

Main safety instructions For all tools

a. Workplace safety

1) Keep the work area clean and bright. Cluttered and dark areas are prone to accidents. 2) Do not operate power tools in explosive environments, such as flammable liquids, gases or dust. Sparks generated by power tools can ignite dust and gases. 3) Let the children and bystanders operate the power tool after leaving. Inattention will make you lose control of the power tool.

b. Electrical safety

1) The plug of the power tool must be matched with the socket. Never modify the plug in any way. Do not use any conversion plug for power tools that need to be grounded. Unmodified plugs and matching sockets will reduce the risk of electric shock.

2) Avoid contact with grounded surfaces, such as pipes, heat sinks, and refrigerators. If your body is grounded, you will increase the risk of electric shock.

3) Do not expose power tools to rain or humidity. Water entering the power tools will increase the risk of electric shock.

4) Do not abuse the wire, never carry it with the wire, pull the power tool or unplug it, and keep the wire away from heat, oil, sharp edges or moving parts. Damaged or entangled flexible wires will increase the risk of electric shock.

5) When using a power tool outdoors, use an external cord that is suitable for outdoor use. A cord suitable for outdoor use will reduce the risk of electric shock.

6) If operating a power tool in a humid environment is unavoidable, use a residual current operated protector (RCD). Using RCD can reduce the risk of electric shock.

c. Personal safety

1) Stay alert, pay attention to what you are doing and keep your head clear when operating a power tool. Do not operate a power tool when you are tired or under a drug, alcohol or treatment response. Sudden negligence when operating a power tool can result in serious personal injury.

2) Use personal protective equipment. Always wear safety devices such as goggles, dust masks, non-slip safety shoes, hard hats, hearing protection, etc. under appropriate conditions to reduce personal injury.

3) Wear earmuffs. Exposure to noise can cause hearing loss.

4) Prevent accidental startup. Make sure the switch is in the off position when the power and / or battery cover is connected, pick up or carry the tool, put your finger on the switch that is powered on, or plug in when the switch is on.

5) Before turning on the power tool, remove all adjustment keys and wrenches. Keys and wrenches left on rotating parts of power tools can cause personal injury.

6) Do not stretch your hands too long. Always pay attention to your foothold and body balance. This way you can control the power tool well in outdoor situations.

7) Dress appropriately. Do not wear loose clothing or jewelry. Keep your clothes, gloves and hair away from moving parts. Loose clothing, accessories, or long hair can get caught in moving parts and cause personal injury.

8) If devices are provided to connect with chip removal and dust collection equipment ensure that they are well connected and used properly. The use of these devices may reduce the danger caused by dust.

9) Use the auxiliary handle provided with the tool. Mishandling can cause personal injury.

d. Use of power tools and precautions

1) Do not abuse power tools. Use appropriate power tools for your application. Choosing the right power tool will make your work more efficient and safer.

2) If the switch cannot turn on or off the power of the tool, the power tool cannot be used. Power tools that cannot be controlled with switches are dangerous and must be repaired.

3) Before making any adjustments, changing accessories, or storing power tools, you must disconnect the plug from the power source or disconnect the battery box from the tool. This protective measure will reduce the risk of accidental tool startup.

4) Store unused power tools out of the reach of children, and do not allow people unfamiliar with the power tools or these instructions to operate power tools. Power tools are dangerous in the hands of untrained users.

5) Maintenance of power tools. Check whether the moving parts are adjusted in place. Check the damage of the parts and other conditions that affect the operation of the power tool. If damaged, power tools should be repaired before use. Many accidents are caused by poorly maintained power tools.

6) Keep cutting tools sharp and clean. Well-maintained tools with sharp cutting edges are not easy to jam and are easy to control.

7) According to the instruction manual, consider the operating conditions and the work performed to use the power tools, accessories and tool bits, Use of power tools for operations that are not appropriate for their purpose can be dangerous

* Pay attention to the power supply voltage: When connecting the power, be sure to pay attention to whether the power supply voltage is the same as the voltage indicated on the tool label, When the power supply voltage is higher than the applicable voltage of the tool, the tool itself will be damaged, and a serious accident will occur to the user. Therefore, if the voltage of the power supply cannot be determined, never plug it in, Conversely, if the power supply voltage is lower than the required voltage of the tool, it is harmful to the motor.

 **warning**

 Wear good goggles protect eyes

 Wear a dust mask Prevent dust inhalation

 Wear earmuffs Prevent hearing loss

MALFUNCTION	THE REASON	ELIMINATION METHOD
After the machine is powered Motor does not run	<ol style="list-style-type: none"> 1. Power interruption 2. The connector is loose 3. Poor switch contact 4. Armature or stator coil burned out 5. Stator coil is open 6. Brush exhausted 	<ol style="list-style-type: none"> 1. Repair power 2. Check all connections 3. Repair or exchange the switch 4. Exchange armature or stator coil 5. If broken at the outlet, you can re-solder After use, otherwise you must rewind 6. Replace a new brush
The machine makes abnormal noises when it is powered on, and does not rotate or rotates slowly	<ol style="list-style-type: none"> 1. Switch contact burned out 2. The mechanical part is stuck or the dynamic and static parts are rubbed 3. The bit bit or hit the rebar 4. Loose special nut 5. The armature has a short circuit or an open circuit. 6. Chips get stuck when drilling deep holes 	<ol style="list-style-type: none"> 1. Repair or replace the switch 2. Check the mechanical part 3. Reduce thrust 4. Stop advancing 5. Repair or replace the armature 6. Adjust the power supply voltage
Commutator produces large ring fire or spark	<ol style="list-style-type: none"> 1. Armature short or open 2. Poor contact between brush and commutator 3. The surface of the commutator is not smooth 	<ol style="list-style-type: none"> 1. Repair or replace the switch 2. Check the mechanical part 3. Reduce thrust 4. Stop advancing 5. Repair or replace the armature 6. Adjust the power supply voltage
Commutator produces large ring fire or spark	<ol style="list-style-type: none"> 1. The gearbox lacks grease or becomes dirty 2. The transmission part doesn't fit well or foreign matter falls into it 	<ol style="list-style-type: none"> 1. Repair armature 2. Improve their exposure 3. Remove debris to smooth the surface of the commutator
Gearbox overheating	<ol style="list-style-type: none"> 1. The gearbox lacks grease or becomes dirty 2. The transmission part doesn't fit well or foreign matter falls 	<ol style="list-style-type: none"> 1. Add or replace lubricant 2. Check the transmission part or remove the sundries

BLOWER

1. When using a blower, wear protective glasses, gale and protective masks
2. When using a blower, do not point the nozzle at someone nearby.
3. When collecting dust, debris and the like, use a dust bag to warn them not to use it on wet surfaces to avoid electric shock.

Protect from rain and keep indoors

4. Do not block the air inlet and / or air outlet. Acceleration of motor rotation can cause damage to the blades

MAINTENANCE

Note; Before performing inspection and maintenance work, be sure to turn off the switch and unplug the power plug.

Replace carbon brush Replace and inspect carbon brushes regularly, When it is worn below about 6 mm (1/4 inch), the brush should be replaced to keep the carbon brushes clean and free to move in the clamps. Both carbon brushes should be replaced at the same time, Remove the cover of the carbon brush holder with a screwdriver, Remove the worn carbon brush insert a new carbon brush, and tighten the carbon brush holder cover, in order to ensure the safety and reliability of the product, repairs and any other maintenance adjustments should be performed by a professional factory service center, And use original accessories