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How to operate your

**HEILAND**

**PENTAX**

**H-2**

**35 MM Single Lens Reflex Camera**

# IMPORTANT---Read This First!

## I N D E X

Camera familiarization and operation (Please read these pages carefully) .....	4 ~ 18
Features of PENTAX H-2 .....	20 ~ 25
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Resolving power of Takumar lenses .....	45



1

Focus only after cocking the rapid wind lever. (Because of the instant return mirror of the PENTAX, the position of the mirror varies slightly before and after winding the film and cocking the shutter.)



2

When advancing the film, be sure to stroke the rapid wind lever *all the way* until it stops.



3

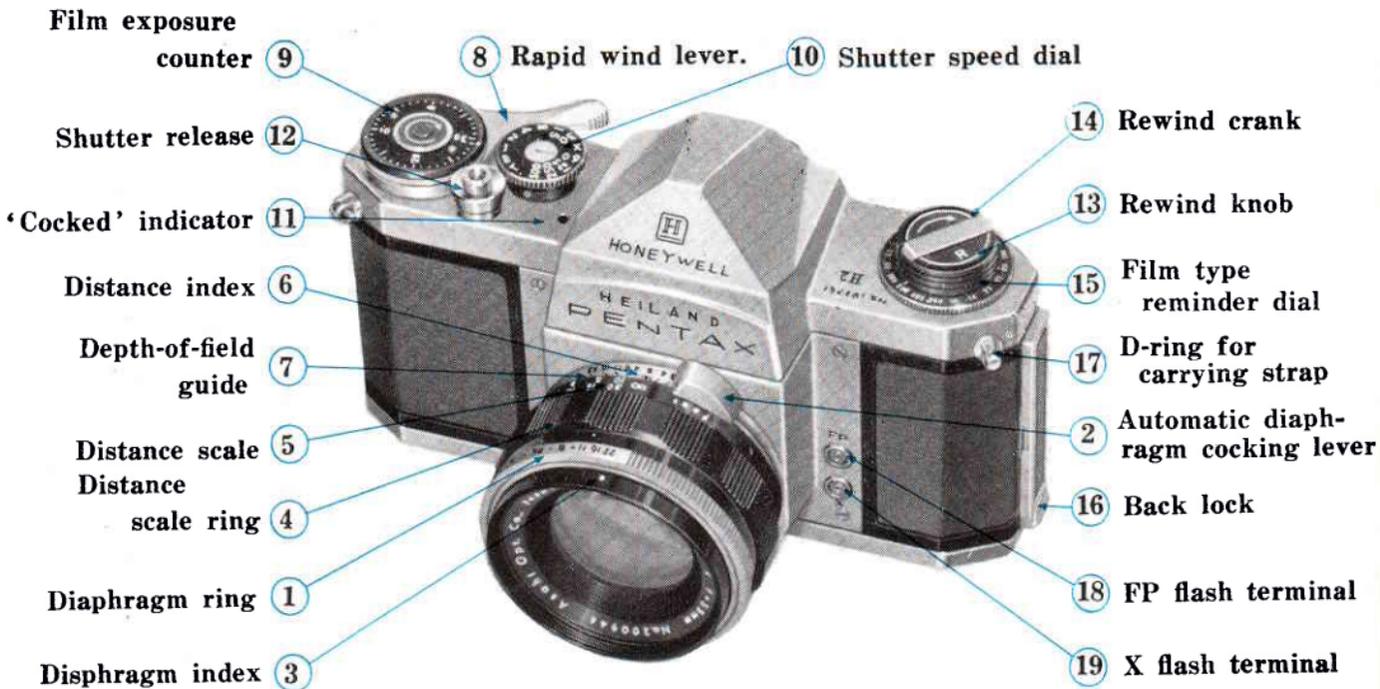
*Do not touch the surface of the mirror.* If the mirror gets dusty, use a blower to dust it off, or dust lightly with a good camel's hair brush.



4

If your PENTAX should need repair, don't try to fix it yourself. Have your Heiland dealer send it to the factory. For holders of our warranty card, free repair service will be maintained for material and workmanship defects within a period of 18 months after date of your purchase.

# MAJOR WORKING PARTS OF PENTAX H-2





## HOW TO USE YOUR SOFT CASE

The soft case is furnished with a black leather strap which should be attached to the D-rings on the camera. The design of the case allows it to be snapped over the camera with the strap in carrying position. A lenshood may be inverted over the lens and the camera with lenshood carried in the soft leather case.



(Horizontal position)



Hold the camera firmly with your left hand.

Draw your arm close to your body.

## HOW TO HOLD YOUR CAMERA

As a general rule, your camera should be held more firmly by the left hand which does not release the shutter. If you hold your camera with the right hand—the hand which releases the shutter—it may cause movement. Very often, pictures which are not sharp are due to movement of the camera.

When you focus with the camera held horizontally, hold the lens barrel as illustrated in the photograph below. Put the camera on the root of your left hand thumb and little finger. Turn the distance scale ring with your thumb and index finger.



When holding the camera vertically, some people release the shutter with the thumb (Photo A), while others release it with the index finger (Photo B). Position B is more desirable for fast focusing and shooting. With the PENTAX, whether held vertically or horizontally, you can see your subject image through the taking lens, and this enables you to compose, focus and shoot faster than with any other type camera.

(Vertical Position A)



Draw your arm close to your body.

Hold your camera tightly to your forehead with your left hand.

(Vertical Position B)

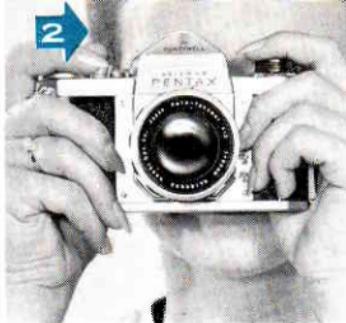


Raise your right arm.

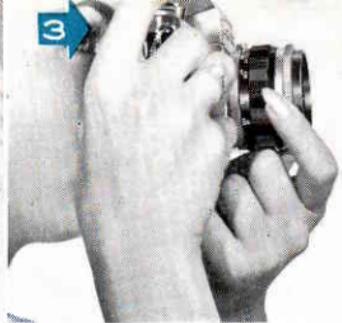
Draw your left arm to your body.



1. Cock the rapid wind lever.



2. Compose your picture.



3. For viewing exact depth of field at different apertures, view your subject while turning the diaphragm ring.



4. Select the f/stop you want by setting the diaphragm ring.

## BEFORE TAKING PICTURES . . .

5. Set the proper shutter speed.



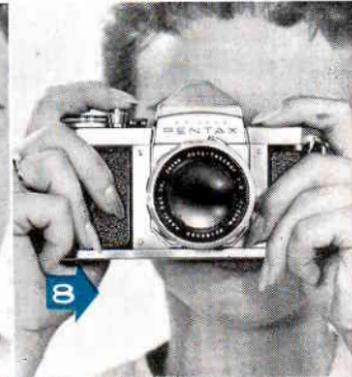
6. Cock the automatic diaphragm lever for full-aperture viewing.



7. Focus.



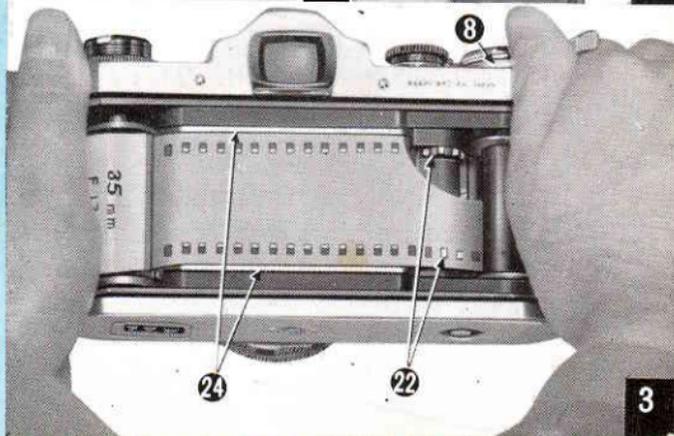
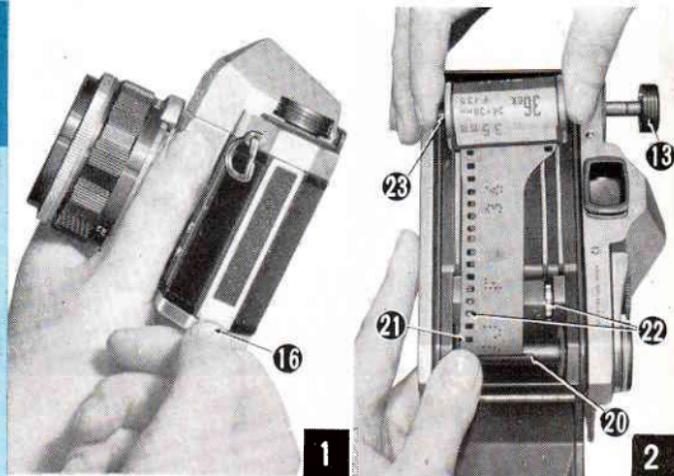
8. Trip the shutter.



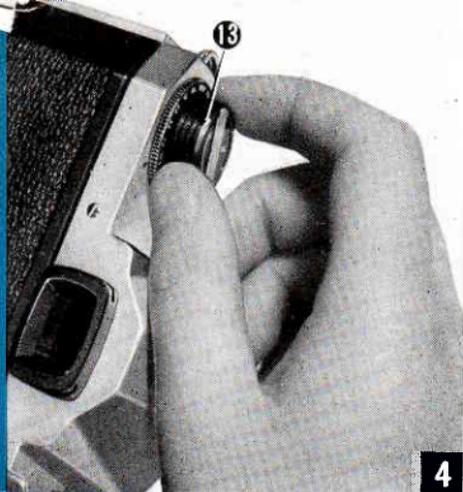
## FILM LOADING

Avoid direct sunlight when loading your film.

1. Open the back by pulling out the lock ⑯.
2. Pull out the film rewind knob ⑬ completely, place the film cassette ⑳ into the cassette chamber ㉓, and push back the rewind knob. Draw out the film leader and insert it into the slit ㉒ of the take-up spool ㉑. If the slit is not in a proper position to insert the film leader, turn the take-up spool with your finger.
3. Turn the rapid wind lever ⑧ and make sure that both sprockets ㉔ have properly engaged the film perforations. Close the back and fasten the lock ⑯.

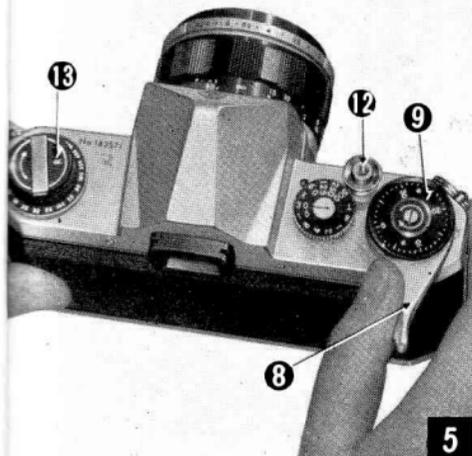


## FILM WIND AND REWIND



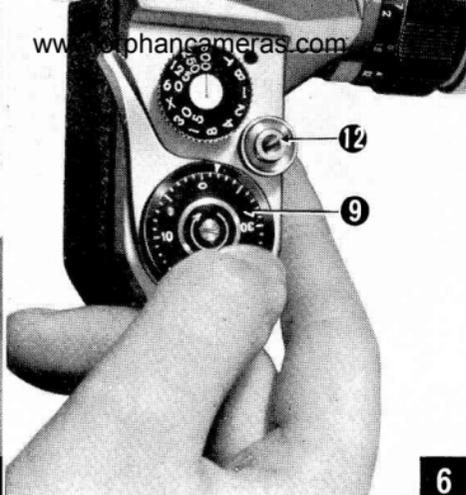
### To wind the film . . .

4. Before turning the rapid wind lever, slowly turn the film rewind knob clockwise until a slight resistance is felt. This prevents loosening or warping of the film.
5. The first portions of the film cannot be used for picture taking as they have already been exposed to light. Generally, two blank exposures should be made before taking your first picture. Cock the rapid wind lever until it stops. Watch to see that the film rewind knob automatically turns counter-clockwise, indicating that the film is moving from cassette to take-up spool. Trip the shutter and again cock the rapid wind lever. Set the exposure counter ⑨ to 0, and trip the shutter again. Your camera is now ready for the first pic-

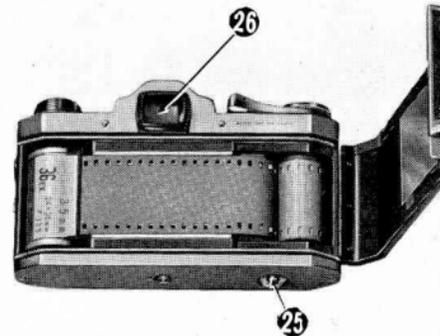


4

5



6



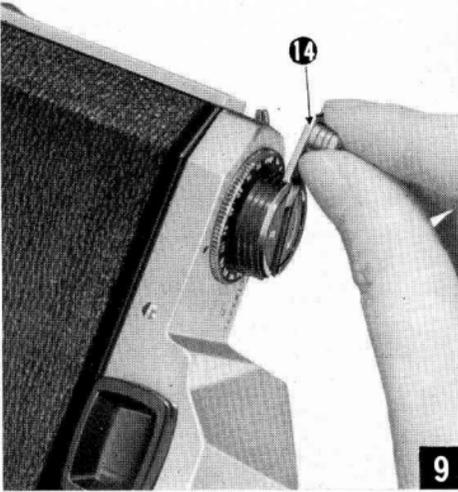
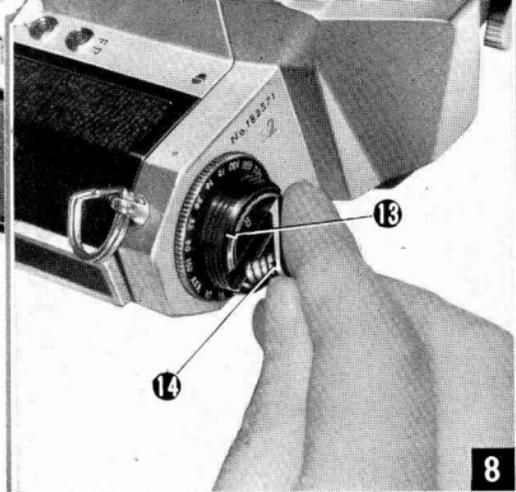
7

ture. When cocking the rapid wind lever for the first picture, the exposure counter automatically turns to '1', indicating that the first picture is ready to be taken. **ALWAYS COCK THE RAPID WIND LEVER COMPLETELY WITH A FULL STROKE.**

6. Turn the exposure counter dial ⑨ in the direction indicated by the arrow. **DON'T TURN IT IN THE OPPOSITE DIRECTION.**

After the final picture on the roll (20 or 36 exposures) has been taken, the rapid wind lever will not turn all the way as you stroke it. This indicates that the final picture has been taken on your film.

7. After the final picture has been taken, **DON'T** open the back or **ALL** exposed frames will be ruined.

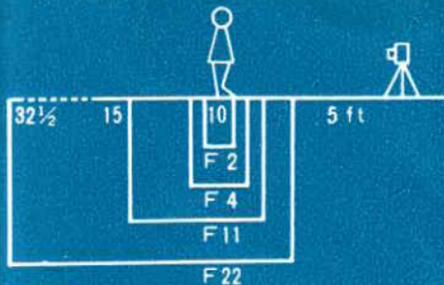


8. Unfold the film rewind crank ⑭.

9. Depress the film rewind release button ⑳ shown in photograph 7. Turn the rewind crank to rewind the film into the film cassette. The film rewind crank permits rewinding at a smooth, even rate. Under some atmospheric conditions, erratic or too rapid rewinding will cause static electricity marks on the film. You will feel the tension on the rewind crank lessen as the leader end of the film slips off the take-up spool.

Stop rewinding when you feel this happen. AVOID DIRECT SUNLIGHT WHEN UNLOADING YOUR FILM. (The rewind release button ⑳ will return to normal position as you load your next film and turn the rapid wind lever.)

10. Open the back, pull out the film rewind knob ⑬ and remove the film cassette. Bend the leader end of the film to indicate that the film is exposed and ready for development.

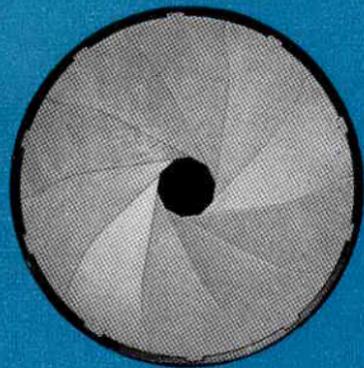


## BRIGHT FIELD FOCUSING

11



12. Cock the rapid wind lever ⑧, set the diaphragm ring ① at the desired f setting, cock the automatic diaphragm lever ② to fully open the diaphragm, and then start viewing and focusing through the finder window ②⑥ shown on page 11.
13. Turn the distance scale ring ④ until your subject image is clearly in focus. It is not always necessary for you to view and focus with the diaphragm fully open. In the bright outdoors, you can easily focus with the diaphragm closed to f 5.6 or f 8, and still observe the depth-of-field. It is easier, however, to focus with the diaphragm fully open as the depth-of-field is then shallow and your subject image much brighter.



## AUTOMATIC DIAPHRAGM

14

As you look at the lens while closing down the diaphragm ring to  $f/22$ , you will note that the diaphragm consists of ten blades which make a small round aperture in its center. As the diaphragm ring is turned from  $f/2$  to  $f/22$ , this round aperture becomes smaller. As the diaphragm is opened from  $f/22$  to  $f/2$ , the lens brightness doubles at each setting. For instance, twice as much light enters at  $f/11$  as at  $f/16$ .

When you cock the automatic diaphragm lever, the diaphragm is fully opened no matter what aperture is set on the diaphragm ring. As you release the shutter, the diaphragm automatically stops down to the predetermined aperture and the shutter curtains start travelling instantly. This is called an automatic diaphragm. To fully open the diaphragm again, cock the automatic diaphragm lever each time before you trip the shutter. If you wish to take several pictures at the same aperture setting, you need not cock the automatic diaphragm lever between pictures. On the Auto-Takumar 55 mm  $f/2$  lens, you will find intermediate  $f$  click stops on the diaphragm ring, which are useful when particularly critical exposures are required.

Note the following when you operate the automatic diaphragm:

1. You may turn the diaphragm ring and change the pre-selected aperture after cocking the automatic diaphragm lever. For example, you can change the diaphragm ring setting from  $f/5.6$  to  $f/2.8$  after cocking the diaphragm lever. . . the automatic diaphragm will stop down to  $f/2.8$  when you trip the shutter.

f/stop setting

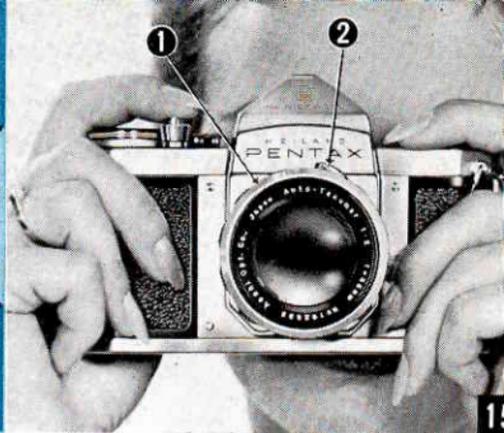
2 2.8 4 5.6 8 11 16 22

Actual shutter speeds, corresponding to...

1  $\frac{1}{2}$   $\frac{1}{4}$   $\frac{1}{8}$   $\frac{1}{15}$   $\frac{1}{30}$   $\frac{1}{60}$   $\frac{1}{125}$

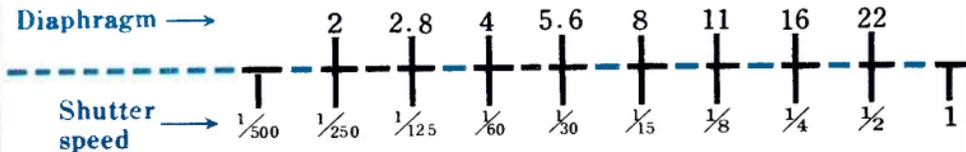
These numbers on shutter speed dial

1 2 4 8 15 30 60 125



2. You may cock the automatic diaphragm lever any time . . . before or after cocking the rapid wind lever . . . before or after setting the shutter speeds . . . before or after focusing.
3. If you wish to observe the depth-of-field after cocking the diaphragm lever and fully opening the diaphragm, you may trip the shutter button if you have not yet cocked the rapid wind lever. If you have already cocked the rapid wind lever, depress the shutter button very slowly to close down the diaphragm only without releasing the shutter. (The automatic diaphragm and the shutter operate with a double stroke to prevent vibration of the camera.)
4. When you do not intend to use your PENTAX for a lengthy period, (6 months to one year) turn the diaphragm ring to f/22 to protect the spring mechanism.

## SHUTTER

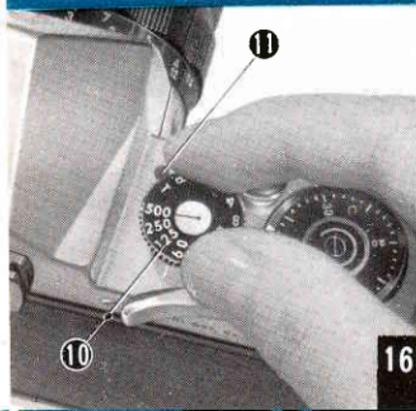


The PENTAX H-2 is equipped with shutter speeds: T, B, 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250 and 1/500 second. On the shutter speed dial, only the figures 1, 2, 4, 8... appear. The above diagram shows combinations of diaphragm opening and shutter speed, with each combination giving the same exposure.

### Adjustment of shutter speeds

Turn the shutter dial clockwise or counter-clockwise as you like, to the desired shutter speed. The shutter speed may be set either before or after cocking the rapid wind lever. As you cock the shutter by turning the rapid wind lever, the 'cocked' indicator (Ⓜ) becomes red showing the shutter is cocked. (For the reason explained in paragraph 1, page 3, make sure the 'cocked' indicator shows red before you focus the lens.) The indicator window blacks out as you trip the shutter button. For use of the X setting on the shutter dial, refer to page 24.

With the shutter speed dial set on B (bulb) the shutter will stay open as long as you depress the shutter button. As you release your finger from the shutter button, the shutter closes. When a long exposure is desired while using the B setting, attach a shutter release cable with a locking device to the shutter button. This will permit a "Time Exposure."





With the shutter speed dial set on T (time), the shutter stays open after the shutter button is released. To close the shutter, turn the shutter speed dial in either direction. Unless you turn the shutter speed dial, the shutter will not close.

## CAUTIONS

1. At slow speeds—slower than  $1/15$ —support your camera rigidly or use a tripod to prevent movement of your camera.
2. To protect the shutter mechanism, trip the shutter release before putting the camera out of use for any extended period. (6 months to one year or longer.)

## MAINTENANCE OF YOUR CAMERA

1. Protect your camera from humidity, salty air and dust. Hot temperatures above 120°f and low temperatures below -55°f will affect the shutter performance. In extremely hot weather, try to keep your camera cool. Never put it in the glove compartment or the rear window sill of your car. When extremely cold, try to keep the camera warm.
2. To remove grit or dirt from the camera body, use a soft brush or a dry soft piece of cloth. For the lens, use only a spray of air, soft lens tissue, or a camel hair brush. For the reflex mirror, use a spray of air or a soft camel hair brush only. Never wipe the mirror or lens surface with cloth.
3. Never use oil in your camera and do not touch the shutter curtains.

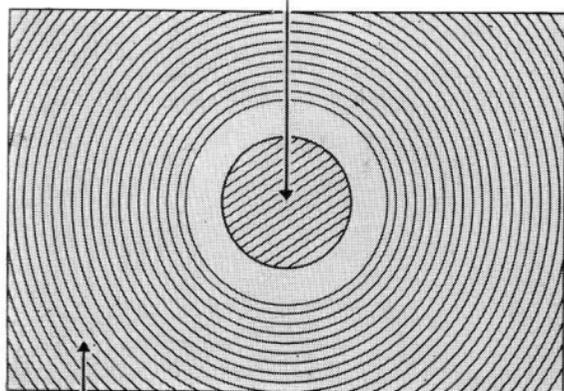


# MAJOR FEATURES OF PENTAX H-2

Here's why the Heiland PENTAX H-2 is the world's best value in single-lens reflex cameras :

- Type** ----- Pentaprism single lens reflex with automatic diaphragm.
- Film size** ----- 35 mm film 20-36 exposures.
- Picture size** ----- 24 mm × 36 mm
- Standard lens** ----- Auto-Takumar 55 mm f2 with automatic diaphragm, helicoidal lens barrel.
- Shutter** ----- Focal plane shutter ; single non-rotating dial.  
Speeds: T (Time), B (Bulb), 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250 and 1/500 of a second.
- Finder and Focusing** ----- Pentaprism finder with microprism Fresnel lens brightened ground glass. Life size image viewing and focusing with standard lens.
- Reflex mirror** ----- Instant return mirror.
- Rapid film advance** ----- Single-stroke(90°) rapid wind lever transports film and cocks shutter.
- 'Cocked' indicator** ----- When shutter is cocked, a small window located by the shutter dial shows red.
- Film rewind** ----- Rapid rewind crank speeds film take-up.
- Double Exposure** ----- Coupled film wind and shutter cocking prevents double exposure.
- Lens mount** ----- Threaded lens mount for interchangeable lenses. An adapter ring is available for use of Asahiflex lenses.
- Flash Synchronization** ----- FP and X terminals.
- Film type re-minder dial** ----- Color coded film type guide for ASA ratings for color, black & white and special film.
- Accessory Clip** ----- On both sides of finder window frame are grooves to accept accessory clip and 90° finder, furnished as accessories.

## MICROPRISM



## FRESNEL LENS

As shown on page 46, the Heiland PENTAX H-2 has a Fresnel lens with microprism center underneath the ground glass. As you look through

the finder, you will see that the Fresnel lens consists of many concentric rings that provide the brightest possible image in the ground glass.

The microprism is the portion pointed out in this diagram. When your subject is in focus, the image at the center will be clear as elsewhere on the ground glass. But once your subject is out of focus, the image at the center will look greatly distorted, and you can easily see that your subject is not in focus. You can focus on your subject at any portion of the ground glass of the PENTAX.

## DEPTH-OF-FIELD

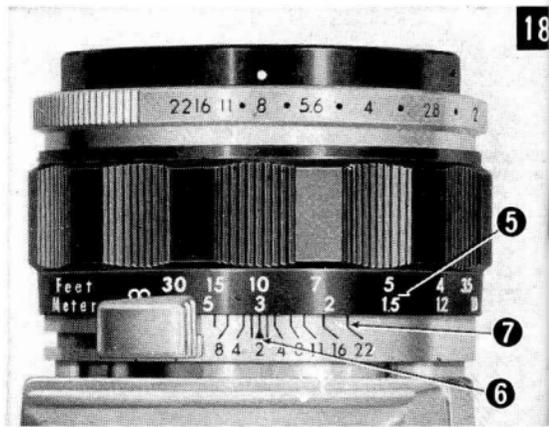
Depth of field is the range between the nearest and farthest distances that are in focus at different lens apertures. With the PENTAX, you can determine the depth of the field in advance by looking through the camera's taking lens.

## DEPTH-OF-FIELD GUIDE

If you want to know how great the depth of field is at a certain aperture; look at the Depth-of-Field Guide (7). In figure 18, the distance scale is set at 10 feet...the lens is focused on a subject 10 feet away. The figures on each side of the distance scale index (6) correspond to the diaphragm setting and indicate the range of in-focus distance for different lens apertures. For example, if the lens opening of f8 is to be used, the range on the distance scale ring covered within the figure 8 indicates the area in focus at that lens opening. You will note from this Depth-of-Field Guide that the range from 8 feet to 14 feet is in focus. Note that as the lens apertures change, the effective depth of field also changes. For the depth of field when using extension tubes, refer to page 25.

## COMPOSITION OF PICTURES

Horizontally and vertically, the viewfinder of the PENTAX covers the actual picture size so closely that you can compose your picture to the full viewfinder format.



## FILM TYPE REMINDER DIAL

The ASA film speed rating of all 35 mm films is given in the data sheet packed with each roll of film. As the ASA number increases, the sensitivity of the film also increases. For example, for two films of ASA 50 and ASA 200, the ASA 50 film requires 4 times more exposure than the ASA 200 film.

Use the film type dial (located beneath the rewind knob) to show what type of film is in your camera. Simply set the ASA number of the film you are using opposite the pointer. Use white figures for black and white film; red figures for color film; and green figures for special film, such as positive film, copying film, etc. To check whether the camera is loaded, turn the film rewind knob clockwise. If it turns freely, the camera is not loaded.

