USER MANUAL

90° - 135° Portable Drill Bit Sharpener, 1/8" - 1/2" Ø

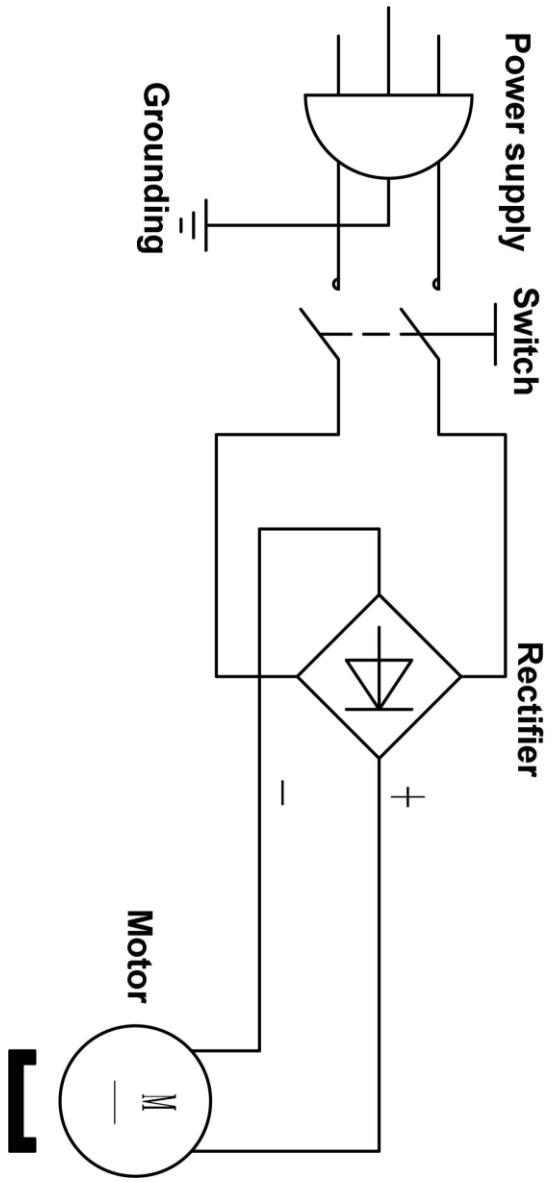
OPERATING INSTRUCTION

PLEASE REMEMBER

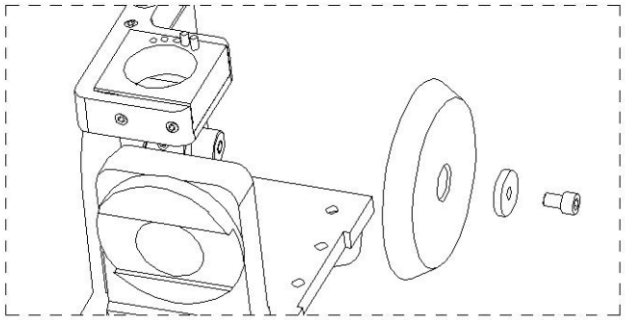
1. When using electric tools, machines or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.
2. Keep work area clean. Cluttered areas invite injuries
3. Consider work area conditions. Don't use machines or power tools in damp, wet or poorly lit locations. Don't expose equipment to rain, keep work area well lit. Don't use tools in the presence of flammable gases or liquids.
4. Keep children away, all children should be kept away from the work area.
5. Guard against electric shock. Prevent bodily contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
6. Stay alert. Never operate if you are tired.
7. Don't operate the product if under the influence of alcohol or drugs. Read warning labels on prescriptions to determine if your judgment or reaction might be impaired.
8. Don't wear loose clothing or jewelry as they can be caught in moving parts.
9. Wear restrictive hair covering to contain long hair. Use eye and ear protection.
10. Keep proper footing and balance at all times.
11. Don't reach over or across running machines.

Before operating

1. Be sure the switch is OFF when not in use and before plugging in.
2. Don't attempt to use inappropriate attachments in an attempt to exceed the tools capacity. Approved accessories are available from the dealer or machine maker.
3. Check for damaged parts, before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function.
4. Check for alignment and binding of all moving parts, broken parts or mounting fixture and any other condition that may affect proper operation. Any part that is damaged should be entirely or replaced by a qualified technician.
5. Do not use the tool if any switch does not turn off and on properly.



B. Take out the grinding wheel



1. Use the brush to clean the machine, then use dry cloth to clean the surface.
2. If you just use the the machine, please wait 3 minutes after the grinding temperature is fall.
3. Use the left hand to hold the wheel, then use the 4mm hex wrench to loose the screw counterclockwise by right hand.
4. Take out the diamond grinding wheel on the machine.
5. Replace the new grinding wheel.
6. Put the wheel into the principal axis of motor, and tighten the screw and the wheel cover to complete.

Notice: motor principal axis is very precise, if wrong work may be leading to the damage, thus affecting grinding wheel position.

MAIN APPLICATION AND CHARACTERISTICS

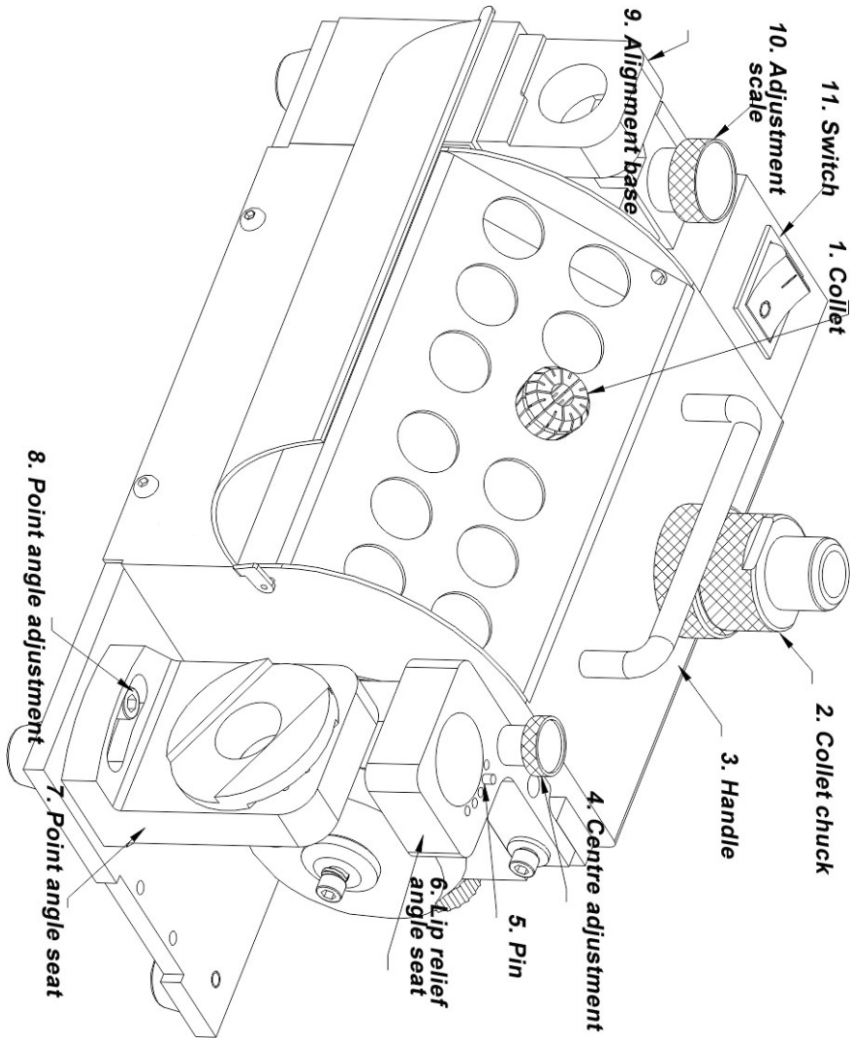
1.Compared with 13A, 13B has four grinding effects of lip relief face, and the precision is higher, the alignment is more accurate.
2.With diamond grinding wheel, it can be equipped directly with an accurate angle and long service life.
3.The electrically controlled and powerful DC motor: stable frequency, strong horsepower and long service life.

MATERIAL

1. CBN grinding wheel is suitable for grinding the HSS (high speed steel) material.
2. SD grinding wheel is suitable for grinding the carbide material.

Model：13B	Motor/Speed：120W/4400rpm
Point angle：100°(90°)-135°	Grinding Range：Ø 1/8" - 1/2"
Power：☐ 220V, 50/60HZ	☐ 110V, 50/60HZ
Weight：9KG	Dimension：32×18×19cm

Standard Equipment	Grinding wheel : ☐ CBN (for HSS)×1 piece ☐ SD (for Carbide)×1 piece
	11ER20 collets: Ø 1/8" - 1/2"
	Collet chuck(ER20) ×1 piece
	Electric wire: 1piece
	2 pcs hexagon wrench (2.5, 4mm)
Optional Equipment	Grinding wheel :CBN (for HSS)
	Grinding wheel :SD (for Carbide)
	Er20 collet: ф3.5 ф4.5 ф5.5

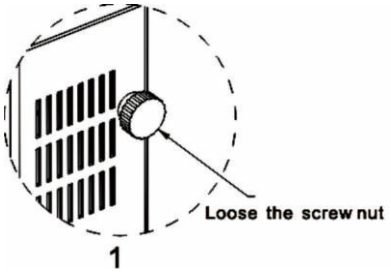


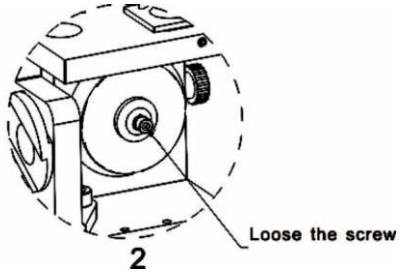
CLEAN AND MAINTENANCE

Please clean the whole unit with an air blow gun, especially the holes before and after use

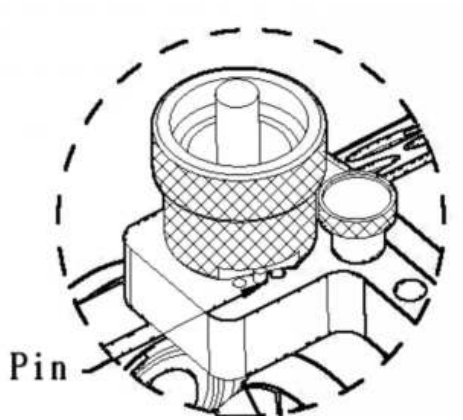
REPLACING THE WHEEL

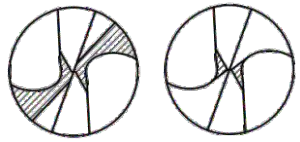
A.Open the wheel cover



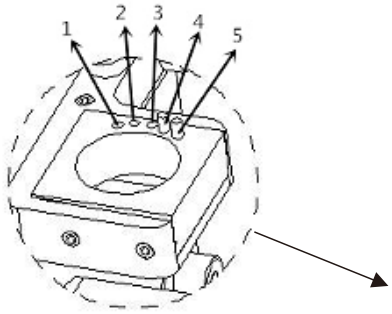


1. Make sure it is safe that the power cord is unplugged
2. Then use the 4mm hex wrench to loose the screw to open the cover.

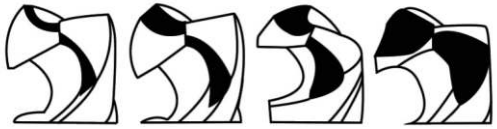




Grinding sample



Notice: The lip relief angle is adjustable by taking out the pin to the another holes. Our standard is the smallest(in the position of No.4&5) for grinding the lip relif face. If need big size for the relief face, put the pin near to the grinding wheel, then grind. There are four positions such as: NO.4&5, No.3&4, No.3, No.1&2.



Four types of lip relief face

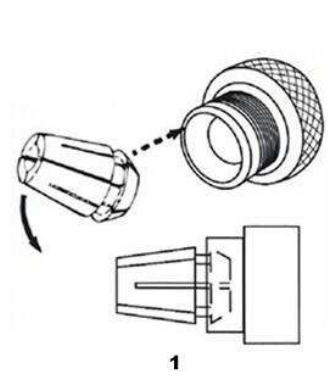
OPERATIONS

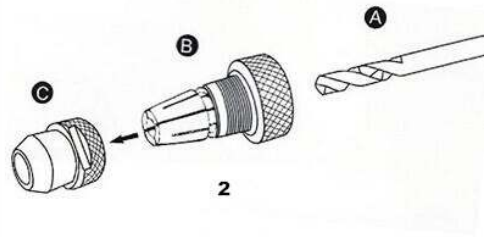
A.Setup the drill bit to the ER collet chuck

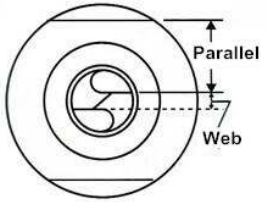
*Please follow step 1,2 to set up the drill bit to the chuck (without tightening)

1.Determine diameter of your drill bit, and then select the proper collet and collet chuck.
2.Insert collet into collet chuck by 45°angle, and tighten nut slightly.
3.Insert drill bit into collet chuck and nuts out 3-5mm or so from the collet chuck, but do not tightened the drill too tight.

※ **Do not fully fasten the clamping nut with collet chuck, keep the drill able to be adjusted.**





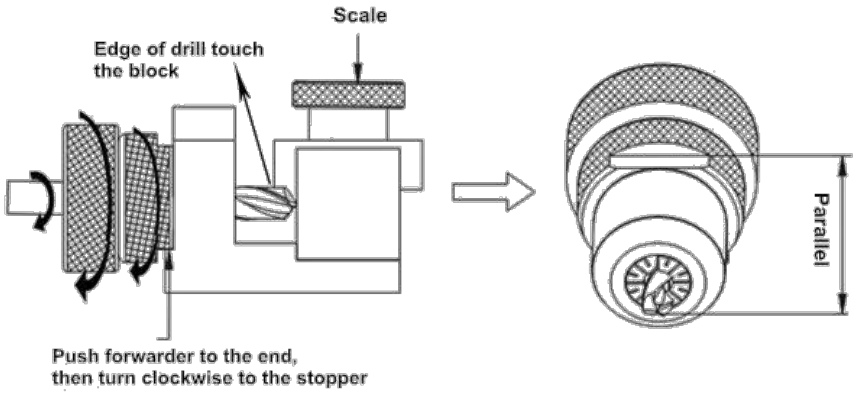


B. Align drill bit

1.Reset the scale ring: turn the ring all the way clockwise, and then turn it anti-clockwise to the number same as the drill's size (according the first lap)
2.Insert the chuck set into the web adjustment shelf. Then connect it tightly. Turn it clockwise to the end.

3.Push the drill to the end and turn it clockwise to the end.
4.Turn the chuck set clockwise to the end and tightens it.
5.Turn the chuck set a little to the anti-clockwise and taking it out gently.

※ **Make sure the cutting lip of drill is parallel with the slot of clamping nut before grinding job started. If it is not parallel, adjust it again.**

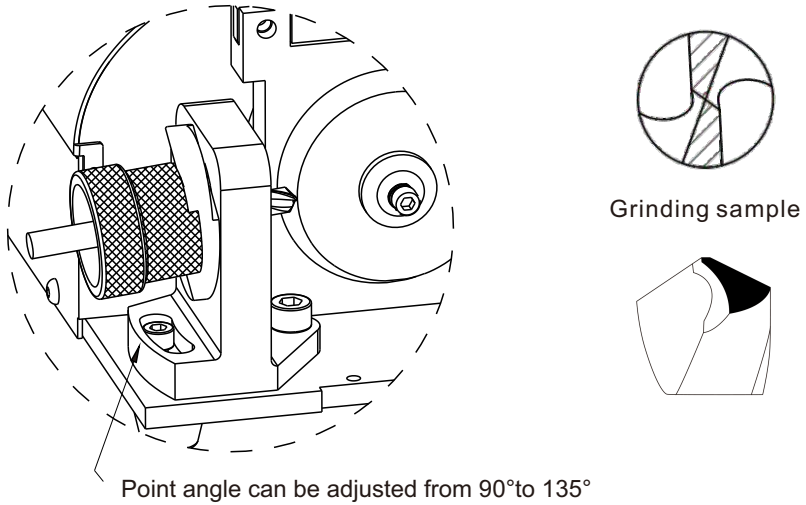


Attention: If the cutting lip is downward, must increase the scale of web adjustment shelf. If it is upward, please decrease the scale of the web adjustment shelf.
When the flute length of a drill becomes shorter, the web thickness of a drill would become thicker. So, for the same diameter of drills, the shorter length of a drill, the higher scale of web adjustment shelf need to be increased.

C. Grind the point angle

Turn the power switch on and wait until the motor rotation is stable (about 10 seconds), put the chuck set into the point angle grinding shelf.
The slot of clamping nut must fit with the two pins of the grinding shelf. Insert the drill gently into grinding shelf until reach the grinding wheel.

Grind the drill by moving left and right until the grinding sound disappears. And then turn to the other side, do the same to grind the drill.
* The grinding size of drill is Ø 1/8" - 1/2"
* The point angle of drill is from 90°to 135°。
* While grinding, don't hold the stem of drill, it will affect the accuracy.



Point angle can be adjusted from 90°to 135°

D. Point grinding point splitting

Put the chuck set into the point splitting shelf. The slot of clamping nut must fit with the pin of the grinding shelf. Insert the drill gently into grinding shelf until reach the grinding wheel.Grind the drill by moving left and right until the grinding sound disappears. Turn back to the center of pin and take out, then turn to the other side, do the same to grind the drill.