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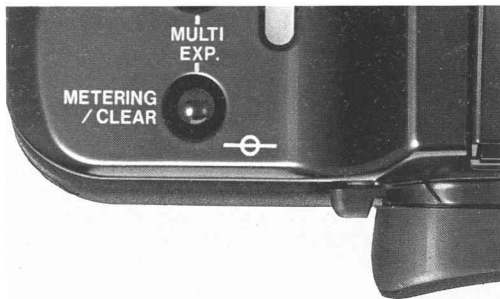
[back to my "Orphancameras" manuals /flash and light meter site](#)

Only one "donation" needed per manual, not per multiple section of a manual !

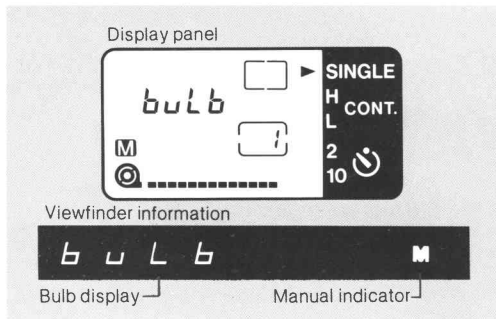
The large manuals are split only for easy download size.

4. Bulb (Long Exposure)

<Film Plane Indicator >



This mark, engraved on the top of the camera body, indicates the exact position of the film plane. It is useful for measuring the exact shooting distance from film to subject in close-up photography. Distances on the lens' distance scale are calibrated from this mark.



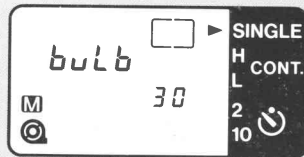
It is possible to make an exposure longer than 30 secs when doing such types of photography as astro or night photography.

- 1) While pressing the shooting mode selector, turn the electronic input dial until "buLb" appear on the display panel.
- 2) Manually set an aperture.
- 3) The shutter will remain open as long as you press the shutter button.

The Canon T90 is designed so that bulb exposure requires relatively little power, thus saving energy.

When using an FD lens, be sure to remove the aperture ring of the lens from the "A" mark.

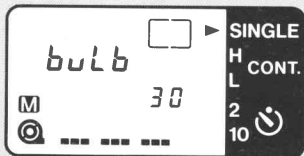
- Bulb operation time is displayed on the display panel by a series of 3 bars and the numbers 1—30. Each bar mark (—) indicates 30 seconds. Exposure time up to 120 seconds is possible (3 bars plus 30).
- It is possible to control the exposure time within a range of 23 hours 59 minutes 59 seconds by using the Command Back 90 (optionally available).
- Use of a tripod and cable release is recommended when making long exposures.
- Please see p.115 on the exposure warning displays and the countermeasure for this case.



30 seconds



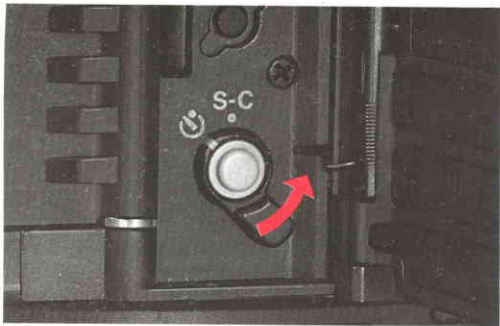
40 seconds



120 seconds

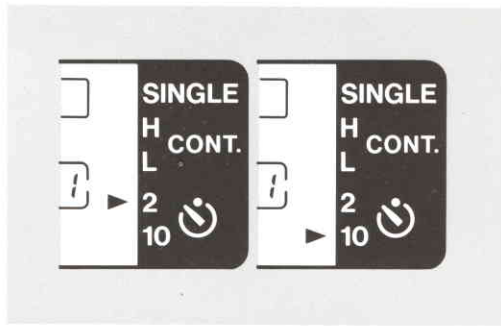
Other Shooting/ Exposure Compensation

1. Self-timer Photography



The self-timer allows you a time-lag of either 2 or 10 secs. Use the 10 sec self-timer when you want to be in the picture too, and use the 2 sec timer as an alternative to a cable release for the softest possible shutter release in close-up photography.

- 1) Open the palm wing and set the film winding mode/self-timer selector to "  ".





- 2) Press and release the self-timer button (also serves as the film winding mode button) to set either 2 or 10 secs. on the display panel.

- 3) Focus the subject and compose the picture.
- 4) Make sure the exposure is correct by checking the viewfinder information, then press the shutter button. The self-timer operation indicator will start blinking and the frame counter will display the countdown of seconds until shutter release.
- 5) The shutter will be released automatically 10 secs after the shutter button is pressed. 2 secs before shutter release, the self-timer operation indicator will begin blinking at a faster rate.
 - When the 2 sec timer is set, the self-timer operation indicator begins blinking at a faster rate from the start.

If your eye will not be at the viewfinder the moment you press the shutter button, close the eyepiece shutter by pushing the eyepiece shutter lever to avoid stray light from entering. (→ p.76)

Do not stand in front of the lens when you press the shutter button or exposure may be incorrect.

If you have started the self-timer but wish to cancel it before shutter release, press the battery check button () inside the palm wing or move the film winding mode/self-timer selector off the "  " position.

2. Exposure Compensation

It is necessary to correct exposure in the cases, for example, when you want high-key (intentionally overexposed) or low-key (intentionally underexposed) shots, and when you take a backlit subject with center-weighted average metering. With the T90, exposure compensation is possible in the following two ways:

- 1 the exposure compensation index
- 2 H/S control in the spot metering (→p. 69)

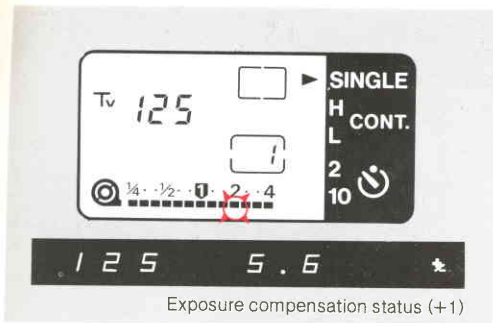
<Exposure Compensation Index>



- 1) Press the exposure compensation button. The exposure compensation index will then appear on the display panel instead of the film transport bars.



- 2) While pressing the exposure compensation button, turn the electronic input dial to move the " ■ " dot under " 1 " to the desired point on the exposure compensation index.
 - " 1 " indicates that no exposure compensation is made.
 - It is possible to make the exposure compensation in increments as small as 1/3



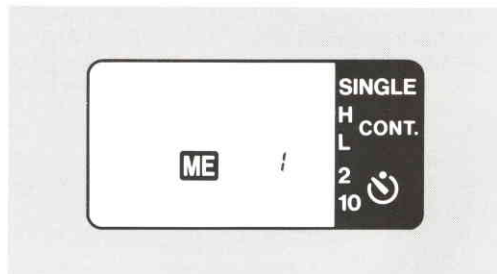
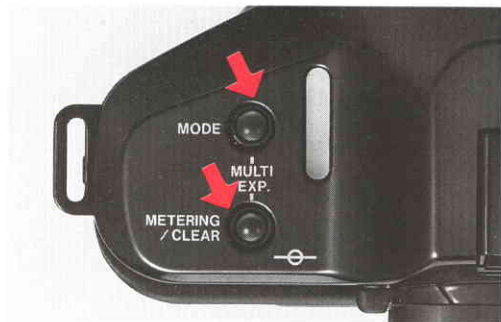
- 3) Remove your finger from the exposure compensation button. The film transport bars will appear on the display panel again, and " ■ " dot will blink at the position where you have moved it for exposure compensation. At the bottom of the viewfinder, "+/-" mark will be displayed to warn you that the camera is in the exposure compensation status.
- 4) To cancel the exposure compensation, move the " ■ " dot back to " 1 " position, in the same as above.

The whole numbers are for increasing exposure while the fractions are for reducing exposure. The numbers of "2" and "1/2" are equivalent to one f/stop (or one step of the shutter speed), while "4" and "1/4" are equivalent to two f/stops (or two steps of the shutter speed). The intermediate settings indicate increments of 1/3 f/stop.

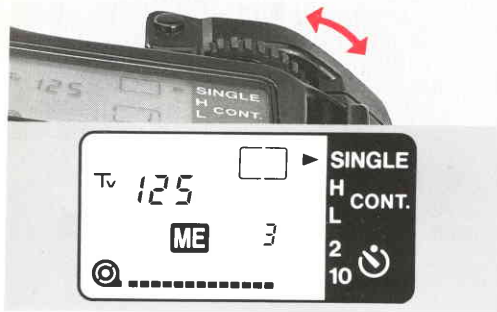
When it is difficult to determine exactly how much correction to make, bracket the exposure by changing the position of the " ■ " dot.

3. Multiple Exposures

The T90's provision for multiple exposures allows you to easily make two or more exposures on the same frame for creative effect. Preset multiple exposures up to 9 times with the single operation of the electronic input dial and continuous multiple exposure photography are possible.



- 1) Press both the shooting mode selector and the metering mode selector at the same time. The " **ME** " mark indicating multiple exposure mode will then appear on the display panel and the frame counter will become "1".



< Clearing the Preset Exposures >

1 Before shooting

- 1) Press both the shooting mode selector and the metering mode selector at the same time again.
- 2) While pressing both selectors, turn the electronic input dial to return the frame counter to "1".
- 3) Remove your fingers from both selectors. The " ME " mark will disappear and multiple exposure mode is cleared.

2 While shooting

The operating procedures are basically the same as above, but turn the electronic input dial until the frame counter is blank or there is no frame counter display in step 2).

- 2) While pressing both selectors, turn the electronic input dial to the desired number of exposures (for example, set "3" on the frame counter if you want to make three exposures on the same frame.)
- 3) Remove your fingers from both selectors.
 - While shooting, the " ME " mark will flash on and off to warn you that the camera is in the multiple exposure status.
 - Each time the shutter is released, the preset number of exposures on the frame counter will decrement by 1.
 - When the preset number of exposures have been completed, the film is automatically wound to the next frame and the multiple exposure status is automatically cleared.

< Changing the Preset Exposures >

1 Before shooting

- 1) Press both the shooting mode selector and the metering mode selector at the same time again.
- 2) While pressing both selectors, turn the electronic input dial to change the preset number of exposures.
- 3) Remove your fingers from both selectors.

2 While shooting

The operating procedures are all the same as above.

< Exposure Compensation in Multiple Exposures >

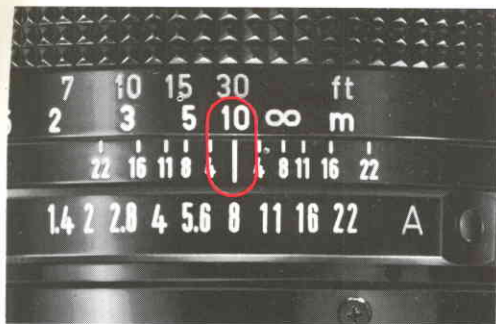
When you make multiple exposures, it is necessary to correct the amount of exposure depending on the situation because the same frame is exposed several times. You can easily correct the exposure with the exposure compensation index. (→ p. 86)

Notes

- 1 The method described above is merely a general guideline. Actually, the amount of exposure compensation varies according to the situation so your technique will benefit greatly from practice.
- 2 It is not advisable to make multiple exposures on the first or last several frames due to possible film curl which may adversely affect image registration.
- 3 Generally, the first exposure of a series should be of a relatively dark subject so that the image in the next exposure will show up clearly.

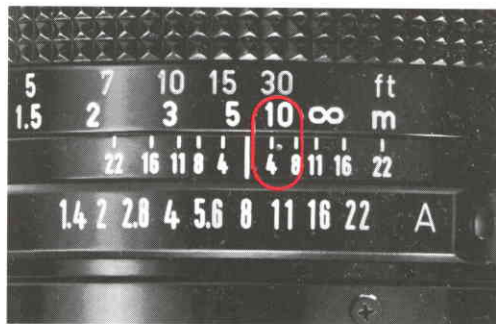
Number of multiple exposures	Exposure compensation index
Double	1/2
Triple	Between 1/2 and 1/4
Quadruple	1/4

4. Shooting with Infrared Film



When you load the T90 with black and white infrared film, it is necessary to make a slight adjustment in focus. A red infrared index is engraved on most Canon lenses for this purpose.

- 1) Focus as usual looking through the viewfinder.
- 2) If, for example, the lens is focused at 10 m on the distance scale, turn the focusing ring to align the 10 m mark with the red dot.
- 3) Release the shutter after making this correction.



Notes

1. When using infrared film, it is necessary to use a deep red filter, as specified by the film manufacturer.
2. The position of the infrared index mark has been computed for the use of infrared film with peak sensitivity at 800 nm.
3. When using color infrared film, read the instructions of the film manufacturer.

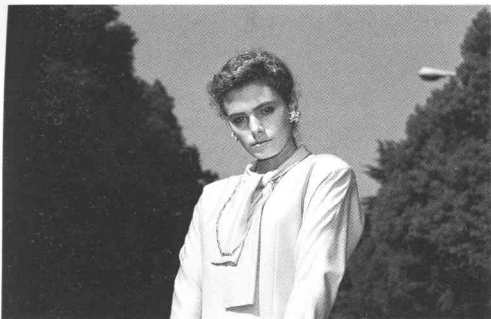
5. Flash Photography

Canon developed the PMS (Permanent Magnet Shutter), which makes flash photography with an X-sync speed of 1/250 sec possible.

The Canon Speedlite 300TL is an impressive flash unit for exclusive use with the T90. It has solved the problems of both conventional TTL and external flash systems. The main features are as follows:

<Canon Speedlite 300TL >





1. A-TTL Mode

This mode automatically responds to a wide range of illuminations from dark surroundings to bright, so automatic fill-in flash is possible. Using the TTL control system, this mode measures the light reflected from the film surface directly by the sensor inside the camera. In cases such as fill-in flash photography, this A (Advanced)-TTL mode balances the exposure level between the main subject and the background to prevent unnatural effects.



2. FE Lock TTL Mode

With the world's first spot metering for flash photography using the principle of AE lock, this mode gives correct exposure even when the main subject is not in the center of the viewfinder. TTL flash photography is possible without being affected by the reflectivity of the film in use since the TTL control system of this mode does not use the reflection from the film surface. Automatic fill-in flash is possible.

- "FE lock" stands for flash exposure lock.



3. FE Lock + H/S Control

It is also possible to use the FE lock mode of the Speedlite 300TL with the H/S control of the T90 to independently control the exposure level for the main subject with the flash and the exposure level for the background with the ambient light.

4. Second Curtain Synchronization

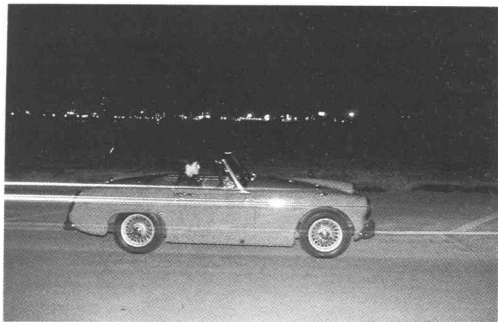
With the focal plane shutter, flash synchronization is made when the first shutter curtain is fully open. With the combination of the Speedlite 300TL, however, it is also possible to make the flash synchronization just before the second shutter curtain starts running.

In addition, the "P" position at which even beginners can enjoy advanced techniques such as fill-in flash, without fear of failure, is provided. Manual flash photography is also possible in the Manual Hi mode with a guide number of 30 (ISO 100·m) and in the Manual Lo mode with that of 7.5 (ISO 100·m). Aside from exposure control, the Speedlite 300TL offers several other features. One is bounce flash. Another feature is the built-in zoom of its flash head, which can use flash energy more efficiently. One of its safety features is the SE (Save-energy) function which prevents unnecessary consumption of battery energy if you forget to turn off the flash. The Canon Speedlite 300TL is thus a high-performance, automatic, electronic flash unit.

When using multiple flash accessories such as the TTL Hot Shoe Adapter, the TTL Distributor and the Off-camera Shoe Adapter with the Speedlite 300TL, automatic TTL multiple flash photography is possible with up to four flash units. (→ p.101)



- First curtain synchronization
(The flow of light is unnatural for the subjects' movement.)



- Second curtain synchronization
(Natural)

Viewfinder Information

When the shutter button is pressed halfway, after the flash has been charged, you can confirm the exposure in the viewfinder.



X-sync speed

Aperture

Flash-charge completion mark

For further details, please consult the 300TL's instructions.

<Other Canon Speedlites >

1. T-series Speedlites

- PROGRAM mode→ The shutter speed is automatically set to 1/90 sec upon flash-charge completion. An aperture is selected automatically by the flash.
- F.NO.SET mode→ The shutter speed is automatically set to 1/90 sec upon flash-charge completion. An aperture is set on the flash manually.

2. 577G, 533G and A-series Speedlites

- The shutter speed is automatically set to 1/90 sec upon flash-charge completion. An aperture is set on the flash manually.

When using the Speedlite with the manual mode, for example, the 299T in manual flash mode, the X-sync speed will be 1/250 sec.

(When the lens is removed from the "A" mark and the T90 is set to the shutter-priority AE mode, the X-sync speed can be set between 30 and 1/250 sec.)

It is recommended that a Canon Speedlite be used with this camera. Using a flash (usually with more than two contacts) or flash accessory of another maker may cause the camera to work improperly or even possibly damage the camera itself.

Accessories

Speedlite 300TL

<Other Makers' Flashes >

1. Standard type flash → The X-sync speed can be set to 1/250 sec or slower.
2. Large studio type flash → The X-sync speed must be set to 1/125 sec or slower.

When the large studio type flash or the general cable connection type flash is used with the T90, the Canon Hot Shoe Adapter is required to connect the flash with the camera.



Exclusively designed for the T90, the Speedlite 300TL is a high-performance, automatic electronic flash unit which has excluded several problems both with TTL and external flash systems. For further information on the Speedlite 300TL, please see on pp.92—95.

Data Memory Back 90



The Data Memory Back 90 is an interchangeable camera back designed for exclusive use with the T90, and can memorize up to 16 types of exposure control data automatically. The Data Memory Back 90 has two modes; the standard mode for storing all 16 types of data and the reduced mode for storing the 6 types of data.

Primary data stored can be checked on the Data Memory Back's LCD monitor panel. In addition, like the Command Back 90, the Data Memory Back 90 can also imprint several data automatically.

DATA FUNCTION

1. Printing of the auto date up through the year 2099. (automatic compensation for leap years and long and short months)
2. Printing of the Day/Hour/Minute in a 24 hour format.
3. Printing of a frame counter number. (4-digit number)

Note

With the Interface Unit D.M.B. all data can be checked on the screen of an MSX personal computer. (Data Memory Back 90, Interface Unit D.M.B. and the MSX computer are not available in North America and some other areas.)

Command Back 90

MEMORY FUNCTION

- Standard Mode (Data can be stored up to 156 frames.)
 1. Shutter speed
 2. Aperture value
 3. Shooting mode
 4. Metering mode
 5. Use flash or not
 6. Aperture stopped down or not
 7. Spot metering data*
 8. FE lock data*
 9. Use exposure compensation or not
 10. Amount of exposure compensation*
 11. Number of exposures made
 12. Film speed
 13. Use manual exposure or not
 14. Auto calendar (Year/Month/Day and Day/ Hour/Minute)
 15. Auto frame counter (4-digit serial number)
- Reduced Mode (Data can be stored up to 338 frames.) Six types of data (1, 2, 6, 11, 13 and 15 shown above) can be stored.

Note

- * These items can only be displayed on the screen of an MSX computer connected to the Data Memory Back 90 through the Interface Unit D.M.B.



The Command Back 90 is an interchangeable camera back designed for exclusive use with the T90. As the name "Command" suggests, it not only records data but also controls the T90 for various types of timed photography.

The following operations are possible using the quartz controlled Command Back 90:

DATA FUNCTION

1. Printing of the auto date up through the year 2029. (automatic compensation for leap years and long and short months)
2. Printing of the Day/Hour/Minute in a 24 hour format.
3. Printing of an arbitrary 6-digit number plus the letters A through F.
4. Printing of a frame counter number up to 4 digits.

TIMER FUNCTION

1. Self-timer (the shutter is released after a fixed period of time).
 2. Interval timer (the shutter is released at fixed intervals).
 3. Long release timer (the shutter is released and held open for a fixed period of time when the T90 is set to "buLb").
 4. Frame counter setting (the camera stops automatically after the set number of exposures has been made).
- The timer settings can be set to any value from one second to 23 hours, 59 minutes, 59 seconds.
 - It is possible to use both the data and timer functions at the same time.
 - It is possible to program the camera completely by combining modes 1—4 in the timer function.

Macro Ring Lite ML-2



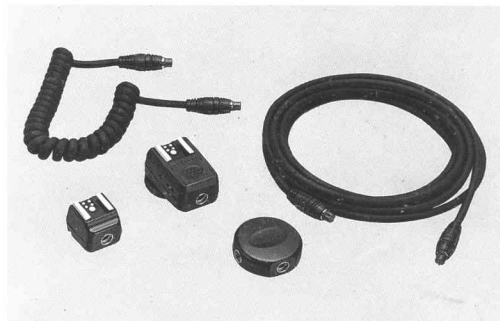
The Macro Ring Lite ML-2 is an automatic flash unit for close-up shooting. Since it adopts the TTL control system considered the most effective method for close-up shooting, there is no need of troublesome exposure compensations. Separate flash tubes are arranged on the right and left sides, which can be fired together or independently for extra lighting versatility. The guide number is 11 (ISO 100·m).

Wireless Controller LC-2



This accessory is a remote control photography device which uses infrared rays to control the camera from a distance and is particularly useful in such areas as wildlife photography and news coverage. The Wireless Controller LC-2 consists of a transmitter and a receiver and has three modes; the standard mode, the delay mode and the auto sensing mode (activates when an object blocks the light path between the transmitter and the receiver).

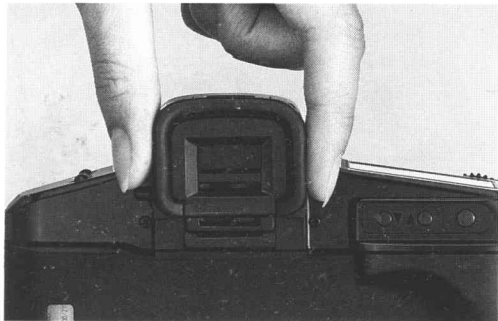
Multiple Flash Accessories



The accessories consist of the TTL Hot Shoe Adapter, the TTL Distributor, the Off-camera Shoe Adapter and the Connecting Cords 60 and 300. With the Speedlite 300TL and/or the Macro Ring Lite ML-2, automatic multiple flash photography by the TTL control system is possible using up to four flash units. The combination of the automatic TTL multiple flash is as follows:

1. With only the Speedlite 300TL (up to four)
2. With only the Macro Ring Lite ML-2 (up to four)
3. In combination with the both (up to four)

Dioptric Adjustment Lens with Eyecup



Ten eyesight correction lenses are available in powers of +3, +2, +1.5, +1, +0.5, 0, -0.5, -2, -3 and -4 diopters. They may make viewing and focusing easier if you are near or farsighted. Choose the one which is closest to your eyeglass prescription, and make a practical test if possible.

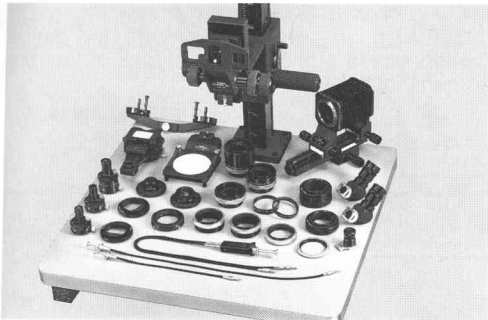
Positioning Guide 90



This accessory is a special stabilizer which is necessary when the T90 is used with the Camera Holder F4, the Focusing Rail, or the camera support bracket of the Speedlites 577G and 533G. Slide the Positioning Guide 90 to attach it.

The Positioning Guide 90 comes with the attachment screw. When the Camera Holder F4 or the camera support bracket of the Speedlites 577G and 533G is used with the T90, use the attachment screw provided with the Positioning Guide 90. When the Focusing Rail is used, however, use the one provided with the Focusing Rail.

Close-up/Macrophotography Accessories



Accessories such as the Auto Bellows, Copy Stand 5 and various extension tubes are designed for everything from simple close-up photography to life-size and magnified macro photography.

- Cable Release Adapter T3

This is an accessory for use with the Double Cable Release when using the Auto Bellows. It is possible to use this adapter with the Release 30 or 50.

Remote Switch 60T3



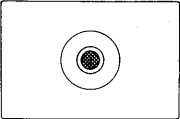
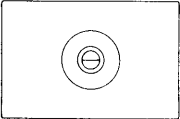
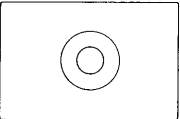
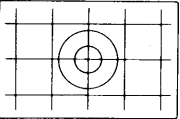
The Remote Switch 60T3 is designed to be used when the camera is mounted on a tripod for close-up shooting or when using a telephoto lens with which camera-shake is a particular problem. Attach directly to the camera's remote control socket.

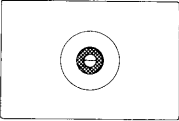
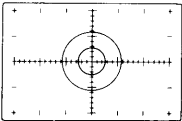
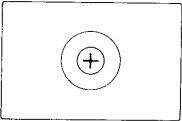
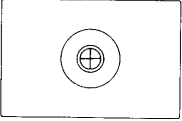
Lens Hood



You can change the focusing screen in your T90 according to your specific focusing needs. Canon offers eight different types of focusing screens for the T90.

We strongly recommend the use of a lens hood to keep out side light which may cause flare and ghost images to form on the image. Rigid Canon hoods also help to protect the lens from shock. Use only a hood which is specified for your particular lens. Most Canon hoods fit into the bayonet mount and are fixed by turning. For details, please see the lens instruction manual.

Type	Application
<p data-bbox="93 211 279 239">A. Microprism</p> 	<p data-bbox="742 180 1281 291">Matte/Fresnel field with microprism range-finder spot in the center of the screen. Especially suited for general photography when using an aperture of f/5.6 or larger.</p>
<p data-bbox="93 439 257 467">B. New Split</p> 	<p data-bbox="742 356 1281 576">Matte/Fresnel field with split-image range-finder spot in the center of the screen. The lens is in focus when the bottom half is even with the upper half. Suited for general photography since, unlike former focusing screens, rarely does one-half of the range-finder darken, even when using small maximum aperture lenses.</p>
<p data-bbox="93 684 244 712">C. All Matte</p> 	<p data-bbox="742 622 1281 783">Matte/Fresnel field with clear matte center spot. Especially recommended for macro and telephoto photography, this screen enables the entire field of view to be seen without distraction. The lens is in focus when the subject can be clearly seen.</p>
<p data-bbox="93 860 321 888">D. Matte/Section</p> 	<p data-bbox="742 816 1281 948">Similar to C screen but with horizontal and vertical reference lines. Recommended for architectural photography and copy work in which accurate image placement is essential.</p>

Type	Application
<p>E. New Split/Microprism</p> 	<p>Standard with the T90. Three focusing methods (split image, microprism and matte/fresnel) are possible according to preference.</p>
<p>H. Matte/Scale</p> 	<p>Matte/Fresnel field with fine matte center plus horizontal and vertical scales in millimeters. Recommended for close-ups, photomacrography, copy work and architectural photography where it is useful to know the size of the subject or the magnification involved.</p>
<p>I. Double Cross-hair Reticle</p> 	<p>Matte/Fresnel field with clear center spot containing double cross-hair reticle. While focusing, move your eye left to right. If cross-hairs stay in the same position on the subject, then the subject is in focus. Recommended for photomicrography, astrophotography, or other applications requiring high magnifications.</p>
<p>L. Cross Split-image</p> 	<p>Matte/Fresnel field with cross split-image in the center of the screen which divides the subject in half both horizontally and vertically. The subject is in focus when the four quarters merge to become one unbroken image. Suitable for general photography.</p>

NEVER change the screen with your fingers. A special tool is provided with each accessory focusing screen to facilitate screen replacement.

These focusing screens are exclusively designed for the T90. Do not use them on other cameras.

Caring for Your Camera

As with any precision instrument proper care and maintenance involve a few simple rules in addition to common sense. Observing these few rules will keep your T90 in top condition at all times.

We recommend that you clean your T90 periodically using the tools listed below.

Cleaning tools: Blower brush, Cleaning fluid, Cleaning tissue, Silicone cloth.

- (1) To clean the lens surface and the viewfinder:

Blow off dust with the blower brush and then gently wipe the lens surface with a lens cleaning tissue which has been moistened with a few drops of lens cleaner.

- (2) To clean the reflecting mirror and the focusing screen:

Use only a blower brush. If more cleaning is necessary, NEVER attempt to do it yourself but take it to an authorized Canon service facility.

- (3) To clean the film chamber:
The film chamber also requires occasional cleaning with a blower brush to remove accumulated film dust particles which might scratch the film.
- (4) To clean the film pressure plate and the film guide rails:
Lightly wipe the surface with a cleaning tissue moistened with cleaning fluid.

PRECAUTIONS

- Be careful NEVER to touch the shutter curtain.
- After using the camera on a beach, clean it thoroughly. Salt and sand are your T90's worst enemies.
- Aerosol spray dust removers are not recommended for the shutter curtain area. If used, hold the can at least 20 cm (8 inches) away from the curtain.

Storage of your T90

The best thing you can do for your T90 is to use it regularly. In the event that you must store it for quite a while, however, first remove it from its case or camera bag. Remove the batteries. Wrap the camera in a clean, soft cloth and place it in a cool, dry, dust-free place. If you store the body and lens separately, attach both the body and rear lens caps.

Avoid storing your T90 in the following places:

- "Hot Spots" such as the trunk, rear window shelf or glove compartment of a car.
- Laboratories or other such areas where chemicals may cause corrosion.
- In direct sunlight.

Before using the T90 after it has been stored for a long time or before using the camera for important events, carefully check the operation of each part.

1. Liquid Crystal Display

The T90's display panel uses liquid crystal to display exposure information. After about 5 years of normal use, the display may become hard to read.

The liquid crystal may respond relatively slowly in low temperatures and the display may become dark at high temperatures (about 60°C/140°F). Normal functioning will return when the temperature returns to normal.

2. Back-up Battery

The T90 has a built-in back-up battery which memorizes the display panel data, such as the frame counter number and the ISO film speed, when the AA-size batteries are being changed. Battery life is about 5 years. When voltage becomes insufficient, "ISO 100" will blink (at 2 Hz) on the display panel after loading batteries for normal camera operations. If the back-up battery is removed, the memory will be erased. In this case, reset the film speed.

Take your camera to the nearest Canon Service facility for the replacement of the liquid crystal or the back-up battery. (Replacement will be at owner's expense.)

3. Batteries

Even if one blinking bar mark or no bar mark appears on the display panel during battery check, indicating that the batteries are low, as long as the shutter releases, exposure will be correct. Automatic rewind, however, may not be possible because of the insufficient power of the batteries. Also, if the camera happens to stop during rewind, all of the film transport bars start blinking on the display panel to warn you. Automatic rewind will start again once you replace the batteries with the new ones.

4. HELP Display

"HELP" may appear in the viewfinder in the case of camera malfunction or operational error warning. When "HELP" is displayed, perform the following operations:

- 1) Check the batteries by pressing the battery check button inside the palm wing.
- 2) If the battery voltage is sufficient, remove the battery magazine once and reset it.
- 3) Release the shutter once.

If "HELP" does not appear again, the camera has returned to normal condition and you can keep shooting. If "HELP" will not disappear after repeating the operation described above several times, there has been a camera malfunction and the camera needs repair. Take the camera to the nearest Canon Service facility.

- On the display panel, the error display (EEE) will appear while the "HELP" is displayed in the viewfinder.
- The "HELP" and "EEE" displays will appear even when the viewfinder display selector is turned off.

5. When Using the Canon Extenders

Exposure compensation may be necessary when using the Canon Extenders with the T90. Correct the exposure by using the exposure compensation index as follows:

Extender	Lens	The max. aperture of the lens	T90's metering mode		
			Center-weighted average	Partial	Spot
2X-A	Single	All lenses	0	-2/3 step	-2/3 step
	Zoom	All lenses	0	-2/3 step	-1/3 step
2X-B	Single	f/1.2—f/2.0	+2/3 step	+2/3 step	+1/3 step
		f/2.5—f/2.8	+2/3 step	0	0
		f/3.5 or slower	0	0	0
	Zoom	All lenses	+1/3 step	-1/3 step	0
1.4X	Single	All lenses	0	-2/3 step	-2/3 step
	Zoom	All lenses	0	0	0

- "+" means increasing the exposure.
- "-" means decreasing the exposure. (→ p.86)

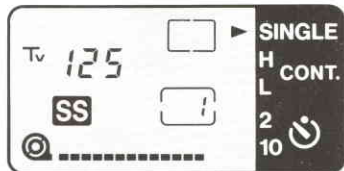
Exposure warning Displays

(When using the FD 50 mm f/1.4 lens,  indicates blinking display at 4 Hz)

When the shutter speed and/or the aperture value blink at 4 Hz in the viewfinder, exposure will be incorrect. Please see p.116 on the re-

sponse action for each case marked by the "" mark.

1. Shutter-priority AE (Safety shift ON)



① Correct exposure



② Out-of-metering range warning — Low



③ Out-of-metering range warning — High



or



2. Shutter-priority AE (Safety shift OFF)



① Correct exposure



② Underexposure warning



③ Overexposure warning



or



3. Aperture-priority AE (Safety shift ON)



① Correct exposure



② Out-of-metering range warning — Low



③ Out-of-metering range warning — High



or



4. Aperture-priority AE (Safety shift OFF)



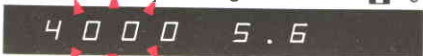
① Correct exposure



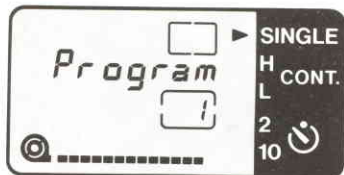
② Underexposure warning



③ Overexposure warning



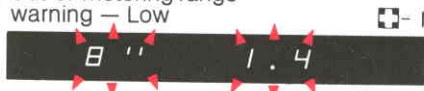
5. Standard program AE



① Correct exposure



② Out-of-metering range warning — Low



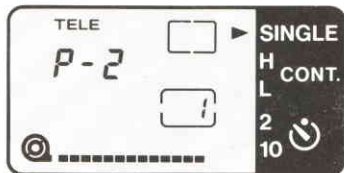
③ Out-of-metering range warning — High



or



6. Variable-shift program AE



① Correct exposure



② Out-of-metering range warning — Low



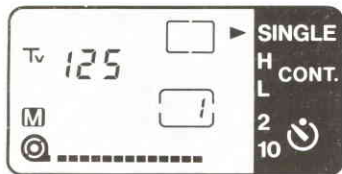
③ Out-of-metering range warning — High



or



7. Manual



① Correct exposure



② Underexposure warning



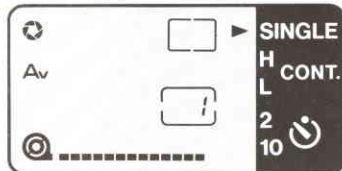
③ Overexposure warning



or



8. Stopped-down AE



① Correct exposure



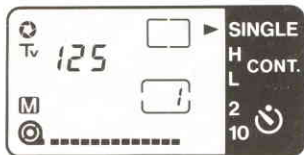
② Out-of-metering range warning — Low



③ Out-of-metering range warning — High



9. Stopped-down (fixed index) metering



① Correct exposure



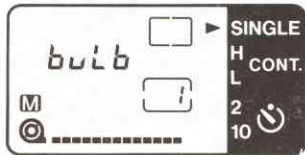
② Underexposure warning + - 9



③ Overexposure warning + - 10



10. Bulb



① Correct display



② Lens "A" mark warning + - 11



Countermeasure for Each Case

- ☒- 1 1) Switch to flash photography, or add other lighting.
2) Use a film with higher ISO film speed.
- ☒- 2 1) Use an ND (neutral density) filter.
2) Use a film with lower ISO film speed.
- ☒- 3 1) Decrease the shutter speed setting until the aperture value stops blinking.
- ☒- 4 1) Increase the shutter speed setting until the aperture value stops blinking.
- ☒- 5 1) Increase the aperture setting until the shutter speed stops blinking.
- ☒- 6 1) Decrease the aperture setting until the shutter speed stops blinking.
- ☒- 7 1) Open the aperture manually.
- ☒- 8 1) Close the aperture manually.
- ☒- 9 1) Increase the aperture setting until "00" is displayed.
2) Decrease the shutter speed setting.

- ☒-10 1) Decrease the aperture setting until "00" is displayed.
2) Increase the shutter speed setting.
- ☒-11 1) Remove the aperture ring of the lens from "A" mark.

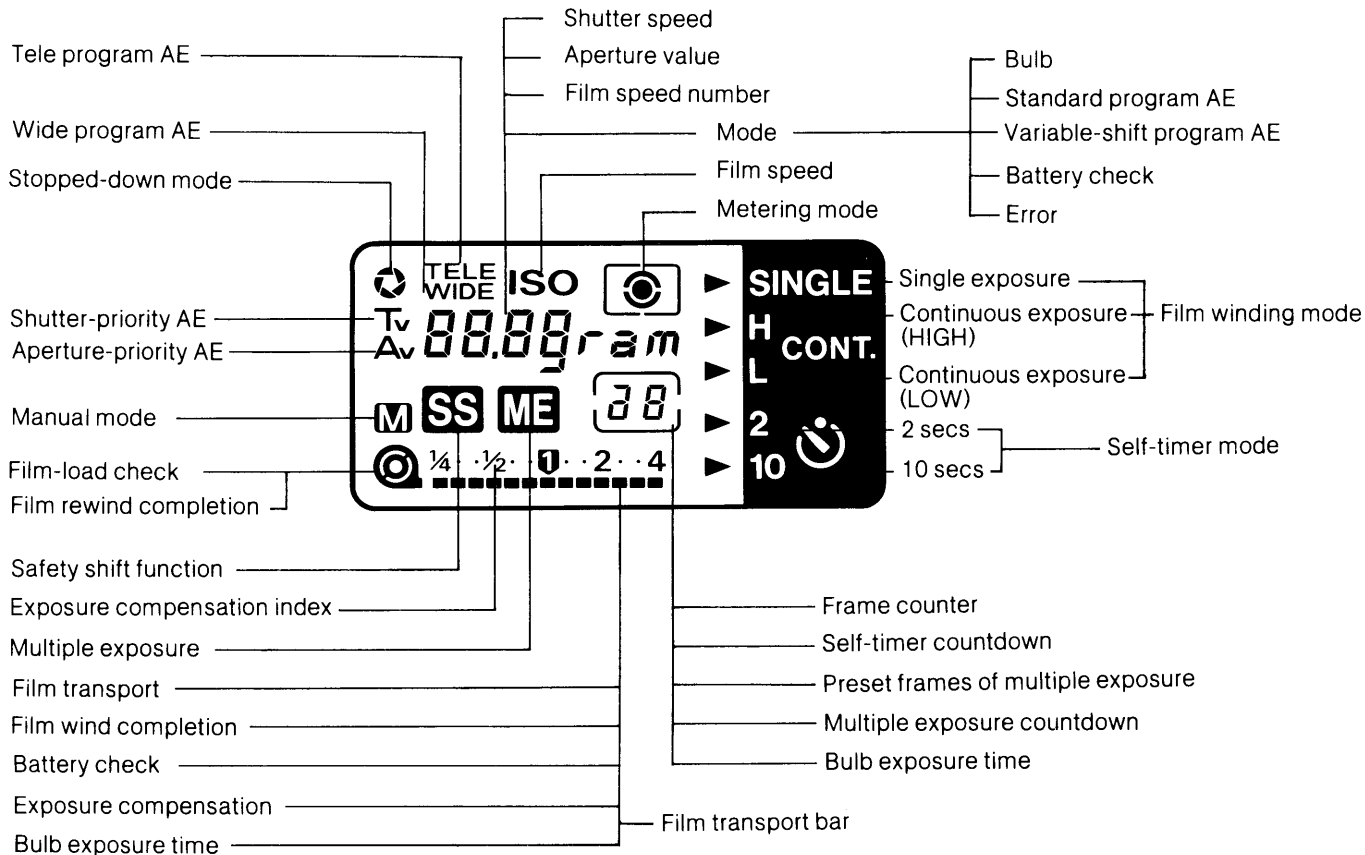
Notes

- 1 In the case of out-of-metering range warning (low) and underexposure warning, the maximum aperture of the lens in use blinks in the viewfinder. When the FD 200 mm f/2.8 is used, "2.8" will blink in the viewfinder.
- 2 When using a lens with a minimum aperture of f/16 such as the FD 50 mm f/1.2L, the aperture displays of "16" and "19" also indicate overexposure warning. In this case, please note that the aperture does not blink in the viewfinder.
- 3 When using a lens with a minimum aperture of f/32 such as the FD 135 mm f/2, exposure will be correct even if the aperture display of "27" is blinking in the viewfinder. When "32" starts blinking, however, your picture will be overexposed.

Display Panel

The T90 uses a large liquid crystal display panel to indicate shooting information. The diagram below shows all the information at the same

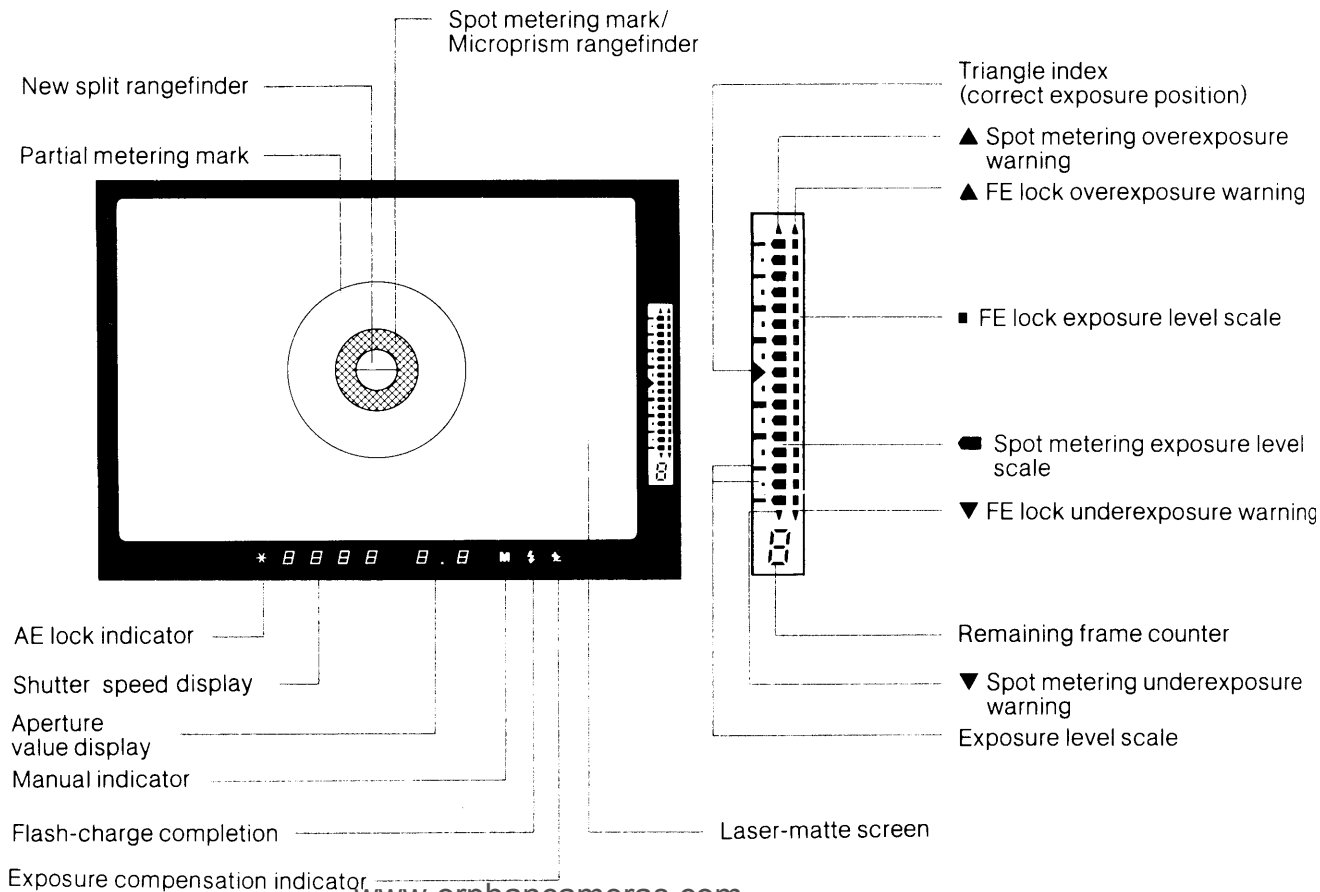
time; however, the display never actually looks like this. Normally the panel displays only the information required at the time.



Viewfinder Information

This viewfinder is bright and easy to read. Only the necessary information is displayed outside

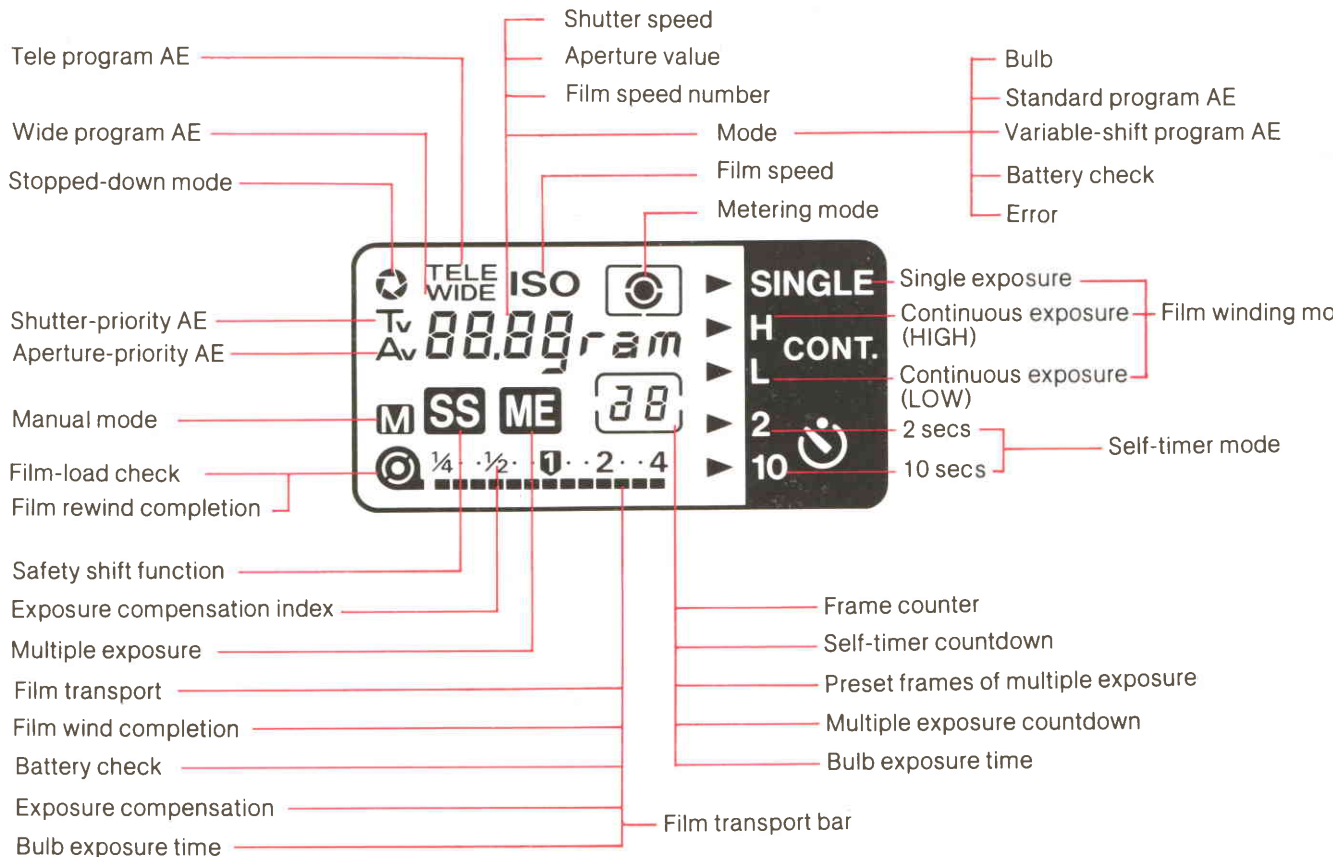
the field of view. The diagram below shows all the information at the same time for convenience.



Display Panel

The T90 uses a large liquid crystal display panel to indicate shooting information. The diagram below shows all the information at the same

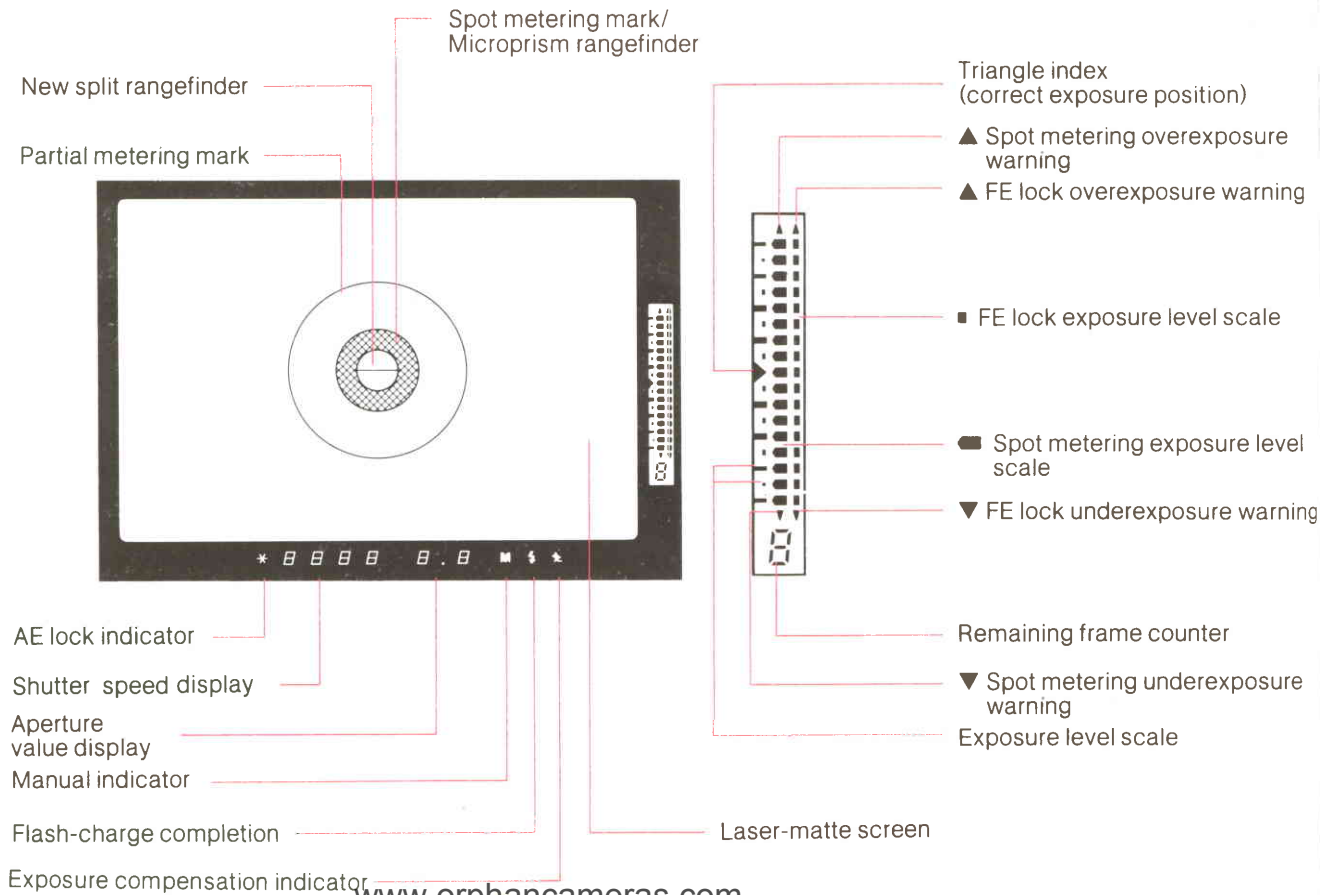
time; however, the display never actually looks like this. Normally the panel displays only the information required at the time.



Viewfinder Information

This viewfinder is bright and easy to read. Only the necessary information is displayed outside

the field of view. The diagram below shows all the information at the same time for convenience.



Specifications

Type: 35 mm single lens reflex (SLR) camera with electronically controlled automatic exposure (AE), focal-plane shutter, and built-in motor drive.

Format: 24 × 36 mm

Usable Lenses: Canon FD lenses (full aperture metering and stopped-down metering) and non-FD lenses. (stopped-down metering)

Standard Lens: FD 50 mm f/1.4

Lens Mount: Canon Mount

Viewfinder: Fixed eye-level pentaprism. Gives 94% vertical and horizontal coverage of actual picture area, and 0.77X magnification at infinity with a standard 50 mm lens.

Dioptric Adjustment: Built-in eyepiece is adjusted to standard -1 diopter. (eyepoint: 19.3 mm)

Focusing Screen: Standard split-image/microprism rangefinder. Seven other types of interchangeable screens are available optionally.

Mirror: Quick return type half-mirror with shock and noise absorber.

Viewfinder Information: Displayed to the right and at the bottom of viewing area. Bottom area:

- (1) 7-segment LED digit display
 - 1 Shutter speed (red) — flashes at 4 Hz to give out-of-metering range warning.
 - 2 Aperture (red) — flashes at 4 Hz to

give out-of-metering range warning.

- 3 All hyphens (red) — data imprint confirmation; displayed only when special accessories are attached.
- (2) 7-segment LED character display
 - 1 EEEE EE (red) — error warning; displayed when the lens is set to "A" during stopped-down operation.
 - 2 HELP (red) — camera malfunction or operational error warning.
- (3) 3-segment LED display
 - 1 ✕ (red) — AE lock indicator in partial area metering and spot area metering.
- (4) LED mask lighting display
 - 1 M (red) — manual indicator.
 - 2 $\frac{L}{\downarrow}$ (green) — flash charge-completion indicator.
 - 3 +/- (red) — exposure compensation indicator.

Right area:

- (1) Dot and 7-segment digit transparent LCD display
 - 1 ■ (white on blue background) — multi-spot metering indicator, H/S control indicator, and remaining frame display.
 - 2 ■ (white on blue background) — FE lock indicator when the Speedlite 300TL is used with the camera in the FE lock mode.

Light Metering System: Through-the-lens (TTL) full aperture metering for FD lenses, using silicon photocell (SPC). Three selectable metering patterns; center-weighted average metering, partial area metering, and spot area metering. When using lenses or accessories without FD signal pins, only stopped-down metering may be used.

Exposure Modes:

- 1 Shutter-priority AE with selectable safety shift function (ON/OFF possible)
- 2 Aperture-priority AE with selectable safety shift function (ON/OFF possible)
- 3 Standard program AE
- 4 Variable-shift program AE (selectable out of 7 programs)
- 5 Manual
- 6 Stopped-down AE
- 7 Stopped-down (fixed index) metering
- 8 Flash AE (possible with specified Canon Speedlites)

Meter Coupling Range: EV 0—20 (with ISO 100 film and a 50 mm f/1.4 lens)

Film Speed: ISO 6—6400. (ISO25—5000 is automatically set by 1/3 step according to DX code standard) Also can be set manually.

Exposure Compensation:

- 1 Exposure compensation index — ± 2 steps by 1/3 increment

2 H/S control — ± 4 steps by 1/2 increment. (can only be used during the spot area metering, and in the FE lock mode with the Speedlite 300TL)

Shutter: Vertical-travel metal type focal-plane shutter. All speeds electronically controlled. Front and back curtains controlled by separate quick-return permanent magnets.

Shutter Speeds: 1/4000—30 secs and bulb. (X-sync = 1/250 sec) Can also be set in 1/2 step.

Self-Timer: Electronically controlled, with a delay of either approx. 10 secs or approx. 2 secs Indicated by blinking red LED of the operation confirmation lamp.

Film Loading: Automatic. After the film has been positioned and the back cover closed, the film is automatically advanced to the 1st usable frame and then automatically stopped. (approx. 2 secs) The frame counter display then reads "1".

Film Wind: Automatic using the built-in coreless motor exclusively used for film transport. Continuous shooting is possible. Confirmation by the film transport bar marks on the LCD display panel.

Film Winding Mode: Three selectable modes; S (single exposure), H (max. 4.5 frames per sec), and L (max. 2 frames per sec). When operating in H mode, automatically

switches to L mode when battery power drops below prescribed voltage to make shooting capacity longer.

Film Rewind: Automatic using the built-in coreless motor exclusively used for film rewind. Automatically starts when the end of the film is reached and then automatically stops (approx. 8 secs with 24-exp. film). Manual film rewind is also possible by pressing the manual rewind button.

Flash Contact: Coupled directly to the camera by means of the X-sync contact on the accessory shoe. When using the Speedlite 300TL, either the first shutter curtain synchronization or the second shutter curtain synchronization can be set.

Automatic Flash:

When the Speedlite 300TL is used and the camera is set to a program AE mode:

- 1 A-TTL flash-auto: Using A-TTL program of the camera and the near-infrared preflash of the Speedlite, the correct aperture value is automatically set according to the shooting distance and subject reflectivity. X-sync speed is also automatically set between 1/60 — 1/250 sec upon flash charge-completion. TTL control system which meters the light reflected from the film surface. Automatic fill-in flash is possible.

- 2 FE lock TTL flash-auto: The camera's FE lock program automatically sets the aperture. The main flash tube produces preflash and the reflection from the subject is measured by TTL spot metering and is entered into memory. X-sync speed is also automatically set between 1/60 — 1/250 sec upon flash charge-completion. Automatic fill-in flash is possible.

Remote Control: Possible. With three-terminal contact for remote control. Remote Switch 60T3 is required.

Multiple Exposure: By pressing both the shooting mode selector and the metering mode selector at the same time. Continuous multiple exposure is possible. Reset/clear during shooting and preset up to 9 exposures are also possible. Automatically cleared upon completion of preset exposures.

Eyepiece Shutter: Provided.

Exposure Preview Button: Provided.

Finder Display Selector: All LCD/LED displays can be turned ON or OFF. LCD display to the right of the viewfinder and the display panel can be illuminated by the built-in illumination lamp.

LCD Display Panel: Displays only the information required at the time, e.g. shooting mode, metering mode, film winding mode,

shutter speed, aperture, film speed, frame counter (additive type), self-timer operation time, bulb operation time, battery check, etc.

Power Source:

- 1 Main power source — four AA size batteries. Alkaline-manganese batteries are standard but carbon-zinc and Ni-Cd batteries may also be used.
- 2 Memory back-up — built-in lithium battery (BR-1225 or CR-1220), battery life is approx. 5 years.

Battery Check: By pressing the battery check button. Three energy levels are shown by the battery check bar marks on the display panel.

Back Cover: Removable. Opened by sliding the latch with safety lock. Command Back 90 and Data Memory Back can be attached.

Dimensions: 153.1 (W) × 121 (H) × 69.4 (D) mm (6-1/4" × 4-3/4" × 2-3/4")

Weight: 800 g (28-3/16 oz.) body only.
Subject to change without notice.

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