

**INSTRUCTIONS
FOR USING THE
ENSIGN
AUTORANGE-20
CAMERA**



**ENSIGN Limited
LONDON W.C.1**

All Ensign Cameras are
guaranteed to give good results.

If for any reason your camera is
not doing as well as you think it
should, ask about it—either of
the dealer from whom you
bought the camera or direct of us.

We are here to make your photo-
graphy a pleasure—not a worry.

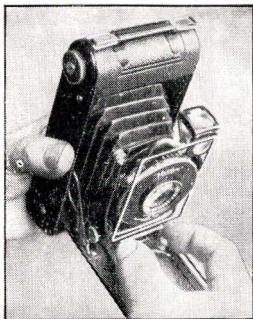
Don't be satisfied till you get
good results from every film.

ENSIGN Limited
HIGH HOLBORN
LONDON W.C.1

Instructions for Using the **ENSIGN AUTORANGE-20** Camera

Takes Roll Film Size 20

THE CAMERA IN USE



Drawing out the carriage

runners as far as it will go and release the finger grips. The front is now fixed at infinity, i.e., for pictures over 30 ft. away.

THE RANGE FINDER

The Ensign Auto-Range Camera is fitted with a Range Finder (sometimes called a Distance Meter) coupled with the lens focussing mechanism and operated from the radial focussing lever (Fig. 5 on page 4).

To Use Range Finder. Open camera to the infinity position as described on page 1. Sight Range Finder on a distant object (Fig. 2) and adjust the eyepiece to suit your own sight. (Note : Eyepiece should be left in this position for future use.)

Then sight the camera on some clearly defined object in your subject and you will observe in

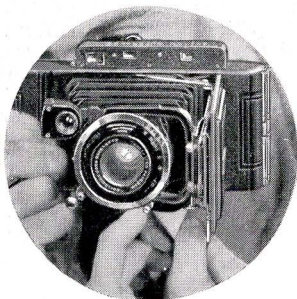


Fig. 2—Focussing

the Range Finder two separate images, one bright and the other dim (Fig. 3a). Move the radial focussing lever of the camera in an outward and backward direction and the dim image will



Fig. 3a



Fig. 3b

move towards the bright one. Proceed until the two images coincide (Fig. 3b).

Camera is now set at the correct distance and the subject may then be sighted through either the reflex or direct vision finder and the picture taken.

Focussing by Scale. At one side of the base-board will be seen the focussing scale, and a pointer

fixed to the lens carriage, which registers with the engraved line on the scale mark "INF." (Fig. 4). For shorter distances the radial focusing lever, on the other side of the base-board, must be used. Turn this lever in an outward and backward movement until the pointer on the carriage registers with the distance on the focussing scale (Fig. 5). After use return the lever to its original position.

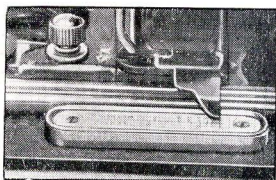


Fig. 4

Rising Front. Operated by the lever on the top of the right arm of the "U" front. Move in an outward and downward motion (Fig. 6).

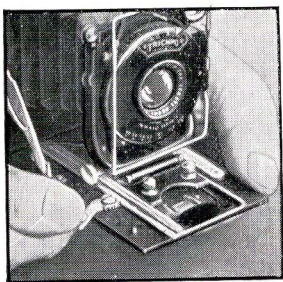


Fig. 5

The use of the rising front is to include tall buildings without tilting the camera upwards, for this gives the photograph an appearance as though the top of the building is falling backwards. It is useful to observe the effect of this on a piece of ground glass held

in the position of the film, while the back is open : any tall building, trees, etc., which are just above

the top of the picture will be found to be included when the lens is raised, and no distortion will be caused, as the camera can be kept level.

Cross Front.

For use as a rising front when the camera is in a horizontal position. A milled head screw will be seen at the bottom right side of the "U" Front. Draw out and turn to operate the cross front (Fig. 7).

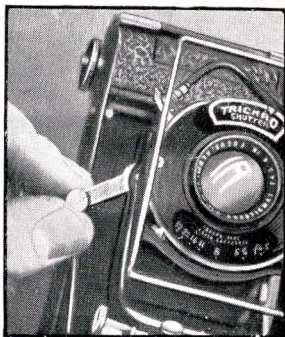


Fig. 6

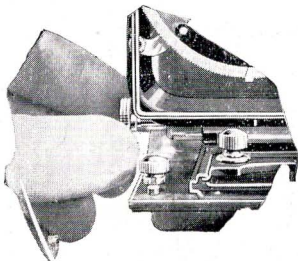
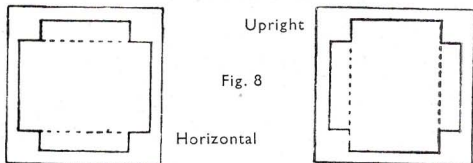


Fig. 7

It is important to remember that after using either of these actions, the lens must be returned to the central position or the camera cannot be closed without risk of damage.

VIEW-FINDERS

The optical reflecting view-finder close to the lens, shows a reduced-scale image of what the lens will take. A mask shows the limits of view which must be used when taking an upright or a horizontal picture in the following manner :—



The direct vision optical view-finder immediately beside the range finder is for use at eye level. Hold the camera with the glass as close to one eye as possible.

THE SHUTTER

Mulchro.—A very efficient mechanical shutter British made, giving an accurately timed range of speeds $1/100$, $1/50$, $1/25$, $1/10$, $1/5$, $1/2$, 1 sec., also Time and Bulb.

Prontor.—A mechanically operated shutter giving a range of speeds $1/250$, $1/100$, $1/50$, $1/25$, $1/10$, $1/5$, $1/2$ and 1 sec., also "Time" and "Bulb." To set this shutter turn the milled edge ring until red mark is opposite the speed required. Move the top centre lever in an anti-clockwise direction as far as it will go. Exposure may then be made by pressing the release trigger (top left-hand lever) or flexible cable release. Delayed action is provided for use with all "Instantaneous" exposures and may be brought into action by setting the shutter as already described, then moving the bottom left-hand lever (with red insert) in an

anti-clockwise direction as far as it will go. On pressing the trigger release there will be a delay of approximately 9 seconds before the exposure is made.

Compur.—A mechanically operated shutter giving a range of speeds $1/250$, $1/100$, $1/50$, $1/25$, $1/10$, $1/5$, $1/2$, 1 sec., also Time and Bulb. In this shutter the instantaneous speeds have to be set by means of a lever at the top of the shutter. This sets the train of gears and the shutter is then operated by the Trigger or Cable Release. This shutter can also be supplied with a Delayed Action fitted, for use with all instantaneous speeds except $1/250$ or $1/400$ on the Rapid Compur shutter. To operate, the setting lever is moved in the usual way until it stops. Then the small nickel knob at the top of the shutter is pressed back and the setting lever moved on once again. On pressing the trigger release there will be a delay of 12 seconds before the shutter works.

Snapshots holding camera in the hand :

- $1/25$ th sec. Slow snapshots ; fair light.
- $1/50$ th ,, Medium fast snapshots ; good light.
- $1/100$ th ,, Fast snapshots in brilliant light.
Beach pictures. Clouds.
- $1/250$ th ,, Sports pictures.

Exposures where the camera should be
used on a stand :

- $1/2$ sec. Portraits and close up in dull light
(winter).
- $1/5$ th ,, Portraits and close up in dull light
(winter).
- $1/10$ th ,, Close ups in moderate light (winter).
- B. - - - Short time exposures.
- T. - - - Long time exposures. Interiors.

The *Iris Diaphragm* is used to control the light for various subjects, and the following should serve as a guide :— $f/4.5$ and anything larger, for portraits and near views ; $f/11$, for average views ; $f/16$, for distant views ; $f/22$ and $f/32$, sea and cloud pictures and interiors where long exposures can be given. It must always be remembered that each smaller stop doubles the exposure. For instance, if taking at $f/11$, a view requires an exposure of $1/50$ th sec., the same view at $f/16$ would require $1/25$ th.

LOADING.—To remove the back, hold the camera in the left hand, raise the nickel-plated tongue with the forefinger of the right hand.

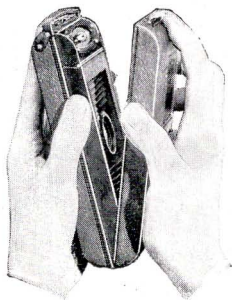


Fig. 9—Opening the back

In the upper chamber is the winder with one fixed spool-pin opposite to it, and an empty spool. The lower spool chamber has one fixed and one hinged spool-pin.

Take a spool of film, size E20 or EC20, and remove all the label, insert the spool in the lower spool chamber on the studs, with the end of the paper

leading towards the upper chamber. Keep the spool-pin bracket pressed into the camera by grasping the body at that point, lead the free end of the paper across both guide rollers and thread it through the large slot in the empty spool in the winder chamber.

Now give the winder one or two turns to make sure that the paper is centred nicely between the flanges of the spool, and if it is bearing hard against either side, press it gently sideways to correct.

Close the back and be sure that the catch is properly secured. At this point open the front of the camera and drop the baseboard.

Slide back the cover of the ruby window. Give the winder about ten turns until a "hand" sign appears in the ruby window. This is a warning of the approach of No. 1, which will appear after a few more turns. If the camera is not required for use at once it is advisable to leave the film with the hand showing at the window. *Always turn the film before closing the camera. After winding close the ruby window cover.*

Special Instructions for taking 16 Half-size Pictures on a No. 20 Film

Raise the lever situated at the side of the D.V. finder, thereby bringing the supplementary mask into position (Fig. 10a). Insert the dividing mask in the camera (Fig. 10b).

Load the camera as already described. Slide back the cover of the ruby window (which opens both windows at the same time—Fig. 10c), wind the film till No. 1 appears at the first window, expose, then wind No. 1 to the second window. Repeat for each number on the film until you have made 16 exposures.

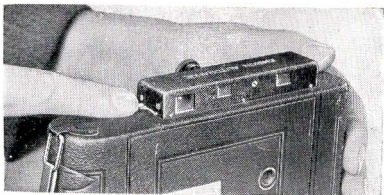


Fig. 10a

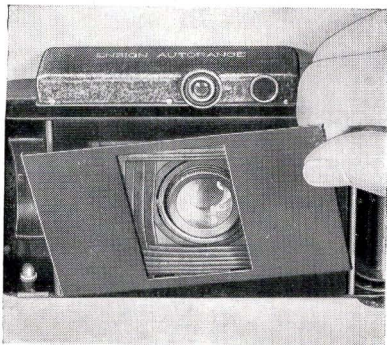


Fig. 10b

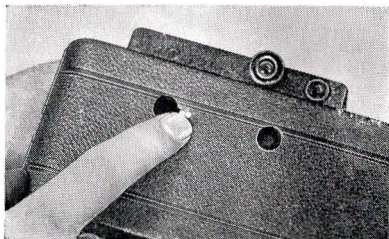


Fig. 10c

MAKING AN EXPOSURE

The camera being loaded and No. 1 in position, examine the subject carefully and decide what exposure to give, and what stop to use. Estimate the distance and focus the subject.

Then having assured yourself that all you wish to include is shown in the finder, look at your subject and press the release with a steady pressure. Do not jerk or the picture will be blurred. The exposure being made, *immediately wind another film into position before closing the camera* ; make a habit of doing this immediately after exposure. It is very annoying to find two pictures have been made on one film.

TO CLOSE THE CAMERA

See that the focussing lever is *right home* and snapped on to its retaining stud, also that the rising and cross motions are returned to their normal positions. Then grip the two carriage knobs, releasing the carriage from the locking pin by so doing, and run the carriage *right home* into the body ; hold the camera as shown in Fig. 11, both thumbs pressing on the side struts together, release them and close up the baseboard.



Fig. 11—Closing the camera

TO UNLOAD THE SPOOL

After exposing the last picture, continue to wind while looking through the window until the tail end of the paper passes, then it is safe to open the back ; complete the winding of the film, pull out the winder and the film will rise out of the chamber ; be careful not to allow it to slacken or edge-fog will be the result. Seal the roll with the gummed label marked "Exposed," then transfer the empty spool to the winding chamber and you are ready to reload with a fresh film as before.

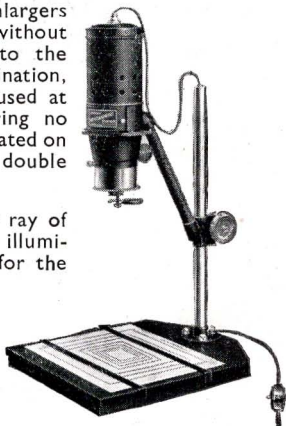
NOTE.—Do not load or unload in full sunlight if you can avoid it. A film may be fogged in 1/1000th second, therefore get indoors if you can, or at least in the shadow.

Make your SNAPS into Real Pictures with an **ENSIGN MAGNAPRINT ENLARGER**

Ensign Magnaprint Enlargers give you super-speed without loss of quality, due to the perfect system of illumination, whereby the light, diffused at its source and requiring no adjustment, is concentrated on the lens by a powerful double condenser.

By this means, every ray of light coming from the illuminating source is used for the purpose of exposure.

Grain, scratches and imperfections in the negative are reduced to a minimum and at the same time excessive contrast is controlled.



FOR $2\frac{1}{4} \times 3\frac{1}{4}$ in. (6 x 9 cm.). Enlarges $2\frac{1}{4} \times 3\frac{1}{4}$ in. negatives from P.C. up to 15 x 12 in. Smaller size negatives in proportion.

V/II with ENSAR Enlarging Anastigmat f/6.3	£8 10 0
V/IIM „ MAGNAR „ „ f/4.5	£10 0 0

DEPTH OF FOCUS TABLE

The following table shows the distances in feet between which objects will be sharp when the camera is focussed on various distances and set at various apertures.

Focus Set At	F/4.5		F/5.6		F/8		F/11		F/16	
	Near	Far	Near	Far	Near	Far	Near	Far	Near	Far
INF.	ft. ins. 50- 0	ft. ins. INF.	ft. ins. 44- 0	ft. ins. INF.	ft. ins. 36- 0	ft. ins. INF.	ft. ins. 29- 0	ft. ins. INF.	ft. ins. 22- 0	ft. ins. INF.
25 ft.	20- 0	33- 0	19- 0	23- 0	17- 0	44- 0	15- 0	63- 0	13- 0	INF.
15 ft.	13- 0	17- 6	13- 0	18- 6	12- 0	20- 0	11- 0	23- 0	10- 0	31- 0
10 ft.	9- 0	11- 0	9- 0	11- 6	8- 6	12- 0	8- 0	13- 0	7- 6	15- 0
7 ft.	6- 6	7- 6	6- 6	7- 8	6- 3	8- 0	6- 0	8- 6	5- 8	9- 0
5 ft.	4- 9	5- 3	4- 9	5- 4	4- 8	5- 5	4- 6	5- 7	4- 4	5-10
3.5 ft.	3- 5	3- 8	3- 5	3- 8	3- 4	3- 8½	3- 3	3- 9	3- 2	3-11

COMPARATIVE TABLE OF H. & D. SCHEINER AND D.I.N. FILM EMULSION SPEEDS.

Most roll films are now graded in Scheiner degrees, and the following is an approximate comparative table.

H. & D.	240	500	800	1300	2700	3500	4400	5600
Scheiner	16°	19°	21°	23°	26°	27°	28°	29°
D.I.N.	6°	9°	11°	13°	16°	17°	18°	19°
	10	10	10	10	10	10	10	10

EXPOSURE TABLE

The following table gives a rough idea of the exposures and stops for various subjects with most popular fast films (not super speed) from 10 a.m. until 2 p.m. with bright sunshine during May, June and July. For more detailed information, an exposure guide or meter is recommended.

Subject.	F/4.5	F/6.3	F/8	F/11	F/16
Open Seascapes and Cloud Studies	1/800	1/400	1/200	1/100	1/50
Open Landscapes with Light Foreground. Beach Scenes	1/400	1/200	1/100	1/50	1/25
Average Landscapes with objects in Foreground. Figures in open. River Scenes	1/200	1/100	1/50	1/25	1/10
Heavy Foreground, Buildings or Trees occupying greater portion of picture	1/100	1/50	1/25	1/10	1/5
Portraits or Groups taken out of doors not too shut in by buildings	1/50	1/25	1/10	1/5	1/2
Portraits in well-lighted room, light surroundings, big window, white reflector	1/25	1/10	1/5	1/2	1

In weather other than bright sunshine the above exposures are multiplied as follows :—

Bright diffused light, the sun behind a cloud	× 1½
Light clouds over the whole sky, but light able to cast a visible shadow	× 2
Heavy clouds over the whole sky	× 3
Very dull. Whole sky covered heavy clouds	× 4

Note.—Bear in mind that modern roll films, while of greater speed, also resist the effect of over-exposure. When in doubt, a longer exposure should therefore be given.

USEFUL ACCESSORIES

HELP YOU TO MAKE BETTER PICTURES

COLOUR FILTERS. A Colour Filter used on appropriate subjects will improve your pictures enormously. Colours will be rendered faithfully in their exact relationship to each other, and the addition of clouds, not only to landscapes but also to ordinary snapshots, sometimes improves the pictures out of all recognition.

LENS HOODS. A Lens Hood clipped on to the front of the lens excluding all side light, frequently adds contrast, definition, and brilliance to the picture.

AUTOTIMERS. Possession of an Autotimer enables you to release your shutter automatically and thus include yourself in your picture, not only of groups but also in snapshots.

EXPOSURE METERS. Enable you to obtain absolutely correct exposure in any conditions of light, and whilst the "modern film" emulsion will stand considerable abuse in the matter of exposure, nevertheless many subjects are spoilt when exposure is not absolutely right.

TRIPODS. A tripod is a very useful accessory and will enable you to take a "time" or longer exposure and thus obtain a picture which otherwise might be impossible.

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Film



29° Sch.

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and faster than most
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