

DEPTH OF FIELD

"Depth of field" designates the near and far limits of the area that will be sharp in the picture (in front of and beyond the subject). Depth of field is controlled by the lens opening (f/stop): it increases as the lens opening is made smaller.

The depth of field can be checked visually, or it can be read off the depth of field scale adjacent to the \downarrow mark on the lens barrel.

For a visual check in the viewfinder, depress shutter release partially to set lens at the opening selected for taking the picture. Sharpness over the entire

image area can now be observed in the viewfinder.

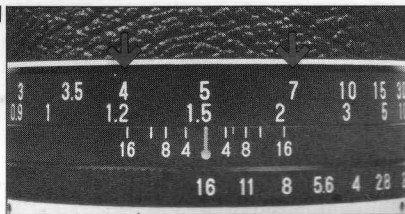
The depth of field scale indicates (after focusing) the approximate depth of the area that will be sharp in the picture.

Locate on the depth of field scale the **pair** of figures that correspond to the f/stop selected for taking the picture.

The figures appearing above the pair of figures on the distance scale indicate the near and far limits of the depth of field. In **Fig. 21**, for example, the lens is focused at 5 feet and the opening

selected for taking the picture is f/16. The first "16" is under the 4 on the distance scale, while the second "16" falls just a little short of 7, indicating that objects between 4 and 6.8 feet from the camera will be in sharp focus.

21



12 EXPOSURE

Note: To prolong battery life, the exposure system is activated only when the shutter is wound and the release is partially depressed.

Automatic Exposure

Set shutter speed dial at "AUTO" (Fig. 22). Turn f/stop ring to selected lens opening.*

Operate film advance lever. Observe subject through viewfinder. Focus. Depress shutter release until the needle in the viewfinder stops moving and a strong resistance is felt. The needle is now aligned with the shutter speed selected by the automatic exposure system†. If the needle stops

above the center of the scale, take the picture by depressing the shutter release all the way. If the needle stops below the center of the scale (under 1/30 second), the shutter speed is too slow for a steady hand-held exposure: use a tripod or increase the lens opening until the needle moves above the center of the scale.

If the needle remains below the center even at the maximum lens opening, use flash (see page 16) or another type of additional illumination, or reload camera with a faster film.

If the needle stays below the 2-second mark (Fig. 23) even at the largest lens opening, the light is insufficient for an automatic exposure.

If the light is too bright for a correct automatic exposure at the selected lens opening, the needle will rise to the striped area at the top of the scale. Use a smaller lens opening to bring down the needle.

If the needle does not move out of the striped area even at the smallest lens opening, place a .6 neutral density (ND) filter over the lens (see Filter Size on page 18).

Manual Exposure

The needle in the viewfinder may be used as an exposure meter when the shutter is operated manually (see "Shutter Speed Setting" on page 9).

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Observe subject through viewfinder and depress shutter release partially (until a firm resistance is felt). While holding down shutter release, turn f/stop setting ring to align needle in viewfinder with the same figure that is set on shutter speed dial at the index mark. To arrive at the correct exposure for the 1/125 second speed shown in Fig. 15, for example, the needle is aligned with 125 in the viewfinder, as shown in Fig. 15A (page 9). Remember that opening the lens will raise the needle, closing the lens will lower it.

*The following table may be used as a guide for selecting the lens opening (with ASA 100 film)

Outdoor Scenes (average subject)

Bright or hazy sun **f/8**
Cloudy or in shade **f/2.8**

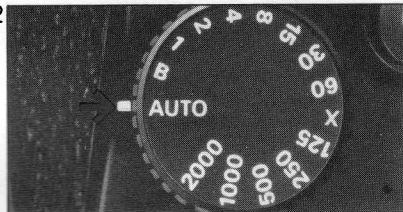
Indoors (average subject)

Bright lights **f/2.8**
"Existing" light **f/2**

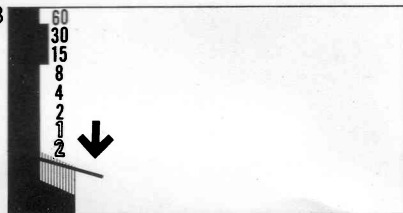
With faster or slower films (ASA number higher or lower than 100), use a correspondingly smaller or larger lens opening: each doubling of the ASA figure requires the next smaller lens opening (higher f/stop number), while each halving of the ASA figure necessitates the use of the next larger lens opening (lower f/stop number).

†The solid figures indicate fractions of a second. The outline figures "1" and "2" at the bottom of the scale indicate one and two full seconds.

22



23



EXPOSURE ADJUSTMENT

The factory-adjusted automatic exposure corresponds to international standards. Most users find it ideal. Since tastes vary, however, the automatic exposure system permits intentional 1/3 and 2/3 stop over or underexposure, with films from ASA 40 to ASA 160.

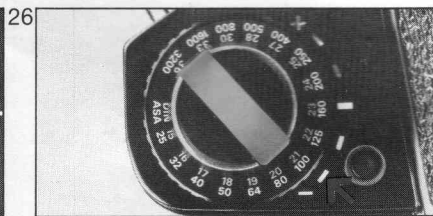
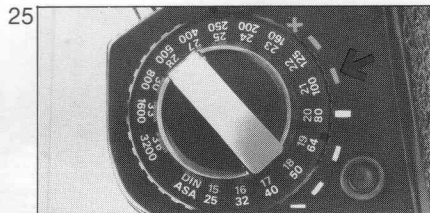
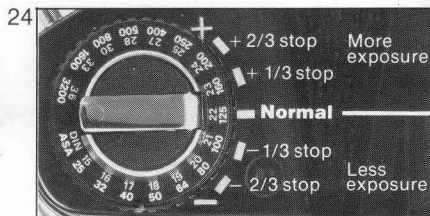
Fig. 24 shows how to make the adjustment. For the "standard" exposure, the ASA speed of the film is lined up with the white line. For a 1/3 stop overexposure, the film speed scale is turned clockwise to align the ASA speed of the film with the first colored line (marked +1/3 in the

illustration. For a +2/3 stop overexposure, the ASA speed of the film is lined up with the second colored line.

For a 1/3 stop underexposure, the film speed scale is turned clockwise, to align the ASA speed of the film with the first colored line (marked -1/3 in the illustration). For a -2/3 stop underexposure, the ASA speed of the film is lined up with the second colored line.

For example, when an ASA 100 speed film is used and a +1/3 exposure increase is required, the figure "100" is

lined up with the first of the two colored lines towards the + sign on the camera body (shown in **Fig. 25**). If, using the same film, a -2/3 exposure decrease is needed, the "100" is lined up with the second line towards the - sign on the camera body (shown in **Fig. 26**).



14 EXPOSURE ADJUSTMENT (CONTINUED)

An exposure adjustment may be desirable for one of several reasons.

The film may be faster or slower than its rated speed. Consistent over or underexposure is an indication of such a condition.

The "correct" density of color transparencies is largely a matter of taste: some photographers like saturated colors, while others prefer pastel shades. A slight underexposure will provide the saturated colors, while a slight overexposure will produce the pastel shades.

For best printing quality, color print films usually require slightly more exposure than color transparency films.

The density of black-and-white negatives is a product of the exposure/development combination. Following his usual developing procedure, the photographer can use the exposure-adjustment feature for getting the required negative density.

A minus adjustment is required when the double-exposure feature of the camera is utilized. For example, to get a correctly exposed combination when two pictures are superimposed on one film, each picture needs about one half of the usual exposure.

When a greater than $\pm 2/3$ stop exposure adjustment is required, it can be obtained by readjusting the ASA speed of the film: each doubling of the film speed results in a full stop underexposure, while each halving of the ASA speed provides a full stop overexposure.

Do not forget to return the rated ASA speed of the film to the white line when the exposure adjustment is no longer required.

MEMORY FUNCTION

As the electric eye measures the entire image area, a background that is **much** brighter or darker than the principal subject may cause an exposure error. The camera has a built-in memory function to prevent such errors.

To activate the memory function:

- 1.** Advance film.
- 2.** Compose picture in viewfinder as usual.
- 3.** Approach subject with camera until part to be correctly exposed fills the viewfinder (thus eliminating the too bright or too dark portions of the surroundings).
- 4.** Depress shutter release until the needle in the viewfinder stops moving and a strong resistance is reached, then depress the memory button all the way and **hold it there**. After the memory button has been depressed all the way, it is no longer necessary to hold down the shutter release.
- 5.** While keeping the memory button depressed, return to the original camera position and depress the shutter release all the way to take the picture. The close-up reading will remain "memorized" as long as the memory button is held depressed, so that several pictures may be taken with the

correct exposure (for the subject). If the memory button is released, even for a moment, the memorized exposure will be erased and the automatic exposure system will again function in the usual manner. **Remember, therefore, to hold memory button depressed all the way as long as the memorized exposure is required.**

MULTIPLE EXPOSURES

When desired, the shutter can be wound without transporting the film. This feature permits making double or multiple exposures on a single frame of film.

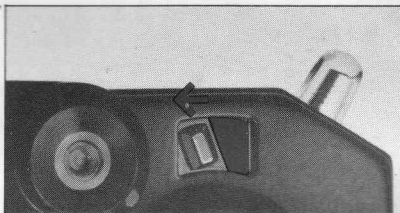
Take first picture the usual way.

Before operating film advance lever, slide multiple exposure switch to the left (towards release button), as far as it will go (**Fig. 27**). This will cause a red area to appear next to the switch. Operating the film advance lever will now wind the shutter without advancing the film.

Depress the shutter release to make a second exposure on the same frame.

Operating the shutter release automatically returns the multiple exposure switch to its original position (to prevent accidental double exposures). If a third exposure is desired on the same frame, just move the multiple exposure switch to the left once more, operate film advance lever to wind shutter, then depress shutter release. This can be repeated any number of times. When the required number of exposures have been made, transport film for the next exposure by operating film advance lever the usual way.

27



*If after moving the multiple exposure switch to the left, **but before operating the film advance lever**, it is decided that a double exposure is not wanted, it can be canceled by moving the switch to the right, to its original position.

16 SELF-TIMER

The self-timer enables the photographer to get into the picture. Use a tripod, or place the camera on a firm support. Get camera ready for exposure. Move self-timer lever counterclockwise, as far as it will go (**Fig. 28**), to obtain maximum delay (partial movement will result in shorter delays). Place cover over viewfinder eyepiece to keep out stray light. Start self-timer by depressing shutter release, then take position in front of camera. Exposure will take place approximately 8 seconds after shutter release has been depressed.

LOCKING THE SHUTTER RELEASE

To lock shutter release, move tab on collar around release button to the right (**Fig. 29**). The white dot on the collar is now aligned with the "L" on the camera body (**Fig. 30**).

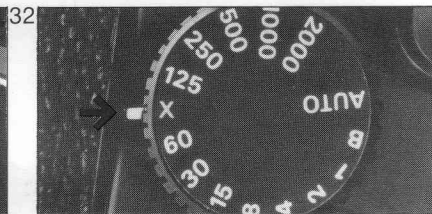
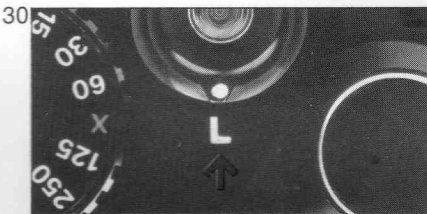
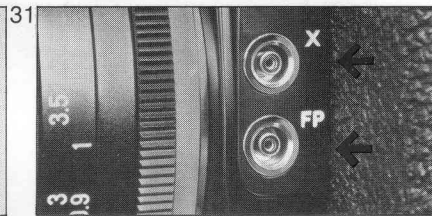
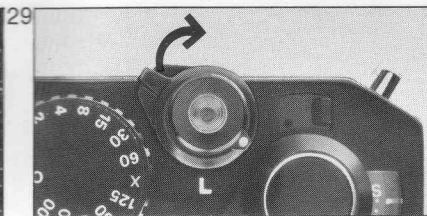
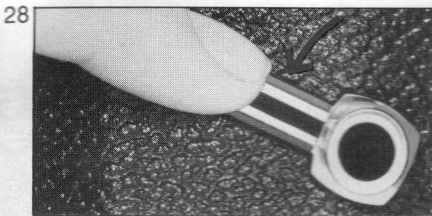
To unlock release, push tab to the left, as far as it will go.

USING FLASH

Use flash when the needle in the viewfinder stays under the figure "2" at the bottom of the scale even with the lens wide open, or when the time indicated by the needle is too long for motionless hand-held exposures.

Electronic flash and conventional flash units accommodating flashbulbs or flashcubes may be used.

The camera has a "hot" shoe (accessory shoe with built-in flash contact) and two standard P.C. outlets: one marked "X", the other "FP" (**Fig. 31**).



Electronic and conventional flash units having a foot with built-in contact may be used without a connecting cord.

Just slide the foot of the flash unit into the accessory shoe all the way. As the hot shoe has "X" type synchronization, it can be used with electronic flash at 1/100 second (X on shutter speed dial, shown in **Fig. 32**) or a slower shutter speed.

With AG-1, AG-1B, AG-3B, M-2, M-2B flashbulbs, and flashcubes in conventional flash units in the hot shoe, use a 1/30 second or slower shutter speed.

IMPORTANT: Do not use P.C. cord **and** hot shoe of flash units equipped with both.

The two P.C. outlets of the camera accept the P.C. cord plug of flash units. Plug electronic flash units into outlet marked "X" and use the X (1/100 second) or a slower shutter speed. For AG-1, AG-1B, M-2, M-2B flashbulbs, and flashcubes, plug flash into "X" outlet and use 1/30 second or slower shutter speed. For 6, 6B, 26, and 26B "focal plane" type flashbulbs, plug the P.C. cord into the "FP" outlet and use any shutter speed.

*So called "automatic" flash units provide correct exposure without calculations. Follow instructions provided with the unit.

Use the guide number system to establish flash exposure.* Find guide number for speed of film being used in the instructions supplied with flash unit or flashbulb.

To arrive at the f/stop to be used, divide the guide number by the distance in feet between subject and flash. For example, with a guide number of 32 and a flash-to-subject distance of 8 feet, a lens opening of f/4 will provide correct exposure because

$$\frac{32 \text{ (guide number)}}{8 \text{ (distance in feet)}} = 4 \text{ (f/4)}.$$

CHANGING THE LENS

To remove lens, keep turning it counterclockwise (**Fig. 33**) until it is separated from the camera body.

To replace lens, insert threaded end into opening in camera body and keep turning lens clockwise until it is firmly seated. Do not force it.

The screw mount of the camera accepts a wide variety of Pentax and Practica type lenses and accessories.

FILM PLANE INDICATOR

In certain types of work it is necessary to know exactly the location of the film plane. The \odot mark on the camera top indicates the film's position inside the camera.



FILTER SIZE

The 55mm f/1.4 lens accepts Series VII filters in 55mm diameter x .75mm-pitch screw-in mounts, or in 57mm slip-on mounts.

CAMERA CARE

The GAF Single Lens Reflex Camera is a precision instrument. Used with care, it will provide years of service. Protect the camera from dirt, rain, dampness, and excessive heat. Avoid touching the lens. To clean lens, breathe on it, then wipe it gently with a soft, lintless cloth or tissue. Do not use eyeglass tissues as they might damage the lens coating. If anything goes wrong, do not try to repair it. Take it to a dealer or send it to the nearest GAF Photo Equipment Repair Center shown in the list on page 18.

Important:

The original bill of sale (dated sales slip with name and address of dealer) is now accepted as proof of purchase for establishing the warranty period. No warranty card is provided. To help identification in case of loss or theft, keep among your personal records the camera model designation (GAF L-ES) and the serial number appearing on the camera back, at the right of the viewfinder eyepiece.

**GAF CORPORATION
Consumer Photo Service Center**

Emma St.
Binghamton, N.Y. 13902

3500 North Kostner Ave.
Chicago, Ill. 60641

16217 Kittridge St.
Van Nuys, California 91406

58-10 Broadway
Woodside, New York 11377

P.O. Box 490
Portland, Ore. 97207

4601 Winters Chapel Road
P.O. Box 47999
Atlanta, Ga. 30340

**IN CANADA
GAF (Canada) Limited
Consumer Photo Service Center**

70 Alexdon Road
Downsview, Ontario

9411 Cote De Liesse
Dorval, Quebec

1195 West 8 Ave.
Vancouver 9, Brit. Col.

SPECIFICATIONS**Type:**

35mm single-lens reflex camera with electronically controlled automatic exposure system — manual exposure control option is provided

Image size:

24mm x 36mm

Film:

35mm film in standard magazine

Lens mount:

Screw mount with a thread diameter of 42mm (Pentax and Practica type)

Viewfinder:

Pentaprism finder with Fresnel lens and micropism focusing spot

Magnification:

Using 55mm lens, subject's apparent size in viewfinder is 92% of life size

Mirror:

Rapid-return type

Shutter:

Electronically controlled Copal metal focal plane shutter with horizontal slit, vertical scanning — shutter release lock

Shutter speeds:

In automatic mode from 2 seconds to 1/2000 second (continuous speed setting) — in manual mode from 1 second to 1/2000 second and B (time exposures available with shutter-release lock or locking cable release)

Exposure system:

Through-the-lens metering, center-weighted averaging system utilizing two silicon blue cells — automatic exposure range EV 0-19 (with ASA 100 film range is from 2 seconds at f/1.4 to 1/2000 second at f/16) — $\pm 2/3$ stop exposure compensator device — exposure system is activated by depressing shutter release

Film speed range:

ASA 25 to 3200 — 15-36 DIN

Standard lens:

Coated, color corrected Auto Chinon f/1.4, 55mm, consisting of 7 elements in 5 groups, 43° angular field of view, automatic/manual aperture control, distance scale in feet and meters, depth of field scale, infrared focusing indicator

Focusing range (with standard lens):

1.75 ft (0.5m) to infinity

Filter size:

Standard lens accommodates Series VII filters in 55mm diameter x .75mm pitch screw-in mounts, or in 57mm slip-on mounts

Film and shutter wind:

Single-stroke rapid-wind lever with 20° ready position and 134° operating swing

Film frame counter:

Automatically indicates number of exposures — returns to "S" (start) when camera back is opened

Self timer:

Variable delay to 8 seconds

Exposure memory:

Push-button memory function provides accurate automatic exposures in unusual situations

Film rewind:

Folding crank type

Accessory shoe:

Standard accessory shoe equipped with electric contact (so called "hot shoe") for X synchronization

Flash sync:

"FP" and "X" P.C. outlets
(X=1/100 sec.)

Multiple exposures:

Double or multiple exposures are possible with simple lever setting — lever automatically returns to single-exposure mode to prevent accidental double exposures

Power source:

6-volt silver-oxide battery
(Eveready 544)

Battery tester:

Button-actuated; exposure meter needle position in viewfinder indicates battery condition

Dimensions (body only):

Width 145mm (5.7 in.)
Height 97mm (3.8 in.)
Depth 54.5mm (2.15 in.)

Weight (body only):

760 gr (26.8 oz)