



# PO-13/30/430/20C Drill Grinder Operation Manual

## DIRECTORY

PO-13/30 Drill Grinder.....01-04

PO-430 Big Drill Grinder.....05

PO-20C Drill Grinder.....06-12

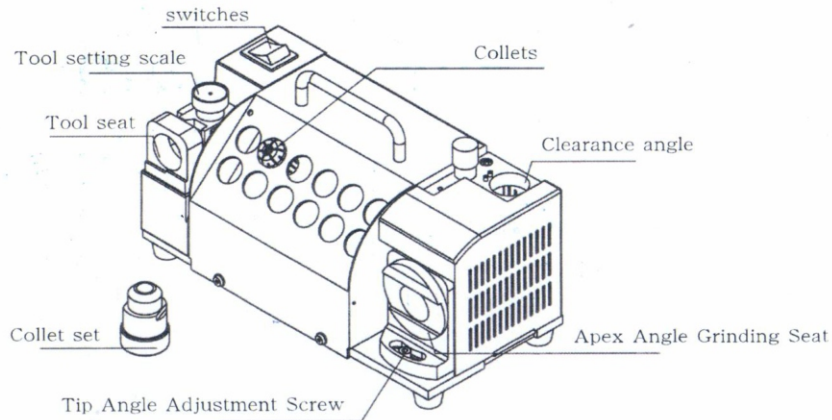
Security Measures.....12

Warranty Card.....13-14



### PO-13/GD-30 Drill Grinder

### Operating Procedure



#### Features

1. Professional drill grinder, accurate and fast grinding, no special skills required.
2. The bearing locking device is adopted to ensure the precise grinding angle.
3. Economical price, greatly saving cost and improving use efficiency.

#### Technical parameter

Model : PO-13  
 Grinding range :  $\phi 3$ - $\phi 13$ mm  
 Tip angle :  $95^\circ$ - $145^\circ$   
 Power : 120w  
 Power supply : 220v  
 Motor speed : 4400rpm  
 Net/Gross : 8/9kg  
 Package Size : 320\*180\*190mm

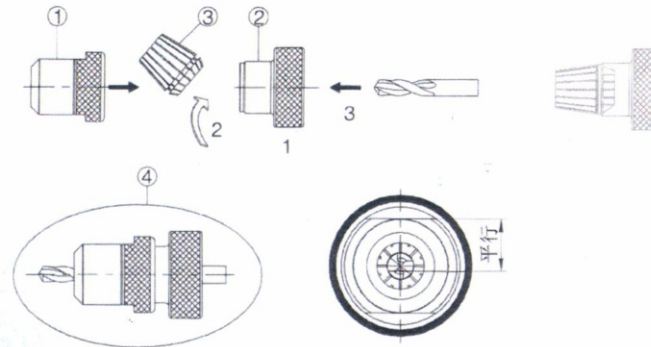
Model : PO-30  
 Twist drill grinding range :  $\phi 13$ - $\phi 30$ mm  
 Center drill grinding range :  $\phi 13$ - $\phi 16$ mm  
 Tip angle :  $95^\circ$ - $145^\circ$   
 Power : 300w  
 Power supply : 220v  
 Motor speed : 5500rpm  
 Net/Gross : 27/31kg  
 Package Size : 430\*260\*340mm

#### The standard configuration

- Model : PO-13
- Power cord 1 Piece
- CBN grinding wheel 1 Piece
- tools 1set
- Collets 6 Piece  $\phi 3/\phi 4/\phi 5/\phi 6/\phi 7/\phi 8/\phi 9/\phi 10/\phi 11/\phi 12/\phi 13$

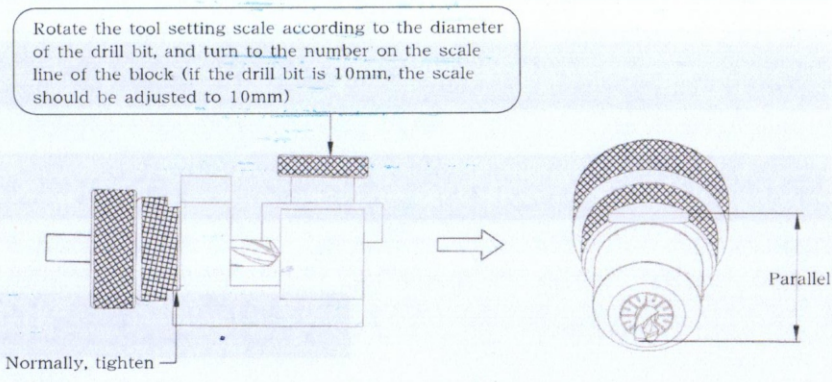
- Model : PO-30
- Power cord 1 Piece
- CBN grinding wheel 1 Piece
- tools 1set
- ER20 collets 16 Piece  $\phi 13/\phi 14/\phi 15/\phi 16/\phi 17/\phi 18/\phi 19/\phi 20/\phi 21/\phi 22/\phi 23/\phi 24/\phi 25/\phi 26/\phi 28/\phi 30$

#### Assembly of Drill Bit Fixture Set



1. First determine the diameter of the clamping part of the drill bit, and select an appropriate range of collets.
2. Insert the collet into the fixture at a  $45^\circ$  angle and tighten the nut.
3. Put the drill bit into the collet and extend about 10mm.
4. When locking the chuck set, a little adjustment space for the drill bit should be kept.

#### Positioning of Drill Fixture Set

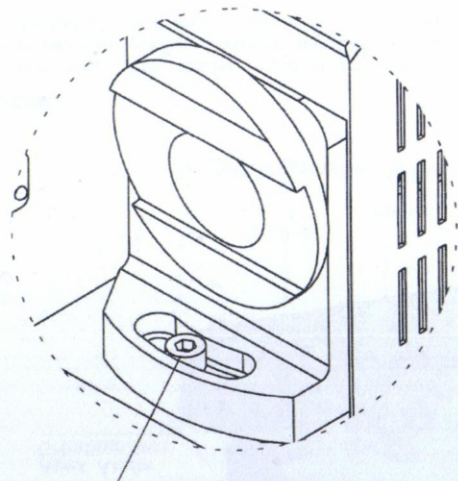


### Positive Positioning

1. According to the size of the drill bit, rotate the tool setting scale to the corresponding size (based on the first circle).
2. Put the fixture group into the tool setting seat, and turn it to the right to keep it flat.
3. Reach the top of the drill bit to the bottom, and turn it to the right, so that the side tip of the drill bit is stuck on the side tip block of the tool holder.
4. Fully lock the clamp set and take out the clamp set.
5. Adjust the knife setting scale back to the locked state.

### Grinding of Tip Angle

1. Press the switch to start the motor.
2. Put the drill bit fixture group into the slot of the apex grinding seat, turn it left and right for grinding, take it out after grinding until there is no sound, turn it 180°, and then grind according to the above steps to complete the apex angle grinding.



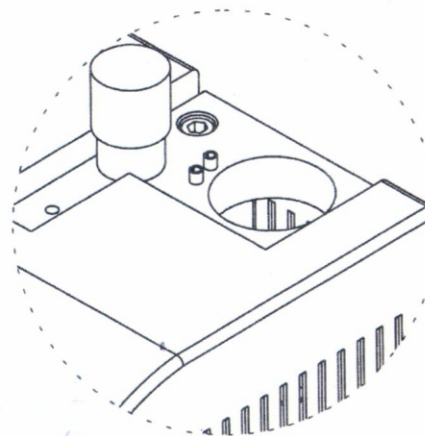
Tip Angle Adjustable Angle 95° ~135°



Grinding effect

### Grinding of Clearance Angle (Back Angle)

1. Put the drill bit fixture group into the grinding port of the rear clearance angle (rear angle), grind it until it is silent, take it out, and turn it 180°.
2. Grinding according to the above steps, the escape angle grinding can be completed.



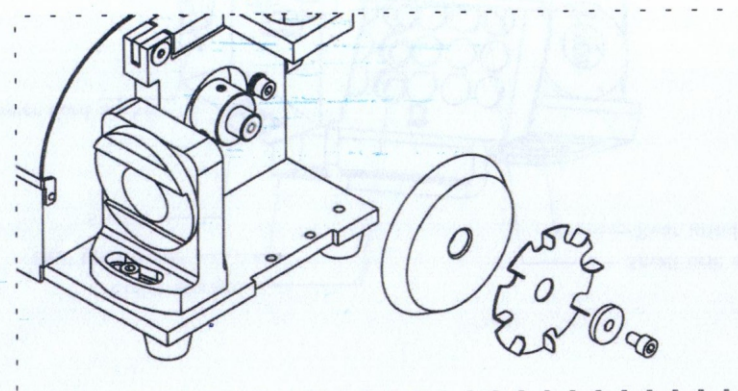
Grinding effect

### Maintenance

Please use the air pressure gun, dust cloth, etc. before and after use to clean the dust and iron filings on the machine, especially the cleaning of the grinding contact hole, so as to ensure the service life of the machine.

### Replace Grinding Wheel

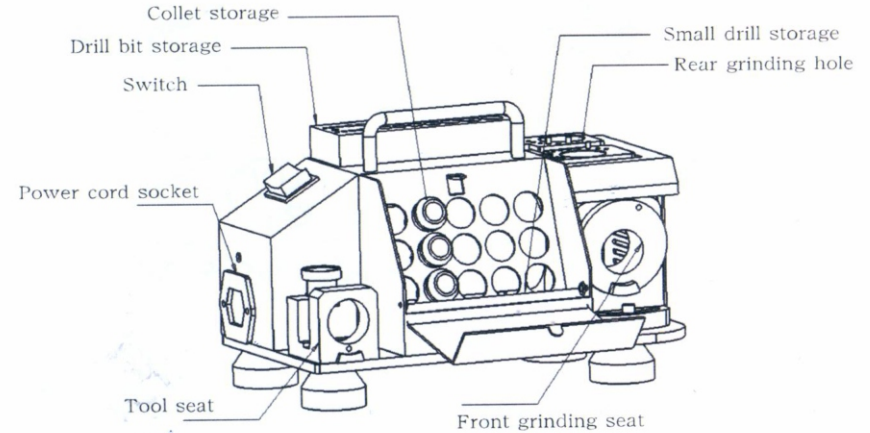
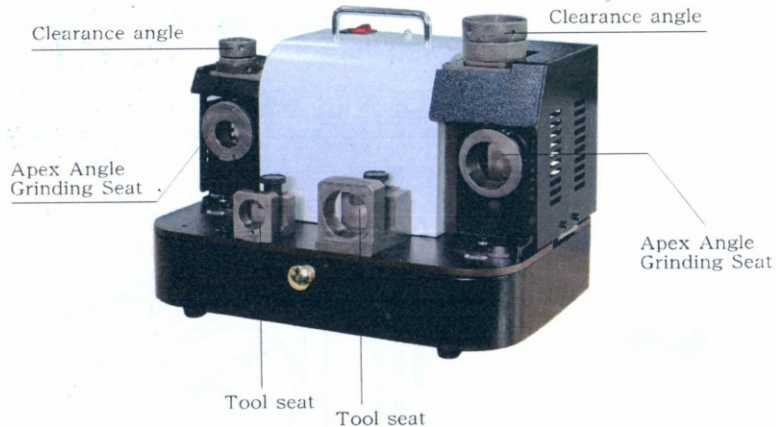
Open the grinding wheel cover, and use the hexagon wrench to loosen the hexagon screw counterclockwise.





## PO-430 Big Drill Grinder

## PO-20C Drill Grinder



The grinding method is the same as PO-13

### Features

1. Professional drill grinder, accurate and fast grinding, no special skills required.
2. The bearing locking device is adopted to ensure the precise grinding angle.
3. Economical price, greatly saving cost and improving use efficiency.

### Technical parameter

Model : PO-430	Grinding range : $\phi 3$ - $\phi 30$ mm
Tip angle : $100^{\circ}(95^{\circ}) \sim 135^{\circ}$	Power : 500w
Power supply : 220v	Motor speed : 5300rpm
Net/Gross : 30/34kg	Package Size : 610*280*330mm

### The standard configuration

- Model : PO-430
- Power cord 1 Piece
- CBN grinding wheel 2 Piece
- Tools 1set
- ER20 collets 12 Piece  $\phi 3/\phi 4/\phi 5/\phi 6/\phi 7/\phi 8/\phi 9/\phi 10/\phi 11/\phi 12/\phi 13/\phi 14$
- ER40 collets 16 Piece  $\phi 15/\phi 16/\phi 17/\phi 18/\phi 19/\phi 20/\phi 21/\phi 22/\phi 23/\phi 24/\phi 25/\phi 26/\phi 27/\phi 28//\phi 29/\phi 30$

### Features

1. Professional drill grinder, accurate and fast grinding, no special skills required.
2. Electronically controlled powerful DC motor: stable frequency, strong horsepower.
3. This machine has tip angle (top angle) and clearance angle (rear angle). The size of the chisel edge in the center of the drill can be adjusted at will.

### Technical parameter

Model : PO-20C	Grinding range : $\phi 3$ - $\phi 20$ mm
Angle adjustment : $90^{\circ} \sim 145^{\circ}$	Power : 500w
Power supply : 220v	Motor speed : 4500rpm
Net/Gross : 12.6/14.6kg	Package Size : 375*225*275mm

### The standard configuration

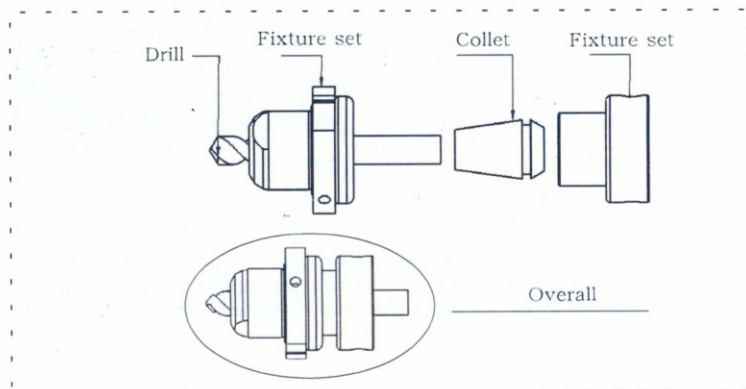
- Model : PO-20C
- Power cord 1 Piece
- CBN grinding wheel 1 Piece
- Tools 1set
- ER32 collets 18 Piece  $\phi 3/\phi 4/\phi 5/\phi 6/\phi 7/\phi 8/\phi 9/\phi 10/\phi 11/\phi 12/\phi 13/\phi 14/\phi 15/\phi 16/\phi 17/\phi 18/\phi 19/\phi 20$



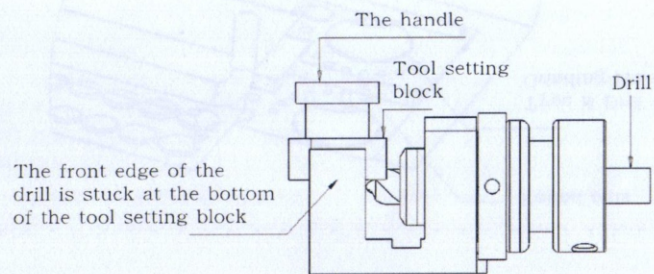
### Operating Procedure

#### 1. Drill to tool

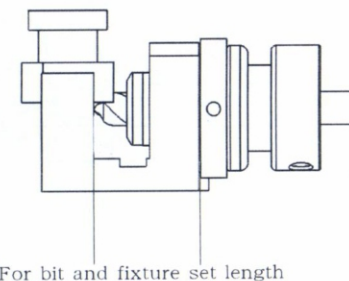
- ① Install the drill on the fixture. As shown in the figure below: the collet is installed on the fixture set, the drill bit is clamped, and the fixture set is slightly locked so that the drill bit is not loose or shaken inside, and the drill bit can just rotate.



- ② The angle of the drill bit. Rotate the handle to the end, and then reverse the scale corresponding to the diameter of the drill bit on the knob; turn the drill bit clockwise to make the bit stuck at the bottom of the tool setting block.

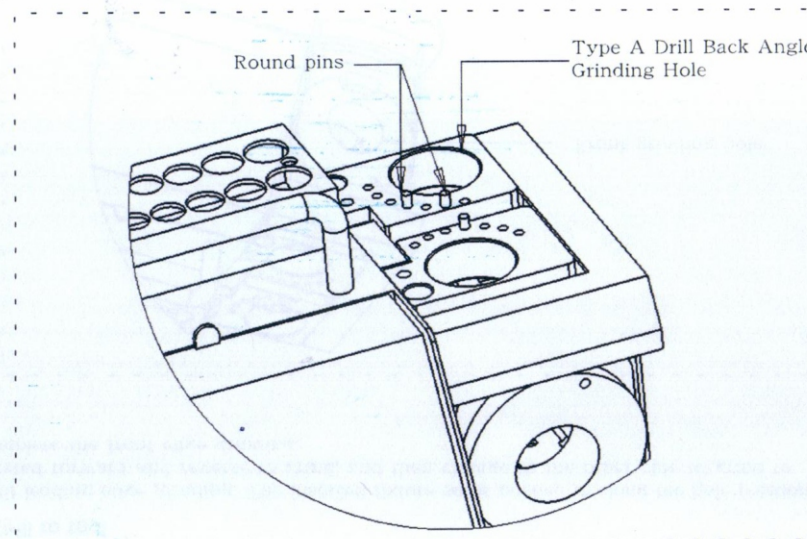


- ③ The length of the drill bit, the jig set and the drill bit are pushed to the bottom along the hole and the clamping position to limit the position of the drill bit and the jig set. Lock the clamp set and clamp the drill bit.



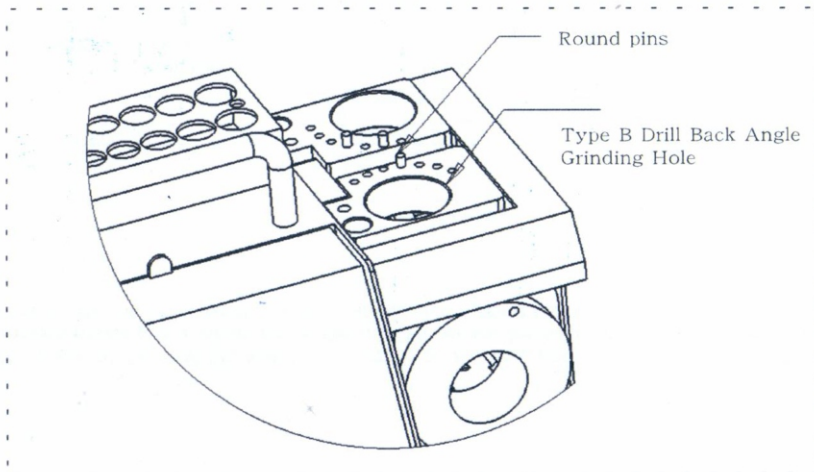
#### 2. Grinding back angle

- ① Type A normal drill bit grinds the rear angle. The installed jig set is lowered along the hole position, rotated forward and reverse for grinding, and then changed to the other side to grind, and the back angle grinding is completed. The round pin next to the hole can change the hole position, and can adjust the size of the rear angle and the front cutting edge surface.



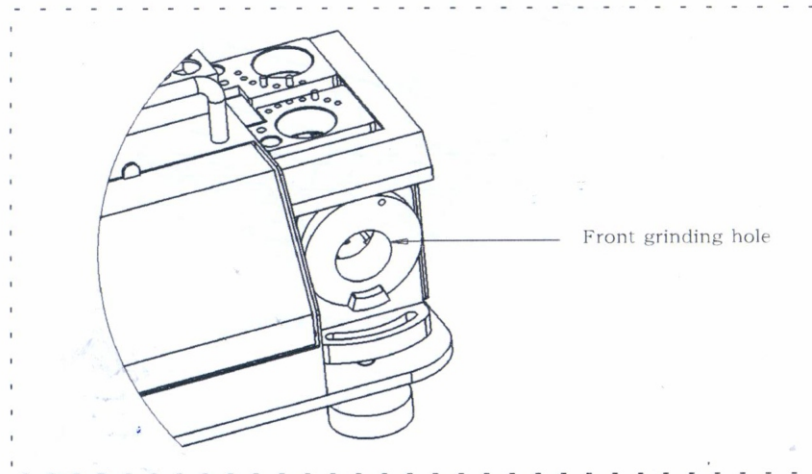


② B-type drill bit with relief angle grinds the rear angle. The installed jig set is lowered along the hole position, rotated forward and reverse for grinding, and then changed to the other side to grind, and the back angle grinding is completed. The round pin next to the hole can change the hole position, and can adjust the size of the rear angle and the front cutting edge surface.

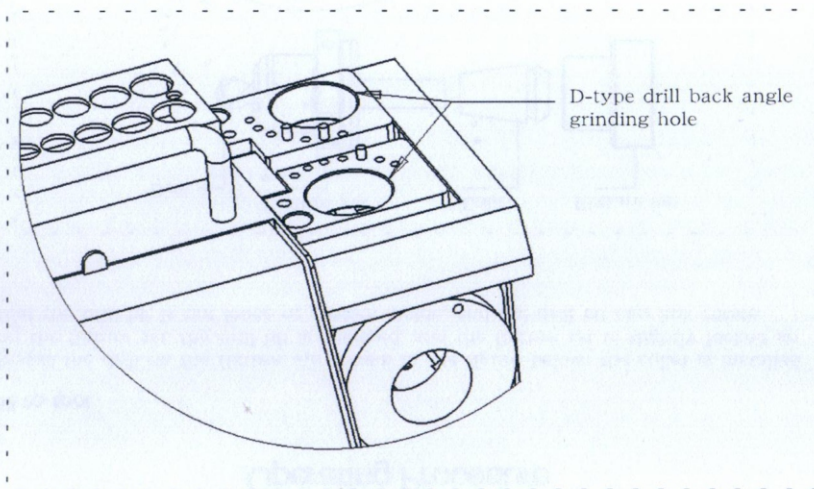


### 3. Drill to tool

Drill leading edge grinding. The installed fixture set is pushed in along the hole position, rotated forward and reverse to grind, and then change to the other side to grind to complete the front edge grinding.



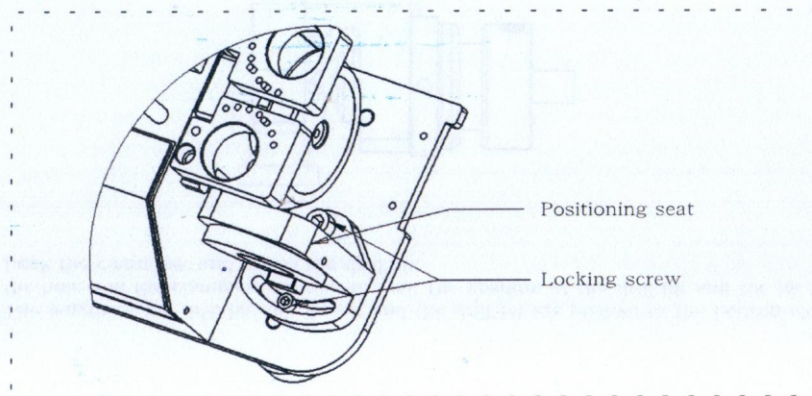
③ D type with centering drill bit to grind back angle. The installed fixture set is lowered along the two holes, rotated forward and reverse to grind, and then change to the other side to grind, and the back angle grinding is completed.



## Functional Regulation

### 1. Adjustment of drill angle

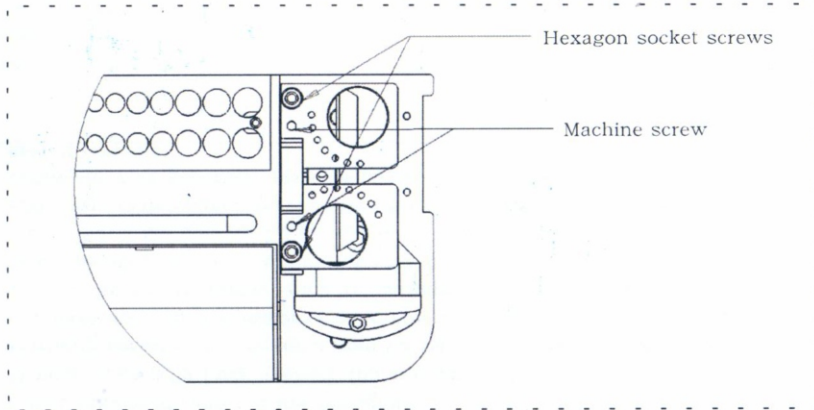
Loosen the locking screw in the picture and turn the positioning seat to adjust the angle of the drill bit.





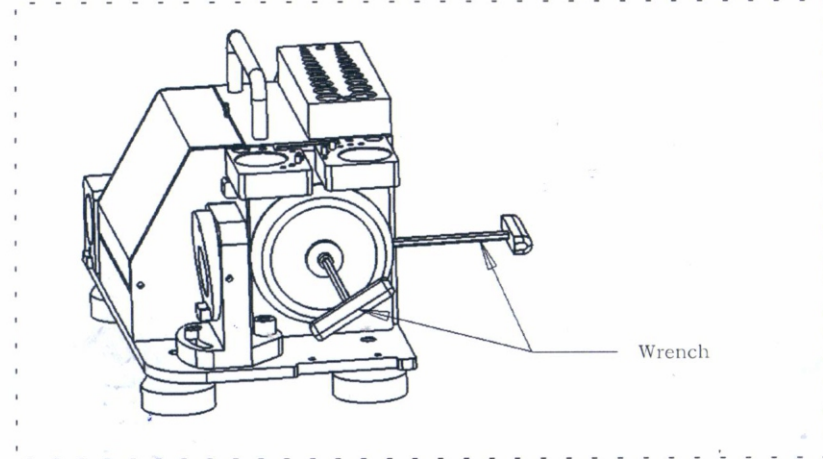
### 2. Adjustment of depth of back angle of drill bit

Loosen the inner hexagonal screw in the picture below, turn the machine meter screw down, the less the rear angle will be ground; twist it up, the more the rear angle will be ground, and tighten the inner hexagonal screw after adjustment.



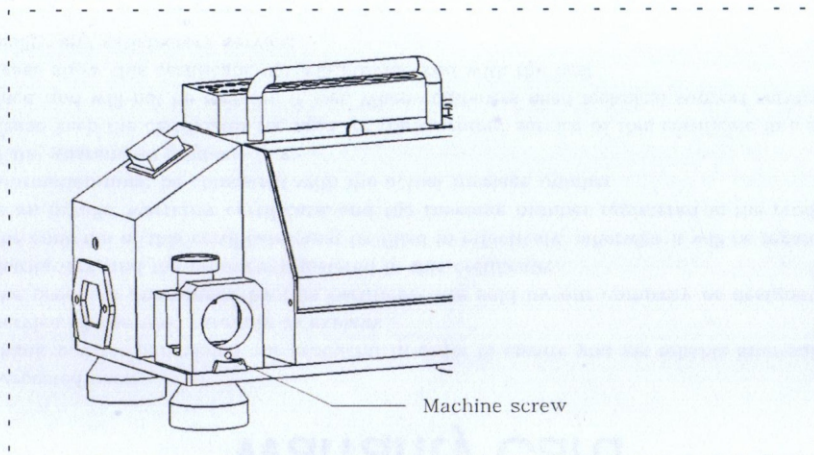
### 4. Replace grinding wheel

Use a wrench to clamp the screw or hole on the flange behind the grinding wheel, and use a wrench to loosen the anti-thread screw in front of the grinding wheel. Note that it is an anti-thread screw, and turn it forward to loosen it.



### 3. Fine-tuning of drill bit grinding amount

As shown in the figure below, when the machine screw is turned outward, the length of the setting tool becomes longer, and the grinding amount of the drill bit increases.



## Safety Precautions

1. Before starting up, check whether the voltage and frequency of the machine are consistent with the power supply.
2. The tentacles on the power plug and socket of the machine should be fastened and reliable without loosening or poor contact.
3. When a fault occurs or there is an abnormal sound, the plug should be unplugged immediately, and then checked and repaired.
4. Don't let the machine run without anyone, be sure to shut down and stop running before leaving. When the power supply of the machine is cut off due to external factors, the switch should be pressed, otherwise the machine may run without people after the power is turned on.
5. Do not operate the machine when you are tired or taking alcohol or narcotics.
6. When the parts and accessories on the machine are damaged, please do not substitute them arbitrarily, and use corresponding parts and accessories with the same performance, such as Take the best from this unit.