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Canon F-1

Experience shows. It shows in a professional's work. It shows in the equipment he uses. And experience is clearly evident in each and every one of the Canon F-1's precision parts.

Continuing a tradition of excellence established over the past decade by the former F-1, the new Canon F-1 embodies all the functions and qualities which helped its predecessor gain universal recognition as the camera that every true professional owned – or knew he should own.

Progress, tradition's counterpart, also shows in the F-1. In the form of some truly startling technological innovations, designed to help you accomplish even the most exacting photographic assignment.

Cast in an Exemplary Mold. The Canon F-1

Reliability. Versatility. Durability. Vital requirements for a professional SLR and all essential elements of the F-1. Rugged enough to function with perfect precision for a minimum 100,000 exposures, the F-1 combines the best of both mechanical and electronic worlds. Fast shutter speeds are mechanically controlled all the way from 1/90 to 1/2000, so you go right on shooting even if the battery fails. Electronic circuitry governs the slower shutter speeds.

The tried and proven TTL analog match-needle metering system utilizing a silicon photocell (SPC) forms the photometric heart of the F-1. But amazingly, Canon has gone not one, but two steps beyond this. The F-1 is also capable of shutter-priority AE (by attaching the AE Motor Drive FN or AE Power Winder FN) and aperture-priority AE, if the AE Finder FN is used. And if that weren't enough, the F-1 offers a choice of three metering sensitivity patterns and a wide range of interchangeable focusing screens for various applications.

A decade of close partnership with top professionals has given Canon unique insight into the requirements of this most demanding class of photographer. The features you have just read about attest to this. And it is also demonstrated in the vast array of lenses and accessories that make up the F-1 system.

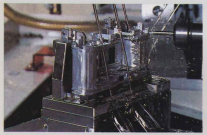
Professionally conceived, professionally built. The Canon F-1.

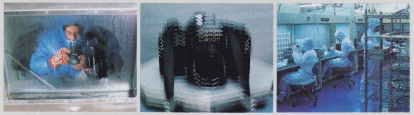
Total Reliability. What a Professional Demands Most of All.

Reliability

For a professional camera to be worthy of the description, it must be able to withstand the rigors of professional use. Professionals themselves, Canon's engineers knew that this had to be the fundamental design concept of the F-1.

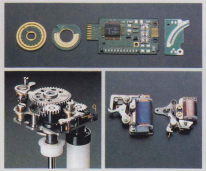
The result is a camera system that will function flawlessly under some of the most inhospitable climatic conditions on earth. From the searing heat of a desert to the biting winds encountered on the world's highest peaks, the F-1 can endure the harshest temperature and humidity extremes. And it'll take a professional photographer's rough and tumble treatment.



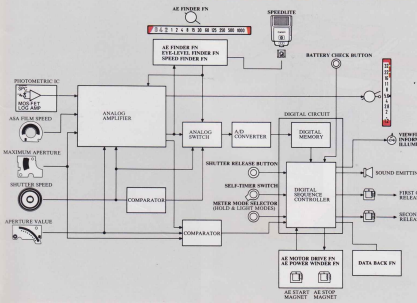


To prove its functional integrity under any conditions, the F-1 has been subjected to hours of stringent testing at temperatures between −30°C (−22°F) and +60°C (140°F). These included vibration, shock and operational tests.

How is such durability achieved? In the F-1's case it begins with the very materials out of which it is fashioned. To ensure that only the highest quality materials would be selected, basic studies such as material analysis prior to designing, were conducted. This high standard forms the foundation on which each and every F-1 is manufactured.



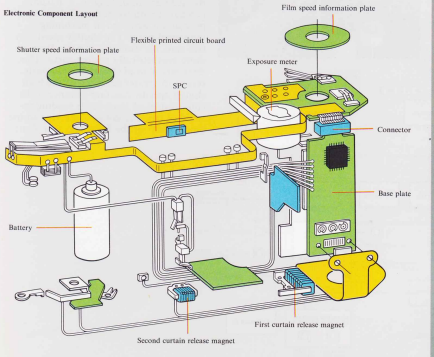
No less important is the manufacturing process itself. Revolutionary advances in production technology permit each part to be manufactured to micron tolerances. Besides enhancing the F-1's reliability, this also ensures perfect interchangeability with its various accessories. An excellent example of Canon's new technology is the NC (Numerical Control) machine. The most advanced equipment of its kind in the industry, it is used to perform a variety of grinding, milling and drilling functions, primarily on the die-cast body and AE Finder FN. Computer-controlled, the NC machine's versatility is such that it has drastically reduced the number of machines required, yet at the same time has doubled the accuracy in drilling to ± 0.02mm compared with the former F-1. Similar precision is achieved in machining individual parts. The shutter speed control cam, for example, benefits from a more geometrically perfect curve. The finer precision of this and other parts results in greater accuracy of the high shutter speeds. Another advance is the employment of laser-beam welding instead of rivets to connect the gear to the pinion shaft of the front and rear shutter

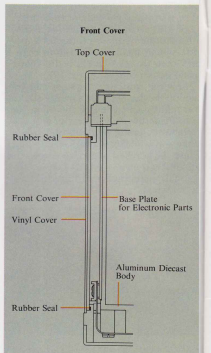


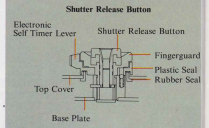
curtains. This prevents distortion, an inherent possibility when rivets are used and also allows the entire shaft to be tempered instead of just a portion, thus increasing the strength. The inner surface of the pinion and other shafts is burnished to mirror smoothness by forcing steel bearing balls through under high pneumatic pressure.

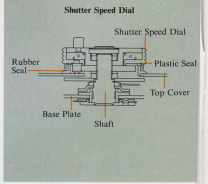
Vibration and moisture are the two main enemies of electrical components. Special measures have therefore been taken to protect the F-1's sophisticated electronic circuitry from such dangers. Plastic and rubber seals prevent entry of dust and moisture in such parts as the shutter release button and shutter speed dial. The shutter curtain control magnets are silver-plated for greater dust- and moistureproofness. This measure helps guarantee the shutter's trouble-free operation for 100,000 exposures. The IC's and other major components are concentrated on one main printed circuit (PC) board. Positioned in the front part of the body where it is least susceptible to moisture penetration and formation of condensation, the PC board is coated with a special plastic film to eliminate the tiny, invisible pores whose presence would otherwise reduce the board's resistance to moisture. After all the electrical components have been soldered to the board, the assembly is cleaned in an ultrasonic bath of special solvent, rinsed and then completely sealed with a coating of moistureproof resin. Elastic connectors used to connect the main PC board to the resistor board and other flexible circuit boards further protect the ICs against shock.

The F-1 has two ICs: one for the photometry circuit with an analog operational amplifier to perform exposure calculations based on the subject illumination, shutter speed, aperture and ASA settings and the other a digital control circuit which controls the shutter speeds, electromagnetic release, self-timer and exposure meter. These circuits also monitor the sequential operation of both the camera and its accessories. Canon calls this a "Check and Go" system because it does literally that. It checks whether each operation is functioning correctly before allowing the next to occur. The system is outlined in the chart on this page.





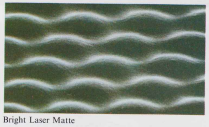


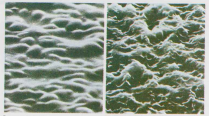


Reliability Through Ingenuity: Canon's Advances in Optics

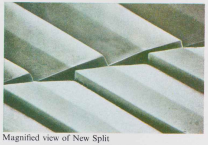
The exceptional durability of the F-1's electronics and mechanisms is complemented by a host of innovations in the optical field.

Representative of these is the AE Finder FN. Here, Canon has not only refused to cut corners but has even taken a more difficult path to achieve what it felt the professional desired. The AE Finder FN has a galvanometer built in which displays the shutter speed when the camera is in aperture-priority AE mode. Technically, the easy way would have been to place the display in the upper part of the viewfinder. Research, however, showed that the optimum, less distracting position is *below* the field of view. To achieve this and also provide a direct aperture reading from the lens (New FD lenses), special high-precision processing techniques for the miniature mirrors and prisms incorporated were required. Pinpoint accuracy was crucial too in the production process to ensure a precise optical axis of the light path.


Bright Laser Matte

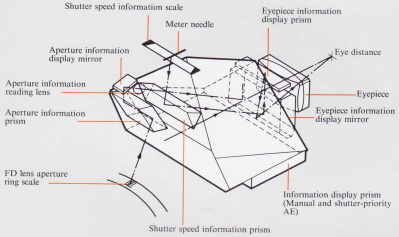

Laser Matte Sand-blasting

If you've already looked through the F-1's viewfinder you'll have noticed how clear and bright the image is. This is due largely to Canon's laser matte technology where laser beams are used to form the focusing screen molds. This results in less light transmission loss than with the conventional sand-blasting (ground glass) method. The different surface textures of the ground glass, laser matte and bright laser matte screens are shown in the 2,000x photos on this page. The bright laser matte has over two million tiny, regular-shaped bumps all over its surface. These guide the light to the condenser lens with far greater accuracy than the ground glass screen. Consequently, the image provided by the bright laser matter is clearer and brighter, which makes focusing easier. Also contributing to the finder's brightness is the New Split rangefinder which is made up of crossed prisms forming a

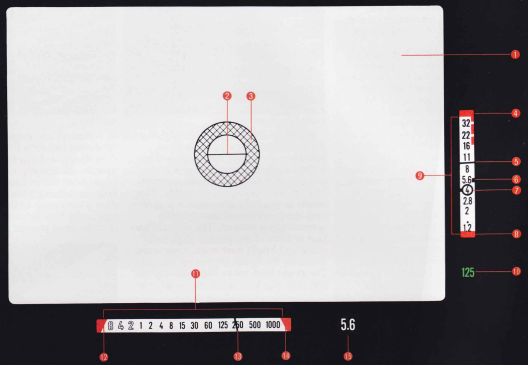

Magnified view of New Split

grating. And the rangefinder doesn't darken even when stopped down – a great advantage when using small-aperture lenses.

To ensure their maximum optical quality and performance, the focusing screens must be manufactured under conditions which are as near to totally dust-free as possible. For this, they must pass through three "clean rooms". There, the air's dust content is a fraction of that in a normal room, or outdoors. The Micro Beam Splitter is coated under vacuum and cemented in the first two rooms and then passed to the third where the focusing screen is assembled.



The F-1's Bright, Functional Viewfinder



You can tell at a glance which mode you are in by the position of the information display. On manual and shutter-priority AE it is on the right. With the AE Finder FN installed and set for aperture-priority AE, the display appears below the image.

① Laser Matte Screen
② New Split Rangefinder
③ Microprism Rangefinder
④ Overexposure Warning Mark
⑤ Meter Needle
⑥ Battery Check/Stopped-down Metering Index
⑦ Aperture Needle
⑧ Underexposure Warning Mark
⑨ Aperture Scale
⑩ Shutter Speed Display
⑪ Shutter Speed Scale
⑫ Underexposure Warning Mark
⑬ Meter Needle
⑭ Overexposure Warning Mark
⑮ Direct Aperture Readout

Meter Mode Selector

The Meter Mode Selector located below the ASA film speed scale is another handy feature designed to keep you always in the picture, exposure-wise.

Set at NORMAL, the meter only functions while the shutter button is depressed, as a power-saving measure. At HOLD, on the other hand, the meter is activated for a full 16 seconds from the moment you depress the shutter button halfway – even if you remove your finger. The same thing happens on LIGHT, but, in addition, the viewfinder is illuminated as an aid when shooting in low-light conditions. Both modes are cancelled when the shutter is released or by pressing the battery check button.

Illumination with AE Finder FN is only possible when the shutter dial is off "A".

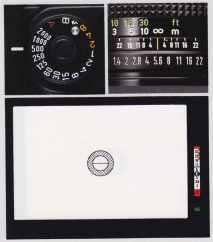
Where creativity begins...

Manual Exposure Control

The F-1 is primarily designed for manual operation. But why, in an increasingly automated world, rely on a mode that doesn't do everything for you, automatically?

The answer lies in the question – in the key word "rely." You rely on your own creative talent and ability as a professional to achieve the exact effect that you desire. The F-1 backs you up to the full in this by putting you in total manual command of all functions. At the same time, however, it allows you complete freedom to build on this foundation and expand the system's capabilities to suit your own particular needs.

Manual photography with the F-1 means full-aperture metering or stopped-down metering. And thanks to the analog matchneedle system, you know the situation at a glance when you wish to over- or under-expose your subject in unusual lighting situations or for creative effect. Manual operation is simplicity itself. Gently depress the shutter release button and the meter needle will instantly leap to the correct f/stop, taking into account the shutter speed, film speed and amount of light. Rotate the aperture ring so that the aperture needle matches the meter needle for the correct exposure. Alternatively, you can set the aperture first and adjust the shutter speed until the meter needle matches the aperture needle.



Freezing the action...

Shutter-Priority AE

True to its pioneering lineage, the F-1 provides an option which no other professional 35mm system SLR offers: Shutterpriority AE.

Shutter-priority AE is yours, in fact, the instant you connect either the AE Motor Drive FN or AE Power Winder FN. This gives you the mutually complementary advantages of rapid-fire shooting and shutter-priority AE, the optimum mode for action photography, since it enables you to select a faster shutter speed and thus reduce the risk of image blur from camera movement, particularly when using a telephoto lens.

And at 5 frames per second (AE Motor Drive FN), no action is too rapid, whether it be a dramatic news event which is unfolding or an action-packed sports scene.

Instead of including all the hardware necessary for shutter-priority AE mode in the camera body alone, Canon came up with the idea of building the functions into both the camera and the power drive. Thus, the camera incorporates an IC with a shutter-priority AE control circuit along with a mechanism to sense the position of the aperture signal lever. The drive for this lever, however, is not in the camera. It is built into the AE Motor Drive FN and AE Power Winder FN. This design, besides being more compact, also requires fewer parts, which thus enhances reliability.

For shutter-priority AE, select the desired speed and set the lens aperture ring to "A". The aperture needle will disappear from the viewfinder as it is no longer needed. The meter needle will remain, however, to indicate the aperture being automatically selected, while the shutter speed will also be displayed, for your reference. Shutter-priority AE is possible with any of the five interchangeable viewfinders installed.

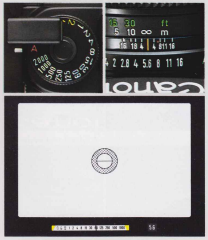
For total depth-of-field control...

Aperture-Priority AE

You've just read how easily the F-1 converts from manual to shutter-priority AE. Just as easily, Canon's new SLR prodigy can be changed to aperture-priority AE.

All that is required in this case is to attach the AE Finder FN. Set the shutter dial to "A". Look through the viewfinder and you'll notice that the information display has shifted from the right side to directly below the field of view. The display also changes from aperture information to a shutter speed display. Clearly differentiating aperture-priority AE from manual and shutter-priority AE in this way helps avoid confusion when switching rapidly from one mode to another.

The AE Finder FN also has a built-in window which affords a direct view of the aperture setting on the lens. It is situated immediately adjacent to the shutter speed scale, so your eye doesn't need to rove around looking for the exposure information.



Multiple AE Modes Plus Manual

The F-1 isn't merely a superb manual-operation camera – it also converts to shutter-priority AE or aperture-priority AE.

As individual as the print of the finger that presses the shutter button, no two photographers' requirements are exactly alike. Which is why Canon decided to give the F-1 owner the choice of augmenting the camera's manual capability with either one or both AE modes.

Connect the AE Motor Drive FN or AE Power Winder FN and you have shutter-priority AE. Installing the AE Finder FN gives you aperture-priority AE as well. So, with both accessories attached, you have a choice of two AE modes plus manual. And every consideration has been paid to make changing over from one mode to another as easy and fuss-free as possible. You never fail to know exactly which mode you are on either – the information display shifts position as a reminder.

The F-1 gives you flexibility, pure and simple. Flexibility to build a system that meets your own unique requirements.

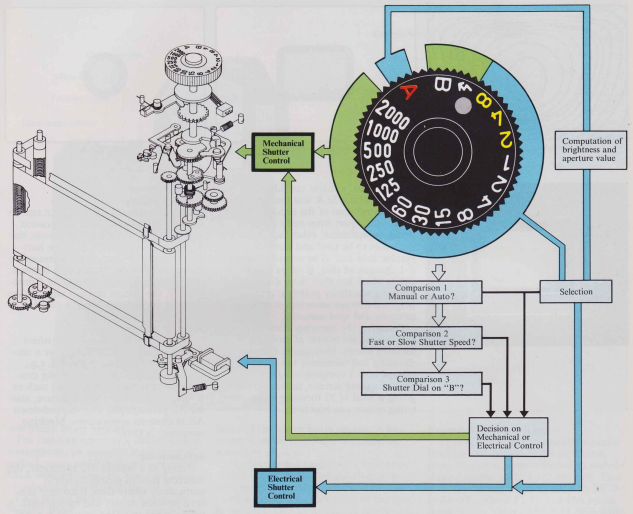
Shutter – Priority AE

Aperture-Priority AE

Stopped-down AE

Stopped-down AE is another of the advantages of the AE Finder FN. Photomacrography and other forms of close-up work require the use of various accessories such as bellows and extension tubes between the lens and body. The majority of such accessories as well as non-FD lenses do not have a aperture signal pin. This, plus the fact that precise depth-of-field control is required, means that the lens must be stopped down. Automatic exposure normally would be impossible under such conditions, but it poses no problem for the F-1 and AE Finder FN. Just set the aperture of your choice and, confirming that the shutter dial is on "A", unlock the stop-down slide so it is fully extended. The camera will automatically select the shutter speed necessary for correct exposure.

Fail-safe Electromechanical Hybrid Shutter

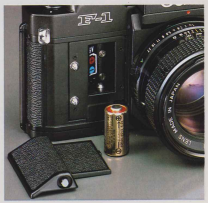


"Fail-safe" because the F-1 won't let you down – even if the battery does. It guarantees this with a full range of mechanical high speeds.

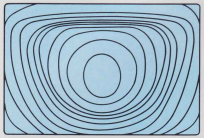
The F-1 has an electromechanical hybrid shutter. The fast speeds from 1/2000–1/125, "2" (1/90) and B are mechanically controlled, whereas electronic circuitry controls the slower speeds from 1/60 to 8 secs. With the AE Finder FN set for aperture-priority AE, all shutter speeds go electronic (fastest speed in this case is 1/1000 sec.).

The advantages of this system are manifold. The F-1 owner has several mechanical shutter speeds to fall back on if the battery runs out or loses power at very low temperatures. Simply remove the battery for mechanical operation. Electronics, however, guarantee greater accuracy in the slow shutter speed range besides enabling longer speeds. Electronic circuitry is therefore utilized for the slower speeds, bringing about a significant reduction in the overall weight and a more compact design.

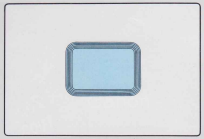
Another advance is the titanium-alloy focal-plane shutter. It travels at a lightning fast 7.5 milliseconds, giving the F-1 a fast X-sync speed of 1/90.



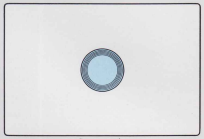
Three Metering Systems to Suit Any Situation



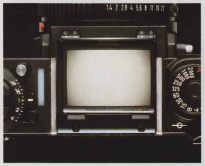
Center-weighted average metering



Selective-area metering



Spot metering



In the past, a major consideration in buying a 35mm SLR was the light sensitivity distribution of the exposure meter employed. Apart from one's own personal preference, other factors such as the lenses to be used and the photographic field had to be considered. The F-1 changes all that. It offers you a choice of no less than three different metering sensitivity patterns: center-weighted average metering, selective-area metering and spot metering.

Changing the metering sensitivity pattern is a simple matter of replacing the focusing screen. Here again, Canon, shunning half-measures, has come up trumps with a complete range of 13 different focusing screens, in three groups, giving a total of 32 focusing screen/metering system combinations.

Center-weighted average metering

Ideal for AE photography, but equally effective for manual mode. The easiest pattern to use for normal situations, the degree of center-weighting in the horizontal direction is markedly increased to minimize difference in exposure between vertical and horizontal positions. Consequently, the pattern remains virtually unchanged no matter what lens you use.

Selective-area metering

This pattern is most effective where precise exposure of the subject or a certain area of the frame is desired, e.g., strongly backlit subjects or strong contrast between light and shadow, such as scenery with a bright sky. Effective, also, for AE photography and stopped-down AE in close-up applications. Metering sensitivity is 12%.

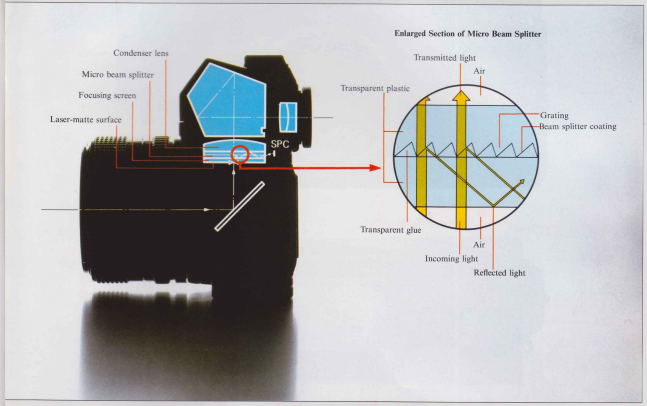
Spot metering

Acting as a built-in 3% spotmeter, this metering pattern proves its worth particularly where there is extreme contrast between subject and background. A singer in the spotlight on stage is a typical example, but other situations where center spot metering is advantageous include close-up photography and when metering against the light.

Center-weighted average metering

Selective-area metering

Spot metering



New Micro Beam Splitter

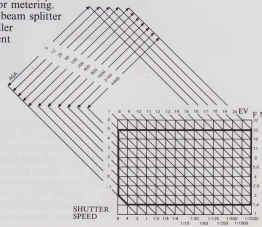
The focusing screen is a unique Canon development, an exquisite microcosm of applied optics and precision engineering which demonstrates just how far Canon has advanced the state of the art.

Each screen incorporates a specially designed photometry element comprising a wedge-shaped horizontal grating. Light entering the lens is reflected by the mirror up through the focusing screen's several sandwiched layers to the pentaprism and eyepiece. In the process, some of the light is deflected by the 20μ period beam splitting grating to the Silicon Photocell (SPC) metering element situated behind the focusing screen. For maximum metering accuracy, the SPC is as closely positioned as possible to the focal plane. By varying the area and reflectance of the micro beam splitter, it becomes possible to change the metering sensitivity pattern.

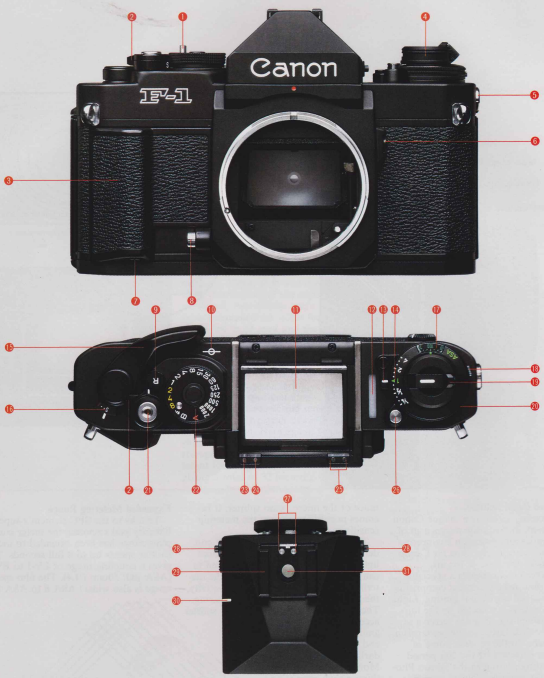
The former F-1 employed a split condenser which, because it directed more light to the metering element, tended to cause a perceptible darkening of the metering area. Due to its greater sensitivity, the SPC requires less light for metering. The new screen's fine micro beam splitter accordingly transmits a smaller amount of light to the element and solves the problem of darkening at the same time. Moreover, the screen is thinner thus permitting a lower body profile.

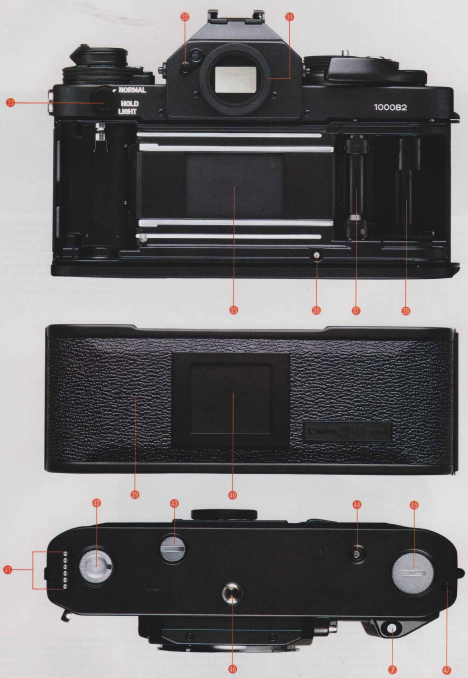
Expanded Metering Range

Thanks to the SPC element's superior linearity and response, the meter coupling range has been extended to include shutter speeds up to 8 full seconds. This gives a coupling range of EV-1 to EV20 (ASA 100; 50mm f/1.4). The film speed range is also wider: ASA 6 to ASA 6400.



The F-1's Finer Points



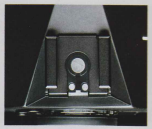


① AE Set Pin (for AE Finder FN)
② Self-timer/Lock Lever
③ Action Grip (Battery Chamber Cover)
④ Film Rewind Knob
⑤ PC Socket
⑥ Battery Check Button
⑦ Action Grip Release Button
⑧ Stop-Down Slide
⑨ Film Rewind Lever
⑩ Film Plane Indicator
⑪ Interchangeable Focusing Screen
⑫ Illumination Window (for Meter Information)
⑬ Exposure Compensation Lock Release Button
⑭ Exposure Compensation Scale
⑮ Film Advance Lever
⑯ Frame Counter
⑰ Film Speed Scale
⑱ Film Speed Lock Release Button
⑲ Film Rewind Crank
⑳ Film Speed Set Ring
㉑ Shutter Release Button (with Cable Release Socket)
㉒ Shutter Dial
㉓ Sync Contact
㉔ Shutter Speed Display Contacts
㉕ Automatic Contacts for Dedicated Speedlites
㉖ Safety Stopper
㉗ Automatic Flash Contact
㉘ Finder Release Button
㉙ Accessory Shoe
㉚ Index
㉛ Flash Sync Contact
㉜ Eyepiece Shutter Lever
㉝ Meter Mode Selector
㉞ Eyepiece Ring
㉟ Titanium Focal-Plane Shutter Curtains
㊱ Automatic Contact for Data Back FN
㊲ Film Transport Sprocket
㊳ Multi-slot Take-Up Spool
㊴ Camera Back
㊵ Memo Holder
㊶ Winder and Motor
㊷ Drive Terminal
㊸ Rewind Coupler Cover
AE Coupler Cover
Film Rewind Pin (for
㊹ Winder and Motor
㊺ Drive)
Winding Coupler Cover
㊻ Tripod Socket
㊼ Positioning Hole (for Winder and Motor Drive)

Everything You Need, Where You Need It

Safety Stopper
There's no risk of accidentally opening the camera back and exposing the film. Simultaneously depress the stopper and raise the rewind knob to open.

Battery Check Button
If the meter needle moves above the viewfinder's battery check index when this button is pressed then power is sufficient. It can also be used to cancel the selftimer, exposure meter timer and viewfinder illumination, as well as to release the second shutter curtain during long exposures.



Accessory Shoe
Located on top of the pentaprism viewfinders for direct mounting of all Speedlites. Special contacts enable automatic setting of the 1/90 sec. flash sync. speed and flash aperture when on shutter-priority AE mode.

Shutter Release Button/Self-timer
Depress the button halfway to obtain a meter reading, all the way to release the shutter. For self-timer operation, turn the outer ring to "S" and depress the shutter button. A beeping sound will occur for 10 secs before the shutter releases itself. Set the ring to "A" for normal shutter release and "L" to lock the shutter.

Wide Film Speed Range
The wide ASA 6 to ASA 6400 range means you can use virtually any film available. The ASA is displayed in the window for easy reference.

Meter Mode Selector
An invaluable feature which helps you in more ways than one. At HOLD, the meter operates for 16 secs., freeing both hands to adjust the camera. The same happens on LIGHT, but in addition the viewfinder display is illuminated. At NORMAL, the meter functions only while the shutter is depressed, to save power.

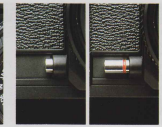
Exposure Compensation
Up to ± 2 EV exposure compensation is possible when you need to compensate for strong backlighting or for special effects. Calibrated in 1/3 EV steps, the dial is released by pressing the lock button.

Shutter Dial
For aperture-priority AE, align the "A" mark with the index. All shutter speeds (plus "B" and B) are white except for full 2, 4 and 8 sec. speeds which are colored yellow.

Film Rewind/Multiple Exposure Lever
Moved from the bottom of the camera for easier access when using a tripod or other accessories. For film rewind, turn the lever clockwise and depress. Do the same before cocking the shutter to take multiple exposures. Rapid sequence multiple exposures are also possible using either of the power drives.

Action Grip
An example of Canon human engineering at its best. The battery compartment's specially contoured cover provides a firm action grip for steadier shooting. Removed by pressing the release button underneath.

Stop-down Slide
Conveniently placed for easy left-handed operation, this lets you check depth of field and enables stopped-down metering with FL lenses or non-fully coupled close-up accessories.



Canon Breech-lock Mount
Lens mounting is an easy, fast operation. An exclusive mounting system which ensures full interchangeability with all Canon lenses and accessories.

Quick-action Film Advance Lever
The film can be advanced with a single rapid stroke or by repeated small movements. Contoured to snugly fit your thumb, with a 139° throw and 30° stand-off angle.

Winder and Motor Drive Coupler
Remove the screw cap to connect either the AE Power Winder FN or AE Motor Drive FN.

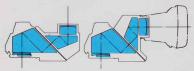
Eyepiece Shutter
Flick the lever up and the eyepiece shutter will close (Eye-Level Finder FN and AE Finder FN) to prevent entry of extraneous light through the eyepiece. This is especially helpful when taking long exposures or with self-timed or remote-control photography.

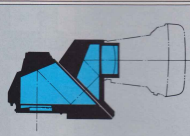
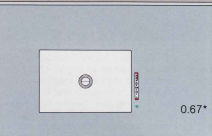
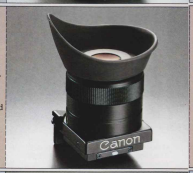
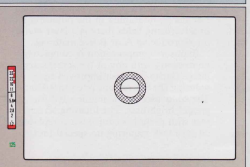
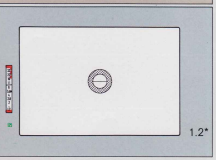
Winder and Motor Drive Terminals
The winder links up with the camera's electronic circuitry via these terminals to provide shutter-priority AE as well as automatic film advance.

Complete focusing, composition ease...

Interchangeable Viewfinders

The F-1 System includes five fully interchangeable viewfinders, each offering a unique way to view your subject. Their brighter, clearer field of view facilitates focusing and composition with reduced incidence of ghost. Metering is completely unimpaired regardless of the type of finder, providing full exposure information. Shutter-priority AE is possible with all five finders if the AE Motor Drive FN or AE Power Winder FN is attached. Changing viewfinders is a simple matter of pressing the two release buttons on either side of the finder and withdrawing it. Slide the new finder in until you hear it click.



	Exterior	Optical System	Shutter-Priority AE	Aperture-Priority AE
Eye-Level Finder FN Standard with the F-1, this finder has an X-sync hot shoe with special contacts for AE flash mode with Canon dedicated Speedlites and a convenient eyepiece shutter to keep out extraneous light.			 1	
AE Finder FN For greater control over depth of field. Slide the finder into position and you have aperture-priority AE or stopped-down AE for close-up work. The exposure read-out shifts from the right to just below the field of view to show the shutter speed being automatically selected. Aperture reading is provided directly off the lens aperture ring. On manual or shutter-priority AE mode, the information display remains on the right. Built-in eyepiece shutter and hot shoe.			 1*	 1*
Speed Finder FN If your photography takes you where the action is, you can rely on this finder to get you out of some pretty tight situations. It swivels round a full 180° in one fast motion to convert from an eye-level to waistlevel finder. The entire viewfinder image is clearly visible up to 60mm away, making it perfect for shooting action scenes while wearing a helmet and goggles or other eye protection. Use it for aerial photography, shooting from moving vehicles, on skis, underwater with a special housing or for close-up photography or copy work. A hot shoe is built-in for flash photography.			 0.67*	
Waist-Level Finder FN-6X A built-in 6X magnifying glass enables razor-sharp focusing in close-up photography, copy work and photomicrography. The optical system utilizes high-refraction glass to eliminate spherical aberration, coma and astigmatism. Chromatic aberration does not occur, even if you shift your eye to one side. Exposure information can be checked in the finder; and diopter correction from −5 to +3 can be made by turning the dioptric adjustment ring.			 1.55**	
Waist-Level Finder FN Useful in situations which call for using the camera at a low angle or viewing the subject at a right-angle, e.g., in close-up work, copying, photomacrography and astrophotography. All exposure data are displayed unreversed and an adjustable rubber eyepiece hood blocks out stray light, ensuring a sharp, bright image. The retractable head makes the finder more compact and a built-in, flip-up 4.6X magnifying glass is provided for precise focusing.			 1.2*	

*denotes viewfinder magnification using Eye-Level Finder FN as the standard (1X).
**viewfinder magnification at −1 diopter position.

Brighter, easy to install...

Interchangeable Focusing Screens

The F-1 sets a new standard of professionalism with a complete system of 13 interchangeable focusing screens. Besides helping you focus accurately, they also provide a selection of three metering sensitivity patterns to suit the photographic situation and lens being used.

The entire series of screens is available for center-weighted average metering and selective-area metering. Six screens – those most applicable for the specialized metering method – are available for spot metering. Thirty-two interchangeable focusing screens in all, for any photographic application.

Superior not only in number but also performance, the F-1 focusing screens hold many surprises. Heading the list are two Bright Laser Matte screens which are nearly 20% brighter than their laser-matte counterparts. With the FD 300 mm f/5.6 lens they are approximately 1.8 times as bright. Other newcomers are the Cross Split which facilitates both horizontal- and vertical-format focusing and the standard New Split/Micro prism wich gives superb focusing accuracy without darkening even with the slowest FD lenses. Available for all three metering patterns, its laser matte provides a brighter, sharper image. For the photographer in the publishing or advertising fields there is a laser matte for reproducing A or B size materials.

Exposure compensation is completely unnecessary with any of the screens and image clarity has been improved by reducing the Fresnel lens pitch to 0.03mm. The condenser lens is multicoated for greater brightness. The focusing screens seat with perfect accuracy when replaced, an easy task requiring no special tool.

Type of focusing screen	Center-weighted	Selective	Spot	Rangefinder	Diameter of focusing aid (mm)	Use and features
A. Standard Microprism	○	○		Microprism Prism angle 8' Prism base size 0.12 × 0.12mm	3.5	Matte/Fresnel field with central microprism rangefinder. For general photography with all lenses.
B. New Split	⊖	⊖	⊖	Split image Angles 5°40', 10°50' Pitch 0.012 × 2 = 0.024mm	4	Suitable for general photography with all lenses. Split-image darkening does not occur even with slow lenses.
C. Overall Laser Matte				Overall matte field	–	Matte/Fresnel field with clear matte enables viewing and focusing without distraction in the center. Ideal for macro and telephoto photography.
D. Laser Matte with Grid				Overall matte field Interval between graduation lines is 7mm Line width is 0.03mm	–	Reference lines aid in situations where lateral and vertical composition accuracy is important, e.g. copy work and architectural photography. Especially suited for the TS 35mm (Tilt and Shift) lens.
E. New Split/ Microprism	⊜	⊜	⊜	New split/microprism Angles 5°40', 10°50' Micro 8'	5	Standard in the F-1. Multipurpose type for all lenses, enables focusing with the split-image, microprism, or matte field depending on the subject or your own preference.
F. Microprism/Fast Lenses	○	○		Microprism Prism angle 14' Prism base size 0.12 × 0.12mm	3.5	An excellent choice when using fast lenses (f/1.2 to f/2.8). Affords easy, extremely accurate focusing.
G. Microprism/Slow Lenses	○	○		Microprism Prism angle 4' Prism base size 0.12 × 0.12mm	3.5	Similar to F, but for slower maximum apertures of f/3.5 to f/5.6. Does not incur prism darkening.
H. Laser Matte with Scale				Overall matte field Lines graduated every 1mm (horizontal 32mm, vertical 20mm) Width of graduation line is 0.02mm	–	For high-magnification applications such as close-up photography and photomacrography. With fine matte center and 1mm gradations on vertical/horizontal lines.
I. Laser Matte with Double Cross-Hair Reticle	⊕	⊕	⊕	Center transparent section Interval between crosses is 0.04 3 × 3mm Line width is 0.02mm	5	Well suited for applications requiring high magnifications such as photomicrography and astrophotography. To focus, move your eye from left to right. If the cross-hairs stay in the same position on the subject, the subject is in focus.
J. Bright Laser Matte/Short Lenses				Overall matte field	–	Together with the Bright Laser Matte K, the brightest screens of the system. Especially effective with 50mm to 200mm lenses and dark subjects or when using small working apertures.
K. Bright Laser Matte/Long Lenses				Overall matte field	–	Provides the same unobstructed viewing as the Bright Laser Matte J. Suitable for 300mm telephoto lenses or longer. Also effective for photomacrography.
L. Cross Split	⊕	⊕		Cross split Split angle 8°	4	Divides the subject both horizontally and vertically. Subject is in focus when the four quarters merge to become one unbroken image. Applicable to all lenses.
M. A/B Size Laser Matte				Overall matte field The 2 × 2mm crosses are located in the four corners of the 30.55 × 21.6mm area.	–	The screen for those in the publishing and advertising fields. Engraved crosses in corners facilitate cropping.

Two Ways to Keep Up With the Action

The decisive moment is that exact split second when you instinctively know you should release the shutter. The F-1 makes sure that you capture it frame after dramatic frame with the AE Motor Drive FN or AE Power Winder FN.

And for action photography, in the right mode: shutter-priority AE. Both units give the F-1 this capability when connected to the camera.

AE Motor Drive FN

The AE Motor Drive FN advances the film at 5 frames per second when the mode selector is set on H (high) and 3.5 fps on L (low). Single-frame shooting is possible on S (single). Powered film rewind is another feature, taking just 8 seconds for a 36-exposure roll. At the film end it stops automatically and a red LED lights. And you aren't limited to one power source. The Battery Pack FN takes 12 penlight batteries, sufficient to drive 50 36-exposure films. A 3-step LED indicator lets you know the battery condition. For greater economy and compactness, there's the Ni-Cd Pack FN which uses built-in rechargeable Ni-Cd batteries to power 30 rolls of film. With the High Power Ni-Cd Pack FN, the temperature can be a bone-chilling –20° C, yet it will continue to function perfectly. It can also be used to power the camera itself using the Battery Cord C-FN. The unit will drive up to 50 rolls of film between recharges at normal temperatures.

① Ni-Cd Pack FN
② Battery Pack FN
③ High Power Ni-Cd Pack FN

① Cover Socket for Film Chamber FN-100
② Remote Control Jack
③ Shutter Release Button

The High Power Ni-Cd Pack FN can also serve as a power source for the camera, using the Battery Cord C-FN.

AE Power Winder FN

Providing the same convenience of operation, albeit at a slower speed (max 2 fps), is the AE Power Winder FN. Powered by four penlight batteries, it can also be set for single-frame advance.

Ruggedly built, like the camera to which they so quickly and easily attach, the AE Motor Drive FN and AE Power Winder FN are compact and lightweight as well. Two shutter buttons, one on top of the grip and another on the side, make vertical and horizontal-format shooting equally easy.

The two power drives share some other outstanding features. Their subtractive frame counter can be set to the desired number of exposures. When it reaches "0" or the batteries become weak during shutter-priority AE shooting, automatic film advance stops and the red LED warning lamp comes on. As an additional safeguard the shutter locks (except when using the camera's mechanical release). The shutter also locks when the camera's own battery weakens and during powered film rewind (AE Motor Drive FN).

Remote control operation is another capability of both power drives, using the Wireless Controller LC-1 or other remote control devices.

Specifications

AE Motor Drive FM

Compatible with: Canon F-1.
Construction: Motor drive section with a film driving motor and separate battery section.
Shutter-priority AE: Possible by attaching motor drive and setting lens to "A" mark.
Shutter Release: Three shutter buttons provided (incl. camera's), each with release lock.
Power Source: Battery Pack FN, Ni-Cd Pack FN or High Power Ni-Cd Pack FN.
Shooting Speeds: Vary with power source. Up to 5 fps with Battery Pack FN or High Power Ni-Cd Pack FN; up to 4.5 fps with Ni-Cd Pack FN.
Shutter Speed Range: Varies with shooting mode. On "H", speeds from 1/60 to 1/2000 sec. can be used; on "L" or "S", 8 to 1/2000 sec. (except B).
Shooting Capacity: Varies with power source and temperature. Approx. 50 rolls at normal temperature with new carbon-zinc batteries or a fully-charged High Power Ni-Cd Pack FN; approx. 30 rolls with a fully-charged Ni-Cd Pack FN (using 36-exposure film with mode selector at "H").
Frame Counter: Subtractive type. (Motor drive stops automatically when counter reaches "0").
Frame Counter Setting: By setting wheel.
Power Film Rewinding: By power rewind lever.
Battery Check. Possible with Battery Pack FN.
Remote Control or Interval Photography: Various external control devices available.
Dimensions and Weight:
W/Battery Pack FN: 157 (W) × 127(H) × 82(D) mm: 845 g including 12 size-AA batteries (6-1/8" × 5" × 3-1/4", 29-13/16 ozs.)
W/Ni-Cd Pack FN: 157(W) × 118(H) × 75(D) mm: 608 g (6-1/8" × 4-5/8" × 3", 17-15/16 ozs.)
W/High Power Ni-Cd Pack FN:
157(W) × 127(H) × 82(D) mm: 865 g (6-1/8" × 5" × 3-3/8", 30-1/2 ozs.)

AE Power Winder FN

Compatible with: Canon F-1.
Type: Electromotive film winding device power winder and setting lens to "A" mark.
Shutter-priority AE: Possible by attaching Power Winder AE and setting lens to "A" mark.
Shutter Release: Three shutter buttons provided (incl. camera's) each with release lock.
Film Driving Mode: Set with mode selector. "C" for continuous shooting at up to 2 fps. "S" for single-frame shooting.
Shutter Speed Range: 8 to 1/2000 sec.
Power Source: Four size-AA 1.5V carbon-zinc or alkaline manganese batteries. Ni-Cd batteries also usable.
Shooting Capacity: Approx. 20 rolls of 36-exposure film with new carbon-zinc batteries at normal temperature.
Frame Counter: Subtractive type. Power winder stops automatically when counter reaches "0".
Frame Counter Setting: By setting wheel.
Warning Lamp: Lights up when frame counter reaches "0" or when power winder's battery voltage is insufficient.
Remote Control or Interval Photography: Various external control devices available.
Dimensions: 157(W) × 101(H) × 77(D) mm; 6-3/16"(W) × 4"(H) × 3-1/16"(D)
Weight: 400 g (14.2 ozs.), including batteries.

Subject to change without notice.

A Professional Flash System

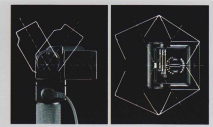
When it comes to flash photography, the F-1 leaves nothing to chance. Gone is the need for complicated guide number calculations or to compensate when using bounce flash or close-up accessories. There's no need even to remove your eye from the viewfinder to check the flash.

Responsible for this is the New Canon Auto Tuning System (New CATS). It makes taking flash pictures with Canon Speedlites a simple, errorfree proposition and also allows some special techniques such as slow speed synchronized photography.

And being the F-1, it should come as no surprise that you have a full selection of eight Speedlites plus a special flash unit – the Macrolite ML-1 – for close-up work.

Models 011A through 199A fit directly into the hot shoe on the viewfinder. The grip-type 577G and 533G are mounted on the camera with a quick-release bracket, the hot shoe being used to accommodate their independent sensor units. Multiple flash units can be connected using the hot shoe and the PC sync terminal on the camera. Automation takes over the moment the Speedlite's pilot lamp lights up. The Speedlite transmits a charge-completion signal to the camera which simultaneously sets the shutter speed to 1/90 sec. In the viewfinder, the meter needle moves to the flash aperture value you have selected on the back of the Speedlite. Turn the lens aperture ring until the aperture needle matches the meter needle. Connect the AE Motor Drive FN or AE Power Winder FN and flash photography is even easier. With the lens aperture ring on "A", the aperture is automatically set to the flash aperture.

With their greater power, the 577G and 533G are ideal for situations where it is difficult to approach your subject, as at press conferences or fashion shows. Tele-and wide adapters are attachable to provide full flash coverage with long focal length lenses of 100mm or more, or as wide as 20mm. Lightweight, rugged and easy to handle, their heads can be



tilted upwards to 120° with intermediate click stops at 60°, 75° and 90° for bounce flash. The heads can also be turned horizontally, left or right. Both units have three color-coded autoshooting distance ranges.

Speedlite	011A	277T	188A	199A	533G	577G
Guide Number at ASA 100, m (ASA 25, ft)	14	25 (41)	(w/o adapter) 25 (41)	(w/o adapter) 30 (50)	(w/o adapter) 36 (60)	(w/o adapter) 48 (80)
Attachment	Clip-on Type	Clip-on Type	Clip-on Type	Clip-on Type	Grip Type	Grip Type
Flash Coverage Angle	35mm lens	28mm lens with Wide Adapter	28mm lens with Wide Adapter	24mm lens with Wide Adapter	20mm lens with Wide Adapter	20mm lens with Wide Adapter
Flash Duration	1/1000–1/100 000 s	1/700–1/50 000 s	1/700–1/50 000 s	1/500–1/50 000 s	1/800–1/50 000 s	1/400–1/50 000 s
Power Source	2 size-AA alkaline-manganese or Ni-Cd batteries	4 size-AA alkaline-manganese or Ni-Cd batteries	4 size-AA alkaline-manganese or Ni-Cd batteries	4 size-AA alkaline-manganese or Ni-Cd batteries	6 size-AA alkaline-manganese or Ni-Cd batteries; 6 size-C alkaline-manganese batteries or Ni-Cd Pack TP	6 size-C alkaline-manganese batteries or Ni-Cd Pack TP in the Transistor Pack G
Manual Flash	—	—	Possible	Possible	—	Possible
Bounce Flash	—	—	—	Up to 90° upward	Up to 120° upward, 120° left and right	
Slow Synchr. Flash	—	—	—	Possible	Possible	Possible
Body Dimension and Weight	19(W) × 64.5(D) × 112.5(H)mm (3/4" × 2-9/16" × 4-7/16") 155g (5-7/16 oz)	66(W) × 64.5(D) × 97(H)mm (2-5/8" × 2-9/16" × 3-13/16") 180g (6-3/8 oz)	68(W) × 52(D) × 103(H)mm (2-1/16" × 2-1/16" × 4-1/16") 290g (10-1/4 oz)	79(W) × 83(D) × 116(H)mm (3-1/8" × 3-1/4" × 4-9/16") 490g (1 lb 1-5/16 oz)	93(W) × 104(D) × 248(H)mm (3-1/16" × 4-1/8" × 9-3/4") 655g (23-1/8 oz)	99(W) × 107(D) × 245(H)mm (2-7/8" × 4-1/4" × 9-5/8") 600g (21-3/16 oz)

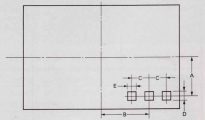
Versatility Behind the Scenes

Film Chamber and Data Back

The F-1's back cover can be easily removed to install two extremely useful Canon accessories: the Film Chamber FN-100 and Data Back FN.

Used in conjunction with the AE Motor Drive FN, the Film Chamber FN-100 has capacity to take up to 100 exposures at a rapid 5 frames per second. And it is so compact and light, it won't slow you down in the slightest, even when the pace becomes hectic, as with sports photography. Alternately, you can use it on a tripod for copying documents or recording experiments in a laboratory. Handling ease is further improved by a special grip with built-in shutter button.

The Data Back FN has three dials for letters, Roman numerals and numbers. It can be used either for dating or classification purposes. Cord connection to the camera is unnecessary, making it possible to use electronic flash. Data are recorded automatically upon shutter release, or manually.



A: 8.5 mm (5/16")
B: 11.85mm (7/16")
C: 2.3mm (1/16")
D: 0.7mm (1/32")
E: 0.9mm (3/64")

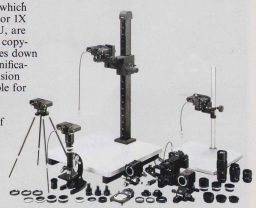
Discovering an Elusive World

Close-up System

No longer the exclusive preserve of the scientist, photomacrography is now one of the fastest growing fields of photography. Photographers of all persuasions are taking the opportunity to explore a new world – both living and inanimate – around them.

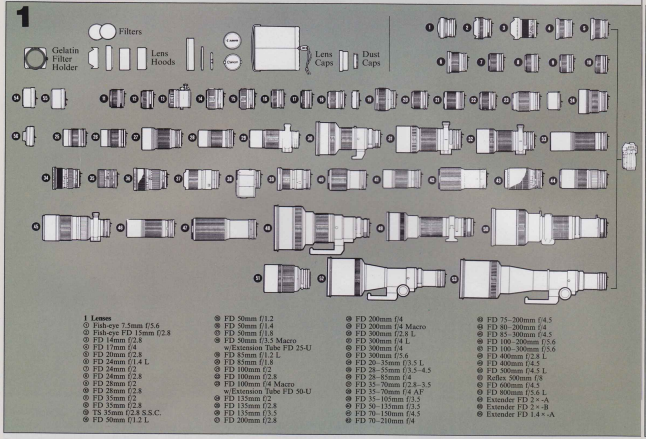
To aid you in this task, the F-1 system includes over 30 close-up accessories. Such products as extension tubes, macro and close-up lenses let you come in close enough to yield life-size or larger-than-life pictures. And since this often involves shooting from a low or awkward position, the Waist-Level Finders FN and FN-6X come in handy here as they let you focus at a right angle to the subject.

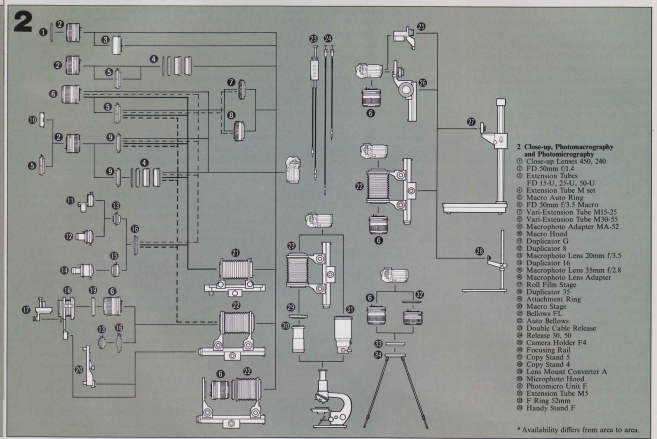
The heart of the system is the Auto Bellows. The main feature of this unit is its automatic diaphragm coupling capability, using the Double Cable Release. Depressing the release halfway stops the lens down to the preset aperture for metering and checking depth of field. Where only relatively low magnifications up to life-size are required, close-up lenses, which screw like filters onto the front of the lens, are the simplest answer in many cases. Canon's Close-up Lenses 450 and 240 are available in various diameters for use with any lens in the 35mm to 135mm range. To increase the magnification, there are several kinds of extension tube sets including the Extension Tube M set. Macro lenses, such as the 50mm which gives a 0.5X magnification alone or 1X with the Extension Tube FD 25-U, are ideal for both close-up work and copying. The 200mm f/4 Macro focuses down to 58mm to provide life-size magnification without the need of an extension tube. Five duplicators are available for reproducing a variety of formats. They include the Duplicator 35, which attaches to the front end of the Auto Bellows and the Duplicators 16 and 8 which enable single frames from 16mm and 8mm movie film to be enlarged and reproduced.

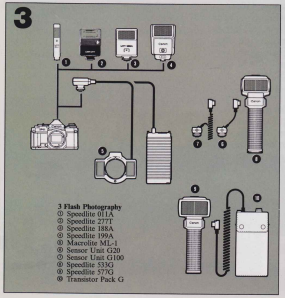


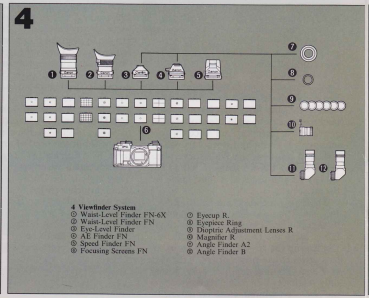
Embracing every facet of photography...

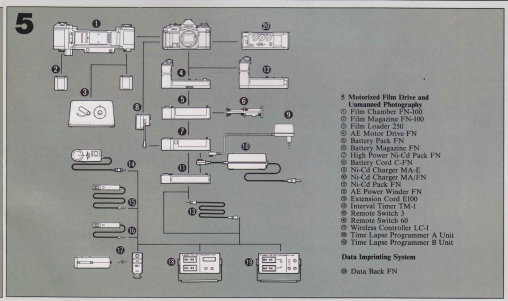
The F-1 System

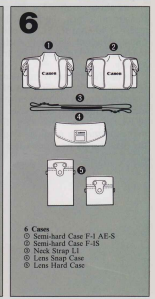












The furthest frontier of Canon's optical technology...

L Lens Series

With any camera system, the most important factor in assuring a perfect image is the lens. For the F-1, Canon offers a lens system which is one of the most extensive in the world: the FD.

Encompassing everything from fish-eyes to super-telephotos, FD lenses are compact and light. And their exclusive breech-lock mount affords quick and easy mounting and dismounting with minimal wear to camera and lens mounts, even with long use. Their ingenious system of signal pins and levers makes possible both shutter-priority AE and aperture-priority AE with the F-1 and guarantees their complete interchangeability with any other Canon SLR. It's features like these plus, of course, their outstanding color balance and resolution that make FD lenses the choice of professional and amateur alike.

A professional's requirements, however, are frequently of a more exacting and specialized nature than those of the amateur. To meet the needs of the pro, therefore, Canon has expanded its FD range to include a new series of lenses. Designated the L Series, their superlative features and innovative design are setting new standards in optical performance.

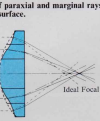
L lenses have a distinctive red line engraved around the barrel and include the letter L after the aperture f/number. They include wide-angle, zoom, telephoto and super-telephoto lenses. Among the latter are the remarkably fast FD 500mm f/4.5L and FD 800mm f/5.6L. Virtually free of spherical and chromatic aberration even at maximum aperture, they are ideally suited for news and sports photography. The fastest lenses of their focal length, the FD 300mm f/2.8L and FD 400mm f/2.8L are perfect for night or indoor shooting, such as in a theater, as well as documentary photography.

To produce lenses of such superb quality called for the application of computerized design techniques, special materials and new technologies, some of which are described here. The facts make fascinating reading. You'll find the results equally remarkable.

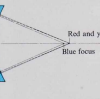
Aspherical Lenses

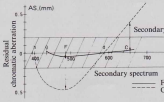
The spherical shape of most lenses tends to cause spherical aberration. Spherical aberration generates flare which lowers contrast so that the image lacks sharpness. It is particularly prevalent at large apertures and is due to the different refractions and focal points of the light rays that pass through the lens. Aspherical lenses such as the FD 24mm f/1.4L, FD 50mm f/1.2L and FD 85mm f/1.2L solve this problem. Their aspherical elements have a gradual curve towards the edges so that all rays refracted by the lens come to a common focus. An aspherical element also successfully combats another problem – barrel distortion – at the shortest focal length of the FD 20-35mm f/3.5L wide-angle zoom.

Common focus of paraxial and marginal rays attained by aspheric lens surface.



Correction of chromatic aberration in an apochromatic lens





Fluorite and UD Lens Glass

Chromatic aberration which refers to the rainbow hue that can sometimes be seen around the edges of the image arises when normal optical glass is used in the lens construction. White light passing through separates into a rainbow of colors, each of a different wavelength. Blue light which has a relatively short wavelength is sharply bent after entering the lens so that it comes to a point of focus close to the lens. Red light, with the longest wavelength, bends much less severely, with the result that convergence is much farther back along the axis. In telephoto lenses, chromatic aberration increases in direct proportion to the increase in focal length. Canon, after years of intensive research and experimentation, succeeded in developing two types of materials which effectively eliminate this undesirable phenomenon: Fluorite and UD Glass.

Fluorite is a crystal composed of calcium fluoride. Its superior optical characteristics, including low refractive index, extraordinary partial dispersion and lower dispersion than ordinary glass plus its high transmittance for a wide range of wavelengths enable production of high quality and compact, long-focal-length lenses such as the FD 300mm f/2.8L, FD 400mm f/2.8L and FD 500mm f/4.5L.

Manufacturing large fluorite crystals is a lengthy process, however. Canon's search for an optical glass which could be produced in greater quantity for incorporation in long, fast lenses without loss of image quality led to the development of UD Glass. Short for Ultra-low Dispersion, UD Glass has characteristics similar to those of fluorite. Its low refraction and dispersion indices enable edge-to-edge sharpness due to a reduction in the secondary spectrum. It is used in lenses such as the FD 800mm f/5.6L, FD 500mm f/4.5L, FD 300mm f/4L and FD 300mm f/2.8L.

Specifications

Type: 35mm single-lens reflex (SLR) camera
Format: 24 × 36mm
Interchangeable Lenses: Canon FD (for full-aperture metering) and Canon FL, R and non-FD (for stopped-down metering) series lenses.
Standard Lenses: FD 50mm f/1.2, FD 50mm f/1.4 and FD 50mm f/1.8
Lens Mount: Canon breech-lock mount
Exposure Modes: Match-needle and stopped-down manual exposure. Shutter-priority AE possible by attaching AE Power Winder FN or AE Motor Drive FN and setting lens' aperture ring to "A". Aperture-priority AE and stopped-down AE possible by attaching AE Finder FN and setting shutter dial to "A". AE flash possible with specified Canon Speedlites.
Viewfinder: Interchangeable eye-level pentaprism as standard. 97% vertical and horizontal coverage of actual picture area with 0.8x magnification at infinity with a standard lens.
Aperture scale with f-stops from f/1.2 to f/32, overexposure and underexposure warning marks, meter needle, aperture needle and battery check/stopped-down metering index are displayed to the right of the field of view. Shutter speed displayed below aperture scale: speeds include 1/2000 to 1 sec., "[]" and "B" in green; full seconds of 2, 4 and 8 are in orange.
Viewfinder Illuminator: Provided; illuminates aperture scale and shutter speed for 16 seconds when meter mode selector is set to "LIGHT" and shutter button pressed halfway.
Eyepiece Shutter: Built-in. Keeps out extraneous light during self-timer and remote control operation.
Dioptric Adjustment: Built-in eyepiece adjusted to standard −1 diopter
Focusing Screen: Standard split-image/microprism rangefinder. Thirteen types of interchangeable screens are optionally available.
Light Metering System. Through-the-lens (TTL) metering by silicon photocell (SPC). Metering area is determined by special optical element incorporated in each focusing screen. Center-weighted average, selective-area and spot metering are available by changing the focusing screen.
Meter Coupling Range: EV-1 (8 sec. at f/1.4) to EV 20 (1/2000 sec. at f/22) with ASA 100 film and f/1.4 speed lens.
Exposure Preview: By turning meter mode selector to one of three modes and pressing shutter button halfway.
Meter Modes: At "NORMAL", meter activated as long as shutter button is pressed halfway; at "HOLD", meter, once activated, stays on for 16 sec.; at "LIGHT", meter, once activated, stays on for 16 sec. and viewfinder information is illuminated. Cancellation possible.
Exposure Compensation Dial: ± 2 f-stop range in 1/3 f-stop increments: 1/4 ... 1/2 ... 1 ... 2 ... 4
Shutter: Horizontal-travel, titanium focal-plane shutter with four spindles. Electromechanical hybrid control. Mechanism controlled at speeds from 1/2000 to 1/125 sec., "[]" (1/90 sec.) and B. Electronically controlled at speeds from 1/60 to 8 sec.
Mechanical Shutter Operation: By removing battery from battery chamber. Only mechanically-controlled speeds can be used.
Mirror: Instant-return type with shock-absorbing mechanism.
ISO (ASA) Film Speed Scale: ASA 6–6400.
Shutter Dial: 1/2000 to 8 sec., "A" (For aperture-priority AE or stopped-down AE with AE Finder FN), "B" (bulb) and "[]" (1/90 sec. shutter speeds from 1/2000 to 1 sec., "[]" and X-sync. speed.) "B" are in white, 2 to 8 sec in yellow and "A" is in red.
Shutter Release Button: Two-step button with electromagnetic release. Mechanical release when battery is removed from the camera. Pressing it halfway activates meter circuit, pressing it fully releases the shutter. Can be locked by setting main switch to "L". With cable release socket.
Main Switch: Three positions: "A", "L", and "S". At "L", all active circuits are cut off as a safety feature. "S" position is for self-timer operation.
Self timer: Electronically controlled. Main switch set to "S". Activated by pressing shutter button. Ten-second delay with electronic "beep-beep" sound. Number of beeps emitted per second increases two seconds before shutter release. Cancellation possible.
Stop-down Slide: For depth-of-field preview (FD lens) or stopped-down metering (non-FD lens or close-up accessories).
Power Source: One 6V alkaline-maganese (Eveready [UCAR] No. 537), lithium (Duracell PX 28L) or silver oxide (Eveready [UCAR] No. 544) battery. Battery lasts about one year under normal use.
Battery Check: By pressing battery check button. Battery power is sufficient if the meter needle registers above the battery check index.
Cancellation of Camera Circuit: By pressing battery check button. Cancels shutter operation, self-timer operation, meter reading and viewfinder illumination.
Multiple Exposure: Possible by engaging rewind lever before winding film advance lever to recock the shutter. Cancelled by lightly pressing shutter button.
Flash Synchronization: Speeds up to 1/90 sec. with electronic flash; FP- and M-sync at 1/30 sec. or slower. Direct contact at accessory shoe for hot-shoe flash. Threaded PC socket (JIS-B type) for cord-type flash or multiple flash photography. Accessory shoe has contact for normal automatic flash and special contact for AE flash with specified Canon Speedlites.
Automatic Flash: New Canon Auto Tuning System (New CATS) with specified Canon Speedlites. Shutter speed is automatically set to 1/90 sec. with shutter dial at any setting except B. Meter needle indicates auto working aperture in the viewfinder as soon as Speedlite's pilot lamp glows. Correct exposure attained by turning aperture ring until aperture needle aligns with meter needle. Aperture controlled automatically as well when AE Power Winder FN or AE Motor Drive FN is attached and lens' aperture ring set to "A" mark.
Slow-Sync Flash Photography: Possible with Speedlites 199A, 533G and 577G. Flash synchronizes with shutter speed set at slow settings from 1/60 to 8 sec. Camera switches automatically to 1/90 sec. when shutter dial is set at 1/2000 to 1/125 sec. or "[]".
Camera Back: Opened by pressing safety stopper while pulling up rewind knob. Removable for attaching Data Back FN or Film Chamber FN-100. With memo holder.
Film Loading: Via multi-slot take-up spool. Single-stroke 139° throw with 30° stand-off. Ratchet winding possible.
Frame Counter: Additive type. Automatically resets to "S" upon opening camera back. Advances during multiple exposures.
Film Rewinding: By turning rewind lever clockwise while pressing it down and turning rewind crank. Rewind lever automatically resets when camera back is opened and when shutter button is lightly pressed.
Other Safety Devices: Camera will not function when power level insufficient or when lens' aperture ring is set to "A" and the power winder or motor drive is not attached. Film winding impossible while shutter is in operation.
Dimensions: 146.7mm(W) × 48.3mm(D) × 96.6mm(H); 5-11/16"(W) × 1-15/16"(D) × 3-13/16"(H)
Weight: 795 g (28-3/8 ozs.) body only; 1030 g (36-5/16 ozs.) with FD 50 mm f/1.4 lens.

Subject to change without notice.