Polaroid
SONAR
OneStep
Pronto
Land
Camera

Polaroid

Polaroid introduces sonar focusing—the ultimate in one-step photography

That unexpected moment, that perfect smile, will never again be lost while you pause to set the lens.

The instant you see your picture, just aim and shoot. With sonar focusing, the camera sets the lens instantly, automatically.

Now, nothing interferes with seeing the shot and taking it.

(See "How sonar focusing works" inside this foldout.)

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Please spend a few minutes reading this booklet. It could mean the difference between taking consistently good pictures or disappointing ones.

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How sonar focusing works

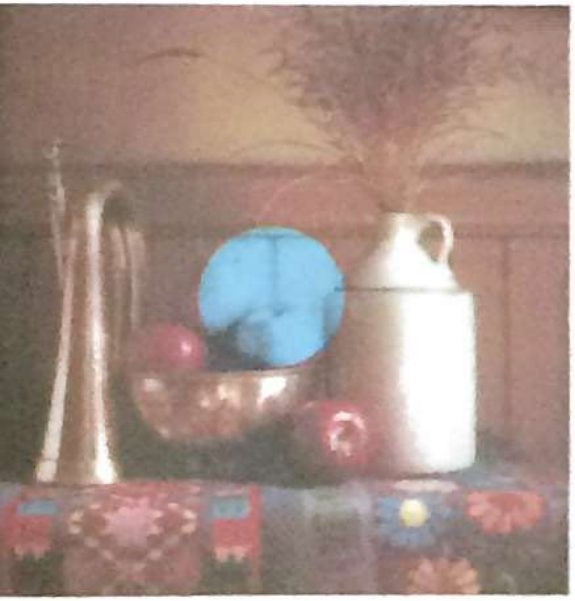
As you begin to press the shutter button, your camera releases sound waves to the central part of the scene (approximate area marked in blue).

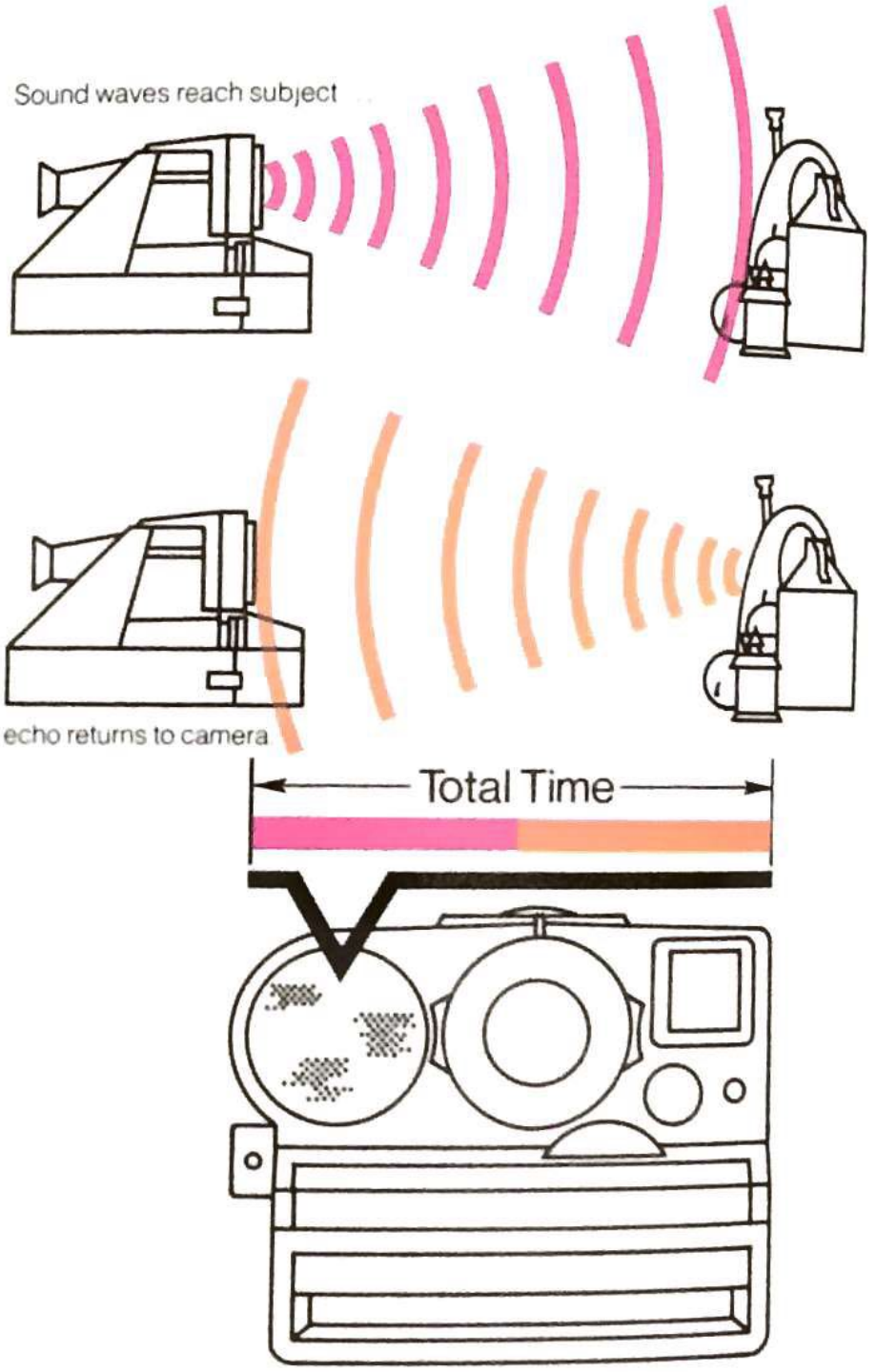
The frequencies are far beyond our range of hearing and travel at the speed of sound (1,100 feet per second).

The split second it takes for the sound to reach your subject and the echo to return is fed into a tiny electronic computer inside the camera.

The computer uses this time measurement to calculate the distance between the camera lens and your subject, then signals a motor to turn the lens until your subject is in sharp focus.

This extraordinary chain of events takes place in less than 1/3 of a second.





Camera parts

1 Lens (3 element, 114mm, f/9.5)

2 Transducer (sends the sound waves and receives the echo)

3 Shutter button

4 Cable release socket (for the Polaroid Cable Release #2327)

5 Film door latch

6 Film door

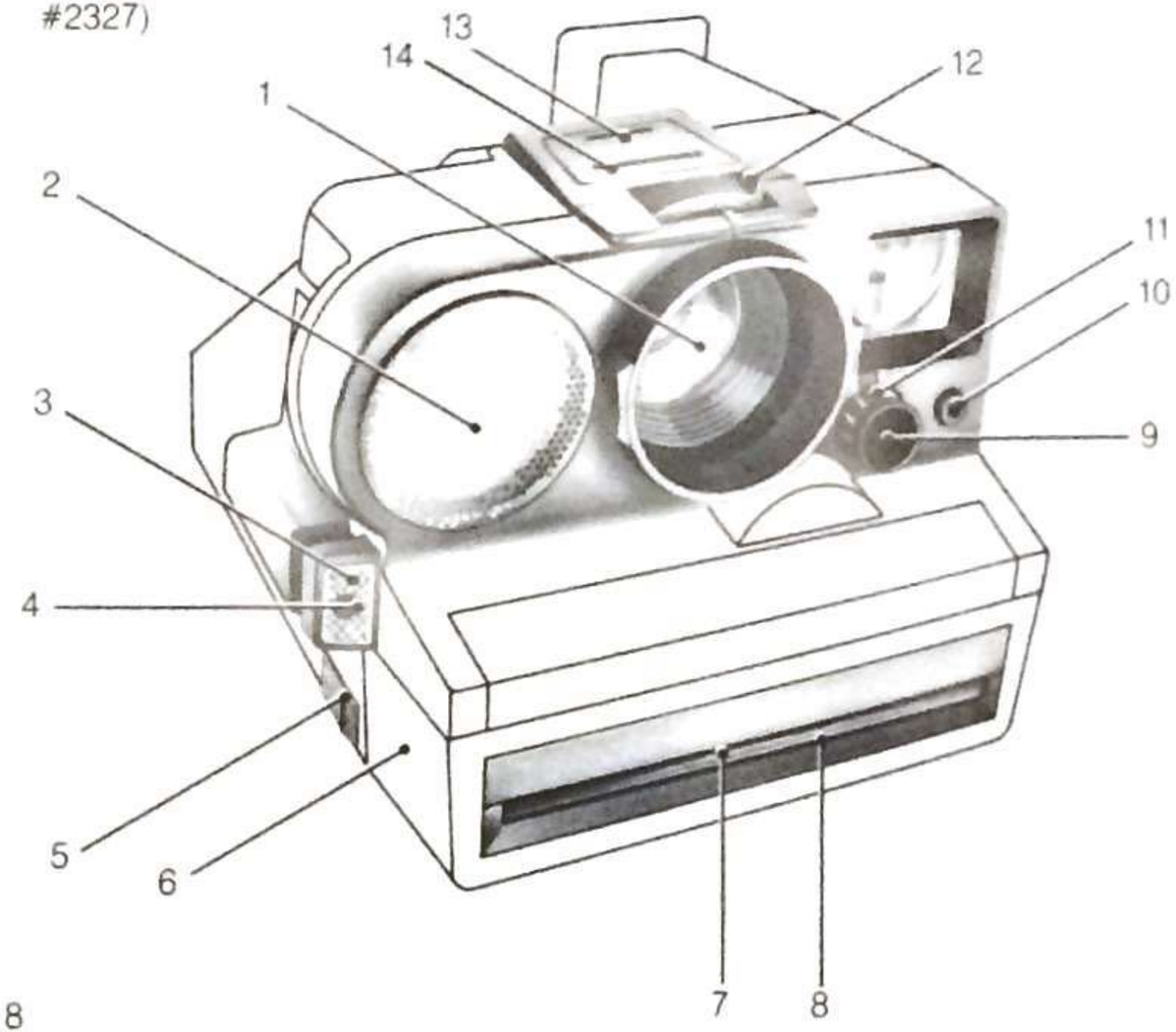
7 Film shade (shields the film from light, if it doesn't roll back after the film is ejected, gently lift its front end)

8 Picture exit slot

9 Electric eye

10 Sensor (for the "use flash or tripod" indicator under the viewfinder)

11 Lighten/Darken control (use only in special lighting situations, see page 26)



12 Focus switch

13 Socket for a future accessory

14 FlashBar socket

15 Viewfinder

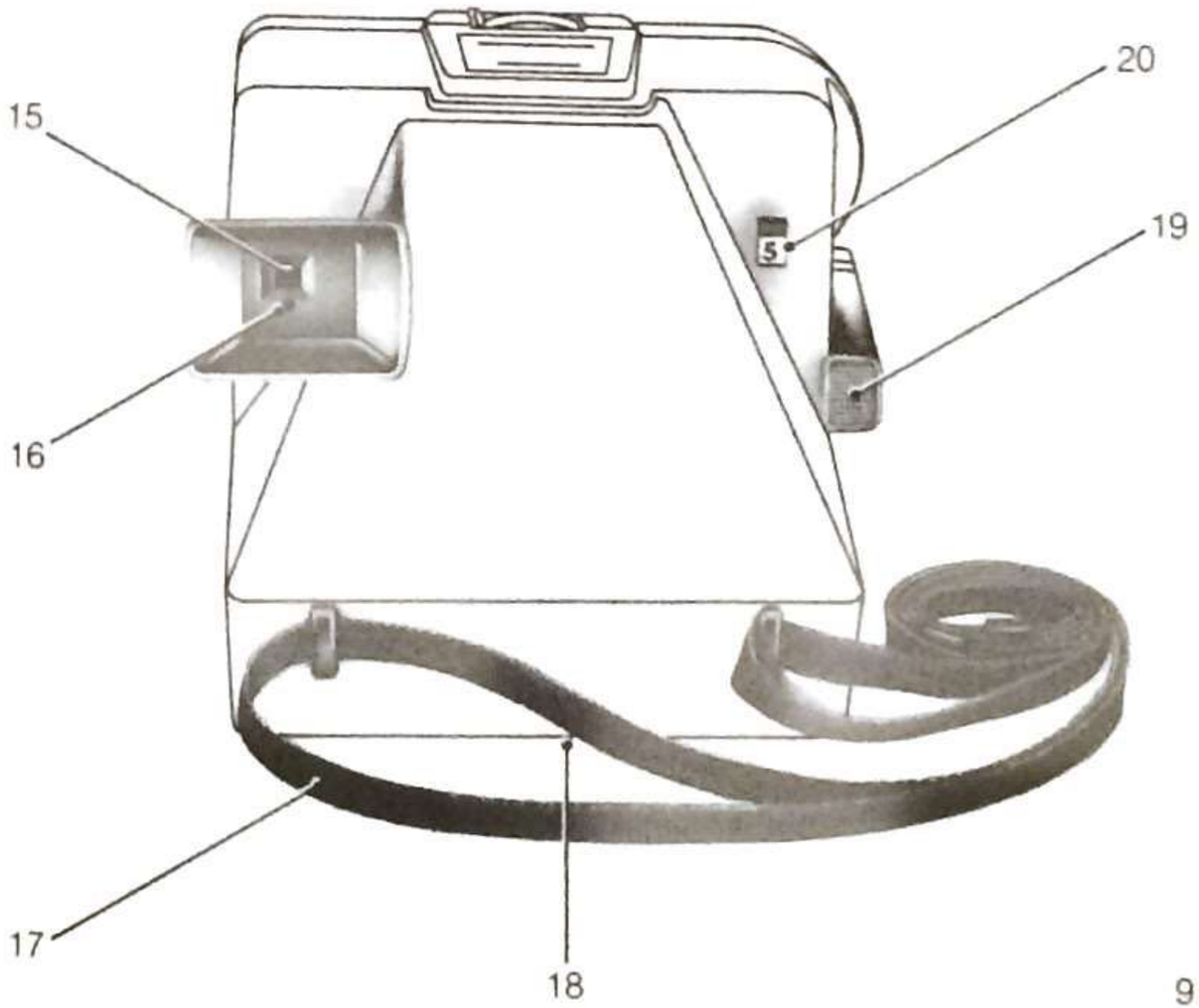
16 "Use flash or tripod" indicator

17 Neckstrap

18 Tripod socket (is on the bottom of the camera, accepts a standard tripod screw)

19 Thumb grip

20 Picture counter (goes to 10 when you load a new or partly used film pack into the camera, counts down to show how many pictures are left)



To load the film

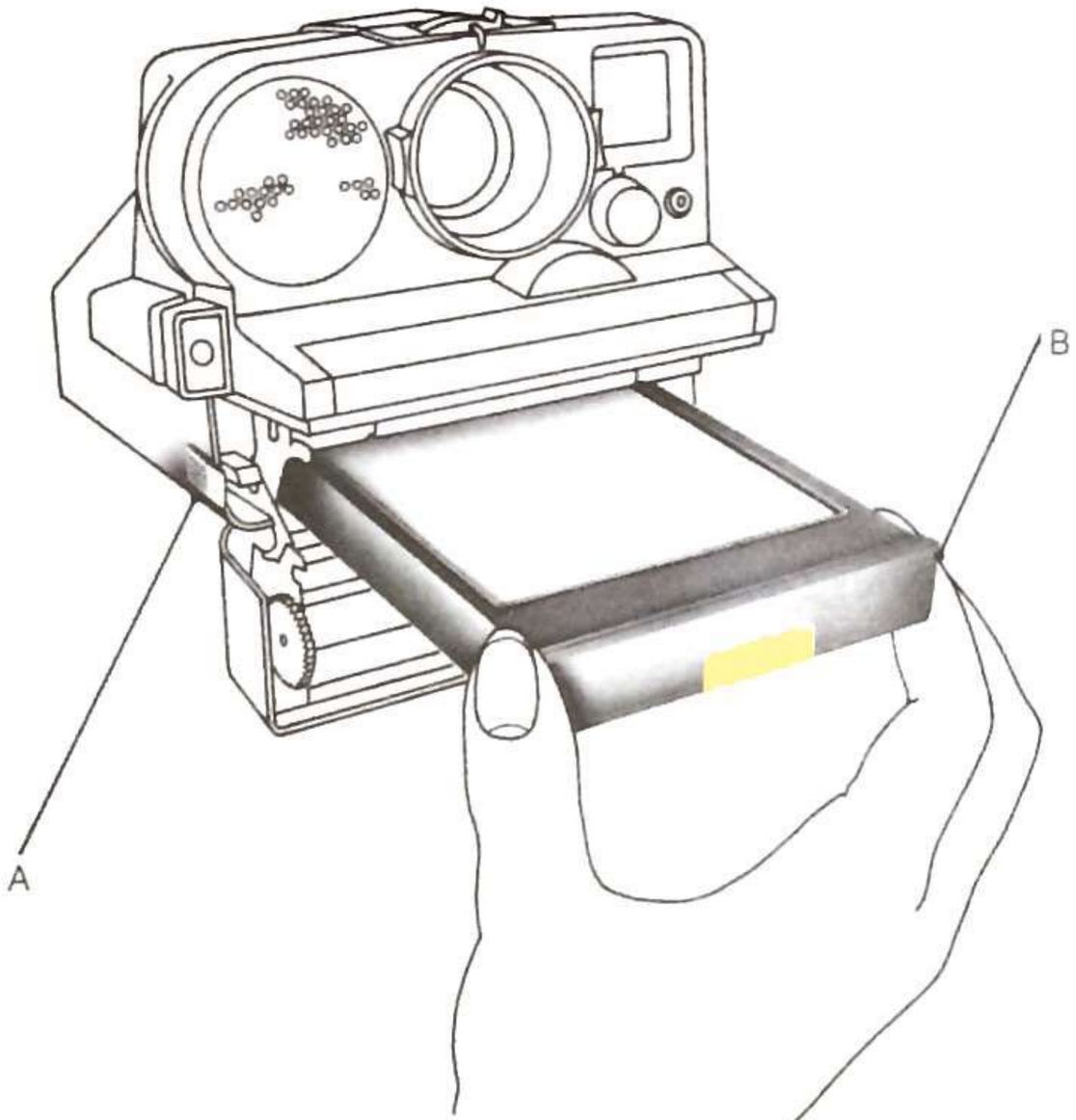
Push the latch (A) forward. The film door will drop open.

Hold the film pack by its edges only. (Gripping the pack above and below the yellow tab may damage the film.)

Push the film pack into the camera until the narrow strip (B) snaps open.

Close the film door. You'll hear the camera eject the film cover.

To remove an empty pack, pull the yellow tab.

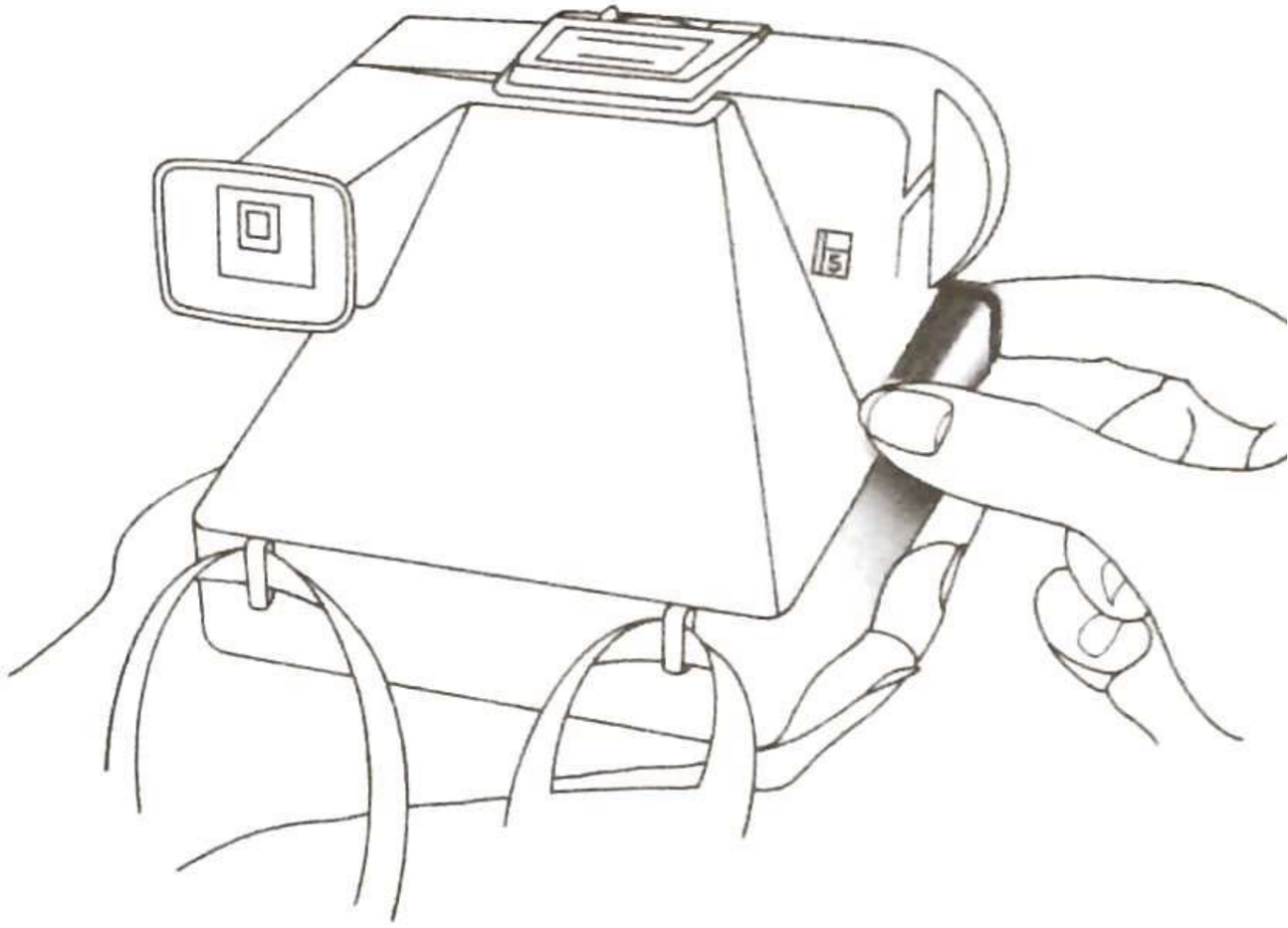


To hold the camera

Grip it firmly in the palm of your left hand.

Place your right thumb on the thumb grip, index finger on the shutter button, and curl the other fingers into your palm.

It's important to hold the camera as shown. Then, when you squeeze the shutter button, your fingers will not block the picture exit slot in front.



To aim

Bring your eye close to the view-finder eyepiece so you can see all four corners inside.

To shoot

Squeeze the shutter button. The camera automatically sets the lens. **Hold the camera steady until the film is ejected.**

Remove and handle the developing picture by its wide white border.

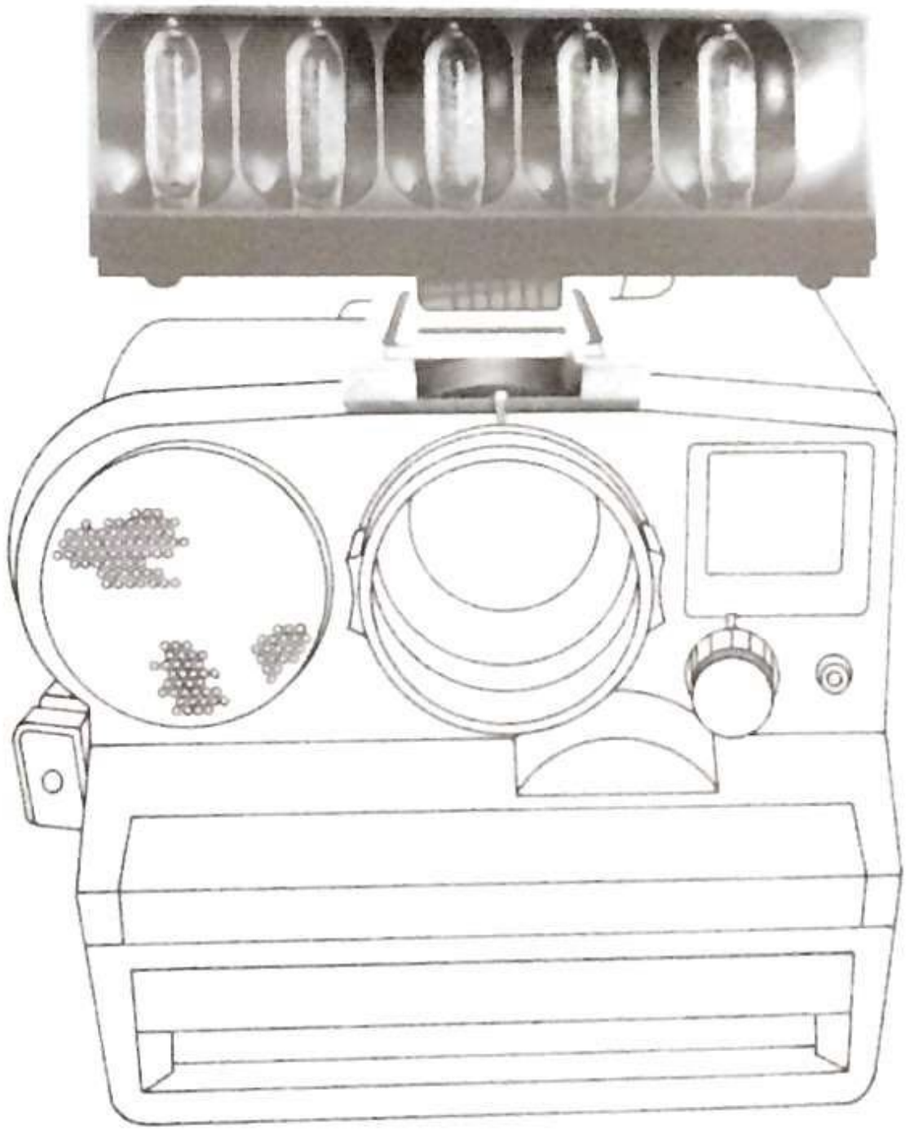
Use flash for most indoor pictures

Insert a FlashBar into the FlashBar socket. Always do this with the camera pointing away from you.

Indoors, you can take flash pictures of subjects **3 to 12 feet from the camera** (no more, no less).

You'll get particularly good flash pictures of people when they are 4 to 6 feet away and near a colorful background.

Flash pictures should not be taken where the atmosphere contains gases or dust that may be ignited by a spark.



Watch for your camera's "use flash or tripod" indicator

When you're not using flash, a red light may appear under the viewfinder as you begin to press the shutter button.

It warns that the lighting on the scene is not bright enough for hand-held picture taking. Outdoors, the red light will most likely appear when it is heavily overcast, at dusk or when you're shooting in a shaded area. It will also appear indoors in most room lighting.

If you see the red light, release the shutter button. Then use flash or place the camera on a tripod for a time exposure.

You can use flash in daylight

This exciting feature, called "fill-flash," can correct lighting situations that might otherwise have produced disappointing results.

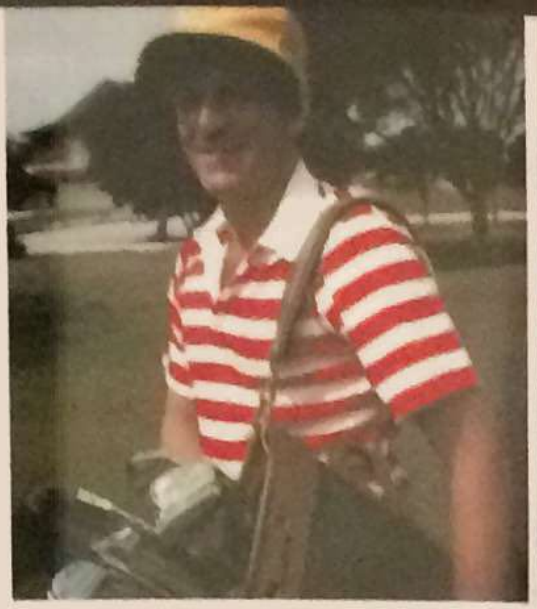
Although you can use "fill-flash" when your subjects are **3 to 12 feet from the camera,** you'll get particularly good results when they are 4 to 6 feet away.

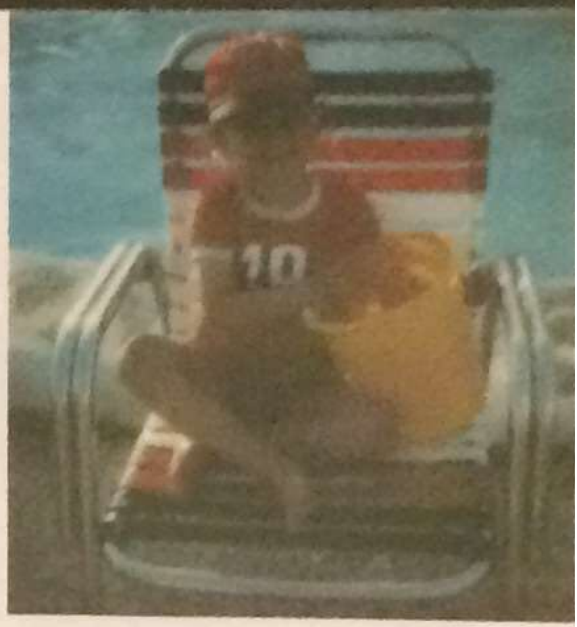
Here are the typical ways "fill-flash" can help in daylight.

(near right)
Strong sunlight can create harsh facial shadows. Flash can fill in the shadowed areas with even, flattering light.

(middle right)
Your subject may be forced to squint when facing bright sunlight. To get the natural expression you want, take your subject out of direct sunlight and use "fill-flash."

(far right)
When the sun is behind your subject (but not shining directly into the lens), your subject usually will be too dark in the picture. "Fill-flash" can provide the added light your subject needs.





Indoor flash hints

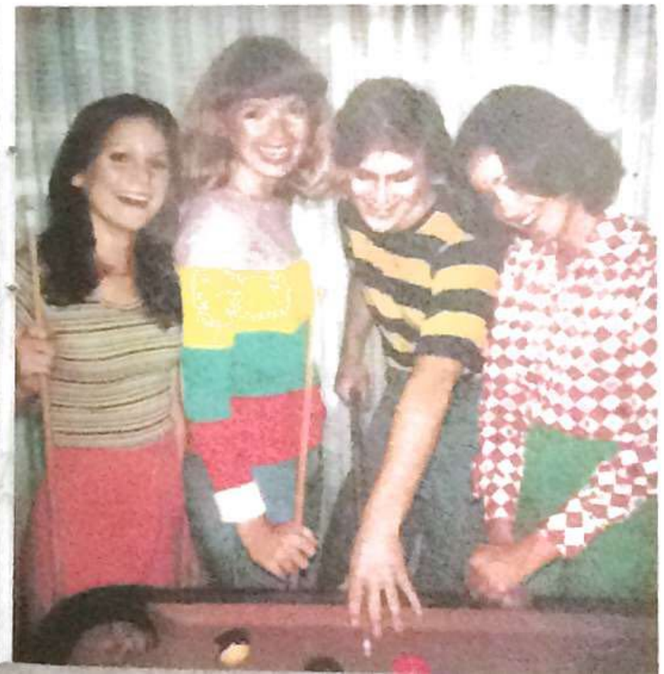
Watch the background
To assure that it will be well lit by the flash, the background should be colorful and near your subject.

When the background is dark, or far behind your subject, or beyond the flash range, it will be too dark in the picture.

Arrange groups carefully
All the people in a group should be about the same distance from the camera. Then everyone will be lit evenly by the flash.

To avoid a flash reflection
When shooting toward a reflective object or background (mirror, window, eyeglasses, etc.), stand to one side of your subject and shoot from an angle to avoid a flash reflection in the picture (see below).

However, when the reflective surface is smooth and flat and is the central part of your main subject (glass enclosed art, wall hanging, etc.), shooting at an angle may cause the sound waves to reflect away from the camera. If this happens, the lens will be set incorrectly and your picture may be unsharp. To avoid this, you can set the lens manually (see page 28).



Picture hints

It's easy to take beautiful pictures. Just keep these points in mind:

- Outdoors, in bright sunlight, stand so the sun is behind you or to the side.

- Move in close. You'll get particularly good results when your subject is about 4 to 5 feet from the camera. Then important details fill the picture and backgrounds are less distracting.

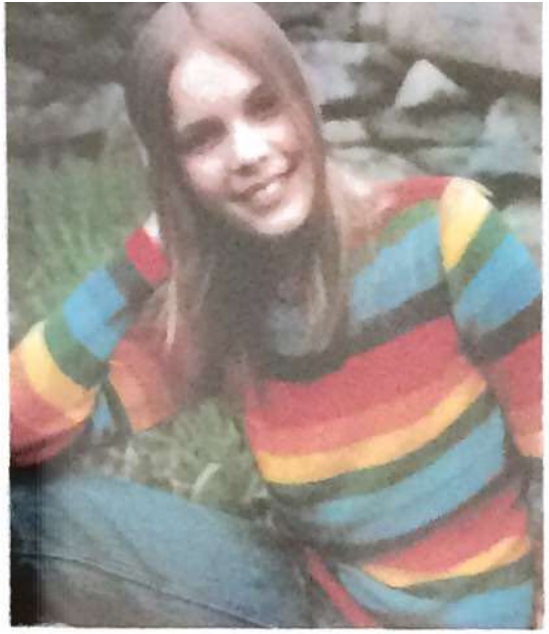
- Don't just wait for a special occasion. Photograph your subjects when they least expect it. Your camera is perfect for this type of shot—just aim and shoot.

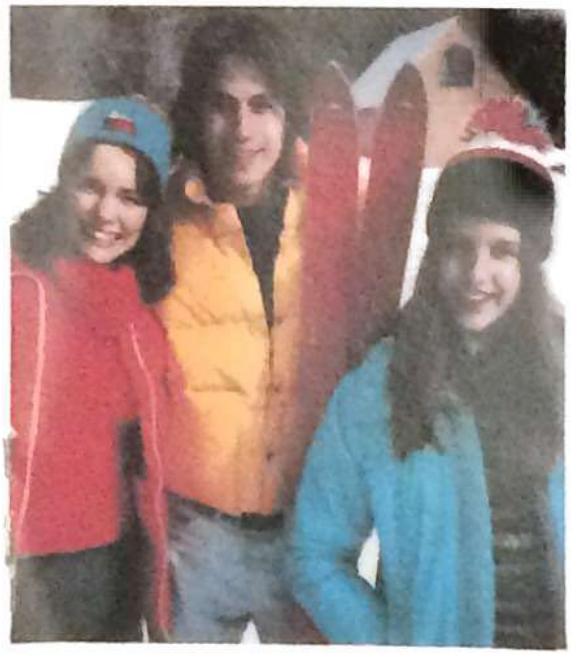
- Save action pictures for bright, sunlit days. Then your camera's shutter will work at top speed. And for best results, have your subjects move toward you rather than across the picture.

- Give your subjects something to do. Then they'll feel relaxed, not stiff or posed.

Picture hints, continued

- You don't always need direct sunlight to get great results. This portrait was taken on a bright overcast day. Since the light is diffused, shadows are soft, making it a flattering light for close-ups.
- When shooting scenics, include something in the foreground to serve as a natural frame or to show depth or scale.





- Include color. Use props. Ask your subjects to wear bold, solid colors or pose them near a colorful background.
- Watch the background. It should complement your subjects, not distract from them. Keep it simple.

Time exposures

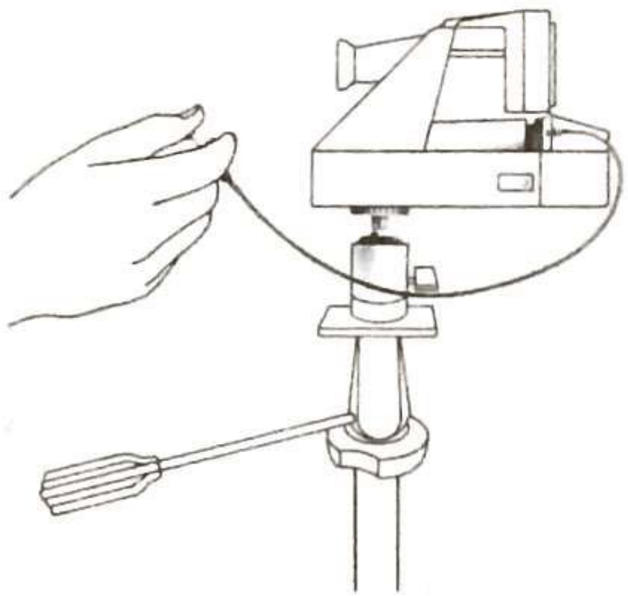
Your camera can make automatic time exposures up to one second.

Keep the camera steady by placing it on a firm support—a tripod is best—and use the Polaroid Cable Release #2327. The tripod socket is on the bottom of the camera.

To take the picture, hold the cable release button down until the film is ejected.

For best results indoors, stand so bright lights are behind you or to the side.

Although pictures taken indoors without flash may not faithfully reproduce the colors of the subject, they often have a charm and beauty all their own.



Tips on outdoor lighting

Outdoors, your camera's electric eye controls the lens opening and shutter speed to let just the right amount of light reach the film.

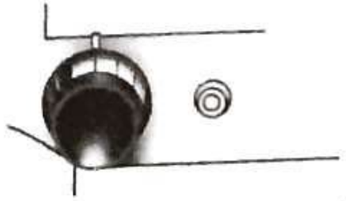
The electric eye works best when the scene is evenly lit. It can be "fooled" by uneven lighting as described below.

Bright backgrounds: White wall, swimming pool, beach or snow scenes, etc.

When a bright background is a large part of the scene and reflects more light than your subject, the electric eye sets the camera for the background causing your subject to appear too dark in the picture (top right).

You can do one of two things before taking the picture:

- move closer to your subject to reduce the effect of the background (bottom right).
- turn the Lighten/Darken control toward Lighten (shown below) to lighten your subject.



(Setting: 1 mark toward Lighten)

Dark backgrounds: Green foliage, dark wall, etc.

When a dark background is a large part of the scene and reflects less light than your subject, the electric eye will again set the camera for the background. Now, your subject may appear too light (top right).

Again, either move closer to your subject (bottom right) or set the Lighten/Darken control toward Darken (shown below) to darken your subject.

(Setting: 1 mark toward Darken)

To set the lens manually

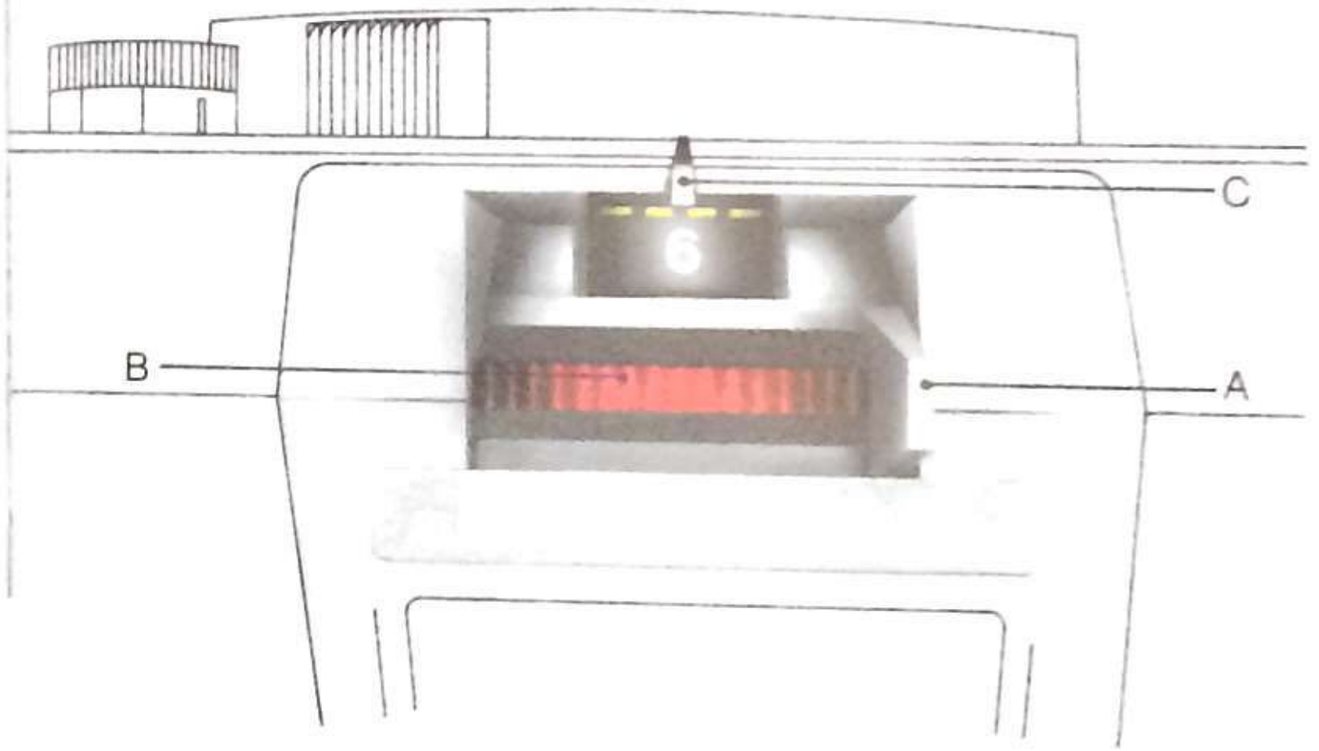
A few special situations call for setting the lens manually

- When shooting straight-on through glass, it will block the sound waves from reaching your subject. The lens will focus on the glass and your picture may be unsharp Screens or bars could cause the same result.
- When shooting at an angle toward a flat, smooth surface (glass enclosed art, wall hanging, etc), the sound waves may reflect away from the camera. If this happens, your picture may be unsharp

To set the lens manually: Flip the focus switch (A) to the manual position.

Then estimate the camera-to-subject distance and turn the manual focus wheel (B) until that distance is opposite the white pointer (C). The yellow broken line shows your camera's flash range: 3-12 feet.

When you've finished using the manual focus system, remember to flip the focus switch back to the automatic position. You'll hear the camera reset the lens for sonar focusing.



Troubleshooting

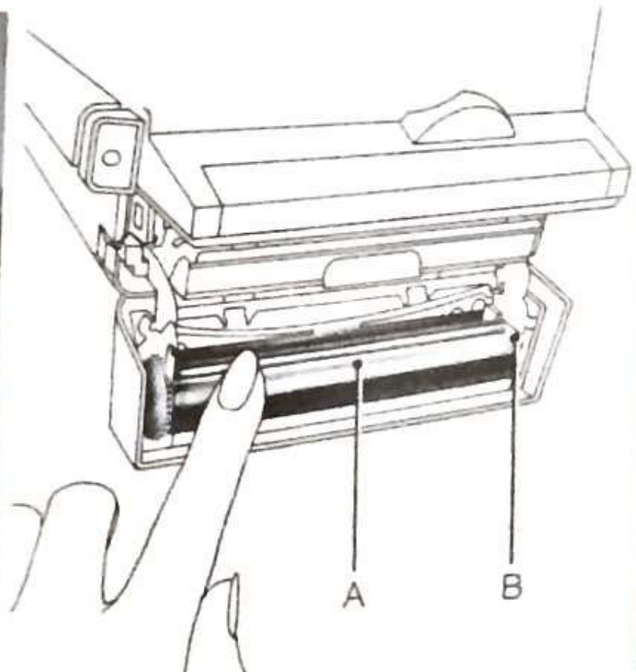
Repeated spots: If a repeated spot or bar pattern appears on the picture, the rollers inside the camera need cleaning.

It's best to check the rollers each time you load film.

To clean the rollers: In dim light, open the film door and rotate the rollers (A). Remove any specks of dirt with a clean, lint-free cloth, moistened with water if needed. Check the raised ends (B) on the top roller; dirt can collect there too.

Part of the picture is fogged: White areas on the picture mean light reached the film before the picture was taken. This can happen when you remove and reinsert a film pack in the light. The top picture will always be fogged; others may be fogged in one corner. It's best to remove and reinsert a film pack in dim light.

Part of the picture is missing: This happens when you damage the film by squeezing the pack above and below the yellow tab. As you load the camera, remember to hold the film pack by its edges.



If the camera does not eject the film cover:

1. Press the shutter button. If the cover is not ejected, in dim light remove the film pack, then reinsert it.
2. If the cover still is not ejected, remove the pack (its battery may be dead) and insert a new one.

If the film is not ejected when you press the shutter button:

1. Check the picture counter, the film pack may be empty.
2. Check the FlashBar, see page 7.
3. In dim light, pull the film pack out until the picture counter appears blank. Reinsert the pack (the picture counter will set to 10). The film should come out when you close the door. If the top piece of film is pushed forward when you reinsert the pack, pull that piece out. Then, close the door.
4. If the above fail to get your camera working, insert a new film pack. The battery in the first pack may be dead.

If the film cover or film is ejected only part way:

1. Release the film shade so it snaps back.
2. Pull the cover or film out.
3. If the camera still does not work properly, remove the film pack (its battery may be weak) and insert a new one.

If these remedies fail to get the camera operating, call Customer Service (see page 31).

If your camera needs repair

If you believe your camera needs repair, *before you send it to us* please call Customer Service and explain the problem. We just may be able to save you the time and trouble of returning it.

Your Polaroid Land camera dealer will be happy to return your camera for repair. Or if you prefer, you may bring the camera to a Polaroid Service Center, which offers walk-in service. Many repairs can be made while you wait. You can also talk to our representatives about any picture problems you may have.

Or, you may mail the camera to Polaroid for repairs. Pack it carefully. Address it to the nearest Polaroid Service Center (see back cover). Send it by *insured* parcel post. To make it easier we will, at your request, send a sturdy preaddressed shipping carton to you anywhere in the U.S.A.

When returning your camera, be sure to include a note clearly describing the camera problem and, if you can, sample pictures which illustrate it.

Polaroid Service Centers try to give the fastest possible service and highest quality workmanship. The goal is to repair and ship all cameras within five working days. Depending on distance and mail service, you can expect to have your camera back in 10 to 14 days.

Film replacement

Return any film pack that has a dead or weak battery to Polaroid or to your dealer, and we will replace it—provided the film has not passed the expiration date on its box.

If you're taking your camera outside the U.S.A.

Try to anticipate your needs and take along an adequate supply of SX-70 film and FlashBars. Or, before leaving, check with the nearest Polaroid Customer Service office for places of supply in other countries.

Care of your system

The camera
Treat your camera with care. Rough handling may damage delicate parts. The lens and viewfinder will seldom need cleaning. If they do, blow off any dust, then wipe them gently with a clean, lint-free cloth. From time to time, clean the rollers inside the film door with a similar cloth, moistened with water if necessary (see page 32).

The film
Polaroid SX-70 Land film, like all film, should be kept cool. If possible, store below 75°F (24°C). For longer storage, keep below 65°F (18°C). In its sealed box, the film can be refrigerated (not frozen). Let it reach room temperature before using it. This will take at least an hour.

To preserve its freshness, keep the film sealed in its protective box until ready for use. Then, take the same care of a loaded camera as you do your film. Keep the camera in a cool place (but not in a refrigerator).

The pictures
When your developing picture comes out of the camera handle it by its wide white border. Don't bend, crush, or fold the picture. Don't cut the picture's borders, this can ruin the picture.

The brilliant pictures made with your SX-70 system are among the most stable and resistant to fading ever known in photography.

Fingerprints on your pictures can be easily removed. Simply "mist" the surface with your breath, then lightly polish with a tissue or a soft clean cloth.

Electronic flash

Your camera was designed to use FlashBars and with a FlashBar it will produce well exposed pictures over the full flash range from about 3 ft. to 12 ft.

Because of the special electronic circuitry in SONAR OneStep cameras, an electronic flash unit must have matching electronic characteristics in order to give good picture results with this camera.

As of August, 1978, such electronic flash units were not available. However, it is expected that units designed to give excellent results with SONAR OneStep cameras (over a somewhat shorter flash range) will be marketed in the near future.

Polaroid Customer Service will have a list of electronic flash units designed to work with SONAR OneStep cameras and you can get this information by calling toll free (see page 31).

Electronic flash units other than those listed by Customer Service may not give consistently good results and may cause SONAR OneStep cameras to malfunction.

There is a general rule that applies to any electronic flash unit. If you get poor picture results with it, try a FlashBar. If you get good pictures with a FlashBar, but not with electronic flash, the cause of the problem is the electronic flash, not the camera or the film.