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IHAGEE KAMERAWERK AG DRESDEN A 16

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Using the

Exa II

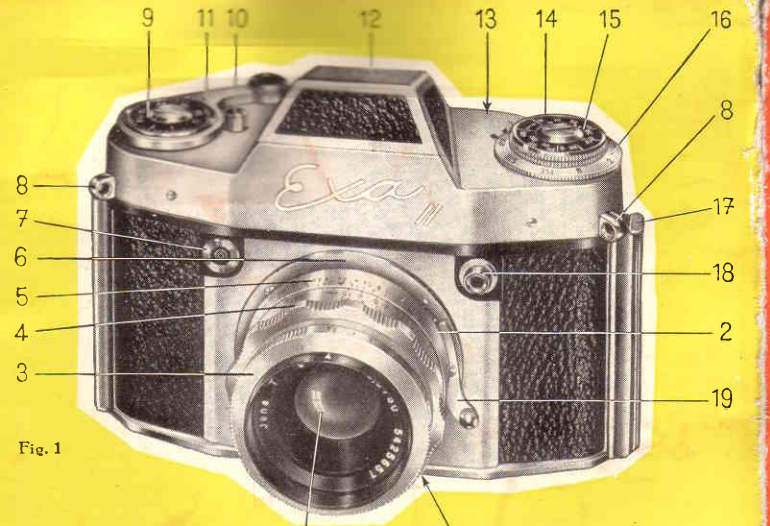


Fig. 1

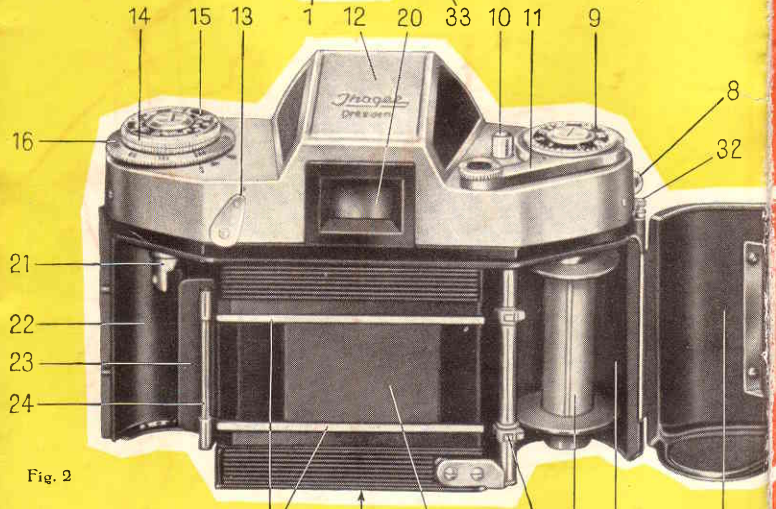
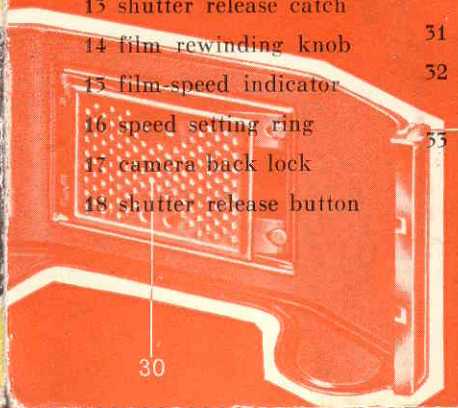


Fig. 2

Main operational points of the EXA II

1 lens
2 red dot on lens
3 diaphragm stop ring
4 focusing ring
5 depth of field scale
6 red dot on camera
7 flash contact
8 neck strap eyelets
9 exposure counter
10 rewinding button
11 rapid-wind lever for shutter and film transport
12 Pentaprism
13 shutter release catch
14 film rewinding knob
15 film-speed indicator
16 speed setting ring
17 camera back lock
18 shutter release button
19 lens bayonet catch
20 ocular of Pentaprism
21 rewind-spindle dogs
22 cassette chamber
23 guide plate
24 film guide roller
25 film guides
26 shutter-blind slit
27 film transport sprockets
28 take-up spool for exposed film
29 take-up chamber (for spool or cassette)
30 film pressure plate (removable)
31 camera back
32 camera back hinge spindle
33 tripod socket



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Please accept our sincere congratulations on your wise choice of an EXA II for your photographic work, and our best wishes for lasting pleasure and succes with this fine instrument.

IHAGEE
CAMERA WORKS
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In your EXA II, unrivalled in its combination of extreme versatility and exceptionally simple operation, you have invested in a photographic instrument which will meet your requirements in every field of miniature photography. The camera makes one call upon you only, which is that in fairness to its wonderful operational scope, you learn to get the very best out of it ... which means nothing more than carefully reading the instructions for use, and practising with the unloaded camera before actually putting it to work. (A few minutes devoted, for example, to loading and unloading the camera with an old film will be very well spent.) And now, please open out the page facing this one so that in reading the directions, the relevant illustrations will always be visible.

Obviously, there can be little need for us to extol the major virtues of the EXA II - the fact that you have chosen the camera is indicative on that score, of course - but we are glad you share our pleasure in its single-lens-reflex focusing, where the brilliant magnified image of the subject, seen right-way-up and right-way-round, is free of all parallax errors whether the camera is used with extension tubes for close-ups, or with wide-angle, telephoto, and other special lenses or accessories, ... and where, too, picture composition, focusing, and check of focal depth are all controlled through the screen image. With us you share as well the pleasure given by the quietly-operating focal plane shutter mechanisms, the convenience of the rapid lever-wind operation, the reliability of the film transport system in general, and the wide range of EXA II accessories that make light work of otherwise impossible photographic tasks.

And now for the how-to-do-it details!

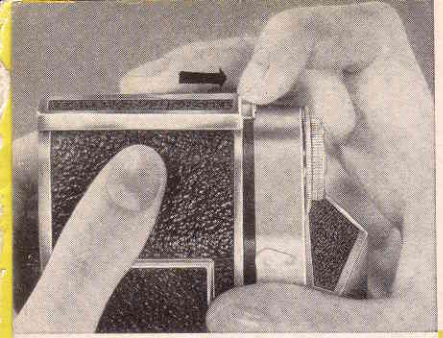


Fig. 3

Exa II

Opening and closing camera back

Hold the EXA in your left hand. Pull out the camera back lock (17) as in fig. 3, and open camera back. When closing, press camera back (31) lightly against the camera body, so that lock (17) snaps into its original position.

When back (31) has to be detached from the camera, withdraw the pin securing the hinge spindle (32) after opening camera back. When refitting, hold the back against the camera body and introduce spindle (32) into the hinge aperture.

Shutter and film transport

Film wind and shutter loading are coupled to prevent double exposures and unexposed frames.

Lift shutter release catch (13) as in fig. 4, to enable shutter to be fired either directly by pressing the release button (18) - see fig. 5 - or indirectly by pressing the release knob on the F.A.D. type of lens. With shutter release catch (13) swung slantwise to the red point (fig. 6), it is impossible to release the shutter through unintentionally depressing the release button when storing or carrying the camera.

When setting shutter and transporting film with rapid-wind lever (11), the lever should be operated as far as the stop either with a single sweeping movement or with a number of smaller movements of the lever, which will always return automatically to its starting position.

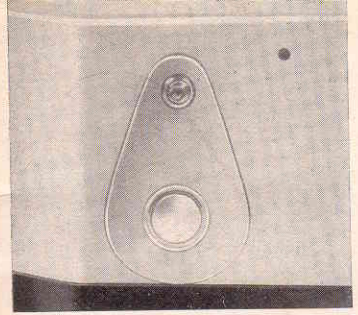


Fig. 4

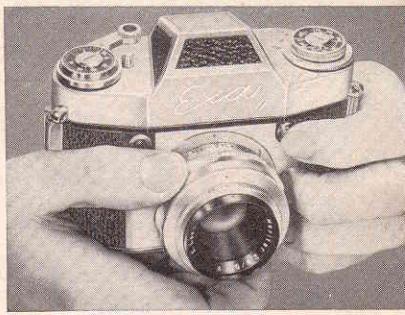


Fig. 5

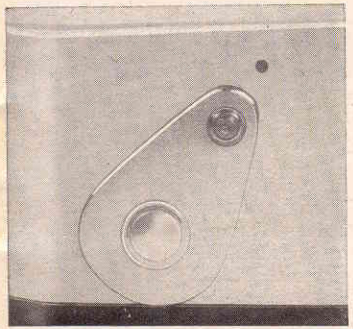
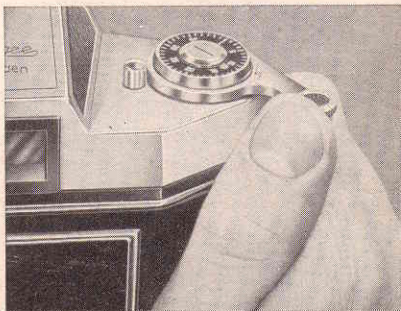


Fig. 6

Fig. 7



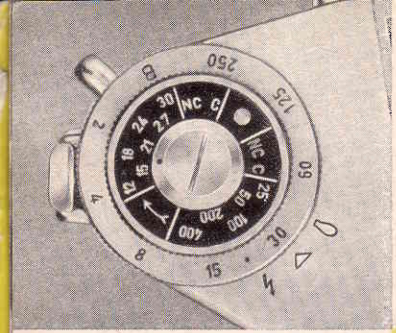


Fig. 8

With shutter set, the lever cannot be operated again before the shutter is released, and equally the shutter cannot be released until the lever-operation is completed. The lever must never be forced. The screen image in the Pentaprism (12) is visible only with the shutter loaded. (When picture-taking is interrupted, safeguard against accidentally firing the shutter by swinging release catch (13) to red dot.)

Shutter operation

Instantaneous Exposures. Turn speed setting ring (16) in either direction until the exposure time required is against the black triangle (△) (fig. 8). The figures represent fractions of a second, e. g. 2 = ½ sec., 30 = $^1/_{30}$th sec., 125 = $^1/_{125}$th sec. (Setting between engraved speeds does not give proportionate intermediate exposure.)

Exposures from $^1/_{250}$th to $^1/_{30}$th second can safely be hand-held - with experience, $^1/_{15}$th may also be used "in the hand" - but for longer exposures, a tripod or other firm support for the camera is essential. (Tripod socket (33) is in base of the camera.)

Time Exposures. Turn speed setting ring (16) to B. On depressing release button (18) or release knob of lenses, shutter will open and remain so until pressure is removed. To obtain T setting for very long exposures, turn

speed setting ring (16) to B, and open shutter by depressing release button (18) or release knob of lenses.

Then set shutter release catch (13) slantwise by swinging to red dot, shutter will stay open until release catch (13) is re-set to vertical. (As camera is not touched during exposure, camera-shake is avoided.) Lenses with Fully Automatic Diaphragm to be set on manual - otherwise premature opening of the diaphragm.

Domiplan f 2.8/50 mm. to be set on "B" for long exposure times; in case of need employ cable-release with locking device. More about it on page 10 (Lens description). B and T settings are important for night shots and interior studies.

For time exposures (and especially when setting on B) a cable release is recommended, in order to eliminate camera shake caused by the camera being touched, and it should be screwed into release button (18) or release knob of lenses.

A tripod must be used for all time exposures, or the camera may be placed on some other solid support, such as a table, wall, etc.

Setting shutter speeds may be effected before or after winding on, and standard delayed action releases may be fitted either into the cable release or direct into the release button (18) or release knob of lenses according to the type.

EXA II

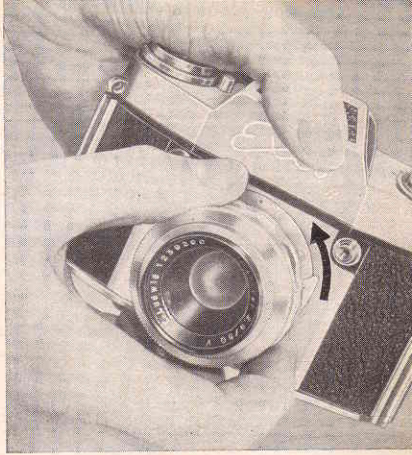
Lens operation

Lens (1) is interchangeable. Press lens catch (19) towards the lens. Turn lens to the left (fig. 9) until red dots (2 and 6) are opposite each other, and lift off. When re-inserting lens, reverse the procedure: red dot to red dot, and turn lens to the right until it locks into position. All the special lenses in the EXAKTA range, from the shortest to the longest focal lengths, may be used.

Sharp focus is obtained by rotation of the focusing ring (4), which is scaled in both feet and metres, and the point of focus is checked by looking through the Pentaprism (20), where the considerably magnified right-way-round, right-way-up image of the subject is visible. When this image is at its maximum sharpness, the subject is in focus, and the subject distance is indicated against the red focusing mark. The distances (metres or feet) are measured from the camera back to the object.

Diaphragm setting is effected with the stop ring (3) on which low numbers (2.8, 4) indicate large iris openings, with which short exposures are possible, but which give shallow depth of focus. Large numbers (16, 22) indicate small openings, requiring longer exposure times, but

Fig 9



giving great depth of focus. "Depth of focus" refers to the field in which at a given lens setting all objects are in sharp register, and is determined in the EXA II on the depth scale (5). To the left and right of the red focusing index, read off (against the iris setting in use) the focusing scale distances, which will indicate where the depth of focus begins and ends: if on one side the diaphragm number is opposite the infinity mark - or, reading from the centre, behind it - the depth of focus reaches to infinity.

For example: Focusing at 5 m. or 15′, iris f/8, shows depth of focus from about 3 m. or 10′ to more than 15 m. or 50′ (about 23 m. or 25 yds). (fig. 10).

Focusing at infinity, diaphragm f/11, shows depth of focus of about 5 m. or 15′ to infinity (fig. 11).

Focusing at 2 m. or 6′, diaphragm f/5.6, shows depth of focus from about 1.60 m. or 5½′ to 2.5 m. or 8′ (fig. 12).

For critical focusing by the ground glass image, use a large diaphragm aperture (more light and shallower depth) and stop down just before exposing: this is simplified by the lens being provided with either a pre-set diaphragm, click stops, or even with Fully Automatic Diaphragm.

Using Click Stops of f/2.8 50 mm. Jena T (fig. 10) and f/2.9 50 mm Trioplan (fig. 11)

At every engraved setting of the diaphragm, a light snap-in of the iris setting ring will be felt. To stop down, therefore, without removing the camera from eye-level, it is merely necessary to count the appropriate predetermined number of "clicks".

Using Pre-set diaphragm of f/2.9 50 mm. Meritar (fig. 12)

Push ring behind diaphragm scale towards the camera body, and turn diaphragm ring until the aperture required is opposite the red mark, and then allow the ring to spring back into its original position. Open the lens to full aperture for critical focusing, and just before firing the shutter turn diaphragm setting ring as far as the pre-set diaphragm stop: this can be done without moving the camera from eye-level.

Using Pre-Set Diaphragm of f2.8/50 mm. Primotar (fig. 13)

Sharp focusing and observation of the reflex image are always carried out at the maximum aperture. The aperture to be used should, therefore, be pre-selected and stopping down need not be done until just before exposure. Press the rear ring (diaphragm setting ring) towards the camera, turn it until the red dot is opposite the aperture number required, then release the ring so that it springs back into its original position. For critical focusing turn diaphragm setting to the left until it stops (aperture "2.8"). Just before firing the shutter, simply rotate the diaphragm setting ring as far as possible to the right, thus stopping down to the pre-

Fig. 10

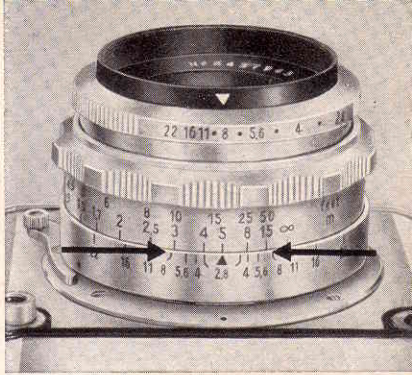


Fig. 11

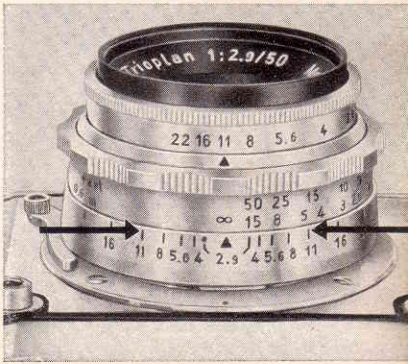
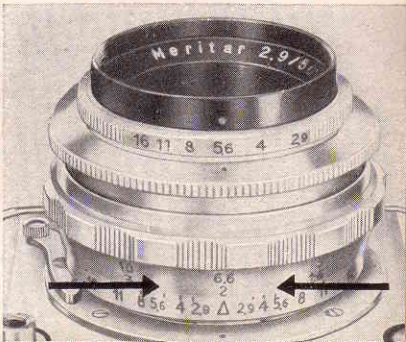


Fig. 12



selected aperture - during this action it is not necessary to move the camera from the "taking" position.

For flash photography, the flash guide numbers of the lens (fig. 14) should be used as follows: On the lower half of the lens there are a number of flash guide numbers (LZ) engraved. If the distance (green scale) from the subject is placed opposite the guide number given by the manufacturer for the flash, the aperture scale will then indicate the correct aperture to use (i.e. 13ft. against LZ 32 aperture indicated 8).

Domiplan f2.8/50 mm. with Fully Automatic Diaphragm (fig. 15)

Sharp focusing and observation of the reflex image to be done with Fully Automatic Diaphragm fully open. The aperture required is to be pre-selected by means of turning the front ring (diaphragm setting ring) until the desired aperture number is opposite the red triangle. The lens can also be used for intermediate settings. By pressing the release tilter the diaphragm automatically closes down to the pre-selected aperture. When the tilter is released again, the diaphragm automatically re-opens to its widest possible aperture. Do not remove your finger from the release tilter until the shutter has closed. For long time exposures the speed setting ring is to be set on "B" and in this case it is advisable to screw a cable release with locking device into the release tilter; this enables the release pressure to be maintained throughout the exposure time without the necessity of continually pressing the release tilter by hand. When wishing to examine the depth of field press the tilter only so far until the diaphragm closes down to the pre-selected aperture - the shutter must not be released.

Meyer lens f2/50 mm. Fully Automatic Diaphragm (fig. 16)

Focusing to be done by turning the wide shining distance setting ring. The diaphragm mechanism to be

Fig. 13

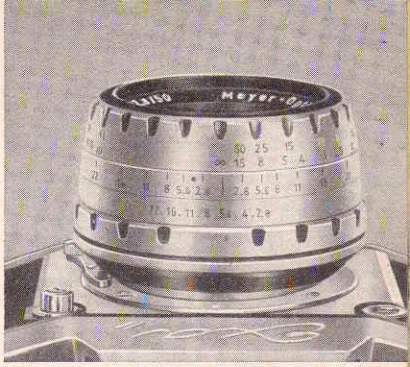


Fig. 14

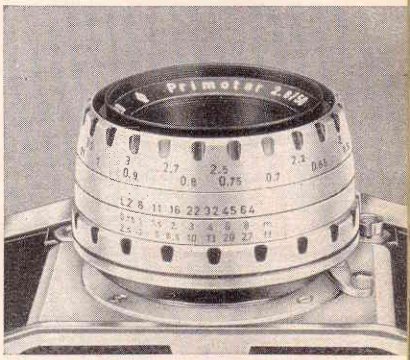
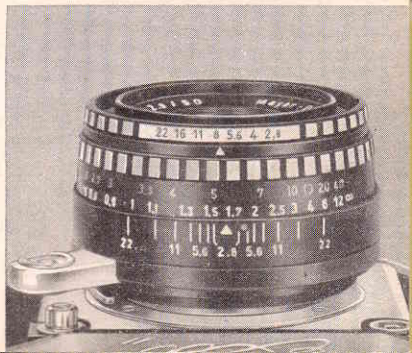


Fig. 15



set as follows: Fully Automatic Diaphragm - red dot on front ring at top of lens mount. Normal Diaphragm - white dot on top - that is to say setting of diaphragm aperture by turning the diaphragm setting ring, situated immediately in front of the camera body. The diaphragm then remains closed according to the turning of the ring. This is necessary for long exposure times. The diaphragm setting ring will remain in any position, even in intermediate settings which are not engraved. The aperture desired must be set opposite the red stroke. When using Fully Automatic Diaphragm (red dot on top of front ring), the diaphragm is fully open for exact focusing and observation of the reflex image. Stopping down to the pre-selected aperture ("working aperture") by pressing the tilter. The working aperture is set by means of the diaphragm setting ring. When pressing the release tilter first the diaphragm closes down to the pre-selected aperture and then the shutter will be released. After having taken the finger from the release tilter the diaphragm automatically re-opens to its widest aperture. But do not take away the finger before the shutter has closed again. For pictures with long exposure time the diaphragm me-

Fig. 16

chanism is to be set on Normal Diaphragm (white dot on top of lens mount). In this case a cable release should be screwed into the release tilter.

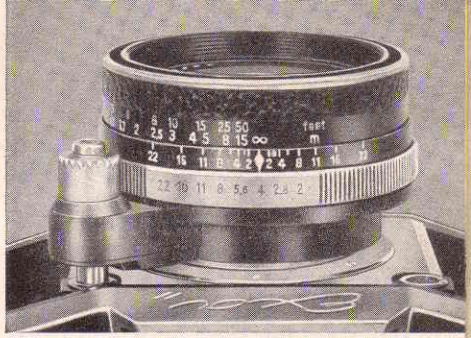
When wishing to examine the depth of field press the tilter only so far until the diaphragm closes down to the pre-selected aperture - the shutter must not be released. The Meyer lens f 2/50 mm. has another advantage, the long helical thread allows close-up focusing down to 0.34 m. or approximately 13½" (without any auxillary equipment).

Jena T f2.8/50 mm. and Jena Pancolar f2/50 mm. (fig. 17)

Focusing by means of turning the front ring (distance setting ring). Diaphragm mechanism to be set on either Fully Automatic Diaphragm or on Normal Diaphragm. When using Fully Automatic Diaphragm the release button of the lens must project by about one centimetre from the black release housing. If necessary press the release knob slightly in the direction of the camera and rotate then to the right (as when viewing the front of the camera); release knob then clicks in Fully Automatic position.

Fully Automatic Diaphragm to be switched off as follows: Release knob to be pressed down and then to be turned to the left (as when viewing the front of the camera). When the release knob is pressed into the release housing and secured in position, normal stopping down can be effected by turning the diaphragm setting ring (immediately in front of the camera body). The diaphragm remains closed according to the turning of the ring which is important for long exposure times. The diaphragm setting ring remains in all desired positions also in intermediate ones which are not engraved. The diaphragm aperture required must be set opposite the red mark.

Fig. 17



To ensure that the release knob of the camera is always pressed sufficiently into the camera a setting screw is provided on the lower side of the lens release knob which can be adjusted to the necessary length by means of a screw driver.

When using Fully Automatic Diaphragm system the diaphragm is fully opened for exact focusing and observation of the reflex image. Stopping down the diaphragm to the pre-selected aperture (working aperture) then only by means of the release pressure.

The working aperture is set by means of the diaphragm setting ring. When pressing the release knob, first the diaphragm closes down to the pre-selected aperture and then the shutter will be released. After having taken the finger from the lens release knob the diaphragm automatically re-opens to its widest possible aperture. Do not move the finger before the shutter has closed. For pictures which need a long exposure time, diaphragm mechanism to be set on "Normal Diaphragm".

A cable release can be screwed into the release knob of the lens. When controlling the depth of field with the lens set on Fully Automatic Diaphragm, press the release knob only so far until the diaphragm closes down to the aperture desired - the shutter must not be released.

Lenses with Infra-red Dot on the Focusing Scale

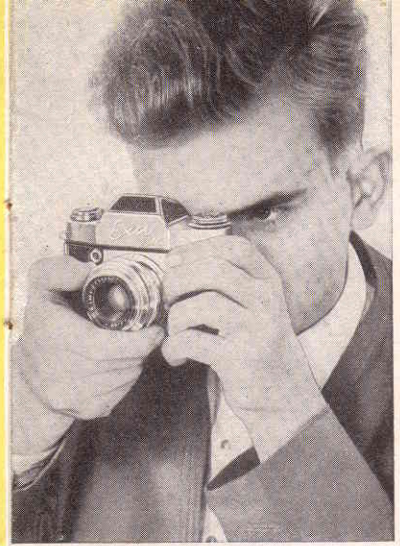
When infra-red film is used focusing is to be done in the usual way - by image screen. The distance reading (infinity sign, metre or feet reading) should then be turned from the red point to the red dot - right or left; whereby the picture produced by the invisible infra-red rays is brought into the film plane of the camera and appears sharp in the negative although it is further away from the lens than that picture which is produced by visible rays.

Using the Pentaprism

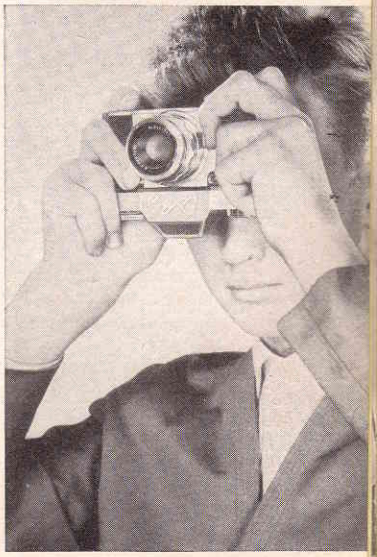
The Pentaprism has many advantages, of which the main are

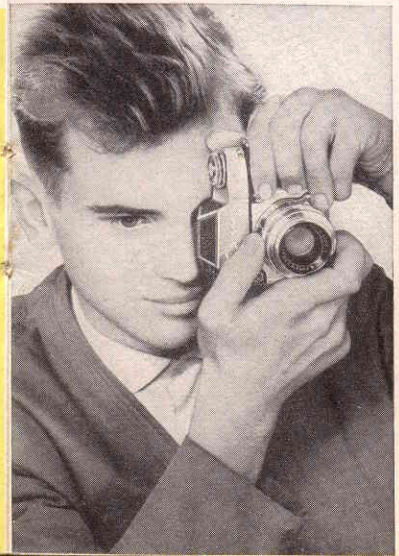
a) Camera may always be operated at eye-level,
b) the eyepiece (20) suits either the left or right eye,
c) whether used horizontally or vertically, the image is always seen right-way-up and right-way-round,
d) photography of moving subjects is greatly facilitated, and
e) as the screen image of a moving subject travels in the same direction as the subject itself, 'panning' of high-speed movement (car racing, etc.) is simplified when exposing.

In normal use, for either vertical or horizontal shots, hold the EXA in the right hand and focus the lens with the right thumb and forefinger, while using the left hand to give extra support for the camera and the left



◀ Fig. 18





◀ Fig. 19

▲ Fig. 20

Exa II

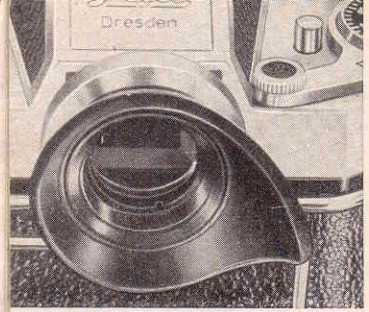


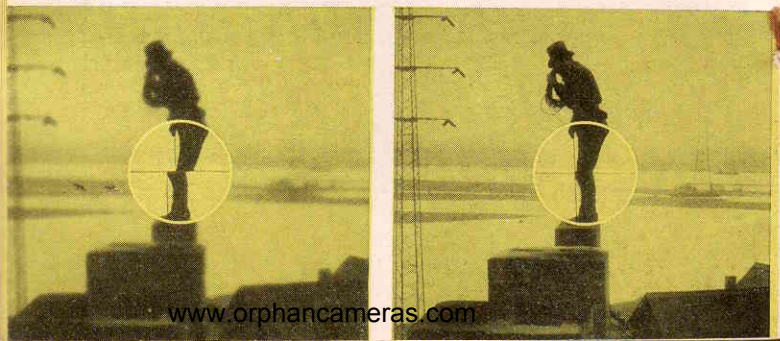
Fig. 21

forefinger for firing the shutter (figs. 18 and 19). For horizontal pictures press camera body firmly against the forehead, to minimize risk of camera shake (fig. 20). - Persons wearing glasses focus in the prismatic finder with telespectacles.

A most useful accessory for the Pentaprism is the rubber rotating eyepiece (fig. 21). This is fixed to the Pentaprism ocular (20) for keeping out distracting stray light, and is also helpful to the spectacle wearer, for whom the fitment includes provision for mounting sight-correction lenses, enabling him to use the camera without wearing glasses.

The EXA II is also available with Distance Meter permanently built into the Pentaprism screen: this is a split image rangefinder which vastly simplifies focusing in poor light or other adverse sighting conditions. When the subject is exactly in focus, the two halves of the split image are seen in exact normal relation to each other (fig. 22), but the Distance Meter is not recommended for lens apertures smaller than f/5.6.

Fig. 22

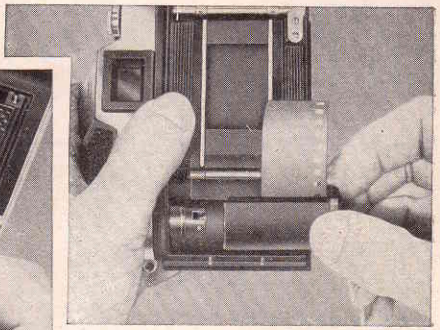


Loading camera with film

Films for the EXA II: Perforated miniature cinefilm, 35 mm. wide, 1.60 m. long for taking 36 exposures 24 × 36 mm.

Open camera back (31). Insert cassette with unexposed film into film chamber (22) from below (fig. 23) and then slightly turn rewind button (14) if necessary so that the spindle dogs engage the bar in the centre spool. The cassette mouth and film leader must be positioned by the guide plate (23), and the take-up spool (28) extracted from the take-up chamber (29). Tuck the end of the film under the clamping spring of the take-up spool (28) and wind half a turn around spool (fig. 24). Re-insert take-up spool (28) into the chamber (29) and turn slightly in wind-on direction to allow the fork of the wind-on lever (11) to engage the bar of the spool,

Fig. 23 ▶



◀ Fig. 24