

How to make good pictures with your
POLAROID ELECTRIC EYE
LAND CAMERA



Model 900

PLEASE

Spend a few minutes reading this booklet before you take your first picture.

Because the Polaroid Land Camera is the only camera in the world that takes and develops its own pictures, it is unlike any other camera you have ever owned. We urge you to read these instructions carefully - not because the camera is difficult to use, but because it is *different*.

This brief instruction book (containing plenty of pictures) has been designed to acquaint you with the unique Polaroid Land Camera and to be kept as a handy guide.

A few minutes now with this booklet, practicing the operation of the camera, will help you take perfect pictures on your first roll.

The two most important points for you to understand about the Model 900 Electric Eye Camera are covered in detail on pages 4 and 5. Read these pages first.

Pages 6 through 14 tell you how to make a picture step by step from opening the camera to developing the print.

Pages 15 to 22 tell you how to take pictures in any situation and how to correct picture errors.

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THESE ARE THE TWO MOST IMPORTANT POINTS FOR YOU TO UNDERSTAND

1. LEARN WHAT THE EYE CAN DO

The micro-eye in the Model 900 "sees" the same scene the camera sees, measures its brightness and sets the shutter and lens for the correct exposure. It is remarkably accurate and will work wherever there is enough light to record a picture on 3000 speed film, even in a dimly lit living room. But it needs your help in two ways:

The Scene Selector (page 7) must be set to tell the eye what *kind* of light it is using. Understand this adjustment and use it carefully, as described in detail on pages 19 and 20.

The Problem Picture should be avoided. This is the kind of picture in which a very strong light source is in the viewfinder scene, but the subject is not brightly lighted. In such pictures the subject will come out too dark, because the electric eye is fooled by the strong surrounding light. Shown at right are three types of pictures you should try to avoid.

A. Avoid having a bare bulb close to the subject. A shaded lamp, however, would be perfectly all right.

B. Avoid low angle shots, in which a great deal of brilliant sky or sun forms the background for your subject.

C. Avoid indoor shots in which a bright window fills more than half of the scene in your viewfinder field.



2. LEARN HOW TO HOLD THE CAMERA

The camera is designed to be held and operated in a particular way. Other ways of holding it may make for awkward operation of the controls and may even lead to spoiled pictures. The camera is tailored to fit your hand, and you will find that the right way of holding and operating it is also the easiest way.

For Horizontal Pictures: Hold it with your left hand under the strap and the palm of your right hand on the front of the camera bed. The edge of your palm supports the edge of the bed. Curl your last three fingers over the front of the bed beneath the shutter. Use your index finger to press the shutter release and your thumb to turn the focusing wheel.



For Vertical Pictures: Leave your left hand under the strap. Cradle the bed of the camera in your right hand. Focus with your thumb, and then move your thumb forward to press the shutter release.



Pulling the Tab: Again, leave your left hand under the strap, using your right hand to pull the tab. This way of holding the camera will make the film "track" correctly and avoid tearing or sticking of the film.

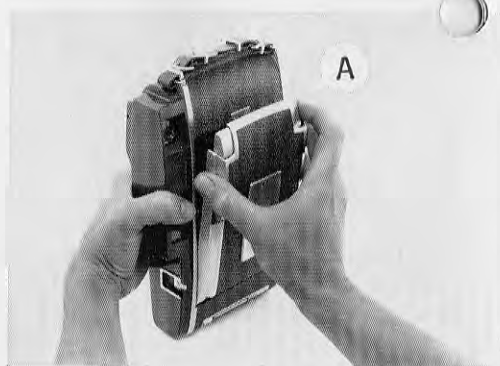


KNOW THE CAMERA

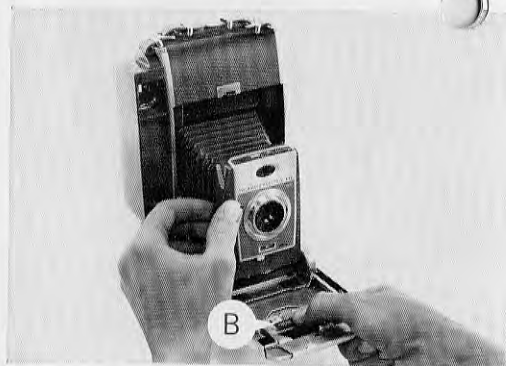
Get acquainted with the camera without any film in it. First, try opening and closing the camera a few times.

Opening the Camera

Press the cover release (A) to open the cover. Open it as far as it will go; notice that it does **not** lock in place until the shutter is pulled out.

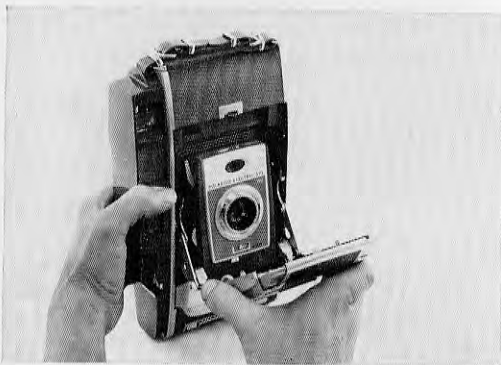


Pull the shutter slide **all the way out** until the matching red pieces fit together as snugly as possible. This locks the shutter slide firmly in place. Pictures will be blurred if the slide is not fully extended and locked.



Closing the Camera

Press the slide release (B) and push the shutter slide all the way back.



When you have pressed the shutter all the way back into the camera, the cover braces release automatically and you can close the cover.

Using the Controls

Spend a few minutes operating the controls on the Electric Eye 900. We will discuss them in the same order you will use them later when you take your first picture.

"Electric" Setting. Set the control button (A) to "electric" and leave it there for automatic exposure settings using the electric eye. You'll use the "manual" setting only for special circumstances discussed later.

Film Speed Setting: Set the film speed into the camera by turning the dial (B) until the film speed number (3000 for the Type 47 you will probably use) is *exactly* centered between the two red lines in the window (C). This setting must be done with care and accuracy, and you must guard against accidentally moving the dial once it is set. You may wish to place a piece of tape over the dial once it is accurately set.

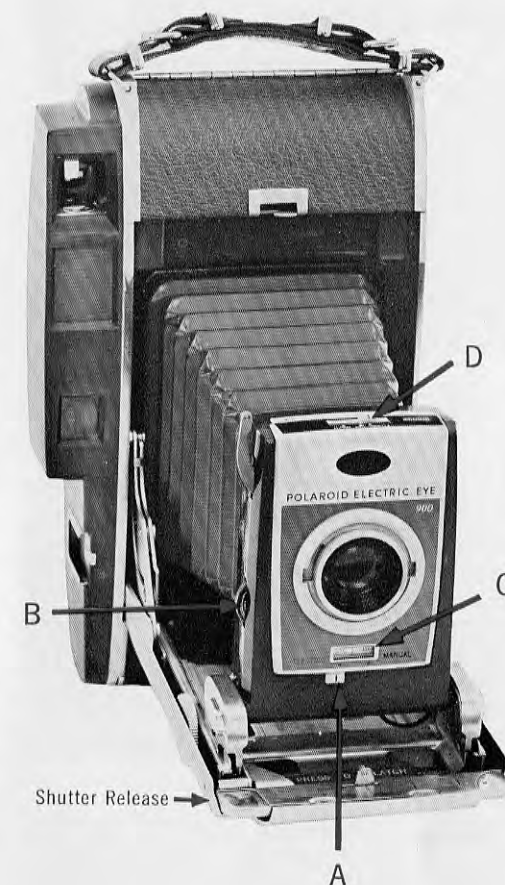
Scene Selector: This setting (D) does two things. It tells the eye what kind of lighting you are using, and it also lets you lighten or darken a picture to suit your individual taste. *Indoors*, use the upper scale. In the daytime, set to "day"; at night, set to "night"; and under fluorescent lighting at any time, set to "fluor." If, at any of these settings, pictures turn out too light or too dark indoors, correct as described on page 20.

Outdoors, set the shutter to "normal", and if pictures are too light or too dark, correct as described on page 19.

Cock the Shutter. The cocking lever (E) energizes the electric eye and cocks the shutter. Press it down as far as it will go. The end of the lever is painted red, and when it is not cocked, you will see it in the viewfinder. Incidentally, although you can't take a picture without cocking the shutter, the wink-light or flashgun will fire when the shutter-release is pressed, even though the shutter is not cocked.

IMPORTANT

Cock the shutter at least 3 seconds before taking the picture. This gives the electric eye time to energize and become stabilized on the correct exposure setting. If you trip the shutter less than 3 seconds after cocking, exposures may be erratic. The best idea is to cock the shutter **before** focusing.



Scene Selector



Focusing and Aiming

Your Electric Eye 900 has a coupled rangefinder-viewfinder system. As you look through the window, and turn the focusing wheel in the camera cover, you focus the camera on any subject from 3 feet to infinity and frame it correctly at the same time.

Hold the camera as shown and look through the window in the back of the camera. You will see a triangular yellow spot, and a rectangle of broken yellow lines. The triangular spot is your focusing guide, and the rectangular broken lines are the viewfinding guide.

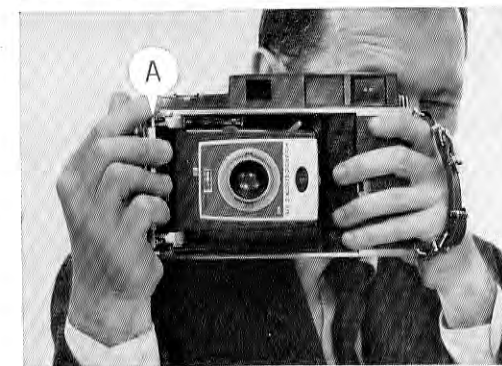
Focusing: Aim the camera at a person, centering the yellow spot on the eyes or ears. You will see a double image within the yellow spot. Turn the focusing knob until the two images blend into one sharp image. When they coincide exactly, the camera will be in focus for that distance.



Not In Focus



In Focus And Centered



Releasing the Shutter

Cock the shutter, hold the camera firmly against your face as shown and press gently on the shutter release (A). A light, steady pressure is all that is needed to release the shutter. Don't punch it—use a steady squeezing pressure to avoid camera motion. Practice cocking and releasing the shutter several times before you load the camera. It will pay dividends in sharp pictures.

SELECTING THE FILM

Although the Model 900 can be set for any film speed (from 50 to 6000) it achieves its widest range of usefulness when used with Type 47—3000 speed film. This is the film that lets you take pictures anywhere indoors, day or night, and which also produces sharpest pictures outdoors because of the very fast shutter speeds and small apertures the high-speed film permits. Thus, it is recommended that Type 47 be the general purpose film of choice for this camera.

Type 42 film (speed 200) can also be used. It is somewhat lower in price, and produces pictures that are unexcelled in clarity and crispness. Its use indoors requires flashbulbs and manual exposure settings.



LOADING THE CAMERA

Avoid opening the film or loading the camera in direct sunlight, because you may fog the film. Find some shade, or if none is available, turn your back to the sun and shield the film with your body.

When you remove the film from the box, save the print coater and printed Picture Tips which come with it. (The Picture Tips contain up-to-date information about the film and an order blank for copies and enlargements.)

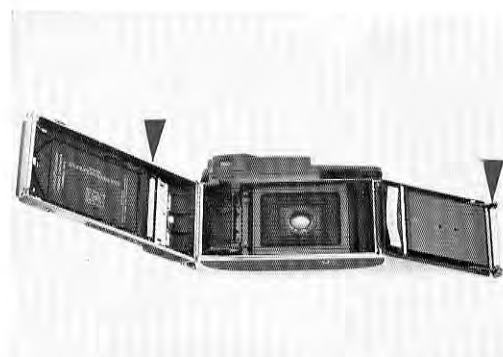
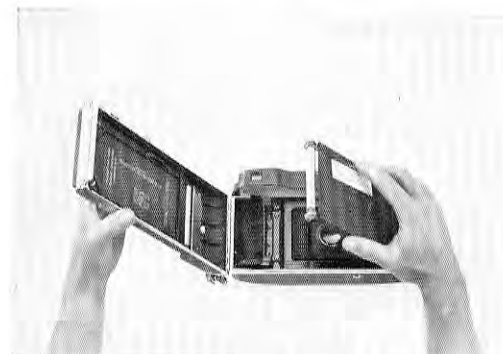
To prepare the camera for loading, hold it as shown and swing the latch lever (A) down. The back will open slightly.

Set the camera down on a flat surface, then lift open the back cover as far as it will go.

Lift up the inner panel and lay it flat. This is the position in which the camera is loaded.

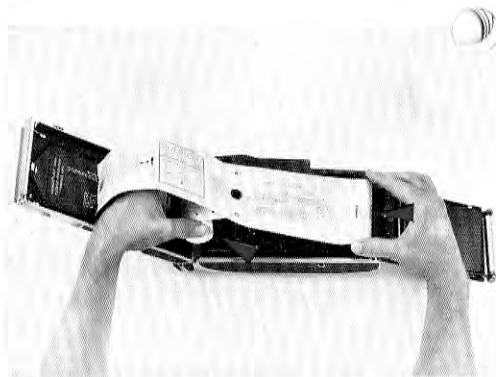
Before loading, examine the rollers (arrows). The two steel rollers are the heart of Polaroid Land photography. The picture roll papers will pass between these rollers, which squeeze the developer reagent evenly between the positive and negative sheets.

It is important to keep these rollers clean. Use a damp cloth to remove any specks or deposits that may appear on the rollers as the camera is used.

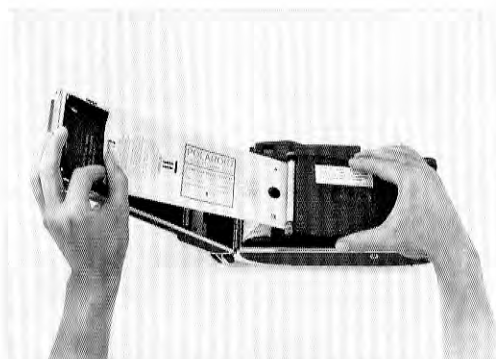


Remove the film carefully from its foil wrapper. The film actually contains two rolls: a large white (positive) roll and a spooled (negative) roll. When you unwrap the film, be careful not to break the Scotch Brand Tape seals on the top of the spooled roll and the underside of the large roll (arrows).

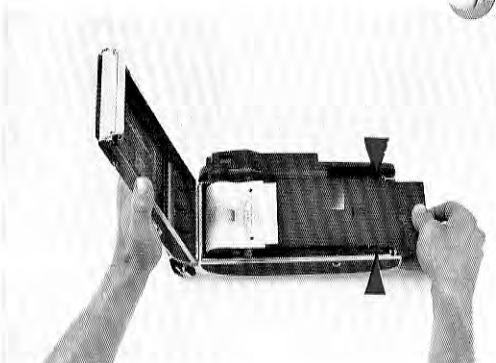
Drop the rolls into the wells on either side of the bellows, as shown.



Now close the inner panel, folding the film leader over the steel roller on the edge of the inner panel.



Lay the leader flat between the guides (arrows) at the outer edge of the panel. Be sure the white paper lies smooth and flat, **not** tucked into the well.

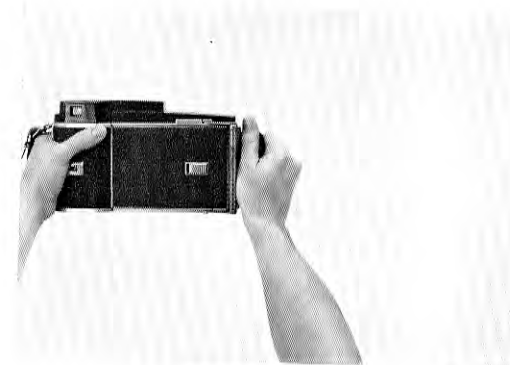


Then close the back cover, squeeze it tightly shut, and swing the latch all the way to the left to engage the prongs, then all the way to the right to lock. There will be a short tab of black paper extending beyond the cutter bar.

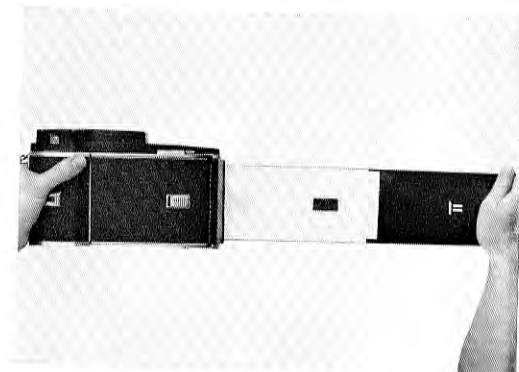


Important: Hold the camera as shown, the left hand under the strap, gripping the top of the camera securely. **If you hold the camera in any other way, you are apt to pull the tab out at an angle, which can cause it to mistrack and tear.**

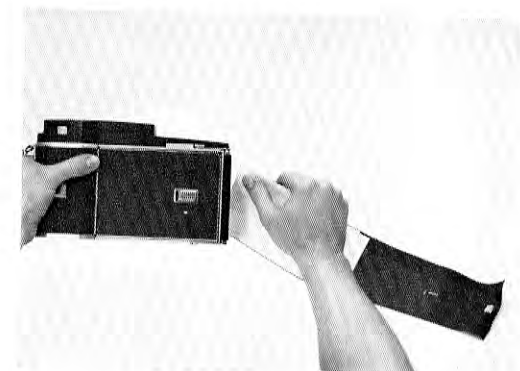
With your right hand, lift the cutter bar by its plastic edge and grip the tab firmly.



Pull the tab straight out until it comes to a firm stop. Don't be surprised if you seem to be pulling out a lot of paper on this first pull. You must pull out the entire leader (about 15 inches) before the film stops, **but it will stop automatically.**



Close the cutter bar by pressing it **all the way** down. It will latch closed, and you can now tear off and discard the excess paper. (Naturally, you will discard it carefully — don't be a litterbug!)



The camera is now ready for the first picture. You can always tell what picture is ready to be taken by lifting the cutter bar and looking at the tab beneath it.



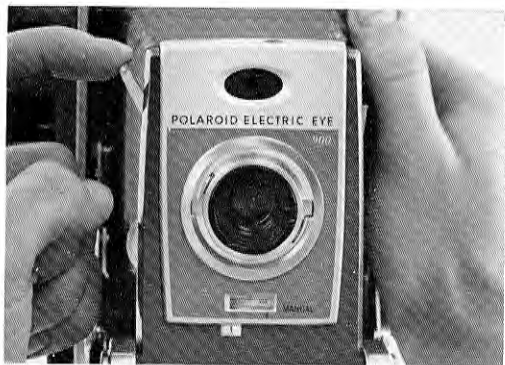
TAKING THE PICTURE

1. Set Film Speed: As described on page 7, turn the speed dial until the number between the red lines in the window corresponds to the film speed.

Set the Scene Selector for the type of lighting you are using.



2. Cock the Shutter: As noted on page 7, this energizes the electric eye. Don't leave the shutter cocked and the camera open in bright light for long periods of time (several hours), or you'll wear out the battery.



3. Focus the Camera: Center the triangular yellow spot on the most important part of the picture and turn the wheel until the two images blend into one sharp image (see page 8).



4. Take the Picture: Hold the camera firmly against your cheek, center the subject within the viewfinder lines, squeeze the shutter release slowly. (Remember, don't punch it — you will jar the camera and get a blurred picture.)

You have now taken the picture. **It will not start developing until you pull the tab.** (Some people have been known to snap the picture, wait a minute, then pull the tab and immediately remove the print — a very faint underdeveloped one.)



DEVELOPING THE PICTURE

Hold the camera with the left hand under the strap. It is important to hold it this way to assure correct advance of the film.

Throw the red switch (arrow) in either direction to release the film. (If you should throw the switch accidentally at any time, don't worry — no harm is done.)



Pulling the Tab

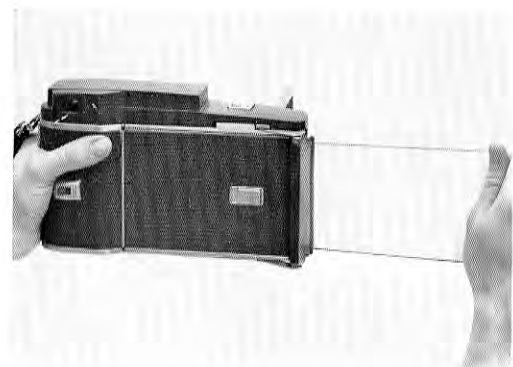
Shield the camera from direct sunlight when you pull the tab. Hold it in the shadow of your body so that no sunlight falls on the tab slot.

Open the cutter bar by lifting the plastic edge and take a firm grip on the paper tab. You'll find the best grip to use is along the length of the forefinger and thumb, as shown.



Pull the tab straight out with a single motion. Pull it about as hard and rapidly as you might pull down a window shade; not hard enough to pull the shade off the roll (or the film off the spool), but not slowly and hesitantly either. Remember, the film will stop automatically.

Note: If the tab will not pull easily, throw the red switch again.



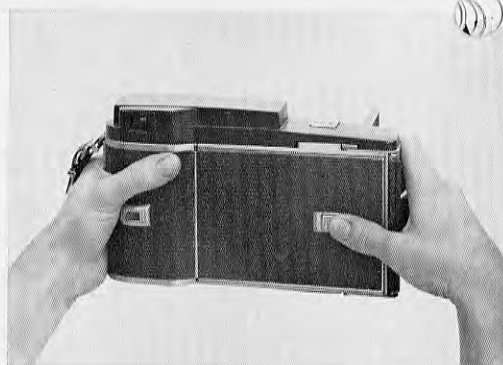
After you pull the tab, press down and latch the cutter bar, and tear off and discard the excess paper.

WAIT RECOMMENDED DEVELOPMENT TIME

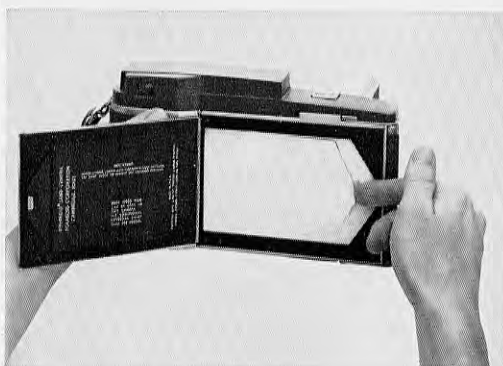
Pulling the tab has started the developing process — and advanced the film into position for the next picture. Follow the instructions in the Picture Tips for development times under various conditions.



When the development time is up, slide back the latch on the print door and open the door.



Lift the print out rapidly, but carefully, starting with the cutout. Don't let the print fall back on the damp negative. Then close and **relatch** the print door.



COATING THE PRINT

Coat each print as soon after removal from the camera as possible. If you coat your print properly, it will last as long as any fine print. First remove the curl by drawing the print face up over a straight edge, such as the camera edge, as shown.



Apply the print coater along the entire length of the print, including edges, borders and corners, with 6 or 8 firm overlapping strokes. For the last two or three pictures in each roll, press the coater hard against the tab end of the print (not the image) for a moment to release extra liquid, then spread the liquid smoothly across the print.

Note: If a clean, flat coating surface is not available, flatten the film box and store the prints within it until you get home. If you have the Model 310 Polaroid Deluxe Fitted Case, use the built-in coating platform to coat prints on the spot.



TAKING OUTDOOR PICTURES

When you use the Electric Eye Camera outdoors with 3000 speed film, the camera will be operating at very fast shutter speeds and extremely small lens openings. The brighter the daylight, the faster the shutter, and the greater its action-stopping capabilities. Shutter speeds actually approach 1/600th of a second in brightest light, and in average daylight will be around 1/300th of a second. You'll want to take advantage of this fast-action capability for sports shots.



The small lens openings that the camera selects in bright outdoor light provide a tremendous range of sharpness from foreground to background in your pictures. Focusing is unnecessary, although you'll be doing it automatically anyway in order to frame your picture exactly.



A big advantage of this great "depth-of-field" is that it permits you to take extreme close-ups without auxiliary lenses. You can set the focus scale at $3\frac{1}{2}$ feet, and make portraits as close as 20 inches away in bright light. Note, however, that the viewfinder frame does not correct its aiming angle closer than $3\frac{1}{2}$ feet, which means that you'll have to have your subject center himself in the lens. This he will do naturally if you tell him to place himself so that the lens is looking right at him.



At dusk, well after the sun has set, the eye will still be in control, although the quality of lighting may in some cases become confusing to the eye. It's best to clip the wink-light to the camera so that any needed fill-in lighting will be provided. The wink-light won't register if it's not needed. Be sure to use Type 47 3000 speed film.



TAKING INDOOR PICTURES

The wink-light is a "must" for taking consistently good indoor pictures, day or night, because it fills in the shadows that dim or contrasty indoor lighting is quite apt to cause. Just clip it to the camera and leave it there for all indoor pictures. The eye will use its light only when needed.

Important: Use only 3000 speed film indoors with the wink-light; with other films, you'll need to use regular or electronic flash.

By day, set the Scene Selector to "Indoor Day", focus carefully, and take pictures. As noted on page 4, avoid shooting directly into a large window, one so big or so close that it fills half or more of the viewfinder scene. Squeeze the shutter release carefully, because shutter speeds will be slow in dark rooms, and you'll get fuzzy pictures if you jar the camera.

By night, set Scene Selector to "Indoor Night", and use the same care in focusing and tripping the shutter. In living rooms lighted by floor and table lamps, your best pictures will be those with some lamp light falling directly on the subject, (as shown in the pictures of the little girl) and the camera distance between 4 and 8 feet. Beyond 8 feet, the wink-light loses effectiveness rapidly, and subjects not well lighted by the room lights will be too dark. For long-range pictures in dim lighting, use the auxiliary flasher furnished with the wink-light, following instructions given in detail in the wink-light instruction book.

Fluorescent Lighting, either by day or night (such as in well-lighted offices or kitchens with fluorescent fixtures), requires a special setting of the Scene Selector. Set it to "Indoor Fluorescent", and leave the wink-light attached.

NOTE: Should you forget to cock the shutter and attempt a picture, the wink-light will fire when you press the shutter release, but your picture will not be exposed. Simply cock the shutter, wait 15 seconds for the wink-light to recharge, and take your picture.



Daylight



Without the wink-light



With the wink-light



TAKING FLASH PICTURES

You can take either regular or electronic flash with the Model 900 by shifting the eye-control button from "Electric" to "Manual" and then using the "EV" (Exposure Value) settings that appear in the window as you turn the film speed dial.

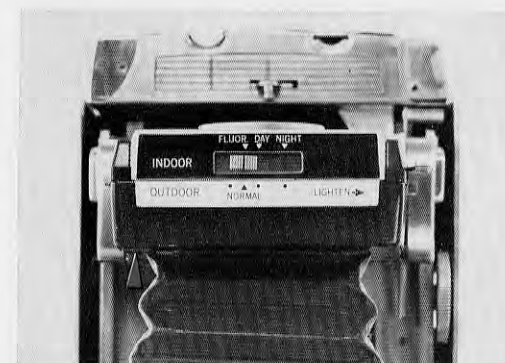
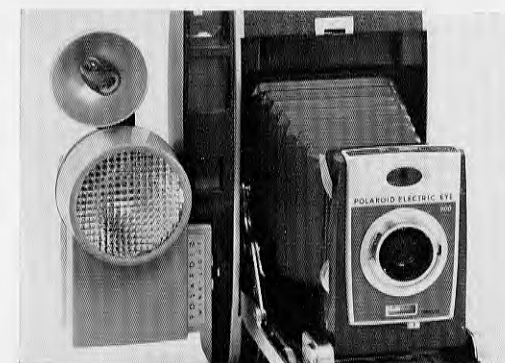
Regular Flash: With each wink-light there is furnished a small auxiliary flasher that plugs into the top of the wink-light. This is designed to be used with 3000 speed film beyond the 8-foot wink-light range, and it can also be used to take indoor flash pictures with Polaroid PolaPan 200 film.

The auxiliary flasher uses the tiny AG-1 flashbulb, the smallest and least expensive flashbulb made. The reflector swivels for "bounce" flash (aimed at the ceiling) or direct flash. Complete instructions for using the flasher are given in the wink-light instruction book. Remember, you must use manual exposure settings when you use the auxiliary flasher.

Electronic Flash: The connection for electronic flash is the small socket ("European" type) on the back of the shutter, just above the corner of the bellows (arrow). Remember to set the control button to "Manual" for all electronic flash pictures. Electronic flash can be used only at the EV settings given in the table below which yield the apertures indicated.

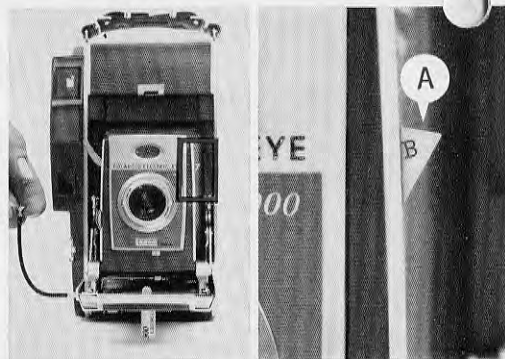
EV 12 = f/8.8	EV 15 = f/25
EV 13 = f/12.5	EV 16 = f/35.4
EV 14 = f/17.6	EV 17 = f/50

Do not forget to reset the control button to "Electric" when you have finished taking flash pictures.

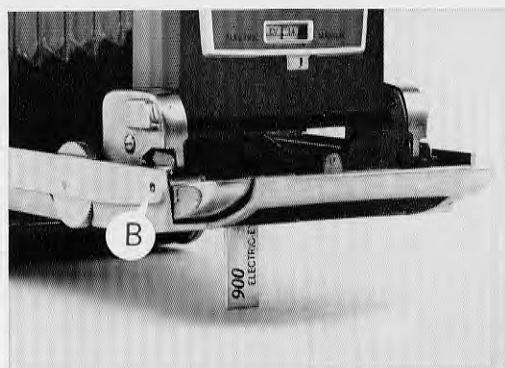


MAKING TIME EXPOSURES

To make time exposures, set the control button to "Manual", and press the time lever (A) all the way down. You will see the letter "B" on the lever (standing for "Bulb", a holdover from the days when photographers squeezed a rubber bulb to open and close the shutter). With the lever set to "B", cock the shutter, and press the release. The shutter will stay open as long as the shutter release is held down. Remember to re-cock the shutter before each time exposure.



For any time exposure, the camera must be held rigidly. If you do not have a tripod, pull out the folding support on the front cover and stand the camera on a flat surface. A "long throw" cable release should also be used to eliminate any camera motion. Attach it by screwing it into the socket (B).



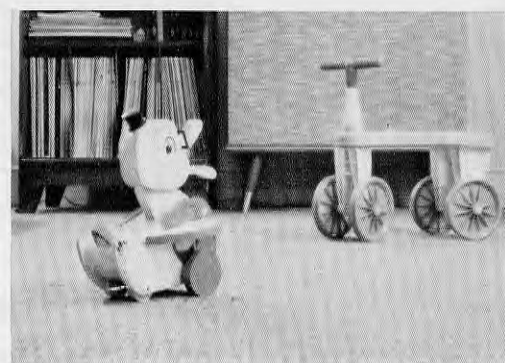
Exposures are arrived at by trial and error. If the picture is too dark, double the exposure time; if it is too light, halve exposure time.

Time exposures can be used for situations like these:

(A) Pictures where light is too dim for snapshots, and where the wink-light or flasher is impractical or not available (long distance outdoor scenes at night, as in the skyline scene, for instance).



(B) Pictures where maximum depth-of-field (sharpness of focus from foreground to background) is desired, and the subject is absolutely still. Note the uniform sharpness of the duck, the wagon, and the records in the cabinet. For this type of picture, set to EV 23, which gives the smallest lens opening, and use a long exposure (try six seconds with Type 47 film).



Do not forget to reset the time lever and set the control button to "Electric" when you are finished taking time exposures.

MAKING CORRECTIONS

The following four pages illustrate common errors in pictures and tell you how to correct them.

Outdoor Pictures Too Dark or Too Light

In general, it is best to leave the scene selector button set to "normal", as shown at right. Do not try to outguess the eye — it will almost always be more accurate than your guess. However, if with the button set at "normal", your picture turns out:



... very dark



correct the picture by setting the button to the extreme right.



... slightly dark



correct the picture by setting the button one notch to the right.



... too light



correct the picture by setting the button to the extreme left.



Indoor Pictures Too Dark

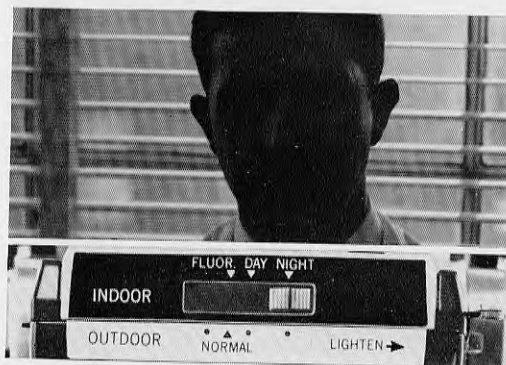
When taking indoor pictures (use Type 47 film, of course), you must tell the eye what kind of lighting is being used, as described on page 16. However, there are two situations in which the picture may still turn out too dark:

Indoor "Daylight": For this type of picture, the scene selector button should be set as shown at right.



However, if the picture turns out too dark (because of backlighting)

correct the picture by setting the button to the extreme right.



Indoor "Night": For this type of picture, the scene selector button should be set as shown at right.



However, if the picture turns out too dark, there is not enough light — move closer to the subject or use the auxiliary flasher.



Pictures Not Sharp

In the four pictures on this page there is a lack of sharpness or clarity in the subject or in the over-all picture.

Everything Blurred: The camera moved. Be sure to hold the camera securely, and do not punch the shutter release — squeeze it slowly. Try holding your breath when you press the shutter release.



Subject Blurred: The subject moved when the picture was taken.



Subject Fuzzy: When another part of the picture is sharp while the subject is fuzzy, the camera is out of focus. Be sure the two images in the rangefinder (yellow spot) coincide exactly. Be sure the bellows are pulled all the way out and locked.



Dull or Faint Picture: The picture is underdeveloped. Check the Picture Tips for correct developing time.



Picture Defects

The following defects in the finished print resulted from incorrect handling or operation.

White Areas: Light struck the negative roll during loading. Do not load in direct sunlight. Do not break the seals on the positive and negative rolls when loading.



Streaks at Print Edge: The tab slot was not shielded from the sun while the tab was being pulled. When taking pictures outdoors, turn your back to the sun when you pull the tab, so that your shadow covers the camera.



Streaks Across Print: The tab was pulled unevenly. Do not stop or hesitate while pulling the tab. Pull the tab fairly rapidly until the film stops automatically.



Spots on Print: Evenly-spaced spots on the picture are caused by foreign matter adhering to the steel rollers. Keep the rollers clean (see page 24).



USE OF FILTERS

For certain kinds of outdoor scenes, a yellow or orange filter will enhance the picture. Blue sky can be darkened to make clouds stand out more prominently, and in hazy scenes, contrast can be improved. Polaroid Corporation markets filters in sets and individually for its other cameras, and these can be used with the Model 900 as well, providing the electric eye is adjusted to compensate for the light absorbed in the filters. Filters made by Polaroid bear markings reading "set shutter one number lower" or "— two numbers lower." To adjust the electric eye for a one number correction, shift the Scene Selector button one dot toward "Lighter." For two numbers, shift two dots.



CARE OF THE BATTERY

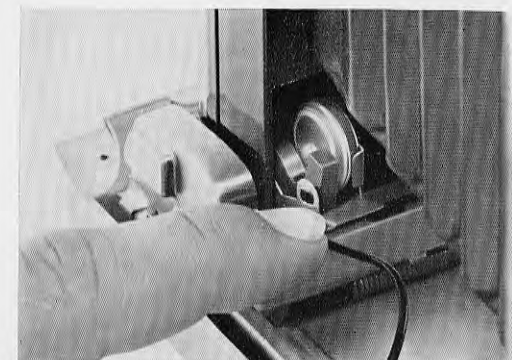
The battery that powers the eye has a life expectancy of three to five years. The battery is at rest as long as the shutter is uncocked. Its life will be shortened if the opened camera, with shutter cocked, is left in bright light for several hours at a time.

How to Tell When the Battery Needs Replacement

When the battery nears exhaustion it changes its output, and your pictures will become increasingly overexposed (too light). When this happens, switch to "Manual" and set your exposure using the EV numbers until you get a battery replacement.

How to Replace the Battery

You can obtain a replacement battery from any Polaroid Land Camera dealer. Open the battery compartment in the rear of the shutter, remove the old battery and insert a new one in exactly the same way.



CARE OF THE CAMERA

Rollers: The two steel rollers must be kept clean and free of foreign matter which can cause evenly spaced spots along the length of the picture. Before loading each roll, turn the rollers slowly and remove foreign deposits with your fingernail or a moistened cloth.

Plates: Foreign matter may also collect on the black interior plates. Clean them carefully with a damp cloth.

Keep the lens clean: First blow off loose lint or dust particles, then polish gently with lens tissue or a soft, lint-free cloth.

PRINT CARE

The Print Coater leaves a hard plastic coating on your print. If you bend or crease your pictures, or write on the back of the print, you can crack this coating, which can lead to discoloration along the cracks. Use the tab or back edges for notes.

As with any photograph, it is wise not to use paste or rubber cement to mount your pictures. Impurities in many adhesives may cause the pictures to discolor. Polaroid Land prints may be safely stored in a Polaroid Picture Album, or in albums which have separate transparent acetate pages.

COPIES AND ENLARGEMENTS

You can make excellent on-the-spot copies of your Land prints (and often improve on them) with the Model 240 Polaroid Print Copier. (Use a manual setting of EV 16.) Or you can get quick, inexpensive copies and enlargements from Polaroid Corporation. See the Picture Tips for copy order blanks and further details.

POLAROID REPAIR STATIONS

730 Main Street
Cambridge 39, Massachusetts

2257 Cascade Road S.W.
Atlanta, Georgia

8919 Diplomacy Row
Dallas 7, Texas

1637 Court Place
Denver 2, Colorado

333 West Mission Drive
San Gabriel, California

445 South Fifth Street
Louisville 2, Kentucky

2041 N. Janice Avenue
Melrose Park, Illinois

209 Loeb Arcade
Minneapolis, Minnesota

20 West 31st Street
New York 1, New York

2319 Brentwood Boulevard
Brentwood 17
St. Louis, Missouri

2126 Westlake
Seattle, Washington

1025 Commerce Avenue
Union, New Jersey

930 F Street N.W.
Washington 4, D.C.

Polaroid Corp. of Canada, Ltd.
1 Beaverdale Road
Toronto 18, Canada

Polaroid GMBH
13 Frauensteinstrasse
Frankfurt/Main, Germany