

MODEL F

For
Automatic
Focusing
With
All

2 1/4 x 3 1/4

3 1/4 x 4 1/4

4 x 5

SPEED
GRAPHIC
CAMERAS

How to use the **KALART**

(SYNCHRONIZED) *Lens - Coupled*

RANGE FINDER

MADE IN U. S. A.

How the Kalart Lens Coupled Range Finder Operates

Especially designed for use on Speed Graphic cameras, the new Kalart Lens Coupled Range Finder is now being installed on $2\frac{1}{4} \times 3\frac{1}{4}$, $3\frac{1}{4} \times 4\frac{1}{4}$ and 4×5 Speed Graphic cameras. This Range Finder has an astonishingly great scope for accommodating a wide variety of auxiliary lenses, and will automatically focus the shorter lenses as closely as $3\frac{1}{2}$ feet.

It is adjustable for use with lenses of 10.5 cm. to 30 cm. telephoto lenses, and this table illustrates its remarkable versatility:

4 x 5 Camera Lenses	Close Working Distance	$3\frac{1}{4} \times 4\frac{1}{4}$ Camera Lenses	Close Working Distance	$2\frac{1}{4} \times 3\frac{1}{4}$ Camera Lenses	Close Working Distance
12 cm.	$3\frac{1}{2}$ ft.	10.5 cm.	$3\frac{1}{2}$ ft.	$3\frac{1}{2}$ "	$3\frac{1}{2}$ ft.
13.5 cm.	4 ft.	12 cm.	$3\frac{1}{2}$ ft.	10.5 cm.	$3\frac{1}{2}$ ft.
15 cm.	4 ft.	13.5 cm.	4 ft.	11.5 cm.	$3\frac{1}{2}$ ft.
16.5 cm.	4 ft.	15 cm.	4 ft.	12 cm.	$3\frac{1}{2}$ ft.
18 cm.	4 ft.	16.5 cm.	4 ft.	13.5 cm.	4 ft.
21 cm.	6 ft.	18 cm.	4 ft.	15 cm.	5 ft.
30 cm.	8 ft.	21 cm.	6 ft.		
telephoto					



Out of Focus



In Focus

Fig. 1.

No Lens Coupled Range Finder has ever been made which is so universally adjustable for such a variety of focal lengths. This is the first time in photographic history that a Range Finder has been produced which can accurately focus lenses of such long focal lengths down to such close distances.

The Kalart Synchronized Range Finder is coupled directly to the track of the camera so that turning the focusing knob not only

moves the lens forward and back but also operates the mechanism of the Range Finder, thus automatically synchronizing it with the lens. No other motions are required than those used in normally operating the camera. Simply open the camera and bring the lens standard forward to the infinity stops. Look at the object to be photographed through the eye-piece of the Range Finder and turn the focusing knob of the camera. When the two separate images of the subject which are visible in a bright luminous circle are superimposed, perfect focus is obtained (fig. 1).

As the lens standard moves with the track the Range Finder couplings in turn transmit that movement to the Range Finder mechanism. The point of critical focus as viewed through the Range Finder is always exact and sharply defined.

This method of focusing a camera yields a much sharper negative than can be obtained by the use of a ground glass or bed scale. The Kalart Synchronized Range Finder supplies all the focusing conveniences of a candid camera, **plus the added feature of man-size negatives.** The ground glass back can always be referred to when working nearer than the close working distances as set forth in the table on page 1. No harm can come to the Range Finder couplings when the bed is racked out further than the closest working distance for the lens in use, since it automatically disengages at that point. It does not in any way interfere with the function of the double extension bellows and permits the use of plates, cut film, film pack, and film and plate septum magazines. The infinity stops should never be moved except when fitting another lens of different focal length. Then, of course, the Range Finder is re-adjusted to synchronize with the new lens.

When it is desired to make copies, or to temporarily use a long focus lens which requires extending the lens board beyond the fixed infinity stops, the following procedure is recommended:

Bring the lens standard out to the infinity stops. Turn the focusing knob, moving the lens forward about two inches. Slide the lens standard back until it leaves the bed track. Draw the entire bellows and lens support out beyond the camera bed, and slide the lens standard into the camera track from the front. Its position in front of the infinity stops can be accurately determined by focusing on the ground glass by the usual rack and pinion knob. The Range Finder of course is not referred to.

SYNCHRONIZING THE RANGE FINDER WITH THE LENS

NOTE: *Your Range Finder is already adjusted for use with your lens as it came from the factory. The following instructions are for use only when using another lens with your camera.*

When the lens you wish to use has been installed in the front standard of the camera, rack the sliding track back as far as it will

go, loosen and move the infinity stops forward if the new lens is of longer focal length. (Note: A small mark on the sliding track indicating the original position of the infinity stops will facilitate resetting the original lens to the proper position.) Slide the front standard out and focus a well-defined subject at least $\frac{3}{4}$ mile distant on the ground glass focusing screen. Check the sharpness of the image with a good magnifying glass. Reset the infinity stops on the sliding track to suit the new lens. Fit to the camera bed the new focusing scale, supplied with the second lens.

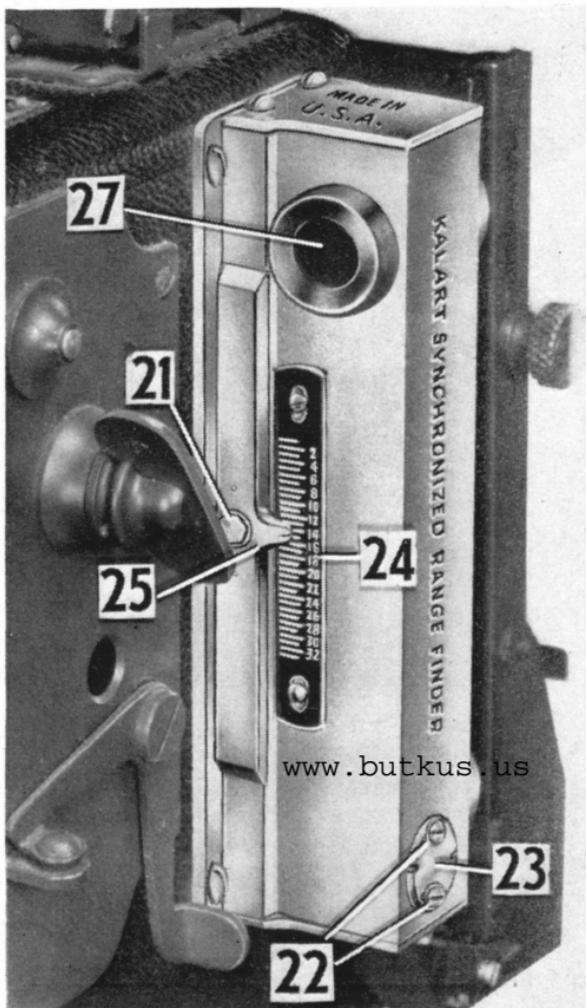


Fig. II.

Before changing the positions of the slides on the Range Finder, note down the original position of the pointers at the scale so that they can be reset easily when the original lens is refitted to the camera.

1. Consult the table of scale settings on page 8 and adjust the indicators 20 and 25 (see figures II and III) to the recommended position for your new lens. These scale settings are **approximately** correct — they are not **exact** due to commercial tolerances in the lenses themselves. For example a lens marked 13.5 cm. may actually be 13.4 or 13.6. Occasionally the variation is even greater than one millimeter. For that reason it is impossible to give definite points of adjustment.

2. Focus the lens on the ground glass at a flat object such as a chart or map upon a wall about 15 feet distant from the ground glass. (Use a good magnifying glass to be sure of sharpness.) Now view the subject through your Range Finder. If the images do not coincide loosen the set screw (no 21 figure II) and move the back indicator (No. 25) slightly up or down, to merge the images and tighten the set screw (No. 21).

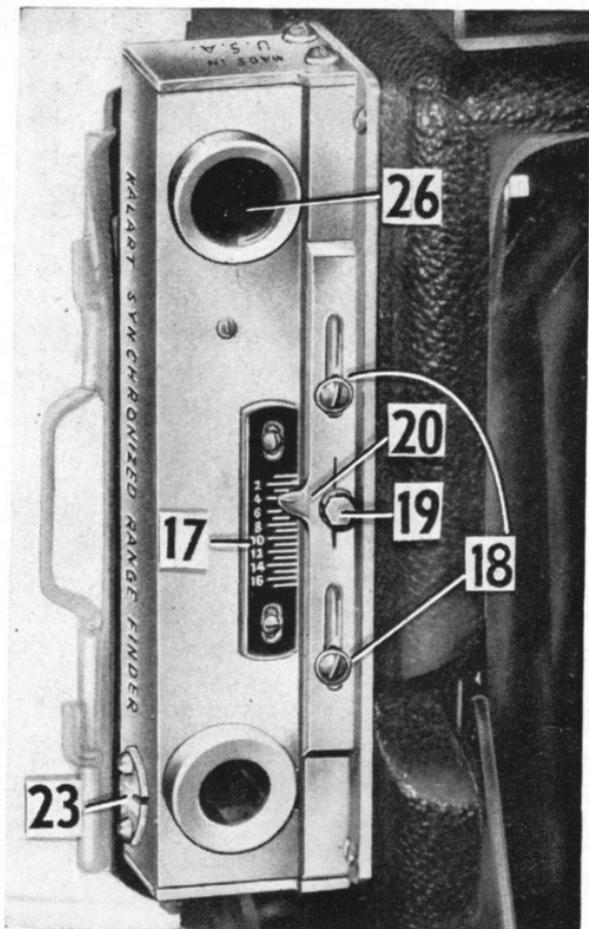


Fig. III.



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Note: Check your infinity adjustment after this has been done as it may shift slightly during this operation. If the image **has** shifted, turn the adjusting screw (part 19) with the key (tool 5) to restore it to focus. Do this while viewing the image through the Range Finder and turn the screw very slightly until the images merge.

3. Check up on your 15 foot distance again to be sure you have sharp focus. Any slight variation can be corrected by moving the indicator (part 25).

4. Now try the same operation 4 feet from your target. Measure the distance from ground glass to target accurately and see that the upper window of the Range Finder is parallel to and on the same level with the target. View the object through the Range Finder and if the images are superimposed the Range Finder is all set and ready for use.

If the images have not merged, loosen the two set screws (part 18) move the front indicator slightly up or down as necessary and retighten the set screws.

Note: Check your infinity adjustment as before to correct any shifting by turning the hexagon screw (No. 19) with the key (tool 5) while viewing the object through the Range Finder.

HELPFUL HINTS

The following information may be found useful in several special instances: **CORRECTING DOUBLE VERTICAL IMAGE:** To adjust for side image loosen by an eighth turn the two screws (No. 22) which fasten the movable disc (No. 23) on the outside of the Range Finder and turn that disc with the key (tool 5) until the images coincide. The disc has two slots which will accommodate the teeth on the wide end of the key. Then tighten the two screws (No. 22).

The etched scales (parts No. 17 and No. 24) have been uniformly fitted on the Range Finder before it leaves the factory. Make all adjustments by moving the indicators only. **DO NOT MOVE THE ETCHED SCALES.**

There should be absolute agreement between the image on the ground glass and the image as viewed through the Range Finder at all distances.

CAUTION: *The center hexagonal screw (part No. 19) Figure III on the slide indicator should only be moved for infinity adjustment and any changes should be very slight.*

HOW TO CLEAN THE TRANSPARENT MIRROR AND WINDOW OF THE RANGE FINDER

Climatic and atmospheric conditions may sometimes cause the windows or mirrors of the Range Finder to become clouded. This film can be removed from the surface of the glass with a piece of soft dry cotton or lens tissue. All three windows of the Range Finder are threaded and may be unscrewed readily for cleaning. Clean carefully and rub gently to avoid disturbing the position of the mirrors.

PROTECT YOUR RANGE FINDER with a Kalart Encircling Bracket

Your Kalart Range Finder is an accurately adjusted, precision optical instrument and should be protected against hard knocks and accidental damage. The Kalart Encircling Bracket provides complete protection without sacrificing accessibility.

It is equipped with an eye tube extension which is a great help in locating the "bright spot" when focusing and with a cross slide uniform in size with those provided on Zeiss, Leica and many other cameras for accommodating standard camera accessories. Three round holes have been drilled for attaching the slides of flash guns of other manufacturers.

The Encircling Guard Bracket for $3\frac{1}{4} \times 4\frac{1}{4}$ and 4x5 Speed Graphic Cameras is equipped with a threaded amber filter to increase the contrast between the direct and reflected images.

For the miniature $2\frac{1}{4} \times 3\frac{1}{4}$ Speed Graphic a snap-on filter is furnished for attaching directly to the upper front window of the Range Finder.

Kalart Encircling Bracket for $3\frac{1}{4} \times 4\frac{1}{4}$ and 4x5 Speed Graphics, or for the $2\frac{1}{4} \times 3\frac{1}{4}$ Miniature Speed Graphic with extension eye tube and amber filter..... **\$2.50**
Snap-on Amber Filter only **.75**

APPROXIMATE POINTS OF ADJUSTMENT OF THE MODEL "F" RANGE FINDER

2 1/4 x 3 1/4 MINIATURE SPEED GRAPHIC CAMERA

LENSES			Short Scale On Front	Long Scale On Rear
3 1/2 inch	F4.5	Wollensak Anastigmat	4	6.5
10.5 cm.	F4.5	Kodak Anastigmat	4	9
11.5 cm.	F4.5	Kodak Anastigmat	4	14
12 cm.	F4.5	Carl Zeiss	4 1/2	15 1/2
13.5 cm.	F4.5	Carl Zeiss Tessar	5	18
15 cm.	F4.5	Carl Zeiss Tessar	6	22

3 1/4 x 4 1/4 SPEED GRAPHIC CAMERA

10.5 cm.	F6.8	Zeiss Tessar	4	8
12 cm.	F6.3	Zeiss Tessar	4	11
5 inch	F6.8	Goerz Dagor	3 1/2	12 1/2
13.5 cm.	F4.5	Zeiss Tessar	4	15 1/2
13.5 cm.	F3.5	Zeiss Tessar	3 1/2	15
13.5 cm.	F4.5	Steinheil	4 1/2	13
5 1/2 inch	F4.5	Kodak Anastigmat	5	14 1/2
15 cm.	F4.5	Zeiss Tessar	5	17 1/2
15 cm.	F3.5	Zeiss Tessar	6	17
16.5 cm.	F4.5	Zeiss Tessar	5 1/2	20
16.5 cm.	F3.5	Zeiss Tessar	7	20
7 1/2 inch	F4.5	Kodak Anastigmat	9	22
8 1/4 inch	F6.3	Goerz Dagor	9 1/2	24 1/2

4 x 5 SPEED GRAPHIC CAMERA

10.5 cm.	F4.5	Zeiss Tessar	4	7
13.5 cm.	F4.5	Zeiss Tessar	4	14
13.5 cm.	F3.5	Zeiss Tessar	5	13
13.5 cm.	F4.5	Dogmar	3 1/2	12
5 1/2 inch	F4.5	Kodak Anastigmat	3 1/2	13 1/2
15 cm.	F4.5	Zeiss Tessar	6	15
15 cm.	F3.5	Zeiss Tessar	5	15
15 cm.	F3.5	Schinder	5	14 1/2
152 mm.	F4.5	Cooke	5 1/2	18
16.5 cm.	F4.5	Zeiss Tessar	6	18
16.5 cm.	F3.5	Zeiss Tessar	8	19
16.5 cm.	F6.8	Goerz Dagor	7	17 1/2
6 3/8 inch	F4.5	Zeiss Tessar	5	18
6 3/8 inch	F4.5	Kodak Anastigmat	4 1/2	18
18 cm.	F6.8	Goerz Dagor	8	20
8 1/2 inch	F6.8	Goerz Dagor	9 1/2	23
30 cm.	F5.5	Tele. Xenar	12	31