

*There may be minor differences between your enlarger and the illustrations in this instruction manual, due to a policy of continual product development.*

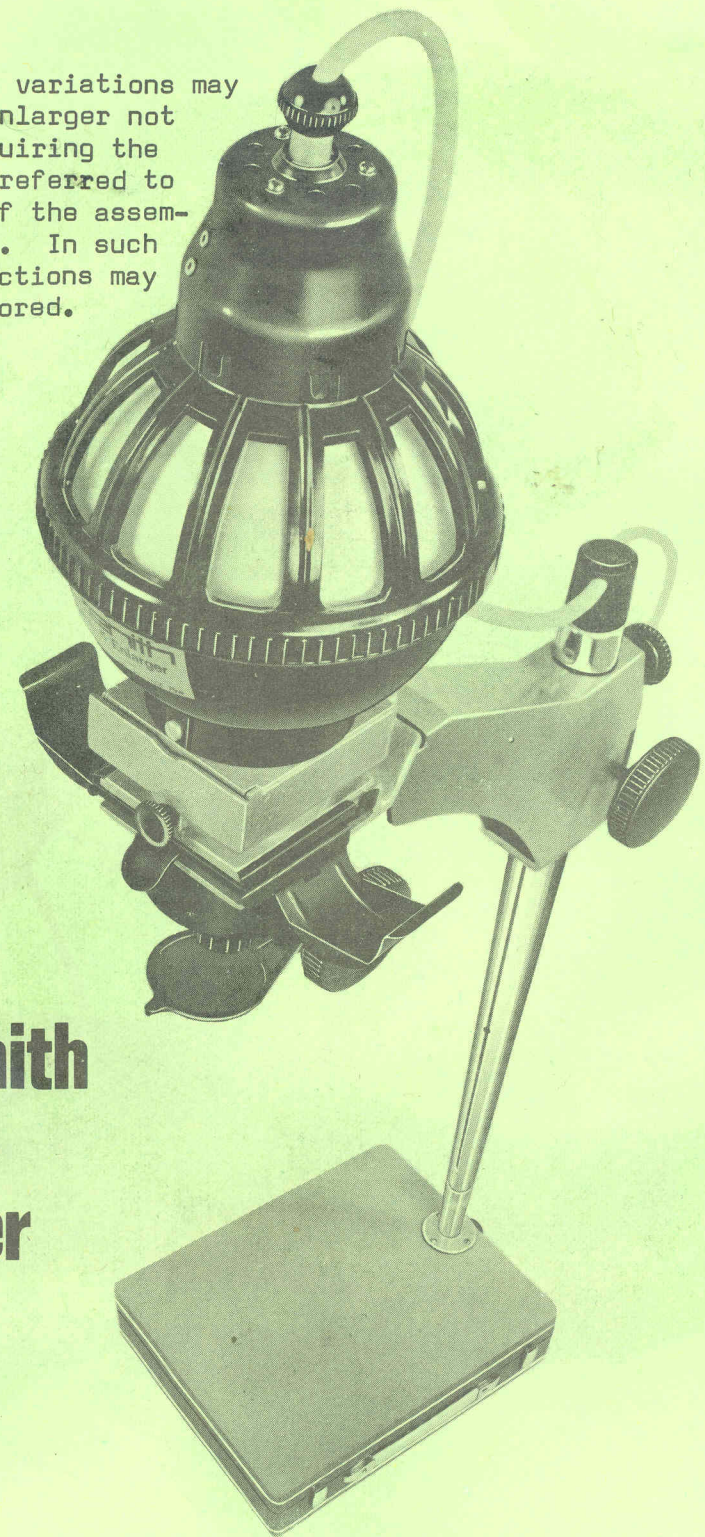


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Printed in England

#### PLEASE NOTE

Lamphouse design variations may result in your enlarger not including or requiring the light trap ring referred to in paragraph 4 of the assembly instructions. In such cases the instructions may therefore be ignored.



## **The Zenith UPA5M Enlarger**

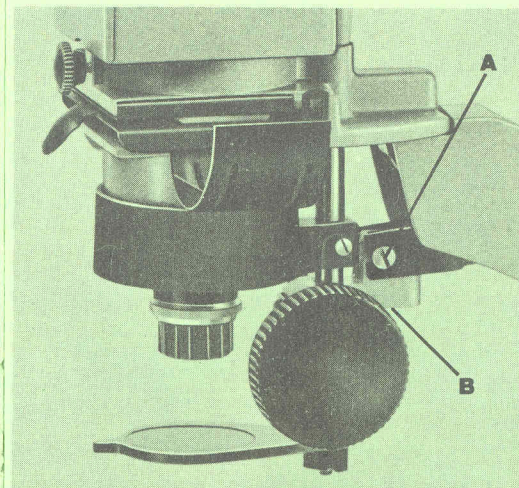
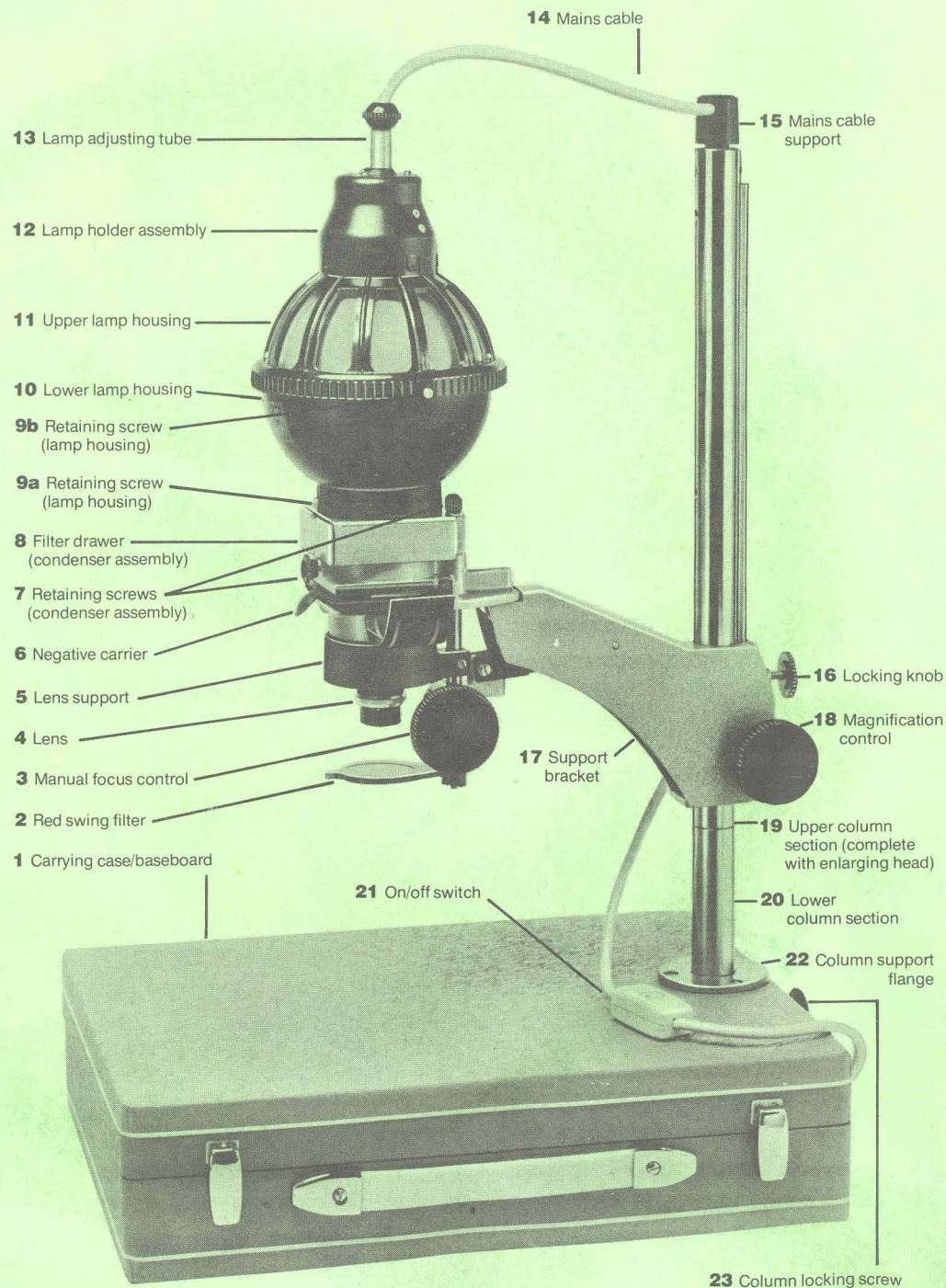


Fig 2

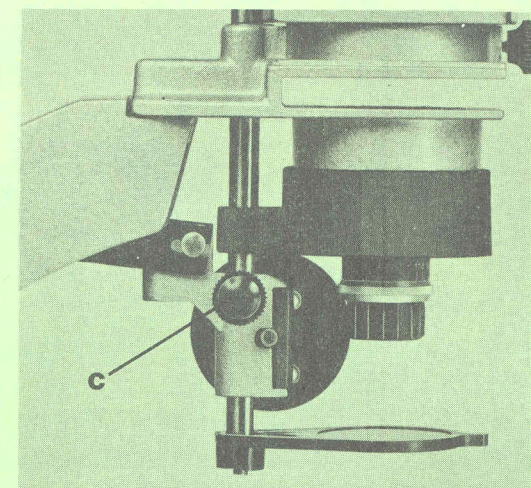


Fig 3

## The Zenith UPA5M Enlarger

### INSTRUCTION MANUAL

**Description** The Zenith UPA5M Portable Enlarger offers both automatic and manual focusing and provides facilities for printing from standard (24 x 36mm) 35mm negatives, from half frame (18 x 24mm) 35mm negatives and from 10 x 14mm negatives taken on 16mm sub-miniature film. It is also possible to use the enlarger for colour printing by placing up to four 6 x 6cm correcting filters in the drawer provided. The automatic focusing mechanism operates in the 2.5x to 8x magnification range. Manual override permits focusing in the range from 8x to 20x magnification.

**Preparation and Assembly** Remove the various components and parts from the carrying case and assemble as follows:—

1. Close and lock the carrying case.
2. Screw the lower column section (20) into the upper column section (19) as far as it will go, locking it tightly.
3. Insert the whole column unit, complete with head, fully into the support flange (22) on the case lid. Tighten locking screw (23) to lock the column

firmly into place with the enlarging head projecting over the case (baseboard).

*Note:* the auto-focusing mechanism is designed to work directly on the baseboard. If a masking frame is used, then the column must be raised until the locking screw (23) can engage the lower of the two grooves in the lower column section (20). This raises the head by 22mm, so suitable packing must be used to bring the surface of the masking frame to 22mm above the baseboard in order to maintain the auto-focusing facility (see 'Operating Procedure' for further information on this point).

**4.** Place the lower lamp housing (10) on to the condenser assembly (8), locking it into place with the screw (9a) provided at the front. Now drop the black metal light-trap ring into place at the base of the housing.

**5.** Fit the lamp holder assembly (12), complete with mains lead, by pushing it on to the upper housing (11), then screw in the 75w 240/250 volt enlarging lamp. Fit the upper lamp housing (11), with bayonet mount, on to the lower housing (10). The upper housing should be locked into place by tightening the locking screw (9b) provided at the side.

**6.** Push the negative carrier (6), with its sprung steel tensioners at the bottom, into the slot at the front of the enlarger. Push the mains cable support (15) into the top of the column, leaving enough slack to allow free movement of the enlarging head.

**7.** Fit a three-pin plug to the three-core mains cable, following the instructions affixed to it. If a fused plug is used, then a 3amp fuse *must* be fitted. For non-fused plugs, fit a 3amp fuse into the mains circuit supplying the equipment.

**8.** Remove the cap from the lens and move the red swing filter to one side, then, before using the enlarger, check that the lamp is set to the position which gives most even illumination, paying special attention to the corners. Adjustment to illumination is made by moving the tube (13) upwards or downwards after having first slightly loosened the three clamping screws around the top of the lamp holder assembly (12). Make sure that the tube is in the correct position and lock it there by retightening the three screws. If a more diffused light is required, the matt finish glass supplied can be fitted into the filter drawer.

**9.** The single-glass negative carrier supplied is designed for the 24 x 36mm format. In addition there are slip-in masks for the 18 x 24mm and 10 x 14mm formats. These fit into the lower section of the negative carrier.

**The Auto-Focus mechanism** The auto-focus mechanism is preset at the factory. To be sure that the assembly has not received any damage in transit it should be checked as follows:—

**1.** Rack the enlarger head down as far as it will go using the control knob (18), fixing it in place with the locking knob (16).

**2.** Rack manual focus control (3) down as far as it will go, locking it in this position with knob (C—fig. 3).

**3.** Press the front of the negative carrier down to enable a strip of negatives to be inserted with the emulsion (matt) side facing towards the baseboard. Release pressure on the carrier, switch on the amp using the on/off switch (21). Move the red swing filter (2) to one side, making certain the cap has been removed from the lens.

**4.** With the column set in its lowest position in the support flange (22), and with a sheet of paper on the baseboard to simulate the photographic paper, the lens should now focus correctly.

**5.** If the image is found to be out of focus this can be corrected as follows: turn the adjusting screw (A—fig 2) in either direction to obtain the sharpest focus. Before attempting to turn the adjusting screw, first loosen the locking screw (B—fig 2) situated directly below it. After correct focus has been obtained, tighten up the locking screw (B—fig 2) once more, then release the head locking knob (16) and rack enlarger head, using control knob (18), to the top of the column. Now check that the lens is still in focus, bearing in mind that with the increased magnification the image will obviously appear more grainy.

**Note** If at this stage it is found that focus is still not correct, then it is necessary to return the whole assembly to the suppliers for rectification. Once this has been carried out (i.e. just after initial purchase stage) there should be no further need to adjust the auto-focus mechanism.

**Warning** No adjustment other than that detailed above should be attempted by the user since otherwise the guarantee will be invalidated.

**Operating Procedure** All printing should be carried out in a darkroom with a suitable safelight. To protect the photographic paper from accidental exposure whilst it is being positioned on the baseboard, the red swing filter should be positioned below the lens. Avoid over-heating of the lamp house by only switching the lamp on during setting-up, focusing and exposure sequences. Exposure may be made by using the on/off switch or by moving the red swing filter to one side for the amount of time required. Using the auto-focus mechanism it is possible to obtain enlargements of up to 8x magnification directly on the baseboard. For greater magnification turn the complete enlarger column and head assembly through 180° and proceed to project the image on to any other flat surface, e.g. the floor, table or stool, below normal baseboard height. Note: *before* attempting to turn the enlarging column around on its axis, make sure that the unit has been suitably counter-balanced by putting some weight on the baseboard, thus preventing the equipment from toppling over. When the enlarger is used in this form, focusing must be carried out manually as follows:—

1. Loosen the locking screw (C—fig 3) then focus the lens by turning control knob (3) in an upwards or downwards movement.
2. Magnification can be increased or decreased by using knob (18) after first having loosened the locking knob (16).
3. To return from manual control to automatic focusing, the friction knob (3) should be turned until the lens support (5) is at its lowest position, where it should be locked into place with screw (C—fig 3). The enlarger can then be used in its normal mode, focusing automatically direct on the baseboard.
4. If one has a masking frame with a depth of less than 22mm, an alternative method of using the auto-focusing facility (i.e. to avoid the necessity of building-up the height of the masking frame) is as follows:— loosen column locking screw (23) and raise the column to the higher of the two notches, then retighten the locking screw. Loosen the head locking knob (16), then turn the magnification control (18) till the head support bracket (17) is in its lowest position. Then loosen screw (C—fig 3) and



Fig 4

adjust manual focusing control (3) until perfect focus is obtained. With control knob (3) left in this position the auto-focus feature will be retained; however it must be emphasised that screw (C—fig 3) must not be locked. FAILURE TO OBSERVE THIS WARNING CAN RESULT IN DAMAGE TO THE AUTO-FOCUS MECHANISM.

**Dismantling** To dismantle the enlarger, follow the assembly procedure in reverse. Pack as illustrated (fig 4). *The head support bracket should be adjusted to the lowest position, using control knob (18), to pack correctly in the case.*

**Note** To avoid possible backlash in the auto-focus mechanism, the *final* movement of the head support into the position of correct focus should always be *upwards*.

The enlarger is supplied with the 3-element Industar 50 enlarging anastigmat lens. This has a focal length of 53.5mm and a maximum aperture of f/3.5. Optimum definition will probably be obtained at an aperture of f/5.6 or less. A 75 watt 240 volt Edison screw P3/3 enlarging lamp is supplied. This is the maximum wattage recommended for use with this equipment.