

Automatic Computer

Lens Edger

Operating Manual

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1. Description of the unit

The Automatic Computer Lens Edger is suitable for spectacles departments, spectacles processing factories and spectacles shops to grind, sharpen and polish the edge of the polycarbonate, Resin and glass lens.

Fig.1. main machine and operation panel



- ◆Noiseproof cover
- ◆Head pressure lever: adjust the head gravity on the wheels; free for first grade(H:heavy head gravity on the wheels), upside slot for second grade (M:Middle), underside slot for third grade(L: light)
- ◆Templet clamping device: fix the standard templet
- ◆Induction receptor: the templet fall on it
- ◆Power wire

- ◆Horizontal adjustment feet: keep the machine slidable head horizontal during working; lift the head to above the wheels, it is horizontal if not slide; if slide to left or right, it is not horizontal and need to adjust the feet till the head not slide to any side
- ◆Waterproof cover: avoid the water splashing out
- ◆Slidable work head: freely slide above the wheels during working
- ◆Lifting handle: lift the work head
- ◆Lens clamping device: support to clamp the lens
- ◆Emery wheels
- ◆Operation panel: operation instructions
- ◆Lens clamping head: clamp the lens
- ◆Power switch
- ◆Water outlet: supply water for lens working
- ◆Water supply valve: control the water supply volume
- ◆Plastic encloser: cover the inside components

Operation Panel



- ◆ “LENS” key: resin, glass lens choice key
- ◆ “TEST” key: test whether the machine is normal before working
- ◆ “PRESS” key: lens clamping force choice— “ I ” for first grade/light, “ II ” for second grade/middle, “ III ” for third grade/heavy
- ◆ “FRAME” key: frame materials choice key
- ◆ “MODE” key: sharpening edge, rimless frame lens/polishing choice key
- ◆ “COUNT ” key: press this key to show the total quantity of the finished lenses
- ◆ “-” key: lens size reduction key
- ◆ “+” key: lens size increase key
- ◆ “◀” key: left shift key
- ◆ “▶” key: a. right shift key
b. press this key, there'll be two “MODE” lighters on, polycarbonate lens can be grinded on this condition

- ◆ “V” key: regrinding key—when the sharpening edge or polishing not enough good, press the “MODE” and “V” key, the machine will automatically and directly come onto the V slot or polishing wheel, and regrind the lens edge; you can repeat this operation many times till get the desirable edge (if the finished lens is only a little bigger than the standard templet, you can also take this operation and do not need to have the internal or external adjustment);
- ◆ “L” key: double directions grinding (grinding speed is quicker)
- ◆ “R” key: single direction grinding (grinding speed is normal)
- ◆ “STOP” key: break any working procedure forcedly
- ◆ “←” key: clamp lens
- ◆ “→” key: unclamp lens

Caution:

sharpening edge lens for fullrim frame, polishing edge for rimless or halfrim frame

Maintenance for “V” slot: if you use new wheels to replace the old wheels, before first try the new wheels, you had better use one suitable big and thick square glass lens to grind the V slot without any templet, to smoothen the surface of the V slot; then the finished lens will be smooth (operation: turn on power → clamp the square lens → directly press “V” key → it'll automatically come into the maintenance state)

Fig.2. power plug

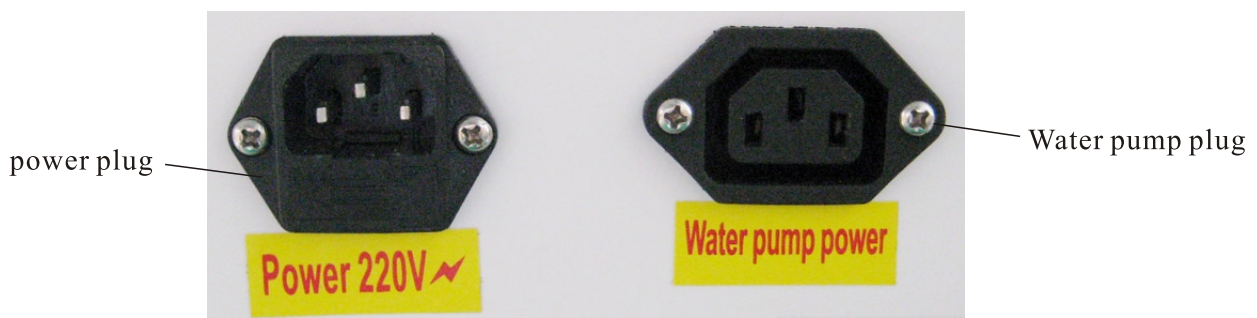


Fig.3.Wheels

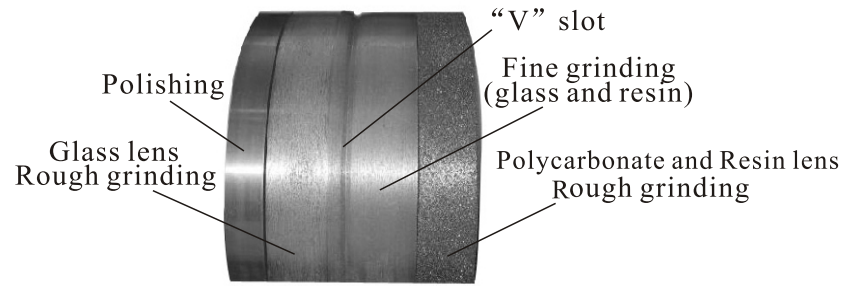
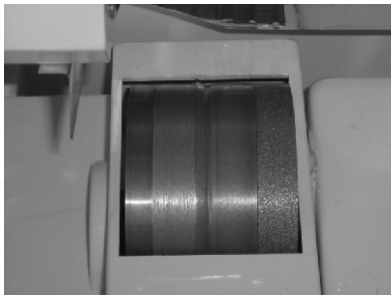
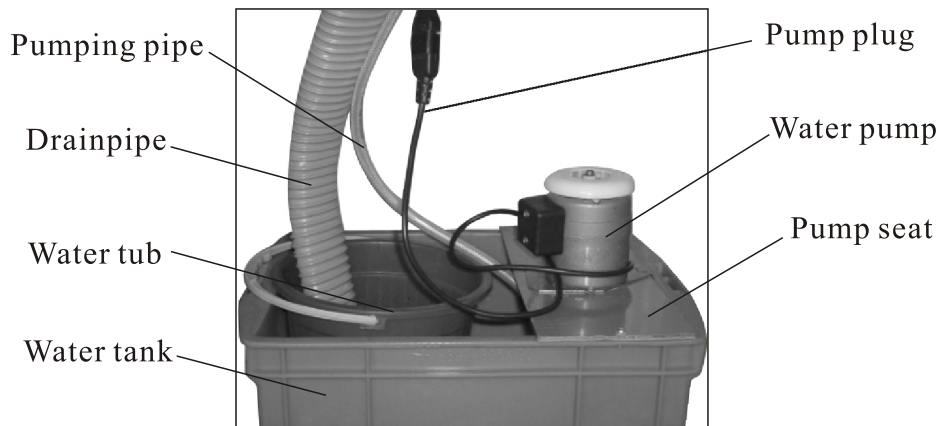


Fig.4.Water tank and work table



- ◆Water pump
- ◆Pump seat: place the pump
- ◆Water tank: collecting the cleaning water(enough to cover the pumping mouth on the pump)
- ◆Water tub: collecting the sewage
- ◆Drainpipe: drain the sewage(coarse pipe)
- ◆Pumping pipe: supply water for the wheels working(thin pipe)
- ◆Pump plug: connect to the main machine power plug
- ◆Work table: support the main machine and water tank

Caution:

You can also connect the pumping pipe to other water feeder and drainpipe to the sewer, then you will not often change water.

Fig.5.Adjust the feet



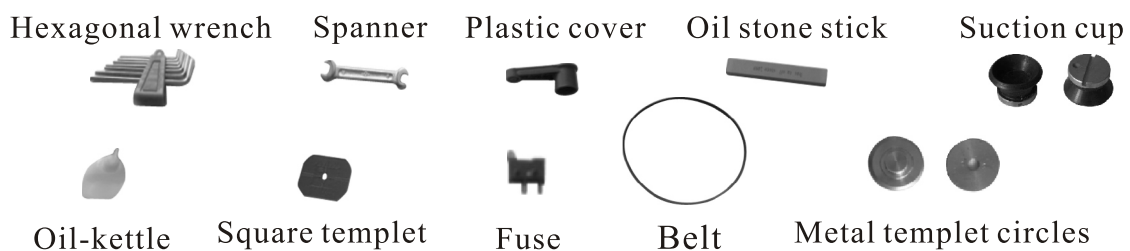
Crossfeet

There are 4 feet at the bottom of the main machine which used to adjust the main machine and work head horizontal place;

By the lifting handle, lift the working head to above the wheels;If slide to left, rise the left 2 feet or lower the right 2 feet;If slide to right, rise the right 2 feet or lower the left 2 feet;

When the shape of the sharpening edge appear ogee(S line),show the crossfeet not in horizontal; adjust the crossfeet till get the standard sharpening edge.

Fig.6. Spare Parts



- ◆Suction cup: suck and fix lens
- ◆Oil stone stick: when the wheels work for long and appear idle, use this part to grind on the wheels by hand to resume the grinding efficiency (grind with Water)
- ◆Spanner: unpack the block plastic plate
- ◆Oil-kettle: full of maintenance oil
- ◆Metal templet circles(2pcs): used for the adjustment of lens position on the Wheels
- ◆Fuse: used to replace the original when necessary
- ◆Square templet: used to make new standard templet
- ◆Plastic cover: fix the templet
- ◆Hexagonal wrench: twist and untwist the machine screw
- ◆Belt: for main motor

Fig.7Templet Clamping device

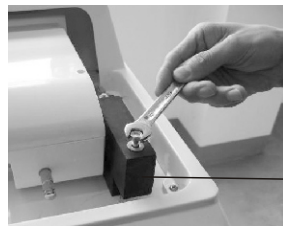


Catch the bottom of the plastic cover(not the thin upside,otherwise will destroy the cover), pull outside to above the templet receiver, place/take off the standard templet, pull down the cover to press the templet.

“L” refer to left eye lens, “R” refer to right eye lens; only transpose the front and back position of the templet on the receiver, then you can easily grind the left eye lens and right eye lens.

2.Unpack and Check

Fig.8.Unpack



P lastic block plate

- A.Take off the foam upside;
- B.Tightly catch the 4pcs nylon ropes tied at the feet,lift the main machine out of the packing box;
- C.Use the spanner to untwist the screw of the plastic block plate(to avoid the slidable work head moving during transporting),unload the plate.

Caution:

Later,if need to move the main machine,please still use the nylon rope to move;please keep the box,ropes and foam for future use.

Check the packing list

The content together with the main machine:

- A. A main machine
- B. Operating manual
- C. Accessories

3. Installation and Test

Installation:

- ◆ Place the work table on a horizontal plane floor
- ◆ Place the main machine on the work table
- ◆ Connect the power cord to an outlet of the main voltage

Test:

- ◆ Check whether the assembling of the work table is right (enough firm and steady)
- ◆ Check whether the water in the tank is enough
- ◆ Check whether the sewage pipe (coarse pipe) is put in the sewage tub (small plastic tub) or led to the sewer
- ◆ Check whether the pumping pipe (long and thin pipe) is connected with the water pump
- ◆ Turn on the power switch
- ◆ Press the “TEST” key
- ◆ Open the water supply valve
- ◆ Check whether the wheels turning and water outlet watering

Caution:

If the wheels turning and water outlet watering, show it is normal; If the wheels not turn, please read the maintenance item; if the water outlet no water, please check whether the water in the tank is enough and the connection of pumping pipe with pump is right;

4. Operation Instructions

- ◆ Place the standard templet onto the metal templet pole
- ◆ Use the suction cup to absorb and fix the lens, keeping the line of the metal slot on the cup in one line with the lens axis
- ◆ Choose the suitable head pressure handle
- ◆ Press “PRESS” key, choose the suitable pressure force
- ◆ Press the clamping key, clamp the lens
- ◆ Press “LENS” key, choose the lens sorts
- ◆ Press “MODE” key, choose the mode of grinding edge (sharpening or polishing)
- ◆ Press “R” or “L” key, start the machine

5.Special Lens

Polycarbonate Lens:

- ◆Rough grinding:not need water(avoid lens slide on the surface of the wheels)
- ◆Fine grinding:not need water(this will be quicker)
- ◆Polishing:need water

Caution:

Glass and Resin Lens(high degree reading lens with astigmatism):

- ◆Head pressure handle:Choose first or second grade
- ◆Lens Clamping force:Choose second or third grade
- ◆Start:Choose single direction grinding

Glass and Resin Lens(low degree greatly thin lens):

- ◆Head pressure handle:choose third grade
- ◆Lens clamping force:choose first grade(light grade)
- ◆Start:choose single direction grinding

Notes:

Usually,the main machine work with water except polycarbonate lens;Head pressure handle choose first or second grade;Lens clamping force choose first or second grade;The lens clamping head turning choose single direction grinding.

6.safety Precautions and Maintenance

Safety Precautions

- ◆Don't use this machine when the power requirements(voltage and frequency) are not met. You should be clear about the actual working power supply
- ◆Don't allow the water flow inside the main machine;Once happened,please open the plastic encloser and clean it
- ◆Don't touch the grinding wheels to avoid getting injured while the machine is Working
- ◆Pull the power wire out of the wall socket if not to be used for long
- ◆The unclean water is prohibited to be used to grind the lens
- ◆Don't unpack the main machine at will if not necessary
- ◆If any liquid or other materials come into the machine, turn the switch off immediately and pull the plug out of the wall socket;please don't start the machine again untill the machine is thoroughly checked and repaired by an expert in this line
- ◆Always keep checking whether the work table is in good condition to support the main machine

Maintenance

- ◆Keep oiling the lens clamping pole one time one week(if often grind)
- ◆Keep oiling the rising and lifting pole one time two weeks(if often grind)
- ◆After half a year or one year, please oiling the head sliding pole to keep the head move free
- ◆After the wheels work for a long time and appear idle, use the oil stone stick to reface the wheels to resume its original grinding efficiency
- ◆Always keep the main machine clean and dry after using

7.Main Technical Index

- ◆Main power supply: 100V— 240V/AC
- ◆Lens clamping force: 0.5—0.78mp
- ◆Lens diameter: $\Phi 18$ — $\Phi 80$ mm
- ◆Work noise: ≤ 60 dB
- ◆Wheels diameter: 100mm
- ◆Width of wheels group: 60mm—100mm
- ◆Rating frequency: 50Hz—60Hz
- ◆Power Loss: ≤ 396 W
- ◆Work environment: 5°C —40°C
- ◆Lens material: optical glass ,resin
- ◆Grinding mode:sharping edge; polishing/flat edge(rimless frame)
- ◆Dimensions: 468mm x 460mm x 400mm
- ◆Weight: 50.5kgs

Caution:

The undulation of main power can not exceed $\pm 10\%$ rangeability of the normal voltage.

8.Adjustment & Calibration

The Adjustment of Lens Position on the Wheels

During grinding, if the grinding position of the lens on the wheels is unreasonable or off the wheels, it is necessary to recompose the original;Grinding program data stored in computer into the accurate program data.

- ◆Place the two metal templet circles onto the templet clamping device and the lens clamping head
- ◆Turn off the power switch
- ◆Press the“TEST” key by left hand and turn on the power switch by right hand simultaneously
- ◆Press the shift key, move the metal circle to the desirable place(it is the place where the left edge of the lens will fall and touch when grinding)
- ◆Press “STOP” key, the metal circle will automatically move to the second wheel; the new program finished on the first wheel
- ◆Press the shift key, move the metal circle to the desirable place on the second wheel; press “STOP” key, the metal circle will automatically move to the third wheel; the new program finished on the second wheel
- ◆Repeat the above steps, you can finish the data programming on the third wheel, V slot and fourth wheel
- ◆When the screen show “5END” ,the whole programming end
- ◆Turn off the power switch, the whole new data will be stored in the computer;
- ◆Turn on the power switch, the new programming will work

Caution:

During the programming, if stop or turn off the power, the new data will lose; the above procedures need to be carried out carefully step by step.

9.The adjustment of zero place

Here is an example: the error of sharpening edge is -0.2mm and polishing is +0.4mm than the practical requires, then we can take the following procedures:

A. Internal adjustment(adjust the internal computer program data)

It is used when the finished lens smaller or bigger than the size of the templet. Usually it is already finished in our workshop before delivery;If not really need, don't use this procedure at will.

- ◆ Turn off the power switch
- ◆ Press the “ V ” key by left hand, and turn on the power switch simultaneously by right hand
- ◆ Press “ L ” key, the “ L ” light will go out
- ◆ Press “ R ” key, the “ R ” light will go out
- ◆ Only “ TEST ” light still work
- ◆ Press “ TEST ” key, choose the sharpening edge; press “ - ” key to “ -0.2 ”
- ◆ Press “ TEST ” key again, choose the polishing state; press “ + ” key to “ +0.4 ”
- ◆ Press “ STOP ” key, the new program data will replace the original data and be stored inside the computer
- ◆ Turn on the power switch again, the machine will automatically come into the working state of the new program

Notes:

The error values can be calculated accurately by comparing the finished lens and the practical one

B. External Adjustment(adjust directly from the operation panel key)

it can be used freely; the new data can not be stored into the internal computer; when turn off the power switch, the new data will disappear.

- ◆ Turn on the power switch
- ◆ Choose the sharpening edge state; press “ - ” key to “ -0.2 ”
- ◆ Choose the polishing state ; press “ + ” key to “ +0.4 ”
- ◆ Press directly “ L ” or “ R ” key, start the machine; it will come into the working state of the new data

Caution:

External adjustment: when grind the next lens, the new data will be still used; till turn off the power switch, the new data will disappear;

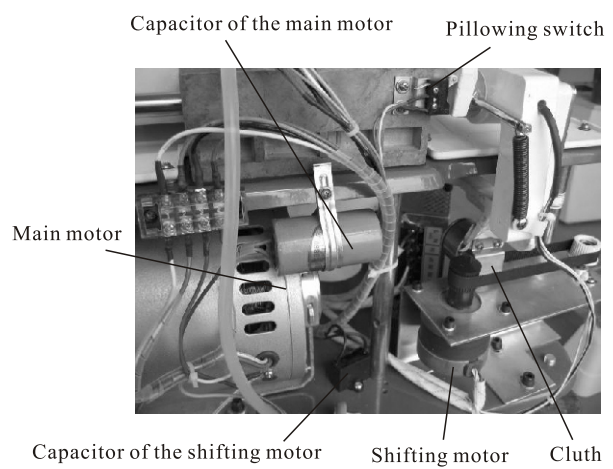
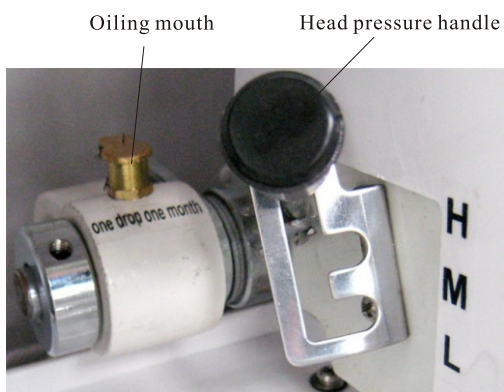
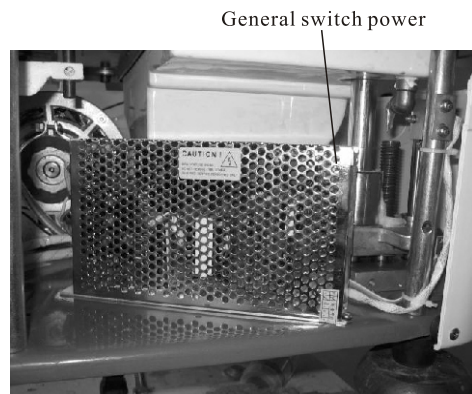
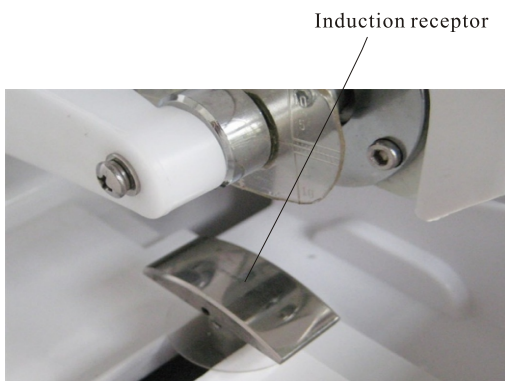
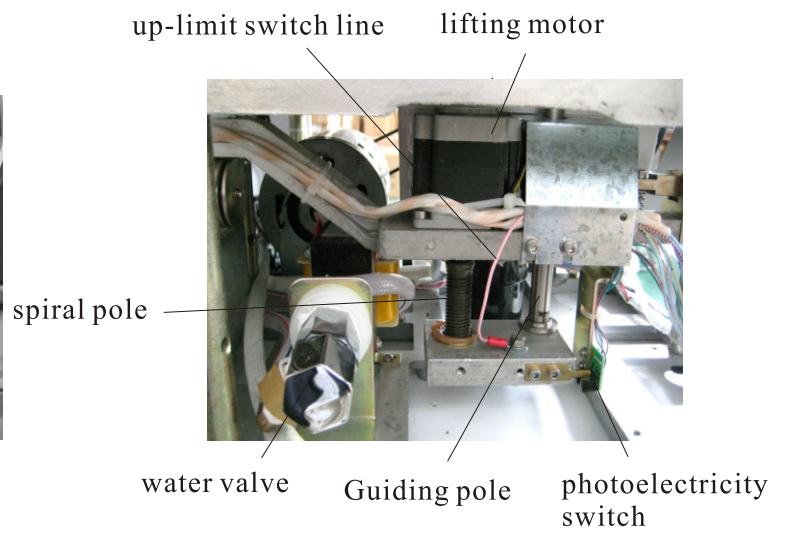
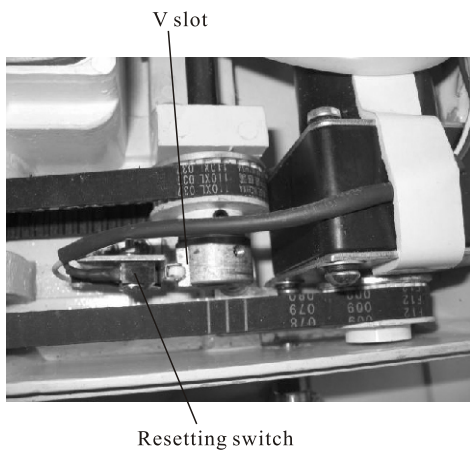
Usually the internal adjustment is to ensure size of the finished lens completely same to the templet; it can only be used by an expert in this line;

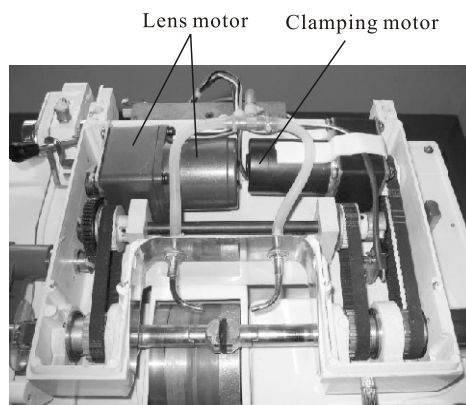
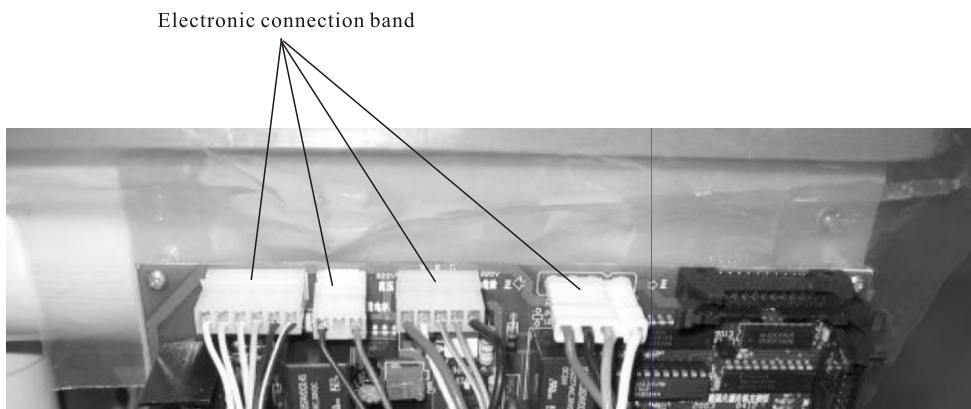
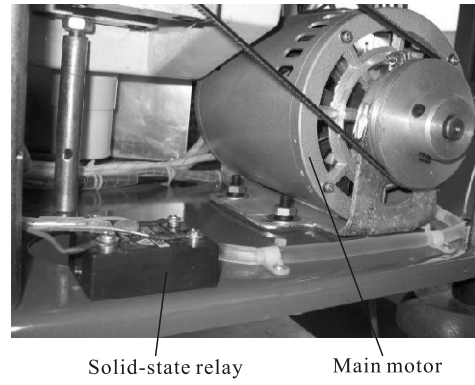
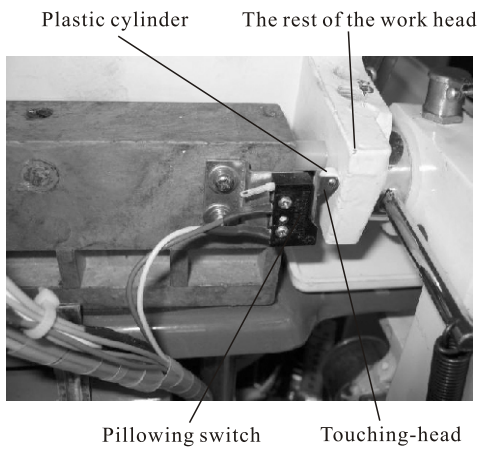
If the templet smaller or bigger than the practical requires, usually adjust by external adjustment; it can be operated easily.

10.Common trouble shooting

PROBLEMS	CAUSE or REMEDY
The lens clamping pole turning without a stop while the machine is turned on.	<ul style="list-style-type: none"> ● The touching-head of the resetting switch is too far from the V slot,adjust and move it into the V slot. ● The resetting switch damaged,replace it.
The work head move to right with “Da Da” sound and also does not go down	<ul style="list-style-type: none"> ● The pillowing switch does not touch the rest of the work head, adjust and move a little to touch the rest ● The touching-head of the pillowing switch is lax,tighten it by hand ● The pillowing switch damaged, replace it
The emery wheels do not turn	<ul style="list-style-type: none"> ● The belt of the main motor falls off, open the plastic back cover and install the belt again; ● The main motor damaged, replace it ● The 15u F capacitor of the main motor damaged,replace it
Rising or landing with the irregular sound,or do not work	<ul style="list-style-type: none"> ● Oiling the spiral pole and the guiding pole ● Check whether the wire connection become lax ● The motor of rising and landing damaged,replace it
The water pumpand main motor do not work simultaneously	<ul style="list-style-type: none"> ● Check whether the connection of the general power supply well ● The solid-state relay damaged, replace it
Lens lack for corner	<ul style="list-style-type: none"> ● The pressure is not enough, should adjust the pressure grade or press the clamping key several times ● Water kept in the suction cup, clean and dry it ● The suction cup crack and appears gas leak,replace it
No message on the operation panel	<ul style="list-style-type: none"> ● The electronic connection band become lax,install it again tightly ● The electronic connection band damaged,replace it ● The fuse in the power switch damaged, replace it

PROBLEMS	CAUSE or REMEDY
The operation key is out of control	<ul style="list-style-type: none"> ●The electronic connection band become lax, tighten it ●The password of the main control board changed,please connect to the local agent or the factory
The work head rise up continually with “Da Da” sound	<ul style="list-style-type: none"> ● The up-limit switch damaged, replace it
After grinding roughly, it do not stop and also do not go into the next work procedure	<ul style="list-style-type: none"> ●The upside of the induction receptor is blocked off, please add a little lubricating oil, then pull up and down several times by hand until the sensitivity of the induction receptor become well
During working, the machine stop in the waiting state	<ul style="list-style-type: none"> ●The downside of the induction receptor is blocked off,please add a little lubricating oil,then pull up and down several times by hand until the sensitivity of the induction receptor become well
The lens clamping pole does not turn when the machine is turned on	<ul style="list-style-type: none"> ●Check whether the wire connection is lax ●The 1.0u F capacitor of lens motor damaged, replace it
The parts rust soon after using	<ul style="list-style-type: none"> ●The resin lens is acid, when the lens work together with water, it will soon rust; please keep cleaning the parts and machine every time after using;
Square corner grinded in round corner	<ol style="list-style-type: none"> 1.The templet is thin or big size ,it become soft under pressure <ol style="list-style-type: none"> a.Place the metal pad to the concave side of the templet, and support strengthenly b.Move the head pressure handle to the position"M"or "L", lift the machine head and lighten the head pressure 2.The holes in templet is a little bigger and become swing when turning <ol style="list-style-type: none"> a.Replace the templet with accurate hole size templet b.Use the spare metal clamping screw to tighten the templet by hand 3.A little bigger clearance between the lens motor belt and the gear wheel:re-adjust the lens motor and gear wheel position,tighten the belt





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