

VIVITAR 28mm 1:2 VARIABLE AIR SPACE LENS

Similar models: 24mm

Fig. 1 -- focusing ring and helical guide removed

ADJUSTMENT LOCATIONS

Focus	A
Resolution	B
Aperture size	C

Adjustment sequence:

- Adjust the aperture size by first loosening the three screws accessible through the holes in the side of the focusing assembly. Then rotate the diaphragm ring from the front of the lens.
- Screw the front lens group into helical ring C.
- Rotate helical ring B, Fig. 1, for sharp focus at the center of the field of view. Without the helical guide installed, only the rear lens group moves.
- Rotate helical ring C for the sharpest possible resolution across the field of view. The adjustment sets the position of the front lens group relative to the rear lens group. Distance between rings A and C at the adjusted position -- approximately 3.3mm.
- Rotate helical ring C until the helical-guide screw holes align with the tab on helical ring B. There are two sets of helical-guide screw holes. Use the set which is closer to the tab on helical ring B. Replace the helical guide.
- Use the position of the front lens group to compensate for the distance you had to turn helical ring C when aligning the helical-guide screw holes. Screw the front lens group in or out to restore the best resolution. Use shims between the front lens group and helical ring C to set the distance. Shims supplied in two thicknesses -- 0.1mm and 0.2mm.

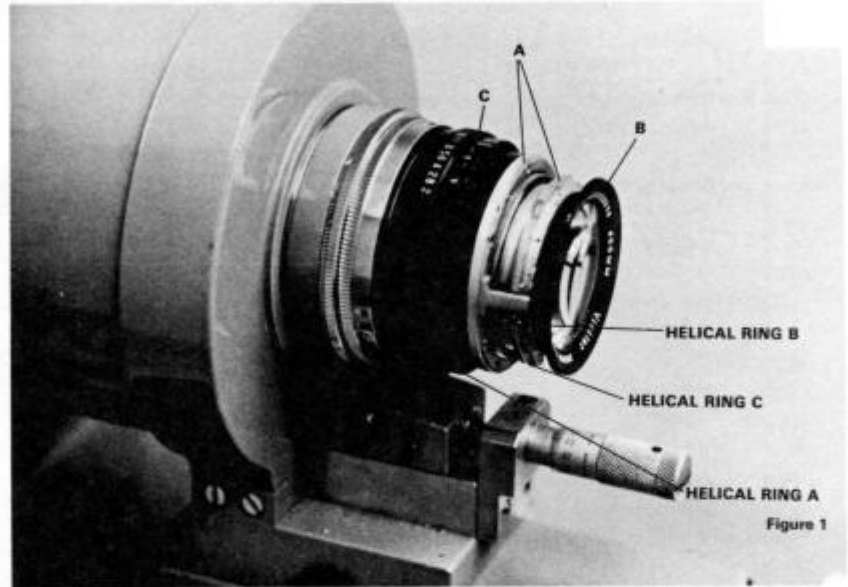


Figure 1

DISASSEMBLY HIGHLIGHTS:

Precautions:

- The position of the front lens group controls the resolution (the sharpness of the focus across the field of view). Do not unscrew the front lens group unless you have a way to check and adjust the resolution on reassembly. The preferred technique is to use a forward projection tester as illustrated. If you're using an autocollimator, tilt the camera to check the focus at the edges.
- In early versions, a setscrew holds the front lens group in position. Later versions use cement. Apply acetone or M.E.K. around the threads before attempting to unscrew the front lens group.

Sequence:

- remove the setscrew at the outer circumference of the filter ring
- unscrew filter ring
- focus ring (three screws at front)
- remove setscrew locking front

lens group through hole at side (early models); soften cement locking front lens group with acetone (recent models)

- unscrew front lens group
- helical guide
- unscrew helical ring C
- rear mounting ring
- diaphragm-setting ring (ball detent will be loose)
- disconnect spring for diaphragm-control ring (back of lens)
- loosen three setscrews accessible through holes at side of ring A
- drop out diaphragm assembly from front of lens

FREQUENTLY REPAIRED SECTIONS:

- Diaphragm leaves sticking because of oil. Repair requires disturbing resolution and focus adjustments.
- Aperture size incorrect because setscrews holding diaphragm assembly have worked loose. Can be adjusted without disturbing resolution and focus adjustments (do not remove front lens group).