

how to
use
your

BELL & HOWELL
auto 35
reflex

introduction

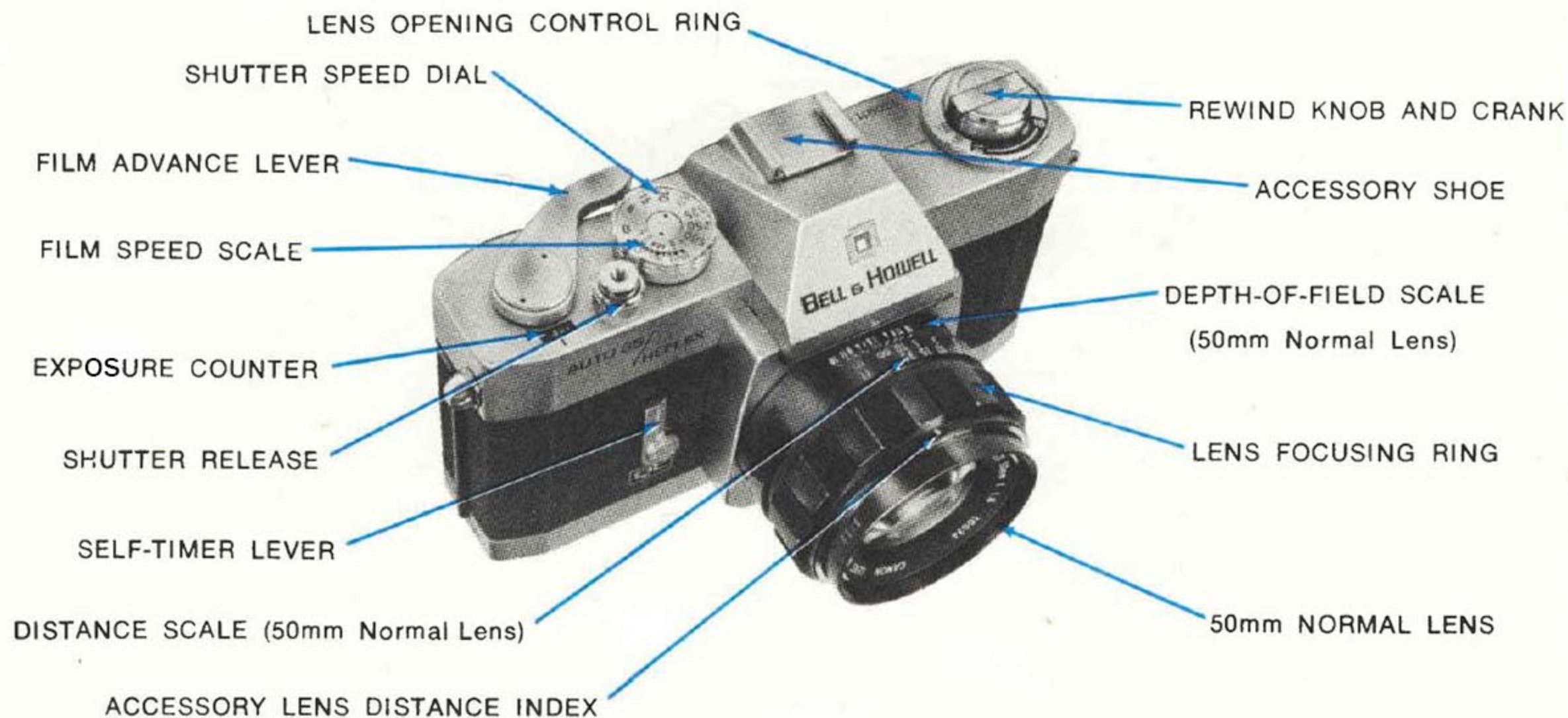
Welcome to a new world of picture-taking! Your Bell & Howell Auto 35/Reflex is the latest word in fine camera design, with features and innovations that will provide professional results for everyone. Now you have completely automatic electric-eye convenience and accuracy, with single-lens reflex versatility. And there's lens interchangeability, too!

You're going to enjoy using your new camera—and you'll enjoy the many memories it will record for you. Take your new Auto 35/Reflex with you wherever you go.

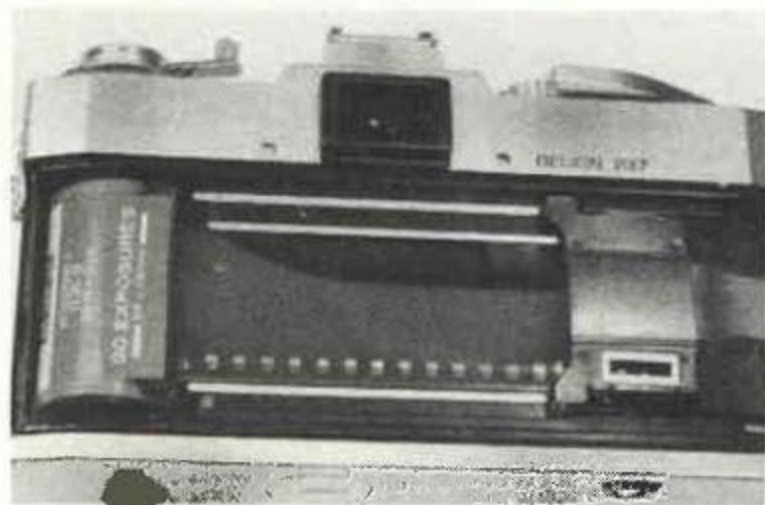
To become completely familiar with the features of this fine camera, read this instruction book carefully. Try a practice roll before using your camera for the first time on a trip or at a special event. Unfold this flap and the flap on the back page when you read the operating instructions.



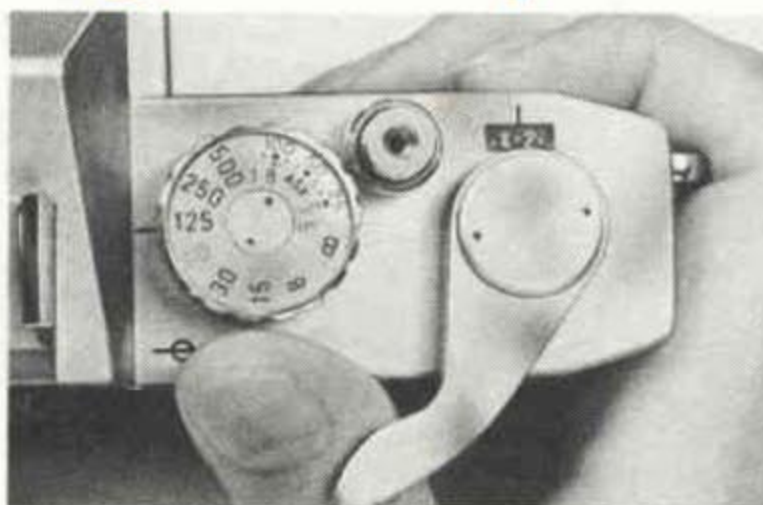
Here are the important parts of the camera as they are referred to throughout this book. You'll want to become familiar with them.



easy steps to good pictures



1 To load film, first pull up the Rewind Knob to open the camera back. Drop the film cartridge in place, then push the Rewind Knob back down, turning if necessary to seat it. Lay the film across the camera back until the tip reaches the red mark. Holding the film in place, close the back. (See page 7.)

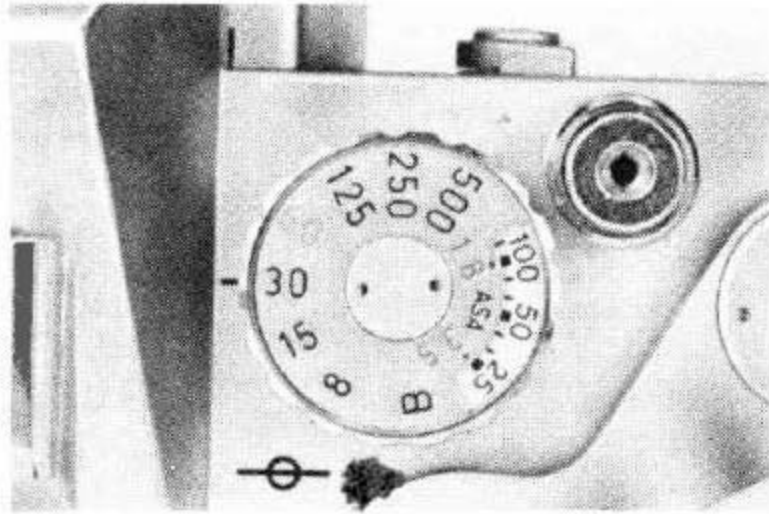


2 You will notice the Exposure Counter is on "S." Wind the film with the Film Advance Lever and press the Shutter Release until the counter reads "0." You are now ready to wind the film for the first picture. You can wind the film with a full stroke or with several small strokes. (See page 9.)

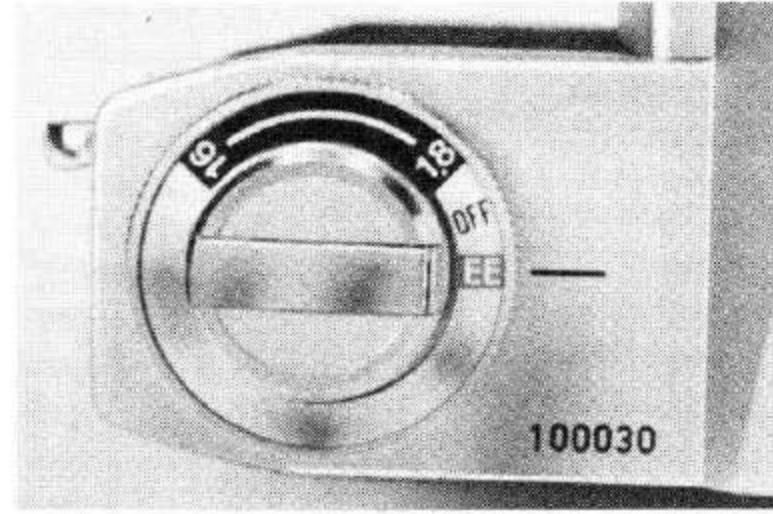


3 Since films have different sensitivities, you must set the camera for the film you are using. Lift the ring around the Shutter Speed Dial and turn it until your film's ASA speed is opposite the "1.8" index (when using the normal lens) or the "3.5" index (when using an accessory lens). (See page 11.)

These steps are reminders only. Read the complete booklet for detailed information.



4 Set the desired shutter speed by turning the Shutter Speed Dial to align the speed number (they are fractions of a second) with the Index. Use 500 or 250 on bright days for action pictures, 125 for most normal outdoor shots, 60 for cloudy days and electronic flash, and 30 for dim light. (See page 12.)

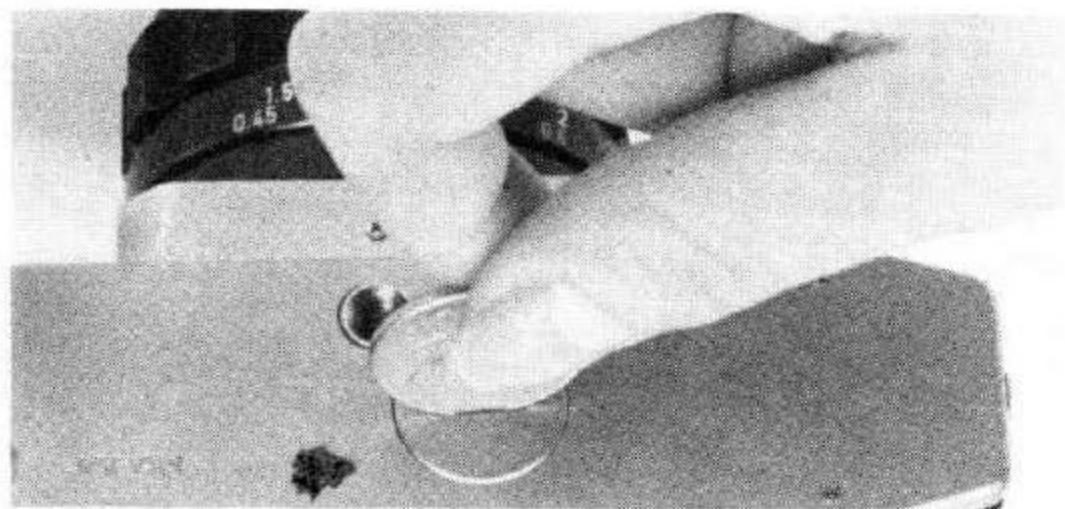


5 Your camera's electric eye is set by the Lens Opening Control Ring. Turn this ring to the EE position for electric eye pictures outdoors. NOTE: The battery must be installed for the electric eye to operate. When not using the camera, the ring should be turned to the OFF position. (See page 11.)

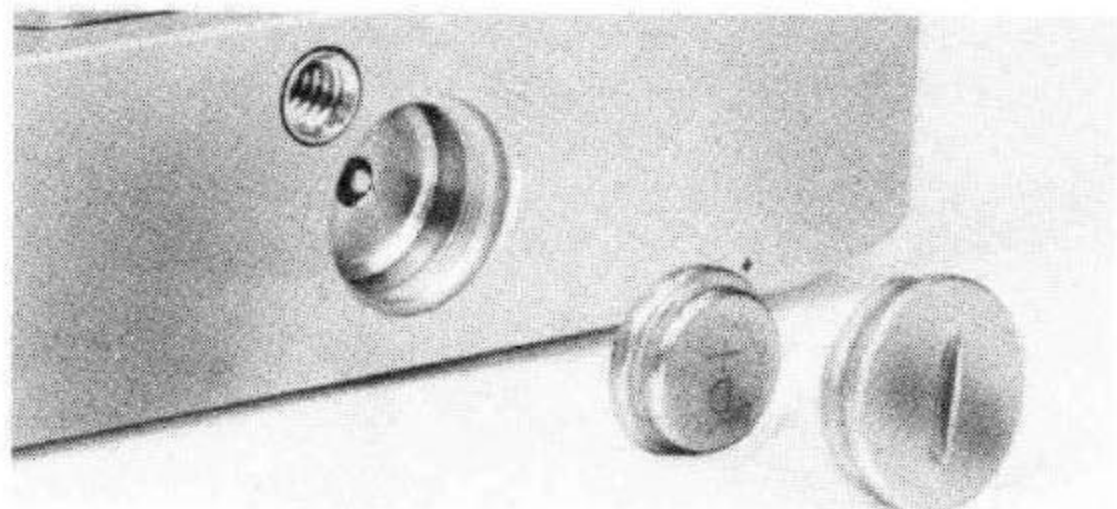


6 Look through the camera at the subject and turn the Lens Focusing Ring until image in the microprism is sharp and clear. Check to be sure the Exposure Indicator is within the clear area. Compose the subject carefully, just as you want it to appear in final picture, then press the Shutter Release.

installing the battery

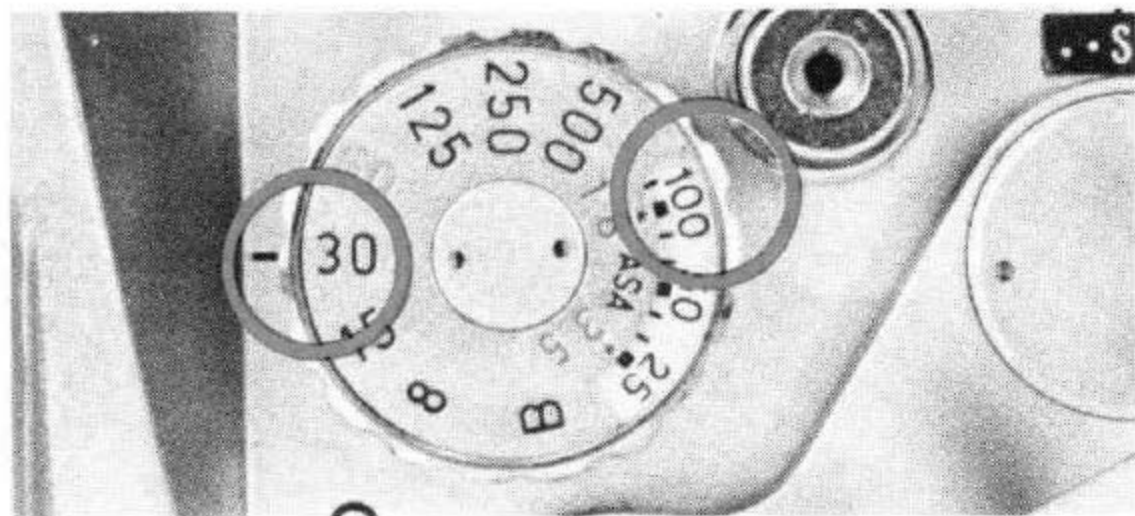


Your Auto 35/Reflex camera uses a dependable 1.3-volt mercury battery to power the CdS electric eye. To install the battery (one is included with your camera), unscrew the Battery Compartment Cover with a coin. Drop the battery in place with the minus (–) side down and the plus (+) side facing the cover. Replace the Battery Compartment Cover. *The electric eye will not function unless the battery is properly installed.*

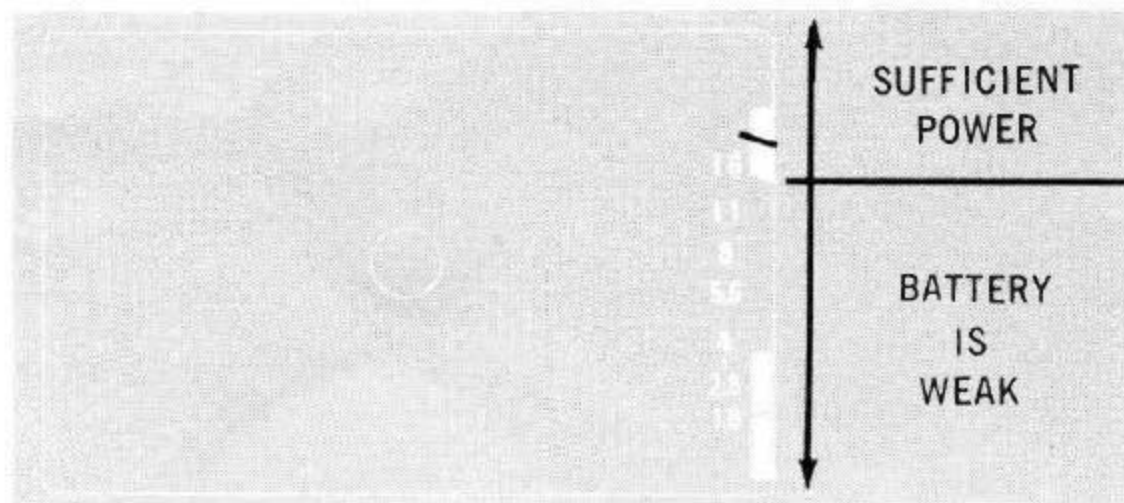


This battery will have a useful life of approximately one year. Replace it after this period or whenever the battery check (see page 6) shows it is weak. Ask your dealer for a Mallory PX-13, Eveready EPX-13, Burgess HPX-13, or equivalent. NOTE: To assure proper contact, wipe any fingerprints from the battery surface with a dry cloth before installing. Remove the battery if the camera is not to be used for a long period.

checking the battery



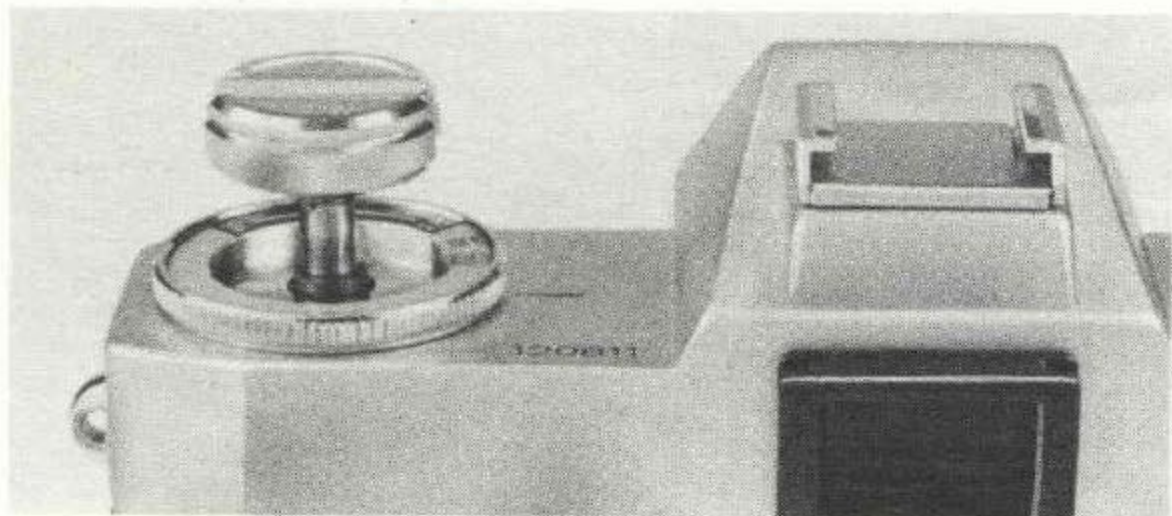
Here's how to check the mercury battery for sufficient power. First set the Film Speed Scale to ASA 100 (use the 1.8 index) by lifting up and turning the ring around the Shutter Speed Dial. Then turn the entire Shutter Speed Dial to a setting of 30 (1/30 second). Turn the Lens Opening Control Ring to EE to turn the electric eye on. When all of these settings have been made, aim the camera (while looking through the



viewfinder) at the sky or some other bright object. The battery has sufficient power if the Exposure Indicator swings up to or over the number 16 on the scale. If it does not swing up to this point, then the battery is weak and should be replaced.

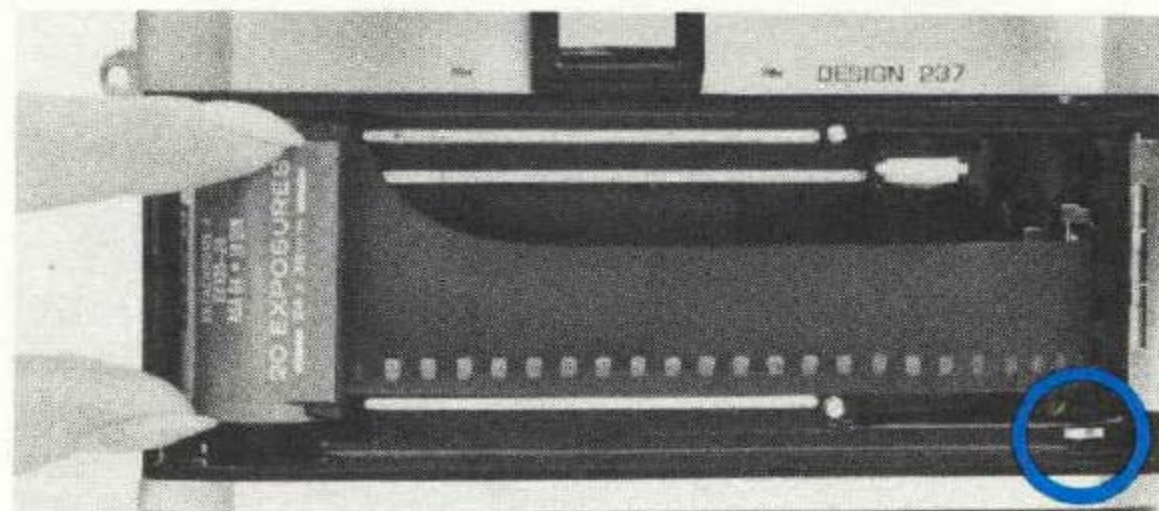
NOTE: Always turn the Lens Opening Control Ring to OFF when the camera is not being used to conserve the battery power.

loading the film



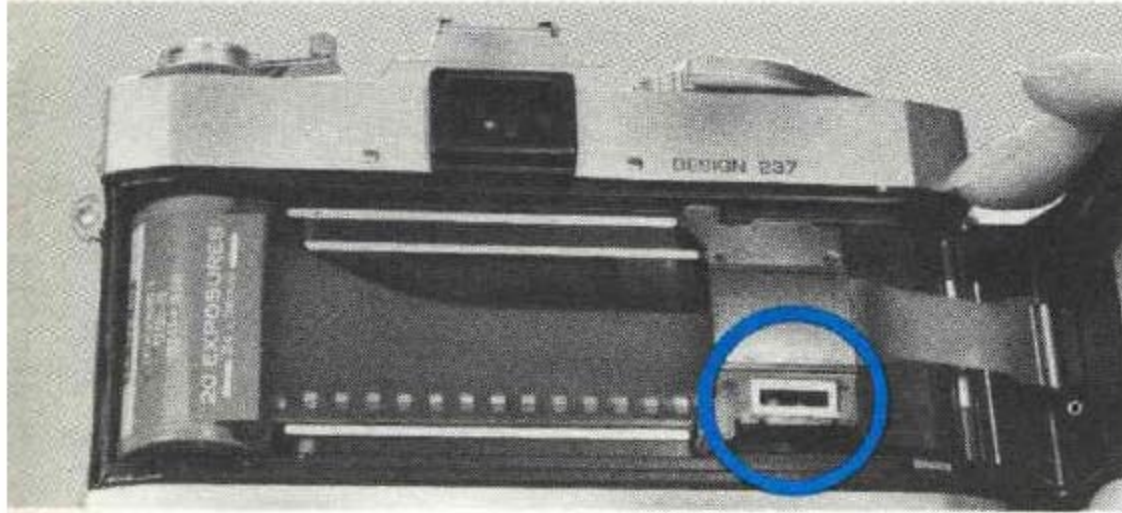
Your Auto 35/Reflex camera will accept any type of standard 35mm film, either 20 or 36 exposure. You will find there are many types of film available—for black-and-white prints, for color prints or for color slides.

Your dealer will be happy to advise you on a film to best suit your needs. See page 11 for information on setting the electric-eye for the film you are using in your camera.



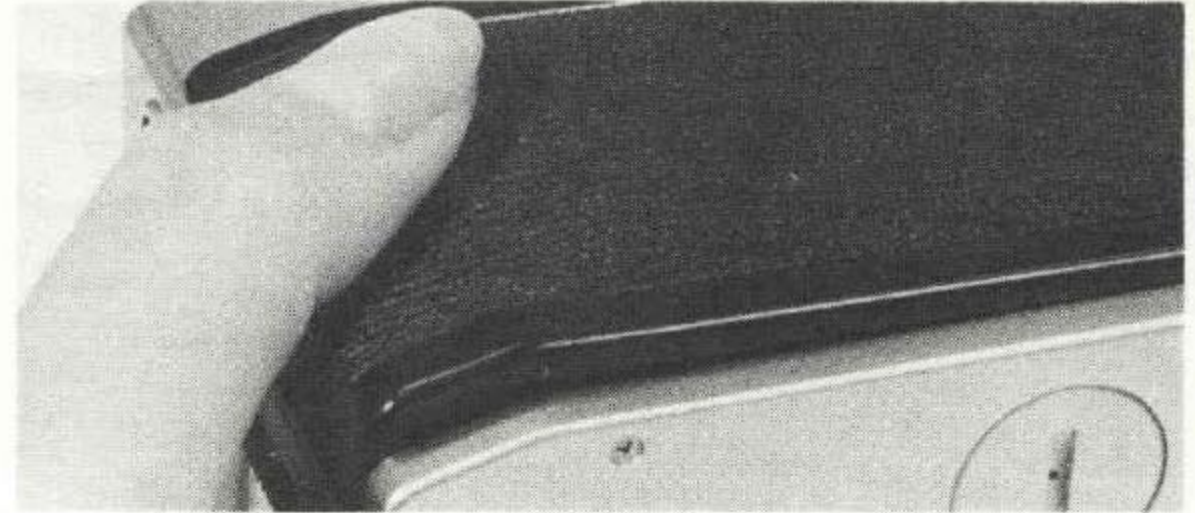
To load film, first unlock the Camera Back by pulling the Rewind Knob all the way out. Open the back completely and place the film cartridge in the left-hand recess as shown. The film leader should lie across the inside back of the camera.

Push in the Rewind Knob, turning it if necessary so the fork on the rewind shaft engages the inner spool of the film cartridge.



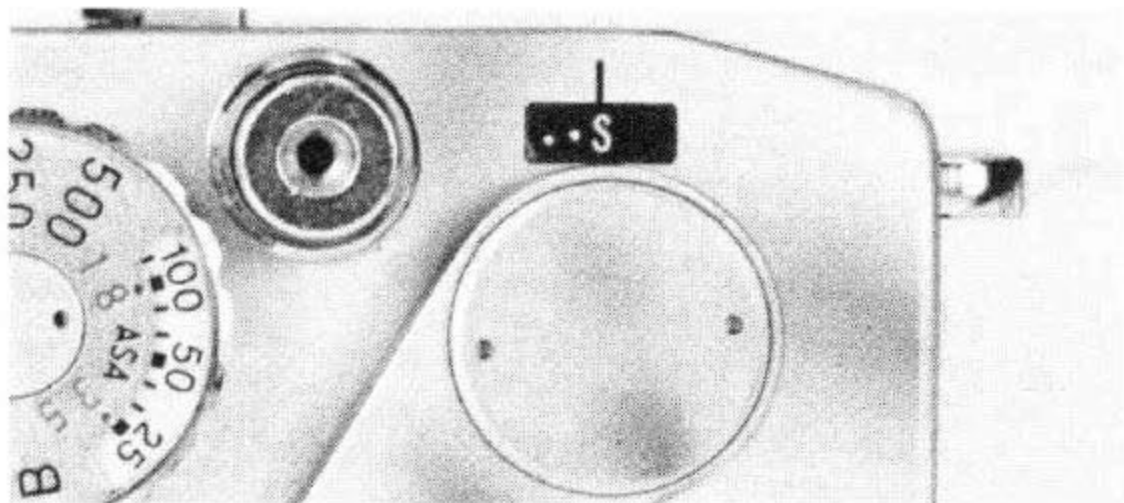
IMPORTANT: You will notice there is an inside cover that opens with the back. DO NOT touch or move this inside cover—it will close when the back is partially closed to hold the film in place.

With the cartridge in place, pull the film over until the tip of the leader reaches the Film Loading Mark (red). Holding the film in this



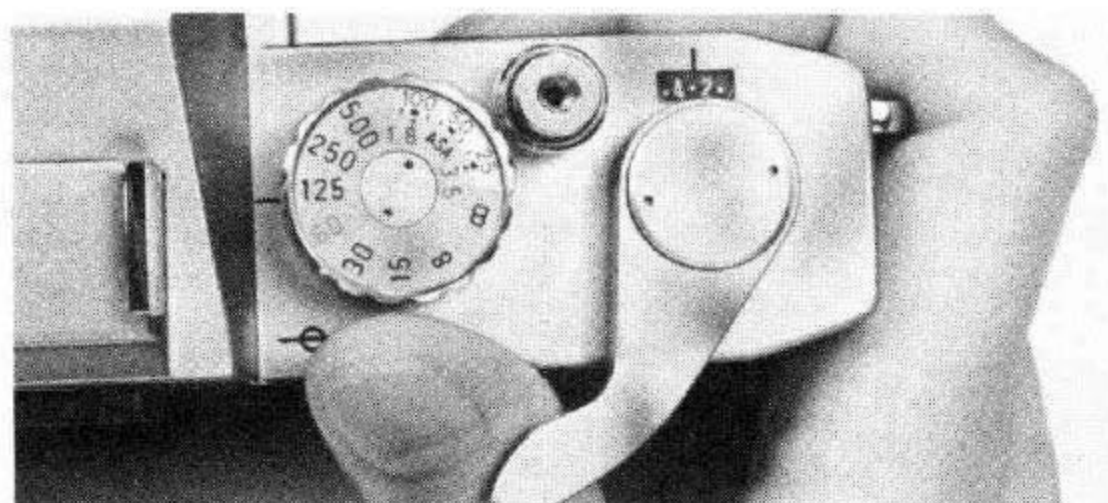
position, partially close the Camera Back so the inside cover holds the film in place. Check to be sure that the film perforations are engaged by the teeth of the bottom white sprocket wheel (look through the square hole in the inside cover). If these are not engaged, open the back and reposition the film. When everything is checked and in place, close the back completely by snapping it shut.

winding the film



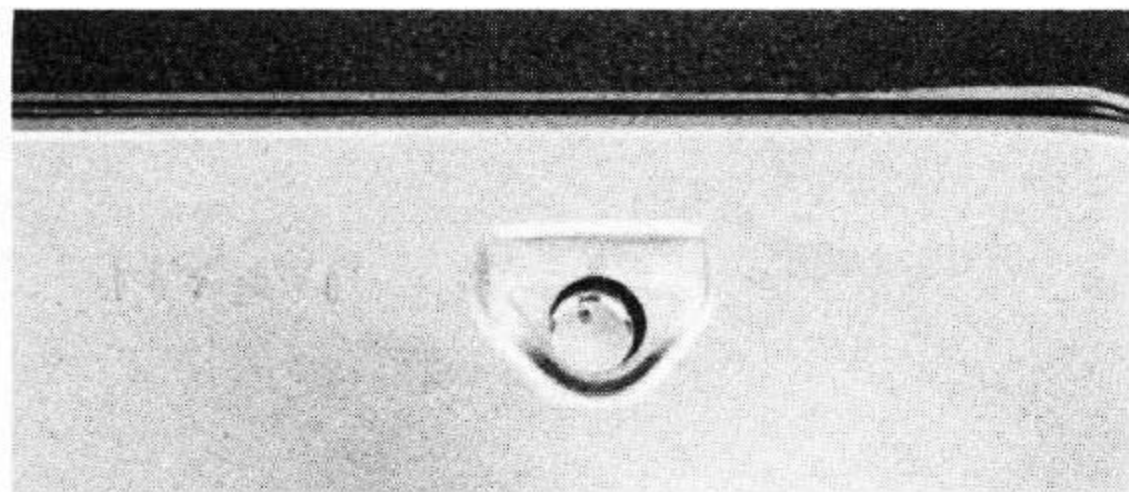
The Film Advance Lever winds the film, cocks the shutter, and prepares the rest of the camera's mechanism for the next picture—all in one motion.

When film has been loaded in the camera and the back is closed, the Exposure Counter automatically will be on "S" for START. Press the Shutter Release and advance the Film Advance Lever a FULL stroke, then

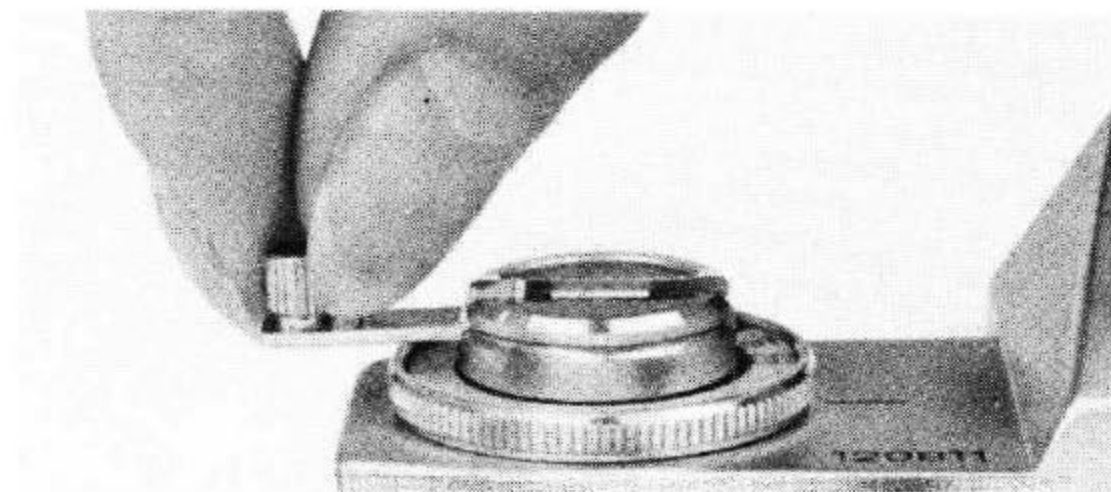


repeat, until the counter reads "0." You are now ready to advance the film for the first picture. Once a picture has been taken, just move the Film Advance Lever a full stroke (or several small strokes until the lever locks) and you're ready for the next shot. You cannot take a picture unless the film has been advanced a full frame. The Exposure Counter automatically shows how many pictures have been taken.

unloading the film



When the Exposure Counter reaches 20 (or 36) and you have taken that last picture, you are ready to unload. **BEFORE OPENING THE CAMERA BACK**, push the Rewind Button IN, unfold the Rewind Crank, and rewind the film (turn the crank clockwise) until it is all back in the cartridge. You will notice the crank is much easier to turn when all the film is rewound, and the counter will be at 0. When the film is completely rewound, open



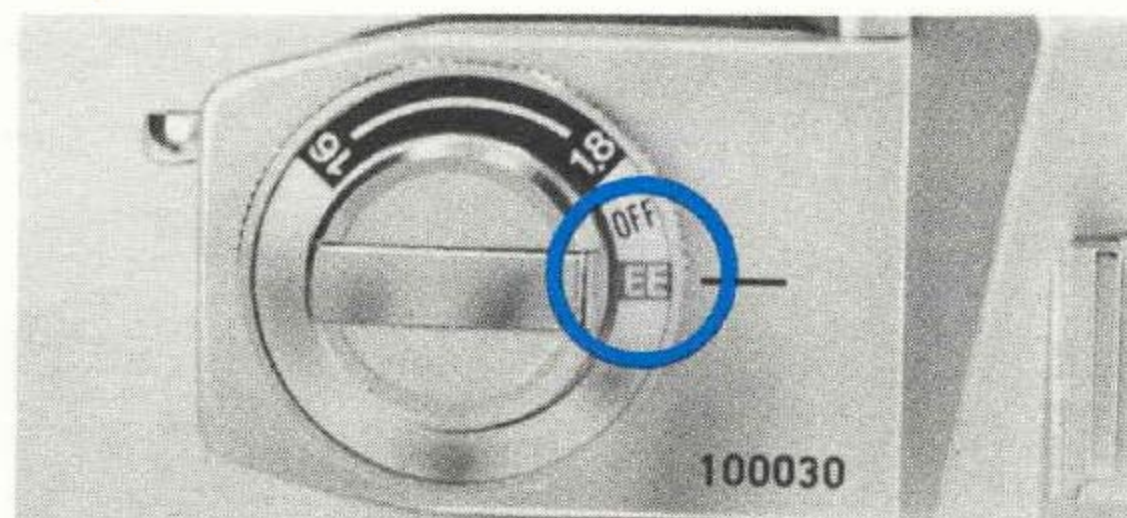
the back by pulling the Rewind Knob out and remove the cartridge. Have the film processed as soon as possible after exposing it. The Rewind Button will automatically pop out when you reload and advance the film.

NOTE: If you are at the end of the cartridge and you feel tension on the lever when advancing the film, do not force the lever. Proceed with unloading.

setting the electric eye



Because every type of film has its own sensitivity or speed (ASA Film Speed), your camera's electric eye must be set for the film you are using. Film speeds will be found on the film's instruction sheet. To set the speed, **pull up the outer ring of the Shutter Speed Dial** and turn it until the ASA rating of your film is opposite the "1.8" index (when using the normal f/1.8 lens) or the "3.5" index (when using an accessory f/3.5 lens).

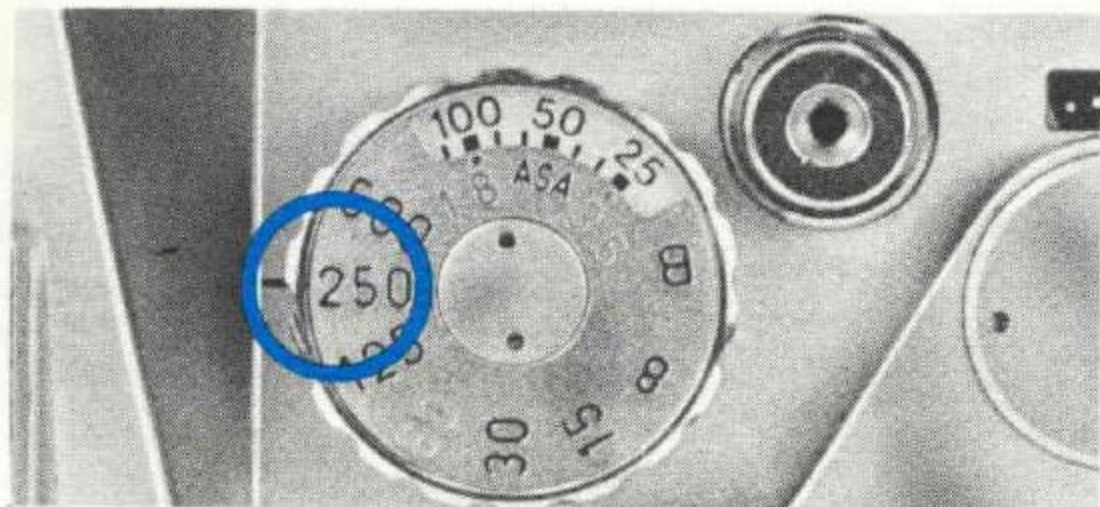


It is important that you set the speed opposite the index for the lens you are using. Below are the intermediate speeds on the scale.

25	•	•	50	•	•	100	•	•	200	•	•	400	•	•	800
(32)		(40)		(64)		(80)		(125)	(160)		(250)	(320)		(500)	(640)

Once the film speed is set, turn the Lens Opening Control Ring to "EE" for electric-eye pictures. Turn this ring to OFF when the camera is not being used.

setting the shutter



The shutter speed to use depends on the type of film you are using, the type of subject, and the amount of light. Ordinarily you would use 125 (1/125 second) for normal outdoor shots, slower speeds (1/60, 1/30) on dull days, and faster speeds (1/250, 1/500) for action pictures. The numbers on the dial are fractions of a second. Turn the Shutter Speed Dial until the desired speed is opposite the Speed Index (set to a stop).

BRIGHT LIGHT	USE 1/500 SECOND
FAST ACTION	OR 1/250 SECOND
NORMAL LIGHT	
WITH FAST FILM	USE 1/125 SECOND
NORMAL LIGHT	
WITH SLOW FILM	USE 1/60 SECOND
DULL LIGHT	USE 1/30 SECOND
VERY DIM LIGHT	
WITH TRIPOD	USE 1/15 SECOND

The settings of 1/15 and 1/8 second should be used with the camera on a tripod to prevent camera movement. The B setting is for time exposures—the shutter will remain open as long as the Shutter Release is held down. NOTE: After setting a shutter speed, check the Exposure Indicator with the camera aimed at the subject. If the indicator is **not** in the clear area, turn to a higher (or lower) speed. See page 14.

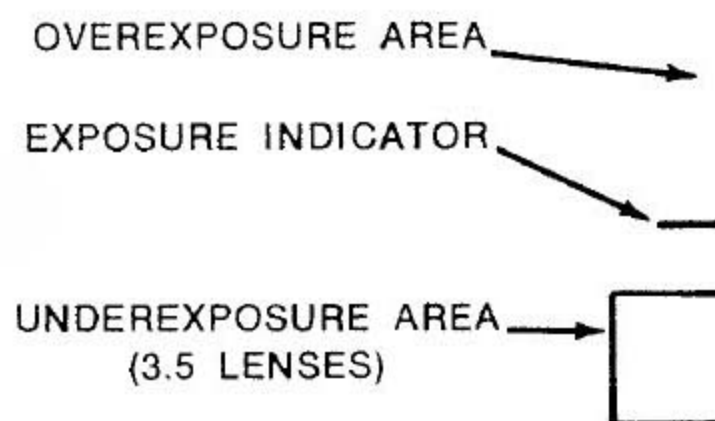
focusing the lens



Focusing is easy and precise with your Auto 35/Reflex camera. The circular section in the center of the viewfinder is the microprism rangefinder. To focus the lens, aim the camera at the subject and place the microprism area over an important part of the subject. Turn the Lens Focusing Ring until the image in the microprism area is sharp and clear. Be sure to refocus the lens whenever the subject distance changes.

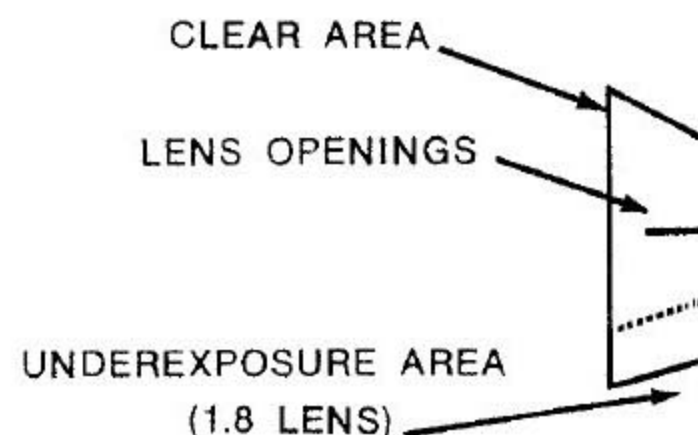


Focusing is done the same way no matter what lens you have on the camera. The distance scales, however, are different for each lens. For the 50mm normal lens, the scale is next to the camera body. For the wide-angle and telephoto lenses, the distance scale is on the accessory lens itself. These scales are mainly used for checking the subject distance for flash pictures. See pages 23 and 24.



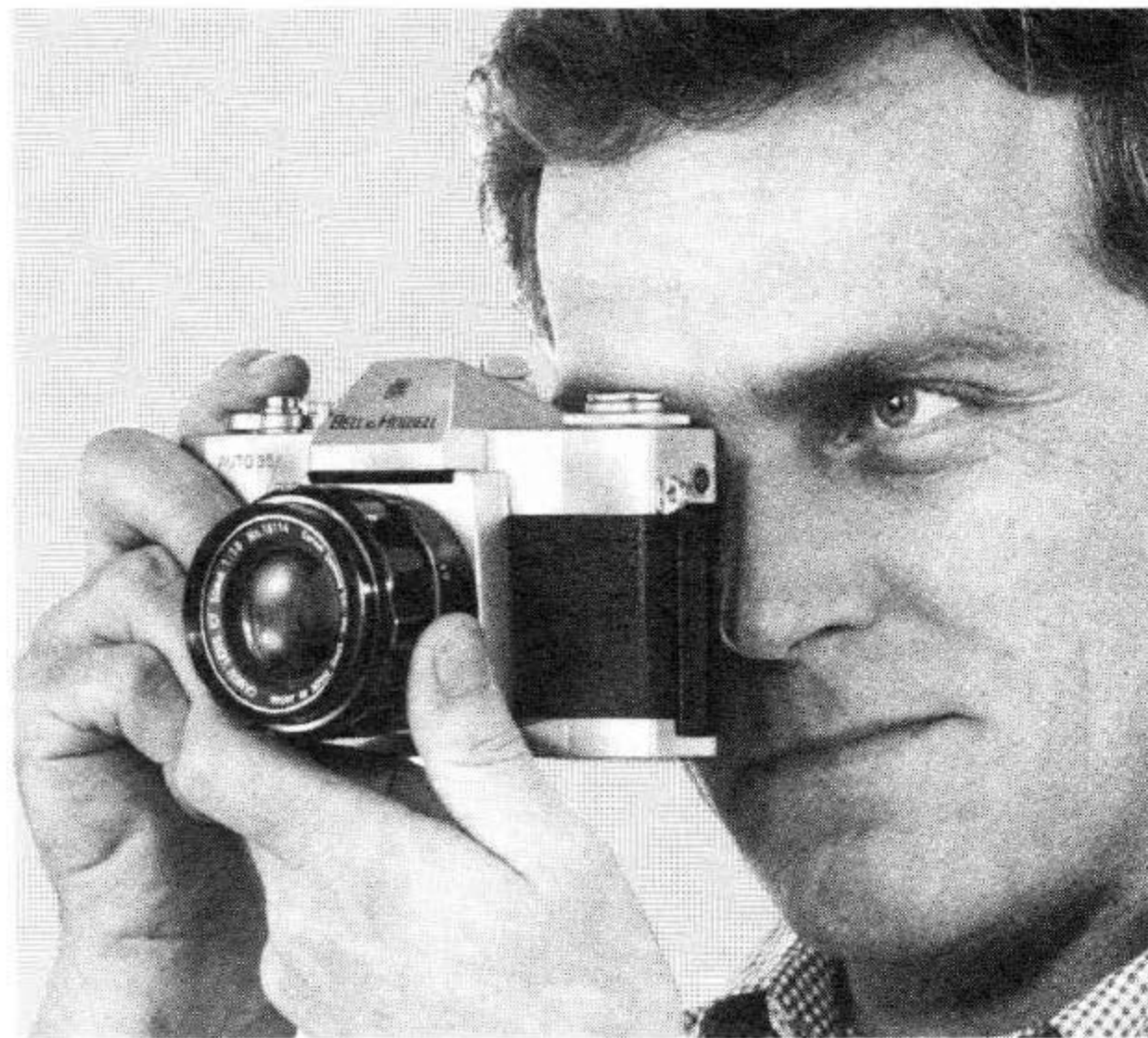
Your camera's viewfinder is the reflex type and shows you exactly how your picture or slide will appear.

On the right-hand side of the viewfinder is a scale to check for proper exposure. With the Lens Opening Control Ring on EE, and the camera aimed at the subject, the Exposure Indicator should be in the clear area for a good picture. If it is in



the Overexposure Area, turn to a faster shutter speed. If it is in the Underexposure Area, turn to a slower shutter speed. Note that the Underexposure Area for the normal f/1.8 lens is different than for the f/3.5 accessory lenses. If it is not possible to move the Exposure Indicator into the clear area by either slowing down or increasing the shutter speed setting, then the light is too bright or too dim for a good picture.

taking the picture



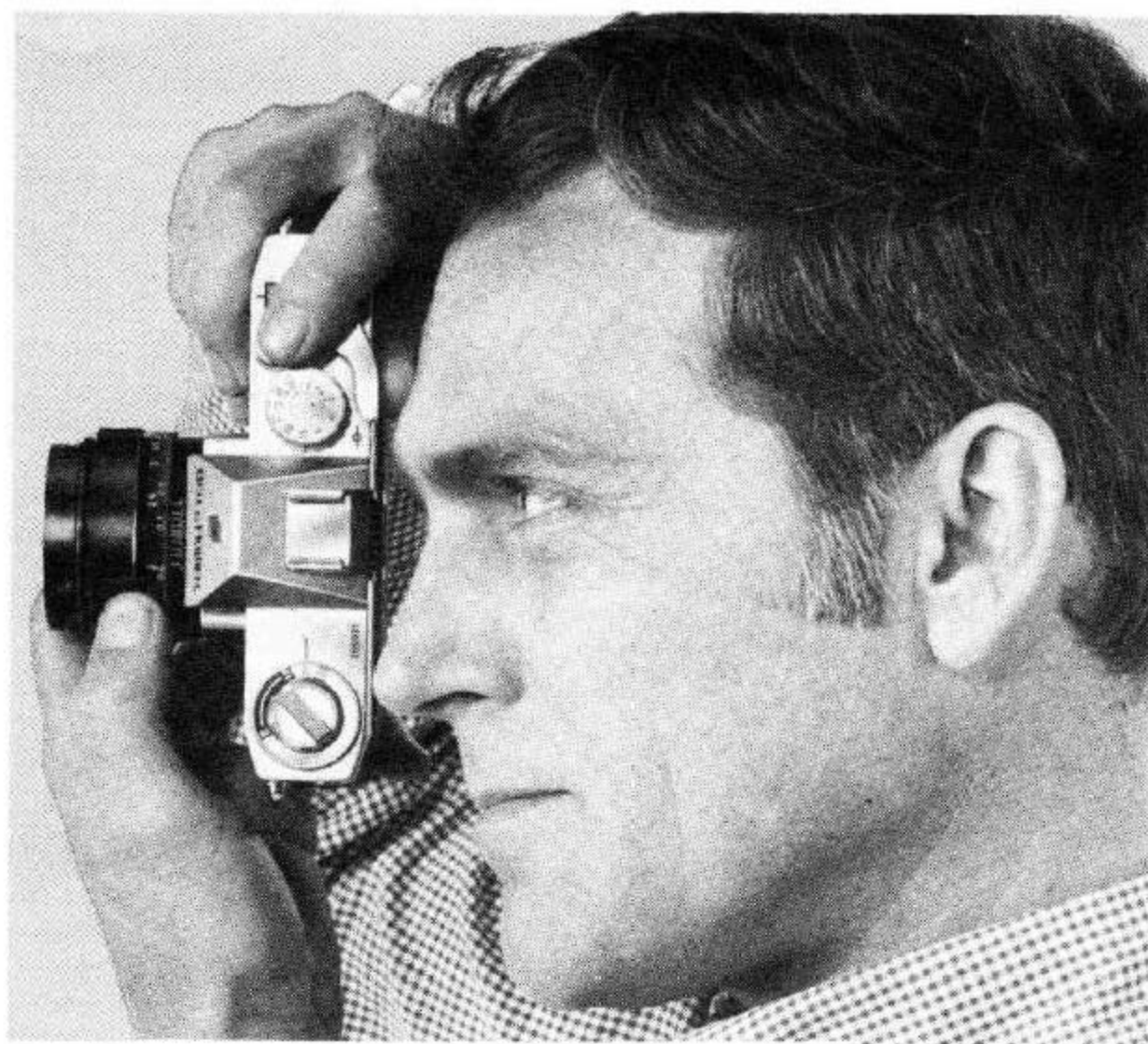
The illustrations show the two different ways to hold your camera for either horizontal or vertical pictures. Note that the right hand is grasping the camera with the forefinger on the shutter release. The left hand is holding the Lens Focusing Ring for last-minute focus changes.

Compose the subject in the viewfinder carefully— just as you want it to appear in the final picture or slide. Hold the camera level, for if the subject is tilted in the finder, it will be tilted in the picture. Be sure you get close enough to the subject to make the picture interesting. Many pictures are taken much too far away and the subject isn't even recognizable. Once the subject is composed carefully, and you have checked the Exposure Indicator for good exposure and the microprism

area for sharp focus, slowly press the Shutter Release to take the shot. Then advance the film for the next picture.

Remember that the electric-eye mechanism is working only when the Lens Opening Control Ring is set to EE and when the electric-eye battery is good.

In certain extremely bright situations with very fast (high ASA film speed) film, the Exposure Indicator may be in the Overexposure Area even with the Shutter Speed Dial at 500 (1/500 second). In cases like this you may place a neutral-density filter over the camera lens to cut down on the light. These filters are available in different densities and can be obtained from any photo dealer.



manual lens settings



There may be times when you wish to set the lens openings manually instead of using the electric eye. An example of this outdoors would be when the subject is extremely light and is against a dark background. To expose the subject properly, step up close and take an electric-eye reading of the subject only. Note the position of the Exposure Indicator on the scale. Then step back to the picture-taking position and turn the Lens Opening Control Ring to the Manual Opening Area and set the Exposure Indicator to the desired number. Be sure to return the ring to EE for regular electric-eye pictures.

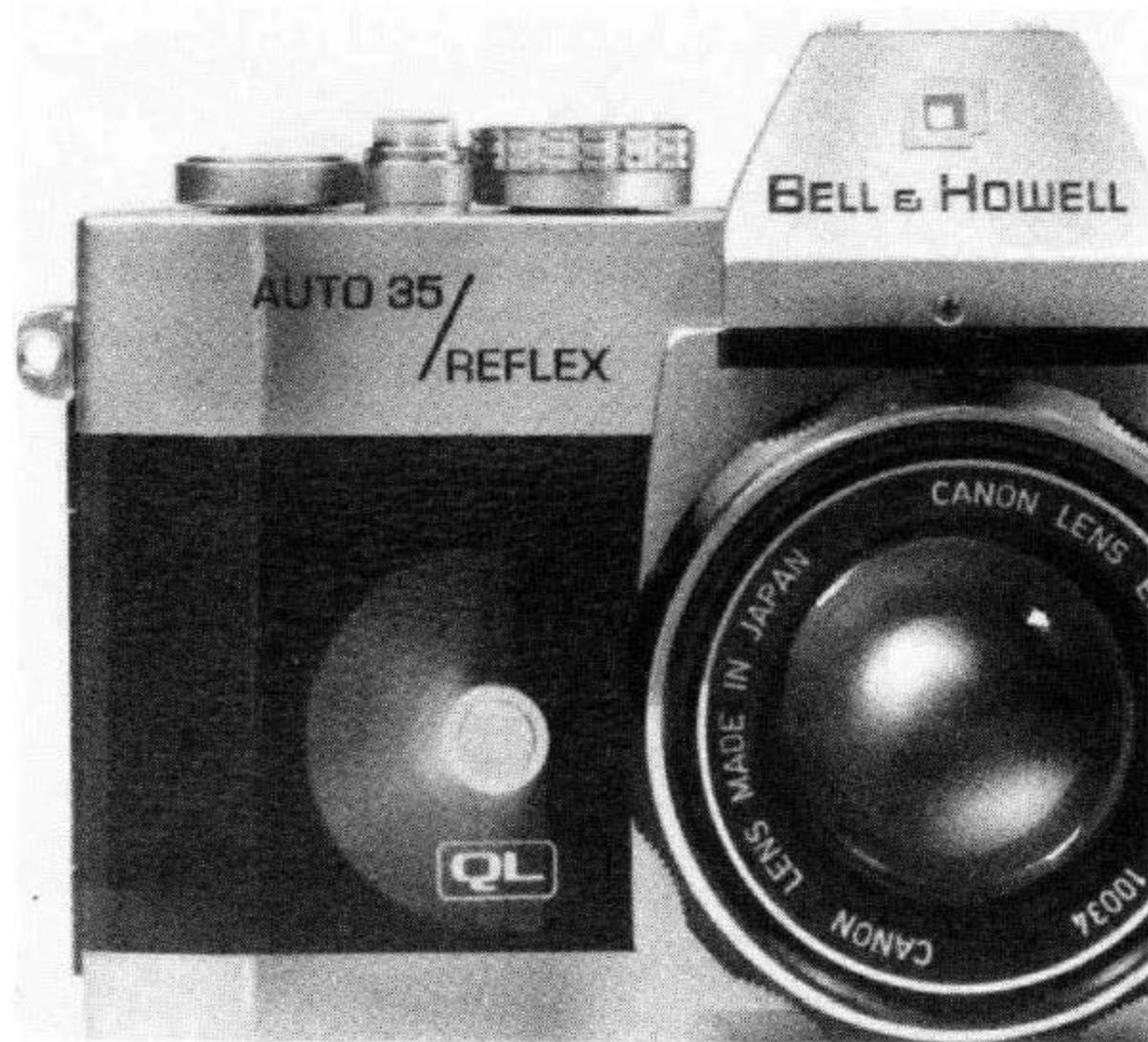
Manual lens openings must be used for flash pictures, also. Information on determining the proper opening to use will be found on pages 23 and 24.

using the self-timer

Your camera's built-in self-timer delays the taking of the picture about ten seconds. This allows you to get into your own shot if the camera is on a tripod. The self-timer also provides an automatic way to trip the shutter when you are holding the camera as steady as possible for a slow shutter speed picture (like 1/15 and 1/8 second).

To use the self-timer, first wind the film. Move the Self-Timer Lever all the way down (counterclockwise) until it stops. Pushing the Shutter Release will start the timer working and the shutter will trip after approximately ten seconds.

NOTE: The self-timer will work if the film has not been advanced, but the shutter will not trip. Always advance the film before using the timer for a delayed-action picture.



using interchangeable lenses



The lenses for your Auto 35/Reflex camera are the interchangeable front component type. This means that the rear lens components and the automatic lens diaphragm for the electric eye are built into the camera body. Because your camera is a single-lens reflex, you will always see the exact view as seen by whichever lens is installed.

The accessory lenses presently available for your camera are the 35mm f/3.5 wide-angle and the 95mm f/3.5 telephoto. A 125-mm f/3.5 telephoto lens will be available in the Fall of 1969.

Your camera comes with a 50mm f/1.8 normal lens. To remove its front component, just unscrew it by turning the front ring counterclockwise. To install

either the 35mm wide-angle lens or the 95mm telephoto lens, just screw it into the camera. After installing the lens, set the Lens Focusing Ring to infinity. Then turn the Distance Scale Ring on the lens to align the infinity mark (∞) with the white index dot. This scale shows the subject distance for that lens.

Whenever an accessory lens is installed on your camera, adjust the ASA Film Speed setting of your film to the "3.5" index. This readjusts the camera's electric eye for the wide-angle or telephoto lens. Be sure to reset the film speed setting back to the "1.8" index whenever you reinstall the normal f/1.8 lens. See page 11.

Whenever a lens is removed, be sure to install both the caps.



depth of field



The depth of field of a camera lens is the range of sharpness in front of and behind the subject focused upon. On the lens mount (next to the camera body) is the depth-of-field scale for the camera's normal 50mm lens. See the illustration at the left. This scale shows the range of sharpness for any distance setting when the lens is set to any opening. For example, the illustration shows a lens focus setting of about 16 feet. If the electric eye sets the lens opening to 8 (f/8), then the scale shows the depth of field for that picture to be from about 12 feet (the distance above 8 at the left of the scale) to about 30 feet (the distance above 8 on the right). If the lens opening being set were 16 (f/16), then the depth of field would be from about 9 feet to infinity (∞).

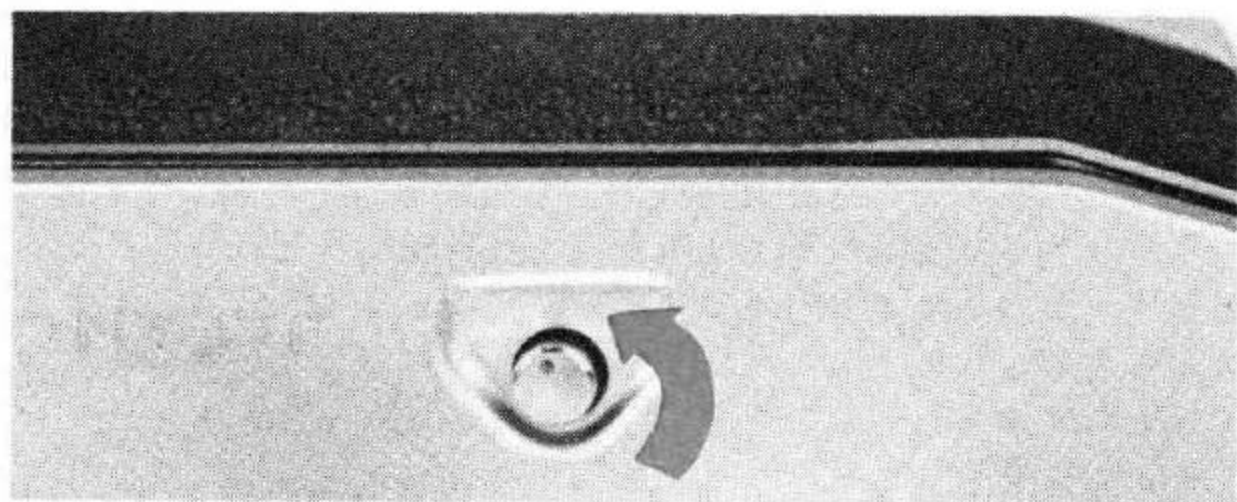
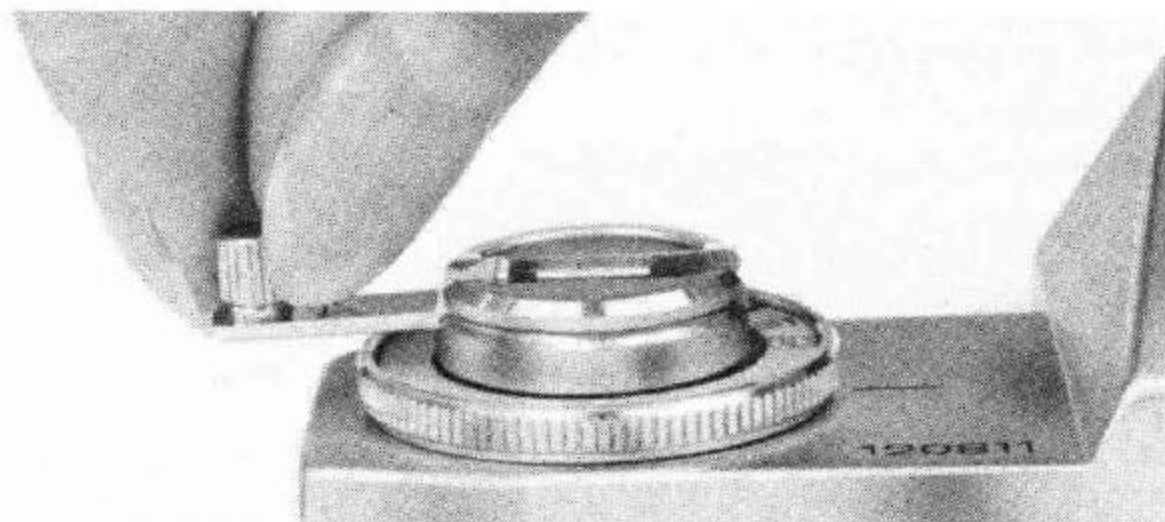
NOTE: This scale is for the normal lens only.

double exposures

Although the Auto 35/Reflex camera is designed to prevent accidental double exposures, it is possible to double-expose a picture intentionally by the following steps.

- 1) Make the first exposure, then press in the Rewind Button.
- 2) Unfold the Rewind Crank. Watching the Rewind Button's red mark, rewind the film until the button has turned $\frac{3}{4}$ of one turn.
- 3) Next, move the Film Advance Lever while lightly holding the Rewind Crank. When resistance is felt on the crank, stop winding.
- 4) Move the Film Advance Lever through a full stroke. You are now ready for the second exposure.

Any number of exposures on the same frame can be made by repeating these steps. The counter will advance for each exposure.



taking flash pictures

Your Auto 35/Reflex camera will accept almost any type of flash unit, either electronic flash or the kinds that accept flashbulbs or flashcubes.

You'll find the Bell & Howell Flashcube Adapter (No. 113821) a very compact and convenient unit. It uses 4-shot flashcubes for quick pictures without changing bulbs every exposure. The Flashcube Adapter can be purchased from your Bell & Howell dealer.

To install a flash unit on your camera, just mount it on the accessory shoe (or on the bottom of the camera if a bracket is used) and plug the cord into the PC Flash Socket. Be sure your unit has fresh batteries for dependable results. Your dealer can check batteries for you.

Set the camera's Shutter Speed Dial to 1/15 second (15) for flash pictures with all types of flashbulbs and flashcubes. The flash duration of the bulb (usually 1/75 second) will be the effective exposure and will stop a lot of action. When using an electronic flash unit, set the Shutter Speed Dial to 1/60, 1/30, or slower speeds. The flash duration of these units (usually 1/1000 second) will stop even the fastest action.

Since your camera's electric eye is not used for flash pictures, you must set the camera's lens opening manually with the Lens Opening Control Ring. Just turn the ring from EE to the Manual Opening Area. Sight through the viewfinder and turn the ring until the Exposure Indicator points to the desired number.

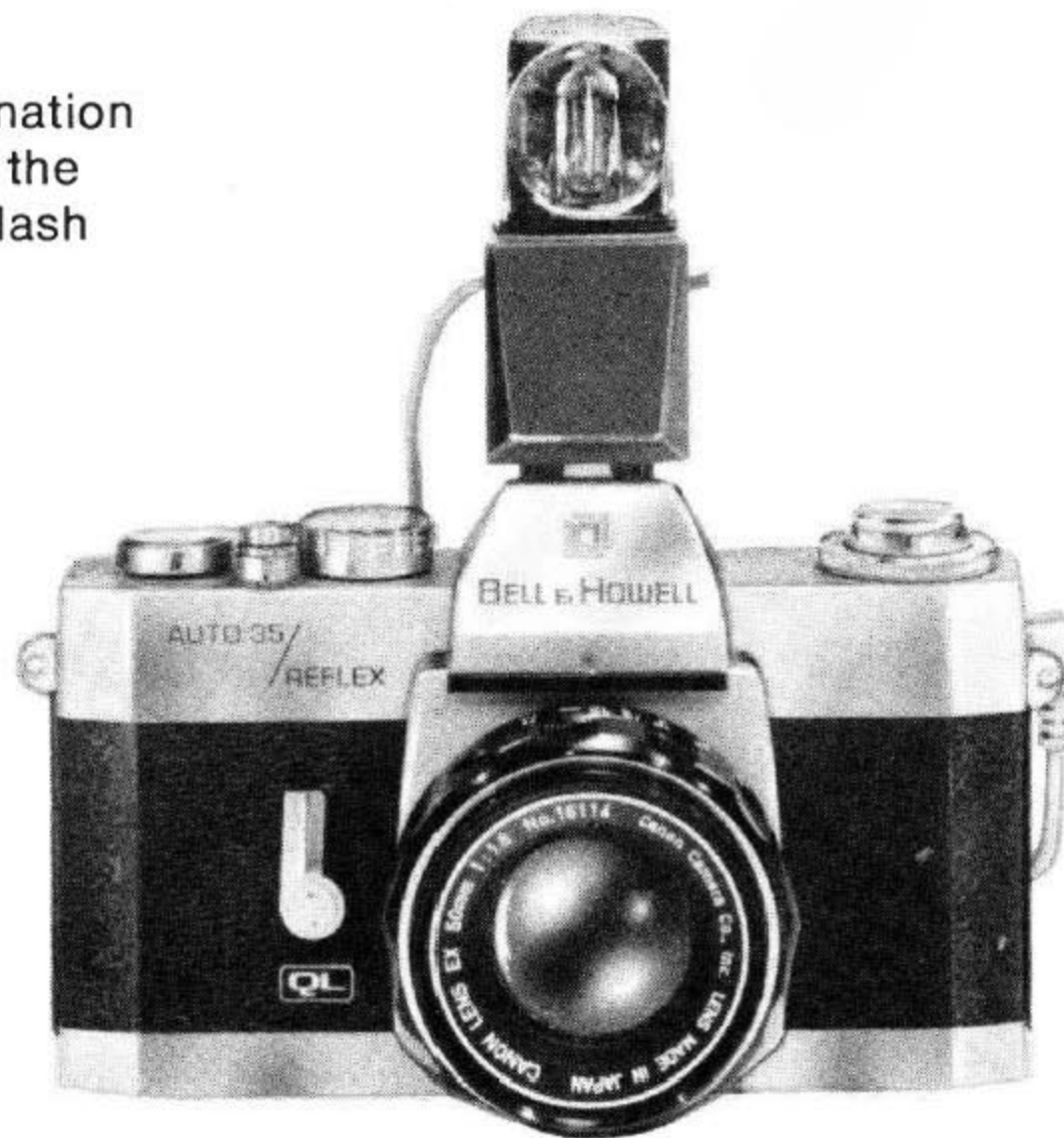
The GUIDE NUMBER SYSTEM is used to determine the proper lens opening to use for a flash picture.

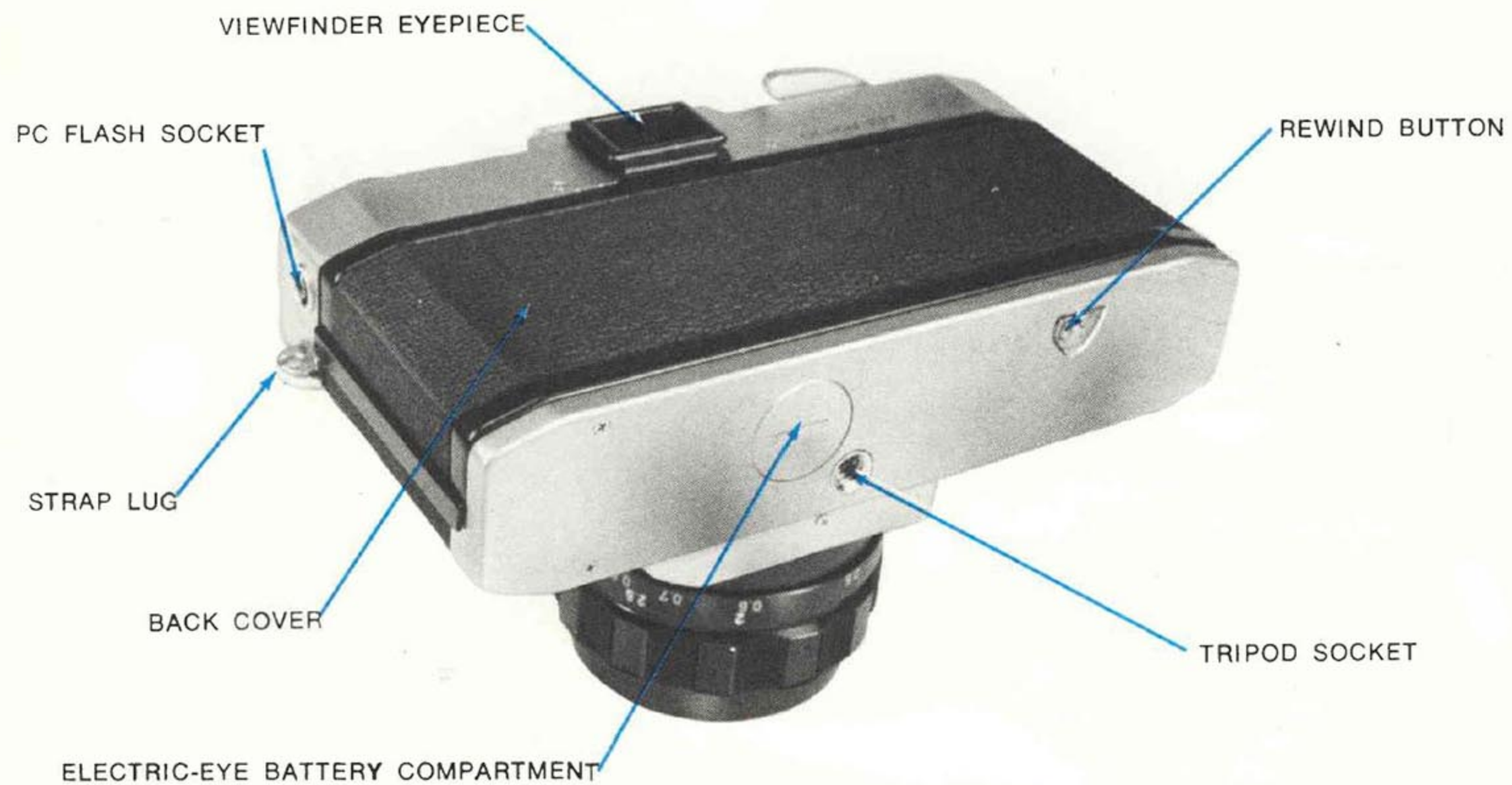
Each film and flashbulb (or electronic flash) combination has a Guide Number. This number will be found in the film instructions, flashbulb package, or electronic flash instructions.

To find the proper lens opening, just divide the distance to the subject into the guide number.

For example, a recommended guide number may be 80. If the subject is 10 feet away, just divide 80 by 10 which is 8. Set the lens opening to 8 (f/8). If the guide number is 55 and the subject distance is 10 feet, then the proper lens opening is 5.5 (use f/5.6).

The Bell & Howell Flashcube Adapter has a chart for determining the proper opening.





specifications

FILM SIZE—Use standard 35mm film cartridges; 20 or 36 exposure; color print, color slide, or black-and-white types.

LENS—Normal lens is 50mm f/1.8 with interchangeable front component; accepts 35mm f/3.5 wide-angle, 95mm f/3.5 telephoto, and 125mm f/3.5 telephoto lenses.

SHUTTER—Focal-plane type; speeds of 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, and 1/500 second plus B for time exposures.

ELECTRIC EYE—Fully automatic through-the-lens CdS type; powered by one PX-13 mercury battery or equivalent; manual override. Accepts films from ASA 25-800 (with f/1.8 lens) and ASA 25-500 (with f/3.5 accessory lenses).

VIEWFINDER—Eye-level reflex type; aerial image for brilliant viewing; microprism center area for quick focusing. Contains exposure scale with indicator.

FLASH SYNCHRONIZATION—X contact for electronic flash units at shutter speed of 1/60 second. Synchronization also possible for all types of flash bulbs and flash cubes.

ACCESSORIES—Carrying Case; Flashcube Adapter; also accepts Canon Waist-Level Viewer, Eyepiece Adapters, Filters, Copy Stand 3F, Handy Stand F, Lens Hood (S-50).