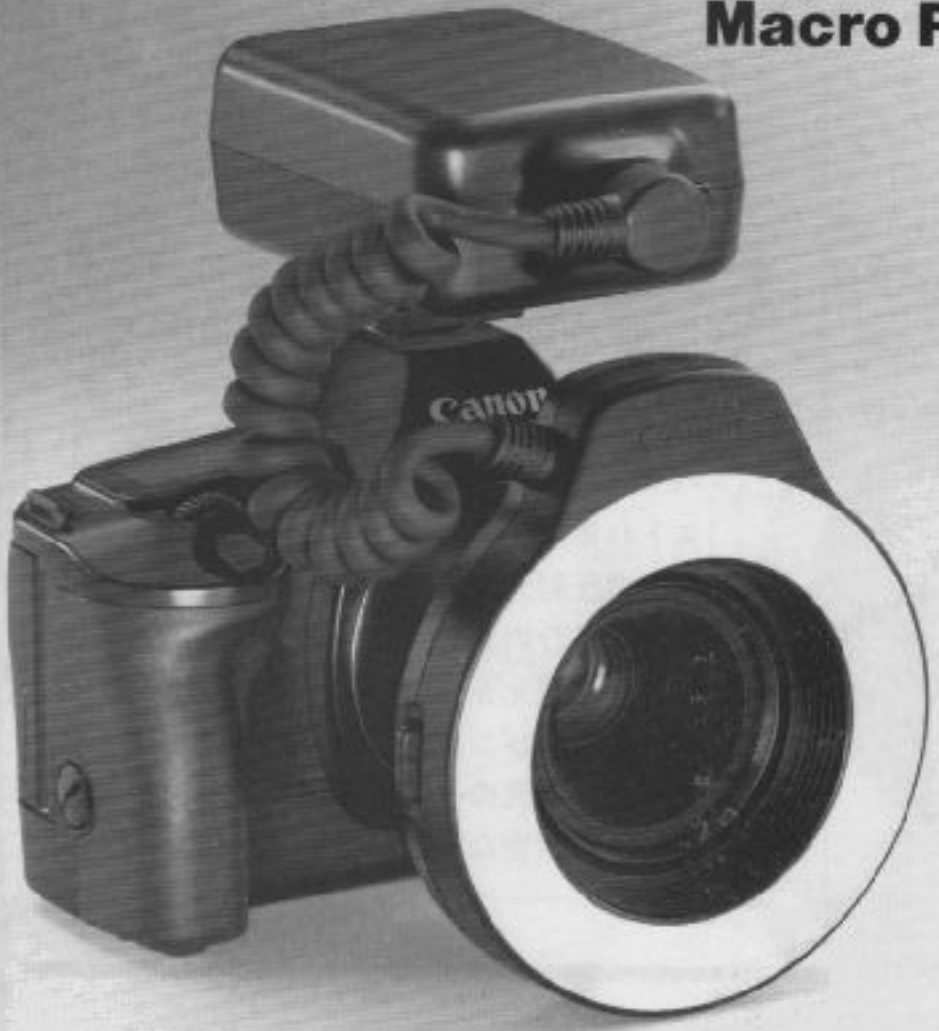
Canon

マクロリングライト ML-3
Macro Ring Lite ML-3

使用説明書
日本語版



Instructions
English Edition

Notice d'emploi
Edition française

Bedienungsanleitung
Deutsche Ausgabe

Instrucciones
Edición Española

E

Macro Ring Lite ML-3

Exclusively designed for the EOS cameras and T90 with macro lenses, the Canon Macro Ring Lite ML-3 is a high-performance, automatic electronic flash unit for close-up shooting.

The Macro Ring Lite ML-3 adopts the TTL* (through-the-lens) control system, considered the most effective method for close-up shooting, which frees you from the troublesome exposure compensations or complex calculations of close-up flash photography. Flash tubes are on the right and left sides, and can be fired together or seperately for extra lighting versatility.

And, there are even more impressive features: the built-in focusing lamp which makes focusing easier; the automatic film speed set; and the SE (save-energy) function which prevents wasting unnecessary battery power consumption.

For a complete understanding of the Macro Ring Lite ML-3, please read this instruction booklet carefully before using the flash.

Use an exclusive adapter to attach the Canon Macro Ring Lite ML-3 to an FD Macro Lens. Two sizes are available:

Canon Macrolite Adapter 52C—
for the FD 50mm f/3.5 Macro and the FD 100mm f/4 Macro

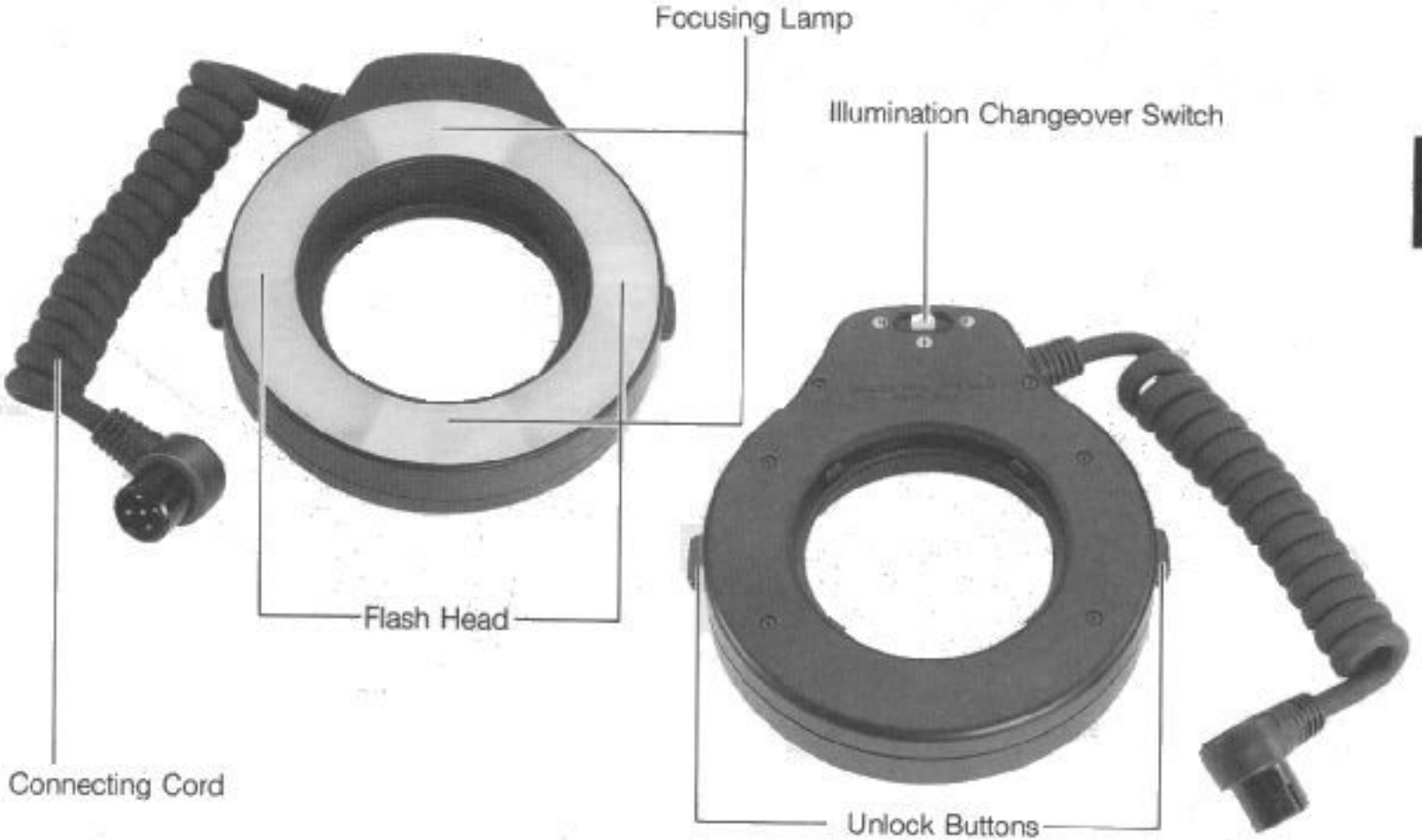
Canon Macrolite Adapter 58C—
for the FD 200mm f/4 Macro

*** TTL Control System**

The sensor inside the camera body measures the light reflected from the film surface and cuts off flash emission automatically when the subject has been properly exposed. Since only the light which has passed through the lens is measured it is not necessary to make exposure compensation, and a more accurate exposure can be obtained.

NOMENCLATURE

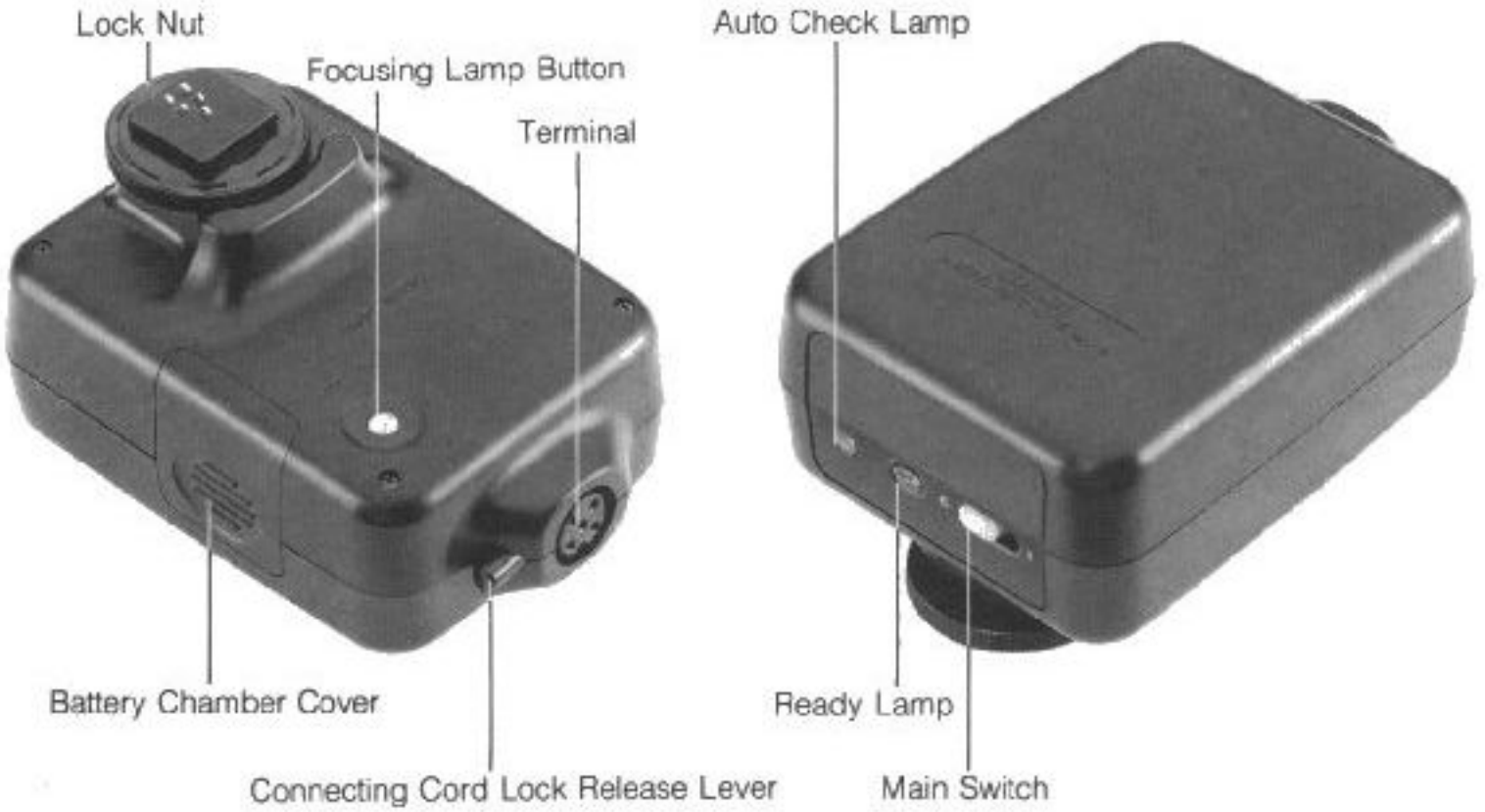
Flash Unit



E

E

Control Unit



1. Loading Batteries

E

Use four, new, size-AA alkaline-manganese (LR6) or Ni-Cd batteries. Carbon-zinc batteries may also be used, but their life is shorter. Wipe the battery terminals with a dry, clean cloth to ensure proper contact.

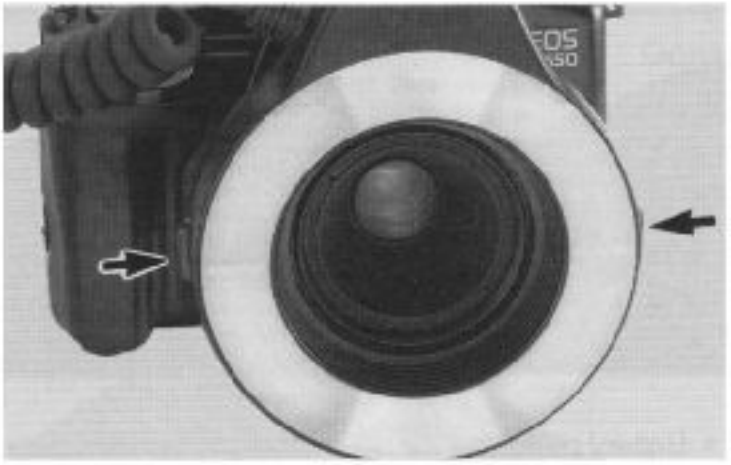
1) Slide the battery chamber cover in the direction of the arrow and lift off.
2) Load the batteries so that their terminals face in the directions indicated by the diagram inside the battery chamber.
3) Once the batteries are loaded, slide the battery chamber cover back on while pressing the batteries down. Make sure that the cover's tabs fit into the corresponding grooves on the control unit.

Note:

- When the batteries become exhausted, replace all four at the same time with the same brand.
- Battery performance deteriorates in cold temperatures below 0°C/32°F so please keep the batteries warm until just before use. For best results, use fully-charged Ni-Cd batteries in especially cold temperatures.
  When using Ni-Cd batteries, please note that various brands have different terminals. Be sure to use a suitable type. Recharge Ni-Cd batteries according to the manufacturer's instructions.
- Remove the batteries if you do not expect to use the flash for three weeks or longer.

2. Attaching the Macro Ring Lite ML-3 to the lens and camera.

E



1) Attaching the flash unit to an EF lens.

1. While pressing the unlock buttons, attach the flash unit to the lens.
2. Confirm that the flash unit is properly attached to the lens.

- The flash unit rotates a complete 360°.

Attaching the Flash Unit to FD Macro lenses and the T90.

With the FD 50mm f/3.5 Macro, FD 100mm f/4 Macro and FD 200mm f/4 Macro lenses, it is necessary to screw the Macrolite Adapter into the lens filter thread before attaching the flash unit.
Use Canon Macrolite Adapter 52C for the FD 50mm f/3.5 Macro and FD 100mm f/4 Macro, finally for the FD 200mm f/4 Macro, use 58C.

Note
Close-up accessories such as the Auto Bellows and Extension Tubes FD can be used with FD Macro lenses, however, there are some accessories with which automatic diaphragm coupling is not possible.

E

2) Connecting the Flash Unit to the Control Unit

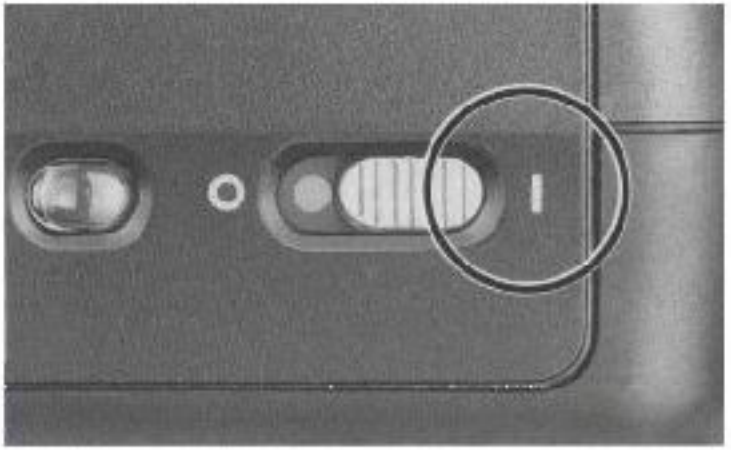
Insert the flash unit's connecting cord into the control unit's terminal. Ensure proper electrical contact by pushing in the connecting cord until its U-shape groove is no longer visible.

- When removing the connecting cord, be sure to grasp the plug while pressing the connecting cord lock release lever. Pulling only on the cord may cause damage.

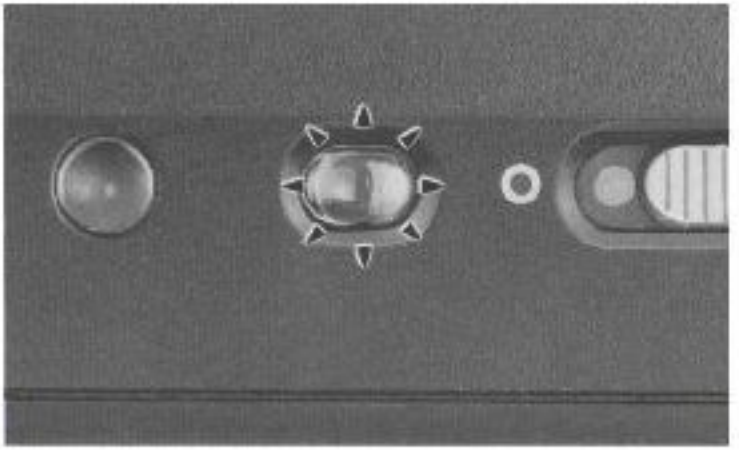
3) Mounting the Control Unit on the Camera

1. Loosen the lock nut and slide the control unit into the accessory shoe to ensure correct electrical contact. Make sure it is pushed all the way in.
2. Tighten the lock nut.

Note
The film speed is automatically set by the camera.



1. Turn the main switch ON ("I" mark).



2. Make sure that the ready lamp lights up.

When the ready lamp lights up, the flash is ready for use.

- When the shutter button is pressed halfway down, the "⚡" mark in the viewfinder will appear the same time as the ready lamp lights up.
- To test the functioning of the flash, press the ready lamp after it has lit. If the flash fires, it is in proper working order.
  Test firing does not operate while the "⚡" mark lights up in the viewfinder.

3. Choose the camera's shooting mode.

Since a small aperture is frequently used to obtain greater depth-of-field, the most effective shooting mode is the aperture-priority AE mode.

1. Set the shooting mode to the aperture-priority AE mode.
2. Set the desired aperture.
   The automatic flash shooting distance range varies according to the aperture value. Refer to the following table.
3. The camera sets the X-sync speed automatically according to the aperture set (between 30 and 1/250 sec with the EOS 620 and EOS-1, between 30 and 1/200 sec with the EOS5/A2, between 30 and 1/125 sec with the EOS 10/10s, EOS100/ELAN, EOS 600/630, EOS 650 and EOS RT and between 30 and 1/90 sec with the EOS 1000/Rebel 1000N/RebelIII and EOS 500/RebelX).

(X-sync speed) (aperture)

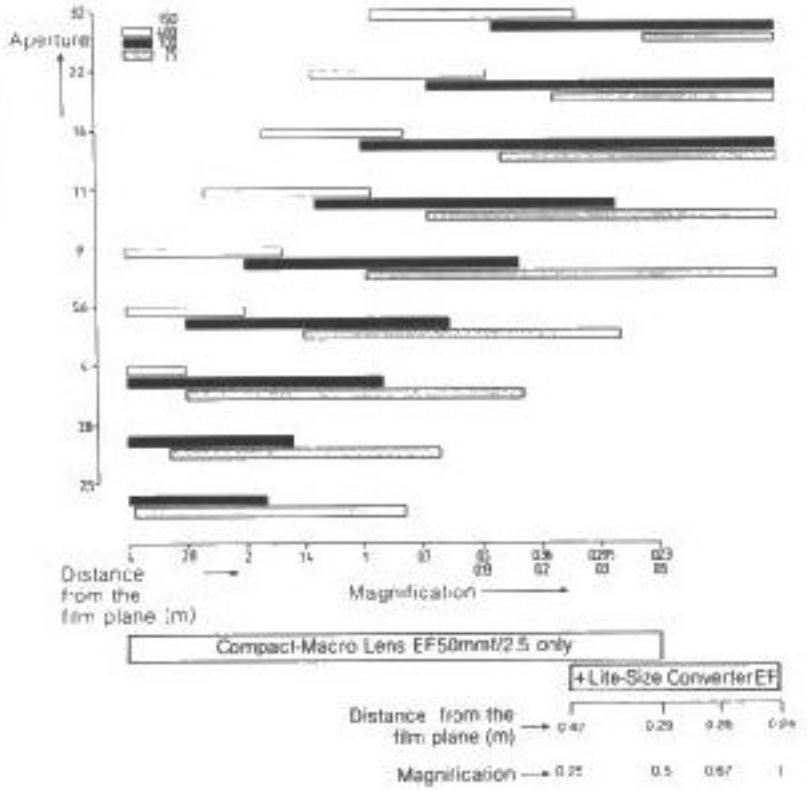
(flash charge-completion mark)

- To check the depth of field, push the depth-of-field check button.
- When the X-sync speed automatically set is slower than the $\frac{1}{\text{Focal length of the lens in use}}$ second, camera-shake may occur. If this happens, a tripod use is recommended.

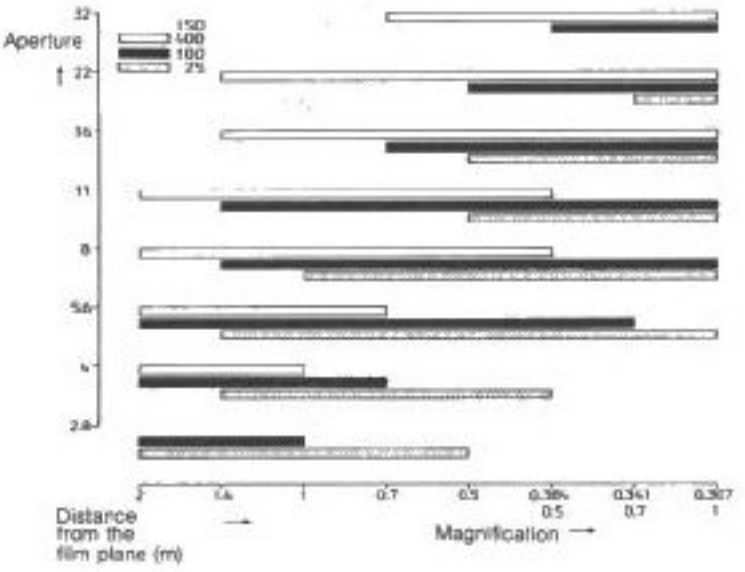
E

E

Auto Flash Shooting Distance Range when using the Compact-Macro Lens EF 50mmf/2.5 or with the Life-Size Converter EF attached.



Auto Flash Shooting Distance Range when using the EF 100mm f/2.8 Macro Lens



Using the T90 with an FD Macro lens

1. Aperture-priority AE mode

With this mode, you can set the aperture as you desire.

1) Set the lens to the "A" mark.
2) Set the desired aperture.
3) The camera sets the X-sync speed automatically according to the aperture set (between 30 and 1/250 sec).

(X-sync speed) (aperture) (flash charge-completion mark)

- If the aperture ring is moved from the "A" mark when a fast shutter speed is needed, the X-sync speed will be fixed at 1/250 sec.

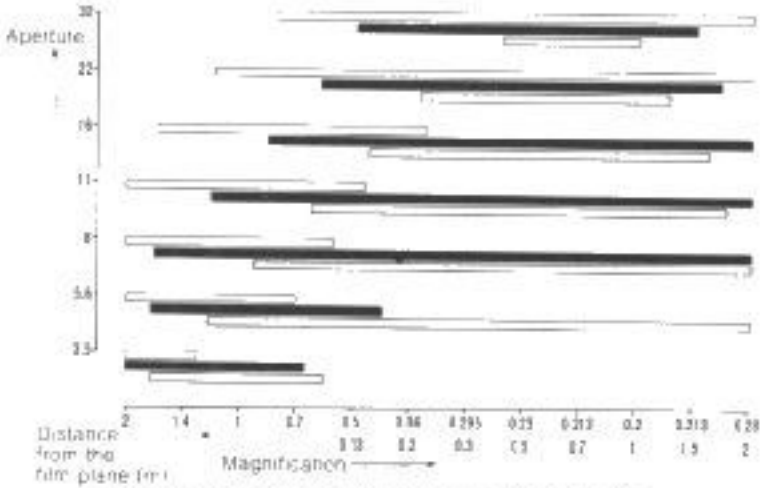
2. Stopped-down AE mode

With this mode, aperture selection and depth of field confirmation can be done at the same time.

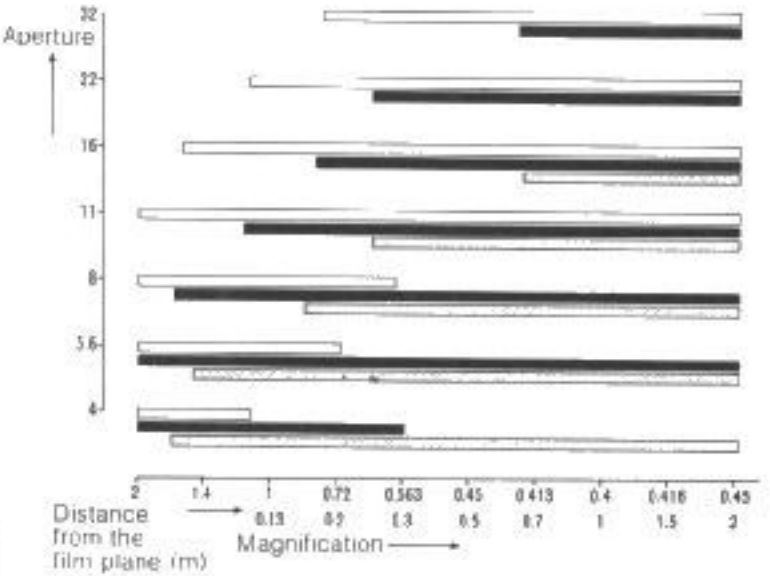
1) After moving the aperture ring from the "A" mark, set the lens to the desired aperture.
2) Push in the stop-down lever.
3) The camera sets the X-sync speed automatically according to the aperture set (between 30 and 1/250 sec).

(X-sync speed) (flash charge-completion mark)

Auto Flash Shooting Distance Range when using FD 50mm f/3.5 Macro Lens



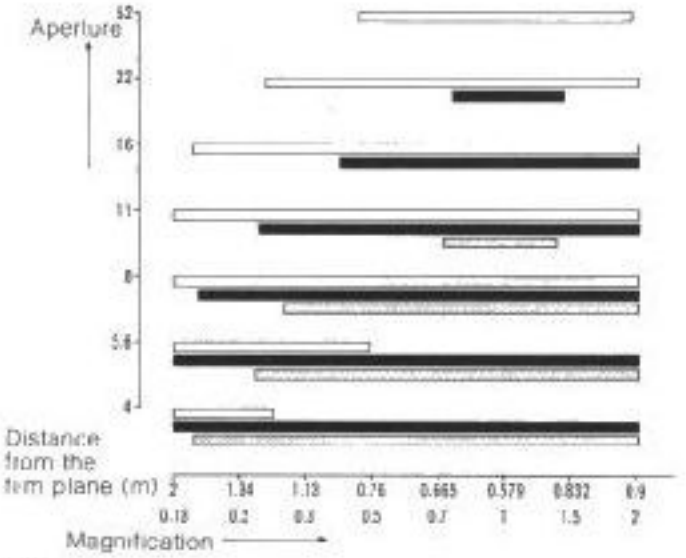
When using the FD 100mm f/4 Macro



E

E

When using FD 200mm f/4 Macro Lens



Notes

- Fill-in flash photography can be done in the aperture-priority AE or stopped-down AE mode to obtain correct exposure not only on the main subject but even in the background.
- In fill-in flash photography, the program AE mode of the camera can also be used, but the aperture is set automatically and the X-sync speed is also set automatically between 30 and 1/250 sec with the EOS 620, EOS-1 or T90, between 30 and 1/200 sec with the EOS5/A2, between 30 and 1/125 with the EOS 600/630, EOS 650, EOS 10, EOS 10s, EOS 100, EOS ELAN and EOS RT and between 30 and 1/90 with the EOS 1000/Rebel, EOS 1000N/RebelⅡ and EOS 500/RebelX.
- When the camera is set to the hutter-priority AE mode, the X-sync speed can be set between 30 and 1/250 sec with the EOS 620, EOS-1 or T90, and between 30 and 1/200 sec with the EOS5/A2 and between 30 and 1/125 sec with the EOS 600/630, EOS 650, EOS 10, EOS 10s, EOS 100, EOS ELAN and EOS RT and between 30 and 1/90 with the EOS 1000/Rebel, EOS 1000N/RebelⅡ and EOS 500/RebelX. In this case the aperture is set automatically.
- When the camera is set to either the program AE or shutter-priority AE mode, be sure that the subject is within the automatic shooting distance range with the aperture automatically set by the camera.
- Use the manual mode to control the exposure by setting both the shutter speed and the aperture manually. The shutter speed will be set to the fastest possible X-sync speed (1/250 sec with the EOS 620, EOS-1 or T90, 1/200 sec with the EOS5/A2, 1/125 sec with the EOS 600/630, EOS 650, EOS 10, EOS 10s, EOS 100, EOS ELAN and EOS RT, 1/90 sec with the EOS 1000/Rebel, EOS 1000N/RebelⅡ and EOS 500/RebelX) automatically if set at a higher value.
- When a fast shutter speed is needed with the EOS cameras, set the camera to the shutter-priority AE or manual mode.
- When the EOS5/A2, EOS 600/630, EOS 650, EOS 10, EOS 10s, EOS 100, EOS 1000N/RebelⅡ, EOS ELAN, EOS RT,EOS-1, EOS 1000/Rebel or EOS 500/RebelX is set to the depth of field AE mode with the flash ON, the mode is automatically swiches to the program AE mode, because the depth of field AE cannot be used in frash photography.

4. Compose the picture and focus the subject.

Focusing Lamp

In close-up photography, shadows from the equipment or the photographer may make focusing difficult. To avoid this, the Macro Ring Lite ML-3 is equipped with a built-in focusing lamp which facilitates subject focus.

1) Press the focusing lamp button on the bottom of the control unit.
2) The focusing lamp lights up for about 20 secs. Focus the subject while the lamp is on.

- The focusing lamp will go off automatically after about 20 secs. To turn off the lamp immediately, repress the focusing lamp button.

E

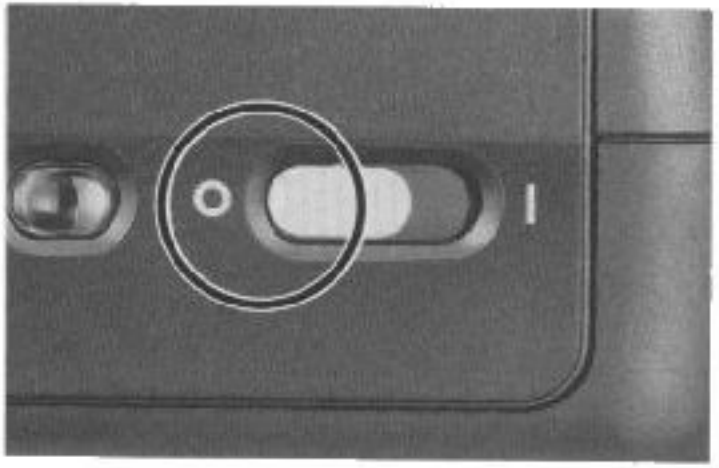
5. Check the exposure and take the picture.

1) Press the shutter button halfway to activate the viewfinder information display. Exposure will be correct unless the aperture value or shutter speed blink in the viewfinder.
   - If correct exposure is not possible, the aperture value or shutter speed starts blinking to warn of incorrect exposure.
2) Press the shutter button all the way to take the picture.
3) If the subject is within the auto shooting range, the green auto check lamp lights up for about two secs after the flash is fired.

Exposure Warning

1. If the aperture value or shutter speed starts blinking during normal flash photography, the picture will be underexposed. When the aperture value is blinking, set a slower speed or when the shutter speed is blinking, set a larger aperture.
2. If the aperture value or shutter speed blinks during fill-in flash photography, the picture will be overexposed. If this occurs, attach an ND filter.

Camera-shake is a problem in close-up photography. For best results, mount the camera on a tripod.



6. Turn the main switch OFF ("O" mark) when flash photography is finished.

SE(Save-Energy) Function

The Macro Ring Lite ML-3 has a built-in SE (Save-Energy) function that automatically turns power off when the flash is not used for approximately five minutes. To restart press the ready lamp.

- When the interval timer or self-timer function on the Technical Back E, Command Back 90 or Command Back E1 is used toghether with the Macro Ring Lite ML-3, the power will be turned on one minute before the shutter release.

4. Close-up Flash Photography Techniques

Illuminated from the left side

Illuminated from both sides

Illuminated from the right side

1. Changeover of illumination

Separate flash tubes are on the left and right side of the flash head. They can be fired together or independently for illumination effects such as contrast.

1) To fire both tubes, set the illumination changeover switch to the ◐ mark.
2) To fire only the left tube, set the switch to the ◐ mark.
   To fire the right tube, set the switch to the ◑ mark.

2. Multiple Flash Accessories

When exclusive multiple flash accessories (optional) are used with the Macro Ring Lite ML-3, multiple flash photography is possible with the TTL control system. It is not necessary to calculate and compensate the exposure. You can combine the ML-3, Speedlite 480EZ, 420EZ,430EZ, 300EZ, and 300TL up to four units.

E

1. TTL Hot Shoe Adapter 3

Has a connecting socket for multiple flash and attaches to the camera's accessory shoe. Requires one lithium battery (CR2025).

2. Off-camera Shoe Adapter

Attaches to the TTL Hot Shoe Adapter 3 with a Connecting Cord. Necessary when the flash is used away from the camera.

3. TTL Distributor

Links the TTL Hot Shoe Adapter 3 and several Off-camera Shoe Adapters with multiple Connecting Cords.
Necessary when two flash units are used away from the camera, or when three or four flash units are used for multiple flash photography.

4. Connecting Cords 60/300

Two cords, the 0.6 and 3m (2ft and 10ft) spiral cable connect multiple flash accessories.

Notes

- Set each Speedlite 300TL to "A-TTL," "FEL" or the "P" position. Set the Speedlite 420EZ or 430EZ to "A-TTL" position. Set the Speedlite 480EG to "TTL" position. In both cases, the TTL flash operates regardless of the flash mode.
- Be sure to confirm that the ready lamp on each flash lights up.
- The number of Connecting Cords in use must not exeed three and the total cord length must be within 9m (approx. 29.5ft)
- Be sure to check the battery of the TTL Hot Shoe Adapter 3. The flash units will not fire if this battery is exhausted.
- It is also possible to use a slave unit, but make sure it can be used with the flash units before purchase.
- The Macro Ring Lite ML-3 has a low-voltage trigger circuit to avoid damaging the camera's synchronization contacts and to prevent users from getting electrical shocks. When using a flash that has a high-voltage trigger circuit with the Macro Ring Lite ML-3, there is a possibility that it may not fire or that the camera's synchronization contacts will be damaged when shooting. Please do not use other manufacturer's flashes.

Handling Precautions

- Do not disassemble the flash unit. If repair is required, take it to the nearest Canon Service Facility.
- Do not let the flash get wet. If exposed to rain or snow, immediately wipe it off with a dry, clean cloth.
- Do not store the flash in hot or humid places. Keep it out of direct sunlight.

Specifications

Type: Two-lamp TTL automatic ring flash for close-up photography

Connection: Clip-on type with direct contacts and lock.

Guide Number: 11 (ISO 100·m) or 36 (ISO·ft)

Flash Coverage Angle: More than 80°, both vertically and horizontally

Recycling Time: Alkaline batteries—0.2 – 13 secs
Ni-Cd batteries—0.2 – 6 secs
(Interval between firing flash and ready lamp relighting, with new alkaline or fully-charged Ni-Cd batteries.)

Number of Flashes: Alkaline batteries—100-1000
Ni-Cd batteries—45-450
(Counted when flash is fired in 30 sec interval with new alkaline or fully-charged Ni-Cd batteries.)

Flash Duration: 1.5 ms or less

Flash Control System: TTL automatic control by metering light reflected from the film plane. Provided with the automatic flash adjustment system when using fill-in flash.

Flash Coupling Range: About 20mm to 4m (0.78 in to 13.1 ft) from front of flash element (at ISO 100)

Ready Lamp (red): Glows when flash is sufficiently charged. As soon as it glows, the camera automatically switches to flash circuit. Also serves as the test firing button.

Auto Check Lamp (green): Glows for approx. two secs after actual firing of flash when subject is correctly exposed.

Focusing Lamp: By pressing the focusing lamp button, two small lamps light up for approx. 20 secs. Effective illumination range: About 0.2 to 1m (0.7ft. to 3.3ft).

Flash Head: Two main flash tubes are used on left and right sides. One tube flash is possible by illumination changeover switch.

Save-Energy Function: If the flash is not used for approx. five minutes, power to the flash unit is automatically cut off.

Film Speed: ISO 6 to 6400. Setting is controlled automatically according to camera setting.

Power Source: Four, size-AA alkaline-manganese (LR6) or four size-AA Ni-Cd batteries.

Dimensions:

Control unit— 74(W) × 60.5(H) × 106.5(D)mm (2-15/16″ × 2-3/8″ × 4-3/16″)

Flash unit— 106(W) × 123(H) × 24.5(D) mm (4-3/16″ × 4-13/16″ × 15/16″)

Weight:

Control unit—225g (7-15/16 oz) without batteries

Flash unit—140g (4-15/16 oz)

All data are based on Canon's Standard Test Method.

Subject to change without notice.

Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interfernce in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accrordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Consult the dealer or an experienced radio/TV technician for help.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

E