



HOW TO TAKE MOVIES
with the BELL & HOWELL
FILMO Double 8
CINE CAMERA



Professional Results with Amateur Ease

FOREWORD

The Filmo Double 8 Camera is a quality camera in every respect. It is designed as skillfully and built as precisely as Bell & Howell's Filmo 16mm. Cameras, which since 1923 have been accepted as the world's finest. With the Filmo Double 8 you can take truly beautiful personal movies.

To get the excellent results which the camera is capable of producing, you must use the instrument correctly. To learn to do this, study this instruction booklet carefully. You'll be well repaid, in the better results you'll get right from the start, for the little time required to gain a full understanding of the camera's proper use.

Important

Be sure to fill in and mail the accompanying registration card. This will:

1. Bring your *Filmo Topics*, an interesting periodical on personal movie making.
2. Give you the protection of the B&H guarantee.
3. Let us help you find your camera in case of loss or theft.
4. Enable our personal service department to co-operate with you intelligently.

CAUTION—When using the F2.5 lens at F16, do not set the lens beyond the F16 mark.

THE LENS CAN BE COMPLETELY CLOSED

How to take movies with the
FILMO DOUBLE 8
Cine Camera

**FIRST—BECOME ACQUAINTED WITH
YOUR CAMERA**

The first step in learning to make movies with the Filmo Double 8 Camera is to familiarize yourself thoroughly with the camera, and especially with the controls and other parts pointed out in Figures 1 and 2 and explained in the accompanying paragraphs. Careful study of this material will make it very easy for you to follow the instructions, and thus bring you most quickly to the point of being ready to take pictures.

A. DOOR LOCK. To open the camera door, in order to load or unload the camera, press this lock back toward the hinge. The door will then spring open. After loading do not open the door again until all the film has been run through the camera. Then the door may be opened to re-load the half-exposed film or to remove the exposed film.

B. VIEWFINDER EYEPIECE. For use, the camera is held with this point before the left or right eye, as desired. To locate the viewfinder before the eye, begin by holding the camera several inches from the eye, and draw it toward the eye, while sighting through the viewfinder, until the camera rests against the forehead.

C. EXPOSURE CALCULATOR. This device tells the correct exposure for any outdoor, daytime subject. Notice that photographic subjects are grouped into five classifications as concerns exposure needs. First turn the outer dial until the *index mark* for the *subject and season*

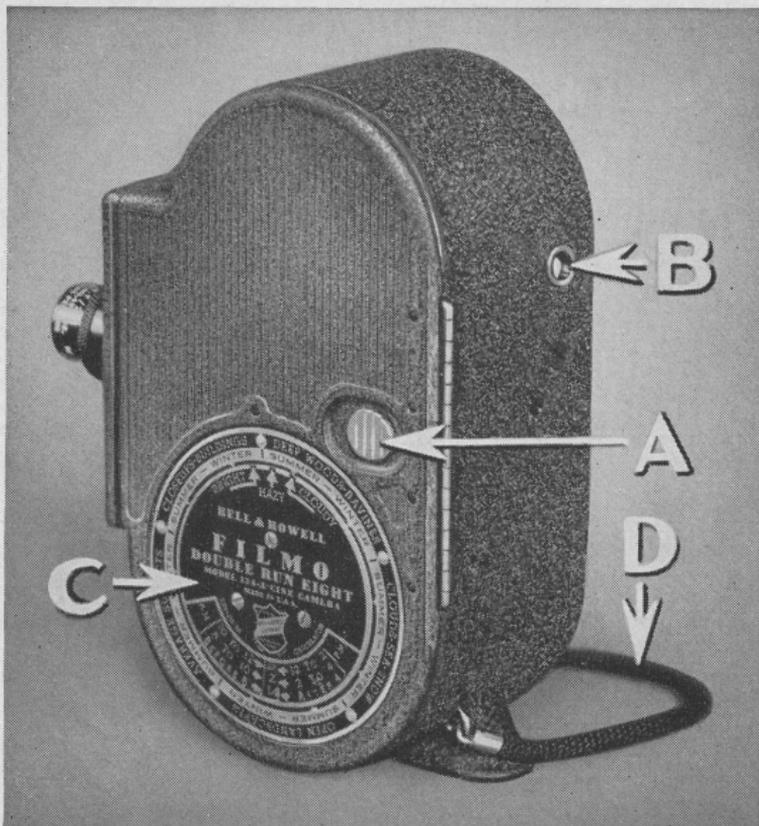


Figure 1

Become familiar with these controls and parts

is opposite the index mark for bright, or hazy, or cloudy, as the case may be. Then take your lens stop reading from the window at the bottom of the inner dial, reading opposite the correct hour of the day. Set your lens accordingly.

During the spring and fall months, the lens should be set midway between the settings indicated for summer and winter.

The exposure calculator gives *direct* readings for Kodachrome, Kodachrome type "A" with the corrective filter for daylight, and Eastman Panchromatic black-and-white

film. Eastman Super X and Agfa Hypan film should be exposed at lens openings $1\frac{1}{2}$ stops *smaller* than indicated by the calculator.

D. WRIST CORD. This cord provides a convenient means of carrying the camera, and, if used as directed in ¶ 5, page 13, gives assurance against accidental dropping. Furthermore, its use will facilitate loading the camera in the field where it cannot conveniently be laid down. *Be sure not to close the door on this cord.*

E. FILM FOOTAGE DIAL. This dial, revolving as the camera operates, always tells at a glance how many feet of film have been exposed. Film spools contain 25 feet of usable film for each of the two runs, plus ample footage for loading and unloading. On the model illustrated in Figure 2a the footage dial is inoperative when the camera door is open, and the dial is automatically reset as the door is opened. Figure 2b shows the manually operated footage dial used on other models. See ¶ 11, page 11, for setting directions.

F. SPEED CONTROL DIAL. This dial indicates the number of pictures, or frames, exposed per second. Some Filmo Double 8 Models provide speeds of 8, 16, 24, and 32. Other models provide speeds of 16, 32, 48, and 64. Normal speed is 16; use it generally. 8 (half) speed *doubles* the rate of action in the projected picture, and, giving twice as long an exposure on each individual frame, is useful when the light is too weak for fully exposed pictures at normal speed. 24 speed slows down the rate of action in projected pictures to two-thirds normal; 32 speed to one-half normal; 48 speed reduces the rate of action to one-third normal; 64 speed produces semi-slow-motion pictures, the action being reduced to one-fourth normal speed. Use the speeds above 16 for filming fast moving sporting events, for panoramic scenes (moving camera shots—but move the camera *very slowly!*), for



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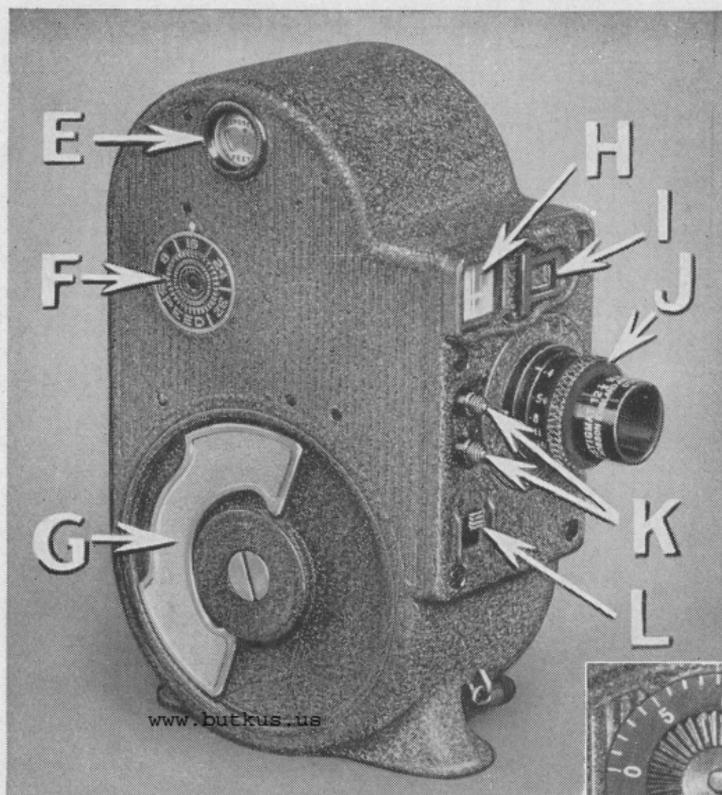
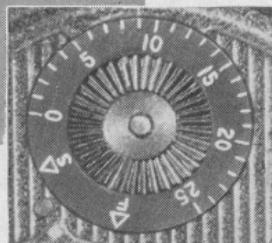


Figure 2a
Become familiar
with these parts

Figure 2b→
Manually operated
footage dial



scenes taken from moving trains or automobiles, and for shots of unskilled actors whose movements are usually too rapid.

Every camera is individually calibrated at each of its speeds, an index mark being scored in each dial segment to indicate the correct setting point for each speed. Be sure that the dial is correctly set with the *index mark* opposite the white dot. Intermediate speeds can be obtained by setting the dial between calibrations.

Do not try to judge camera speed by the sound of the

mechanism. Several other factors than speed influence the pitch of the hum, so don't be alarmed if the sound changes throughout the spring run.

G. WINDING KEY Holding the camera in the left hand, raise this key and turn it clockwise until the stopping point is reached. Then fold the key flat against the side of the camera. Each winding provides power for about 20 seconds' run at normal (16) speed—enough for two scenes of average length. To insure always having a full running time available for a succeeding scene, it is good practice to wind after each scene. This will also prevent having an occasional blank frame, which will result if the shutter stays in the open position when the camera runs down.

H. VIEWFINDER OBJECTIVE. Exactly as much of the subject is seen through the *entire* area of this finder as will be seen on the screen when projecting a film taken with the *standard* $12\frac{1}{2}$ mm. lens on the camera. In taking close-ups, however, allowance should be made for the fact that the lens is about $\frac{1}{8}$ " below and $\frac{3}{16}$ " to the left of the finder.

I. VIEWFINDER MASKS. Two masks are so hinged that they may be swung over the viewfinder objective (H) to indicate the fields of lenses other than the standard $12\frac{1}{2}$ mm. lens. The smaller rectangle matches the field of the $1\frac{1}{2}$ -inch lens; the larger matches the 1-inch lens.

J. LENS. The $12\frac{1}{2}$ mm. F 2.5 and F 3.5 lenses in universal focus mounts require only one adjustment—that of setting the diaphragm to the lens stop indicated for the subject by the exposure calculator (C). The diaphragm control ring is calibrated from F 2.5 (or F 3.5) to F 16. At stop F 2.5 (or F 3.5 on the 3.5 lens) the maximum amount of exposure is given—i.e., the maximum of light is admitted. At stop F 16 the least light is admitted. On the

F 2.5 lens the index mark, opposite which the required lens stop mark should be placed, is on the rear ring of the lens mount. A separate index mark is provided for each figure on the F 3.5 lens. To set this lens to F 5.5, for example, move the ring until the short line under F 5.5 is opposite one of the index marks on the sunshade. (The ring movement is limited so that each figure can be placed opposite only one index mark.)

CAUTION—When using the F2.5 lens at F16, do not set the lens beyond the F16 mark.

THE LENS CAN BE COMPLETELY CLOSED

Before taking pictures, remove the red rubber lens cap. *Always* replace it after using the camera. It protects the lens from dust.

The distance to the nearest object which will be in sharp focus at each lens opening is shown in the following table. At any lens opening, all subjects at and beyond the distance indicated will be sharp.

| <i>Lens opening</i> | <i>Distance to nearest subject in sharp focus</i> | <i>Lens opening</i> | <i>Distance to nearest subject in sharp focus</i> |
|---------------------|---|---------------------|---|
| F 2.5 | 8 feet | F 5.5 | 3 feet 8 inches |
| F 2.8 | 7 feet | F 8 | 2 feet 6 inches |
| F 3.5 | 5 feet 9 inches | F 11 | 1 foot 10 inches |
| F 4 | 5 feet | F 16 | 1 foot 3 inches |

K. LENS HOLDING LOCK. Holding the lens, press the two pins together and lift the lens off of the camera, as in Figure 3. Then, compressing and releasing the two pins, you can see, moving in and out of the lens seat, the two spring-retained latch members which lock the lens in place. This mechanism makes for easy lens interchangeability. To replace the lens, first press the two pins together, then insert the lens in its seat, seeing that the notch in the lens mount base fits over the short pin beside the lens seat.

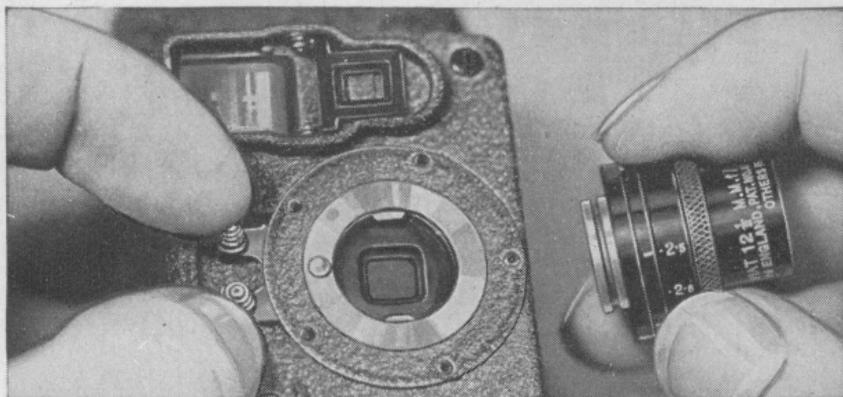


Figure 3 — Removing the lens

Release the two pins to permit the two latch members to spring into place to hold the lens securely in its seat.

L. OPERATING LEVER. Press this lever down (toward the camera base) and hold it down as long as you want the camera to run. To expose a single "frame," push this lever up. (See page 18 on taking single frames.)

PREPARING TO LOAD THE CAMERA

Extreme cleanliness within the camera is especially necessary when using 8mm. film. The smallest pieces of lint, if caught on the film emulsion or at the aperture, will extend their picture-damaging influence over a considerable portion of the frame. In projection, the magnification given to each tiny frame is so great that any dust particles which have cast their image on the film appear huge, and so detract materially from the picture.

However, it is easy to obtain clear, sharp-edged pictures by observing the following instructions *every time you prepare to load a spool of film into the camera.*

1. Press back on the door lock A, Figure 1, and open the camera door. Lift out the take-up spool. Brush it clean, inside and out, with the brush supplied.

2. With the same brush, remove all dust from every surface inside the camera. Brush *especially carefully* the aperture plate M, Figure 6, taking *particular* pains to remove *all dust* from the edges of the rectangular aperture. Brush all dust from the film gate N, which is hinged so that it may be held wide open for convenient cleaning.

3. The aperture plate and film gate should be inspected *immediately* after every film is exposed, and cleaned if any dirt or film emulsion has collected upon them. If emulsion is allowed to remain, it will harden and be much more difficult to remove. The smooth, highly polished surfaces of these plates must be maintained. Never use a hard instrument for removing dirt here. Foreign matter which sticks to the plate may be removed with a swab of lens cleaning tissue placed on a toothpick or a match stick and moistened slightly with water. After swabbing, brush clean. The camera is now clean and ready to load.

Precaution! Avoid, as much as possible, loading or unloading in dusty air, as often encountered on windy days.

LOADING AND UNLOADING THE CAMERA

The camera may be loaded and unloaded safely in daylight, but direct sunlight should be avoided. Load indoors when convenient.

One of the distinct advantages of the Filmo Double 8 Camera is the ease and quickness with which it may be loaded. There are no sprockets to thread and no film loops to adjust.

Each film is run through the Double 8 Camera *twice*. The first time through, pictures are made along half the width of the film. The second time through, pictures are made along the other half of the width of the film. Be sure to run each film through *twice*, according to the following instructions.

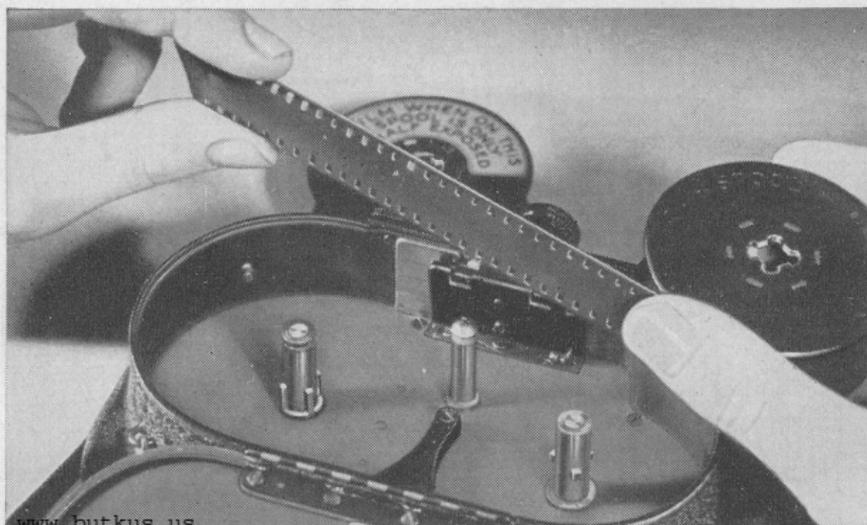


Figure 4

Camera opened for loading. Take-up spool has been removed. Film spool is held ready to put into place, while left hand holds film end to prevent film from uncoiling

Loading for the First Run

1. Lay the camera down with the lens pointing away from you and with the base of the camera to your left, as in Figure 4.
2. Pressing back on the door lock A, Figure 1, open the camera door. Remove the take-up spool from the camera.
3. Remove the new roll of film from its can. Save the can and carton. You'll need these to return the film to the laboratory for processing.
4. Remove the paper strip from around the film. At this step and throughout the loading operation, be sure to keep the film taut. If the film is allowed to unwind, an unnecessary amount will be spoiled by the light.
5. Unwind about 10 inches of film. Holding spool and

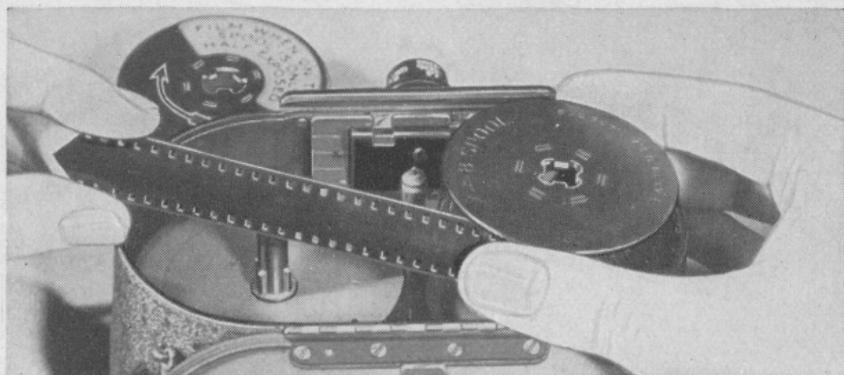


Figure 5

Placing the film spool on the feed (upper) spindle

film end as in Figure 5, drop the spool, with its *3-notched* hole down, onto the camera's feed (upper) spindle, as shown. (It will not go on any other way.)

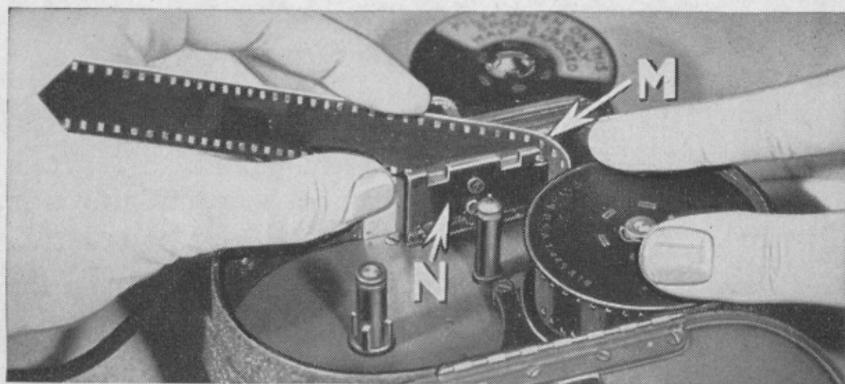


Figure 6

6. Lay the film in the film channel between aperture plate M and film gate N, as in Figure 6.

7. Holding the take-up spool near the take-up (lower) spindle, with its *4-notched hole* down, as in Figure 7, insert the film end into the take-up spool hub slot. Give the

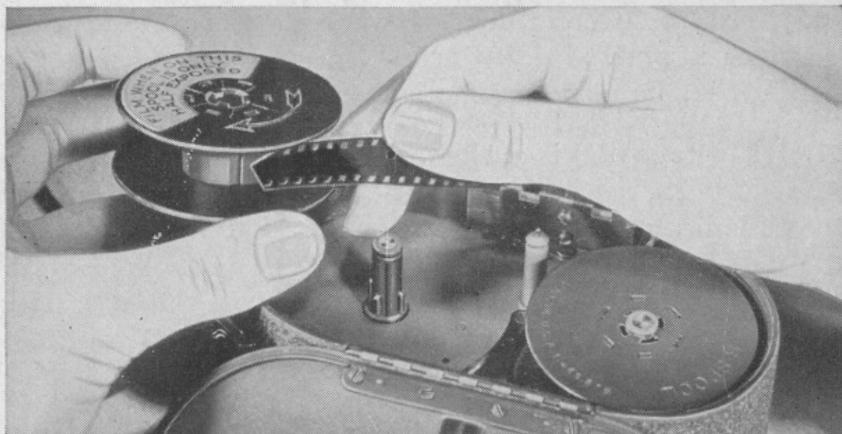


Figure 7

take-up spool one and one-half turns in a clockwise direction, as indicated by the arrow on the spool, to secure the film end attachment.

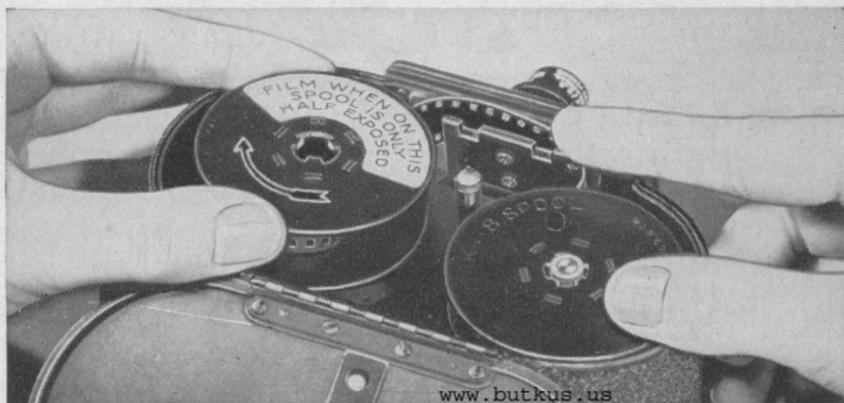


Figure 8

8. Drop the take-up spool over the take-up (lower) spindle, as in Figure 8. See that the film is still fully down in the channel (between aperture plate M and film gate N, Figure 6). Now press gate N closed and depress the starting button for an instant to check for correctness of threading.

10. Close the camera door. Its lock will snap shut when the door is pressed down firmly. As the door is shut, the spring near its edge automatically closes the film gate.

11. If footage dial is of the manually operated type shown in Figure 2b, rotate it counter-clockwise with the ball of the thumb until the triangle above the letter S is opposite the index mark. Then (with either type of footage dial), watching the footage dial, press down on the operating lever (L, Figure 2a) and run the camera to bring the footage dial to O. This operation runs off the leader film.

12. The camera is now ready for taking pictures. See page 13 and subsequent pages for advice on taking movies.

13. When the footage dial reaches 25, indicating that 25 feet of film have been exposed, run off the remaining film until (with a self-setting dial) the footage dial snaps back to its starting point with an audible click. Models having the manually operated dial should be run until the triangle above the letter F is opposite the index mark. This operation runs off the protecting trailer which is provided to cover the previously exposed film so that the pictures will not be spoiled on exposing the spool to daylight when it is removed from the camera.

RELOADING THE FILM FOR THE SECOND RUN

1. Open the camera door in subdued light. Avoid direct sunlight. You will find the end of the film trailer at the lower end of the film channel. The purpose of this provision is to prevent the film from uncoiling prior to the opening of the camera door. If the film has been run through the camera once only, it will be on a spool marked "Film when on this spool is only half exposed." In this event, prepare as follows to run it through again.

2. Lift out the empty spool.
3. Lift out the full spool, holding the film end taut so as to prevent the film from uncoiling.
4. Turn the full spool over so that its *3-notched hole is down*, and place it upon the feed (upper) spindle. Proceed with the loading for the second run just as previously instructed for the first run (pages 8 to 12).

UNLOADING THE CAMERA

1. When the film and the protecting trailer has been run through the camera the second time, it will be on the spool on which it originally came, and *not* on the spool marked "Film when on this spool is only half exposed."
2. Remove the full film spool from the camera as directed on page 12, paragraphs 1 and 3. Place it in its original metal container, then in the yellow carton.
3. Write or print your name and return address legibly on the carton in the space provided. Remember that the carton is the laboratory's only record of who sent the film for processing. Address and mail the carton to the nearest laboratory (addresses are given in the printed film instruction slip in each film carton).
4. During processing, your film will be slit into two 8 mm. sections, and these will be spliced together, making a continuous 50-foot roll, which will be returned on a metal reel, ready for projection. No extra charge is made for this service, and the return postage is prepaid within the country in which the film is processed.

TAKING MOVIES

1. See that the spring motor is fully wound, as explained in paragraph G, page 5.



Figure 9
Recommended way of holding the
Filmo Double 8 Camera for use

2. Use the exposure calculator (on the camera door) as directed in paragraph C, page 1, to determine the correct setting of the lens diaphragm for your subject and the prevailing light conditions. Or, if you have a good direct-indicating exposure meter, use that instead.
3. Set the lens so that the correct stop figure, as determined from the exposure calculator, is opposite the index mark on the rear ring of the lens barrel.
4. Remove the red rubber lens cap.
5. Hold the camera in the left hand, with the viewfinder

eyepiece (B, Figure 1) before your left eye (or right eye, if you prefer). The method by which the camera is best held depends somewhat upon the size of the operator's hand. Figure 9 illustrates the recommended grip. The left hand is passed through the wrist cord from the right (key) side of the camera. The index finger rests on the operating lever (L, Figure 2). The thumb is against the rear finger hold (just above the camera base), and the second finger is against the front finger hold. The camera rests against the forehead, for greater steadiness.

6. Press the operating lever (L, Figure 2) down, and hold it down as long as you wish the camera to run to record the scene which is framed by the viewfinder. Then release the lever; the camera will stop instantly.

7. Wind the camera with the key G, Figure 2, so that full running time will be available, if required, for the next scene.

Using Speeds Other Than Normal

In paragraph F, page 4, the uses of the camera's various operating speeds are pointed out, and you are advised to use normal (16) speed as a general thing. Keep the speed control dial (F, Figure 2) set for 16 speed, being sure to return it to that setting after using some other speed.

The exposure chart (C, Figure 1) gives the correct lens stop to use at normal (16) camera operating speed. At 8 speed, the camera shutter remains open twice as long, and hence admits twice as much light. Therefore, to compensate, the lens must be set to admit half as much light as called for by the exposure chart. The F 2.5 lens is calibrated F 2.5, 2.8, 4, 5.6, 8, 11, and 16. Stop F 4 admits half as much light as F 2.8, F 5.6 half as much as F 4, F 8 half as much as F 5.6, etc. (F 2.5 is not a full stop larger than F 2.8, but admits about $\frac{1}{4}$ th more light.) Therefore, if the chart calls for stop F 4, you would use F 5.6 when

operating the camera at 8 speed; if F 11, use F 16. Each stop on the F 3.5 lens admits approximately half as much light as the next smaller calibration.

Conversely, when the camera is operated faster than normal speed, the shutter is open for a shorter period. This necessitates setting the lens $\frac{1}{2}$ stop wider open for 24 speed, one stop wider open for 32 speed, $1\frac{1}{2}$ stops wider open for 48 speed, and 2 stops wider open for 64 speed. Example: Chart reading, F 8. For 24 speed, set lens midway between F 5.6 and F 8. For 32 speed, set lens at F 5.6.

Shutter Speeds

The shutter speed of the Filmo Double 8 Camera is $\frac{1}{35}$ second when the camera is operating at normal silent speed, 16 frames per second. When operating at other speeds shutter speeds are as follows:

| <i>Camera speed</i> | <i>Shutter speed</i> |
|---------------------------|------------------------|
| 8 frames per second..... | $\frac{1}{18}$ second |
| 16 frames per second..... | $\frac{1}{35}$ second |
| 24 frames per second..... | $\frac{1}{53}$ second |
| 32 frames per second..... | $\frac{1}{70}$ second |
| 48 frames per second..... | $\frac{1}{105}$ second |
| 64 frames per second..... | $\frac{1}{140}$ second |

Length of Scenes

A common tendency, when first starting to use a moving picture camera, is to make the scenes too short—that is, to fail to keep the camera operating long enough on each subject. As a result the scenes, when projected, flash on and off the screen too quickly for the eyes of the audience to grasp the image. $1\frac{1}{2}$ feet can be considered an absolute *minimum* 8mm. film footage for such scenes as close-ups of people, scenics, or any action which is continuous but not changing in nature.

If action is changing, more film may be required to tell the story. Ordinarily the camera should be started just before the action begins and stopped just after the action ends.

While filming, counting seconds is the commonly used guide. $1\frac{1}{2}$ feet of film are exposed in $7\frac{1}{2}$ seconds of normal speed operation. After the scene is filmed the footage dial may be consulted to check up on the accuracy of your counting.

What to "Shoot"

Plan your shots to take full advantage of the possibilities of motion pictures. Probably your first pictures will be of family and friends. Avoid posed pictures—leave these for the still camera. You will very likely get your best scenes when your subjects are not conscious of being filmed, or when you can give them something to do which will induce natural actions and expressions and help them forget the camera.

Plan your shots wherever possible to tell a little story of some kind, whether it be a simple account of a day's events at home or a chronological record of a holiday trip. Scenes need not necessarily be exposed in the order in which you want them to appear when projected, as they can be cut and spliced, after being developed, into any sequence. See page 25.

Panoramic Pictures

Panoramic views (made by pivoting the camera in a horizontal plane while it is in operation) often provide very pleasing additions to moving picture films. There are several precautions which *must* be observed if "pans" are to be successful.

First, pivot slowly on every pan. When you think you are going slowly enough, cut your pivoting speed in half and you'll be better satisfied with the results.

Second, pan evenly and steadily. A jerky pan is hard on the eyes when projected and, furthermore, causes disappointment at not being able to see the subjects clearly for a sufficient length of time.

Third, do not attempt to panoram when a still shot will tell the story or get the desired scene. An abundance of pans makes a film tiresome, so save them for the proper occasion.

Pause while making pans when the viewfinder shows an object of special interest. Then continue the pan.

If you are uncertain of your ability to pan slowly and steadily enough, set the camera for 24 speed and open the lens one-half stop more than required for 16 speed.

Where a choice is possible, pan from left to right, because pans in this direction are easier for the eye to follow.

Filming Moving Objects

In panoraming to follow a moving object the problem becomes different. Here the camera should be swung to keep the subject constantly as nearly as possible in the center, or, better, just behind the center of the field of view. The background, which may be blurred in the process, is not the important element.

If you wish to show the subject moving into, across, and out of the field of view, select a viewpoint from which the subject will not move directly across in front of the camera (at a right angle). Have the subject moving toward or away from the camera at an oblique angle. This will help avoid blurring. If the action *must* take place at right angles to the camera, do not attempt a short cut, but get at least thirty feet away from the line of action before starting the camera, or farther in cases of very fast action.

To slow down the action, use 24, 32, 48, or 64 speed and open the lens accordingly (see page 15).

The Single Exposure Shutter Release

When the operating lever (L, Fig. 2a, Page 3) is pressed upward, a single picture is photographed on the film strip. (If the camera speed dial is set at 16 frames per second or higher, the exposure time will be approximately 1/20 second.) When a series of single pictures is made, with the camera on a tripod (a tripod is essential when making single exposures), changing the positions of objects in the picture very slightly between pictures will make the objects appear to move mysteriously when the film is projected. Trick titles, also, can be produced in this way. Experiment to master the details of this process.

Lighting

Not only is light essential in photographic work, but it is a tool which permits artistic modeling of the picture. Depending upon how the lighting is handled, the subject may be portrayed in almost stereoscopic depth and relief, or, at the other extreme, in a flat, unusual manner. Since the subject of light is so important and so rich in its possibilities, it is recommended that the amateur read the chapters on this subject in one or more books on cinematography.

The F 2.5 lens with which the Filmo 8 Camera is equipped is almost $6\frac{1}{2}$ times as "fast" as the usual medium-priced still camera F 6.3 lens, and more than three times as fast as an F 4.5 lens. This means that you can get properly exposed pictures outdoors earlier or later in the day, and that you do not necessarily need bright sunlight.

Close-ups (motion picture portraits) are usually better if taken in a subdued light, as they are free from the dark shadows found in similar scenes taken in bright sunlight. A shady spot, open to the sky, is a good location for making closeups.

Full front lighting (sun directly behind the camera) tends to give a flat picture, lacking in depth. Side lighting or

oblique lighting is better.

Pictures taken with the sun directly overhead (at or near noon in summer) usually lack in pictorial quality as compared with those taken when the sun's rays slant down upon the subject, throwing longer shadows.

Cultivate the habit of studying the effect of light upon various subjects. You will find that while a subject may be quite lacking in pictorial possibilities in one light, it may offer a wonderful effect when the sun strikes it from a different angle.

MOVIES INDOORS. Movies of fine quality can be taken indoors with the Filmo 8 Camera, using the standard F 2.5 lens. During daylight hours on a bright day, and working near windows, a few of the inexpensive photoflood lamps, placed on the sides of the subject away from the windows, will provide all the artificial illumination that will be required. With little or no daylight, two of these photofloods in good photographic reflectors, placed about 6 feet from the subject, will provide sufficient light when the lens is used at F 2.5. To cover more area, use four photofloods in reflectors at about 9 feet from the subject, or six photofloods at about 12 feet. The exposure calculator on the camera is, of course, of no value indoors. To be sure of correct exposure, use a good exposure meter.

CAMERA MAINTENANCE

Cleaning Lens and Viewfinder

The lens must always be kept scrupulously clean. A film of dirt, oil, or finger marks on the lens will prevent your getting clear, brilliant, sharp pictures. *Never take the lens apart.* It is entirely sufficient to clean the glass surfaces which are exposed at the front and rear of the lens. Remove the lens from the camera, and clean the above mentioned surfaces, using the B&H Lens Cleaning Kit,

which may be had at a nominal cost, or B&H Lens Cleaning Tissue, which costs even less. Use no other materials, as they may damage the highly polished glass surfaces.

Color filters should be kept as clean as lenses. Use the same cleaning materials.

Dirt or finger marks on the viewfinder eyepiece or objective impair clear vision, and so should be removed. Use the same cleaning materials as for lenses.

Free Annual Cleaning and Lubricating

The Filmo Double 8 Camera is guaranteed against defects in material and workmanship, and will be thoroughly cleaned and lubricated without charge once a year for three years if sent, transportation prepaid, to the Bell & Howell factory or branch office. After three years this service will be rendered at a nominal charge. The camera requires no other lubrication than that offered above.

PICTURE DEFECTS AND THEIR CAUSES

In movie making, as in many other activities, experience is an excellent teacher. To enable you to benefit from your experience, we present below a list of unsatisfactory conditions which are found in motion picture films, together with their causes and the way to avoid their occurrence or their repetition in your films.

If you will study this list before you take pictures, you will be able to avoid many causes of inferior results.

And if you will examine your processed films critically, and find in this list the causes of any defects you see in your work, you will gradually improve the quality of your pictures and soon bring them to a standard far above the average.

Picture Defects and Their Causes (Cont.)

Unsatisfactory Effect

Cause

- | | |
|---------------------------------------|---|
| 1. Pictures too dark. | Under-exposed: too small a lens stop used, or (indoors) insufficient artificial light. |
| 2. Pictures too light. | Over-exposed: too large a lens stop used. |
| 3. Film light or clear at beginning. | Too much film unwound at time of loading the camera. Exposure to light caused fogging. |
| 4. Film light or clear at end. | Too much film exposed to light at time of unloading. |
| 5. Edges of pictures light or clear. | Camera loaded or unloaded or film spool handled in too brilliant light. Keep film tightly wound, and in subdued light, to avoid edge-fog. |
| 6. Vertical streaks through pictures. | Foreign matter has accumulated on aperture plate or film gate and is scratching film. Clean as directed on page 7, ¶ 3. |
| 7. Pictures have fuzzy edges. | Camera aperture is dirty. Clean as directed on page 7, ¶ 2. |
| 8. Light spots or halation. | Direct rays from light source striking lens. Avoid pointing camera so directly toward light source. |
| 9. Pictures not sharp. | Inaccurate focusing, if lens is in focusing mount, or lens or color filter covered with dirt or moisture, or lens has been taken apart and improperly re-assembled. |

Picture Defects and Their Causes (Cont.)

- | | |
|---|--|
| 10. Part of picture black. | Finger or object in front of lens when pictures were being taken. |
| 11. Pictures unsteady. | Failure to hold the camera steady. If unable to remedy this fault, use a tripod. |
| 12. Film fogged (light or clear) in places. | Camera opened, possibly without owner's knowledge, before end of film. |
| 13. Film is black. | Failure to remove rubber lens cap, or extreme under-exposure. |
| 14. Scenes too short. | A very common error among beginners. Take no scene less than $1\frac{1}{2}$ feet ($7\frac{1}{2}$ seconds) long. |
| 15. Close-ups not properly centered. | Allowance not made for fact that lens is below and to left of viewfinder. |
| 16. Pictures "flat"—lack snap and contrast and "modeling" or depth. | Direct front or back lighting. Day too dark and dull for best pictures. |

The effects of swinging the camera too rapidly in a horizontal or vertical plane, and the remedy, are self-evident, and the same is true of pictures of moving objects taken from too close or from too nearly a right angle.

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Accessories for the Filmo Eight

Reels and Cans

Assemble your 8mm. films onto B&H 200-foot or 400-foot Perm-a-lined Reels and enjoy uninterrupted shows. B&H Reels have self-threading hub and film footage gauge. B&H Humidor Cans for these reels keep film clean and pliable.

Extra Lenses

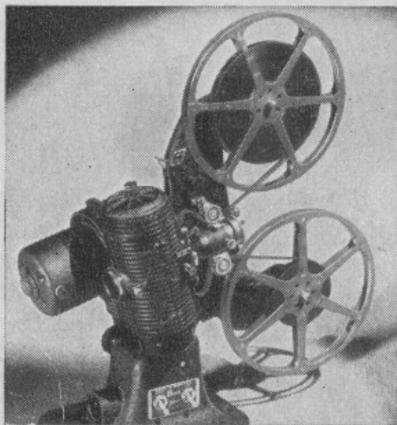
Telephoto lenses for bringing distant scenes up close.

Color Filters

Color filters improve the quality of many outdoor scenes. Amber, red, green, and (for Kodachrome) haze.

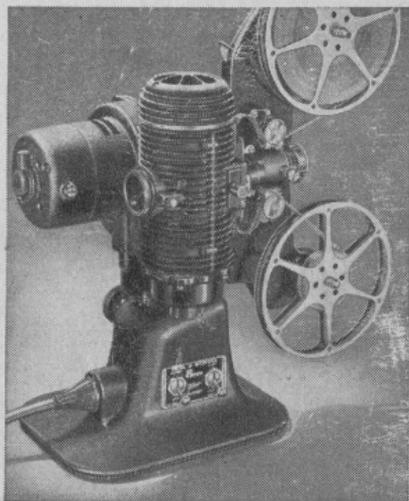
For Complete Information on these and other accessories, see your dealer or write for the Filmo Accessory Catalog.

TWO GREAT FILMO 8 mm. PROJECTORS — *New* *Filmo-Master 8 "400," Filmo-Master 8*



To see 8mm. films at their brilliant best, use the new Filmo-Master 8 "400" (left), or the Filmo-Master 8 (below). Both projectors are identical mechanically, except that the "400" takes reels up to 400-foot, the Master up to 200-foot. Both provide: silent all-gear drive

—no belts inside or out; rock steady pictures, because of camera-matched film registering mechanism; 400- or 500-watt illumination through direct optical system. Also, power rewind, "floating film" protection, metered lubrication, separate lamp switch, clutch for "still" projection, etc. Case included in price.



BELL & HOWELL COMPANY

1801 Larchmont Avenue, Chicago

New York
30 Rockefeller Plaza

Hollywood
716 N. LaBrea Ave.

Washington, D. C.
1221 G St. N.W.

London (B&H Co., Ltd.)
14 Great Castle St.

CINÉ-KODAK KODACHROME FILM (DAYLIGHT)

WITH Kodachrome Film (Daylight), no special filters or other accessories are necessary for ordinary daylight exposures. For pictures of extremely distant landscapes, snow scenes, scenes at high altitudes, on gray days, in the shade, some improvement in color rendering is obtained by the use of the Kodachrome Haze Filter.

which the film may have absorbed will have no chance to evaporate.

When the film has been exposed, keep it in the container and yellow carton until it has been processed. In the tropics the unexposed and unprocessed film should be kept in a cool place.

Processing

Important: Film should be processed as soon as possible after exposure. The quality of the image on all sensitized products is retained by prompt development after exposure. Send it to the nearest processing laboratory promptly.

| RECOMMENDED METER SETTINGS | |
|----------------------------|------------|
| WESTON METER | G.E. METER |
| Daylight | Daylight |
| 8 | 12 |

Kodachrome Film, Type A, is preferable for pictures with Photoflood Lamps because it is made especially for this purpose. For more information on this subject, obtain from your dealer a copy of the booklet "Full-Color Kodachrome."

Important

The sealed film container protects the unexposed film from excessive humidity. Film exposed to moist atmosphere, especially in warm climates, absorbs moisture and may deteriorate rapidly. After the tape has been removed from this container, the film should be exposed and processed as promptly as possible.

DO NOT TAPE THE CONTAINER AFTER IT HAS BEEN OPENED because the moisture

Instructions for Shipping Film

After the film has been exposed, place it in the container and the yellow carton and mail it to the nearest processing laboratory.

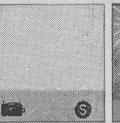
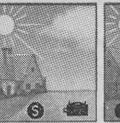
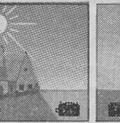
During processing, Ciné-Kodak Eight Kodachrome Film will be slit into two sections, each 8 mm. wide. These sections will be spliced together and returned on a reel ready for projection.

Any duties levied when film is shipped from one country to another are to be paid by the owner of the film.

Print laboratory address plainly; also your name and address in the spaces provided for the purpose on the carton. *This is important, as we have no other means of identifying your film.*

If you are to travel in the tropics, be sure to purchase Kodachrome Film in tropical packing.

DAYLIGHT KODACHROME EXPOSURE GUIDE

| For the hours from two hours after sunrise until two hours before sunset | Clear Sun; Subject in Direct Sunlight | Hazy Sun; Soft Shadows Cast | Cloudy Bright | In Open Shade with Bright Reflecting Clouds | In Open Shade with Clear Blue Sky | Cloudy Dull | In Shade or Cloudy Dark |
|--|---|---|---|---|---|---|--|
| |  |  |  |  |  |  |  |
| Average Subjects | f/8 | f/5.6 | f/4 | f/4 | f/2.8 | f/2.8 | f/1.9 |
| Light Subjects | f/8—f/11 | f/5.6—f/8 | f/4—f/5.6 | f/4—f/5.6 | f/2.8—f/4 | f/2.8—f/4 | f/1.9—f/2.8 |
| Dark Subjects | f/5.6—f/8 | f/4—f/5.6 | f/2.8—f/4 | f/2.8—f/4 | f/1.9—f/2.8 | f/1.9—f/2.8 | — |

(S) Subject

In direct sunlight, front lighting (light falling directly on front of subject) is best. For back-lighted sunlit subjects, when shadow detail is important, such as in portraits, use f/4; when the lighting effect rather than the shadow detail is wanted, use f/5.6. For side-lighted subjects in direct sunlight, use f/5.6.

The above guide should be followed for both close-ups and distant views; special attention, however, should be given as to whether the subjects are of average color or dark- or light-colored.

This guide is for both temperate and tropical zones. (Over)

Note Carefully

Special censorship and customs regulations apply to exposed films in certain countries where no processing facilities are available; ask your dealer or the Kodak branch for information regarding the regulations. In some cases, film cannot be sent or taken from one country to another to be processed.

Processing Laboratories

The following laboratories are now processing Ciné-Kodak Kodachrome Film:

- ROCHESTER, N. Y.
Eastman Kodak Company, Film Processing Laboratory
- CHICAGO, ILL.
Eastman Kodak Company, 1712 Prairie Avenue
- LOS ANGELES (HOLLYWOOD STATION), CALIF.
Eastman Kodak Company, 1017 North Las Palmas Avenue
- SAN FRANCISCO, CALIF.
Eastman Kodak Company, 241 Battery Street
- WASHINGTON, D. C.
Eastman Kodak Stores, Inc., 1350 Okie St. N. E.
- TORONTO, ONT., CANADA
Canadian Kodak Co., Limited, Toronto 9
- BERLIN-KÖPENICK, GERMANY
Kodak, Aktiengesellschaft, Friedrichshagenerstr. 9
- BOMBAY, INDIA
Kodak, Limited, Kodak House, Hornby Road
- HARROW, MIDDLESEX, ENGLAND
Kodak, Limited, Box 14, Wealdstone
- HONOLULU, HAWAII
Kodak Hawaii Limited, 1065 Kapiolani Blvd.
- JOHANNESBURG, SOUTH AFRICA
Kodak (South Africa) Limited, Kodak House, 63 Rissik Street
- MELBOURNE, AUSTRALIA
Kodak (Australasia) Pty., Ltd., 252 Collins Street
- PARIS, FRANCE
Kodak-Pathé, S.A.F., Avenue Montaigne 39;
Place Vendôme 28; and Avenue des Champs Élysées 63
- STOCKHOLM, SWEDEN
Hasselblads Fotogr. A.B., Nybrokajen 5

Ciné-Kodak Universal Guide

The exposure card included with this film gives, for each specified light condition, the recommended *f*/ value which applies to a normal camera speed of 16 frames per second and to a

normal (medium-colored) subject. One side of the card is for daylight exposure recommendations, the other for interior scenes lighted by Photoflood Lamps.

When the exposure card is slipped into the Ciné-Kodak Universal Guide, corrections can be made for light- and dark-colored subjects and for other camera speeds.

The Ciné-Kodak Universal Guide is now being attached to all Ciné-Kodaks. It can be obtained as a pocket guide, or it can be attached to your Ciné-Kodak. See your Ciné-Kodak dealer.

Be sure the exposure card in the Ciné-Kodak Universal Guide is changed or at least checked for each film. The card also serves as an indicator showing the kind of film in the camera.

Cleaning

Use Kodak Film Cleaner to clean Kodachrome Film because cleaners containing alcohol are liable to remove some of the color from the film. Use only enough cleaner to moisten the pad; too much may result in streaks on the film.

Warning: Kodak Film Cleaner is a volatile solvent. Use with adequate ventilation. Avoid prolonged breathing of the vapors.

The camera lens must be kept clean. If the camera is used near the ocean, be sure there is no salt spray on the lens.

Special attention should be given to keep the gate of the camera and projector clean.

Storing Kodachrome Film

Processed Kodachrome Film should be stored where it is dark, dry, and cool. The blotters in the reel cans should not be moistened, and the stored film should be kept away from radiators, steam pipes, or locations where it may be subjected to high temperatures.

For a full description of all phases of movie making, purchase from your dealer a copy of the book "How to Make Good Movies."

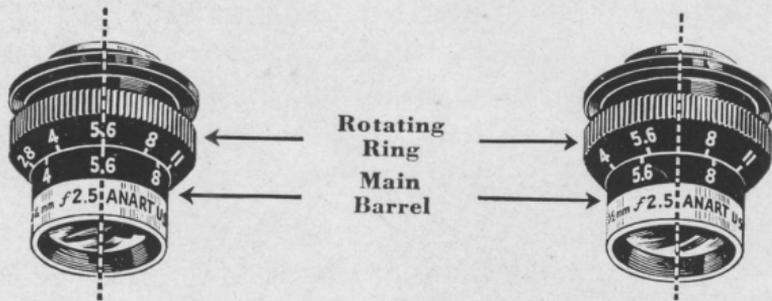
EASTMAN KODAK COMPANY,
Rochester, N. Y.

KP 20171r 3-42-AEXX

Printed in the United States of America

Supplementary Lens Instruction for Form 15,332

On cameras equipped with the 12½mm. F 2.5 "ANART" lens, notice that a separate index mark is provided for each major stop. This figure is not only engraved on the rotating ring, but also on the main barrel of the lens. When setting the lens for F 5.6, for example, *be sure* that the 5.6 index mark on the rotating ring coincides with the 5.6 index mark on the main barrel. If an aperture opening of F 6.3 is desired, the rotating ring should be placed at a point midway between the correct setting for F 5.6 and F 8. Other desired aperture openings may be similarly set.



Set for F 5.6

Set for F 6.3