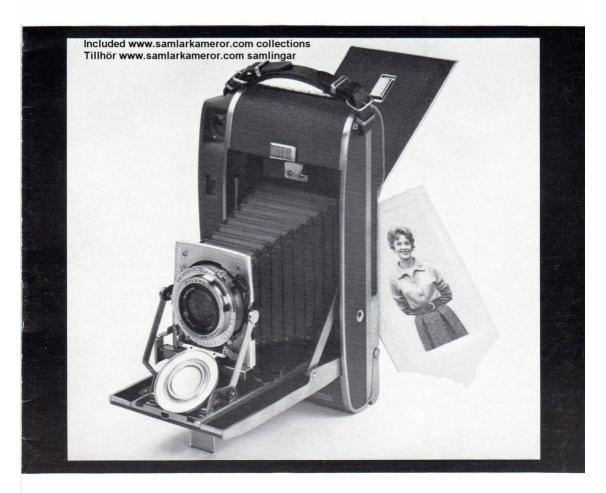
How to make good pictures with your

POLAROID PATHFINDER LAND CAMERA



Model 120

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.

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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

The knob on the front cover is the focusing knob. Do not try to turn it until the camera is fully open.

To open, just press the cover catch and the cover will pop up. Open the cover fully until the braces click and lock the cover rigidly.

Hook your fingertip over the metal bracket (A) directly beneath the shutter and pull the shutter slide all the way out until it locks firmly in place. Pictures will be blurred if the slide is not fully extended and locked.

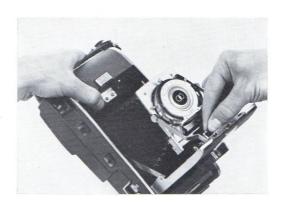




Closing the Camera

Always turn the focusing knob so that the scale in the bed of the cover is set to infinity before closing the cover.

Press the slide release (the black center piece on the metal bracket) and push the shutter slide all the way back.



To close the cover, hold as shown, press the side braces with both thumbs and squeeze the camera cover shut.



Setting for Exposure

Flip down the Lens Cap (A). If you're a camera neophyte and at first glance the controls appear complicated, remember that you need master only the three simple steps below to get good pictures. A more detailed discussion of exposure setting is given on pages 12 and 13.

For most pictures you can just concentrate on the EV pointer (B), which changes when the aperture control (C) and the shutter speed ring (D) are moved. EV, by the way, means Exposure Value, and is discussed more fully on page 12.

Three Basic Steps for Setting Exposure

In making your "dry run", let's assume you are outdoors and the camera is loaded with 3000 speed film. To set exposure, here is what you do:

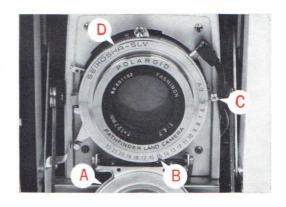
- 1. Set the red notch on the shutter speed ring opposite the 1/125 setting. (In low light levels, or with low speed films, use lower shutter speeds.)
- 2. Point your Polaroid Exposure Meter at your subject and read the EV number for the scene. If you do not have the meter, you will find the proper EV number in the Picture Tips packed with each roll of film.
- 3. Move the aperture control (C) until the EV pointer (B) is opposite the number you read on the meter or Picture Tips.

Using the Full Range of EV Numbers

When your shutter speed is set at 1/125, the range of EV numbers is from $11\frac{1}{2}$ to 20. In certain situations, higher or lower EV numbers will be called for.

Lower EV numbers are required on dull days outdoors, on indoor pictures at night, made with the Polaroid wink-light, and on pictures made indoors by light through windows. By using lower shutter speeds, you can set the camera to lower EV numbers. For example, at 1/30, the range of EV settings extends from EV $8\frac{1}{2}$ to 18.

Numbers higher than 18 are required only in very bright scenes, when 3000 speed film is used.





Set Shutter Speed



Set EV Number

Focusing and Aiming

The two windows on the back of your camera are marked "view" and "range". You look through the one marked "range" when you are focusing the camera, and you look through the other when you are aiming the camera.

Your camera has a coupled rangefinderviewfinder system. By turning the single knob on the cover of the camera, you can focus automatically on any subject from 3 feet to infinity and correct for parallax at the same time.

This means you do not have to guess at the distance from lens to your subject to focus the camera. And it means that you cannot cut off heads or aim the camera inaccurately.

Focusing: Look through the rangefinder window and point the camera at a person, centering the triangular yellow spot on the nose 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.

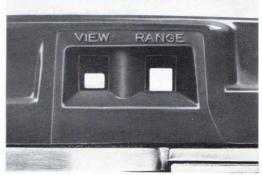
Aiming: Move your eye over to the viewfinder window. What you see is what will appear in the picture. The viewfinder has already been corrected for parallax while you were focusing.

If you would like to see how the viewfinder changes when you focus, keep your eye on the viewfinder window and turn the focus knob back and forth. You will see the frame shift position and change size to correct for near and far pictures. You should always center your subject within the viewfinder window.

The Shutter Release

The Model 120 shutter must be cocked before a picture can be taken. With the camera facing you, push the cocking lever (A) as far to your right as it will go. The shutter is now cocked.

Hold the camera firmly against your face (just as you did above when focusing), and press gently on the shutter release (B). A light 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—it will pay dividends in sharp pictures.



Viewfinder and Rangefinder Windows



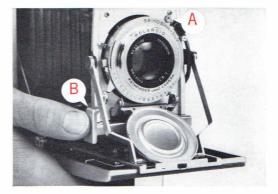
Focus Knob



Not in Focus



In Focus



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.)

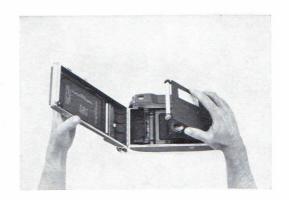


To prepare the camera for loading, hold it as shown and swing the latch lever down. The back will open slightly.



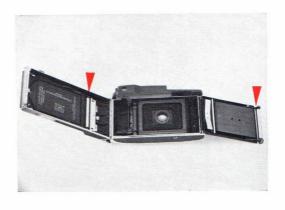
Set the camera down on a flat surface, then lift open the back cover as far as it will go.

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



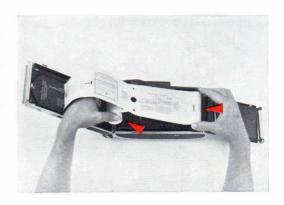
Before loading, examine the rollers (arrows). The picture roll papers will pass between these rollers, which squeeze the developer reagent evenly between the positive and negative sheets.

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.

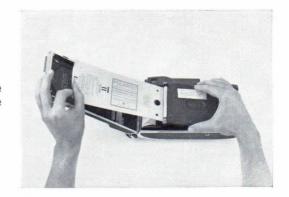


Remove the film carefully from its foil wrapper. The film actually contains two rolls: a large white (positive) roll and a spooled (negative) roll. When you unwrap the film, be careful not to break the Scotch Brand Tape seals on the top of the spooled roll and the underside of the large roll (arrows).

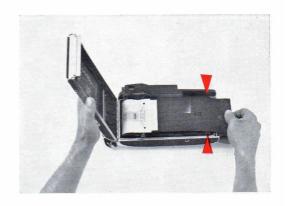
Drop the rolls into the wells on either side of the bellows, as shown.



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.

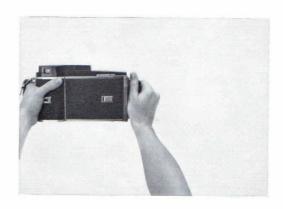


Then close the back cover, squeeze it tightly shut, and swing the latch all the way to the left to engage the prongs, then all the way to the right to lock. There will be a short tab of black paper extending beyond the cutter bar.

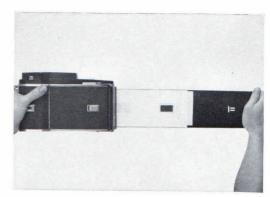


Important: Hold the camera as shown, the left hand under the strap, gripping the top of the camera securely. If you hold the camera in any other way, you are apt to pull the tab out at an angle, which can cause it to mistrack and tear.

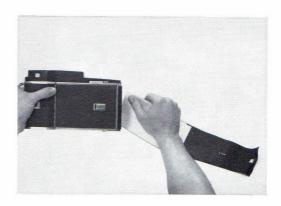
With your right hand, lift the cutter bar by its plastic edge and grip the tab firmly.



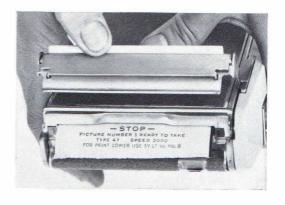
Pull the tab straight out until it comes to a firm stop. Don't be surprised if you seem to be pulling out a lot of paper on this first pull. You must pull out the entire leader (about 15 inches) before the film stops, but it will stop automatically.



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.)



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

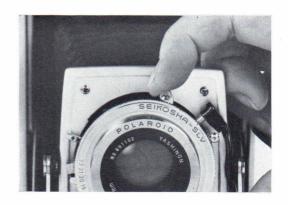
Now that the camera is loaded, you are ready to take your first picture. Note that the following simple steps are also summarized on the back door card of your camera:

Set Exposure: As described on page 4, set the shutter speed you want. Find the correct EV number on your meter or in the Picture Tips. Set this same EV number on the camera. Then cock the shutter as shown at right.

Focus the Camera: Center the triangular yellow spot on the most important part of the picture and turn the knob until the two images blend into one sharp image (see page 5).

Take the Picture: Hold the camera firmly against your cheek and center your subject in the viewfinder window. Then 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, then pull the tab and immediately remove the print—a very faint underdeveloped one.)

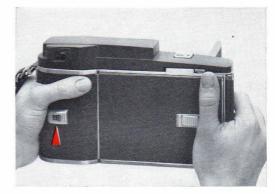




Hold This Way For Vertical Pictures



Hold This Way For Horizontal Pictures



DEVELOPING THE PICTURE

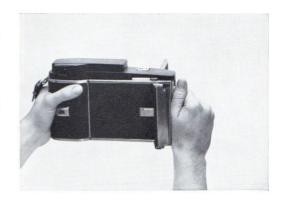
Hold the camera with the left hand under the strap. It is important to hold it this way to assure correct advance of the film.

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

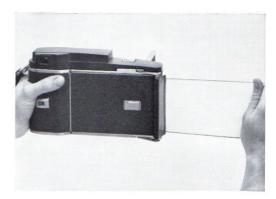
Shield the camera from direct sunlight when you pull the tab.

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.

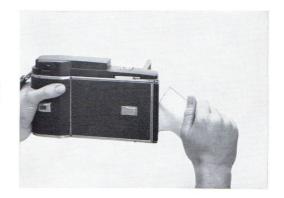


Pull the tab straight out with a single motion. Pull it about as hard and rapidly as you might pull down a window shade; not hard enough to pull the shade off the roll (or the film off the spool), but not slowly and hesitantly either. Remember, the film will stop automatically.

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



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

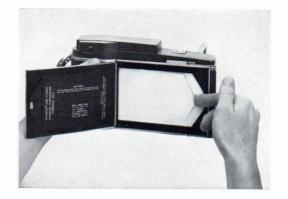


WAIT RECOMMENDED DEVELOPMENT TIME

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 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.



MORE ABOUT EXPOSURE

Simplified instructions for setting shutter and lens are given on page 4. Here are further suggestions which will help you explore the full range of the camera.

Start with the EV (Exposure Value) Number: No matter what shutter-lens combination you finally select for a given picture, there is one EV number which is best for that scene.

This EV number represents the exact amount of light which must pass through the camera lens to produce a picture that is neither too light nor too dark.

This amount of light is governed by the size of the lens opening (aperture) and the length of time the shutter remains open (shutter speed).

A short exposure through a large lens opening will pass as much light as a long exposure through a small lens opening. For example, if the meter reads EV 12, you can set the shutter at any setting from one second to 1/125 and still have the EV pointer point to "12".

Before discussing how to choose the best shutter-lens combination, let's look at the shutter and lens settings available.

Aperture: You have a choice of 10 apertures. F/4.7 is the largest opening and f/90 is the smallest.

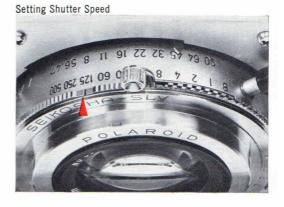
In general, you will want to use as small an aperture as possible in any given situation, providing the shutter speed is fast enough to eliminate camera motion. The smaller the aperture, the greater is your depth-of-field (sharpness of focus from foreground to background).

Shutter Speed: You have a choice of 10 shutter speeds. You will prefer to use shutter speeds of 1/60 second or faster whenever possible to reduce the chance of subject motion or camera movement blurring the picture.

The 1 second, 1/2, 1/4, and 1/8 settings are used primarily for very low light levels calling for EV 5 to 8. The camera should not be hand-held at these speeds.



Setting Aperture



Choosing Between Fast Shutter Speed and Maximum Depth-of-Field: For a given EV setting, the faster the shutter speed you use, the smaller will be the depth-of-field, and hence the more critical the focusing requirements (see table below). This is because the faster shutter speeds must be offset by larger lens openings. The larger the lens opening, the less the depth-of-field.

The nature of the picture you wish to take will govern whether to set for fast shutter speed or maximum depth-of-field. This is demonstrated by the two pictures at right. In the water-skiing picture, stopping action is the main concern; in the other, you wish to get everything in focus.

EV Interlock: The shutter provides a convenient locking device that ties shutter and lens controls together for any particular EV number. Here's how to use it: set the EV pointer to the number indicated by the meter. Then pull out the aperture control (A) slightly. Aperture and shutter are now locked together.

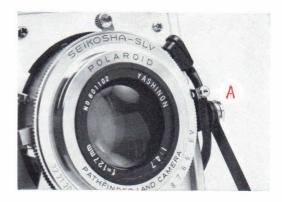
You can now turn the shutter speed control ring as far as it will go in either direction and still preserve the same EV setting. This will help you choose between faster shutter speeds and smaller apertures for any given EV number. Release the lock to reset to another EV number.

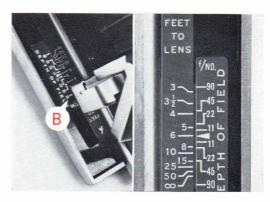
Gauging Depth-of-Field: When you have focused your camera, the arrow on the focusing scale in the camera bed (B) will point to the distance from lens to subject. The guides on either side of the arrow indicate depth-of-field at various apertures. For example, with the camera focused at 6 feet with an aperture of f/45, the depth-of-field is from 4 to 15 feet from the lens.



Use Fast Shutter Speed

Use Small Aperture





							ST APERTURE				
istance Focused on	f/4.7		1	f/5.6		f/8		f	f/90*		
3 ft	2'111/4"	to	3/3/4"	2'11"	to	3'1"	2'101/4"	to	3'13/4"	18"	to 30'
31/2 ft	3'5"	to	3'7"	3'4"	to	3'7"	3'31/2"		3'81/2"	19"	to 50'
4 ft	3'11"	to	4'2"	3'10"	to	4'2"	3'10"	414		20"	to Inf.
5 ft	4'10"	to	5'2"	4'9"	to	5'4"	4'8"	to	5'6"	22"	to Inf.
6 ft	5'10"	to	6'4"	5'6"	to	6'6"	5'6"	to	6'8"	24"	to Inf.
8 ft	7'6"	to	8'7"	7'4"	to	8'11"	7'1"	to	9'4"	26"	to Inf.
10 ft	9'1"	to	11'	9'	to	11'7"	8'7"	to	12'4"	27"	to Inf.
15 ft	13'2"	to	17'10"	12'7"	to	18'6"	12'	to	21'	29"	to Inf.
25 ft	20'	to	34'	19'	to	37'	17'	to	47'	31"	to Inf.
50 ft	33'	to	105'	30'	to	160'	26'	to	Inf.	33"	to Inf.
INF.	93'	to	Inf.	74'	to	Inf.	52'		Inf.	35"	to Inf.

USING SMALL APERTURES

One of the many outstanding features of your Model 120 camera is the great range of lens apertures — from f/4.7 to f/90.

The two smallest apertures (f/64 and f/90) allow you to take pictures outdoors in bright daylight with 3000 speed film without using a light-reducing filter.

Moreover, these small apertures provide great depth-of-field. Your pictures are sharp from foreground to background as shown at right.

With the f/90 aperture, for example, the depth-of-field is so great that focusing is unnecessary. You can take extreme close-ups without auxiliary lenses. Simply set the focus scale at 3 feet and make portraits as close as 18 inches away in bright light. Remember that the viewfinder does not correct its aiming angle closer than 3 feet, which means your subject should center himself in the lens.

For hand-held pictures, the f/90 aperture can be used when exposures are EV 17 or higher. At EV 17, the shutter speed is 1/15—the slowest speed you should use for hand-held pictures. For shutter speeds slower than 1/15, use a tripod or rest the camera on some support (see page 16).

Note: To avoid any light leakage in the shutter that may fog the highly sensitive 3000 speed film, your camera has two sets of shutter blades which seal out all light. However, when taking pictures in bright light, always pull the film tab in your own shadow to avoid light leaks through the tab slot. Also be sure to load your camera only in the shade.





		Bright	Hazy Soft Shadows	Cloudy No Shadows	Dull
AVERAGE:	People, pets	20 or 19	18	17	16
BRIGHT:	Beach, snow	21	20 or 19	18	17
DARK: Sha	Shady spots	18	17	16	15

(Note: Table in Type 4/ Picture Tips is for 3000 speed film, with a 4-Stop Filter over the camera lens.)

TAKING INDOOR PICTURES

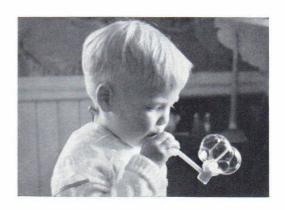
At least half the fun of owning a Polaroid Land Camera is in taking indoor pictures of family and friends. The Model 120, when used with 3000 speed film, makes possible a wide variety of indoor pictures. They are as easy to take as snapping pictures in sunshine. You can take fine daytime pictures by just the light from a window (like the picture of the boy blowing bubbles). Use the Polaroid Exposure Meter or the Picture Tips for exposure settings.

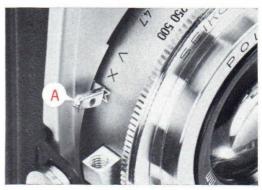
Wink-light Pictures: The repeating wink-light is the key to taking consistently good indoor pictures without flashbulbs. Its gentle wink of light erases shadows left by ordinary room lighting, as shown by the two pictures of the girl. You may have obtained the Polaroid wink-light with your Model 120 Camera. Spend a few minutes reading the excellent instruction booklet included with it. Set the synchronization lever (A) at "M" when using the wink-light. The "X" setting is for electronic flash and the "V" setting is for the 10-second self-timer (page 16).

If you do not have the wink-light, you may wish to experiment in taking 3000 speed film pictures with available light. You are apt to get strong shadows in your picture from the uneven room lighting, as in the picture of the little girl taken without the wink-light. Use the film as a sort of exposure meter, by taking test pictures and then correcting errors in exposure on succeeding pictures. The big lens of the Model 120 Camera and slow shutter speeds allow you to take unusual pictures in extremely dim light.

Auxiliary Flasher: The auxiliary flasher, which comes with the wink-light, lets you use tiny AG-1 flashbulbs in situations where room lighting is so dim, or distance to the subject so great, that the wink-light can't fill the lighting needs itself. Also, this flasher will let you take flash pictures indoors with Type 42 (200 speed) film.

Electronic Flash: Set the flash synchronization lever to "X". Then detach the synchronization cord (B) and attach the cord from your electronic flash unit.







Without the wink-light

With the wink-light



MAKING TIME EXPOSURES

For any time exposure (or at shutter speeds of 1/8 or slower), 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.

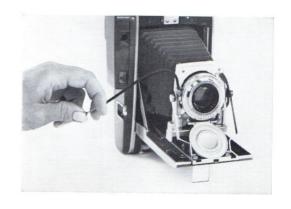
When the shutter speed ring is set at "B", the shutter will stay open as long as the shutter release is held down.

Exposures must be arrived at by trial and error. If the picture is too dark, increase exposure time; if too light, decrease exposure time.

Whether you use a tripod or a table for firm support, a cable release should also be used to eliminate any camera motion. Attach the cable release at (A) in the picture at bottom. For vertical mounting of the camera on a tripod, the Model 261 tripod adaptor is available.

Time exposures should be used for 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).

At low light levels, set the aperture at f/90 with time exposure or shutter speeds of 1/8 or less when maximum depth-offield is required. The picture at right was taken with the f/90 aperture and a shutter speed of 1 second (EV 13). When settings of EV 12 or less are called for, use time exposures as directed above.





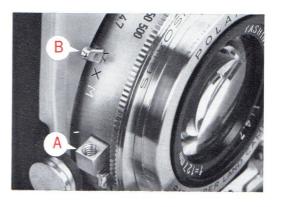


USING THE SELF-TIMER

Your shutter has a built-in 10-second delay timer which lets you get into the picture yourself after you have tripped the shutter release.

To use it, cock the shutter, move the flash synchronization lever (B) to "V", then press the shutter release. The shutter will buzz for about 10 seconds, then trip.

Note: If you use the wink-light or auxiliary flasher with the self-timer, set the shutter speed to 1/15 rather than 1/30.



THE FILM

At present, you will probably use the Type 47 Polaroid 3000 Speed Land Picture Roll.

The Model 120, with its versatile lens, is the perfect camera for Type 47, the high speed film. When you use 3000 speed film in bright sunshine you will be able to use a fast shutter speed in combination with a small lens opening (for extreme depth-of-field).

The Model 120 not only gives greater range in bright sunlight; it can also be used at much lower light levels than any other Polaroid Land Camera model.

The lowest EV number you can use with other Land Camera models is EV 10. You can use the Model 120 to take "hand-held" pictures at settings as low as EV 8. That means you can take pictures with one-fourth as much light as you need for the other camera models. When working with a tripod, you can take pictures at settings as low as EV 5.

Thus, with the Polaroid 3000 speed film, you will be taking many unusual and dramatic pictures by firelight or candlelight, such as the picture of the little boy at right.

When used with the Polaroid winklight (see page 15) 3000 speed film gives your camera almost unlimited range indoors. With this combination you will be able to take perfect night-time pictures virtually anywhere in your home without flashbulbs.

Type 42 is an all-purpose film with an ASA equivalent daylight speed of 200. It is somewhat lower in price than 3000 speed film, and produces pictures just as sharp and clear, outdoors and indoors. When used indoors at night, it requires the use of flashbulbs.

In every Polaroid Land Picture Roll box, you will also find the Print Coater and the Picture Tips. Save them both. The Print Coater is essential for preserving your pictures (see page 11). The Picture Tips, to which we have referred throughout this book, always has the latest information about the film, both as to exposure and development.









CORRECTING PICTURES

Here is how to spot some common errors and how to correct them:

Too Dark: The picture is underexposed. Set the camera to a lower EV number or a slower shutter speed.

Too Light: The picture is overexposed. Set the camera to a higher EV number or a faster shutter speed.

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 as 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 guide (yellow spot) coincide exactly. Be sure bellows are pulled all the way out and locked.





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 20).

Dull or Faint Picture: The picture is underdeveloped. Check the Picture Tips for developing times under various conditions.

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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.

Shutter: The shutter is lifetime lubricated; do not oil or attempt to adjust the shutter.

Keep the lens clean: First blow off loose lint or dust particles, then polish gently with lens tissue or a soft, lint-free cloth. Always leave the lens cap closed over the lens when not taking pictures.

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 2401 Polaroid Print Copier. If you do not own a Polaroid Print Copier, see your dealer. He has complete information on how you can obtain copies and enlargements.