

END MILL GRINDER

MODEL: MR-X3A



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.

MAIN APPLICATION AND CHARACTERISTICS

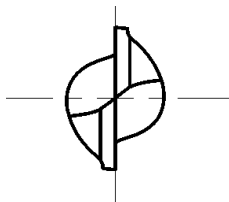
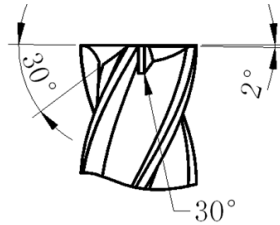
- MR-X3A can grind end mil's face
- The machine is specialized in re-sharpening end mill, it can grind 2-flute, 3-flute and 4-flute, Choosing can grind 5-flute end mill cutter (bigger than $\Phi 12\text{mm}$ can grind 6 -flute end mill). Also can open the Tungsten bar's cutting edge directly.It is accurate and fast,easy operation,with no skill requirement to grind.It also can save the costs,increase work efficiency.
- With diamond grinding wheel,the wheel can be reused twice, it is accurate and with long service life.
- The electrically controlled and powerful DC motor: stable frequency, strong horsepower and long service life.

Model	Grinding Range	Power	Motor/Speed	Weight	Dimension
X3A	$\Phi 4-\Phi 20$	AC220V 50/60HZ	120W/4400r pm	14kg	35×23×24cm

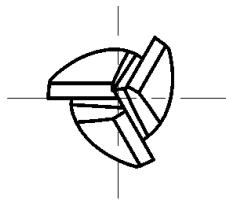
Standard Equipment	One piece grinding wheel :SDC230 (for Carbide)×1
	One piece grinding wheel: SDC150(for Carbide)×1
	9 collets: $\Phi 4$ 、 $\Phi 6$ 、 $\Phi 8$ 、 $\Phi 10$ 、 $\Phi 12$ 、 $\Phi 14$ 、 $\Phi 16$ 、 $\Phi 18$ 、 $\Phi 20$
	4 collet chucks: 2,4 flutes(4-14mm) ×1 piece; 3,6 flutes(4-14mm)×1 piece 2,4 flutes(16-20mm) ×1 piece; 3,6 flutes(16-20mm)×1 piece
	Electric wire: 1piece

	4 pcs hexagon wrench (3,4,5,6mm)
Optional Equipment	One piece grinding wheel :CBN230 (for HSS)×1 One piece grinding wheel: CBN150(for HSS)×1

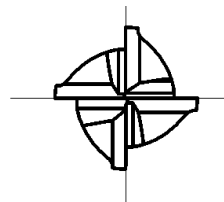
1. High efficiency, high quality grinding slippage, good grinding effect.
2. Quality Assurance: 0.02mm
3. Easy to operate, convenient appliances for emergency, and fast.



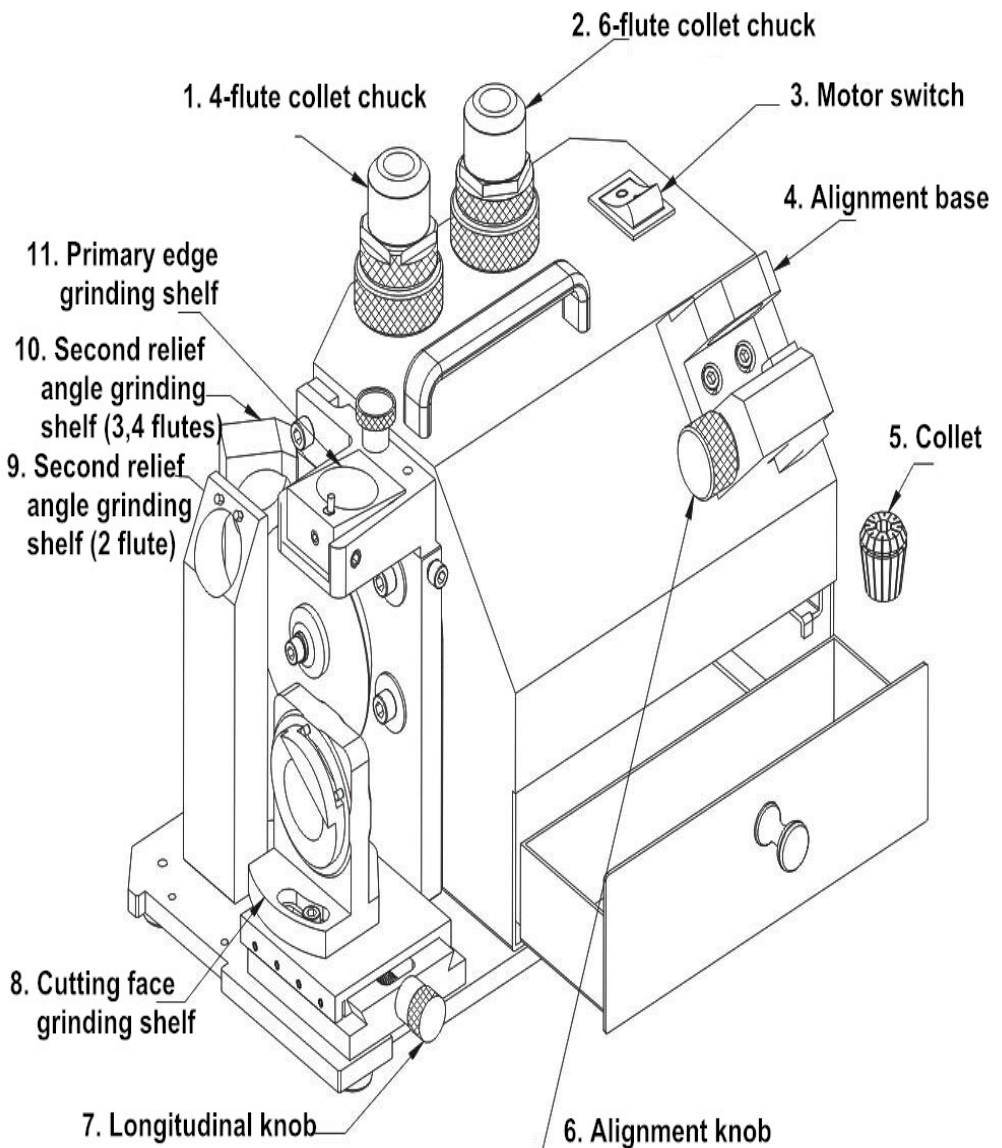
2 Flutes



3 Flutes



4 Flutes



OPERATIONS

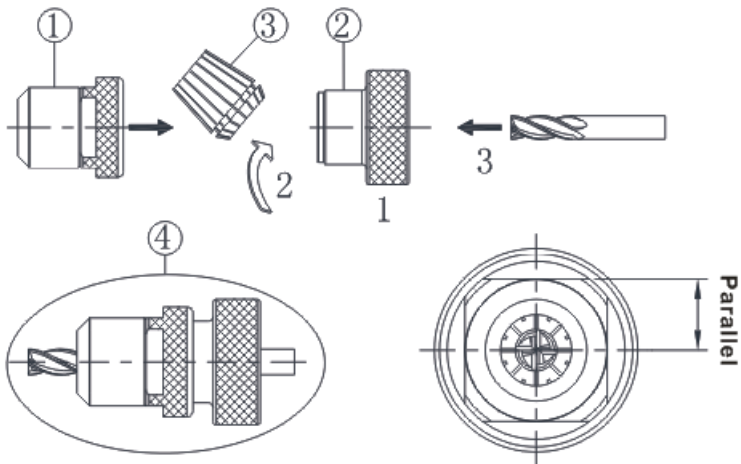
A. Setup the end mill to the ER collet chuck

*Please follow step 1,2,3,4 to set up the end mill to the chuck (without tightening)

1. Determine diameter and flute of your end mill, and then select the proper collet and collet chuck.
2. Insert collet into collet chuck and tighten nut slightly.
3. Insert end mill into collet chuck and nuts out 35mm or so from the collet chuck.
4. Place the flute with edge over center point and have it to be parallel with the benchmark notch.

Notice: Grinding the 2,4 flutes, please choose the collet chuck (sign 1)

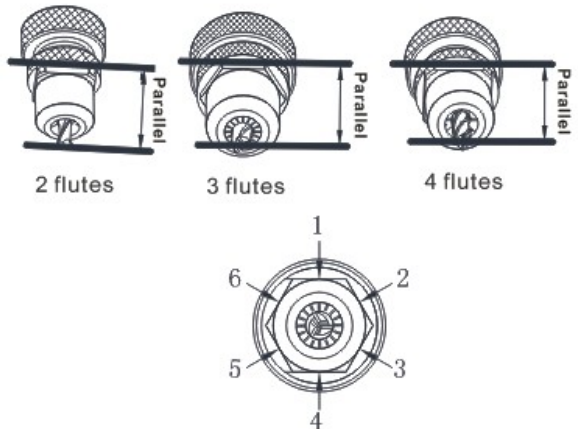
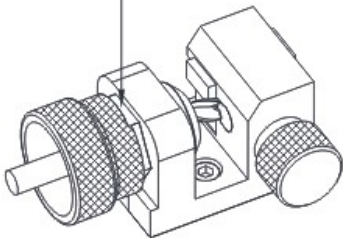
Grinding the 3,6 flutes, please choose the collet chuck(sign 2)



B. Align end mill

5. Put the chuck nut into the alignment base, after complete touch, turn to the right position by clockwise rotation.
6. After inserting the end mill into the bottom, loose the alignment knob and move the alignment block to the proper number which is according the size of end mill (e.x. End mill dia. 8mm, set the scale to the 8mm). Then lock the alignment knob.
7. Chuck turn to the right in the end, tighten the ER nut until the end mill is supported but free to turn. Pull out the chuck counterclockwise, tighten up the chuck after confirm the flute is parallel with the notch. If it's not parallel, please repeat the alignment steps. The benchmark notch.

Notice: when align 3-flute,
please remember the number.
For example:
1,3,5 as odd number or
2,4,6 as even number.

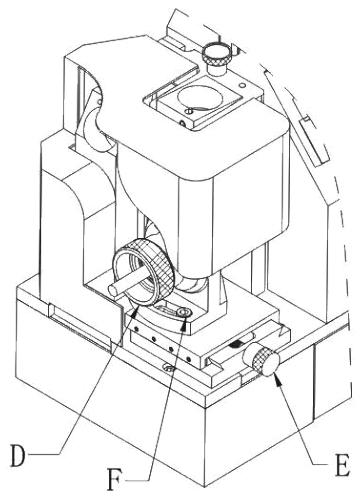
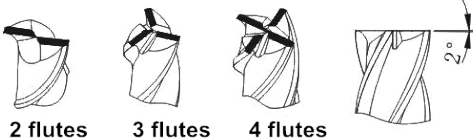


C. Grinding the cutting face

Before grinding, put the chuck nut into the holder (D), turn the longitudinal knob(E) to the proper position, which is according the mill's center touch the side of grinding wheel. Turn on the motor switch (sign 3), push the chuck nut to touch the grinding wheel until the grinding sound disappears. Then turn to the other flute to grind until the sound disappears. Then finish the grinding the other cutting face with the same procedure.



Grinding sample

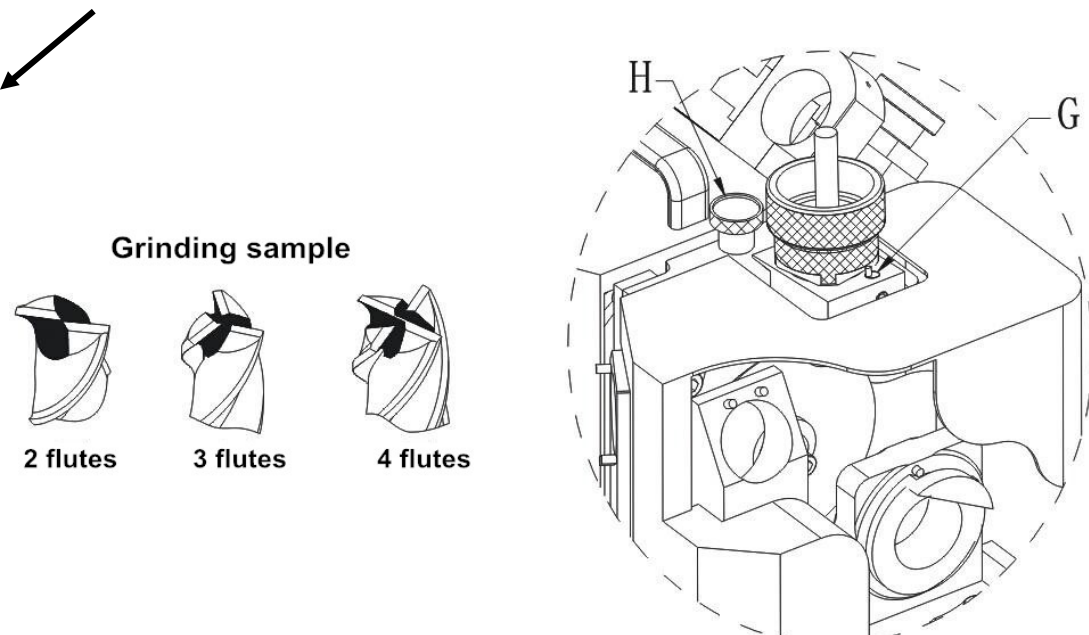


Notice: The standard end mill's face angle is 2 degree.

Loose the screw F, can adjust the face angle.

D. Grinding the primary edge

Put the chuck nut into the primary edge grinding shelf (sign 11), closed to the pin G to touch the grinding wheel until the grinding sound disappears. Then finish the grinding other cutting face with the same procedure.

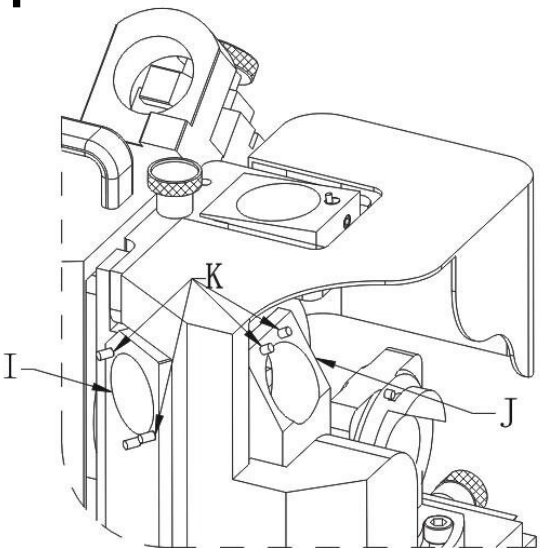


Notice: Adjust the knob H can control the center of end mill, which is broken or connected. For example, grinding the connected 1,3 flute, please turn the knob H to the 0 degree; Grinding the broken 2,4 flute, please turn the knob H during the 90 degree and 135 degree.

E. Grinding the second relief angle

Put the collet nut into the second relief angle shelf (I or J, which is according the number of the flute. E.x. 2 flutes end mill is suitable for the J; 3,4 flutes end mill is suitable for the I). push the chuck nut to touch the grinding wheel until the grinding sound disappears. Then finish the grinding other relief angle with the same procedure.

4



Grinding sample



2 flutes



3 flute



4 flutes

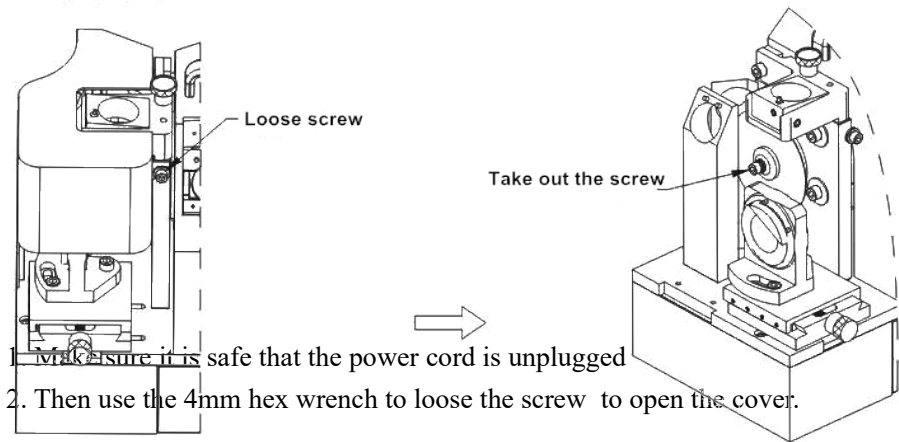
Notice: Choose the correct shelf according the flutes of end mill.

CLEAN AND MAINTENANCE

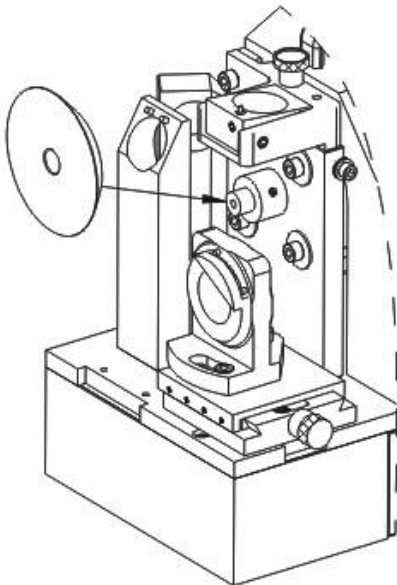
Please clean the whole unit with an air blow gun, especially the holes before and after use

REPLACING THE WHEEL

A. Open the wheel cover



B. Take out the grinding wheel



1. Remove the cover, and 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,

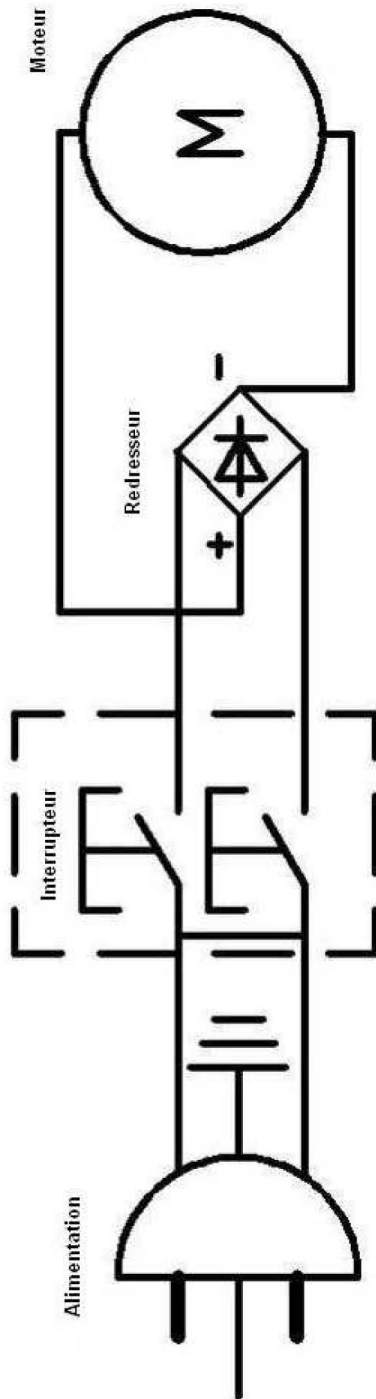
then use the 4mm hex wrench to loose the screw counterclockwise by right hand.

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.



More machine.....



Drill bit sharpener
MR-G3 (Ø3-Ø26)



Drill bit sharpener
MR-X3 (Ø4-Ø14)



End mill sharpener
MR-13D (Ø3-Ø13)



Spiral end mill sharpener
MR-X6 (Ø4-Ø14)



Corner radius end mill sharpener
MR-X6R (Ø4-Ø14)



Cutting machine
MR-X4 (Ø4-Ø14)



Screw tap sharpener
MR-Y3C (M5-M20)



Intelligent desktop chamfer
MR-R300D



Complex chamfer
MR-R800B



Universal cutter grinder
MR-U3



Lathe tool grinder
MR-M3



Electric tapping machine
MR-DS16