

## I. STANDARD EQUIPMENT

Component	Model	BH2-DO-	
		1	3
Dual viewing body, with 6V10WGE bulbs (3 pcs.), dust proof caps AA5979 (2 pcs.), AA8379 (1 pc.) and light shielding cap AB 1062 (1 pc.)	BH2-DO-B	1	1
Binocular tube, with eye-tube caps AA7916 (2 pcs.)	BH2-BI-30	1	1
Transformer (for pointer)	T-DO	1	1
LB eyepieces	WHK 10X	1	0
	WHK 10X-H (focusable)	1	0
	WK 10X	0	1
	WK 10X-H (focusable)	0	1
Heat shielding plate	BH2-DO-HPS	1	1

## II. IDENTIFICATION OF VARIOUS COMPONENTS

### A. Dual viewing body BH2-DO

#### Filter selector knob

Demonstrator can select pointer color, green or orange, by means of this knob.

#### Lamp socket

Pointer manipulator lever

Demonstrator can bring the pointer to any particular structure of a specimen in the field of view.

#### Observation tube mounting dovetails

#### Supporter

#### Partner's manipulator lever

#### Observation tube clamping screw

#### Observation tube clamping screw

#### Heat shielding plate

This plate is attached here when the BH2-DO is used with the BHS microscope to protect the partner from the heat of the lamp housing.

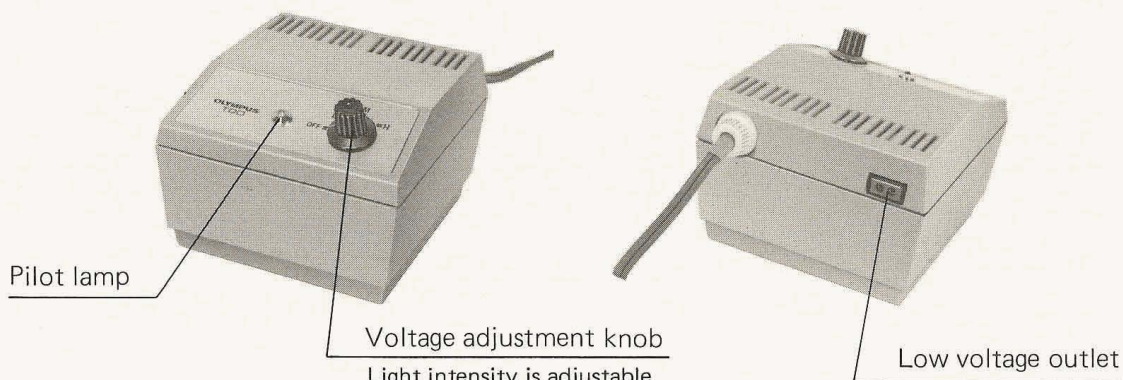
### B. Tranformer (for pointer) T-DO

#### Pilot lamp

#### Voltage adjustment knob

Light intensity is adjustable in 3 settings: L-M-H.

#### Low voltage outlet



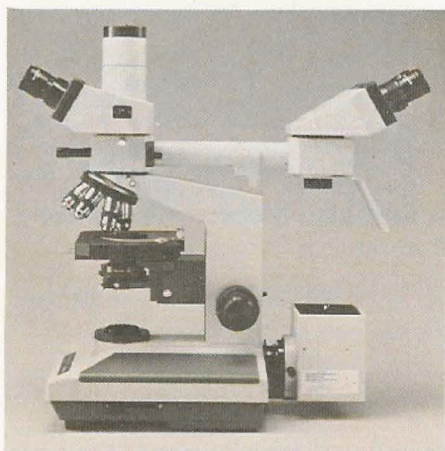
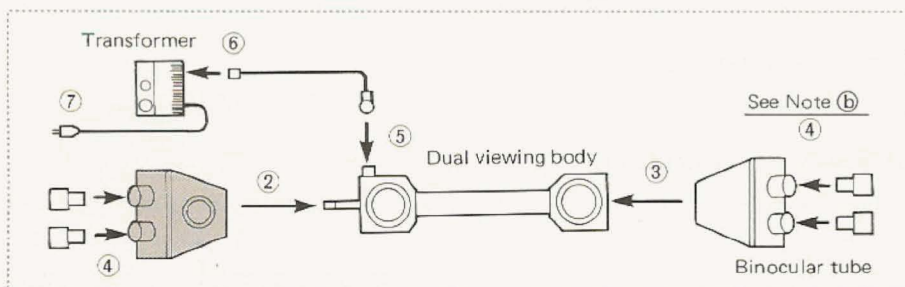
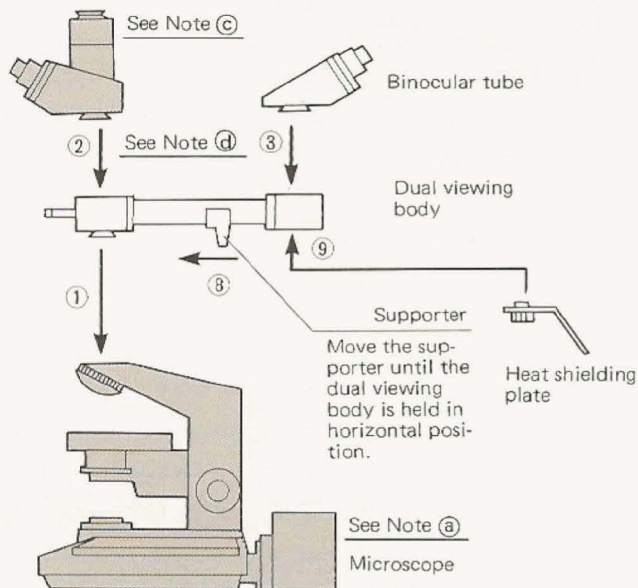
### III. ASSEMBLY

The diagrams below illustrate the sequential procedure of assembly. The numbers in circle indicate the assembly order of various components.

- ★ Remove dust caps before mounting components. Take care to keep all glass surfaces clean, and avoid scratching the surfaces.

#### REMARKS:

- ① In case demonstrator and partner are positioned opposite to each other, they can observe the identical image of a specimen
- ② If the BH2-DO is used in conjunction with a metallurgical microscope (i.e. BHM-2), set a vertical illuminator at a right angle to the dual viewing body.



#### Notes:

- ① Microscopes compatible:
  - BH2 series (BHS, BHT, and BHTU)
  - BH series (provided with LB series optical elements)
- ② Insert the eyepiece WHK10X-H (or WK10X-H) into the right eyepiece tube, and WHK10X (or WK10X) into the left eyepiece tube.
- ③ Photo eyepiece NFK2.5X is incompatible.
- ④ Super widefield observation tube is incompatible.

## IV. OPERATION

### A. Focusing

A demonstrator is required to make the following procedure:

- 1) Turn the voltage adjustment knob to position M, and the pointer lights up.
  - ★ If the pointer is not visible within the field of view, bring it back to the center of the field with the manipulator lever.
- 2) Rotate the lamp socket until the pointer illuminates most brightly.
- 3) Focus on the pointer in the following steps:
  - a) In case of BH2 series microscope (with a helicoid ring on the left eyepiece tube):
    - Rotate the helicoid ring of the right eyepiece until the pointer is brought into focus.
    - After focusing with the right eyepiece, rotate the diopter ring of the left eyepiece tube to make focus.
  - b) In case of BH series microscope, incorporating LB series optical elements (with a helicoid ring on each eyepiece tube):
    - Adjust interpupillary distance.
    - Rotate the helicoid ring of the right eyepiece tube to focus on the pointer.
    - Rotate the helicoid ring of the left eyepiece tube to focus on the pointer.
- 4) Focus on the specimen with the coarse and fine adjustment knobs. A partner follows step 3) so that the specimen image can be focused simultaneously with the pointer image.

### B. Use of the Pointer

The pointer can be manipulated by either of the demonstrator or partner.

#### 1. In case of the demonstrator

- 1) Adjust intensity of the pointer with the voltage adjustment knob in 3 setting positions L-M-H.

H for highly bright field of view.

M for normally bright field of view.

L for dim objects in darkfield, fluorescence, etc.

- 2) Handle the manipulator lever ① to guide the pointer to any position in the field of view (field number 20\*). (Fig. 1)

\* Field number represents the diameter in mm of the image of the field diaphragm that is formed by the lens in front of it.



Fig. 1

**Note:** It makes easier to touch up the manipulator lever with the thumb of your hand, while putting the other fingers on any other part of the viewing body.

- 3) Choose the filter color, green or orange, by means of the filter selector lever ② according to the specimen tint. (Fig. 1)
- 4) If no partner is engaged in observation, cover the unemployed observation tube with the light shielding cap provided.

## 2. In case of the partner

- 1) As the Model BH2-DO is designed to permit the partner to share the identical image of a specimen with the demonstrator from the opposite direction, the partner is also able to handle the pointer as well as the mechanical stage and focus adjustment knobs.
- 2) The partner is conveniently provided with a manipulator lever ① to control the pointer from the opposite position to the demonstrator. (Fig. 2)

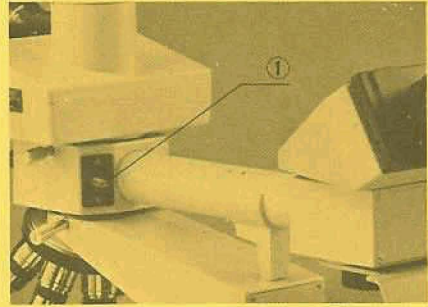


Fig. 2

## C. Photomicrography

Read the instructions provided with each photomicrographic equipment in use and observe the following points:

- 1) The pointer can be photomicrographed in conjunction with a trinocular tube. If the Model BH2-DO is used with Olympus trinocular tube (BH2-TR30, BH-TR45 or BH-TR30), NFK photo eyepieces and photomicrographic system PM-10M or PM-10AD, a sharply-focused image of the pointer can be always assured on the film plane without any particular focusing adjustment.
- 2) Photo eyepieces compatible with the Model BH2-DO are NFK3.3X and NFK5X.  
**Notes:** ① NFK2.5X is incompatible since the periphery of the field of view is cut off.  
② NFK6.7X is not recommended since the image of the pointer is magnified excessively, and in automatic exposure, a specimen is sometimes underexposed owing to the influence of the pointer intensity.
- 3) The pointer is designed to be brighter than the specimen so that the pointer can be photographed with contrast. This contrast results differently between photomicrography and observation as follows:
  - a) When a specimen is correctly exposed, the pointer is always overexposed. In color photography, this makes the pointer whitish, decoloring itself.
  - b) On automatic exposure mode with the PM-10AD, a specimen is sometimes underexposed because of pointer intensity. In such a case, turn the exposure compensation dial to the left.
  - c) In case of prolonged exposures for dim objects, the pointer tends to affect the exposures. To avoid this phenomenon, switch the pointer off and measure the brightness of a specimen; then light up the pointer again, and expose on manual mode.
  - d) No need to multiply the image magnification with any particular factor for observation and photomicrography in conjunction with the Model BH2-DO, since it has been compensated with magnification factor 1X.
  - e) In principle the demonstrator is recommended to take charge of photographing.