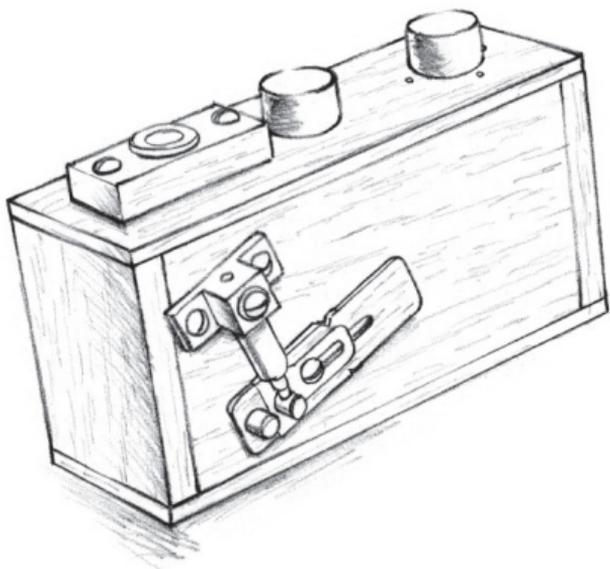


Zero Image

Zero 135 Dual Format
Pinhole Camera
Pinhole/Zone Plate Version



Instruction Manual

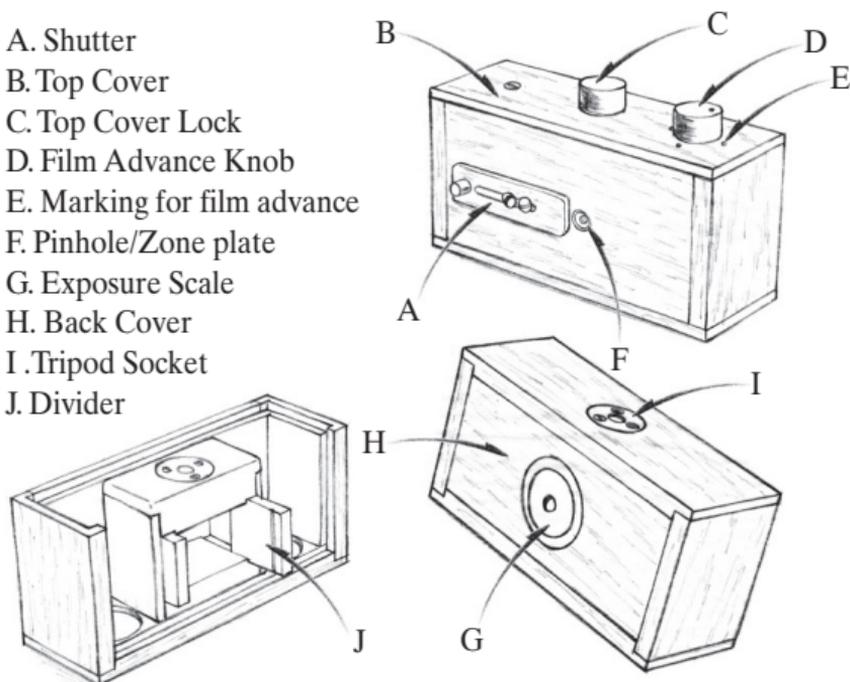
*Thanks for purchasing the Zero Image wooden
pinhole/zone plate camera. With Zero Image cameras,
your photographic creativity will be unlimited.
Although the Zero Image cameras are easy to use,
please read this manual before
your first shot for best results.*

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NOMENCLATURE

- A. Shutter
- B. Top Cover
- C. Top Cover Lock
- D. Film Advance Knob
- E. Marking for film advance
- F. Pinhole/Zone plate
- G. Exposure Scale
- H. Back Cover
- I. Tripod Socket
- J. Divider



SETTING THE FILM FORMAT

The Zero 135 camera is designed to be a dual format camera. The film format can be set to normal 135 format (23mm X 55mm) or panoramic format (23mm X 45mm).

1. Turn the top cover lock (C) counter-clockwise to open the top cover (B).
2. Slide out the back cover (H), you will find two thin, removable blocks (J) at both sides of the middle chamber of the camera. By retaining these two blocks in this position, the camera will be in 135 format. Removing these blocks will allow you to shoot in a panoramic format.

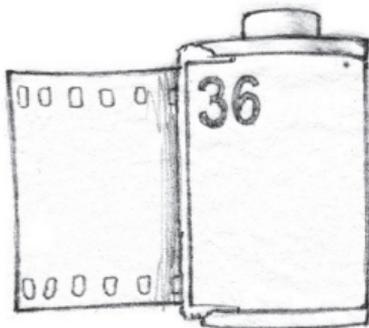
PREPARE THE TAKE UP SPOOL

1. This camera accepts 135 film only. Before you can use the camera, you will need to prepare an empty "take-up" film canister. You may request your local lab to keep a film canister for you, having them processed the 135 film in the following way:

a) First, tell them to removed the film without removing either end of the canister.

b) Second, have them removed all but the last 1"-2" of film.

c) Have them saved this nearly empty canister for you. This canister with the 1"-2" leader of film will become your "take-up" film spool, and will allow you to draw the film from a new roll of film into the "take-up" canister. Follow the directions below to continue.



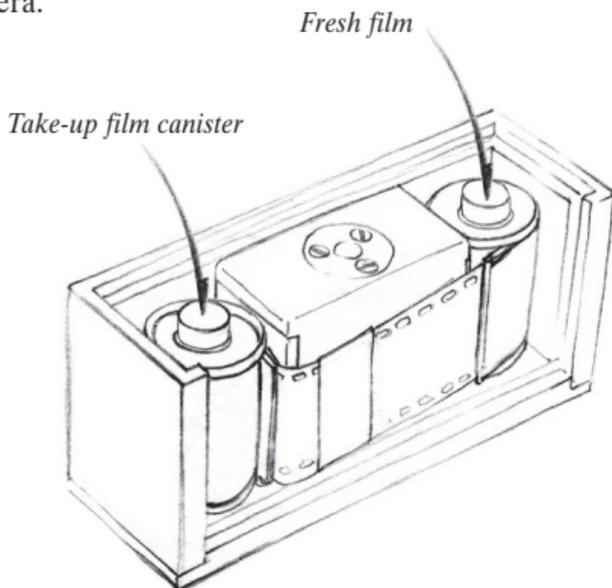
Note: If you don't have a roll of previously-exposed film, you could choose to sacrifice a fresh roll of film to prepare the take-up canister yourself!

2. Now you need to join the fresh film with the take-up canister. First trim off film's leader. The "leader" is the tapered end of the roll of film.

3. With the fresh film on your right, and the take-up film canister on your left, join the film with masking tape (adhesive tape) as shown in the figure on next page. Apply the tape to both sides of the film and make sure your tape is strong enough to hold the film together.

LOADING THE FILM

1. Insert the fresh film and the pick-up film canister into the camera with the fresh roll of film on the right hand side of the camera.



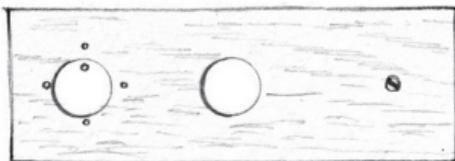
2. Press the fresh film and the pick-up film canister into the pocket of the camera until they are sited properly and firmly.
3. Replace the Top Cover (B) and turn the Film Advance Knob counter-clockwise (D) several revolutions until the masking tape has disappeared entirely within the take-up canister.
4. Replace the Back Cover (H) of the camera
5. Replace the Top Cover (B) and lock it to the camera by turning the Top Cover Lock (C) clockwise. Don't over-tighten it or you may damage your camera.

FILM ADVANCING

1. Turn the Film Advance Knob (G) counter-clockwise to advance the film. Using the mark on top of the knob and the markings on the top cover as a reference, advance the film by at least 5 complete revolutions. Now make sure the dots of the knob aligns with the far right marking (E) of the Top Cover (B).



2. After each exposure, advance the film by turning the Film Advance Knob (D) one-and-a-quarter revolutions for the first five shots. After those first five shots, the dot of the Film Advance Knob (D) will align with the uppermost marking on the top cover.



For the remaining shots, turn the Film Advance Knob (D) by one revolution until you find it very difficult to advance the film. This will indicate that the whole roll of film has been exposed.

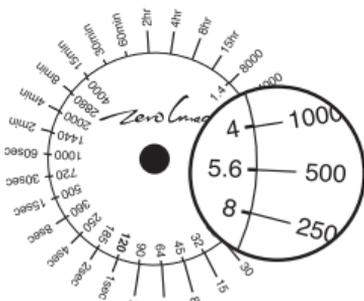
- Note: 1. The mechanism of the Film Advance Knob (D) will not allow you to turn the knob clockwise, which prevents the film from curling back. Attempting to turn the knob in a clockwise direction may damage the camera.*
2. Please be advised that the last frame will be wasted due to the method of film advance employed in this camera.

EXPOSURE

Calculating the exposure time:

Our camera comes with an Exposure Scale (G). If you have a light meter, you can make use of the Exposure Scale (G) to calculate the exposure time easily. The numbers on the outer ring of the Exposure Scale (G) are the exposure time ranging from 1/8000 of a second to 15 hours and numbers on the inner (movable) dial indicate f/stop number setting. These range from f/1.4 to f/500.

1. Use a light meter to get a reading of the scene you wish to photograph. Choose the f/stop that is aligned most closely with a given exposure time. (For example, the reading is f/5.6, 1/500 seconds).
2. Look on the inside ring and find the f/stop selected from the light meter (f/5.6 in this example). Turn the dial until that f/stop matches with the correct exposure time (1/500 seconds in this example).



If you don't want to use a light meter, the following guide may help: 1-3 seconds under bright sunlight, 4-20 seconds for shade; 4-10 minutes for cloudy, for indoor or night scene, use 15-45 minutes or more. These estimated exposure times are based on ASA100 film.

Reciprocity Corrections

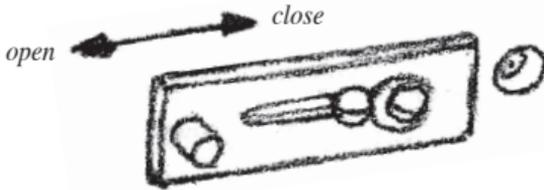
If the exposure time is shorter than 1/10,000 seconds or longer than 1 second, it is necessary to calculate and adjust for reciprocity failure.

Exposure time indicated by Exposure scale	Compensation	Exposure
1 second (or over)	x2	2 seconds
5 seconds (or over)	x5	25 seconds
50 seconds (or over)	x12	600 sec or 10 min.

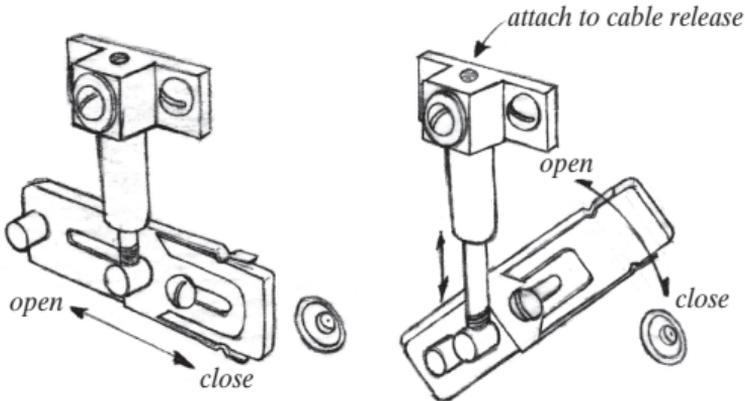
- Note: 1. All information mentioned above is based on ASA 100 film speed.*
- 2. Some practice will be required to relate the times given in this chart to your particular camera and film. Keep a careful record of the light conditions and the exposure times for every photograph you take, so that future adjustments may be made easily.*

Trigger the Shutter

1. To expose, simply slide the shutter (A) to open. When the exposure time is up, close it by sliding it back to cover the pinhole.



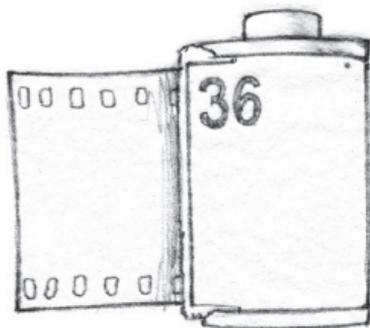
2. If you use high speed film or a zone plate version camera, the exposure time may be less than 1 second. This time you may need to open the shutter (A) and cover the pinhole/zone plate with hat and put it back to cover the pinhole as fast as you can.
3. If you have the optional cable release adaptor, you can open the shutter manually by sliding it, or by attaching a cable release to trigger the shutter as in the "B" mode on any ordinary camera.



UNLOADING THE FILM

This camera can take 24-25 frames when the camera is set to normal 135 format or panoramic format.

1. When you find that it is very difficult to advance the film, it means that the whole roll has been exposed. Simply open the camera and take out the film canisters.
2. Cut the two film canisters apart and remember to leave at least one inch of film outside so that it can become your next take-up canister.
3. When processing the film, be sure to leave at least one inch at the end of the film so you may use it as your next take-up canister. Shooting more film will result in a higher capacity take-up canister.



Note: Although the camera is designed for you to load and unload the film anywhere, we highly recommend that you do not load or unload the film under bright sunlight as the film may be damaged by light leaks.

MAINTENANCE

1. Avoid getting the camera wet.
2. Do not allow the camera to be exposed to strong sunlight for a long period of time.
3. Do not press or punch the pinhole or zone plate with any object.
4. Never clean the camera with an alcohol-based cleaning agent.
5. Clean the camera with a cotton cloth, and a polishing oil like lemon oil, or orange oil for woodworking. Beeswax is preferable.
6. If the shutter or the exposure scale is too tight or too loose, adjust the screw that holds it with a screw driver.
7. Clean the pinhole/zone plate with an air blower tenderly. Keep the blower at least one inch away from the pinhole or the zone plate and blow away the dust tenderly. Too much air pressure may damage the pinhole and the zone plate.
8. Never over-tighten the knobs or any screw of the camera. It will cause damage to the camera.
9. Do not store the camera near a heat source or in a cabinet with humidity control, as the camera may dry up or crack.

SPECIFICATIONS

Material:	Teak Wood
Pinhole size:	0.25mm
Zone Plate:	25 with 9 zones
Dimension :	4 3/4" (L) x 1 5/8" (D) x 2 3/4" (H) (including all knobs)
Weight:	6.5oz (185gm)
F/no:	f/138 (pinhole) f/45 (zone plate)
Focal Length:	25mm
Film use:	135 roll film
Film Format:	135 (23mm x 35mm), panoramic (23mm x 45mm)
Tripod Socket:	1/4" Thread

Specifications and design are subject to change without notice.



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