Brief Instructions

Leitz COMBIPHOT-AUTOMATIC system camera

1. Assembly of the system camera

Insert eyepiece tube (1.8) into the FSA tube (1.9). Insert photographic eyepiece (with red engraved dot) in the eyepiece tube.
Screw clamping collar (1.6) to the shutter unit (1.3). (For use of highpoint eyepieces screw in adapter ring (1.4)).
Mount the shutter unit with clamping collar as far as it will go on the eyepiece tube and clamp it with clamping screw (3.28).
Attach the 35 mm camera (1.1) to the camera lens (1.2) (red dot facing red dot) and insert both in the camera fixture (3.25) of the shutter unit (1.3) (directly insert the medium-and large-format camera).
Orientate the camera and fix it with clamping screw (3.24).
Connect the control unit with the shutter unit (measuring eye to measuring tube (3.27) and establish electrical connection (3.26)).
Screw in cable release (3.22).
Use twin cable release for the LEICA MD a 35 mm camera.
Set the shutter of the LEICA or the LEICAFLEX at B. (The twin cable release must be set so that the camera shutter is released before the system camera shutter).

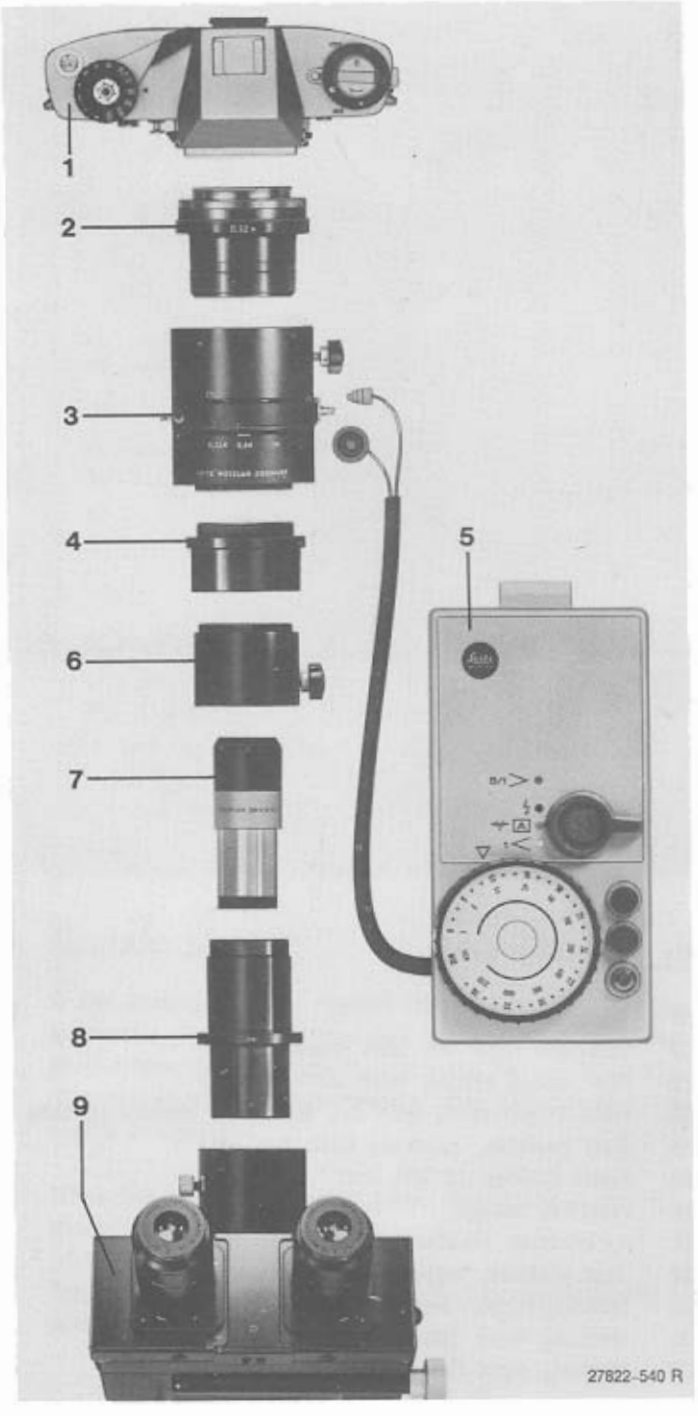

Fig. 1

1 LEICAFLEX
2 0.32 : 1 camera lens for the LEICAFLEX
3 Shutter unit
4 Adapter ring for highpoint photographic eyepiece
5 Control unit
6 Clamping collar
7 Photographic eyepiece
8 Eyepiece tube
9 Photo tube FSA

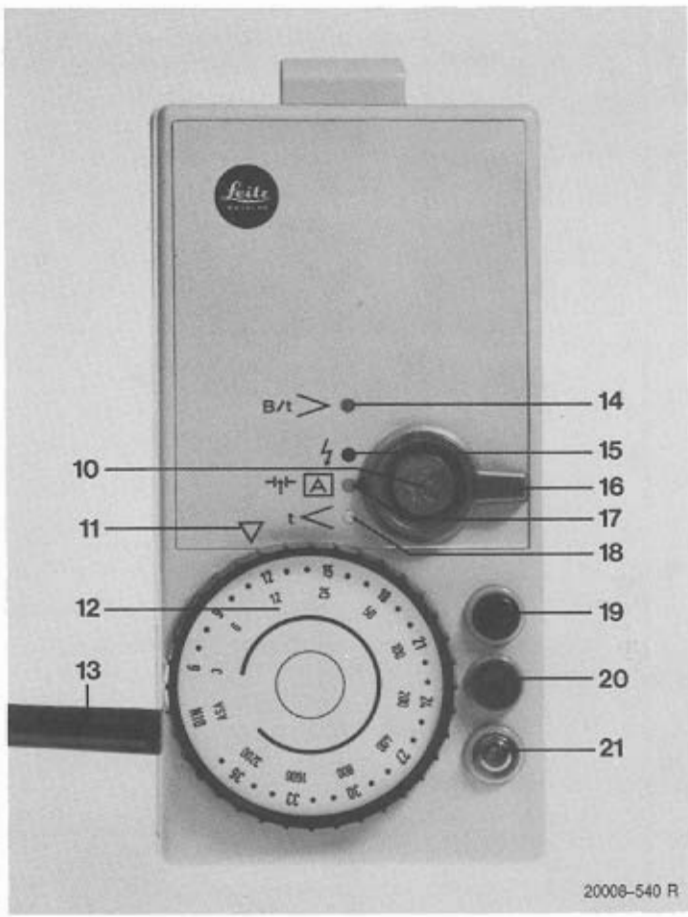

Fig. 2 Control unit

10 Testing button
11 Indicator mark for film speed setting
12 Film speed setting knob (DIN + ASA)
13 Cable connection with the shutter or measuring tube
14 Test position "exposure time too long"
15 Flash position (1/125 sec)
16 Function switch
17 Automation position
18 Test position "exposure time too short"
19 Warning light "exposure time too long"
20 Warning light "shutter open"
21 Warning light "exposure time too short"

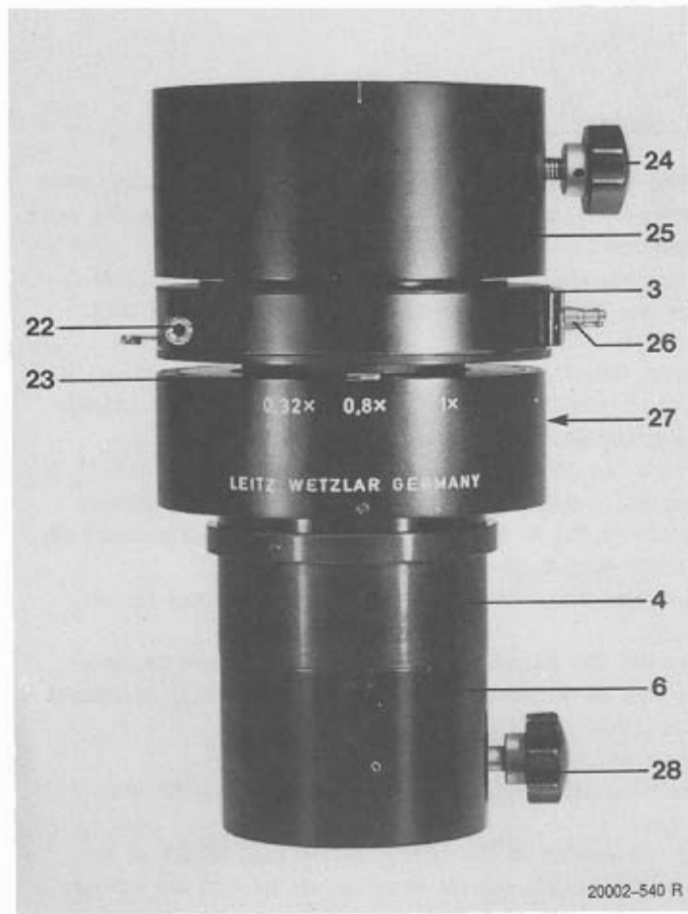

Fig. 3 Shutter unit with connecting tube

4 Adapter ring for highpoint photographic eyepiece
6 Clamping collar
22 Connection for cable release
23 Switch lever for factor setting
24 Camera clamping screw
25 Camera fixture
26 Plug (for connection with the control unit)
27 Measuring tube (not visible)
28 Clamping screw

2. Preparation for exposure

Insert the focusing eyepiece (MF) into the FSA tube.

Place specimen on the object stage (set up Köhler's Illumination according to the directions in the insturctions for the use of the microscope.)

Form a sharp image of the double circle in the centre of the field of view by means of the eyepiece of the focusing eyepiece.

Move the pictorial elements important for the exposure into the double circle of the focusing eyepiece.

The automatic exposure control measures only this part of the picture area. (Detail measurement = 3.5% of the total picture format).

Check and if necessary correct the focusing of the specimen after determining the picture area.

Set the factor (3.23) on the shutter unit. Allow for the objective factor.

35 mm format	= 0.32 x setting
6.5 x 9 cm, $3^1/4 \times 4^1/4$ in format	= 0.8 x setting
9 x 12 cm (4 x 5 in) format	= 1 x setting

Set the film speed on the setting knob (2.12) of the control unit (2.11).

Set the function switch (2.16) at position [A] (automatic).

Press the cable release for the exposure. The warning light (2.20) "shutter open" lights up during the exposure.

Checking a very dark microscopic image

Set the film speed.

Set the function switch (2.16) at the blue dot (position t $>$) and press testing button after about 10 sec.

If the blue warning light (2.19) lights up: increase intensity of the microscope illumination or use faster exposure material (higher DIN-ASA value).

If the warning light does not light up: set the function switch at "automatic" ([A] red dot) and expose.

ATTENTION. With exposure times longer than 10 sec allow for the Schwarzschild Effect* on the exposure material (manufacturer's information) and, if necessary, correct the exposure time with the film speed setting.

* Reciprocity failure

3. Function control of the automatic exposure

If the microscope image appears too bright or too dark in the binocular tube, the function of the automatic control should be checked.

The exposure times possible with the automatic control range from 1/125 sec to 5 min. for 50 ASA, 18 DIN exposure material.

Checking a very bright microscopic image

Set the film speed.

Set the function switch (2.16) at the yellow dot (position t $<$) and press testing button (2.10).

If the yellow warning light (2.21) lights up: reduce the intensity of the microscope illumination. (For black-and-white material with the regulating transformer; for colour material with a neutral density filter).

If the warning light does not light up set the function switch at "automatic" ([A] red dot) and expose.

4. Battery test

Press testing button in the back of the control unit. The instrument pointer must be deflected into the black field. If the pointer is deflected into the red field, the exhausted batteries must be replaced with fresh ones.

5. General hints

If the shutter is to be opened for a long time with the automatic control disconnected, set the function switch at the blue dot (position B) and press the cable release. The shutter closes automatically when the function switch is operated.

When the instrument is not used, the function switch should always be set at [A] .

For prolonged periods of non-use the batteries should be removed from the control unit.