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Canon F-1

INSTRUCTIONS



Nomenclature



Nomenclature



Thank you for purchasing the Canon F-1. A combination of sophisticated electronics, precision machining and the latest optical technology has made it one of the most advanced cameras available today. Yet, its design is basic, its operation simple, and it embodies all of the elements necessary for professional use. With the F-1, Canon has achieved a balance between the electronic and mechanical worlds. Its electromechanical hybrid shutter, for example, provides greater overall accuracy and a wider range of shutter speeds. And if the battery fails, you can continue shooting at any of the high speeds or B, all of which are mechanically controlled.

Canon's most advanced optical technologies are evident in the F-1's exposure metering system. A special optical element incorporated in each focusing screen controls the metering sensitivity distribution. Three different areas, center-weighted average, selective-area and

spot metering, are available to help you refine your metering techniques.

By attaching the AE Power Winder FN or AE Motor Drive FN, you have the complementary advantages of automatic film advance at a maximum two or five frames per second respectively, and shutter-priority AE. For optimum control of depth of field, aperture-priority AE and stopped-down AE are possible with the AE Finder FN. Manual exposure is still readily available without removing either accessory. Being a system camera, the F-1 is designed for versatility and growth. It is compatible with a complete series of interchangeable accessories, as well as over 50 FD lenses.

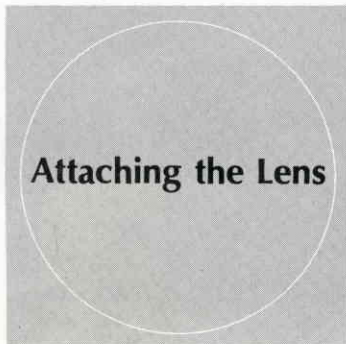
Thus you can build a system as comprehensive as your individual needs.

For the fullest understanding of your F-1, please read this instruction book with the camera at hand.



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To remove the body cap, turn it counterclockwise until it stops and pull it off. To reattach, align the red dot on the cap with the camera's red dot. Then lightly push the cap in and turn it fully clockwise.

Turn the rear lens cap in the direction of the arrow until it stops and pull it off. To reattach, align the arrow on the cap with the lens' red dot. Then lightly push the cap in and turn it fully clockwise.

To mount the lens, align its red positioning point with the camera's red dot and turn the lens in the direction of the arrow until it stops and the lens release button pops out. To remove the lens, turn it counterclockwise while pressing the lens release button.



CAUTION

Do not mount the lens if the red dot inside the camera mount and the red line on the stop-down slide are showing. In this case, push in the stop-down slide so that it locks in the normal (retracted) position and these warning marks can no longer be seen.

The following lenses cannot be mounted on the Canon F-1:

FL 19mm f/3.5

R 100mm f/2

FL 58mm f/1.2

FLP 38mm f/2.8

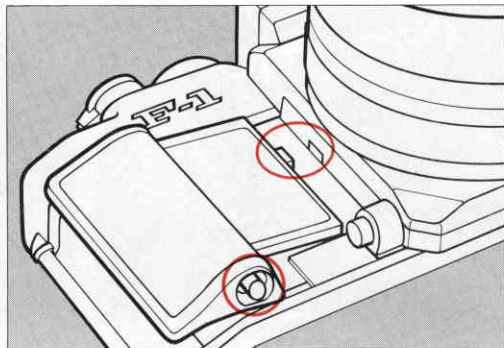
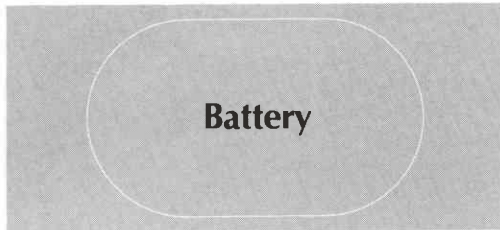
R 50mm f/1.8

R 58mm f/1.2

R 100mm f/3.5

Notes

1. Do not push the stop-down slide while advancing the film. Otherwise, it may be impossible to mount the lens.
2. Do not press the lens release button while mounting the lens or it may not pop out, thus causing the lens to work incorrectly.



I. Loading the Battery

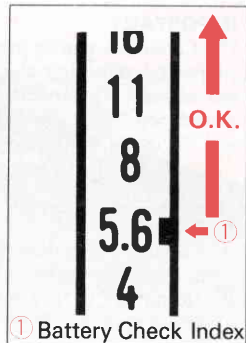
The action grip of the camera also serves as a battery chamber cover and therefore must be removed to load a battery. To do this, press the release button and lift up the grip.

Use one of the batteries listed below or an equivalent of another brand:

Lithium 6V	Duracell PX 28L
Alkaline-manganese 6V	Eveready (UCAR) No. A544 IEC 4LR44
Silver Oxide 6V	Eveready (UCAR) No. 544, Duracell PX 28, IEC 4SR44

To ensure proper contact, wipe the battery terminals with a clean, dry cloth before loading. Load a new battery so that its terminals are in the directions indicated by the diagram inside the battery chamber. Insert the negative end first, then push down and insert the positive end. The camera will not function if the battery is loaded incorrectly.

Then slide the action grip's tab into the guide hole as shown, and lower the grip until it locks in place.



II. Checking the Battery

The battery can be checked with the shutter dial at any setting other than "A", and at any ISO film speed setting. With the shutter dial on "B", battery check is possible only after the film has been advanced. To check the battery, press the check button for about three seconds while looking in the viewfinder. Battery power is sufficient when the meter needle is above the battery check index. The weaker the battery, the lower the needle. However, even if the battery is weak, exposure will still be correct as long as the shutter is released when you press the shutter button.

If the meter needle rests at or below the index, the battery is almost exhausted. In this case, have a new battery ready.

With normal use the battery should last about one year. Battery power may decrease, however, at temperatures below 0° C (32° F). In this case, load a new battery and keep the camera warm until you are ready to shoot. Do not throw the original battery away; keep it as a spare. Alternate the two batteries, keeping the one that is not in use warm. Although a battery may not perform well in the cold, it may work normally again at higher temperatures. Lithium batteries are recommended for use at low temperatures.

IMPORTANT

The Canon F-1 can be used even if the battery fails simply by removing the exhausted battery from the camera. The mechanically controlled shutter speeds are 1/2000 to 1/125 sec., "½" (1/90 sec.) and "B" (bulb). For further details, please see p. 24.

Notes

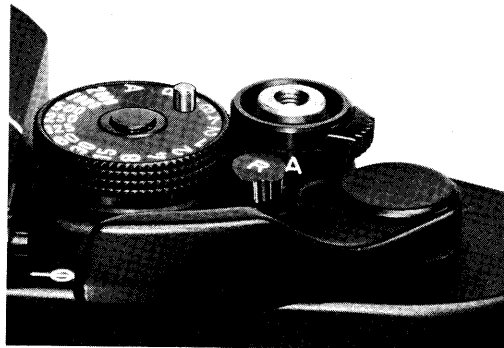
1. Remove the battery if you do not expect to use the camera for about three weeks or longer.
2. Do not try to take the battery apart and never dispose of it in fire.

Try to make a habit of checking the battery at the following times:

1. After loading a new battery.
2. If the shutter will not function with the self-timer/lock lever on "A."
3. Before and after making many long exposures at slow speeds other than "B."
4. When you are using the camera at low temperatures.
5. Before shooting important events.
6. When the camera is used frequently.
7. After storing the camera for a long time.
8. Before going on a trip.

The battery check button also serves to cancel the self-timer, meter reading, illumination of viewfinder information ("LIGHT" setting of meter mode selector), and shutter operation during long exposures. The circuit is cancelled the moment you press the button, and the second curtain will close when you remove your finger. The shutter will not be released if you press the shutter button while pressing the battery check button.

Shutter Release and Self-timer/Lock Lever



The self-timer/lock lever of the camera has three settings. With the lever at "A," press the shutter button halfway to activate the meter. To release the shutter, gently press the shutter button all the way down. When the level is at "L," the shutter button is locked. It is advisable to turn the lock lever to "L" when the camera is not in use to prevent accidental shutter release and battery consumption. With the lever at "S," the camera's 10-second self-timer can be activated simply by pressing the shutter button. For further details on self-timer photography, refer to p. 64.

Shutter release is electromagnetic as long as

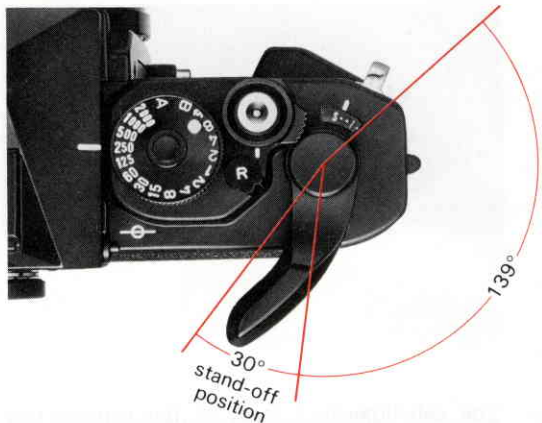
there is a battery in the camera. Once the battery is removed, the camera switches to mechanical release, and only those speeds which are mechanically controlled can be used. The shutter button has a threaded socket in the center to accept a standard cable release.

IMPORTANT

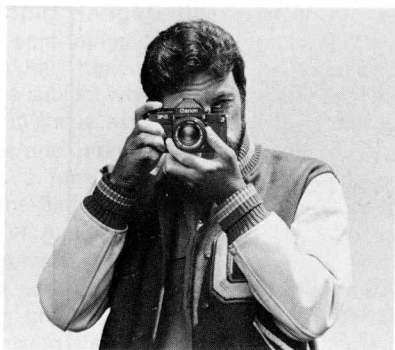
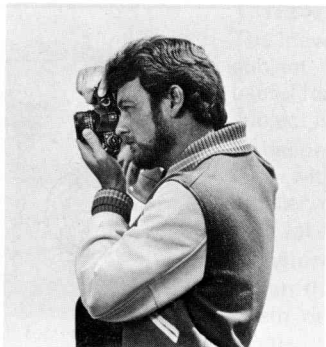
The F-1 has a built-in safety circuit which *prevents* shutter release *if* the lens aperture ring is on the "A" mark and a power drive is not attached.



First push the advance lever out to its 30° stand-off position. To advance the film, turn the advance lever all the way to the right in one continuous 139° stroke or several short ones. This also cocks the shutter and prepares the diaphragm and mirror for the next shutter release. The film must be advanced fully to the next frame or the shutter will not release.



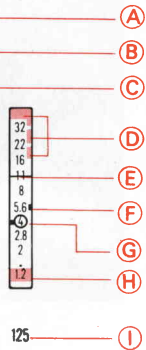
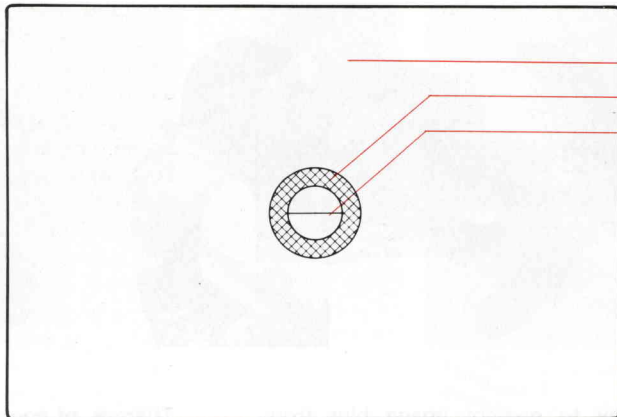
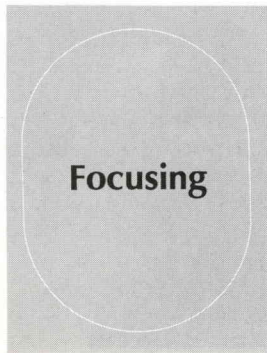
Holding the Camera



The best way to prevent image blur from camera movement is to hold the camera as steady as possible, with your left hand supporting the camera and lens. Lightly rest your right index finger on the shutter button, and the tip of your thumb on the film advance lever or on the body. Wrap your other right fingers around the action grip. Then press your left elbow to your body and lightly press the camera against your cheek or forehead. For a vertical shot, steady at least one elbow against your body. Spread your feet slightly apart, one foot ahead of the other, and relax. Lean against a steady support if one is available.

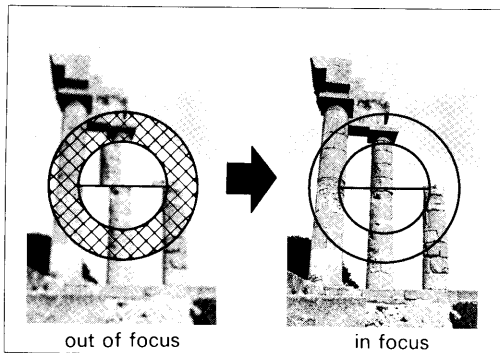
There is, of course, no one correct way to hold the camera. Experiment to find the most suitable way for you. Select a method that provides comfort in addition to stability. It may help to practice in front of a mirror.

When shooting at a shutter speed of 1/30 sec. or slower or with a telephoto lens, it is advisable to mount the camera on a tripod. If the tripod screw is especially long, be careful not to screw it in beyond the limit of the camera's tripod socket.



- (A)** Laser-matte screen
- (B)** Microprism rangefinder
- (C)** New split rangefinder
- (D)** Overexposure warning mark
- (E)** Meter Needle

- (F)** Stopped-down metering/battery check index
- (G)** Aperture needle
- (H)** Underexposure warning mark (when using f/1.4 lens)
- (I)** Shutter speed display



Turn the focusing ring of the lens as you look in the viewfinder until the main subject is sharp. The three focusing aids of the standard screen can be used alone or in combination according to the subject and your own preference.

Note

The Canon F-1's focusing screen, which makes precise focusing possible, also determines the metering sensitivity area. There are 13 types of focusing screens and three different metering areas optionally available to suit your particular focusing and metering requirements. See pp. 51 — 55 for further details.

1. New Split Rangefinder

The new split-image rangefinder divides the subject in half horizontally and is especially useful for a subject which has vertical lines. The subject is in focus when the two halves merge to become one unbroken image. When using a lens with a maximum aperture of $f/5.6$ or smaller, one-half of the split-image rangefinder may take on a slight color.

2. Microprism Rangefinder

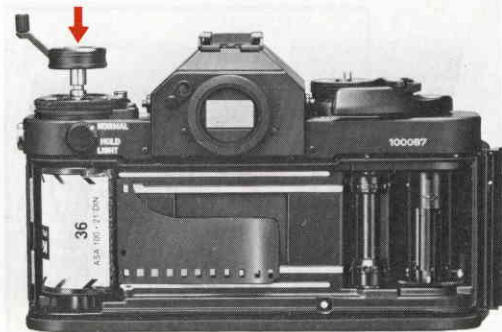
When the subject is out of focus, the microprism ring breaks the subject into tiny fragments, causing a shimmering effect. It is clear and steady when your subject is in focus.

3. Laser-matte Screen

The laser-matte screen appears fuzzy until the subject is in focus. It is particularly effective when you are using accessories for copying or close-ups.

Note

Ten eyesight correction lenses from +3 to -4 diopters are available. They may make viewing and focusing easier if you are near- or farsighted. Choose the one closest to your eyeglass prescription, then make a practical test if possible.

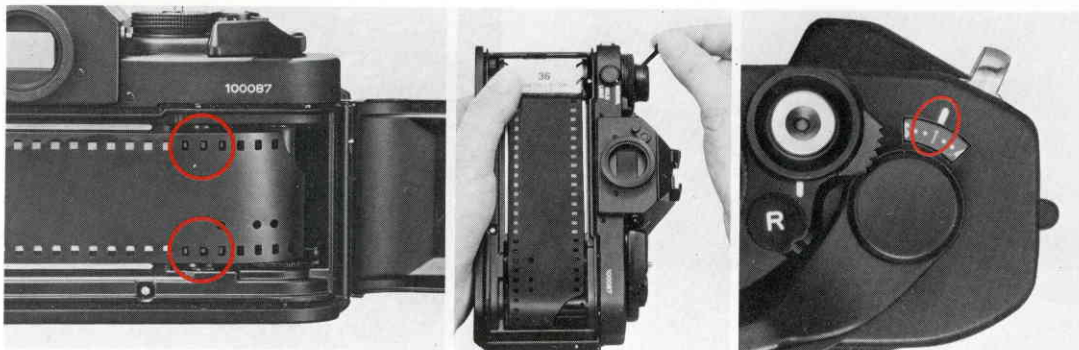


Loading the Film

Pressing the safety stopper, pull up the rewind knob until the camera back pops open. Be sure to shield the film from direct sunlight while loading. Place the cartridge in the film chamber as shown. Then push down the rewind knob, turning it until it drops into its normal position.

Note

Remove the plastic insert from the pressure plate before loading the first film cartridge.



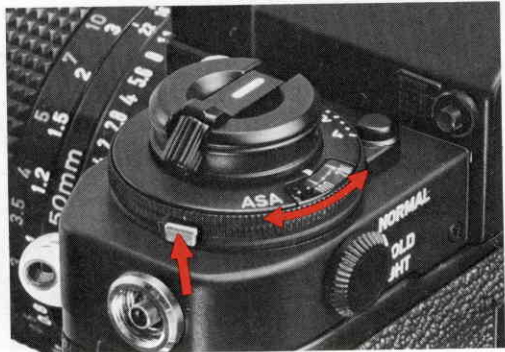
Pull the film leader across the camera and insert the tip into any slot of the take-up spool. Advance the film once. Make sure the sprocket teeth engage the film perforations. The film should be taut. If there is any slack, unfold the rewind crank and gently turn it in the direction of the arrow until it stops. Note that the rewind crank must be unfolded before you turn it; otherwise, the knob will turn freely. Then fold the rewind crank back in. Close the camera back.

Take several blank shots, releasing the shutter and advancing the film until the frame counter reaches "1." While doing this, keep an eye on the rewind knob. If it rotates in the direction of the arrow, the film is loaded correctly.

CAUTION

NEVER remove the camera's rewind coupler cover from the baseplate when film is loaded in the camera. This will expose the film to light. It is not necessary to remove the coupler cover except for attaching the AE Motor Drive FN.

Setting the ISO Film Speed

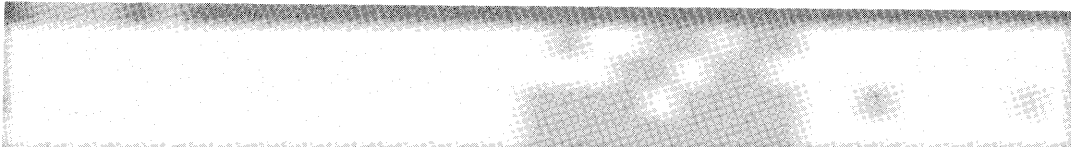


Turn the setting dial, while pressing the lock release button, until the desired film speed aligns with the index. The dial cannot be turned lower than ISO 6 or higher than ISO 6400. The table on the next page shows the ISO film speeds which can be set on the Canon F-1. Figures in parentheses are intermediate speeds which are indicated by dots on the ISO dial.

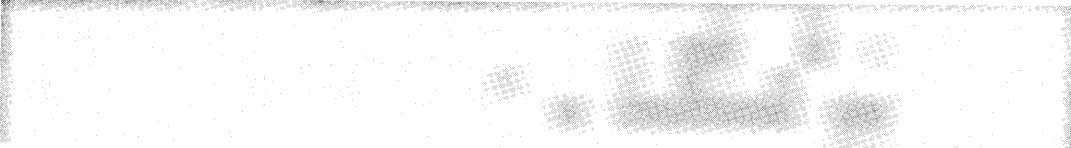
ISO is a numerical rating of the film's sensitivity to light. The higher the number, the faster the film and the more sensitive it is to a given amount of light as compared to a film with a lower number. The film manufacturer's ISO rating can be found on the film cartridge, the carton, and the data sheet.

IMPORTANT

For correct exposure, make sure the exposure compensation dial is set at "1" (see p. 58).



6 • • 12 • • 25 • • 50 • • 100 • • 200 • • 400 • • 800 • • 1600 • • 3200 • • 6400
(8)(10) (16)(20) (32)(40) (64)(80) (125)(160) (250)(320) (500)(640) (1000)(1250) (2000)(2500) (4000)(5000)



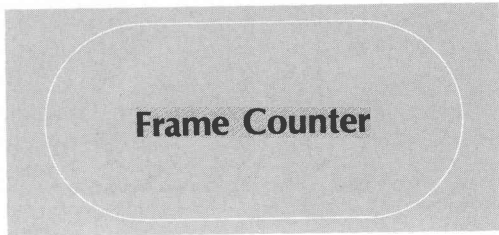
A new set of film-speed standards has been established by the International Standards Organization (ISO) in which both an arithmetic value (equivalent to ASA) and a logarithmic value (equivalent to DIN) are used to express film-speed ratings.

In the following example note that the number after ISO is the equivalent ASA number, and the number before the degree symbol ($^{\circ}$) is the equivalent DIN number.

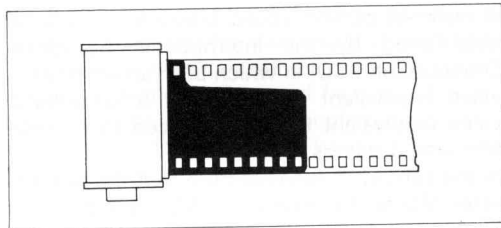
ISO 100/21 $^{\circ}$

ASA 100/21 DIN

All references to film speed in the remaining sections of this manual are expressed in ISO.



Each time you advance the film, the frame counter also advances to the next number. It can count up to 39 frames. The numbers 1, 12, 20, 24 and 36 are in orange, the latter four to call your attention to the fact that rolls with those numbers are or are almost finished. The frame counter automatically returns to "S" when you open the camera back. During multiple exposures, the frame counter advances each time you wind the advance lever. The Canon F-1 will also accept bulk film loaded into standard cartridges. In this case, be sure to trim the leader as shown before loading it into the camera.

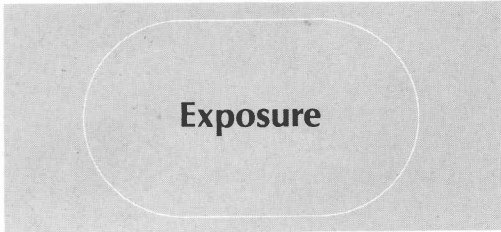




Memo Holder

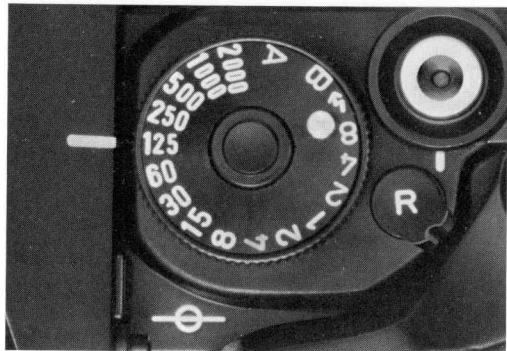
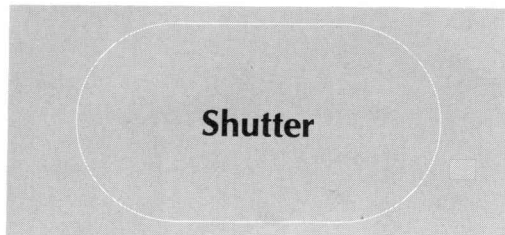
The camera back has a memo holder. It conveniently holds the end of the film box as a reminder of the type of film in use and the number of exposures.





The amount of light that exposes a frame is determined by the aperture and shutter speed. The size of the aperture controls the amount of light allowed to reach the film, while the shutter speed controls how long the light strikes the film. For the same exposure, a change in shutter speed requires an equal and opposite change in aperture, and vice versa. There are usually several combinations of shutter speed and aperture which will give the same exposure. If, for example, the meter indicates that exposure will be correct at $f/4$ and $1/60$ sec., you usually have other combinations to choose from. Some of the combinations in this example include

$f/5.6$ at $1/30$ sec. and $f/2.8$ at $1/125$ sec. The two main considerations involved in selecting one particular combination over the others are the subject's motion and depth of field; each of these affects the way a picture will look. You can control the effect of a picture simply by choosing a certain shutter speed and aperture combination. The next three sections provide information which you may find useful whether you are using the camera manually or automatically with an AE accessory.



The Canon F-1's hybrid shutter is electronically as well as mechanically controlled. Shutter speeds from 1/2000 to 1/125 sec., " $\frac{1}{2}$ " (1/90 sec.) and "B" (bulb) are mechanically governed, while 1/60 to 8 secs. are electronically controlled. With the AE Finder FN attached and the shutter dial on "A" shutter speeds from 1/1000 to 8 secs. are electronically controlled.

The shutter dial of the camera has settings from 2000 to 8, "A," " $\frac{1}{2}$," and "B." The slow shutter speeds from 2 to 8 seconds are in yellow, while shutter speeds from 1 to 1/2000 sec. are in white. The white numbers are

reciprocals of the true shutter speeds; "125," for example, indicates a speed of 1/125 sec. Intermediate settings on the dial cannot be used, and the dial cannot be turned between "B" and "A."

The red "A" is for shooting in the aperture-priority and stopped-down AE modes with the Canon AE Finder FN attached. For this setting, pull up the outer ring and turn the dial until "A" is aligned with the index on the finder. A scale with shutter speeds from 8 to 1/1000 sec. will now be displayed below the field of view as long as the AE Finder FN is attached.

The “ $\frac{1}{90}$ ” setting is for synchronized flash photography at an X sync. speed of 1/90 sec. It is not necessary to set the shutter dial to “ $\frac{1}{90}$ ” when using a dedicated Canon Speedlite; once the Speedlite’s pilot lamp glows, the camera automatically switches to 1/90 sec. provided the shutter dial is not on “B.”

When the shutter dial is set to “B,” the shutter will remain open as long as you press the shutter button. The camera’s meter will not give a reading on “B,” thus AE photography and match-needle metering are impossible. You will have to experiment or use a separate exposure meter to find the best exposure. It is advisable to use a tripod and locking cable release for long exposures.

Since “B” is mechanically controlled, the battery will not be drained on this setting regardless of the exposure duration.

To cancel shutter operation during a long exposure, press the battery check button.

Mechanical Operation

There are several shutter speeds available with the Canon F-1 even if the battery fails. In this case, remove the battery from the battery chamber. Shutter speeds from 1/2000 to 1/125 sec., “ $\frac{1}{90}$ ” (1/90 sec.) and “B,” which are all mechanically controlled, can be used. If the shutter dial is set to any speed between 1/60 and 8 secs., the camera switches automatically to 1/90 sec. when you press the shutter button.

IMPORTANT

The camera will not operate if you leave the exhausted battery in the battery chamber.

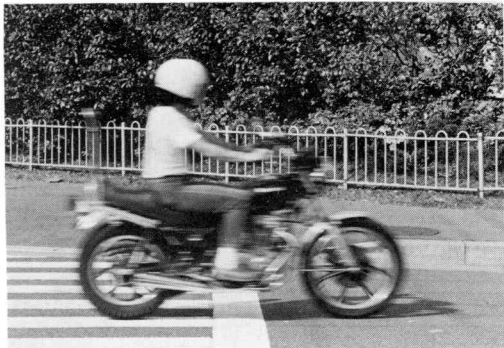
How to Choose a Shutter Speed



The shutter controls exposure by the length of time it remains open. The basic function of shutter speed is to provide correct exposure, but you can also use it to control the expression of your subject's motion and to control the effect of camera movement.

1. Freezing Motion

The faster the subject is moving, the higher the shutter speed required to stop the action. To freeze the motion of a pedestrian, for example, choose a speed of at least $1/60$ sec.; for a moving car, as fast as $1/1000$ sec. The motion of the motorcycle in this photo was frozen at $1/2000$ sec.



2. Blurring the Subject's Motion

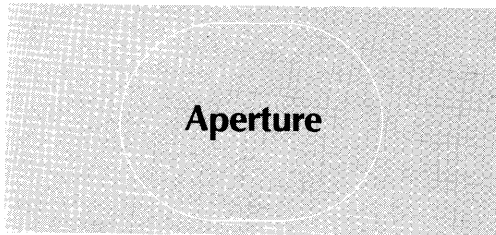
Blurring part of the picture can give a convincing sense of action. To blur the subject, simply set a shutter speed which is too slow to freeze its action. In this photo it was blurred at 1/15 sec.

3. Panning

You can blur the background while keeping the subject relatively sharp by "panning." Choose a shutter speed suitable for the subject's motion and release the shutter as you follow the movement, turning the upper part of your body.

Blurring part of the picture can heighten the sense of action. In most cases, however, image blur is undesirable. To avoid blurred pictures from camera movement, choose a shutter speed of at least 1/60 sec. for handheld shooting with a standard lens.

With a telephoto lens, it is advisable to use faster shutter speeds. The rule of thumb is to use a shutter speed no slower than the reciprocal of the lens in use. This means that for a 100mm lens, the shutter speed should be at least 1/125 sec.; for a 500mm lens, it should be at least 1/500 sec.



lens. The largest f/stop on the lens is called the lens maximum aperture; the smallest f/stop, the lens minimum aperture. The maximum and minimum apertures differ depending on the lens.

Each time you turn the aperture ring from one f/stop to the next smaller one, the amount of light allowed through is exactly halved. Using f/2 as a standard, the amount of light striking the film will change according to the f/stop indicated below.

The size of the aperture determines the amount of light allowed to reach the film. The apertures are indicated by a series of numbers, called f/stops or f-numbers, which can be found on the aperture ring. The smaller numbers are called large f/stops while the larger numbers are called small f/stops. This is because the smaller numbers represent larger apertures which allow more light to pass through the

How the Aperture Affects the Picture

In addition to controlling the quantity of light, the aperture influences depth of field which, in turn, affects the way a picture will look. When your subject is in focus, there is a certain area in front of and behind it which will also be in focus. This range of sharpness is called depth of field.

f/stop	(1.2)	1.4	(1.8)	2	2.8	4	5.6	8	11	16	22	32
Brightness ratio	3	2	1-1/4	1	1/2	1/4	1/8	1/16	1/32	1/64	1/128	1/256



1. The smaller the aperture, the wider the range of sharpness. This is illustrated by the picture above which was taken at $f/22$. Compare it with the photo to its right. This extended depth of field is especially good for such subjects as landscapes.
2. The larger the aperture, the narrower the range of sharpness. An aperture of $f/1.4$, for instance, can isolate your subject from its surroundings. This is often used to blur a disturbing background in portraiture.

Depth of field is also greater the shorter the focal length of the lens. A 24mm lens, for example, will show greater depth of field than a 50mm lens, provided the aperture and shooting distance are the same. Depth of field is also greater the longer the shooting distance, and is generally greater in the background than in the foreground by a ratio of two to one.

See p. 62 for procedures on checking depth of field.

Exposure Modes

The Canon F-1 is basically a manual-exposure camera capable of through-the-lens, full-aperture metering and stopped-down metering with the Eye-Level Finder FN. It can be converted to automatic exposure (AE) simply by attaching the suitable AE accessory, such as the AE Finder FN for aperture-priority AE, or the AE Power Winder FN or AE Motor Drive FN for shutter-priority AE. Manual exposure is still possible with one or both of these accessories attached.

The following exposure modes are possible with the Canon F-1:

1. Match-needle Metering
2. Shutter-priority AE
3. Aperture-priority AE
4. Stopped-down (Fixed-index) Metering
5. Stopped-down AE

Detailed information of these modes is provided in the sections entitled "Eye-Level Finder FN," "AE Finder FN," and "Shutter-priority AE."

I. Full-aperture Metering

With a Canon FD lens, metering is done with the lens at maximum aperture. This is called "full-aperture metering." The lens diaphragm does not close down until the shutter is released. Afterwards, it reopens automatically to the maximum aperture. One of the primary advantages of full-aperture metering is that you are able to view and meter the subject with the viewfinder at its brightest.

1. Match-needle Metering

Set the desired shutter speed and turn the lens' aperture ring until the meter needle bisects the aperture ring. The position of the meter needle is determined by the film speed, shutter speed and the lighting conditions. This manual mode is suitable for virtually all subjects.

2. Shutter-priority AE

Set the desired shutter speed and the camera automatically selects the proper aperture according to lighting conditions. This AE mode is suitable for most subjects but especially useful in action photography.

[For this mode, the AE Power Winder FN or AE Motor Drive FN must be attached to the camera and the lens set to the "A" mark.]

3. Aperture-priority AE

Set the lens to the desired aperture and the camera automatically selects the proper shutter speed according to the lighting conditions. This AE mode is useful for portraiture and still photography such as landscapes where depth of field is of importance.

[For this mode, the AE Finder FN must be attached to the camera and the shutter dial set to "A."]

II. Stopped-down Metering

Stopped-down metering is necessary whenever you are using a non-FD lens, such as the Reflex 500mm, which has a fixed aperture, the TS 35mm lens or any of the older FL lenses. It is also necessary whenever you insert accessories which do not have a full-aperture signal pin, such as bellows or extension tubes, between the camera body and lens. Stopped-down metering is possible, though unnecessary, with an FD lens. For correct exposure, set an aperture smaller than $f/2.8$.

For stopped-down metering, the lens diaphragm must be closed down (stopped down) to the working aperture. Since the diaphragm will open and close as you turn the lens' aperture ring, depth of field can be easily checked.

1. Stopped-down (Fixed-index) Metering

Set an aperture and unlock the stop-down slide by pushing it in and then releasing it. Turn the shutter dial (or aperture ring) until the meter needle is in line with the stopped-down metering index.

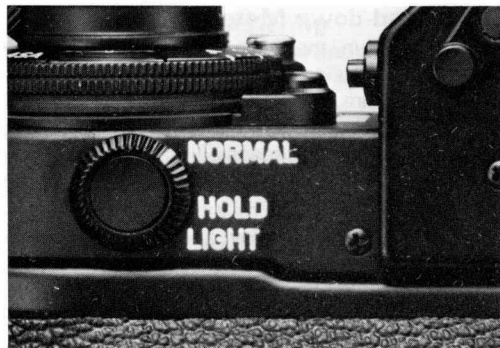
2. Stopped-down AE

Set an aperture and unlock the stop-down slide by pushing it in and then releasing it. The camera will automatically select the proper shutter speed for the lighting conditions.

This AE mode is especially advantageous in such fields as photomacrography and photomicrography.

[For this mode, the AE Finder FN must be attached to the camera and the shutter dial on "A."]

Meter Mode Selector



There are three ways to turn on the meter, each designed to suit particular metering requirements. To set a meter mode, simply turn the mode selector so that its index aligns with the desired setting.

NORMAL: The meter turns on only while the shutter button is pressed halfway (except for "B" and " $\frac{1}{2}$ " settings on the shutter dial). This mode is suited for AE photography.

HOLD: The meter turns on the moment you press the shutter button halfway and stays on for 16 seconds even if you remove your finger from the shutter button. It automatically turns off after the specified time, thus conserving battery power. This mode is particularly suited for manual exposure and any situation in which you need more time to meter.

LIGHT: As on "HOLD," the meter, once activated, stays on for 16 seconds even if you remove your finger from the shutter button. In addition, the aperture scale in the viewfinder is illuminated for the same period of time. This mode allows you to meter in low-light situations.

In the "HOLD" and "LIGHT" modes, you can cancel the meter reading any time within the 16 seconds simply by pressing the battery check button. Each mode is also cancelled when the shutter is released. If you have turned on the meter on the "LIGHT" setting and wish to cancel only the illumination, turn the mode selector to "HOLD" or "NORMAL." The meter will continue to read, automatically turning off after 16 seconds.

Note

With the AE Finder FN attached and the shutter dial set to "A," a different scale than that used for match-needle metering displays exposure information for aperture-priority and stopped-down AE. Consequently, there is no display illumination in the "LIGHT" mode when the shutter dial is on "A."

**Which viewfinder did you
purchase?**

Eye-Level Finder FN

See pp.
36—39.



AE Finder FN

See pp.
40—44.

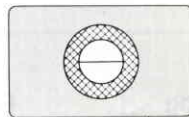


The table below lists the various exposure modes possible depending on which finder and which accessory, if any, is attached.

Type of metering	F-1 Body only	F-1 Body + AE Motor Drive FN or AE Power Winder FN
Full-aperture metering	Match-needle metering	Shutter-priority AE Match-needle metering
Stopped-down metering	Stopped-down (fixed-index) metering	Stopped-down (fixed-index) metering
Full-aperture metering	Aperture-priority AE Match-needle metering	Shutter-priority AE Aperture-priority AE Match-needle metering
Stopped-down metering	Stopped-down AE Stopped-down (fixed-index) metering	Stopped-down AE Stopped-down (fixed-index) metering

Eye-Level Finder FN

With the Eye-Level Finder FN, an aperture scale and the pre-set shutter speed are displayed to the right of the field of view. Focusing Screen FN-PE, which offers selective-area metering, is supplied with the Canon F-1/Eye-Level Finder combination.



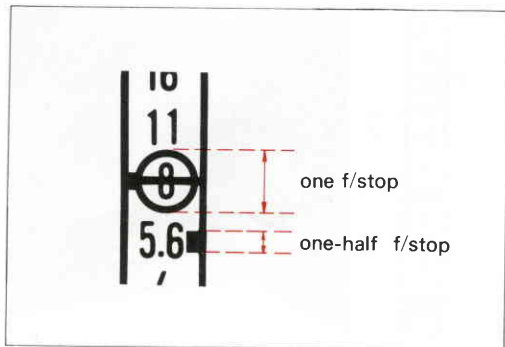
Metering Area



I. Match-needle Metering

1. Turn the shutter dial to the desired speed.
2. Look into the viewfinder and focus the subject.
3. Place your subject so that it fills the rectangular area in the center of the viewfinder. This shaded portion is the light measuring area of the camera's silicon photocell and is 12% of the field of view.
4. Turn the meter mode selector to the desired mode. Then lightly press the shutter button halfway to turn on the meter.

The meter needle should be outside of the exposure warning zones. If it is in either zone,

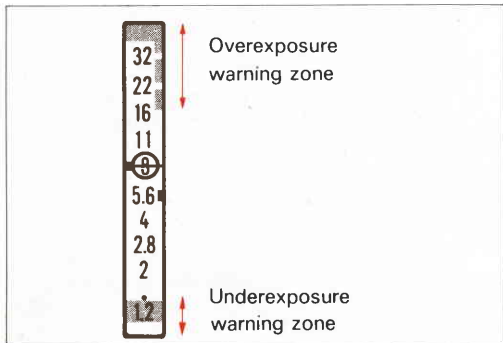


turn the shutter dial until the meter needle moves out of the zone.

5. For correct exposure, turn the lens' aperture ring until the center of the aperture needle aligns with the meter needle. The diameter of the circle is equivalent to one f/stop, and exposure adjustment is possible in one-half f/stop increments simply by turning the lens' aperture ring.

Notes

1. The aperture needle moves only between the minimum and maximum apertures of the lens in use.
2. The meter does not operate with the shutter dial on "B" or "1/2."



Underexposure Warning

The position of the red underexposure warning mark is determined by the lens' maximum aperture. If the meter needle points to the underexposure mark, choose a slower shutter speed until the needle moves away from the mark.

Overexposure Warning

The red marks next to 32, 22 and 16 in the aperture scale are overexposure warning zones. If the meter needle points to one of these zones, check the lens' minimum aperture. If, for example, the meter needle points to the red zone between $f/16$ and $f/22$ and the minimum

aperture is $f/16$, turn the shutter dial to a faster speed until the meter needle points to an aperture of $f/16$ or larger.



4. Turn the aperture ring (or shutter dial) until the meter needle is aligned with the stopped-down metering/battery check index. Choose a slower speed if the meter needle rests below the index, or a faster speed if the meter needle rests above the index.

II. Stopped-down (Fixed-index) Metering

1. Turn the shutter dial to the desired speed.
2. Look into the viewfinder and focus the subject.
3. Unlock the stop-down slide. To do this, push it in and then release it; the slide will unlock and its red line can be seen. The aperture needle will disappear from view with the stop-down slide extended.

Notes

1. You can also set the aperture first and then turn the shutter dial until the meter needle aligns with the index. However, since intermediate settings on the shutter dial cannot be used, minor exposure adjustments must be made with the lens' aperture ring.
2. The height of the stopped-down metering index is equivalent to one-half f/stop.
3. When using stopped-down metering with an FD lens attached directly to the camera body, use an aperture of f/2.8 or smaller.

AE Finder FN

The primary role of the AE Finder FN is to convert the camera to aperture-priority AE or stopped-down AE. For these two modes, a shutter speed scale and, with a FD lens mounted, the pre-set aperture are displayed below the field of view.

Manual exposure is also possible with the finder. In manual, the aperture scale and shutter speed are displayed to the right of the field of view. Thus AE and manual modes are clearly differentiated and you know immediately in which mode the camera is set simply by the location of the exposure information.

Focusing Screen FN-AE, which provides

center-weighted average metering, is supplied when the Canon F-1 is purchased initially with an AE Finder FN.

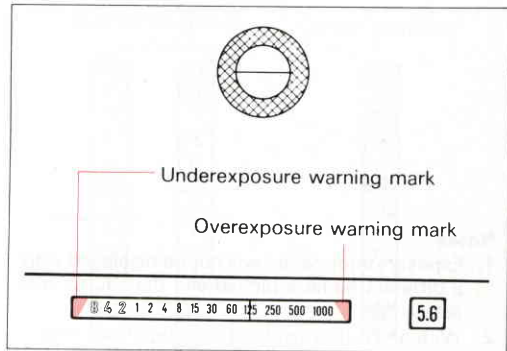


I. Aperture-priority AE

1. After attaching the AE Finder FN, set the shutter dial to "A." To do this, pull up the outer ring and turn the dial until "A" is aligned with the index on the finder. The shutter dial cannot be turned between the "A" and "B" settings.

Note

If the shutter dial is set to "A" before the finder is attached, exposure information will not be displayed. In this case, first turn the shutter dial to "2000," then back to "A."

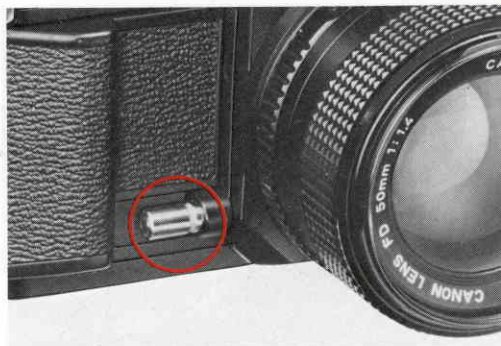


2. Turn the lens' aperture ring to the desired aperture.
3. Look into the viewfinder and focus the subject.
4. Turn the shutter dial to "A". Then press the shutter button halfway to turn on the meter. Exposure will be correct as long as the meter needle is not pointing to either of the exposure warning zones. If the meter needle is in either zone, turn the aperture ring until it moves out of the zone.
5. To release the shutter, press the shutter button all the way down.

There is a possibility of camera movement if

the meter needle indicates a shutter speed of 1/30 sec. or slower. In this case, choose a larger aperture until the shutter speed indicated is 1/60 sec. or faster. If you have set the maximum aperture and the shutter speed is still slower than 1/60 sec., attach the camera to a tripod, use a flash or add artificial light.

On the other hand, if the meter needle indicates overexposure even after you have set the minimum aperture, attach a neutral density (ND) filter to the lens. This will reduce the amount of light to the film.



Notes

1. Exposure information will not be displayed with a different finder attached and the shutter dial set on "A."
2. With an FD lens (without chrome mount ring), the aperture is displayed adjacent to the shutter speed scale in the viewfinder. It is impossible, however, to read the aperture when using an FD lens with a chrome mount ring or when using an extender, extension tubes or other close-up accessories between the camera body and lens.
3. If your eye will not be to the eyepiece the moment you release the shutter, close the eyepiece shutter by pushing the lever clockwise. This will prevent stray light from entering and adversely affecting the exposure.

II. Stopped-down AE

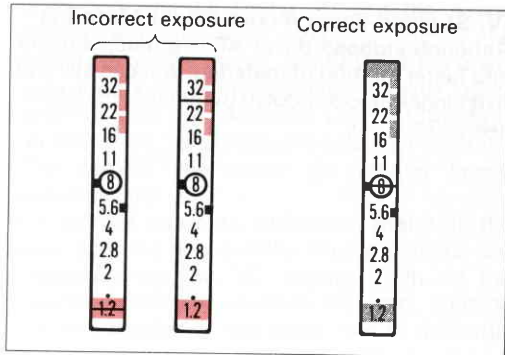
1. Following the procedure on p. 40, set the shutter dial to "A."
2. Look into the viewfinder and focus the subject.
3. Turn the lens' aperture ring to the desired aperture.
4. Unlock the stop-down slide. To do this, push it in and then release it; the slide will unlock and its red line can be seen.
5. The shutter speed is automatically selected according to the aperture set on the aperture ring.

If the meter needle is in either exposure



warning zone, turn the aperture ring until the needle moves out of the zone.

Overexposure, underexposure and camera shake warnings are the same as for aperture-priority AE. Please see p. 41.



III. Match-needle Metering

To meter the subject manually, simply disengage the shutter dial from "A." The shutter speed scale will disappear, and the aperture scale and shutter speed display will appear to the right of the field of view. Then set the shutter speed and aperture in the usual manner, matching the meter and aperture needles in the viewfinder. For further details, see pp. 36—37.

IV. Stopped-down (Fixed-index) Metering

Although stopped-down AE is a much simpler and faster method of metering, you can still use fixed-index stopped-down metering. For details, see p. 39

Shutter-priority AE



Note

Use of the following accessories is limited when the AE Finder FN is attached:

1. Early TS 35mm f/2.8 lenses: The lens' shift knob will touch the finder as you rotate the lens, preventing full rotation.
 2. Early Auto Bellows: The finder will touch the bellows' rear standard as you rotate the camera, making vertical shots impossible.
- For details concerning modification of either accessory, please contact the nearest Canon authorized service facility.

When the AE Power Winder FN or AE Motor Drive FN is attached to the Canon F-1, a choice of shutter-priority AE or manual exposure is available according to the shooting situation and your personal preference.



For shutter-priority AE, simply turn the lens' aperture ring to the "A" mark and turn the shutter dial to the desired speed. The aperture scale and the shutter speed which you have selected are displayed, as in match-needle metering, to the right of the field of view. The aperture needle, however, disappears from view. When you press the shutter button halfway, the meter needle will point to the aperture which the camera has selected automatically. If the meter needle points to either the over- or underexposure warning mark, simply turn the shutter dial until the needle moves away from the mark.

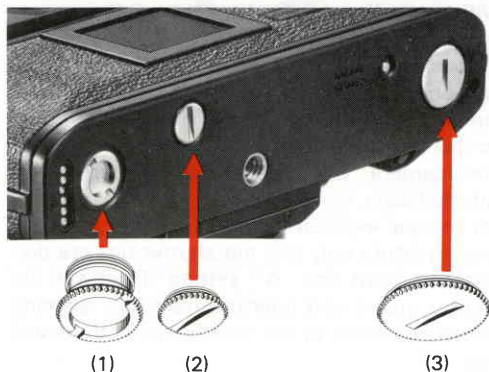
With both the AE Finder FN and the power winder or motor drive attached, any of the various exposure modes can be used. For aperture-priority AE, first disengage the lens' aperture ring from the "A" mark. Then set the shutter dial to "A," and manually select an aperture. The camera will select the shutter speed automatically.

For manual exposure, make sure that both the lens' aperture ring and the shutter dial are disengaged from the "A" setting. Then set the shutter speed and aperture manually, aligning the two needles in the viewfinder in the usual way.

For further details, see the power drive's instructions.

Note

In general, center-weighted average metering is recommended for AE photography. Please see p. 48 for further details.



Socket Covers

There are three socket covers in the baseplate of the camera. All three must be removed to attach the motor drive; for the power winder, only two (2) and (3) must be removed. Do not remove them unless you intend to attach one of these AE power drives. Above all, NEVER remove the rewind coupler cover (1) when film is loaded in the camera or the film will be exposed to light.

CAUTION

1. Do not set both the shutter dial and the lens' aperture ring to the "A" settings. Otherwise, the lens will stop down to the smallest aperture and the camera will operate in aperture-priority AE. Depending on the lighting conditions, this may result in undesirably slow shutter speeds.
2. After removing the power winder or motor drive, do not forget to remove the lens' aperture ring from the "A" mark or the shutter will not release when you press the shutter button.
3. Before attaching the finder or motor drive, wipe the contacts with a clean, dry cloth to prevent poor contact from dirt.

Meter Coupling Range

With an FD 50mm f/1.4 lens and ISO 100 film, the Canon F-1's built-in exposure meter couples within a range of EV*-1 (4 sec. at f/1.4) to

EV 20 (1/2000 sec. at f/22). In aperture-priority AE or stopped-down AE, the coupling range is EV-1 to EV 19 (1/1000 sec. at f/22).

*EV (Exposure Value) is a numerical value of exposure which is based on proper combinations of shutter speed and aperture. The camera's EV coupling range varies with lens speed and ISO film sensitivity.

