

saxon[®]

STEREO MICROSCOPE

S/ST SERIES

INSTRUCTIONS

This instruction manual is for the Stereo Microscope S/ST series. To ensure the safety and obtain optimum performance and familiarize yourself fully with the use of this microscope, we recommend that you read this manual thoroughly before operating the microscope. Retain this instruction manual in an easily accessible place near the microscope for further reference.

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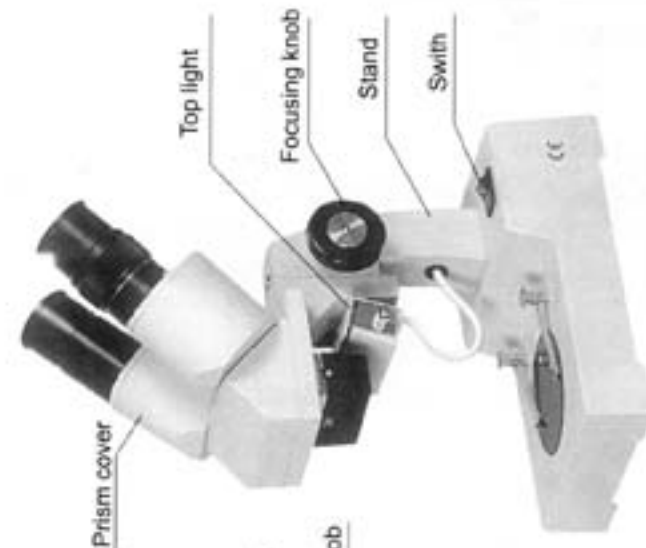
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1-1 NOTICE

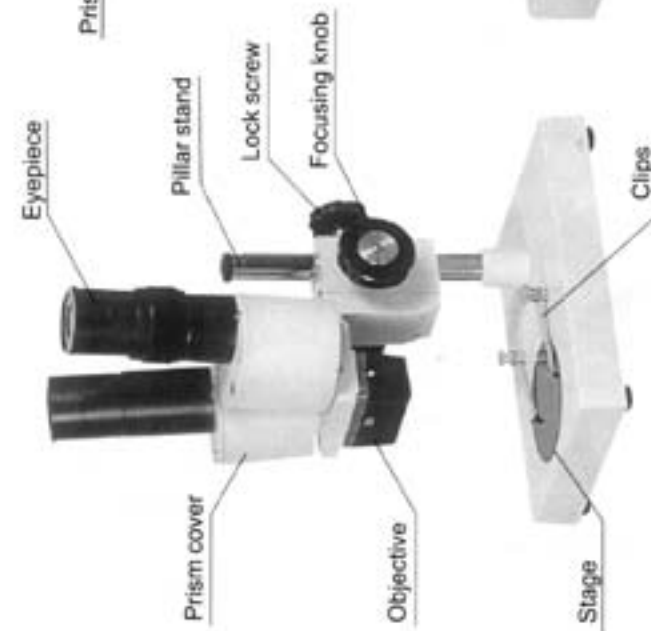
- 1) Microscope is a precision instrument, so handle with care, avoiding impact or abrupt movement during transportation.
- 2) Microscope ought to be placed in a dry and clean place. Do not expose the microscope in the sun directly. Avoid high temperature and violent vibration. Following environment is required: Indoor temperature: 0°C-40°C, Max relative humidity: 85%.
- 3) To keep the image clear, do not leave fingerprints or stains on the surfaces of the lens.
- 4) Check to ensure the power-supply voltage is consistent with your microscope's voltage rating before use.

1-2 MAINTENANCE

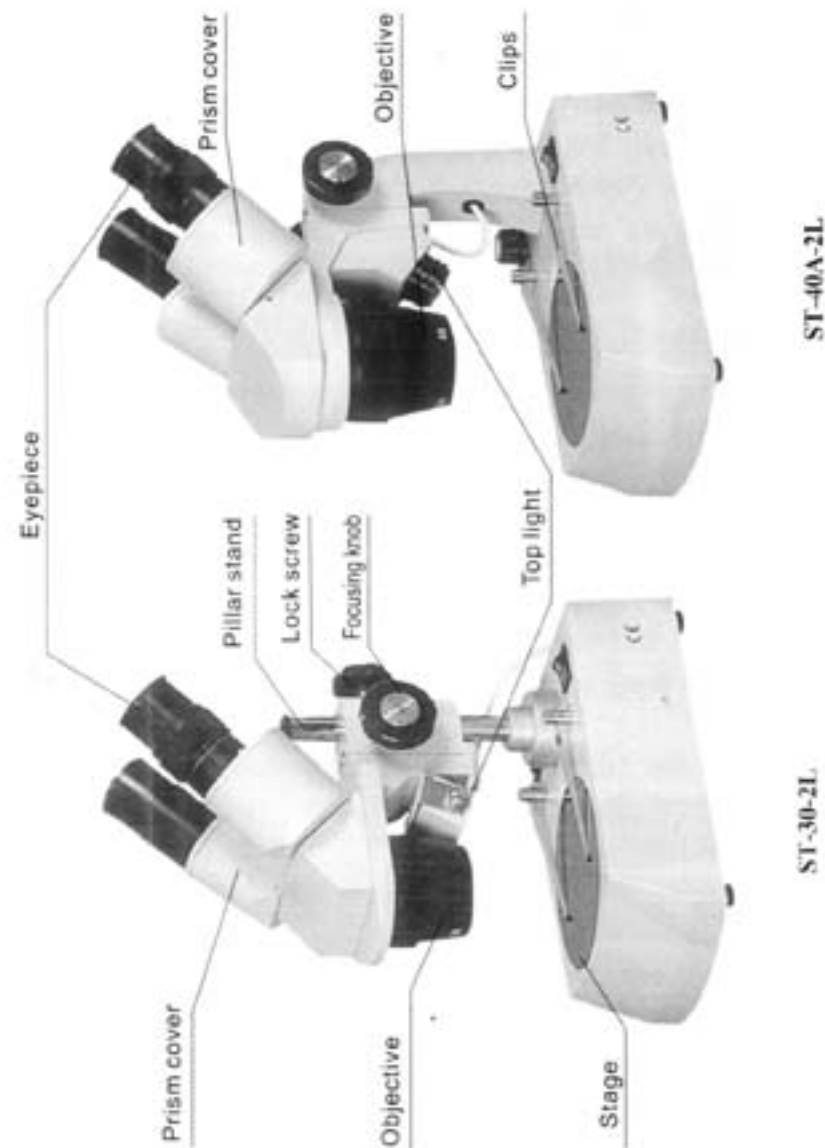
- 1) All lenses must be kept clean. Fine dust on the surface of the lens should be blown off with hand blower or wiped off gently with a soft lens tissue. Fingerprints or oil marked on it should be wiped off with a tissue moistened with a small amount of 3:7 mixture of alcohol and ether.
- 2) Never use the organic solution to clean the other surface (especially the plastic surfaces). If necessary, please choose the neutral detergent.
- 3) Do not take the microscope apart for fearing that it is damaged.
- 4) After using, cover the microscope with the dust-cover provided and store it in a dry, and clean place free from moisture to prevent rust.



S-20A-1



S-10-P



ST-40A-2L

ST-30-2L

First, take the styrofoam container out of the carton and place it levelly on the table. Open the container carefully to avoid the optical items dropping down and being damaged. Check the microscope and its accessories in the container carefully to ensure they are well.

2-1 Set the specimen

Set the specimen on the stage plate and clamp the slide with the clips.

2-2 Illuminate

For "P" type, use the daylight or other light.

For "L" type or "2L" type, insert the plug of main cable into the power socket and turn on the switch to get the specimen illuminated.

2-3 Adjust focus

1) For S-10, S-20, ST-30, ST-40 series.

Loosen the lock-screw, and look through the right eyepiece while moving stereo head-bracket up and down until the outline of the object is found in the field of view, and then tighten the lock-screw to fix the height of the stereo head on the pillar.

Rotate the focus-knob until the image is sharp and clear. Then adjust the diopter-adjust-ring of the left eye tube to get the image sharp and clear.

2) For S-10A, S-20A, ST-30A, ST-40A Series

Look through the right eyepiece while rotating the focus-knob until the image is sharp and clear. Then turn the diopter of the left eye tube to get the image sharp and clear.

2-4 Adjust the interpupillary distance

Push and pull the prism cover till the observation is comfortable.

2-5 Replace the slide-in objective

Loosen the lock-screw on the objective mount and pull out the objective from the right horizontally. Then, insert an alternate objective to the correct position. Last, tighten the lock screw.

2-6 Replace the lamp

- 1) Before changing the lamp, you must cut off the power and wait until the lamp cools down.
- 2) If changing the top lamp, loose the lock-screw on the lamp-house and take down the lamp-cover and replace with a new one.
- 3) If changing the bottom lamp, remove the stage from the base and then replace with a new one.

3. Configuration chart

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3-1 S-10 series configuration

Configuration		Model					
Parts	Description	S-10-P	S-10-L	S-10-ZL	S-10A-P	S-10A-L	S-10A-ZL
Eyepieces (Pair)	WF5X18mm						
	WF10X20mm	●	●	●	●	●	●
	WF10X20mm						
	WF15X13mm						
	WF20X10mm						
Objective (Pair)	1X56mm						
	2X81mm	●	●	●	●	●	●
	3X56mm						
	4X58mm						
	6X66mm						
Eye-cap (Pair)		●	●	●	●	●	●
Binocular	Upright head	●	●	●	●	●	●
Stand	Arm stand				●	●	●
	Pillar stand	●	●	●			
Stage light	Plan stage	●			●		
	Top light stage		●			●	
	Top/Bottom light stage			●			●
Clips		●	●	●	●	●	●
Bulb	Tungsten bulb 12v/10W		●	●		●	●
	Halogen bulb 12V/10W						
Plate	φ 60mmB/W plate	●	●		●	●	
	φ 95mmB/W plate			●			●
	φ 95mmGlass plate			●			●
Dust-cover		●	●	●	●	●	●
Dark field condenser	S-ST-DK						
Gem clamp	S-ST-GC						

3. Configuration chart

S/ST SERIES

3-2 S-20 series configuration

Configuration		Model					
Parts	Description	S-20-P	S-20-L	S-20-2L	S-20A-P	S-20A-L	S-20A-2L
Eyepiece (Pair)	WF5X/18mm						
	WF10X/20mm	●	●	●	●	●	●
	WF10X/20mm						
	WF15X/13mm						
	WF20X/10mm						
Objective (Pair)	1X/56mm						
	2X/81mm	●	●	●	●	●	●
	3X/56mm						
	4X/58mm						
	6X/66mm						
Eye-cap (Pair)		●	●	●	●	●	●
Binocular	45° inclined	●	●	●	●	●	●
Stand	Arm stand				●	●	●
	Pillar stand	●	●	●			
Stage light	Plan stage	●			●		
	Top light stage		●			●	
	Top/Bottom light stage			●			●
Clips		●	●	●	●	●	●
Bulb	Tungsten bulb 12V/10W		●	●		●	●
	Halogen bulb 12V/10W						
Plate	φ60mm B/W plate	●	●		●	●	
	φ95mm B/W plate			●			●
	φ95mm Glass plate			●			●
Dust-cover		●	●	●	●	●	●
Dark field condenser	S/ST-DK						
Gem clamp	S/ST-GC						

3. Configuration chart

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3-3 ST-30 series configuration

Configuration		Model					
Parts	Description	ST-30-P	PST-30-L	ST-30-2L	ST-30A-P	PST-30A-L	ST-30A-2L
Eyepiece (Pair)	WF5X/18mm						
	WF10X/20mm	●	●	●	●	●	●
	WF10X/20mm						
	WF15X/13mm						
	WF20X/10mm						
Objective2 (Pair)	1X/56mm						
	N.81mm	●	●	●	●	●	●
	3X/56mm						
	4X/58mm	●	●	●	●	●	●
	6X/66mm						
Eye-cap (Pair)		●	●	●	●	●	●
Binocular	45° inclined	●	●	●	●	●	●
Stand	Arm stand				●	●	●
	Pillar stand	●	●	●			
Stage light	Plan stage	●			●		
	Top light stage		●			●	
	Top/bottom light stage			●			●
Clips		●	●	●	●	●	●
Bulb	Tungsten bulb		●	●		●	●
	Halogen bulb						
Plate	φ60mm B/W plate	●	●		●	●	
	φ95mm B/W plate			●			●
	φ95mm Glass plate			●			●
Dust-cover		●	●	●	●	●	●
Dark field condenser	S/ST-DK						
Gem clamp	S/ST-GC						

3. Configuration chart

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3-4 ST-40 series configuration

Configuration		Model						
Parts	Description	ST-40-F	ST-40-L	ST-40-2L	ST-40A-P	ST-40A-L	ST-40A-2L	Gem-Microscope
Eyepiece (Pair)	WF5X/18mm							
	WF10X/20mm	●	●	●	●	●	●	●
	WF10X/20mm							
	WF15X/13mm							
	WF20X/10mm							
Objective (Pair)	1X/56mm							
	2X/81mm	●	●	●	●	●	●	●
	3X/56mm							
	4X/58mm	●	●	●	●	●	●	●
	6X/66mm							
Eye-cap (Pair)		●	●	●	●	●		
Binocular	45° inclined 160° rotating	●	●	●	●	●	●	
Stand	Arm stand				●	●	●	
	Pillar stand	●	●	●				●
Stage light	Plan stage	●			●			
	Top light stage		●			●		
	Top/bottom light stage			●			●	●
Clips		●	●	●	●	●	●	●
Bulb	Tungsten bulb 12V10W		●	●				●
	Halogen bulb 12V10W					●	●	
Plate	φ60mm B/W plate	●	●		●	●		
	φ95mm B/W plate			●			●	●
	φ95mm Glass plate			●			●	●
Dust-cover		●	●	●	●	●	●	●
Dark field condenser	S/ST-DK							●
Gem clamp	S/ST-GC							●

4. TECHNICAL PARAMETER

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4-1 S-10A, S-20A, ST-30A and ST-40A series are equipped with arm stands. S-10, S-20, ST-30, ST-40 series are equipped with pillar stands.

4-2 Diopter adjustment: $\pm 5 \Omega$. Interpupillary adjustment: 55-75mm.

4-3 The "P" type microscopes are equipped with same bases without any electrical illumination.

The "L" type microscopes are equipped with same bases and with a top light.

The "2L" type microscopes are equipped with same bases with top and bottom lights.

4-4 S-10, S-10A, S-20, S-20A are equipped with slide-in type objective 2x. There are 1x, 3x, 4x and 6x objectives for option. ST-30, ST-30A, ST-40, ST-40A are equipped with turret type objective 2x/4x. There 1x/3x, and 1x/2x for option.

1) Objective specification of S-10, S-10A, S-20, S-20A series

Slide-in Objectives	Magnification	Object filed (mm)	Working distance (mm)
1X	1X	20.00	56.00
2X	2X	10.00	81.00
3X	3X	6.70	61.00
4X	4X	5.00	58.00
6X	6X	3.33	66.00

2) ST-30, ST-30A series

Turret Objectives	Magnification	Object field (mm)	Working distance (mm)
1X/2X	1X/2X	20.00/10.00	53.00
2X/4X	2X/4X	10.00/5.00	53.00
1X /3X	1X /3X	20.00/6.70	53.00

3) ST-40, ST-40A series

Turret Objectives	Magnification	Object field (mm)	Working distance (mm)
1X/2X	1X/2X	20.00/10.00	57.00
2X/4X	2X/4X	10.00/5.00	57.00
1X /3X	1X /3X	20.00/6.70	57.00

4-5 All these models have the same eyepieces WF10X. There are eyepieces WF5X, WF15X, WF20X for option.

4-6 The power supply

It is assembled according to customer's request. There are two kinds for option:

220V-240V power supply:

220V-240V ± 10%, 50/60Hz

Lamp: Tungsten bulb 12V/10W or Halogen bulb 12V/10W

The electronics is CE and GS approved.

100V-120V power supply:

100V-120V ± 10%, 50/60Hz

Lamp: Tungsten bulb 12V/10W or Halogen bulb 12V/10W

The electronics is assembled according to UL safety regulation.

5. Troubleshooting

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The good performance of the microscope can't be made fully because of unfamiliar using, this table will give some advices.

Trouble	Cause	Remedy
1. Optical system		
1) Dirt appear in the field of view	Dirt on the specimen	Clean the specimen
	Dirt on the eyepieces' surface	Clean the surface
	Dirt on the objectives' surface	Clean the surface
2) Double images	Wrong interpupillary distance	Readjust it
	Wrong diopter adjustment	Readjust it
	Different magnification	Mount the same size eyepieces
3) Image is not clear	Dirt on the objectives' surface	Clean objectives
4) Incision image	The objective is not in the light path fully	Adjust it to the correct position
2. Electrical system		
1) Bulb doesn't work	No power in	Check the connection with the power supply
	The bulb was not installed correctly	Install it correctly
	Bulb is burned out	Replace it
	Fuse is burned out	Replace it
2) Bulb is always burned out	The voltage is too high	Use transformer to lower the voltage
	Use the wrong bulb	Use a correct one
3) Fuse is always burned out	The voltage is too high	Use transformer to lower the voltage
4) The bulb flicker or the brightness is unstable	The bulb will burn out soon	Replace it with a new one
	The wire isn't connected well	Connect it correctly