

ESL-5200 Slit Lamp

Operation Manual

ESL-5200

Slit Lamp



Preface

Thank your for purchasing our ESL-5200 slit lamp. Please read this manual carefully for the sake of your best use.

General Requirements for Safety

Please read carefully about following precautions to avoid unexpected personal injury as well as the product being damaged and other possible dangers.

Precautions

1. Do not use this instrument in the environment prone to fire and blast or where there is much dust and with high temperature. Use it in the room and simultaneously be careful to keep it clean and dry.
2. Check that all the wires are correctly and firmly connected before using. Ensure that the instrument is well grounded.
3. Please pay attention to all the ratings of the electrical connecting terminal.
4. Only use fuse according to the specifications and ratings stipulated by our product.
5. Use the power cable supplied with this instrument.
6. Don't touch the surface of the lens and prism with hand or hard objects.
7. Turn off the main power first before changing the main bulb and fuse.
8. To prevent the instrument from falling down to floor , it should be placed on the floor where the inclination angle is less than 10° .
9. Turn off the power and cover the instrument with dust cover when it is not in use .
10. In case there is any trouble, please first refer to the trouble shooting guide . If it still can't work , please contact the authorized distributor or our Repair Department .

THE SAFETY MARKS USED IN THIS INSTRUMENT



TYPE B



ATTENTION PLEASE



TERMINAL OF

REFER TO THIS MANUAL

THE PROTECTIVE GROUNDING

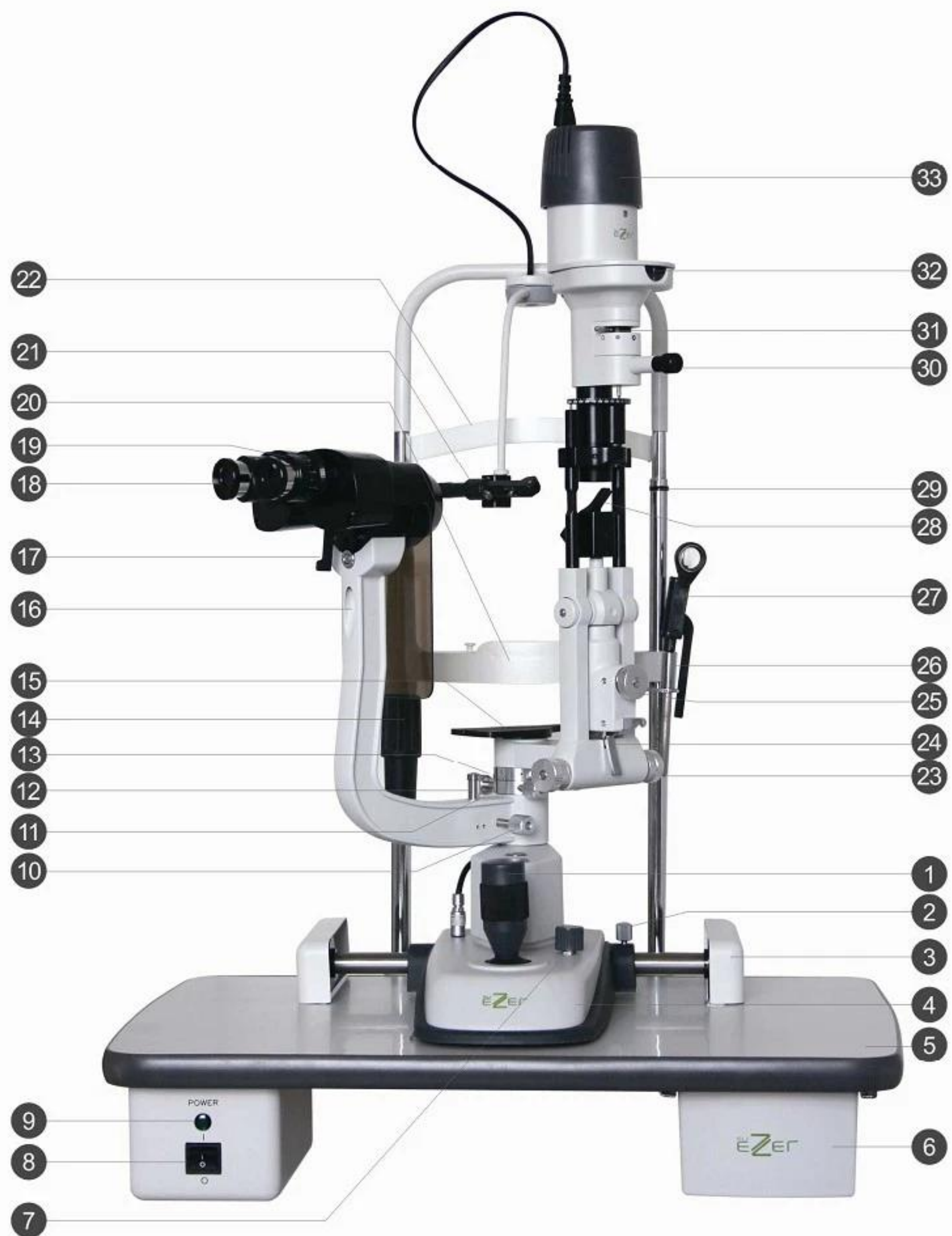


Fig.1

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1. Nomenclature

1 Joystick

Incline joystick to move the instrument slightly on the horizontal surface and rotate it to adjust the elevation of the microscope.

2 Base Locking Screw

The base will be locked when fastening this screw.

3 Rail Cover

Protect the rail surface.

4 Base

Support the microscope and the illumination arms with the joystick controlling its movement.

5 Work Table

6 Accessory Drawer

Store the focusing test rod and other accessories.

7 Brightness Control Switch

The brightness can be continuous adjusted. Avoid working continuously at high setting, as the service life of the bulb will be shortened.

8 Main Power Switch

9 Pilot Lamp

10 Microscope Arm Locking Knob

Lock the rotational movement of the microscope arm.

11 Angle Mark Ring

Marks on the angle mark ring of the illumination arm which relates to the long mark of the microscope arm represent the two arms' angle. When the '0' on the ring relates to the short mark at one side of the operator, the right eyepiece may be overspread, and the side of the patient the left eyepiece.

12 Location Roller

When it is in the middle, it stands for included angle of 0° between the microscope arm and the illumination arm. And the right or left side the included angle of 10° .

13 Microscope and Illumination Arm Couple Bolt

Fasten this bolt and the illumination arm and the microscope arm could be move in couple state to rotate together. Loosen it and the illumination arm then can rotate separately.

14 Chin-rest Elevation Adjustment Knob

Rotate the knob to adjust the elevation of the chin-rest

15 Hruby Lens Guide Plate

Also used as an assembly plate for the applanation tonometer.

16 Microscope Fixation Screw

17 Magnification Changer Lever

Push the lever to either side to select the desired magnification of the microscope.

18 10x Eyepiece

A 16x eyepiece is supplied as a standard accessory. Pull out the eyepiece for changing.

19 Diopter Adjustment Ring

Adjust the eyepieces diopter to obtain a sharp image before using the instrument.

20 Chin-rest

21 Fixation targets

Two kinds of fixation targets are available. One is for diopter adjustment to help the patient to see the target clearly while the other is an illuminated fixed spot .

22 Forehead Belt

23 Slit Width Control Knob

The slit width is continuously adjustable within the range from 0 to 9mm. The marks on the left knob stand for the approximate value of the width.

24 Illumination Inclination Lever

Four 5° inclination stops are available—up to 20°.

25 Centering Knob

Loosening the knob allows the illumination light to be moved from the center of the vision field for indirect retro-illumination. Fastening the knob brings the illumination light back to the center.

26 Hruby Lens Holder

27 Hruby Lens

Used for observation of the fundus and the posterior segment of the vitreous body.

28 Reflecting Mirror

Both long and short reflecting mirrors are provided. The long mirror is routinely used for most examination procedures. The short mirror is used when the long mirror interferes with the observation pathway, such as during funduscopy.

29 Horizontal Mark

When the horizontal center of the patient's eye is in line with this mark, the elevation of the microscope controlled by joystick is also in its center position.

30 Aperture and Slit Height Control Knob

Rotate this knob to adjust the spot and the slit height. Swing the knob horizontally to revolve the slit.

31 Filter Selection Lever

There are four filters for selection

32 Slit Height and Aperture Display Window

33 Lamp Cap

2. Assembly

This section of the manual describes how to assemble ESL-5200 slit lamp. All parts should be taken out with great care from the packing case before assembling.

2.1 Components -----



Fig.2-1



Fig.2-2

	Name	Quantity
A	Illumination Part	1
B	Microscope Base Part and Base Part	1
C	Head-rest Part	1
D	Breath Shield	1
E	Work Table with Power Box	1
F	Rail Cover	2
G	Input Power Cable	1
H	Hruby Lens	1*
I	Hruby Lens Guide Plate	1*
J	Spare Main Illumination Bulb	1
K	Chin-rest Paper	1
L	Focusing Test Rod	1
M	16x Eyepieces	2*
N	Dustproof Cover	1
O	Fixation Target	1
P	Spare Long Reflecting Mirror	1
Q	Spare Short Reflecting Mirror	1
R	Protection Cap	1
S	Spare Fuse	2
T	Brush	1
U	Cross Screw Driver with Wood Handle	1
V	Watch Screw Driver	1
X	Spanner	1
Y	Hexagonal wrench	1

(*Optionally available in some region.)

2.2 Assembly procedure

Necessary tools are as follows:

Cross screwdriver with wood handle	(U)
Watch screwdriver	(V)
Spanner	(X)

1) Selecting Voltage and Fuse



Fig.3

- ✧ Check the setting on the voltage selector located on the bottom of the power box (Fig3). If it doesn't match with the input voltage, slide it to the proper position with screwdriver (X).
- ✧ Open the fuse holder with screw driver (W) and take out the fuse, check and ensure that its rated value is corresponding to the mains voltage:
110V-----1A
220V-----0.5A
It has been set to 220V, 0.5A before leaving our factory.

⚠Attention: Set the input voltage and frequency of the instrument according to that of the mains.

2) Assembling the Work Table (F)

- ✧ To attach the worktable on the motorized instrument table, please screw off four M8x20mm bolts with spring washers with the spanner (Z).
- ✧ Lift the worktable to aim its screw hole at the assembly hole of the instrument table.

Put down the worktable, with the power panel facing the operator, refasten the bolt securely with the spanner (Fig.4).



Fig.4

3) Assembling the Head-rest Part (D)

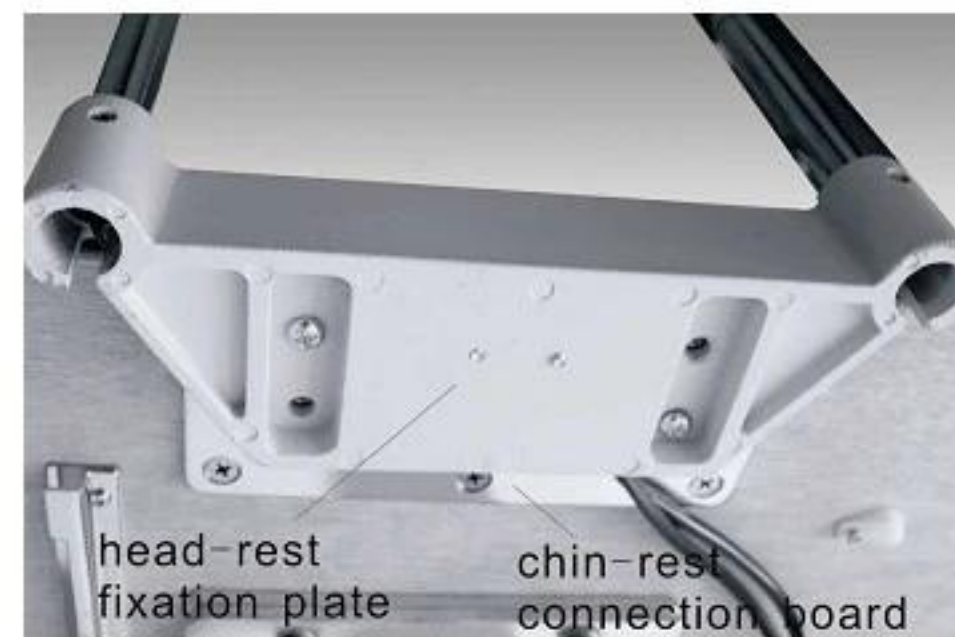


Fig.5

- ✧ Remove the four screws attached to the chin-rest connection board with the screw driver (W).

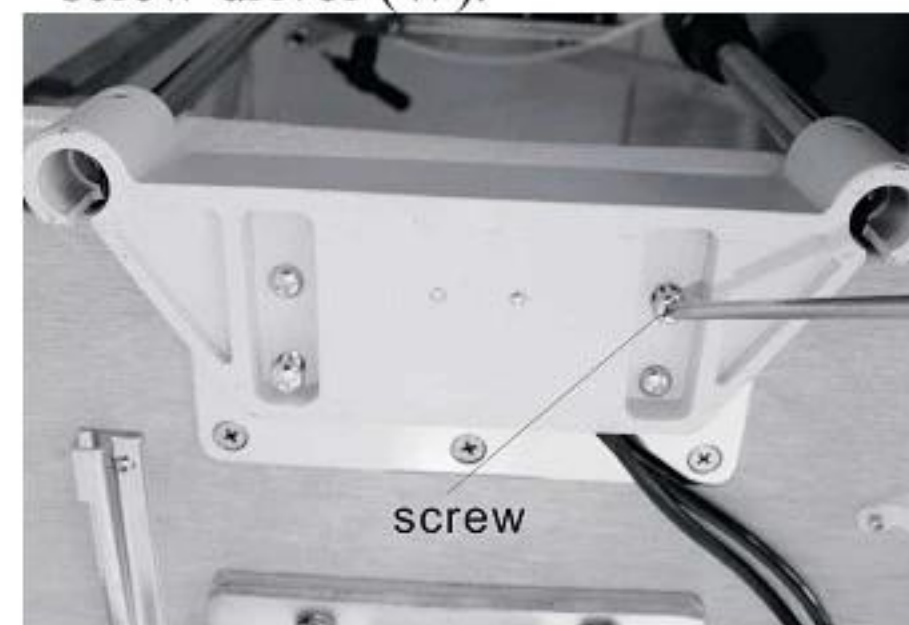


Fig.6

- ✧ Put two cables in the gap between the head-rest fixation plate and the chin-rest connection board (Fig.5). While ensuring they are not clamped,

retighten the previously removed screws (Fig.6).

4) Assembling the base part (C) and the rail cover (G)



Fig.7

- ✧ Place the wheels of both sides of the base (C) on the rail on the worktable (Fig.7).
- ✧ Check whether the wheels can be rolled steadily on the rail.
- ✧ Insert the bottom of the rail covers into the gap below the both sides of the rails respectively in the direction of the arrow (Fig.6).

5) Assembling illumination part (A)

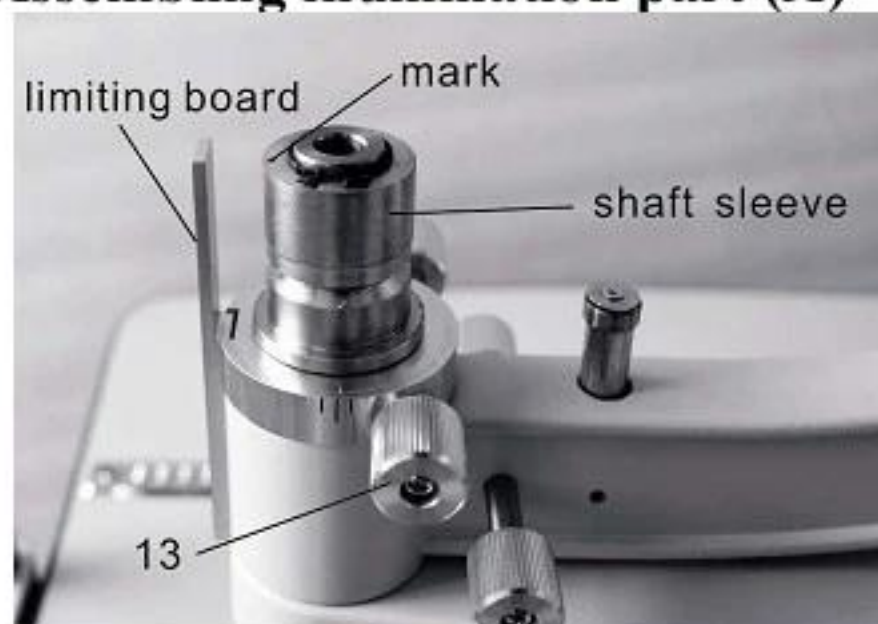


Fig.8

- ✧ Loosen the illumination arm couple bolt (13).
- ✧ Rotate the brass shaft sleeve to make an approximate angle of 45° between the red mark and the limiting board (Fig.8).
- ✧ Loosen the set screw in the illumination arm with the screwdriver (X). Aim the assembly hole of the illumination arm at the brass shaft sleeve with care then put down, let the shaft keeping close to the bottom surface

well and simultaneously the two red marks stretch in one line (Fig.9).

- ✧ After the two red marks accurately aligned, re-tighten the set screw (Fig.9).



Fig.9

6) Assembling the breath shield (E)



Fig10

- ✧ Remove the breath shield fixation screw from the microscope arm.
- ✧ Pass the removed screw through the hole of the breath-shield then re-screw it into the arm (Fig.10).

7) Dismantle the illumination part shipping pad

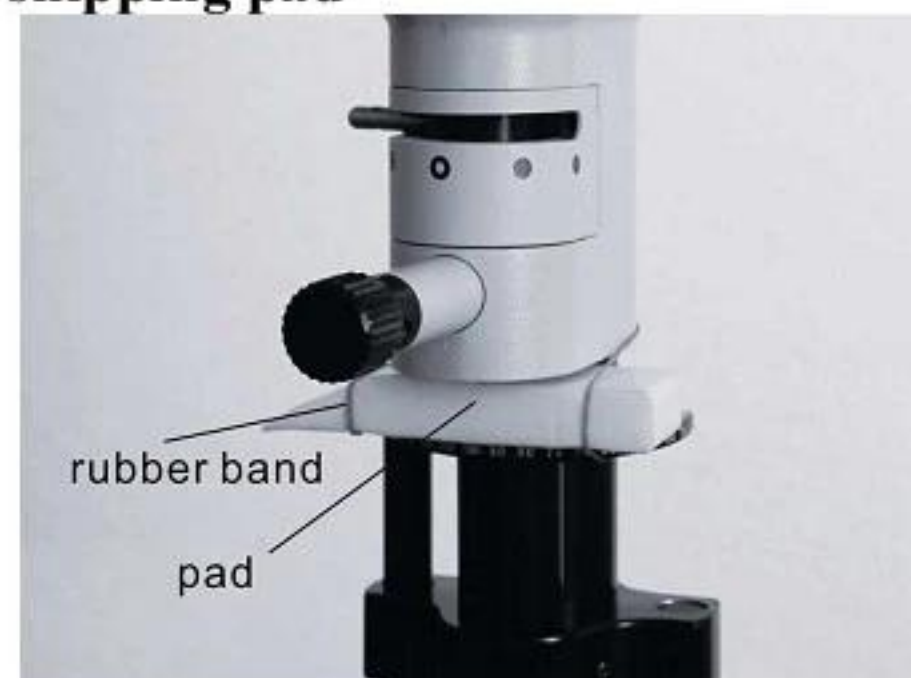


Fig11

- ✧ This pad is used to protect the slit mechanism of the illumination part during shipping.
- ✧ Remove the rubber band and gently pull the pad out (Fig.11).

8) Connecting plug

- ✧ Insert the plug on the top of the head-rest part (D) into the socket of the lamp cap (33) on the illumination part (A) (Fig.12).



Fig.12

- ✧ Connect the two plugs below the head-rest part with the corresponding output socket of the power box. .
- ✧ Insert the plug of the input power cable (H) into the input socket of the power box..
- ✧ Remove the cable clips from the bottom of the work table with screw driver (W) and wrap the output and input cables respectively, then re-attach them to the bottom of the work table (Fig13).

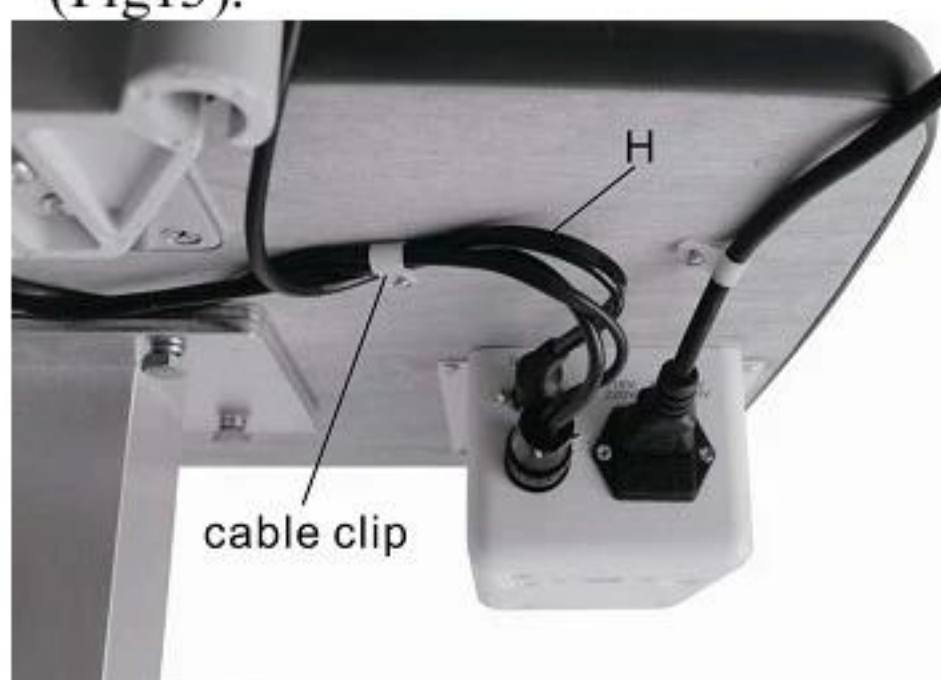


Fig.13

9) Assembling the Hruby lens (I) and the Hruby lens guide plate (J)

- ✧ Insert the Hruby lens (I) into the Hruby lens holder (26) on the head-rest part. Be careful not to touch the lens surface (Fig14).

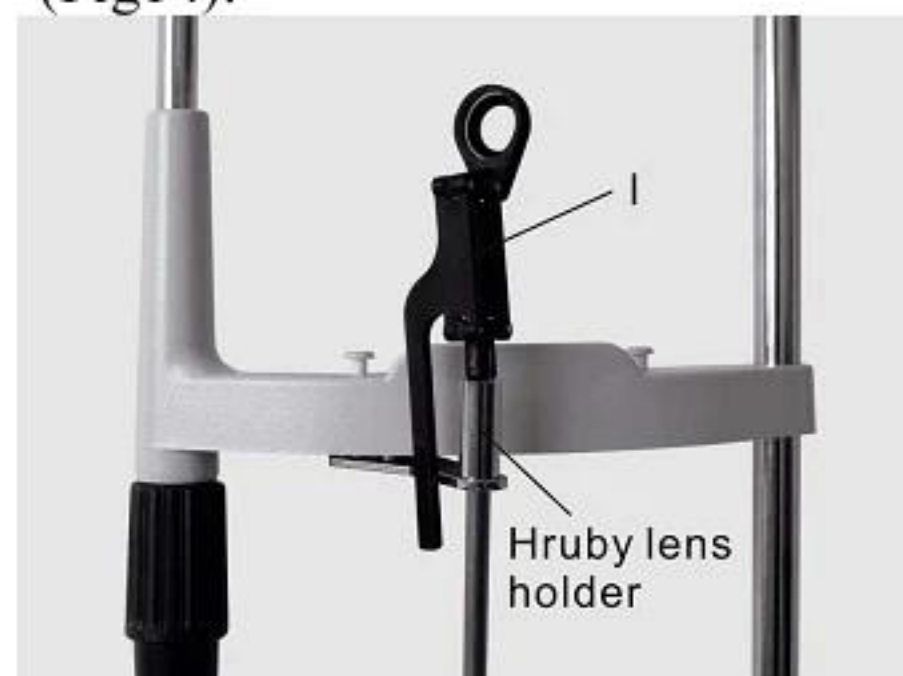


Fig.14

- ✧ Place the Hruby lens guide plate (J) into the main shaft hole of the base part with the small end pointing to the head-rest part (Fig15).



Fig.15

10) Assembling the chin-rest paper (L)

- ✧ Pull out the two fixing pins from the chin-rest.
- ✧ Get rid of the paper package and let the pins go through its holes.
- ✧ Insert the fixing pins into the holes again (Fig.16).

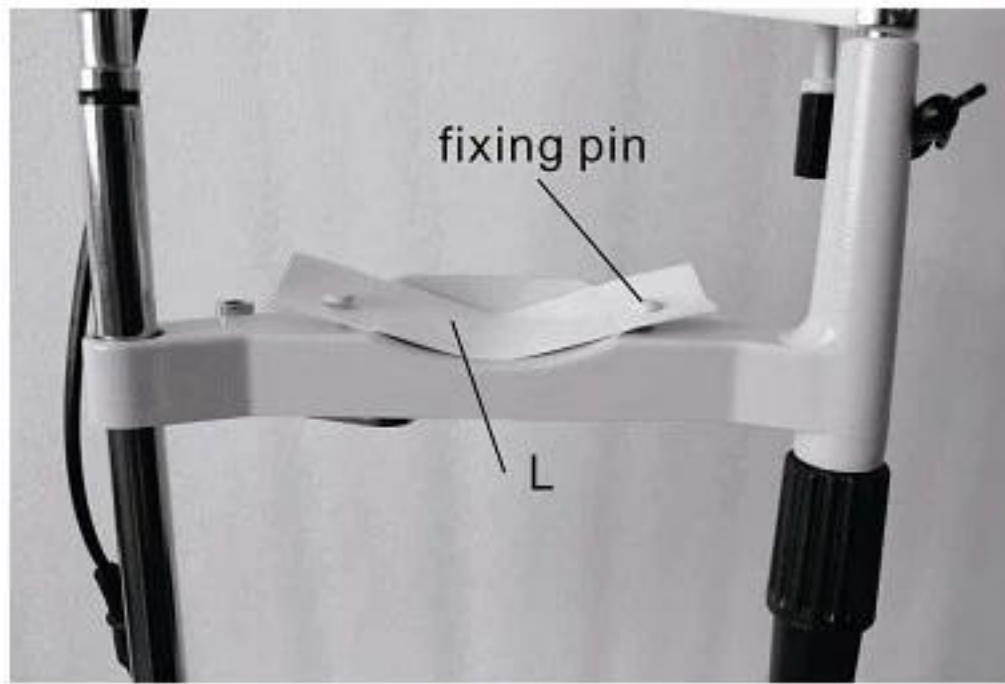


Fig.16



Fig.17

11) **Placing spare parts**

- ✧ Some spare parts could be stored in the accessory drawer (6) (Fig.17).

2.3 Checking procedure after assembling -----

1) Power plug

- ✧ This instrument supplies a 3-wire cable. Please select a proper power socket as matched.
- ✧ Ensure that the instrument is grounded well.

⚠ Attention: Please use the special cable supplied with this instrument.

2) The power box and the illumination part.

- ✧ When the main power switch (8) of the power box is placed at 'I', it turns on, and 'O' for turn off. The main power switch should be set at the 'O' position before connecting the input cable with the power socket.

- ✧ Turn on the main power switch, and the pilot lamp (9) will be lighted. Open the slit width control knob (23) to examine the illumination.
- ✧ Rotate the brightness control switch (7) respectively at three positions and the brightness should be changed accordingly.
- ✧ Check the fixation target device to confirm it is lighting.
- ✧ Check whether all the moveable parts such as aperture and slit height control knob (30), filter selection lever (31), and magnification change lever (17) etc. could be operated freely.
- ✧ After examining, turn off the main power and cover the instrument with the dust-proof cover (O).

3 Operation procedures

3.1 Diopter compensation and Pupil Distance adjustment.....

1) Use of the focusing text rod (M)

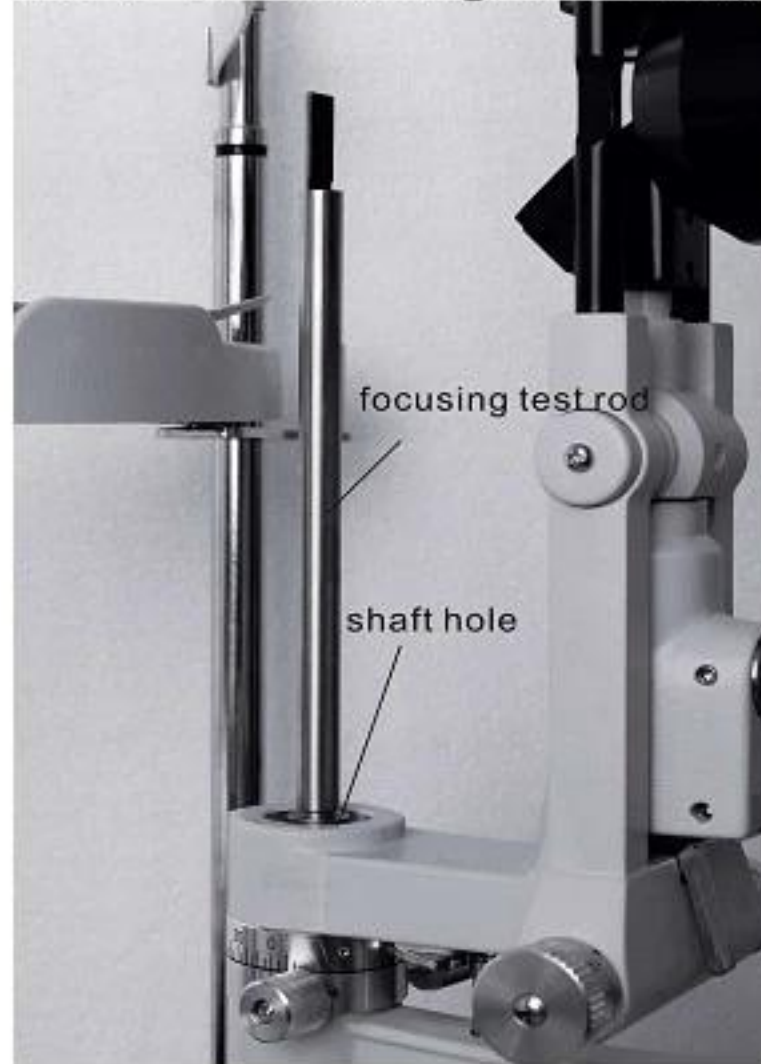


Fig.18

The rod is supplied as one of standard accessories for confirming the microscope's accurate adjustment. Insert it into the main shaft hole with the flat surface facing the objective lens — the direction of the operator (Fig.18) .

⚠Attention: After adjusting, remember to take out the rod and insert the protection cap.

2) Brightness adjustment

Switch on the main power switch and set the brightness control switch (7) at 'N' position. Turn the slit width control knob (23) to make the slit width to be 2~3mm.

3) Diopter compensation

The focus of the microscope is calibrated according to the emmetropia. If the operator is an ametropia, he should adjust the eyepiece diopter.

Suggest adjusting the diopter as following procedures:



Fig.19

- ✧ First, rotate the diopter adjustment ring (19) counter clockwise down to the end. (Fig.19).
- ✧ Second, rotate the ring clockwise until a sharp slit image appears on the focusing text rod. .
- ✧ Adjust another eyepiece in the same procedure.
- ✧ Record the diopter value on each eyepiece for future reference.

4) Pupil distance adjustment

Separate the prism box of the microscope with both hands to adjust the P.D. until both eyes could see the same image on the focusing test rod through the eyepieces, and at the same time a stereo vision will be obtained (Fig.20).



Fig.20

⚠ Attention: While adjusting P.D., ensure that both eyepieces are at the same height.

3.2 Patient position and fixation target-----

1) Positioning the patient's head

Have the patient place his chin on the chin-rest (20) and the forehead against the forehead-rest belt (22). Adjust the chin-rest adjustment knob (14) below the chin-rest until the patient's canthus aligns with the horizontal mark (29) (Fig.21).



Fig.21

2) Use of the fixation target

- ✧ For fixing the patient's eyesight, just make him look at the fixation target (21) with the eye not to be examined. To change fixing position, move the lamp bar, as well as move the curved lever around the forehead.
- ✧ The fixation target with diopter compensation supplies a dot and concentric circles target. Slide the

knob to adjust the diopter compensation within the range from -15D to +10D (Fig.22).

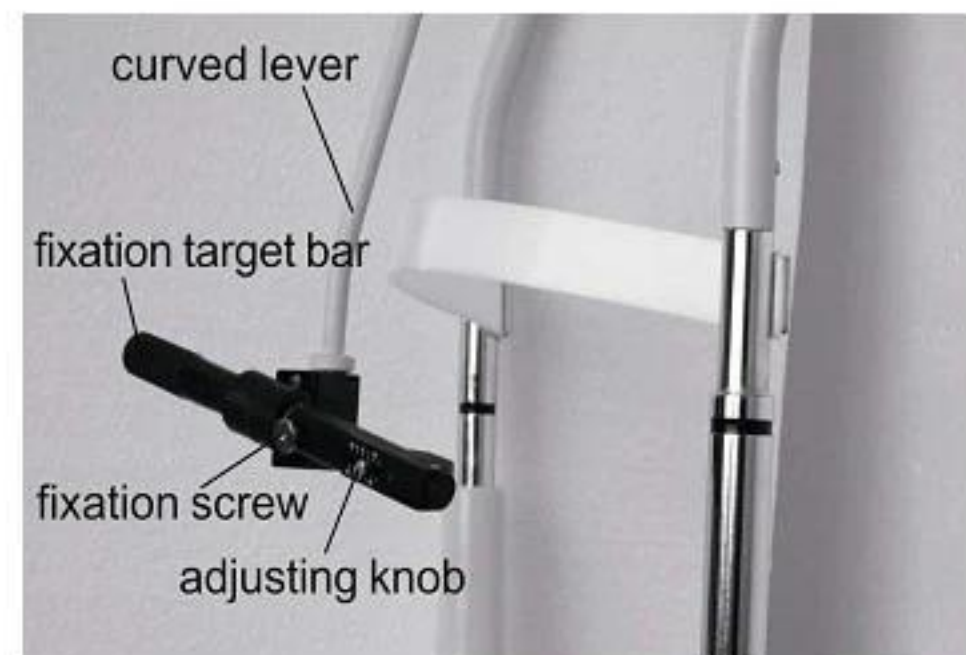


Fig.22

- ✧ The fixation target with spot light is especially for the patient whose diopter exceeds -15D (Fig.23). When changing, just loosen the fixation screw, replace the fixation target with the spot light source and re-fasten the fixation screw.



Fig.23

3.3 Base operation -----

1) Horizontal rough adjustment

Keep the joystick (1) erect and move the base (4) to make the microscope move on the horizontal surface to

aim at the object roughly (Fig.24).

2) Vertical adjustment

Rotate the joystick to adjust the microscope's height until it aligns

with the target. Turn the joystick clockwise to raise the microscope and counter-clockwise to lower it.

3) Horizontal Fine adjustment

Tilt the joystick to make the microscope move slightly on the horizontal surface. While watching through the eyepieces, tilt the joystick to aim accurately at the object for a sharp image.

4) Locking the base

When finishing the adjustment, fasten the base locking screw (2) to lock the

base (4) and prevent it from sliding.

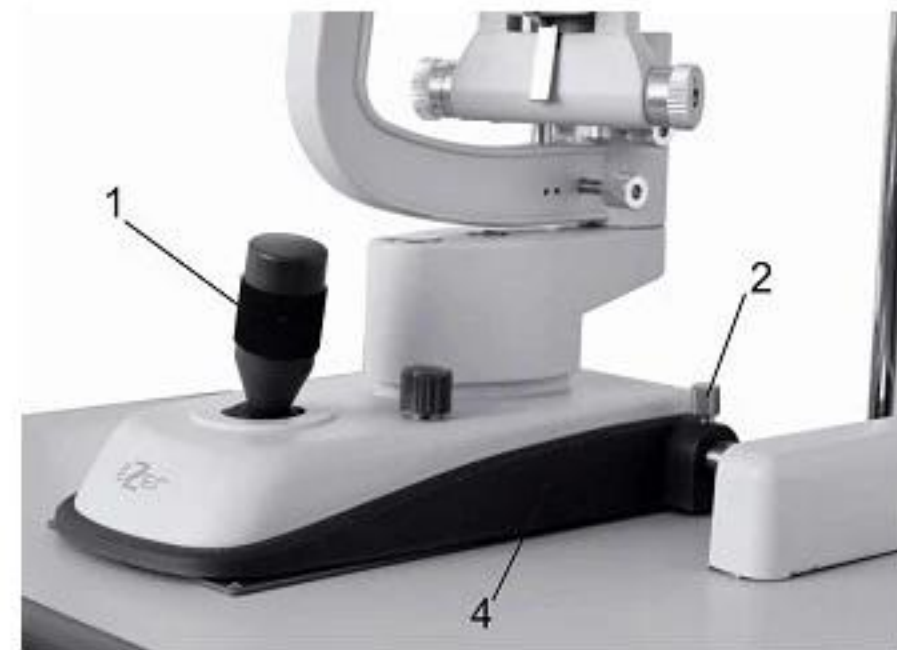


Fig.24

3.4 Illumination parts operation

1) Changing the slit width

Turn the slit width control knob (23) and the slit width will be changed from 0mm to 9mm. The slit becomes a circle at the 9mm size. The width value is indicated approximately by the scale on the knob (Fig.25).



Fig.25

2) Changing the aperture and slit height

Turn the aperture and slit height control knob (30) and 6 different circular beams of light are available at full aperture: 9, 8, 5, 3, 1, 0.2 dia respectively. With a slit image, the slit height can be changed continuously from 1 to 9mm that is indicated through the display window (32) (Fig.26).



Fig.26

3) Rotating the slit image

Swing the aperture and slit height control knob (30) horizontally to revolve the slit image at any angle in the vertical or horizontal direction. The rotation angle of image is indicated by the rotation angle scale with small division for 5° and big division for 10° (Fig.27).



Fig.27

4) Deflecting the illumination light

Loosen the centering knob (25) and swing the slit width control knob (23) back and forth so the light spot moves away from the center of the microscope vision field. It is mainly used to examine the eyes by indirect retro-illumination. Fasten the centering knob and the slit light will return to the center of the microscope vision field (Fig.28).

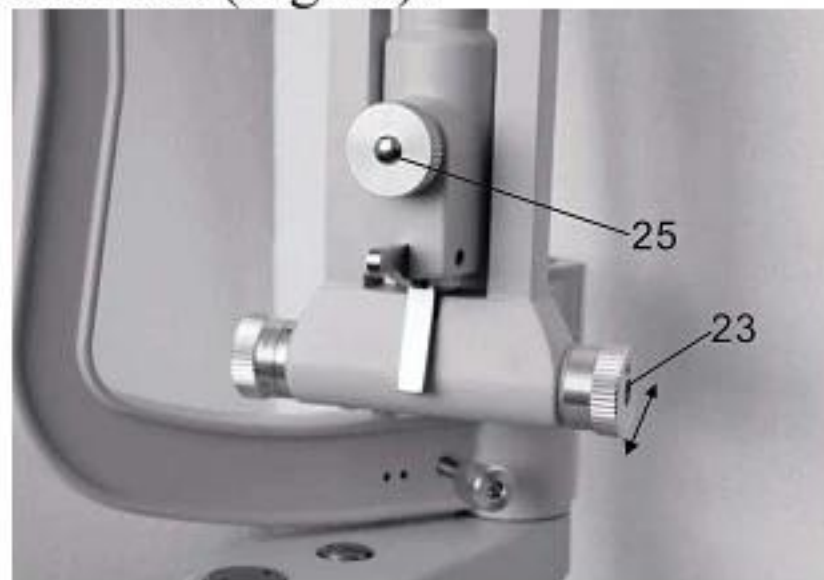


Fig.28

5) Oblique illumination

Oblique illumination is used for sectional or fundus examination by using contact lens. Press down the inclination lever so that the illumination part may incline to 20° , (5° of each division). Since the illumination part may touch the patient's head, operate carefully (Fig.29).



Fig.29

6) Reflecting mirror

Both short and long reflecting mirror

are available in this instrument. Use the long mirror in normal examination. When the angle between the illumination part and the microscope is within 3° to 10° , the examined image might be obstructed. In this case, use the short mirror. The short mirror is also used when the illumination part is inclined over 10° (Fig.30).



Fig.30

7) Filter selection

Turn the filter selection lever (31) in the horizontal surface to add four different kinds of filters respectively into the illumination pathway. Usually the heat-absorbing filter is used so that the patient may feel more comfortable in long period of examination (Fig.31).

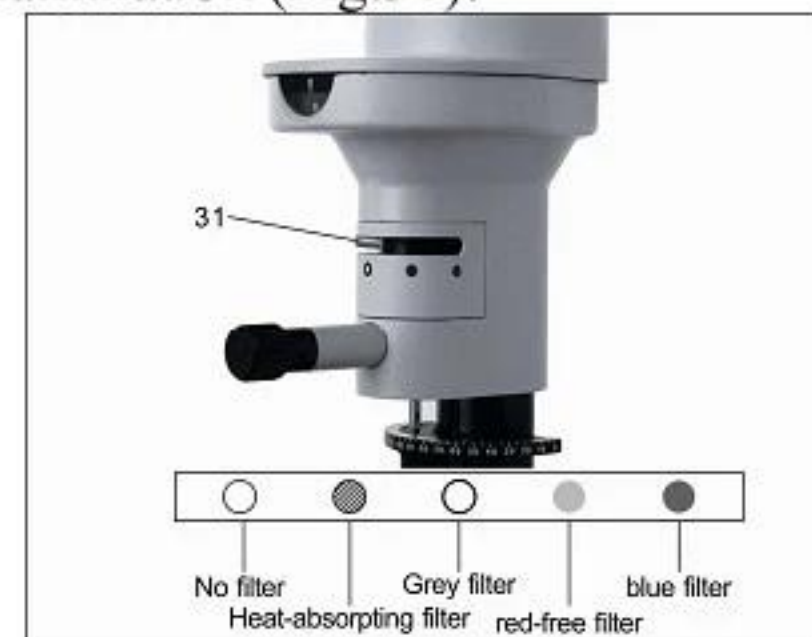


Fig.31

3.5 Fundus observation with Hruby lens (optional)-----

In routine using, the observation with the slit lamp is limited within the range from the cornea to the anterior part of the vitreous body owing to refraction effects of the cornea and the crystalline lens. However with the Hruby lens (I) in the front of the microscope, the posterior part of the vitreous body and fundus then can be observed.

Operation procedure:

- 1) The pupil should be dilated for about 20 minutes.
- 2) Insert the Hruby lens guide plate (15) into the main shaft hole of the illumination and the microscope arm.
- 3) Pull out the Hruby lens holder from one side of the head-rest as shown in Fig.33. Move the Hruby lens holder toward the operator so that it can slide freely to the left and right below the chin-rest. Insert the lower end of Hruby lens lever into the groove on the guide plate.
- 4) Move the focus of the illumination light and the microscope to the patient's eye.
- 5) Move the lever to locate the Hruby lens at the center of the vision field and near the patient's eye as shown in Fig.32.
- 6) Move the lever to focus the Hruby lens at the fundus, then adjust the slit height and width to reduce the unnecessary inter-ferential light in the vision field.

- 7) To examine different parts, either turn the microscope and the illumination arm or change the patient's fixation by manipulating the fixation target.
- 8) If the long mirror interference in the examination, just replace it with the short mirror.
- 9) After examination, move the Hruby lens back to the original position on one side of the chin-rest.

⚠ Attention: before moving the Hruby lens to the right and left, first have the patient's head move away from the chin-rest to avoid his nose touching the Hruby lens.

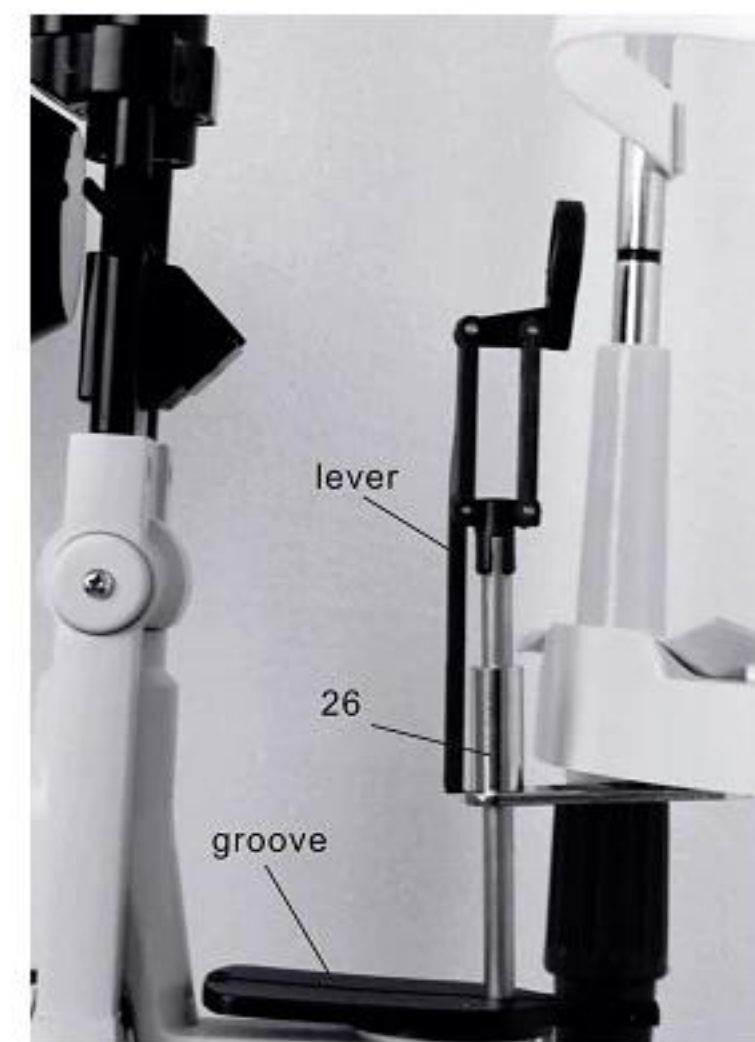


Fig.32

4 Maintenance

⚠Attention: The replaced waste materials should be treated as industrial rubbish.

4.1 Replacing the illumination bulb

- ✧ Turn the main power switch (8) off.
- ✧ Pull out the plug connected to the lamp house, unscrew the fastening screw and then pull the lamp cover (26) until it is pulled out from the illumination part(A) (Fig33).



Fig.33

- ✧ Turn the compression spring upward and then pull out the plug and take out the old bulb and replace it with a new one. Turn the compressing spring downward. The groove in the bulb fixation disc should be aimed at the

flange of the lamp; otherwise the illumination may be uneven (Fig.34).

⚠Attention: The bulb is hot

- ✧ The mark point on the lamp cover aligns the mark point on the illumination part. Tighten mounting screw and insert the connecting plugs.
- ✧ Turn on the main power switch and check whether the new bulb works or not.

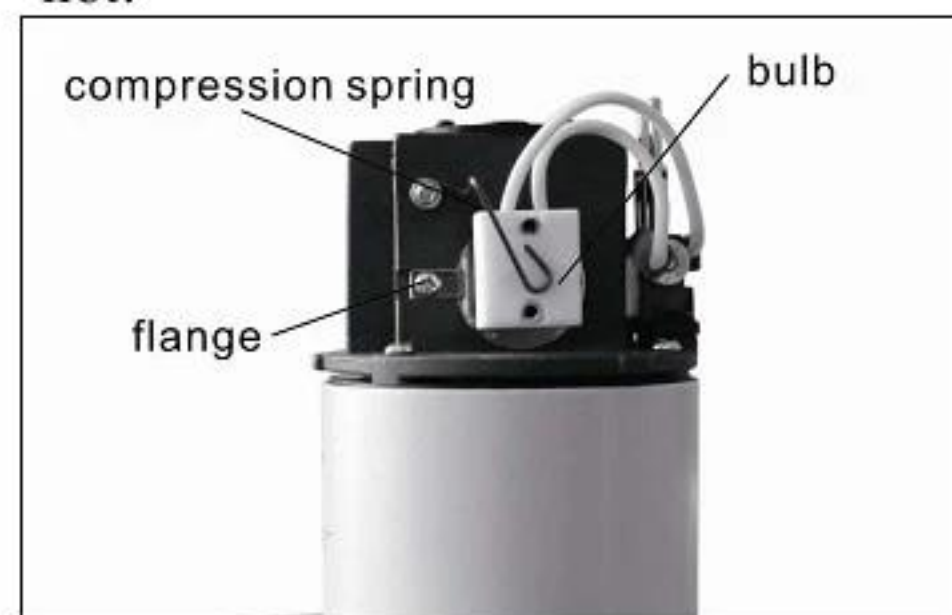


Fig.34

4.2 Replacing the reflecting mirror

- ✧ Set the angle between the microscope and the illumination arm to exceed 30° .
- ✧ Incline the illumination arm by more than 10° .

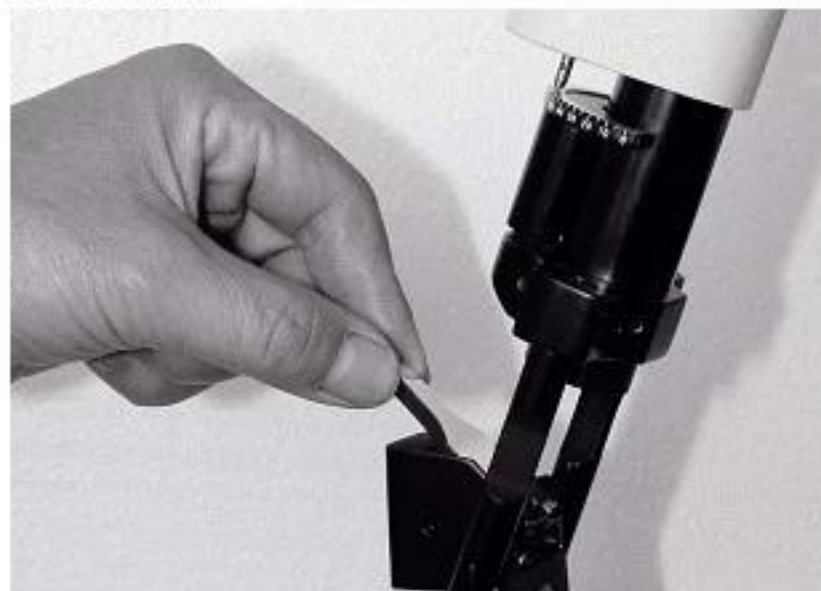


Fig.35

- ✧ Remove the long mirror by holding the extended surface (Fig.35).
- ✧ Insert new long or short reflecting mirror.
- ✧ When replacing the short mirror, just push the bottom of the mirror by using an object with a sharp end (Fig.36).



Fig.36

4.3 Replacing the fuse-----

- ✧ Turn off the main power switch (8) and pull out the input cable from the power socket.
- ✧ Screw off the fuse holder cover with the screw driver (X) (Fig.37).
- ✧ Replace it with a new fuse, then fasten the cover.
- ✧ The fuse specifications are as follows:
110V 1A, 125V
220V 0.5A, 250V

⚠Attention: Please select the fuse of same type, specification and rating.

4.4 Replacing the chin-rest paper -----

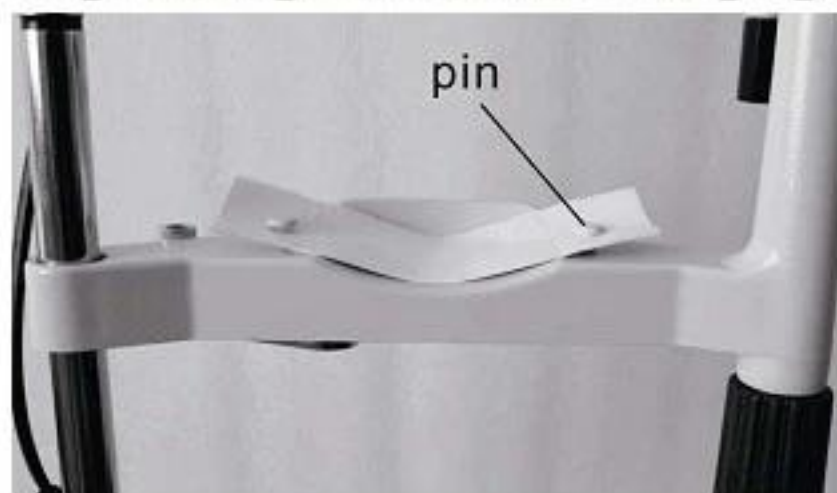


Fig.38

When the paper is exhausted, pull

4.5 Adjusting the tightness of the slit width knob -----

If the slit width control knob is too loose, the slit width may be out of control. Loosen the screw on the right knob with the screw driver (Y), then hold the left knob firmly with one hand, while the other hand rotate the right knob clock-wise to adjust its tightness. When it is appropriate, fasten the screw of the right knob firmly again (Fig.39).

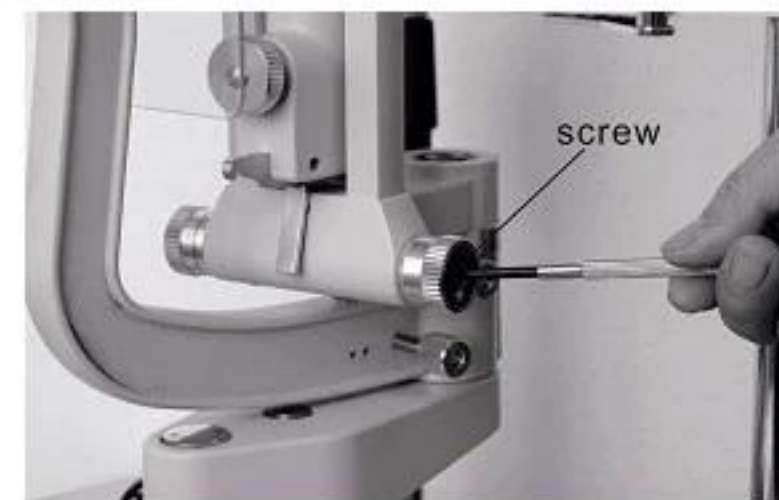


Fig.39

4.6 Adjusting the inclination of the illumination part -----

If the inclination mechanism of the illumination part is too loose, fasten the screws on both sides of the pivot point with the screw driver (W)

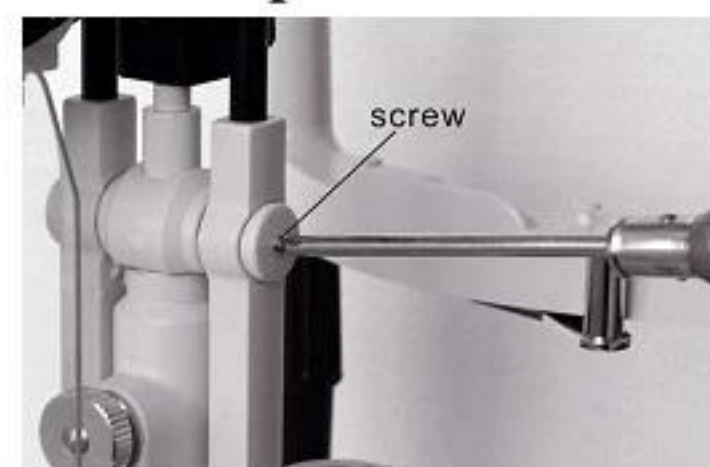


Fig. 40

4.7 Cleaning -----

1) Cleaning the lenses and mirrors

If any dust stick on the lenses or reflecting mirrors, brush them with the brush (U) supplied in the standard accessories. In case any dust still remains, wipe it off with soft cotton dipped with absolute alcohol.

⚠ Attention: Never scratch with fingers or any other hard materials.

2) Cleaning the slide plate, rail and shaft

If the slide plate, rail and shaft are dirty, the vertical and horizontal movement will be unsteady. Wipe them with clean soft cloth. (Fig.41)

3) Cleaning and sterilizing the plastic parts

Clean the plastic parts such as chin-rest bracket, forehead-rest belt

with soft cloth dipped with soluble detergent or water, sterilize with medicinal alcohol.

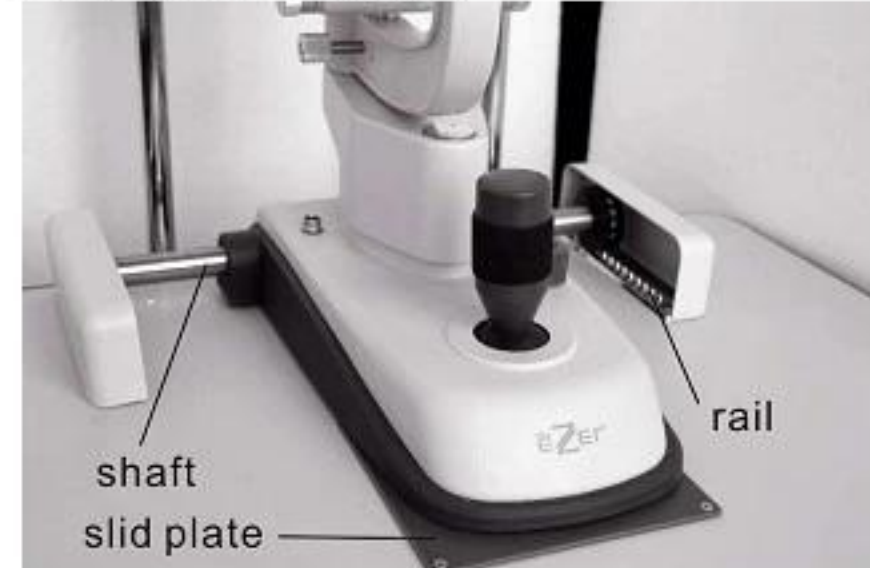


Fig.41

⚠ Attention: Don't wipe with any corrosive detergent lest that the surface should be damaged.

4.8 Protecting -----



Fig.42

physiological salt solution dropping into the main shaft hole of the illumination arm during the operation. Please cover the main shaft hole with the protection cap lest that the instrument would be damaged. Take off the cap when the guide plate needs to be assembled (Fig.42) .

There always are dusts and

4.9 Consumables -----

Please specify names and quantities when ordering following consumables.

	Part name	outlook
ESL-5200 Slit Lamp	Illumination bulb	
	Long reflecting mirror	
	Chin-rest paper	
	Fuse 1A (110V) 0.5A (220V)	

5 Trouble shooting guide

In case there is any trouble, please check according to the following table for reference. If it still cannot work, please contact the Repair Department of Suzhou Medical Instrument Factory or an authorized distributor.

Trouble	Possible cause	Remedy	Refer to
No illumination	The cable isn't connected correctly with the power socket	Connect the power cable correctly	P7
	The main power switch is on 'O' position	Place the switch on 'I' position	P9
	The plug on the power box is loose	Insert the plug firmly	P7
	The plug on the lamp cap is loose	Insert the plug firmly	P7
	The bulb has burnt out	Change the bulb	P15
	The fuse has blown	Change the fuse	P16
Slit is too dark	The bulb is not assembled properly	Assemble the bulb properly	P15
	The filter lever is in the middle position or in the position of grey filter.	Set the filter lever to the correct position	P13
	Voltage selector is wrongly set	Set the voltage selector correctly	P5
	The coat of the reflecting mirror is oxidized	Change the reflecting mirror	P15
	Too much dust on the reflecting surface	Clean the surface with the brush	P17
Fuse has blown	Voltage selector is wrongly set	Set the voltage selector properly	P5
	The fuse doesn't comply with the specification	Replace it with a suitable fuse	P16
Slit closes automatically	The slit width control knob is too loose	Adjust the tightness of the control knob	P16
Fixation target is off	The output plug is loose	Insert the output plug firmly	P7

6 Responsibility

We will supply circuit diagram of the instrument, electric component list, drawing annotation and calibration details according to the customer's need for repair.

If there is any need for enquiry of relative information and relative service or some questions, please contact with us directly or authorized distributors.

7 Transportation and storage

During the transportation, be careful to protect it from wetness, upside down and violent vibration. The relative humidity should be 10% to 90%, and environment temperature -25°C to 40°C.

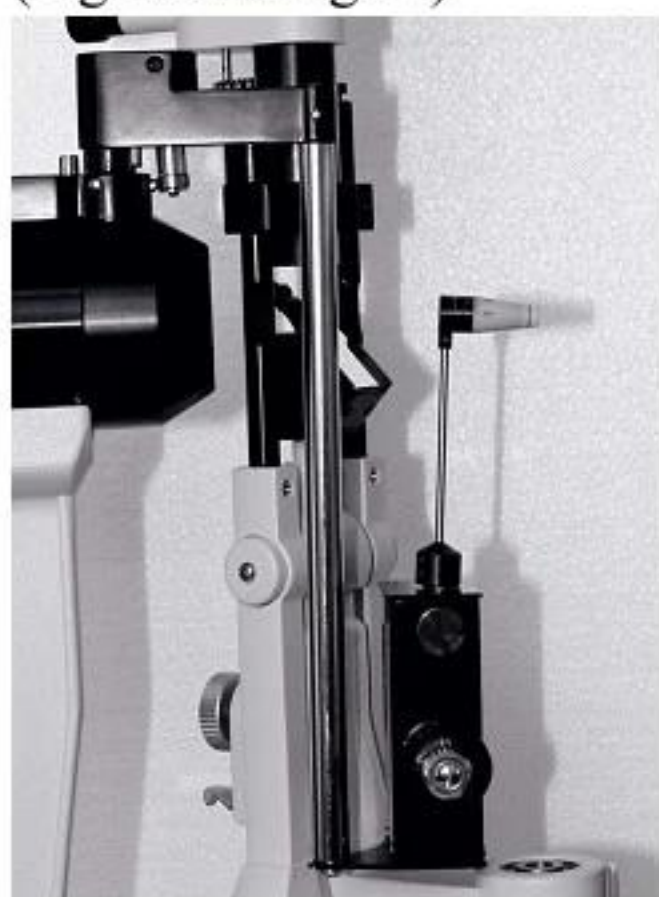
This instrument should be stored in a well ventilated room without corrosive gas where the relative humidity should be 10% to 80% and environment temperature -10°C to 40°C.

If the assembled instrument should be moved or transported in short distance, please lock all the movable parts. Move this instrument carefully with hands pushing or carrying its table. If for long distance transportation, please repack it with original package.

8 Optional accessories (purchase in addition)

8.1 Applanation tonometer -----

This ESL-5200 slit lamp could be equipped with TN-150, Haag-Streit AG Model R-900 or Model T-900 applanation tonometer for measuring the intraocular pressure. (Fig.43 and Fig.44)



TN-150、Model R-900

Fig.43



Model T-900

Fig.44

9 Specifications

Microscope -----

Type	Cross-angle stereo-vision			
Model of magnifying	Change the objective for 2-grade magnification			
Eyepiece	10x and 16x (optional)			
Total magnification rate	Objective *Eyepiece = magnification rate/vision field			
	1x	10x	10x	Ø18mm
	1.6x	10x	16x	Ø 14.5mm
	1x	16x	16x	Ø 11.25mm
	1.6x	16x	25.6x	Ø 9mm
Range of PD adjustment	10x eyepiece	55mm to 82mm		
	16x eyepiece	51mm to 78mm		
Diopter adjustment	10x eyepiece	±8D		
	16x eyepiece	±10D		

Illumination -----

Slit projection magnification	2/3x
Slit width	continuous from 0mm to 9mm (at 9mm , slit becomes a circle)
Slit height	continuous from 1mm to 8mm
Aperture diameter	Ø9mm, Ø8mm, Ø5mm, Ø3mm, Ø2mm, Ø1mm, Ø0.2mm
Slit angle	0° to 180° continuously adjustable from vertical to horizontal
Slit inclination	5°, 10°, 15°, 20° four steps
Filter piece	Heat-absorbing, grey, red-free, blue
Illumination bulb	6V20W halogen bulb

Movement base -----

Fore and back movement	90mm
Left and right movement	100mm
Fine movement	15mm
Vertical movement	30mm

Chin-rest parts -----

Vertical movement	80mm
Fixation target	Red LED

Hruby lens -----

Hruby lens	-58.7D (optionally available in some regions)
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Power source-----

Input voltage	100/220V ~±10%
Input frequency	50/60 Hz±1 Hz
Input power	30VA
Output voltage	Illumination bulb 0V~6V Fixation target 6V
Electric safe standard	Conform to Standard IEC601 -1 , Class I Type B

Dimension and weight -----

Packing box	720mm x 495mm x 480mm
Total weight	24 Kg
Net weight	21 Kg

✧ **Subject to change in design or specifications without advance notice.**

ESL-5200 Slit Lamp



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