

STEINDORFF®

NYMC0035000C

Comparison Microscope

Operating Instructions

A. Features and Functions

Through optical enlargement, this comparison microscope, can help the user to observe clearly, by looking into the same eyepiece set, the images in both the right and left imaging view fields, and compare two or more objects effectively in cutting, joining or overlapping view fields. Due to its powerful magnification, this instrument enables the user to perceive the differences between very small similar objects.

Model NYMC0035000C Comparison Microscope is a new generation product of our long-time experience and technical innovation. With our success in solving the technical problem of the adjustability of its comparison line width, which has been listed as one of the national technical secrets, its quality has, therefore, reached the international advanced standard.

Model NYMC0035000C is our improved product on Model NYMC0035000A. It not only has all the technical properties of Model NYMC0035000A, but also offers better image quality and higher magnification. With more illuminating modes, more attachments, better shape and structure, it therefore performs a superior work.

This model is an ideal instrument for police stations, procuratorial organs and courthouses to identify finger prints, shot marks, tool traces, seals and writings, and for colleges and universities to use for educational purposes as well. It is also suitable for banks, archeological studies, electronics researches, biological science and agriculture.

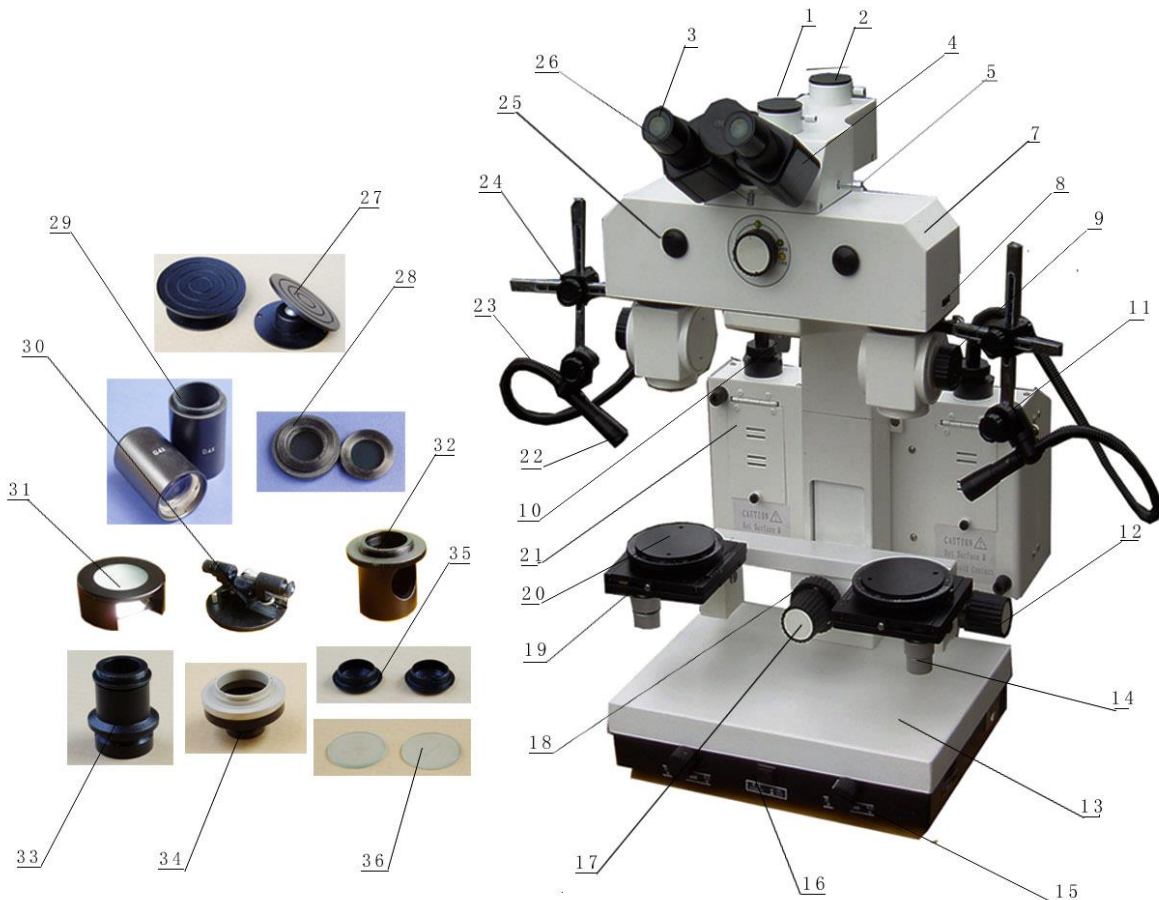
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B. Main Technical Parameters

eyepiece general magnifying power		visual inspection			photo-taking	video-recording	working distance
		imaging view field (mm)			interface magnification 3X	interface magnification 0.44X	
0.64X	bridge magnification 1.2X	7.7X/Φ23.4	192X/Φ8.9	123X/Φ14.3	1.9X/12.6×18.9	actual measured value	100mm
1.0X		12X/Φ15	30X/Φ5.7	192X/Φ9.17	3X/8×12		
1.6X		19.2X/Φ9.4	48X/Φ3.6	30.7X/Φ5.73	4.8X/5×7.5		
2.5X		30X/Φ6	75X/Φ2.3	48X/Φ3.67	7.5X/3.2×4.8		
4.0X		48X/Φ3.8	120X/Φ1.4	77X/Φ2.3	12X/2×3		

0.4X(attached objective)and 0.64X objective、10X eyepiece combination, general amplification power 3.1X,
ocular imaging view field Φ60mm

Note: The mark * means the attachment is optional.



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1. video interface
2. photography interface
3. eyepiece
4. binocular head
5. pull lever
6. separation line knob
7. bridge body
8. adjustment knob
9. magnification handle
10. clamping knob
11. stand
12. elevating knob
13. base
14. stage handle
15. luminescence regulator
16. main switch
17. coarse focus knob
18. level reaction knob
19. level stage
20. rotatable stage
21. power box
22. luminescence lens
23. light pipe
24. universal luminescence stand
25. separation line window
26. locking screw
27. tiltable stage
28. polarized light device
29. 0.3X objective
30. bullet holder
31. transmission illuminator
32. coaxial light
33. CCD tube
34. camera tube
35. wave filter base
36. magnification reticle

C. Installation and Operation

See Picture 1 for the assembled microscope.

1. Put the stand (11) on a working table of the suitable height, fix the bridge body (7) in its groove and tighten it with the clamping knob (9).
2. Then loosen the locking knob (26), take off the dust cover and fix the binocular head (4) with the locking knob (26);

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3. Remove the dust cover from the binocular head (4) and fit the wanted eyepiece in its place;

4. Plug one end of the power line into the socket on the base (13) and the other end into a socket of good grounding connected with a 220V power source. Connect all the other lines as required;

5. With all the above done, the instrument is ready for use now. A sheet of paper is to be placed on the two stage plates (20), turn on the main switch (16) and the light, adjust the focus knob (17) and look at the sheet on the stage plates (20) through the eyepieces (3). The clear observation can be obtained by working up or down the elevating knob (12).

The user is supposed to know clearly about the different functions of the different mechanical parts and also about the operating procedures before turning the instrument into the working best conditions.

D. Function and Operation

1. Operation of the Stage: The stage moves with the adjustment of the handle (14) and its plate (20) can make a 360° rotation. The plate (27) can incline to a certain degree and the two stages interact with each other with the turning of the reaction knob (18).

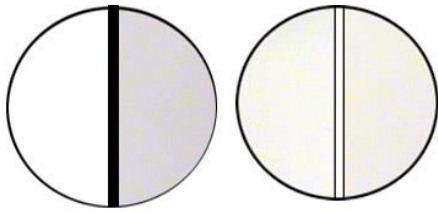
2. Focus: Turning the focus knob (17) can move the two stages up and down. The elevating knob enables them to move either upwards or downwards respectively.

3. Adjustment of the Light: The 24V150W luminescence light spot can be adjusted by turning the luminescence lens (22) and its holder can also be regulated to the desired position. Adjusting the lamp stand (24) affects different light angles. Adjusting the regulator (15) controls the intensity of the light. The wave filter base (35) can hold a wave filter or polarizer. If the bulb does not work, replace it with a new one.

4. Function, Regulation and Operation of the Separation Line: The separation line is thin, black and straight, as is shown in Picture 4. If it appears as is shown in Picture 2 or Picture 3, this means the line has changed out of shape, and needs adjusting in the following way: Remove the

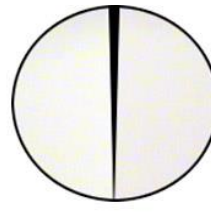
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dust cover, insert the screw driver that goes along with the machine into the groove within the bridge body and carefully regulate the line by watching through the eyepiece and turning the driver slightly until it shapes as is shown in Picture 4. If it is like the line in Picture 3, adjust the left screw. Turning the separation line knob (6) can move the comparison line continuously to have a single, cutting or overlapping view field. When in the mode of overlapping view field, different color filters applied to the right and left filter base will improve the result.



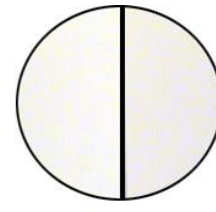
Picture 2

The black and white lines are too thick.



Picture 3

The black line shows different widths at both ends.



Picture 4

The line is a thin straight black line.

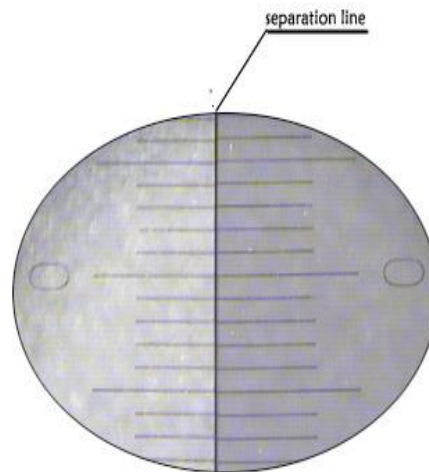
5. Choice and Adjustment of Magnification: The right and left objectives in use must have the same magnification. Turning the magnification handle (9) changes their magnification power. If the user wishes to have a bigger view field, just fit 0.3X objectives into the interfaces under the objective group and re-adjust.

In order to put the right and left objectives in strictly the same magnification, the user must adjust the magnification as follows:

Put the magnification reticles (36) on the right and left stage plates (20). Look through the eyepiece at the scales images and focus until the two images are equally clear. Move the reticles and make the reticle scales match with each other. If the right and left magnification is different,

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the reticle scales cannot match respectively. In such cases, the user can slightly turn the right or left magnification handle (8) and the right objective magnification until all the scales match well. Picture 5 shows the right scales images of the right and left magnification reticles. The same procedure must be followed if the user changes the magnification of the objectives.



Picture 5 shows the desired match of all the scales in the view field.

6. The Correct use of the Binocular Head: The movement of the head (4) can change the exit interpupillary distance to suit the user. Turning the spiral cap can adjust the vision effect. The user is able to see clearly the desired line shown in Picture 4 by turning this cap.

7. Photo-Taking and Video-Recording: The machine can play the two roles simultaneously. With the regulation made, the user pulls out the lever (5) and the instrument is ready for either photo-taking or video-recording. After the camera is fixed into the interface (2) inside the tube (34), the user observes through the viewfinder and slightly regulates the field until it is right for taking pictures. The right length of time for exposure can be found through practice. If the image taken with a camera is to be seen at the same time on a monitor display, the user must fit a pick-up head, tube (33), video line and monitor to the video interface (1), and put the tube (33) in the

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correct position showing clearly both the comparison line and the target object. For the best recorded results, the user is supposed to refer to the various instructions of all the above mentioned parts for the correct adjustment.

8. Application of Polarized Light, Coaxial Light and Transillumination: Polarized light works better for the examination of traces like scratches. The user fits such polarized light devices as polarizer or analyzer to the lower end of the objectives and to the luminescence lens (22), then adjust the light, turn the polarizer or analyzer to change the angle for the best illumination result.

Coaxial light better suits the revelation of objects like deep holes or smooth surfaces. The user fits the coaxial light (32) into the screw socket below the objectives and then adjust the illumination angle.

Some objects like negatives, transparencies or translucencies, call for transillumination. The user can put the transilluminators (31) on the stage plates (20), adjust the light angle and make transillumination.

9. Power Supply: The power supply unit is fixed inside the base. If power failure occurs, first check the fuse behind the base (13). If it is a circuit fault, please send for a professional technician or ask this company for help.

E. Attachments

We offer plenty of attachments for our customers. Please see the packing list.

F. Maintenance

1. This instrument must be kept in a shady and cool place, dry and well-ventilated. It must be free from dust, acid or alkali vapor. When not in use, it should be covered with a dustcover.
2. All the lens must be kept clean. If there is dust on the surface, it can be flicked off by an air blower or a soft hairbrush; if some greasy dirt gathers on the surface, it can be swept off by lens tissue slightly moistened with xylene.

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3. The user is not supposed to disassemble the instrument. In case of disorder, send it back to the producer for service.