



**argus**

*colorcamera*

WITH PHOTOELECTRIC  
EXPOSURE METER

AND

the MODEL A3

WITH EXTINCTION TYPE  
METER



**INSTRUCTION  
BOOK**

## YOUR ARGUS CAMERA

Your Argus camera is a precision instrument of all-American manufacture. Behind it stand the progressive engineering and manufacturing facilities of the world's largest maker of miniature cameras, whose extensive resources stand back of the purchase you have made.

The model A3 and Colorcamera are known as thirty-five millimeter cameras due to the width of film they use. The f:4 Argus lens is a three-element anastigmat lens of fifty millimeter focal length. It is compounded of a number of pieces of optical glass, accurately computed and ground to assure needle-sharp black and white or color pictures.

Though your Argus camera is ruggedly built to stand years of hard service, it must be treated with the same care as any other precision instrument. Never attempt any repairs and never oil the camera mechanism. The delicate adjustments in your camera require an experienced repair man for the work, and can be most satisfactorily done in our own Service Department. See the back of this instruction book for your camera's guarantee and service policy.

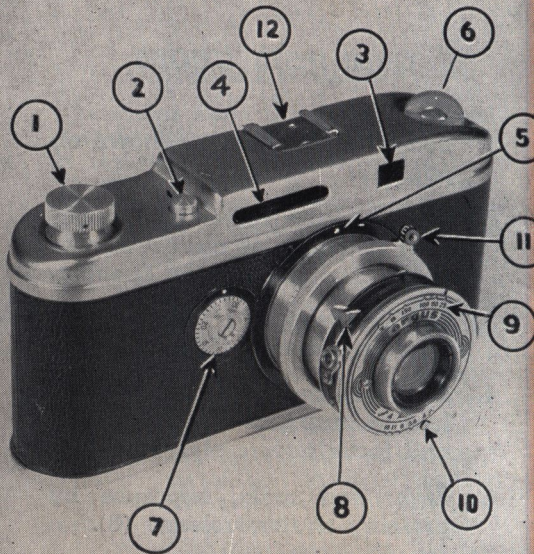
**NOTE:** The Colorcamera and Model A3 are identical in operation except for exposure meters. To operate the Photoelectric Meter on the Colorcamra, see page 15. To operate the Extinction type meter on the Model A3, see page 21.

## BRIEF INSTRUCTIONS



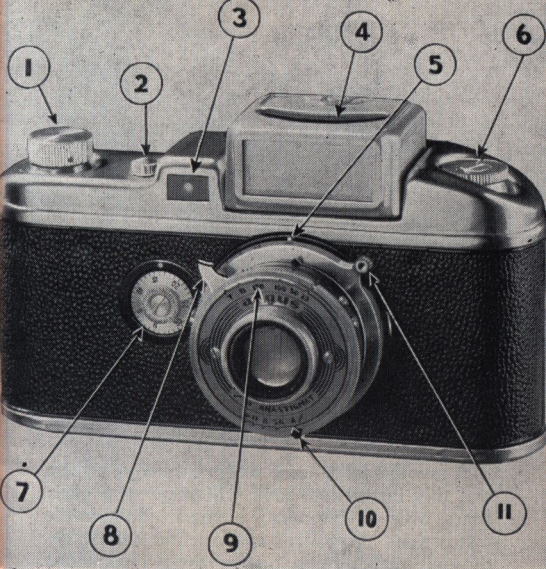
1. Load your camera as shown on page 10.
2. Use exposure meter and calculator to determine correct shutter speed and diaphragm opening.
3. Set shutter speed (9) and diaphragm opening (10).
4. Turn focusing lever (11) to allow lens to snap into taking position, and focus accurately.
5. Sight and make exposure by pressing shutter release (8).
6. Advance film after each exposure.

If you have had previous experience with miniature cameras, the above brief instructions will suffice. It is strongly urged however, that beginners and advanced workers alike read the step-by-step instructions given on the following pages.



**Fig. 1—The Model A3**

1. Film Winding Knob
2. Film Release Button
3. View Finder
4. Exposure Meter
5. Distance Scale
6. Film Rewind Knob



**Fig. 1—The Colorcamera**

- 7. Exposure Counter Dial
- 8. Shutter Release Lever
- 9. Shutter Speed Dial
- 10. Diaphragm Lever
- 11. Focusing Lever
- 12. Accessory Clip

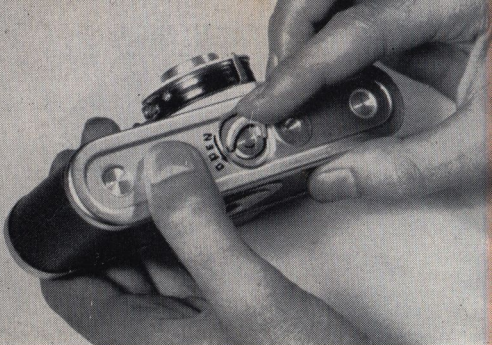


Fig. 2—Removing back from your camera.

### LET'S PRACTICE FIRST

A few moments spent with your *empty* camera and this instruction book will repay you many times over in improved pictures. Follow the instructions carefully and deliberately. Go through each motion just as though you were making a picture. *Practice making imaginary pictures until you thoroughly master the operation of each part of the camera.* Then its operation will become automatic and you can devote more time and thought to the other factors which go to make up a satisfactory picture.

### EXPLORING YOUR CAMERA

Your camera has a one piece back-and-bottom. To remove, lift the key, see Figure 2, and turn it in the direction of the arrow until it stops. Then lift off the back-and-bottom. Now

hold your camera with the lens facing you and refer to Figure 1. On the lens front-plate are two adjustments: the shutter speed dial (9), and the diaphragm lever (10). These are important parts of your camera.

To better understand their operation, point the lens toward a bright source of light, and press your shutter release lever (8) several times while moving the shutter speed dial (9) from 1/25 to 1/150 of a second. Notice that even the naked eye can detect the increase in speed.

Now move the shutter speed dial (9) to "B" or bulb exposure. Notice that when you press the release, the shutter remains open until you remove your finger. With the dial set at "T" or time exposure, the shutter *opens* when pressed the first time and *closes* when pressed again. These bulb and time adjustments are used only for subjects in which there is no movement, and only when lack of sufficient light prevents the use of instantaneous shutter speed. For time or bulb exposure the camera should be mounted on a tripod or solid support, and best results will be obtained by using an Argus cable release to avoid jarring the camera.

Now set the shutter speed dial at "T" for time, and leave the shutter open. Again point the camera toward a light and move the pointer (10) on the diaphragm dial until the lens opening is reduced to its smallest size. Turn the pointer back and forth several times to become familiar with this operation. The figures on this dial, followed by the letter "f" are known as "stop values" and each figure

indicates the amount of light being admitted through the lens during the exposure.

With the pointer at  $f:4$  the diaphragm is *widest* open and admits the *most* light. At  $f:16$ , through the smallest opening, the lens admits the least light. It is important to remember that the *smaller* openings (the larger "f" figures) are used on bright days when too much light might cause over-exposure. The *larger* stop openings (the smaller "f" figures) are used on dull or cloudy days, or in deep shade.

It now becomes clear that the diaphragm or stop openings, together with the shutter speed adjustments, will enable you to adapt your camera to a very wide range of light conditions as well as to fast-moving or slow-moving subjects.

The diaphragm also controls the sharpness or "depth-of-field" of your pictures. By consulting the depth of field table given on page 24 you may adjust your lens to produce the exact degree of depth and sharpness required.

## FOCUSING FOR SHARP PICTURES

One of the easiest but perhaps most important operations in making a picture is focusing. Fuzzy, out-of-focus or blurred pictures can easily be avoided by careful, accurate focusing. If you cannot accurately estimate the distance from your camera to the subject you should measure it, either by pacing off the distance, or more accurately, by the use of a yardstick or tape-measure.

Having determined the measurement in feet,



move the focusing lever (11) in Figure 1 downward a short distance until the lens snaps into taking position. The lens may then be adjusted by moving the same lever until the correct distance number on the scale (5) is opposite the mark on the lens seat. (NOTE: To return lens to carrying position—move focusing lever to "infinity" mark ( $\infty$ ), gently press lens into camera and hold in this position while pushing focusing lever up until the lens locks.)

For distances not shown on the scale, set the pointer between a higher and a lower figure. Example: if the distance from the camera to the subject is 35 feet the scale may be set so that the pointer is approximately half-way between 25 feet and  $\infty$ .

Your camera has the advantage of extreme close-up focusing (down to  $1\frac{1}{4}$  feet or 15 inches), so that no extra lenses are needed for portrait or copy work. However, in close-up work, accurate measurement of the distance is necessary and the use of a yardstick or tape-measure is recommended. All measurements should be made from the front of the camera case. To overcome parallax in extreme close-ups, see page 24.

## PRACTICING FOR PERFECT PICTURES

You are now ready to practice making pictures. Try it first *without* film in the camera. Repeat each operation on the preceding pages until it becomes mechanical. *Remember after each picture to advance the film by turning the film-winding knob.*

Select a subject for your practice "photograph" and compose your picture by looking through the view finder. Move closer to—or farther from—your subject to get the amount of subject matter wanted. Make sure that vertical lines are parallel to the vertical edges of your view finder.

After you have determined the correct spot to stand for the picture you want, select the proper shutter speed and stop opening by using your exposure meter and calculator (see page 15). Focus the camera and sight with the camera firmly held. Slowly depress the shutter release to trip the shutter. Repeat this operation often enough to become thoroughly familiar with it. After you have mastered it, you are ready to load your camera and make your first picture.

## LOADING YOUR CAMERA

Your camera may be loaded with any one of a variety of thirty-five millimeter films, including Contax 235 paper leader spools. Consult your dealer for his recommendations. To load, hold camera with the lens down, as shown in Figure 3. Place film cartridge in compartment *farthest from* the sprockets (15), and pull leader across the lens opening, toward the take-up spool (14). Insert tapered end of film in the take-up spool slot, and fold over as shown. Be sure the sprocket holes in the edge of the film properly engage in the sprocket (15).

The knurled knob on the take-up spool and the projecting knob on the film cartridge should both point toward the bottom of the camera.

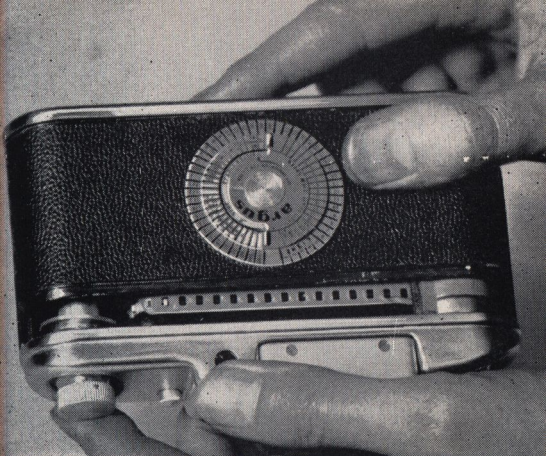
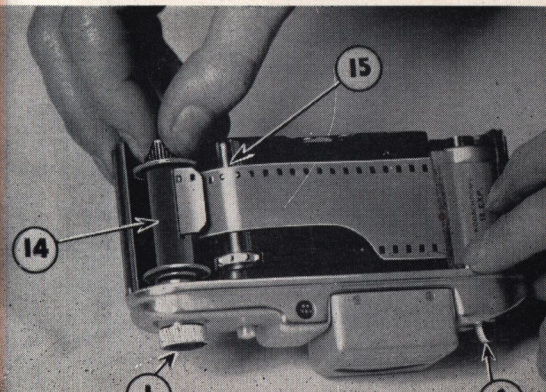


Fig. 4—Replacing Camera Back.

Fig. 3—Loading Camera.

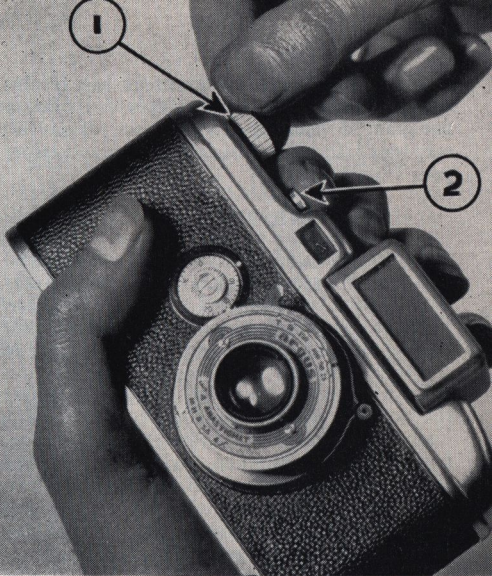


Before putting the back on, turn the winding knob (1) slowly in the direction of the arrow, until just enough film has been pulled from the cartridge to engage the sprocket on both sides of the film. Then, hold the film in position and place the camera-back on the camera as shown in Figure 4, making sure the pressure pad holds the film flat. Make sure the camera back-lock is in open position, and slide the back shut, locking it securely by turning the lock-key in the opposite direction of the arrow. Figure 2.

With the lens facing *towards you* as in figure 5, advance the winding knob (1) *in the direction of the arrow*, turning gently until resistance is felt. Do not attempt to force it past this point. With the fore-finger of the left hand depress the film release button (2) and turn the winding knob again. *As soon as you start winding the knob, remove finger and allow release button to snap back into place.*

Continue winding until resistance is again felt. Each time the film stops of its own accord you have advanced the film one full frame. Repeat this operation once more and you are ready to make your first exposure. Turn counter dial (7) until the "0" is opposite the indicator on the camera body. The dial now automatically registers the number of pictures taken. Remember to form the habit of advancing the film one full frame immediately after making each exposure to prevent double exposure.

When nearing the end of a roll of film watch the counter dial and be sure not to pull or strain the film for additional exposures. After the counter dial shows that you have taken the



**Fig. 5—Winding Film.**

number of pictures specified on your roll of film, the film must be rewound. *Never open the camera back until rewinding is complete*, for the entire length of film must be rewound into the film cartridge to prevent fogging.

To rewind, lift rewind key (6) into position and turn it in direction of arrow until counter dial stops revolving. Then remove the film cartridge from your camera. The film must

be given fine-grain development for best results. If your local photo finisher does not offer a fine-grain developing service, write Argus Incorporated for full instructions for processing your own negatives.

## TWO-CARTRIDGE LOADING

If you are an advanced worker, you will find this Argus feature helpful. The Argus A3 and Colorcamera are designed to accommodate *two* daylight loading cartridges, a full one in the usual position, and an empty one in place of the take-up spool.

Take an empty cartridge apart, and reverse the position of the spool, so that the projecting knob on the spool will extend through the opposite end. Tape the film leader securely to the spool and reassemble cartridge. Place the two cartridges in the camera with the full cartridge in the usual position and the take-up cartridge in the compartment nearest the sprockets.

When two spools are used, the film must be wound *opposite to the direction of the arrow on winding knob (1)*. Give the winding knob one or two turns to make sure film is securely fastened and sprockets are engaging both sides of the film. Replace camera back and proceed as with regular loading. Remember to continue winding *opposite to the direction of the arrow on the winding knob*.

When all exposures have been used as shown on counter dial, no rewinding is necessary. The take-up cartridge is now full and may be removed for development.

Using two light tight cartridges, you need not rewind film and you can develop part of a film roll without loss of the remainder.

## EXPOSURE METER INSTRUCTIONS

FOR THE COLORCAMERA ONLY. (Instructions for operating the exposure meter on the Argus A-3 will be found on page 21).

The photoelectric exposure meter on your Colorcamera is extremely sensitive. Its rugged jeweled movement will accurately record light intensities from 1.4 foot candles to 2,050 foot candles, and when properly used will prevent under or over-exposure. To use this meter, it is first necessary to know the Weston Rating of the film you are using. Refer to the table on page 25 of this book. In the following example, let us assume that the film you are using has a Weston Rating of 100. Proceed as follows:

1. Set the black indicator arrow on the top dial so that it points to the black arrow marked "normal" on the middle dial. This is done by holding the middle dial motionless with the thumb and turning the top dial until the indicator clicks into position. After this the two dials turn as a single unit and for normal use need not be changed.
2. Take your meter reading as shown in Figure 8, being careful to shade the meter with your hand as illustrated. Be sure the meter and camera are pointed directly at the subject. Do *not* tilt camera toward the sky while making reading.

Carefully note the needle's position on the meter dial. Let us assume that your meter gives a reading of 10.

3. Now turn the top and middle dials (which are locked together) until your Weston rating (100) is opposite the meter reading, which was 10. Bear in mind that the red figures on the top dial should always be opposite the red figures on the bottom or stationary dial.
4. Now on the black or right side of the scale you will find that your "f" or stop numbers on the *middle* dial are opposite the shutter speed numbers on the bottom or stationary dial. In this example your selection of exposures will be indicated as follows: f:5.6-1/150, f:6.3-1/100, f:8-1/60, f:9-1/50, f:12.7-1/25. Any of these shutter speeds and corresponding stop adjustments will give you a correctly exposed film. See Figure 6.

NOTE: Diaphragm numbers not appearing on the lens may be obtained by setting the diaphragm lever Fig. 10 halfway between the next higher and next lower figure. Example: to obtain a setting of f:6.3 set lever half way between f:5.6 and f:8.

After setting your dials and practicing the reading given in the above example, make some actual readings with your meter and turn the calculating dial accordingly. After having practised these operations briefly, they will become more or less mechanical, so that you can quickly obtain accurate exposures under all conditions.





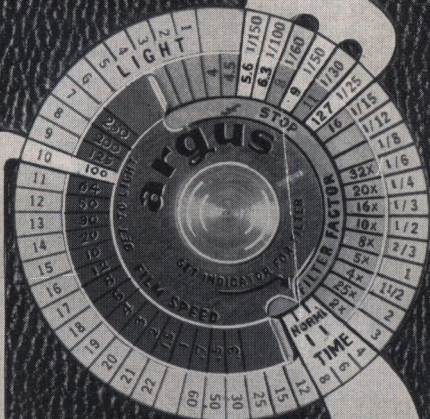
# READ EXPOSURES

1/150 AT f5.6

1/100 AT f6.3

1/50 AT f9

1/25 AT f12.7



METER  
READING: 10  
FILM  
SPEED: 100

SET TO "NORMAL"  
EXCEPT WHEN  
USING FILTER

Remember to leave the upper dial set at the "normal" position at all times, except when using filters, in which case the black indicator on the top dial should point to the factor of the filter you are using. That is, 2X, 3X, 4X, etc.)

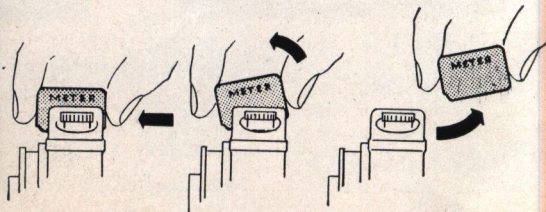
### Suggestions

Always shade the meter with the hand as illustrated in Figure 8, being careful that your hand does not obstruct the meter window.

Higher accuracy is obtained by taking "average" readings. This is done by reading the brightest part of the subject and the darkest part of the subject, adding the two readings and dividing by two. The result is then used on the calculating dials to obtain the proper exposure. This is particularly important when making Kodachrome pictures.

Example: Suppose your subject was standing in the sun and wearing dark brown clothing. You would of course wish to have this dark brown color appear life-like in the Kodachrome. However, should you take only a general reading, the exposure would not be long enough to permit the dark brown to record in its true color.

The proper procedure in this case, would be to hold the meter about 15 inches from the



subject's face and note the reading. (Let us assume that the meter reads fourteen). Then take another reading about 15 inches from the dark brown clothing. (Let us assume that this reading is eight.) Average these two (8 plus 14 equals 22 divided by 2 equals 11). The result, 11, would be considered the actual reading, and calculations made accordingly.

Another convenient method of reading your Exposure Meter is to use a piece of "Neutrowe Gray" card about 5 x 6 inches in size. Hold the card about 5 inches from the meter, being careful that no shadow falls on the card. The resulting reading may then be used just as though it was an "average" reading obtained



**Fig. 8 — Shading Exposure Meter while taking reading**



**Fig. 7—Removing Exposure Meter from Colorcamera**



in the above example. Complete instructions are printed on the card.

When your camera is on a tripod and you wish to make close-up readings with your meter, it may be removed from the camera by placing your thumb on the back of the meter and pushing forward, *then up*. See Figure 7. This releases the catch and the meter will then slide backwards off the camera. To replace meter on camera, push forward, then down, making certain the meter snaps securely into position.

The meter should occasionally be checked for zero setting. If the needle does not rest squarely over the zero mark on the dial when the window is completely covered with your hand, it may be corrected by turning the zero set screw until the needle returns to zero. (The Zero Set Screw is the small flat-head screw on top of the Meter.)

Note: Your Photoelectric Exposure Meter is built like a fine watch and should be treated as such. All unnecessary jarrings, excess dampness or heat must be avoided. Do not attempt to repair the meter yourself. Should adjustment be required, return it postpaid to ARGUS INCORPORATED, Ann Arbor, Michigan, where it will be repaired and returned postpaid. When returned within 90 days from date of purchase, there is no charge for this service. If this Guarantee has expired, the *Exposure Meter alone* will be repaired for \$1.00 and returned postpaid anytime within one year from date of purchase. For Guarantee and service policy on the camera and meter together, see outside back cover of this instruction book.

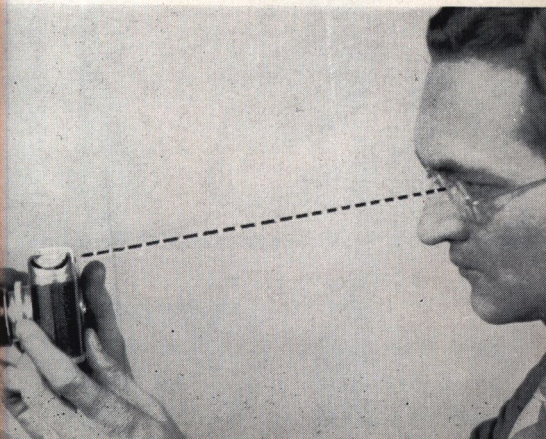
## MODEL A3 EXPOSURE METER

(These instructions apply only to the Model A3 Camera. Instructions for the Photoelectric Exposure Meter on the Colorcamera will be found on page 15).

The Exposure meter on your A3 Argus is one of the easiest to use and most accurate of its type. Readings are obtained by holding the camera about 12 to 15 inches from the eye and looking through the narrow slot at the subject you wish to photograph. (Figure 9).

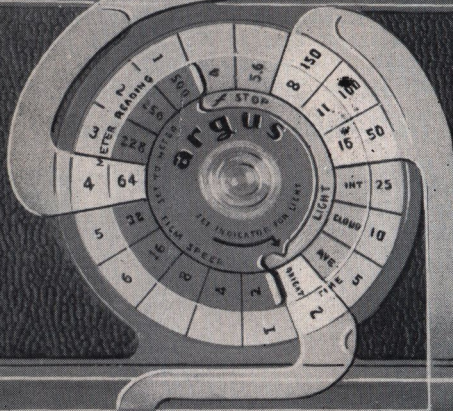
There are a series of numbered windows in this slot, graduated in density from No. 1, which is almost clear, to No. 6 which is almost black. The window through which the number is just barely visible gives you the

**Fig. 9—Using A3 Exposure Meter.**



LAST VISIBLE NUMBER  
ON METER : 4  
FILM SPEED : 64

1 2 3 4 5



SET ARROW  
FOR LIGHT  
CONDITIONS

READ EXPOSURES

1/150 AT  $f/8$   
1/100 AT  $f/11$   
1/50 AT  $f/16$

number to use in calculating your exposure.

To use the meter, first set it for light conditions. For the example which follows, we will assume it is a bright day with sunshine. Hold the middle dial stationary with your thumb and turn the top dial until the black arrow marked "Set Indicator for Light" is pointing to the section on the middle dial marked "Bright".

Next, determine the Weston Rating or emulsion speed of the film you are using. Refer to the table on page 30. In this example we will use a film with a Weston Rating of 50. The nearest number to 50 which appears on the calculating dial is 64, which is the factor we will use in the following example. You can now proceed to calculate the exposure as follows:

1. Look through the meter at your subject. Select the window through which you can barely see the outline of the number. Try looking through several other windows until you are sure you have selected the right one. Under the conditions described above it would be window number 4.
2. Turn the top and middle dials together until the red figure "64" (the closest number to the actual film speed) is opposite the number of the window you are using (No. 4).
3. Now read your exposure on the right hand or black figures of the two dials. In this instance the exposure would be  $1/150$  at  $f:8$  or  $1/100$  at  $f:11$  or  $1/50$  at  $f:16$ . Any of these indicated exposures would be correct. See Figure 10.



## DEPTH OF FIELD TABLE

| Set'g | f:4         | f:5.6      | f:8         | f:11         | f:16        |
|-------|-------------|------------|-------------|--------------|-------------|
| 1¼'   | 1'2"-1'3½"  | 1'2"-1'4"  | 1'1"-1'5"   | 1'½"-1'6"    | 1'½"-1'6½"  |
| 1½'   | 1'4½"-1'7"  | 1'4"-1'8"  | 1'3½"-1'9"  | 1'3"-1'11"   | 1'2"-2'1½"  |
| 2'    | 1'9½"-2'2½" | 1'9"-2'4"  | 1'8½"-2'6"  | 1'7"-2'8½"   | 1'6½"-3'3"  |
| 3'    | 2'7½"-3'6"  | 2'6"-3'9½" | 2'3½"-4'2½" | 2'1½"-4'11½" | 1'10½"-6'9" |
| 4'    | 3'5"-4'11"  | 3'1"-5'6"  | 2'11"-6'6"  | 2'7"-8'3"    | 2'4"-18'10" |
| 5'    | 4'1"-6'7"   | 3'10"-7'5" | 3'5"-9'6"   | 3'-15'1"     | 2'8"-46'    |
| 10'   | 6'9"-19'3"  | 5'11"-31'  | 5'1"-∞      | 4'5"-∞       | 3'5"-∞      |
| 25'   | 11'1"-∞     | 9'5"-∞     | 7'4"-∞      | 5'9"-∞       | 4'5"-∞      |
| Inf.∞ | 19'9"-∞     | 15'1"-∞    | 10'4"-∞     | 7'10"-∞      | 5'6"-∞      |

At any distance, the range over which objects are sharply in focus may be determined by looking across this table to the diaphragm opening being used and reading directly from the table. As an example, with the focus set at 5 feet and diaphragm at f:11, objects between 3 feet and 15' -1" from the camera are sharply in focus.

NOTE: In making extreme close-ups, correction must be made for parallax because the view finder is at one side and above the center of the lens. To correct this with the Model A3, first line up the image in the view finder then move the camera ¾" to the left, and raise it about 1½". The lens will then cover the same area formerly covered by the view-finder. With the Colorcamera, move the camera about ¾" to the right and raise it about 1½".



## WESTON SPEED RATINGS FOR MINIATURE CAMERA FILMS

The Weston Ratings given below represent high, average and low ratings. Use the "average" rating, or the nearest figure to it which appears on your calculating dial.

Because different developers result in varying Weston Ratings, it is impossible to recommend the exact rating to use. A few test shots will quickly show the rating which best suits your particular developing technique.

| <b>Agfa</b>        | <i>Daylight</i> | <i>Tungsten</i> |
|--------------------|-----------------|-----------------|
| Superpan Supreme   | 50              | 32              |
| Ultraspeed Pan     | 100             | 64              |
| Finopan            | 24              | 16              |
| Fine Grain         |                 |                 |
| Plenachrome        | 24              | 16              |
| <b>Dupont</b>      |                 |                 |
| Superior Pan 1     | 24              | 16              |
| <b>Eastman</b>     |                 |                 |
| Super XX           | 80              | 50              |
| Plus X             | 40              | 24              |
| Panatomic X        | 24              | 16              |
| <b>Color Films</b> |                 |                 |
| Dufaycolor         | 8               | 3               |
| Kodachrome Regular | 8               | 3               |
| Kodachrome Type A  | 8               | 12              |

Artificial light ratings for outdoor color films and daylight ratings for Type A color films include use of necessary correction filter. Consult your dealer for ratings of films not included in this table.

## GUARANTEE AND SERVICE POLICY

Argus cameras are Guaranteed against defective material and workmanship for 90 days from date of purchase. Should your camera require adjustment, return it to the factory with transportation charges prepaid. The trouble will be promptly corrected and the camera returned to you postpaid.

To assure Argus owners of low upkeep costs after expiration of the above guarantee, the factory will inspect and readjust any Argus camera shipped to them prepaid, and will return it to the owner postpaid for the sum of \$1.50 for the Model A3, and \$2.50 for the Colorcamera. Should the Photoelectric Exposure meter on the Colorcamera require adjustment, it may be detached from the camera and returned prepaid to the factory, where it will be readjusted and promptly returned for the sum of \$1.00.

This policy is effective for one year from date of purchase and applies only to cameras and meters sent directly to the factory by the owner. It does not cover replacement of equipment broken through misuse or abused. (BE SURE TO REGISTER OWNERSHIP OF YOUR CAMERA BY FILLING OUT AND MAILING THE REGISTRATION CARD INCLOSED WITH EACH CAMERA. GIVE DEALER'S NAME, DATE OF PURCHASE, SERIAL NUMBER AND MODEL OF YOUR CAMERA).

**argus** = **ann arbor**  
M I C H I G A N