

Zeiss
BRONICA[®]
EC-TL

Instructions

Congratulations on your choice of the Zenza Bronica EC-TL single lens reflex camera which offers the user the quality performance, handling convenience and versatility required for professional-class photography. The Zenza Bronica EC-TL is a camera which you can be proud of and which will justify your choice. It is a real "system" camera with a very high degree of interchangeability (lenses, finders, focusing screens, film backs, etc.), as well as a built-in TTL (thru-the-lens) exposure meter system which can be used for fully automatic exposure operations. At the same time, however, there is complete manual override of the automatic exposure system, as required by professional users.

To get best results from your camera, may we suggest that you read this instruction manual carefully, before you even touch the camera. Thoroughly familiarize yourself with its working parts, before loading your first roll of film, and your pleasure in using the Zenza Bronica EC-TL will be even greater.

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Features of the ZENZA BRONICA EC-TL

The Zenza Bronica EC-TL has been designed as a professional-class medium format single lens reflex camera with the complete interchangeability required of a superior "system" camera, built-in TTL (thru-the-lens) exposure meter system for fully automatic exposure operations, great handling ease for speedy picture-taking operations and, above all, incorporates an electronically-controlled focal plane shutter which can be precisely adjusted in stepless speeds for very accurate exposure settings.

- * The built-in thru-the-lens exposure measurements are very accurate and, when used on AUTO, are automatically controlled, upon view-focusing the subject, so that every picture is an accurately exposed one, with breath-taking true-life color reproductions.
- * The behind-the-mirror exposure meter has two fast response silicon blue cells for speedily and accurately measuring the light coming through the stopped-down lens, with a third silicon blue cell compensating for ambient light entering through the top of the finder.
- * Digital shutter speed scale indications are displayed in the finder, together with over-exposure and under-exposure warn-

ing marks, and are LED (light emitting diode)-illuminated. Consequently, they are very easy to see and reading mistakes are all but eliminated.

- * Instant stop-down exposure measurements eliminate mistakes resulting from discrepancies in the actual lens opening, thus giving highly accurate exposure measurements at all times, but at the same time, are so speedy that the advantage of full aperture view-focusing is not lost.
- * AUTO and MANUAL exposure operations are clearly indicated at all times, with the shutter speed scale display in the finder steadily illuminated in the former case and flickering in the latter.
- * The focal plane shutter can always be used at the mechanically-governed shutter speed setting of 1/40 second, even when there is no battery power.
- * Shutter speed settings from 2 second to 1/1,000 second are stepless when set on AUTO, while intermediate shutter speed settings are possible on MANUAL, with the shutter speed selector ring set halfway between settings.
- * Interchangeable film backs are integral film chambers of the

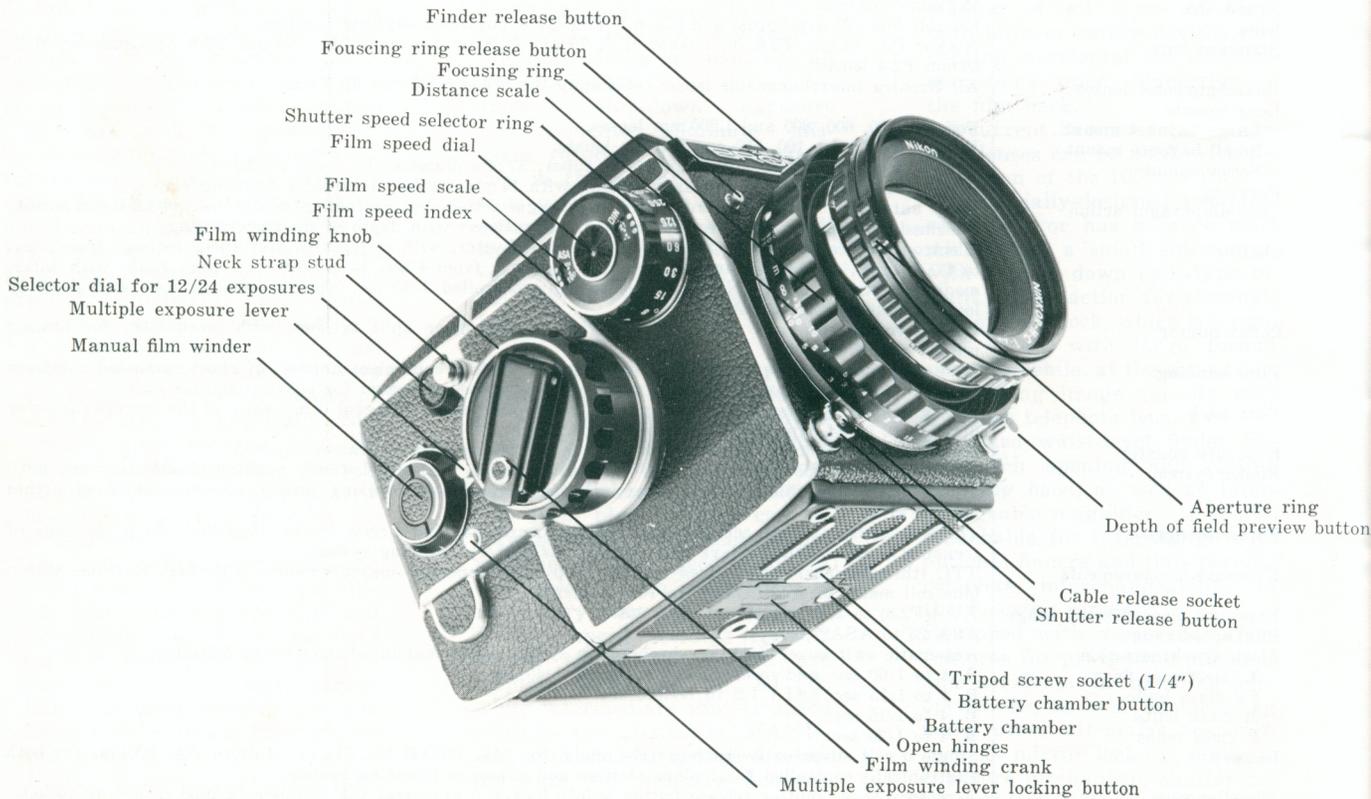
camera and permit daylight loading of all types of films, with built-in safety devices preventing accidental or mistaken operations upon connection of the film back.

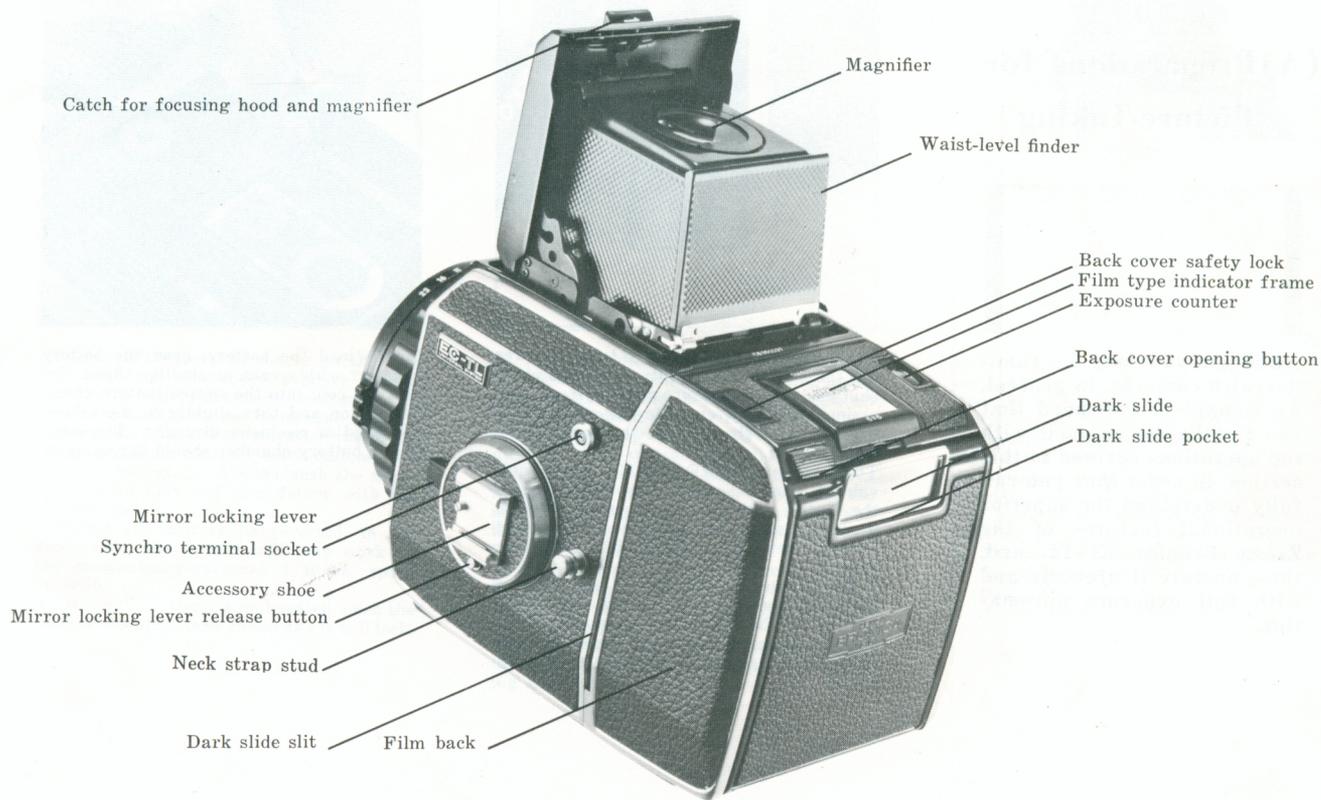
- * All current Bronica interchangeable lenses can be used, with the exception of the 105 mm lens.
- * The specially-designed two-piece reflex mirror has a large main mirror and a small sub-mirror, with up and down split-type instant return action for eliminating mirror shock, which is a common defect with large format cameras, while, at the same time, eliminating image cut-offs with the long telephoto lenses.
- * Standard waist-level finder has one-touch opening and closing focusing hood, as well as interchangeable magnifier. It is also detachable for interchange with optional finders and thus permits complete interchangeability of the focusing screen.
- * Equipped with numerous safety features for preventing mistakes and accidents in handling and operations, as well as including many other attractive features, such as mirror lock-up, multiple exposure mechanism, shutter release button locking device, dark slide storage pocket, built-in battery checking system, etc.

Specifications of the ZENZA BRONICA EC-TL

Type	2-1/4"×2-1/4" (6 cm×6 cm) format automatic exposure system single lens reflex camera.
Frame size	55.2 mm×55.2 mm
Film	120 roll film (12 exposures) and 220 roll film (24 exposures); daylight loading.
Standard lens	Nikkor P.C. 75 mm F2.8 or Nikkor H.C. 75 mm F2.8 or Zenzanon M.C. 75 mm F2.8 or Zenzanon M.C. 80 mm F2.4 lenses.
Interchangeable lenses	All Bronica interchangeable lenses, excluding the Nikkor 105 mm F3.5 lens.
Lens mounts	For 300, 400, 600, 800 and 1,200 mm lenses.
Large bayonet mount	For 40, 50, 75, 80, 100, 150 and 200 mm lenses.
Small bayonet mount	For example, for screw mount extension tubes; 57 mm diameter by 1 mm pitch.
Screw mount	Parallel movement helical focusing system, with 14 mm stroke; detachable focusing ring.
Focusing	Fully automatic instant reopening lens diaphragm action, but excluding the 800 mm and 1,200 mm lenses; intermediate settings possible; equi-spaced graduations; with depth of field previewing.
Lens diaphragm action	Electronically-controlled vertical-run focal plane shutter, with stepless shutter speed settings from 2 sec. to 1/1,000 sec., on AUTO, and shutter speed settings from 4 sec. to 1/1,000 sec. plus Bulb, with intermediate settings, on MANUAL. Mechanically-controlled 1/40 sec. shutter setting; time exposures by locking shutter release button.
Shutter	Instant return two-piece reflex mirror, with up and down split actions; with mechanism for locking mirror out of the way.
Reflex mirror	Two complete rotations of the film winding knob/crank or equivalent amount of short ratcheted rotations advances film and charges shutter; with multiple exposure system for cocking shutter only.
Film winding	Daylight loading interchangeable type fully coupling as an integral component of the camera; selector dial for 12 or 24 exposures; with dark slide pocket.
Film back	Automatically resetting exposure counter, shows the number of frames exposed.
Exposure counter	Interchangeable focusing hood type waist-level finder, with single-touch opening/closing actions; with flip-up interchangeable type magnifier; with interchangeable focusing screen, showing 88.7% of actual picture area.
Finder system	Thirteen shutter speed settings and two exposure warning arrow-marks displayed along top edge of focusing screen, with displays also doubling as battery checking system.
Finder display	TTL (thru-the-lens) center area instant stop-down exposure measurements, with fast response silicon blue cell meter located behind the reflex mirror.
Exposure measurements	EV 4(F2.8) to EV 19(F22), on ASA 100.
Exposure measurement range	ASA 25 to ASA 3,200
Film speed range	Automatic switchover flash synchronization system (with manual shutter speed settings).
Flash synchronization	B, 4 to 1/60 sec. and mechanically-governed 1/40 sec.
X (electronic flash)	B, 4 to 1/15 sec. and 1/125 to 1/1,000 sec.
FP class bulbs	B, 4 to 1/15 sec.
M class bulbs	B, 4 to 1/30 sec.
F class bulbs	
Battery	Single 6 volt silver oxide battery (Eveready No. 544, UCAR No. 544 or Mallory No. PX-28), for both electronically-controlled focal plane shutter and exposure metering system.
Miscellaneous	Accessory shoe, shutter release button safety lock and universal 1/4" diameter tripod mounting socket.
Dimensions	139 mm wide by 170 mm long by 117 mm high.
Weight	2050 g (with Zenzanon M.C. 75 mm F2.8 lens); 1840 g (camera body only).

Parts of the ZENZA BRONICA EC-TL

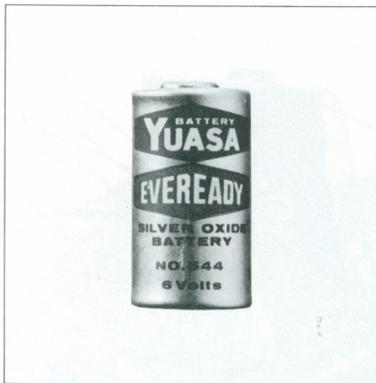




(A) Preparations for Picture-Taking

Although you may be familiar with cameras, in general, we strongly recommend that you familiarize yourself with the operations covered in this section, in order that you can fully understand the superior operational features of the Zenza Bronica EC-TL and, thus, operate it properly and with full exposure automation.

1. Loading the Battery



a. The Zenza Bronica EC-TL takes its power for the electronically-controlled focal plane shutter and the exposure meter system from a single 6 volt silver oxide battery which is loaded in its chamber on the base of the camera body.

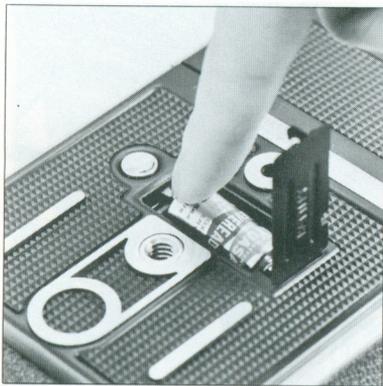
The battery (EVEREADY No. 544 or equivalent) must, therefore, be loaded before the shutter will operate properly (although it can be used on the mechanically-governed 1/40 sec. setting or Bulb without battery power).

* The battery is left out at the time of shipment and must be loaded before the camera can be used. The above-noted battery or equivalent can be purchased in most photographic supply or electrical appliance stores.



b. To load the battery, open the battery chamber with a coin, or similar object. Insert the coin into the slotted battery chamber button and turn slightly in the arrow-indicated or clockwise direction. The cover of the battery chamber should spring open.

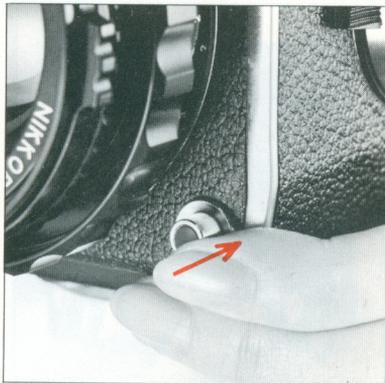
2. Checking Battery Power



c. Coincide the polarity marks on the battery with the color-coded polarity indications in the battery chamber. In other words, insert the battery so that its minus (-) mark matches the blue minus indication inside the chamber and its plus (+) mark matches the red plus indication. Always push the negative end in first and then follow with the positive end.

* Should the battery be reversed, in the above case, the shutter will only work on the mechanically-governed 1/40 sec. speed or Bulb.

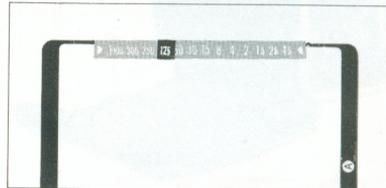
d. When the battery is well-seated, push the battery chamber cover closed and it will lock.



a. To check whether there is sufficient battery power, first turn the film winding knob/crank until it makes a full stop. Next, set the shutter speed selector ring to any shutter speed setting (except "B" and mechanical-governed shutter setting). Since it is not possible to release the shutter unless film is loaded in the film back, first, set the multiple exposure lever to "D" setting and then turn the film winding knob/crank, as this will permit shutter cocking.

To set the multiple exposure lever, depress its locking button and then move the lever to "D" setting, as explained "Multiple Exposures" on page 29.

Finally, return the multiple exposure lever to "A" setting, upon turning the film winding knob/crank.

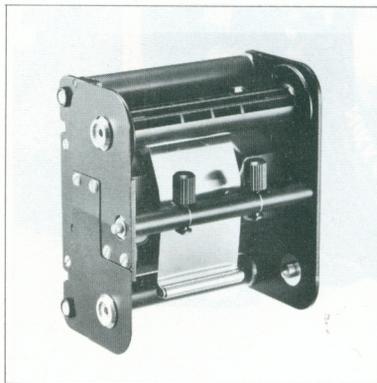


b. Next, while looking into the finder, depress the depth of field preview button strongly, as far as it will go. If one of the shutter speed settings or arrow-marks, of the shutter speed scale seen along the top edge of the focusing screen, is illuminated, the battery is loaded properly and there is sufficient power for normal operations.

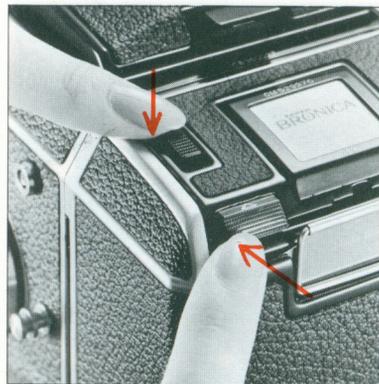
* If none of the settings or arrow-marks light up, in this case —

- The battery is not loaded properly, or
- The shutter selector ring is not set correctly, or
- A new battery is required.

3. Film Loading (Without Detaching the Film Back)

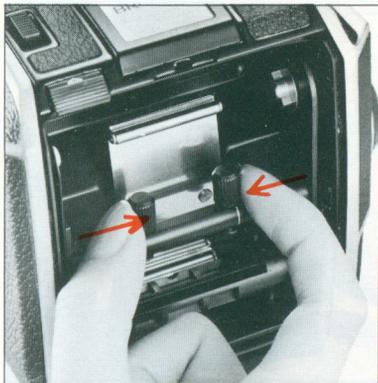


a. The film back is an integral part of the Zenza Bronica EC-TL and consists of the film back body and a detachable film holder insert, on which the film is actually loaded. When the loaded film holder insert is replaced into the film back, it is connected to the operations of the camera.

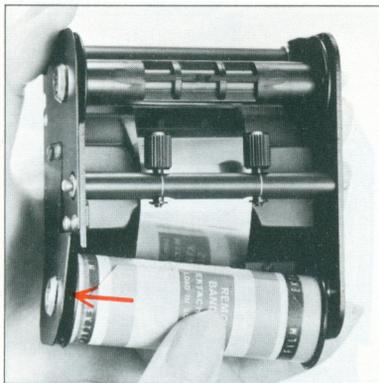


b. Depress the back cover safety lock and, at the same time, push the back cover opening button in the arrow-indicated direction. The back cover will spring open.
* The back cover safety lock must always be depressed first.

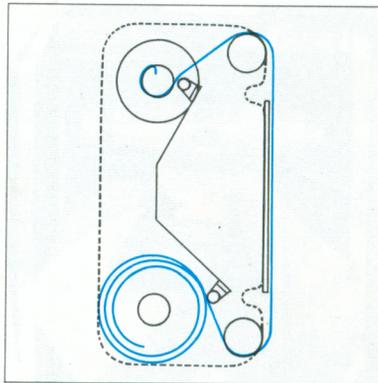




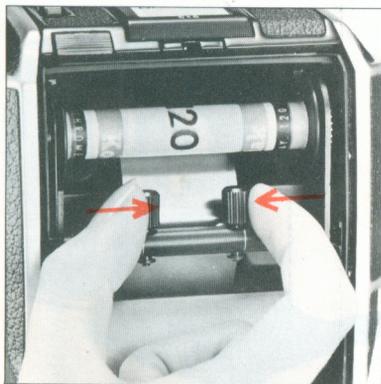
c. Opening the back cover will reveal the film holder insert inside the film back. There are two centrally positioned knobs, as illustrated, which should be pushed inwards or towards each other. This will release the spring-loaded locking studs on each side and permit the insert to be pulled out.



d. There are two spool holders on the film holder insert. The top one is for the empty take-up spool and the bottom one is for the fresh film spool. Both spool holders are fixed to spring pressure plates, on their left sides. Therefore, press the left end of the spool against the left-side spool holder, spreading it outwards, which will permit insertion of the right side, too.



e. When the fresh film spool is properly loaded in the bottom spool holder, draw out the leading end of the film and turn it across the film pressure plate (on the front side of the insert), running it up to the top end where it should be turned over to the empty take-up spool, in the top spool holder, as illustrated. Insert the leading end into the slit of the film take-up spool and wind the spool slightly so that it is securely engaged. * The inside (or back side) of the leader paper must be facing out, when it is being run across the film pressure plate.

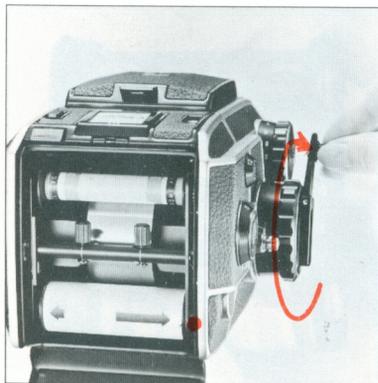


f. Hold the two center knobs pressed inwards and insert the film holder insert into the film back.

When fully inserted, release pressure on the two spring-loaded knobs which should jump back into alignment with the two white marker lines below the knobs.

* If the knobs are not aligned correctly with the white lines, there will be improper meshing of the gears and, therefore, take out the film holder insert once and repeat again.

When inserted correctly, the two spring-loaded studs extending out on both sides of the insert will securely engage the depressions at the far ends of the two guides (grooves) on both inner walls of the film back.



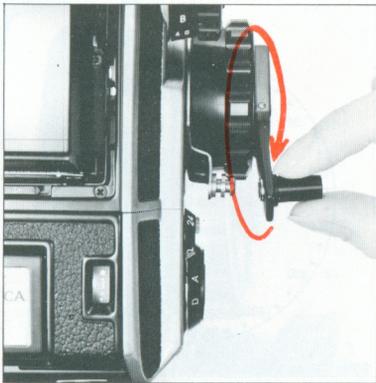
g. Once the film holder insert has been inserted correctly, turn the film winding knob/crank on the camera body slowly, while checking the advancing film leader paper. Stop rotation when the film starting point (arrow marks on the leader paper) is aligned with the red dot on the film holder insert (on the right side of the bottom spool holder).

* The film will not be advanced, if the film holder insert is not properly inserted and/or the film back is set to the multiple exposure setting "D". Therefore, reinsert the film holder insert and/or move the multiple exposure lever to "A" setting.



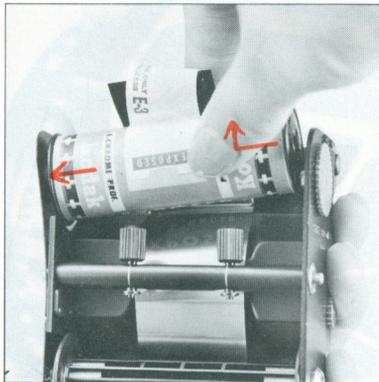
h. Close the back cover of the film back, by pressing the top end of the cover strongly against the film back. A slight click will be heard as the back cover automatically locks.

* Upon loading the film, set the selector dial for 12/24 exposures to the number of exposures available on the loaded film. If the selector dial is set for "12" when 220 roll film is loaded, the shutter will not be charged after the 12th exposure and the remaining film will be taken up on the take-up spool, resulting in a waste of 12 frames. If the mistake is corrected before 12 exposures are taken, all 24 exposures can be taken. If the mistake is corrected after 12 exposures are taken, one frame or more may be lost but the remaining frames can be saved.



i. Finally, turn the film winding knob/crank until it stops, which will require several rotations. The film will now be advanced to the first frame, as indicated by the exposure counter. Each complete operation of the film winding knob/crank advances the film, cocks the shutter and also advances the exposure counter, as well as switching in the first switch of the exposure meter system.

4. Film Unloading



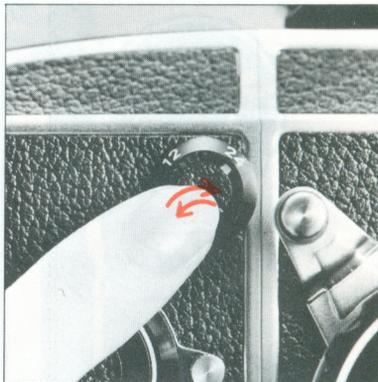
a. After the 12th exposure (24th exposure with 220 film), the film winding knob/crank will turn freely with further rotations, winding up the remaining film and all the leader paper on the spool. When completely wound up, the exposure counter will stop advancing and the winding action will become much lighter.

Therefore, open the back cover carefully.

b. Next, while holding the loose film from unwinding, remove the film holder insert from the film back. Then, spread the top spool holder and take out the take-up spool. Finally, seal the film and return it to its original box until development.

* Load and unload film away from direct sunlight and/or strong illumination.

5. Switching the Selector Dial for 12/24 Exposures



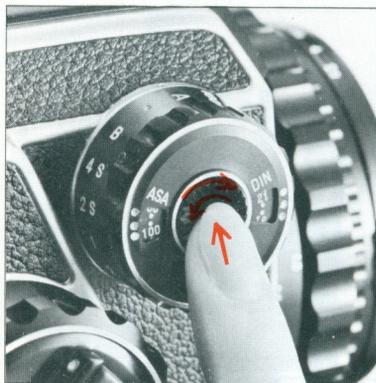
Set the selector dial for 12/24 exposures to "12" when 120 film is loaded in the film back and to "24" when 220 film is loaded, as the former gives 12 exposures and the latter 24 exposures.

Simply press the ball of your finger or thumb against the dial and rotate clockwise or counter-clockwise, to its limit, to align the white dot to "12" or "24". The 120 film gives 12 exposures and the 220 film gives 24 exposures, as noted already.

6. Setting the Film Speed to the Camera



a. The film speed or sensitivity of the film loaded in the film back must now be set to the film speed scale, as otherwise, correct exposure settings will not be possible.
* The film speed is found in the instructions and/or printed on the outside box.



b. To set the film speed, simply press the ball of your finger or thumb against the central dial and rotate the film speed scale until the required ASA film speed (or DIN film speed) is aligned to one of three color-coded film speed indexes around the shutter speed selector ring.

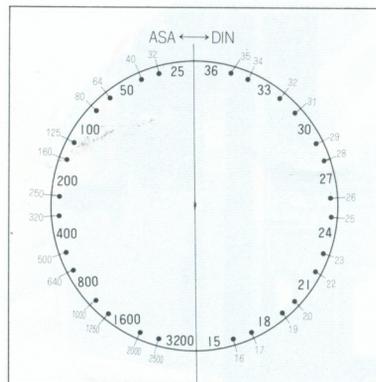
The index to be used is based on the focal length of the lens attached to the camera, as follows:—

White dot—40, 50, 75, 80 and 100 mm focal lengths

Yellow dot—150 and 200 mm focal lengths

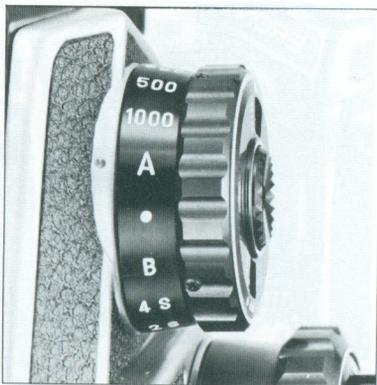
Red dot—300, 400, 600, 800 and 1,200 mm focal lengths

* ASA film speeds are white-colored while DIN film speeds are yellow-colored, with separate color-coded indexes.



Due to lack of space, the film speed scale is not completely numbered, with the dots on the scale have the ASA and DIN values, as illustrated.

7. Setting the Shutter Speed Selector Ring



a. The shutter speed selector ring has numerals, from 4S to 1000, which are the shutter speed settings, as well as two letters, or "A" and "B", as well as a red dot between "A" and "B".

The numbers 1 to 4S are full numbers or, in other words, "4S" is 4 seconds and "1" is 1 second. The numbers 2 to 1000 indicate fractions of a second or, in other words, "2" is 1/2 second and "1000" is 1/1,000 second. "B" stands for "bulb" and means that the shutter will stay open as long as the shutter release button is depressed. The red dot between "A" and "B" is the mechanically-governed 1/40 sec.

See "Automatic Exposure Operations", from page 20.

See "Mechanical Shutter Speed Setting" on page 34.

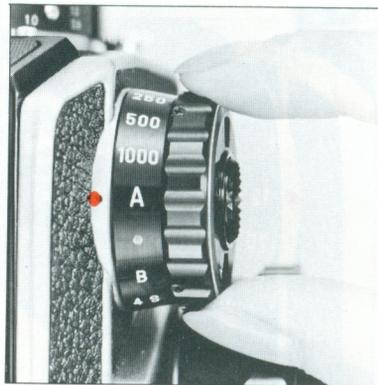
Bulb	B	
4 sec	4S	Yellow
1 sec	2S	
	1	
	2	
	4	
	8	White
	15	
	30	
	60	Red
	125	
	250	White
	500	
	1000	
1/1,000 sec	A	Red
Auto	.	
Mechanical	.	

b. The numbers on the shutter speed selector ring are color-coded in orange, red and white colors.

Orange-colored numbers are full number settings from 1 to 4S (1 to 4 sec) or the very slow shutter speed settings. The user must wait until the shutter closes before going on to the next action and the camera should not, as a rule, be hand-held.

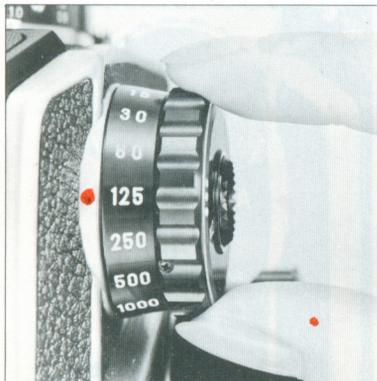
White-colored numerals are fractions of a second and run from 2 to 1,000 (1/2 to 1/1,000 sec.) but excluding a red-colored 60, which is the 1/60 sec. setting. White numbers smaller than the "60" are also slow shutter speeds which should not be hand-held, whenever possible. On the other hand, those from "60" can be hand-held and are, generally, suitable for outdoor pictures.

The red-colored 1/60 sec. setting shows that it is the fastest shutter speed setting that can be synchronized with electronic flash, on X-setting. See "Flash Photography" on page 29.



c. The red-colored "A" setting is for AUTO. Setting the shutter speed selector ring to this setting places the camera on automatic exposure operations, with the shutter speed set continuously, in stepless speeds from 2 sec. to 1/1,000 sec.

8. Exchanging Lenses



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d. For MANUAL operations, the shutter speed selector ring is simply adjusted to set the required shutter speed setting opposite the red index dot. Incidentally, the shutter speed selector ring can be rotated in both directions but not beyond "B" at one end and not beyond the red dot (1/40 sec. mechanical shutter setting) at the other end. Intermediate shutter speed settings are possible on MANUAL but only at the half-way point and not in stepless speeds.



a. Interchangeable lenses which can be used with the small bayonet mount on the focusing ring, are the 40 mm, 50 mm, 75 mm, 80 mm, 100 mm, 150 mm and 200 mm focal length lenses.

The 105 mm lens, with between-lens shutter, cannot be used with the Zenza Bronica EC-TL.

* When lenses are exchanged while the camera is on AUTO, the film speed scale must be reset for the correct film speed index, as there are three color-coded indexes for different focal lengths, as follows:—

White dot index—40, 50, 75, 80 and 100 mm focal length lenses.

Yellow dot index—150 and 200 mm focal length lenses.

Red dot index—300, 400, 600, 800 and 1,200 mm focal length lenses.

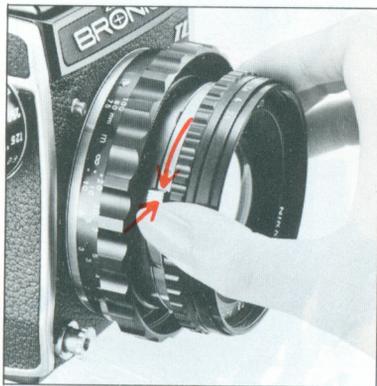


b. To attach the above interchangeable lenses to the small bayonet mount, first, rotate the focusing ring fully clockwise so that the red dot on the outer rim of the small bayonet mount is exposed.

Then, align the red dots, on the lens and mount, and insert the lens fully, until the red dot on the mount is covered. Next, rotate the lens in the clockwise direction until it stops and the lens release lever catches, with an audible click.

* When correctly attached, the white aperture index dot, as well as the red dot on the lens flange, will be on top.

* Insert the lens in straight and not tilted, as otherwise, it will not be possible to attach it.



c. To remove lenses with the small bayonet mount, rotate the focusing ring clockwise until it makes a full stop, which will disclose the lens release lever on the right-hand side of the lens (as viewed from the camera body side).

Press the lens release lever in fully and rotate the lens in the counter-clockwise direction until it stops, then withdraw the lens.



d. Interchangeable lenses with the large bayonet mount are the 300 mm lens and the interchangeable rear focusing unit for the 400 mm, 600 mm, 800 mm and 1,200 mm lens heads. These lenses are used, attached to the large bayonet mount on the camera body. First, remove the focusing ring, after detaching any lens attached to it. To detach the focusing ring, rotate it in the counter-clockwise direction, as far as it will go. Then, press the focusing ring release button and continue rotating the focusing ring in the same direction, until it stops. Finally, withdraw the focusing ring from the body, which will reveal the large bayonet mount.
* Always remove the lens before detaching the focusing ring.



e. Lenses with the large bayonet mount, as well as the common rear focusing unit for the longer telephoto lens heads, are attached in the same manner as the focusing ring. Insert the lens or focusing unit so that the red dots on the lens and bayonet mount are lined up. When well-seated, rotate the lens in the clockwise direction until it stops and the focusing ring release button pops up, indicating that the lens or focusing unit is securely engaged.

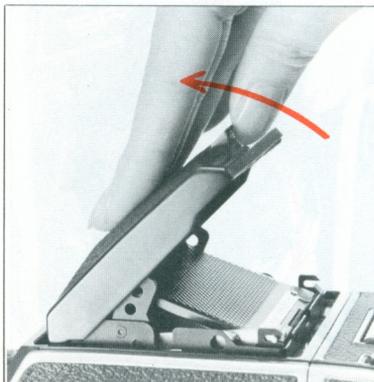
The focusing ring is, of course, attached in a similar manner.

9. Opening the Waist-Level Finder and its Magnifier



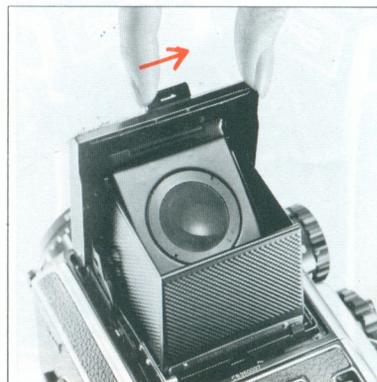
f. Lenses or focusing units attached to the camera body are detached in the same manner as the focusing ring.

In other words, depress the focusing ring release button and turn the lens (or rear focusing unit) fully in the counter-clockwise direction, until it stops. Then, withdraw the lens from the body mount.



a. The focusing hood of the standard waist-level finder is opened by simply pushing or pulling up on the catch at the rear end of the folded waist-level finder. The focusing hood will move up into viewing position, in a single action.

To close, simply push the front frame (with the catch) back and down, in one sweeping action, and the side frames will automatically fold down in the correct sequence.

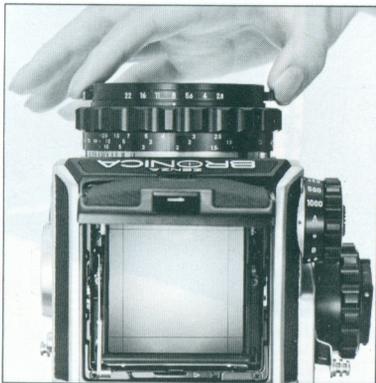


b. When greater magnification is required, for critical focusing of the subject, flip the magnifier into position.

Simply slide the catch on the focusing hood (which is also used to raise the focusing hood into position) in the arrow-indicated direction and the magnifier will swing up into position. The magnifier will show most of the focusing screen area enlarged 4×. To return the magnifier to its storage position, simply push it down until it catches behind the front frame (top cover).

* The magnifier can be changed for one matching the eyesight of the user. See "Interchanging Finders and Magnifiers" on page 35.

10. Setting the Aperture

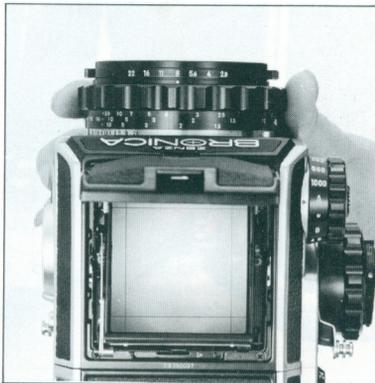


The aperture ring of the standard lens has numbers from 2.8 to 22 on it, which are the f/numbers and indicate the size of the lens opening, when these numbers are opposite the aperture index.

The lens opening controls the amount of light passing through the lens to the film (and also the depth of field).

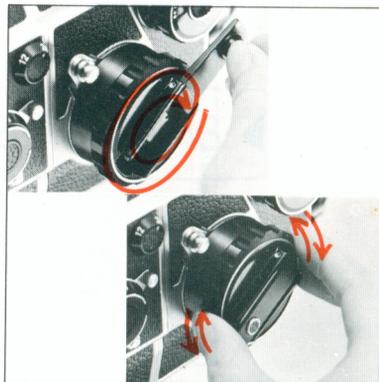
The lens opening is set, by simply rotating the aperture ring in either direction until the required f/number is opposite the white index dot. The aperture ring click-stops at the numbered settings. Intermediate stepless settings are also possible, although there are no clicks.

11. Focusing Adjustments



The lens is focused on the subject, by turning the focusing ring in either direction, while checking the effect on the focusing screen. The standard focusing ring is used for lenses with a focal length of 200 mm and shorter, because these lenses do not have built-in focusing systems. The 300 mm lens has its own focusing ring while the 400 mm and longer lenses have a common rear focusing unit, with the focusing ring on this unit used for this purpose.

12. Film Advance and Shutter Cocking

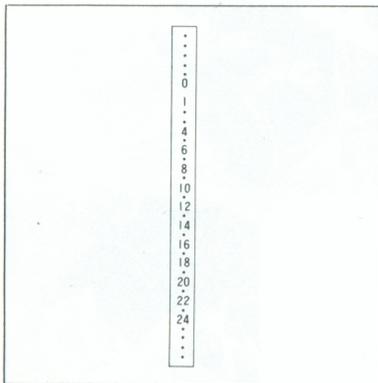


Rotating the film winding knob/crank two full turns advances the film one frame and simultaneously cocks the shutter.

The crank can be unfolded from the knob and used for speedy turning action, or two full rotations. Or, the knob (with the crank folded) can be used to make a series of short ratched rotations until the equivalent of two full rotations has been made, at which point, further rotation will not be possible. Crank rotation is, of course, speedier but less steady. Knob action is slower but is more steady and smooth.

The first, or preparatory, switch of the exposure meter system is also switched-in, when the film winding knob/crank is rotated two full turns, so that it is ready for operation when the second switch is turned on with depression of the shutter release button.

13. Exposure Counter

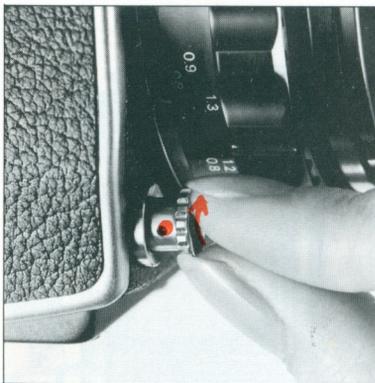


The exposure counter is also coupled to the film winding knob/crank action and advances one frame each time the film is advanced one frame.

The exposure counter shows the numbers of frames exposed, starting from zero, or 0, 1, 4, 6, 8, etc. with even numbers from 4 onward indicated in actual numerals and odd numbers from 3, as well as the number 2, being indicated in dots. The 12th and 24th frames are indicated in red numbers, showing the last frames for the 120 and 220 films respectively.

The exposure counter is automatically reset on zero when the back cover is opened. The exposure counter will not advance when the film winding knob/crank is being used merely to charge the shutter mechanism, or when film is no longer being taken up on the take-up spool or when the shutter is being cocked for multiple exposures (with the multiple exposure lever set to "D").

14. Shutter Release Button

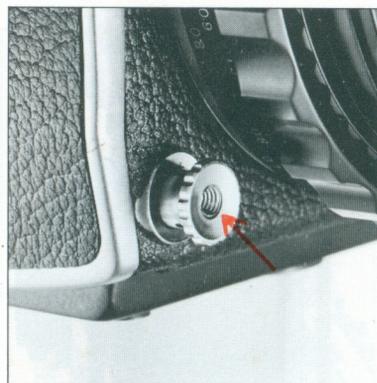


a. The shutter can be released, with the shutter release button, when the red dot on the stem of the shutter release button, is pointing diagonally downwards to the right. Simply depress the shutter release button with the ball of the finger. The action should be smooth and gentle. There is no need for great strength or sudden jerky action, which will effect the sharpness of the picture.

b. The shutter release button can be locked, to prevent accidental shutter releases, by simply turning the shutter release button clockwise 45 degrees. The red dot on the stem of the shutter release button will then be pointing to the right.

The shutter release button can also be locked down, by depressing it and rotating it clockwise, at the same time. This will keep the shutter opened as long as the shutter release button is locked down and can be used with the "B" setting for taking time exposures.

To unlock, simply turn the shutter release button in the counter-clockwise direction.



c. The cable release can also be screwed into the socket of the shutter release button and used to release the shutter. The use of the cable release will help minimize camera vibration and give you pictures with greater sharpness and details.

d. If the shutter will not release, when the shutter release button is depressed, check whether—

- The shutter release button is locked.
- The dark slide is still inserted in the dark slide slit.
- The shutter speed selector ring is set properly or not.
- The film winding knob/crank has been fully rotated or not.

15. Exposure Meter Display



Red color
Over-exposure
warning mark

Green-colored numerals
Range in which pic-
tures of almost any
kind of subject matter
can be taken without
complications.

Yellow-colored numerals
Range in which there is danger of camera
shake when taking pictures of fast-moving
subjects or when hand-holding the camera,
although exposure will be correct.

Red color
Under-exposure
warning mark.

The shutter speed scale of the built-in exposure meter system is displayed along the top edge of the focusing screen area.

a. The shutter speed scale in the finder is displayed in the following manner, when the depth of field preview button is depressed, depending on the setting of the shutter speed selector ring.

① If the shutter speed selector ring is set to "A" (AUTO), one of the shutter speed scale settings or warning marks will be illuminated.

② If the shutter speed selector ring is set to any setting from 1/1000 to 4S (on MANUAL), the setting or warning mark will flicker intermittently.

③ If the shutter speed selector ring is set to "B" or to the 1/40 sec. mechanically-governed setting, the display will not be illuminated (showing that the exposure meter is not in operation).

b. Display Interpretation

① Illumination of a setting from 1/1000 to 4S indicates the setting that will give the proper exposure, in combination with the lens opening set to the lens.

② Illumination of an over-exposure warning mark (▶) or under-exposure warning mark (◀) indicates that the subject brightness is beyond the limits of the exposure meter's measuring range. In other words, if the shutter is released, in this condition, the exposure will not be correct.

③ Illumination of an under-exposure warning mark (◀) and a shutter speed setting, at the same time, also means that the subject brightness is beyond the measuring range of the exposure meter, as in the case of ②.

(B) Picture-Taking Procedures

The Zenza Bronica EC-TL has been designed primarily for working on diaphragm-priority automatic exposure operations. However, shutter-priority automatic exposure operations are possible, in this case, because the electronically-controlled focal plane shutter is adjusted in stepless speeds on AUTO.

1. Diaphragm-Priority Automatic Exposure Operations

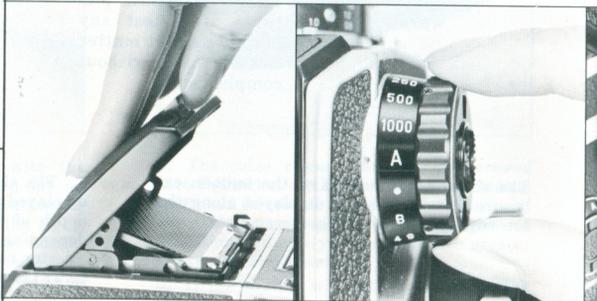
Exposure measurements are made at shooting aperture for the pre-selected lens opening, with the electronically-controlled focal plane shutter being set automatically to the correct shutter speed setting when the shutter release button is depressed.

2. Shutter-Priority Automatic Exposure Operations

Exposure measurements are made at shooting aperture with the aperture ring adjusted so that the correct lens opening is set for obtaining the proper exposure when the electronically-controlled focal plane shutter is set to the pre-determined shutter speed setting, upon shutter release.

① Open the focusing hood of the standard waist-level finder and raise the magnifier into position.

② Rotate the shutter speed selector ring and set it to "A". Check the film speed scale and see whether the correct index is being used for the attached lens.



① Open the focusing hood of the standard waist-level finder and raise the magnifier into viewing position.

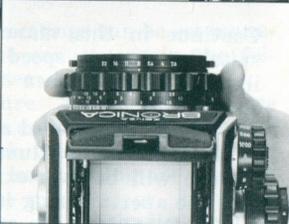
② Set the shutter speed selector ring to "A". Check the film speed scale, especially to see whether the index matches the attached lens.

③ Revolve the film winding knob/crank two full turns, advancing the film and cocking the shutter, as well as switching in the metering system.



③ Turn the film winding knob/crank two full turns, which will advance the film, cock the shutter and switch in the metering system.

④ Adjust the aperture ring and set the pre-selected f/number opposite the aperture index.



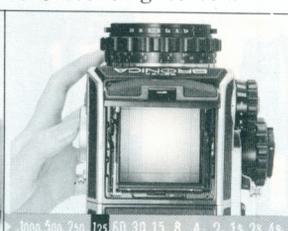
④ View-focus the subject matter.

⑤ Compose the picture in the finder and focus carefully on the point of interest.



⑤ Depress the depth of field preview button and check the shutter speed setting illuminated in the finder.

⑥ Depress the depth of field preview button, as far as it will go, and check the shutter speed setting illuminated on the focusing screen.



⑥ If it is not the pre-selected shutter speed setting, then adjust the aperture ring in the required direction to obtain the required shutter speed setting.

⑦ The shutter speed indicated gives the correct exposure and therefore, it is only necessary now to release pressure on the depth of field preview button and depress the shutter release button, while checking the subject matter in the finder.



⑦ Once the preselected shutter speed setting is illuminated, release the shutter while checking composition and focus on the focusing screen.

Diaphragm-Priority Automatic Exposure Operations



⑧ However, if the illuminated shutter speed setting is a yellow-colored slow shutter speed, there is danger of camera shake if the picture is taken at the setting.

Therefore, consider one of the following steps:—

- a. Fix the camera on top of a tripod and take the picture, or
- b. Adjust the aperture ring to set a larger lens opening and depress the depth of field preview button once more. If the illuminated shutter speed setting is fast enough to eliminate the danger of vibration, then take the picture at the setting, or readjust the aperture ring until such a setting is obtained.

⑨ If one of the arrow warning marks is illuminated, the subject brightness is beyond the scope of the automatic exposure measuring range and, therefore, adjust in the following manner, without releasing the shutter:—

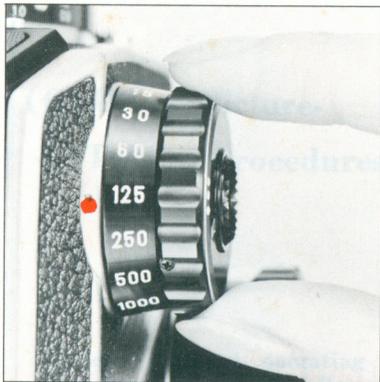
- (1) If the red-colored arrow on the right end is illuminated, the picture will be under-exposed: therefore, move the aperture ring in the direction indicated by the arrow. In other words, set the aperture ring to the next larger lens opening and check what the shutter speed setting is, when the depth of field preview button is depressed.

Continue in this manner until a suitable shutter speed setting is illuminated and then release the shutter.

(2) If the red-colored arrow mark at the left end is illuminated, the picture will be over-exposed. Adjust the aperture ring in the direction indicated by the arrow or, in other words, stop down the lens diaphragm by one stop and check the shutter speed setting. If satisfactory, release the shutter.

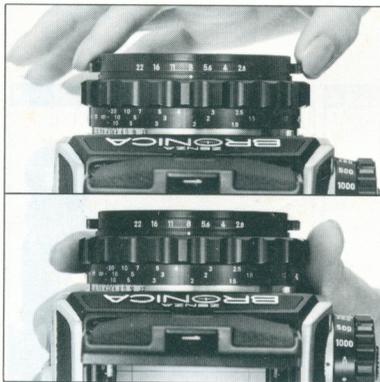
(3) If the red arrow warning mark does not disappear, when the aperture ring is adjusted to its limit, then automatic exposure operation is not possible.

3. Manual Exposure Adjustments



Exposure settings can be set manually to the camera, as in the following cases:—

- a. Exposure measurements are taken with an independent exposure meter and the indicated shutter speed and lens opening are used for taking the picture, or, in other words, are set with the shutter speed selector ring and aperture ring. (Refer to “Adjustments of Exposure Measurements” on page 25.)
- b. Exposure settings are made on the basis of previous experience, without taking an exposure reading.
- c. Time exposure.
- d. Flash photography.
- e. Special effect shots.



Exposure settings are set manually to the camera, in the following manner:—

- a. Rotate the shutter speed selector ring and set the required shutter speed setting opposite the red index dot.
Should the depth of field preview button be depressed, after setting the shutter speed, a shutter speed setting on the focusing screen display panel will flicker. However, it is not coupled to the setting of the shutter speed selector ring and, therefore, should be ignored.
- b. Adjust the aperture ring and set the required f/number to the lens.

- c. Compose the picture and focus on the point of interest.
- d. Release the shutter, if both composition and focus are satisfactory.

4. Pointers on Automatic Exposure Operations

* Always raise the magnifier of the standard waist-level finder and place your eye as close as possible to the magnifier, especially when taking exposure measurements and/or when on automatic exposure operations. Such precautions are required for preventing the entry of direct light into the finder (and to the reflex mirror), as otherwise, exposure measurements will be incorrect. Entry of nominal ambient light is not a problem as a compensation circuit with a silicon blue cell is built into the camera for taking care of such light.

* When the eye cannot be placed against or near the magnifier of

the waist-level finder, during automatic exposure operations, cover the finder to prevent entry of direct light.

* Make exposure measurements as short as possible, in order to keep power consumption of the battery to the minimum.

* Never adjust the aperture ring while the depth of field preview button is being depressed.

* Do not release the shutter, on AUTO operations, if light is not reaching the exposure meter cell (behind the mirror) through the lens (as when the lens is covered with its cap). If the shutter release button is depressed, under such conditions, the reflex mirror will

remain open and power will be consumed continuously from the battery for the duration. When this happens, rotate the shutter speed selector ring to another setting, as this will return the reflex mirror to viewing position and switch off the exposure metering system.

* The use of the optional accessory Magnifying Hood is recommended for outdoor shooting, especially in bright sunlight, as it is quite effective for preventing extraneous light from reaching the focusing screen.

* Do not depress the depth of field preview button during shutter release, as the focal plane shutter curtain will fall down and result in an incorrect exposure.

(C) Other Picture-Taking Procedures

Besides standard operating procedures, the Zenza Bronica EC-TL has many other attractive operational features, which are covered fully in this section. Full utilization of the features noted should help you obtain optimum performance from the camera and, thus, improve your photographic technique and/or widen your scope of photography.

1. Adjustments of Exposure Measurements



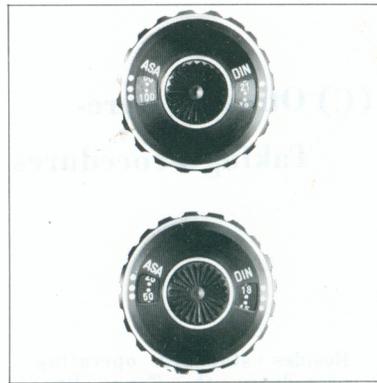
a. If the main subject is not in the center of the finder area and the contrast between the background and the main subject is very great, on AUTO, point the camera (lens) at the main subject for the exposure measurement. Then, transfer the indicated shutter speed setting to the shutter speed scale and take the picture by setting the exposure manually, which will give much better results.

b. On the other hand, if there are two or more subjects and if the contrast between them is also very great, place each subject, in turn, in the center of the finder for the exposure measurement. Then, average the readings and take the picture by setting the exposure manually, too, as this should give more satisfactory results overall. Actual procedures are outlined following.



- ① Open the focusing hood of the standard waist-level finder and raise the magnifier into position.
- ② Rotate the shutter speed selector ring and set it to any speed except "B" or the mechanical shutter setting.
- ③ Adjust the aperture ring and set it to a suitable f/number, as determined on the basis of the lighting.

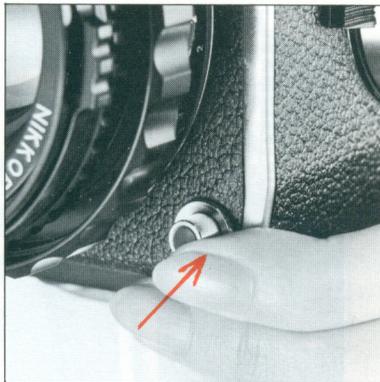
- ④ Revolve the film winding knob/crank two full turns.
- ⑤ Place the main subject in the center of the focusing screen area and focus on it.
- ⑥ Depress the depth of field preview button and check the shutter speed setting indicated (illuminated) by the exposure meter. Transfer the setting to the shutter speed selector ring, if considered suitable for the subject.



c. If exposure adjustment is required for the indicated exposure setting, for certain photographic effects, then adjust in the following manner.

- ① On AUTO, adjust the film speed by the required amount of compensation. For example, if the exposure must be doubled, when using ASA 100 film, reset the film speed scale to ASA 50.
- ② On MANUAL, make the required compensation by adjusting either aperture setting or shutter speed setting by the required amount.

2. Depth of Field Preview



* When the film speed scale is used for making the necessary compensation, as on **AUTO**, it must be returned to its original setting when the need no longer exists.

a. All Bronica interchangeable lenses, except the two longest focal lengths, have fully automatic lens diaphragms which means that the focusing screen is always viewed (and focused) at the full aperture, with the brightest possible image. However, depressing the depth of field preview button will stop the lens diaphragm down to the pre-selected lens opening (aperture setting), permitting the photographer to check the apparent depth of field effect.

b. The depth of field preview button, as noted, is also used for checking the shutter speed setting indicated by the exposure meter, for both **AUTO** and **MANUAL** photography.

* The aperture ring must not be adjusted while the depth of field preview button is being depressed.

3. Distance Scale and Depth of Field Scale

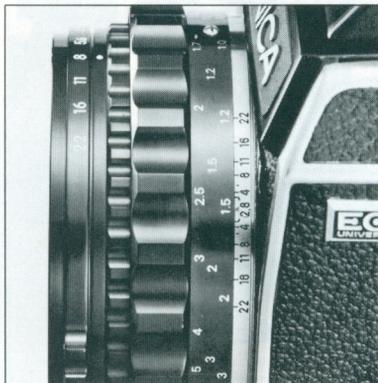


a. Distance Scale

Distance scales are available on the standard focusing ring and can be used for setting the lens to focus on the required distance or for finding the distance actually focused.

The standard focusing ring has three distance scales, side by side. The one on the body side is for the 75 mm lens while that on the lens side is for the 100 mm lens, while the middle one is for the 80 mm lens. In all cases, the distance indicated is that from the subject to the focal or film plane.

To adjust the lens for the predetermined distance, simply rotate the focusing ring until the required distance figure is coincided to the



red-colored index (\blacktriangle).

Numbers in white show the distance in meters while numbers in red show the distance in feet.

For other lenses, refer to the Distance Comparison Table for the 40 mm, 50 mm, 100 mm, 150 mm and 200 mm lenses, while the longer lenses are used with exclusive distance scales.

b. Depth of Field Scale

There is a zone of apparent sharpness both in front and back of the focused subject which is known as the depth of field. The depth of field scale on the focusing ring 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 scale and is made up of identical pairs of apertures on both sides of the distance index (\blacktriangle). These identical pairs of apertures indicate the distance that will be in focus at these lens opening. For example, if the 75 mm lens is focused at a distance of 1.5 m, it can be seen from the depth of field scale that the zone will extend from about 1.2 m to 2.1 m, when a lens opening of F22 is used.

4. Flash Photography

Shutter Speed Light Sources	Red	Yellow		White				Red	White					
	Mechanical													
	B	4S	2S	1	2	4	8	15	30	60	125	250	500	1000
X contact (Electronic flash)	[Shaded area]													
FP bulb	[Shaded area]													
M bulb	[Shaded area]													
F bulb	[Shaded area]													

The shutter speed must be set manually, with the shutter speed selector ring, in the case of flash photography.

a. Connection of the Flash Cord
Always use flash cords with a standard PC type plug.

The single synchro terminal socket on the side of the camera body is used for electrical connection of all flash guns and electronic flash units.

b. Flash Synchronization

There is automatic switchover in the flash synchronization system to take care of the firing delays for different types of flash bulbs and electronic flash unit. Refer to the above table for the manual shutter speed settings that can be used with the particular flash bulb or electronic flash unit being used.

* For electronic flash units with speeds slower than 1/1,000 second, use manual shutter speed settings from 1/30 to 4S.

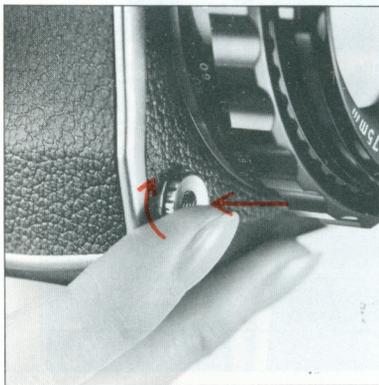
5. Multiple Exposures



Double and triple exposures can be made as desired for special effect photography.

To make multiple exposures, set the multiple exposure lever to "D" before turning the film shutter knob/crank by depressing the multiple exposure lever locking button and aligning the triangle index and the "D" mark. At this setting, the shutter can be cocked without advancing the film. In making multiple exposures, the multiple exposure lever must be set to "D" before or after making the first multiple exposure picture. Switch-over before taking the first picture is recommended.

6. Time Exposures



Time exposures are made with the shutter release button and B setting of the shutter speed selector ring.

In other words, set the shutter speed selector ring to "B" and then depress and lock the shutter release button for the required time, by rotating the shutter release button 45° clockwise after depressing it. The shutter will remain open, as long as the shutter button is depressed, and will close, when the shutter release button is rotated 45° in the counter-clockwise direction.

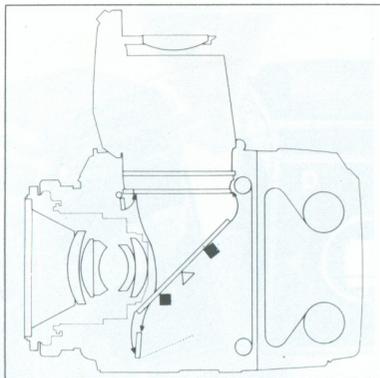
* Battery power is not consumed while the time exposure is being made, no matter how long it takes.

7. Mirror Lock-Up



a. To reduce camera vibration to the absolute minimum during shutter release action, especially when the picture image is greatly enlarged, it is possible to lock the mirrors out of the way before releasing the shutter. This will ensure that the picture is free of camera shake and that fine details will be captured clearly, in the picture.

b. First, turn the film winding knob/crank fully and then view-focus on the subject. Next, depress the mirror locking lever release button, below the accessory shoe, and turn the mirror locking lever in the counter-clockwise direction or downwards. This will lock up



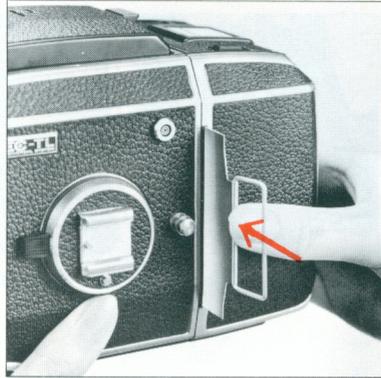
the main reflex mirror and lock down the small reflex mirror, resulting in disappearance of the viewfinder image.

c. Exposure measurements are not possible with the locked-up reflex mirror because the exposure meter cell is located on the rear surface of the reflex mirror. In other words, manual exposure operations are mandatory with mirror lock-up, with the exposure set by, first, depressing the depth of field preview button and then transferring the indicated shutter speed setting before locking the mirror up. Mirror lock-up will not be possible with automatic exposure operations.

d. Releasing the shutter will return the reflex mirror to viewing position once more. In other words, the locked-up mirror cannot be returned to its original condition without releasing the shutter.

The interchangeable film backs for the Zenza Bronica EC-TL are integral components of the camera and, therefore, are fully coupled at all times, upon connection. In other words, although there may be times when the shutter is cocked but the film is not advanced or vice versa, when the film backs are interchanged in mid-rolls, these differences are automatically taken care of, by simply turning the film winding knob/crank fully upon exchanging the film backs. Therefore, upon exchanging film backs, always turn the film winding knob/crank fully, which will result in—

9. Attachment and Removal of the Film Back



a. To remove the film back from the camera, withdraw the dark slide, from its pocket on the back cover of the film back. Then, insert it into the dark slide slit, pushing it in all the way until it makes a full stop. The film back will be released from the camera, so it should be pulled away, at the same time.

* The dark slide cannot be withdrawn from the slit while the film back is disconnected from the camera body.



b. To attach the film back to the camera, simply place the bottom edge of the film back against the protruding open hinges on the camera back. Then, press the film back firmly against the camera body until a loud click indicates that the film back has been securely connected. Finally, pull out the dark slide, which will complete the attachment.

- a. The film winding knob/crank not turning, as the film has already been advanced and the shutter cocked, or
- b. The film being advanced, together with the exposure counter, because the film has not been advanced but the shutter has been cocked, or
- c. The shutter only being cocked, because the film has been advanced but the shutter has not been cocked.

...the film back is disconnected from the camera body. The dark slide cannot be withdrawn from the slit while the film back is disconnected from the camera body. To attach the film back to the camera, simply place the bottom edge of the film back against the protruding open hinges on the camera back. Then, press the film back firmly against the camera body until a loud click indicates that the film back has been securely connected. Finally, pull out the dark slide, which will complete the attachment.

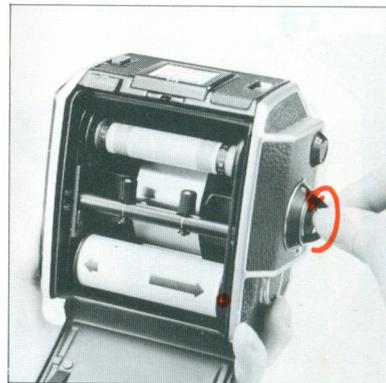
10. Film Loading in the Detached Film Back



c. Upon exchanging the film back, especially in mid-roll, be sure to reset the film speed scale for the film loaded in the newly attached film back.

* The dark slide should be pulled out and inserted in its pocket, on the rear cover. Otherwise, shutter release will not be possible with the dark slide inserted and there is also the danger of accidentally pushing the dark slide in and detaching the film back.

a. Load the film on the film holder insert, in the same manner as noted in "Film Loading (Without Detaching the Film Back)", on page 8. Then, unfold the manual film winder on the film back and rotate it in the arrow-indicated direction, while checking the advancing film. When the starting point, or arrow marks, is aligned with the red dot on the film holder insert, stop rotation and close the back cover.

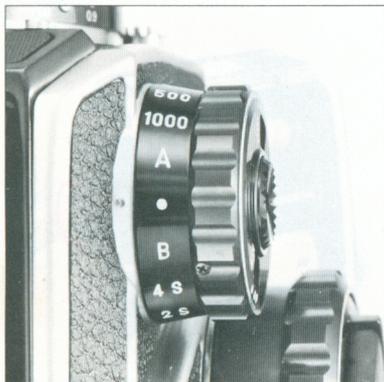


b. To place the first frame into position for taking the picture, resume rotation of the manual film winder, while checking the exposure counter which will advance from "0" to "1".

c. Although the exposure counter will stop advancing, at this point, continue rotating the manual film winder, as it is designed to freely rotate for another two or three extra turns. These extra rotations will not effect film advance or the exposure counter but will take up the slack.

The film back is now ready for attachment, at any time, to the camera body, with picture-taking possible immediately.

11. Mechanical Shutter Speed Setting



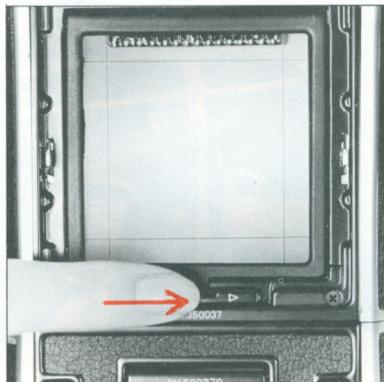
Should the battery be left out or should it be completely exhausted, the shutter will only operate on "B" setting, no matter where the shutter speed selector ring is set, with both AUTO and MANUAL operations.

Setting the shutter speed selector ring to the red dot will, however, let you use the focal plane shutter at a mechanically-governed shutter speed of 1/40 second, without the battery power.

The exposure meter, however, cannot be used with this setting.

* Electronic flash units can also be synchronized at this setting.

12. Interchanging Focusing Screens



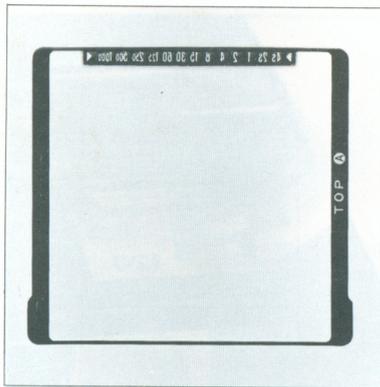
There are five types of focusing screens which can be used interchangeably, depending on the type of photographic work being undertaken.

a. First, remove the waist-level finder. Then, move the screen removal lever in the arrow-indicated direction and the focusing screen frame will pop up, together with the detachable focusing screen. Simply slide it out of the frame, by pulling it up.



b. To insert the new screen, simply slide it in all the way, with the side marked "TOP" on the top surface side. When inserted fully, simply push the frame down into position, which should lock it into place. However, the frame will not lock into place if the screen is not inserted fully.

13. Focusing Screens for Prism Finders



The interchangeable focusing screens for the Zenza Bronica EC-TL have shutter speed displays along the top edge which are oriented for use with the standard waist-level finder and the Magnifying Hood.

Focusing screens with reversed figures in the display frame must be used when the optional Prism Finders are used in place of the above two types of finders.

The focusing screens for the Prism Finders are exchanged in the same way as those for the waist-level finder.

14. Interchanging Finders and Magnifiers



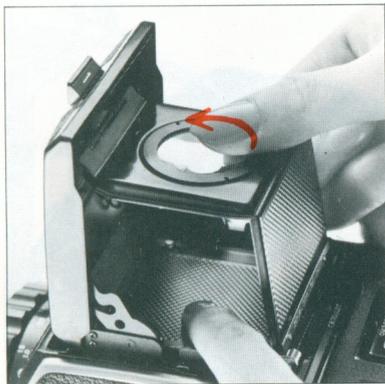
a. The standard waist-level finder can be exchanged with other types of optional finders, as suits photographic conditions, as well as to match shooting operations to the conditions.

To detach the finder, simply press the focusing hood release button, over the ZENZA PRONICA brand on the front top of the camera body, and the finder will spring up for easy detachment.



b. To attach the finder on the camera body, simply place the finder lightly into place in its frame on top of the body. Then push down and towards the rear, at the same time, and the finder will catch.

15. Screw Mount



36 c. The standard magnifier supplied with the waist-level finder has a power of -1.5 diopters, which can be exchanged for other lenses producing powers of -4.0 , -3.5 , -2.5 and $+1.0$ diopters. These optional accessories should be purchased to suit the user's eyesight and should not be used interchangeably with the magnifier lenses for the waist-level finder of the Zenza Bronica EC. Simply turn the magnifier, in the counter-clockwise direction, to unscrew and in the clockwise direction, to screw in.



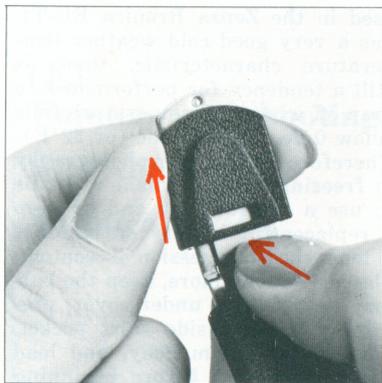
Besides the large bayonet mount of the camera body and the small bayonet mount of the focusing ring, the Zenza Bronica EC-TL also has a screw mount on the inside of the small bayonet mount. The screw mount has a diameter of 57 mm and a thread pitch of 1 mm. The screw mount can be used for attachment of screw mount extension tubes, such as the CC and CD tubes, and the lens reversing ring, but will also permit attachment of other lenses, either directly when of identical screw mounts or via specially-prepared adapter rings.

16. Film Type Indicator Frame



The film type indicator frame on top of the film back will help remind the user of the type of film loaded in that film back. This should prove useful when several film backs are loaded with different types of film or when using two film backs alternately with different films loaded inside. Simply tear off the end flap from the empty film package, after loading the film, and insert it in the film type indicator frame. The spring-loaded frame is simply flipped up for insertion of the end flap and then pushed down again to hold the flap in position.

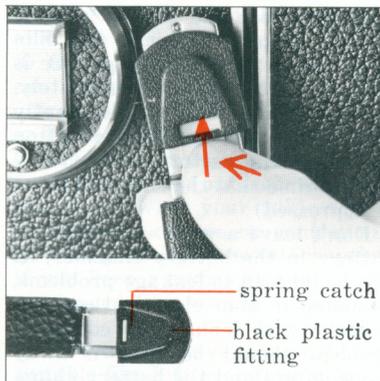
17. Attaching and Removing the Neck Strap



a. Attaching the Strap

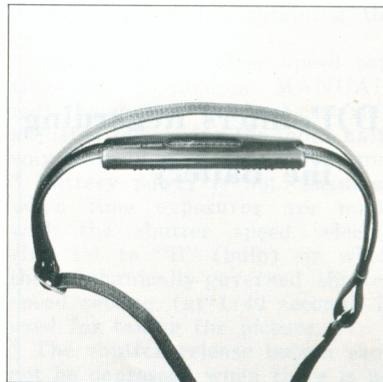
To attach the neck strap to the studs, on both sides of the camera body, press the spring catch, which holds the black plastic fitting securely from moving, and, at the same time, push the black plastic fitting back towards the neck strap, as far as it will go.

Next, place the black fitting over the stud and pull on the neck strap, while lightly pressing on top of the fitting, until there is a loud click which will mean that the black fitting has been securely attached to the stud.



b. Detaching the Neck Strap

To detach the neck strap, simply depress the spring catch and push the metal fitting forward, as far as it will go, which can be checked by the end protruding from the forward end of the black plastic fitting. Then, lift the fitting up from the stud.



c. Use of the Shoulder Pad

The shoulder pad is supplied separately from the neck strap and should be used in the following manner. First, adjust the neck strap to a suitable length and then fix the shoulder pad on the inside of the neck strap, at the point where it rubs against the shoulder.

(D) Pointers Regarding the Battery

Since the battery supplies power for the automatic exposure system of the Zenza Bronica EC-TL, the wrong exposure may be set and/or the camera may not operate, if it is not used correctly. Be sure to use and store the battery correctly at all times for obtaining optimum performance from it.

* Always lock the shutter release button (after revolving the film knob/crank fully) if the picture is not being taken immediately. Otherwise, you could inadvertently depress the shutter release button and drain the battery power (during the time that the shutter button is depressed).

* Don't leave a weak or exhausted battery in the battery chamber, as this could lead to leakage problems, resulting in poor electrical contact. Battery with leakage or corrosion problem should be thrown away immediately and the battery chamber should also be cleaned out, especially the contact terminals, before inserting a new battery.

* Take the battery out of the battery chamber if the camera is to be stored away or if there are no plans to take pictures in the near future.

* The contacts of the battery chamber, and also battery, should be cleaned with a soft cloth, rubbing briskly to wipe away any salting or corrosion, before a new battery is inserted and from time to time. The contacts should not be rubbed with sandpaper or emery cloth as the protective plating may come off.

* Resistance to cold weather. Although the silver oxide battery

used in the Zenza Bronica EC-TL has a very good cold weather temperature characteristic, there is still a tendency for performance to drop off when the temperature falls below 0 deg. Centigrade (or 32°F). Therefore, for outdoor photography in freezing weather, make it a rule to use a new battery and/or keep a replacement battery on hand, if a long shooting session is contemplated. Furthermore, keep the battery or batteries under cover, preferably in an inside shirt pocket, next to the warm body, and load the battery just before beginning the session.

Incidentally, the camera should, of course, also be kept under cover, inside your coat or jacket. However, it should be taken out beforehand in order to permit the condensation to clear up before picture-taking.

* When storing batteries, wrap them separately in plastic bags, which should be closed tightly.

* Do not take the battery apart, play with it, hit it strongly, throw it against a hard object and/or throw it into a fire, as there is danger of the battery exploding and causing damage.

(E) **Pointers on Shooting** **with the Zenza** **Bronica EC-TL**

You will be able to use the Zenza Bronica EC-TL to your entire satisfaction and, thus, get better results from it, if you will take the trouble to thoroughly familiarize yourself with the operations of the camera and fully understand the extent of its superior specifications.

* Make full use of the interchangeable film back feature.

① Color and black-and-white shots can be taken alternately, as required; or daylight type color films and tungsten type color films can be used interchangeably, as you go from indoor to outdoor and vice versa, following your subject.

② Shooting can go on continuously, with practically no interruption, if you keep a sufficient quantity of pre-loaded spare film backs on hand.

③ You don't have to waste unsuitable film left over from a previous session but simply load up a new film back, with the required film, and go out shooting.

④ A single Zenza Bronica EC-TL can be used very conveniently, by many persons in the same studio or at home, even when some parties don't use up their film, if everybody will just keep a stock of spare film backs on hand.

* The shutter speed is set in stepless speeds on AUTO (with the shutter speed selector ring set to "A"). This means, of course, that the actual shutter speed used for taking the picture could be different from the shutter speed setting displayed in the finder, because the actual shutter speed is more pre-

cisely adjusted for obtaining the correct exposure.

* Intermediate shutter speed settings are possible on MANUAL, with the shutter speed selector ring adjusted for setting the index halfway between the scale graduations.

* Battery power is not consumed when time exposures are made with the shutter speed selector ring set to "B" (bulb) or when the mechanically-governed shutter speed setting (at 1/40 second) is used for taking the picture.

* The shutter release button cannot be depressed when there is no film loaded in the film back. Setting the multiple exposure lever to "D" (for double) will, however, permit shutter release, even when film is not loaded. This feature is, of course, convenient for practicing dry runs, without loading film, and also for testing the shutter in flash photography.

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

(F) Care of the Zenza Bronica EC-TL

* Don't wipe the reflex mirror unless absolutely necessary and, then, only very lightly with a clean lens tissue. First, however, blow or brush away dust and dirt with a rubber-ball air blower or a clean, soft brush.

* The focusing screens should be cleaned with a soft hair brush or with a rubber-ball air blower, as the screen surface is easily scratched. Always hold the focusing screen by the edges, to prevent fingerprints on the surfaces.

* Protect your camera from sudden temperature changes, as drastic differences in the temperature can result in moisture condensation, frost, etc., inside the camera, which could lead to rusting of metallic parts and eventual troubles.

* The camera is a precision instrument which must always be protected from impact and vibration. Always pull out the dark slide from its slit, upon attaching the film back to the camera body, and store it in its pocket on the back cover.

* Always protect the lens with its cover, when carrying the camera.

* Protect your camera, lens, etc., against rain, dust, sand, strong sunlight and salty air, by keeping them under cover except for the actual shot. When used outdoors

in conditions of extreme moisture (fogs, etc.) or at the seashore, clean them carefully after the shooting session.

† Should the exterior of the camera be effected by salty air, wipe it off carefully with a damp cloth, using fresh water. Then wipe it dry with a soft, dry cloth and, if necessary, send it to the repair shop for a quick check-out.

* If the camera, lenses and accessories are not being used for a long period, store them away from humidity, salty air, dust, extremely high or low temperatures and corrosive fumes, or, in other words, store them in a cool, dry and well-ventilated (but not windy) place. Take everything out of their cases, take the battery out of the camera, unextension or release the shutter, return the focusing ring to infinity, clean everything very carefully and, finally, wrap everything individually in dry and soft lint-free cotton cloths. Place everything in tin-lined containers, which can be closed tightly, together with plenty of desiccant, such as silica gel.

* As noted, don't store the camera or leave it unused for long periods with the shutter cocked or tensioned. Always release the shutter before storage or if the camera is

not being used for some time.

It should be remembered that the shutter is usually cocked or is midway in the process of being charged, when the film is taken out of the film back upon completing the shooting session.

* When using a tripod screw which is longer than standard or the length of the tripod socket, do not thread too strongly or you may cause damage to the camera body.

* The film speed scale must be checked and/or reset each time a film back is interchanged, if films of different speeds are loaded in the new film backs and when lenses of different focal lengths are interchanged.

* When interchanging Bronica interchangeable lenses, always turn the focusing ring to its limit in the counter-clockwise direction (after first detaching the lens) before detaching the focusing ring.

This procedure is especially important in the case of the 100 mm F2.8 Zenzanon lens, as otherwise the reflex mirror will be damaged if the lens is detached with the focusing ring at infinity.

* When using self-timers, such as those available on the market, for automatic exposure operations, close the finder before taking the

picture.

* Releasing the shutter, with the shutter speed selector ring set between 4 sec. and "B" (bulb), will result in the shutter remaining open as long as there is any power left in the battery. In such cases, reset the shutter speed selector ring immediately to "B" which will close the shutter and stop further drainage of the battery. Special care must be exercised to prevent excessive drainage of the battery.

(G) Accessories

Nikkor Lenses



40 mm f4 lens



50 mm f2.8 lens



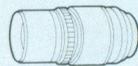
75 mm f2.8 lens (PC)



75 mm f2.8 lens (HC)



200 mm f4 lens



300 mm f5.6 lens
(New)



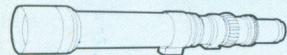
400 mm f4.5 lens



600 mm f5.6 lens



800 mm f8 lens



1200 mm f11 lens

Zenzanon Lenses



40 mm f4 lens



50 mm f2.8 lens



75 mm f2.8 lens



80 mm f2.4 lens



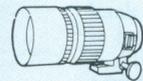
100 mm f2.8 lens



150 mm f3.5 lens



200 mm f3.5 lens



300 mm f4.5 lens

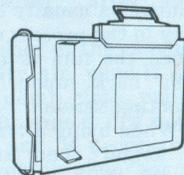
Film Back Magazines



Film Back

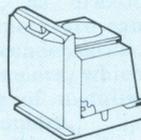


Film Back E Type



Polaroid
Film Back

Finders



Waist-Level
Finder



Magnifying
Hood

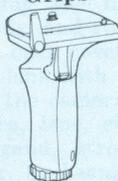


Prism Viewfinder
Model A



Prism Viewfinder
Model C

Grips



Model T

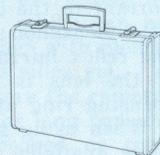


Model L

Carrying Cases

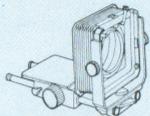


Trunk Case
(New)



Compartment
Case

Close-Ups

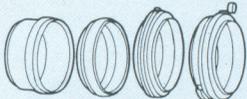


Bellows Attachment



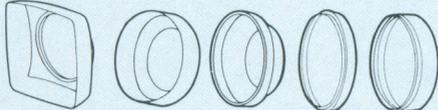
Reversing Ring

Compact Bellows



Extension Tube Set

Accessories for Lens



Lens Hoods

Rubber Hoods

Filters

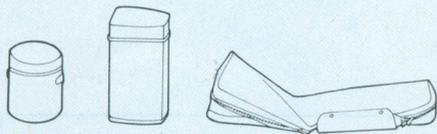
Close-Up Lens



Lens Front Caps

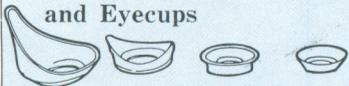


Lens Rear Caps



Lens Cases

Diopter Lenses and Eyecups

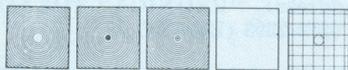


Rubber Eyecups



Diopter Correction Lenses

Focusing Screens



A

B

C

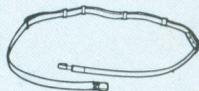
D

E

Other Accessories



Camera Cases



Neck Strap



Shoulder Pad



Focusing Lever



Strap for Hand Grip T



Body Cap

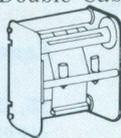


Cable Release

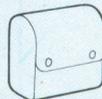


Double Cable Release

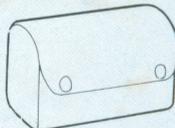
Film Insert Case



Film Insert



for 1 pc.



for 3 pcs.



Dark Slide



Magazine Case

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