11 Focusing Adjustments



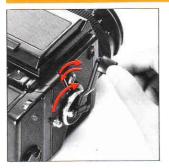
A. The lens is focused on the subject, by rotating the focusing ring in either direction, while checking the effect on the microprism / split-image range-finder spot in the center of the focusing screen (standard type).



B. The central split-image spot splits the image into two, with the upper and lower halves separated horizontally when the lens is out of focus. When in focus. however, the two halves will coincide with the displacement disappearing. The microprism ring surrounding the central spot can also be used for checking the sharpness of the focused image, since the image will glitter when the lens is not focused. The surrounding full-area matte surface can also be used for checking image sharpness.



12 Film Advance and Shutter Cocking



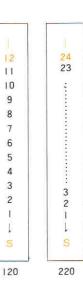
Rotating the film winding crank completely one time, in the forward direction, will advance the film one frame and, at the same time, cock the shutter, with the winding action stopping automatically. On the other hand, short, rapid strokes, up to an accumulated full rotation, will also do the job.

13 Exposure Counter



The exposure counter shows the number of frames exposed or, in other words, is an additive type. Starting from "S", the counter on Film Back SQ 120 shows numbers from 1 to 12, while Film Back SQ 220 shows numbers from 1 to 24.

The letters "S", "12" and "24" are orange-colored while all other numbers are white.



14 Shutter Release Button



A. Depress the shutter release button with the ball of the finger. Use a smooth, gentle action and press all the way in, without using strength or jerking.

* A red-colored LED will light up in the front central area of the finder and will indicate that the shutter has closed, in this case. The signal is specially valuable when using slow shutter speeds, as it indicates completion of the exposure.



B. Safety Lock

The shutter release button can be locked to prevent accidental operations. Simply rotate the locking ring 60° clockwise which will place a red dot on the side.

The cable release socket will also be locked, in this case.

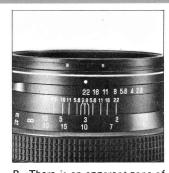
To release the safety lock, rotate the locking ring counterclockwise and place the red dot diagonally lower.

The shutter cannot be released, in the following cases:-

- 1. Shutter release button is locked.
- Dark slide is inserted.
- Film winding crank has not been rotated fully. (Same when the exposure counter is still between "S" and "1".)
- 4. Shutter is not cocked.
- Lens is not properly attached (Same with extension tubes and bellows.)
- Lens release button is being depressed.
- All frames (12 on 120 roll film and 24 on 220 roll film) have been exposed already.
- * If film winding crank is rotated while depressing shutter release button, the shutter will be released when the winding action is completed.
- * A cable release or self-timer can be used with the cable release socket on the body.



A. Distance scales on the Zenzanon-S lenses can be used for focusing at the required distance or finding the distance actually focused. Simply rotate the focusing ring and set the required distance opposite the orange-colored index, which will adjust the lens for the required distance.

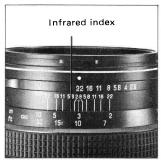


B. There is an apparent zone of sharpness, both in front and back of the focused subject, which is known as the depth of field. The depth of field scale shows the zone of apparent sharpness at any lens opening or distance and can be utilized for quickly and simply ascertaining the depth of field. The depth of field scale is next to the distance scales and is made up of identical pairs of apertures on both sides of the orange-colored distance index. These identical pairs of apertures indicate the distance that will be in focus at

these lens openings. For example, if the 80mm lens is focused at a distance of 3m, it can be seen from the depth of field scale that the zone will extend from 2 to 7 meters (6 ft. to 23 ft.), when a lens opening of F22 is used.

* See the depth of field table for the Zenzanon-S 80mm lens, on page 35.

16 Infrared Photography



In infrared photography, some adjustment must be made in the focus in order to retain sharpness on the film, because the invisible infrared rays are longer in wave length than the visible rays used for focusing. For infrared photography—

- Use a R filter or equivalent with an infrared (black-andwhite) film.
- The red-colored line, next to the orange-colored distance index, is the infrared index.
- After focusing in the normal manner, re-set the distance indicated by the orangecolored distance index to the infrared index, by shifting the distance ring.

4. Follow instructions enclosed with the infrared film and filter and, to be on the safe side, make several bracketing shots. In general, more exposure rather than less seems to be a safe guide.

17 Flash Photography



A. Always use flash cords with a standard PC type plug. When detaching the flash cord, grip the plug firmly and pull it out straight, instead of using a twisting action.

B. The lens shutter of the Zenzanon-S lens has a X-setting for flash synchronization, which means that electronic flash units will synchronize at all shutter speed settings, up to the fastest 1/500 second.

This means, of course, that flash fill-in for daylight shots can also be made very easily.



18 Multiple Exposures



A. To make multiple exposures, rotate the film winding crank (to advance the film and cock the shutter) and then turn the multiple exposure lever in the clockwise or arrow-indicated direction, which will expose a red mark. When set in this manner, the shutter can be released and cocked any number of times, without advancing the film.



B. Upon taking the multipleexposed picture, be sure to return the multiple exposure lever back to its vertical position and cover the red mark. Otherwise, there will be additional multiple exposures on the same frame.

19 Attachment and Removal of Film Backs

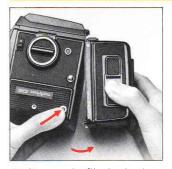
The film back is a film chamber that can be attached or detached freely, thus permitting free exchange of film types even during shooting sessions.

The camera body and film back are fully coupled, upon connection. Therefore, always turn the film winding crank completely one time, upon attaching the film back, If winding is not possible, all preparations for taking the picutre have been completed. But, if winding is possible, rotating the film winding crank until it stops will automatically take care of the incompleted action, whether uncocked shutter or film not advanced. Thus, it's always possible to choose the film type most suited for the shot, even midway in the roll.

A film speed dial is available on the film backs and can be used for setting the film speed of the film loaded in the film back, which will, furthermore, automatically couple when the CdS MF Finder S or CdS MM Finder S is attached to the camera body. This should be very convenient when using films of different sensitivities in various film back.



A. To remove the film back from the camera body, insert the dark slide into the dark slide slit, as illustrated, with the ⊙ mark on the dark slide at the top end. Push it all the way in.



- B. Depress the film back release button and the lower end of the film back can be removed, as illustrated. Simply shift the film back up slightly and pull it away.
- * The dark slide can be withdrawn, even while the film back is detached from the camera body and, therefore, extra care is required. in this respect.



C. To attach the film back to the camera body, simply insert the latches at the upper end of the film back into the attachment openings at the upper end of the camera body. Then, press the lower end of the film back against the body until it locks securely.

* The dark slide must be withdrawn from its slit, upon attachment of the film back to the body, as otherwise the shutter cannot be released. Furthermore, there is danger of the film back accidentally becoming detached from the body, should the dark slide be left in its slit while the camera is being carried. Therefore, make it a rule to withdraw the dark slide promptly upon attaching the film back to the body.



A. The film back consists of a film holder and a film back frame, with exclusive film backs available for 120 and 220 roll films.

The film holder has an insert or frame for loading film, as well as a built-in film winding mechanism.



B The film back frame has a hase with a dark slide slit and a back cover with an ASA film dial and a film type indicator frame. The film back frame complete-Iv encloses the film holder and shields it from outside light, as well as connecting it to the camera body and also coupling with the CdS MF Finder S or CdS MM Finder S.



To set the film sensitivity of the film loaded in the film back, revolve the ASA film speed dial with a slight lifting action, as illustrated, and set the film speed scale to the index. There are click-stops at 1/3rd increments. in this case. (The dial can be revolved in either direction.)

The ASA film speed dial is automatically coupled to CdS ME Finder S or CdS MM Finder S, when attached.

22 Interchanging Focusing Screens

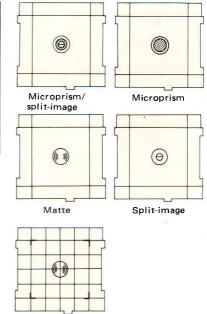


A. The focusing screen can be exchanged, depending on the type of photographic work being undertaken.

First, remove the finder attached to the camera body. Then, move the screen removal levers on both sides in the arrow-indicated directions, as illustrated. Then, using a pincer or similar tool, lift up the screen with the protrusion at the rear end.



- B. To install the focusing screen, nest the protrusion at the rear end of the screen in a corresponding groove on the camera body. Then, slide both screen removal levers forward to secure the focusing screen.
- * Five types of focusing screens are available for the Zenza Bronica SQ.



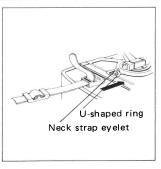


23 Film Type Indicator Frame

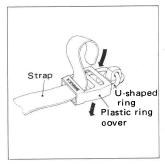


Upon loading the film, tear off the end flap from the empty film package and insert it in the film type indicator frame. This will help you keep track of the film loaded in the film back, even when two or more film backs are used with different films. At the same time, set the film speed with the ASA film speed dial, as it will come in handy when using either the CdS MF Finder S or CdS MM Finder S.

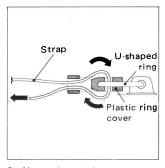
24 Attachment of the Neck Strap



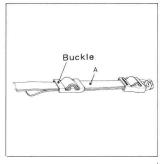
A. First, insert the U-shaped ring into the neck strap eyelet, as illustrated.



B. Next, place the plastic ring cover over the U-shaped ring, as illustrated.



C. Next, thread the neck strap through the plastic ring cover (and the U-shaped ring) and pull it out, as illustrated.



- D. After adjusting the length of the neck strap, pass the leading end of the strap through the buckle, as illustrated, which will fix it securely.
- * There should be no slack in the strap between the buckle and the plastic ring cover, or in "A" section, which means that both straps must be of the same length at this point.

25 Facts about the Battery

The battery supplies power for the various electronic control mechanisms incorporated in the Zenza Bronica SQ. When used incorrectly, there is possibility of the wrong exposure being set to the camera and/or the camera not operating.

Be sure to use and store the battery correctly for obtaining optimum performance from it at all times.

- * Take the battery out of the battery chamber when storing the camera.
- * Leaving the battery in the camera for a long time, without using it, can lead to leakage problems and result in poor contact.

Discard a battery with leakage or corrosion and thoroughly clean out the battery chamber, before inserting a new battery.

* Clean the contacts of the battery chamber and battery with a soft cloth. Don't use sandpaper or emery cloth.

- * Don't throw the battery into a fire, or hit it strongly, as there is danger of explosion.
- * Either a silver oxide battery (No. 544/PX28) or an alkalinebatterv (A544/ manganese SR44) is used with the Zenza Bronica SQ. Both have very good cold weather resistance. However, there is a tendency for performance to drop when the temperature falls below 0°C (32°F). Therefore, make it a rule to use a new battery and/or keep replacement batteries on hand for shooting outdoors in freezing weather. Keep the battery (and camera) under cover, next to the body, and load just before beginning the session and/or, preferably, use the optional Remote Camera Battery Pack S.

26 Pointers on Shooting

- * The shutter cannot be cocked when film is not loaded in the film back. The use of the multiple exposure lever will, however, permit you to cock the shutter, in such instances. This feature is, of course, very convenient for familializing yourself with the camera and for testing the shutter in flash photography. (See "18. Multiple Exposures".)
- * Battery power is not consumed when time exposures are made.
- * The voltage will drop when the camera is used for long shooting sessions in freezing weather. Insert a new battery or keep a spare on hand, for such occasions. Furthermore, keep such batteries in an inside pocket.

* The focusing screen is detachable, for exchanging with other types. Do not place trimming masks or tapes on the bottom surface of the screen, as this will lead to inaccurate focusing.

- * A red LED will flash above the focusing screen area and signal closing of the shutter when taking the picture. Wait for this signal, especially at slow shutter speeds, before rotating the film winding crank.
- * It should be remembered, when taking pictures, that the final print will not be a square format, especially in the economy size, but will be cut down on both sides or at the top and bottom.

27 Care of the ZENZA BRONICA SQ

- * Restrict cleaning of the reflex mirror to blowing or brushing with the blower brush or a soft camel hair brush. Don't touch the surface with your fingers or a cloth.
- * Use lens cleaning tissue and liquid to clean the surface of the lens. Do not use siliconcoated cloth for this purpose, as it will prove detrimental to the lens coating.
- * Clean the plastic focusing screen in the same manner. Don't touch the surface as you may leave fingerprints.
- * Protect your camera from temperature changes which can result in moisture condensation, frost, etc., inside the body, leading to rusting of metallic parts and troubles.
- * Protect your camera from impact and vibrations, too.
- * Upon attaching the film back, always pull out the dark slide from its slit.
- * Always protect the lens with its cover, when carrying the camera.

- * Clean the camera and lens very carefully after using it outdoors in wet weather or at the seashore.
- * Wipe the camera carefully with a well-wrung damp cloth, using fresh water, if the exterior is effected by salty air. Then, wipe it dry with a soft, dry cloth. If necessary, send it out for quick inspection at an authorized repair station.
- * If the equipment is not being used for a long period, store everything in tin-lined containers, with plenty of disiccant, such as silica gel. Finally, store the equipment in a cool, dry and well-ventilated (but not windy) place.
- * Do not thread too strongly, when using a longer-thanstandard tripod screw, as you may damage the body.



* Both camera body and lens must be in the "cocked" condition to attach or remove the lens. In other words, when "cocked" the cocking pin of the lens will be set between the red band and green dot, while the cocking pin of the body mount will be set to the green-colored dot.

When not set in the above manner, the cocking pin of the detached lens can be set by moving it manually, while the cocking pin of the body mount will be set by revolving the film winding crank.

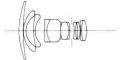
28 Depth of Field Scale

ZENZANON-S 80mm F2.8

Dis- tance	Meter									
F/	∞	10	5	3	2	1.5	1.2	1.0	0.9	0.8
2.8	∞	13.3	5.68	3.22	2.09	1.55	1.23	1.02	0.92	0.81
	39.8	8.03	4.46	2.81	1.92	1.45	1.17	0.98	0.89	0.79
4	∞	15.1	5.99	3.32	2.13	1.57	1.24	1.03	0.92	0.82
	28.9	7.47	4.29	2.74	1.89	1.44	1.16	0.97	0.88	0.78
5.6	∞	19.3	6.53	3.47	2.19	1.60	1.26	1.04	0.93	0.82
	20.5	6.77	4.06	2.64	1.84	1.41	1.15	0.96	0.87	0.78
8	∞	31.3	7.48	3.72	2.28	1.64	1.29	1.06	0.94	0.83
	14.5	5.97	3.76	2.52	1.78	1.38	1.13	0.95	0.86	0.77
11	∞	287	9.44	4.13	2.42	1.71	1.33	1.08	0.96	0.85
	10.3	5.13	3.42	2.36	1.71	1.34	1.10	0.93	0.85	0.76
16	∞	∞	15.0	4.90	2.66	1.82	1.39	1.12	0.99	0.87
	7.28	4.27	3.02	2.18	1.61	1.28	1.06	0.91	0.83	0.74
22	∞	∞	97.0	6.67	3.08	2.00	1.48	1.18	1.04	0.90
	5.17	3.46	2.60	1.96	1.49	1.21	1.01	0.87	0.80	0.72

Dis- tance	Feet								
F/	∞	30	15	10	7	5	4	3.5	3 -
2.8	00	38.7	16.8	10.8	7.35	5.17	4.10	3.57	3.05
	131	24.5	13.5	9.34	6.68	4.84	3.90	3.43	2.95
4	∞	43.5	17.7	11.1	7.49	5.23	4.14	3.60	3.07
	94.8	22.9	13.0	9.11	6.57	4.79	3.87	3.40	2.93
5.6	∞	53.4	19.1	11.6	7.72	5.34	4.20	3.65	3.10
	67.1	20.9	12.4	8.79	6.41	4.71	3.82	3.36	2.90
8	∞	79.2	21.5	12.4	8.06	5.49	4.29	3.71	3.15
	47.5	18.6	11.5	8.38	6.19	4.59	3.75	3.31	2.87
11	∞	25.1	26.3	13.8	8.61	5.73	4.43	3.81	3.21
	33.7	16.1	10.6	7.85	5.91	4.44	3.65	3.24	2.82
16	∞	∞	38.3	16.5	9.53	6.10	4.64	3.96	3.31
	23.9	13.5	9.41	7.22	5.55	4.25	3.53	3.14	2.75
22	8	8	110	22.7	11.2	6.72	4.97	4.19	3.46
	17.0	11.0	8.16	6.48	5.12	4.01	3.36	3.02	2.65

29 Specifications of Zenzanon-S Lenses



40mm F 4



50mmF 3.5



80mmF 2.8



105mmF 3.5



150mmF 3.5



200mmF4.5



250mmF 5.6



500mmF8

	40mm F4	50mm F3.5	80mm F2.8	105mm F3.5	150mm F3.5	200mm F4.5	250mm F5.6	500mm F8
No. of group-element	8 – 11	8 10	4 – 6	4 – 6	5 – 5	5 – 5	5 – 5	6 – 7
Angle of View	87°	72°	51°	41°	29°30′	22° 30′	18°	9°
Apertures	4 – 22	3.5 – 22	2.8 – 22	3.5 – 22	3.5 – 22	4.5 — 32	5.6 - 32	8 – 45
Minimum focusing distance (M)	0.4	0.5	0.8	0.85	1.5	2	3	8.5
	(1.3 ft)	(1.6 ft)	(2.6 ft)	(2.8 ft)	(4.9 ft)	(6.5 ft)	(9.8 ft)	(28 ft)
Filter size (mm)	82	67	67	67	67	67	67	95
Overall length (mm)	65	62	52	60	61	98	129	262
Weight (grams)	620	560	470	550	590	685	815	1,850
Equivalent focal length in 35mm format camera (mm)	21	28	45	58	85	105	135	280

^{*} Tele-Converter S 2X also available as an optional accessory.

BRONICA SQ SYSTEM

