

ASAHI PENTAX SPOTMATIC F



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Your new Pentax Spotmatic F is one of the finest photographic instruments on the market. This camera represents the culmination of Pentax research into the optical possibilities, needs and wants of both professional and amateur photographers 'round the world. And of course it is built to Pentax ultra-high standards of accuracy and durability, to guarantee you superb photographic results for years.

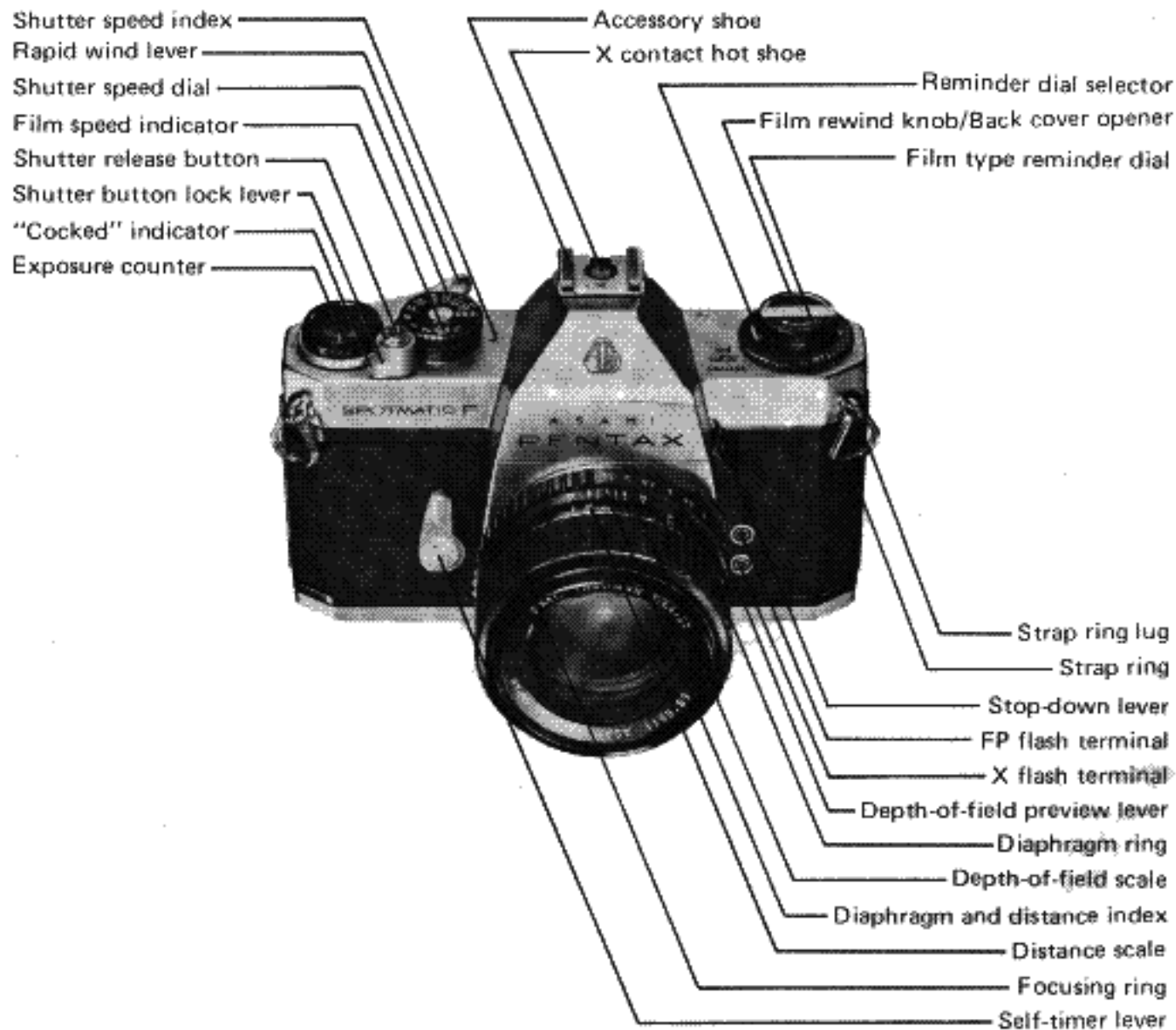
The Spotmatic F is a refinement of the original Spotmatic which, in 1960, introduced through-the-lens metering to the world. The Spotmatic F features "Full Aperture Reading". This system allows both focusing and meter reading to be done with the aperture wide open. There is no stopping-down of the diaphragm, no need to re-open the aperture for clear focusing once the f-stop has been selected. And because the aperture always remains wide open, the image in the viewfinder always remains bright.

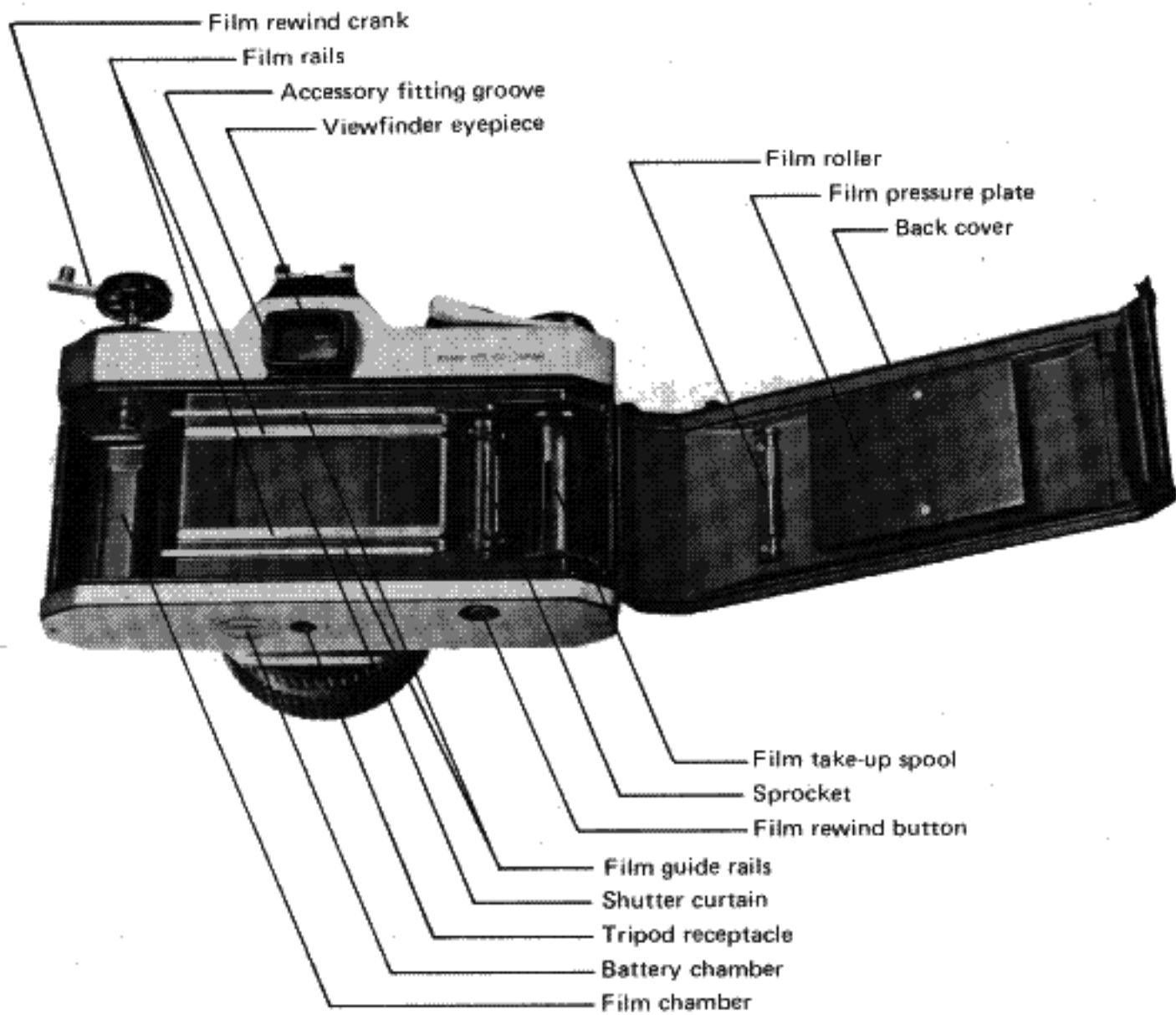
Two other improvements in the Spotmatic F concern the metering system — now activated by just the removal of the lens cap; and the shutter — which can now be locked against accidental release.

The Spotmatic F continues the Spotmatic tradition of compactness and classic feel. It also retains compatibility with the entire line of 24 Super-Multi-Coated (SMC) Takumar lenses which reduce flare and boost contrast to give you greater detail and brighter colors than are possible with ordinary lenses. The Spotmatic F is compatible with the complete line of Pentax accessories — filters, Extension Tubes, Bellows Unit, etc. Altogether, it's a system that can grow with you as your interests develop in any direction.

We are very proud to have designed and produced the new Pentax Spotmatic F. We are sure you will be equally proud to own it.




NOMENCLATURE





SPECIFICATIONS

Type	35mm single-lens reflex with built-in TTL light meter.
Film and Picture Size	35mm film. 24mm x 36mm.
Standard Lenses	SMC Takumar 50mm f/1.4 or 55mm f/1.8 with fully automatic diaphragm. Filters and lenshood size: 49mm. Distance scale: 0.45 (1.5 feet) to infinity.
Shutter	Focal plane shutter. Speeds: B, 1-1/1000 sec. Film speed (ASA) setting dial and window on shutter speed dial. Built-in self-timer releases shutter in 6-12 seconds. Shutter button lock provided.
Viewfinder	Eye-level pentaprism finder with Fresnel lens + microprism. Also, one with split-image focusing screen is available. 0.89x magnification with 50mm lens and life-size magnification with 55mm lens. -0.1 dioptre. 93% field of view.
Focusing	Turn the distance scale ring until the viewfinder image comes into focus.
Reflex Mirror	Instant return type with special shock absorbers for minimum vibration.
Lens Mount	42mm threaded lens mount.
Film Advance	Ratchet-type rapid wind lever (for film advance and shutter cocking). 10° pre-advancing and 160° advancing angle.
"Cocked" Indicator	A red disk appears in a small window alongside the shutter release button when the shutter is cocked, and blacks out when it is released.

Film Exposure Counter	Automatic re-set type.
Flash Synchronization	FP + X contacts for conventional flash cord connection. X contact on hot shoe for convenient flash cordless connection.
Exposure Meter	TTL CdS meter measures the average brightness of the ground glass at full lens aperture, and couples directly to shutter and film speed settings. Film speed (ASA) from 20 to 3200. LV3 - 18 for ASA100 film with 50mm lens. Powered with one 1.3V mercury battery.
Film Rewind	Rapid rewind crank for speedy film take-up. Film rewind release button on bottom of camera body rotates while film is being rewound.
Loaded Film Indicator	Loaded film reminder dial underneath film rewind knob is marked 20 and 36 (Exposures),  for color daylight type,  for color tungsten type, and  for black and white.
Dimension	With 50mm lens: width 143mm (5.6") x height 93mm (3.7") x thickness 91mm (3.6"). With 55mm lens: width 143mm (5.6") x height 93mm (3.7") x thickness 87mm (3.4").
Weight	894 g (1 lb. 13 oz.) with 50mm lens. 842 g (1 lb. 11 oz.) with 55mm lens. 642 g (1 lb. 5 oz.) without lens.

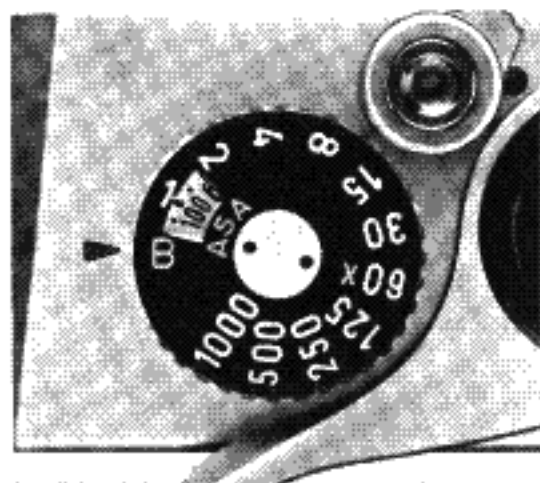
BASIC OPERATING INSTRUCTIONS

A mercury battery for the light meter is packed separately. Be sure to insert it into the battery chamber before operating the camera. For insertion instructions, refer to page 10.



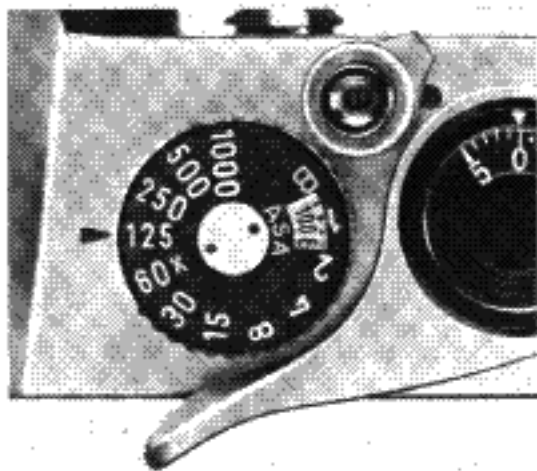
1. TURN ON LIGHT METER

Remove the lens cap. Now the meter circuit is on. The CdS cells are ready to measure the light coming in through the lens for correct exposures. (For the range of light measurement, refer to page 27.)



2. SET FILM SPEED

Lift the outer ring of the shutter speed dial, turn it around and set the same number as the ASA number of the loaded film to the small orange index which is alongside the figure 1. Then cock the rapid wind lever.



3. SET SHUTTER SPEED

Turn the shutter speed dial and set the speed you wish to use to the index. When outdoors, set the speed at 1/125 sec. or faster, depending upon the lighting. When indoors, set it at 1/30, or in its neighbourhood. Change the shutter speed later, when necessary. (Refer to instructions 5.)



4. COMPOSE AND FOCUS

While viewing through the viewfinder, turn the focusing ring with your thumb and index finger until you get the sharpest image of your subject at the microprism center of the finder.



5. ROTATE DIAPHRAGM RING

The needle moves with the turn of the diaphragm ring. When the needle rests at the center, you will get correct exposure. If the needle does not come to the center no matter how far you turn the diaphragm ring, change the shutter speed. When the needle is off center and close to the (+) mark, you will get over-exposure: change the shutter speed to a faster setting. If the needle is closer to the (-) mark, you will get under-exposure: change the shutter speed to a slower setting.



6. RELEASE SHUTTER

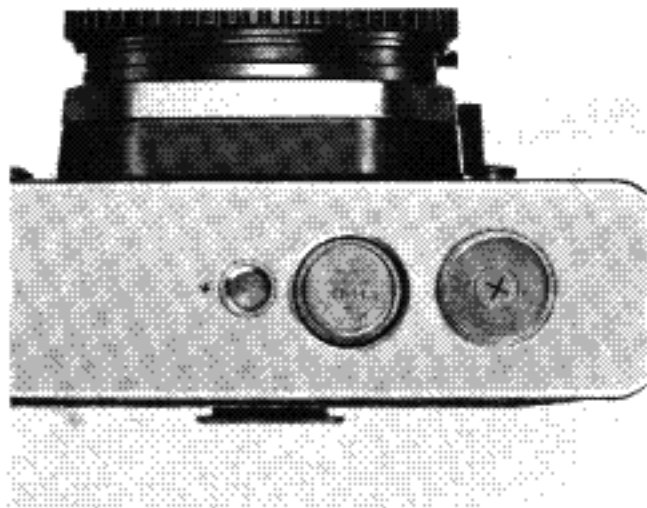
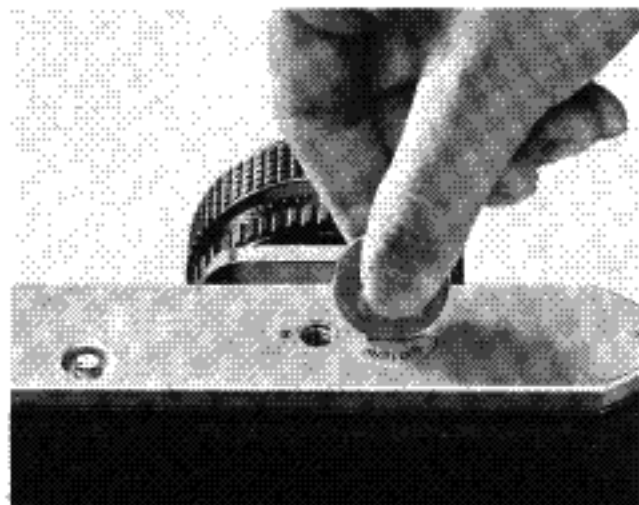
Hold your camera firmly and trip the shutter. When the shutter is released, cock the rapid wind lever for the next picture. (When taking a series of pictures under the same lighting conditions, it is not necessary to repeat instructions 5.)

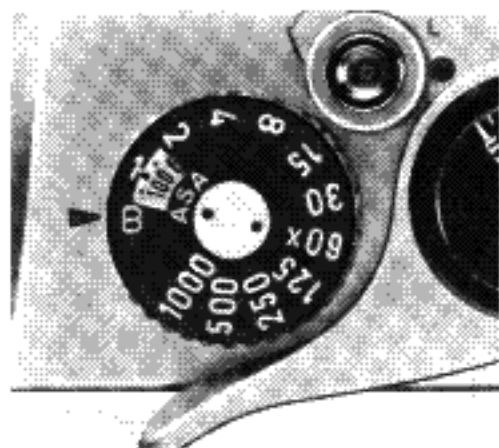


MERCURY BATTERY

HOW TO INSERT IT

Open the battery chamber cover with a coin. Insert the battery with (+) side faced outward. For replacement, use Mallory PX-625 or Eveready E-625N or equivalent.



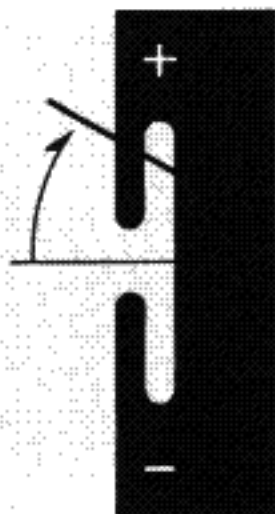


HOW TO CHECK IT

Set the shutter speed dial to B (bulb) position.

Turn the ASA dial to ASA 100.

Look at the meter needle through the viewfinder. If the needle is in "up" position and remains steady, the battery has sufficient power; if it does not, replace the battery.



CAUTION:

The mercury battery is like a phonograph record. It can be damaged by skin acids. Handle by the edges with a dry cloth only. Be sure the battery is cleaned with the cloth before insertion into the camera. The battery is not rechargeable. Do not throw a dead battery into fire, as it may explode. Also, keep it beyond the reach of small children.

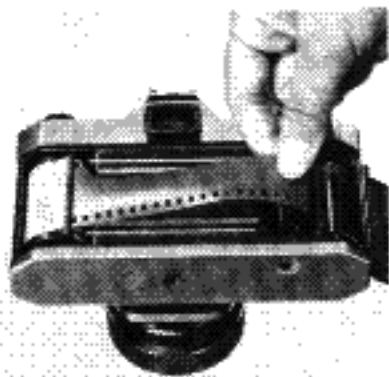
FILM LOADING AND WINDING

Avoid direct light when loading your film.

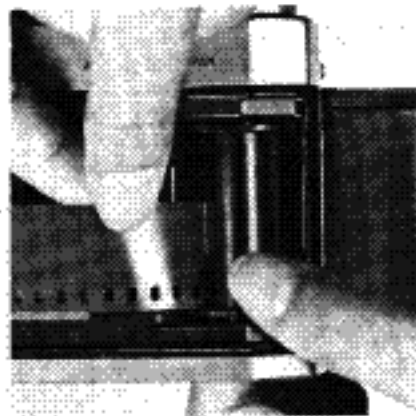
1. Open the back by pulling out the rewind knob until the back cover snaps open.



2. Place the film cassette properly into the cassette chamber, and push down the rewind knob. Insert the film leader into the slot of the take-up spool.



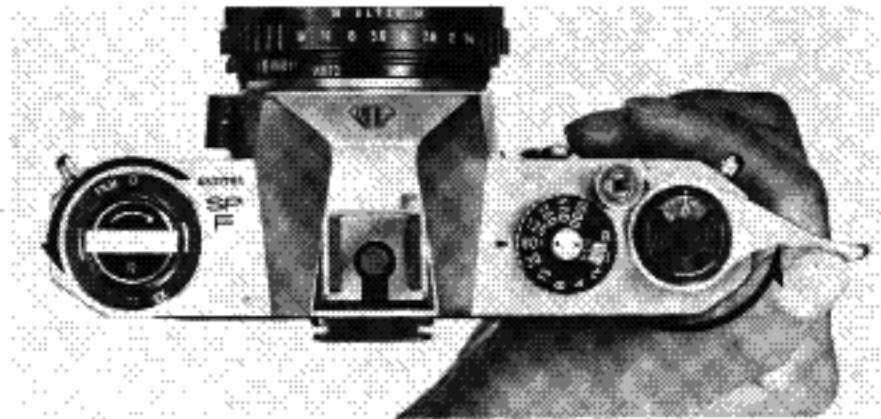
3. Advance the film by alternately turning the rapid wind lever and depressing the shutter button until both sprockets engage the film perforations properly. Close the back by pressing it firmly.






4. Cock the rapid wind lever, and confirm that the film rewind knob automatically turns counter-clockwise, indicating that the film is properly loaded and is moving from cassette to take-up spool. Trip the shutter.



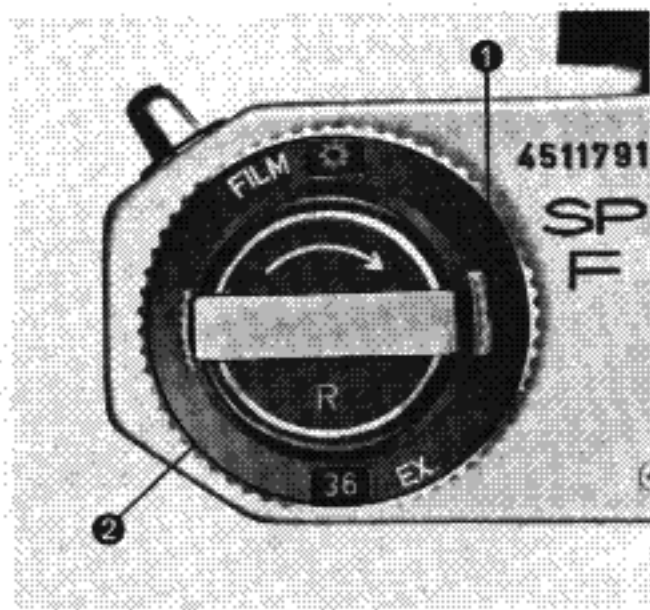
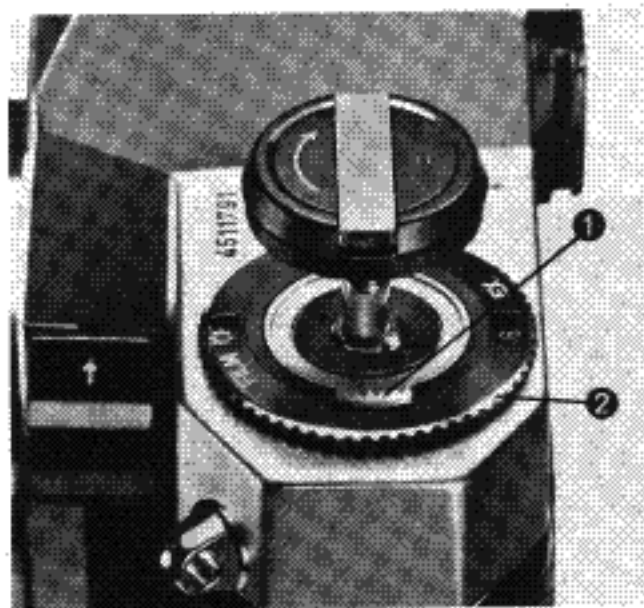
5. The first portions of the film cannot be used for picture taking as they have already been exposed to light. Generally, two or three blank exposures should be made before taking your first picture. Therefore, advance the film until the exposure counter turns to "1", indicating that the first picture is ready to be taken.



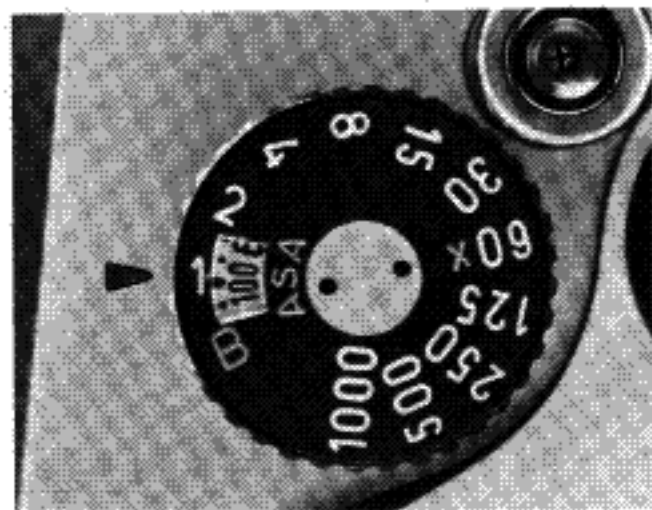
FILM TYPE REMINDER DIAL

Use the film type dial to show what type of film is in your camera. The dial is marked  for black-and-white,  for daylight color film,  for tungsten color film, 20 and 36 exposures. When you have pulled out the rewind knob to open the back when loading the film, move the dial selector **1** and turn the outer ring **2** so that both the type of film and its number of exposure appear in the windows.

To check whether the camera is loaded, turn the film rewind knob clockwise. If it turns freely, the camera is not loaded.



SETTING ASA FILM SPEED



The ASA film speed rating of all 35mm films is given in the data sheet packed with each roll of film. The higher the ASA number, the more sensitive the film. Lift the outer ring of the shutter speed dial and rotate it until the ASA number of your film is opposite the orange dot alongside the figure 1.

Be sure to set your film speed on the shutter speed dial because the dial is connected to the exposure meter system.

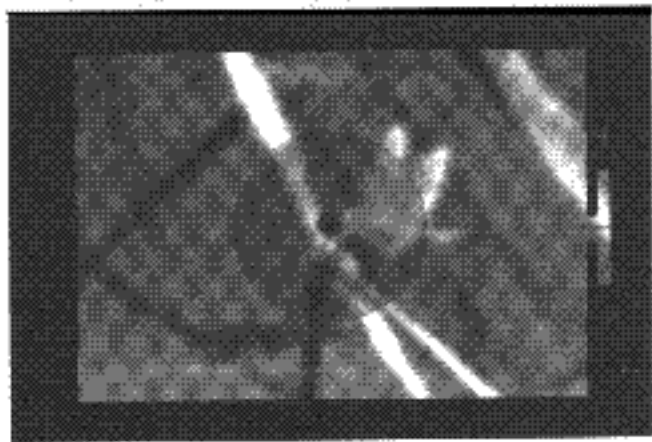
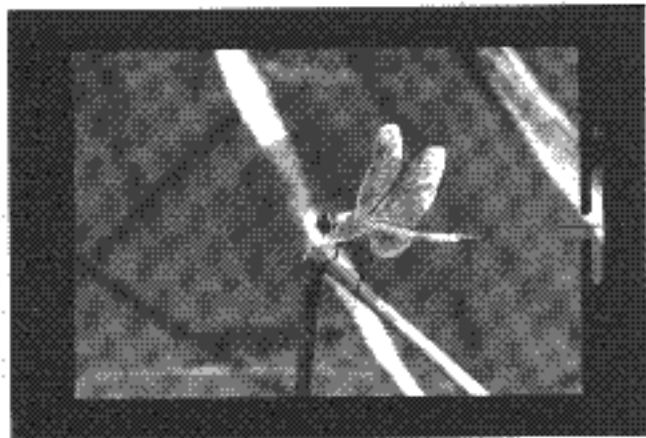
	2500	2000	1250	1000	640	500	320	250	160	125	80	50	40	25
ASA	3200	1600	800	400	200	100	64	32	20					
DIN	36	33	30	27	24	21	18	15						

COMPOSE AND FOCUS

While viewing through the viewfinder, turn the focusing ring until your subject comes into sharp focus.

Pentax viewfinders have a Fresnel lens with a microprism center underneath the ground glass. As you look through the finder, you will see that the Fresnel lens consists of many concentric rings which provide the brightest possible image on the ground glass.

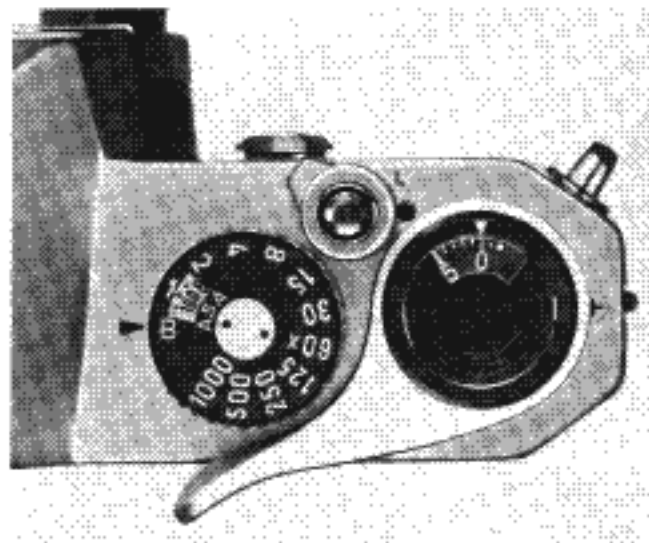
The microprism is the center portion of this diagram. When your subject is in focus, the image in the microprism will be sharp and perfectly clear. If your subject is not in focus, the microprism will break the image into many small dots, much like an engraver's screen. You can focus your subject on any portion of the ground glass.



SHUTTER

Turn the shutter speed dial clockwise or counter-clockwise to the shutter speed desired. 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 turns to red showing that the shutter is cocked.

The indicator window blacks out as you trip the shutter button. For use of the X setting on the shutter speed dial, refer to page 28.



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, set the shutter button lock by moving the lever to the left (an "L" becomes visible) while depressing the shutter button. Alternately, use a cable release with a locking device. This will permit a "Time" exposure.

CAUTIONS:

At slow speeds — slower than 1/30 — support your camera rigidly or use a tripod to prevent movement of your camera. To protect the shutter mechanism, trip the shutter release before putting the camera out of use for any extended period.

CAMERA HOLDING

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 camera movement. Very often, blurred pictures are due to movement of the camera.

Horizontal position A.

Hold the camera firmly with your left hand, and draw your arms close to your body.



Vertical position B.

Hold your camera tightly to your forehead with your left hand, and draw your right arm close to your body.



Vertical position C.

Hold your camera tightly to your forehead with your left hand, raise your right arm and draw your left arm to your body.

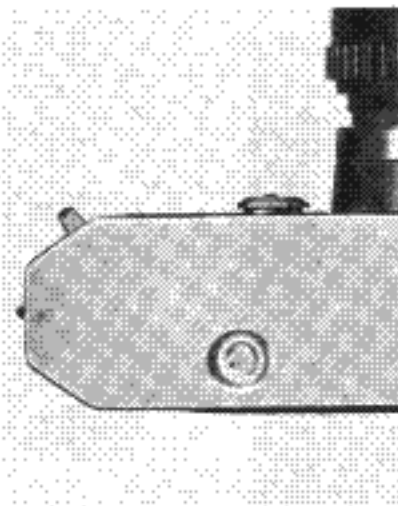


FILM UNLOADING

After the final picture on the roll has been taken, the rapid wind lever will not turn, indicating that the film must be rewound.

Lift the rewind crank up. Depress the film rewind release button and turn the rewind crank as indicated to rewind the film into its cassette. Rewind until the tension on the crank lessens, indicating that the leader end of the film has been released from the take-up spool.

Pull out the film rewind knob (the back will open automatically), and remove the film cassette. **AVOID DIRECT LIGHT WHEN LOADING OR UNLOADING THE FILM.**



STOP-DOWN LEVER AND STOP-DOWN METERING

The "down" position is normal for the stop-down lever on the Spotmatic F. The "down" position is necessary for open-aperture readings and for interchanging lenses.

The "up" position for the stop-down lever is used only when:

- 1) checking the depth of field,
- 2) using close-up accessories such as Bellows Unit, Extension Tubes, etc. which

are inserted between the camera body and the open-aperture reading lens.

- 3) using four of the current SMC Takumar lenses:

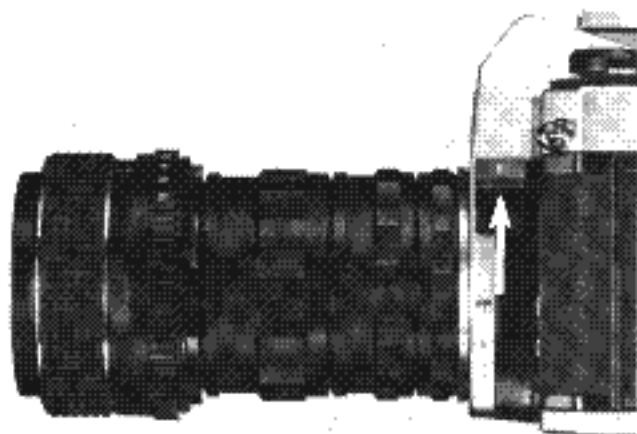
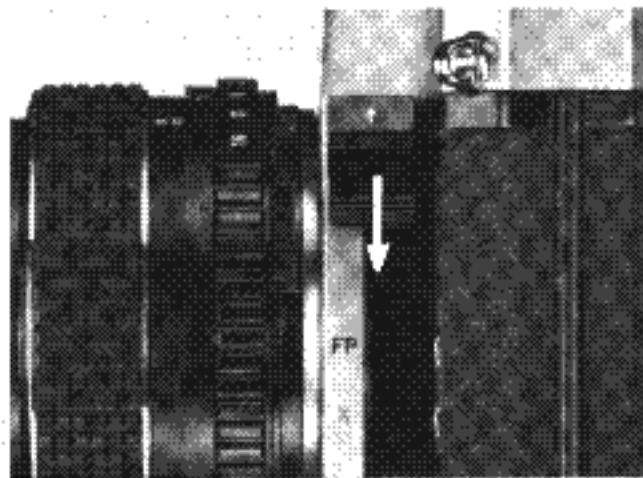
SMC Takumar 400mm f/5.6

SMC Takumar 500mm f/4.5

SMC Takumar 1000mm f/8

SMC Takumar Zoom

85 - 210mm f/4.5

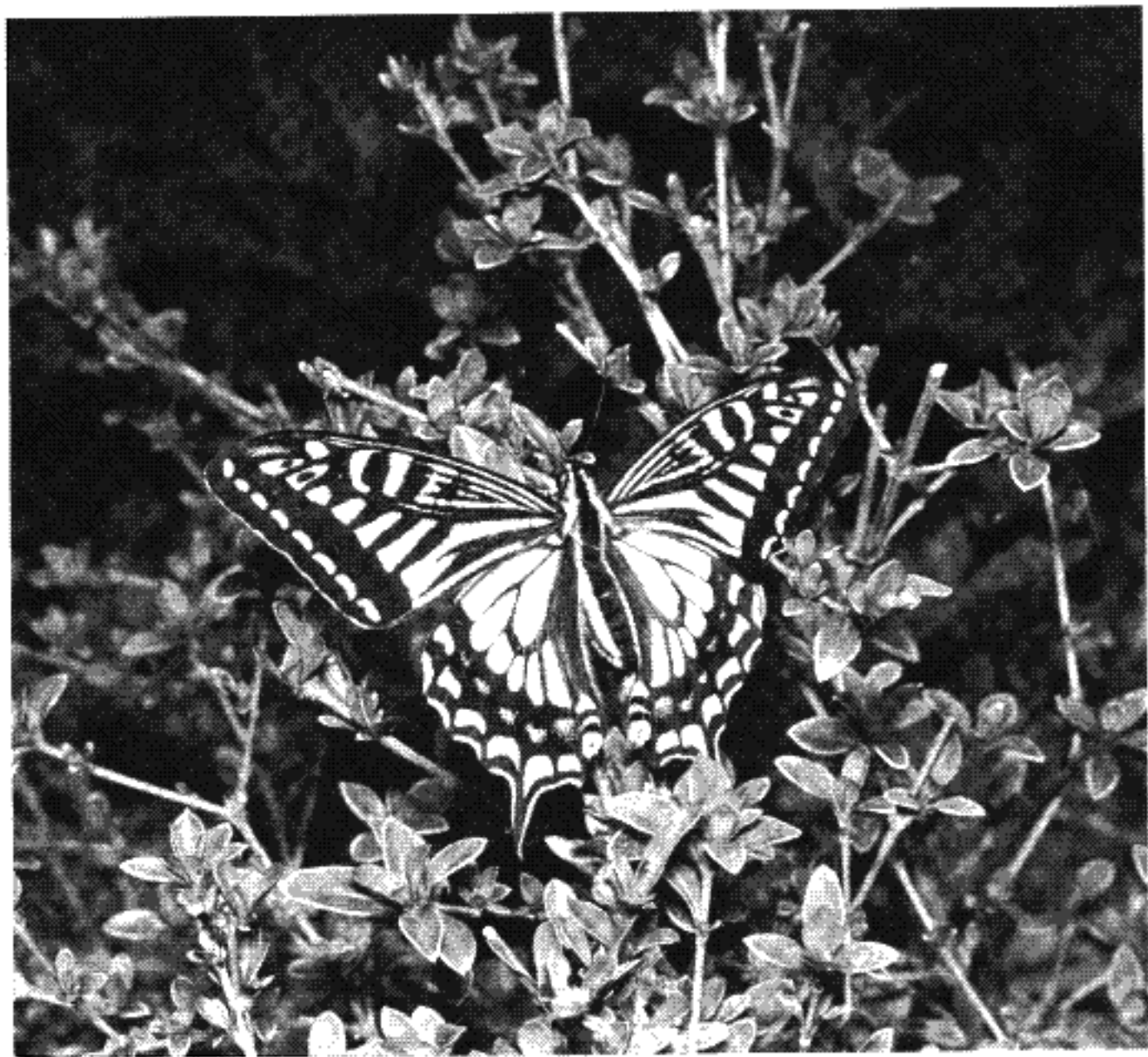


- 4) using any stop-down metering lenses. (Takumar lenses called just "Takumar", Auto-Takumar, Tele-Takumar and Super-Takumar are stop-down metering lenses.)

When making a stop-down metering with your Spotmatic F, first focus the lens with the diaphragm fully open. Then, push up the stop-down lever and center the meter needle by turning the diaphragm ring or the shutter speed dial. You are ready to release the shutter.



Note that the stop-down metering lenses do not have the diaphragm coupling lever ❶ seen on the back of all open-aperture metering lenses.



DEPTH-OF-FIELD PREVIEW LEVER

The preview lever on open-aperture reading SMC Takumar lenses should always be set to "AUTO" when the lens is used on the Spotmatic F. The lever has an interlock that prevents it from being set to "MAN"

when directly mounted on the Spotmatic F. (When close-up accessories are inserted between the lens and the camera body, the lever is movable, but it should also be set to "AUTO".)



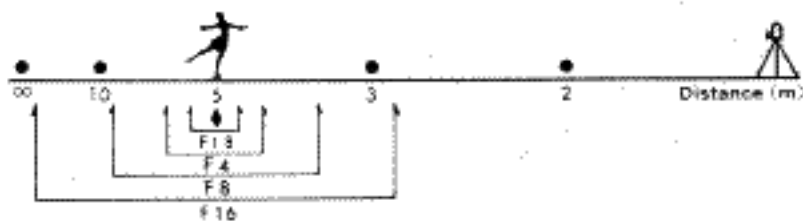
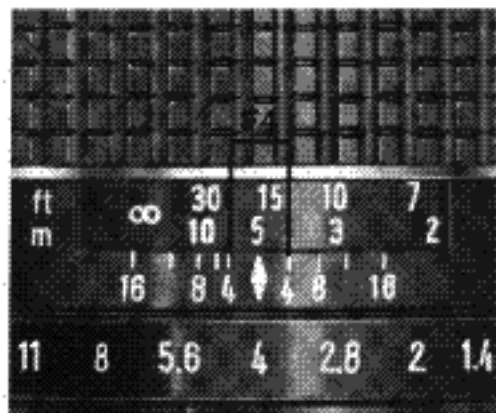
This instruction applies to the Pentax Spotmatic F, ES and ES II models only. When the lens is mounted on any other Pentax model, the preview lever will operate normally.

DEPTH-OF-FIELD GUIDE

Depth of field is the range between the nearest and farthest distances which are in focus at a given lens aperture.

If you want to know how great the depth of field is at a certain aperture, look at the depth-of-field guide. In the photograph below, the distance scale is set at 5 meters ... the lens is focused on a subject 5 meters away. The calibrations on each side of the distance index correspond to the diaphragm setting and indicate the range of in-focus distance for different lens apertures. For example, if the lens opening of $f/4$ is to be used, the range on the distance scale covered within the figure 4 on the depth-of-field guide indicates the area

in focus at that lens opening. You will note from the depth-of-field guide in the photograph that the range from approximately 4.5 to 6.5 m is in focus. Note that as the lens apertures change, the effective depth of field also changes. For the depth of fields at different apertures and distances, refer to the next page.



DEPTH-OF-FIELD TABLE: SMC TAKUMAR 50mm LENS

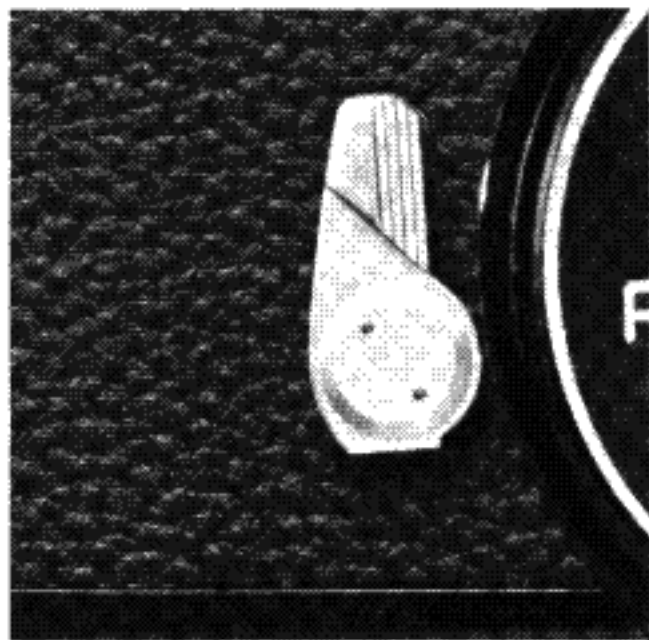
Distance scale F setting	0.45m	0.6m	1m	1.5m	2m	5m	10m	∞
F1.4	0.45 ~ 0.453	0.59 ~ 0.61	0.98 ~ 1.02	1.46 ~ 1.54	1.93 ~ 2.07	4.57 ~ 5.52	8.40 ~ 12.36	51.75 ~ ∞
F2	0.45 ~ 0.454	0.59 ~ 0.61	0.98 ~ 1.02	1.46 ~ 1.56	1.90 ~ 2.11	4.41 ~ 5.78	7.86 ~ 13.75	36.24 ~ ∞
F2.8	0.44 ~ 0.46	0.59 ~ 0.61	0.97 ~ 1.03	1.43 ~ 1.58	1.87 ~ 2.16	4.21 ~ 6.16	7.24 ~ 16.19	25.90 ~ ∞
F4	0.44 ~ 0.46	0.59 ~ 0.62	0.95 ~ 1.05	1.40 ~ 1.62	1.81 ~ 2.23	3.94 ~ 6.84	6.48 ~ 22.05	18.14 ~ ∞
F5.6	0.44 ~ 0.46	0.58 ~ 0.62	0.94 ~ 1.07	1.36 ~ 1.68	1.76 ~ 2.34	3.64 ~ 8.03	5.68 ~ 42.68	12.97 ~ ∞
F8	0.44 ~ 0.47	0.57 ~ 0.63	0.91 ~ 1.11	1.24 ~ 1.89	1.66 ~ 2.52	3.26 ~ 10.87	4.80 ~ ∞	9.10 ~ ∞
F11	0.43 ~ 0.47	0.56 ~ 0.65	0.88 ~ 1.15	1.30 ~ 1.77	1.56 ~ 2.80	2.88 ~ 19.53	4.02 ~ ∞	6.63 ~ ∞
F16	0.42 ~ 0.48	0.54 ~ 0.67	0.84 ~ 1.24	1.16 ~ 2.16	1.42 ~ 3.42	2.42 ~ ∞	3.16 ~ ∞	4.57 ~ ∞

Distance scale F setting	1'6"	2'	3'	5'	10'	15'	30'	∞
F1.4	1'6.12" 1'6.13"	1'11.8" 2' 0.2"	2'11.5" 3' 0.6"	4'10.4" 5' 1.7"	9' 5.6" 10' 7.2"	13' 9.7" 16' 4.9"	25' 6.6" 36' 4.2"	169' 9.2" ~ ∞
F2	1' 5.9" 1' 6.1"	1'11.6" 2' 0.4"	2'11.3" 3' 0.8"	4' 9.8" 5' 2.4"	9' 3.1" 10'10.6"	13' 4.3" 17' 1.2"	24' 0.2" 39'11.8"	118' 3.5" ~ ∞
F2.8	1' 5.8" 1' 6.2"	1'11.5" 2' 0.6"	2'10.9" 3' 1.1"	4' 9" 5' 3.4"	8'11.9" 11' 3.2"	12' 9.6" 18' 1.4"	22' 3" 46' 1.4"	84'11.6" ~ ∞
F4	1' 5.6" 1' 6.4"	1'11.4" 2' 0.6"	2'10.6" 3' 1.7"	4' 7.7" 5' 7"	8' 7.4" 11'11.2"	12' 0.6" 19' 11"	20' 0.4" 59'11.6"	59' 6.4" ~ ∞
F5.6	1' 5.5" 1' 6.5"	1'11.2" 2' 1"	2' 10" 3' 2.3"	4' 6.2" 5' 7.2"	8' 1.9" 12'11.2"	11' 2" 22'10.7"	17' 8.3" 100'1.3"	42' 6.8" ~ ∞
F8	1' 5.4" 1' 6.6"	1'10.8" 2' 1.3"	2' 9.1" 3' 3.4"	4' 4.1" 5'10.9"	7' 6.8" 14' 9.5"	10' 1" 29' 7.2"	15' 0.7" ~ ∞	29'10.2" ~ ∞
F11	1' 5.2" 1' 7"	1'10.4" 2' 1.9"	2' 8.2" 3' 4.8"	4' 1.6" 6' 4.2"	6'11.3" 18' 0.6"	8'11.8" 46' 9.7"	12' 8.4" ~ ∞	21' 9" ~ ∞
F16	1' 4.8" 1' 7.3"	1' 9.7" 2' 2.9"	2' 6.7" 3' 7.6"	3' 10" 7' 3"	6' 1.2" 28' 7.6"	7' 7.2" ~ ∞	10' 1" ~ ∞	15' ~ ∞

SELF-TIMER

Depending upon how far down you turn the self-timer cocking lever ①, it will release the shutter in 6 – 12 seconds. When operating the self-timer, always depress the self-timer release button ② to release the shutter. Do not depress the shutter button

... it will immediately release the shutter without delayed action. The self-timer cocking lever should be turned down at least 90° or the release button will not operate.



RANGE OF LIGHT MEASUREMENT

The exposure meter of the Spotmatic F measures the brightness of the ground glass. Therefore, the meter needle should be matched after you have focused your subject on the ground glass. The area A in the table indicates the reading range of the meter, and should not be interpreted as the camera's total range of f/stop-shutter speed combinations. As you will note from the table below, with an ASA100 film, you may use any shutter speed from 1/4 sec. to 1/1000 sec. in combination with any aperture that will bring the meter needle to the midpoint in the viewfinder. The total range of the aperture settings is, of course,

determined by the minimum and maximum apertures of the lens being used. For example, with the 50mm f/1.4 lens and ASA100 film, an aperture from f/1.4 (the maximum aperture of this lens) to f/16 (the minimum aperture) may be used with any shutter speed from 1/4 sec. to 1/1000 sec. that will bring the meter needle to midpoint.

ASA \ SHUTTER SPEED	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000
20, 25											
50											
100											
200								A			
400											
800											
1600											
3200											

FLASH SYNCHRONIZATION

The Spotmatic F has FP and X terminals at the front of the camera body, and a separate X contact on the built-in hot shoe. The table below shows which flash contact, which shutter speed and which flash bulb may be combined for maximum lamp efficiency. Unless these combinations are rigidly followed, there will be a failure in flash synchronization. Note the "X" setting is exactly at the 60 marked on the speed dial. This indicates the highest shutter speed at which electronic flash units may be used.

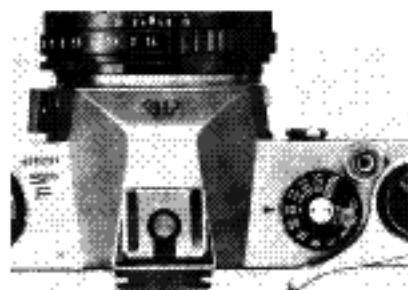
Use the hot shoe flash contact when using a shoe-mount electronic flash like the

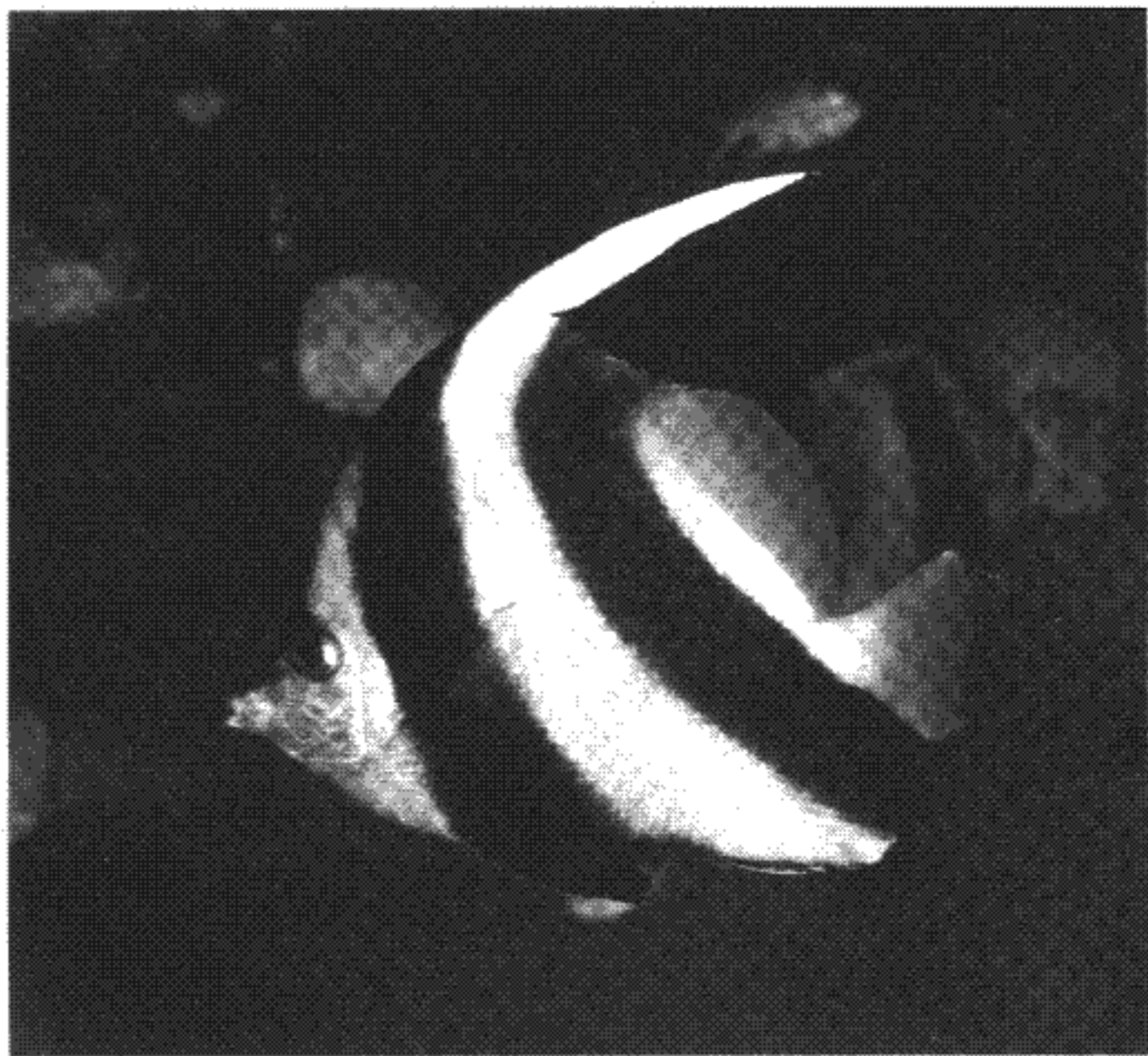
Pentax Super-Lite II which also has a flash contact on the shoe bracket. In this case, there is no need to plug the flash cord into the X terminal on the body front.

The hot shoe flash contact turns to "hot" (switched on) only when you insert a shoe-mount electronic flash. It remains "cold" (disconnected) even when using an electronic flash with its cord plugged into the X terminal on the body front. This eliminates the danger of electric shocks.

When not using these terminals, keep the plugs inserted.

TERMINAL		SHUTTER SPEED	1/1000	1/500	1/250	1/125	1/60X	1/30	1/15	1/8	1/4	1/2	1	B
ELECTRONIC FLASH	X													
FLASH BULB	FP		FP CLASS											
	X								M · MF · FP CLASS					



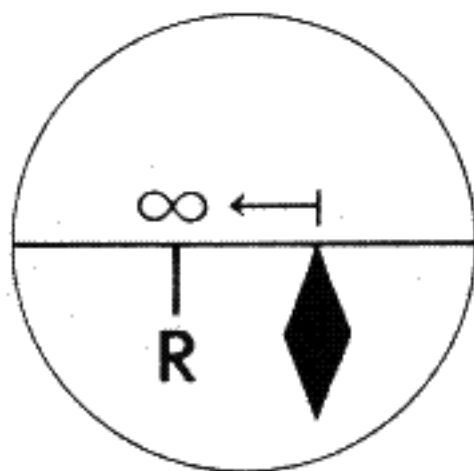


INFRA-RED PHOTOGRAPHY

If you intend to take infra-red photographs, remember to use the infra-red index marked with an orange line or a small "R" on the depth-of-field guide.

First, focus your lens on your subject. Determine the lens-to-subject distance

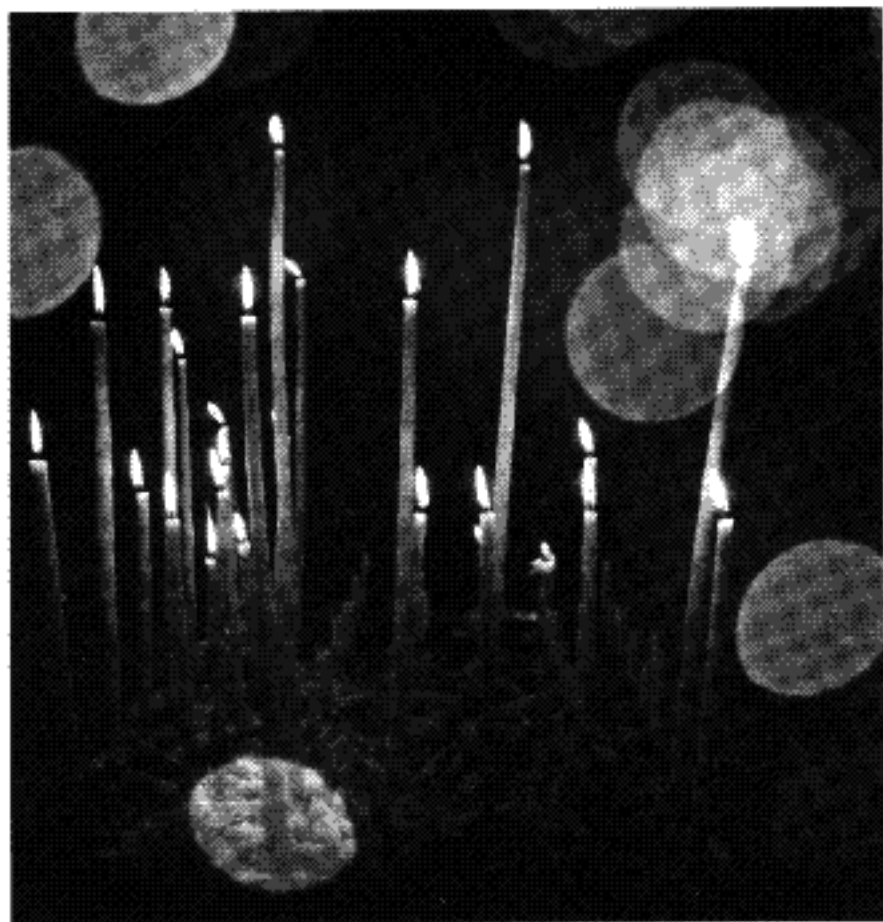
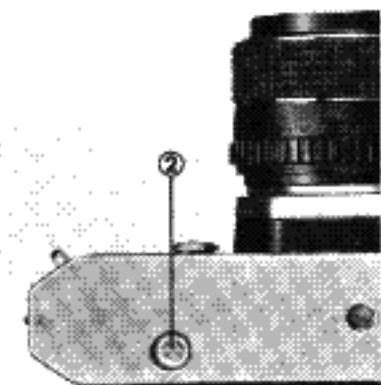
from the distance scale. Then match your lens-to-subject distance to the infra-red index by turning the distance scale accordingly. For instance, if your subject is in focus at infinity, turn the distance ring and move the infinity (∞) mark to the index.



MULTIPLE EXPOSURE

For deliberate multiple exposures, make the first exposure in the normal way. Then tighten the film by turning the rewind knob ①, and keep hold of the rewind knob. Depress the film rewind release button ② and cock the rapid wind lever. This cocks the

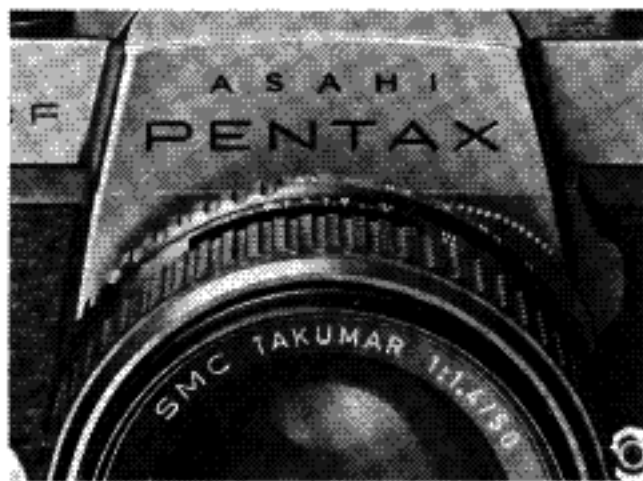
shutter without advancing the film. Finally, release the shutter to make the second exposure. Then make one blank exposure, before taking the next picture, to avoid overlapping. Registration of the exposure counter may not be exact.



SPECIAL CAUTIONS

1

Takumar lenses and Pentax accessories are engineered and meticulously produced for Pentax use. Lenses and accessories from other manufacturers are not produced for Pentax specifications and may cause problems or difficulties with you Pentax. We cannot assume any liability if other brands are used.



2

When not actually measuring the light, be sure that the lens is covered at all times. Leaving the lens cap off for an extended period will exhaust the mercury battery.



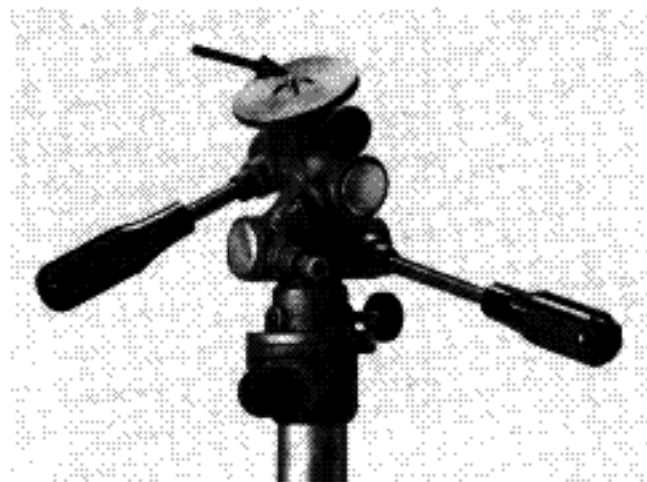
The integral meter of your Spotmatic F correctly reads your exposures through the taking lens and through whatever accessories you use on the lens or between the lens and the camera. Thus, the exposure increase factors which apply when taking pictures with filters, close-ups, macro-and micro-photos, do not apply to the Spotmatic F.

No!

**Exposure
factor**

- × 1.63
- × 1.96
- × 3.20
- × 4.80
- × 5.46

The length of a tripod's screw should not exceed the normal length of 4.5mm (3/16"). Do not extend it longer than this length when mounting your camera on a tripod. Forcing longer screws into the tripod receptacle will damage the mechanism.



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