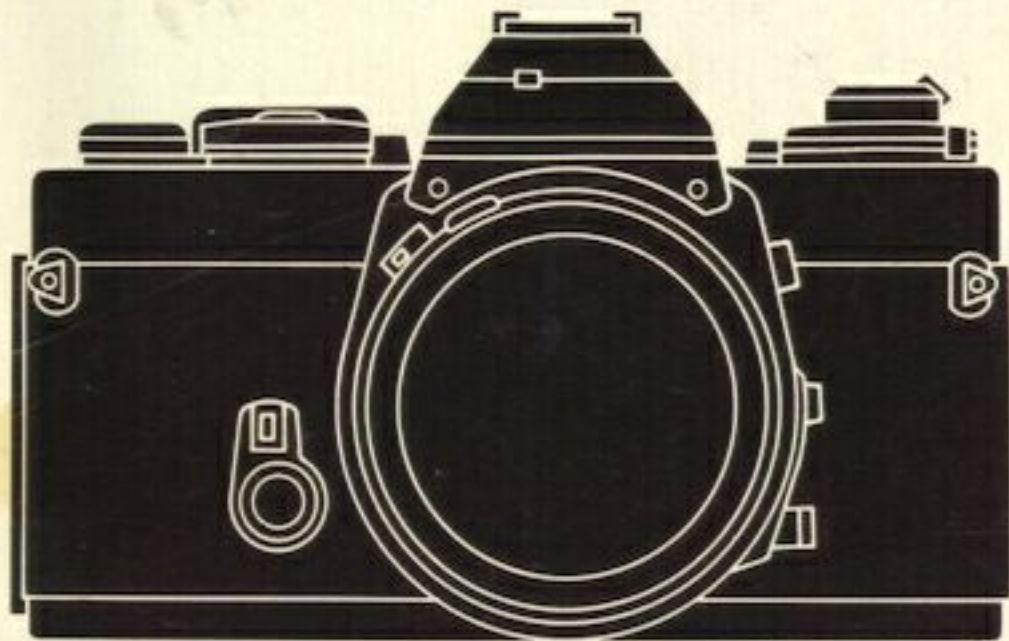


MINOLTA XD-11



OWNER'S MANUAL





Your light, compact XD-11 camera is the first 35mm single-lens reflex on the market that lets you set either shutter speed or lens aperture according to your photographic purpose, with the camera's computer then automatically and steplessly controlling the other value for proper exposure. You can also set exposure manually, with or without reference to the camera's calculation. If you wish, you can leave exposure control entirely to the camera's program for perfect results over a wide range. Whichever you choose, complete/solid-state information in the finder is automatically adjusted to show only that applicable, and a newly developed screen makes viewing brighter and focusing easier and more accurate. Safe Load Signal and electromagnetic shutter release head a host of other features. Attaching the accessory Auto Winder D enables single-frame/continuous motor film advance up to 2 frames/sec. Minolta's special Auto Electroflash 200X electronically switches the XD-11's shutter over for strobe exposures when charged and signals flash-ready in the finder; it also enables continuous-sequence flash with the winder. Besides new MD Rokkor-X lenses, your XD-11 uses virtually all interchangeable Rokkor-Xs made to date and all applicable Minolta SLR system accessories.

Before using your camera for the first time, study this manual carefully all the way through-or at least all the sections needed to cover your own photographic needs. As you read, attach a lens to the camera body (see p. 10), load batteries, and handle your XD-11 and acquaint yourself with its parts and features. Then load it with film and proceed to actual picture taking. In this way, you can take good photos and begin to realize the broad potential of your XD-11 right from the start. Be sure to keep this manual for reference later as necessary.

2. Refer to the exposure control sections to determine the desired shutter-speed range for A-mode automatic (p. 28) or to set the aperture and shutter speed in manual (M) mode (p. 32).
3. Release the stop-down button when the exposure range or setting has been determined, and take the picture. (Because the XD-11 meters at while the aperture is closing to obtain correct exposure settings for automatic modes, it is unnecessary to hold in the stop-down button during exposure.)

RF (mirror-type) and Manual Preset lenses

Proceed as for Auto Rokkors above, except that the stop-down button need not be pushed, as metering is done and exposure made without its use.

CAUTION

Be sure to use a proper lens for your XD-11 Camera. The MINOLTA Lens which is proper for this camera is the MD Lens. When using MC and other types of Lenses, the aperture priority mode and manual mode will work, but the shutter priority mode will *not* work. Therefore, in order to fully use the multi-mode operation of the XD-11 (aperture priority, shutter priority and manual) use a proper lens.

NOTE

- Be sure to use only A mode (aperture-priority) or M mode (manual) when making pictures using close-up equipment as improper exposure may result if S mode is used.
- The Rokkor-X 35mm f/2.8 CA Shift lens should be used in M mode (manual) only.

REMOTE CORD S AND L (Accessory)

These cords are designed for operating the XD-11 (at all speeds except "B") from a distance. Each screws into the threaded socket provided in the operating button. The Cord S is 50cm (about 20 in.) long, while the Cord L is 5m (16-1/2 ft.) These cords facilitate shots mounted on a tripod or remote wildlife pictures. In combination with the Auto Winder D, the Cord L can be used to make single or continuous sequence exposures at the subject position, from a remote location, etc.



TECHNICAL DETAILS

- Type: Compact 35mm single-lens reflex with shutter- or aperture-priority automatic or metered/full-manual exposure control.
- Lens mount: Minolta SLR bayonet, 54° rotating angle; coupling for full-aperture-metering and finder-display input and automatic diaphragm control, providing shutter-speed priority and aperture-priority operation with MD Rokkor-X lenses, aperture-priority operation only with MC and other Rokkor-X lenses; spring-return button for depth-of-field preview and for stop-down meter readings with other than MC or MD lenses (Standard lenses: 50mm f/1.2, f/1.4 or f/1.7 MD Rokkor-X)
- Auto-exposure control: Special low-voltage, low-current computer circuit (incorporating large-scale monolithic and hybrid IC's, samarium-cobalt compound impulse-release magnets and linear-resistance inputs) varies aperture and/or shutter speed steplessly for proper exposure according to metering indication at the shutter-speed/aperture, and film speed, and/or exposure adjustment set. Auto-exposure range: EV 1 to EV 18 (e.g., 1 sec. at f/1.4 to 1/1000 sec. at f/16) at ASA 100 with f/1.4 lens.
- Shutter: Vertical-traverse metal-blade focal-plane type, with electromagnetic release. Electronically controlled speeds: 1/1000 to 1 sec. steplessly on automatic modes or in steps on manual mode or at "X" (1/100 sec.) setting. Mechanically controlled settings (no battery power required): "O" (1/100 sec.), "B" (bulb)
- Metering: TTL center-weighted type by silicon photo cell mounted at rear of pentaprism; at full aperture for normal display, at taking aperture for exposure (shutter-speed) determination or stop-down display

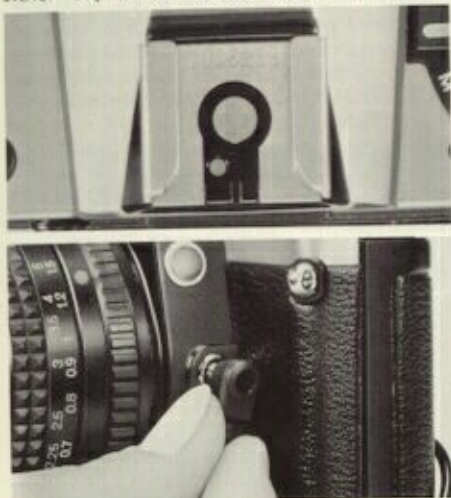
- Film-speed range: ASA 12 to 3200 set by dial (around rewind-crank/back-release knob) with lock.
- Auto-exposure adjustment: Up to ±2 EV continuous adjustment of auto or metered manual with locks at zero position and each EV setting.
- Mirror: Oversize quick-return type (PO value: 143mm) with pneumatic damper.
- Viewfinder: Eye-level fixed pentaprism type showing 94% of 24 x 36mm film-frame area
Magnification: 0.87X with 50mm standard lens focused at infinity. Power: -1 D, variable with accessory snap-on eyepiece correction lenses.
Fresnel-field focusing screen having an artificially regular patterned matte field plus central split-image horizontally oriented focusing spot surrounded by microprism band.
Visible around frame: Shutter speed and f-number set on "S" or "M" mode, f-number set with MD or most MC lenses on "A" mode; LED indication of aperture (on "S") or shutter speed (on "A" or "M") for correct exposure by 10 light-emitting diodes; LED over-/under-range indicators, upper of which also blinks as a flash-ready signal with Auto Electroflash 200X and lights at "X," "O," and "B" shutter settings Built-in eyepiece shutter positioned by lever.
- Flash sync.: PC-terminal and hot shoe for X-sync. (disconnected when unit not installed): Electronic flash synchronizes at 1/100 sec. (i.e., electronic "X" or mechanical "O" shutter settings) and slower step or stepless speeds; Class MF, M, and FP flashbulbs synchronize at 1/15 or slower speeds.
Extra contact on hot shoe, receives signal from camera-control contact of Auto Electroflash 200X whenever capacitor is charged to cause upper LED triangle in finder to blink and then set shutter at fixed 1/100 sec..

Connecting flash units

Cordless clip-on flash units are attached and electrically connected by simply sliding them into the camera's hot shoe. Sync. cords of either clip-on or bracket-type conventional

units requiring them must be plugged into the camera's sync. terminal for operation.

Bracket-type flash units are attached to the camera by means of its tripod socket.



AUTO WINDER D (Accessory)

The Auto Winder D is an automatic film winder that helps the photographer focus his full attention on the creative aspects of photography by removing the interruption of having to wind the film after each exposure. Attaching is quick and easy with no access caps to remove or store. Just a light touch of the shutter release is all that is required to take either successive or single frames with the winder automatically advancing the film after each one. The winder drive mechanism stops automatically at the end of each cartridge and film can be easily re-wound with winder attached. Winder-assisted multiple exposures are easily accomplished with no special operations or techniques.

All of these features combine with the unique XD-11 to help you to capture the fast paced action of a sports car race or the fleeting expressions of a child at play.



USING OTHER THAN MD LENSES

Besides MD lenses, virtually all SLR lenses and accessories manufactured by Minolta may be used on your XD-11 automatically, in Aperture priority, or manual mode. To use other than MD lenses on your XD-11 proceed as follows.

MC Rokkor-X lenses

MC Rokkor-X lenses should be used only in aperture priority (A) automatic or manual (M) modes. When used in shutter-speed priority (S) automatic mode, only under- or over-range indicators will light in the viewfinder and improper exposure will result.

Auto Rokkor

Because these lenses have no meter coupling lug, metering with Auto Rokkor's is by the stop-down method as follows:

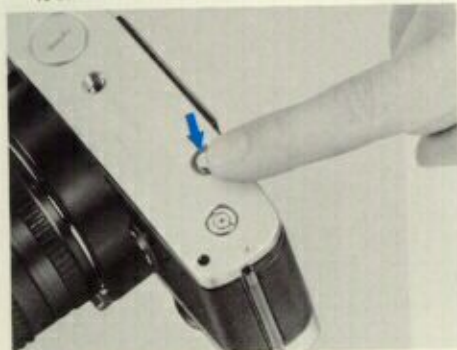
1. After focusing, push the stop-down button all the way in.



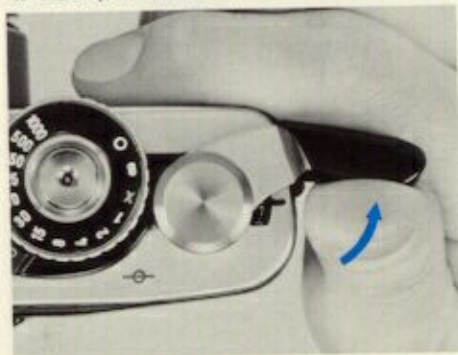
MULTIPLE EXPOSURES

To intentionally make more than one exposure on a single frame of film:

1. Make the first exposure in the usual way.
2. Push the film-advance release on the bottom of the camera. (Do not continue depressing it while film is being advanced.)



3. Operate the film-advance lever. This will cock the shutter for the next exposure, but the film will not advance since the release has been pushed.
4. Make your second exposure.



5. Then repeat steps 2 and 3 above as many times as desired to make further exposures.
6. After the last multiple exposure, advance film to the next frame in the usual way without pushing the advance-release.

NOTE

Exposure adjustment if and as desired for multiple exposures with the camera on either automatic modes or on metered-manual mode can be made by means of the exposure-adjustment control (see p. 35).



FLASH PHOTOGRAPHY

Auto Electroflash 200X (Accessory)

The Auto Electroflash 200X is a new generation automatic-type flash unit that has been specially designed for use with the XD-11 camera system.

After it is attached, all you need do is select any electronic setting, set the proper lens aperture and turn the flash on. When its capacitor is fully charged, the 200X starts a flash ready signal in the viewfinder blinking and then automatically switches the camera's electronic shutter speed to X-sync. (1/100 sec.) when the shutter is released.

A series SCR circuit ensures fast recycle time (min. 0.5 sec.) and enables the 200X, powered by Ni-Cd batteries, to make up to two continuous-sequence flash exposures each second with Auto Winder D.

While its capacitor is charging and the monitor lamp is off, the 200X will automatically switch the camera's shutter back to its indicated electronic setting. At this time automatic or manual exposures can be made. Flash mode will resume when the capacitor is charged

and the flash ready signal blinks.

Switching the power "OFF" cuts off all flash circuits and normal electronic operation is returned to the XD-11. The camera can now be used in auto or manual mode even with the flash attached.



For flash units other than 200X

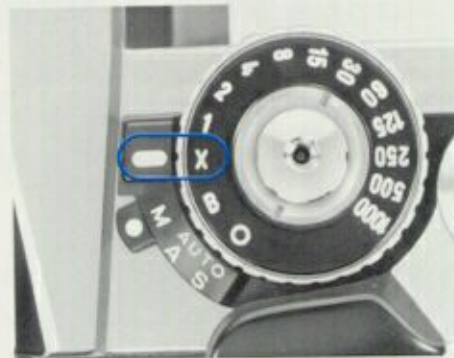
Synchronization

Your XD-11 has shutter contacts for X flash synchronization as follows:

Type of flash	Synchronized speed range in seconds
	On metered/manual mode (step speeds)
Electronic flash ("strobe")	1 through 1/60, X, 0(1/100), B
Class M or MF flashbulbs	1 through 1/15, B
Class FP flashbulbs	1 through 1/15, B

NOTE

As indicated by the table, 1/100 is the maximum shutter speed for proper X synchronization. Slower speeds can also be used under certain conditions if desired for particular effects. Be sure not to use speeds faster than 1/100, (i.e. 1/125 and upward) with electronic or auto-flash units.



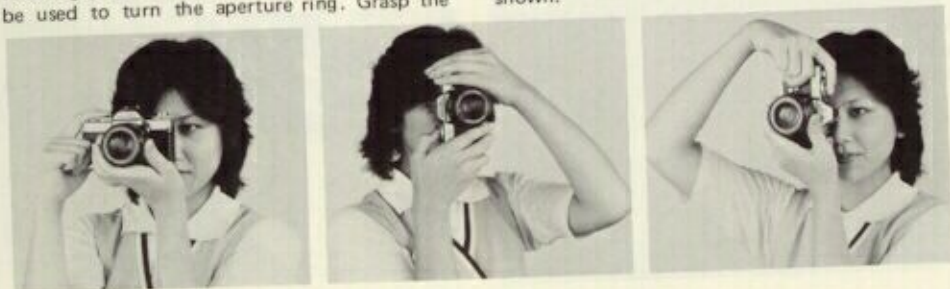
HOLDING THE CAMERA

Holding the camera securely when exposures are made is as important as focusing. Even slight movement at the instant of exposure can result in "blurred" photographs, especially when operating with slow shutter speeds. A recommendable way that permits ready operation of important controls is shown here.

To hold the camera horizontally, cradle the bottom of it in the palm of the left hand with the thumb and index or middle finger on the focusing grip of the lens. These fingers can also be used to turn the aperture ring. Grasp the

camera body firmly with the right hand as shown so that the index finger rests on the operating button. In this position, the thumb can conveniently operate the film-advance lever.

The camera may be held in a vertical position as shown (center) using the thumb of the right hand to push the operating button while the left hand is used for support and focusing. Another possibility is to rotate the camera from the horizontal position and hold it so that the rewind-crank end is cradled in the left hand as shown.



REWINDING AND UNLOADING FILM

1. Push the film-advance release.
2. Unfold the rewind crank and turn it in the direction indicated by the arrow on it until the red Safe Load Signal bar moves out of the window to the left. You will then feel tension on the film increase and disappear, and the crank will turn freely.



SETTING THE SHUTTER

3. When you are certain that the film is completely rewound, pull out the back-cover release knob to open the back and remove the cartridge.

CAUTION

Film should be handled and unloading done in subdued light — at least shaded from direct sunlight by the body.



RELEASING THE SHUTTER

The way the camera is supported (see p. 42) when exposures are made and how the shutter is released are as important as focusing for best photographic results, and to avoid blurred pictures due to camera movement during exposure these factors become more critical the slower shutter speed.

With the possible exception of highest speeds, the camera or hands holding it should generally be firmly steadied against your face or body when you release the shutter.

As slower speeds, it is advisable to steady the camera against a doorframe, post, or other firm support while depressing the release.

The shutter should always be released with a slow, steady squeeze — never a quick jab — preferably while holding your breath.

For maximum sharpness when making exposures too long to permit hand-holding the camera, mount it on a tripod using the built-in

socket on the bottom and trip the shutter with a cable release screwed into the threaded socket provided in the shutter-release button.

If the eyepiece is not being shielded by the photographer's head when the shutter is released in this way, the eyepiece shutter should be closed (see p. 31).



SELF-TIMER

The self-timer built into your XD-11 can be used to delay release of the shutter for about 10 seconds after actuation.

To operate it:

1. Advance the film
2. Cock the self-timer by moving the lever counterclockwise as far as it will go.



3. Press the operating button as far as it will go. The self-timer operates for about 10 sec. after which the shutter will be released automatically.

CAUTION

For proper exposure when the self-timer is used with the camera set on either AUTO MODES, be sure to close the eyepiece shutter (see p. 31).



FOCUSING

The focusing screen of your XD-11 features a split-image spot surrounded by a band of microprisms in the center of an acute matte field.

To focus the camera visually with usual lenses, look through the viewfinder with lens at full aperture and turn the focusing collar on the lens until the upper and lower subject images in the spot are exactly aligned with no broken lines between them and/or the subject image in the band does not shimmer or appear broken up. At this point, the subject image within the focusing aid should appear clearest and seem to blend with that on the matte field around it.



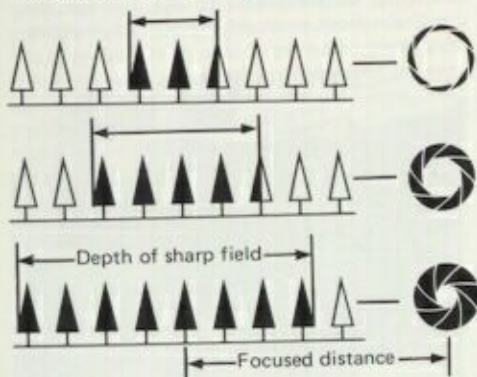
Though the most satisfactory focusing aid and method depend upon the conditions and personal preference of the photographer, the above method may provide best results with medium wide-angle to medium (short) telephoto (focal length) lenses.

Generally speaking, however, you will probably find that using the split-image spot will provide the easiest way to focus for subjects having vertical lines; the microprism band for medium wide-angle and telephoto lenses and subjects not having vertical lines; and the matte field for longer lenses or macro or other work involving considerable lens extension.

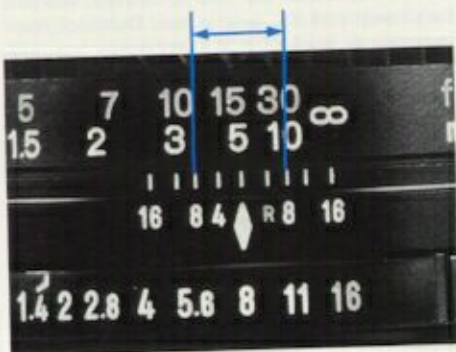


Depth-of-field scale

The near and far limits of acceptable sharpness can be determined from the depth-of-field scale on the lens barrel. With the lens focused at a given point, the image will be in satisfactory focus from the nearer value to the farther value on the distance scale indicated by the depth-of-field scale marks for the aperture to be used.



For example, if a 50mm lens is focused at 5m (about 16 ft.) and the aperture is f/8, the appropriate graduations to left and right of the index on the depth-of-field scale indicate acceptable sharpness from about 3.4m to 9.7m (approx. 11 to 32 ft.)



Depth of field

The distance behind and in front of the focused distance within which the image appears acceptably sharp is called the depth of field.

It extends a greater distance behind the focused distance than in front and is determined by three factors: the aperture size, the distance at which the lens is focused, and the focal length of the lens in use. Depth of field increases as the lens is stopped down (e.g., f/2 to f/16) and becomes greater the farther from the camera the lens is focused. It decreases as the lens is opened up (e.g., f/16 to f/2) and the closer to the camera the lens is focused. Depth of field is greater for short focal length lenses than for telephoto's at the same focused distance and aperture. It is at its least for any given lens in normal mounting when the lens is at maximum aperture (as when metering and focusing normally with Minolta MD- or MC-type lenses) and at minimum focusing distance.

Depth-of-field preview

In either aperture-priority or manual mode, depth of field at any aperture and focusing distance can be previewed visually by pushing the stop-down button all the way in. This will stop the diaphragm down to the aperture corresponding to the f-number preset on the aperture ring, allowing you to see through the viewfinder how much of the subject is acceptably sharp.

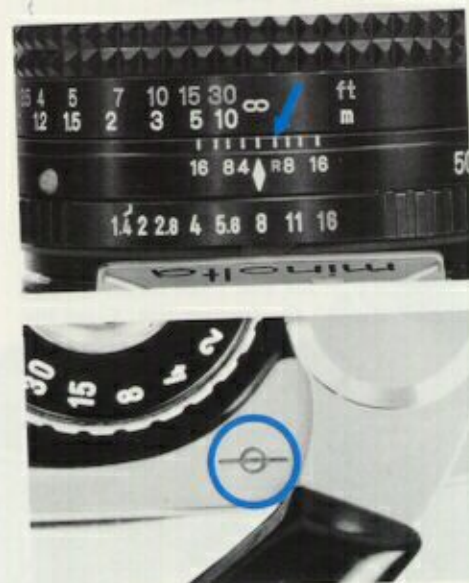


Infrared index

For proper focus when making black and white pictures with infrared radiation, first focus your subject with visible light as described above, then attach a red filter and turn the focusing ring to the right to align the point of proper focus on the distance scale with the index designated with small red "R" in the depth-of-field scale. When making color pictures, follow the film manufacturer's recommendations to set focus.

Film-plane index

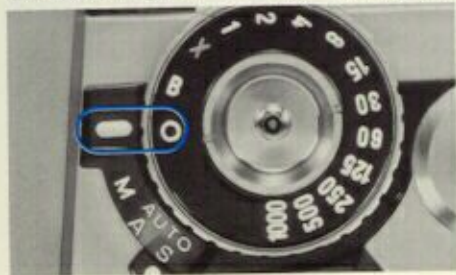
The symbol on the camera top plate to the right of the viewfinder indicates the exact plane occupied by the film in the camera. This can be used to measure distance from subject to film.



"O" and "B" mechanical settings

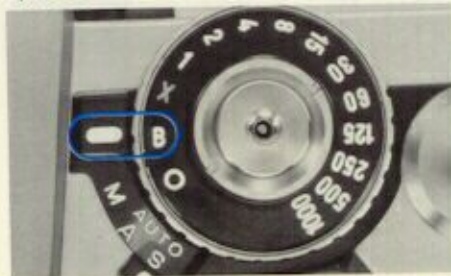
Both "O" and "B" shutter settings are mechanically controlled. With either of these letters aligned with the index, you can view, make exposures, and advance film even though batteries are unserviceable or completely lacking.

Turning the shutter speed dial (in any mode setting) to align "O" with the index provides a fixed shutter speed of 1/100 sec. for fully synchronized exposure with electronic flash or existing continuous light. "O" will appear at the bottom right in the finder frame at this



setting and over-range LED will light to indicate mechanical shutter-speed operation.

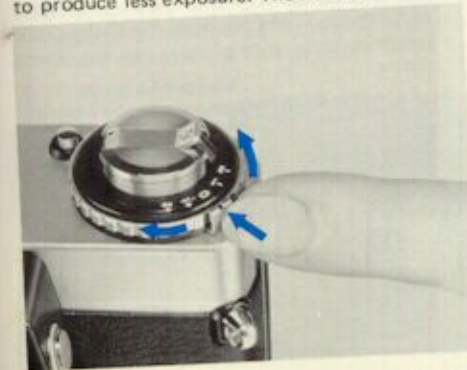
Turning the shutter speed dial (in any mode setting) to align "B" with the index sets the camera for making "bulb" exposures. That is, the shutter will open when the shutter release is depressed and remain open until it is released. "B" will appear at the bottom right in the finder frame at this setting and over-range LED will light to indicate mechanical shutter-speed operation.



EXPOSURE-ADJUSTMENT CONTROL

To deliberately give more or less exposure on either automatic modes or on metered/manual mode, use the exposure-adjustment control as follows:

Depress and move the index to the side having plus (+) numbers to produce more exposure or to the side having minus (-) numbers to produce less exposure. The numbers indicate



the amount of adjustment in stops or EV steps (i.e., "+1" indicates one stop more or double the zero-position exposure, and "+2" means two stops or four times more exposure; "-1" is one stop less or one half the exposure, and "-2" produces two stops' less or one quarter the normal exposure). There is a lock at the "0" (zero) position and click-stops at both plus and minus "1" and "2" positions. The index may be set at intermediate positions.

CAUTION

Always return the exposure-adjustment control to zero after use.

NOTE

The exposure-adjustment control may be moved to only to the +1 position when the film-speed selector is set at ASA 25 and to the -1 position at ASA 1600. It cannot be moved to the plus direction when the selector is set at ASA 12 or to the minus direction when the selector is set at ASA 3200.

WHEN AND HOW MUCH TO ADJUST EXPOSURE

1. In situations where there is a great contrast difference between the subject and background and the most important area is considerably darker than the area surrounding it, set the index of the exposure-adjustment control at from +1/2 to +2. Examples of such pictures are ones with strong backlighting and no fill-in illumination, such as Examples A and B, or subjects against a background of snow or light-colored sand, unless the bright area occupies a very small part of the image frame.

A: Without adjustment



2. If the most important subject area is much brighter than the rest of the picture, set the index of the exposure-adjustment control at from -1 to -2. Examples of this kind of picture are subjects in a spotlight or shaft of sunlight, or against a very dark background, as Examples C and D, unless the background occupies only a small area in the image frame.

B: Exposure increased



3. As above, when copying documents printed on white stock or other subjects that are predominantly light in color, an adjustment to +1/2 or more may be called for. Similarly, you will probably want to make an adjustment from -1 to -2 for predominantly dark copy matter or that on a dark background.
4. You may also want to use the adjustment control when making multiple exposures. Exactly how it should be set will depend upon the number of exposures and the effect desired. A simple example would be

C: Without adjustment



for a "spirit" or "ghost" picture in which background details seem to show through a semitransparent subject:

With the camera set on a tripod so that it cannot move and exposure adjusted to -1 to reduce light by half, two exposures are made on the same frame (see p. 46); one of only the background, the other with the subject in place before it.

The above suggestions will serve as starting points for trial; individual conditions and taste will of course determine exact final exposure.

D: Exposure decreased



Selecting the Aperture

For good pictures with a minimum of care where no particular effect is desired, set the aperture as suggested in table. There may be times, however, when it will be important to set the lens aperture to obtain a particular effect, such as rendering a certain range in sharp focus



or emphasizing a subject against and out-of-focus background. Small f-numbers yield a shallow field of sharpness, as Example A below, while large f-numbers give greater depth of field, as in Example B. (For information about depth of field, see p. 39).



A-Mode Aperture Setting Guide

	Sunny	Hazy Sun	Heavy Over-cast	Indoors
ASA 25	f/8	f/4	f/2	f/1.4
ASA 80	f/11	f/5.6	f/4	f/1.4
ASA 100	f/11	f/5.6	f/4	f/1.4
ASA 200	f/11	f/8	f/5.6	f/2
ASA 400	f/16	f/11	f/8	f/2.8

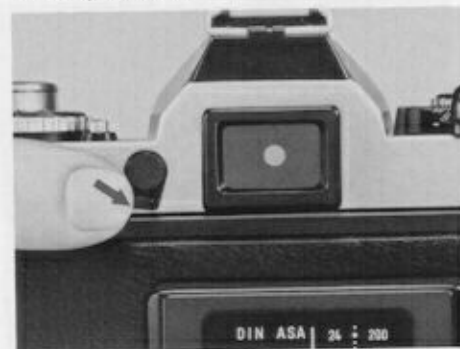
(These are only guidelines for typical picture taking situations. For additional information see page 20.)

NOTE

Use of a steady support (p. 43) or an electronic flash (p. 48) is recommended for use with shutter speeds of 1/60 or slower.

EYEPIECE SHUTTER

For remote or unmanned operation or when the camera is set on a support and used without viewing on automatic mode, be sure to rotate the lever at the left rear on the finder as indicated to close the eyepiece shutter. This will prevent unwanted light from entering through the eyepiece and affecting the meter reading and exposure when the eyepiece is not being shielded by the photographer's head, as it normally would be.



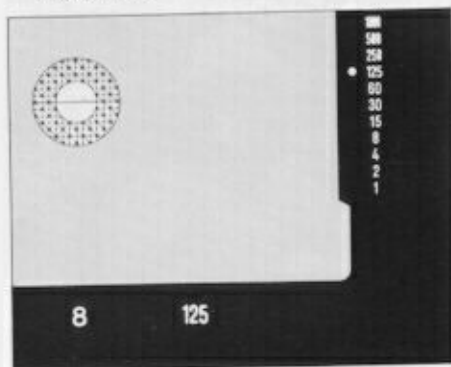
METERED/MANUAL EXPOSURE CONTROL

Metered/manual operation

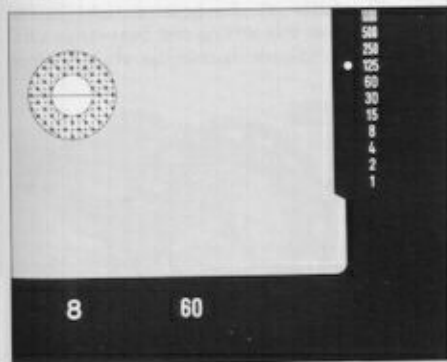
1. Move the mode-selector switch to align it with the click-stopped "M" and turn the shutter speed dial to align any step from "1000" to "1" with the index. The number of the speed set will appear as the shutter-setting indication at the right below the finder frame.



- To set proper exposure for light as metered, turn the aperture ring until an LED lights next to the number on the shutter-speed scale that corresponds to the shutter-setting number appearing below the frame. If necessary agreement cannot be achieved, adjust the shutter-speed setting or other conditions to permit it.



- Number agreement can of course be disregarded and any shutter-speed and lens-aperture combination set for full manual operation.



"X" setting

Turning the shutter-speed selector to align "X" with the index sets a fixed electronic shutter speed of 1/100 sec. This provides for fully synchronized flash exposure when using electronic flash units other than the Minolta Auto Electroflash 200 X. "X" will appear at the right below the finder frame at this setting and the over-range LED will light to indicate "X" operation.



when the shutter is released. Should this happen, move the shutter-speed selector to "X", "B" or "O" and then back to its previous setting. This will reset the mirror and return the camera to automatic operation.

- Be sure to use a proper lens for your XD-11 camera. The MINOLTA Lens which is proper for this camera is the MD Lens. When using MC and other types of Lenses, the aperture priority mode and manual mode will work, but the shutter priority mode will *not* work. Therefore, in order to fully use the multi-mode operation of the XD-11 (aperture priority, shutter priority and manual) use a proper lens.

NOTE

If the green f-number has not been aligned with the index dot, only the over- or under-range indicators will light. The camera will then automatically vary the aperture between maximum and the one set, overriding the selected shutter speed as needed toward obtaining correct exposure.

Selecting the shutter speed

For good pictures with a minimum of care where no particular effect is desired, see the table at the right. However, there may be times when the subject or effect you may want to create make setting the shutter speed an important factor. High shutter speeds such as 1/500 to 1/1000 sec. can "freeze" fast action, as in Example A below. Such slow speeds as 1/2 to 1 sec. can be used to emphasize subject flow or motion, as in Example B.



NOTE

For more simplified picture taking, set the camera as usual for S mode operation (setting film speed, minimum aperture, etc.) using a shutter speed of 1/125 sec. Then you need only focus and shoot making sure that the under-range indicator does not light (as this may cause picture blur when shutter speed becomes slower).



S-Mode Shutter Speed Setting Guide

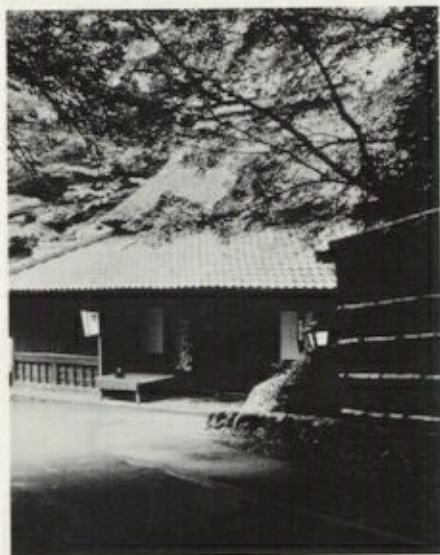
	Sunny	Hazy Sun	Heavy Over-cast	Indoors
ASA 25	1/250	1/125	1/60	1/15*
ASA 80	1/250	1/125	1/60	1/15*
ASA 100	1/250	1/125	1/60	1/15*
ASA 200	1/500	1/250	1/125	1/30-1/60*
ASA 400	1/1000	1/500	1/250	1/60*

* with lenses having a maximum aperture of f/2 or greater.

(These are only guidelines for average picture taking situations. For additional information see page 20.)

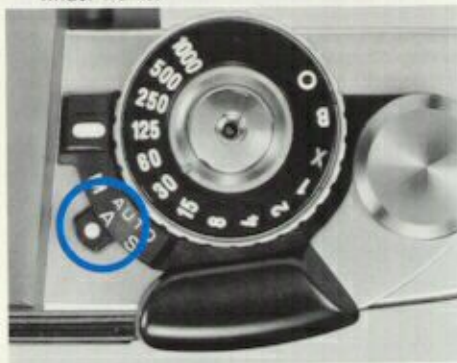
NOTE

Use of a steady support (p. 43) or an electronic flash (p. 48) is recommended for use with shutter speeds of 1/60 or slower.



Aperture Priority Automatic operation

1. Move the mode-selector switch to align it with the click-stopped "A." This will set the camera's computer system for stepless automatic shutter speed operation and display the shutter-speed scale at the right of the finder frame.



2. Set the desired lens opening by turning the aperture ring on the lens barrel. The f-number set will appear centered below the frame in the finder, and shutter speeds as indicated by lighted LED's at the right of the frame will vary automatically to yield proper exposure for the aperture and other settings with the light being metered.

3. It is then only necessary to confirm focus (see p. 38), compose your picture, and release the shutter (p. 43).
4. The XD's range of shutter speed operation in A-mode automatic is from 1/1000 sec. to 1 sec., as indicated on the shutter speed scale. If the over-range indicator lights, aperture or other conditions should be adjusted so that an LED lights within the scale's range. Lighting of the under-range LED indicates use of shutter speed that is 1 sec. or longer.



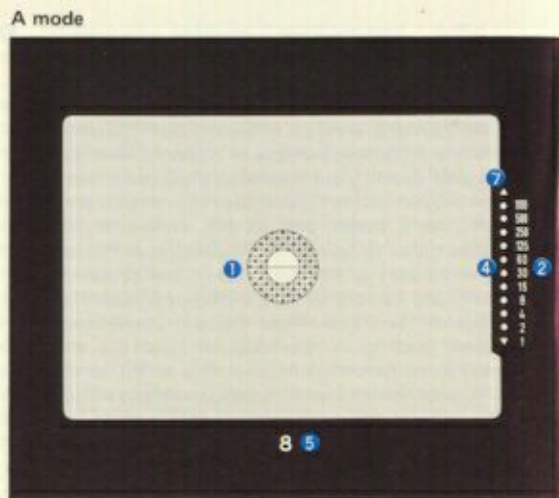
NOTE

- To continuously provide more or less exposure on automatic mode, see p. 35.
- If exposure conditions are below the meter's range, the mirror may remain up when the shutter is released. Should this happen, move the shutter-speed selector to "X" and then back to its previous setting. This will reset the mirror and return the camera to automatic operation.

VIEWFINDER

As you look through the viewfinder of your XD-11, you can see:

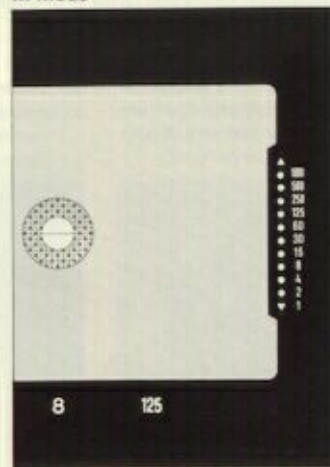
- 1 Split-image/micropism focusing spot,
- 2 Shutter-speed scale,
- 3 Aperture f-number scale (see p. 23),
- 4 Indicator LED's (show speed being set on "A" mode, aperture being set on "S" mode, and correct exposure in "M" mode when shutter speed indicated agrees with speed manually set),
- 5 F-number of lens aperture set,
- 6 Shutter speed set (for "S" or "M" mode), and
- 7 LED over- or under-range indicators (over-range indicator is also flash-ready and "X," "B," and "O" signal). For operation details, see the sections on exposure control, manual settings, and flash operation.



S mode



M mode



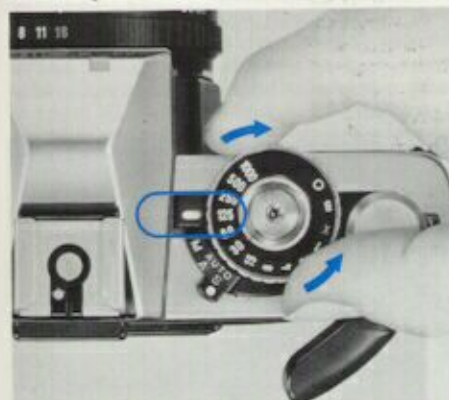
AUTOMATIC EXPOSURE CONTROL

Shutter-Speed Priority Automatic operation (with MD lenses only)

1. Move the mode-selector switch to align it with the click-stopped "S." This will set the camera's computer system for automatic aperture operation and display the aperture f-number scale at the right of the finder frame.
2. Rotate the aperture ring so that the green f-number is aligned with the index. This number will appear centered below the frame in the finder.



3. Turn the shutter-speed dial to align any step indication from "1000" through "1" with the index. The number of the speed set will appear at the right below the finder frame and f-number settings as indicated by lighted LED's will vary automatically to yield proper exposure for shutter speed and other settings with the light being metered.



4. It is then only necessary to confirm focus (see p. 38) compose your picture, and release the shutter (p. 43).
5. The aperture f-number scale was designed to accommodate lenses having apertures as great as $f/1.4$ to as small as $f/32$. When steps 1 through 3 are followed, the f-number of the aperture selected by the camera's computer system will be indicated within this range by a lighted LED. When an over- or under-range indicator lights above or below the scale, exposure conditions have exceeded the aperture range of the lens in use. The camera will then automatically select a shutter speed, either higher or lower than that set on the shutter-speed dial, towards obtaining correct exposure. Actual shutter speed can be confirmed by adjusting the shutter speed or other conditions so that an LED lights within the scales range.

CAUTION

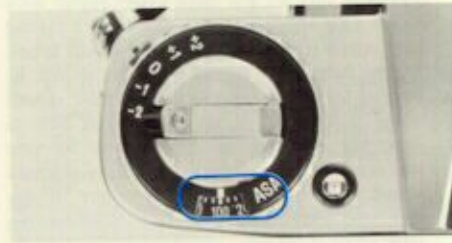
- If exposure conditions are below the meter's range, the mirror may remain up when the

FILM SPEED

Film-speed selector

Each film on the market has an ASA or DIN exposure-index number to indicate its sensitivity to light. For correct exposure, the meter must be set for the effective exposure index of the film in use.

To do this, depress the selector release and turn the film-speed selector until the proper ASA value indication clicks into place opposite its index. Dots between numbered graduations indicate ASA numbers as shown at right.



ASA	DIN	200	24
12	12	• 250	25
• 16	13	• 320	26
• 20	14	• 400	27
25	15	• 500	28
• 32	16	• 640	29
• 40	17	800	30
50	18	• 1000	31
• 64	19	• 1250	32
• 80	20	1600	33
100	21	• 2000	34
• 125	22	• 2500	35
• 160	23	3200	36



CAUTION

When setting film speed, the index of the exposure-adjustment control (see p. 35) should generally be locked at its zero position.

ASA/DIN conversion scale

A convenient scale for converting DIN to ASA film-speed ratings is located on the back cover of the camera.



Memo holder

Around the ASA/DIN conversion table is a convenient frame that can be used to keep memos handy with the camera. It is just the right size to hold the film-box end, which can be inserted as a reminder of the film in use.



EXPOSURE-CONTROL FUNDAMENTALS

The two camera exposure-control settings are lens opening (aperture) and shutter speed. The size of the aperture determines the amount of volume of light reaching the film from a given subject and lighting. The shutter speed determines the length of time this light acts upon the film. Apertures are expressed in f-numbers, which are larger for small openings and vice versa (e.g., f/16 represents a small opening, f/2 a large one). Shutter speeds are expressed in seconds or fractions thereof, which are generally the reciprocals of the numbers shown on shutter-speed scales (e.g. $60 = 1/60$ sec., and $2 = 1/2$ sec.). At usual apertures, each f-number setting (e.g., f/8) lets in twice as much light as the next numerically larger one (f/11) and half as much as the next smaller (f/5.6). Similarly, each shutter speed (e.g., 1/60 sec.) allows light to strike the film twice as long as the next higher speed (1/125) and half as long as the next lower one (1/30). The interval

between two standard f-numbers (say, f/4 and f/5.6) or shutter speeds (say, 1/15 and 1/30) is one "stop." Total exposure on the film is determined by the combination of aperture and speed. Other things being equal, using the next smaller f-number (i.e., giving one stop more exposure) will balance using the next higher shutter speed (i.e., giving one stop less exposure), and so on. A great range of combinations (e.g., f/5.6 at 1/30, f/4 at 1/60, f/2.8 at 1/125, f/2 at 1/250, etc.) will thus yield the same total exposure. The specific combination you choose under given lighting conditions will depend upon the degree to which you want the greater depth of field (see p. 39) of smaller apertures and the greater movement-blur preventing ability of faster speeds (p. 26).

METERING WITH THE XD-11

The center-weighted metering system in your XD-11 employs a silicon photo cell mounted behind the pentaprism so that light from all parts of the viewfield is measured but most influence is from the central area. Thus the reading should yield satisfactory exposure without adjustment as long as the main subject area occupies a major part of the center of the frame. If the most important subject area to be measured is not centered or occupies too small a part of the central area, move the camera to center it or move toward the subject until it fills the central part of the frame. Note the aperture/shutter-speed reading in this position and use the exposure-adjustment control (see p. 35) to set the same value when making the exposure from the original position. Further, if the most important area is very much brighter or darker than the rest of the frame and does not fill most of it, exposure should be decreased or increased with the same control from

1/2 to 2 stops, the exact amount varying with the specific brightness difference and the effect desired (p. 36).

As with most metering systems, strong sources of direct light or other very bright areas may influence the reading adversely if allowed to dominate the frame.

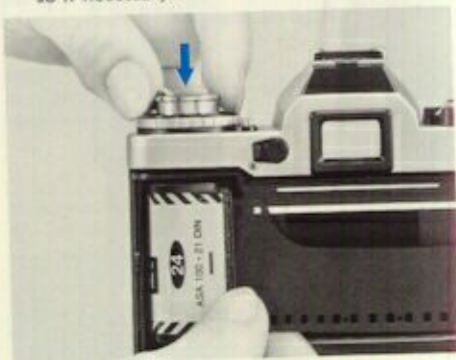
Though your XD-11's finder is designed to minimize the effect on the meter of light entering through the finder eyepiece under usual conditions, care must be exercised to prevent this especially if you wear eyeglasses. Use of a rubber finder eyecup is further recommended when the subject is in shade and the camera is in sunlight, when bright sidelight falls between eye and eyepiece, or when stop-down metering is used, particularly at small apertures. When viewing is unnecessary, the eyepiece shutter (see p. 31) can be used to completely eliminate this problem.

LOADING AND ADVANCING FILM

1. Pull out on the back cover release knob until the camera back springs open.



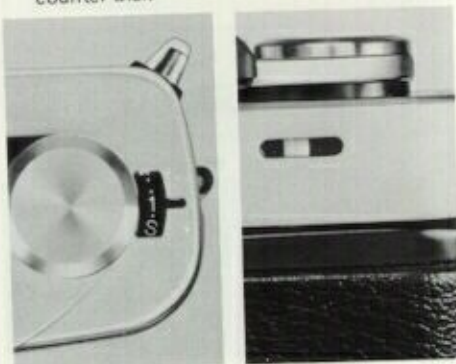
2. Leaving the knob pulled out, position a film cartridge in the chamber with the projecting-spool end toward the bottom of the camera. Then push the back-cover release knob all the way in, rotating it slightly to do so if necessary.



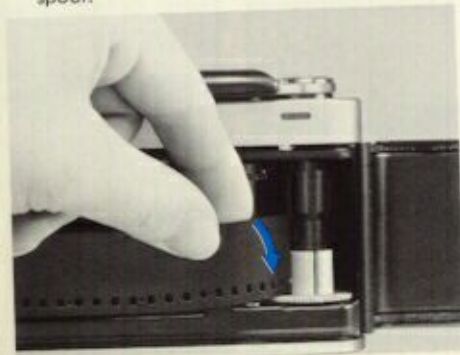
4. Operate the film-advance lever slowly until the film has begun to wind firmly around the take-up spool and the sprocket teeth are engaged with holes on both edges of the film. If the advance lever stops at the end of a full stroke during this procedure, release the shutter and continue.



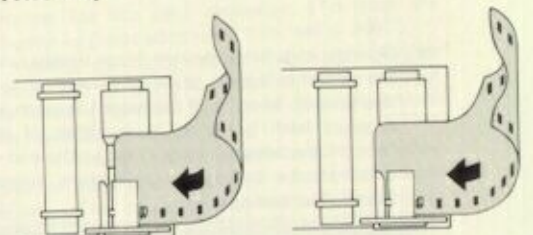
5. Close the camera back and push in on it until in clicks locked.
6. A red "S" should now appear opposite the index in the frame-counter window. Advance the film and release the shutter until the index points to "1" on the frame-counter dial.



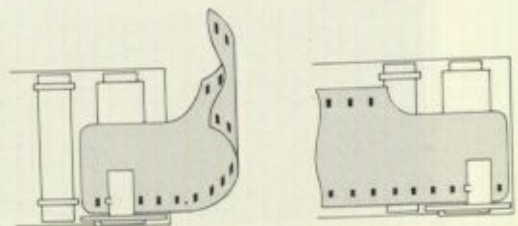
3. Insert the end of the film leader as shown into one of the slots in the take-up spool so that the tooth is engaged with a sprocket hole near the end of the leader. Make sure that the end of the leader does not project from another slot between tabs on the spool.



THIS way



NOT this way



7. A red bar should also now appear at the extreme left in the Safe Load Signal window. This indicates that the film is loaded and winding properly on the take-up spool. If the Safe Load Signal does not appear or swings far to the right in the window, repeat steps 1 through 6 to assure that film is properly engaged on the spool. As you continue to take pictures, the red signal will move gradually toward the right in the window, indicating that film is advancing properly.

CAUTION

Film should be handled and loading done in subdued light — at least shaded from direct sunlight by the body.

Film-advance lever and frame counter

The film-advance lever is designed with 30° unengaged movement before the beginning of its engaged stroke to allow swinging it out from the body so that the right thumb will fit comfortably behind it. Continuing to move the lever through its engaged angle of 130°, advan-

ces film and frame counter and cocks the shutter for the next exposure. (To cock the shutter without advancing film, see p. 46).

When the lever stops and resists further movement at the end of a film, never attempt to force it farther. (See p. 44 for instructions on rewinding and unloading film.)

The frame counter does not advance when two or more exposures are made on the same frame. The counter automatically resets for film loading when the camera back is opened.



ATTACHING AND REMOVING LENSES

To Attach

1. Remove the body cap from the camera lens mount and the rear cap from the lens bayonet, each by turning the cap counterclockwise.
2. Align the red mounting index on the lens barrel with the red index above the camera lens mount; insert the lens bayonet into the mount; and turn the lens clockwise until it locks into place with a click.



To Remove

While pushing the lens-release button, turn the lens counterclockwise as far as it will go; then lift the lens bayonet out of the mount.

CAUTION

If it becomes necessary to set the lens down without a rear lens cap attached, be sure to set the lens only on its front end (except for fisheye lenses) as damage to the diaphragm control pin could result from rear lens contact with a hard surface.



BATTERIES AND POWER

Two 1.5-volts silver-oxide batteries, Eveready S-76 or equivalent, supply the power for the meter, electronic exposure control, electronic shutter settings, and LED indication.

Installing batteries

1. Using a coin or similar object, turn the battery-chamber cover counterclockwise and remove it.



2. After wiping terminals with a clean dry cloth and handling only by the edges, insert two of the specified batteries plus (+) side out into the sleeve on the inside of the cover. (If batteries are inserted improperly, they will not make contact, and no current will flow.)
3. Replace the cover and screw it in clockwise as far as it will go.

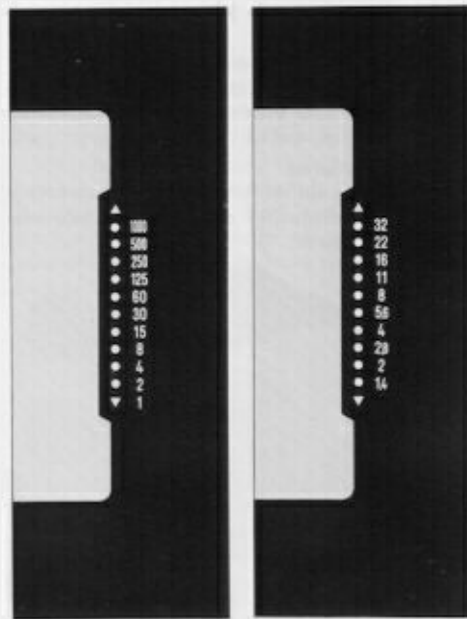


Testing batteries

While looking through the viewfinder, depress the shutter release slightly. If any of the LED's on the right side of the viewfinder light, the batteries are serviceable.

Test batteries immediately after installing them. If no LED's light, make sure that they are fresh and have been inserted correctly.

Batteries should be tested from time to time thereafter, preferably before starting each new roll of film and particularly before starting picture-taking sessions or trips. A set of batteries will generally last for about one year in proper normal use.



Low-voltage indication

When the batteries are nearly exhausted the LED's will become dim. When they become difficult or impossible to see, you should change the batteries, although proper automatic exposure is still possible for a short time after the LED's stop functioning.

If battery voltage becomes insufficient while the camera is at an electronic setting (i.e., any one other than "B" or "O"), pushing the operating button will not release the shutter.

The XD-11 can be operated without replacing batteries in "O" and "B" mechanical settings (see p. 34), or at any electronic or mechanical setting after inserting serviceable batteries.

Cold-weather operation

Batteries by nature tend to decrease in capacity as the temperature goes down. Though the silver-oxide batteries used for the XD-11 are superior to most others in this respect, it also happens with them.

If old batteries are used at temperatures below 0°C (32°F), the camera's electronic oper-

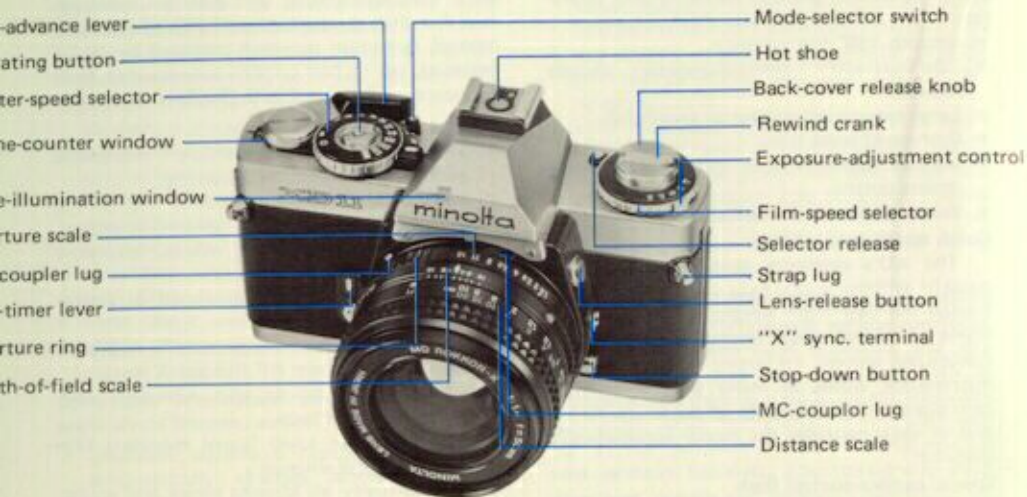
ation may not be satisfactory. You should thus replace older batteries with fresh ones before using your XD-11 in cold weather and carry fresh spare batteries with you during such use. Battery capacity will be restored to its normal level when the batteries are warmed to their recommended operating temperature range.

CAUTION

- Be careful *not* to use 1.3v mercury batteries, Eveready EPX-675 or equivalent, which have a similar shape.
- Be careful not to let anything rest on the operating button either while the camera is being carried or in storage. Pressure on this button may depress it far enough to activate the metering circuit and drain the battery.

NOTE

- If the camera is not to be used for more than two weeks, it is advisable to remove the batteries.
- Fresh spare batteries may be stored in the battery holder provided with the camera strap.



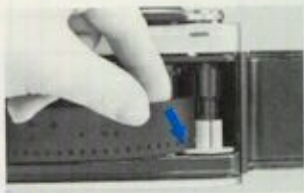
SUMMARY OF OPERATION (AUTOMATIC)

The steps pictured on this page outline use of your XD-11 on automatic shutter speed- or

aperture-priority modes. They give a general idea of how very easy it is to get perfectly exposed pictures with this camera and are keyed to corresponding sections of the manual



1. Open back cover.



2. Load film properly; close cover.



3. Advance the film to "1."



5-3. Select a shutter speed.



5-1. Set mode selector to "A."



5-2. Set lens aperture.

** Minolta precision lenses and accessories are manufactured under high quality control standards and are designed to the performance requirements of Minolta camera bodies. We recommend

for ready reference. This brief guide may also be useful as a quick refresher for good results after you have not used the camera for some time. It is not, however, a substitute for the

detailed instructions in the rest of this manual, which should be thoroughly studied for best results.

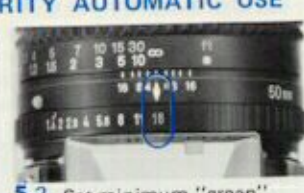
SHUTTER SPEED PRIORITY AUTOMATIC USE



4. Set film speed.



5-1. Set mode selector to "S."



5-2. Set minimum "green" aperture.



6. Adjust focus.



7. Release shutter.



8. Rewind and remove film.

Minolta Rokkor-X (and Celtic) lenses and Minolta system accessories for all types of photography.

MAIN FEATURES

Selectable shutter- or aperture-priority auto-exposure control; first on the market.

- Electronically controlled, stepless shutter speeds from 1/1000 to 1 sec. for aperture priority mode plus metered and full manual for manual mode.
- Completely electronic automatic aperture control in shutter priority mode.
- Shutter speed compensation system in shutter-priority automatic mode makes possible a far greater automatic exposure range than with conventional shutter-priority systems.
- Final check metering system incorporates silicon photo cell for precise exposure reading.

Solid-state information viewfinder with new acute-matte focusing screen.

- Displayed automatic exposure information automatically changes according to the mode.
LED's indicate automatic aperture selection in shutter priority mode, shutter speeds in

aperture priority mode and correct shutter speed for proper exposure in manual mode. Other necessary information includes: aperture set for aperture priority mode, aperture and shutter speed set for shutter priority and manual modes and LED over-/under-range indication.

- LED over-range indicator blinks as flash-ready signal with Auto Electroflash 200X.
- Special focusing screen has split-image and microprism focusing aids, plus scientifically developed new type of matte field that is up to 50% brighter than conventional matte screens.

Electronic shutter with electromagnetic release

The XD-11's metal-blade vertical-run focal-plane shutter yields quiet operation and very smooth release and film advance. Both at automatic and manual speeds are electronically controlled, while mechanical "B" ("bulb") and "O" (1/100 sec. with X sync.) settings operate even without batteries. Electromagnetic shutter-release system and accessory electronic remote cords make remote operation easy and positive.

Compact light-weight body

The lightweight, compact XD-11 fits the user's hands for smooth handling and operation:

- Smooth 130° film advance.
- "Soft-touch" electromagnetic shutter release.
- Large easy-to-adjust shutter speed dial.
- Cushioned body grip.
- Minolta bayonet lens mount with large release button.
- Balanced for winder operation.

Quick attach auto winder

The XD's accessory auto winder attaches quickly, without access caps to remove or store, freeing the user from advancing film in single-frame or continuous operation up to two frames per second. Its strong efficient coreless micromotor winds as many as 150 or more cartridges per set or charge of batteries. At the end of each cartridge the motor automatically shuts off.

Special camera-control flash

When attached to the XD-11 and ready to fire, the Auto Electroflash 200X starts a flash-

ready signal blinking in the viewfinder and then sets the shutter for X synchronization (1/100 sec.). This four-setting unit provides autoflash at either of two apertures and either full-power manual operation or when powered by Ni-Cd batteries, up to two continuous-sequence flash exposures each second with the Auto Winder D.

Host of other features

- Smooth, positive multiple exposures without frame-counter advancing.
- Up to two stops' continuous adjustment over or under the normal electronic setting.
- Self-timer for auto or manual exposure control.
- Eyepiece shutter for unmanned or similar operation.
- Oversized mirror; image cutoff negligible even with 1600mm RF Rokkor-X lens.
- Handy memo holder and ASA/DIN conversion scale on back.
- Exclusive Safe Load Signal monitors film alignment and advance.
- Uses virtually all Minolta lenses and applicable accessories in aperture priority and manual modes.

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- Film advance: Motorized: Through built-in coupler key with accessory Auto Winder D. Manual: By lever with single 130° stroke after 30° unengaged movement. Film-advance release button for rewinding and multiple exposures. Advancing-type frame counter (no advance with multiple exposures). Safe Load Signal indicates film loading and advancing condition.
- Power: Two 1.5v silver-oxide cells contained in camera base power both auto exposure control and shutter's electronically governed operation. Power switch in operating button. Battery check by depressing operating button slightly: LED's dim or do not light as cells approach exhaustion. Shutter will not release when voltage too low for proper operation.
- Self-timer: Lever type, operating time variable up to approx. 10 sec. at full stroke; cycle started by pushing operating button.
- Other: 4-slot take-up spool; detachable back cover with memo holder and ASA-DIN conversion scale.
- Size and weight: 51 x 86 x 136mm (2 x 3-3/8 x 5-3/8 in.) without lens, 560g (19-11/16 oz.) without lens and power cells.
- Accessories: Exclusive Auto Winder D, Auto Electroflash 200X, 50cm (20 in.) and 5m (16 ft.) remote cord; MD, MC, and other interchangeable Rokkor lenses and applicable Minolta SLR system accessories.

STANDARD LENS SPECIFICATIONS

Lens:	50mm f/1.7 MD Rokkor-X	50mm f/1.4 MD Rokkor-X
Type:	Meter-coupled Gauss-type standard lens	
Construction:	6 elements in 5 groups	7 elements in 5 groups
Angle of view:	47°	47°
Coating:	Minolta Achromatic	
Min. focusing dist.:	0.45m (1.48 ft.)	0.45m (1.48 ft.)
Diaphragm:	Fully automatic meter-coupled	
Aperture scale:	1.7, 2.8, 4, 5.6, 8, 11, 16	1.4, 2, 2.8, 4, 5.6, 8, 11, 16
	Each with full and half click-stops	
Focusing:	Double helicoid system	
Filter thread diam.:	55mm	
Dimensions:	φ64mm x 40mm (φ2-1/2" x 1-9/16")	φ64mm x 40mm (φ2-1/2" x 1-9/16")
Weight:	195g (6-7/8 oz.)	245g (8-5/8 oz.)

CARE AND STORAGE

- As with all high-precision instruments, no part of your XD-11 should ever be forced at any time. If operation is not as you think it should be, carefully restudy the applicable instructions or consult an authorized Minolta service representative.
- Always keep your camera in its case with the lens capped when not in use.
- Never subject your camera to shock, high heat and/or humidity, water, or harmful chemicals or gases.
- Never lubricate any part of the body or lens.
- Always use a body cap when a lens is not installed on the body, keep lenses, properly capped front and rear, in their cases when not in use.
- Never touch the shutter blades or anything inside the front of the body with the fingers. These parts and the inside of the back should be dusted with a soft brush from time to time as necessary, with particular care never to exert pressure on the shutter blades. The anti-corrosion treatment of these blades may cause them to appear brownish or soiled, but this is normal and may be disregarded.
- Never touch lens or other glass surfaces with the fingers. If necessary, remove loose matter from them with a blower lens brush. Use special photographic lens tissue or a soft clean cloth to remove smudges or fingerprints with a gentle circular motion. Only if absolutely necessary, the tissue may be moistened very slightly with not more than one drop of a satisfactory quick-evaporating fluid cleaner specially compounded for photographic lenses. *Such fluids must never be dropped directly on the glass surface.*

- Smudges or fingerprints on the mirror may be removed with lens tissue slightly moistened with lens-cleaning fluid as above.
- External camera and lens-barrel — *but not glass* — surfaces may be wiped with a soft, silicone-treated cloth.
- Never leave the shutter or self-timer cocked when the camera is to be stored overnight or longer. It is advisable to operate the film advance and release the shutter once or twice from time to time during extended storage.
- If the camera is to be stored for a long than two weeks, the batteries should be removed.
- If the camera is to be stored for a long period of time, body and lens should be returned to their original packing and kept in a cool, dry place away from dust or chemicals, preferably in an airtight container with a drying agent such as silica gel.

Minolta Camera Co., Ltd., 30, 2-Chome, Azuchi-Machi, Higashi-Ku, Osaka 541, Japan
 Minolta Corporation, 101 Williams Drive, Ramsey, New Jersey 07446, U.S.A.
 Minolta Camera (Canada) Inc., 1344 Fewster Drive, Mississauga, Ontario L4W, 1A4, Canada
 Minolta Camera Handelsgesellschaft m.b.H., Kurt-Fischer-Strasse 50, D-2070 Ahrensburg, West Germany
 Minolta France S.A., 357 bis, rue d'Estienne d'Orves 92700 COLOMBES France
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