Canon
SPEEDLITE 133A

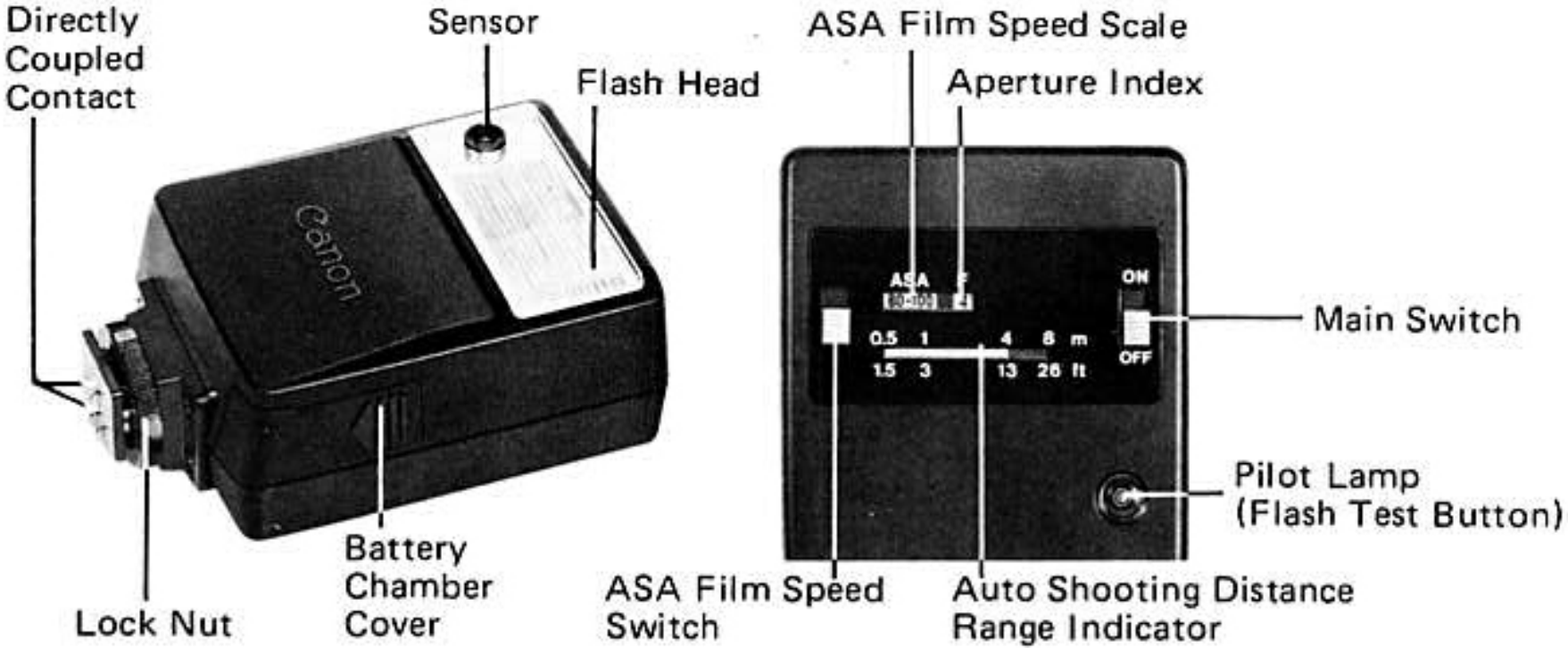
INSTRUCTIONS **E**

Introduction

The Canon Speedlite 133A is an automatic electronic, direct contact flash designed especially for the Canon A-1, AE-1, AV-1 and AT-1 single-lens reflex cameras. It mounts directly in the camera's accessory shoe where it couples directly to the camera without the need for a synchronization cord. It is intended primarily for use with ASA 80, 100 or 400 film and with lenses having a speed of f/4 or faster.

Lacking the usual, complicated calculator dial, the Speedlite 133A makes flash photography about as easy as it can be. The A-1 or AE-1 with an FD lens on "A" and with ASA 80, 100 or 400 film, is switched to the flash mode automatically when the pilot lamp glows – no special setting necessary. With the AV-1 or AT-1, setting the lens' aperture ring to f/4 is all that is required. On all these cameras, the shutter speed is set automatically to the flash synchronization speed of 1/60 sec. when the pilot lamp glows.

Compact and lightweight, the 133A is great for super-simple automatic flash shooting with other cameras as well.


Directly Coupled Contact
Sensor
Flash Head
ASA Film Speed Scale
Aperture Index
Canon
ASA
ON
OFF
0.5 1 4 8 m
1.5 3 13 26 ft
Main Switch
Pilot Lamp (Flash Test Button)
Lock Nut
Battery Chamber Cover
ASA Film Speed Switch
Auto Shooting Distance Range Indicator

Main Features

1. (A-1, AE-1, AV-1, AT-1) As soon as the pilot lamp glows, the camera's shutter speed switches automatically to the flash sync speed of 1/60 sec. (provided the shutter speed is not on "B").
2. (A-1, AE-1) With an FD lens on "A" and with ASA 80, 100 or 400 film, the aperture is set to f/4 automatically when the pilot lamp glows.
3. The 133A's series control system assures the utmost in power conservation.
4. A unique averaged light sensing system ensures proper exposure of the main subject.
5. Normal shooting is possible while the flash is still mounted on the camera. The 133A's main switch need only be switched OFF.
6. Compact, easy to use.
7. A color temperature the same as that of daylight for beautiful pictures.

Summary for Use of the 133A

See pages 6-25 for detailed explanation.

1. Load the batteries correctly.
2. Mount the 133A on the camera.
3. Set the ASA film speed switch to the ASA of the film in use (ASA 80, 100 or 400).

4. Turn the 133A's main switch ON.
5. A-1 or AE-1 with FD lens: set lens aperture ring to "A".
   with FL Lens: set lens aperture ring to f/4.
   AV-1 or AT-1: set lens aperture ring to f/4.
6. Focus. Make sure the shooting distance is within the permissable range of distances for the film speed.
7. Wait for the pilot lamp to glow.
8. Check viewfinder information.
9. Press the shutter button.

Care of the Flash

1. If the flash is stored for a long time, make several test flashes from time to time to maintain proper function of the capacitor.
2. Since a high voltage circuit is built into the flash, it would be dangerous to try to take it apart by yourself. If repair is necessary, take it to the nearest authorized Canon service facility.
3. Do not let the flash get wet. If it is exposed to rain or snow, wipe it off immediately with a dry cloth.
4. Do not leave the flash in direct sunlight or in hot, humid places.

Loading the Batteries

Use two new penlight (size AA) alkaline manganese (AM-3 or LR6) or Ni-Cd batteries. Carbon-zinc batteries may also be used, but they will wear out faster. Before loading the batteries, wipe their poles and the flash contacts with a clean, dry cloth to prevent poor contact from dirt.

1. Make sure the 133A's main switch is OFF.
2. Push the battery chamber cover off in the direction of the arrow.
3. Load the batteries so that their poles are in the directions indicated by the diagram inside the battery chamber. For proper function of the flash, it is very important that the poles be facing in the correct directions.
4. While pressing the batteries down, slide the battery chamber cover back on along the guide rails until it snaps shut.

* When the batteries become worn out, replace both at the same time with two new ones which are both of the same brand. The batteries should be removed if you do not expect to use the 133A for a long time.
* To prevent battery waste, make sure to turn OFF the 133A's main switch when the flash is no longer needed.
* Follow the instructions of the battery manufacturer for recharging Ni-Cd batteries.
* Battery performance tends to deteriorate in low temperatures. When shooting in very low temperatures, keep the batteries

warm until just before use. It is also advisable to keep a spare set of batteries warm in case they become necessary. In temperatures below 0°C (32°F), the use of fully-charged Ni-Cd batteries is recommended.

Mounting on the Camera

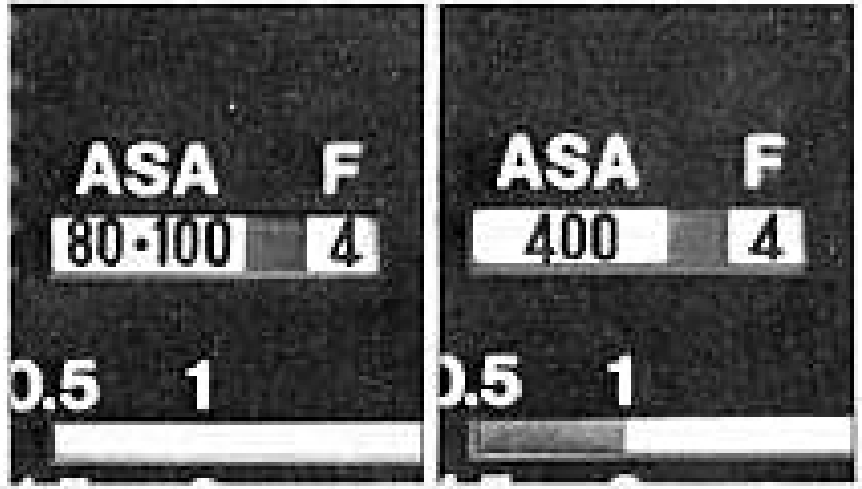
1. Turn OFF the 133A's main switch.
2. Loosen the lock nut and insert the Speedlite into the camera's accessory shoe. For good contact, make sure it is pushed in all the way.
3. Retighten the lock nut.

Setting the ASA Film Speed

This flash is intended primarily for use with ASA 80, 100 or 400 film. Automatic switching of the A-1 or AE-1 (with FD lens) to the auto flash aperture of f/4 is possible only with films having those speeds (or with films having a speed of ASA 125 or 320; see p. 23).

The film speed must be set on the flash for correct exposure. At the same time, make sure the camera is set to the correct film speed. On this flash, the film speed is set with the ASA film speed switch which has two positions. If the film has a speed of ASA 80 or 100, set the switch to the green 80-100 position. If the film has a speed of ASA 400, set the switch to the orange 400 position.

For a film which has a speed other than ASA 80, 100 or 400, please see p. 23.

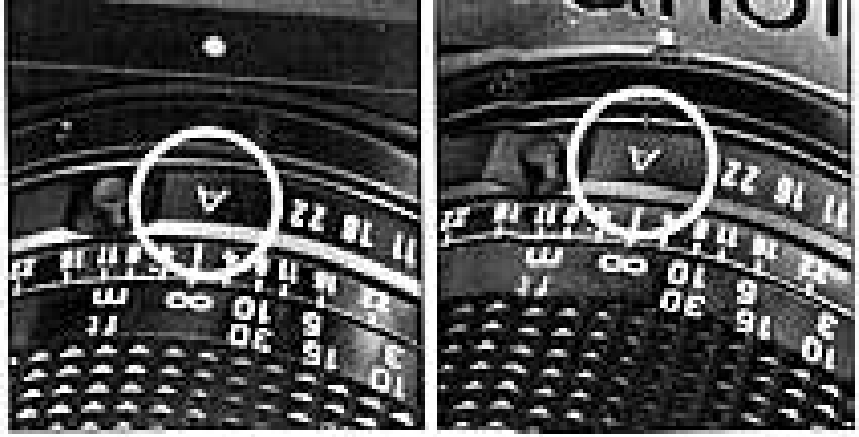


Setting the Aperture

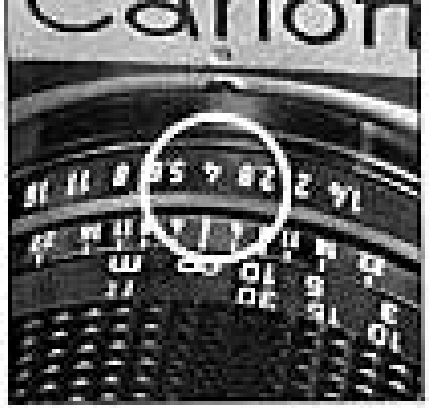
With ASA 80, 100 or 400 film and with the film speed switch set to the correct position, the automatic aperture for flash photography with the 133A is f/4. Therefore, the lens must have a maximum aperture of at least f/4. The way in which this aperture is set depends on the camera and lens as follows:

A-1 or AE-1 with FD lens on "A" (AE Flash)

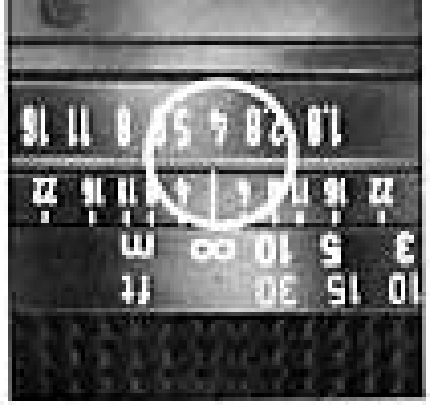
With the aperture ring of an FD lens on "A", the aperture is switched to f/4 automatically on the A-1 or AE-1 when the 133A's pilot lamp glows.



A-1 AE-1



AV-1



AT-1

AV-1 or AT-1 with Any Lens and A-1 or AE-1 with FL Lens (Automatic Flash)

Manually turn the lens' aperture ring to f/4. (It is possible to make an exposure correction, if you feel it is necessary, by turning the aperture ring to a different aperture than f/4. This can also be done with an FD lens on the A-1 or AE-1 by removing the lens from "A").

If the Film Has a Speed Other than ASA 80, 100 or 400

See p. 23.

Other Cameras

See p. 25.

Setting the Shutter Speed

A-1

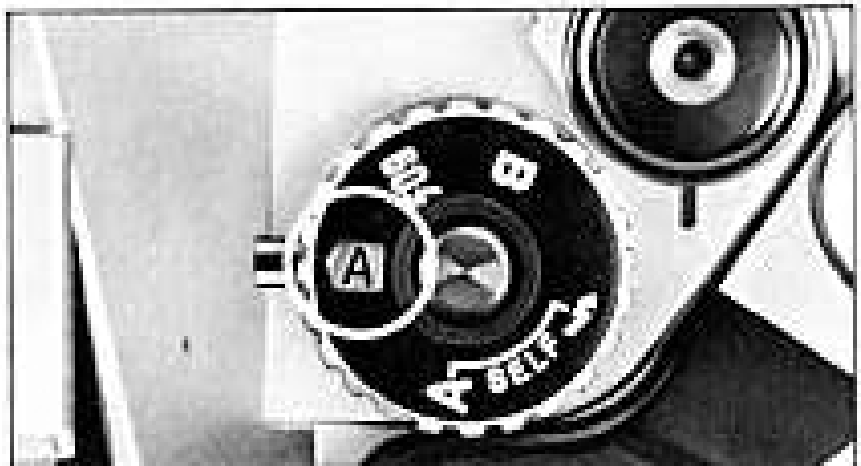
Make sure the AT dial is not set to "B". Except for this position, the AE mode selector and AT dial may be set anywhere and the shutter speed will switch to the flash synchronization speed of 1/60 sec. automatically when the pilot lamp glows.

AE-1 and AT-1

Set the shutter speed dial to any speed except "B". Provided the dial is not set to "B", the shutter speed will switch to the flash sync speed of 1/60 sec. automatically when the pilot lamp glows.

AV-1

Set the selector dial to [A] . At this setting, the shutter speed will switch to the flash sync speed of 1/60 sec. automatically when the pilot lamp glows. For a delayed flash shot with the camera's self-timer, the selector dial may be set to A Self.



Other Cameras

See p. 25.

Auto Shooting Distance Range

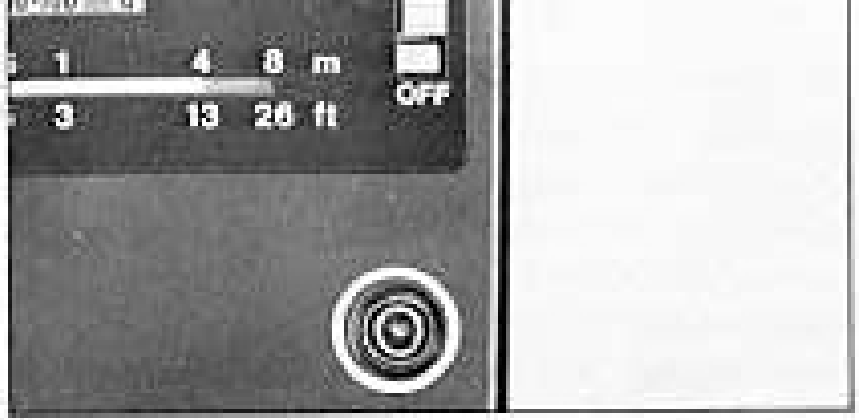
For each setting of the film speed switch, a line of the same color along the distance scale on the flash indicates the range of shooting distances which will give correct exposure. The following table gives the exact shooting distance range for each setting of the switch.

Film Speed Switch Setting	Possible Distance Range
Green 80 · 100	0.5-4m (1.5-13 ft.)
Orange 400	1-8m (3-26 ft.)

Focus the subject. Read the shooting distance from the lens' distance scale. If the shooting distance does not fall within the correct range of shooting distances for the setting of the film speed switch, either move closer to or farther away from the subject as required. If the shooting distance is not within the indicated range, exposure will not be correct.

Main Switch and Pilot Lamp

Once the camera, lens and flash are set correctly, turn the 133A's main switch ON. Once the capacitor has reached sufficient charge, the pilot lamp glows to indicate that



it is possible to shoot. At this point, unless the camera is set to a shutter speed of "B", the shutter speed is switched to 1/60 sec. automatically on the A-1, AE-1, AV-1 and AT-1. With an FD lens on "A", the aperture is also set automatically to f/4 on the A-1 and AE-1.

Test Firing

To test the flash for proper function, press the pilot lamp after it glows. If a flash is fired, the flash is in proper working order.

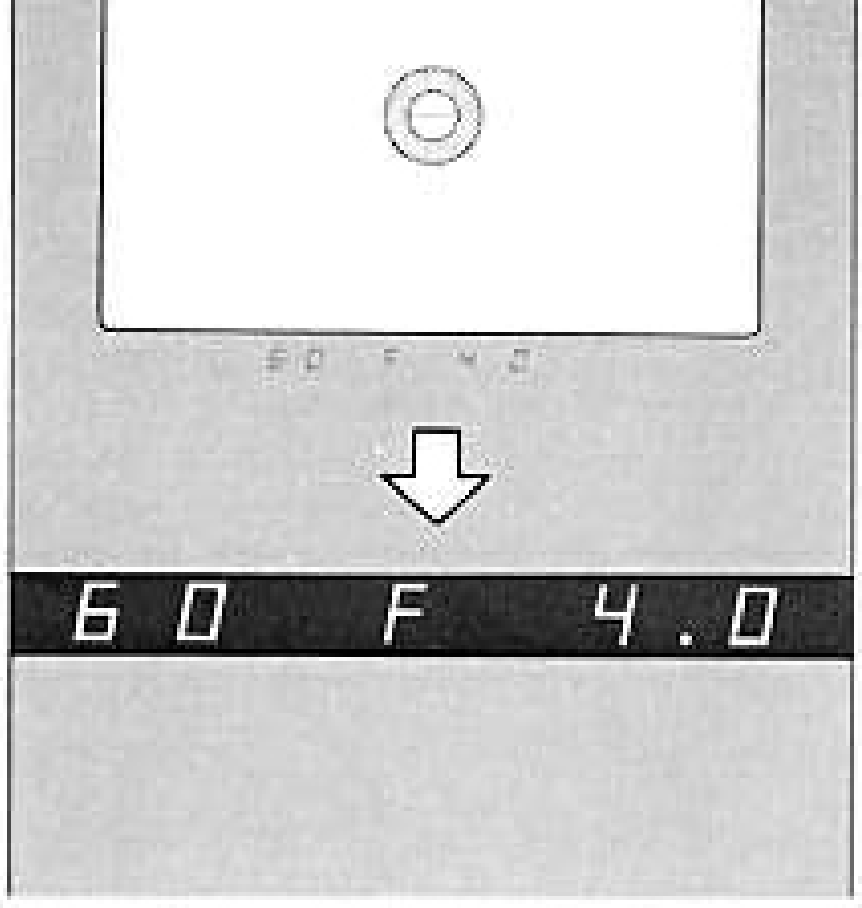
Checking the Exposure

Before shooting, check viewfinder information. Correct viewfinder information should appear after the pilot lamp glows when the shutter button is pressed halfway. It differs according to the camera.

A-1

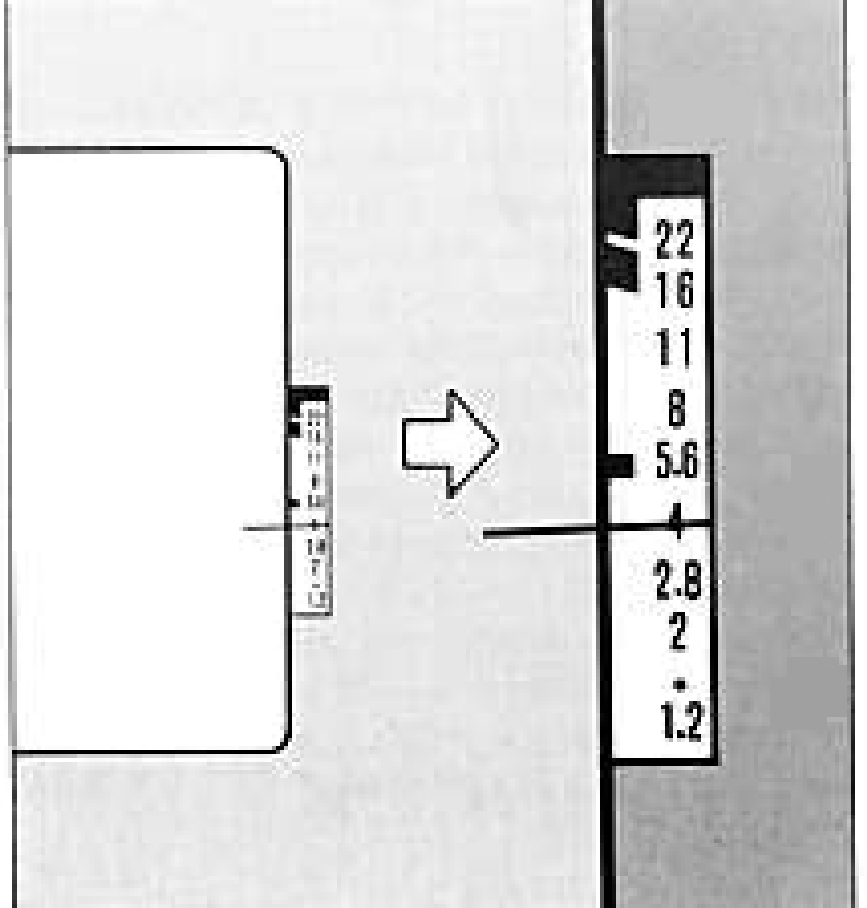
With an FD lens on "A", the A-1's digital display will include a shutter speed of 1/60 sec., an "F" flash signal and an aperture of f/4. With an FD lens off "A", the digital display will include all of the above plus an "M" signal for manual aperture control. (In this case, the aperture displayed will still be f/4 even if the aperture ring is set to a different aperture.) Since the aperture is displayed in half f/stop increments, there is a possibility that it will be a half stop off f/4, but this will not affect exposure. If the lens' maximum aperture is smaller than f/4, an aperture equal to the lens'

maximum aperture will blink to indicate underexposure. In the case of ASA 80 or 100 film, flash photography is not possible. Flash photography may still be possible with ASA 400 film (see p. 24). Since the "F" flash signal does not appear until the pilot lamp glows, it is possible to tell the flash is ready without removing your eye from the viewfinder. With an FL lens, the viewfinder information is not always reliable and should be switched off.



AE-1

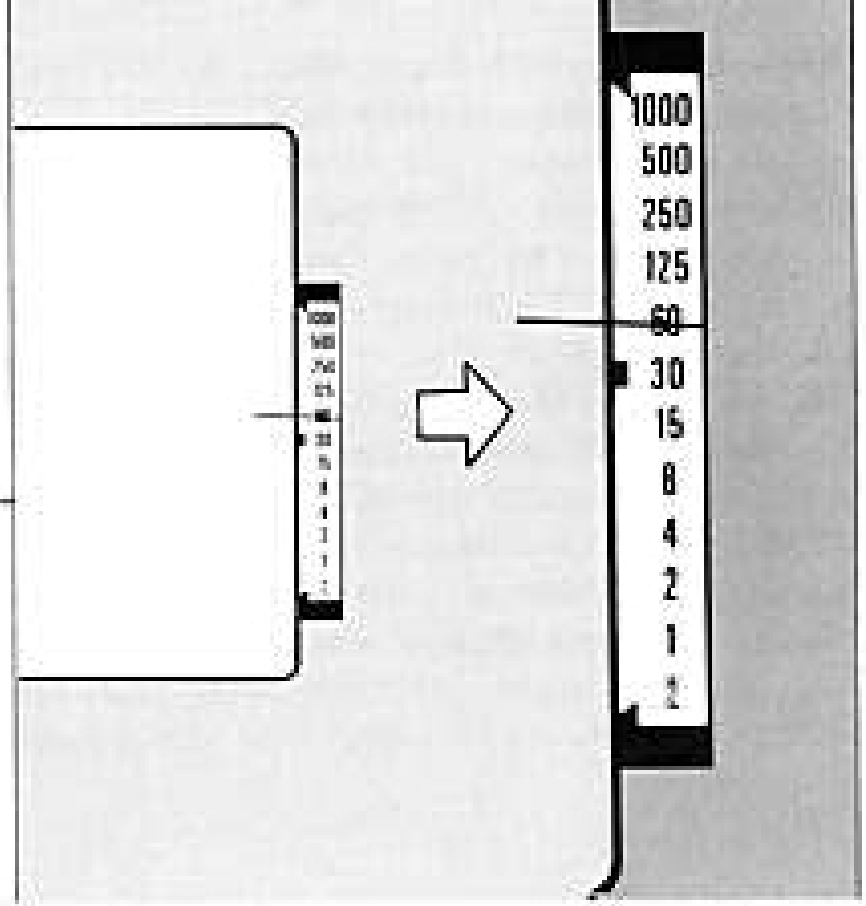
With an FD lens on "A", the meter needle will swing to an aperture of about f/4. With an FL lens or an FD lens off "A", a blinking "M" LED is added to indicate manual aperture control. (In this case, the meter needle will still point to f/4 even if the aperture ring is set to a different aperture.) If the lens' maximum aperture is smaller than f/4, the underexposure LED will blink. Refer to information on the A-1 (p. 16) for more details.



AV-1
The meter needle will point to a shutter speed of 1/60 sec. (If the selector dial is accidentally set to the 60 ½ position, the meter needle will point to 1/60 sec. regardless of whether or not the pilot lamp is on).

AT-1
Viewfinder information is the same as that for normal photography.

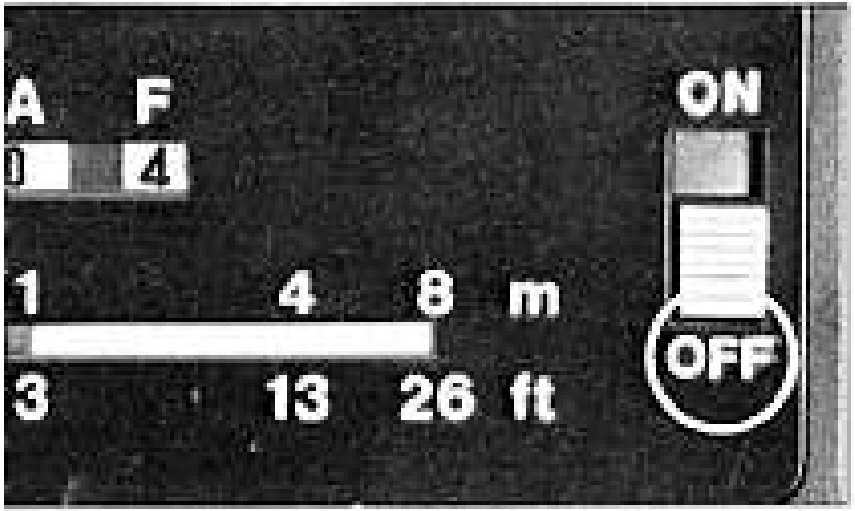
If exposure information is correct, press the shutter button for exposure. Proper exposure is possible only after the pilot lamp glows.



Automatic Switch from Flash to Normal Photography (Canon A-Series SLRs)

After a flash shot, the unit may not have sufficient charge to fire another flash shot immediately. The pilot lamp will go out until sufficient charge is reached again. During this period, the A-1 or AE-1 with an FD lens on "A" will automatically return to normal AE photography: for example, shutter-speed priority AE on the AE-1. With its selector dial on A, the AV-1 will automatically return to aperture priority AE. The viewfinders of these cameras will also show exposure information for normal AE photography. Provided that viewfinder information shows that exposure will be correct, it is possible to take a shot in the normal AE mode while waiting for the pilot lamp to glow. When the pilot lamp glows again, the camera will switch back to the flash mode.

This is also possible on the Canon AT-1. Since the lens should be set to f/4 for flash photography, when the pilot lamp goes out it is possible to take a normal shot by simply adjusting the shutter speed until the needles match. When the pilot lamp comes on again, the shutter speed will switch to 1/60 sec. for flash photography.



- There is a rare possibility that the pilot lamp may glow again while the shutter is in operation for a normal shot. If this happens, exposure for that shot will be incorrect.

Switch OFF

Once flash is no longer necessary, be sure to turn the 133A's main switch OFF to prevent battery drain. With the main switch OFF, the circuit between the camera and flash is disconnected and it is possible to shoot normally even while the flash is still attached to the camera.

Precautions

* If the main subject is small with a dark or distant background or if the subject's surroundings are bright white with strong reflections, automatic flash exposure may be influenced by the background into under or over-exposing the main subject. Correction may be made by manually setting the lens' aperture ring to a different aperture than f/4. Some experimentation will probably be necessary for finding the most appropriate aperture.
* In delayed flash with the camera's self-timer, do not set the self-timer by pressing the shutter button until after the pilot lamp glows.
* When the shooting distance is less than one meter, the difference between the optical axes of the lens and the flash may result in uneven flash distribution.
* Since it is possible for the AE-1's or AV-1's viewfinder information to be the same for flash photography as it would be for normal photography, it is best to check that the pilot lamp is glowing before shooting. The A-1's "F" signal appears only after the pilot lamp glows. Always check the pilot lamp before pressing the AT-1's shutter button.

Use of Speedlite 133A with Films Having Speeds Other than ASA 80, 100 or 400

If the film does not have a speed of ASA 80, 100 or 400, three things are affected:

1. Position of the 133A's film speed switch.
2. Automatic flash aperture.
3. Setting the aperture on the A-1 or AE-1 with an FD lens.

All other steps for using the 133A remain the same.

The 133A comes with a separate sticker which may be applied to the back of the flash for convenience. This sticker shows two possible settings for the film speed switch and the aperture for various ASA film speeds. For instance, if ASA 64 film is loaded, either set the film speed switch to the green 80-100 position and the lens' aperture ring to f/2.8 or set the film speed switch to the orange 400 position and the lens' aperture ring to f/1.4. With the A-1 or AE-1, it is possible to leave an FD lens on "A" for flash shooting only if the film speed switch is set to the green position for ASA 80, 100 or 125 film or to the orange position for ASA 320 or 400 film. For any other position of the film speed switch and any other film speed, the appropriate aperture must be set manually on the lens' aperture ring as it is with other cameras.

ASA	Aperture	
	Green	Orange
25 · 32	2	—
50 · 64	2.8	1.4
80 · 100	4	2
125	4	2
160 · 200	5.6	2.8
320 · 400	8	4

Note that the auto shooting distance ranges remain the same depending on the position of the film speed switch. In choosing an appropriate combination of aperture and film speed switch setting from the sticker, take both depth of field and the auto shooting range into consideration.

If the viewfinder of the A-1 or AE-1 indicates underexposure when ASA 320 or 400 film is loaded and the film speed switch is set to the orange 400 position (lens' speed is slower than f/4), flash photography is still possible by setting the film speed switch to the green 80-100 position and setting the lens' aperture ring to f/8. Note that the aperture must be

set manually; it will not switch to f/8 automatically when the pilot lamp glows even with an FD lens. Also note that the viewfinder will continue to indicate under-exposure despite the correction. Do not forget that the auto shooting distance range is shorter at the green 80·100 position of the film speed switch.

Use of Speedlite 133A on Cameras Other Than Canon A-1, AE-1, AV-1 and AT-1

Speedlite 133A can be used on other cameras which allow independent, manual operation of the shutter speed and aperture and which have a hot shoe contact.

Set the shutter speed dial to the camera's X-synchronization speed. For ASA 80, 100 or 400 film, set the 133A's film speed switch to the appropriate position and manually set an aperture of f/4 on the lens. Make sure the subject is within the auto shooting distance range. For other film speeds, refer to p. 23.

For further details, refer to the camera's instuctions.

Specifications

Type: Automatic electronic flash unit with a series control system.

Attachment: Direct-contact, clip-on type with lock.

Guide Number: 16 (ASA 100, m) or 26 (ASA25, ft.).

Flash Coverage: Covers the angle of view of lens with focal length of 35mm or longer on a 35mm format.

Recycling Time: (Interval between firing of flash and relighting of pilot lamp with new or fully-charged batteries):

Battery Type	Recycling Time
Alkaline-manganese	Approx. 0.5-9 sec.
Ni-Cd	Approx. 0.5-6 sec.

Number of Flashes: (When the flash is fired in 30 sec. intervals with new or fully-charged batteries):

Battery Type	Number of Flashes
Alkaline-manganese	Approx. 100-1000
Ni-Cd	Approx. 60-600

Color Temperature: Same as daylight. Correction by special colored diffusion screen.

Flash Duration: 1/700-1/100,000 sec.

Flash Control System: Light reflected from the subject is measured and illumination is cut by the series control system. Averaged light metering sensitivity distribution.

ASA Film Speed: Set with switch which has two positions: ASA 80·100 (green) and ASA 400 (orange).

Auto Shooting Distance Range:

Green position of film speed switch: 0.5-4m (1.5-13 ft.).

Orange position of film speed switch: 1.0-8m (3-26 ft.).

Automatic Flash Aperture: f/4.

Distance Scale: 0.5-8m (1.5-26 ft.).

Power Source: Two penlight (size AA) alkaline-manganese (AM-3 or LR6) or Ni-Cd batteries.

Pilot Lamp: Comes on when unit reaches sufficient charge and affects automatic switchover of camera to flash mode. No flash is fired if pilot lamp is not glowing. Extinguishes when main switch is OFF. Also serves as flash test button.

Dimensions: 62mm x 37mm x 95mm (2-7/16" x 1-7/16" x 3-11/16").

Weight: 200g (7-1/2 ozs.), batteries included.

Accessories: Soft Case.

Subject to change without notice.

Canon

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