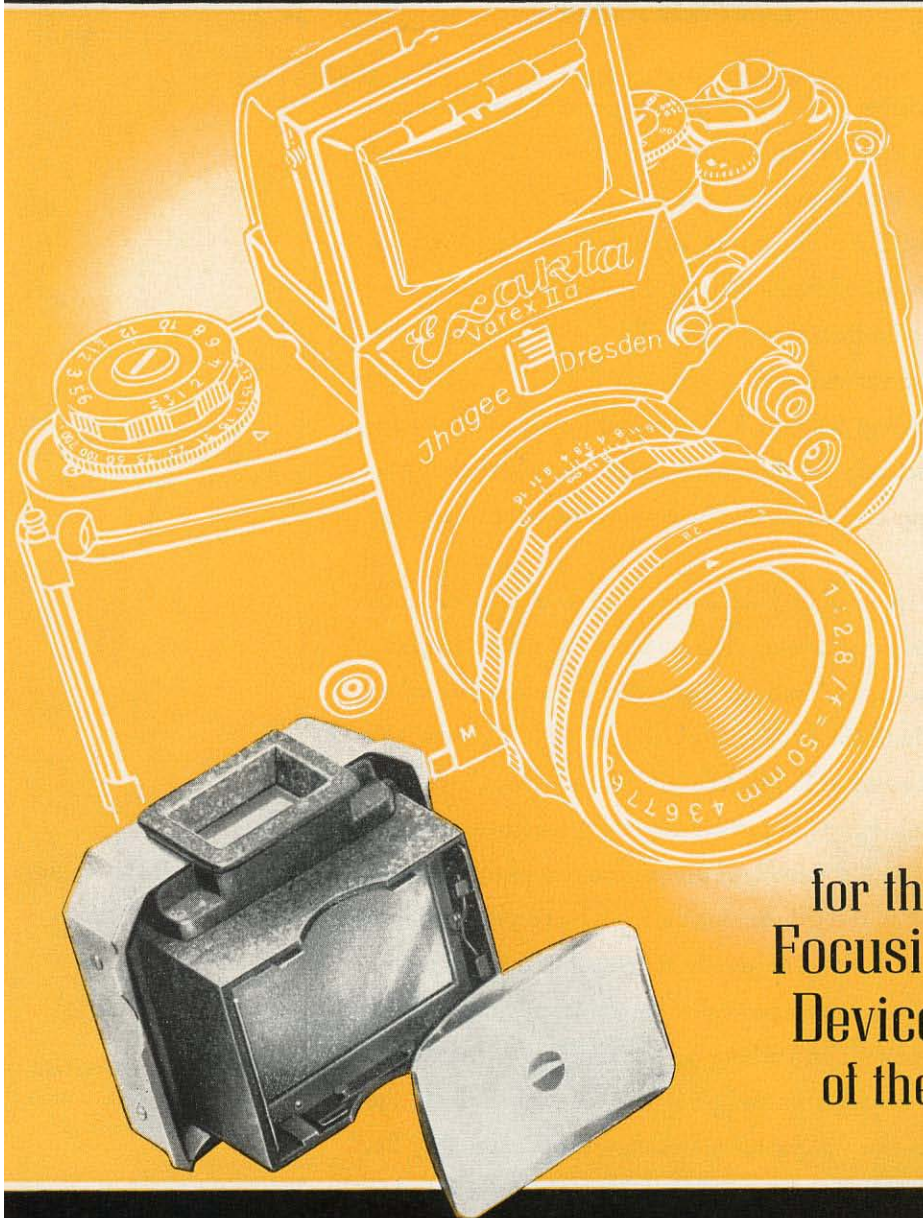


The Distance Meter



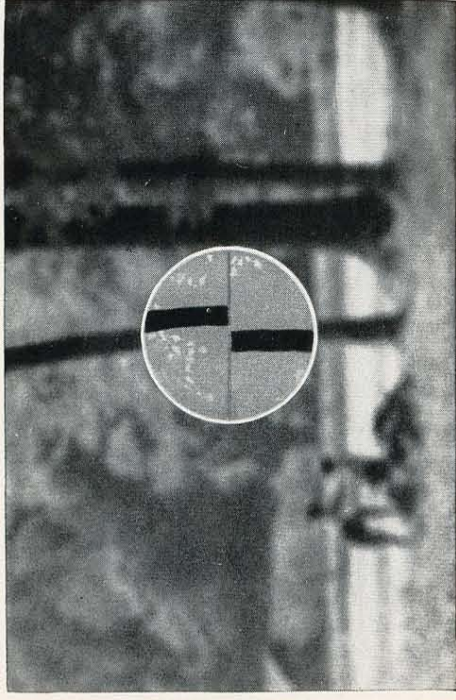
for the
Focusing
Devices
of the

EXAKTA *Varex*

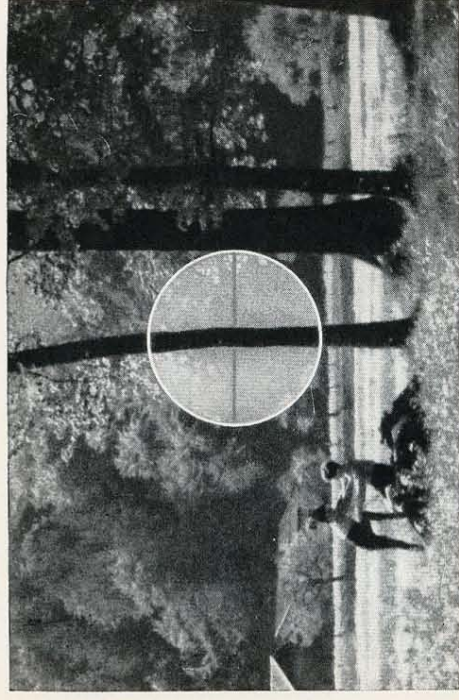
The practical functioning of the Distance Meter

The Distance Meter is a normal ground-glass, the same as is used in the Penta Prism Finder, the Exposure Meter Insert, and the Lens Magnifier of the EXAKTA Varex. But in the center of its ground-glass – as the illustration shows – there is a clear-glass circular spot with a horizontal separating line for horizontal pictures and a vertical one for upright photos. That is the measuring field. In it, of course, we see parts of the subject brighter than on the matted surface, thus permitting easier focusing under adverse light conditions.

The measuring field consists of two prisms. Then focused inaccurately, the center of the subject appears in two partial images dislocated against each other. For horizontal exposures the vertical outlines are intersected in the middle and do not meet, whereas, when holding the camera vertically, we have the same effect in the middle of the picture regarding the horizontal outlines. By turning the focusing ring of the helical lens mount and gradually moving the lens into proper focus, we see the vertical or horizontal outlines, till now dislocated approaching each other in the measuring field. As soon as these outlines meet precisely in the vertical or horizontal direction, as the case may be, the subject is in correct focus. Thus pin-point focusing on a subject is possible even under difficult conditions.



Ground-glass image with measuring field, when inaccurately focused

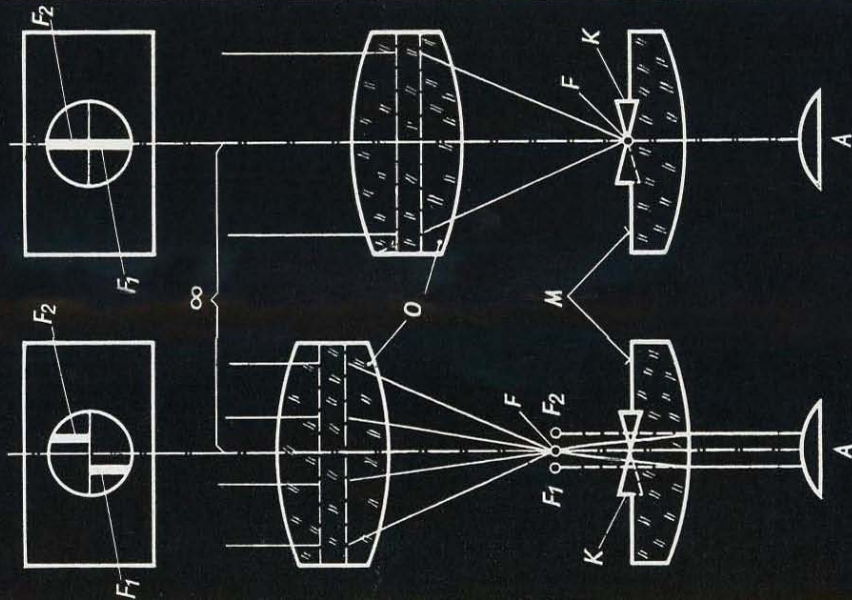


Ground-glass image with measuring field, when accurately focused

The theoretical functioning of the Distance Meter

The prisms (K) of the Distance Meter represent a Split-image-Finder, the basis of which depends on the dis-traction angles of the two prisms. The prism planes are arranged side by side on the Distance Meter so that the mirror images on both prisms face each other, their intersecting line - as you will see from the diagrams - lying in the same level with the matted plane (M), where the reflex image is intercepted.

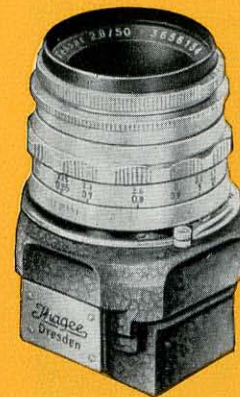
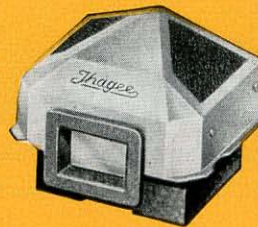
When viewing an upright pole, e. g., in the measuring field of an inaccurately focused image, we see - as already mentioned - in the upper and lower semicircles, two partial images of the pole (F 1 and F 2) dislocated against each other, see left diagram at the top. By the lens (O) of the EXAKTA Varex the infinitely remote pole is shown in F (see left diagram below), but appears to the eye in the under half of the prism as lying in F 1 and in the upper half of the prism in F 2. Move the lens in the direction of the optical axis towards the prism plane, which means towards accurate focusing, and the partial images F 1 and F 2 will gradually approach each other. When image F comes up with the level of the intersecting prism line, the partial images F 1 and F 2 stand exactly one above the other and show an image of the pole no longer interrupted, see right diagram above. So the sharp subject image is now in the matted plane (M), and the negative shows accurate sharpness. As to the diagrams, the mirror installed in the path of rays was not taken in consideration, in order not to render the illustration too complicated. The systematic mode of operation of the Distance Meter, however, is not influenced by the reflex proceedings on the mirror in any way.

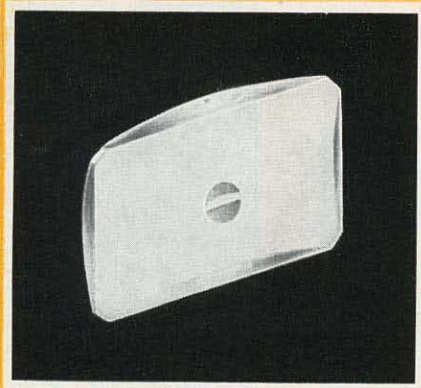


The Distance Meter of the EXAKTA Varex

- is a valuable help in critical focusing for the normal-sighted as well as the weak-sighted photographer.
- combines, in a very simple manner, the advantages of the split-image range finder and the manifold good qualities of the single-lens reflex camera.
- facilitates perfectly sure and instand needle-sharp focusing, also, what is most important, under unfavourable lighting conditions.
- can be interchanged at any time with the normal ground-glass in the Penta Prism Finder, in the Exposure Meter Insert or in the Lens Magnifier of the EXAKTA Varex.
- can also be used in connection with any of the special lenses as well as for close-ups and micro work.
- always reveals the large ground-glass screen image for critical judgment of picture combination.

The Distance Meter may be used together with these focusing devices of the EXAKTA Varex: The Penta Prism Finder, the Exposure Meter Insert, and the Lens Magnifier





Distance Meter for the Penta Prism Finder, the Exposure Meter Insert, and the Lens Magnifier of the EXAKTA Varex (Order Number 310)

For practical work, we advise using the Distance Meter at a wide lens aperture (no less than $f/5,6$ or, at longer focal distance, $f/8$), brightness and brilliancy of the image in the measuring field being best at wide diaphragm apertures. At small lens apertures you run the risk that, in consequence of decrease

of light, measuring becomes incorrect on the diaphragm rims or that the light rays no longer meet the photographer's eye, which may lead to a darkening of the measuring field.

In cases where the Distance Meter is not to be used, it can, at any time, be replaced by the normal ground-glass, a special advantage of the two-system camera EXAKTA Varex.

When employing the Penta Prism View-Finder, the Exposure Meter Insert or the Lens Magnifier, the Distance Meter has to be installed into the quadrangular clamping mount after removing the normal ground-glass.

