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## CRITIQUE OF THE EXAKTA

During the last two decades camera designers made three basic contributions towards photographic progress: 1925 saw the advent of the range-finder focused camera for 35 mm. film (*Leica*); 1930 the twin-lens reflex camera (*Rolleiflex*) appeared; 1933 brought the single-lens miniature reflex (*Exakta*).

Nothing is ever a hundred per cent. new under the sun. The *Leica* was clearly based on ideas inspired by cinematography. The *Rolleiflex* was arrived at by turning a stereoscopic camera into an upright structure. The *Exakta* is just the "streamlined" version of the older reflex principle.

Both the advantages and the limitations of that design have long been known.

The chief point of its strength undoubtedly is that the lens taking the picture on the plate or film also serves for viewing and focusing it on a glass screen. Sensitive material and focusing screen are at equal distances from the lens, though at a right angle with each other. A mirror that can be swung into the path of the light coming from the lens will reflect—hence the name "reflex"—the picture on to the screen or clear the way for making an exposure on the sensitive emulsion. *Whatever lens we use and whatever be our distance from the subject, the area, the relative brightness and the definition of the picture on the viewing screen will be strictly the same as that actually taken on the film or plate.*

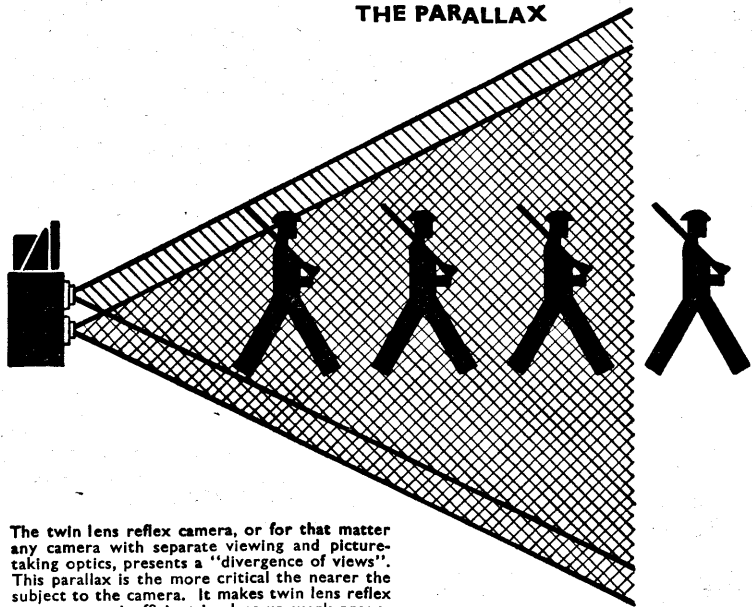
There is far from being anything so simple in other designs for hand cameras. There the taking apparatus and the viewing-focusing device are always essentially independent units more or less efficiently coupled with each other. Thus if interchangeability of a set of taking lenses is desired—and the range of any camera is defined by the range of its lenses—the viewing-focusing device, too, will have to be made interchangeable or at least adjustable within equally wide limits. This either leads to restrictions in the scope of the optical equipment—as is the case with the twin-

lens reflex cameras, the range of which thus suffers serious limitations—or to a seemingly never-ending list of gadgets and accessories—as most owners of range-finder focused cameras will reluctantly testify.

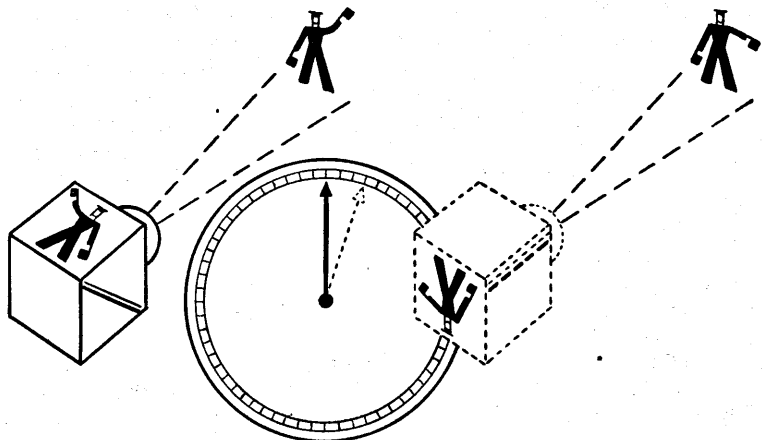
Further, as the taking and the viewing-focusing devices are *separate units* necessarily having *separate points of view* in any but the single-lens reflex hand-cameras, they cannot be expected to record the “same” image in the strictest sense of the word. Displaced view points must result in different views. This difference is negligible as long as fairly distant subjects are viewed from bases that are a comparatively little distance apart, but it grows rapidly as we approach the subject. Anybody can check on this fact by looking first with the right eye and then with the left one at some distant scenery; as he closes one eye and opens the other he will see two slightly different pictures. If he now looks in the same alternating fashion at an object in the near foreground—say, at a pencil held at arm’s length—he cannot but be impressed by the way in which the area of his picture “jumps” while its perspective—that is, the relative position of the various elements in depth—seems to undergo amazing changes. The same thing happens in a camera that views and takes the “same” picture with two different eyes as it were—although the camera-eyes may be displaced to a different degree and in a different direction than are human ones. This *parallax*, as it is called, can become considerable and annoying when taking close-ups, unless it is warded off by some optical or mechanical expedient. Various forms of these are used in all kinds of cameras. Most of them, however, will work only at given subject distances and so are of restricted usefulness. In fact, the only reliable assurance against parallax is freedom from parallax, and the only camera to assure that freedom is the single-lens one.

The single-lens reflex camera is free from parallax because both the viewing and the taking are done by one and the same lens. But is it possible to do two jobs with the same  
6 tool and at the same time? Obviously it is not. In fact, in

## THE PARALLAX



The twin lens reflex camera, or for that matter any camera with separate viewing and picture-taking optics, presents a "divergence of views". This parallax is the more critical the nearer the subject to the camera. It makes twin lens reflex cameras very inefficient in close-up work proper (p. 6).



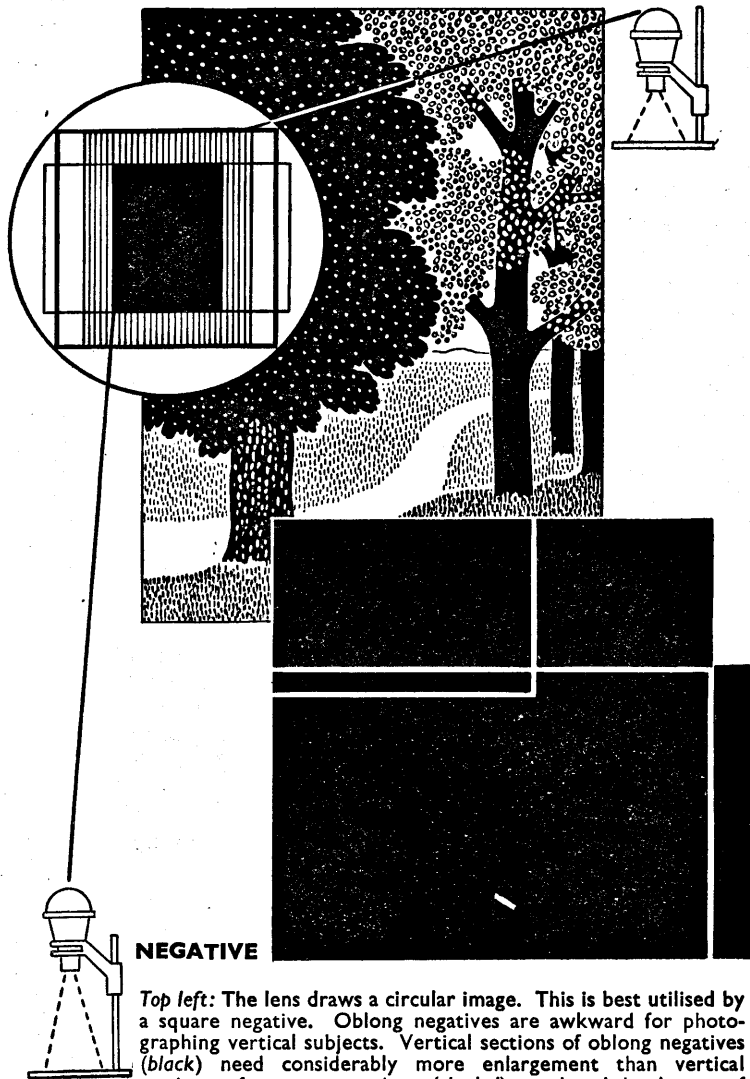
The single lens reflex is free of such weaknesses, but in exchange has to put up with the loss of a split second between the moment of viewing (left) and taking (right). At the moment of exposure focusing and viewing are not possible (p. 7).

the actual moment of taking the picture the reflecting mirror is swung out of the path of the light entering through the lens, thus exposing the plate or film. In other words, once the shutter is released the picture on the viewing-focusing screen is blotted out; it slips out of control. *The freedom of spatial parallax is thus offset by something that could be called "parallax of time"*. Still, the bargain is worth while. Its disadvantages on the side of the single-lens reflex camera could seriously be felt only by the photographer who goes in for sequences of rapid-action studies. In any other field, where swift minute changes of subject movement or expression are not the most important matter, the sudden blindness of the viewer in the very moment of exposure will hardly be a handicap.

Wellnigh unlimited optical range on one side—restricted choice of lenses on the other; parallax of time on one side—parallax of space on the other, defines the efficiency of the single-lens reflex camera as compared with the twin-lens reflex. It is a type of *very considerably wider range and of slightly slower operative speed*.

Presently we shall see that a comparison with the other modern type—the range-finder focused 35 mm. camera—reveals the single-lens reflex to be a *safer picture-getting instrument*, but, though of similar range, certainly *less versatile*. This is the outcome of a negative shape and a taking position peculiar to reflex cameras in general.

Reflex cameras—just think of the equal distances lens-negative and lens-viewing screen—lend themselves to taking square pictures. Now, the world in front of the camera appears but seldom four-square. The human figure, trees, buildings—in fact most "individual" subjects—tend to fit best into upright shapes. Landscapes, groups, events—in fact most "scenic" subjects—tend to fit best into oblong shapes. This is no mere "question of taste" or some mystical dogma of æsthetics. Rather it is a time-honoured experience of representing any subject in a manner that is economically most suitable or, if one prefers the word, 8 more "functional". Painters, at least, generally worked on



**NEGATIVE**

*Top left:* The lens draws a circular image. This is best utilised by a square negative. Oblong negatives are awkward for photographing vertical subjects. Vertical sections of oblong negatives (*black*) need considerably more enlargement than vertical sections of square negatives (*shaded*) produced by lenses of similar focal length (p. 10). The actual Exakta negative sizes are indicated, *bottom right*.

these lines; comparatively few square canvases can be found in art galleries.

Whether, however, the same rules of space economy and functional presentation are applicable to photography is, to say the least, doubtful. The lens draws a circular image whatever be the shape of the subject in front of it. *The rectangular shape utilising the circular image most efficiently is the square.* Both upright and oblong prints can be got from a square negative without undue waste of anything but the unused margins of the negative. In exchange, there is the advantage that as the square negative does not offer any temptation to turn the camera one way or the other the technique of taking becomes much simplified.

But the ghost of painting always will appear and appeal to photographers like the saga of a noble though illegitimate ancestor to a family of commoners. The shadow of its traditions looms irremovably in the back of their minds and—square pictures are just not popular. Designers of old-time reflex cameras supplied camera-backs within the frame of which rectangular plates could be turned in an upright or oblong direction according to choice. The designers of the Exakta, being unable to repeat that trick with roll-film, decided, perhaps somewhat hastily, for the oblong-shaped negative. The fact that the latest model of the camera reverted to the square may be taken to indicate that the revolutionaries in the realm of reflex-photography have not been entirely happy with their revolution. It is easy to see that the oblong-shaped negative can only produce upright prints either by being given about 40 per cent. greater degree of enlargement than would be necessary with a square negative taken with the same lens, or by turning the camera at right angles, which cannot very conveniently be done.

The viewing-focusing screen lies on top of the camera; it is logical that it should be there, as the sensitive material would face the lens, and we know that the plane of viewing has to be at right angles to it. That implies looking down

for the camera. This may not be convenient when the subject in front of the camera is tall or the lens has no view open to it at such a level. But any attempt to raise the reflex camera to eye level or to turn it in some way will succeed at the cost of the viewing and focusing efficiency. *The more a reflex camera is moved out of its standard position the more the viewing-focusing screen will get out of control—* if not entirely out of sight. Auxiliary viewers and approximate methods of focusing will have to be relied on, and manufacturers' literature usually abounds in their praise. No doubt they all have their value and are practicable to a degree, but their working results can hardly be equal to products of reflex work proper; if they were, one would be justified in questioning the technical supremacy of the reflex principle altogether.

Neither is the argument sound that, deprived of the benefits of reflex viewing and focusing, the reflex camera is still little less efficient than other designs which never use "direct" methods to find and define the picture. Cameras discarding the focusing screen from the outset can be given almost any shape to be held in any position. Well-designed reflex cameras, however, are meant to work held with the reflex grip in the reflex position. *The same reflex principle that leads to the square negative also results in a rigid cubical camera body* which but seldom can be handled very conveniently and safely at extravagant angles. Replacing the traditionally square negative by one of oblong shape, the makers of the Exakta very logically arrived at a body that is less deep and has a wider front than the typical reflex box. This "streamlined" shape gives more freedom of choice in gripping the camera and thus enhances the possibility of using it at unorthodox levels and angles. This advantage, however, is probably offset by the relatively increased need to resort to non-reflex positions because of that very oblong shape of the negative.

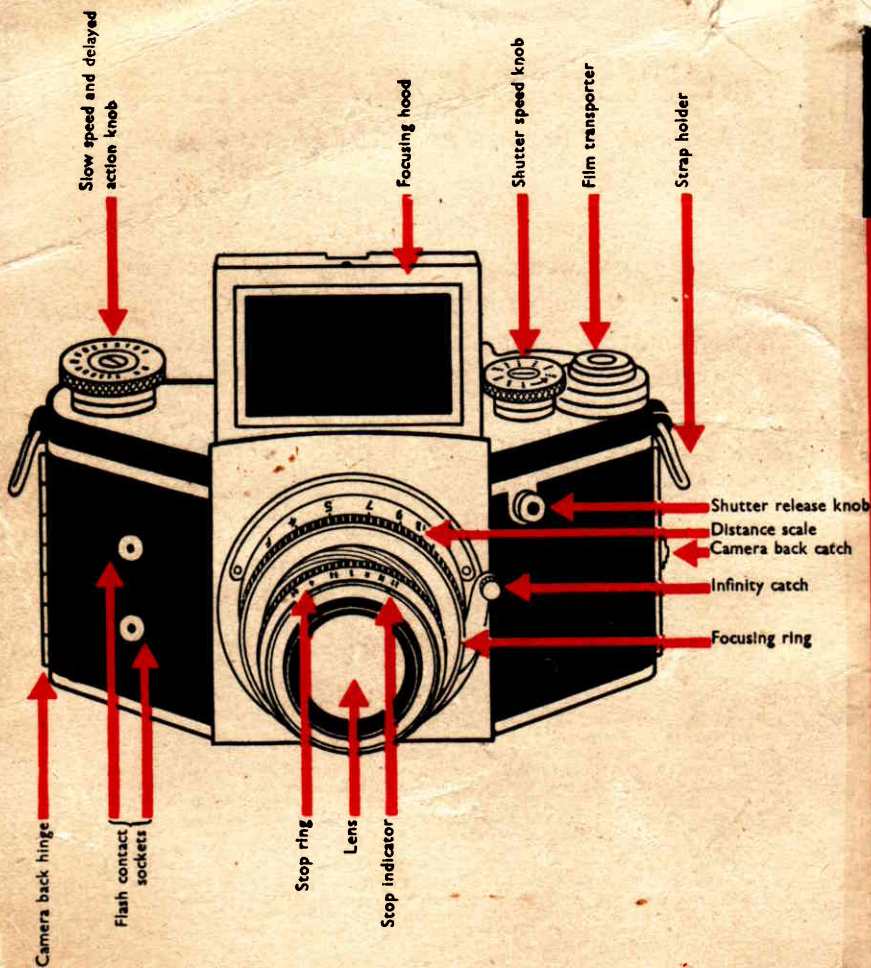
From whatever angle we may enquire into the ifs and whens of the single-lens reflex design, we shall always be referred back to the sound simplicity of the fundamental **11**



Idea: It is of enormous advantage to be able to see and focus the very image that will appear on the negative. This principle—just as any other—translated into terms of optical and mechanical design reveals limitations of its own. To overcome them is possible only by sacrificing the principle to some degree. You cannot have it both ways. No camera can do it both ways.

Still, it is dangerous to make dogmatic statements. Anybody who cares to glance at the photographs illustrating these pages will see how some of them belie the limitations of the Exakta just emphasized. There are excellent vertical compositions among them, speed shots and again open landscapes which make the best use of that oblong shape we thought to be a weakness. All this goes to show that in practice any camera can be worked beyond its average capabilities as long as the man working it has skill beyond the average. The point is that it is useful to distinguish between what the camera does without an effort and where the necessity for a special effort starts. This consideration is most important before choosing a particular camera "for good".

It is easy to choose a camera according to one's temperament. It is very difficult to adjust the temperament of any camera to one's own. It is more likely that one's photographic temperament will settle down gradually to the technical peculiarities, the whims, the outlook of the camera. This seems to explain the fact that almost every photographer believes that his camera is "better" than any other one. People once accustomed to handle the highly versatile but pictorially "blind" range-finder cameras will more and more tend to think in terms of "shots"—while the imagination of those who handle a "clumsy" reflex, presenting the finished image before it is made, cannot help working in terms of "pictures". And who would have the audacity to decide for others which is preferable?



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- How to choose the films: page 48
- How to shoot: page 32
- How to fill cartridges: page 46
- How to unload: page 38
- How to use filters: page 91

FOR FULL REFERENCE SEE INDEX : page 110

## THE EXAKTAS

There are three different types of Exakta Camera on the market distinguished by their negative size.

The *Standard Exakta* (also called "V.P. Exakta") for roll-film  $2\frac{1}{2} \times 1\frac{5}{8}$  in. ( $4 \times 6.5$  cm.—V.P. size);

The *Kine-Exakta* for 35 mm. kine-film, taking  $1\frac{1}{2} \times 1$  in. ( $24 \times 36$  mm.) pictures;

And the *Square Exakta*  $2\frac{1}{4} \times 2\frac{1}{4}$  in. ( $6 \times 6$  cm.), for roll-film  $3\frac{1}{4} \times 2\frac{1}{4}$  in. ( $6 \times 9$  cm.) size.

They are all built on the same basic design.

All Exaktas are single-lens reflex cameras. The actual taking lens serves both for focusing and taking the picture and is used to form the image on the film as well as to reflect the picture to be taken on to a ground-glass focusing screen. Film and focusing screen are for all intents and purposes at the same distance from the lens but in different positions: at a right angle with each other. The film runs along the back of the camera while the focusing screen is on the top of it. Thus the light entering through the lens has to go alternately in two directions: once to the focusing screen and once to the film. This two-way traffic is controlled by a mirror on point-duty. By setting the shutter, the mirror is introduced into the path of the light-rays between lens and film, thus reflecting the image on to the focusing screen, showing exactly the same outlines, definition, depth of focus and relative brightness of the subject as will appear on the negative. The image on the screen is the right way up, bright, and permits critical focusing (aided by a built-in magnifier), as well as adjustment of the extent of definition towards both the fore- and background and, lastly, composition of the photograph before the negative is exposed. With the release of the shutter for exposure the mirror snaps upwards into a position parallel with the focusing screen which gets covered by it. The camera is now light-tight and for the picture the path clear to the film.

The shutter of the Exaktas is a self-capping focal plane shutter travelling from right to left. "Self-capping" means **13**

that it remains closed while being wound up; "focal plane" means that it moves right in front of the negative material, thus ensuring full protection to it. With this type of shutter lenses can be changed while the camera is loaded. The Exakta shutter has the widest possible range of speeds. Besides the instantaneous speeds from 1/25 to 1/1000 sec., automatic time exposures from 1/10 to 1/2, 1 sec. up to 12 secs. can be set. A delayed-action release (self-timer) is built-in and coupled to the shutter, allowing all speeds from 1/1000 to 6 secs. to be released with a delaying time of about 12 secs. (for exceptions see Exakta "Junior" and "A"). This very wide choice of longer automatic shutter speeds is unique for miniature cameras and comes in usefully under specialized working conditions. On the other hand, this shutter is more complicated than those of most of the other miniature cameras and needs careful handling. Shutter winding is automatically coupled with film transport and the swing of the mirror into focusing position. Shutter release is coupled with the swing of the mirror out of the taking path.

Exakta lenses comprise the best-known Zeiss-Tessars, Schneider-Xenars, as standard lenses, besides a wide range of more specialized lenses by other manufacturers. The lenses are *interchangeable*, allowing the use of tele-photo, wide-angle and particularly fast lenses. One unique feature of the single-lens reflex type is that, whatever lens is used, *no special finders* are required, as the reflex finder shows in every case the correct image with the lens employed. The interchangeability of the lens allows of the straightforward use of *extension tubes* for close-ups without the least complication of focusing. The same goes for using the camera in photomicrography, etc.

The *reflex-finder hood* allows of normal reflex image viewing and focusing as well as eye-level viewing and focusing by means of a built-in secondary mirror (not in the Kine-Exakta and the Square Exakta) and finally incorporates a direct vision frame finder to be used for viewing only. A hinged-on *magnifying glass* permits critical focusing of

The body of the Exaktas is of trapezoid shape, all metal, leather-covered, and is, in spite of housing the focal plane shutter, reflex arrangement and fast interchangeable lenses, comparatively small. It has also a tripod bush, connection socket for flash-bulb synchronizer and hooks for neck-strap.

Focusing is effected by a rapid helical focusing screw, which in the case of Exakta A, B and C is part of the camera body; with Kine-Exakta and  $2\frac{1}{4} \times 2\frac{1}{4}$  in. Exakta, part of the lens-mount; while Exakta Junior is focused by the front-cell of the lens. A focusing scale is found on all models indicating the distances from infinity down to 4 or 3 ft. There are also scales provided for reading off the depth of focus.

### Exakta Models

**EXAKTA MODEL B** is for 8 exposures  $2\frac{1}{2} \times 1\frac{3}{8}$  in. ( $4 \times 6.5$  cm.) on standard roll-film for this size, also called "V.P.K.", "27", "127", or "A.8." film. It conforms with the general description given before, including shutter-speeds from 1/1,000 to 12 sec., built-in delayed action release for speeds from 1/1000 to 6 sec., interchangeable lenses. While the first models of the Exakta B were fitted with a film transport knob, and had black enamelled finish of the metal parts, later models were equipped with a film transport lever instead of the knob, and finally the latest pattern of this model shows chromium finish of the outside metal parts.

**NIGHT-EXAKTA** is in construction and performance the same as Exakta B, with the only exception of the lens holding helical screw mount, which is slightly modified in shape so that ultra-fast lenses for work under unfavourable conditions of lighting can be easily manipulated.

**EXAKTA MODEL A** is as Exakta Model B, with the exception of shutter and delayed action release. The shutter of the Exakta A allows for speeds from 1/25 to 1/1,000 sec., as well as B. (Ball) and T. (Time) exposures. There is no delayed action release built into the camera. This model has only been supplied in black enamel finish of the metal parts.

**EXAKTA JUNIOR** is as Exakta A, with the difference that the lens is not in a helical focusing mount but on a telescopic tube and the actual focusing is done by turning the front cell of the lens. The shutter speeds range from 1/25 to 1/500 sec. besides B. and T. The outside metal parts are either black enamelled or chromium finished.

**EXAKTA MODEL C** is as Exakta Model B, with the addition of a plate back adaptor, allowing for the use of plates and ground glass

## EXAKTA CAMERAS

Model	Size with lens	Weight with lens	Picture Size	Number	Film size	Film transport and shutter	Shutter speeds (seconds)	Delayed action
Kine	... 6" x 3½" x 2½"	35 oz.	1½ x 1 in.	36 exp.	Cine	Fully coupled	12 to 1/1000	Yes
A	... 6" x 2½" x 2"	27 oz.	2½ x 1⅞ in.	8	127	Connected	1/25 to 1/1000	No
B	... 6" x 2½" x 2"	27 oz.	2½ x 1⅞ in.	8	127	Connected	12 to 1/1000	Yes
C	... 6" x 2½" x 2"	28 oz.	2½ x 1⅞ in.	8	127	Connected	12 to 1/1000	Yes
Junior	... 6" x 2½" x 3"	27 oz.	2½ x 1⅞ in.	8	127	Connected	1/25 to 1/500	No
2½ x 2½ in.	... 6½" x 4" x 4½"	46 oz.	2½ x 2½ in.	12	120	Fully coupled	12 to 1/1000	Yes

screen focusing, for specialized work. The reflex-image is not in register when working with plates and can only be employed with roll-film in the Exakta C.

KINE EXAKTA is for 36 exposures at 1½ x 1 in. (24 x 36 mm.) size on standard 35 mm. cine-film. It conforms with the general description of the Exaktas given before, including shutter speeds from 1/1000 to 12 sec. and built-in delayed action release for the speeds from 1/1000 to 6 sec. The Kine-Exakta has a die-cast body with all outside metal parts satin-chrome finished. The visual reflex image is automatically 2 x magnified to 2½ x 1⅞ in, and of increased brightness owing to the fact that the "focusing screen" is a plano-convex lens. There is no eye-level reflex finder. Film transport and shutter wind are fully automatic and coupled (while with the previous models the film has to be wound on beyond the point where the shutter is fully wound). Rewinding and film cutting devices (for cutting off exposed ends) are part of the camera. The lenses are interchangeable in bayonet fitting, which carries depth of focus calculators. The shutter is automatically locked when the camera is closed.

EXAKTA 2½ x 2½ in. is for 12 exposures 2½ x 2½ in. (6 x 6 cm.) on standard 3½ x 2½ in. roll-film, known as "120", "20", "B2", or "Brownie 2" film. It conforms with the general description of the Exaktas given before, except it has no eye-level reflex finder. Film transport and shutter wind are fully automatic and coupled. The lens is in bayonet mount which carries a depth of focus calculator. All

## COMPARED

Interchangeable lenses	Standard focal length	Lens mount	Depth of focus calculation	Finders	Finish of metal parts	Accessories available
4 to 50 cm. by bayonet	5 cm.	Non-collapsible helical focusing	On lens mount	Reflex and frame	Chrome	All, built-in cutting knife
5.5 to 36 cm. by screw	7.5 cm.	Collapsible helical focusing	None	Reflex, eye-level reflex, frame	Black	All
5.5 to 36 cm. by screw	7.5 cm.	Collapsible helical focusing	None	Reflex, eye-level reflex, frame	Chrome or black	All
5.5 to 36 cm. by screw	7.5 cm.	Collapsible helical focusing	None	Reflex, eye-level reflex, frame	Chrome or black	All, with plate back, allowing single plate exposures and use of ordinary ground-glass screen
None	7.5 cm.	Collapsible front cell focusing	None	Reflex, eye-level reflex, frame	Chrome	All
By bayonet (none at present)	8 cm.	Non-collapsible helical focusing	On lens mount	Reflex and frame	Chrome	None (at present)

### A Warning

*The Exakta is not a box camera. It is not foolproof in the sense that those cheap cameras are. Frankly, it is a complicated camera and sensitive to a degree. It is of utmost importance that it should be handled strictly in accordance with the instructions. One should train oneself to avoid accidental and false movements which could damage the camera mechanism. Read the next pages attentively. If you follow them the Exakta will not let you down. It is an excellent camera: unsurpassed when intelligently employed—particularly for close-up work, in which so many other cameras fail.*

*Do not get discouraged by critical remarks in this book. They result from a sincere and impartial attempt to help you. Considering the quality of the camera, the manufacturers-sponsored literature was found to offer little information beyond straightforward instructions for its use. The great majority of facts and opinions compiled in this book had to be arrived at by individual research conducted by the Author. They will be found largely confirmed by public opinion in this country as mirrored on pages 108-109.*

## HANDLING THE EXAKTAS

To start with, we take it for granted that we have our Exakta, together with a film, in front of us. Our first task is to load the camera with film.

### Loading the Exaktas

#### *Loading the Model A, B, C and Junior*

1. Open camera-back.
2. Insert empty film spool on film transporter side.
3. Insert roll-film in camera.
4. Fix paper end on empty spool.
5. Wind film transporter one turn.
6. Close camera-back.
7. Wind film transporter until No. 1 appears in film window.

1. The camera-back is opened by holding the instrument in the left hand, while pressing with the forefinger of the right hand the camera-back lock in the direction of the arrow. With thumb and middle finger of the right hand the back can now be pulled away from the main body.

2. The empty roll-film spool (take-up spool) has to be inserted into the compartment below the film transporter. The empty spool shows on one end a groove, while the other end is solid. The grooved end has to point towards the film transporter; consequently the solid end shows towards the base of the camera. When inserting the spool, its groove has to engage in the bush with bar on top inside the spool chamber, while on the bottom part the small bolt springs into position as soon as the spool is fully pressed down.

The paper seal has to be broken, seal (ends as far as not firmly stuck to the film backing paper) removed, and roll-film inserted into the empty spool chamber (on the opposite side of the film transporter), so that the coloured (red or green) side of the film backing paper is up and shows in the direction of the empty take-up spool. The roll-film is pressed down with its spool ends into the guide grooves of the spool chamber until it is automatically held in position by the bent sprint lever, which has first to be held back to allow the spool to be pushed into the film chamber.

18 4/5. Just sufficient paper is unrolled from the roll-film to allow its wedge-shaped end to be pushed as far as possible into the wider



## V.P. EXAKTAS

### Loading (p. 18)



Insert empty film spool on film-transporter side, insert roll-film, fix paper end.

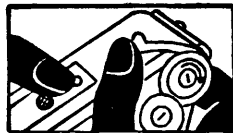


Wind film-transporter one turn.

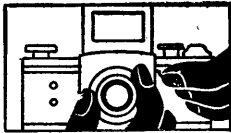
### Shooting (p. 32)



Screw out lens mount to  $\infty$  position.

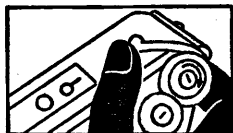


Wind film transport until No. 1 appears in film window.

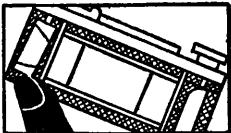


Set shutter speed, focus, determine picture frame, set stop, release.

### Unloading (p. 38)

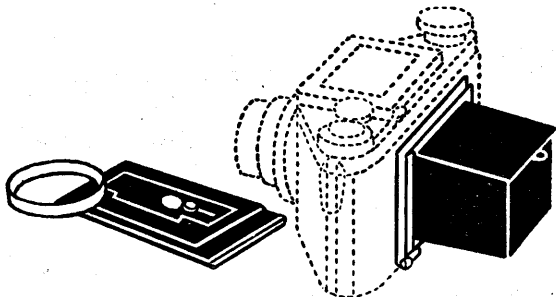


Wind paper end off.



Remove film, transfer empty spool.

**Exakta "C"** (p. 41). While in construction and handling exactly like the Exakta B, Exakta C has in addition provision for taking a ground-glass screen



in the camera-back and allows of single exposures on plates. An extension ring compensates for different focusing plane.

For detailed view of the VP EXAKTA see back cover.

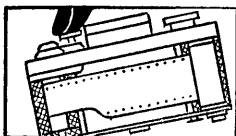
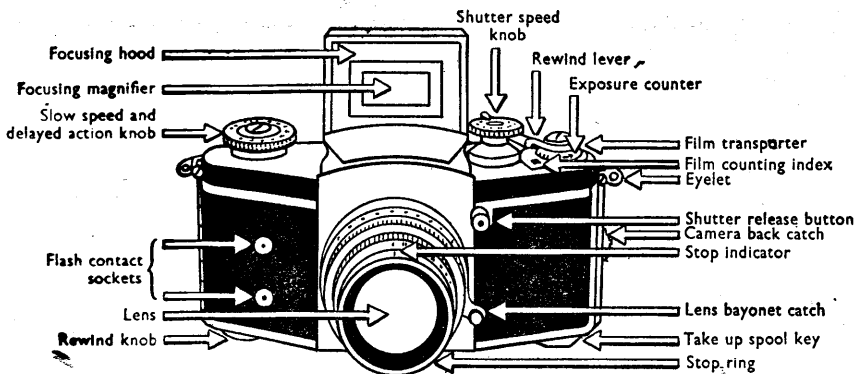
slot of the empty take-up spool. After inserting the film-end on the take-up spool, turn the film transporter once to prevent the paper end from slipping out. At the same time *make sure that the paper runs perfectly straight from spool to spool.*

6. When closing the camera back, observe that the catch of the camera-back locking device springs back and verify that the back is locked.
7. Hold film window cover open with thumb of your left hand, while winding with the right hand the film transporter until No. 1 appears in the film window. Where the film transporter consists of a lever, this is moved in the direction of the arrow up to the stop, when the lever returns automatically to its starting position. The procedure is repeated until No. 1 appears in the window. *After a few turns on the film transporter one will feel a resistance and the film movement is rendered rather more difficult. This is quite in order and no attention need be paid to it. The reason will be found in the fact that film transport and shutter wind are coupled, and as soon as the shutter is fully wound (but not the film) a braking device begins to act which prevents overwinding the shutter.*

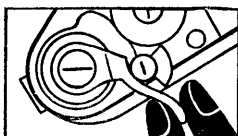
### *Loading the Kine-Exakta*

with a filled film cartridge (for other types of film holders as well as loading film into containers, see page 44).

1. **Set re-wind lever so that the letter "V" is visible.**
  2. **Remove camera-back.**
  3. **Insert film.**
  4. **Fix film on take-up spool.**
  5. **Close camera.**
  6. **Open finder hood.**
  7. **Make sure that shutter is not set to "Z".**
  8. **Transport film twice and release.**
  9. **Wind film-winder once more and set picture-counter to No. 1.**
- 
2. **Remove camera-back simply by pressing the camera-back lock in the direction of the base of the camera, when the whole back can be removed.**
  3. **The re-wind key is pulled out as far as it will go, then place loaded film cartridge into right-hand side film chamber (below slow speed and delayed action knob) with its hollow part towards re-wind key. The mouth of the cartridge with the film end has to point towards the take-up spool. The re-wind knob is now fully pushed back and its flap pushed over.**

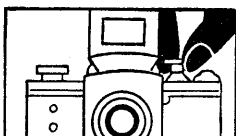


Rewind lever to "V", camera back removed, film inserted, fixed, camera back closed.

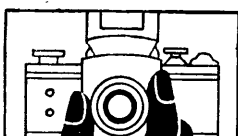


Open finder hood, verify shutter not set to "Z", transport film twice, release, wind transporter again, set picture counter to No. 1.

## Loading (p. 20)



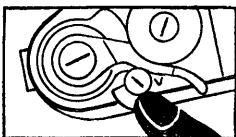
Set shutter speed.



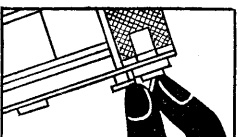
Determine picture frame and focus, set stop, release

## Shooting (p. 35)

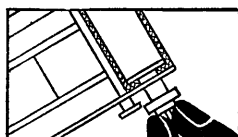
## Unloading (p. 39)



Turn reversing lever so that "R" is seen.



Rewind film into cartridge.



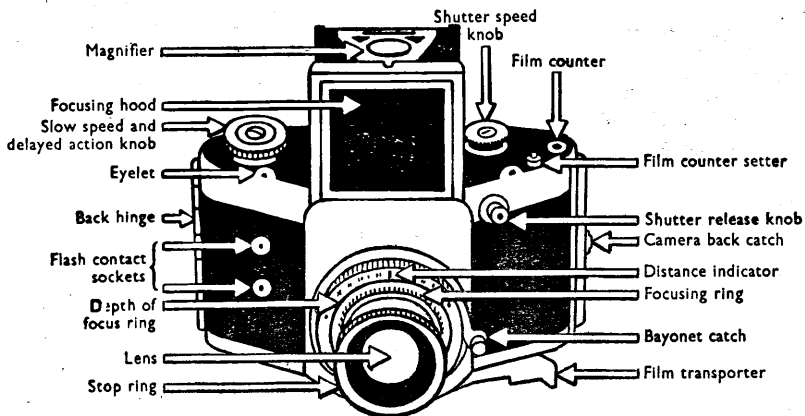
Remove cartridge.

4. Hold the cartridge in position with the left thumb, while pulling with the right hand 4 to 4½ in. (10 to 11 cm.) film from it. The free end of the film is pushed under the spring tongue of the take-up spool of the camera (below the film winder). The take-up spool can be turned on its axis to bring the spring tongue into the most convenient position for inserting the film. While fixing the film under the tongue the spool should be prevented from turning by holding it still with one finger. Before closing the camera-back, make sure that the perforation of the film engages in the teeth of the film transport sprockets.
5. Close camera by holding it in the left hand. The back is held in the right and replaced. While doing so, care must be taken that the circular peg inside the camera connected to the re-wind key is pushed firmly into the interior of the camera. This is best done with the ball of the left thumb. The camera-back, held in the right hand with its locking-key upwards, is hooked with its lower end into the groove on the body of the camera, and the back itself pressed lightly towards the body until the locking-key snaps into position. The re-wind key must be allowed to catch in the camera-back so that it is clamped to the camera and cannot be pulled out when the back is closed.
6. The finder-hood springs open by pressing its catch in the middle of the back base of the hood.
7. Should the shutter be set to Z, it is essential to move it to any other setting.
8. This action implies that the film has been moved forward the first two frames, which have been exposed to light while inserting the film into the camera. These two wasted frames do not count as part of the 36 exposures.
9. The third film-wind brings the first unexposed piece of film into position, at the same time pulling the film tight. After winding on, the exposure counting disc is set to No. 1 by moving it in the direction of the engraved arrow until No. 1 points to the picture counting mark (small black triangle). On no account must the counting disc be turned backwards (against the arrow), as the subsequent exposure numbers would not be indicated correctly.

#### Loading the Exakta 2¼ × 2¼ in.

The procedure of loading the 2¼ square Exakta is practically the same as stated for Exakta A, B, etc.

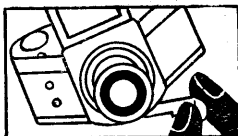
If a number is visible on the film counter, the transport lever has to be cranked to and fro and shutter released (after opening the focusing hood!) until after No. 12 and "F" a red dot is visible. Now the shutter is locked, at the same time locking of the film transport lever is released, so that it does not need to be moved correctly from start to end, but can be cranked at will. When the red dot is in the film counter



**Loading (p.22)**

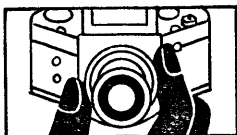


Insert film spool on take-up side, insert roll-film, fix paper end.

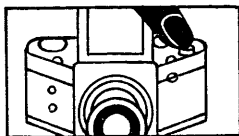


Wind film transporter one turn, close camera-back, set picture counter.

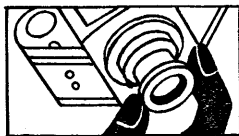
**Shooting (p 35)**



Set focus, determine picture frame.

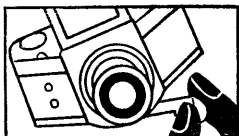


Set shutter speed.



Set stop.

**Unloading (p. 39)**



Wind paper end off.



Open camera-back and remove film, transfer empty spool.

aperture, the camera has to be opened, the new film inserted into the chamber below the normal speed disc, and the backing paper end fastened on the take-up spool in the opposite film chamber in the usual way. The backing paper is tensioned by somewhat turning the film spool. *The following points are important,—*

- A. Along the lower edge of the film gate runs a film transport claw, which is open, if the film transport lever is in its original position and the two red dots inside the camera are opposite each other. The backing paper has to be inserted between the jaws of the claw. The backing paper is slightly lifted and pushed into the open claw. This is important, otherwise the film transport will not function properly. Now the camera back has to be closed.
- B. By cranking the film transport lever until the No. 1 appears in the film window and pressing the film counter release lever in front of the film counter window the No. 1 will appear and the camera is ready for the first exposure.
- C. Make sure to push the film transport lever *always* back into its original position after use. Under no circumstances must the shutter release knob be pressed while starting to move film transport lever.

### Carrying the Exaktas

However elegant it may be to carry the camera on a long strap hanging from the shoulder, this position is quite unsuitable for quick action. Many a good shot has been lost in this way. A better method is to carry the Exakta on a short strap round the neck, so that it lies on one's chest—in the right position ready for work. Opening the case and finder hood is then a matter of a split-second.

There are a number of different types of cases available for the Exaktas:

The Ever-ready case carries the Exakta ready for use, and there is a holding screw which prevents the camera from falling out of the opened case.

Outfit cases in several variations are available to take the Exakta, together with auxiliary lenses, filters, films, etc. Also separate cases for one lens or any of the other Exakta accessories are also on the market.

Generally, it is of foremost importance to *acquire sufficient experience in manipulating all parts that eventually lead to taking the picture* by getting thoroughly acquainted with the ways in which to work them before actually setting out to make photographs. Surely one should try the gears, the accelerator, the brakes and even the horn of a new car **24** before going "all out" with it. Going all out with a new

camera without being able to do the "right thing" almost automatically is not less dangerous. It may be less wasteful of lives—but it is not less wasteful of live pictures, if not of the camera itself.

*The following are the mechanical points that must be particularly watched when using Exaktas : (1) Opening and closing of the finder hood. (2) Winding the film and setting the shutter. (3) Releasing.*

### Viewing through the Exaktas

The reflex finder and the eye-level mirror are viewing-focusing devices. The frame finder is purely a viewing device.

THE REFLEX FINDER is the ground-glass screen on to which the image entering the camera through the lens is reflected by a mirror. The reflex image is only visible after the film has been wound on, and it disappears once the shutter is released. It has a twofold purpose: first to show the outlines of the picture, next to allow of getting the best definition.

There should be no difficulty in getting the outlines as exact as required. It is advisable to view the picture first with fully-opened aperture to ensure the brightest possible reflex-image. The finder hood extension (p. 99), keeping stray light from the screen gives additional brilliancy to the picture. In spite of the fact that one is likely automatically to hold the camera quite level, one should make sure that the vertical lines of the picture run parallel with the sides of the ground-glass frame, if intentional tilting is not aimed at.

The second purpose of the reflex finder, obtaining the best definition, is at the same time one of the most important factors ensuring good results. The less experienced user of the reflex screen is apt to accept, all too hastily, a seemingly sharp impression of the image as best definition. There are, however, different degrees of sharpness even at full aperture, which one should make use of in determining the best possible definition. The best way to arrive at critical definition is to turn the helical focusing mount to and fro while observing how the main object at 25

which one intends to focus accurately becomes more and more sharp up to a certain point, beyond which it will again lose definition. It is at this "beyond" stage that we reverse the movement of the focusing mount. The degree of movement of the focusing mount is slowly narrowed down until one unmistakably arrives at the point of the very best definition. It is a case of "encirclement" *from the sharp surrounding to the critical sharp point*. It must be repeated that, before and beyond the point of maximum definition, the image still appears sufficiently sharp, but no one should be deceived by this fact: it is not good enough for enlarging.

The built-in magnifying-glass swung into position will assist in determining the critical focus. Having found this, the magnifier should be folded back and the whole image on the screen surveyed before release. The camera, which had to be raised when using the magnifier, should now be lowered again. Otherwise—with the magnifier in front of us—we may get excellent definition but are bound to lose sight of the picture as a whole.

Kodak brought on to the market a short while ago a Plastic Magnifier of rectangular shape which can be usefully employed in the V.P. Exakta. All one has to do is to file or cut off the two plastic flanges on the bottom of the magnifier to allow it to drop on to the reflex ground-glass of the Exakta. Viewing the image through this magnifier gives not only about 3x magnification of the image but also allows it to be viewed in its entirety.

The picture on the ground-glass screen appears *upright but reversed*. Similarly, movements are also shown reversed and *the camera will have to be turned against the apparent movement of the object to follow it*.

THE EYE-LEVEL MIRROR is placed in the finder hood parallel with the one in the camera to produce a second reflection of the image to be observed in a horizontal direction. While allowing to observe the reflex image at eye-level, it is less suitable for focusing, as it is bound to be rather *less bright* owing to the double reflection. It also necessitates holding the Exakta *at some distance* from the eye, which again renders critical focusing more difficult. Finally, the image is not only reversed but also *upside down*, which does not improve things either. Nor does the double reflex image permit comfortable adjusting of the outlines.



In most cases one will find it more convenient to employ the frame finder if eye-level viewing is required.

THE FRAME FINDER consists of a frame provided by the front of the viewing hood and a sight in the rear. The frame when viewed through the sight will define the outlines of the picture aimed at. When using the frame finder one must not attempt to turn the camera to the right or the left, away from the eye, nor must the eye be moved from the centre of the back frame to find the limitations of the field of view. This spying "round the corner" is deceptive, as only the section seen in the finder, when holding the eye close to and in the centre of the opening while looking straight ahead, will appear on the negative. The frame finder needs masking when used with other than standard lenses (see p. 53); and it cannot be expected to be free of parallax.

The frame finder *cannot be used for focusing*, apart from guessing the distance of the subject as based on the size of its appearance within the frame and then setting the focusing scale of the lens mount accordingly; only very experienced photographers will be safe from serious errors when applying this method. It is safer first to use the reflex finder for focusing and then to change over to the frame finder for viewing. Both these procedures are unsuitable for photographing moving objects. The frame finder will more efficiently be used for distant photography where infinity setting only is required; or, with subjects nearer to the camera, by using "zone focusing" methods, which, by pre-setting the lens, ensure that a certain depth of field—within the limits of which the action is expected—will be recorded sharp all over (see p. 81). This last method of viewing and focusing is, in fact, preferable to any other when dealing with rapidly moving subjects in front of a reflex camera. It is almost impossible to catch and shoot fast motion when one is looking down with one's attention fixed to the mirror that shows the direction of motion laterally reversed. With the frame finder it is easier to follow movement and keep the (other) eye on it, even before it becomes visible within the finder frame.

### *The Finders of the Exakta A, B, C, Junior and $2\frac{1}{4} \times 2\frac{1}{4}$ In.*

REFLEX FINDER. On top of the camera is the finder hood, folded down. To bring it into working position the catch on the back of the hood has to be pressed inward, when the hood automatically opens into working position, allowing of observation of the image on the ground-glass screen up to the moment of exposure (after the shutter has been set, as explained on p. 25. The hood should be opened gently; insert finger to hold down sides until front is up, otherwise mirror of V.P. Exakta may be scratched. In poor light and for exact focusing, the use of a light hood extension is advisable (p. 99). For critical focusing the built-in magnifier should be employed. The magnifier springs into position by slightly depressing the small stud in the right-hand bottom corner on the back of the light hood. The centre of the image on the ground-glass screen appears now about three times enlarged.

**FRAME FINDER.** When the magnifying glass springs into position, as described before, it brings up at the same time the back sight of the frame finder. Now by pressing the mirror (which forms the front wall of the light hood) inward until it catches automatically on a built-in hook, the front sight of the frame finder is opened. Holding the camera at eye-level and looking through the backsight, the image seen through the front frame is identical with the picture one gets on the negative. This image serves for viewing purposes only and is not focusable.

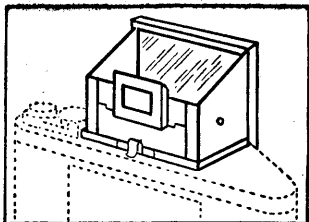
**EYE-LEVEL.** The finder hood is opened without releasing the magnifying glass, the mirror (which forms the front wall of the light hood) is pressed inward. By pressing the little stud on the right-hand side wall of the finder hood, the mirror will spring half back. If the camera is now held at eye-level, one can see the ground-glass screen image reflected by the mirror, allowing of focusing and picture-frame control. The brightness of the reflected image is considerably decreased by the double reflection (inside the camera and by the second mirror of the finder), and therefore it will be found rather more difficult to focus accurately. Also the second reflection necessarily turns the image in the viewer upside down.

**CLOSING THE LIGHT HOOD** can only be done when mirror has been allowed to spring back into its upright position, by pressing the mirror release stud on the right-hand side wall of the light hood. The magnifying glass and back sight of the frame finder must be folded inward. The walls of the hood can now be folded down by first folding the back, then the right and then the ~~left~~ wall, finally the front part.

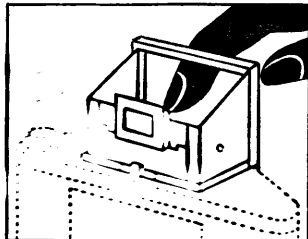
### *The Finders of the Kine-Exakta*

**REFLEX FINDER.** To bring the finder hood of the Kine-Exakta into working position the catch on the back of the finder hood has to be pressed down, when the hood automatically opens up, allowing of observation of the ground-glass screen image up to the moment of exposure. The screen of the Kine-Exakta is actually one side of a plano-convex lens, the lower side of which is matted to form a ground-glass screen, which also acts as a powerful magnifier. Therefore the reflex image seen in the finder hood is bigger than the actual image on the negative, while—naturally—the outlines and definition remain identical. For more critical focusing a built-in magnifier may be employed in addition to the magnifying ground-glass. The magnifier is erect in the front wall of the finder hood; to bring it into position, it is simply pressed inward towards the reflex image, where it will be automatically held by a catch. Looking down, the reflex image appears further enlarged, so that it may be focused with ease and accuracy. While the first edition of the Kine-Exakta was fitted with a circular magnifier, showing only a comparatively small circular central section of the field, the later models have a bigger, rectangular-shaped magnifier, allowing almost the whole field to be viewed. The magnifier is released from its horizontal position by pressing the small stud in the right-hand bottom corner on the back of the finder hood.

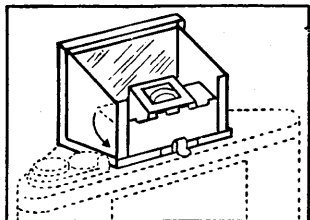
## EXAKTA FINDER (p. 24)



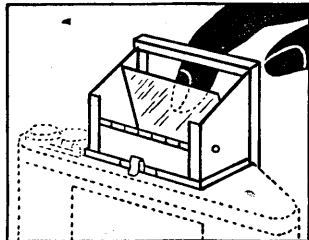
Reflex hood opened, normal position for reflex finding (p. 24).



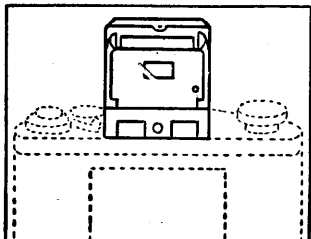
Reflex finder front pressed inward, finder used at eye-level as frame finder (p. 26).



Frame finder back sight is pressed down.

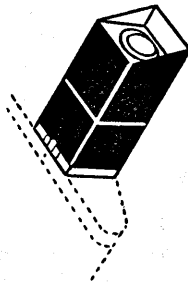


Mirror pressed inward until it catches in the upper catch of the retaining lever to use the V.P. Exakta with eye-level reflex finder (p. 26).



Equivalent position for Kine Exakta (p. 30).

Light hood extension with magnifier (p. 99).



THE FRAME FINDER is brought into position by pressing the magnifying glass in front of the finder hood inwards. The rectangular aperture in the back wall of the finder hood, together with the open frame in the front wall, form a direct vision frame finder for eye-level.

### Holding the Exaktas

It is obvious that the camera should be held as steady as possible, as the slightest shake, even if not seen in the original negative, will become visible in the enlargement. It is advisable to stand always with your legs apart.

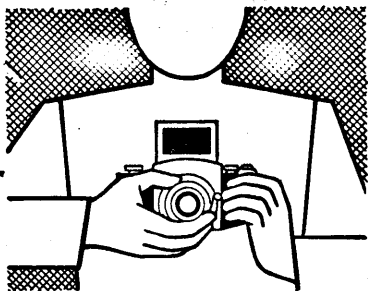
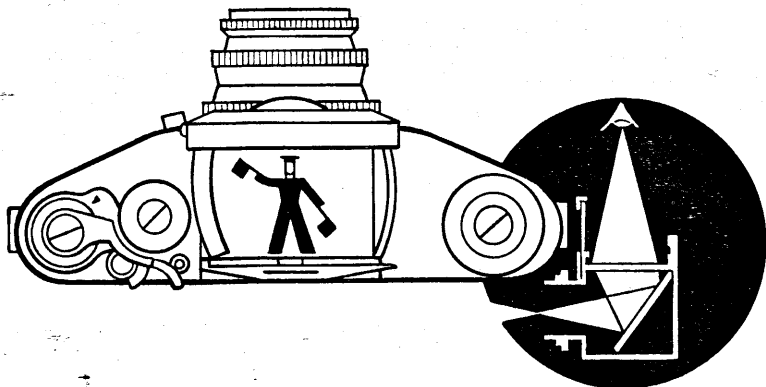
A particularly steady hold of the camera is necessary when working with long-focus lenses (page 58). In this case the centre of gravity is further forward and therefore it is desirable to hold the camera by grasping the helical focusing mount with the right hand, while the left hand steadies the camera and operates the shutter-release.

As the Exaktas are all horizontally built, they obviously lend themselves most simply and naturally to photographs in this position.

When working with the reflex finder at chest-level, the camera should be firmly held with the left hand, the index finger of which should be in position on the release knob, while the right hand supports the camera from underneath the camera-body, which should rest against the palm of the hand, while thumb and index finger support and handle the focusing mount.

*Vertical photographs* cannot be taken at chest-level. The normal procedure is: hold and focus the camera horizontally, as described before, then raise it to eye-level position, turning it at the same time, so that the focusing screen is vertical and the eye examines the image on it at right angles to the object to be photographed. The lens rests in the fork between thumb and index finger of the left hand, while the right hand supports the camera body, so that its thumb comes to lie against the release knob. One actually works "round the corner".

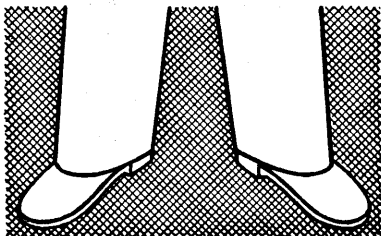
When working horizontally with the frame finder of any Exakta model and the reflex eye-level finder of the V.P. Exakta, the camera is grasped with both hands, camera-body rested against cheek, keeping both elbows close to the body, the index finger of the left hand on the shutter-release button.



The reflex ground-glass shows an upright side-reversed image of the object to be taken (p. 24).

Right hand operates helical focusing mount, while the left holds the camera, the index finger on the release button.

Stand with your legs apart (p. 30).



For taking vertical photographs with the frame finder, right and left hands are employed as advised for horizontal photographs, but the camera body is turned 45° to the left so that the right hand holds the Exakta from above and the camera body is pressed against the forehead.

To release the shutter (p. 38) the shutter-release button should be pressed with the ball of the right forefinger. Use finger pressure only, keep the hand and its grip steady on the camera. The actual pressing down will have to be done slowly and smoothly. The slower the exposure time, the smoother must be the release. Keep your hand clear of the speed knob while releasing!

For slow exposures in the hand it is advisable, when working at chest-level, to inhale, hold the breath and release smoothly in order to avoid shake.

When using long exposures while holding the camera at eye-level, rest the elbows against some support or at least lean against something stable. In this way 1/10 or more can be risked without incurring camera shake.

When using large aperture and long-focus lenses (p. 58), stand the Exakta on a table or other flat surface.

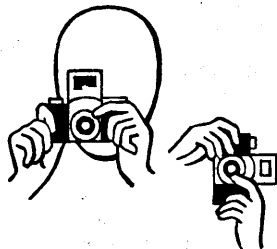
Use of a tripod is necessary when taking time exposures and working with the delayed-action release, and it is recommended for speeds from 1/10 to 1/2 sec. and instantaneous exposures of 1/25 sec. with long-focus lenses.

## Shooting with the Exaktas

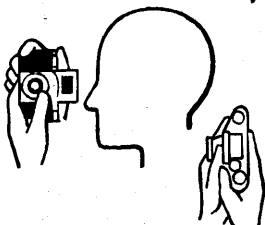
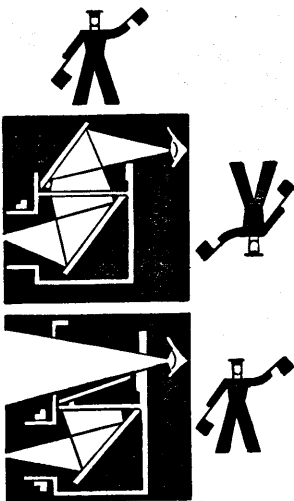
### *Shooting with the Exakta A, B, C*

1. Screw out the lens mount to infinity position.
  2. Wind film transport to next number in film window.
  3. Set shutter speed.
  4. Focus and determine picture frame.
  5. Set stop.
  6. Release.
1. The lens, in position of rest, is screwed back into the camera body. (To prevent accidental exposures in this position the shutter cannot be released.) The helical focusing mount has to be turned outward up to a definite stop, bringing the lens into infinity position.

Eye-level reflex position (p. 26) produces an upside-down, side-reversed image (with V.P. Exaktas only).



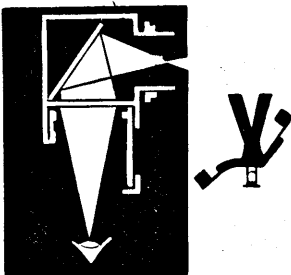
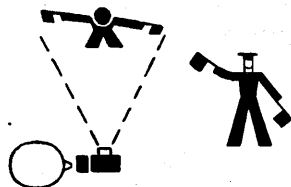
Eye-level frame finder (p. 28) produces a correct image.



Holding the Exakta for upright pictures (where one works at right angles to the subject).



Photographing over crowd, etc., by turning camera up-side-down and looking up into the reflex finder.



Shooting from behind a



wall, through a window



over an obstacle, while still observing the reflex image.

2. The film is wound by the film transporter, while at the same time the film window on the back of the camera body should be observed. The window is covered by a light cover, which has to be pushed and held to the side while winding the film on. As soon as the next film number appears in the centre of the window the film is set. With this action the shutter is automatically wound up and the mirror set ready for focusing and exposure. As already pointed out the gradual winding of the spring of the shutter when transporting the film makes itself felt in a marked increase in resistance. Do not take any notice of this, but make sure that the next number appears in the centre of the window. Wind gently!
3. The shutter speeds from 1/25 to 1/1000 sec., as well as short (B., Ball) and long-time (Z) exposures, are set on the shutter-speed knob by lifting it up, turning the speed required opposite to the red dot on the fixed centre of the speed knob and letting it down again. The numbers given on the knob indicate fractions of seconds, so that 25, 50, 100, etc., mean 1/25, 1/50, 1/100 sec. Short time exposures are made by setting B opposite the indicator, when the shutter will remain open as long as the release button (used to be a ball on old-time cameras and hence the abbreviation) is pressed. Long time exposures are made by setting Z to the indicator when, on the first pressure of the release button, the shutter will open and a second pressure will close it again.

*Exakta Model B and C have, in addition to the normal shutter speed knob, a second one: the slow speed and delayed action knob. This allows of the automatic exposure of speeds from 1/10 to 12 sec. and use of a delayed action release (self-timer) for all shutter speeds from 1/1000 to 6 sec. This is complicated in use and needs care.*

#### TO OPERATE THE SLOW SPEEDS:

- (a) Set shutter speed knob to B (or Z).
- (b) Wind slow speed knob as far as it will turn in a clockwise direction.
- (c) Lift slow speed knob up, turn it so that required time in black figures comes to lie opposite black mark on knob centre and let knob drop back (see Note ●).
- (d) Release smoothly.

#### DELAYED ACTION RELEASE FOR SPEEDS FROM 1/25 TO 1/1000 SEC.:

- (a) Set shutter release knob to actual exposure time required.
- (b) Wind slow speed knob as far as it will turn in a clockwise direction.
- (c) Lift slow speed knob up, turn it so that any red figure comes to lie against the red mark on the knob centre, and let knob drop back (see Note ●).
- (d) Release smoothly.

#### DELAYED ACTION RELEASE FOR SPEEDS FROM 1/10 TO 6 SEC.:

- (a) Set shutter release knob to B. (or Z.).
- (b) Wind slow speed knob as far as it will turn clockwise.



(c) Lift slow speed knob up, turn it so that the exposure time required in red comes to lie against the red mark on the knob centre and let knob drop back (see Note ●).

(d) Release smoothly.

The "delayed action" time in all cases is about 12 sec.

4. To focus at nearer distances than infinity, the infinity catch has to be pressed down, and it is then possible to screw out the helical focusing mount farther, setting the lens for nearer objects down to 4 or 3 ft. (according to the lens employed). A distance scale is on the front of the camera body, and a distance mark on the helical focusing mount points to the distance at which the lens is set. This arrangement for focusing may be used when the reflex arrangement is not employed for one or the other reason. The normal procedure of focusing, however, is that of focusing the image on the ground-glass screen, by looking into the finder hood and turning the focusing mount until the object is accurately in focus (see p. 25).
5. Adjust the diaphragm by turning the stop ring until the stop required is opposite the indicator. The purpose of the diaphragm is to adjust the effective opening of the lens. The smaller this opening (i.e. when the lens is "stopped down") the greater the depth of focus (p. 61). At the same time, as less light can pass through the lens in any given time, the exposure time must be longer (p. 88). The reduction in light means obviously a reduction in brightness of the reflex image with an increase of depth of focus. Both loss of light and increased depth of focus make the accurate focusing on the ground-glass more difficult, therefore reflex focusing should always be done at full aperture and the lens stopped down afterwards.
6. Release by pressing the shutter release knob gently, without shaking the camera. The release is blocked as long as the lens has not been set in working position (=to infinity).
- Some Exaktas have one mark only; here slow speed (black) or delayed action (red) figures will have to be set against this mark.

*Shooting with the Kine-Exakta and the Exakta  $2\frac{1}{4} \times 2\frac{1}{4}$  in.*

1. Wind film transport.
2. Set shutter speed.
3. Focus and determine picture frame.
4. Set stop.
5. Release.

1. Wind lever as far as it will go and let it spring back with brake. Wind gently! (With  $2\frac{1}{4} \times 2\frac{1}{4}$  in. Exakta the lever has to be cranked back.)
2. As Exakta Model B, C (see p. 34, No. 3).
3. Focusing is accomplished by turning the second (back) milled ring which bears the distance markings either until the distance required is opposite the distance mark or by the usual reflex image control (p. 24) until the object appears fully sharp.

4. The stop is set on the lens mount, where the milled front ring with the indication mark can be turned in line with the aperture figure engraved on the lens (see No. 5, p. 35).
5. Release by pressing the shutter release knob *gently*, without shaking the camera. The release knob is blocked as long as the finder hood is closed to protect against accidental release (see No. 1, p. 32).

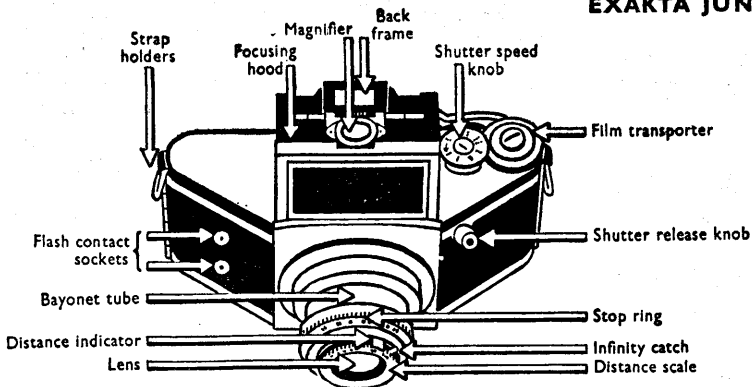
### Shooting with the Exakta Junior

1. Pull out lens.
  2. Wind film transport to next number in film window.
  3. Set shutter speed.
  4. Focus and determine picture frame.
  5. Set stop.
  6. Release.
1. The lens tube is turned tightly in a clockwise direction and pulled out until it stops. To do this the lens should be held by the ring with the apertures marked on it, and when in this pulled-out position it is focused to infinity.
  - 2/3. As described for Exakta Model A (pp. 32-33, Nos. 2 and 3).
  4. Focusing is done by turning the front cell of the lens either until the distance figure required points to the red tongue or the picture appears sharp on the reflex focusing screen (p. 24).
  - 5/6. As described for Exakta A (p. 35, Nos. 5 and 6).

When testing the camera (or just playing with it) a mistake is frequently made which seems to suggest that there is something wrong with the camera. When the shutter is set to time (Z) and released by the shutter-release button and one turns now to an instantaneous exposure on the shutter-speed knob (for example, 1/50) and releases again after first having wound on, one will find that *the shutter remains open and stops work completely*. The mistake made, of course, is that one should have released twice when using setting Z, one time to open the shutter, the second time to close it again. The trouble may be rectified by turning the shutter-speed knob again to Z and pressing again the shutter-release knob.

Should it be desired to get *two or more exposures on one film*—for instance in trick or commercial photography, or **36** when by accident the shutter has been released with the

# EXAKTA JUNIOR



## Loading (p. 18)



Insert empty film spool on film-transporter side, insert roll-film, fix paper end.

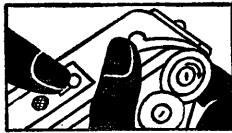


Wind film transporter one turn.

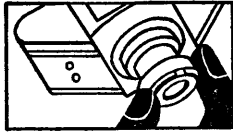
## Shooting (p. 32)



Pull out lens.

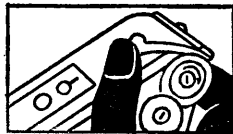


Wind film-transport to next number in film window.



Focus, determine picture frame, set stop, release.

## Unloading (p. 38)



Wind paper end off.



Open camera-back, remove film, transfer empty spool.

lens cap on the lens, and one does not want to leave the frame in question unused, then it is only necessary to wind the shutter-speed knob without lifting it up in an anti-clockwise direction until it comes to a definite stop.

The same procedure may be employed when the shutter has been wound up and one finds that no exposure will be taken for some time. It is advisable to *release the shutter to avoid unnecessary tension* of the shutter-spring and re-set the shutter as directed above before taking the next exposure.

*The shutter-speed knob* and, if used, the slow-speed knob must be allowed to rotate freely, responding to the release. Any interference—for example by accidental touch with finger or clothing—would spoil the exposure.

*It is of paramount importance that the slow-speed knob, whenever it has to be employed, is wound (1) after the shutter has been wound (that is: the film been transported) and (2) is wound up as far as it will go, otherwise completely incorrect exposure times will be experienced.*

After all exposures have been taken, the film has to be removed from the camera and replaced by a new one.

## Unloading the Exaktas

*Unloading the Exakta A, B, C, Junior.*

- 1. Wind off paper end.**
- 2. Open camera-back and remove film.**
- 3. Transfer empty spool.**

1. After all eight exposures (or with the  $2\frac{1}{4} \times 2\frac{1}{4}$  in. Exakta, 12 exposures) have been taken, the film transporter is wound on until the paper end disappears in the film window; finally, a further three turns on the film transporter are made to wind the paper fully on to the take-up spool.
2. The camera-back is now opened (p. 18) and the film will be found rolled fully on the take-up spool. The take-up spool with film is removed by depressing the small spool-holding bolt. In most cases the film spool will raise itself when pressing the bolt, and can then easily be lifted out. Otherwise it may be gripped with thumb and index finger of the right hand and lifted out. The spool is now firmly fastened by the gummed label adhering to it and is best wrapped up until it is developed.

3. The empty spool in the compartment opposite the film transporter has to be removed (p. 18) and be transferred to the compartment below the film transporter (p. 18).

The camera is now ready to be charged with the next film.

*Unloading Exakta  $2\frac{1}{4} \times 2\frac{1}{4}$  in.*

1. Crank on until "F" appears in film counter window.
  2. Release shutter.
  3. Wind film off by cranking.
  4. Open camera-back and remove film.
  5. Transfer empty spool.
1. After all 12 exposures have been taken, one has to crank until "F" (=finish) is visible in film counter window.
  3. By cranking on, the "red dot" appears in film counter window.
  5. As above, No. 3.

The camera is now ready to be loaded with the next film.

*Unloading the Kine-Exakta*

1. Turn reversing lever so that "R" is seen.
  2. Rewind film into cartridge.
  3. Open camera-back.
  4. Remove cartridge.
  5. Turn reversing lever back so that "V" is visible.
1. After the 36 exposures have been taken, turn the reversing lever on camera top plate (situated between film transporter and shutter-speed knob), so that the letter "R" is visible.
  2. Raise rewind key on camera bottom (opposite film transporter) and turn it clockwise with thumb and index finger. This action winds the exposed film inside the camera from the take-up spool back into the film cartridge. Turn until a slight resistance is felt, *wind over this resistance* and give two or three more turns. The film end now comes off the spring of the take-up spool and is wound back into the film container.
  3. Open camera-back (p. 20).
  4. The cartridge with the exposed film can now be taken out by pulling the rewind key downwards as far as it will go.
  5. Turn reversing lever back so that the letter "V" is visible.

The camera is now ready to be loaded with a new film (p. 20). The cartridge should be carefully wrapped up and is ready for developing.

## Changing of Partly-Exposed Film

Replacing a partly exposed film by another one, as might happen if a few colour photographs were made in between some black and white pictures, or a slow-speed film be used instead of a fast one, is an easy matter in the Kine-Exakta. One will have to see how many frames of the film to be removed are taken, by reading the film counter. Now we re-wind the film back into its original cartridge (see above No. 2). One has to be *careful to wind only until a little resistance is felt*. (In the ordinary way this resistance would have to be overcome in order to tear the film end from the take-up spool, but to do so in this instance would be to run the risk of rewinding the whole film into our cartridge, when the film would have to be extricated in the darkroom in order to be able later on to re-insert it into the camera.) The rewound film has to be taken out of the camera. On the beginning of the film we note for reference the number of exposures taken and then put it into a container or wrap it up. Now we can load our camera with another type of film.

To use the partly exposed film again, it has to be loaded into the camera in the usual way (see p. 20). As many exposures as we have already had on the film must now be exposed with the lens cap on the lens. To be on the safe side it is advisable to allow one or two frames more than actually exposed to pass. When making "blind" exposures it is wise—in addition to covering the lens—to stop it fully down and to set the shutter to the highest speed.

With the smaller number of exposures of the V.P. and  $2\frac{1}{4} \times 2\frac{1}{4}$  in. Exaktas the necessity of changing film before one spool is fully used up will rarely arise. Should a change be required, then it is only possible to effect it in the dark-room, by opening the back, lifting the film with both spools out of their chambers and re-winding the film together with its backing paper on to its original spool. A note as to the number of exposures on the film should be made on the film backing paper and the film sealed with a sticky label or rubber band. The new film can now be inserted into the camera in the usual way.

When re-inserting the partly exposed film into a V.P. Exakta, one has only to wind the film transporter until the number of the first unexposed film appears in the window, to carry on with taking in the usual way. With the  $2\frac{1}{4} \times 2\frac{1}{4}$  in. Exakta, the method for re-inserting the film as described for Kine-Exakta (p. 20) is employed. No allowance need be made to be on the safe side regarding the number of frames exposed.

## Cutting Off Exposed Film Parts

While nobody will think of cutting off exposed film parts when working with eight or twelve exposure cameras like the Exaktas A, B, C, Junior and Exakta  $2\frac{1}{2} \times 2\frac{1}{2}$  in. and process them separately, i.e. before finishing the spool, the desire to process some of the 36 exposures of the Kine-Exakta without shooting or wasting the whole of the load in the camera might easily arise. For that reason the Kine-Exakta has been fitted with a built-in film cutting knife. The milled knob end of the handle of the knife is on the camera-bottom beside the rewind knob and, to avoid accidents, screwed into the camera-bottom. To use the knife the milled knob is unscrewed and pulled downwards as far as it will go. This action will draw the knife across the film band and cut the exposed part from the unexposed film, leaving about 1 inch space behind the last exposure. If more space is required—for example, when film clips are used in processing—it is advisable to make one blind exposure before bringing the knife into action, which gives about  $2\frac{1}{2}$  in. handling space after the last frame. The camera must now be opened in the darkroom, as the exposed film is not protected when opening the camera-back to remove it. To remove the film, it is simply drawn from the take-up spool, rolled and wrapped up light-tight ready for processing. The end of the unexposed film in the camera is slipped under the spring tongue of the take-up spool. After making sure that the film perforation engages in the film transport sprockets of the camera, the back is closed. Finally one has to push the film counter forward by three divisions, thus allowing for the loss of exposures by cutting and re-inserting. The remaining strip can now be exposed in the normal manner.

## Single Exposures with Exakta C

The Exakta C, while in construction and handling exactly like Exakta B, has in addition provision in the camera-back to take ground-glass screen and plate holders. It must, however, be clearly understood that when plates are being used the Exakta C does not act as a reflex-camera and the *reflex image in the finder hood cannot be used for focusing or picture finding*. The reason for this is that the plane in which the plate comes to lie is entirely different from that of the roll-film.

To permit the use of the focusing scale on the lens a metal ring is interposed between the lens and the helical focusing mount. When the Exakta C is used as a roll-film camera, the ring remains in position and this camera handled in every respect as the Exakta B. When, however, the plate-back is employed, its plane lies somewhat behind the roll-film plane, and the lens must recede this distance to make focusing scale and infinity position harmonize again. This is done by removing the intermediate ring. By turning the diaphragm ring of the lens to the left, the lens is screwed out, the intermediate ring can be removed and the lens replaced. To focus on the ground-glass screen, this is pushed on the plate-holder frame in the camera-back, which

normally holds the film pressure back, the shutter set to "Z" and opened. The image can now be focused on this screen. This done, the shutter has to be closed, the film winder turned at least three times and the exposure time to be set. Now pull out the focusing screen, and the dark-slide loaded with a plate or cut-film can then be inserted instead. Finally, the slide-cover is removed and the exposure made. After re-inserting the slide-cover the plate holder is removed, and its exposed negative ready for processing. To change back to roll-film, the slide with film-pressure plate takes its place in the slide holder of the camera-back and the intermediate ring has to be re-inserted.

### More Exposures on Roll-film

*By means of a little trick it is possible to produce nine exposures on the ordinary eight-exposure film of the V.P. Exakta. One should proceed as follows: Instead of winding the film until number one appears in the film-window for the first exposure, one should only wind until the second dot (which precedes the film numbers) is in the middle of the window, and expose in this position. This procedure should be maintained for the eight exposures. When transporting the film to the eighth exposure, the number of turns will have to be noted and after taking the eighth picture, the transporter has to be wound on exactly the same number of turns as one has counted before. Now it is possible to make a ninth exposure.*

**13 Exposures with the  $2\frac{1}{4} \times 2\frac{1}{2}$  in. Exaktas:** The automatic film counter is set when the first warning dot (before No. 1) appears. Then the exposures 1 to 12 are taken in the usual way. To get the thirteenth frame, one winds further to sign "F" and exposes there again. After that the film is wound off in the usual way.

### How to use 35 mm. Film in the V.P. Exakta.

*As V.P. size film under present war conditions is scarce and on the other hand the 35 mm. Cine film is still comparatively easy to get, a simple way of using this film to produce  $1\frac{1}{2} \times 1$  in. negatives in the V.P. Exakta may be of interest. (See PHOTO PAMPHLET "Switching over to 35 mm".)*

*A length of 35 mm. film 25 inches long can be stuck in the darkroom to the backing paper of the ordinary V.P. roll-film by means of gummed tape, after having numbered the backing paper on its red or green side (in the same way as run the printed numbers 1 to 8) with numerals from 1 to 16, spaced  $1\frac{1}{8}$  in. apart. A practical way of winding film together with backing paper on to the spool is by holding (not sticking) the inner end of the film against the backing paper and winding both together on to a spool. Only where the film ends should it be stuck to the paper. Be careful to keep the film accurately in the centre of the backing paper. The spool once loaded in this way can be inserted into the camera as usual.*

*The negative aperture has to be masked down to the  $1\frac{1}{2} \times 1$  in. size with a cardboard or metal mask, which does not extend over the film plane.*

*Finally, a cardboard with a  $1\frac{1}{2} \times 1$  in. aperture in its centre is placed*

*into the reflex finder, reducing the field to the new negative size.*