

DETAILS

Film

- Film Size—Kodak No. 126 film cartridge; 12- or 20-exposure.
- Negative Size—28 x 28mm.

Lens—38mm, f/2.8 KODAK EKTAR

- Lens Openings—f/2.8 through f/64.
- Lens Attachments—Accepts screw-in type, 34 x .5mm, Series 5 filters directly. Also, Series 6 by adapter.

Shutter—Automatically Set

- Speeds—1/60, 1/125, 1/250; also 1/30, set by exposure control and 1/40 for flash. Also "B" for brief time exposures.

Focusing and Viewing

- Rangefinder—Superimposed-image type, combined with viewfinder.
- Viewfinder—Optical, projected viewframe-type with parallax marks for 5 feet.
- Focusing Range—3 ft to infinity.
- Illuminated signals for insufficient light and used flashbulbs.

EASTMAN KODAK COMPANY • Rochester, New York 14650

KODAK, INSTAMATIC, EKTAR, VERICHROME, KODACOLOR-X, KODACHROME-X, EKTACHROME-X, EKTACHROME, and CAROUSEL are trademarks.

Automatic Film Advance

- Spring motor advances film—20 exposures, plus leader and trailer.

Automatic Daylight Exposure Control

- Film speed is set automatically by film cartridge (ASA 64 to 800).
- Lens openings set automatically by electric eye.
- Automatic shutter control reduces speed after maximum lens opening is reached.
- Uses one PX-30 battery.

Automatic Flash Control

- Guide number is set automatically by film cartridge.
- Built-in socket for 4-bulb Magicube.
- Correct lens opening is set by focusing.
- Flash shutter speed (1/40 sec.) is set automatically by inserting cube.

Other Features

- Instant Loading and Unloading.
- Tripod Socket.
- Eyelets for neckstrap (supplied).
- Die-cast metal body; black and satin chrome finish.

KODAK
INSTAMATIC®
X-90
camera



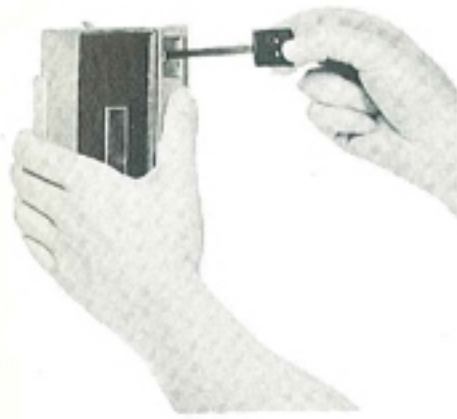
Kodak Instamatic X-90 Camera

Your KODAK INSTAMATIC X-90 Camera is one of the most distinguished members of the newly designed KODAK INSTAMATIC Camera family that uses the new self-powered Magicube, Type X, for flash pictures. In addition to its instant-loading feature, fine $f/2.8$ KODAK EKTAR Lens, daylight exposure control (battery-powered cadmium sulfide cell), and automatic flash exposure control, it provides *rangefinder focusing, automatic film advance, illuminated viewfinder signals, and automatic flashbulb advance with the Magicube, Type X.*

Insert exposure-control battery; then simply do this...



Drop in 126 film cartridge—camera is loaded.



Wind Spring-Power Motor—first exposure is ready.



Look through Viewfinder and adjust Rangefinder—camera is focused. Compose picture and press Shutter Release—you've taken the picture.

... read on for the details

FILM

Your camera accepts all Kodak films in the 126 cartridge for instant camera loading and unloading.

You can make black-and-white snapshots, color snapshots, or color slides. Snapshots are handy to carry, mail, and mount in albums. Slides are brilliant, compact, and good for showing to large groups. Select the film that provides the type of picture you want.

Type of Picture	Film	Produces	No. of Exposures	Processing	
				Mailer	
Black-and-White Prints	KODAK VERICHROME Pan	3½ x 3½-inch black-and-white prints or enlargements	12	None	Order from dealer
Color Prints	KODACOLOR-X	3½ x 3½-inch color prints or enlargements*	12	DP12	Order from dealer or purchase KODAK Prepaid Processing Mailer from dealer. Proper mailer numbers shown at left.‡
			20	DP20-3S	
Color Slides	KODACHROME-X	Color slides, in 2 x 2-inch cardboard mounts for projection or viewing†	20	PK20	
	EKTACHROME-X		20		
	High Speed EKTACHROME§		20		

*Color slides are also available from your KODACOLOR-X negatives.

†Duplicate slides or enlarged color prints can be made from your original slides.

§Extremely fast film. Ideal for daylight pictures of dimly lighted subjects.

‡Color films will be processed and mailed to the address you specify.

Kodachrome
TRANSPARENCY

PROCESSED BY
Kodak

◀ Your camera takes all three—

- 1 Black-and-white snapshots
- 2 Color snapshots
- 3 Color slides

Before you take any especially important pictures, expose a test cartridge of film to check the camera and your operation of it. Expose pictures outdoors as well as indoors with flash. If time is pressing, a cartridge of black-and-white film can usually be processed very quickly.

LOADING



1

Open the back of the camera by sliding the lock button down to pop open the hinged cover; then swing out the cover as far as it will go, approximately perpendicular to the camera.



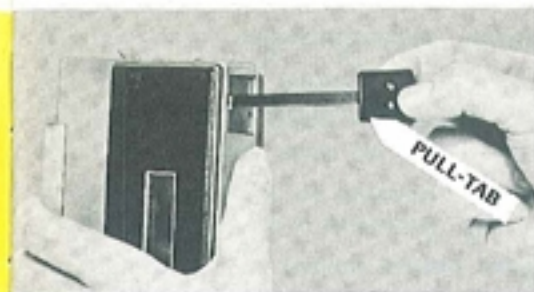
2

With the cover in its perpendicular loading position, place a film cartridge in the camera, as illustrated, with the larger cylindrical end down and toward the lock button.



3

Close the back of the camera by pressing the back against the body until it locks. The film name and number of exposures for that cartridge appear in the window on the back of the camera. The film speed and flash guide number are now automatically set. (If the motor is wound, the first exposure positions itself immediately.)

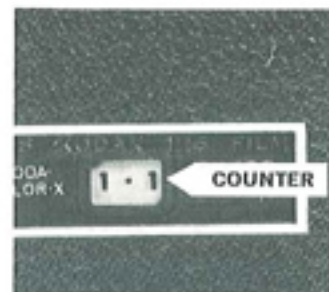


4

To wind the film-advance motor, raise the black PULL-TAB and draw the winding tape straight out (as above); then, while still grasping the tab, allow the tape to return—repeat until the motor is fully wound (about 7 full strokes or until locked.)^o This windup positions film for the first exposure and provides power to advance the film automatically for subsequent exposures. If an arrow shows in the window, the first exposure hasn't been reached, indicating insufficient windup.

The number that appears in the center of the window on the back of the camera (shown above, right) serves as your exposure COUNTER. The same number may appear in duplicate.

^oAfter winding, make sure the pull-tab is fully seated in its recess; otherwise, film will not advance.



UNLOADING

1. After the last picture, the yellow paper will automatically move past the window, provided the spring motor has been wound sufficiently. If not, an "X" will show in the window. Before you open the back of the camera, draw out the winding tape a few strokes to advance the yellow paper beyond the window. Never remove the cartridge from the camera until all the yellow paper, with the "Xs," has passed the window; otherwise several exposures will be "light-fogged."

2. Slide down the lock button; open the back.

3. Turn the camera over to allow the cartridge to fall into your hand. Close the back. Do not open the cartridge—your pictures may be ruined.

NOTE: Removing and replacing partially-exposed cartridges, even in a darkroom, may result in loss of one or more exposures.

NOTE: Storing the camera with the motor fully wound does not weaken the spring. If you press the shutter release after a cartridge has been removed from the camera, the spring tension is released. For the spring motor to regain power, a cartridge must be loaded in the camera.

INSTALLING THE BATTERY

Install the battery before you take any pictures. Install one 3-volt, PX-30, alkaline battery, such as the one supplied with the camera, to power the daylight exposure-control and warning signals. Do this as follows: First, clean battery contact surfaces with a rough cloth. Rotate the battery compartment LATCH clockwise; the BATTERY CLIP will spring out so that it can be withdrawn for loading. As shown in the illustration, insert the battery, positive (+) side up, into the clip as far as it will go. Replace the loaded clip in its compartment, plus (+) side up, as shown; then hold the clip all the way in while rotating the LATCH counterclockwise to its horizontal, lock position. Test the battery, as below.



BATTERY TESTING—A built-in battery tester permits you to periodically check the present condition of your battery for exposure-control purposes. Merely press the TEST BUTTON on the front of the camera; if battery condition is satisfactory, a green light appears in the TEST WINDOW. If not, clean batteries (as above), re-install (properly positioned), test, and, if necessary, replace with a fresh battery.

IMPORTANT—Because bright light actuating the electric eye causes a slow battery drain, battery life can be greatly extended by storing the camera in a dark place, or in the field case described on page 17.

SHUTTER SETTING

Your camera has four manually adjustable shutter settings—60, 125, 250 (indicating fractions of a second, such as 1/60 second), and "B"—plus 1/40, which is automatically selected for flash when you insert a Magicube in the socket. A shutter speed of 1/125 (125) is recommended for general daylight picture-taking; the faster speed (250) is useful to minimize the effect of subject or camera movement, and the slower speed (60) can be used for less favorable light conditions.

To select a shutter setting, rotate the knurled shutter speed DIAL so that the desired speed number or "B" clicks into place opposite the speed INDEX.

If there is not sufficient available light for proper exposure at the slowest shutter speed (1/30, selected automatically; page 10), as the shutter release is slightly depressed a red warning SIGNAL, USE FLASH, will appear in the viewfinder. If flash is not appropriate, use the "B" (Brief time) setting—the shutter opens when the shutter release is fully depressed and closes when pressure is removed. After each "B" exposure, the shutter setting moves automatically to 250 (1/250) and can easily be reset for another "B" exposure. The camera must be on a solid support, such as a tripod, for these longer exposures.

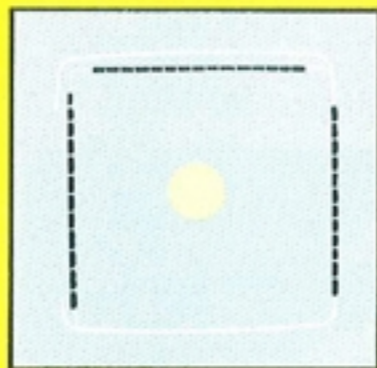
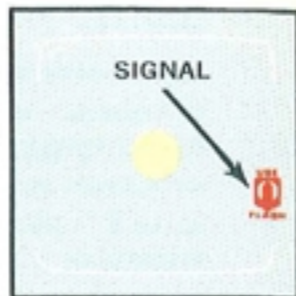


AUTOMATIC DAYLIGHT EXPOSURE CONTROL

The size of the lens opening is automatically controlled by the amount of light reflected to the **ELECTRIC EYE** (shown, page 9) by the scene. *Make sure that the electric eye is not obstructed during picture-taking by the fingers or any other object.*

In weak light, when the lens opening has reached its largest opening ($f/2.8$), the shutter, regardless of the dial setting, automatically begins to reduce speed (except at "B") to give the correct exposure, as far as $1/30$ if necessary. If there is not enough light for a properly exposed picture, a red **SIGNAL, USE FLASH**, will appear in the right side of the viewfinder as the shutter release is slightly depressed. This indicates use of either flash or a "B" exposure. Under these low-light conditions, judge "B" exposure times on the basis of $f/2.8$.

Unusual Situations: When severe brightness differences occur between the subject and the background *and it is possible to get close to the subject*, you will get more accurately exposed pictures if you move close enough to your subject so that the background doesn't appear in the viewfinder. Then press down the shutter release (shown, page 13) about $1/4$ of the way (not far enough to release the shutter) and continue to hold the release in this position to maintain the close-up exposure setting; then step back, aim, and press the release down fully to take the picture.



VIEWING AND FOCUSING

Hold the camera close to your eye with your eye centered on the rear eyepiece so that the complete luminous viewframe is visible. The image seen within this viewframe will be included in the picture, except at short camera-to-subject distances.* The two indicators (one on each side) near the top of the frame, and the one at the lower left, provide viewfinder correction at a subject distance of about 5 feet. Therefore, when the subject is at about this distance, aim the camera so that the subject image is within this smaller area, as outlined by the dotted lines in the illustration at the left.

NOTE: Since the picture area is square, there will be no format advantage in holding the camera vertically.




*Rangefinder and scale-focus distances are figured to the film-plane marker (-O-) on the top of the camera. Use this point if measuring for close distances.

Top Illustration: Double image in rangefinder indicates out-of-focus subject.

Lower Illustration: Single rangefinder image means camera is properly focused.



Rangefinder Focusing—As you look through the viewfinder, you will also notice a circular area in the center of the field of view—this is the rangefinder field. Until the camera is focused for the correct camera-to-subject distance, this field shows a double image of the subject. To set the distance correctly, rotate the LENS MOUNT, by its convenient knob, until the outlines of the double image move together and coincide, so that only one image is visible. The lens is now properly focused.

Scale Focusing—You can also focus by turning the lens mount until the figure representing the camera-to-subject distance in feet (or symbol for CLOSE-UP , GROUP , or SCENE ) is opposite the focusing MARK.



TAKING DAYLIGHT PICTURES

- Set the shutter speed. For general picture-taking, the shutter-speed setting may be left at 125.
- Focus the camera for the camera-to-subject distance by using the rangefinder, symbols, or the footage scale on the lens mount.
- View the subject, as illustrated, with your eye close to the rear opening of the viewfinder so that the subject is framed by the luminous viewframe. *If, as the shutter release is slightly depressed, the red warning signal appears in the right side of the viewfinder, there's not sufficient light for proper exposure.* However, flash can be used for close subjects or a "B" exposure for a still subject.
- Hold the camera steady and take the picture by slowly pressing the SHUTTER RELEASE all the way down.
- With the spring motor wound, film advances automatically to the next frame when pressure is removed from the shutter release.



Be sure to use only the new self-powered Magicube, Type X. The conventional flashcube that requires batteries will not fit your camera.

MAGICUBE

FLASH WITHOUT FUSS

Your camera features easy, rapid flash picture-taking with the new Magicube, Type X (shown at left), which contains its own flash power.

Automatic flash control is built into the camera—the correct lens opening is automatically set as you focus for the camera-to-subject distance. The rotating Magicube incorporates four blue bulbs, reflectors, and flashguards.

TAKING FLASH PICTURES

● **Insert Magicube**—Insert the base of the MAGICUBE into the SOCKET on the top of the camera; then press down the cube until it snap-locks in place with one of its four sides facing forward in

its detent (click-stop) position. If a used bulb is in the frontal firing position, a **STOP—BAD BULB SIGNAL** appears in the left side of the viewfinder *as the shutter release is slightly depressed*. Absence of this signal indicates that a fresh bulb is in the firing position. The **USE FLASH** signal may or may not appear, depending on the amount of illumination present.

The cube revolves* one-quarter turn (clockwise) each time the film advances to the next exposure, thus providing flash for four exposures *if a fresh cube is in place*. If a partially used Magicube is in place, a fresh bulb must face forward; if a second fresh bulb is facing toward the Kodak nameplate on top of the camera, it will rotate into position as film is advanced. You can also rotate the cube by hand to bring any fresh bulb to its frontal firing position.

To remove a Magicube, lift it out of the socket.

***IMPORTANT:** Do not obstruct rotation of the Magicube.



● **Set Distance**—Rotate the lens mount until the two rangefinder images coincide, or until the figure representing the camera-to-subject distance in feet is opposite the focusing mark. Distance limit for flash is 25 feet.

● **View Subject**—Look through the eyepiece and compose the picture within the luminous viewframe of the viewfinder.

● **Take Picture**—Hold the camera steady and slowly press the shutter release to flash the bulb and take the picture.

AUTOMATIC FILL-IN FLASH

When you use flash in combination with available light (fill-in flash) the electric eye determines the lens opening on the basis of available light at 1/40 second, and the flash exposure control determines the lens opening on the basis of the distance setting in the 3 to 25-foot range. The smaller of the two openings is automatically set when you take the picture. At short subject distances or relatively low available light levels, fill-in flash will produce better lighting in your pictures, especially of side- or back-lighted subjects.

PHOTO AIDS

You can extend your picture-taking scope and enjoyment with the photo aids described below. See your photo dealer for these and others.

KODAK INSTAMATIC Field Case, Model F—This attractively lined, molded case will provide maximum camera protection. Use of the case is recommended to shield the electric eye from light, thus conserving the battery during carrying and storage. The special design permits instant picture-taking, loading and unloading without removing the camera from its case.

Lens Attachments—The front of the lens mount is threaded to accept 34mm diameter, .5mm pitch, Series 5 screw-in filters and other lens attachments, directly. By means of a 34mm diameter, .5mm pitch, Series 6 adapter ring, Series 6 attachments can be used.

KODAK Projectors—A Kodak Projector will show your color slides big, bright, and sharp on the screen. Ask your dealer to show you one of the revolutionary KODAK CAROUSEL Projectors. Features round, 80-slide trays that change as quickly and easily as a phonograph record. Other features include remote or automatic focus, remote forward slide change, remote reverse, instant editing and 500-watt power.

Kodak Publications—The keys to snapshot fun and success are to be found in "How to Make Good Pictures"—perhaps the most popular picture-taking book of all time. Your photo dealer will show you this and other inexpensive books on photography.

CARE OF THE CAMERA

Your KODAK INSTAMATIC Camera is a fine, sturdily built camera, but yet a precision instrument. Protect it from dust and dirt and avoid rough handling. Use a rubber syringe to blow out any dust that may accumulate inside the camera. If the lens needs cleaning, first brush or blow away any grit or dust; then wipe the surface gently with KODAK Lens Cleaning Paper. If necessary, use KODAK Lens Cleaner.

Do not attempt to make any repairs or remove any parts from the shutter, lens, or camera. Never oil the shutter or any other parts of the camera.

WARRANTY

Within a year after purchase, any repairs necessary to this KODAK INSTAMATIC Camera due to a defect in materials or workmanship will be made or, at our option, the camera will be replaced without charge. No other warranty, express or implied, shall be applicable to this equipment. Nor are we responsible for loss of film, for other expenses or inconveniences, or for any consequential damages occasioned by the equipment.

In case of a defect, the camera can be sent directly or through a Kodak dealer to Eastman Kodak Company or a repair firm authorized by us to make such repairs.* It should be accompanied by a description of the trouble encountered and other available information regarding the camera, including the date and place of purchase.

*Kodak service facilities, with addresses, are described on the following page.

EASTMAN KODAK COMPANY
Rochester, New York 14650

If your Kodak camera should require service, complete service facilities are provided at Rochester and in Kodak Regional Marketing and Distribution Centers at the addresses opposite. Also, service covered under the warranty is available through independent service shops in many cities. For such local, warranty-covered service, please see your photo dealer or refer to the yellow pages of your telephone directory under Photographic Equipment and Supplies—Retail (Kodak Factory Approved Warranty Service).

SERVICE FACILITIES

Eastman Kodak Company
Central Equipment
Services Center
800 Lee Road
Rochester, New York 14650

Eastman Kodak Company
Regional Equipment
Services Center
1901 West 22nd Street
Oak Brook, Illinois 60521

Eastman Kodak Company
Regional Equipment
Services Center
1400 Hi Line Drive
Dallas, Texas 75207

Eastman Kodak Company
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5315 Peachtree
Industrial Blvd.
Chamblee, Georgia 30005

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9100 Alcosta Blvd.
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