX650040	Cable sheath	1
41	SX650041	Vacuum cleaner cover	1
42	SX650042	One character plum blossom self tapping screw ST2.9 × 6	4
43	SX650043	Parameter labeling	1
44	SX650044	Internal hexagonal wrench	1

## Specifications: Electric Random Orbital Sander

Pad Size mm(in.)	Orbital mm(in.)	Power(w)	Speed RPM(r/min)	Protection Class	Operating Voltage
150(6)	5(3/16)	400W	4000-10000	II	220-240V.50Hz

## Operating & Maintenance Instructions

### PRIOR TO THE OPERATION

The tool is intended to be operated as a handheld tool. It is always recommended that while using the tool, operators stand on a solid floor, in a secure position with a firm grip and footing. Be aware that the sander can develop a torque reaction.

### STARTING AND STOPPING SANDER

1. Plug-in the sander's AC power cord to the power source (220-240V a.c. output). - see figure 1.
2. Press the LED button on the button plate to switch on the sander. - see figure 2.
3. Adjust the speed by rotating the knob from 1 to 6 level. - see figure 3.
4. Press the power button to start running the tool. Press the power button again to stop the tool. - see figure 4.

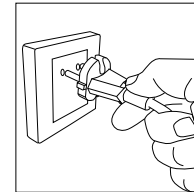


figure 1

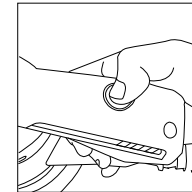


figure 2

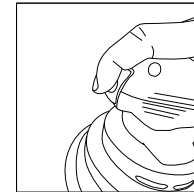


figure 3

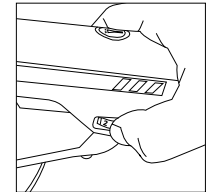


figure 4

### SPEED CONTROLFUNCTION

The Electric Random Orbital Sander has eleven preset Maximum Speeds (4000-5000-5500-6000-6500-7000-7500-8000-8500-9000-10000 r/min (RPM)).

Maximum Speed is adjusted by rotating the knob from 1 to 6 level.

### OVERLOAD PROTECTION SYSTEMS

The Electric Random Orbital Sander has two systems to help protect the motor and circuit board from overloading and overheating.

#### Downforce Overload System

The Sander has the ability to monitor and maintain the preset Maximum Speed as user downforce increases or decreases during use. During periods of overly high user downforce, the Sander will flash the LED on the back of the tool from Green to Red and cause the motor to slow slightly as a warning to the user. Continuous downforce should be no greater than approximately 11 it. (5Kg). If the user continues with overly high downforce, the Sander will change the LED to solid Red and stop. To restart the sander immediately, released the lever and pressed down again and continue sanding. Repeated overloading will result in frequent motor stops and increased tool temperature.

#### Temperature Overheat System

The Sander has the ability to monitor temperature of the internal electronic systems, and can shut the tool down when temperature reach damaging levels. During periods that result in high internal temperature, the Sander will shut down if the temperature reaches a damaging level. The Sander will not be able to be restarted until the internal temperature cools to a level safe for the electronic systems. Cooling time depends on local conditions. An initial waiting period of 5 minutes is recommended. Repeated overheating will result in longer cool down times.

### ATTACHING DISC PADS

1. Secure the Spindle with the flat wrench provided with the tool, and screw the Disc pad on. Tighten to firm hand-tightness. Do not overtighten.
2. To remove the Disc Pad, insert the flat wrench between the Disc Pad and shroud. Secure the Spindle with the flat wrench and unscrew the Disc pad.

### CLEANING

1. Periodically blow out all air passages and area above Disc pad and under shroud with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts.
2. Wear safety glasses while using compressed air.

## Safety Precautions

1. Read all instructions before using this tool. All operators must be fully trained in its use and aware of these safety rules.
2. The tool RPM should be checked on a regular basis to ensure proper operating speed.
3. Make sure the tool is disconnected from the power supply. Select a suitable abrasive and secure it to the pad. Be careful to center the abrasive on the pad.
4. Always wear required safety equipment when using this tool.
5. When sanding/buffing always start the tool on the workpiece. This will prevent gouging due to excess speed of the buff pad.
6. Always remove the power supply to the sander before fitting, adjusting or removing the abrasive or pad.
7. Always adopt a firm footing and grip and be aware of torque reaction developed by the sander.
8. Use only SANDWOX approved spare parts.
9. Always ensure the material being sanded is firmly fixed to avoid movement.
10. Check cord regularly for wear. Do not carry the tool by its cord always be careful to prevent the tool from being started when carrying the tool with the power supply connected.
11. Dust can be highly combustible. Keep working area clean.
12. If tool is serviced or rebuilt check to ensure that the maximum tool RPM is not exceeded and that there is no excessive tool vibration.
13. Prior to installing any sanding accessory, always check that its marked maximum operating speed is equal or higher than the rated speed of this tool.
14. Do not use where there is a possibility of contact with live electricity, gas pipes, and/or water pipes.
15. This tool is not protected against hazards inherent in grinding and cutting operations and no such accessories should ever be attached.
16. Take care to avoid entanglement with the moving parts of the tool with clothing, ties, hair, cleaning rags or loose hanging objects- If entangled, stop air supply immediately to avoid contact with moving tool parts.
17. Keep hands clear of the orbiting pad during use.
18. If the tool appears to malfunction, remove from use immediately and arrange for service and repair.
19. When tool is not in use, store in a clean dry environment free of debris.
20. Operate tool in a well lit work area.
21. Recycle or dispose of tool according to Local, State, and Federal Regulations.
22. Whenever performing maintenance procedures, use care to avoid exposure to any hazardous substances deposited on the tool as a result of work processes. Also, refer to warnings related to dust exposure.

## Recommended Accessories

SANDWOX backup pads are perfectly matched for use in the SANDWOX Sander. Constructed from premium, industrial quality materials and featuring a riveted fiberglass and steel hub with molded urethane, their durability and precise construction are the ideal complement to the performance of the SANDWOX Sander. See Product Configuration/Specifications table for the correct replacement pad for a particular model.

## Setting Up Disc Pad On Electric Random Orbital Sander

1. Disconnect tool from power supply.
2. Remove old disc pad from sander by inserting the wrench, supplied with the tool, between the rubber shroud and the disc pad. Use the wrench to secure the sander spindle while timing the disc pad counterclockwise.
3. After the old disc has been removed from the sander, inspect the threaded hole in the spindle to ensure that the threads are free of debris and undamaged.
4. Ensure that the phenolic washer is in place around the threaded shaft of the new disc pad.
5. Secure the sander spindle with the wrench and tighten the new disc pad securely to the tool.