

USE OF YOUR

TOPCON

HIGH MAGNIFICATION WAIST-LEVEL FINDER



TOKYO OPTICAL CO., LTD.

TOPCON HIGH MAGNIFICATION WAIST-LEVEL FINDER

The Topcon High Magnification Waist Level Finder is an exclusive reflex type finder for the Topcon RE Super camera (Beseler Topcon Super D). It shows the focusing screen enlarged 6.5 times, and, when used with a standard (58mm) lens, provides a magnification of the subject of 1.5 times.

Critical focusing of the full screen area, from corner to corner, is possible because of a wide angle optical system which consists of 4 elements in 3 groups. In addition, it is possible to make individual dioptric adjustments within a range of -3 to $+2$ diopters.

This Finder was specifically created for use in photomicrography, photomacrography, and with telephoto lenses. In order to obtain absolutely maximum performance the proper focusing screen should be used. (See page 7). The Finder can of course be used for general work, but the image is reversed laterally.

With this Finder in use instead of the regular Pentaprism, the exposure needle is not visible in the finder. It is necessary to use the exposure indicator located on the top of the camera, next to the finder. In addition, in order to prevent wrong exposure readings due to extraneous light entering through the finder, the eyepiece should be covered with its cap while taking exposure reading.



Fig. 1



Fig. 2

- ① High Magnification
Waist Level
Finder
- ② Diopter Adjust-
ment Ring
- ③ Rubber Eye-
Cup
- ④ Stopper for
Large-Size
Rubber Eye -
Cup
- ⑤ Cap

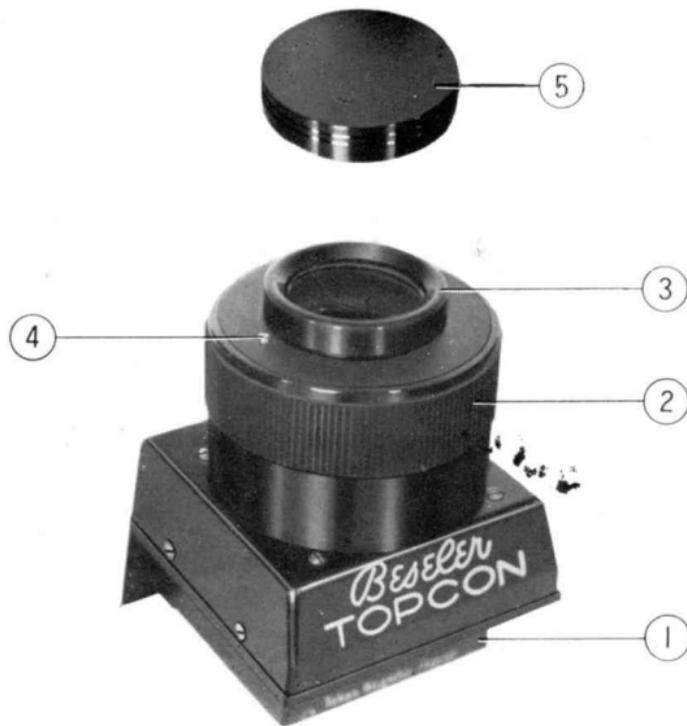


Fig. 3



Fig. 4



Fig. 5

RECOMMENDED ACCESSORIES

- * **Type No. 1 Focusing Screen**—is the standard focusing screen which is normally supplied with the camera. It is suitable for general photography only. The groundglass area surrounding the split-image rangefinder, however, can be used for macrophotography and telephoto work.
- * **Type No. 2 Focusing Screen**—has a full-area groundglass plus fresnel lens area outside a central 12mm diameter spot. It is recommended for close-up and telephoto work.
- * **Type No. 3 Focusing Screen**—has double cross-hairs in a central 5mm diameter spot surrounded by a groundglass area. It is especially recommended for use in photomicrography. Critical focusing is accomplished by the elimination of parallax between the cross-hairs and image, after first adjusting the eyepiece to the user's eyesight.

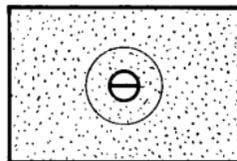


Fig. 6

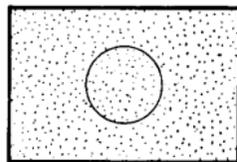


Fig. 7

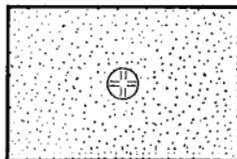


Fig. 8

* **Type No. 4 Focusing Screen**—is identical to Type No. 2 but with the additional of checkerboard etched lines. It is, therefore, specially recommended for use in close-ups.

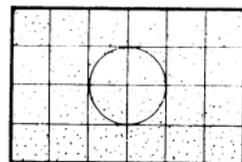


Fig. 9

* **Type No. 5 Focusing Screen**—has a 5mm diameter microprism focusing spot, groundglass ring and, finally, groundglass plus fresnel lens outside a 12mm diameter area. It is suitable for general all-around photography. However only the groundglass area can be used for focusing in macrophotography and telephoto shooting.

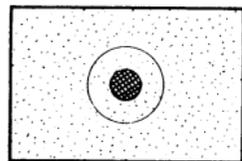


Fig. 10

* **Type No. 6 Focusing Screen**—with bisecting scales engraved for 0.5mm divisions and central double cross-hairs on clear screen is also recommended for photomicrography. Focusing is accomplished in the same manner as Type No. 3.

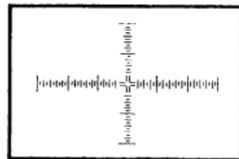
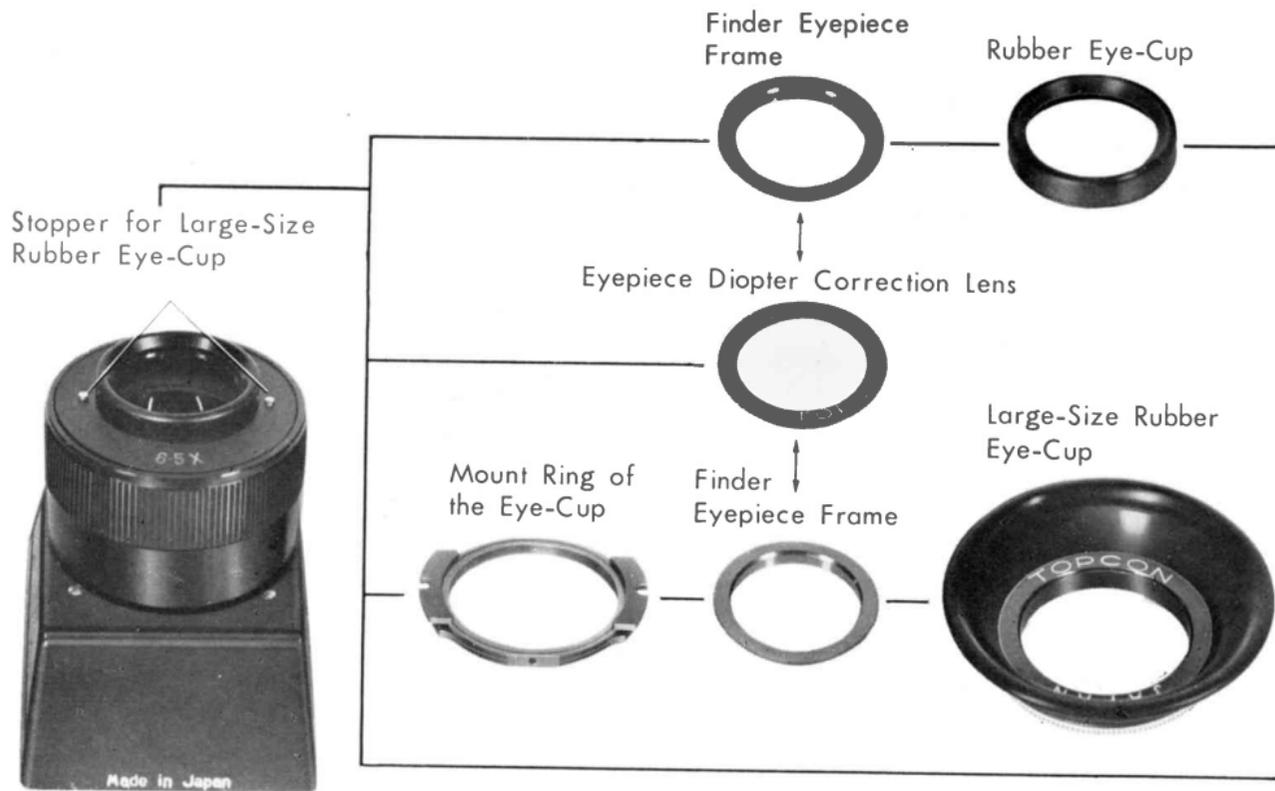


Fig. 11

- * **Eye-piece Correction Lens**—for greater diopter corrections than possible with the eye-piece adjustment ring of the High Magnification Waist-Level Finder, attach one of the accessory compensation lenses. This will increase the diopter adjustment range to -6 to $+5$.
- * **Large-Size Rubber Eye-Cup**—is attached to the eyepiece ring for the purpose of fixing the distance between the user's eye and the camera. It also prevents distracting light from entering the finder, thus making focusing much easier and faster.
- * **Magnifier**—is attached to the eyepieces and shows the central area of the field of view enlarged $16\times$, for even greater precision in critical focusing.
- * **Angle View Finder**—is attached to the eyepiece and permits upright reflex-type viewing of the field of view.



Cap



Magnifier



Angle View Finder



Focusing Adjustments :

When focusing with Types 1, 2, 4 & 5 focusing screens, use either the center focusing spots or the surrounding groundglass (especially for telephoto or small lens openings, when the center spot becomes dark). Adjust the eyepiece ring until the subject image looks distinct and clear. It is much better if the subject is not focused with the distance focusing ring, of the camera, beforehand and if it is purposely left blurred and indistinct. In any case, when the High Magnification Waist-Level Finder is first attached to the camera, the eyepiece ring should be revolved and adjustments made.

With Types 3 and 6 focusing screens, however, the double cross-hairs of the screen will look blurred and seem to be single cross-hairs, if the vertex power of the eyepiece is not adjusted to the user's eyesight.

Therefore, when the High Magnification Waist-Level Finder is attached to the camera, the eyepiece ring should be revolved either way until the cross-hairs become distinct and are seen as double cross-hairs, at which point the eyepiece will be adjusted to the user's eyesight.

Further focusing should be undertaken with the distance focusing ring of the camera lens, or microscope focusing knobs, until the subject is seen distinctly. When using Types 3 and 6 focusing screens, however, it will also be possible to focus critically by eliminating parallax between the cross-hairs and image. To eliminate parallax, shift the eye from side to side

with the cross-hairs used for focusing; if the cross-hairs seem to remain stationary, while the subject shifts continue focusing and shifting the eye until the subject no longer seem to shift, At that point parallax will be eliminated and focusing will be accomplished.

Exchanging Finder :

Place the TOPCON RE Super (BESELER TOPCON Super D) on a firm surface, take a firm grip on the finder in the camera, depress the finder catch (between finder and shutter speed dial) and slide the finder out towards the back cover side.

To insert the finder, slide the front end in carefully from the back cover side until it clicks into position. No force will be required.

Magnifications :

The High Magnification Waist-Level Finder shows the subject $0.65\times$ on the focusing screen, when used with the 25mm wide-angle lens, $0.9\times$ with the 35mm wide-angle lens; $1.5\times$ larger with the 58mm standard lens; $2.6\times$ with the 100mm lens; $3.5\times$ with the 135mm lens; $5.2\times$ with the 200mm lens and $7.8\times$ with the 300mm lens; thus increasing accuracy in focusing, as compared to focusing with the Pentaprism of Waist-Level Finder, and also when using telephoto lenses, which have very narrow depths of field.