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***Nikkormat***

INSTRUCTION MANUAL

# NOMENCLATURE

Shutter-release button

Synch selector ring

Depth-of-field preview button

Self-timer/memory lock

Accessory shoe

Finder eyepiece

Synch terminal

Battery checker

Film-speed dial lock

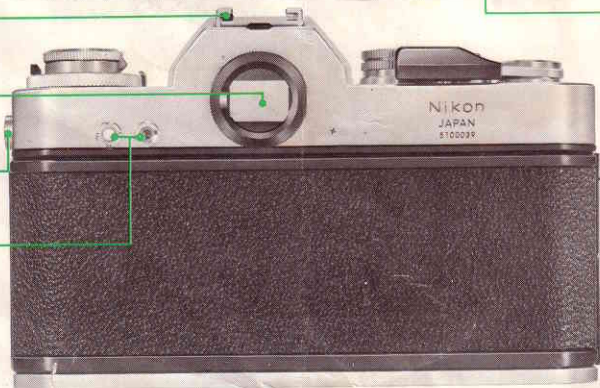
Lock for camera-back opening

Neckstrap eyelet

Lens-release button

Mirror lock-up lever

Meter coupling pin



Focusing ring

Distance index

Aperture scale

Distance scale

Meter coupling prong

Maximum aperture scale

ASA film-speed dial

Shutter-speed dial

Rewind crank

Frame counter

Camera-back opening knob/  
Film rewind knob

Film-advance lever

Hot-shoe contact

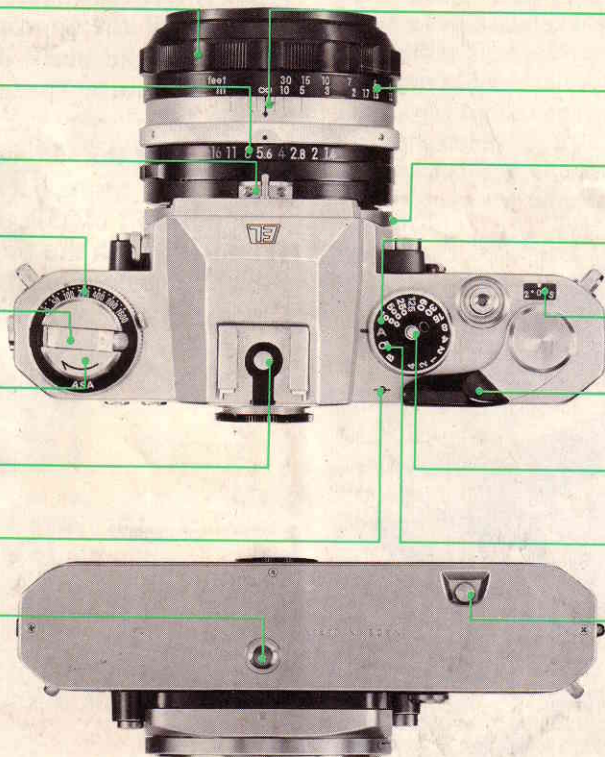
Shutter-speed dial lock

Film-plane indicator

Synch mark

Tripod socket

Rewind button

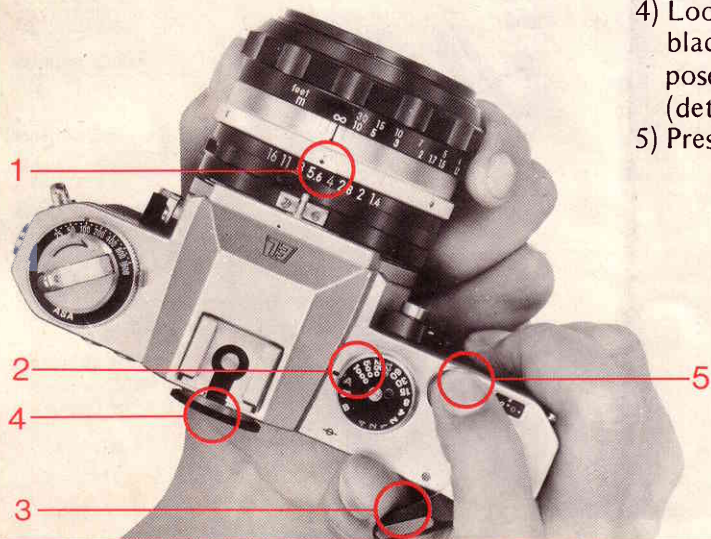




## PICTURE-TAKING STEPS [www.pdfcameramanuals.com](http://www.pdfcameramanuals.com)

After installing the battery, loading the film and setting the film speed, shooting with Nikkormat EL is a simple operation:

- 1) Set the lens aperture by turning the aperture ring until the appropriate f/number appears opposite the black dot (details on page 15).
- 2) Set the shutter-speed dial at "A" (details on page 14).
- 3) Swing out the film-advance lever all the way; then let it spring back to the meter-switched-on position (details on pages 12 and 13).
- 4) Look through the viewfinder and see that the black needle remains within the scale. Compose, focus and hold the camera steady (details on pages 16, 18 and 30).
- 5) Press the shutter-release button.



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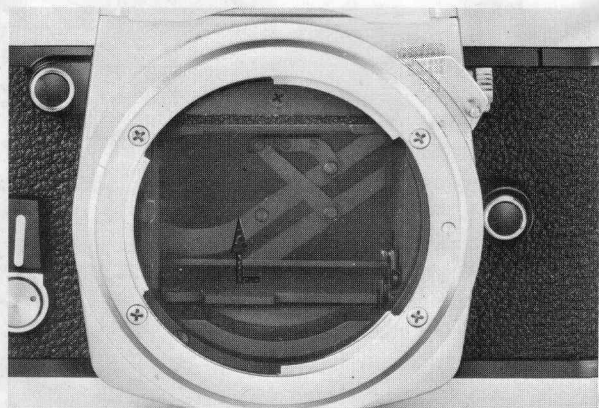
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## FOREWORD

The Nikkormat EL's feature of automatic exposure control adds a new dimension to 35mm SLR photography. To get the most out of your Nikkormat EL, read this instruction booklet thoroughly and make certain you understand all the controls before you load film in the camera. For a quick guide to picture-taking, follow the five simple steps which appear on page 4 of this booklet. In addition, follow the suggestions on Camera Care so your camera will last for many years of reliable service. The Nikon warranty which comes with your Nikkormat EL is your assurance of prompt, courteous service and complete satisfaction, anywhere in the world.

## INSTALLING THE BATTERY

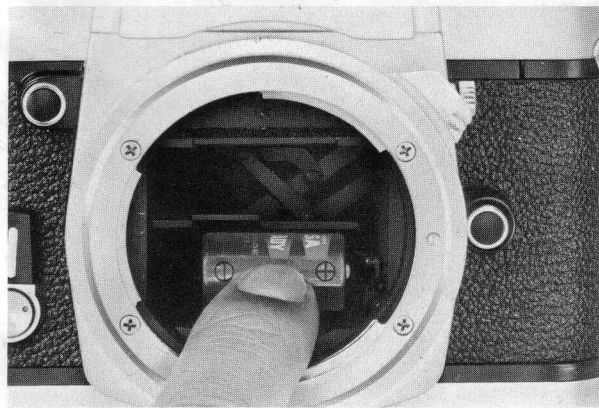
Either a 6-volt silver-oxide or alkaline-manganese battery is used to power both the exposure meter and the electromagnetic shutter-speed controlling circuits. A silver-oxide battery comes with the EL. The battery chamber is in the mirror box. To install the battery, first remove the lens from the camera (see page 36) and lock the mirror in the up position by turning the milled mirror-lock lever upward to gain access to the battery chamber in the mirror box (see page 38). Then with a finger, press the battery chamber lid to the left at the indent and lift it up.



When inserting the battery, be sure to align the positive and negative (+ and -) terminals correctly as shown underneath the battery chamber lid.

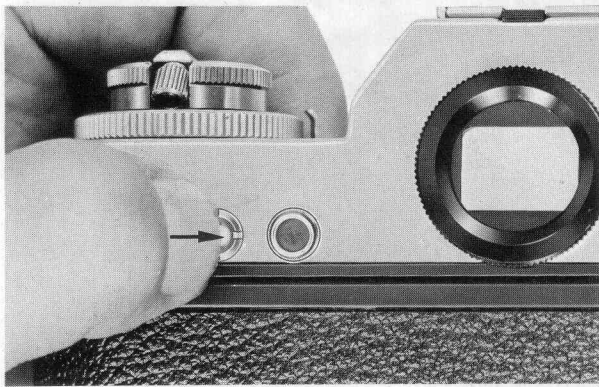
To close the lid, press down. Remember to return the mirror to its original focusing and viewing position.

**Caution:** If the battery is installed in the opposite alignment, its energy will be depleted within a matter of minutes.



### Battery test

A built-in battery checker lets you check the condition of the battery. Depress the white button and the signal lamp will glow with a bright orange light, indicating that the battery has been properly inserted and its power is adequate.

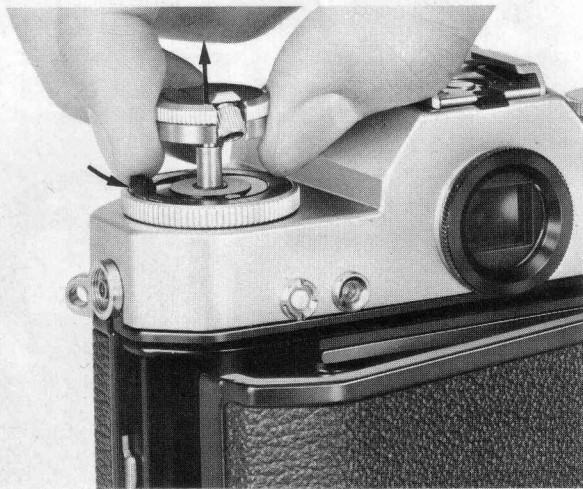




## LOADING THE CAMERA

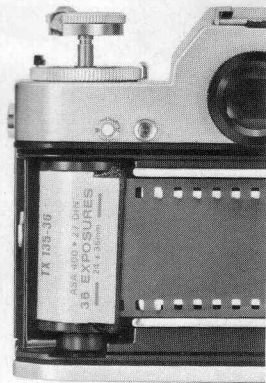
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To open the camera back, slide the safety lock backward and lift up the film rewind knob as far as it goes, and the hinged camera back will pop open.



### Loading film

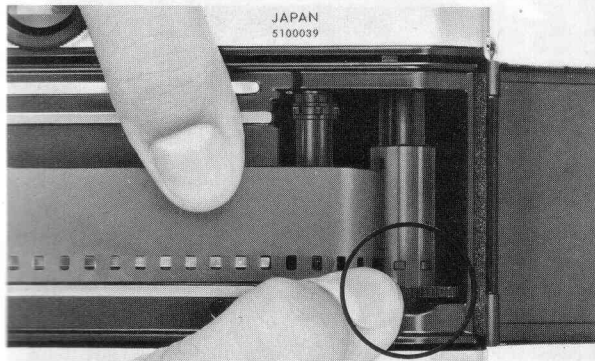
Drop a film cartridge (or loaded cassette) into the film chamber with the film leader pointing toward the take-up spool. Push the rewind knob down to hold the cartridge in place and insert the end of the film leader into any one of the three slots in the take-up spool. Stroke the film-advance lever (or turn the take-up spool clockwise) slowly to make sure that the film perforations mesh with the sprockets and that the edges of the film run parallel to the film guide rails. Close the camera by pressing the back until it snaps into place.



Fold out the rewind crank on the film rewind knob and turn it gently in the direction of the arrow until you feel a slight resistance. This takes up any slack in the film cartridge. Then fold back the rewind crank. Set the shutter-speed dial at 1/1000 sec. and make two blank exposures to dispose of the first few inches of film which were exposed during loading. When advancing

the film, make sure that the rewind knob rotates in the direction opposite the arrow. This indicates that the film has been loaded correctly and is being advanced. The frame counter should now indicate "0" exposure. Advance the film one more frame and you are ready to take the first picture.

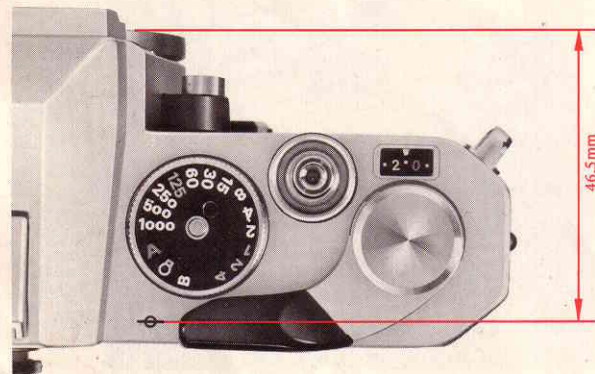
**Caution:** Do not load the camera in bright sunlight. If no other shade is available, shade the camera from the sun with your body while loading.



# LOADING THE CAMERA—continued

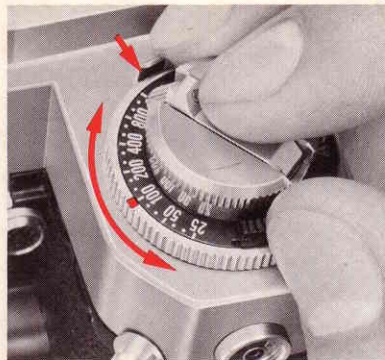
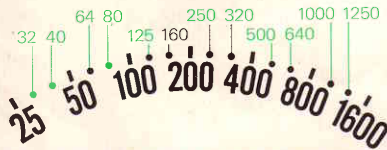
## Film-plane indicator

The black  $\oplus$  mark on the top deck shows the exact position of the film plane. This is an aid when measuring the film-to-subject distance in close-ups and macrophotography.



## Setting the ASA film speed

The ASA film-speed dial has a scale calibrated from ASA 25 to 1600 with two dots between numbers to indicate intermediate settings, such as 32 and 40. Press the film-speed dial lock inward and turn the milled ring around the film-speed scale until the red dot appears opposite the speed of the loaded film, and the exposure control system automatically adjusts itself to match the selected film speed.



## Unloading film

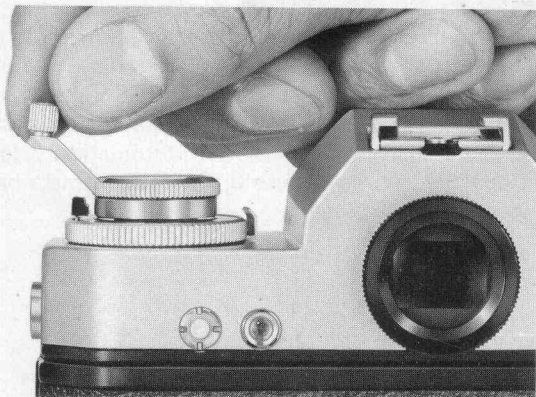
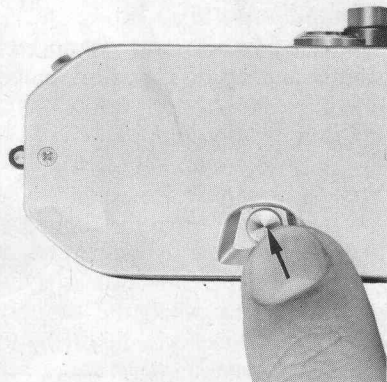
When the frame counter indicates that the last exposure has been made or when the film-advance lever can no longer be stroked\*, the roll of film has been completely exposed and should be removed. Press the rewind button on the camera baseplate, and the film is ready for rewinding into the cartridge.

Unfold the rewind crank and turn it with a constant, gentle pressure in the direction of the arrow until you feel an increased tension. Give it a few more turns until the tension has gone and the crank turns freely. The film has now left the take-up spool and the camera may be opened.

Slide the safety lock backward and pull the rewind knob as far as it will go. The camera back will pop open and the film cartridge may be removed.

When the film-advance lever is stroked, the rewind button will pop out and the film-advance mechanism will be re-engaged.

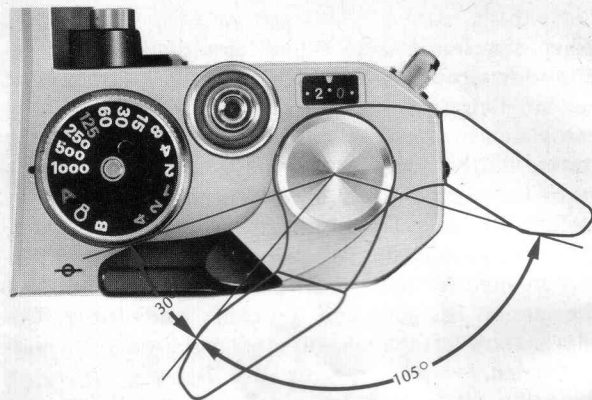
**\*Caution:** Do not attempt to force the advance lever—this action will result in tearing the film out of the cartridge.



## FILM ADVANCE

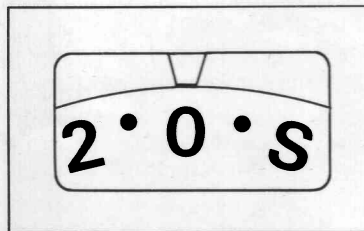
### Film-advance lever

The film-advance lever advances the film, cocks the shutter and, at the same time, moves the frame counter one frame. It also switches the exposure meter on and off. Always swing out the lever to the limit of its travel in one stroke with the right thumb; then let it spring back to its regular position with a  $30^\circ$  clearance angle for the thumb. When the film-advance lever is flushed against the camera body, it serves not only as the meter-off switch but also as a lock to prevent accidental tripping when the shutter is cocked. In this position, the black needle of the shutter-speed scale in the viewfinder rests at  $1/15$  sec.



### Frame counter

The 36-frame counter automatically shows how many frames have been exposed. It is calibrated in even numbers, with the figures 0, 20 and 36 in red, and odd numbers by dots. The counter stops just past the 36-frame mark and resets itself automatically to "S" (start), two frames before 0, when the camera back is opened for reloading.



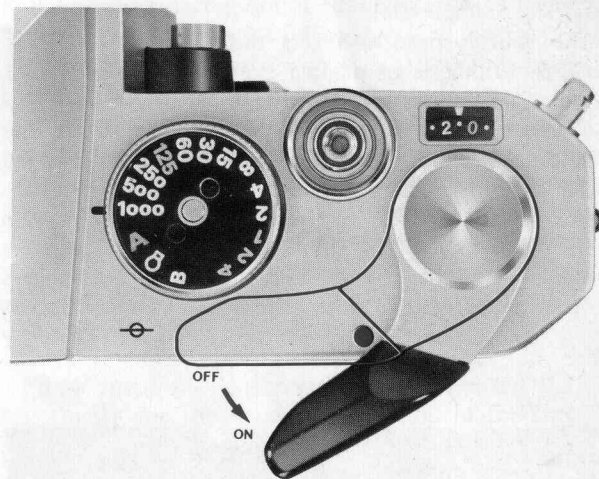


## CENTER-WEIGHTED EXPOSURE METER

The exposure meter reads light over the entire focusing screen, but its light sensitivity is concentrated in the center, which corresponds to the central 12mm diameter spot of the screen. For best results, always place the main subject in this central area when metering. The meter takes advantage of the automatic diaphragm feature of the Nikkor Auto lenses to measure light at the maximum aperture of the lens. This insures the brightest possible image on the focusing screen for viewing and focusing and minimizes the influence of light entering through the finder eyepiece.

In order to measure the correct exposure at full aperture with lenses of different maximum apertures, the meter must be adjusted to the maximum aperture of the lens in use. This is done each time the lens is attached or changed by turning the aperture ring of the lens through its entire range (see p. 36).

To switch on the meter, pull out the film-advance lever just enough to uncover the red dot on the top deck of the camera. To prevent battery drain, keep the lever flushed against the camera back to switch off the meter whenever the camera is not used.



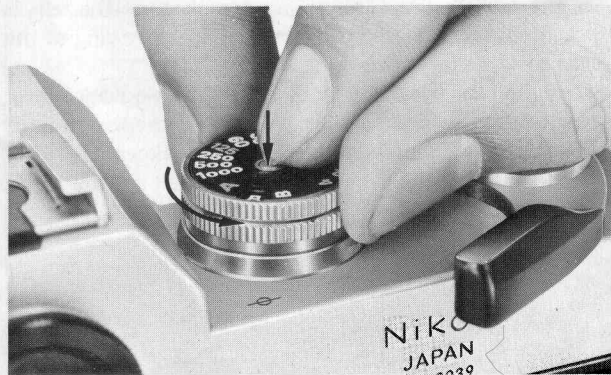
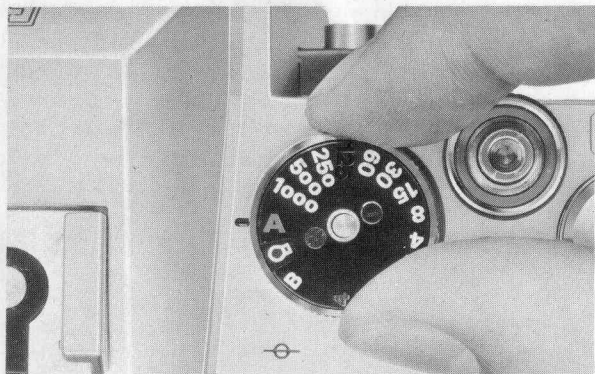
## EXPOSURE CONTROL

### Shutter-speed dial

The shutter-speed dial sets the Nikkormat EL for either automatic or manual exposure control. To set the dial at Automatic, turn the shutter-speed dial clockwise until the "A" is opposite the black dot. The automatic exposure control locks the shutter-speed dial to prevent accidental shifting of the setting.

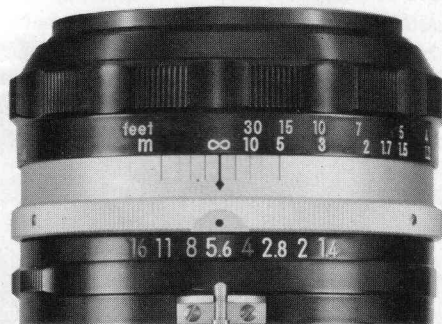
For manual override of the exposure control, depress the lock release on the dial and turn it counter-clockwise until the desired shutter speed appears opposite the black dot. The manual shutter speeds

range from 4 to 1/1000 sec., plus B. The orange numbers on the dial represent full seconds while those in white represent fractions of a second. The red 125 stands for 1/125 sec., the highest shutter speed which can be used to synchronize with a speedlight. Do not set the dial at an intermediate position between click-stop settings. At the B setting, the shutter remains open as long as the shutter-release button is held down. If you have forgotten to install the battery or in the event of battery failure, the shutter gives a mechanically fixed 1/90 sec. speed regardless of the setting.



### Lens aperture diaphragm

Turn the aperture ring on the lens barrel until the desired f/number is opposite the black dot. The aperture diaphragm can be set at intermediate openings between click-stop settings for more precise exposures. On automatic exposure control, the aperture setting may be left anywhere from f/5.6 to f/11 for general daylight; for indoor photography, the lens may be set at f/2.8.

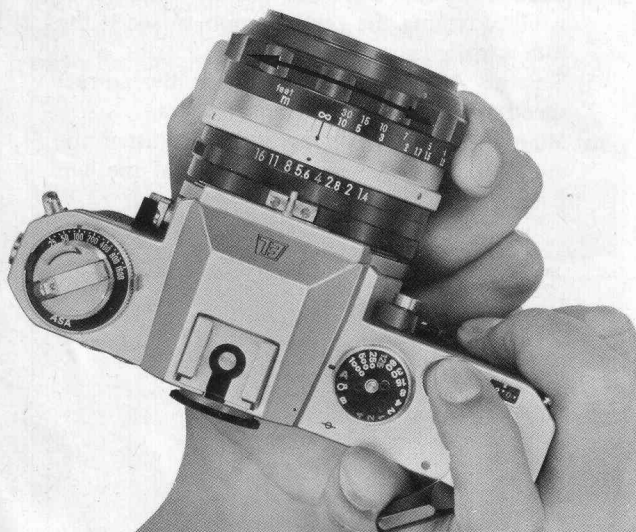


## REMINDER CHECKLIST

Before you start shooting, double-check to make sure you have done the following:

- 1) Installed the battery in the battery chamber correctly.
- 2) Checked the battery checker to see that the lamp glows with a bright orange light.
- 3) Returned the mirror to the original viewing position.
- 4) Loaded the film and made two blank exposures while watching the rewind knob to see if the film is loaded correctly.
- 5) Set the ASA film-speed dial for the correct speed of the film loaded in the camera.
- 6) Mounted the lens correctly and adjusted the meter for the maximum aperture of the lens (check the maximum aperture indicator).

Focusing is always done at full aperture with Nikkor Auto lenses. This gives the brightest possible image on the focusing screen for easy focusing and viewing. It also minimizes the depth of field so that the image snaps in or out of focus distinctly.

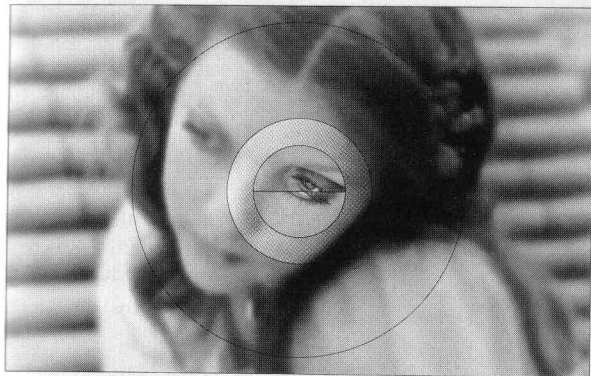


The Nikkormat EL's focusing screen consists of a matte Fresnel field with a central 3mm $\phi$  split-image rangefinder spot surrounded by a doughnut-shaped 1mm-wide microprism. It makes for fast, accurate focusing. Look through the viewfinder and turn the focusing ring until the two halves of the central rangefinder image coincide to form a single, sharp image—or until the image in the microprism appears sharp and crisp. The focusing screen is suitable for subjects with straight outlines or ill-defined contours. In close-up photography, the rangefinder spot is likely to darken. This is also true when you're using a lens with a maximum aperture smaller than f/4.5. You should then focus on the surrounding matte field.

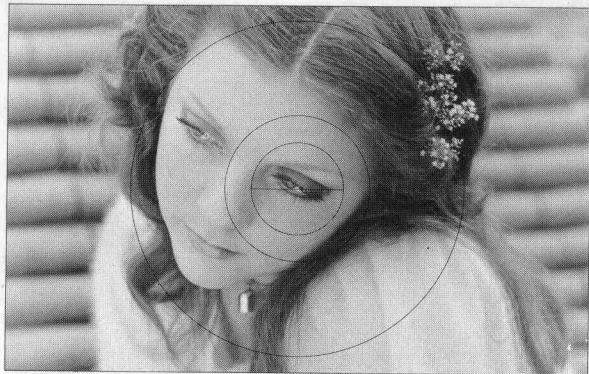
## Scale Focusing

The lens can also be prefocused using the distance scale engraved in both feet and meters on the lens barrel. Line up the black indicator line on top of the lens opposite the camera-to-subject distance as measured or estimated. This technique is useful for candid shots of elusive subjects when time does not permit through-the-lens focusing.

Out of focus



In focus





# AUTO EXPOSURE CONTROL AND METER RANGE

The Nikkormat EL features automatic exposure control in which the aperture setting has priority over the shutter speed. This means that once you have selected the desired aperture, the built-in TTL meter controls the shutter speed to match the available light when the camera is set at *automatic*. An electromagnetic timing control regulates the automatic shutter for precise exposure. Speeds are stepless, offering variations such as 1/121, or 1/258 sec., etc.

To take a picture using auto exposure control, first select the desired aperture and set the shutter-speed dial at "A" (the green needle visible inside the viewfinder rests at "A"). Swing out the film-advance lever all the way; then let it spring back to its meter-switch-on position. Then look at the shutter-speed scale inside the viewfinder. The black needle indicates the shutter speed at which an exposure will be made. Compose, focus and press the shutter-release button with a slow, squeezing action. If the shutter speed indicated is too slow or too fast for the subject, turn the aperture ring until the desired shutter speed is obtained.

The black numbers on the shutter-speed scale represent fractions of a second and those in orange, full seconds. The orange segments, with "A" and "B" marks at either extreme end of the scale, warn you of under- or overexposure.

As long as the black needle remains within the scale, provided that the EV\* range is not exceeded, the camera provides the correct exposure automatically.

\*Note. When lighting conditions are outside the range of this camera's metering capabilities, either add supplementary light to bring the illumination level within the EV range and use the camera's metering system, or make a manual exposure calculations.



A

1000

500

250

125

60

30

15

8

4

2

1

2

4

B



## AUTO EXPOSURE CONTROL AND METER RANGE—continued

### Extreme-high or low light situations

If the black needle remains in "A" or "B" after all possible aperture settings have been tried, then the available light is too bright or too dim to cover the meter's EV range. Switch to a new film that matches the available light or mount a neutral density (ND) filter onto the lens to cut down on the amount of light or use artificial light to increase luminosity, whichever is appropriate.

### Operable shutter speed

The camera's meter may be used only within the shutter speed range covered by the exposure value (EV) range of the meter, which varies with the aperture and ASA setting.

The chart on page 23 shows the relationships between the f-stop, shutter speed and film speed, indicating the slowest functioning shutter speed (for metering purposes) with any film speed/f-stop combination.

Careful attention to the following instructions will assure precise exposure, automatically, over the complete exposure control and meter range capability of your Nikkormat EL.

#### ■ Auto exposure control at full aperture

For example, with an f/1.4 lens and ASA 100 film, the EL's automatic shutter will function down to one second with the lens set at 1.4, and proportionately slower as the aperture is closed.

Using a standard of ASA 25 film, you may be assured of at least a four second speed regardless of the aperture of the lens used as long as the lens is set at full aperture (refer to Table).

Using ASA 400 at f/1.4, the slowest speed is 1/4 second; however, as the aperture is closed, the functioning shutter speed becomes progressively slower until we reach f/5.6 when the slowest speed of four seconds is functioning.

#### ■ Auto exposure control with stop-down metering

When using a bellows or other extension equipment, which disengages the meter coupling device, it is necessary to revert to stop-down metering. Certain limitations are imposed in this mode.

As lens-to-film distance is increased, the metering range (EV range) changes proportionately. For example, when an f/2.0 lens is used at 2:1 reproduction (twice life-size) the effective f/number is f/5.6. When used at f/8, the effective f/number is f/22.

When pictures are taken under minimal light levels, it is desirable to use a high-speed film (ASA 160 or higher). Using Tri-X at film speed 400 with stop-down metering, with an effective f/number of f/8, the shutter speed range would be from 1/4 second to 1/1000. Should the light level drop below EV6, it would be out of the shutter speed range of the meter.

**Table** Slowest shutter speed at full aperture with any lens

ASA speed	Slowest shutter speed (sec.)
1600	1/15
800	1/8
400	1/4
200 (160)	1/2
100 (80)	1
50 (64)	2
25	4

### ■ How to read the EV range chart

The chart indicates the EV (for ASA 100) vs. shutter speed range.

To determine the shutter speed range, note that the bars in section A indicate the responsive range of the EL's photosensitive CdS element (i.e., f/8 covers EV6-22, f/16 covers EV8-22) for the f-stop in use.

In Section B, note the f-stop being used on the appropriate ASA scale. For example, at ASA 25 with the lens set at f/8, we follow the line diagonally and find that it intersects EV6 at four seconds, and at EV18 runs off the scale at 1/1000 second. ASA 100 at f/8 runs from EV4 at four seconds to EV 16 at 1/1000 second.

*In any case, it is generally the low end which requires a careful check. The wide exposure (EV) range of the Nikkormat EL will encompass most lighting situations. It is only under dim-light or rare bright-light situations that any special attention need be paid.*

### Full-aperture metering

The metering range is determined by the bars (Section A), f/number range in appropriate ASA scale (Section B) and shutter speed (4–1/1000 sec., Section C). For example, the area encompassed by the heavy lines demonstrate a combination of an f/1.4 lens and ASA 100 film.

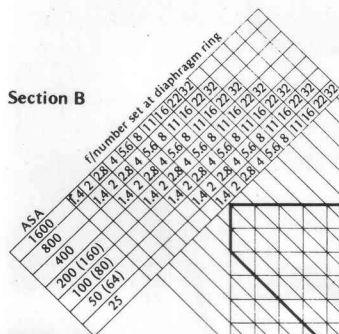
### Stop-down metering

The metering range is determined by the bars (Section A), f/number in appropriate ASA scale (Section B) which corresponds to the stopped-down aperture in operation, and shutter speed (4–1/1000 sec., Section C). The broken line demonstrates stop-down measurement in the case of an f/8 lens combined with ASA 100 film, indicating a range from 1 sec. to 1/1000 sec.

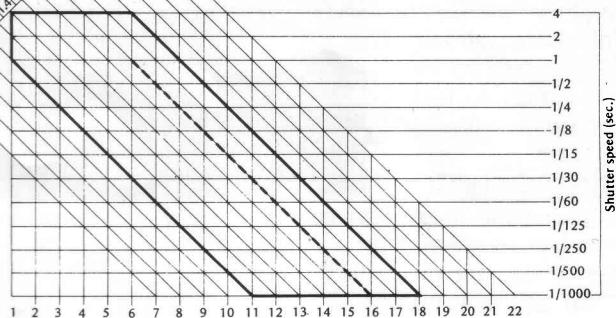


# EV Range Chart

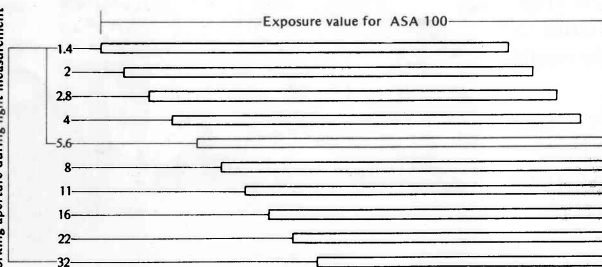
## Section B



## Section C



## Working aperture during light measurement



## Section A