

# EL2 SALES MANUAL





## General Introduction to the Nikon EL2

Uncompromising quality and absolute reliability are just two of the many characteristics that set a Nikon apart from any other camera, and both are inherent in the EL2—the automatic “Nikon.” More than just another automatic camera, the EL2 with its companion AW-1 Auto Winder provides not only the working professional and advanced amateur but also the absolute beginner with a sophisticated, aperture-priority, automatic camera capable of automatic film advance.

While automation is undeniably advantageous, there are times, shooting back-lit subjects, for example, when adjustments need to be made—and the EL2 provides for this. A fingertip actuated memory lock facilitates momentary exposure override, while an exposure compensation ring permits precise tuning of the camera's metering system to precisely match the needs and preferences of the advanced photographer. Full manual control of the 8 to 1/1000 second shutter speed range is also available—with a simple twist of the shutter speed dial.

The AW-1 Auto Winder equipped EL2 not only ensures that the photographer can follow the action without missing a shot, but the assembly's compact, fully integrated design also makes for steady hand-held shooting, even when shooting with super-telephoto lenses; the automatic winding function eliminates the necessity to change grips to

advance the film.

Ergonomically designed, from the slip-free tip of the film-advance lever to the ideal placement of the shutter release button, the camera's controls are naturally positioned. Size, weight and balance have been optimized to provide the photographer with a camera that sits comfortably in the hand, a camera that ‘feels’ right—emphasizing the fact that the EL2 is a quality product.

Last, but by no means least, the system. The EL2 accepts all past, present and future Nikkor lenses, plus the vast majority of accessories that together form the Nikon System, the system that has revolutionized 35mm photography and is the undisputed choice of professionals and amateurs the world over. This enables the EL2 owner to tackle any subject confidently, surely, automatically.

**Automatic Exposure Control.** The sophisticated exposure metering system of the EL2 guarantees successful picture-taking for anyone, from the rankest amateur to the most advanced professional. The use of solid-state electronics, including a monolithic IC and a Functional Resistance Element (FRE) ensures reliable operation, even under extreme environmental conditions. Naturally, the EL2's automation will continue to operate flawlessly when the camera is used with most of the lenses and accessories of the Nikon System.

**Auto Winding.** The EL2's film advance mechanism



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## ● Code Numbers

Nikon EL-2 Body, chrome: 100-35-001  
Nikon EL2 Body, black: 100-35-041  
Auto Winder AW-1: 100-28-700  
Hard Case CH-3: 100-28-800  
Hard Case CH-9: 100-28-803  
Pouch CS-11: 100-28-801

## ● Prices

has been specially designed to withstand the rigors of powered film advance. Coupled with the AW-1 Auto Winder, it provides automatic film advance at the rate of only half a second per frame at any shutter speed. The EL2, with the AW-1 Auto Winder attached, thus gives the photographer almost all the advantages of a motor-drive-equipped camera at a much lower cost.

**Exposure Compensation.** The EL2 is provided with two different exposure compensation systems. A convenient, fingertip-actuated memory lock lever facilitates momentary exposure compensation when shooting back-lit or high-contrast subjects; an exposure compensation ring, on the other hand, permits a compensation factor of between EV -1 and +2 to be retained for longer periods. This feature has many applications, such as continuous shooting with the AW-1 attached, or deliberate underexposure to produce richer colors.

**Viewfinder.** The EL2's viewfinder provides the photographer with sharp, high-contrast viewing over the entire picture area for precise, accurate focusing under all conditions. The focusing screen consists of three types of focusing aids—split-image for absolute precision, micoprism for rapid action and fine-ground outfield for use with super-telephoto lenses or closeup accessories. Essential exposure information is clearly displayed for precise automatic or manual shooting.

**Through-the-lens Metering.** The EL2 incorporates a through-the-lens metering system providing full-aperture exposure metering with most Nikkor lenses. The meter operates on the proven Nikon center-weighted principle, which is considered to be the most accurate and reliable. Two silicon photodiodes 'read' the entire viewfinder area, but concentrate 60 percent of their sensitivity on the 12mm-diameter central area, clearly outlined on the screen. This guarantees accurate exposures under normal picture-taking conditions, yet provides the flexibility necessary for special lighting situations or photographic applications. Also, readings are accurate whether the camera is held vertically or horizontally.

**Shutter.** The metal focal-plane shutter of the EL2 travels vertically and is electronically timed to provide precise exposure durations throughout its 8 to 1/1000 second speed range, accurately, reliably and, when set on automatic, steplessly. Full manual control, giving 14-stepped shutter speeds, plus 'B,' is also available. Full flash synchronization is provided, with bulb sync at virtually all shutter speeds and electronic flash sync at speeds up to 1/125 second. MX switchover is automatic.

**Automatic Maximum Aperture Indexing (AI).** With the EL2, the necessity to manually index the maximum aperture of the lens for full-aperture exposure metering has been eliminated, when using lenses fitted with a meter coupling ridge; this makes for fumble-free lens mounting, as well as fail-safe meter coupling.

**Ergonomically Designed Controls.** The camera's controls have been designed for superior handling. The plastic-tipped film-advance lever ensures slip-free manual winding, and the shaped and beveled memory lock lever is positioned for easy, coordinated actuation. Even the texture of the body covering has been carefully determined for positive, slip-free grip and rugged hard wear. The provision of safety locks on the shutter speed dial, the back release catch, the ASA film speed selector and the shutter release button ensures that settings will not drift or controls function inadvertently during a shooting session.

**Nikon Bayonet Lens Mount.** The EL2 is fitted with the same lens mount employed by all Nikon SLR cameras since its introduction in 1959. Noted for its rapid lens change capability, the mount provides precise seating and positive alignment for the more than 55 Nikkor lenses presently available.

**Nikon System Camera.** The EL2 integrates fully into the Nikon System, the most comprehensive and extensive ever created for photography, with its more than 55 lenses and a vast number of accessories. Thus, there is virtually no photographic situation that the photographer cannot handle successfully with the EL2—automatically.



# Nomenclature

Film-plane indicator

Hot-shoe contact

Manual override button

Accessory shoe

Film-advance lever

Exposure compensation ring/  
ASA film-speed selector

Meter switch index

Film-speed scale index

Frame counter

ASA film-speed scale

Auto-winding mode switch

Exposure compensation scale

Shutter release button

Exposure compensation index

Shutter-speed scale

Film-speed selector lock

Shutter-speed dial

Meter coupling lever

Depth-of-field preview button

Mirror lockup lever

Self-timer/Memory lock lever

Lens release button

Reflex mirror

Lens mounting index

Lens mounting flange

Coupling lever release

Film rewind button

Neckstrap eyelet

Auto winder electrical contacts

Auto winder film-advance  
coupling

Tripod socket

Camera back lock

Film rewind crank

Threaded sync terminal

Camera back opening knob



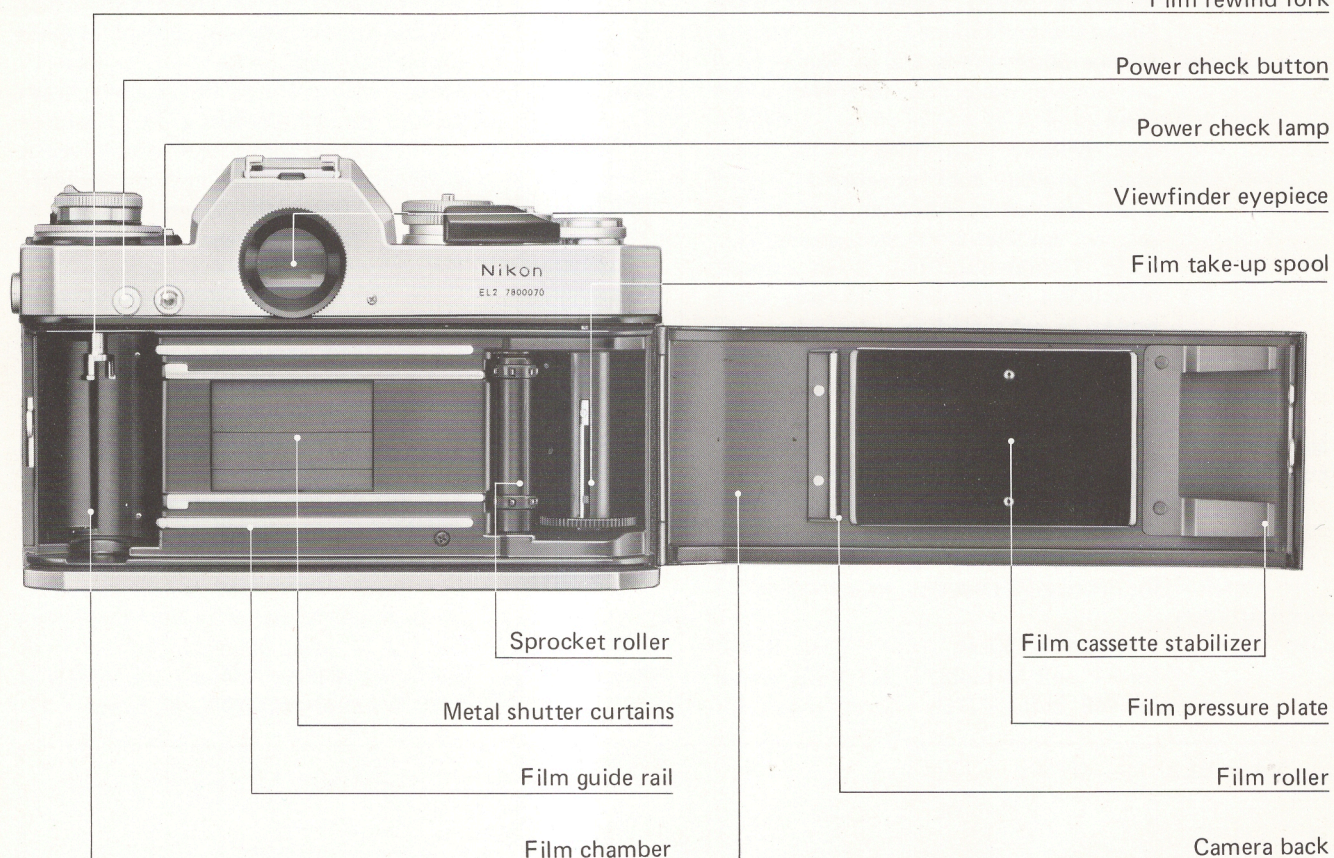
Film rewind fork

Power check button

Power check lamp

Viewfinder eyepiece

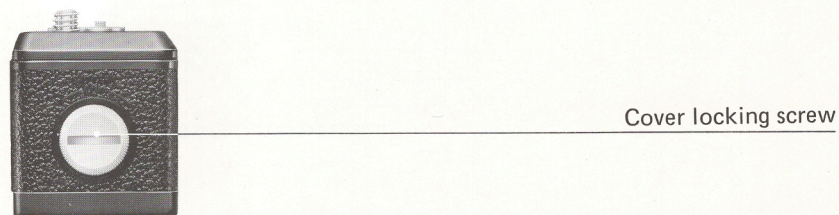
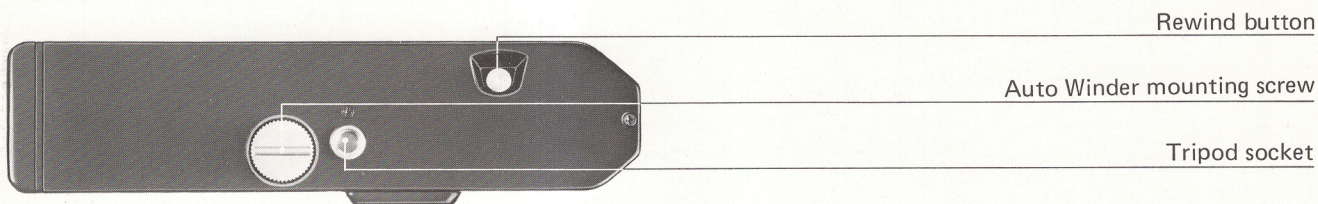
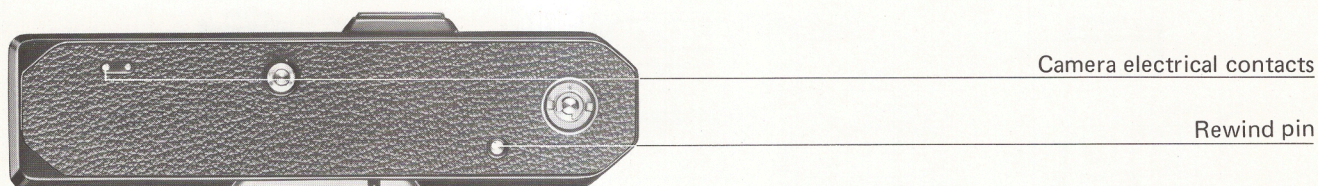
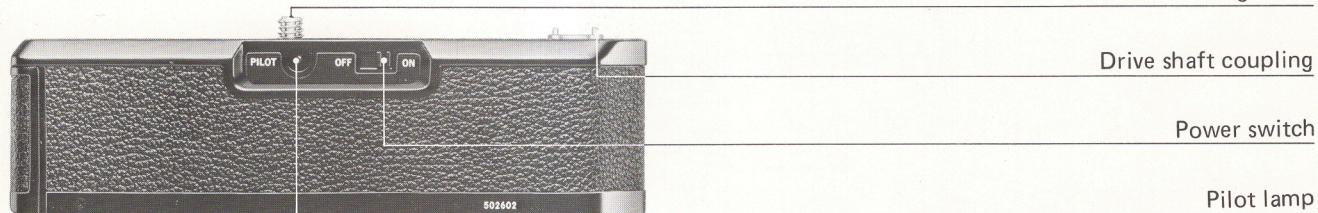
Film take-up spool



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## AW-1 Auto Winder

Auto Winder mounting screw





# Specifications

Type of camera: 35mm single-lens reflex with electronically controlled focal-plane shutter  
 Picture format: 24mm x 36mm (35mm film format)  
 Lens mount: Nikon bayonet mount  
 Lenses available: Nikkor 50mm f/1.4, f/2 or 55mm f/1.2 as standard; more than 55 Nikkor lenses in all

Shutter: Electronically controlled metal focal-plane shutter with downward vertical travel; stepless speeds from 8 to 1/1000 sec. on automatic; stepped speeds from 8 to 1/1000 sec. plus B on manual; Mechanical speed of 1/90 sec. when power is exhausted; shutter release via shutter release button or self-timer; delayed exposure via built-in self-timer up to 10 sec. (approx.)

Flash synchronization: Automatic selection as shutter speed is manually set; hot-shoe contact (ISO-type) with built-in safety switch provided; one threaded PC terminal provided for off-camera flash operation

Synchronization range: 1/1000 ~ 1/250sec., 1/30 ~ 8 sec. and B for FP and M bulbs; 1/30 ~ 8 sec. and B for MF bulbs; 1/125 ~ 8 sec. and B for

Accessory shoe: electronic flash  
 ISO-type built into finder housing; fitted with hot-shoe contact and electric safety switch which turns on contact as flash unit is mounted

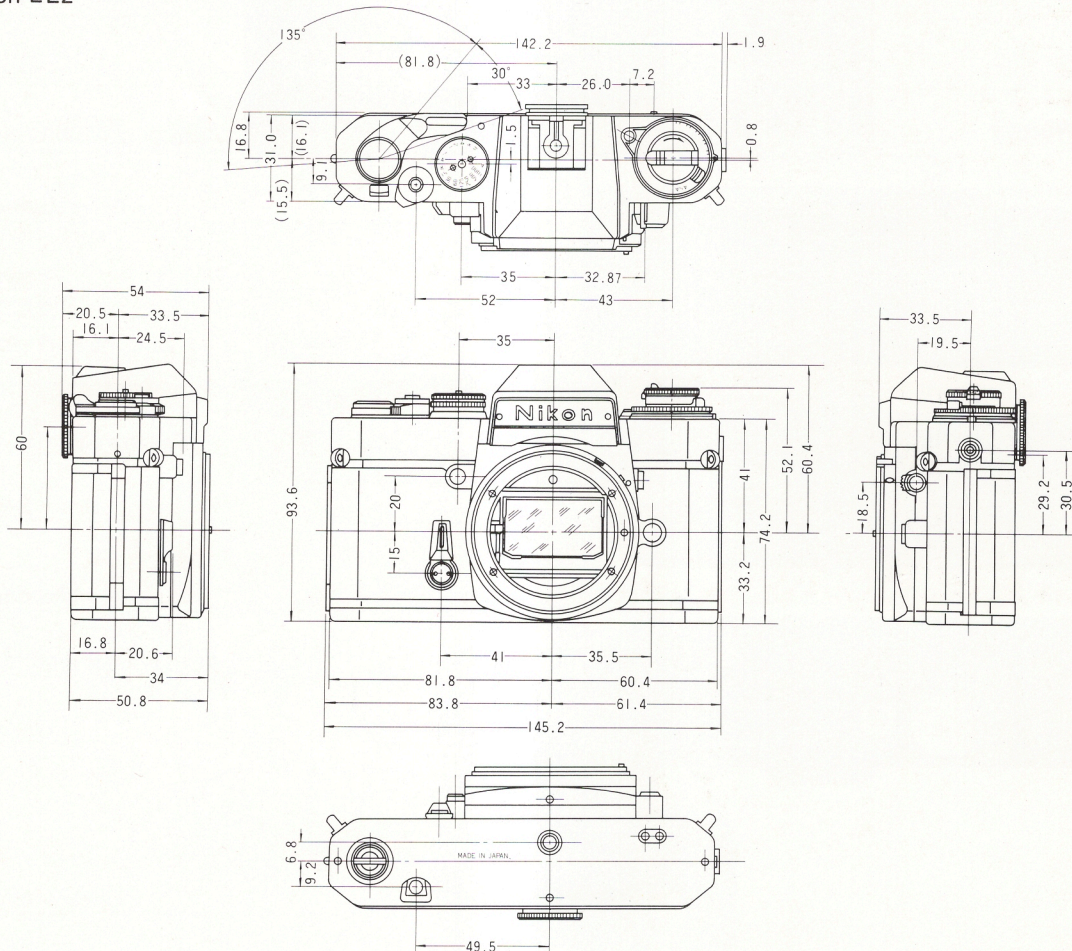
Viewfinder: Fixed eye-level pentaprism type with built-in through-the-lens (TTL) exposure meter; shutter-speed scale and needles visible in viewfinder; viewfinder magnification, 0.9X with 50mm lens set at infinity; finder coverage, approx. 92% of the picture field

Focusing screen: Matte Fresnel field with central split-image rangefinder surrounded by micro-prism ring; 12mm-diameter reference circle defines area of meter center-weighting; similar to Nikon Type K screen  
 Reflex mirror: Instant-return type; lockup lever provided

Exposure metering: Through-the-lens, center-weighted, full-aperture measurement using two silicon photodiodes (SPD) for fast response; positioned either side of the eyepiece; meter cross-coupled with both diaphragm and shutter speed controls

Metering range: EV1 ~ EV18 (i.e., f/1.4 at 1 sec. ~ f/16 at 1/1000 sec. at ASA 100 with 50mm f/1.4

Nikon EL2



Unit: mm



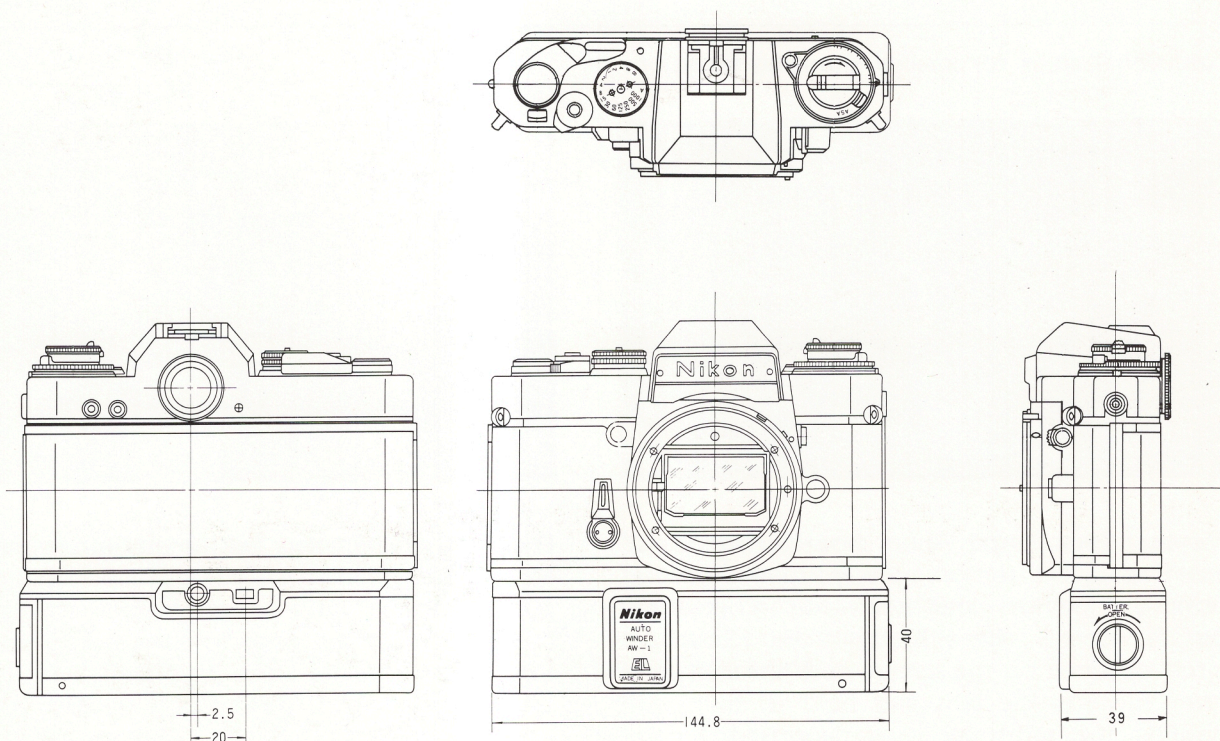
lens)  
 Film speed scale: Settings provided for ASA 12 ~ 3200  
 Exposure memory lock: Via self-timer lever  
 Exposure compensation: EV +2 ~ EV -1 via exposure compensation ring  
 Lens diaphragm coupling: Built-in meter coupling lever for Nikkor lenses capable of automatic maximum aperture indexing with maximum apertures of from f/1.2 to f/5.6; meter/diaphragm coupling of from f/1.2 to f/32 provided  
 Film winding: Via single-stroke lever with 135° winding angle and 30° stand-off angle; lever also serves as meter ON/OFF switch and shutter release lock; powered film advance with AW-1 Auto Winder attached  
 Frame counter: Shows number of frames exposed (additive type); automatically resets to "S" (two frames before "0") when camera back is opened  
 Film rewinding: Manual via film rewind crank  
 Auto winder coupling: Film advance coupling and electrical contacts provided

Depth-of-field preview: Via button provided on front of camera  
 Body finish: Satin-chrome or semi-gloss black  
 Battery: One 6V silver-oxide battery powers metering/shutter control system  
 Battery power checker: Glows to indicate sufficient power when power check button is pressed  
 Safety devices: Shutter release lock, camera back lock, ASA lock, "A" setting lock, hot-shoe safety switch  
 Weight: 780g (body only)  
 Dimensions: 145mm (W) x 93mm (H) x 54mm (D)

#### AW-1 Auto Winder

Film winding speed: Approx. 0.5 sec. per frame  
 Pilot lamp: LED lights up when in operation  
 Power switch: ON/OFF switch provided  
 Power source: Six 1.5V penlight batteries  
 Weight: 280g (without batteries)  
 400g (with batteries)  
 Dimensions: 145mm (W) x 39mm (D) x 40mm (H)

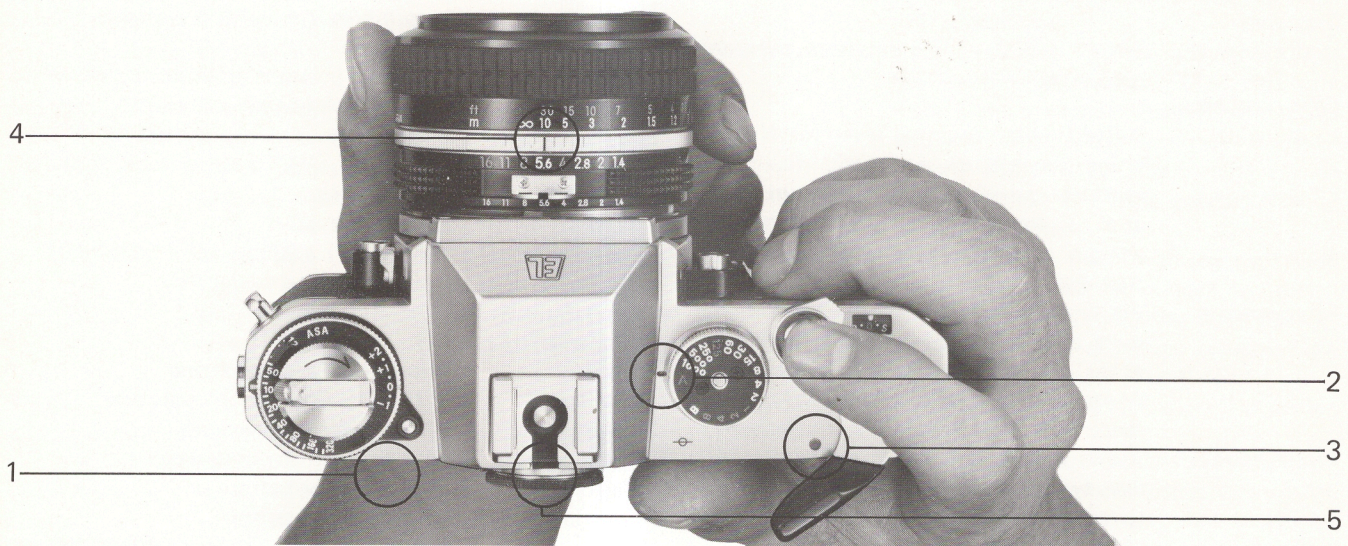
Nikon EL2/AW-1 Auto Winder



Unit: mm



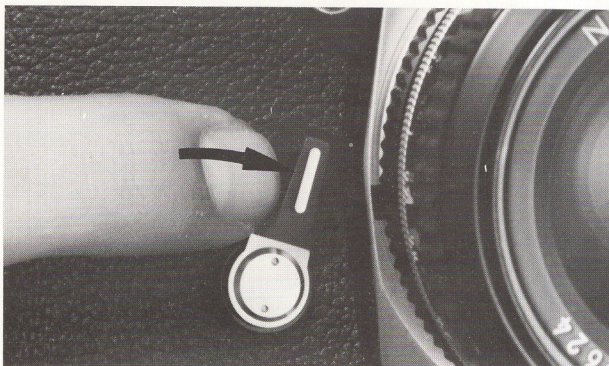
# Basic Steps to Successful Picture-taking



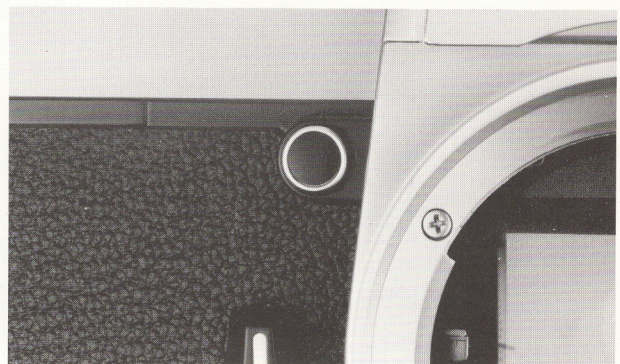
8 The automatic exposure control facility of the Nikon EL2 greatly simplifies picture-taking, permitting even an absolute beginner to achieve a high degree of success. Once the camera has been loaded with the required battery and a roll of film (with the film's ASA speed set accordingly), observe the following steps, in conjunction with the EL2's instruction manual, to obtain the best results.

1. Check battery power.
2. Confirm that the operation mode is set to A (automatic).
3. Turn the meter on.
4. Set the lens aperture.
5. View and focus on your subject, and compose the picture. Then shoot.

## Additional steps for special shooting situations



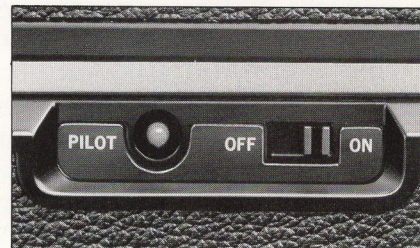
**Memory lock lever.** When shooting back-lit or side-lit subjects, for example, you will find that using the memory lock will result in better exposure: Center the subject in the 12mm-dia. circle outlined on the screen, push the self-timer lever towards the lens and hold it; then, still holding the self-timer lever depressed, recompose the picture and shoot.



**Depth-of-field preview button.** To determine exactly which elements will appear in or out of focus in the actual photograph: Press the depth-of-field preview button before shooting.



## Picture-taking with the EL2/AW-1 Combination



With the AW-1 Auto Winder attached, the photographer can follow the action just as easy as ordinary photography to capture the peak of the moment. Just take the same basic steps as with the EL2 on its own, but with some minor changes: After confirming that the shutter-speed dial is set to 'A,' turn the AW-1's power switch to 'ON.' Then, turn on the camera's meter. Use the switch built into the collar around the shutter release

button. The film-advance lever should be flush against the camera body. After making the exposure, lift your finger off the shutter release button—the Auto Winder will advance the film automatically—readying the camera for the next shot.

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**Exposure compensation ring.** For continuous shooting of back-lit subjects, for example, or for deliberate underexposure to produce richer colors: Make the necessary exposure compensation by adjusting the EV ring, which is positioned coaxial with the ASA film speed selector, before shooting.



**Mirror lockup lever.** To minimize camera vibration due to mirror movement (an important point to consider for time exposures or critical close-up photography): Lock the mirror up before shooting.



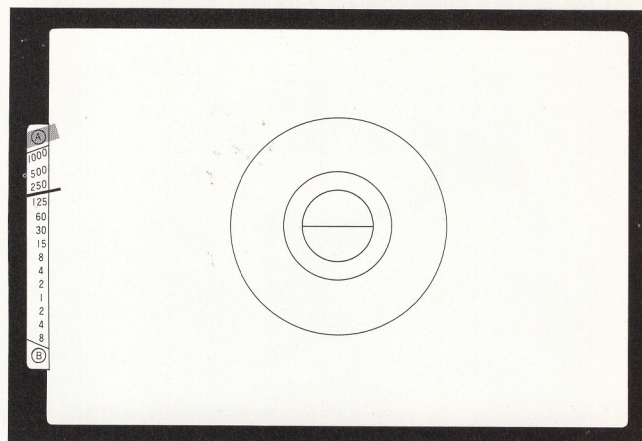
# Viewing/Metering Functions

The Nikon EL2 is fitted with a fixed pentaprism finder that offers a convenient eye-level viewing and focusing system. The image formed by the lens is, by means of the camera's reflex mirror and pentaprism combination, viewed erect and unreversed on the camera's focusing screen. Carefully matched to the optical characteristics of Nikkor lenses, the EL2's viewfinder system assures the sharpest possible images for comfortable, clear viewing and focusing in every photographic situation. Even when using super-telephoto lenses, the image is clear and bright across the whole screen. Also, the use of a larger-than-normal reflex mirror minimizes the image cut off normally apparent for lenses with these focal lengths. Viewfinder coverage is approximately 92 percent of the actual picture area recorded on the film, corresponding to almost the entire picture area of a mounted transparency.

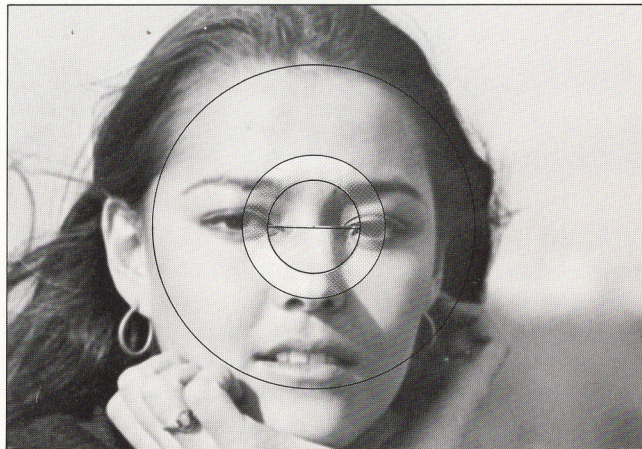
**Finder Information.** To the left of the screen, adjacent to, but not encroaching on, the viewing area are the shutter speed scale, meter needle (black) and shutter speed setting indicator (green); all this provides the photographer with essential exposure data, yet does not distract from viewing and focusing. An important detail frequently overlooked is that both the scale and the screen are coincident, i.e., it is not necessary to refocus the eye when glancing from one to the other.

**Focusing Screen.** The focusing screen is generally known as the type K, and comprises a central split-image rangefinder spot and annular microprism grid, both surrounded by a fine matte outfield. Focusing is fast and simple, whichever focusing "aid" is used. The split-image rangefinder is considered the most suitable for precise, pinpoint focusing, and the microprism grid best for rapid focusing in action or sports photography. The fine matte outfield is ideal for use with telephoto lenses of small aperture or in close-up and macrophotography.

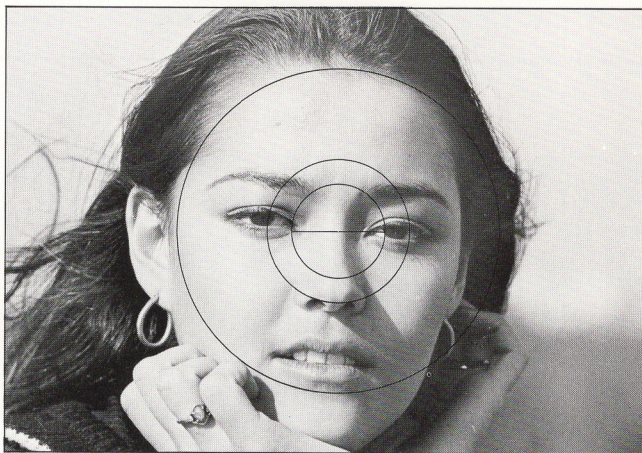
**Depth-of-field Preview.** With an aperture-priority camera, the photographer sets the aperture first; thus, the effect of the depth of field on his picture takes on new significance. The EL2 greatly aids the photographer in this area too. The depth-of-field button is conveniently located, so that only a slight pressure by the right index finger is required for stopping down the diaphragm to the taking aperture; this allows the photographer to see the precise effect that the depth of field will have in the final picture. This is particularly useful for close-ups, portrait or telephoto photography as it permits the photographer to check that there is sufficient depth of field or, conversely, to ensure that a distracting background can be eliminated by



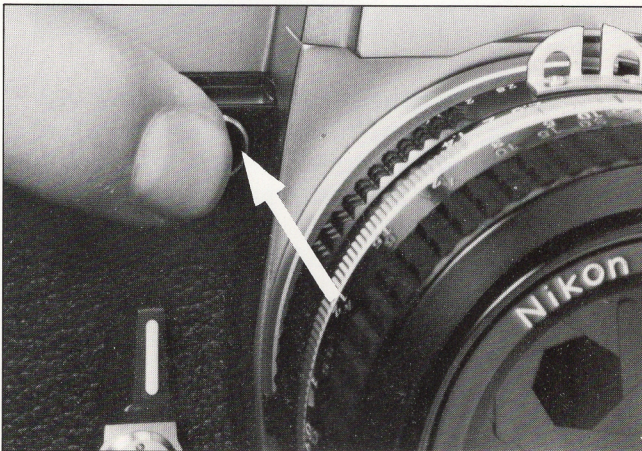
Viewfinder display ( — : Shutter speed indicator — : Meter needle)



The out-of-focus image



In focus



Ergonomically located depth-of-field preview button



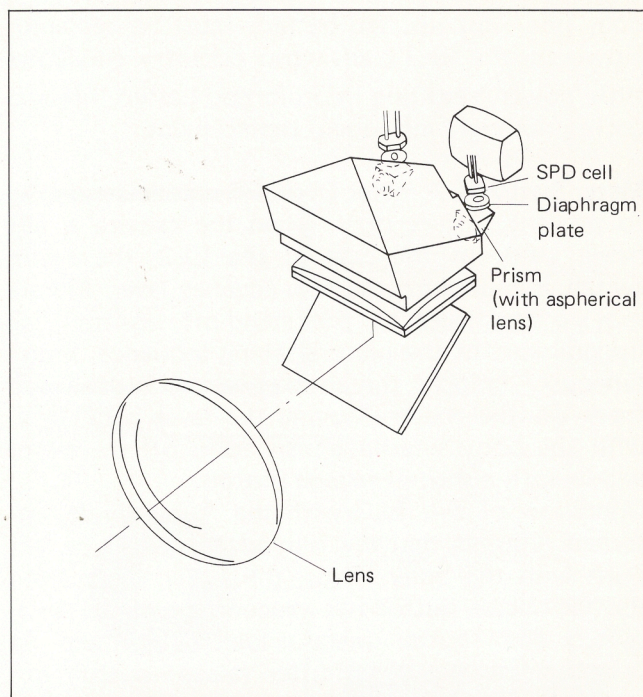
restricting the depth of field. When using automatic-diaphragm Nikkor lenses that do not couple to the camera's metering system, the preview button allows the photographer to set the exposure, using the stop-down metering method—thus retaining all the advantages of the camera's built-in meter.

## Metering

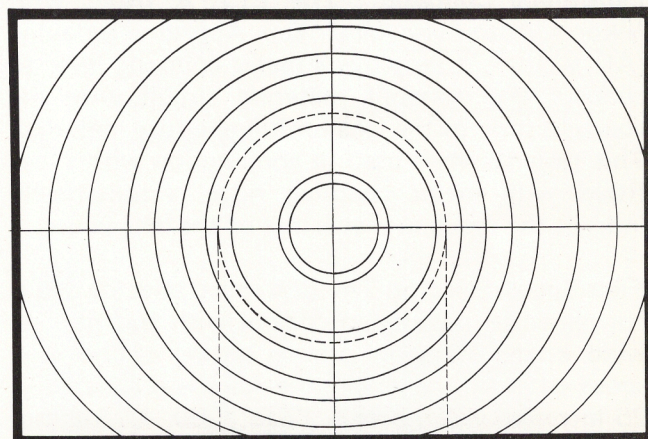
The EL2's through-the lens exposure meter operates on the same proven center-weighted principle used in other Nikon SLR cameras; it measures the intensity of the whole finder screen, but favors the 12mm-diameter central spot, which is clearly outlined on the focusing screen. By concentrating 60 percent of its sensitivity into this area, the meter guarantees accurate exposures under general picture-taking situations. Furthermore, center-weighting, with its clearly defined area of sensitivity, provides the photographer with the means to select the specific area of the scene on which to base his exposure. You merely place the 12mm-diameter circle on the focusing screen over the center of interest, set the exposure by either the memory lock or by full manual control, then re-compose and shoot.

**Light Sensors.** Two silicon photodiodes (SPD's), filtered to match the spectral sensitivity of the human eye, are used as the light sensors. Their quick response to fast-changing lighting conditions ensures that, even when photographing a rapidly moving subject under conditions of changing illumination, the EL2's metering system will deliver perfectly exposed photographs. This is particularly important, considering that the EL2/AW-1 combination is likewise designed to achieve this. The choice of SPD's for the EL2 endows the camera's meter with excellent sensitivity even at the lowest limit of its metering range which extends from EV1 up to EV18 (e.g., f/1.4, 1 sec. to f/16, 1/1000 sec. with 50mm f/1.4 lens at ASA 100)—more than enough to guarantee reliable automatic operation for virtually any photographic requirement.

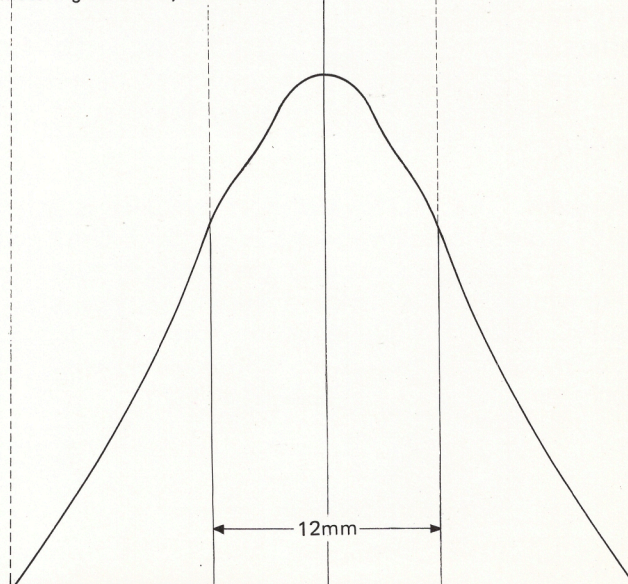
**Battery.** A six-volt silver-oxide battery is used to power the metering and shutter control system. The use of a silver-oxide battery assures greater power stability over a wider temperature range, from 55°C to -15°C, thus assuring reliable camera performance even under extreme environmental conditions. The battery is located inside the camera body, in a well in the mirror box, to keep the camera compact. The built-in battery power checker provides an instant check on the condition of the battery. If the lamp lights up when the button is depressed, the battery is still good and can be relied upon to function correctly. If the lamp



Optical layout of the metering system



Metering sensitivity contours



Graphical representation



does not light up, the battery must be replaced. However, the EL2's advanced circuitry consumes little power, resulting in prolonged battery life and correspondingly infrequent replacement.

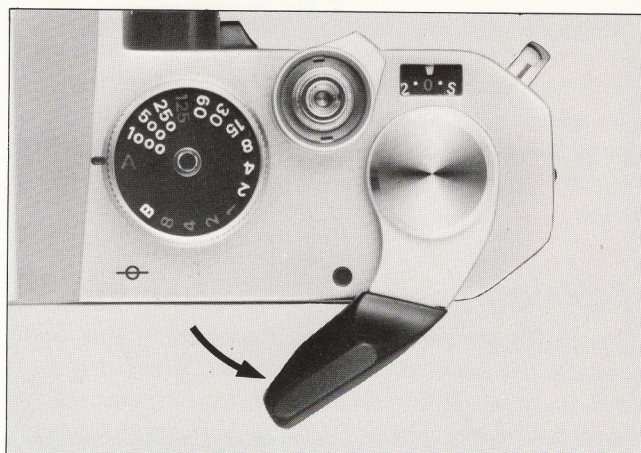
**Meter Switches.** A meter ON/OFF switch is essential to prevent battery drain when the camera is not being used. In the case of the EL2, the meter switch is built into the film-advance lever. Merely moving the lever to the stand-off position, an integral part of the picture-taking sequence, simultaneously unlocks the shutter release button and turns on the meter. Moving the lever back flush with the body simultaneously turns off the meter and locks the shutter release button.

Operation of the EL2 with the Auto Winder attached requires that the film-advance lever be left flush with the body. Thus, the collar around the shutter release button has a second meter ON/OFF switch and shutter release lock. The meter is switched on and the shutter release button unlocked when the collar is turned to the left, uncovering the red dot. This switch is also useful when wearing spectacles or for left-eyed users.

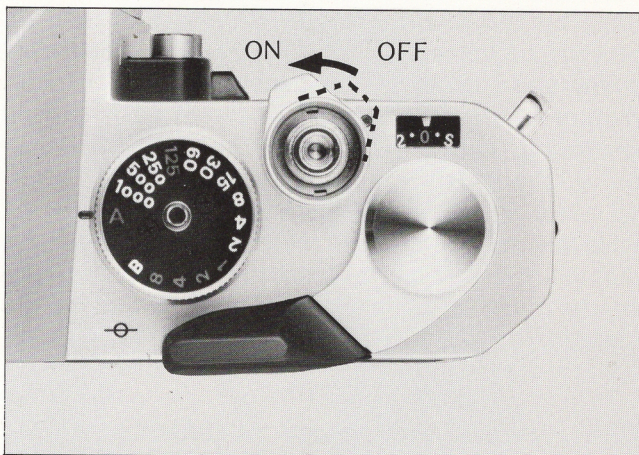
**Lens/Meter Coupling.** The EL2 is fitted with Nikon's Automatic Maximum Aperture Indexing (AI) system; it employs a meter coupling lever to connect the camera's metering circuit with the aperture scale of the lens for full-aperture metering. This system, when used in conjunction with a lens fitted with meter coupling ridge, automatically indexes the maximum aperture of the lens in use.

**Film Speed Selector.** The film speed selector dial is conveniently positioned coaxial with the film rewind knob. To allow precise setting of the ASA speed of the film in use, the scale is graduated in 25 increments from ASA 12 to 3200. An increase in the available ASA range is obtained when the exposure compensation ring is used, producing an effective ASA range of 3 to 6400. Selection of the required ASA setting is done by merely depressing the locking button and rotating the dial to the appropriate graduation.

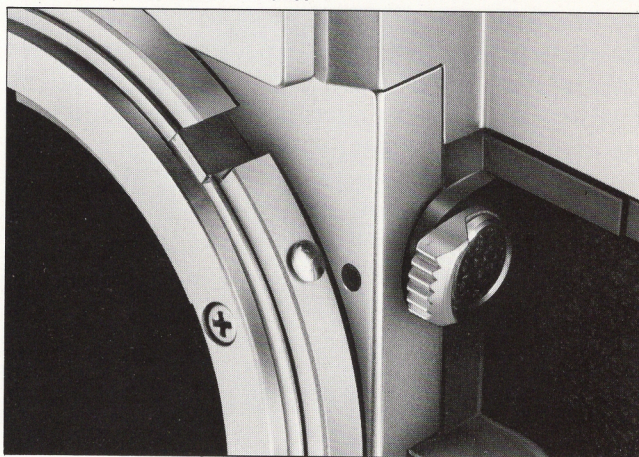
**Eyepiece.** The EL2's viewfinder eyepiece is fitted with a protective cover glass as standard. Unscrewing the cover glass exposes the threaded eyepiece ring which accepts standard Nikon eyepiece accessories. These include eyesight correction lenses, rubber eyecup, magnifier, right-angle viewing attachment and eyepiece flash ready-light.



Meter 'ON'/manual advance



Meter 'ON'/auto winder advance



Lens/meter coupling



Film speed selector dial



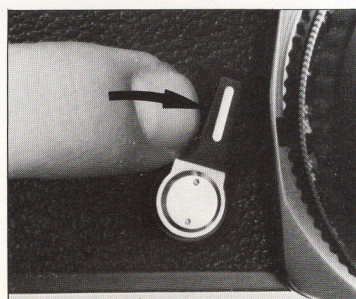
# Automatic Exposure Control Functions

The Nikon EL2 is an aperture-priority, automatic exposure control camera offering unfailing exposure accuracy with almost any lens or accessory. By means of its through-the-lens, center-weighted exposure metering system, the intensity of the light forming the image is precisely metered and converted into exposure data to control the camera's electronic shutter mechanism. The EL2's automation eliminates the necessity to match needles or calculate exposures. The photographer simply has to set the preferred lens aperture, focus, compose and then shoot. The EL2's automatic metering system opens the electronic shutter for precisely the time required to obtain a perfectly exposed photograph; shutter speeds range from 8 to 1/1000 second. Should the subject change position or the light vary, the EL2 will adjust the exposure to match—steplessly, instantly, automatically.

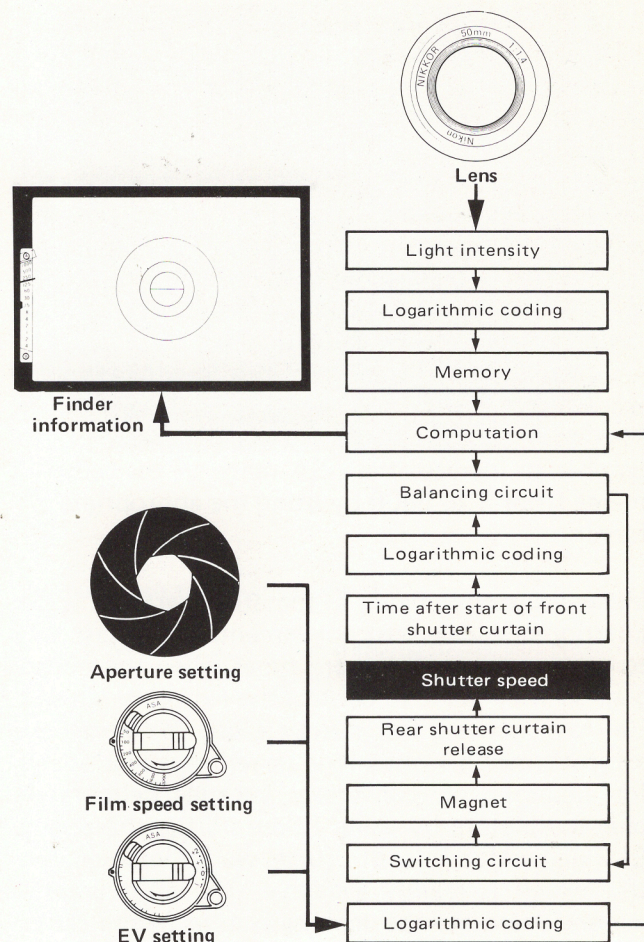
Thus, the EL2 automatically eliminates the amateur's greatest stumbling block to successful picture-taking and at the same time enables the professional to concentrate on the picture instead of on technicalities.

Should shutter speed priority operation be preferred, the photographer merely turns the aperture ring to maintain the indicated shutter speed at the desired setting. As the camera's metering system reacts instantaneously to changes in aperture, the camera is always ready for action.

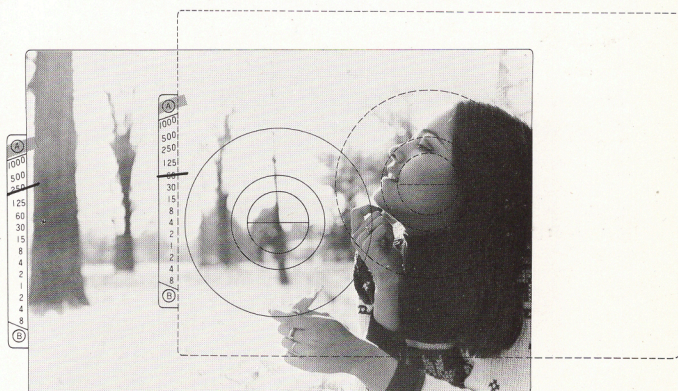
**Memory Lock.** For special photographic situations, such as back-lit shots, the EL2's memory lock becomes invaluable. And it's simple to use. The photographer merely centers the subject, the face in a back-lit shot, for example, in the 12mm-diameter circle on the focusing screen. By merely pushing the self-timer lever in towards the lens, he "locks" the meter reading to give the correct exposure for this selected part of the scene. He then recomposes the picture, still keeping the memory lock depressed, and makes the exposure. However, the meter needle is not locked during this procedure, but continues to follow the changes in light intensity. The EL2 instantly reverts to normal automatic operation when the lever is released, thus eliminating any possibility of accidentally retaining the compensation factor and ruining subsequent exposures.



Memory Lock lever



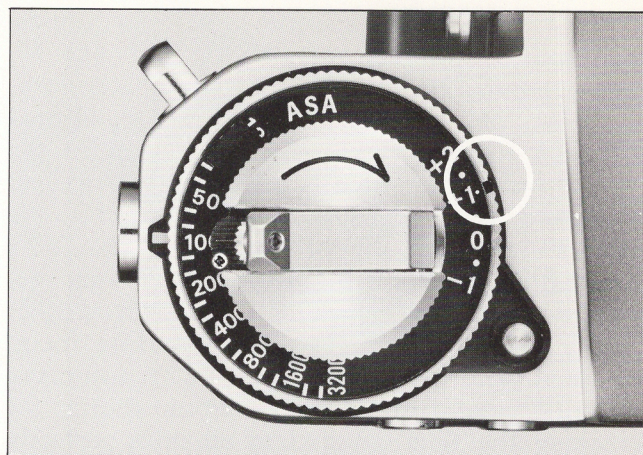
Meter functions flow chart



Selective metering technique (using Memory Lock)



**Exposure Compensation Ring.** Sequence shooting, either by hand or with the EL2's companion AW-1 Auto Winder, may require a different kind of exposure compensation control for back-lit shots or special photographic effects. For this reason, the EL2 is provided with an exposure compensation ring which provides convenient dial-in exposure compensation factors of between  $-1$  and  $+2$  EV (one stop underexposure to two stops overexposure), more than enough for most picture-taking situations. The desired factor is easily set by just lifting and turning the ring surrounding the dial which has click-stop settings for  $1/2$  EV values. The compensation ring also enables the photographer to increase the ASA range of the camera's meter from 3 to 6400 by using the appropriate EV factor.

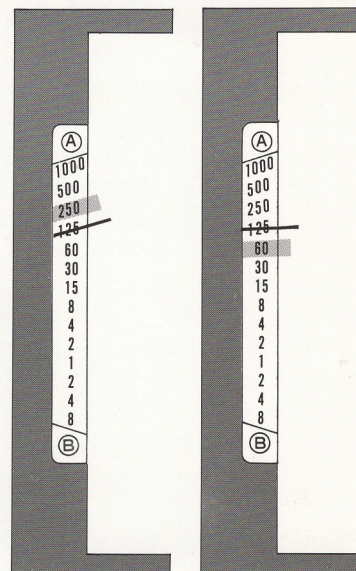


Exposure compensation ring

**Manual Control.** While automatic operation is unquestionably the most convenient and fastest way to take pictures, there are times when the photographer may want to control the exposure himself. He may choose a fast shutter speed to 'freeze' the subject's motion when it is traveling at high speed, for example, or, conversely, he may deliberately blur the picture by using a slow shutter speed. The EL2 allows for this, of course, via full manual control which is readily available. The photographer merely depresses the locking button in the center of the shutter-speed dial and rotates the dial until the desired shutter speed is set. The shutter speed selected will be shown by the green indicator in the viewfinder. When the shutter speed is set, the exposure can be determined by moving the aperture ring until the black meter needle coincides with the green/match needle operation. This technique should also be used for stop-down metering with lenses or accessories that do not couple to the camera's metering system. With manual operation, the photographer can choose freely from the 14 shutter speed settings from 8 to  $1/1000$  sec., each electronically timed for outstanding accuracy, plus 'B' for longer-duration exposures, manually timed. Flash photography is another field that requires manual control, and the EL2's high flash sync speed of  $1/125$  sec. is especially welcome.



Full manual control



Deliberate underexposure control

Deliberate overexposure control



Picture data  
 Lens: 50mm f/1.4 Nikkor  
 Aperture: f/16  
 Shutter speed:  $1/15$  sec.

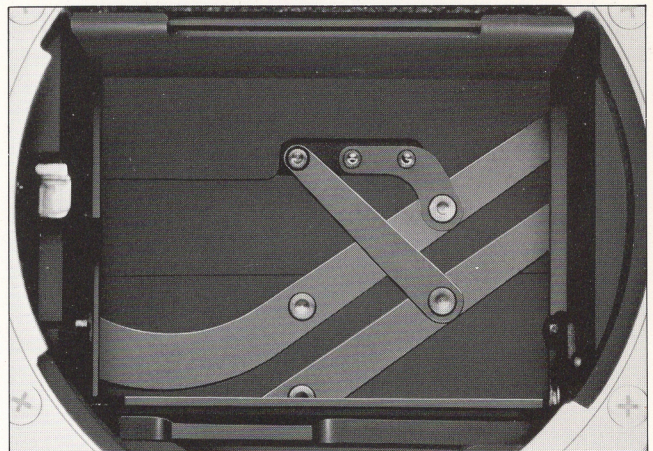


# Shutter Functions

The Nikon EL2 is fitted with the proven Copal Square ES electronic shutter. Copal, of course, is famous for the reliability and durability of its all metal, focal-plane shutters. The ES shutter operates over a speed range of from 8 full seconds down to 1/1000 of a second; all speeds are electronically timed for outstanding exposure accuracy, with the 'B' setting provided for longer exposures. The shutter curtains are each constructed with three blades and travel vertically down across the film gate in approximately 7 milliseconds. With this configuration the shutter blades only have to travel 24mm instead of 36mm as with the conventional, horizontally traveling focal-plane shutter. Thus, flash synchronization is considerably improved, permitting the EL2 to be used with electronic flash units at shutter speeds up to 1/125 sec., which makes it ideal for synchro-sunlight shooting with little risk of ghost images caused by high ambient lighting. When the battery is exhausted, the shutter automatically sets itself to 1/90 sec. regardless of the setting of the shutter-speed dial.

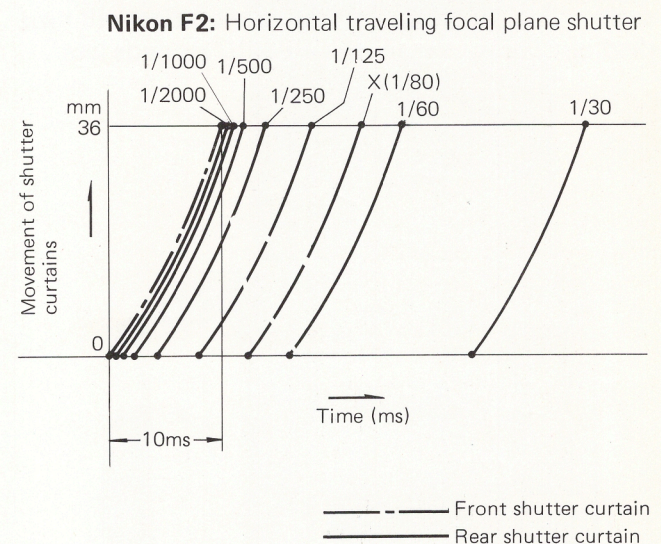
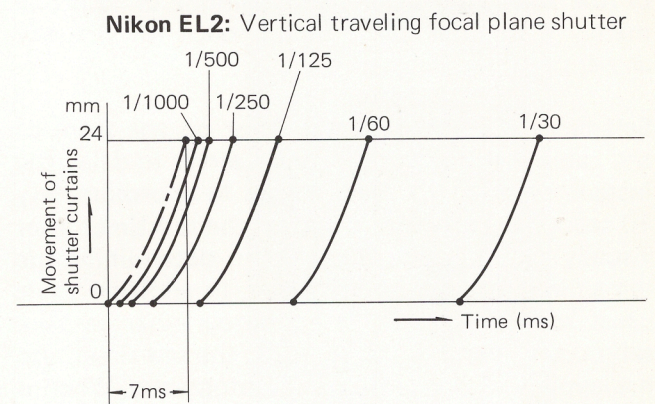
**Automatic Mode.** On automatic ('A' setting), the EL2's metering system precisely measures the intensity of the light coming through the lens, and converts this data into shutter speed settings. If the lighting conditions call for an exposure of 1/386 sec., for example, the shutter will deliver that exposure precisely and automatically. The stepless action of the EL2's shutter, when set on automatic, not only guarantees exact exposure, but is also very useful when working with Reflex-Nikkor lenses. As these lenses have no aperture diaphragm, the stepless shutter speed selection helps the photographer to obtain the correct exposure by setting exactly the shutter speed required.

**Manual Mode.** On manual, the photographer has a choice of any one of the 14 shutter speeds from 8 seconds through to 1/1000 second, engraved on the shutter-speed dial. The speeds marked are: 8, 4, 2 and 1 second and 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500 and 1/1000 for fractional values of a second; the 'B' setting is for longer, manually timed exposures. The shutter speed markings are color-coded to eliminate any possibility of confusion, the 8 to 1 full second range being colored orange, and fractions of a second from 1/2 to 1/1000 white. The maximum speed for electronic flash synchronization, 1/125 second, is specially coded in red.



Copal Square shutter

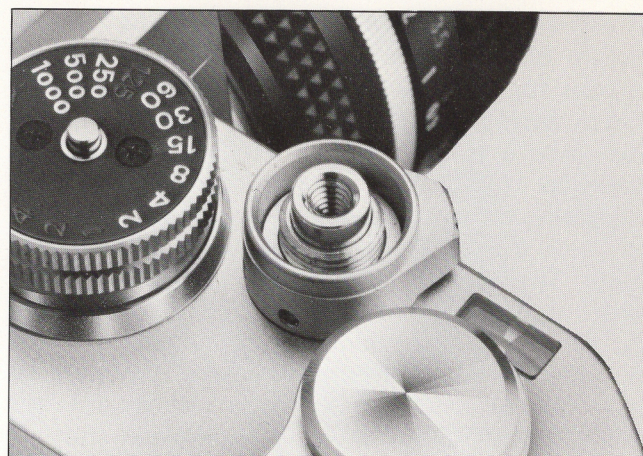
Shutter transit time comparison chart



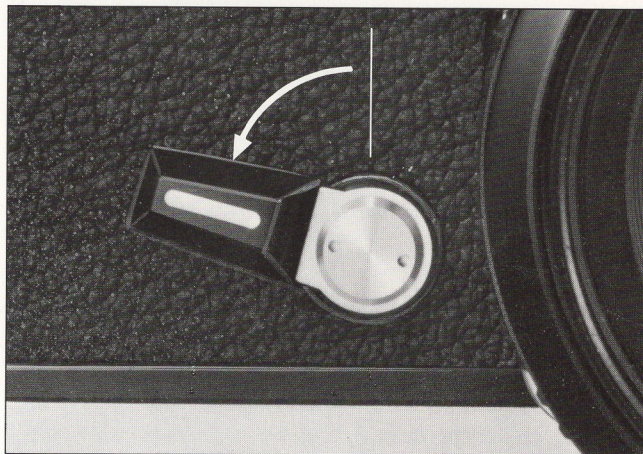


**Shutter Release.** The shutter is triggered by the release button mounted on the camera top plate positioned just forward of the film-advance lever, where the index finger of the right hand rests naturally. The action of the button is smooth and precise, giving the photographer full control of the exact moment of exposure. The shutter can also be triggered by cable release, provision having been made to accept two kinds. The button is threaded to accept the ISO standard screw-in cable release (Nikon AR-3, for example) and the collar around the release button is threaded to accept the Nikon standard screw-over cable release (AR-1 or AR-2, for example).

At shutter speeds from 8 seconds through to 1/1000 second, the release button acts to trigger the shutter for the time interval set on the shutter-speed dial. When the dial is set to 'B,' however, the release button operation determines the duration of the exposure—up to a maximum of approximately 8 minutes, more than enough for virtually any application.



Shutter release button



Self-timer

**Self-timer.** Operated by the lever on the front of the camera body, the self-timer serves to delay the instant of shutter release for up to approximately 10 seconds. The white stripe on the self-timer lever visually aids the photographer in determining the remaining duration of the delay. In addition to its usual role of enabling the photographer to take self-portraits and join in groups, the self-timer also has applications in advanced photography. When it is triggered, the mirror lifts immediately, thus ensuring that any possible camera vibration will have died out before the shutter fires 10 seconds later.



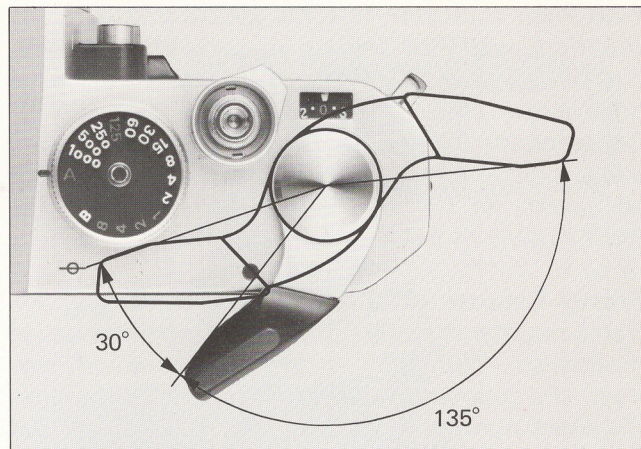
# Film Transport Functions

The EL2's film transport system is a precision mechanism that maintains film flatness to within very close tolerances, ensuring that the outstanding image quality of the Nikkor lens mounted on the camera is fully recorded on the film. As the film is advanced, it travels on and is guided by four precision ground guide rails which serve to position the film emulsion surface exactly over the film gate and precisely in the focal plane of the lens. Aiding the guide rails in ensuring film flatness are the film roller and the film pressure plate, both attached to the interior of the hinged camera back.

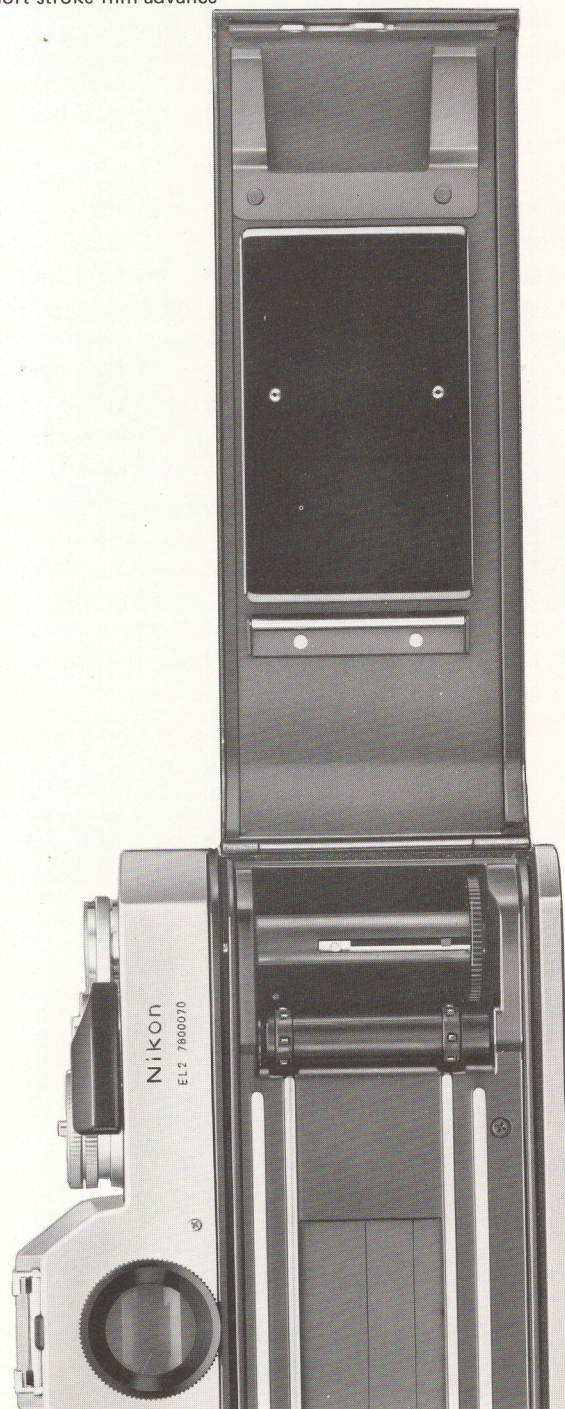
**Film-advance Lever.** Film advance is accomplished by a single, short stroke of the film-advance lever which is plastic-tipped for comfortable and slip-free film advancement backed by ball-bearings around the winding axis. A 135° stroke simultaneously cocks the shutter mechanism, advances the frame counter and frees the shutter release, readying the camera for the next exposure. Moving the lever to the 30° standoff position reveals the red meter 'ON' index, showing that the camera's exposure meter has been activated. Folding the lever flush against the body simultaneously turns off the meter and locks the shutter-release button.

**Film Take-up Spool.** Positioned within the camera body, and coupled to the film-advance lever, is the film take-up spool. The film is wound onto the take-up spool emulsion side out, to compensate for the film's natural tendency to curl, thus contributing to improved film flatness. Film feed to the take-up spool is precisely controlled by the sprocket roller located between the spool and the film gate; this roller has sprockets at either end to engage the upper and lower perforations on the film, and thus provide smooth feed.

For powered film advance using the EL2's companion AW-1 Auto Winder, see page 22.



Short-stroke film advance



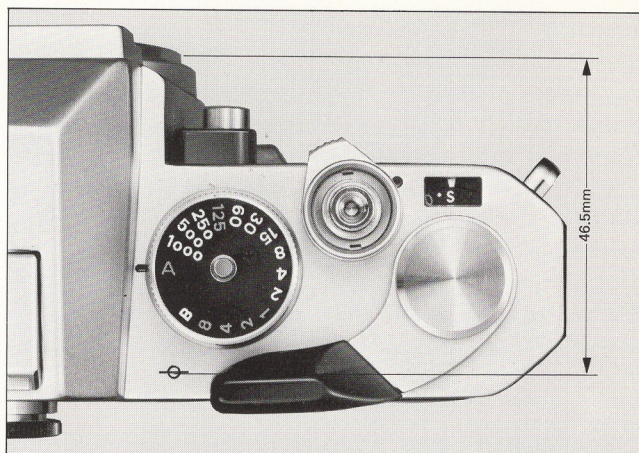
Easy loading/film transport system



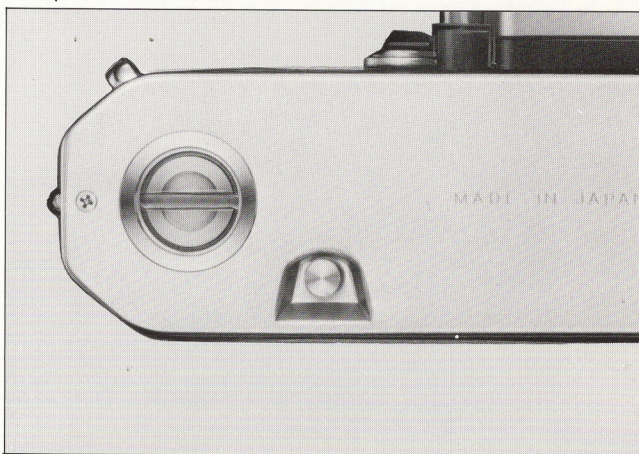
**Film Plane Indicator.** In some critical photographic situations, such as close-up or copy photography, the subject-to-film plane distance must often be determined precisely to ensure the best results. Consequently, the EL2 is provided with a film plane indicator ( $\phi$ ); the indicator mark is positioned exactly in the film plane, 46.5mm from the front surface of the lens mounting flange.

**Frame Counter.** The EL2 employs an additive frame counter directly coupled to the film advance mechanism. With each stroke of the film-advance lever, the counter advances one graduation to show the exact number of frames exposed. Every second frame from 0 to 36 is numbered in black, with 20 and 36 (the lengths of standard 35mm cassettes) numbered in red. The counter does not operate when rewinding and automatically resets to 'S' (two frames before 0) when the camera back is opened.

**Film Rewind.** When all the frames in the cassette have been exposed, the film must be rewound before it can be removed from the camera. Depressing the rewind button on the baseplate of the camera body disengages the film-advance mechanism to allow the film to be rewound. The camera back opening knob is fitted with a foldable crank for smooth, rapid film rewinding; the direction of rotation is shown by the arrow engraved on the knob. The knob serves as the key for the camera back. The back opens when the knob is pulled up. To prevent accidental opening, a safety catch is built into the base of the knob; turning the catch counterclockwise releases the catch, permitting the knob to be pulled up and the back hinged open.



Film plane indicator/frame counter



Film rewind button



Back opening knob/film rewind crank



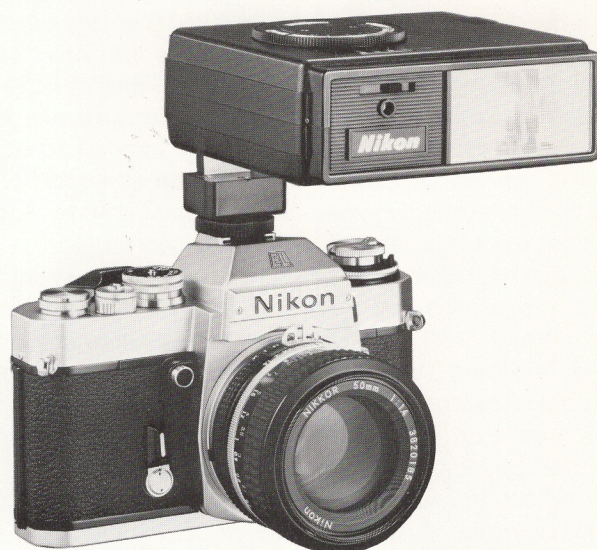
# Flash Synchronization Functions

The EL2 demonstrates its operational convenience quite clearly in the field of flash operation. Through the use of a vertically traveling focal-plane shutter, the camera has the capability to synchronize with electronic flash units at speeds up to 1/125 second, as well as with bulb flash units at almost all shutter speeds. The EL2 also features an automatic MX synchronization switchover mechanism which selects the proper synchronization timing as the shutter speed is set. This automatic function offers greater convenience and virtually error-free flash operation.

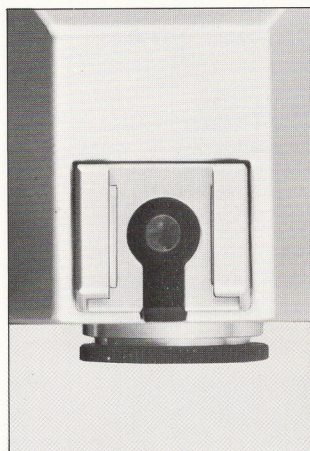
**Hot-shoe Contact.** The EL2 is fitted with a fixed accessory shoe on top of the pentaprism housing, thus offering a convenient flash unit mounting position. Electrical connection between the flash unit and the camera is possible by either of two methods. The electrical contact built into the shoe provides for direct synchronization with all electronic or bulb flash units fitted with an ISO-type 'hot-shoe' contact; simply slide the unit in place, and it's ready to go.

**Sync Terminal.** When using flash units that have no electrical contact in the mounting foot (or when using the flash unit off-camera), the threaded PC sync terminal should be used. When the flash unit is used off-camera, a safety switch comes into operation, isolating the shoe from the flash circuit; this eliminates the possibility of electrical shocks from the shoe.

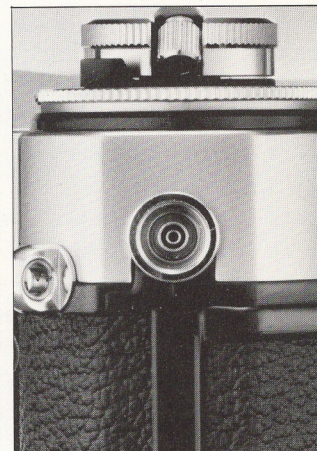
The actual correlation between shutter speed and flash synchronization is illustrated in the chart.



EL2/speedlight combination (Nikon speedlight unit SB-3)



Hot-shoe



Threaded sync terminal

19

Flashbulb	Shutter speed (sec.)														
	1/1000	1/500	1/250	1/125	1/60	1/30	1/15	1/8	1/4	1/2	1	2	4	8	B
FP															
M	*	*													
MF															
Speedlight															

 Synchronized  Cannot be used

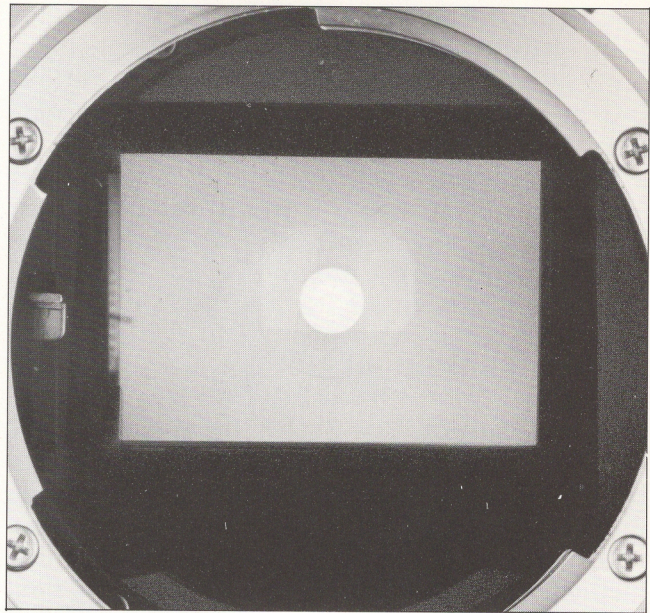
\*Some M class bulbs that have shorter flash duration may not cover these speeds.



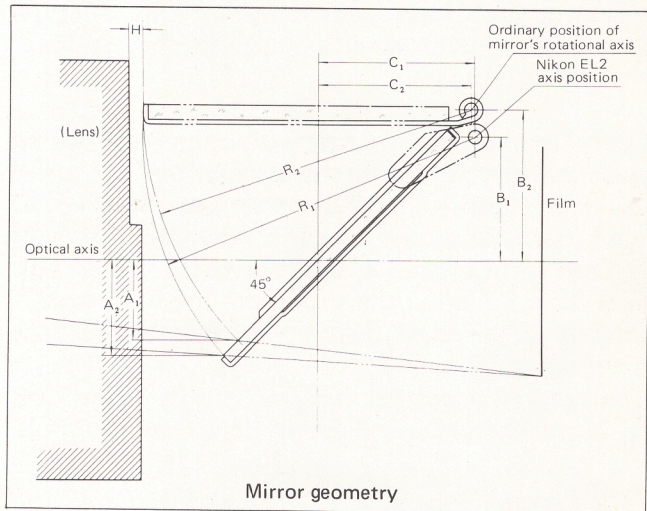
# Lens Operation Functions

The EL2 is designed around a reflex (i.e., reflecting) mirror that enables parallax-free viewing/focusing/composing through the lens mounted on the camera body. The use of a special mirror hinge system permits the inclusion of an extra-large reflex mirror, virtually eliminating image cut-off on the camera's focusing screen when using super-telephoto lenses or close-up accessories. After the shutter release button has been triggered, and before the shutter begins its travel, the mirror swings rapidly upwards out of the optical path to enable the light to reach the film plane. After the shutter has completed its travel, the mirror returns to its original (lowered) position enabling through-the-lens operation once more. During the period that the mirror is moving upwards, the iris diaphragm of the lens mounted on the camera (if it is an automatic-diaphragm lens) is closing to the aperture selected. This permits the photographer to view and focus at full aperture, for the brightest possible image, yet have the lens stopped down to the taking aperture automatically just prior to exposure.

**Mirror Lockup Lever.** When certain special lenses, such as non-reflex viewing Fisheye-Nikkor lenses, are mounted on the EL2, they interfere with the free movement of the reflex mirror. When using these lenses, the camera's mirror lockup lever provides the means to manually lift the mirror out of the way of the lens, thus enabling the lens to be used. The operation of this lever is independent of other controls, and can be used at any time to lock-up the mirror prior to shutter release, thus ensuring that any camera vibration that might otherwise blur the image is eliminated. This application is widely used in the fields of astrophotography and photomicrography.



Extra-large reflex mirror



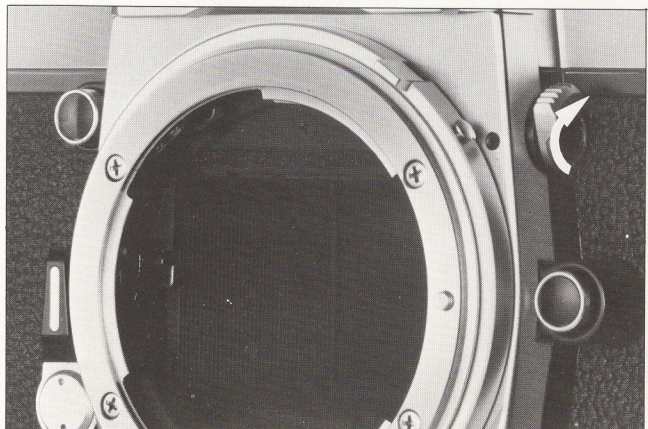
**H:** The clearance required between the ends of a lens barrel and a reflecting mirror.

**A<sub>1</sub>:** Distance from the end of Nikon EL2's mirror to the optical axis.

**B<sub>1</sub>, C<sub>1</sub>:** Dimensions that determine the mirror's position.

**R<sub>1</sub>:** Movement of the mirror.

**A<sub>2</sub>, B<sub>2</sub>, C<sub>2</sub>, R<sub>2</sub>:** The dimensions when a mirror is placed in ordinary axis position.



Mirror lockup lever

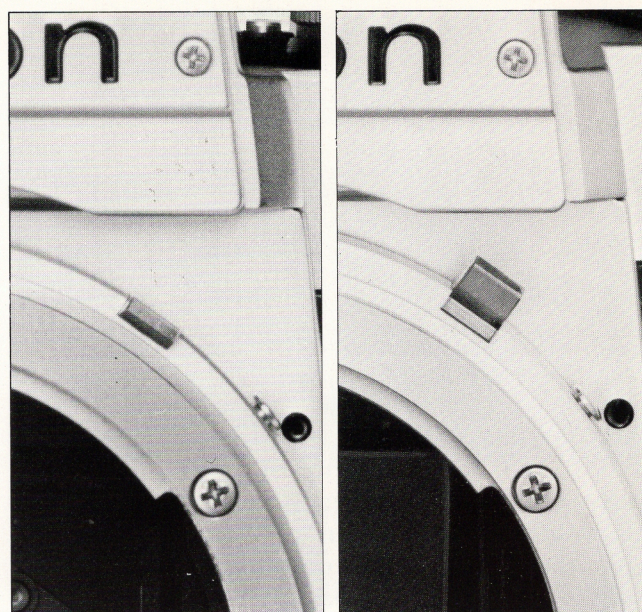


**Coupling Lever Release.** When used with lenses or accessories fitted with meter coupling ridges, the meter coupling lever on the camera body should always be in the 'down' position. However, when using the EL2 in conjunction with lenses or accessories without a meter coupling ridge, the coupling lever must be raised out of the way of the lens or accessory before mounting. As the meter coupling lever is locked in position when it is down, it must be unlocked before it can be raised. To unlock, simply depress the release, and while keeping the release depressed, lift the coupler up and back out of the way. The lens or accessory can then be mounted on the camera. Exposure determination should be carried out using the stop-down method.

**Lens Mounting Flange.** The EL2 is fitted with the standard Nikon bayonet lens mounting flange for the attachment of any Nikkor interchangeable lens. The flange is machined from specially treated, hard-wearing steel to ensure precise lens seating and alignment throughout the life of the camera. The bayonet design of the mount ensures quick lens change capability, requiring only 1/6th of a turn to mount or dismount the lens. When mounted, the lens is positively locked in place by a spring-loaded catch.

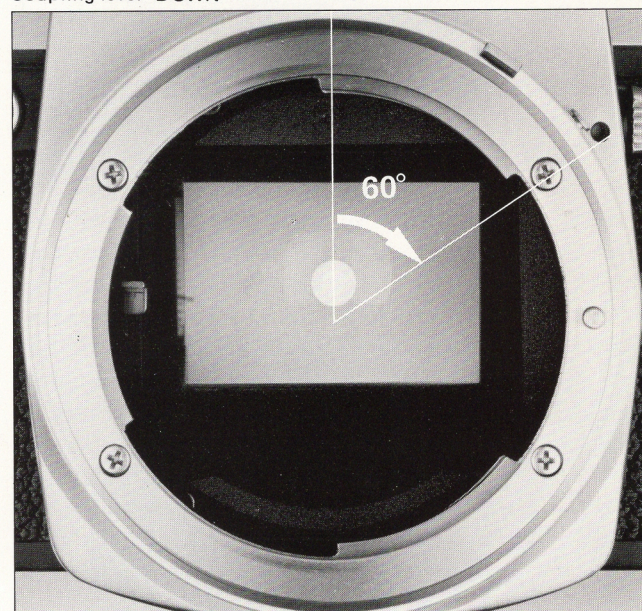
**Lens Mounting Index.** This is in the form of a dot on the camera body adjacent to the lens mounting flange. The lens is aligned with the index to mount it.

**Lens Release Button.** As the lens is positively locked in place when it is mounted on the camera, it must be unlocked before removal. Depressing the lens release button unlocks the lens to permit removal.



Coupling lever 'DOWN'

'UP'



Precise, durable Nikon bayonet mount



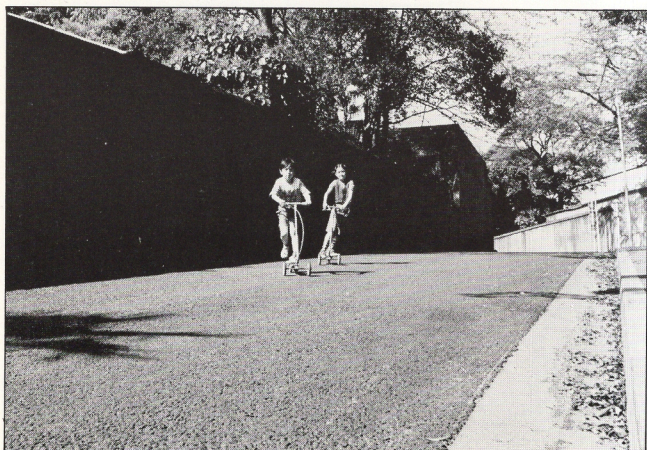
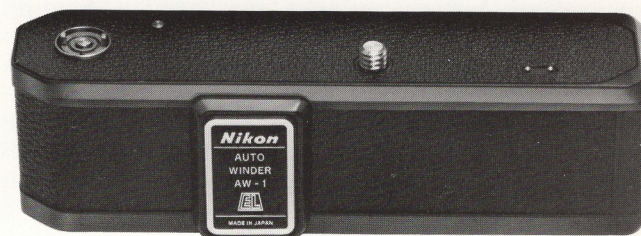
Effortless change of lenses with the conveniently positioned lens release button



# Automatic Winding/Control Functions

Simply attaching the accessory AW-1 Auto Winder to the EL2's baseplate extends the camera's automatic functions into the area of powered film advance. Previously an esoteric item strictly for professionals, powered film advance was something amateurs could only dream about. Now, with the AW-1 attached, the EL2 owner can have almost all the advantages of a motor drive, plus the added advantages of lower purchase price, lower running cost and lighter weight.

As most professionals know, one of the greatest assets of a motor drive is that it readies the camera for reshooting instantly. And the EL2 does so, too, advancing the film to the next frame in a mere 1/2 second, eliminating any risk of missing the crucial shot when following action. Photographers also appreciate a motor-driven camera when working with telephoto lenses as, once the camera has been steadied, no change of hand-hold or camera position is required for film advance. The result is easy action follow-through and sharper pictures. By combining automatic exposure control with automatic film advance, the AW-1 equipped Nikon EL2 takes this process even one stage further. The photographer can now concentrate his total attention on following the subject, confident that the camera will take care of both exposure and film advance. However, the EL2/AW-1 combination should not merely be thought of as an action camera; it functions perfectly at all shutter speeds, making life easier in all aspects of photography, even for studio work or copying—automatically. Finally, weighing a mere 400g (approximately, with batteries), the AW-1 breaks the weight barrier with a compact, lightweight unit that also provides outstanding economy of operation; it transports up to 150 standard cassettes of film before the batteries need to be replaced, eliminating the necessity to carry huge quantities of spare batteries.



Sequential pictures taken with EL2/AW-1



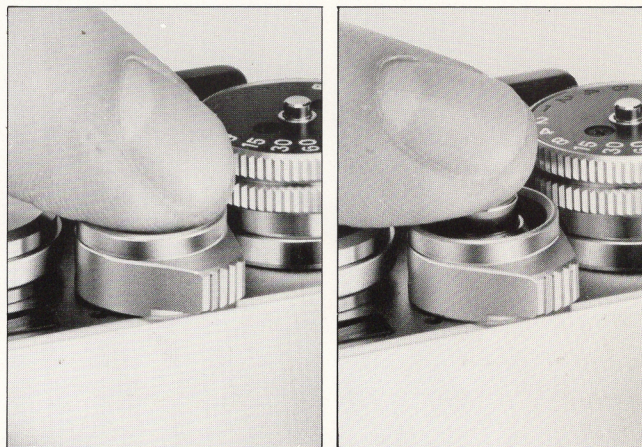
**Power Switch.** The AW-1 uses six 1.5V penlight batteries housed in the unit's integral battery chamber. Access to the chamber, for loading or unloading batteries, is by the removable cover on the end of the winder. Under normal operating conditions, with alkaline-manganese batteries, the AW-1 will transport about 150 standard 36-exposure cassettes. The control panel on the back of the AW-1 incorporates both the power ON/OFF switch and the LED pilot lamp. The LED pilot lamp glows during film winding and serves as a visual check of correct operation. As soon as the cassette has been fully exposed, the Auto Winder's motor stops and the pilot lamp lights up continuously. The power switch should then be turned off.

**Shutter Release.** A gentle pressure on the release button is all that is required to capture the decisive moment on film. The instant the finger is lifted off the shutter release button, and the shutter completes its travel, the Auto Winder springs into life. It winds the film and recocks the shutter, readying the camera for the next shot in merely half a second.

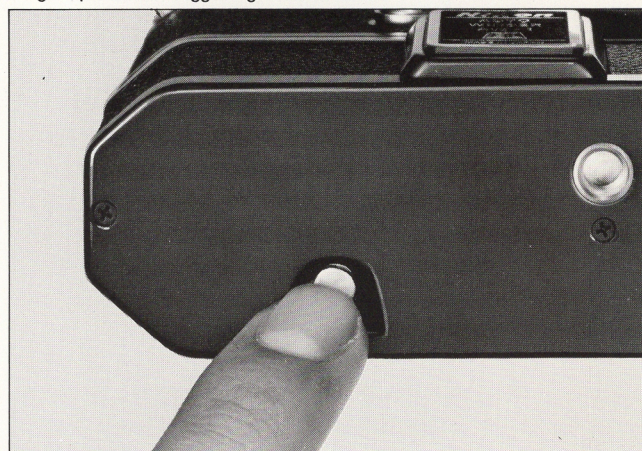
**Rewind.** Film rewinding with the AW-1 attached is the same as for the EL2 on its own, except that you have to turn the AW-1 off first; rewind is actuated by pressing the button on the AW-1's baseplate.



Power switch



Fingertip shutter triggering/film advance



Rewind button







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