



This manual is for reference and historical purposes, all rights reserved.

This creation is copyright© by M. Butkus, NJ, U.S.A.

These creations may not be sold or distributed without the expressed permission of the producer

I have no connection with any camera company

On-line camera manual library

If you find this manual useful, how about a donation of \$2 to:

M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701

and send your e-mail address so I can thank you.

Most other places would charge you \$7.50 for a electronic copy or

\$18.00 for a hard to read Xerox copy.

This will allow me to continue this site, buy new manuals and pay their shipping costs.

It'll make you feel better, won't it?

If you use Pay Pal, go to my web site

www.orphancameras.com and choose the secure PayPal donation icon.

AnSCO

BINGHAMTON, NEW YORK

Export Department

11 W. 42 STREET, NEW YORK 18, N. Y.

In Canada

60 FRONT ST. W., TORONTO, ONT.



**EXPERT
CAMERA OPERATION
MADE EASY**

5^c

AnSCO

The Simple Problem of Picture-Taking

THE basic function of a camera is to expose a film to light.

When you take a picture, you "write with light"—incidentally, this is exactly what the word photography means. We may consider light the ink with which the photographer writes—or, more accurately, draws—his pictures.

With this simple concept in mind, it is easy to see that too much or too little light will spoil the picture, just as too much or too little ink would. Since the amount of light used to record a scene is dependent upon the exposure, the exposure you give is very important.

In addition to using the right amount of light, that light should be made to draw the picture clearly for well-defined images. If the light does not draw clearly when it reaches the film, the result will be a blurred image; it's something like an artist attempting to draw with ink on blotting paper. Blurred images are caused by improper focusing, subject movement and camera movement.

Know Your Camera

The basic function of a camera is very simple: it is made to expose a light-sensitive film to light. You could build such a camera yourself, for it must do only two things:—hold the film flat against the back side of the camera and expose this film to focused light. While even the most inexpensive cameras have refinements for convenient operation, cameras of all types and price ranges operate about this simple principle.

If you have recently purchased a camera, probably the first thing you did was to sit down

with the camera and its instruction manual to get acquainted with the camera's features and adjustments. If you are unfamiliar with the camera and do not have its instruction book, write to the manufacturer requesting one. He wants to have you satisfied with his camera, and will be happy to grant your request.

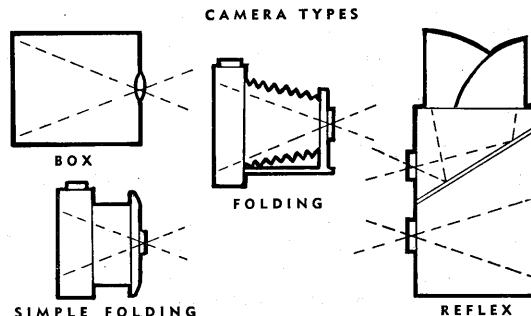
THE DIFFERENT CAMERA TYPES

All cameras of a given type are basically similar, with the differing prices primarily due to the quality of their lenses, shutters and other refinements. You can probably purchase a new camera of any of the types listed for less than \$10.00, and some of them cost only from two to five dollars.

Amateur cameras fall into the following general types:

1. Box Cameras
2. Simple Folding Cameras
3. Folding Cameras
4. Reflex Cameras

A quick check of the common types of cameras will reveal widely differing characteristics and prices. If you are thinking of changing cameras, you will want to see how they fit in with your own photographic purposes:



THE CAMERA LENS AND SHUTTER

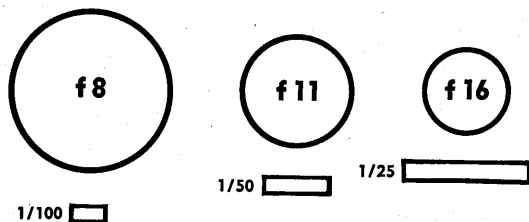
When you invest more money in a camera, you buy greater picture-taking capability in a camera, extending into adverse photographic conditions. You essentially invest more to secure a better lens and shutter.

When buying a camera, remember that examination of the lens and shutter is one of the most dependable ways to determine the quality. Optical parts and shutter assemblies of high quality are expensive and often comprise the major cost of an expensive camera. The lens and shutter are the significant components of your camera; they make the exposure. The rest of the camera merely blocks out all light and holds the film in the correct position for exposure.

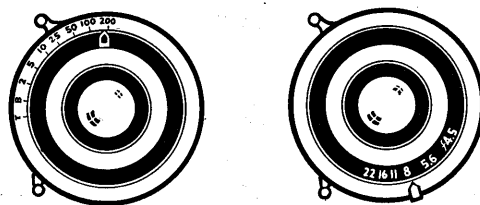
Most lenses are marked with "f" numbers which indicate their maximum apertures. To take an example, an "f/11" lens has a maximum aperture with a diameter which will go into its focal length (distance from lens to film) eleven times. Box and other non-adjustable cameras are usually equipped with lenses having maximum apertures of about f/16; their diameters will go into the focal length about sixteen times. The *higher* the f number, the *slower* the lens.

The quality of the lens is an all-important factor for those who plan to enter color photography, for only the better lenses are usable with color. The color films are slower than black-and-white films and, therefore, require a lens having a maximum aperture of f/6.3 or better. Better quality lenses are also color-corrected for accurate color rendition in the final transparencies.

Shutters usually operate at 1/35 or 1/50 of a second if they are non-adjustable (have no variable speeds indicated on them). Adjustable shutters offering a choice of settings are naturally preferable. Settings are usually marked "T, B, 25, 50, 100" or "T, B, 2, 5, 10, 25, 50, 100, 200," depending upon the speeds offered by that particular shutter. The figures indicate the denominator of the fraction of a second; 25 is 1/25; 50 is 1/50; etc. The letters T and B mean Time and Bulb. When the shutter is set at "Time," the shutter opens when the release is pressed, and remains open until the shutter release is again pressed. When the shutter is set at "Bulb," it opens when the release is pressed down, remaining open only as long as the release is held down. T, B, I marked on a shutter of an amateur camera indicates Instantaneous, in addition to Time and Bulb; shutters marked "T B I" do not have adjustable speeds for hand-held snapshots.



Exposure is controlled by the lens opening and shutter speed adjustments. Each of the above combinations would yield the same exposure.



LEFT ABOVE: SHUTTER SPEED SCALE AND POINTER
RIGHT ABOVE: LENS OPENING AND f STOP INDICATOR

ADJUSTING THE CAMERA CONTROLS

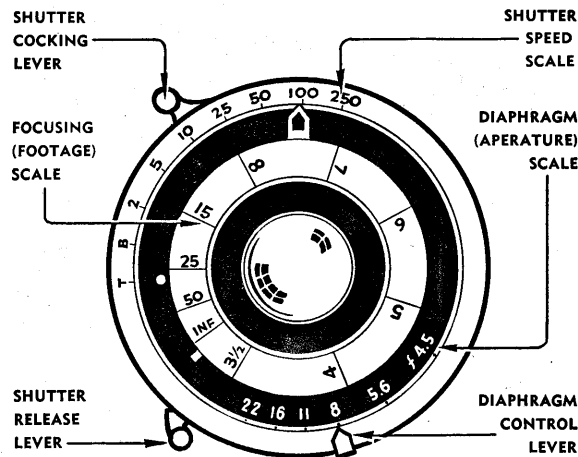
Accurate adjustment of the camera controls presents no problem at all—if you are familiar with your camera. You should make a point of becoming so thoroughly acquainted with your camera that you could adjust it in your sleep—almost. You will then be able to give all your attention to the photographic situation at hand, carefully judging the light condition for accurate exposure. And you will find knowing your camera a great help in getting good pictures indoors and at night, as well as outdoors.

Adopt a simple routine for setting the controls if your camera has several adjustments. Following a pattern, using the same sequence each time, it's not likely that you'll forget to set one of the controls. Here is a good sequence which many experienced photographers use:

1. Focus the camera.
2. Set the shutter speed.
3. Adjust the aperture.
4. Aim the camera.
5. Snap the picture.
6. Wind the film.

Focusing the camera is usually accomplished by rotating a calibrated ring on the lens mount to adjust the distance between the lens and the film. It is important to do this accurately, especially when using wide apertures or taking close-ups. Owners of focusing cameras should focus carefully as a first step in taking a good photograph. (Users of fixed focus cameras, such as the box camera, need not worry about focusing, for non-adjustable cameras are in satisfactory focus for subjects from 8 feet to infinity.) Focus by rotating the focusing scale on the lens mount so that the footage figure coincides exactly with the estimated subject-camera distance. (Pace it off if you're not sure.) Spiral threads in the focusing mechanism change the distance between the lens element and the film.

Reflex camera users can see the effects of focusing in the ground glass focusing screen, for turning



TYPICAL CAMERA CONTROLS

the camera focusing knob focuses both camera lenses simultaneously. Although the depth of field is not shown, except at full lens opening, the photographer can see when his subject is in critical focus.

Setting the shutter speed is accomplished by moving the shutter setting control (usually a ring) which is also on the lens mount. Since the box cameras do not offer a choice in snapshot shutter speeds, they do not have a shutter setting control. In selecting a shutter speed for a picture, do not pick a high shutter speed, unless it is unavoidable. This introduces the possibility of underexposure, unless a large aperture is used. And if you use a large aperture, your subject will be in sharp focus with the foreground and background out of focus. This is termed "shallow depth of field," and this imposes unnecessary restrictions on the photographer and demands very accurate focus-

ing. It does not allow much leeway for focusing errors. Instead, use the slowest shutter speed that you feel sure will freeze the motion of your subject.

In taking snapshots of song fests, flowers, landscapes and other relatively static scenes, 1/25 of a second is satisfactory. For persons walking obliquely or directly toward your camera, 1/50 of a second is usually sufficiently short. For slowly moving automobiles, trotting horses, bicycles and running people approaching the camera from an angle, 1/100 of a second is about right. For athletic events and other situations where fast action takes place, the shutter speed should be at least 1/100 of a second or more.

Do not cock the shutter until you have adjusted the shutter speed! If you attempt to set the shutter after cocking it, you may injure the delicate shutter mechanism.

Adjusting the aperture regulates the size of the circular hole through which the lens admits light. On focusing cameras, this is usually done by moving a small control lever on the lens mount. The lever is coupled with the diaphragm mechanism which alters the size of the aperture. Like lenses, aperture size is calibrated in f numbers which show the relationship of the diameter of the aperture to the focal length of the lens. Some inexpensive cameras have a sliding bar aperture adjustment. A flat bar extending from the lens to the top of the camera or to the side of the camera is punched with apertures of different sizes. The bar is moved in or out to position the appropriate aperture behind the lens. If your box camera has such an adjustment, make sure that you know how it works.

RELATIVE EXPOSURE AT FIXED EXPOSURE TIME	1	2	4	8	16	32	64	128
"f"	32	22	16	11	8	5.6	4	2.8
VALUES	25	18	12.6	9	6.3	4.5	3.1	

Aiming the camera is, of course, very easy. But it is not so simple that mistakes cannot be

made, as a few disappointed amateurs can testify. In the first place, you should fill your viewfinder with the subject. Get as close to your subject as you can, giving yourself a margin of safety. Those who shoot with box cameras can use their cameras for distances as close as 8 or 10 feet; however, they can take pictures of their subject at a distance of 3 or 4 feet by placing a supplementary (portrait) lens in front of the camera lens.

Because the view finder and the lens are not in exactly the same position, they usually do not show exactly the same scene. This discrepancy is termed parallax. Since the effects of parallax increase as the camera gets nearer to the subject, they are particularly noticeable on close-ups. Since the view finder is frequently located above the lens, there is a recurring tendency among inexperienced photographers to cut off the heads of their subjects. It's no problem, however, for the photographer may compensate by aiming the camera a bit higher than appears necessary.

One more point, you should decide whether the scene can best be presented in a horizontal or vertical form, unless your camera takes square pictures. Box cameras have two view finders, one for horizontal pictures and one for vertical pictures. Other cameras may be given $\frac{1}{4}$ turn so that the camera is on its side when the picture is taken.

Snapping the picture with a sudden pressure on the shutter release often results in camera movement and blurred pictures. Although it involves only the movement of one finger, there is a technique in releasing the shutter correctly. Don't release it with a bang, but gently and steadily press down the lever, holding the camera firmly. A smooth technique in tripping the shutter will avoid blurred snapshots which are caused by camera movement.

Winding the film should be done right after you make an exposure. If you do this after each snapshot, you will always be ready if an unexpected

picture opportunity suddenly turns up. Then, too, there is no danger of making a double exposure, thus losing two good pictures.

Exposure is Important

In the introduction we spoke of the amount of light which is required to record a good image, relating this to the amount of ink an artist should use. Exposure measures this amount of light.

If too little light enters the camera and strikes the film, a weak, washed-out negative will result. When exposures are too short, they are termed "underexposures."

If too much light strikes the film, very dense, dark negatives will result. Exposures which are too long are called "overexposures."

Owners of adjustable cameras may control the amount of exposure given by two camera adjustments—shutter speed and lens opening (aperture). The shutter speed controls the length of time that light may enter the camera, while the lens opening, of course, controls the amount of light which may enter the camera in any given time.

Exposure depends upon both the intensity of the light and the length of exposure time, and we, therefore, find that the same exposure value can be given in a number of ways. The exposure values listed in the chart below are all the same:

SLOWER SHUTTER SPEEDS

Shutter speed (in fractions of second)	1/200	1/100	1/50*	1/25	1/10
Lens opening (see "Adjusting Your Camera")	f/8	f/11	f/16*	f/22	f/32

SMALLER LENS OPENINGS

(Also see diagrams on page 3.)

There is an average exposure which will yield good negatives of average subjects in outdoor sunshine, and most box cameras are set to give approxi-

mately that exposure (*). However, the amount of exposure which should be given varies with:

1. The kind of film in the camera.
2. The brilliance of the subject.
3. The quantity of light which falls on that subject.

The kind of film in the camera influences exposure which should be given because certain films are more sensitive than others, and some films are more sensitive to artificial light than other films.

Since artificial illumination usually has a relatively high percentage of red light, as compared to daylight, we can expect that red-sensitive (pan) films will be particularly well suited for picture-taking indoors.

Anso manufactures three excellent roll films which have been popular with amateur photographers for years.

Anso Plenachrome, a favorite film for sparkling outdoor pictures.

Anso Supreme, a fine, all-purpose film for good pictures outdoors and in.

Anso Superpan Press, a very high speed film, excellent for pictures indoors or when the light is weak.

The brilliance or reflectivity of the subject also influences exposure. A light-colored subject which reflects a high proportion of the light will require less than normal exposure. A dark-colored subject will absorb most of the light falling on it and will, therefore, require greater than normal exposure.

The amount of illumination is, of course, a basic factor to consider in estimating exposure. In the exposure tables which follow, you will note that the kind of Anso film used and the lighting conditions have been taken into account; exposures given are for average subjects:

DAYLIGHT EXPOSURE TABLE

For Ansco Plenachrome and Supreme

(Recommended shutter speed under each diaphragm opening is indicated in fractions of seconds)

Light Conditions	f/4	f/5.6	f/8	f/11	f/16
Bright Sunlight	800th	400th	200th	100th	50th*
Hazy Sunlight	400th	200th	100th	50th	25th
Bright Overcast	200th	100th	50th	25th	10th
Dull Overcast	100th	50th	25th	10th	5th

* Average box camera setting is approximately 1/50 second at f16.

For brilliantly lighted subjects such as landscapes, seascapes, beach scenes, give half the exposure indicated. For close-ups, subjects in shade and dark foregrounds, give two to four times more exposure. If great depth of field is desired, select smaller opening (larger f number) and corresponding shutter speed. For moving objects, use faster shutter speeds.

FLOOD LAMP EXPOSURE TABLE

For Ansco Supreme

(Suggested Exposure in Seconds with one No. 1 and one No. 2 Flood Lamp in Metal Reflectors at Distances shown)

Lens Openings	4 Feet	6 Feet	8 Feet
f22	1/5	1/2	1
f16	1/10	1/5	1/2
f11	1/25	1/10	1/5
f8	1/50	1/25	1/10
f6.3	1/75	1/35	1/15
f4.5	1/150	1/75	1/35

Short Time or Bulb exposures will be required for box cameras.

For Ansco Superpan Press Film use next smaller lens opening, or double indicated shutter speed.

The values shown above assume registration of light from each lamp on same area of the subject, and may require modification subject to the following conditions:

1. Give approximately 1/2 more exposure if No. 1 Flood Lamp is used in place of No. 2 Lamp.

2. Above values are based on light-colored walls or surroundings. Dark walls, curtains or similar surroundings require approximately two to four times as much exposure.

3. If shutter speeds or lens openings shown above are not marked on your camera, use next slower shutter speed available or next larger (smaller "f" number) lens opening.

FLASH LAMP EXPOSURE TABLE

For Ansco Supreme

Lens Opening	Superflash No. 0, Press 25, Press 40, Photoflash No. 5, No. 11	Superflash No. 2, No. 3, Photoflash No. 22
f32	4- 6 Ft.	6- 8 Ft.
f22	6- 8 Ft.	8-12 Ft.
f16	8-12 Ft.	12-16 Ft.
f11	12-16 Ft.	16-25 Ft.
f8	16-25 Ft.	25-35 Ft.

The above table is for open flash and synchronized flash exposures at shutter speeds of 1/50th of a second or longer. Increase the diaphragm opening one full stop when taking synchronized flash exposures at 1/100th of a second, two full stops for 1/200th of a second, etc. This table does not apply when using focal plane shutters, which require special lamps (Superflash 2A or Photoflash 31) for maximum efficiency.

If You Use a Meter

Those who use a photoelectric exposure meter to compute exposure will find the Exposure Index Numbers very helpful. Exposure Indexes are becoming the accepted method of expressing the sensitivity of photographic films.

These Indexes are suitable for use as meter settings with photoelectric exposure meters manufactured during 1946 and calibrated according to recent American standards. For ordinary negative films, they can also be used unchanged with older General Electric, Weston and similarly calibrated meters.

However, in exposing color films, for which exposure is critical, some adjustment of the Exposure Indexes may be necessary to obtain optimum exposure. The values given below should, therefore, be raised or lowered in accordance with the results yielded by your own equipment and technique.

EXPOSURE INDEXES FOR ANSCO FILMS

Ansco Films	Exposure Index
-------------	----------------

Ansco Negative Films

Roll and Pack	Daylight	Tungsten
Superpan Press	125	80
Supreme	50	32
Plenachrome	50	25

35mm Miniature

Ultra-Speed Pan	100	64
Supreme	50	32

Ansco Color Films

Roll and 35mm Daylight Type ..	12	
Roll and 35mm Tungsten Type..		12
Sheet film, Daylight Type	10	
Sheet film, Tungsten Type		10

Hints on Handling Your Camera

In summary, there are a few common-sense rules for handling your camera effectively. Here are some good rules to remember when you're out taking pictures.

1. Always load and unload the camera in subdued light—never in direct sunlight.

2. Do not allow strong light to shine on the camera lens when you take the picture.

3. Focus accurately. Pace off close distances if you cannot estimate them accurately. One step equals about 3 feet.

4. Estimate light conditions carefully — use a meter or calculator if possible — and adjust the aperture and shutter speed accordingly. Tend to over-expose if in doubt.

5. Use a higher shutter speed or choose a camera position so that the line of movement is toward you when you must stop subject motion.

6. Hold the camera level and steady as you release the shutter. Don't try to hold the camera in your hands for exposures longer than 1/25 of a second; use a tripod, a table or some other firm camera support for longer exposures.

7. Immediately after making an exposure, wind the film to the next frame number so that you won't take two pictures on the same place in the roll; you'll ruin both photographs if you do.

Remember that you are writing with light when you take pictures, and you'll avoid many pitfalls. Picture-taking—and that is to say camera operation—is easy to master. However, if you should encounter difficulty, don't hesitate to write to Ansco, Binghamton, N. Y., for friendly advice.