STANDARD JUNIOR 2 microscope with condenser 0,9 AS, in- base transformer and 6V 5W in- base illuminator

Operating Instructions

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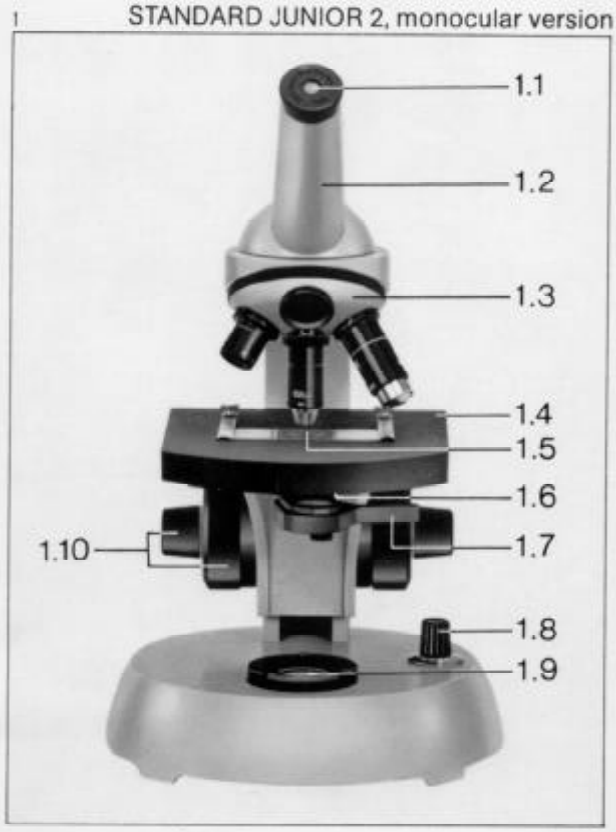
STANDARD JUNIOR 2
with condensor 0.9 AS

1 STANDARD JUNIOR 2, monocular version



1.1 Eyepiece C 8x (463910), exchangeable for other items of the normal ZEISS eyepiece line.

1.2 Fixed monocular tube, rotatable through 360°

1.3 Quadruple objective turret with 3 Achromat objectives and protective cap, exchangeable for other items of the normal ZEISS objective line.

1.4 Fixed square specimen stage with 2 stage clips

1.5 Specimen

1.6 Condenser 0.9 AS

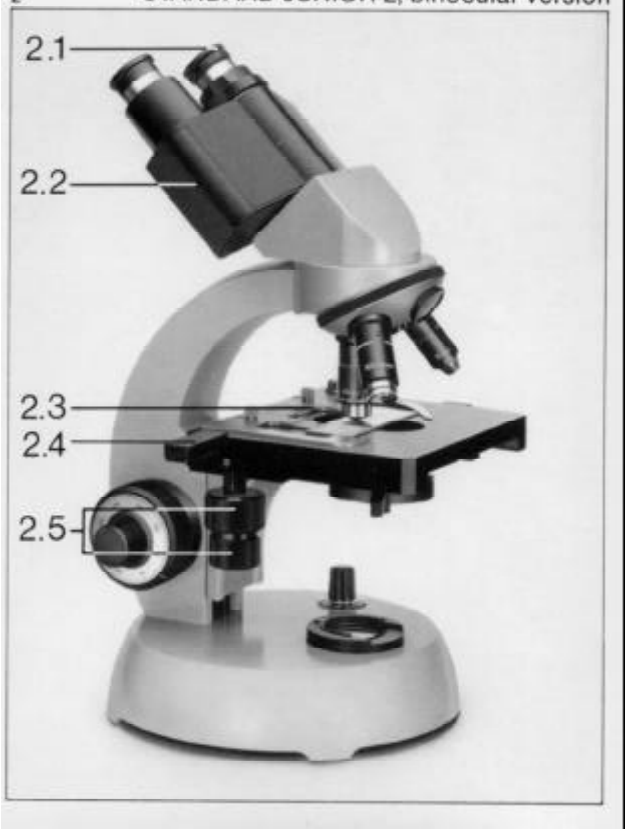
1.7 Lever for aperture (contrast) diaphragm adjustment and for provision of supplementary lens (4.1)

1.8 Brightness regulator of 6 V, 5 W lamp

1.9 Light exit opening with receptacle for 32 mm dia. filter

1.10 Coarse and fine drive for specimen focusing. With the combined drive the specimen stage can be moved vertically by 16 mm. One interval of the graduation of the knob corresponds to 5 µm = 0.005 mm vertical movement of the stage.

2 STANDARD JUNIOR 2, binocular version



2.1 Eyepiece C 8x (463913-9905) with focusing eyelens

2.2 Fixed binocular tube (factor 1.25), rotatable through 360°

2.3 Specimen holder

2.4 Mechanical stage, travel 25x75 mm. With the graduation of the attachable mechanical stage a specimen feature can be located to within 1/10 mm, and re-located with the coordinates. The values of the x and y directions cannot be confused.

2.5 Knobs for specimen shift

Preparations

- Take microscope from transport case and place it on the worktable.
- Remove transport lock (3.1) before operating the knobs (1.10).
- Check whether the mains voltage corresponds to that of the transformer.

The following transformers are available:
In-base transformer (392575-9001) 220 V
with earthing-contact plug,
In-base transformer (392575-9003) 127 V
with earthing-contact plug
In-base transformer (392575-9002) 120 V
with earthing-contact plug,
In-base transformer (392575-9004) 120 V
with flat plug.

Permissible voltage range: +10%, −15%
Frequency range: 50...60 Hz.

If your mains voltage does not correspond to that of the in-base transformer, please contact your nearest ZEISS representatives.

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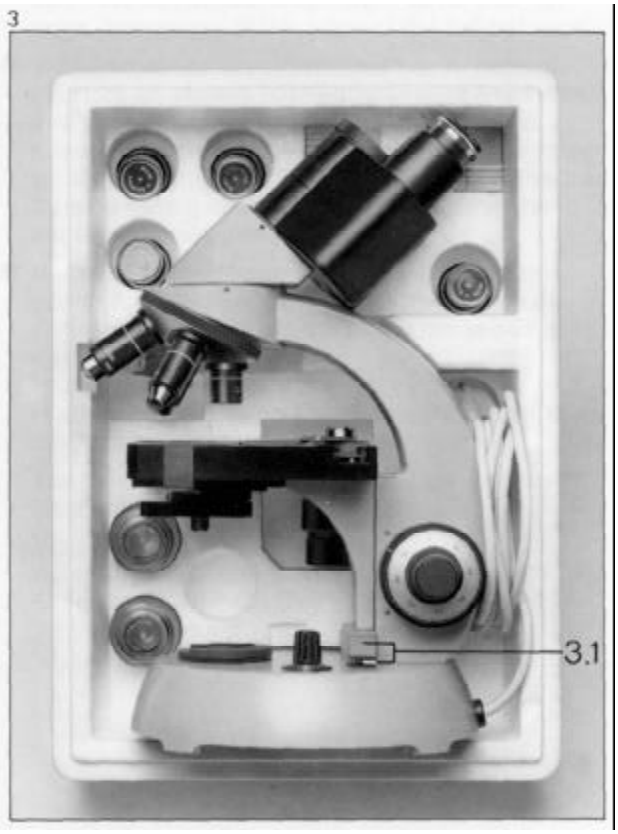

Focusing the specimen

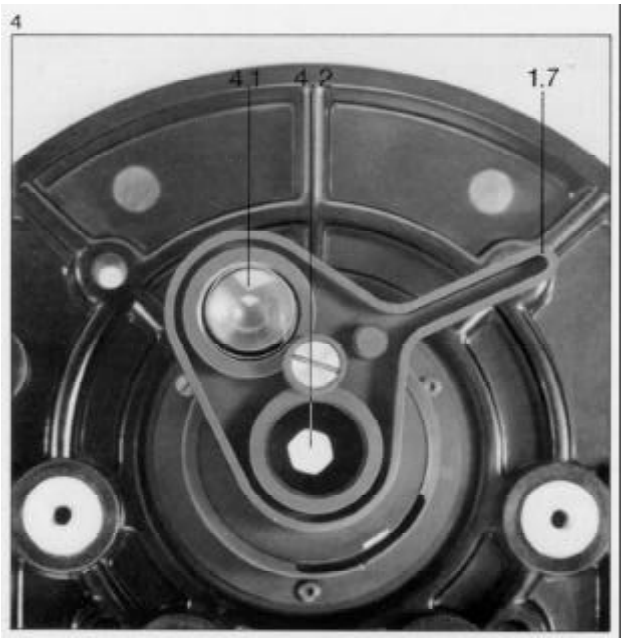

Fig. 4
Condenser 0.9 AS with supplementary lens on specimen stage, viewed from below.
Lever (1.7) to operate aperture (contrast) diaphragm (4.2) and supplementary lens (4.1).

- Connect cable to the mains.
  Adjust with knurled knob (1.8).
- Place specimen (1.5) with coverglass up on the specimen stage.
- Provide 10x objective.
- Fit eyepiece in tube.
  When using binocular tube (2.2), equip the right tube with a normal eyepiece and the left one with an eyepiece of the same magnification with focusing eyelens (2.1). Adjust the distance of the two tube halves until a circular field of view with defined contours is visible. View at first through the right-hand eyepiece and focus the specimen with knob (1.10). Then adjust image sharpness for the left eye by turning the eyelens.
- With 10x or higher power objective remove the supplementary lens (4.1) from the light path by turning lever (1.7) counterclockwise.
- Adjust image contrast with the condenser (aperture) diaphragm (1.7). To check the contrast, remove one eyepiece from the tube and view through the empty tube. The condenser diaphragm (4.2) should illuminate about 3/4 of the visible objective aperture.
- Adjust brightness of the image with knob (1.8).
- With Achromat objective 3.2 swing supplementary lens (4.1) into beam path with lever (1.7), and open the condenser diaphragm so far that its edge disappears at the edge of the field of view.
- With immersion objectives such as Achromat 100/1.25 oil, always connect objective front lens and specimen by a drop of immersion oil. In raised position the objective mount can be fitted by slightly turning it. The immersion objective can thus be swung in or out without touching the immersed coverglass.
- Because of their long working distance low-power and medium-power objectives such as Achromat 3.2 or 10 will not touch the specimen during focusing.
  Higher power objectives are provided with resilient mounts because of their shorter working distances.

  The **total microscope magnification** is calculated from the following equation:

  $V_{Mikr.} = M_{Obj.} \times V_{Ok.}$
  (x factor 1.25 of binocular tube)
  Example: 400 = 40x8x1.25 (binocular)
  320 = 40x8 (monocular).

Exchanging the filament lamp

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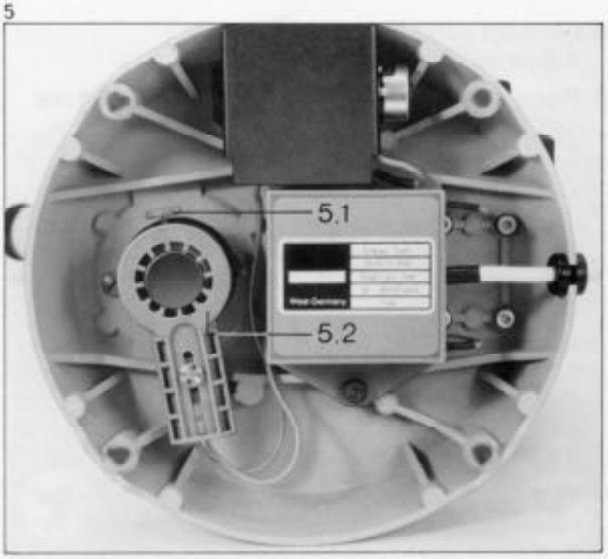

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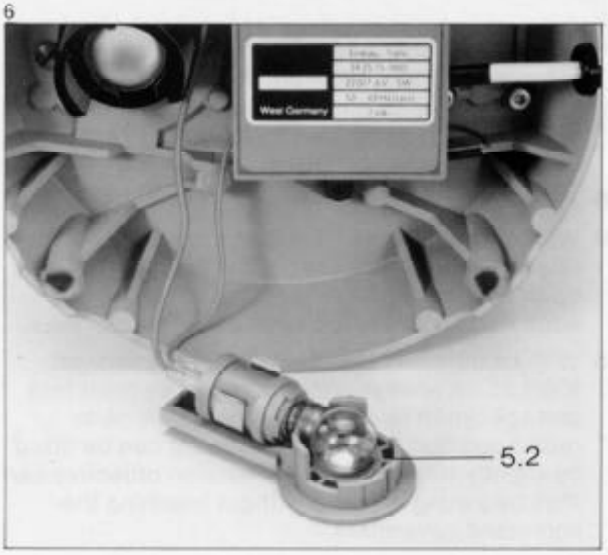

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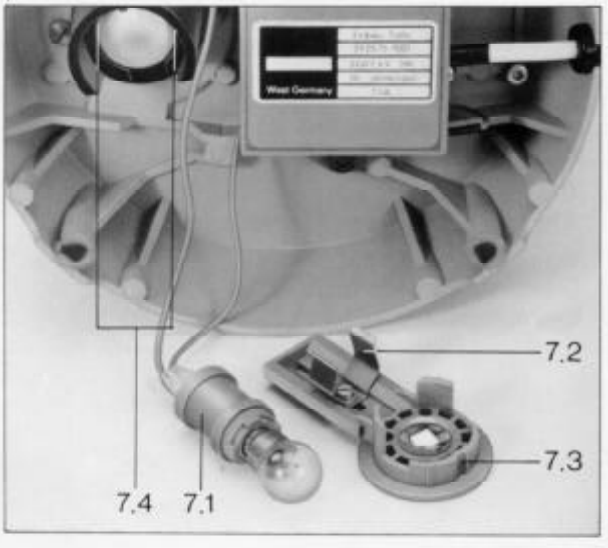

- Pull mains plug.
  Place microscope on the side so that rack and knob (2.5) of the mechanical stage are facing up.
- Loosen clamping screw (5.1) and pull lamp holder (5.2) from the sleeve.
  Remove lamp socket (7.1) from spring clamp (7.2). Unscrew exhausted lamp from the socket and insert new 6 V, 5 W filament lamp (380029-7180). Wipe off fingerprints on the lamp bulb.
- To insert new lamp, put lamp socket into spring clamp, turn and shift it until lamp coil and its mirror image are opposite one another when observing lamp and concave mirror.
  Insert lamp holder with filament lamp in receptacle (7.4) so that screw (5.1) fits into slot (7.3). Tighten clamping screw (5.1).