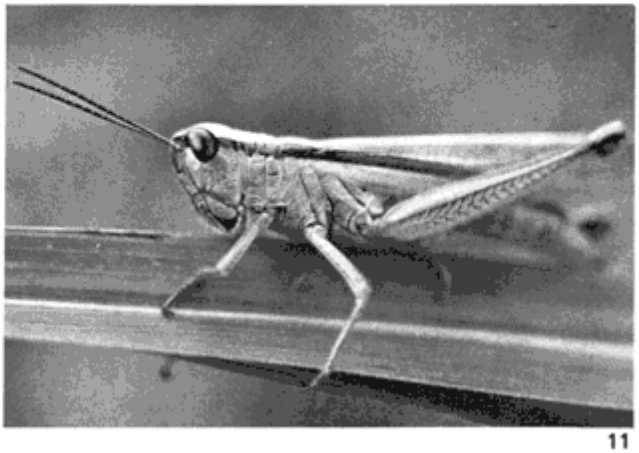
Lens	Bellows FL Scale (mm) (in)	34.5 1-3/8	40 1-9/16	50 1-15/16	60 2-3/8	70 2-3/4	80 3-1/8	90 3-9/16	100 3-15/16	110 4-5/16	120 4-3/4	130 5-1/8	142.5 5-5/8
FL 85mm F 1.8	Magnification	0.42	0.49	0.60	0.72	0.84	0.96	1.08	1.2	1.32	1.44	1.56	1.70
	Subject Distance (mm)	394	373	348	336	329	327	327	330	333	338	343	351
	(in)	1'3-1/2	1'2-11/16	1'1-11/16	1'1-1/4	1'15/16	1'7/8	1'7/8	1'15/16	1'1-1/8	1'1-5/16	1'1-1/2	1'1-13/16
	Field Size (mm)	57.2 ×85.7	49.5 ×74.2	39.7 ×59.6	33.2 ×49.8	28.5 ×42.7	25 ×37.4	22.2 ×33.3	20 ×30	18.2 ×27.3	16.7 ×25.0	15.4 ×23.1	14.1 ×21.1
	(in)	2-1/4 ×3-3/8	1-15/16 ×2-16/15	1-9/16 ×2-3/8	1-5/16× 1-15/16	1-1/8× 1-11/16	15/16 ×1-1/2	7/8 ×1-5/16	13/16× 1-13/16	11/16 ×1-1/16	11/16 ×15/16	5/8 ×15/16	9/16 ×13/16
FL 100mm F 3.5	Magnification	0.03	0.09	0.91	0.29	0.39	0.49	0.59	0.69	0.79	0.89	0.99	1.12
	Subject Distance (mm)	3103	1324	746	574	495	453	429	414	406	402	400	401
	(in)	10'2-3/16	4'4-1/8	2'5-3/8	1'10-5/8	1'7-1/2	1'5-13/16	1'4-7/8	1'4-5/16	1'3-15/16	1'3-13/16	1'3-3/4	1'3-13/16
	Field Size (mm)	697.1 ×1045.6	268.1 ×402.1	126.5 ×189.8	82.8 ×124.2	61.5 ×92.3	4.90 ×73.4	40.6 ×61	34.8 ×52.1	30.3 ×45.5	26.9 ×40.4	24.2 ×36.3	21.5 ×32.2
	(in)	2-3/4 ×3'5-3/16	10-9/16 ×1'3-13/16	4-15/16 ×7-1/2	3-1/4 ×4-7/8	2-7/16 ×3-5/8	1-15/16 ×2-7/8	1-5/8 ×2-3/8	1-3/8 ×2-1/16	1-3/16 ×1-13/16	1-1/16 ×1-9/16	15/16 ×1-7/16	7/8 ×1-1/4
FL 135mm F 3.5	Magnification								0.01	0.08	0.16	0.23	0.32
	Subject Distance (mm)								16666	1925	1165	901	747
	(in)								54'8-1/8	6'3-13/16	3'9-7/8	2' 11-1/2	2'5-7/16
	Field Size (mm)								2927 ×4390	290 ×435	153 ×229	104 ×155	74 ×111
	(in)								9'7-1/4 ×14'	11-7/16 ×1'5-1/8	6-1/16 ×9-1/16	4-1/8 ×6-1/8	2-15/16 ×4-3/8
FL 135mm F 2.5	Magnification				0.01	0.08	0.16	0.24	0.31	0.39	0.46	0.54	0.64
	Subject Distance (mm)				16995	1845	1909	854	728	655	610	580	556
	(in)				55'9-1/8	6'5/8	3'7-11/16	2'9-5/8	2'4-11/16	2'1-13/16	2'1/16	1'8-13/16	1'9-7/8
	Field Size (mm)				3053 ×4580	286 ×429	150 ×225	102 ×153	77.0 ×115	61.9 ×92.8	51.7 ×77.6	44.5 ×66.7	37.8 ×56.7
	(in)				10'3/16 × 15'5/16	11-1/4 ×1'4-7/8	5-7/8 ×8-7/8	4-1/16 ×6-1/16	3-1/16 ×4-1/2	2-7/16 ×3-5/8	2-1/16 ×3-1/16	1-3/4 ×2-5/8	1-1/2 ×2-1/4



Exposures for Close-up and Macrophotography

In close-up and macrophotography using an extension tube or a bellows between the lens and the camera body, the aperture opening or f/stop of the lens does not coincide with that indicated on the f/stop scale on the lens.

The f/stop of the lens is the numerical value obtained by dividing the focal length with lens diameter. Thus, the f/stop value with an extension attachment differs from that of the lens measured alone. The value of the adjusted f/stop number should then be obtained by calculating the value of the focal length plus the extended length of the lens.

The photometry by the through-the-lens system, however, always gives the correct exposure value as it measures the light passing through the lens and reaching the film plane. It can adjust the exposure regardless of the difference in f/stops. This is one of the advantages of the through-the-lens light measuring system. If the exposure is to be obtained without using the through-the-lens photometry system, the exposure factor compensation must be made as follows:

1. Getting the exposure reading by an independent exposure meter.
2. Compensating it mathematically. The formulas for calculation are:

The Exposure Factor B = $(1 + \text{Magnification})^2$

$$\text{Magnification} = \frac{x'}{f} = \frac{\text{Lens Protrusion Length}}{\text{Focal Length of Lens}}$$

Example: To obtain exposure in close-up photography using 50mm lens with a 40mm extension tube.

$$(1 + \frac{50}{50})^2 = (1 + 0.8)^2 = 3.24$$

Thus, the figure obtained with the exposure meter is multiplied by 3.2X.

Close-up Lenses

Type	Usable Lenses	Shooting Distance (mm) (in)	Picture Area (mm) (in)
48mm 450	FL 50mm F1.8 (Also other lenses with	540 - 325 (1'9¼" -	313 x 209 - 175 x 117 (1' 5/16" x 8 ¼" -
48mm 240	48mm screw diameter)	326 - 253 (1'13/16" -	166 x 110 - 110 x 74 (6 9/16" x 4 5/16" -
58mm 450	FL 50mm F1.4 II (Also other lenses with	553 - 341 (1'9 3/4" -	211 x 316 - 113 - 169 (8 5/16" x 1' 7/16" -
58mm 240	58 mm screw diameter)	338 - 266 (1'1 5/16" -	111 x 167 - 77 x 115 (4 3/8" x 6 9/16" -
58mm 450	FL 55mm F1.2 (Also other lenses with	554 - 344 (1'9 13/16" -	197 - 296 - 105 x 157 (7 3/4" x 11 5/8" -
58mm 240	58mm screw diameter)	340 - 268 (1'1 3/8" -	104 x 157 - 72 x 107 (4 1/8" x 6 3/16" -
58mm 1800	Exclusive to FL 55 - 135mm F3.5	2030 - 1110 (6'7 15/16"-	1190 x 790 - 230 x 150 (3'10 7/8" x 2'7 1/8" -

		1' 1 9/16")	4 1/8" x 6 3/16")
		10 9/16")	2 13/16" x 4 3/16")
		3'7 11/16")	9 1/16" x 5 7/8")

Exposure factor and aperture conversion figures corresponding to photographic magnification (M)

M	Exposure factor	Aperture adjustment (f/stop to be opened)		M	Exposure factor	Aperture adjustment (f/stop to be opened)	
0.1	1.21	0.28	1/4	4.8	33.64	5.07	5
0.2	1.44	0.53	1/2	5.0	36.00	5.17	5 1/4
0.3	1.69	0.76	3/4	5.2	38.44	5.27	5 1/4
0.4	1.96	0.97	1	5.4	40.96	5.37	5 1/4
0.5	2.25	1.17	1 1/4	5.5	42.25	5.40	5 1/2
0.6	2.56	1.36	1 1/4	5.6	43.56	5.45	5 1/2
0.7	2.89	1.53	1 1/2	5.8	46.24	5.53	5 1/2
0.8	3.24	1.70	1 3/4	6.0	49.00	5.62	5 1/2
0.9	3.61	1.85	1 3/4	6.2	51.84	5.70	5 3/4
1.0	4.00	2.00	2	6.4	54.76	5.78	5 3/4
1.2	4.84	2.27	2 1/4	6.5	56.25	5.81	5 3/4
1.4	5.76	2.53	2 1/2	6.6	57.76	5.85	5 3/4
1.5	6.25	2.64	2 3/4	6.8	60.84	5.93	6
1.6	6.76	2.76	2 3/4	7.0	64.00	6.00	6
1.8	7.84	2.97	3	7.2	67.24	6.07	6
2.0	9.00	3.17	3 1/4	7.4	70.56	6.14	6 1/4
2.2	10.24	3.36	3 1/4	7.5	72.25	6.18	6 1/4
2.4	11.56	3.53	3 1/2	7.6	73.96	6.21	6 1/4
2.5	12.25	3.61	3 1/2	7.8	77.44	6.28	6 1/4
2.6	12.96	3.70	3 3/4	8.0	81.00	6.34	6 1/4
2.8	14.44	3.85	3 3/4	8.2	84.64	6.40	6 1/2
3.0	16.00	4.00	4	8.4	88.36	6.47	6 1/2
3.2	17.64	4.14	4 1/4	8.5	90.25	6.50	6 1/2
3.4	19.36	4.28	4 1/4	8.6	92.16	6.53	6 1/2
3.5	20.25	4.34	4 1/4	8.8	96.04	6.59	6 1/2
3.6	21.16	4.40	4 1/2	9.0	100.00	6.64	6 3/4
3.8	23.04	4.53	4 1/2	9.2	104.04	6.70	6 3/4
4.0	25.00	4.64	4 3/4	9.4	108.16	6.76	6 3/4
4.2	27.04	4.76	4 3/4	9.5	110.25	6.78	6 3/4
4.4	29.16	4.87	4 3/4	9.6	112.36	6.81	6 3/4
4.5	30.25	4.92	5	9.8	116.64	6.87	6 3/4
4.6	31.36	4.97	5	10.0	121.00	6.92	7

- Figures obtained with the exposure meter can be compensated with the above chart.
- The compensated shutter speed can be obtained by multiplying the shutter speed with the exposure factor.
- M denotes magnification.

Combination and Use of Canon System Accessoreis for Close-up, Macrophotography and Photomicrography

DIMENSIONS OF SUBJECT IN MILLIMETERS — Height	240	192	144	120	96	72	48	24	12	6
DIMENSIONS OF SUBJECT IN MILLIMETERS — Width	360	288	216	180	144	108	72	36	18	9
DIMENSIONS OF SUBJECT IN INCHES — Height	9½	7½	5½	4¾	3¾	2¾	2	1	½	¼
DIMENSIONS OF SUBJECT IN INCHES — Width	14¼	11¼	8½	7	5¾	4¼	2¾	1½	¾	⅜
EXPOSURE FACTOR (Not necessary when using Pellix QL or FTQL)			1.35×	1.44×	1.56×	1.78×	2.25×	4×	9×	25×
RATIO OF MAGNIFICATION (Negative Size: Subject Size)	1 : 10	1 : 8	1 : 6	1 : 5	1 : 4	1 : 3	1 : 2	1 : 1	2 : 1	4 : 1

STANDARD LENS ALONE

STANDARD LENS W/ MOUNT CONVERTERS A & B

MACRO LENS W/ MACROPHOTO COUPLER FL

STANDARD LENS W/ MACROPHOTO COUPLER FL, EXTENSION TUBE AND MOUNT CONVERTERS A & B

STANDARD LENS W/ CLOSE-UP LENS

STANDARD LENS W/ EXTENSION TUBE FL25

STANDARD LENS W/ BELLOWS FL

MACRO LENS W/ FL SERIES EXTENSION TUBES AND BELLOWS FL

STANDARD LENS W/ EXTENSION TUBE FL15

MACRO LENS W/ FL & M SERIES EXTENSION TUBES AND BELLOWS FL

STANDARD LENS W/ M SERIES EXTENSION TUBES

STANDARD LENS REVERSED W/ MACROPHOTO COUPLER FL

STANDARD LENS W/ SLIDE DUPLICATOR AND BELLOWS FL

STANDARD LENS REVERSED W/ MACROPHOTO COUPLER FL FL & M SERIES EXTENSION TUBES AND BELLOWS FL

STANDARD LENS W/ CLOSE-UP LENS AND FL SERIES EXTENSION TUBES

STANDARD LENS REVERSED W/ MACROPHOTO COUPLER, EXTENSION TUBE, MOUNT CONVERTER A AND BELLOWS FL

MACRO LENS ALONE

MACRO LENS W/ LIFE-SIZE ADAPTER

PHOTOMICRO UNIT F AND MICROSCOPE

Photomicrography

When the photographic magnification is ten times or more, close-up and macrophotography using only extension tubes or bellows will become difficult. Photomicrography then takes up where close-up and macrophotography end.
Photomicrography enables to record images of 20X or 30X magnification using a microscope. It usually requires greater techniques and experience since it must use a microscope as an optical observation medium.
Canon SLR camera with its through-the-lens photometry system and with attachment of Canon Booster makes photomicrography easier and more accurate.

MAGNIFICATION IN PHOTOMICROGRAPHY

A ratio of magnification of the microscope can be calculated by obtaining the product of magnifications of an objective and an eyepiece.
Theoretically it is feasible to observe and record an image of 2000X magnification by selecting a high magnifying objective, but in general practice photographing will be limited to the magnification of 200X to 300X because of the problem involving vibrations.
There are three ways to get photographic images in photomicrography:

1. Images formed by the objective.
2. Images formed by the objective and the eyepiece magnifying lens.
3. Images formed with a combination of the objective, eyepiece and photographic lens.

In the third method which includes the photographic lens, the ratio of magnification is the greatest. Therefore, the degree of vibration becomes the biggest. In general practice, an image formed by the objective and magnified by the eyepiece is reproduced.

THE COMBINATION OF ACCESSORIES IN PHOTOMICROGRAPHY

A helpful device in performing photomicrography using Canon single-lens reflex camera is the Canon Photomicro Unit F. By attaching the equipment between camera and microscope, photomicrography can be done easily and conveniently. Photomicro Unit F is composed of outer and inner hood barrels, shade barrel and tighting clamp ring. It can be used on any ordinary biolocigal or metallurgical microscope havign an eyepiece sleeve with a 25mm outer diameter.

An approximate magnification figure in photomicrography with or without eyepiece of microscope can be arrived at by using the fomula:
With eyepiece; total magnification = objective magnification x eyepiece magnification x camera extension (cm.) ÷ 25 (or ÷ 10 when measuring in inches.)
Without eyepiece; total magnification = objective magnification x camera extension (cm.) ÷ 25 (or ÷ 10 when measuring in inches.)
In case of Canon FT QL, camera length (length between principal point of eyepiece lens and film plane in camera) is 10.8mm (approx. 3/8").

When performing photomicrography with the use of a Microphoto Hood, instead of a Photomicro Unit F, it is necessary to attach the Lens Converter A.

Using the Microphoto Hood to connect the microscope eyepiece and the camera, the combination is made in the following manner:

Camera + Bellows + Lens Mount Converter A + Microphoto Hood + Microscope

If photomicrography is performed under this combination, the degree of magnification can be changed because the length of the camera side (length of the lens hood) is adjustable.
Photography is possible even after the bellows has been removed from the connection but the range, where cropping may be made, will be limited as the magnification is fixed.
In either case, the camera and attachments must be mounted on a rigid support, like Canon Copying Stand, to avoid vibrations.

PHOTOMICROGRAPHY EXPOSURE

The exposures in photomicrography vary with the following factors:

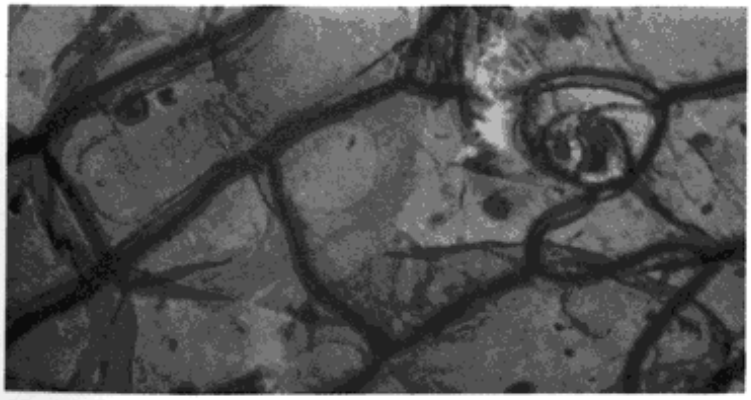
1. Intensity of the light used.
2. Speed of the film.
3. Multiplying factors of any filters used.
4. Density of the object to be reproduced.
5. Ratio of magnification.
6. Aperture opening (f/stop value).

Obtaining the proper exposure in photomicrography is very complicated since it depends on the above factors.
The exposure in photomicrography requires longer time than those of general, close-up and macrophotography.
When the magnification has been changed, while conditions for 1 to 4 remain the same, the exposure time changes in proportion to the square of the magnification. When the aperture opening has been changed with the adjustment of the objective lens and the sub-stage condenser, the exposure time varies in proportion to the square of the aperture opening.
As the magnification and aperture are adjusted, the exposure time obtained beforehand with the photographer's experience must be changed according to the following formula:

$$T' = T\left(\frac{NA}{NA'}\right)^2 \cdot \left(\frac{B'}{B}\right)^2$$

where T = Exposure time
B = Magnification
NA = Aperture opening
′ indicates value before adjustment

In the case of the through-the-lens photometry system, perform everything according to the instruction of the exposure meter.



ADDITIONAL NOTES FOR PHOTOMICROGRAPHY

Illumination: The lighting must be performed specifically depending on the kind of microscope to be used and the object to be photographed.
Filter: Filters must be selected properly according to the light source, the film to be used and the object to be reproduced. In case the contrast of the object is low, the image on the film becomes a soft tone, and so a high contrast film is required.
Light Source: Other than light sources specially provided for photomicrography, the slide projector and artificial light can be used.
Objective Lens and Eyepiece: The lenses marked with P are recommended for photomicrography.
The subject of photomicrography is very broad and deals with many technical problems. One must consult on the subject with technical books for further information.

Stomata of the Orpine (20X)

Canon F-1

INSTRUCTIONS

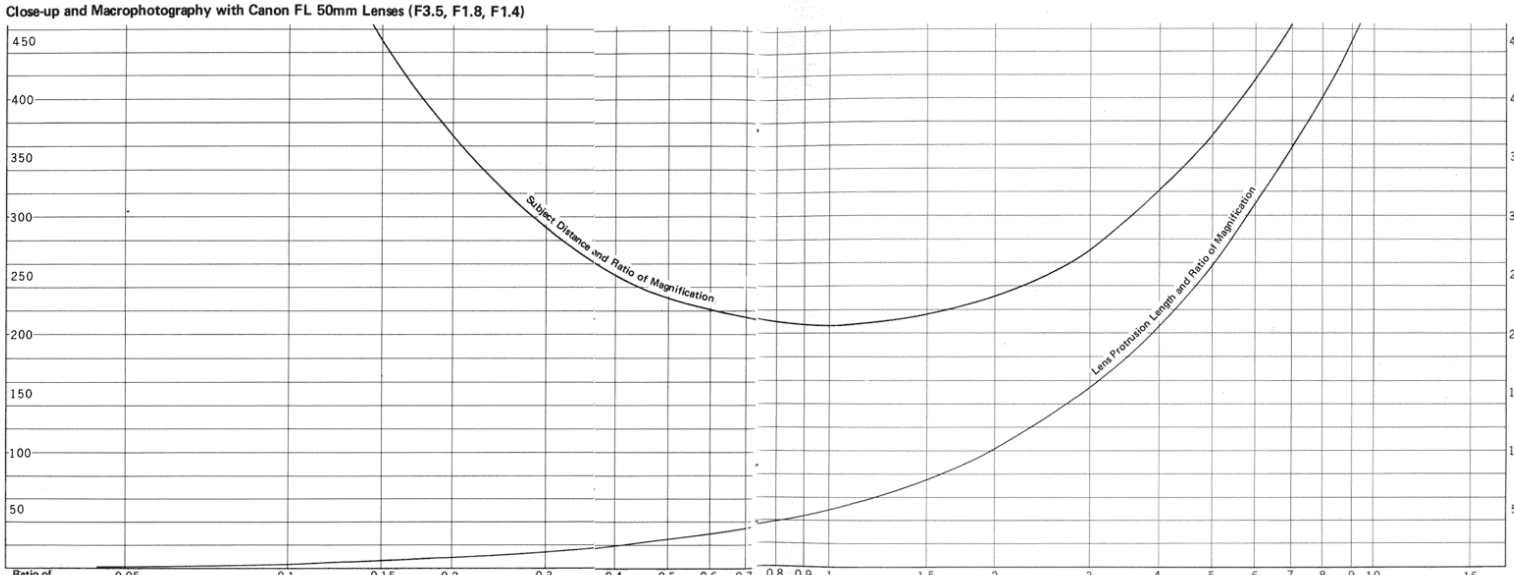
English Edition

We are highly gratified that you have selected the Canon F-1—a wise choice that promises you many delightful years of photographic experiences. Canon is recognized the world over as the foremost pioneer in the development of photographic equipment of the highest quality and performance. Whether your new F-1 is for the home, laboratory, or for traveling, make the most of your opportunities!

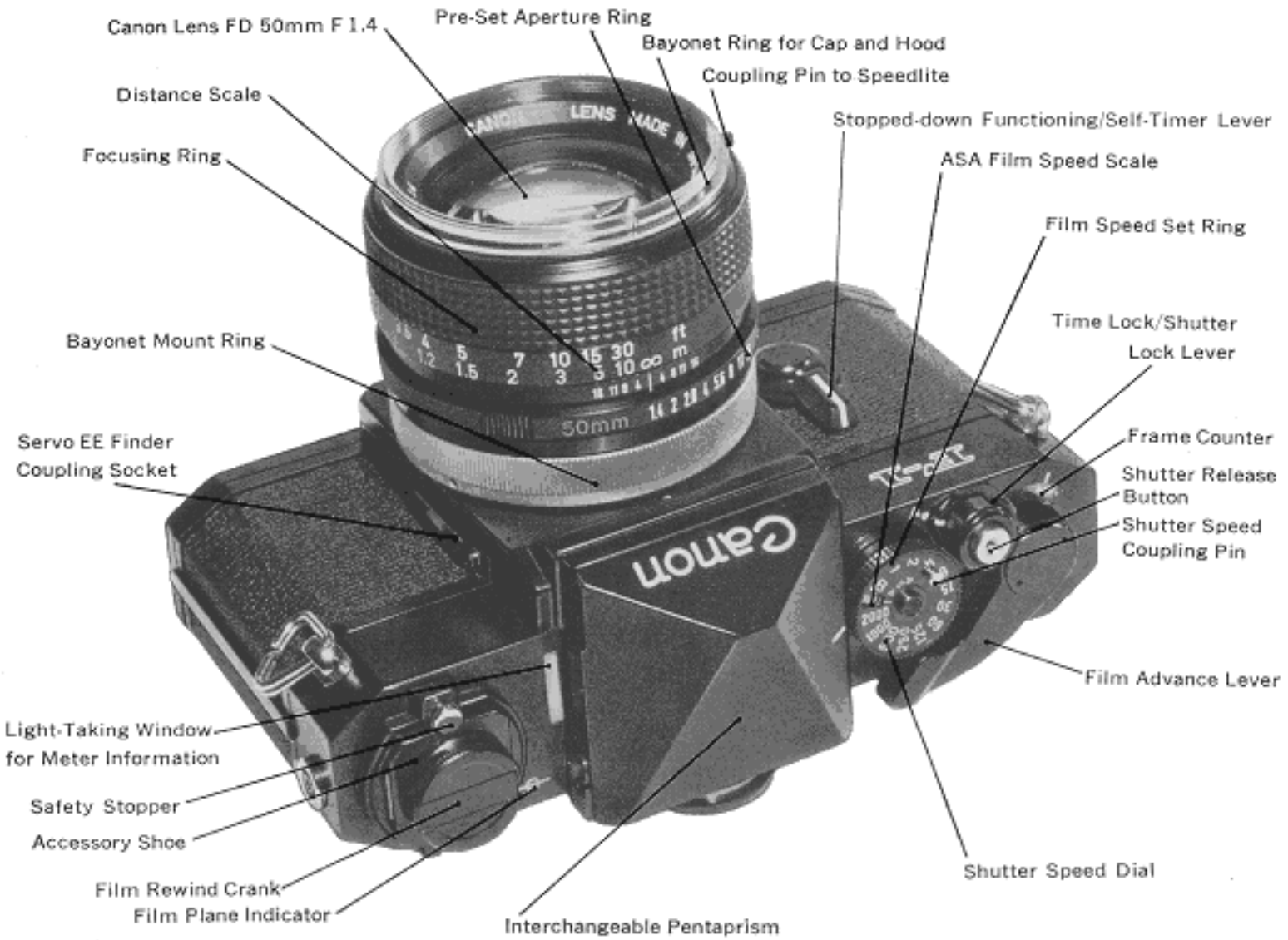
Before Using . . .

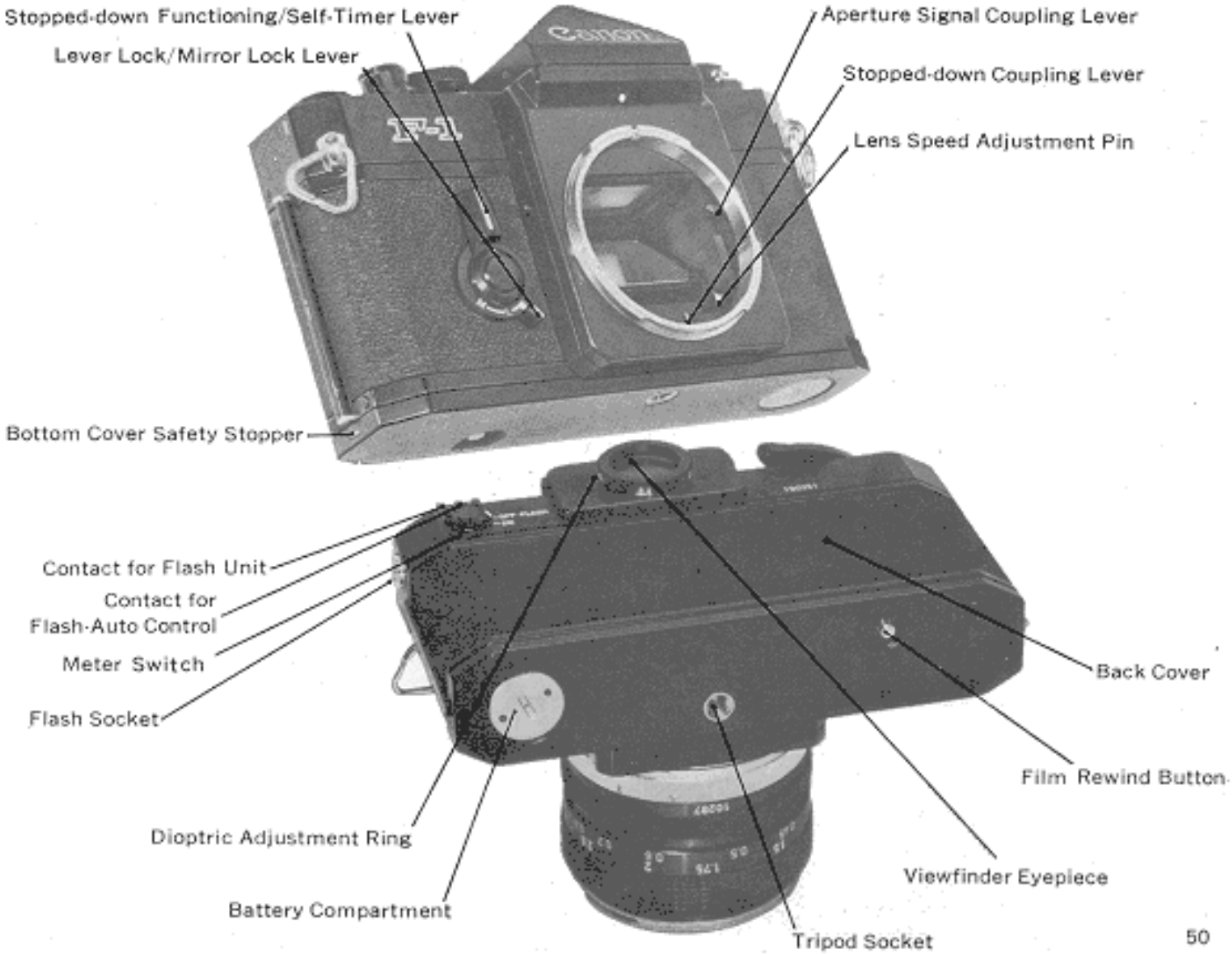
Please read this instruction booklet carefully, and master the manipulations of the various parts of the F-1 completely. Once thoroughly versed in the correct handling of this camera, you can use the Canon F-1 to the fullest extent of its capabilities.

Close-up and Macrophotography with Canon FL 50mm Lenses (F3.5, F1.8, F1.4)



Ratio of Magnification	0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.5	2	3	4	5	6	7	8	9	10	15
Picture Area	480 × 720	240 × 360	160 × 240	120 × 180	80 × 120	60 × 90	48 × 72	40 × 60	34 × 51	30 × 45	27 × 40	24 × 36	16 × 24	12 × 18	8 × 12	6 × 9	4.8 × 7.2	4 × 6	3.4 × 5.1	3 × 4.5	2.7 × 4	2.4 × 3.6	1.6 × 2.4
Exposure Compensation (Index)	0.5					1				2			3		4		5		6		7		8


Canon Lens FD 50mm F 1.4
Pre-Set Aperture Ring
Bayonet Ring for Cap and Hood
Coupling Pin to Speedlite
Distance Scale
Stopped-down Functioning/Self-Timer Lever
Focusing Ring
ASA Film Speed Scale
Film Speed Set Ring
Bayonet Mount Ring
Time Lock/Shutter
Lock Lever
Servo EE Finder
Coupling Socket
Frame Counter
Shutter Release
Button
Shutter Speed
Coupling Pin
Film Advance Lever
Light-Taking Window
for Meter Information
Safety Stopper
Accessory Shoe
Film Rewind Crank
Film Plane Indicator
Interchangeable Pentaprism
Shutter Speed Dial


Stopped-down Functioning/Self-Timer Lever
Lever Lock/Mirror Lock Lever
Aperture Signal Coupling Lever
Stopped-down Coupling Lever
Lens Speed Adjustment Pin
Bottom Cover Safety Stopper
Contact for Flash Unit
Contact for Flash-Auto Control
Meter Switch
Flash Socket
Back Cover
Film Rewind Button
Dioptric Adjustment Ring
Viewfinder Eyepiece
Battery Compartment
Tripod Socket

Technical Data

■ Type: 35mm single-lens reflex camera with focal plane shutter. Picture size; 24 x 36mm.
■ Interchangeable Lenses: Canon FD series lenses with aperture signal lever.
■ Standard Lens: Canon FD 55mm F 1.2, FD 50mm F 1.4, FD 50mm F 1.8.
■ Viewfinder: Removable pentagonal prism finder. Interchangeable with Servo EE Finder, Booster T Finder, Speed Finder, Waist-Level Finder.
■ Finder Attachments: Angle Finder B, Magnifier, Dioptric Adjustment Lenses, Eyecup.
■ Focusing Screen: Using Fresnel lens, standard focusing glass with microprism screen rangefinder and three other interchangeable kinds. With metering beam-splitting condenser.
■ Field-of-View: 97% of actual picture area. 0.77x with standard 50mm lens at infinity.
■ Finder Information: Meter needle and aperture needle, outside shutter speed coupling range indicator, fixed dot for stopped-down metering use and battery check mark, shutter speed scale, metering limit marks.
■ Dioptric Adjustment Lenses: Standard −1.2 diopter (R−1). Interchangeable with R+3, R+2, R+1, R 0, R−2, R−3, and R−4.
■ Mirror: Quick return mirror with shock-absorbing mechanism. Mirror can be fixed in upper position. Aperture is manually operated when mirror is fixed in upper position.
■ Lens Mount: Bayonet type FD mount. FL and R series of lenses mountable.
■ Function: FD lenses; Full aperture metering, coupled with automatic diaphragm. FL lenses; Stopped-down metering, coupled with automatic diaphragm. R lenses; Stopped-down metering, manually operated diaphragm.
■ Shutter: Focal plane shutter using super thin titanium screen. Designed for elimination of functioning noise. Shutter release button can be locked.
■ Shutter Speed Dial: Single shaft non-revolving type with shutter scales and ASA film speed scales. Two coupling pins for setting attachments are provided.
■ Shutter Speeds: B, 1-1/2000. Multiple series. Equiinterval index. X contact at "60".
■ Film Speed Scale: ASA 25-2000.
■ Self-Timer: Built in. Activate with shutter release button. Approx. 10 sec. time lag. Self-timer lever is used in common as stopped-down functioning lever.
■ Exposure Adjusting Mechanism: Built in. Using CdS photocell. Coupled to shutter speeds, film speeds and f/stop. Match needle type TTL full aperture measuring mechanism. Semi-

spot metering system, measures 12% of picture area. Stopped-down metering possible. Fixed dot type metering using stopped-down functioning lever. Locking of the lever possible.

■ Exposure Meter Coupling Range: With ASA 100 film, EV 2.5 (f/1.2 at 1/4 sec.)–EV 18 (f/11 at 1/2000 sec.). Meter information window turns red when outside of coupling range.

■ Meter Battery: One 1.3 v M20 (⇳625) mercury battery used.

■ Battery Checker: Built in. Check at ASA 100, shutter speed at 1/2000 sec.

■ TTL Full Aperture Metering System EE: Uses exclusive Servo EE Finder and Battery Case in combination. Full aperture metering with FD lens. Shutter priority type EE. Functioning range; with ASA 100 film, EV 2.5 (f/1.2 at 1/4 sec.)–EV 18 (f/11 at 1/2000 sec.).

■ Ultra-low Illumination Metering: Metering possible, with ASA 100 film, between EV 15 (f/22 at 1/60 sec.) and EV−3.5 (f/1.2 at 15 sec.) with use of exclusive Booster T Finder.

■ Synchronized Flash: FP and X contact. Automatic time lag adjusting type.

■ Flash Socket: On side body. Two contacts on film rewind knob for flash circuit for directly connected adapter, and meter circuit.

■ Canon Auto Tuning (CAT) System: Diaphragm control by recharge completion signal and focusing distance signal. Proper aperture is established by the meter matching needle system through the connection of the Speedlite 133D, Flash Auto Ring, Flash Coupler L and prescribed FD 50mm F 1.4, FD 50mm F 1.8, or FD 35mm F 2 lens.

■ Synchronizing Range: FP class; 1/2000–1/125 sec. and 1/30 or under. Speedlite; 1/60 sec. or under. M, MF class; 1/30 sec. or under.

■ Film Loading: With multislit film spool.

■ Film Winding: Short-stroke winding possible. Single operation 180° winding lever. Play; 15°.

■ Film Rewinding: Performed by rewind button and crank.

■ Double Exposure: Possible by operating film rewind button.

■ Back Cover: Crank pull-up type. Removable for Film Chamber 250.

■ Bottom Cover: Motor Drive Unit can be attached after removing bottom cover.

■ Frame Counter: Self-resetting type activated by opening back cover.

■ Accessory Shoe: Exclusive. Flash Couplers D, L, and other couplers can be attached.

■ Size: 98.7 x 146.7 x 43mm ($3\frac{7}{8}''$ x $5\frac{3}{4}''$ x $1\frac{11}{16}''$).

■ Weight: Body; 820 g (1.80 lbs.). With FD 50mm F 1.4 Lens; 1,180 g (2.60 lbs.).

Subject to alterations.

- Canon Booster T Finder with electronic timer for insufficient light photography
- Canon Servo EE Finder for shutter priority EE photography
- Canon Motor Drive Unit for timer photography and high speed photography
- Canon Film Chamber 250 for shooting 250 frames

Unmanned photography is possible in combination of these accessories.

Contents

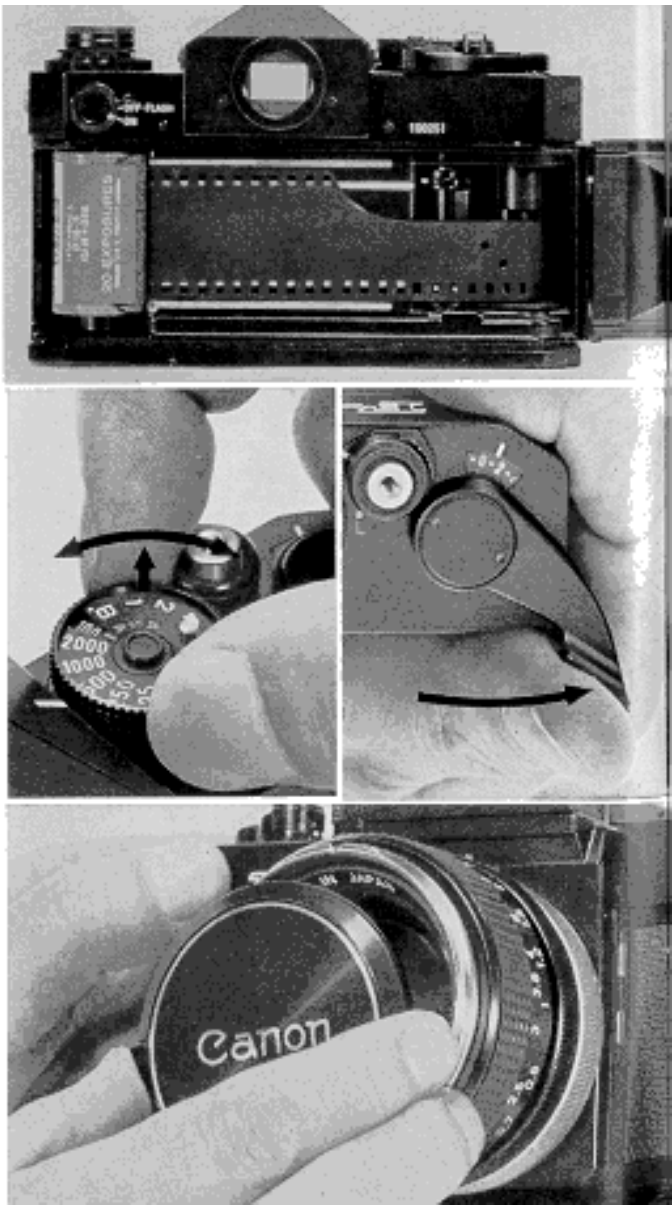
Follow these simple steps for normal photography:

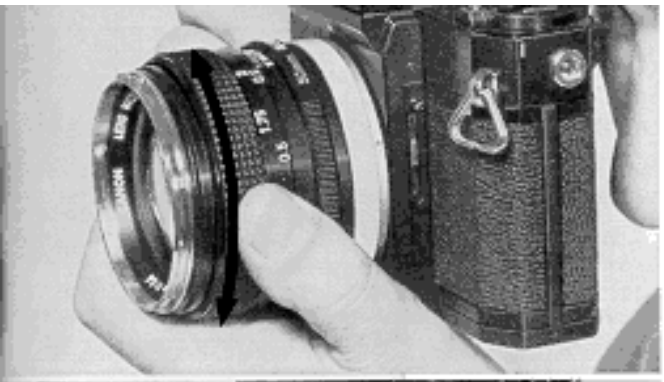
1 Load the film. (See pages 31–32.)

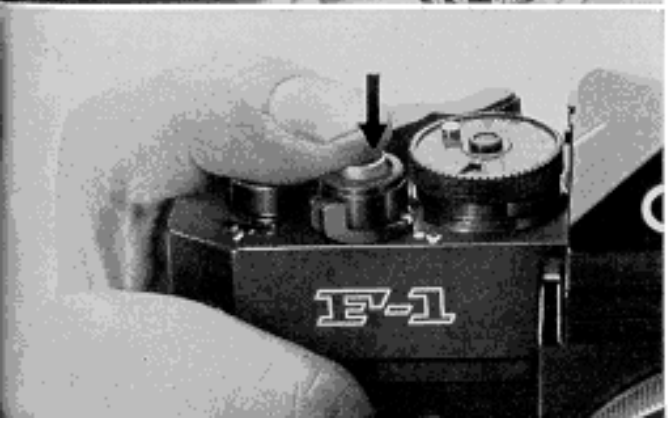
2 Set the ASA film speed. (See page 21.)

3 Wind the film advance lever. (See page 14.)

4 Remove the lens cap.

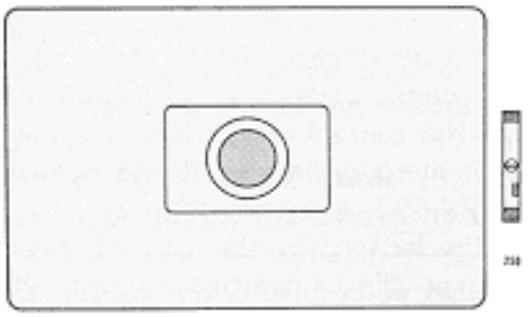






5 Look through the viewfinder and focus. (See page 26.)

6 Compose the picture.



7 Determine the exposure with built-in meter. (See pages 22–24.)

8 Press the shutter release button gently.

Mercury Battery Loading and Checking

The built-in exposure meter of the Canon F-1 functions only when the mercury battery is properly loaded.

1 Insert a coin into the groove of the battery compartment cover and turn it to the left to remove.

2 Face the central contact of the mercury battery inwards and insert.

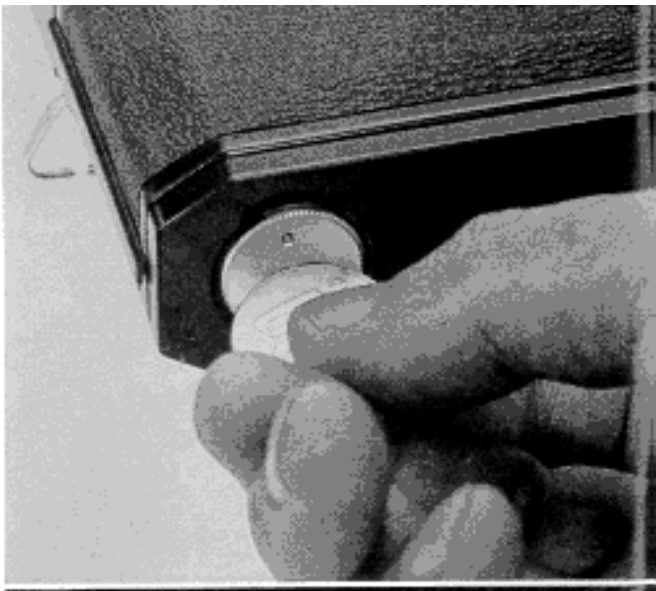
3 Replace the cover by turning it to the right.

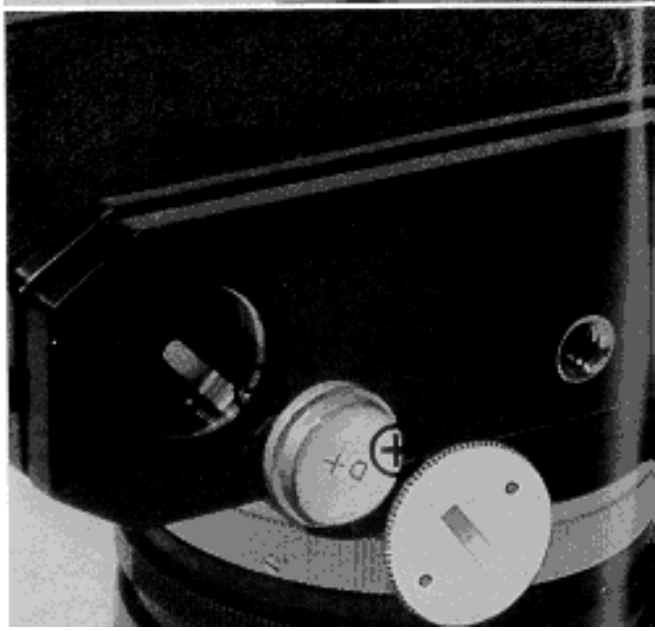
■ Before inserting, wipe off fingerprints or stains on battery poles with a dry cloth. Unclean poles may cause corrosion and damage the contact points of the camera.

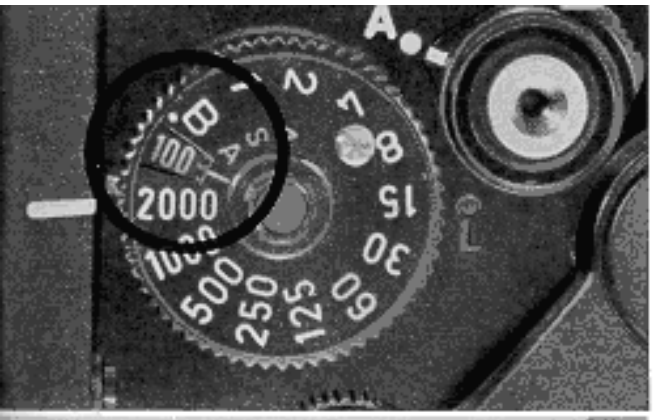
■ A 1.3 v M20 (#625) mercury battery should be used—equivalent to Mallory PX-625, Eveready EPX625.

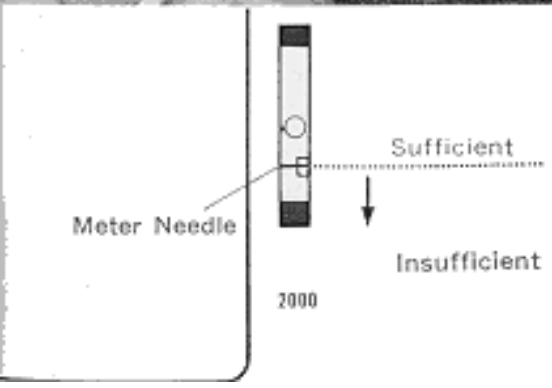
■ Be sure to insert the battery in the correct direction referring to the diagram on the compartment cover. Otherwise, the meter will not function properly and the cover cannot be screwed in.

■ When the camera is not used for a long period, remove the mercury battery and keep it in a dry place.









Battery Check

Check the mercury battery after loading it. Especially when loading a new battery, be sure to check the power level.

1 Set the film speed scale at ASA 100 and the shutter speed dial at "2000". For the film speed setting, lift up the outer ring of the shutter speed dial and turn. See page 21.

■ A correct check cannot be made if other settings are used.

2 Turn the meter switch, situated to the back side of the camera near the film rewind crank, to the "C" index mark.

3 If the meter needle inside the viewfinder swings to the meter index, the battery has sufficient power. If the needle stays below the meter index, voltage is insufficient and the battery must be replaced.

■ Life of the battery in normal use is approximately one year.

4 When using the camera, be sure to turn the meter switch to "ON".

Film Winding

The film advance lever winds the film, cocks the shutter, and prepares the aperture and mirror for the next shutter release all in one motion.

1 Turn the film advance lever until it stops. The film will be advanced one frame and the shutter cocked. The frame counter is simultaneously advanced to the next number.

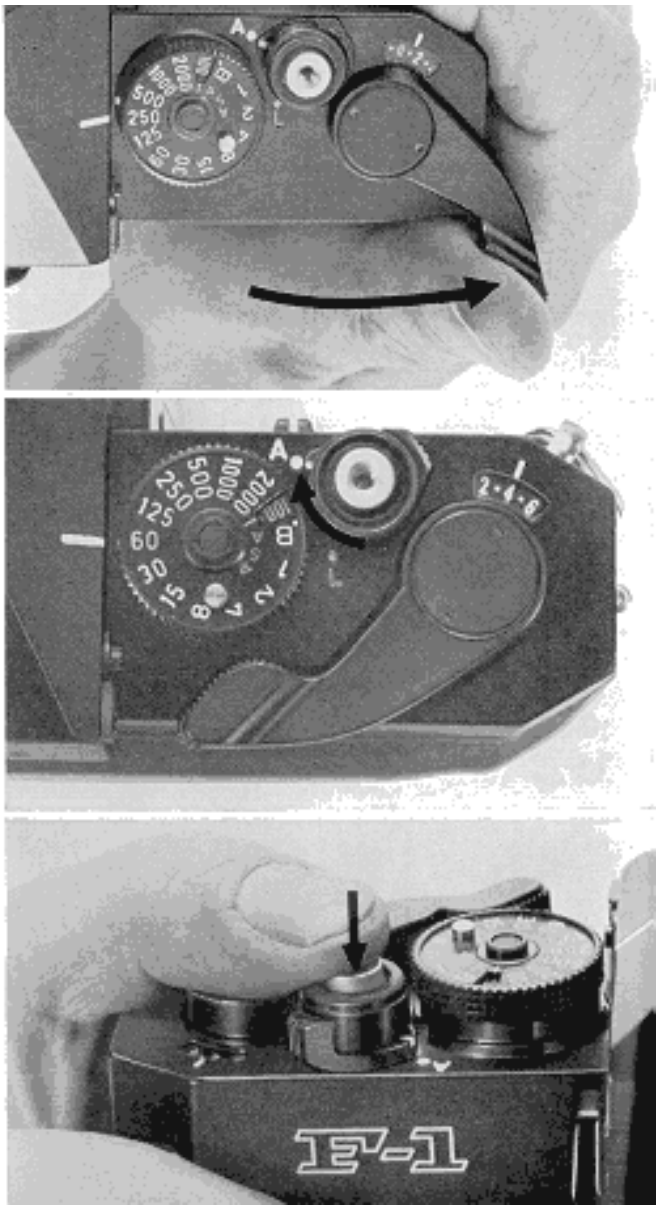
2 When the shutter release button is pressed, the mirror flips up, the diaphragm simultaneously closes down to the pre-set f/stop and the shutter operates. After the shutter is operated, the advance lever can be wound for the next frame.

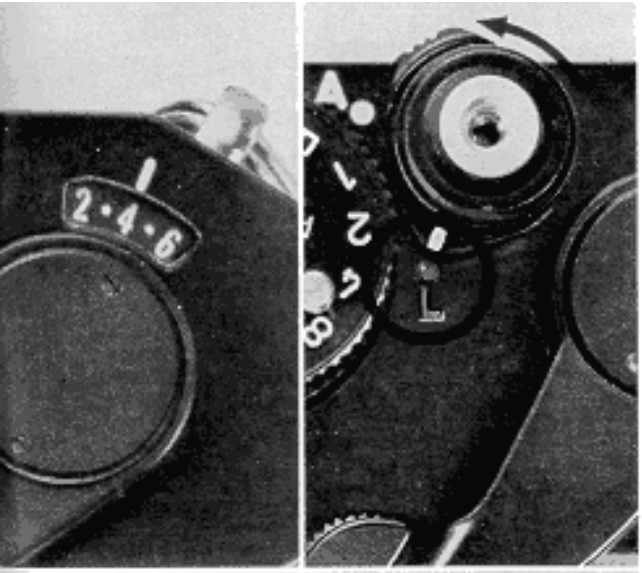
■ Be sure that the shutter lock lever is set at "A".

■ Winding may be done by moving the lever with several short strokes.

■ After loading the film, make another wind, since the first winding may not be complete.

■ The shutter will not function when pressing the shutter release button unless the winding is completed. In such a case, check the winding once more.



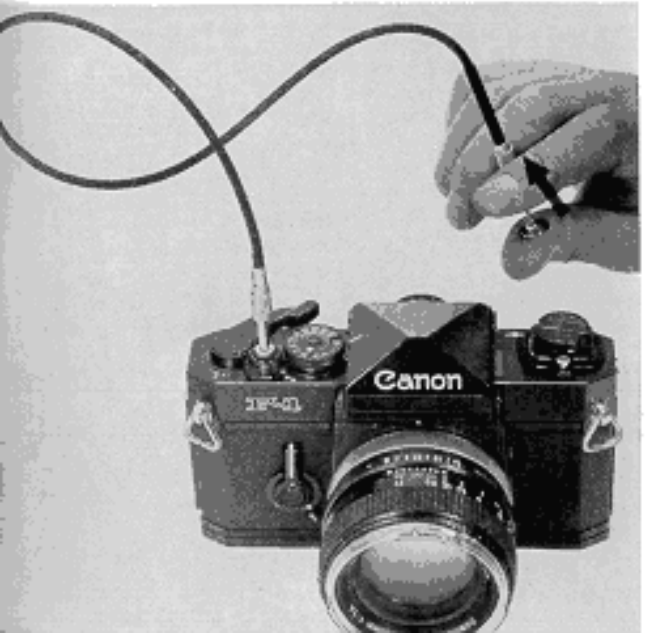


Frame Counter

Each winding will advance the number of the frame counter, indicating the number of pictures taken. When the back cover is opened, the counter automatically returns to the starting position "S".

Safety Device for Shutter

When the shutter lock lever around the shutter release button is turned to the "L" position, the shutter is locked and will not move. This device may be used when the camera is carried in a wound condition.



Attaching the Cable Release

Optional Canon Release can be attached to the F-1 by screwing it into the threaded hole in the center of the shutter release button. Even if the shutter lock lever is at the "L" position, the shutter will operate by using the release.

Shutter and Aperture Adjustment

Exposures are adjusted by the shutter and aperture. The shutter controls the exposure time and the aperture controls the amount of incoming light.

Shutter Speed Dial

Adjust the shutter speed by turning the shutter speed dial to the desired index number. The index on the dial shows the denominators of 1/1000 sec., 1/500 sec., etc.

■ The shutter speed dial does not revolve between the indexes "2000" and "B".

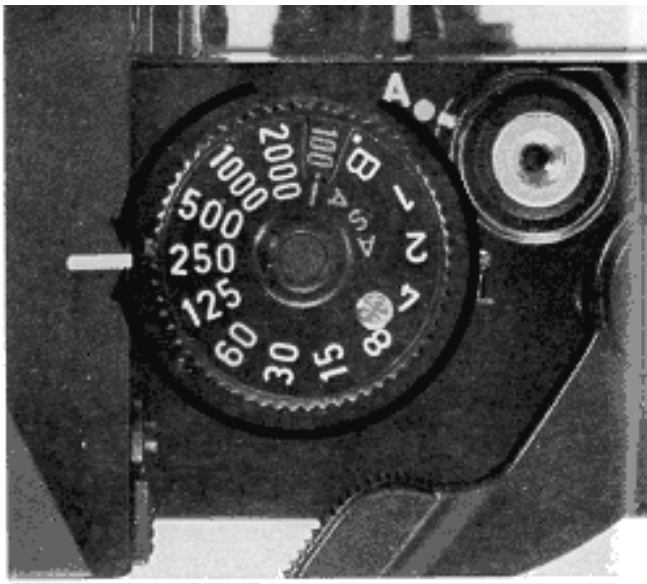
■ Be sure to set the index at a position where the click-stop catches. In case of "B" index, adjust it to the white dot just below the "B" index.

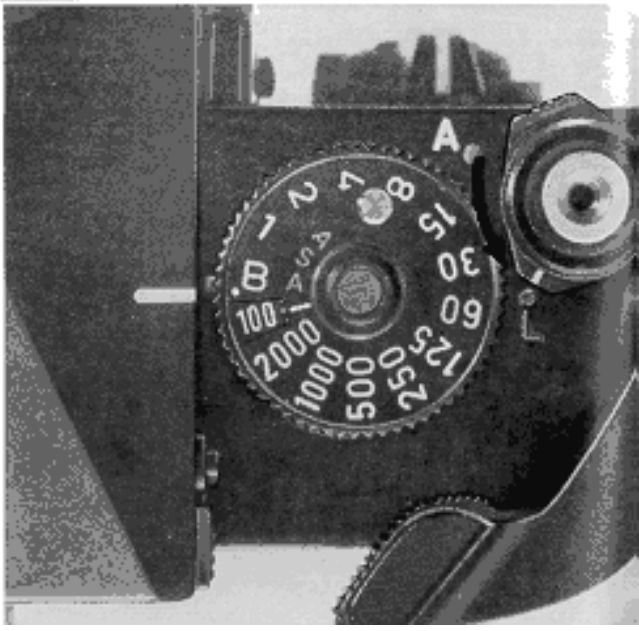
■ "B" indicates bulb exposure, and is used when making exposures of more than one second. . When the shutter speed dial is set at "B", the shutter remains open as long as the shutter release button is depressed.

■ When time exposure is necessary to make an exposure over an extended time, first set the shutter speed dial at "B". Keep the shutter release button depressed, and turn the time lock lever to "L". The shutter remains open even if the finger is removed from the button. When the lever is returned to "A", the shutter closes.

■ Time exposure is also possible by using the lockable cable release.

■ It is possible to perform a long-time exposure by applying





the optional Booster T Finder, the auxiliary meter for measuring subjects under dim light.

■ The "60" index is used for synchronizing an electronic flash unit such as the Canon Speedlite. It is equivalent to a very short exposure during the flash of the flash unit.

Aperture

Incoming light and depth-of-field are adjusted by turning the pre-set aperture ring to the desired f/stop.

■ As the f/stop value gets larger, the amount of light reaching the film plane becomes correspondingly less. For each f/stop up, the light is reduced one-half. Accordingly, when the aperture is increased by one f/stop, the exposure is doubled, and when it is increased by two f/stop the exposure is quadrupled.

■ Certain lenses, however, have no relation to the lightness being halved between the maximum and the next f/stops on the pre-set aperture ring.

■ The pre-set aperture ring can also be set between two f/stops.

■ The ratio between the aperture and the amount of exposure, using f/2 as the basis, is as follows:

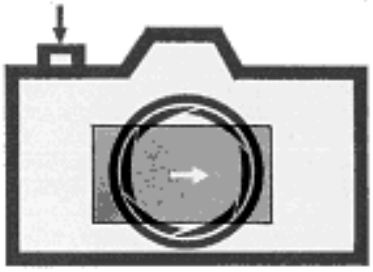
f/stop:

1.2 1.4 1.8 **2** 2.8 3.5 4 5.6 8 11 16 22

Exposure Ratio:

3 2 1.25 **1** 1/2 1/3 1/4 1/8 1/16 1/32 1/64 1/128

Relationship Between the Shutter, Diaphragm, and Mirror



Press the shutter release button.

The shutter clicks.
The diaphragm closes down to pre-set f/stop.

The diaphragm returns to maximum opening.

Mirror begins to snap up.

Mirror is up.

Mirror returns to the former position.

Pre-Setting of Aperture: In the case of the FD lens, the field-of-view can always be seen through the viewfinder at full aperture opening even after the f/stop has been set with the pre-set aperture ring. Set the desired f/stop, on the pre-set aperture ring, to the index. The diaphragm will close down to the pre-set f/stop only for the instant that the shutter is released. Except for that instant, the diaphragm remains fully open.

Checking the Depth-of-Field: The manually operated aperture is used for checking the depth-of-field when the aperture is stopped down and also when performing close-up photography and macrophotography.

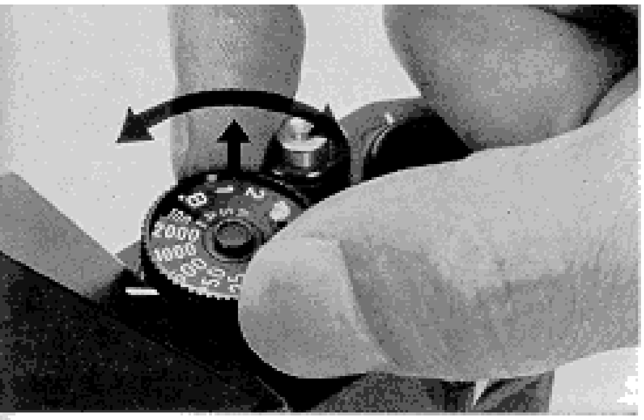
The FD lens has only one aperture ring. When this lens is mounted on an F-1 or FT camera body, the diaphragm is operated by locking the stopped-down functioning lever. Therefore, the aperture can be closed down to any desired f/stop by turning the pre-set aperture ring.

■ When an accessory is to be used between the lens and the camera body, turn the automatic/manual aperture lever of the lens counter-clockwise all the way before mounting the lens. This locks the lever and the aperture is set for automatic functioning. For releasing the lever, turn it clockwise.

With the use of this lock, photography using manually operated aperture can also be performed on Canon single-lens reflex cameras besides the F-1, FT and Pellix.

■ Refer to pages 40–41 concerning depth-of-field.

Automatic/Manual
Aperture Lever



long exposures over one second.

■ Always use a lens hood when shooting against the light.

Film Speed Setting

Set the ASA film speed scale to the speed of the film being used. Film speeds are normally shown on the film box cover and/or explanatory sheet.

Lift and turn the film speed set ring around the shutter speed dial. If the film is ASA 100, for example, make the correct setting by showing "100" in the small window.

■ The following film speeds may be used:

ASA	25	· · (32) (40)	50	· · (64) (80)	100	· · (125) (160)	200	· · (250) (320)	400	· · (500) (640)	800	· · (1000) (1250)	1600	· (2000)
DIN	15	· · (16) (17)	18	· · (19) (20)	21	· · (22) (23)	24	· · (25) (26)	27	· · (28) (29)	30	· · (31) (32)	33	· (34)

Figures in parentheses represent intermediate film speeds.

■ When "25" appears in the small windows, this is as far as the film speed set ring turns to the left. White dot at the right turn extremity reads ASA 2000.

Using Built-In Exposure Meter

Canon F-1 provides the most accurate light measurement possible with its unique TTL (Through-The-Lens) system. The built-in exposure meter, which is of match needle type, is coupled to the shutter speed dial and pre-set aperture ring.

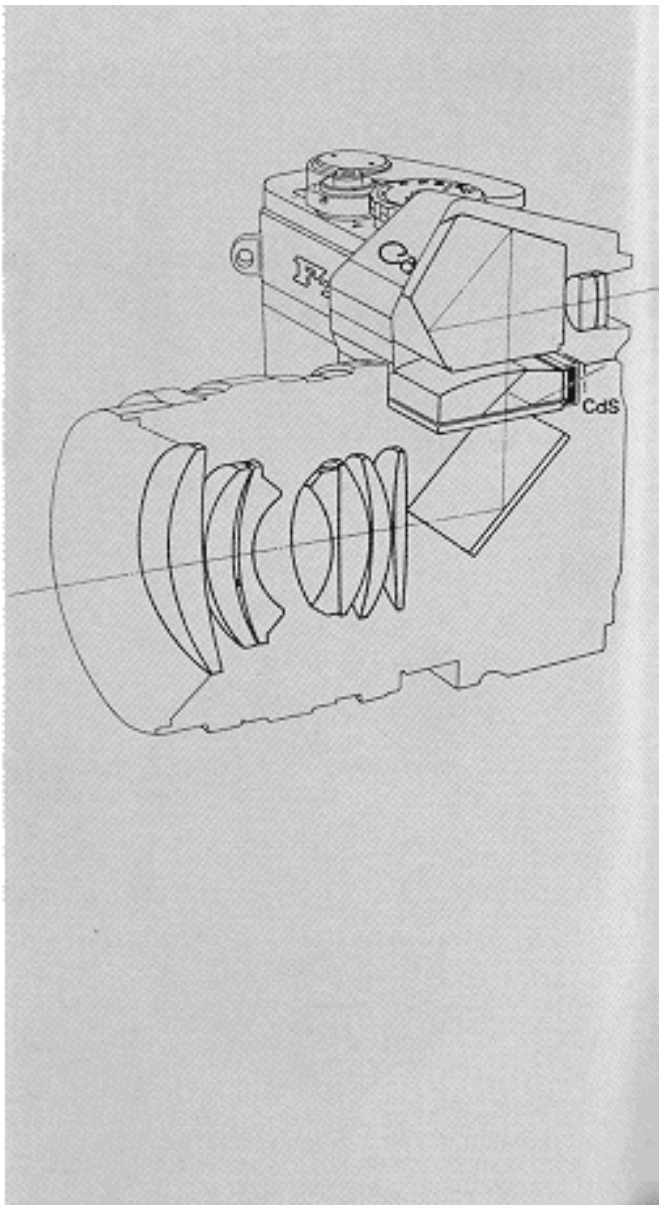
The CdS photocell of the exposure meter is placed in the closest position to the beam-splitting condenser lens. The semi-spot metering system enables accurate mesurement of the main subject even in counter-light conditions. The rectangular frame in the viewfinder represents the light measurement area of the CdS photocell. Place the main subject within this frame and measure the intensity of light so as to obtain the proper exposure.

■ The correction of the full aperture opening of the lens is performed automatically. Therefore, the operation does not change regardless of the speed of the lens used. An FL lens can be used only with stopped-down metering.

■ Due to the characteristics of the CdS photocell, the movement of the meter needle may occasionally become sluggish, owing to changes in the degree of light.

■ When not using the camera, set the meter switch at "OFF" or attach the lens cap so as to prevent unnecessary consumption of the mercury battery.

■ Metering at "B" on the shutter speed dial is not possible with the built-in exposure meter, because "B" is used for



Exposure Settings

Full Aperture Metering

Full aperture metering can be performed with an FD lens which has an aperture signal lever and pin.

1 Set the meter switch at "ON".

2 Set the shutter speed dial at the desired speed.

3 Face the camera towards the subject, look into the viewfinder, and check the needles in the meter reading window.

4 Turn the pre-set aperture ring and align the aperture needle with the meter needle.

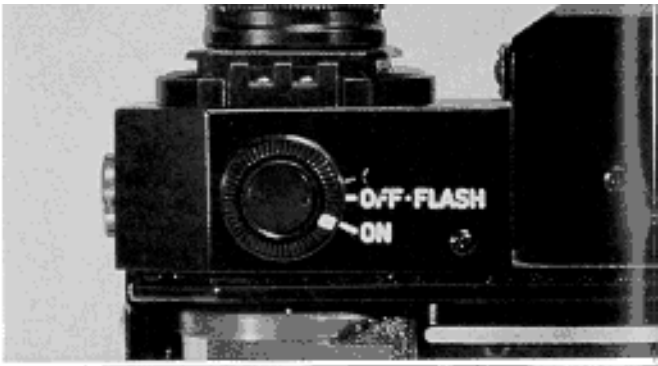
■ The green round mark on the aperture ring is for the Servo EE Finder use only.

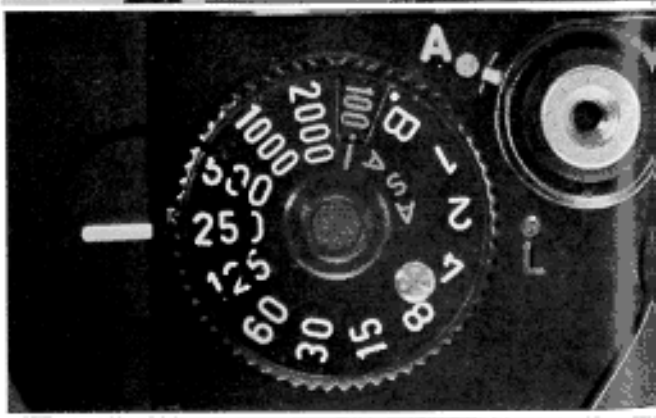
■ The meter needle is coupled to the film and shutter speeds, and moves vertically according to the brightness of the subject. The aperture needle, with a round mark, is coupled to the pre-set aperture ring of the FD lens.

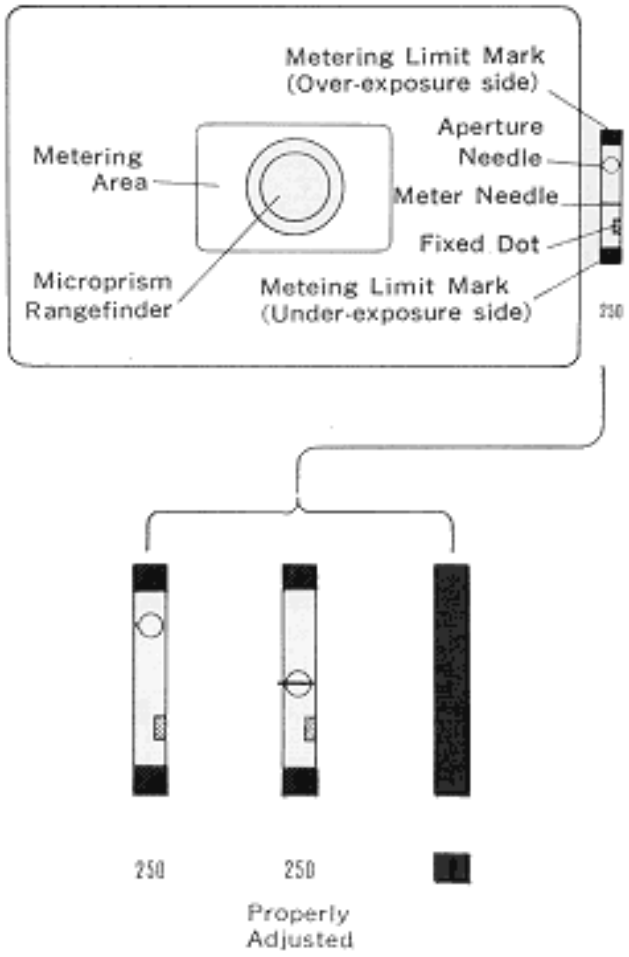
■ In the case of f/stop priority, turn the shutter speed dial and align the meter needle with the aperture needle.

■ If the aperture needle does not align with the meter needle by turning the aperture ring, it means that the shutter speed is not properly set. In this case, align the two needles by turning the shutter speed dial.

When the shutter is set on the high speed side, the meter needle moves downward. When it is set at a slow-







er speed, the needle moves upward. When the shutter is set at a slow speed outside the coupling range (slower than 1/2 sec. in case of ASA 100), the meter reading window turns into red, and metering will become impossible even if the aperture is changed. When the window turns into red and metering cannot be performed, use high-speed film or the optional Booster T Finder. Refer to "Coupling Range of Built-in Exposure Meter" on page 25.

■ Select a faster shutter speed when the meter needle swings all the way up, and a slower speed when it swings all the way down.

■ The moving range of the aperture needle inside the meter reading window changes according to the lens speed. Thus, it will not always move vertically the full length of the meter reading window. Change the shutter speed when the aperture needle cannot be aligned with the meter needle.

■ Since the shutter speed dial cannot be set at the intermediate positions, the shutter speed priority method is recommended when exposure accuracy is a crucial factor.

Stopped-Down Metering

When using a lens having no full aperture metering signal such as FL lenses, stopped-down metering should be done. Stopped-down metering is performed by pushing down the stopped-down functioning lever.

The stopped-down functioning lever can be fixed for continuous light measurement by pressing it towards the lens after setting the lever lock at the "L" position. If the lock

is returned to the white dot position the lever will return to its original position.

1 Set the meter switch at "ON".

2 Set the shutter speed dial at the desired speed.

3 Face the camera towards the subject, look into the viewfinder, and press the stopped-down functioning lever all the way. The aperture needle will point to the lower metering limit mark and only the meter needle remains.

4 Turn the pre-set aperture ring and make the meter needle stop within the meter index situated in reading window.

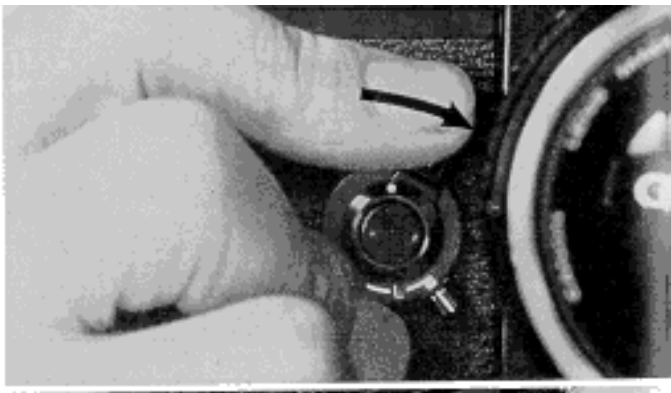
■ In the case of f/stop priority, adjustments can be made with the shutter speed dial.

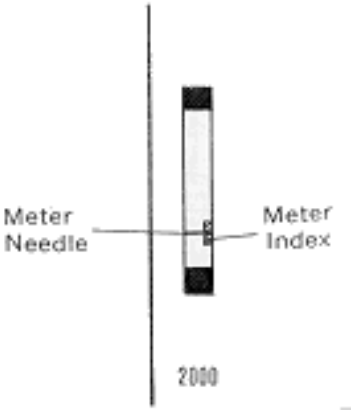
■ Full aperture metering is rather recommended with the FD lenses, because the FD lenses have a full aperture signal so as to fully compensate the built-in exposure meter. When performing stopped-down metering, be sure to close down the aperture f/2.8 or further.

■ With the fixing of the metering lever, shooting subjects with different light intensities or telephoto lenses can be conveniently handled.

How to "Average" Exposures

When measuring a subject with greatly different dark and bright parts, take two measurements, one each of the dark and bright parts. Then obtain the average value and set the f/stop or shutter speed accordingly.





Coupling Range of Built-In Exposure Meter

The built-in exposure meter couples to the following range of f/stops and shutter speeds with respective film speeds. When using the Canon Lens FD 50mm F 1.4 and ASA 100 film, for example, the exposure meter couples fully within the range of f/1.4 at 1/4 sec. (EV 3) and f/11 at 1/2000 sec. (EV 18).

Film Speed	Shutter Speed											
ASA 25	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000
ASA 50	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000	...
ASA 100	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000	...	...
ASA 200	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000	...	...	...
ASA 400	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000	...	...	...	...
ASA 800	1/30	1/60	1/125	1/250	1/500	1/1000	1/2000	...	...	...	...	...
ASA1600	1/60	1/125	1/250	1/500	1/1000	1/2000	...	...	...	...	...	...
Minimum f/Stop	f/22	f/22	f/22	F/22	f/22	f/22	f/22	f/22	f/16	f/11	f/8	f/5.6

Viewing and Focusing

The exact picture image to be photographed can be seen on the focusing screen of the viewfinder without any parallax. This enables you to determine the exact composition of your scene before pressing the shutter release button. The center of the viewfinder (circular section) is a microprism screen rangefinder made up of microscopic prisms for fast and precise focusing.

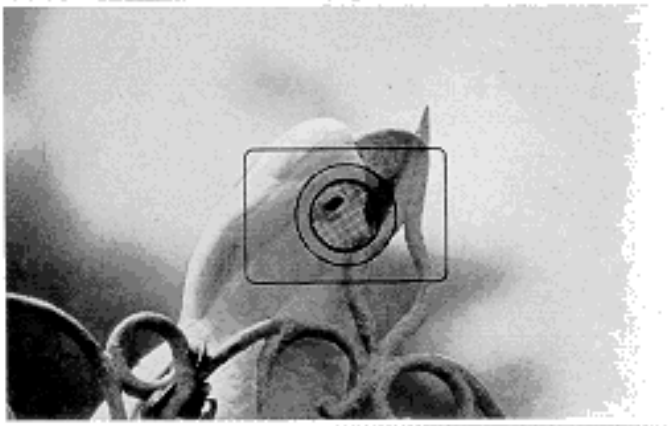
While looking through the viewfinder, revolve the focusing ring. It is in focus when the image in the rangefinder becomes sharp and clear.

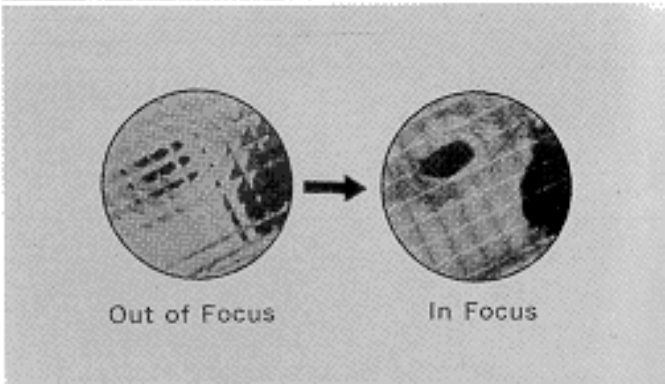
■ An optical curve may sometimes be visible in the lower part of the viewfinder according to the angle of the incoming light. This is a reflection of the beam-splitting mirror added onto the condenser lens in the TTL light measurement system.

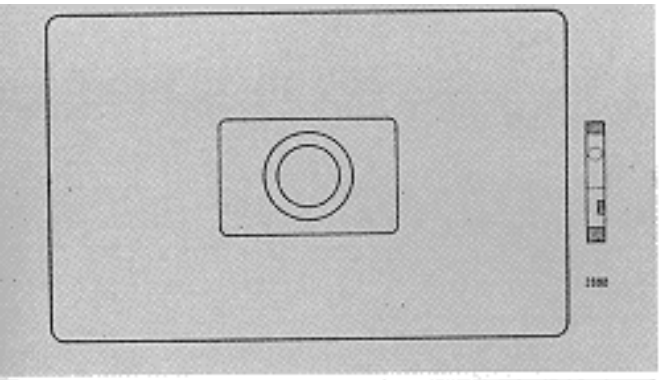
Viewfinders

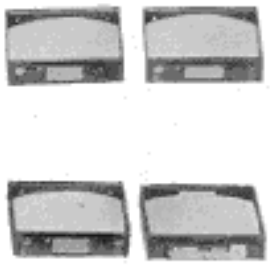
The Eye-Level Finder can be removed and interchanged with another viewfinder. To remove the Finder, pull it towards the rear while pressing the two stopper buttons on both sides of the Finder.

When attaching a viewfinder, slide it in from the rear side of the camera so that the attachment rails of the viewfinder are inserted on a level with the camera body. Push it all the way in and it will become locked with a clicking sound.









Interchangeable viewfinders that can be mounted include: Booster T Finder, Servo EE Finder, Speed Finder, and Waist-Level Finder.

Focusing Screens

The focusing screen inside the finder box can also be interchanged. The standard focusing screen has a prism screen rangefinder. There are three other types available. They are the split-image rangefinder type, the all-mat type, and the section type.

1 The focusing screen can be lifted by inserting your fingernail into one of the two notches on the rear end of the focusing screen and pushing upwards. Then remove the focusing screen from the finder box by picking up its metallic edge.

2 Face the protruding part toward the front, insert it under the holder on the camera body side and then press down on the rear end of the focusing screen so that it drops into a horizontal position.

Dioptric Adjustment Lenses

The screw-in type dioptric adjustment lenses are interchangeable. A standard −1.2 dioptric adjustment ring is attached to the viewfinder, while four other kinds of dioptric adjustment lenses for far-sighted and three others for near-sighted are available as optional attachments.
The diopters of these lenses are composits numbers of those when attached to the camera. A corresponding chart of the diopters is shown right.

- Dioptric adjustment lenses are also used when the magnifier is attached to the Eye-Level Finder.
- Dioptric adjustment lenses should be removed when the Angle Finder B is attached.
- The eyecup can be snapped on the ring.

Dioptric Adjustment Lenses	R+3	R+2	R+1	RO	R−1*	R−2	R−3	R−4
Diopter in Inches	+3	+2	+1	0	–	−2	−3	−4

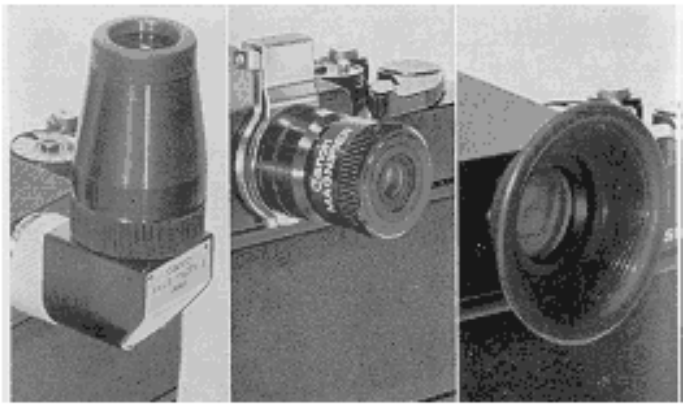
* Standard Ring

Angle Finder B

Canon's Angle Finder B can be attached to the eyepiece for copying, macrophotography and photomicrography work.

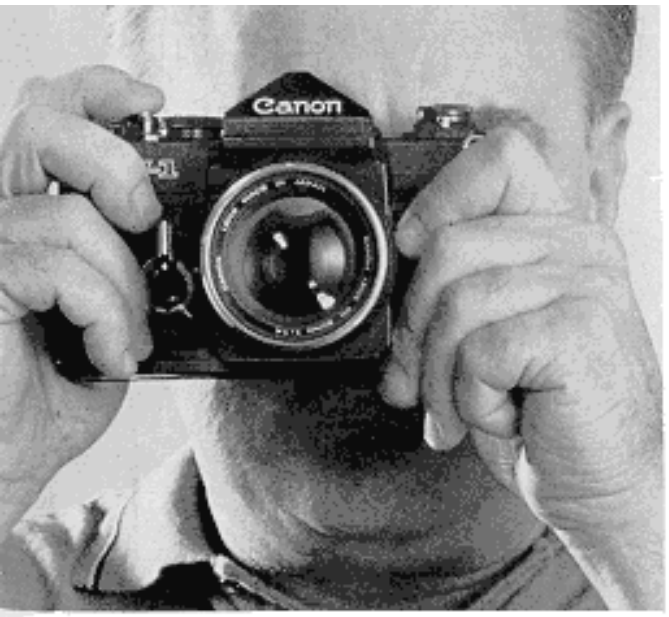
Magnifier

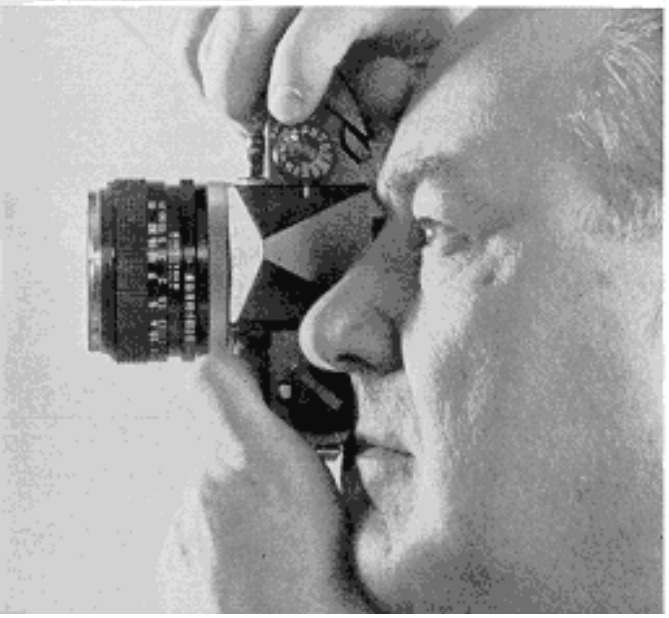
The optional Canon Magnifier can be attached to the viewfinder eyepiece of the F-1 which magnifies the rangefinder section for accurate focusing. Because it can be sprung up and clamped, the entire field of view can easily be viewed after focusing.



Eyecup

The covering type eyecup can be attached to the ring section.





Holding the Camera

Hold the camera firmly to take a clear picture. Hold the camera either in a vertical or horizontal position, look through the viewfinder, and focus. Then press the shutter release button gently. The following steps are important.

1 Hold the camera snugly in both hands. The camera should be pressed firmly to your cheek or forehead.

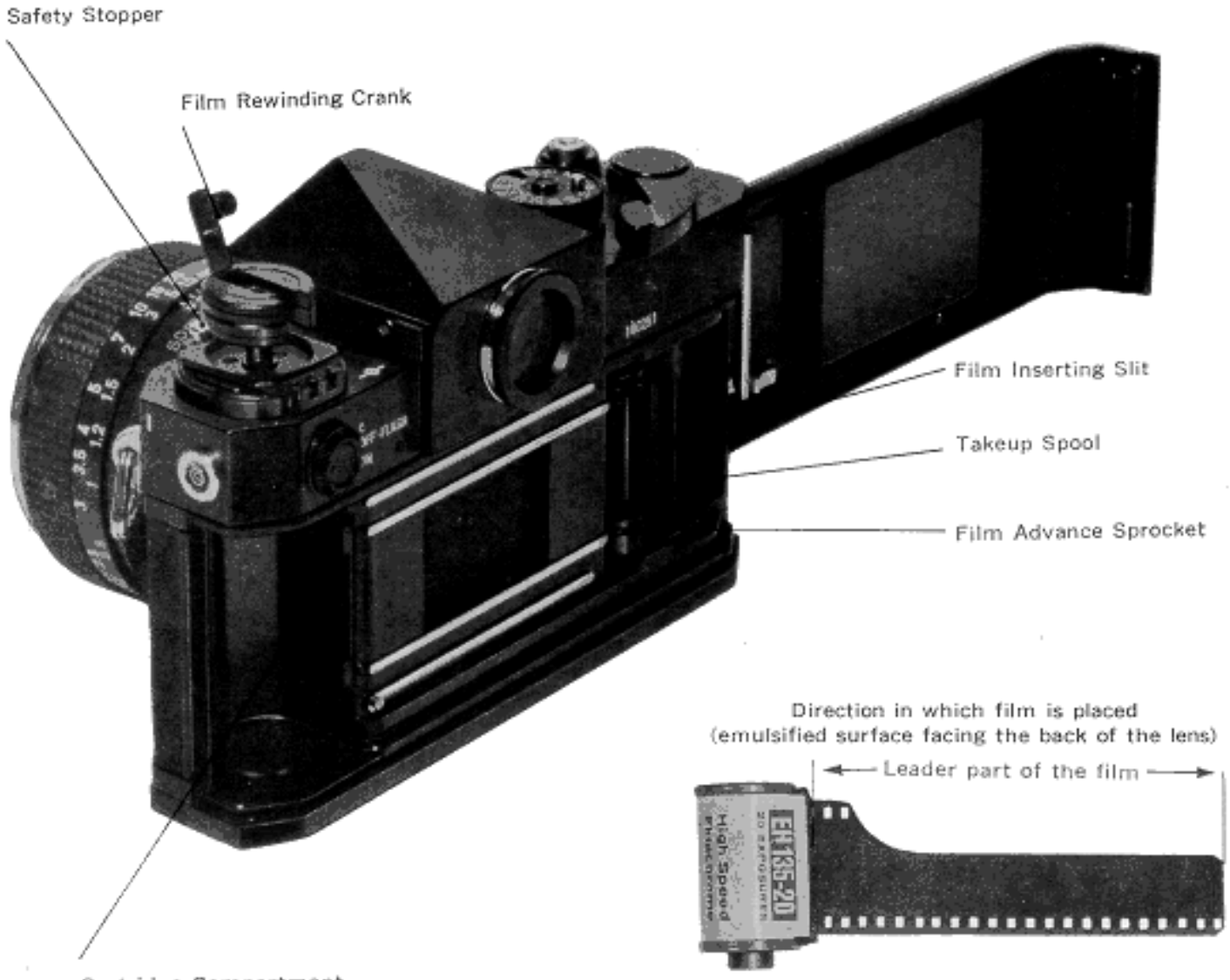
2 When the camera is in a horizontal position, both elbows should be firmly pressed against the body, and at least one elbow should be resting against the body when in a vertical position.

3 Hold your breath and press the shutter release button with a smooth, steady stroke. Otherwise, you will have a blurred picture.

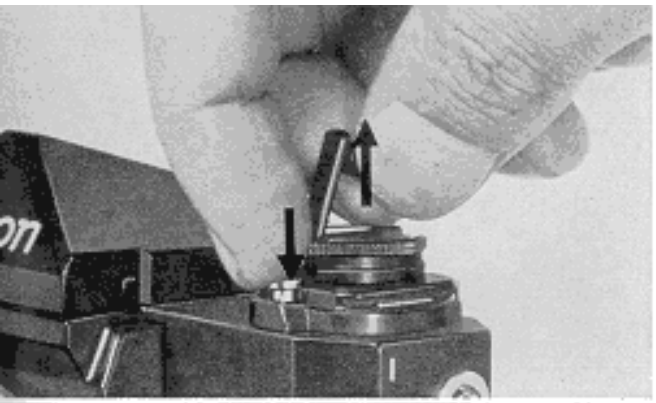
■ When using slow shutter speeds below 1/30 sec., you had better use a tripod and cable release.

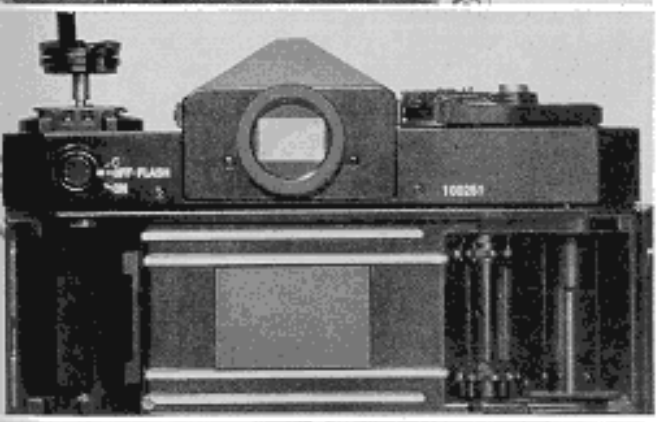
■ When taking pictures against the light, always use a lens hood.

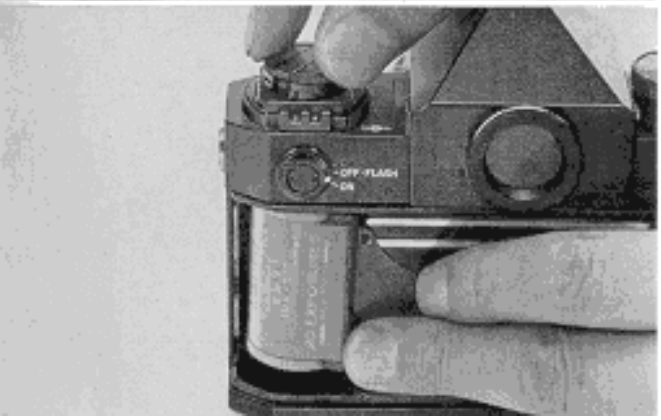
■ Camera Holder F for attaching a tripod and Canon Release are separately available.



Direction in which film is placed
(emulsified surface facing the back of the lens)







Film Loading

Canon F-1 accepts any standard 35mm film roll in cartridge for daylight loading. Always avoid loading film in direct sunlight.

1 Pull out the film rewind crank while pressing the safety stopper. The cover will rise slightly.

2 Open the cover fully. Face the film cartridge as illustrated, and insert it into the cartridge compartment. Push the film rewind crank back into its former position. The crank fork will slip into the axis of the film cartridge. In case the crank does not fully return, turn it slightly to the left or right.

3 Pull out the film from the cartridge and insert the film tip into the slit of the film taking-up spool for a length of approximately two perforations.

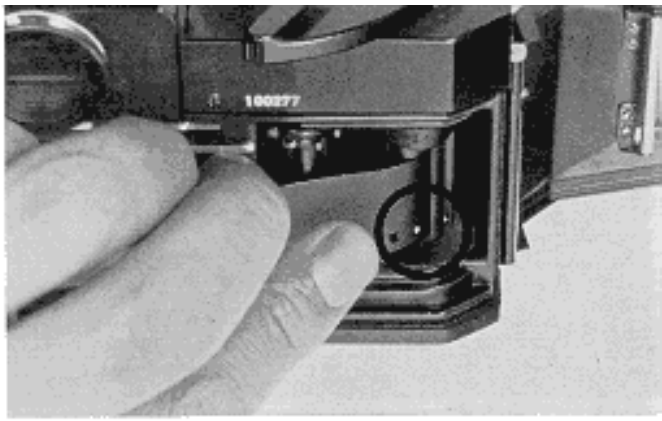
4 Turn the film advance lever and wind the film around the film taking-up spool.

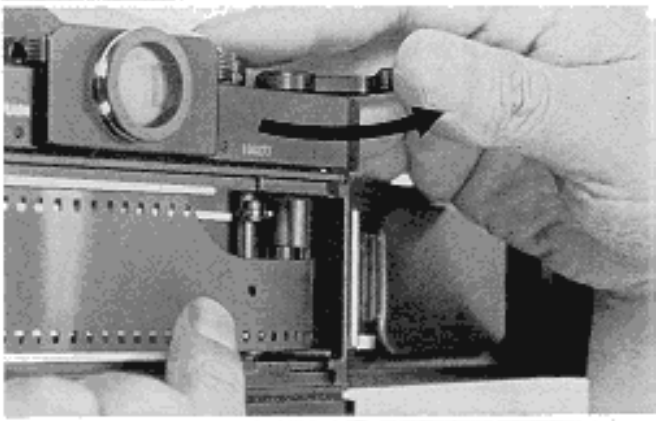
■ At this time, engage the sprockets of the film taking-up spool and the teeth of the film advance sprocket with the film perforations.

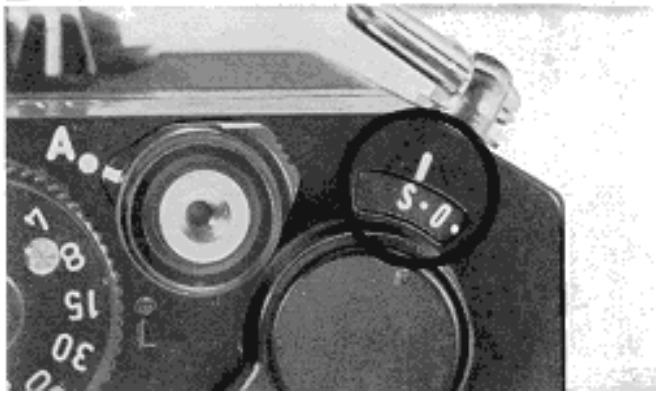
5 Press down on the back cover and close it.
If the film is sagging, the cartridge will rise and the back cover will not close.

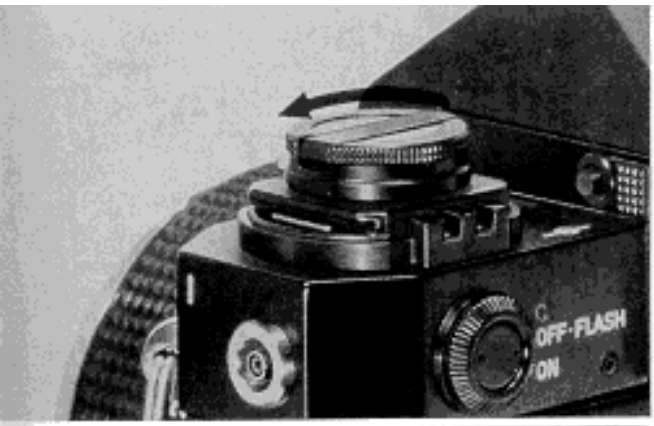
6 Leave the lens cap on and take two blank shots, each time turning the film advance lever.

The frame counter will advance from the "S" mark to ".". With one more advance, the camera will be ready for the first shot.



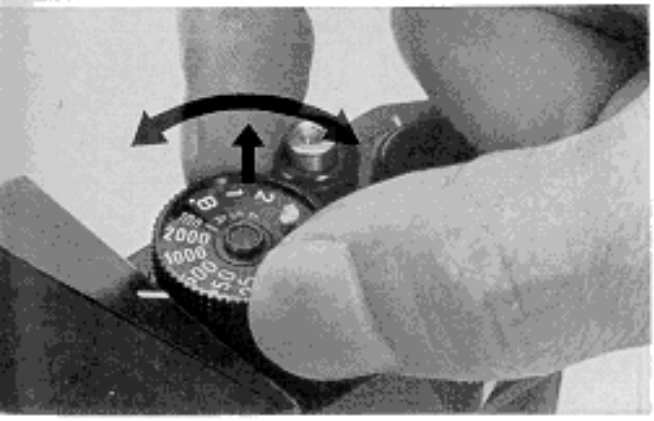






Checking Correct Film Loading

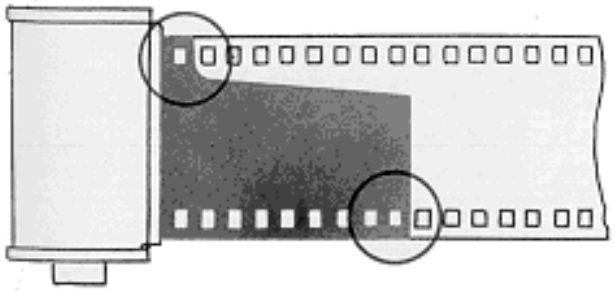
The film is properly loaded and advanced if the film rewind crank rotates when you wind the film advance lever. If the film rewind crank does not rotate, take out the film, as explained on the following page, and reload.



Setting the Film Speed

When loading the film, be sure to set the film speed scale at the proper position. Refer to page 21 for setting the film speed.

■ When repacking a long-wound film for darkroom loading into an ordinary cartridge, be sure to trim the tip of the leader between perforations.



Film Rewinding

When the film reaches the end and the film advance lever stops, rewind the film into the cartridge as soon as possible. Be sure not to open the back cover before rewinding. Otherwise, the entire roll will be exposed and ruined as the exposed film is naked within the camera.

1 Press in the film rewind button.

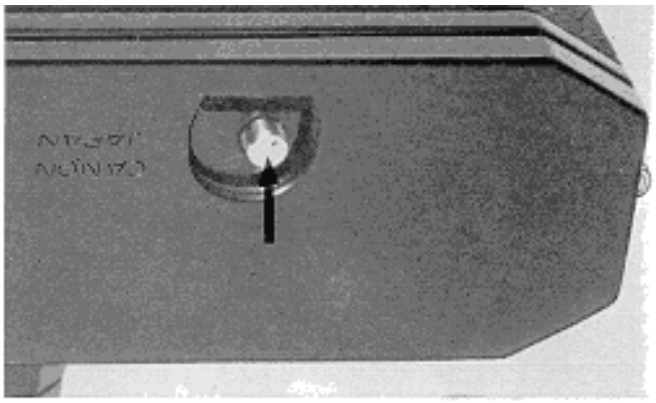
2 Raise the film rewind crank, turn it in the direction of the arrow, and rewind the film into the cartridge. When the film rewind button stops revolving and rewinding resistance becomes light, stop rewinding immediately.

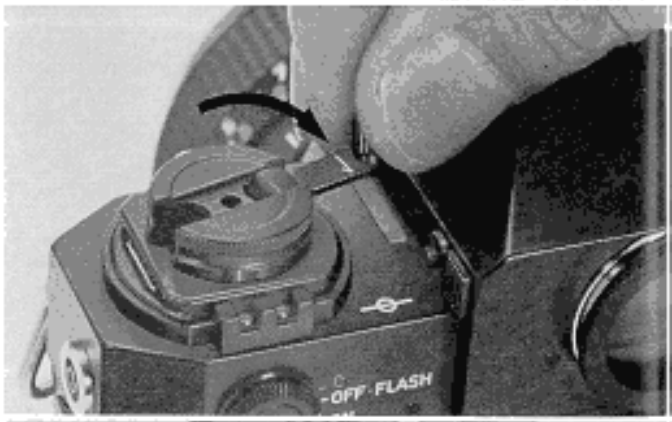
3 Open the back cover.

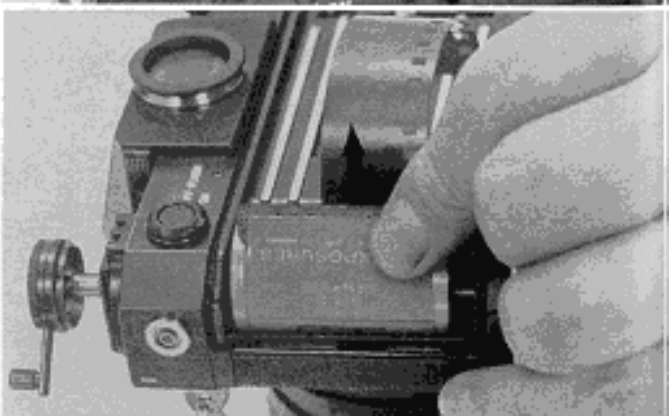
4 Pull up the rewind knob fully and remove the cartridge.

■ Once the film rewind button has been pressed, the finger may be removed. The button will pop out automatically when the film advance lever is wound.

■ If you force the film adance lever after the film reaches its end, the film will become detached from the cartridge spool or tear, and rewinding will become impossible. If this happens, open the back cover and remove the film only in a darkroom.







Canon Speedlite 133D

Canon Flash V-3

Contact for CAT System

Contact for Flash Unit

Synchronizing Flash Unit

Canon F-1 is designed so that two systems of flash photography can be connected to it—the match needle type automatic flash photography, using Canon Speedlite 133D, and ordinary synchronizing flash photography.

Type		Synchronized Shutter Speeds
Flash	FP class (#6, Press 26)	1/125 or faster 1/30 or slower
	M class (M3, #5, Press 25)	1/30 or slower
	MF class (AG-1, AG-3, M2, Flashcube)	1/30 or slower
Electronic Flash Unit	Speedlite	1/60 or slower

1 The Canon Auto Tuning (CAT) System is connected exclusively to the FD 50mm F 1.4, FD 50mm F 1.8 and FD 35mm F 2 lenses which have the flash adapter coupling pin. In connecting the flash unit, first attach Speedlite 133D onto the accessory shoe with the Flash Coupler L. Attach the Flash Auto Ring to the lens, and connect the cord of Flash Auto Ring to the 133D.
When looking from behind, the contact for CAT System is on the right side and the contact for flash unit on the left side.

2 When using an ordinary flash unit or Speedlite other than the 133D, insert Flash Coupler D into the accessory shoe. Then attach a flash unit onto this coupler and connect the cord to the flash socket of the camera.

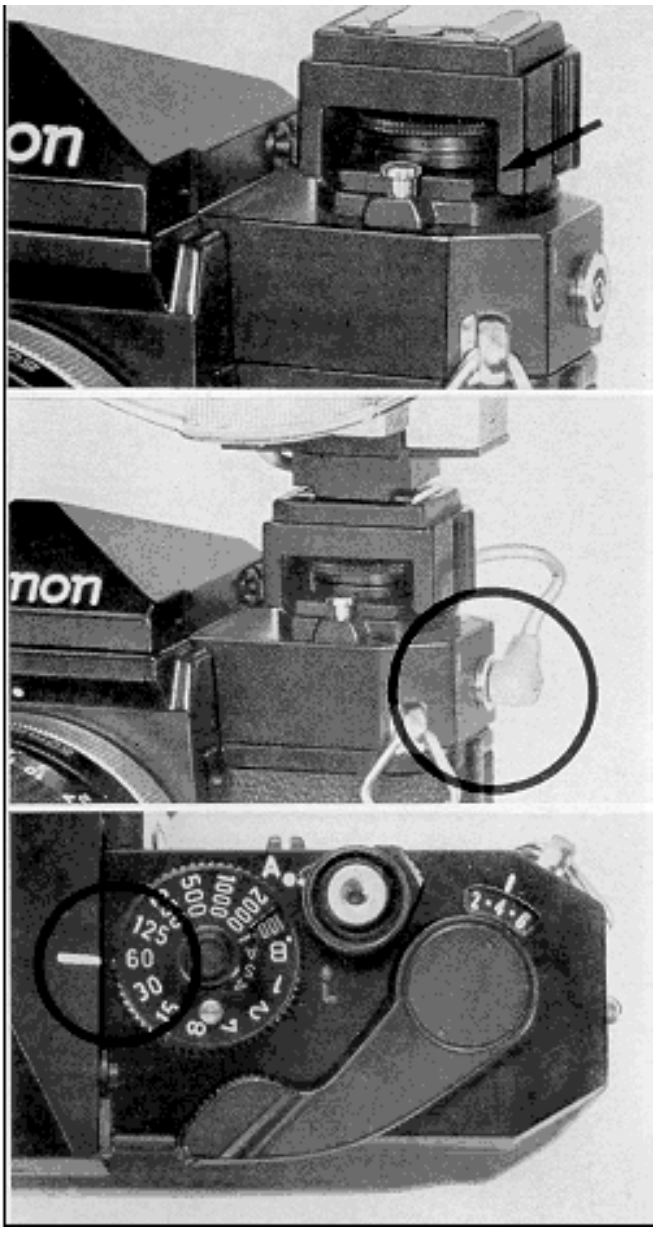
■ Flash Coupler D has a direct-coupled contact, like Canolite D, to which a direct-coupled type flash unit can be attached.

Deciding the Exposure

In the case of the Canon Auto Tuning System, the charging power level of the Speedlite 133D is continuously transmitted to the meter circuit of the camera. Thus, the correct exposure can be decided as follows: First set the meter switch to "OFF · FLASH" and the shutter speed dial at "60". And set the distance so that the meter needle in the meter reading window moves. Then turn the pre-set aperture ring until the aperture needle aligns with the meter needle.

In all other cases, photography is decided by dividing the guide number of the unit with the focusing distance and obtaining the proper f/stop. The X contact of Canon F-1 is 1/60 sec.

■ A lens hood should be attached when taking pictures with a flash unit.



Uses of Lenses

Changing Lenses

1 Be sure to unlock the stopped-down functioning lever lock. If the lever is pressed or is locked, the red dot appears inside the camera mount. The automatic/manual aperture lever, at the back end of the lens, cannot be connected to the coupling part on the camera body and the pre-set aperture will not function.

■ To remove the dust cap of the lens, turn the bayonet ring fully to the left. In this case, mount the lens onto the camera body as is.

2 Remove the lens from the camera body by turning the bayonet ring of the lens to the left until the red dot on the lens coincides with the red dot on the camera mount.

3 Set the pre-set aperture ring of the lens to be used within the f/stop indexes. If the ring is set at the green mark (circle) for EE photography, the lens cannot be properly mounted on the F-1 body.

4 Mount the lens by matching the red dot of the lens to the red dot on the camera mount. Turn the bayonet ring to the right and fasten. Before mounting, turn the bayonet ring of the lens sufficiently to the left and align the red dot and guide lever of the lens.

■ Attach the lens quickly in the shade. The film will sometimes become foggy if the lens is left unattached.

■ Whenever a lens is removed, be sure to put on the dust cap to protect the various signal levers and pins.

■ When not in use for a long time, protect the mirror with a flange cap.

Lens Signal

Aperture Signal Lever: Transmits the pre-set f/stop of the automatic aperture to the camera body. It is on a one-to-one movement basis with the pre-set aperture through lever manipulation. When the pre-set aperture ring is set at the green mark for EE photography, the aperture signal lever is disconnected from the aperture ring. The aperture opening can be set automatically using the Servo EE Finder. The aperture signal lever is attached with a safety device so that the lever is set at the starting position when the bayonet mount ring is turned to the attachment position.

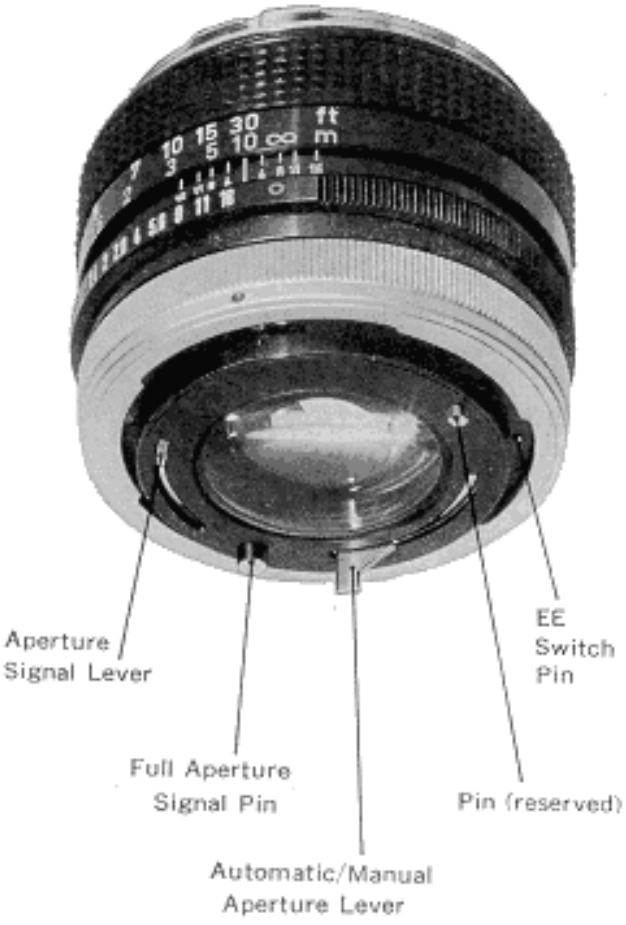
Full Aperture Signal Pin: Transmits the full aperture stop when a lens with a different full aperture number is mounted. It also compensates the meter deviation of the aperture metering.

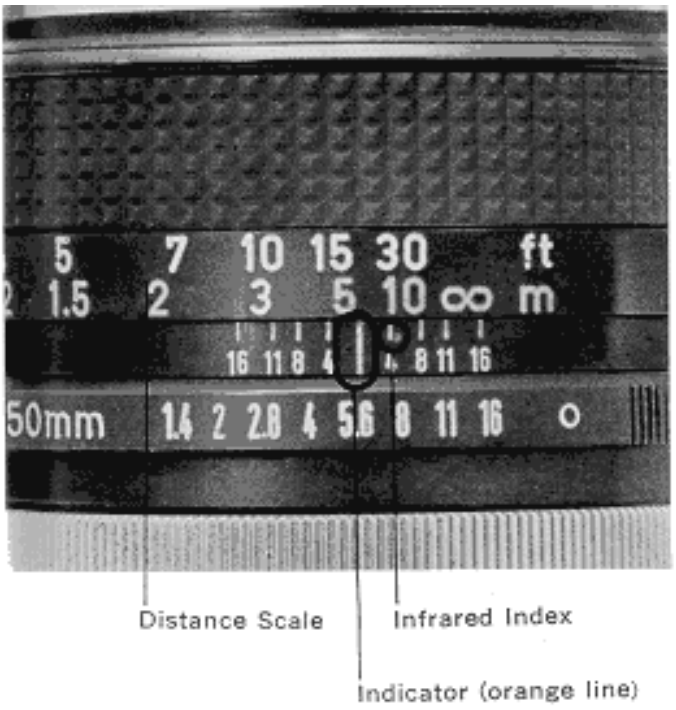
Automatic/Manual Aperture Lever: Stops down the aperture to the pre-set position. Clamp it to the right full side for manually operated aperture.

EE Switch Pin: When the pre-set aperture ring is set at the green mark for EE photography, the lens can be attached only to the F-1 camera. If the lens is attached to the cameras other than the F-1, it cannot be set at the green mark.

Pin: Reserved.

■ When the lens being taken off, the signal levers and signal pin will not move even if the aperture signal lever is moved.





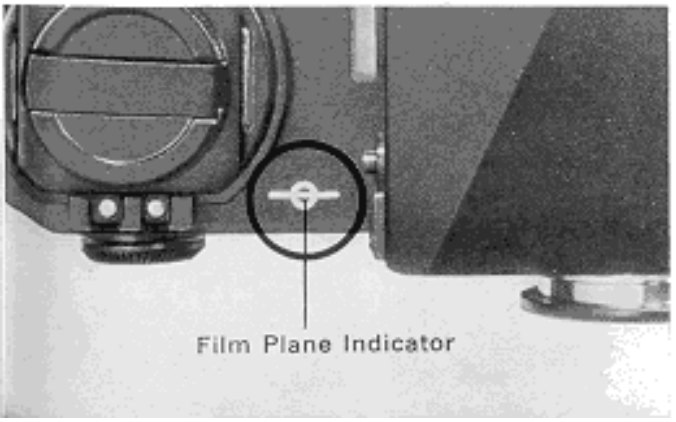
Distance Scale

The distance scale indicates the distance between the focused subject and the film plane. The scale is necessary for checking the depth-of-field, for flash and infrared photographies.

■ The correct position of the scale is in the center of each value. For example, the correct position of a two-digit value is the center of the two figures.

Infrared Index " · "

For infrared photography, correction of the distance scale is necessary because the focal point slightly deviates from ordinary photography. Focus first in the ordinary manner, then adjust that distance scale to the infrared mark " · " in red. For instance, if the distance scale reads 10m after focusing, merely shift the 10 scale to " · " position. The position of " · " on the F-1 is based on using film with the highest wave-length sensitivity figure of 800mμ, such as Kodak IR 135 film and Wratten 87 filter.



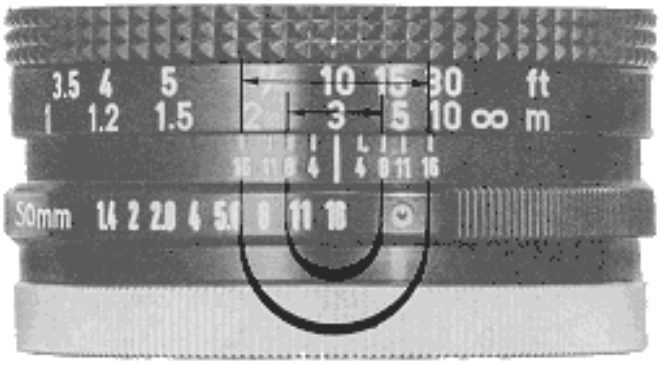
Film Plane Indicator

In case the focusing is done by actual measurement, measure the distance from the film plane indicator and interpret the measured distance on the distance scale.

Depth-of-Field Scale

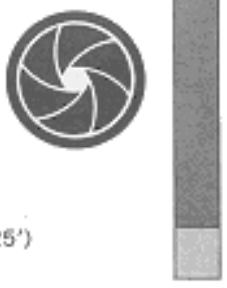
The depth-of-field scale indicates the range of subjects which will be in focus sharply on the film. This range will vary with the following factors: The depth-of-field will be deeper the smaller the f/stop, the further the distance of the subject, and/or the shorter the lens focal lengh. The depth-of-field will be shallower the larger the f/stop, the nearer the distance of the subject, and/or the longer the lens focal length. For example, if the lens used is 50mm and the subject has been focused at a distance of 3m (10′), with an f/8 value read off from both indexes on either side of the indicator (orange line), the depth-of-field is from approximately 2.3m (8′) to 4.3m (14′).

If the aperture is closed down to f/16, the picture will become sharp between 1.9m (6′) to 7.6m (25′) from the camera. This range will vary with the f/stop selected.



50mm Lens f/8

Depth-of-field 2.3-4.3m (8′-14′)
Focused at 3m (10′)



50mm Lens f/16

Depth-of-field 1.9m-7.6m (6′-25′)
Focused at 3m (10′)

Fixing Mirror Upwards

In performing super-wide or photomicrography, the Canon F-1 can be operated with the mirror locked in the up-position after the picture has been composed in the viewfinder, in order to eliminate mirror vibration.

To lock the mirror in the up-position, push down the stopped-down functioning lever lock to "M". The aperture is now stopped-down and controlled manually.

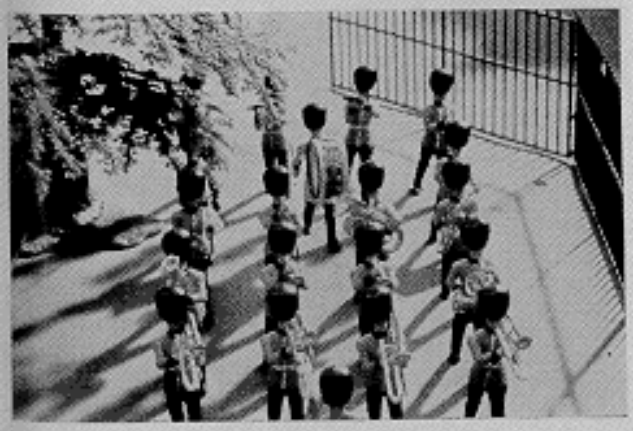
The mirror can be locked independently from film advance and shutter speed operations.

When the mirror is locked in the up-position, the SLR viewing is not possible, distance must be estimated by eye, and the 1/2000 second shutter speed cannot be used.

When the mirror is locked, always keep the lens covered. The film will sometimes become foggy if the lens cap is left unattached.

■ After the mirror lock device has been used, be sure to return the mirror lock lever to its original position. Failure to do this will result in inexact focusing.

■ When Canon Lens FL 19 mm F 3.5 (former type) is used, the mirror should be fixed, and combined usage of the exclusive viewfinder to this lens becomes necessary.



■ In the case of Canon FD lenses, you can see the actual sharpness through the viewfinder by pressing the stopped-down functioning lever.

■ Although air bubbles may sometimes be seen in a lens, they do not affect the resolution power or the sharpness of the picture.

FD Lens Mount (FL and R Series Lenses)

All Canon FD and FL lenses which have the FD and FL mounts can be used with the Canon F-1, except the FLP 38 mm F 2.8.

■ It is also possible to attach and use all the R lenses for Canonflex use. However, as the pre-set aperture mechanism differs, pictures must be taken by controlling the aperture manually.

Using Self-Timer

1 Wind the film advance lever.

2 Turn the self-timer lever in the direction of the arrow (counter-clockwise) until it stops.

3 Depress the shutter release button. The shutter will be actuated approximately 10 seconds later.

■ Be sure to wind the film advance lever. Otherwise, the self-timer will act but the shutter will not be actuated.

■ The stopped-down functioning lever can be used in a normal manner even after the self-time is charged.

■ The self-timer lever can be used as the stopped-down functioning lever as soon as it returns to its original position.

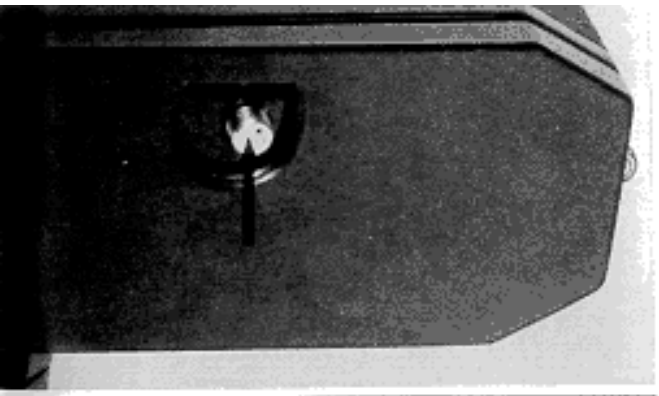
■ If the self-timer lever is set while the mirror is in an upward position, the mirror-up position is released. Therefore, always set the mirror in an upward position after setting the self-timer.

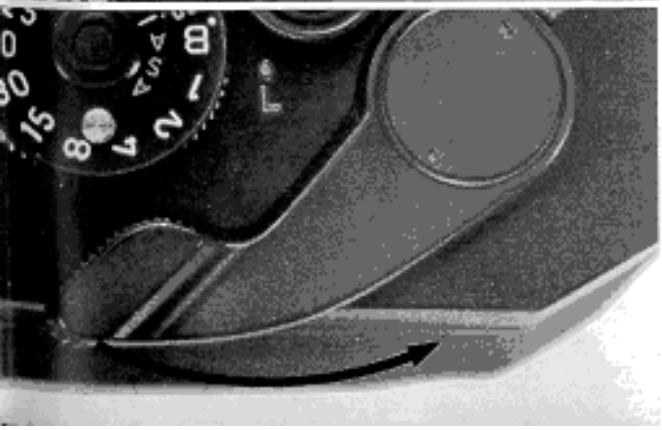
Lens Cap

When taking off the lens cap, push in the lock on the both sides of the lens. When attaching the lens cap, do the same way. The lens cap can also be attached on the filters which have inner threads.

Lens Hood

When attaching the lens hood on the lens, align it to the bayonet ring on the lens and turn it clockwise direction. With some exceptions of standard and wide angle lenses, a lens hood can be stored in the camera case. When do this, put the lens hood on the lens in the inversed and align it to the bayonet ring and turn in the counter-clockwise direction.





Double Exposures

Although the Canon F-1 is designed to prevent double exposures made by mistake, a double exposure can be made by the following steps:

1 When the first exposure has been made, press in the film rewind button.

2 Rewind the film with the film rewind crank by watching the green mark on the film rewind button carefully.

3 Stop rewinding when the green mark has made a 1/2 turn, i.e., 180°.

4 Next, wind the film advance lever while lightly holding the rewinding crank. When resistance is felt on the film rewind crank, stop winding.

5 Wind the film advance lever once more. The camera is ready for another exposure.

■ By repeating the above process, any number of exposures on the same frame can be made. The frame counter will, however, continue to advance with each exposure.

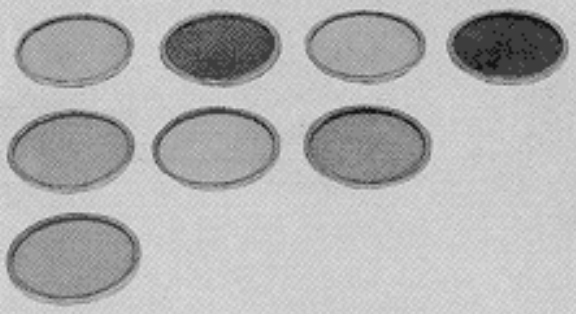
Note: a) When rewinding, be careful not to turn the film rewind button more than 1/2 revolution.

b) In the above mentioned article No. 3, in the case of the camera with red mark on the film rewind button, stop rewinding when the mark has made a 7/8 turn.

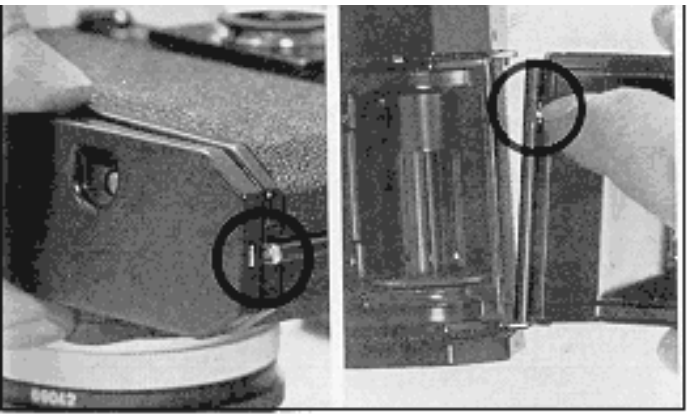
Filters

Type	Effectiveness of Filters
○● UV	Absorbs only ultra-violet rays. Especially effective at seaside, and in high mountains. Recommended for use in color photography.
○ Y1 Y3	Increases contrast of black and white film. Enhances clouds, darkens the blue sky. Brightens red and yellow.
○ O1	Darkens blue, increases yellow and red perceptibly. Good for contrasts especially in distant landscapes.
○ R1	Makes strong contrasts. May also be used with infrared film.
○ G1	Prevents red from turning radically into white. Lightens sky and face appropriately, and reflects the lightness of fresh greenery.
○● ND 4 ND 8	ND 4 reduces light values by 1/4, ND 8 by 1/8. No effect on the reproduction of colors.
● SKYLIGHT	Acts to harmonize the blue sky and shade.
● CCA 4	For use with daylight type film under the cloud.
● CCA 8	For use with universal type (color negative) film under the cloud or tungsten type film under the morning sun or sunset.
● CCA(12)	For use with tungsten type film under sunlight.
● CCB 4	For use with daylight type film under the morning sun or sunset.
● CCB 8	For use with daylight type film and clear flash bulb.
● CCB(12)	For use with daylight type film under tungsten light.

○ For black and white film. ● For color film.



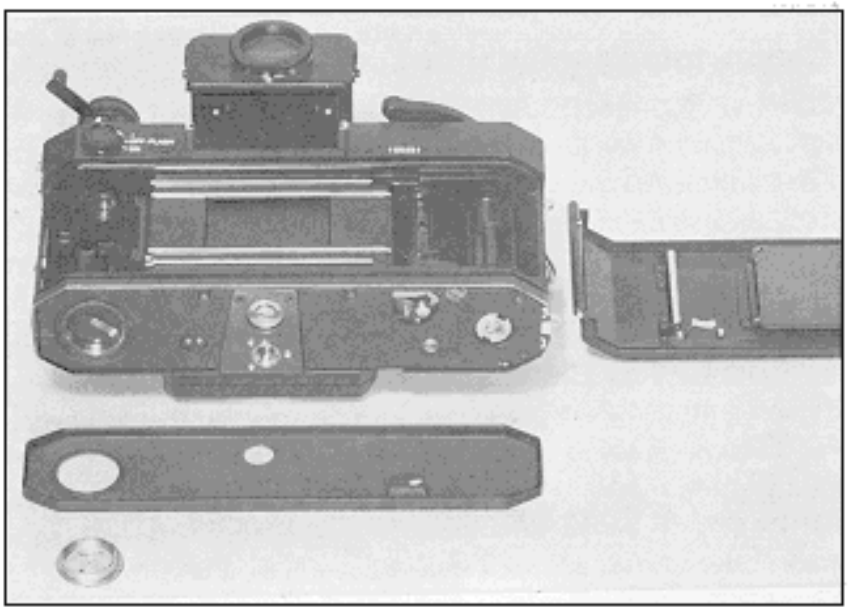
Various types of filters, according to lens thread diameters, are available for special effects in both color and monochrome photographies. The through-the-lens exposure measurements system of Canon F-1 does not require exposure factor compensation.



Bottom Cover and Back Cover

The bottom cover can be removed for use of the Motor Drive Unit. When removing it, take off the battery compartment, and pull it all the way.

The back cover can be removed for attaching the Film Chamber 250. When removing it, push down the pin of the hinge.



Interchangeable Lenses and Accessories

Canon F-1 is a highly versatile system camera with a wide range of interchangeable lenses from 7.5mm to 1200mm. These, together with the 180 available accessories, including Motor Drive Unit, Servo EE Finder, Booster T Finder and Film Chamber 250, make possible all kinds of photography. Select the interchangeable lens and accessories that meet your need.

Canon Interchangeable Lenses

FISHEYE 7.5mm F 5.6	FD 100mm F 2.8
FD 17mm F 4	FD 135mm F 3.5
FD 24mm F 2.8	FD 135mm F 2.5
FD 28mm F 3.5	FD 200mm F 4
FD 35mm F 3.5	FD 300mm F 5.6
TS 35mm F 2.8AL (Tilt & Shift)	FD 55-135mm F 3.5
FD 35mm F 2	FD 100-200mm F 5.6
FL 50mm F 3.5 (Macro)	FL 85-300mm F 5
FD 50mm F 1.8	FL 400mm F 5.6
FD 50mm F 1.4	FL 600mm F 5.6
FD 55mm F 1.2	FL 800mm F 8
FD 55mm F 1.2AL	FL 1200mm F 11

Note: Some lenses are not available but will be marketed soon.

All Canon FL and R Lenses can be used with the F-1, except the FLP 38 mm F 2.8.

Accessories

F-1 Case 1.4
F-1 Case 1.2
Servo EE Finder
Booster T Finder
Speed Finder
Waist-Level Finder
Eye-Level Finder (attached to the main body)
Angle Finder B
Magnifier
Dioptric Adjustment Lenses R (7 kinds)
Focusing Screens (4 kinds)
Eyecup
Finder Dust Cover
Moter Drive Unit
Film Chamber 250
Battery Connector MD
Film Loader 250
Film Magazine 250
Remote Switch MD
Extension Cord MD
Battery Case
Battery Magazine
NiCd Battery 500 FZ
NiCd Charger 500 FZ
Speedlite 133D
Flash Auto Ring A, B
Flash Coupler D
Flash Coupler L
Camera Holder F
Gadget Bag G-1
Neck Strap 5
Copy Stand 4
Focusing Unit M 100
48mm Close-up Lens 240, 450
55mm Close-up Lens 240, 450
58mm Close-up Lens 240, 450
Lens Hood B W-55-A
Lens Hood B W-55-B
Lens Hood B S-55
Lens Hood B T-55
Lens Hood B S-58
Lens Cap C 55
Lens Cap C 58
Lens Dust Cap
Speedlite 102
Flash V-3
Releases
Bellows FL, M
Extension Tubes FL and M Series
Macrophoto Coupler FL 55, 58
Lens Mount Converter A, B
Slide Duplicator
Microphoto Hood
Photomicro Unit F
Handy Stand F

CANON INC.
9-9, Ginza 5-chome, Chuo-ku, Tokyo 104, Japan
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457 Fullerton Avenue, Elmhurst, Chicago, Illinois 60126, U.S.A.
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3113 Wilshire Blvd, Los Angeles, California 90005, U.S.A.
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Gebouw 70, Schiphol Oost, Holland
CANON LATIN AMERICA, INC.
Apartado 7022, Panama 5, Panama

PUB. NO. K2093-5366D 0671D1 PRINTED IN JAPAN

Camera Body Number_____

Lens Number_____

Date of Purchase_____

Dealer's Name_____

Proper Care of the Camera

Moisture and dust are harmful to your camera. If your camera is to be stored for a long time, it should be removed from its case, and silica gel or another drying agent should be placed alongside it.

When you use your camera on a rainy day, or at the beach, moisture and salt air adhere to it, which can result in stains, rust, and corrosion. Use a soft brush to get rid of dust and a soft dry cloth for wiping.

■ In extremely cold areas, expose the camera to the outer air only when in use. When using, expose the camera gradually to the outer air to prevent the lens from clouding.

■ In hot climates, do not leave the camera inside closed automobiles during the daytime or in direct sunlight. It is not good for the CdS photocell.

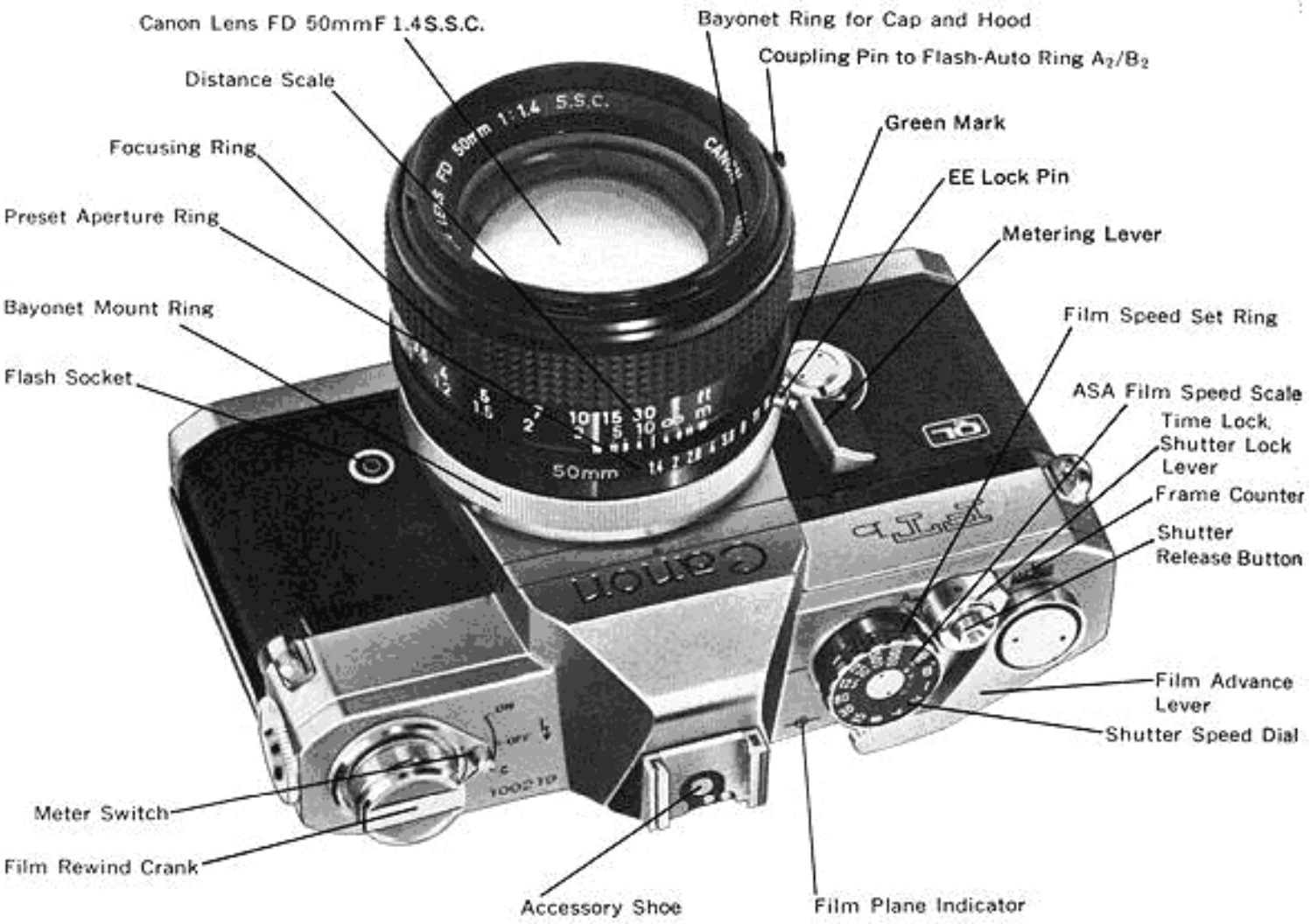
Cleaning the Lens

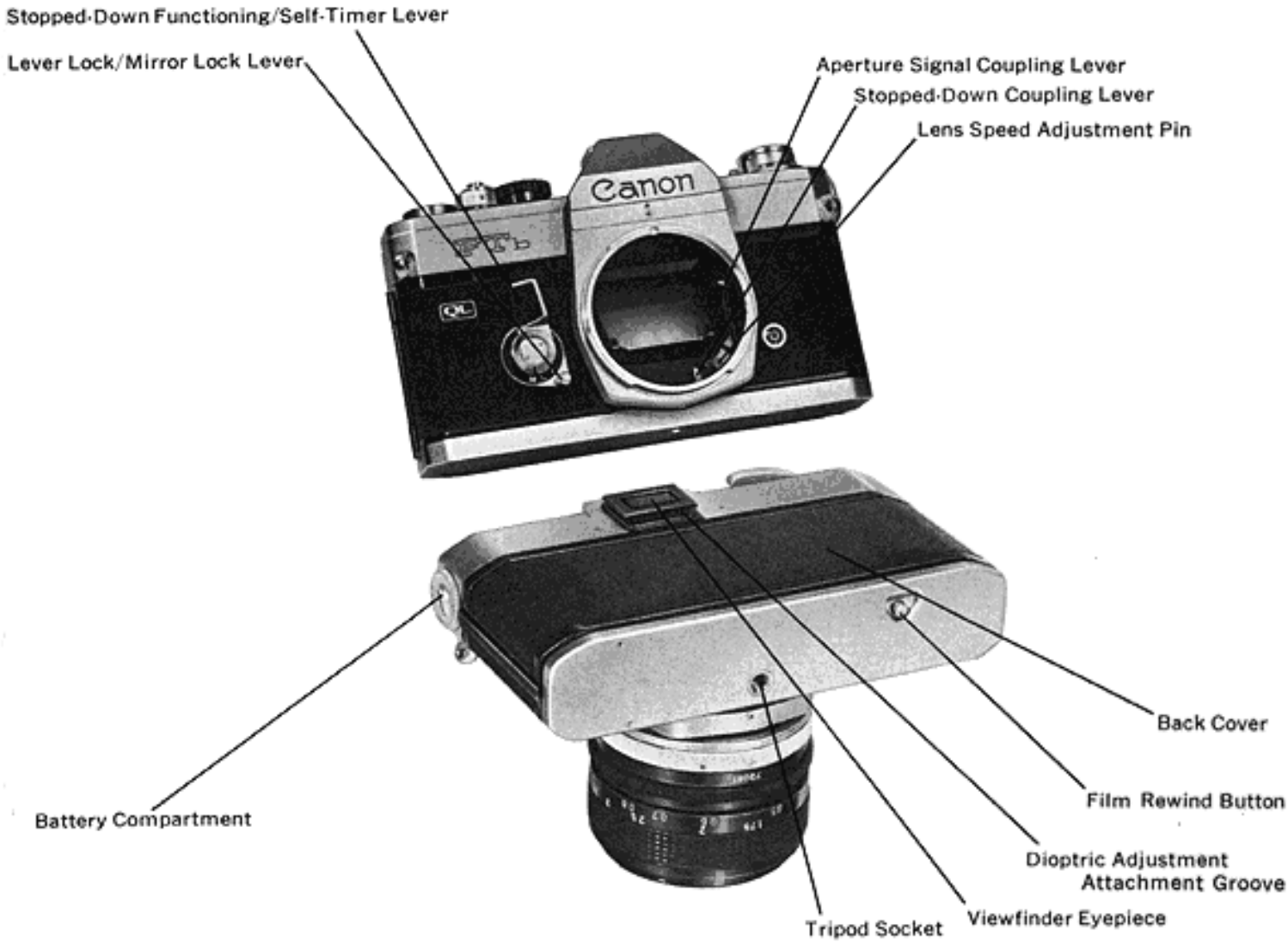
Use a blower to remove dust on the lens or brush lightly with a brush. If you should inadvertently get a fingerprint on the lens, use a little pure alcohol or ether on lens cleaning tissue, then wrap the tissue around a matchstick and wipe the lens lightly in a circular motion.

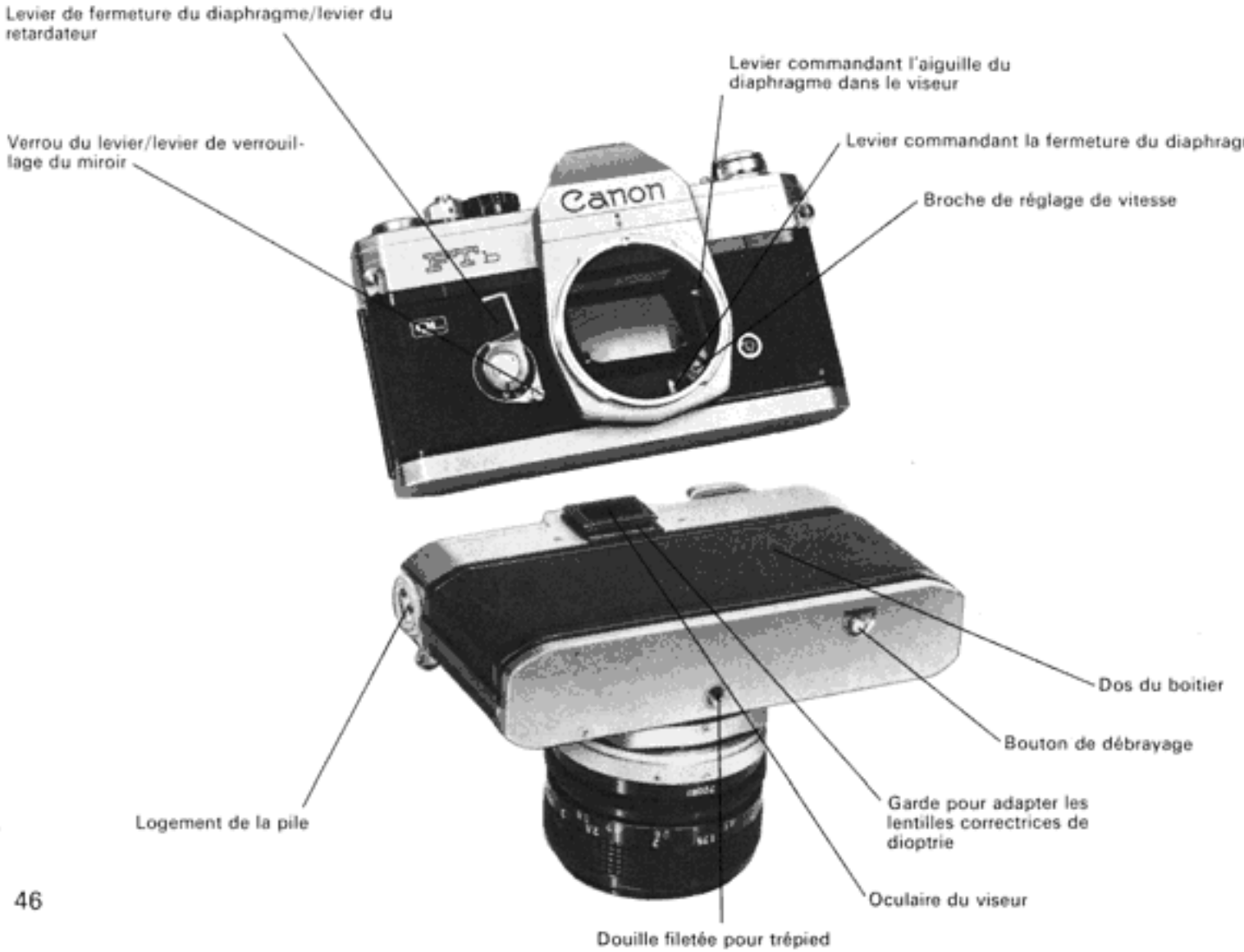
Canon FTb

INSTRUCTIONS

English Edition


Canon Lens FD 50mmF 1.4S.S.C.
Bayonet Ring for Cap and Hood
Coupling Pin to Flash-Auto Ring A2/B2
Distance Scale
Green Mark
Focusing Ring
EE Lock Pin
Preset Aperture Ring
Metering Lever
Bayonet Mount Ring
Film Speed Set Ring
Flash Socket
ASA Film Speed Scale
Time Lock
Shutter Lock Lever
Frame Counter
Shutter Release Button
Film Advance Lever
Shutter Speed Dial
Meter Switch
Film Rewind Crank
Accessory Shoe
Film Plane Indicator


Stopped-Down Functioning/Self-Timer Lever
Lever Lock/Mirror Lock Lever
Aperture Signal Coupling Lever
Stopped-Down Coupling Lever
Lens Speed Adjustment Pin
Back Cover
Film Rewind Button
Battery Compartment
Dioptric Adjustment
Attachment Groove
Tripod Socket
Viewfinder Eyepiece


Levier de fermeture du diaphragme/levier du retardateur
Levier commandant l'aiguille du diaphragme dans le viseur
Verrou du levier/levier de verrouillage du miroir
Levier commandant la fermeture du diaphragme
Broche de réglage de vitesse
Canon
Dos du boitier
Bouton de débrayage
Logement de la pile
Garde pour adapter les lentilles correctrices de dioptrie
Oculaire du viseur
Douille filetée pour trépied

We are highly gratified that you have selected the Canon FTb—a wise choice that promises you many delightful years of photographic experiences. Canon is recognized the world over as the foremost pioneer in the development of photographic equipment of the highest quality and performance. Whether your FTb is for the home, laboratory, or for traveling,make the most of your opportunities!

Before Using ...

Please read this instruction booklet carefully, and master the manipulations of the various parts of the FTb completely. Throughly versed in the correct handling of this camera, you can use the Canon FTb to the fullest extent of its capabilities.

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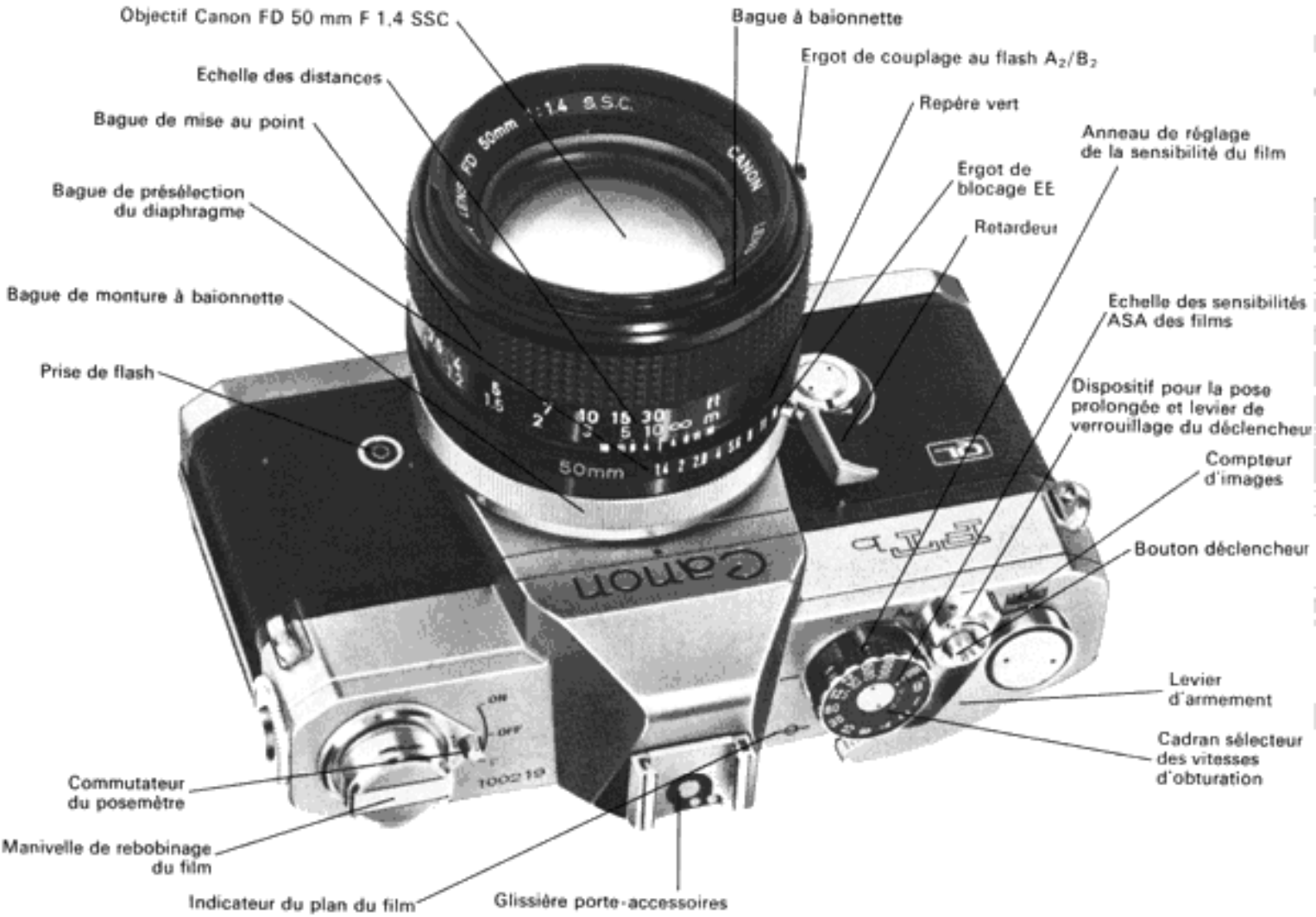
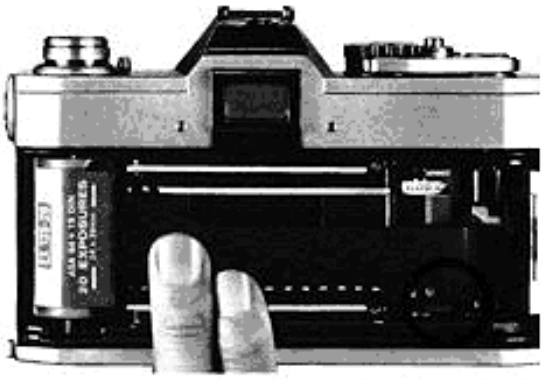
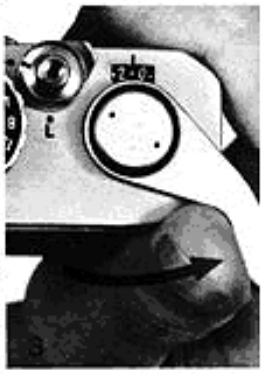

Objectif Canon FD 50 mm F 1.4 SSC
Bague à baïonnette
Ergot de couplage au flash A_2/B_2
Echelle des distances
Repère vert
Bague de mise au point
Anneau de réglage de la sensibilité du film
Ergot de blocage EE
Bague de présélection du diaphragme
Retardeur
Bague de monture à baïonnette
Echelle des sensibilités ASA des films
Prise de flash
Dispositif pour la pose prolongée et levier de verrouillage du déclencheur
Compteur d'images
Bouton déclencheur
Levier d'armement
Cadran sélecteur des vitesses d'obturation
Commutateur du posemètre
Manivelle de rebobinage du film
Indicateur du plan du film
Glissière porte-accessoires

Follow These Simple Steps for Normal Photography



1 Load the film with the QL mechanism.

2 Set the ASA film speed.



3 Wind the film advance lever.

4 Remove the lens cap.

6

5 Look through the viewfinder and focus.

6 Determine the exposure by adjusting the shutter speed dial and the preset aperture ring.

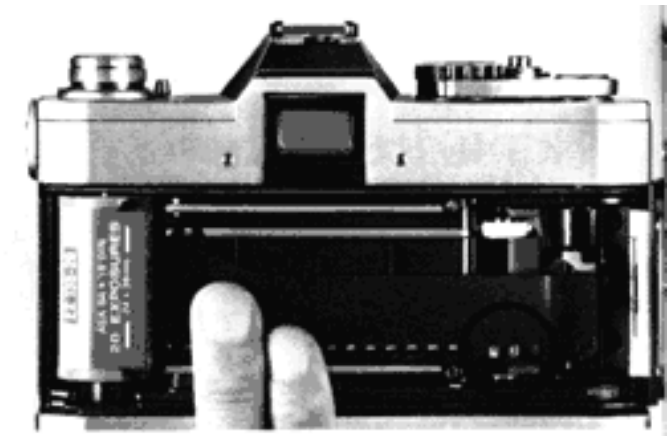
/7

7 Compose the picture.

8 Press the shutter release button gently.

Suivez ces instructions pour des photographies courantes :

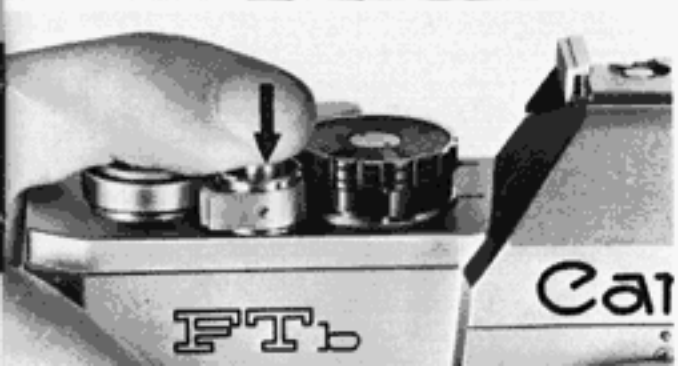
1 Charger le film à l'aide du mécanisme QL.



2 Régler la sensibilité ASA du film.

3 Faire avancer le film à l'aide du levier d'armement.

4 Retirer le capuchon de l'objectif.



5 Regarder dans le viseur et effectuer la mise au point.

6 Déterminer l'exposition en réglant le cadran des vitesses d'obturation et la bague de présélection du diaphragme.

7 Composer l'image (cadrage).

8 Appuyer doucement sur le bouton déclencheur.

Caractéristiques techniques

Type: Appareil photographique réflex 35 mm mono-objectif, avec obturateur à rideau situé dans le plan focal. Dimensions de l'image: 24×36 mm.
Objectifs interchangeables: Objectifs du type FD avec levier de transmission pour la mesure de la lumière à pleine ouverture.
Objectifs standard: Canon FD 55 mm F 1,2 SSC, FD 50 mm F 1,4 SSC FD 50 mm F 1,8 SC.
Viseur: Réflex à prisme pentagonal. Un viseur d'angle A, A2 et B, une loupe S et des lentilles d'ajustement dioptrique peuvent être adaptés.
Dispositif de mise au point: Lentille de Fresnel, télémètre à microprismes et lentille collectrice.
Champ visuel: 94% de la surface réelle de l'image, 0,85x avec l'objectif standard 50 mm réglé sur l'infini.
Renseignements groupés dans le viseur: Aiguilles du posemètre et du diaphragme, signal rouge indiquant le dépassement du champ de couplage du posemètre, repère du posemètre pour la mesure à diaphragme fermé et pour le contrôle de la pile, et marques limites du champ de couplage.
Lentilles d'ajustement dioptrique: Modèle standard –1,2 dioptrie. Interchangeable avec celles de +1,5, 0, –2,5 et –4.
Miroir: Escamotable, antichoc, à retour rapide. Le miroir peut être bloqué en position relevée. Le diaphragme se règle manuellement lorsque le miroir est bloqué en position relevée.
Mise en place de l'objectif: Par monture à baionnette de type FD permettant d'adapter les objectifs des séries FL et R.
Couplage des objectifs: Pour les objectifs FD: mesure de la lumière à pleine ouverture, couplée avec le diaphragme automatique. Pour les objectifs FL: mesure de la lumière à diaphragme fermé, couplée avec le diaphragme automatique. Pour les objectifs R: mesure de la lumière à diaphragme fermé avec réglage manuel du diaphragme.
Obturateur: A rideau situé dans le plan focal; vitesses variant de 1/1000 de seconde à 1 seconde et pose. Séries multiples. Repère d'équi-intervalles. Contact x au flash à «60». Le bouton déclencheur peut être verrouillé.
Déclencheur à retardement: Incorporé. Commandé par le bouton déclencheur. Retard de 10 secondes environ. Le levier du déclencheur à retardement est employé conjointement comme levier de diaphragmation.
Echelle des sensibilités des films: 25 à 2000 ASA.
Posemètre: Incorporé à cellule photoélectrique CdS; couplé au cadran des vitesses d'obturation, à la sensibilité du film et à la bague de présélection du diaphragme. Mécanisme de mesure à pleine ouverture, par coincidence d'aiguilles. Système de mesure semi-sélective sur 12% de la surface de l'image. Mesure possible avec diaphragme fermé, en utilisant le levier prévu à cet effet. Verrouillage possible du levier. Alimentation par une pile au mercure M 20 de 1,30 V (#6,25). Contrôleur de pile incorporé.

Technical Data

- Type: 35mm single-lens reflex camera with focal plane shutter. Picture size; 24 x 36mm.
- Interchangeable Lenses: Canon FD series lenses with full aperture signal lever.
- Standard Lens: Canon lens FD 55mm F 1.2 S.S.C., FD 50mm F 1.4 S.S.C., FD 50mm F 1.8 S.C.
- Viewfinder: Eye-level using pentagonal prism. Angle Finders A, A2 and B, Magnifier S, Dioptric Adjustment Lenses can be attached.
- Focusing Screen: Using Fresnel lens and microprism screen rangefinder. With metering beam-splitting condenser.
- Field-of-View: 94% of actual picture area. 0.85x with standard 50mm lens at infinity.
- Viewfinder Information: Meter needle and aperture needle, red signal indicating outside lower side of meter coupling range, meter index for stopped-down metering and battery check use, and coupling range limit marks.
- Dioptric Adjustment Lenses: Standard −1.2 diopter. Interchangeable with +1.5, 0, −2.5, and −4.
- Mirror: Shockless quick return system. Mirror can be fixed in upward position. Aperture is manually operated when mirror is fixed in upward position.
- Lens Mount: Bayonet type FD mount. FL and R series of lenses mountable.
- Coupling Function of Lenses: FD lenses; full aperture metering, coupled with automatic diaphragm. FL lenses; stopped-down metering, coupled with automatic diaphragm. R lenses; stopped-down metering, manually operated diaphragm.
- Shutter: Focal plane shutter with speeds from 1/1000 to 1 sec. and B. Multiple series. Equiinterval index. X contact at "60". Shutter release button can be locked.
- Self-Timer: Built in. Activate with shutter release button. Approx. 10 sec. time lag. Self-timer lever is used in common as stopped-down functioning lever.
- Film Speed Scale: ASA 25–2000.
- Exposure Meter: Built in. Using CdS photocell. Coupled to shutter speeds, film speeds and f/stop. Match needle type full aperture measuring mechanism. Central area metering system, measures 12% of picture area. Stopped-down metering possible. Fixed dot type metering, using stopped-down functioning lever. Locking of lever possible. Powered by one 1.3v M20 (#625) mercury battery. Battery checker built in.
- Exposure Meter Coupling Range: With ASA 100 film, EV 2.5 (f/1.2 at 1/4 sec.)–EV 18 (f/16 at 1/1000 sec.).
- Ultra-low Illumination Metering: Metering possible between ASA 100 film EV 10 (f/22 at 1/2 sec.) and EV −3.5 (f/1.2 at 15 sec.) with use of Canon Booster.
- Flash Synchronization: FP and X contact. Automatic time lag adjusting type. Flash socket on front side of body. Two exclusive contacts on accessory shoe.
- Canon Auto Tuning (CAT) System: Aperture control by recharging power level signal and distance signal. Proper aperture obtained by meter matching needle system through connection of Canon Speedlite 133D, Flash Coupler A_2/B_2 and prescribed FD 50mm F 1.4 S.S.C., FD 50mm F 1.8 S.C., FD 35mm F 3.5 S.C. or FD 35mm F 2 S.S.C. lenses.
- Synchronizing Range: FP class; 1/1000–1/125 sec., 1/30 sec. or under. Speedlite; 1/60 sec. or under. M, MF class; 1/30 sec. or under.
- Film Loading: By opening back cover. Accepts any standard 35mm film roll in cartridge. QL mechanism for quick loading of film.
- Film Advance Lever: Single operation 174°. Short-stroke winding possible.
- Film Rewinding: Performed by rewind button and crank.
- Double Exposure: Possible by operating film rewind button and crank.
- Frame Counter: Self-resetting type activated by opening back cover.
- Size: 144 x 93 x 43mm (5⅝" x 3⅝" x 1¾").
- Weight: 750g (1.46 lbs.)—body only.

Subject to alterations.

"Spectra Coating" and "Super Spectra Coating" shall be abbreviated as "S.C." and "S.S.C." respectively.

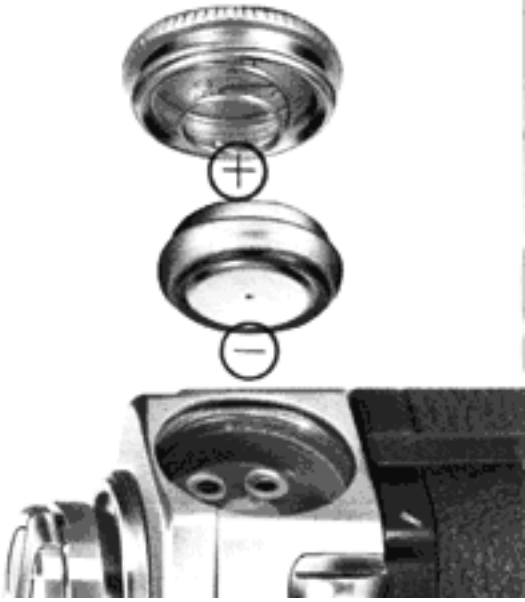
Champ de couplage du posemètre: Avec un film de 100 ASA, IL (Indice de lumination) 2,5 (f/1,2 à 1/4 de sec.) – IL 18 (f/16 à 1/1000 de sec.).
Mesure sous très faible lumière: La mesure est possible pour un film 100 ASA entre IL 10 (f/22 à 1/2 sec.) et IL –3,5 (f/1,2 à 15 sec.) en utilisant l'amplificateur optique Canon (Booster).
Synchronisation du flash: Contacts X et FP. Type à réglage automatique du retard. Prise de flash sur la partie avant du boîtier. Deux contacts exclusifs sur la glissière porte-accessoires.
Dispositif de réglage automatique Canon (CAT): Commande de l'ouverture du diaphragme par un signal de recharge et celui du télémètre. L'ouverture correcte est obtenue par coïncidence des aiguilles en raccordant le flash Speedlite Canon 133 D, le coupleur de flash A_2/B_2 et l'objectif prescrit: FD 50 mm F 1,4 SSC; FD 50 mm F 1,8 SC, FD 35 mm F 3,5 SC ou FD 35 mm F 2 SSC.
Champ d'application de la synchronisation: Ampoule du type FP: 1/1000e à 1/125e de seconde, 1/30e de seconde ou en-dessous. Speedlite: 1/60e de sec. ou en-dessous. Ampoules du type M, MF: 1/30e de sec. ou en-dessous.
Chargement du film: En ouvrant le dos de l'appareil. Utiliser n'importe quel film standard 35 mm en cartouche. Mécanisme QL pour chargement rapide du film.
Avancement du film: Par une seule rotation de 174° du levier d'armement; possibilité d'armer en plusieurs petits coups.
Rebobinage du film: Par le bouton de débrayage et la manivelle de rebobinage.
Double exposition: Possible à l'aide du bouton de débrayage.
Compteur d'images: Remise à zéro automatique déclenchée par l'ouverture du dos.
Dimensions: 144×93×43 mm.
Poids: 740 g (boîtier seul).

(Sous réserve de modifications)

Les abréviations «SC» et «SSC» signifient respectivement «Couches spectrales» et «Super couches spectrales».

Mise en place et contrôle de la pile au mercure

Le posemètre incorporé du Canon FTb ne fonctionne que lorsque la pile au mercure est correctement mise en place.
1 Introduire une pièce de monnaie dans la fente du couvercle du logement de la pile et dévisser le couvercle en le tournant vers la gauche.
2 Introduire la pile de façon à ce que le contact central soit à l'intérieur.
3 Revisser le couvercle en tournant vers la droite.
• Avant l'introduction, enlever à l'aide d'un linge sec les traces de doigt sur les pôles de la pile. Des pôles sales risquent de provoquer une corrosion et d'abîmer les points de contact de l'appareil.
• On peut utiliser une pile au mercure M 20 (#625) de 1,3 V, identique à la Mallory PX 625 ou l'Eveready E 625 N.
• S'assurer d'introduire la pile de façon correcte en regardant le diagramme figurant sur le couvercle du logement. Sinon le couvercle ne peut pas être correctement revissé.
• Lorsque l'appareil doit rester inutilisé pendant une longue période, retirer la pile et la conserver dans un endroit sec.



Mercury Battery Loading and Checking

The built-in exposure meter of the Canon FTb functions only when the mercury battery is properly loaded.

1 Insert a coin into the groove of the battery compartment cover and turn it to the left to remove.

2 Face the central contact (⊖) of the mercury battery inwards and insert.

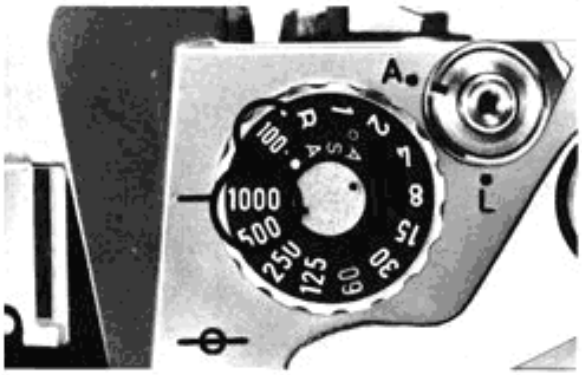
3 Replace the cover by turning it to the right.

■ Before inserting, wipe off the fingerprints or stains from the battery poles with a dry cloth. Otherwise, the meter may not function due to imperfect contact, and dirty poles may cause corrosion and damage the contact points of the camera.

■ A 1.3v M20 (≠625) mercury battery should be used—equivalent to Mallory PX-625, Eveready EPX-625.

■ Be sure to insert the battery in the correct direction by referring to the diagram on the compartment cover. Otherwise, the cover cannot be properly screwed in.

■ When the camera is not to be used for a long period, remove the mercury battery and keep the camera in a dry place.



Battery Check

Check the power level of the mercury battery after loading it.

1 Set the film speed scale at ASA 100 and the shutter speed dial at "1000". For setting the film speed, lift up the outer ring of the shutter speed dial and turn. (See page 19.)

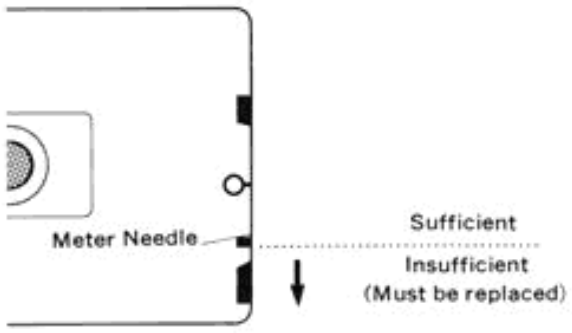
■ A correct check cannot be made if other settings are used.

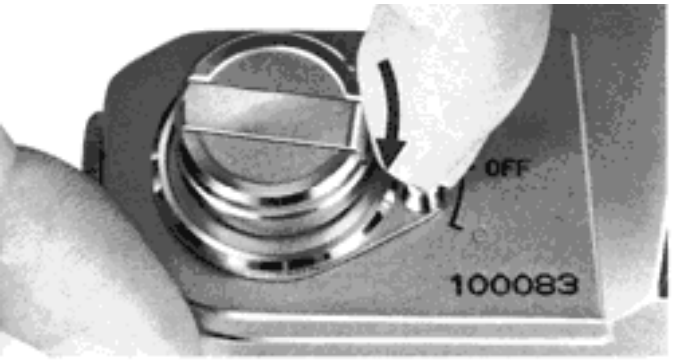
2 Turn the meter switch, on the outer side of the film rewind crank, to the "C" index.

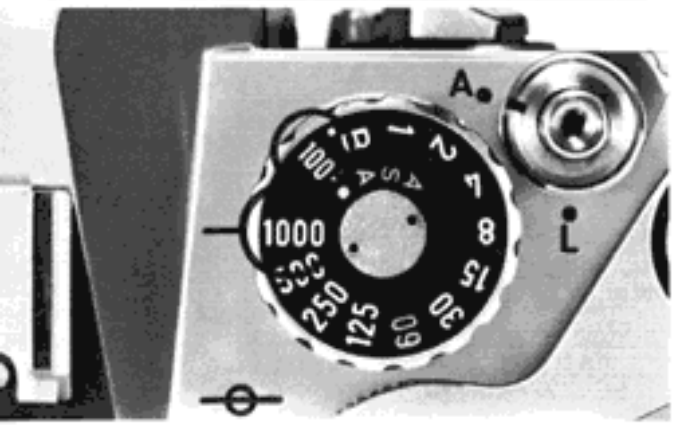
3 If the meter needle inside the viewfinder swings to the meter index, the battery has sufficient power. If the needle stays below the meter index, voltage is insufficient and the battery must be replaced.

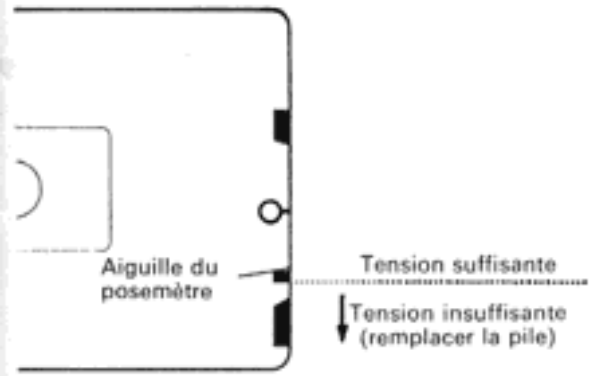
■ When removing your finger from the meter switch, it will automatically return to the "OFF" index from "C".

■ Life of the battery in normal use is approximately one year.









Contrôle de la pile

Toujours vérifier la charge de la pile après l'avoir mise en place.

1 Régler la sensibilité du film sur 100 ASA et tourner le cadran des vitesses sur la position «1000». Le réglage de la sensibilité du film s'effectue en soulevant légèrement la bague crantée entourant le cadran, puis en la tournant. Voir page 19.

- Un contrôle correct ne pourra être fait si les réglages ci-dessus ne sont pas respectés.

2 Tourner le commutateur du posemètre, situé sur le côté extérieur de la manivelle de rebobinage, jusqu'à la position «C».

3 Si l'aiguille du posemètre, visible dans le viseur, oscille vers le repère du posemètre, la charge de la pile est suffisante. Si, par contre, cette aiguille demeure au-dessous du repère, le voltage est insuffisant et la pile doit être remplacée.

- Lorsqu'on relâche le commutateur du posemètre, il revient automatiquement de la position «C» à la position «OFF» (arrêt).
- La durée de la pile est d'environ un an, dans des conditions d'utilisation normales.

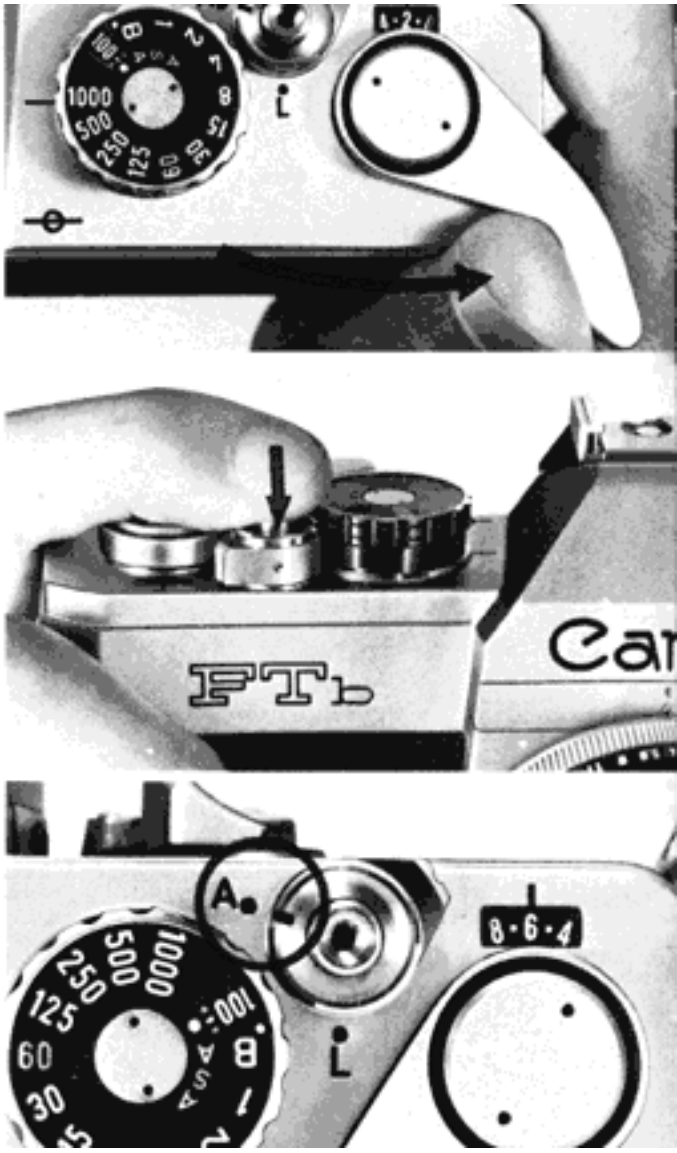
Avancement du film

Le levier d'avancement du film bobine le film, arme l'obturateur et prépare le diaphragme et le miroir pour le déclenchement suivant, le tout en une seule opération.

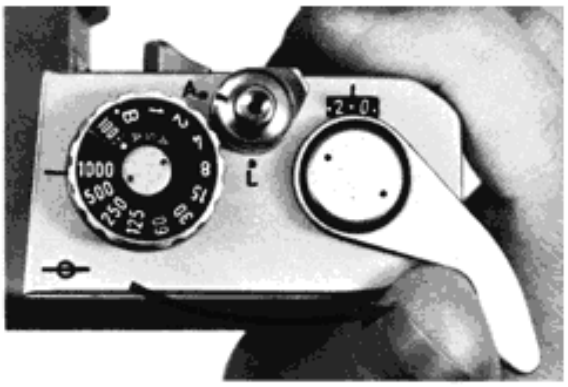
1 Tourner le levier d'armement jusqu'à sa butée. Le film aura avancé d'une image et l'obturateur sera armé. Le compteur d'images aura simultanément avancé d'une unité.

2 Au moment où l'on presse sur le bouton de déclenchement, le miroir s'efface vers le haut, le diaphragme se règle à l'ouverture présélectionnée et l'obturateur se déclenche. Aussitôt après le déclenchement, le levier d'armement est de nouveau prêt à être actionné pour la prise de vue suivante.

- S'assurer que le levier de verrouillage du bouton de déclenchement est bien sur la position « A ».
- L'armement peut être effectué par plusieurs courtes manœuvres du levier.
- Après chargement du film dans l'appareil, répéter le mouvement d'armement encore une fois, car le premier avancement du film peut ne pas être complet.
- Si l'enroulement du film n'est pas complet, l'obturateur ne fonctionnera pas quand on pressera sur le bouton de déclenchement. Il convient dans ce cas de vérifier encore une fois l'avancement du film.



Film Winding

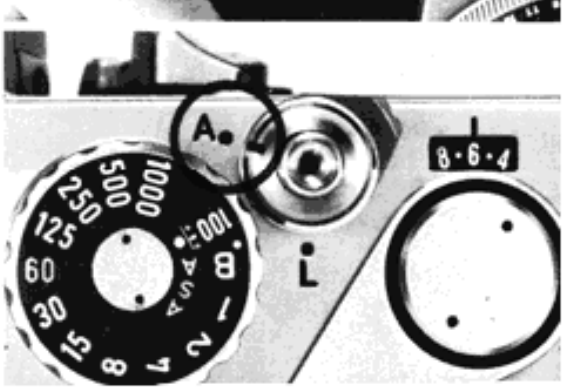


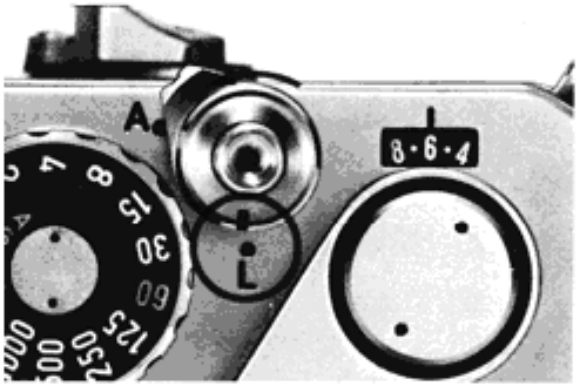
The film advance lever winds the film, cocks the shutter, and prepares the aperture and mirror for the next shutter release all in one motion.

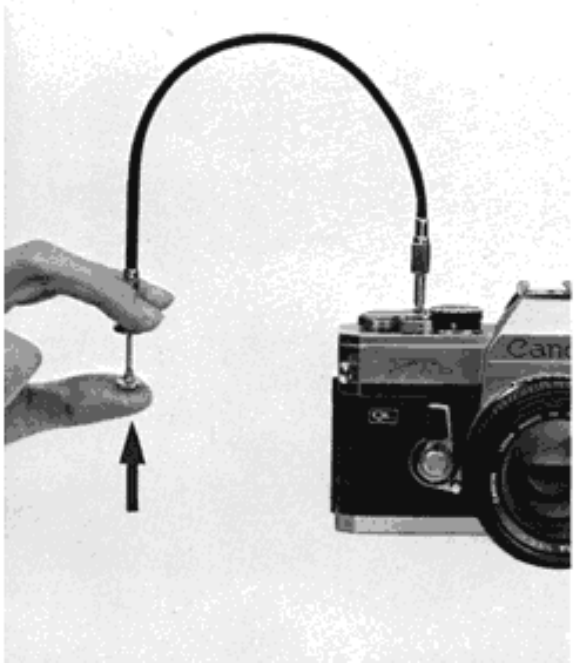
1 Turn the film advance lever until it stops. The film will be advanced one frame and the shutter cocked. The frame counter is simultaneously advanced to the next number.

2 When the shutter release button is pressed, the mirror flips up, the diaphragm simultaneously closes down to the preset f/stop and the shutter operates. After the shutter is operated, the advance lever can be wound for the next frame.

- Be sure to set the shutter lock lever at "A".
- Winding may be done by moving the lever with several short strokes.
- After loading the film, make another wind, because the first winding may not be complete.
- The shutter will not function when pressing the shutter release button unless winding is completed. In such a case, check the winding once more.







Frame Counter

Each winding will advance the number of the frame counter, indicating the number of pictures taken. When the back cover is opened, the counter automatically returns to starting position "S".

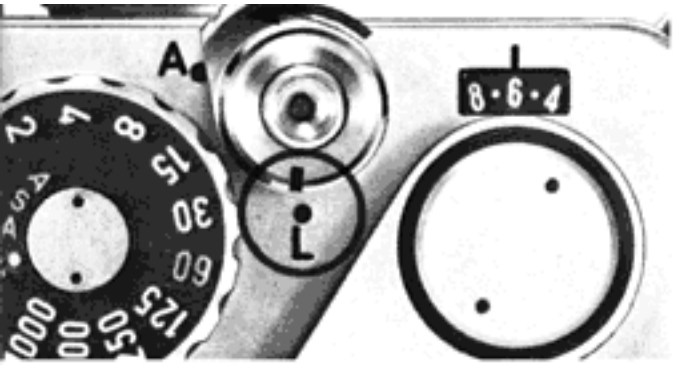
Safety Device for Shutter

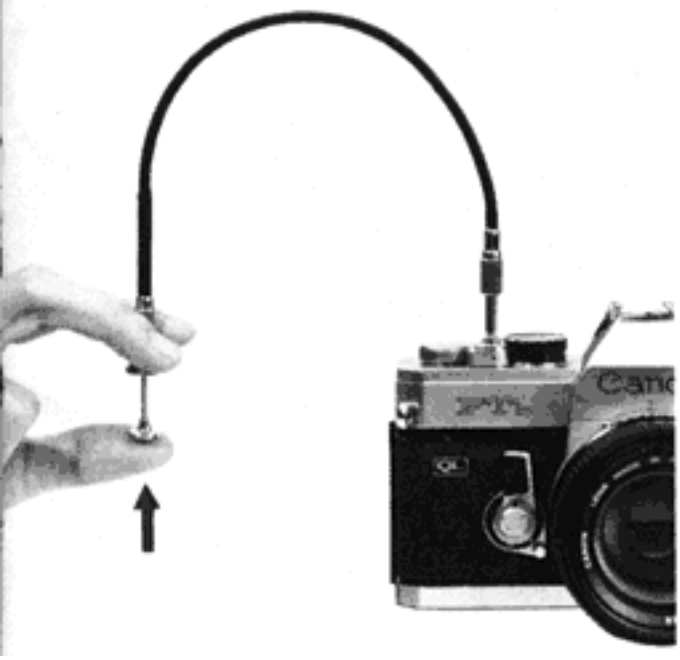
When the shutter lock lever around the shutter release button is turned to "L" position, the shutter is locked and will not move. This device may be used when the camera is carried in a wound condition.

Attaching the Cable Release

Optional Canon Release can be attached to the FTb by screwing it into the threaded hole in the center of the shutter release button. The use of a cable release is recommended when photographing with extended time exposure or slow shutter speeds, and for copy work.

Even if the shutter lock lever is at "L" position, the shutter will operate by using the release.





Compteur d'images

A chaque fois que l'on arme l'appareil, le compteur d'images avance d'une unité et indique ainsi, à tout moment, le nombre de photos prises. Il revient automatiquement au point de départ «S» lorsqu'on ouvre le couvercle de l'appareil.

Dispositif de sécurité de l'obturateur

Lorsque le levier de verrouillage du bouton de déclenchement situé sur le pourtour du déclencheur est mis sur la position «L», l'obturateur est bloqué. Cette précaution est conseillée notamment en cas de transport mouvementé de l'appareil ou lorsque l'obturateur est armé.

Mise en place du déclencheur souple

On peut, si on le désire, utiliser un déclencheur souple à câble qui se visse simplement dans le filetage prévu dans le bouton de déclenchement. L'emploi d'un déclencheur souple est recommandé pour la pose, les vitesses d'obturation lentes et les travaux de reproduction.
A noter, en y prenant garde, que même si le verrou de sécurité est sur la position «L», l'obturateur se déclenchera lorsqu'on appuyera sur le déclencheur souple.

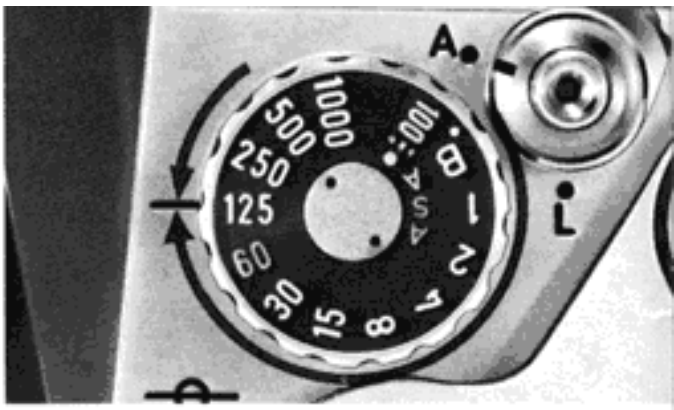
Réglages du temps de pose et du diaphragme

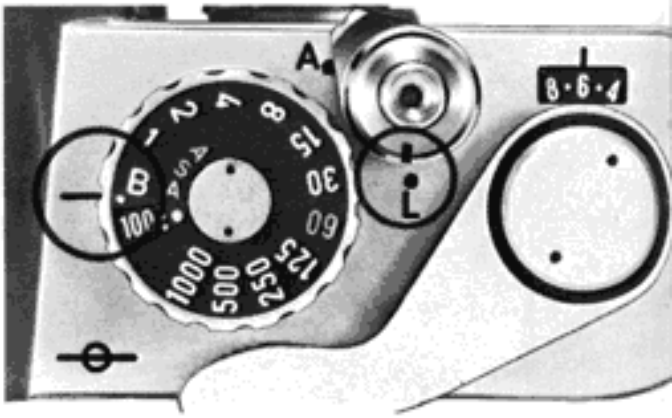
L'exposition est déterminée par l'obturateur et le diaphragme. L'obturateur règle le temps de pose, tandis que le diaphragme commande la quantité de lumière admise à travers l'objectif. Le Canon FTb utilise un posemètre à coïncidence d'aiguilles, permettant d'obtenir très facilement l'exposition voulue.

Cadran sélecteur des vitesses d'obturation

Régler la vitesse d'obturation en tournant le cadran sélecteur jusqu'à la position choisie en face du repère. Les chiffres portés sur le cadran représentent les dénominateurs: ainsi 1000 = 1/1000e de sec., 500 = 1/500e de sec., etc.

- On ne peut pas faire tourner le cadran des vitesses entre les positions «1000» et «B».
- Veiller à ce que le cadran soit bien enclenché dans un cliquet, à l'exception de la pose «B» pour laquelle ce n'est pas la lettre «B» qui sert de repère de réglage, mais le point blanc situé juste en dessous.
- «B» signifie pose et s'utilise pour les temps de pose dépassant une seconde. Dans ce cas, l'obturateur reste ouvert aussi longtemps que l'on presse sur le bouton de déclenchement.
- En cas d'exposition prolongée, régler d'abord le cadran des vitesses sur la position «B». Puis, tout en maintenant le bouton de déclenchement pressé, pivoter le levier de verrouillage sur «L». Ainsi l'obturateur restera ouvert même si l'on retire le doigt du bouton de déclenchement. L'obturateur se fermera lorsque le levier est ramené sur la position «A».





Shutter and Aperture Adjustment

Exposures are adjusted by the shutter and aperture. The shutter controls the exposure time and the aperture controls the amount of incoming light. The Canon FTb uses a match needle meter, a very simple method of obtaining proper exposures.

Shutter Speed Dial

Adjust the shutter speed by turning the shutter speed dial to the desired index number. The index on the dial shows the denominators of 1/1000 sec., 1/500 sec., etc.

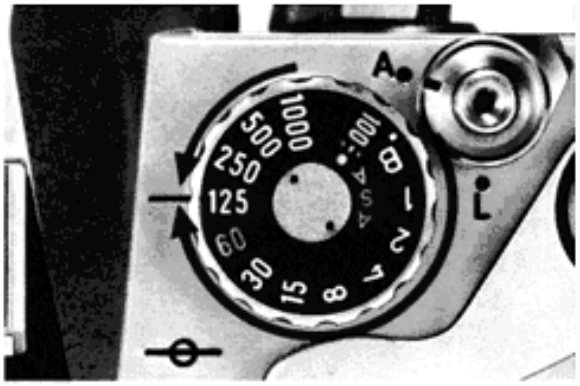
■ The shutter speed dial does not revolve between indexes "1000" and "B".

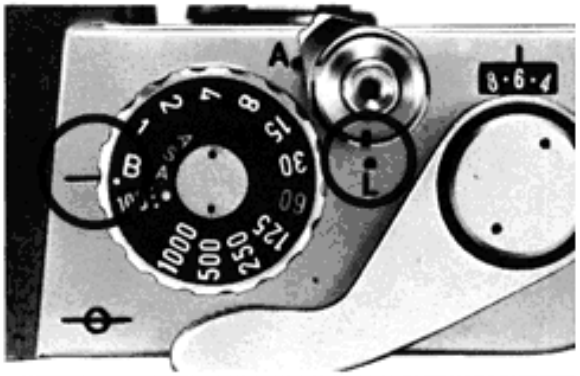
■ Be sure to set the index at a position where the click-stop catches. In case of "B" index, adjust it to the white dot just below the "B" index.

■ "B" indicates bulb exposure, and is used when making exposures of more than one second. When the shutter speed dial is set at "B", the shutter remains open as long as the shutter release button is pressed.

■ When time exposure is necessary to make an exposure over an extended time, first set the shutter speed dial at "B". Keep the shutter release button pressed, and turn the time lock lever to "L". The shutter remains open even if the finger is removed from the button. When the lever is returned to "A", the shutter closes.

■ Time exposure is also possible by using the lockable





cable release.

■ It is possible to perform a long-time exposure measurement by attaching the optional Canon Booster, the auxiliary meter for measuring subjects under dim light.

■ The "60" index is used for synchronizing an electronic flash unit such as Canon Speedlite. It is equivalent to a very short exposure time during the flash of the flash unit.

Aperture

Incoming light and depth-of-field are adjusted by turning the preset aperture ring to the desired f/stop.

■ As the f/stop number gets larger, the amount of light reaching the film plane becomes correspondingly less. For each f/stop up, the light is reduced one-half. Accordingly, when the aperture is increased by one f/stop, the exposure is doubled, and when it is increased by two f/stops the exposure is quadrupled.

■ Certain lenses, however, have no relation to the brightness halved between the maximum and the next f/stops on the preset aperture ring.

■ The ratio between the aperture and the amount of exposure, using f/2 as the basis, is as follows:

f/stop:												
1.2	1.4	1.8	**2**	2.8	3.5	4	5.6	8	11	16	22	
Exposure Ratio:												
3	2	1.25	**1**	1/2	1/3	1/4	1/8	1/16	1/32	1/64	1/128	

• Les poses prolongées sont également possibles en employant un déclencheur souple à vis de blocage.
• Pour effectuer une mesure de pose prolongée, on peut adapter au FTb le Booster Canon, qui est un amplificateur optique accessoire pour basses luminations.
• La position «60» (1/60 de sec.) est utilisée pour la synchronisation d'un flash électronique tel que le Speedlite Canon. Elle correspond à un temps de pose très bref durant l'éclair du flash.

Ouverture du diaphragme

On règle le volume de lumière pénétrant dans l'objectif de même que la profondeur de champ en plaçant la bague de présélection du diaphragme sur l'ouverture désirée.
• A mesure que le chiffre de l'ouverture du diaphragme augmente, la quantité de lumière atteignant le film diminue. Le déplacement de la bague d'un chiffre à un autre plus élevé réduit de moitié la quantité de lumière reçue, et double par conséquent le temps de pose. Si l'on saute deux intervalles, le temps de pose sera quadruplé.
• Pour certains objectifs cependant, la relation de division par moitié de la lumière, entre l'ouverture maximale et celle figurant immédiatement au-dessous, sur la bague de présélection du diaphragme, n'existe pas.
• Le tableau ci-dessous indique les différents rapports entre l'ouverture du diaphragme et le temps de pose, en prenant pour base l'ouverture f/2:

Ouverture du diaphragme:											
1,2	1,4	1,8	**2**	2,8	3,5	4	5,6	8	11	16	22
Rapport du temps de pose:											
3	2	1,25	**1**	1/2	1/3	1/4	1/8	1/16	1/32	1/64	1/128

■ The preset aperture ring can also be set between two f/stops.

Presetting of Aperture

In the case of the FD or FL lens, the field-of-view can always be seen through the viewfinder at full aperture opening even after the f/stop has been set with the preset aperture ring. Set the desired f/stop on the preset aperture ring to the index. The diaphragm will close down to the preset f/stop only for the instant that the shutter is released. Except for that instant, the diaphragm remains fully open.

FD 50mm F 1.4 S.C.

Manual Control of Aperture

1 By pressing down or locking the stopped-down functioning lever and turning the preset aperture ring, the diaphragm can be closed down to any f/stop and the depth-of-field at the time of shutter release can be checked. When the lever is returned to its original position, the diaphragm again returns to maximum opening.

■ The aperture is manually stopped down also when performing close-up photography and macrophotography.

2 When an accessory is used between the lens and the camera body, turn the automatic/manual aperture lever of the lens counterclockwise all the way before mounting the lens. This locks the lever and the diaphragm can be opened or closed by turning the preset aperture ring. For releasing the lever, turn it clockwise.

Automatic/Manual Aperture Lever

FD 50mm F 1.8 S.C.

Manual Lock Lever

Automatic/Manual Aperture Lever

3 In case of Canon FD Lens 50mm F 1.8 S.C., turn the automatic aperture lever of the lens counterclockwise all the way and set the manual lock lever at "L" position before mounting the lens. This manual lock lever locks the automatic aperture lever and the diaphragm can be opened or closed by turning the preset aperture ring. For releasing the lever, return the manual lock lever to the original position (white dot).

With the use of this lock, photography using manually operated aperture can also be performed on Canon single-lens reflex cameras like FX besides the TLb, FTb, FT QL and F-1. But do not use it together with Canonflex R, RP, RM and R2000.

4 When using the lens attached reversely to the macrophoto coupler for duplicating photography, macrophotography, etc., set the automatic aperture lever of the lens in the position for manual operation, attach the macrohood of the macrophoto coupler to the mounting section of the lens, and turn the bayonet ring until it locks.

• La bague de présélection du diaphragme peut aussi être réglée entre deux valeurs.

Présélection de l'ouverture du diaphragme

Pour les objectifs FD et FL, le champ est toujours visible dans le viseur, à l'ouverture maximale du diaphragme, même après le réglage de l'ouverture avec la bague de présélection. Régler l'ouverture choisie sur la bague de présélection en regard de l'index. Le diaphragme ne restera fermé à cette ouverture préalablement sélectionnée que l'instant du déclenchement de l'obturateur. Il sera entièrement ouvert le reste du temps.

FD 50 mm F 1.4 SSC

Commande manuelle du diaphragme

1 En verrouillant le levier de diaphragmation et en tournant la bague de présélection, on peut régler le diaphragme à l'ouverture voulue. La profondeur de champ, au moment du déclenchement de l'obturateur, peut être ainsi vérifiée. Lorsque le verrou du levier est ramené à sa position initiale, le diaphragme reprend son ouverture maximale.
• Il est également nécessaire de diaphragmer manuellement lorsque l'on réalise des gros plans ou de la macrophotographie.
2 Lorsqu'un accessoire est utilisé entre l'objectif et le boîtier de l'appareil, il faut tourner à fond le levier de commande automatique/manuelle du diaphragme, dans le sens contraire des aiguilles d'une montre, avant de fixer l'objectif. Le levier est ainsi verrouillé et le diaphragme peut s'ouvrir ou se fermer à l'aide de la bague de présélection. Pour libérer le levier, il suffit de le tourner dans le sens des aiguilles d'une montre.

Levier de commande automatique/manuelle du diaphragme

FD 50 mm F 1,8 SC

Levier de commande automatique/ manuelle du diaphragme

Levier de blocage manuel

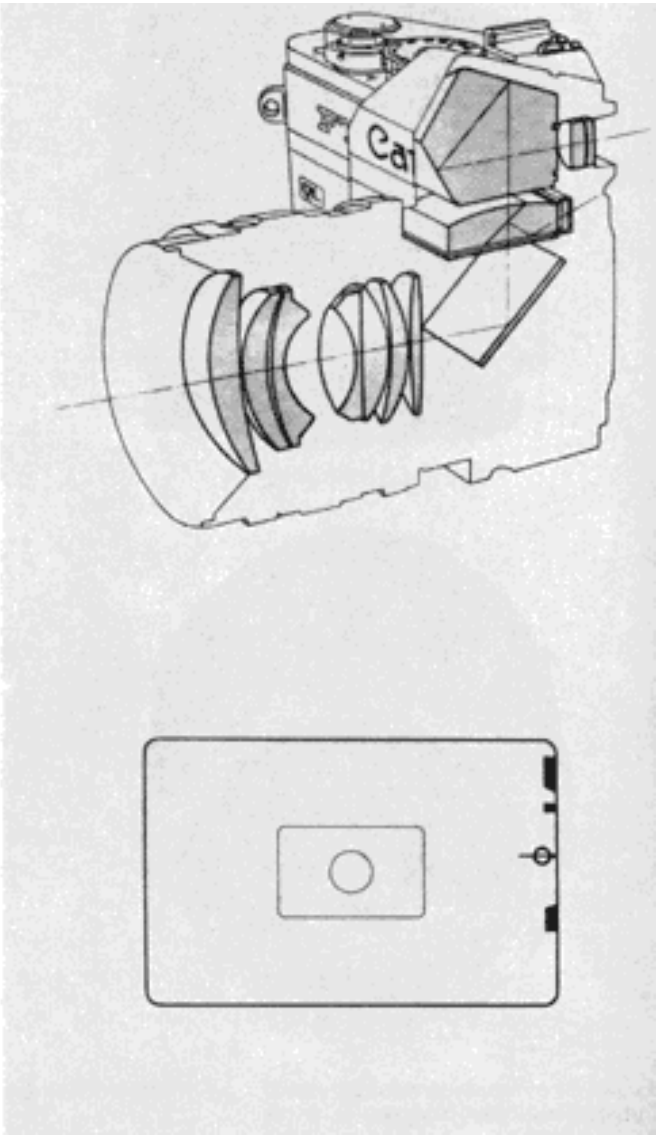
3 Avant le montage de l'objectif Canon FD de 50 mm F 1.8, tourner le levier de commande automatique à fond dans le sens inverse des aiguilles d'une montre et placer le levier de blocage manuel à la position «L». Ce levier bloque le levier de commande automatique et dès lors il est possible d'ouvrir et de fermer le diaphragme en tournant la bague de présélection du diaphragme. Pour débloquer le levier, ramener le levier de blocage manuel à la position première (point blanc). A l'aide de ce verrou, il est possible de commander manuellement l'ouverture sur les appareils réflex FX, TLb, FTb, FT QL et F-1. Cela n'est toutefois pas possible sur les appareils Canonflex R, RP, RM et R2000.

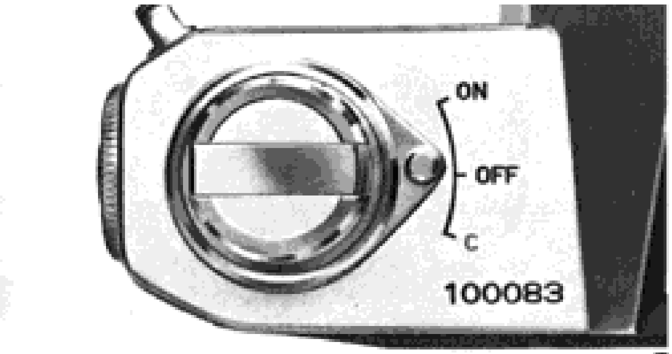
4 Lorsqu'on retourne l'objectif sur l'adaptateur macro, (reproduction, macrophotographie, etc.), placer le levier du diaphragme automatique à la position «manuel», fixer le raccord macro sur l'objectif et tourner la baïonnette jusqu'à ce qu'elle s'enclenche.

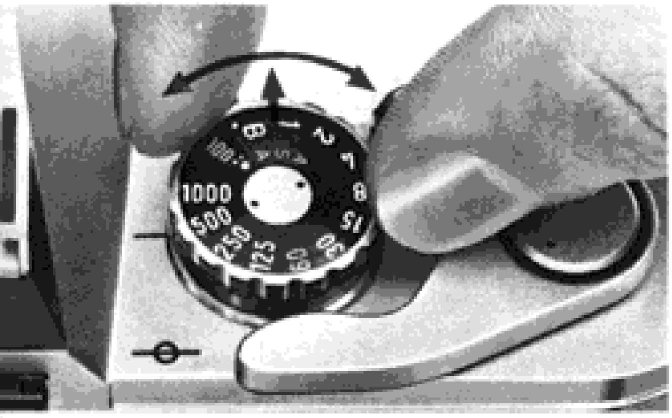
Emploi du posemètre incorporé

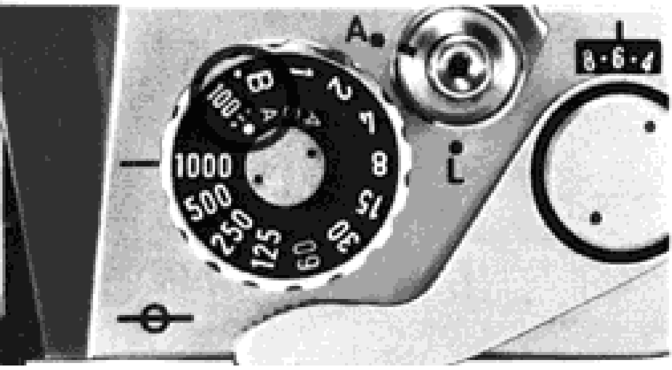
Le Canon FTb permet une photométrie exceptionnellement précise grâce à son système exclusif TTL («à travers l'objectif»). Le posemètre incorporé, du type à coïncidence d'aiguilles, est couplé au cadran des vitesses d'obturation, à la sensibilité du film et à la bague de présélection du diaphragme.
La cellule CdS du posemètre est placée dans la position la plus proche possible du condensateur de séparation du faisceau. Un système semi-sélectif de lecture dirigée permet une mesure absolument exacte de l'éclairage du sujet principal, même à contre-jour.
Le cadre rectangulaire, dans le viseur, représente l'aire de mesure de la cellule CdS. Placer le sujet principal à l'intérieur de ce cadre et mesurer l'intensité lumineuse afin de déterminer l'exposition adéquate.

- La correction de pleine ouverture du diaphragme de chaque objectif est effectuée automatiquement. L'opération est donc toujours la même, quelle que soit l'ouverture de l'objectif utilisé. Un objectif FL ne peut être employé qu'avec la mesure diaphragmée de l'intensité lumineuse.
- En raison des caractéristiques particulières de la cellule CdS, le mouvement de l'aiguille du posemètre est susceptible d'être parfois saccadé par suite des variations du degré de luminosité.
- Le posemètre incorporé ne permet pas les mesures en position «B» du cadran des vitesses d'obturation, car cette position correspond aux temps de pose supérieurs à une seconde.
- Veiller à toujours utiliser un parasoleil lors de prises de vue en contre-jour.









- Lorsque l'on ne se sert pas de l'appareil, régler l'interrupteur du posemètre sur la position «OFF» (arrêt) ou mettre en place le capuchon d'objectif, de façon à éviter une décharge inutile de la pile au mercure.

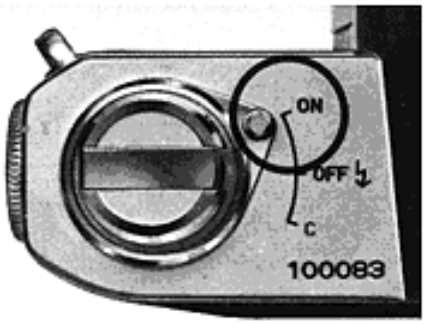
Réglage de la sensibilité du film

Régler l'indicateur de sensibilité ASA selon le film utilisé. La sensibilité du film est généralement indiquée sur l'emballage ou dans le mode d'emploi.
Soulever le disque extérieur du cadran des vitesses et le tourner jusqu'à la position voulue. Si, par exemple, le film utilisé est d'une sensibilité de 100 ASA, le réglage devra faire apparaître le chiffre «100» dans la petite fenêtre.
- Les sensibilités de film suivantes peuvent être utilisées:

ASA	25	(32)	(40)	50	(64)	(80)	100	(125)	(160)
DIN	15	(16)	(17)	18	(19)	(20)	21	(22)	(23)
ASA	200	(250)	(320)	400	(500)	(640)	800	(1000)	(1250)
DIN	24	(25)	(26)	27	(28)	(29)	30	(31)	(32)
ASA	1600	(2000)							
DIN	33	(34)							

Les chiffres entre parenthèses correspondent aux sensibilités intermédiaires.
- Lorsque le chiffre «25» apparaît dans la petite fenêtre, le disque extérieur ne peut plus être tourné vers la gauche. De même, vers la droite, il ne peut pas dépasser le point blanc marqué «2000».

Exposure Settings



Full Aperture Metering

Full aperture metering can be performed with an FD lens which has an aperture signal lever and pin.

1 Set the meter switch at "ON".

2 Set the shutter speed dial at the desired speed.

3 Face the camera towards the subject, look into the viewfinder, and check the position of the meter needle and aperture needle.

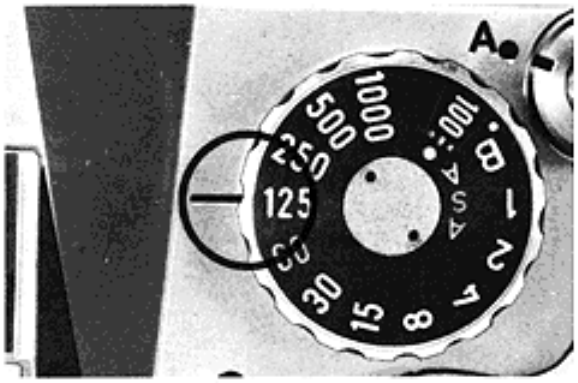
■ The meter needle is coupled to the film and shutter speeds, and moves vertically according to the brightness of the subject. The aperture needle, with a round circle, is coupled to the preset aperture ring of the FD lens.

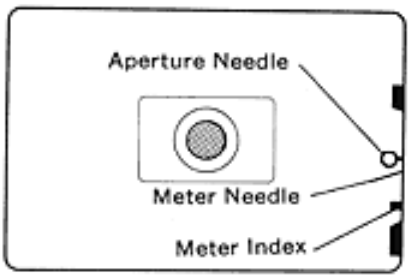
4 Turn the preset aperture ring and align the aperture needle with the meter needle.

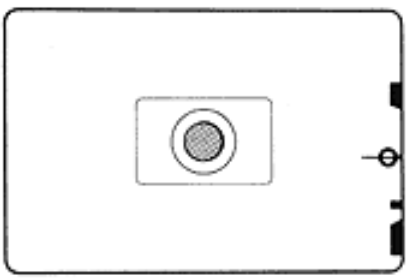
■ The green mark (circle) on the preset aperture ring is for Servo EE Finder with Canon F-1 use only.

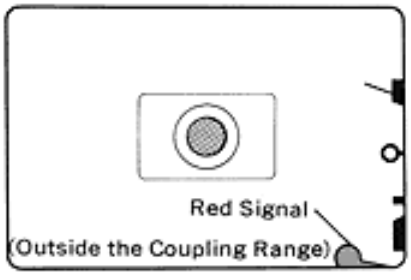
■ In the case of f/stop priority, turn the shutter speed dial and align the meter needle with the aperture needle. Be sure to set the shutter speed dial at the click-stopped positions.

5 If the aperture needle does not align with the meter needle by turning the preset aperture ring, it means that the shutter speed is not properly set. In this case,









align the two needles by turning the shutter speed dial.

■ The moving range of the aperture needle inside the viewfinder changes according to the lens speed. Thus, it will not always move vertically the full length of the viewfinder. Change the shutter speed when the aperture needle cannot be aligned with the meter needle.

6 When the shutter is set on the high speed side, the meter needle moves downward. When it is set at a slower speed, the needle moves upward. When the shutter is set at a slow speed outside the meter coupling range, the meter needle swings all the way up and the red signal appears at the bottom of the viewfinder, and metering is not possible even if the f/stop is changed. When the red signal appears and metering cannot be performed, use high-speed film or the optional Canon Booster. Refer to "Coupling Range of Built-in Exposure Meter" on page 24.

■ Select a faster shutter speed when the meter needle swings all the way up, and a slower speed when it swings all the way down.

■ Since the shutter speed dial cannot be set at the intermediate positions, the shutter speed priority method is recommended when exposure accuracy is a crucial factor.

Using Built-in Exposure Meter

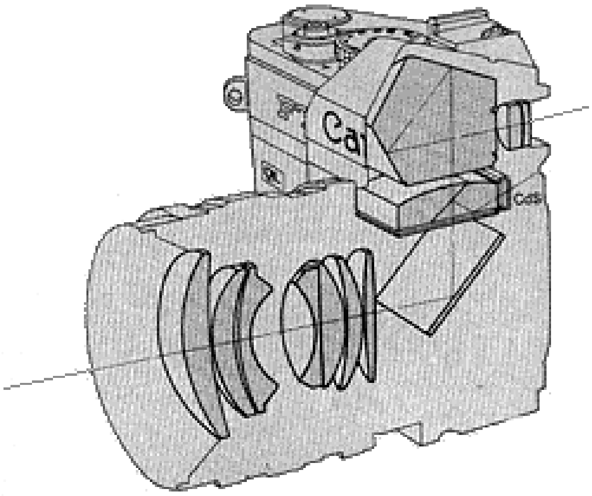
Canon FTb provides the most accurate light measurement possible with its unique TTL (Through-The-Lens) system. The built-in exposure meter, which is of match needle type, is coupled to the ASA film speed scale, shutter speed dial and preset aperture ring.
The CdS photocell of the exposure meter is placed in the closest position to the beam-splitting condenser lens. The central area metering system enables accurate measurement of the main subject even in counterlight.
The rectangular frame in the viewfinder represents the light measurement area of the CdS photocell. Place the main subject within this frame and measure the intensity of light so as to obtain the proper exposure.

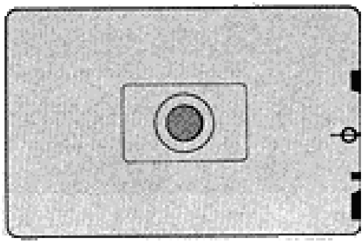
■ The correction of the full aperture opening of the lens is performed automatically. Therefore, the operation does not change regardless of the speed of the lens used. An FL lens can be used only with stopped-down metering.

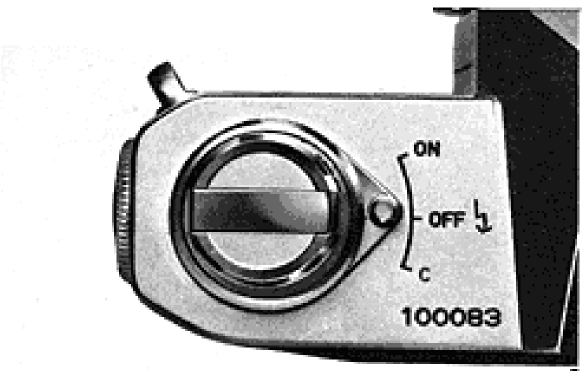
■ Due to the characteristics of the CdS photocell, the movement of the meter needle may occasionally become slack, owing to changes in the degree of light.

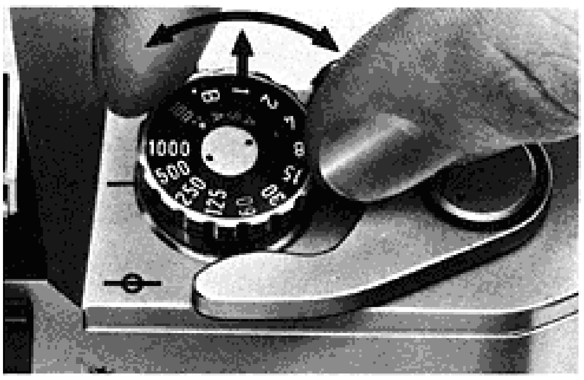
■ Metering at "B" on the shutter speed dial is not possible with the built-in exposure meter, because " B " is used for long exposures over one second.

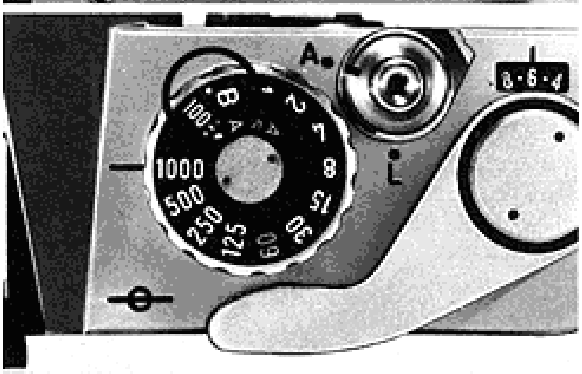
■ Always use a lens hood when shooting against the light.











■ When not using the camera, set the meter switch at " OFF " or attach the lens cap so as to prevent unnecessary consumption of the mercury battery.

Film Speed Setting

Set the ASA film speed scale to the speed of the film being used. Film speeds are normally shown on the film box cover and/or explanatory sheet.
Lift and turn the film speed set ring around the shutter speed dial. If the film is ASA 100, for example, make the correct setting by showing " 100 " in the small window.

■ The following film speeds may be used :

```
        (32) (40)     (64) (80)     (125) (160)     (250) (320)     (500) (640)
ASA  25  ·  ·   50  ·  ·   100  ·  ·   200  ·  ·   400  ·  ·   800
DIN  15  ·  ·   18  ·  ·   21   ·  ·   24   ·  ·   27   ·  ·   30
        (16) (17)     (19) (20)     (22) (23)       (25) (26)       (28) (29)

  (1000) (1250)     (2000)
   ·  ·   1600  ·
   ·  ·   33    ·
  (31) (32)         (34)
```

Figures in parentheses represent intermediate film speeds.

■ When " 25 " appears in the small window, this is as far as the film speed setting ring will turn to the left. The dot at the right-turn extremity reads ASA 2000.

Détermination de l'exposition

Mesure à pleine ouverture du diaphragme

La mesure à pleine ouverture du diaphragme peut s'effectuer avec un objectif FD qui est muni d'un levier de transmission du diaphragme et d'un ergot.

1 Amener l'interrupteur du posemètre sur la position « ON » (marche).

2 Régler le cadran des vitesses d'obturation sur la vitesse désirée.

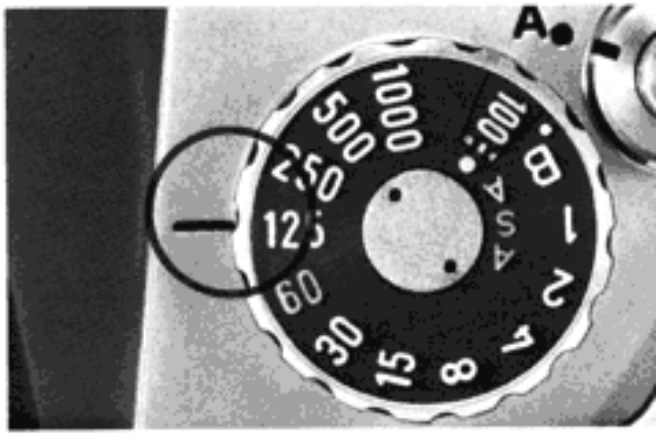
3 Pointer l'appareil en direction du sujet à photographier, regarder dans le viseur, vérifier la position de l'aiguille du posemètre et de celle du diaphragme.

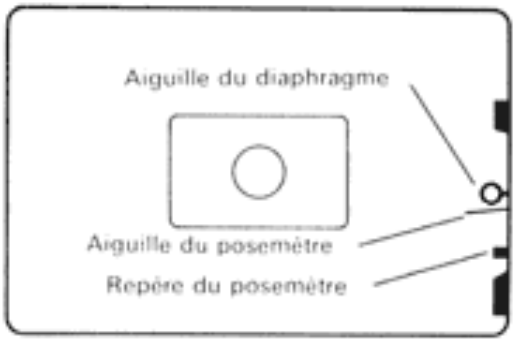
- L'aiguille du posemètre est couplée à la sensibilité du film et à la vitesse d'obturation; elle se déplace verticalement en fonction de l'intensité lumineuse se dégageant du sujet à photographier. L'autre aiguille, avec un repère en anneau, est couplée à la bague de présélection du diaphragme de l'objectif FD.

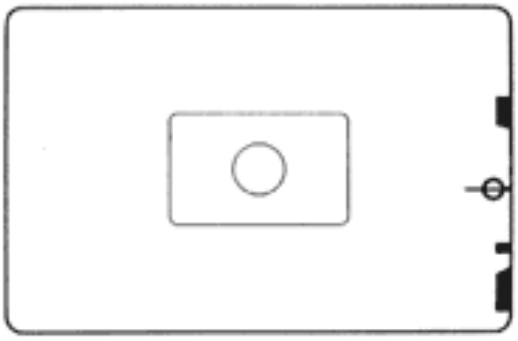
4 Tourner la bague de présélection du diaphragme de façon à faire coïncider les deux aiguilles.

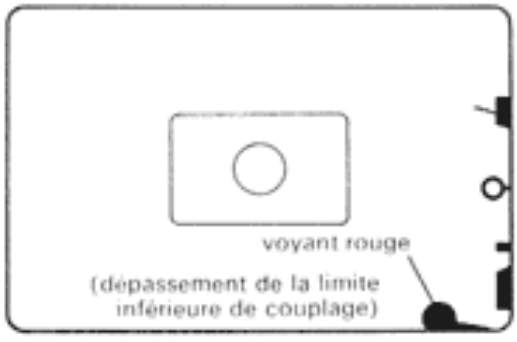
- Le repère vert (entouré d'un cercle) sur la bague de présélection du diaphragme n'est destiné à être utilisé qu'avec le Servoviseur EE monté sur Canon F-1.
- Dans le cas où l'on a choisi d'abord l'ouverture du diaphragme, tourner le cadran des vitesses d'obturation de façon à faire coïncider les deux aiguilles. S'assurer que le cadran est bien positionné sur un cliquet.

5 Si, lorsqu'on tourne la bague de présélection, l'aiguille du diaphragme ne se superpose pas à celle du posemètre, cela signifie que la vitesse d'obturation n'est pas correcte-









ment réglée. On réalise alors la coïncidence en agissant sur le cadran des vitesses d'obturation.

• L'amplitude du mouvement de l'aiguille du diaphragme, à l'intérieur du viseur, varie selon l'ouverture maximale de l'objectif. Elle ne se déplace pas toujours verticalement sur toute la hauteur du viseur. Modifier la vitesse d'obturation lorsqu'on ne parvient pas à faire coïncider les deux aiguilles.

6 Lorsque l'obturateur est réglé sur une vitesse trop élevée, l'aiguille du posemètre se déplace vers le bas. Dans le cas contraire, elle se déplace vers le haut. Lorsque l'obturateur est réglé sur une vitesse lente en dehors des limites du champ de couplage, l'aiguille du posemètre se situe tout en haut, tandis que le signal rouge apparaît au bas du viseur; la mesure est alors impossible même si l'on change l'ouverture du diaphragme. Il faut dans ce cas prendre un film ultra-sensible, ou bien adapter l'Amplificateur Canon accessoire. Voir page 24: «Champ de couplage du posemètre incorporé».

• Il faut donc choisir une vitesse d'obturation plus rapide lorsque l'aiguille du posemètre se déplace tout à fait vers le haut et une vitesse moins rapide lorsqu'elle se déplace au maximum vers le bas.

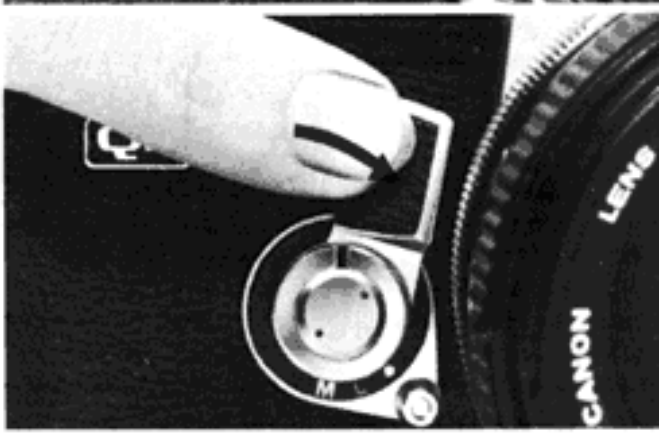
• Etant donné que le cadran des vitesses d'obturation ne peut être réglé sur des positions intermédiaires entre les cliquets, il est recommandé, lorsque la précision de l'exposition constitue la considération primordiale, de présélectionner au départ la vitesse d'obturation.

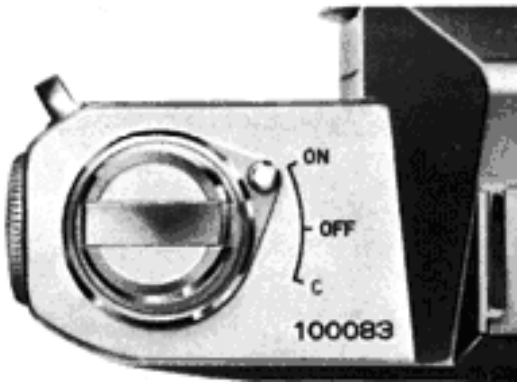
Mesure à diaphragme fermé

Lorsqu'on utilise un objectif de type FL, non muni d'un signal de pleine ouverture, la mesure doit se faire par diaphragmation, en actionnant le levier commandant la fermeture du diaphragme. La mesure à diaphragme fermé s'effectue en poussant ce levier vers le bas. On peut bloquer ce levier, en vue d'une mesure continue, en le poussant vers l'objectif après avoir mis le verrou sur la position « L ». Avec le levier bloqué, la photographie de sujets présentant des contrastes d'éclairage ou la photographie au téléobjectif se pratiquent aisément. En ramenant le verrou au point blanc, le levier retourne à sa position initiale.

1 Mettre le commutateur du posemètre sur « ON » (marche).
2 Régler le cadran des vitesses d'obturation sur la vitesse désirée.
3 Pointer l'appareil en direction du sujet à photographier, regarder dans le viseur, presser à fond sur le levier commandant la fermeture du diaphragme. L'aiguille du diaphragme s'abaissera alors jusqu'au repère de limite inférieure de couplage et seule l'aiguille du posemètre restera visible.
4 Manœuvrer la bague de présélection du diaphragme de façon à ajuster l'aiguille du posemètre à l'intérieur du repère du posemètre dans le viseur.

• Si l'on a présélectionné au départ l'ouverture du diaphragme, la manœuvre du cadran des vitesses permet de faire les réglages souhaités.

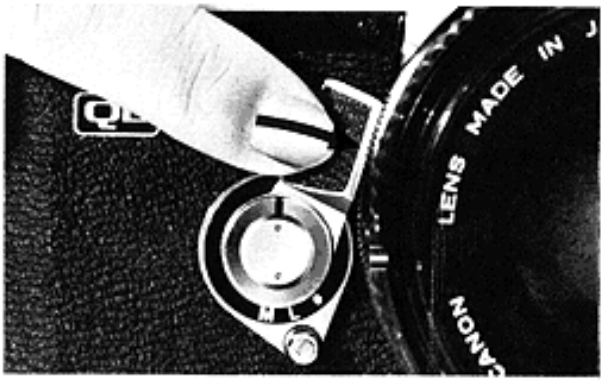




Stopped-Down Metering

When using a lens having no full aperture metering signal such as FL lenses, metering should be performed by stopping down the lens. Stopped-down metering is performed by pushing down the stopped-down functioning lever.

The stopped-down functioning lever can be fixed for continuous light measurement by pressing it towards the lens after setting the lever lock at "L" position. With the fixing of the lever, shooting subjects with different light intensities or telephoto lenses can be conveniently handled. By returning the lock to the white dot position, the metering lever will return to its original position.



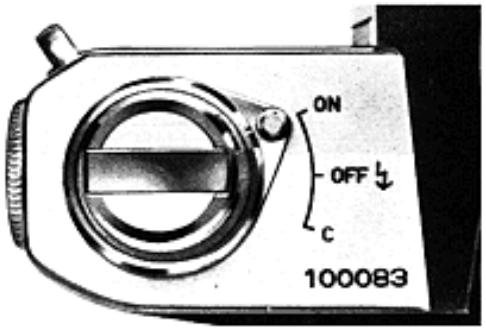
1 Set the meter switch at "ON".

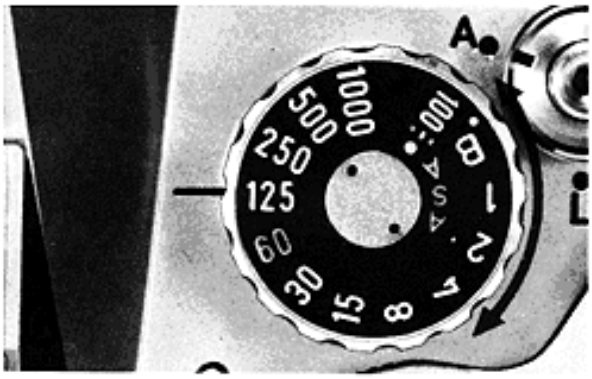
2 Set the shutter speed dial at the desired speed.

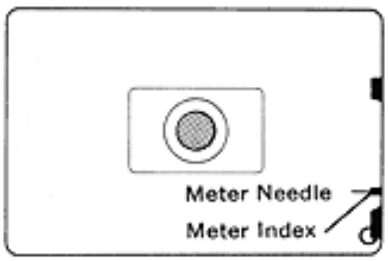
3 Face the camera towards the subject, look into the viewfinder, and press the stopped-down functioning lever all the way until it stops. The aperture needle will point to the lower coupling limit mark and only the meter needle remains.

4 Turn the preset aperture ring and make the meter needle stop within the meter index in the viewfinder.

■ In the case of f/stop priority, adjustments can be made with the shutter speed dial.







5 If the meter needle is pointing above the meter index and cannot be matched by closing the preset aperture ring and metering cannot be performed, turn the shutter speed dial to the faster side. If the meter needle is pointing below the meter index and cannot be matched by opening the preset aperture ring, turn the shutter speed dial to the slower side. When the red signal appears, use high-speed film or the Canon Booster.

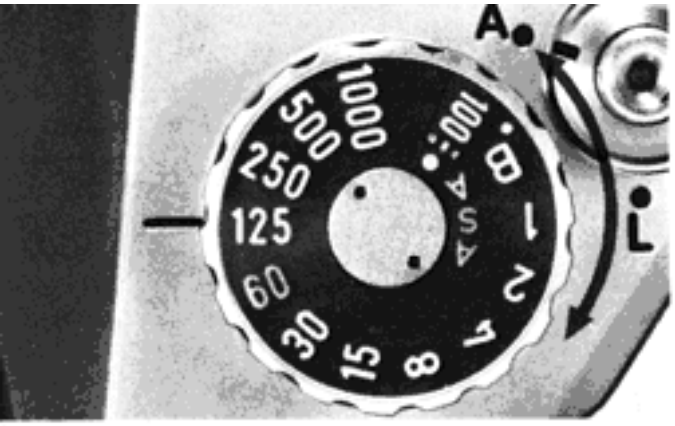
■ Full aperture metering is rather recommended with the FD lenses, because the FD lenses have a full aperture signal so as to fully compensate the built-in exposure meter.

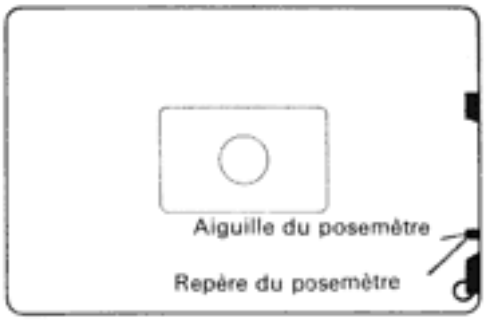
How to "Average" Exposures

When measuring a subject with greatly different dark and bright parts, take two measurements, one each of the dark and bright parts. Then obtain the average value and set the f/stop or shutter speed accordingly.

Film Speed	Shutter Speed										
ASA 25	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000
ASA 50	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...
ASA 100	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...	...
ASA 200	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...	...	...
ASA 400	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...	...	...	...
ASA 800	1/30	1/60	1/125	1/250	1/500	1/1000	...	...	...	...	...
ASA 1600	1/60	1/125	1/250	1/500	1/1000	...	...	...	...	...	...
Minimum f/stop	f/22	f/22	f/22	f/22	f/22	f/22	f/22	f/22	f/16	f/11	f/8

The built-in exposure meter couples to the following range of f/stops and shutter speeds with respective film speeds. When using the Canon Lens FD 50mm F 1.4 S.S.C. and ASA 100 film, for example, the exposure meter couples fully within the range of f/1.4 at 1/4 sec. (EV 3) and f/16 at 1/1000 sec. (EV 18).





5 Si l'aiguille du posemètre se place au-dessus du repère, dans le viseur, et qu'on ne peut l'amener à coïncidence en fermant la bague de présélection du diaphragme, manœuvrer le cadran des vitesses dans le sens des vitesses croissantes. Si, au contraire, l'aiguille du posemètre se fixe au-dessous du repère, dans le viseur, et qu'on ne peut l'amener à coïncidence en ouvrant la bague de présélection, manœuvrer le cadran des vitesses dans le sens des vitesses décroissantes. Lorsque le signal rouge apparaît, utiliser un film ultra-sensible ou bien se servir de l'Amplificateur Canon Booster.

- La mesure à pleine ouverture du diaphragme est recommandée avec les objectifs FD, ceux-ci étant munis d'un signal de pleine ouverture destiné à compenser entièrement le posemètre incorporé.

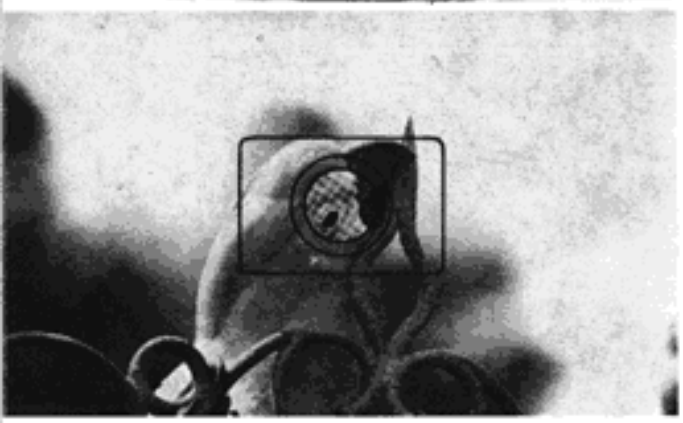
Comment mesurer la valeur moyenne de la lumière

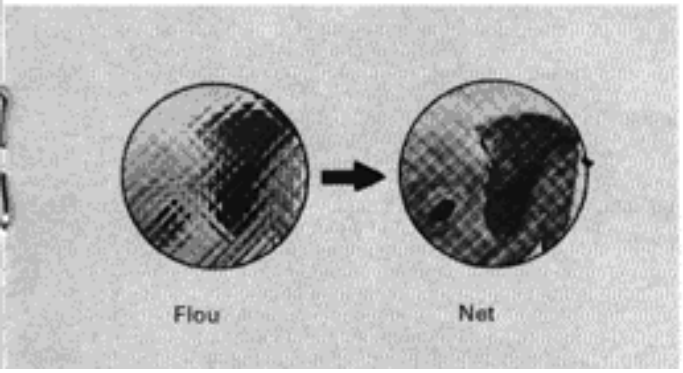
Lorsqu'on procède au réglage sur un sujet présentant de très fortes différences d'éclairage, prendre deux mesures: l'une sur la partie la plus fortement éclairée, l'autre sur la partie la plus sombre. Faire ensuite la moyenne de ces deux valeurs et régler en conséquence l'ouverture du diaphragme ou la vitesse d'obturation.

Champ de couplage du posemètre incorporé

Sensibilité du film	Vitesses d'obturation										
ASA 25	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000
ASA 50	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...
ASA 100	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...	...
ASA 200	1/8	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...	...	...
ASA 400	1/15	1/30	1/60	1/125	1/250	1/500	1/1000	...	...	...	...
ASA 800	1/30	1/60	1/125	1/250	1/500	1/1000	...	...	...	...	...
ASA1600	1/60	1/125	1/250	1/500	1/1000	...	...	...	...	...	...
Ouverture minimale	f/22	f/22	f/22	f/22	f/22	f/22	f/22	f/22	f/16	f/11	f/8

Le posemètre incorporé est couplé aux ouvertures et aux vitesses d'obturation indiquées au tableau avec les différentes sensibilités de film correspondantes. Lorsqu'on utilise par exemple un objectif Canon FD 50 mm F 1,4 et un film de 100 ASA, le posemètre est couplé à toutes les ouvertures de diaphragme entre 1,4 à 1/4 sec. (IL 3) et 16 à 1/1000 sec. (IL 18).





Visée et mise au point de la distance

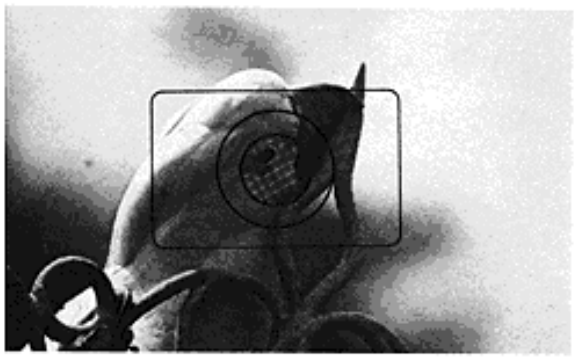
Cadrage

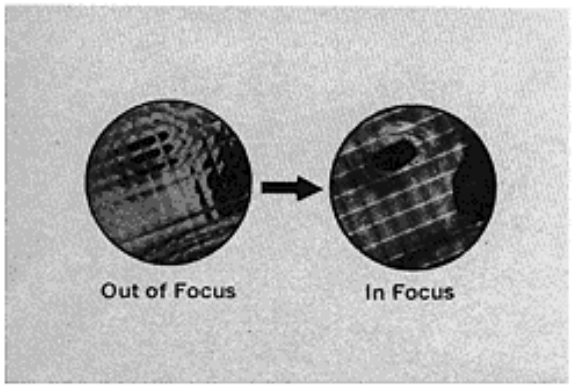
La totalité de l'image à photographier apparaît sur le verre dépoli du viseur, sans erreur de parallaxe possible. On peut donc établir le cadrage exact de l'image avant d'actionner le déclencheur.

Mise au point

La partie centrale circulaire du viseur est occupée par un télémètre constitué par une plage de microprismes, permettant une mise au point précise et rapide. Tout en regardant dans le viseur, tourner l'anneau de mise au point jusqu'à ce que l'image du télémètre apparaisse parfaitement claire et nette.

- Parfois, dans certaines conditions d'éclairage, une ligne de collure courbe peut apparaître dans la partie inférieure du viseur. Il s'agit d'un reflet du miroir semi-transparent adjoint à la lentille collectrice du dispositif TTL.





Viewing and Focusing

Composition

The exact picture image to be photographed can be seen on the focusing screen of the viewfinder without any parallax. This enables you to determine the exact composition of your scene before pressing the shutter release button.

Focusing

The center circular section of the viewfinder is a microprism screen rangefinder made up of microscopic prisms for fast and precise focusing.

While looking through the viewfinder, revolve the focusing ring. It is in focus when the image in the rangefinder becomes sharp and clear.

■ An optical curve may sometimes be visible in the lower part of the viewfinder according to the angle of the incoming light. This is a reflection of the beam-splitting mirror added onto the condenser lens in the TTL light measurement system.

Dioptric Adjustment Lenses

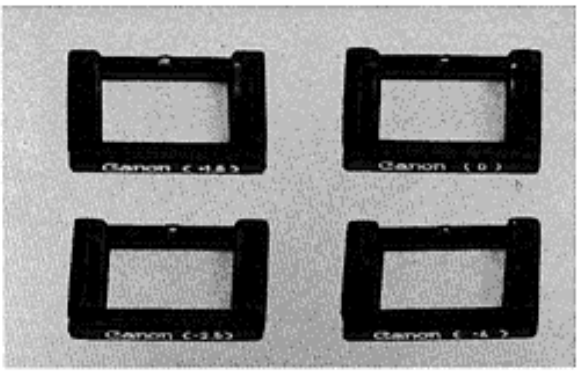
Dioptric adjustment lenses are available as optional attachments. When a dioptric adjustment lens is attached to the viewfinder eyepiece, those who are far- or near-sighted can take pictures without glasses. Four different diopters of +1.5, 0, −2.5 and −4 are available.

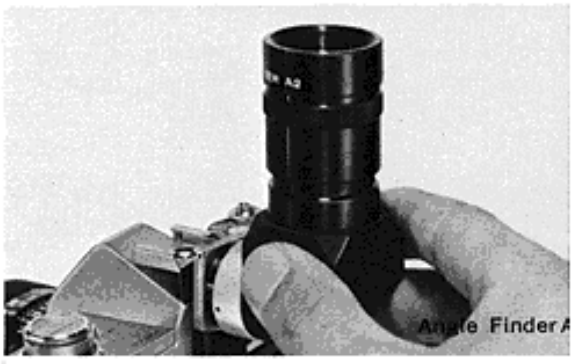
Angle Finders A2 and B

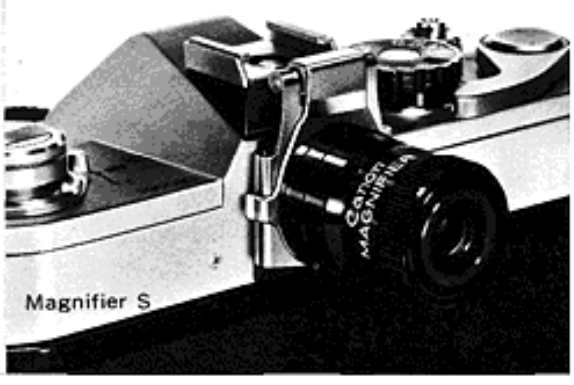
Canon Angle Finders A2 and B can be attached to the eyepiece for copying, macrophotography and photomicrography. You will see the right and left sides of the image in reverse with the Angle Finder A2, and upright with the Angle Finder B.

Magnifier S

The Canon Magnifier S can be attached to the viewfinder eyepiece of the FTb, with the separately available adapter which magnifies the rangefinder section for accurate focusing. Because it can be sprung up and clamped, the entire field of view can easily be viewed after focusing.

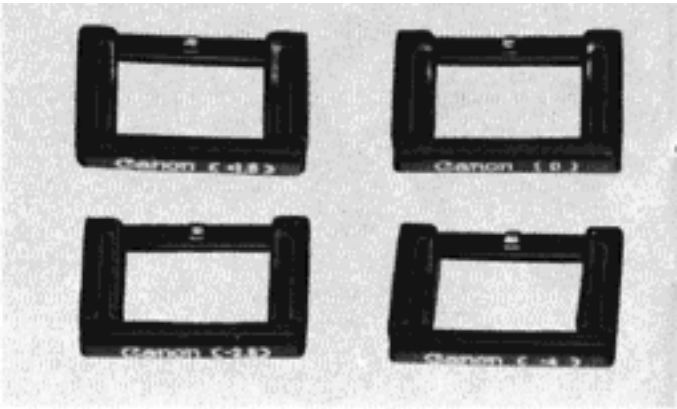






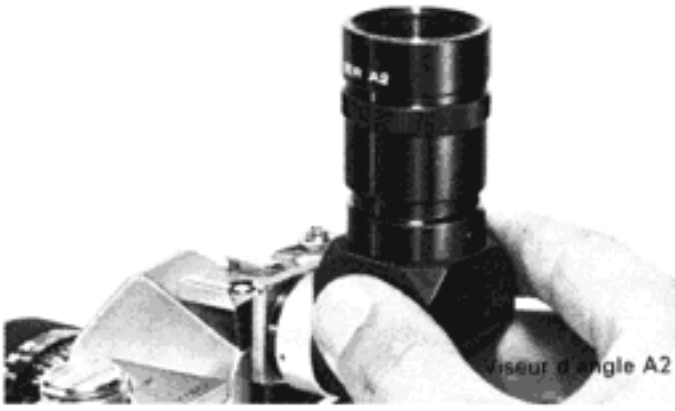
Lentilles correctrices de dioptrie

Les lentilles correctrices de dioptrie figurent parmi les accessoires, en supplément. Lorsqu'une telle lentille de la force voulue est montée sur la garde de l'oculaire, les personnes myopes ou presbytes peuvent photographier sans lunettes. Il existe quatre lentilles correctrices différentes de +1,5, 0, −2,5 et −4 dioptries.



Viseurs d'angle A, A2 et B

Les viseurs d'angle peuvent se glisser dans les rainures de l'oculaire pour les travaux de reproduction, la photomacro- et la microphotographie. Se rappeler qu'avec ces accessoires l'image est renversée sauf avec le viseur B.

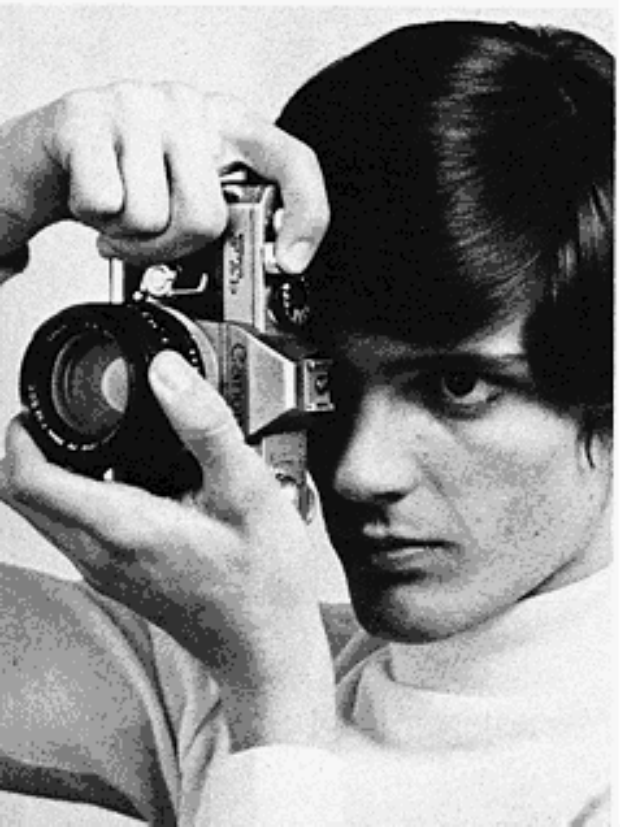


Viseur d'angle A2

Loupe S

La loupe Canon S peut être montée sur l'oculaire de l'appareil FTb à l'aide de l'adaptateur accessoire; elle grossit la plage du télémètre et permet une mise au point plus précise. Cette loupe pouvant être fixée et relevée, l'ensemble du champ est visible après mise au point.

Loupe de mise au point S



Holding the Camera

Hold the camera firmly in order to take a clear picture. Hold the camera either in a vertical or horizontal position, look through the viewfinder, and focus. Then press the shutter release button gently. The following steps are important.

1 Hold the camera snugly in both hands. The camera should be pressed firmly to your cheek or forehead.

2 When the camera is in a horizontal position, both elbows should be firmly pressed against the body, and at least one elbow should be resting against the body when in a vertical position.

3 Hold your breath and press the shutter release button with a smooth, steady stroke. Otherwise, you will have a blurred picture.

■ When using a telephoto lens and/or slow shutter speeds below 1/30 sec., the use of a tripod and cable release is recommended.

■ When taking pictures against the light, always use a lens hood.

■ Camera Holder F, for attaching a tripod, and the Canon Release are separately available.

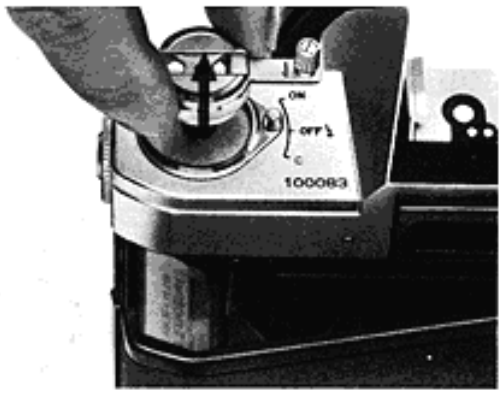
Tenue de l'appareil

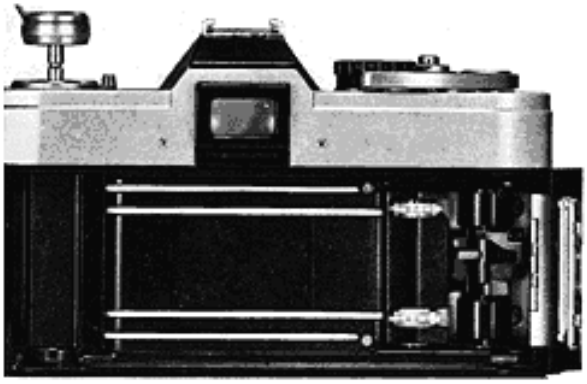
Pour que les photos soient parfaitement nettes, tenir fermement l'appareil – verticalement ou horizontalement. Regarder dans le viseur et effectuer la mise au point. Presser ensuite doucement sur le bouton de déclenchement.

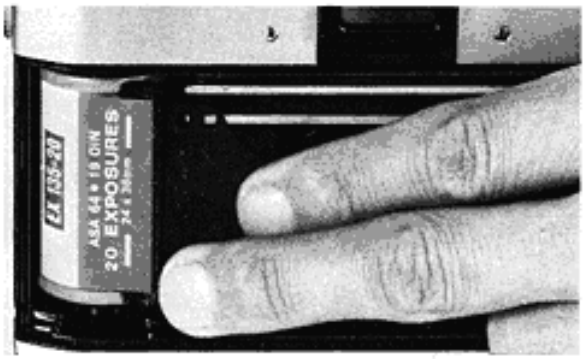
Quelques conseils importants :

1 Tenir l'appareil fermement à deux mains. L'appuyer contre la joue ou le front.
2 Lorsque l'appareil est dans la position horizontale, les deux coudes doivent être collés au corps. Un coude au moins doit rester serré au corps lorsqu'on prend des photos en position verticale
3 Retenir le souffle au moment de presser doucement et progressivement sur le bouton de déclenchement de façon à éviter que l'appareil ne bouge et que les photos ne soient floues.

- Pour la photographie au téléobjectif ou à des vitesses d'obturation lentes, inférieures à 1/30e de sec., il est recommandé de se servir d'un pied et d'un déclencheur souple.
- Pour les prises de vues à contre-jour, toujours utiliser un parasoleil.
- Le support modèle F pour la fixation au trépied, et le déclencheur souple Canon sont livrables séparément comme accessoires.







Film Loading

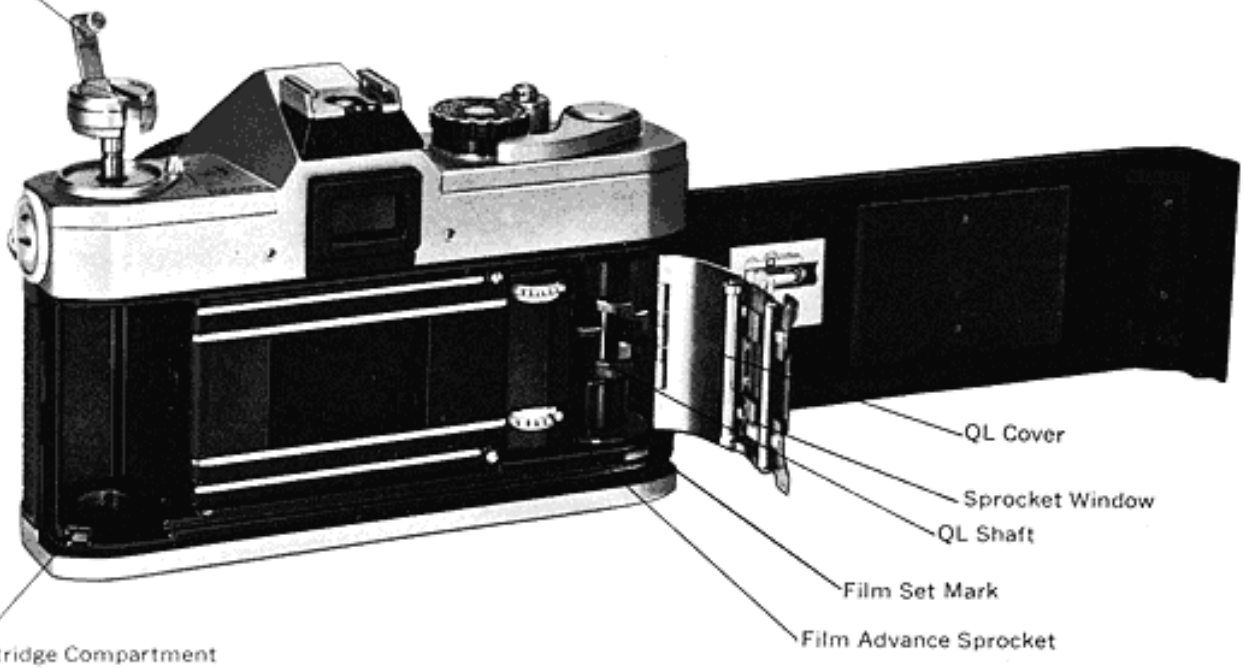
Canon FTb accepts any standard 35mm film roll in cartridge for daylight loading. Be sure not to load film in direct sunlight.

1 Raise the film rewind crank and pull it all the way up. The cover will rise slightly.

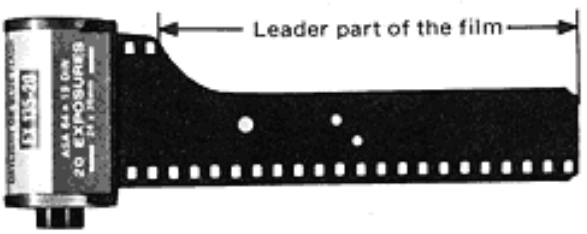
2 Open the cover fully. When the back cover is opened, the QL cover opens simultaneously.

■ The QL cover automatically opens and closes with the back cover. Do not touch the QL cover.

3 Face the film cartridge as illustrated, and insert it into the cartridge compartment. Push the film rewind crank back into its former position. The crank fork will slip into the axis of the film cartridge. In case the crank does not fully return, turn it slightly to the left or right.



Position in which film is placed in camera (emulsified surface facing the back of the lens)

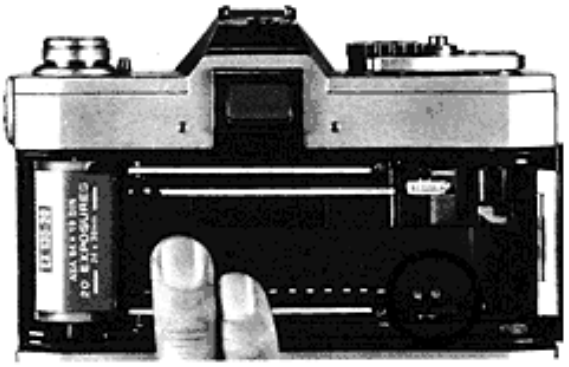


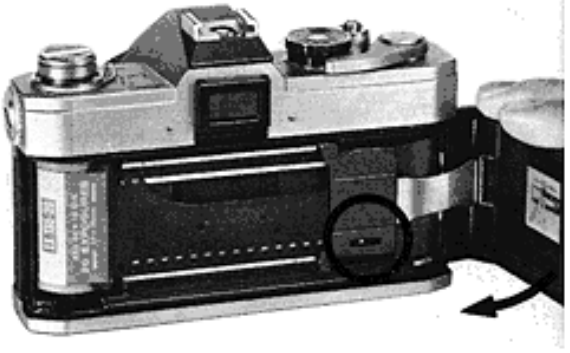
4 Hold the film cartridge down with the left hand so that it does not rise, and lay the tip of the leader above the "red" film set mark.

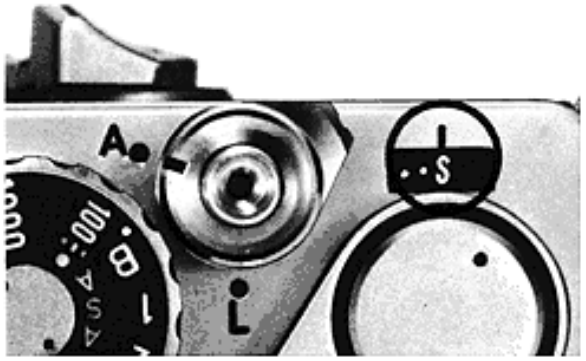
5 Bring down the QL cover to hold the film in place by closing the back cover. Look through the sprocket window to see if the film is correctly engaged on the sprocket.

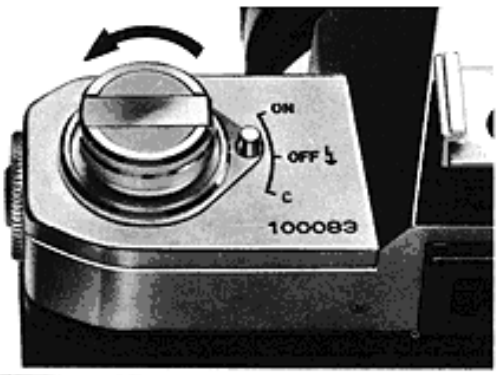
6 Press down on the back cover and close it.
If the film is sagging, the cartridge will rise and the back cover will not close.

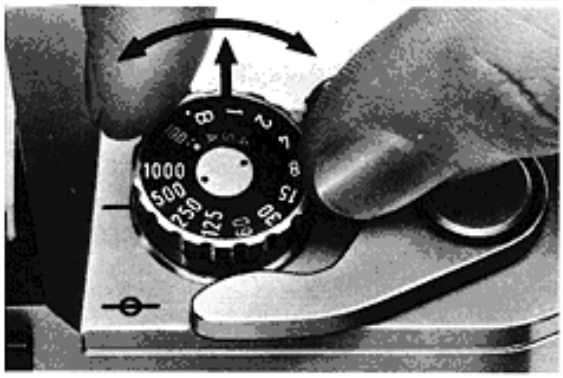
7 Leave the lens cap on and make two blank shots, each time turning the film advance lever. The frame counter will advance from the "S" mark to "0". With one more advance, the camera will be ready for the first shot.

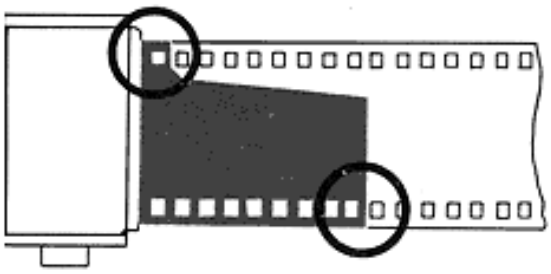












Checking Correct Film Loading

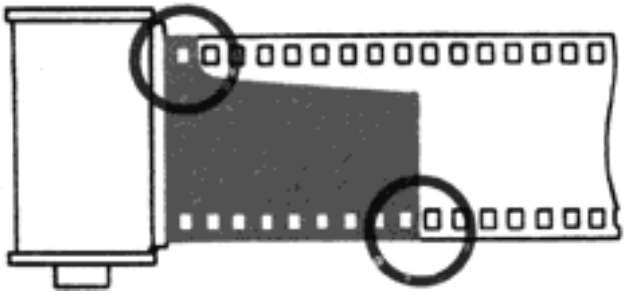
The film is properly loaded and advanced if the film rewind crank rotates counterclockwise when you wind the film advance lever. If the film rewind crank does not rotate, take out the film, as explained on the following page, and reload.

Setting the Film Speed

When loading the film, be sure to set the film speed scale at the proper position. Refer to page 19 for setting the film speed.

Repacking a Long-Wound Film

When repacking a long-wound film for darkroom loading into an ordinary cartridge, be sure to trim the tip of the leader between perforations, and make a curl in the winding-up direction.



Contrôle du bon enroulement du film

On constate que le film est bien chargé et qu'il s'enroule convenablement si la manivelle de rebobinage tourne dans le sens contraire des aiguilles d'une montre lorsqu'on actionne le levier d'armement. Si, par contre, elle reste immobile, retirer le film, selon les indications de la page suivante, et le recharger dans l'appareil.

Affichage de la sensibilité du film

Au moment du chargement du film, régler l'indicateur de sensibilité sur celle du film utilisé. Voir page 19 la description du réglage.

Mise en cartouche d'un film de long métrage

Lorsqu'on procède, en chambre noire, à la mise en cartouche ordinaire d'un film de long métrage, prendre la précaution de découper l'amorce entre deux perforations et de la tordre légèrement dans le sens de l'enroulement.

4 Appuyer sur la cartouche de la main gauche pour l'empêcher de se soulever et étendre l'amorce à plat jusqu'à ce que son extrémité vienne au-dessus du repère «rouge».
5 Rabattre le dos du boîtier de manière que le presseur QL se referme et retienne la cartouche en place. Vérifier par la fenêtre découpée dans le presseur que le film est bien engagé sur les dents du tambour.
6 Presser sur le dos du boîtier pour le fermer complètement. Si le film est mal tendu, la cartouche se soulève, empêchant le dos de se refermer.
7 Laisser le capuchon de l'objectif en place et procéder à deux déclenchements sans exposition, en actionnant à chaque fois le levier d'armement. Le compteur d'images avance ainsi de la position «S» à la position «O». En armant encore une fois, l'appareil est prêt pour la première vue.