

Media Loan

# CP-16 Film Camera User Guide

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# Introduction

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The Cinema Products CP-16 R/A is a portable 16mm production camera noted for reliability and ease of use. It's integral shock mounting allows for silent/sync use without blimping, making it ideal for field interview work or studio application. ~~It has the capability for single as well as double system sound use. Mic and line mixing can be done through the crystal sound electronics which are part of the camera.~~

~~This camera is the most sturdy and flexible of Media Loan Sync packages. We recommend its use whenever possible. You will find the optical and sound quality comparable to the more complex cameras, but none are as reliable and easy to operate as the CP 16RA. In addition, it is the only single system camera we have.~~

# Viewing System

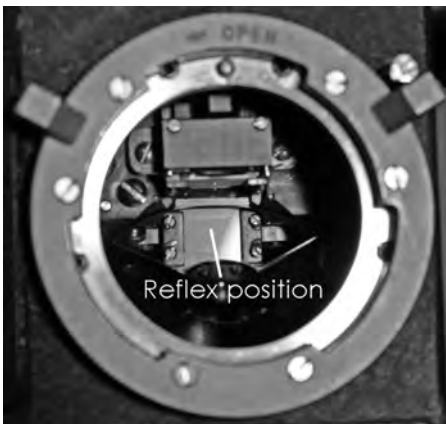
## Viewing System

The CP 16RA viewfinder employs a reflex type viewing system which transmits 100% of the light entering the lens to your eye. This is done by utilizing a rotating mirror which has two pie-shaped sections cut out of it. As the mirror rotates, it reflects light into the viewing system. When a blank section rotates into the light's path, the film is exposed as the light falls beyond the mirror on to the film gate. This intermittent action will be noted as a slight image flutter when viewing,

**IMPORTANT NOTE:** if the mirror is not in a reflex (viewing) position, you will not have an image in the viewfinder.

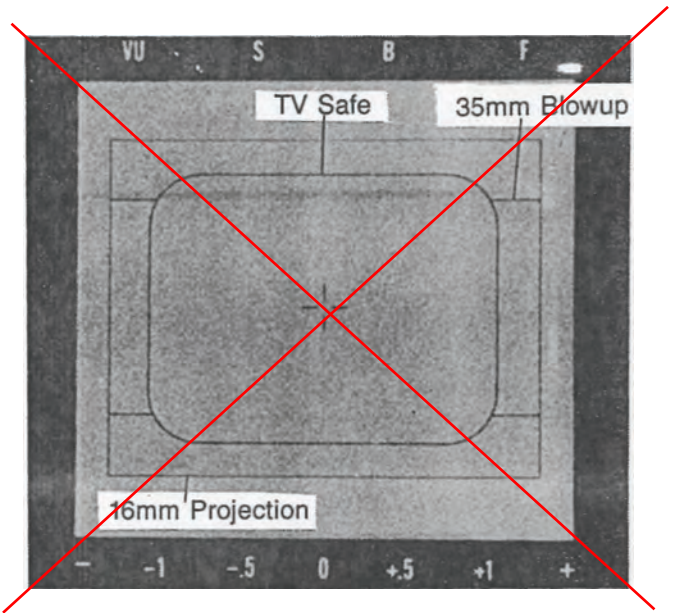


The camera senses where the mirror is and always stops the mirror in the reflex position. If you have the battery disconnected and rotate (inch) the camera movement, you may rotate the mirror out of the reflex position. You can rectify this by plugging in the battery, or by inching the camera while looking through the viewfinder. Stop when the image is restored. The viewfinder



indicates three frame borders.

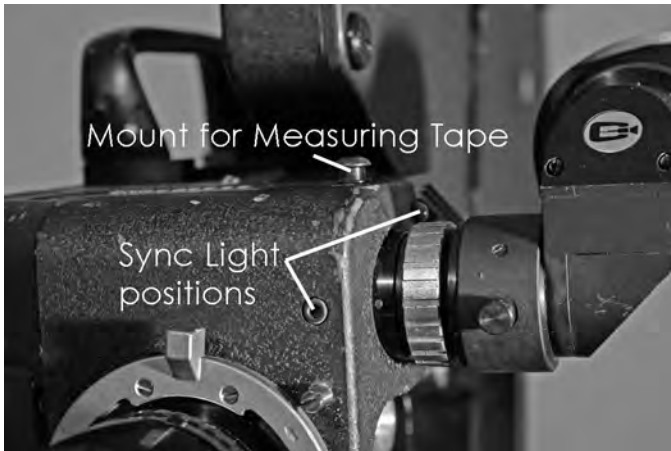
Starting from the center, the first frame marking indicates TV SAFE, the next 35mm Blowup, and finally the outside marking indicates 16mm projection. These show you what portion of the viewed image will be recorded to film.



This is a group of indicators at the top of the viewfinder which inform the operator of general camera status. From left to right, they are;

- V** - Indicates the level of audio signal being output from the crystal sound amp. The indicator will light to indicate proportional signal strength. It will flash brightly if distortion level signals are being passed.
- S** - Sync. This indicates whether the camera is operating at other than SYNC speed. This will light briefly when the camera is turned on or off. If it lights during operation, turn off the camera. Make sure the film is threaded correctly and your battery level is ok. If the S light stays on, there is something wrong with the camera. This indicator works in conjunction with the red outside light near the viewfinder.

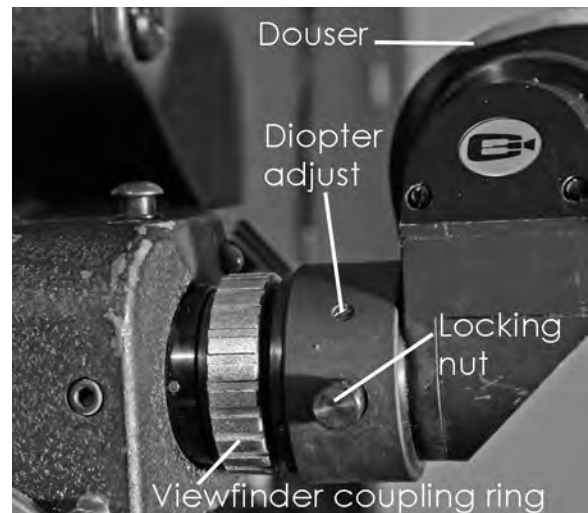
# Viewing System



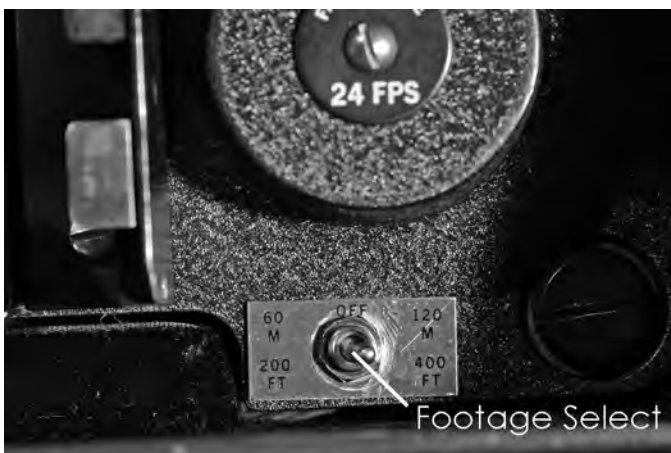
The viewfinding system has a diopter adjustment which corrects the optical system for individual eyesight. To set the system for your eyesight, first loosen the locking nut on the diopter adjustment ring. While looking through the viewfinder, rotate the ring until the black frame borders are sharp. Lock the adjusting ring with the nut, and check to make sure they are still clear. Between the diopter adjustment ring and the camera body is the silver viewfinder coupling ring which attaches the viewfinder to the camera. Make sure the ring is snug to avoid optical error or viewfinder play. If the coupling ring is loose, you may need to readjust the diopter.

**B** - Battery. When the battery is nearly exhausted, this indicator will light. Change your batteries, or charge the ones you are using.

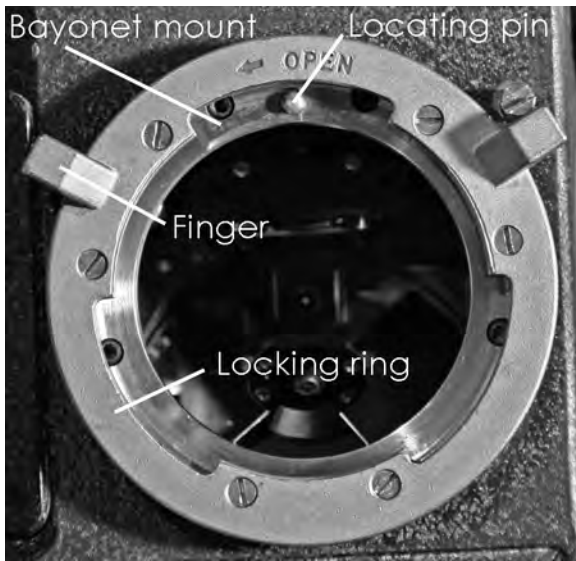
**F** - Film. Inside the camera body is a 200 ft/off/400 ft film supply switch. Select the appropriate value for your film. When you have 10% of your original amount left, the F light will come on. This works in conjunction with the counter at the rear of the camera, so do not reset the rear counter if you wish to keep the interval indicator correct. The F will remain illuminated as long as the external battery is connected.



When the camera is exposing film, light from the viewfinder can travel down through the eyepiece and fog your image. To prevent this, the eyepiece has a douser just below the ring where the rubber eyecup joins the viewfinder. Keep this closed any time your eye is not firmly against the eyecup.

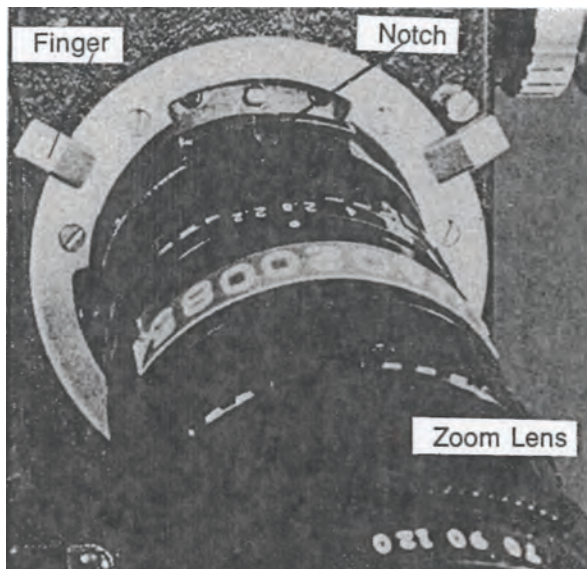


# Lens & Battery Power



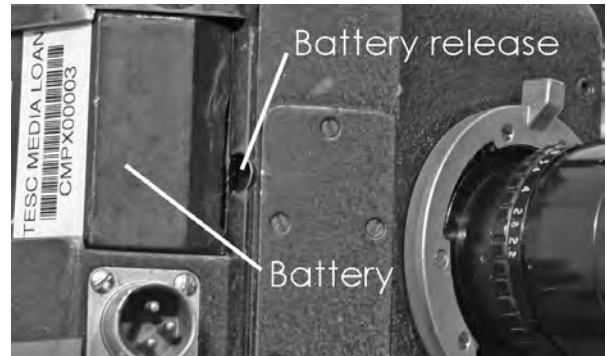
## Lens

The CP 16RA is provided with an Angenieux 12-120 f1.8 zoom lens, connected with a CP bayonet mount. To remove the lens, rotate the fingers of the locking ring counter-clockwise while holding the lens and pull the lens straight out from the camera mount. Note the locating pin on the left side of the mount face, and locate the matching notch on the lens base. Align these when replacing the lens, and rotate the locking ring clockwise. Always make sure the lens is firmly seated and the locking ring is fully clockwise.

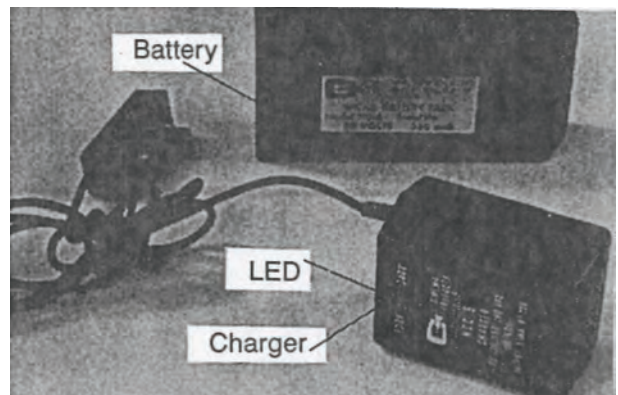


## Battery Power

Power to the camera is supplied by a ni-cad battery which slides into the battery cavity on the left side of the camera. The Battery will lock into the body when completely inserted. To remove, press the release button at the front edge of the cavity and slide the battery out. A fully charged battery will operate the camera for 1 hour.



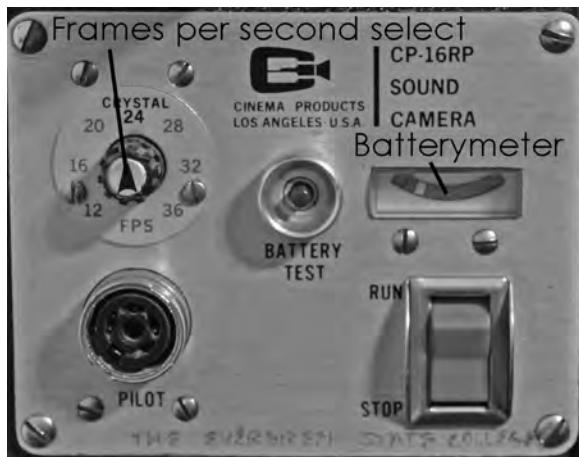
The camera is checked out with two batteries and two battery chargers. When you checkout the camera, insert the batteries into the camera and check their charge level. A fully discharged battery takes 14 hours to charge using the supplied chargers. Each charger has a small LED (Light Emitting Diode) on it's front panel. The LED only indicates that power is being supplied to the charger.



# Battery Power & Speed and Power

The strength of a battery depends in part on its temperature. If you are shooting out in the cold, keep batteries warm by holding inside a coat or shirt. Always remove them from the camera when not shooting to prevent accidentally discharging it, or inadvertently exposing film.

On the back of the camera is the battery meter and test button. Depress the test button and the meter will indicate battery strength. Green, ok; yellow, short reserve; red, dead. The viewfinder indicator B will light when battery power is in the yellow range. Do not use the camera when the batteries are operating in the yellow or short reserve area.



Important Note: Ni-Cad batteries are powerful, rugged devices, but they can be damaged by over charging or completely draining. Do not charge them for more than 14 hours, and if you are charging a partially drained battery, charge it for a period of time equal to the percent of charge times 14 hours. (Example: 1/2 drained battery, 1/2 X 14 hours = 7 hours)

Never run the batteries below the red or dead indicator on the battery meter on the camera running at the wrong speed, completely discharging Ni-Cad batteries will potentially ruin them. Always have a fresh spare, and use it when the meter indicates in yellow short reserve zone.

## Speed and Power

On the rear of the camera there are a group of controls along with the battery testing meter. The FPS knob selects the frames per second, from 36 FPS (slow motion) to 24 FPS (sync) to 12 FPS (fast motion). To change speeds, push the knob in and rotate to select your desired speed. The knob should pop back out. The knob will not rotate past 6:00 in either direction.



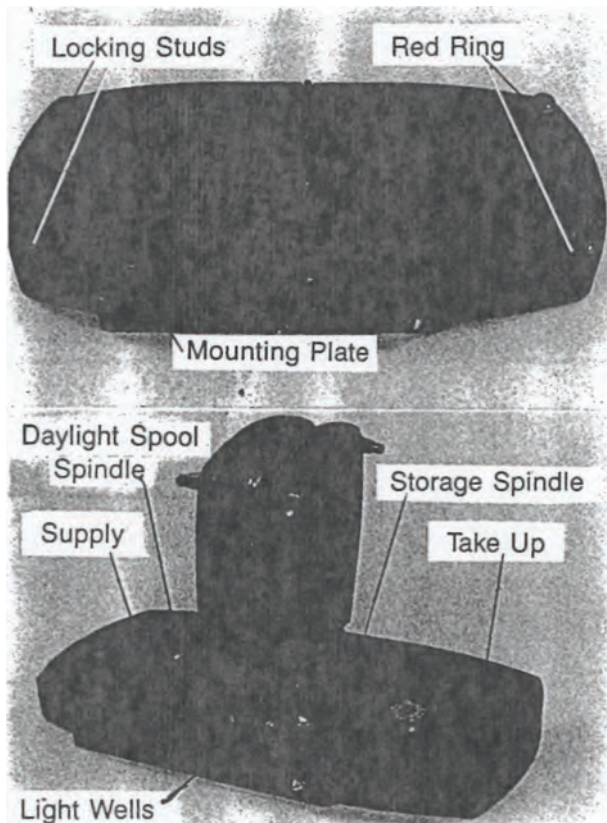
The RUN/STOP switch starts the film running through the camera. On the front handle there is an additional trigger connected independently in parallel with the rear switch. This means you must turn the camera off at the same place you turned it on. Just above the rear panel is the film counter and reset button. This functions with the interval 200/400 foot switch described in viewfinder section under F. Again, it gauges the number of feet of film run through the camera.



# Magazine and Film Threaders

## Magazine and Film Threaders

The CP uses external magazines which may be loaded before they are attached to the camera body. The magazines will hold 400' core loads or anything the mounting plate toward you, note the thumb locking studs at the four corners. Push down on these with your finger and rotate counterclockwise 1/4 turn to release. They will pop up revealing red rings indicating 'unlocked'. The left side of the mag is supply, the right take up. Note the felt covered slots at the bottom center of the cavities. These light wells prevent outside illumination from entering the magazine when it is not mounted on the camera. Make sure they are always clean and free of dust and debris. Inside the upper edge of the magazine cavity are core adaptors. These are required when you are using core loads, but may be stored on their spindles when using daylight spools.

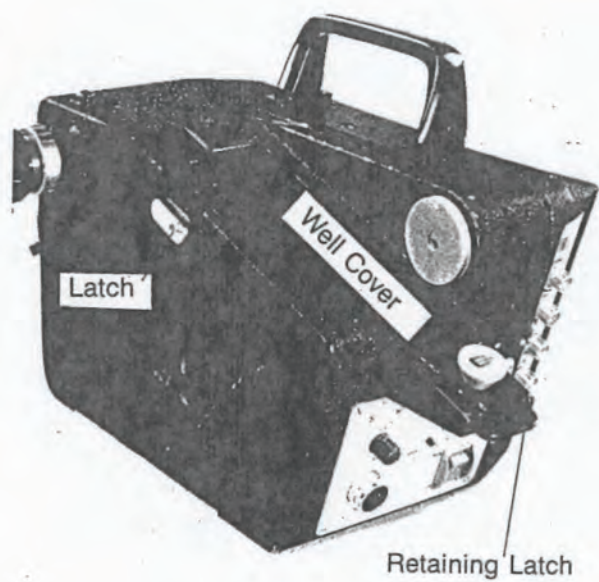


The film should be loaded so that it will come off the supply in a clockwise fashion. Thread the stock between the roller and magazine side, through the light trap, and out the bottom of the magazine. Make sure the emulsion is on the side facing left as the film is pulled through the light trap. When loading raw core loads, you must do this inside a changing bag, so rehearse with dummy film in the light. Once you have an end threaded out the supply side, you can close and lock that cavity door. The rest of the threading can be done in daylight. When you close and lock the door, make sure the locking stud is nearly flush with the door face. If you can see a red band on the side of the stud, this indicates it is not locked. Now you can feed the film end into the take up light well, making sure it is between the spool and the magazine side, and TAPE the film onto the take-up side so that the film will wind on counterclockwise. Check to see that everything looks clean and neat and that the emulsion is on the outside of the loop. Lock the takeup side and you are ready to mount the magazine on the camera body. Pull about 6 inches of loop out of the magazine from the supply side. With the camera sitting in front of you, lens to the left, note the side door latch. Press down on the top rear edge, and the camera side will open.

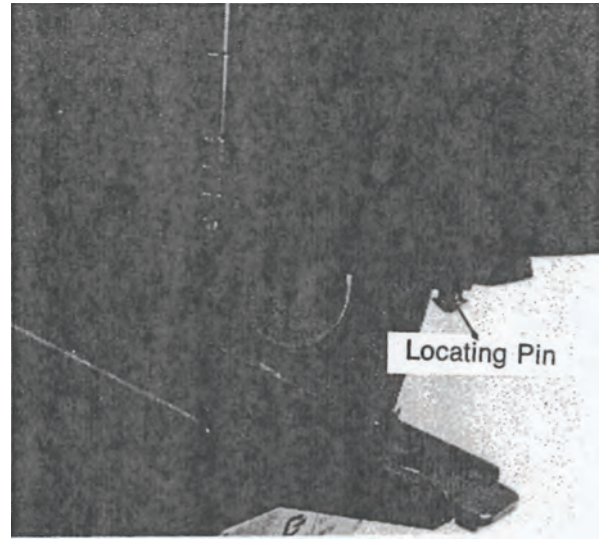


Remember to check for them when getting your equipment together.

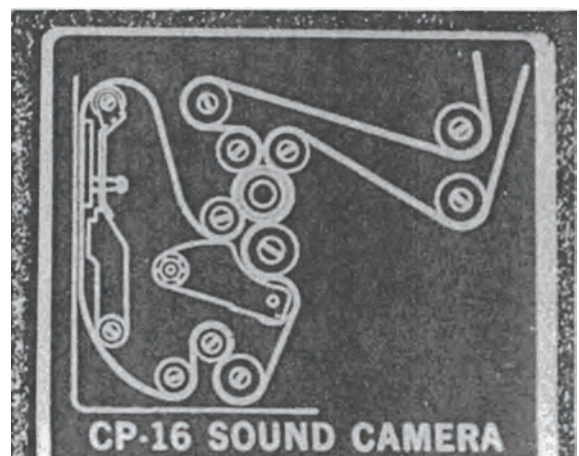
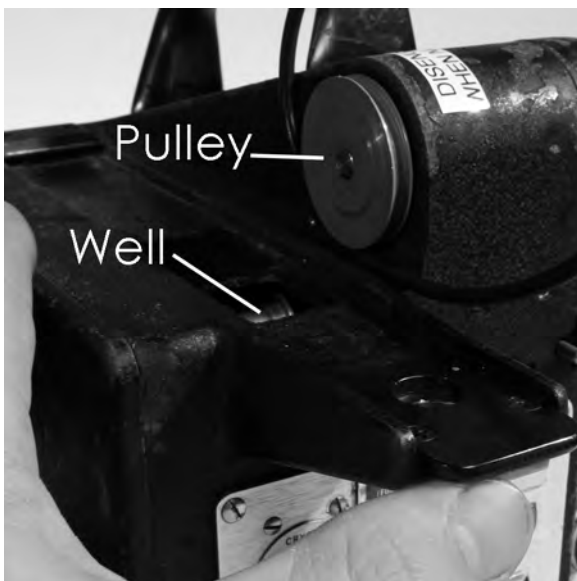
# Magazine and Film Threaders



On the top of the camera next to the handle is the magazine mounting plate. At the rear end of it just below the lip is the retaining latch. Press it in, and remove the magazine well cover. Note that the front edge fits under a shoe and the cover must be removed by lifting it up and toward the rear of the camera. Hold the magazine with the door toward you, and slip the front edge under the shoe. Feed the loop into the camera body as you lower the magazine down. Note the locating pin to the rear of the magazine mounting plate. It will engage as you push in the retaining latch.



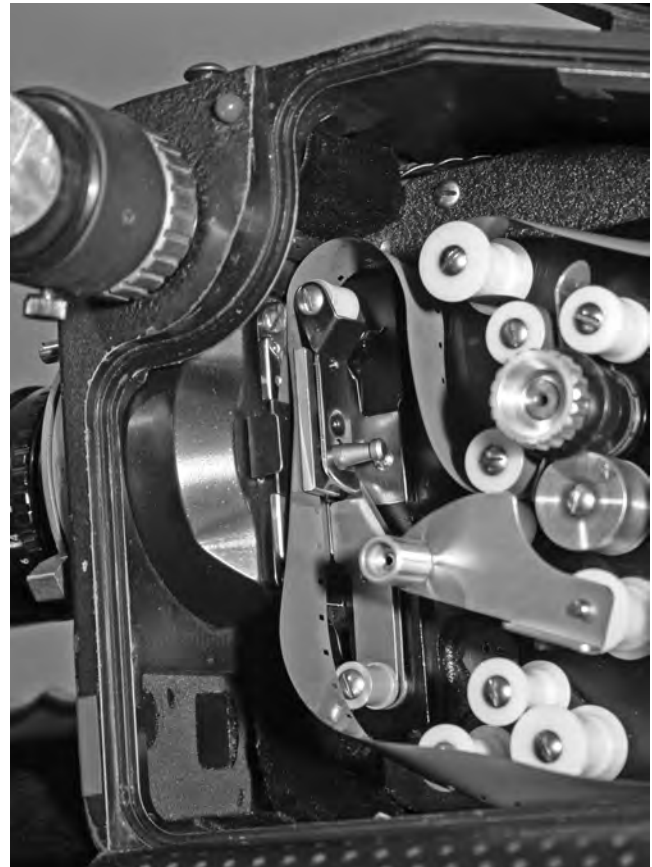
Feed the film into the camera cavity as you nest the magazine down in place and release the retaining latch. Make sure it is well seated, and the film is not pinched between the magazine and base. Pull enough film out of the supply side to thread the film transport, using the diagram. The knurled sprocket wheel inside the group of rollers is the inching knob, which allows you to move the whole film transport forward or backward. pull the pressure plate stud back and rotate the inching knob counterclockwise. Inside the gate is the registration pin and film claw. These work together to pull the film through the gate and lock it in place while it is being exposed. To fit the film into the pressure plate, rotate the inching knob until the registration pin is in and the claw is out. Slip the film by the sprocket wheel, following the diagram.



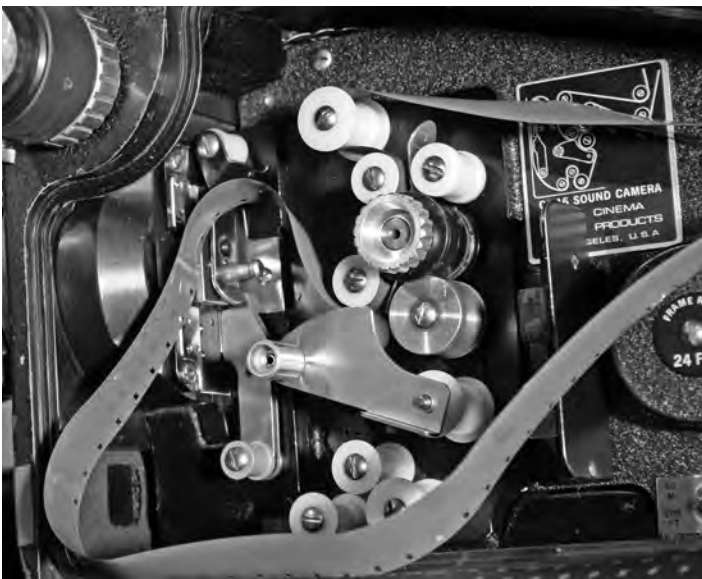
# Magazine and Film Threaders



Threading the film step 1.



Threading the film step 3



Threading the film step 2

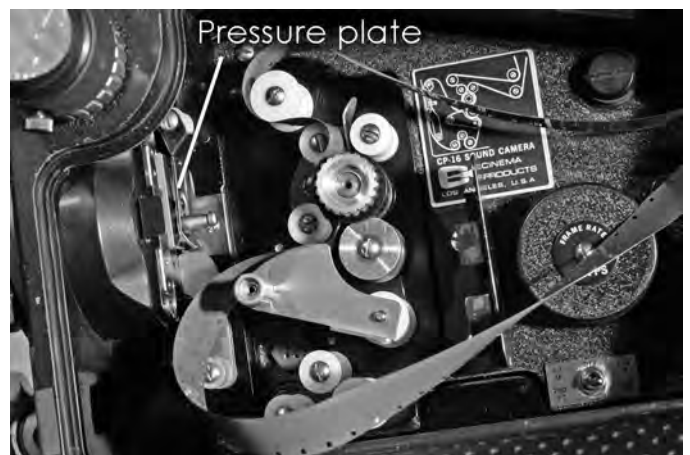
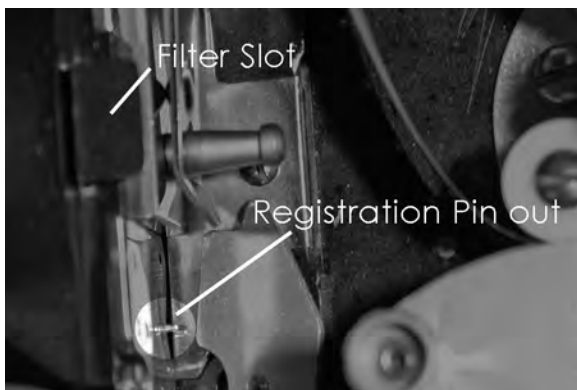


Threading the film step 4

# Magazine and Film Threaders



Slip the film down in the gate, making sure the film claw is engaged in a sprocket hole by pulling gently to check the film for play. Carefully observe the loop above and below the gate area for size. The film should not touch the camera sides, but it should not be tight across the top or bottom of the pressure plate. Thread the rest of the rollers and take up the slack by rotating the pulley on the outside of the magazine take up cavity. Attach the drive belt to the same pulley. Make sure the camera is off, then plug in a battery. Run a few feet through to check threading and operation. The camera should be quiet, and the film should not click or make any irregular sounds.

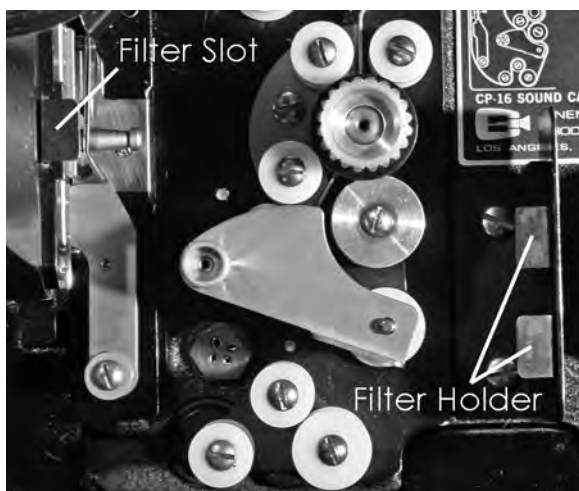
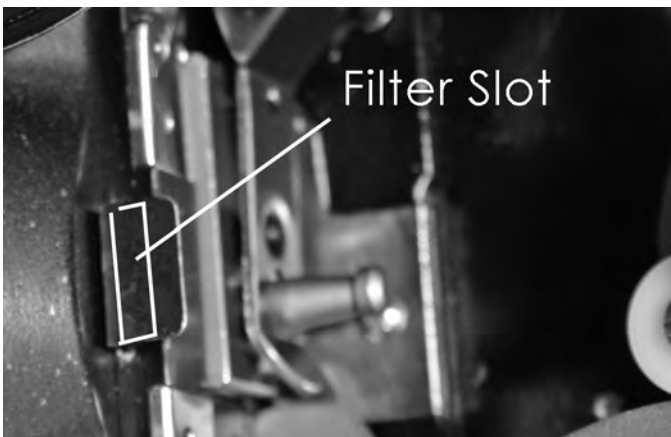


# Filters, Accessories & Cleaning

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## Filters

The CP has two ways you can filter light as it passes into the camera. One technique utilizes a small gel holder which fits a slot inside the camera, just in front of the camera pressure plate. You can use Wratten gel type filters. The camera has storage space for two additional holders to the rear of the sound/dummy head. **MAKE SURE YOU CHECK FOR FILTERS BEFORE YOU SHOOT.** If you do not, the previous user may have left one inside the camera, and you take the chance of ruining your film. Media Loan has some Wratten gel filters available for checkout.



The other method uses glass filters which fit into the two piece lens hood. You need to check which ones are available in which format if you want to double filter your images.

## Accessories

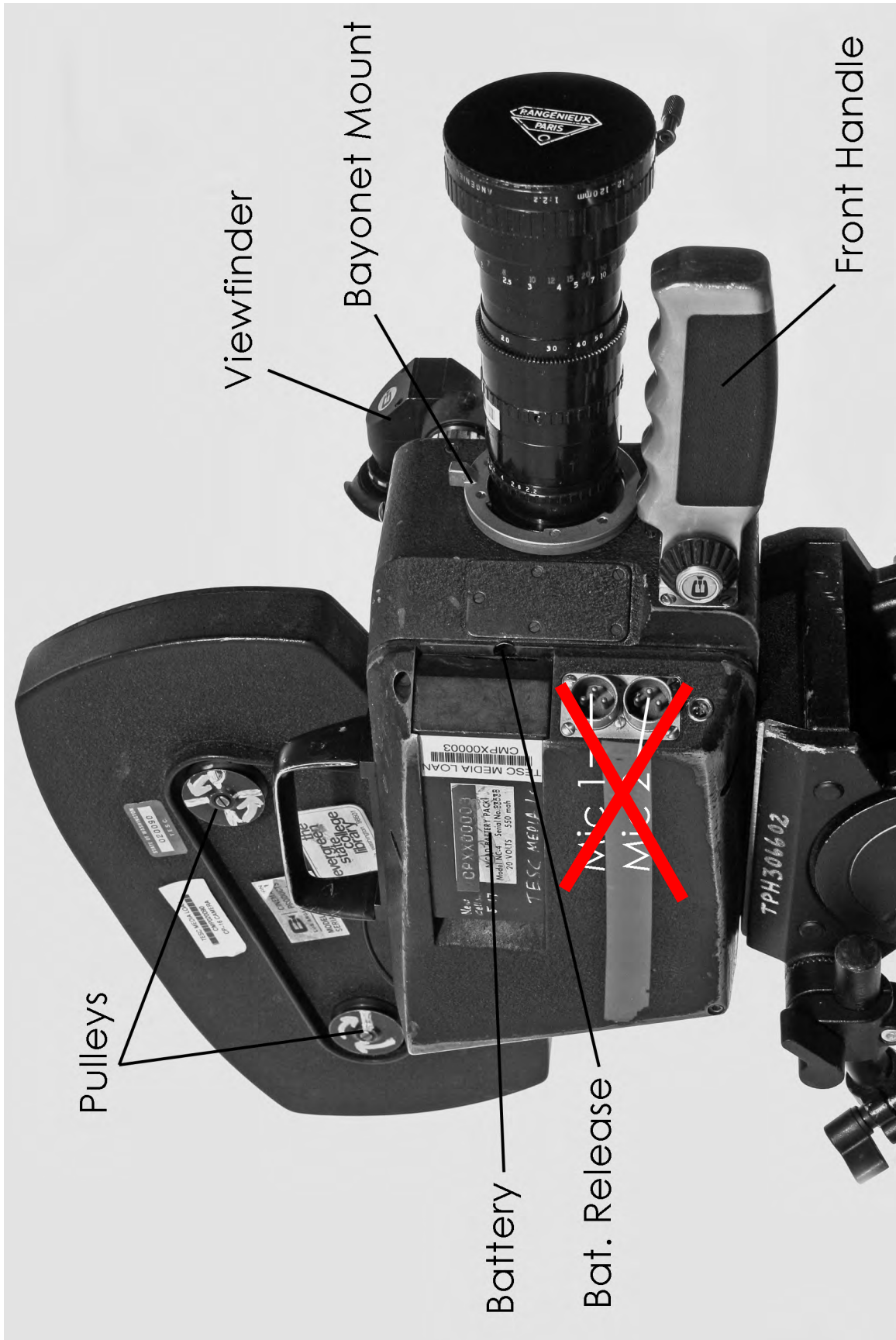
Media Loan has a number of accessories available for the CP. Tripods, fluid heads, spreaders and shoulder mounts are standard checkout items. We have a number of audio accessories including mixers, microphones and recorders which are compatible with the camera. Ask the Media Loan 16mm staff about equipment which may help you in your productions.

## Cleaning

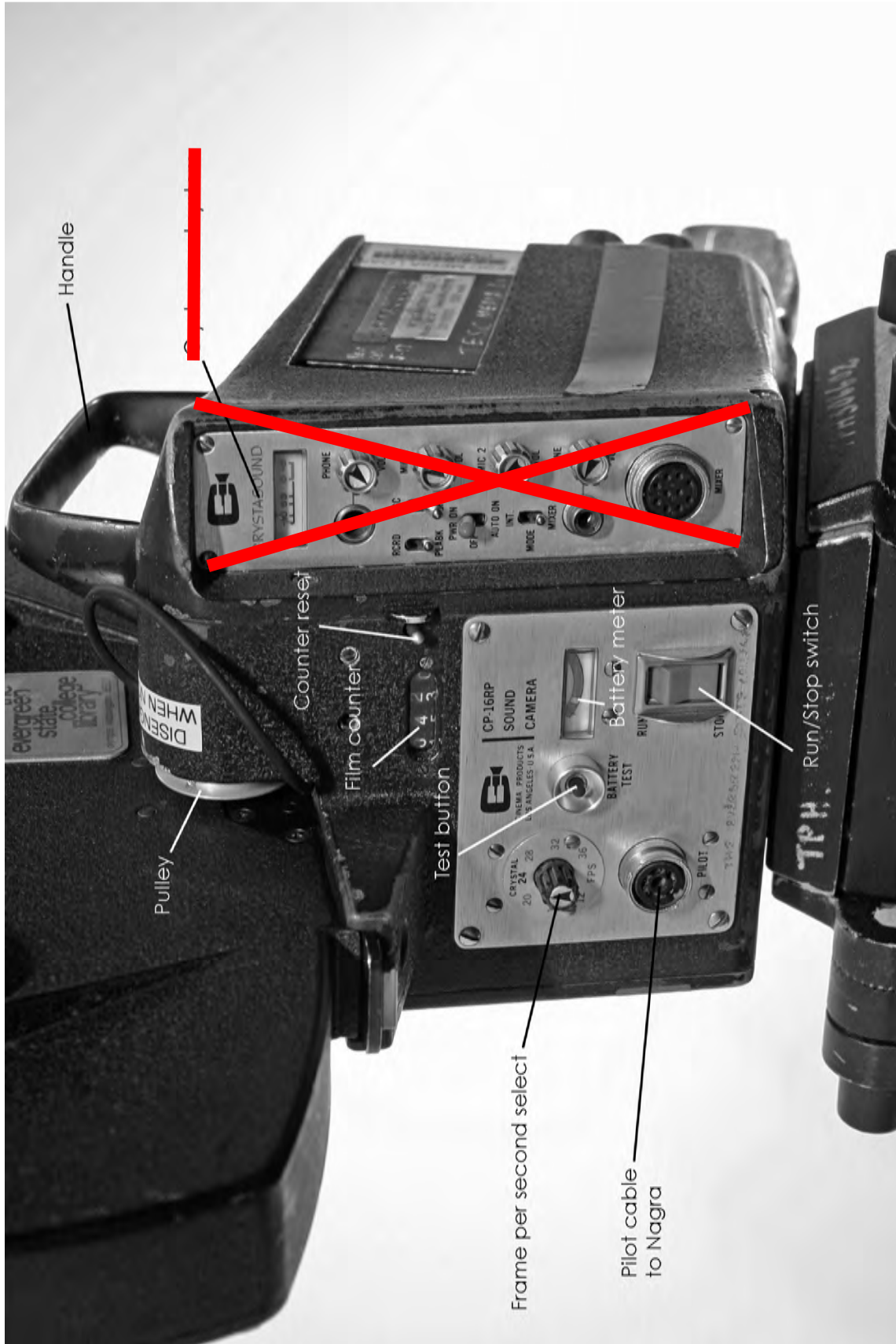
Before shooting, it is a good idea to brush out the inside of the camera and magazines. Do not use compressed air or pressurized canned air. The film gate surfaces in the CP-16 camera are designed to avoid collecting emulsion during normal use. Some emulsion dust will settle under the film pull-down claw. This dust consists of loose particles of emulsion from around the perforations which are dislodged when the film is run through the camera. loose particles settle at the bottom of the camera. They may be removed by using a small, soft brush. Use alcohol on gate and film rollers only if emulsion build-up resists other methods. When cleaning the lenses, use only lens paper and lens cleaning fluid.

# Camera Images

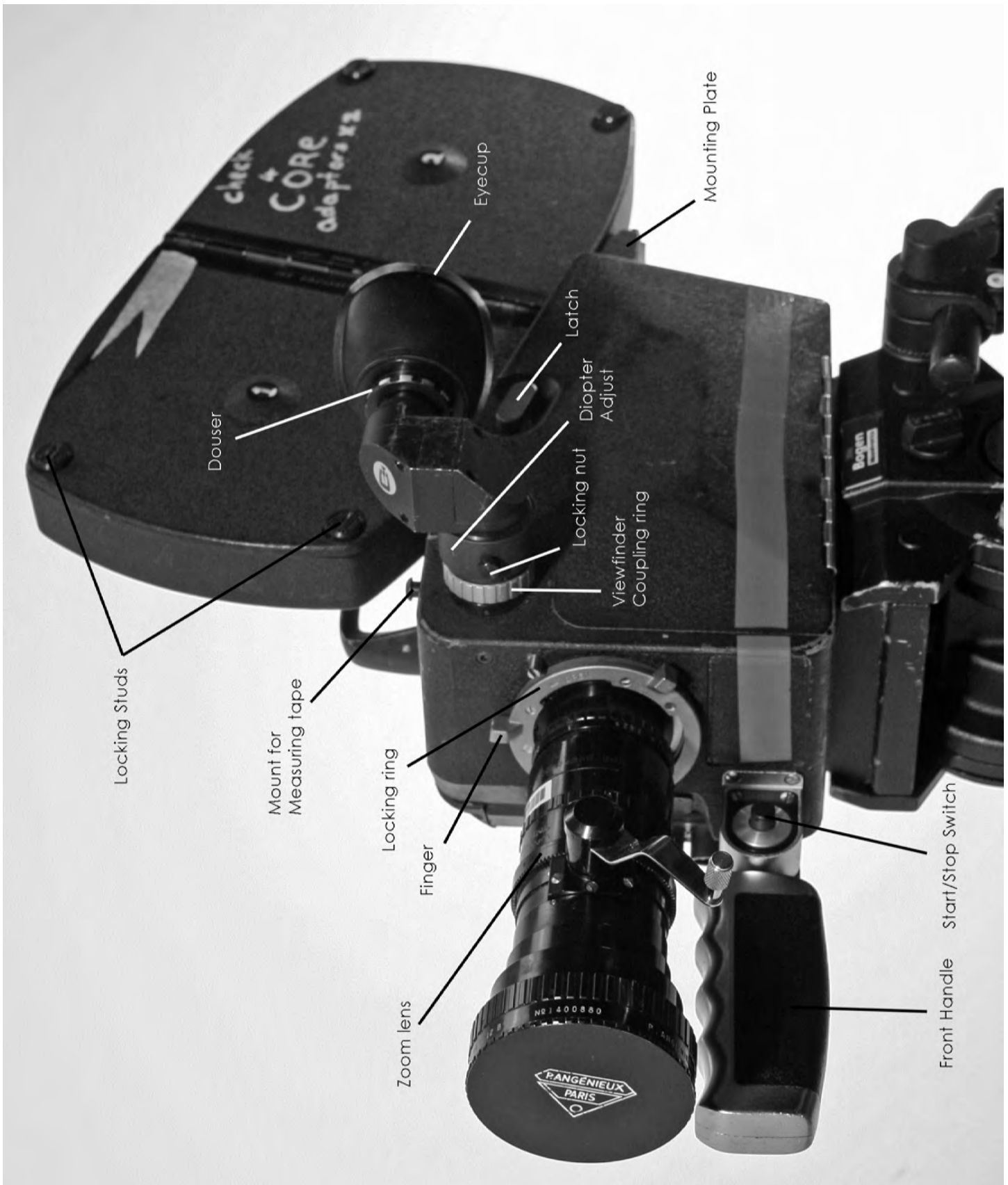
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# Camera Images



# Camera Images



# Camera Tests

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## Written Test for the CP-16

1. Describe the optical system using drawings if necessary.
2. Explain the functions of the four lights in the viewfinder.
3. Explain the difference between single-system and double-system sound.
4. What are two ways filters are used on the CP-16?
5. What types of lenses will fit the CP-16?
6. What is unique about the trigger system?
7. How long should you charge low batteries? How long will a fully charged battery run?
8. List two indicators which tell you how much film has been shot.
9. What precautions must you take when handling or cleaning the CP-16?
10. What is the extent of your financial responsibility?

## Operational test for the CP-16

1. Identify all parts and controls on the CP-16.
2. Demonstrate adjustment and focus of the diopter.
3. Demonstrate proper mounting and use of the zoom lens.
4. Demonstrate proper procedures for charging the battery.
5. Insert the battery into the camera.
6. Demonstrate how to load the magazine; in daylight; in a changing bag.
7. Mount magazine on camera; thread camera; test for proper threading.
8. Demonstrate how to set up and monitor single-system sound.
9. Demonstrate how to set up and monitor double-system sound.
10. Demonstrate proper cleaning techniques for: lens, magazine, and camera.