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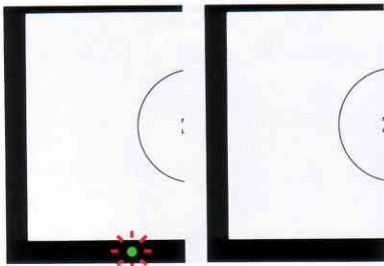
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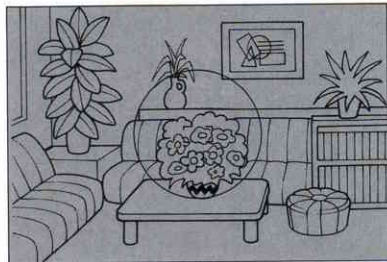
www.orphancameras.com and choose the secure PayPal donation icon.

SPECIAL FOCUSING SITUATIONS

Autofocus operation and electronic focusing confirmation depend upon the general lighting of the scene, subject contrast and details, and other technical points. Under certain conditions, the automatic focusing system/electronic focusing confirmation may experience difficulty. In these circumstances, we recommend you focus manually using the clear matte field.

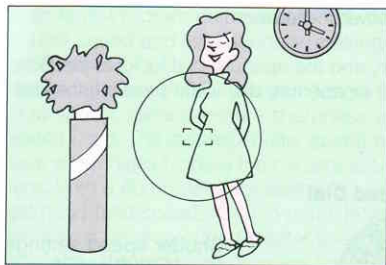


Focus indicator LED blinks or disappears with the following subjects:



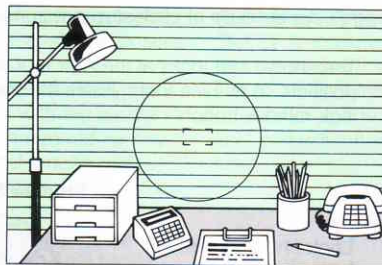
1) Very dark subject

Focus manually, or for autofocus, focus on another, brighter subject located at the same distance, or use accessory Nikon Autofocus Speedlight SB-24, SB-23, SB-22 or SB-20. (No other flash unit can be used.)



2) Low-contrast subject

Focus manually, or for autofocus, focus on another subject located at the same distance — but with more contrast — until the green focus indicator LED appears.



3) Subject with no vertical lines

Turn the camera sideways to focus, or focus manually. You may also select autofocus, then focus on another subject with vertical lines located at the same distance.

In the following situations, ignore focus-indicator LED and focus manually using the clear matte field.

1) When shooting the following:

- Very bright subject with shiny surface, such as silver or aluminum.
- Strongly backlit subject.
- Scene with subject located at different distances.

2) When using a polarising filter. (Circular polarising filter can be used for autofocus operation.)

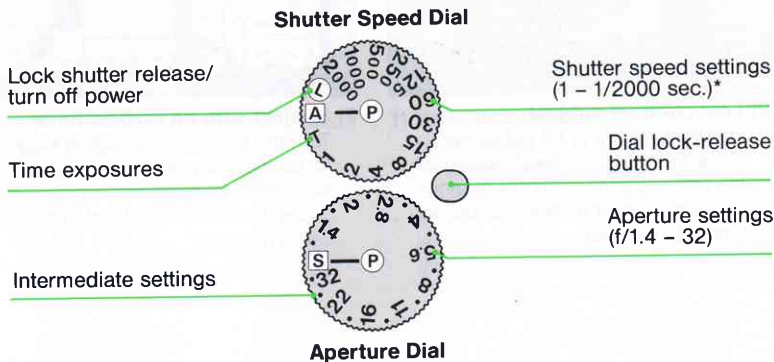
EXPOSURE

Exposure control consists of two parts — aperture control and shutter speed control. The aperture works basically the same way as the iris of the human eye and controls the amount of light passing through the lens. The shutter, located in the camera body, varies the amount of light admitted to the film by opening and closing at different speeds. Together, these two controls determine the amount of light that strikes the film, resulting in exposure control. Using the shutter speed and aperture dials of the F-401x, you can select three different automatic exposure control modes and one manual mode.

SHUTTER SPEED DIAL AND APERTURE DIAL

Always set dials at click-stop positions — never in-between.

The shutter dial locks at the A or L position, and the aperture dial locks at the S position. To release them, rotate the shutter or aperture dial while pressing the dial lock-release button.



Shutter speed dial	Aperture dial	Exposure mode
A	S	Programmed auto
1 - 2000	S	Shutter-priority auto
A	1.4 - 32	Aperture-priority auto
T, 1 - 2000	1.4 - 32	Manual

**In programmed auto exposure mode, shutter speed is automatically controlled from 8 to 1/2000 sec.; in aperture-priority auto exposure mode, shutter speed is automatically controlled from 30 to 1/2000 sec.*

PROGRAMMED AUTO EXPOSURE MODE – AUTO MULTI-PROGRAM

Auto Multi-Program automatically sets the best combination of shutter speed and lens aperture, making it the easiest exposure mode to use.

Because lenses of different focal length handle differently at slow shutter speeds, picture sharpness varies with the shutter speed used. The slowest shutter speed recommended for any lens when hand-holding the camera is $1/(\text{focal length})$ of the lens. With a 60mm lens, for example, use 1/60 sec. as the slowest hand-held speed. Keep in mind, however, that 1/30 sec. is the lowest recommended shutter speed for blur-free hand-held shooting. The exposure program line for F-401x's Auto Multi-Program varies according to the focal length and maximum aperture of the lens. The following chart shows how the possibility of picture blur is reduced by avoiding slower shutter speeds.

Auto Multi-Program chart

The EV (exposure value) charts demonstrate the differences among program lines of various lenses. Follow either coloured line to where it intersects a diagonal line. This shows the combination of aperture (vertical line) and shutter speed (horizontal line) that will automatically be selected at each EV brightness level.



Auto Multi-Program Chart (ISO 100)

- With 50mm f/1.4
- - - With 28mm f/2.8
- With Zoom 35-135mm f/3.5-f/4.5
at 100mm (f/4.2) setting

SHUTTER-PRIORITY AUTO EXPOSURE MODE

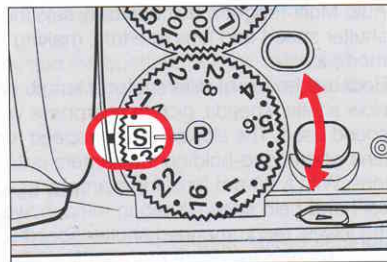
This mode lets you choose shutter speeds manually, so you can freeze the action with sharp, clear outlines using fast shutter speeds, or create motion effects by choosing slower shutter speeds. The microcomputer in the F-401x automatically selects the correct aperture to match the shutter speed you set.



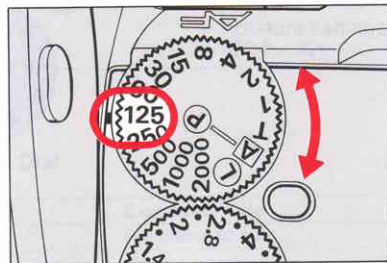
At a fast shutter speed



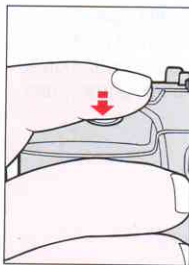
At a slow shutter speed



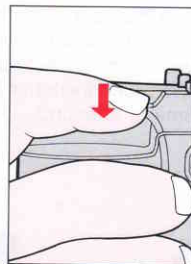
1. Set aperture dial to S.



2. Set shutter speed dial to desired speed.



3. Look inside viewfinder and lightly press the shutter release button.



4. When the exposure indicator LED lights up, fully depress the shutter release button.

+ lights up* or

+ ○ light up

Select a higher shutter speed

- lights up* or

○ - light up

Select a slower shutter speed, or use built-in TTL flash or speedlight

+/- blink alternately*

Select lens to its smallest aperture setting

+/- disappear*

Shutter dial is set to "T"; select other position

**Shutter is locked.*

APERTURE-PRIORITY EXPOSURE MODE

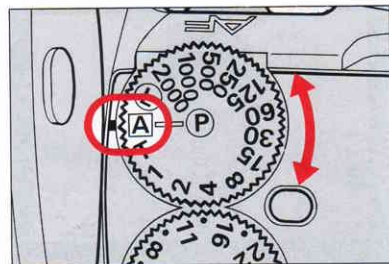
The microcomputer in the F-401x automatically selects the correct shutter speed to match the aperture you set. This is the recommended mode when depth of field is your prime consideration. To create softer, less distinct backgrounds, as in portraits, use wider apertures. For overall sharp, clear picture, such as scenic photography, use smaller apertures.



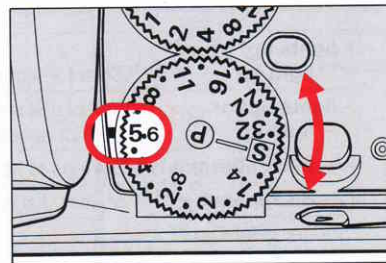
At wide aperture



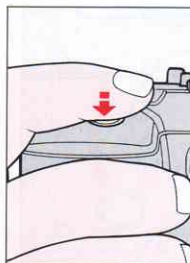
At small aperture



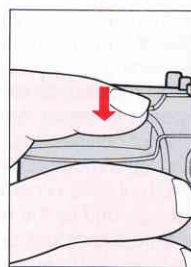
1. Set shutter speed dial to A.



2. Set aperture dial to desired f-number.



3. Look inside viewfinder and lightly press shutter release button.



4. When the exposure indicator LED lights up, fully depress the shutter release button.

○ **blinks**

Picture blur possibility (shutter speed is $1/[\text{focal length}]$ sec. or slower). Select faster aperture setting (smaller f-number), or use a tripod to avoid camera shake.

+ **lights up*** or

+ ○ **light up**

Select slower aperture setting (larger f-number).

– **lights up*** or

○ – **light up**

Select a faster aperture setting, or use built-in TTL flash or speedlight.

+/- **blink alternately*** Set lens to its smallest aperture setting.

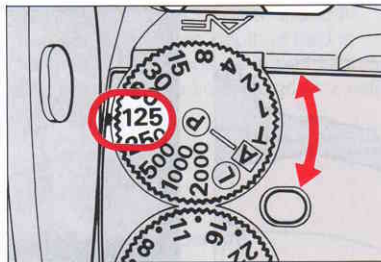
*Shutter is locked

If aperture dial is set beyond lens' aperture range, aperture is automatically adjusted to minimum or maximum setting, whichever is nearest, and correct shutter speed is selected accordingly.

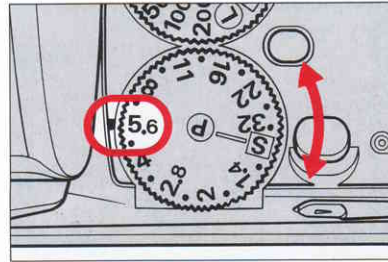
MANUAL EXPOSURE MODE

In manual exposure mode, both shutter speed and aperture can be set manually according to the desired effect. Use fast shutter speeds to stop the action, slower speeds to create motion effects or less distinct outlines. Manually setting the exposure mode also lets you control depth of field, either by softening the background so the main subject of the picture stands out, or by creating overall uniform sharpness.

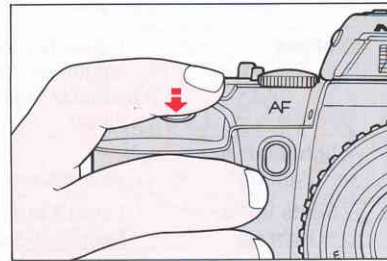
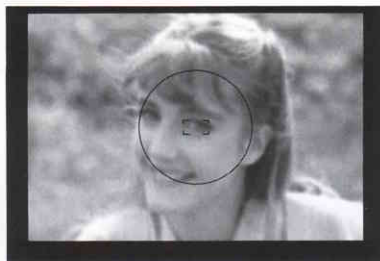
Note that Centre-Weighted Metering is selected in manual exposure mode.



1. Set shutter speed dial to desired speed.



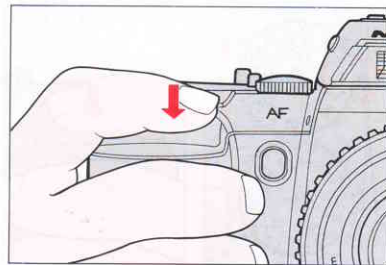
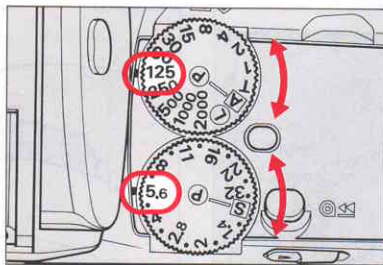
2. Set aperture dial to desired f-number.



3. With your eye on the viewfinder, lightly press the shutter release button.



4. Rotate either shutter speed dial or aperture dial until exposure indicator LED lights up.



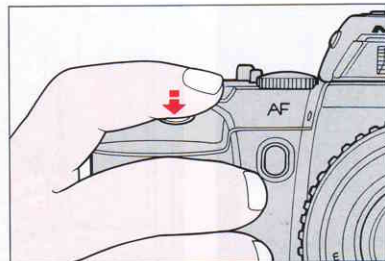
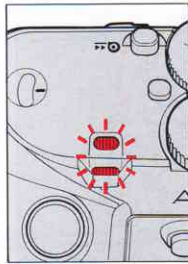
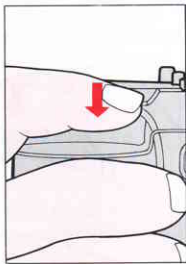
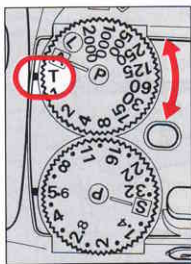
5. Fully depress the shutter release button.

+ or - LED lights up in the following cases*:

+	Overexposure warning	+1EV ~
+ ○	Overexposure warning	+1/3EV ~ +1EV
○	Correct exposure	-1/3EV ~ +1/3EV
○ -	Underexposure warning	-1EV ~ -1/3EV
-	Underexposure warning	~ -1EV

*Shutter does not lock in any of these cases.

If aperture dial is set beyond lens' aperture range, aperture is automatically adjusted to minimum or maximum setting, whichever is nearest.



T setting

For long-time exposures, use the T setting.

To avoid camera shake, it is advisable to use a tripod.

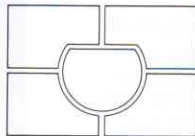
1. Set the shutter speed dial to T.
2. Fully depress the shutter release button then remove finger from the button. After 0.5 sec., exposure begins.
3. During exposure, the self-timer indicator LED blinks every second.

4. To stop the exposure, lightly press the shutter release button.

- Long-time exposures can be performed in self-timer operation; for self-timer operation, see pages 44 to 45.
- A fresh set of alkaline-manganese batteries will allow you to perform long-time exposure for approximately seven hours.
- The T setting can only be used in manual exposure mode; be sure to set the aperture dial to a setting other than S. With the shutter speed dial at T and the aperture dial set at S, lightly pressing the shutter release button causes the self-timer indicator LED to blink.

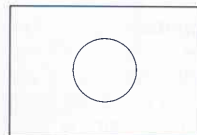
MATRIX METERING

The Nikon F-401x provides two types of exposure metering systems – Matrix Metering and Centre-Weighted Metering.



In auto exposure modes (programmed auto, shutter-priority auto and aperture-priority auto), Matrix Metering is selected. The Matrix Metering sensor determines scene brightness by dividing the scene into five areas, then analysing each area for brightness and scene contrast. Thus, the meter automatically provides the correct exposure of the main subject in virtually any lighting situation, without requiring manual exposure compensation.

CENTRE-WEIGHTED METERING



In manual exposure mode or when AEL (Auto Exposure Lock) button* is used, the camera automatically switches to Centre-Weighted Metering. Centre-Weighted Metering places special emphasis on brightness within the 12mm-diameter central area of the viewfinder, and is recommended for creating special effects.

**For AEL button, see page 42.*

MATRIX METERING VS. CENTRE-WEIGHTED METERING

In scenes with both very bright and very dark areas, these two metering systems produce varying results. For example:

A. Scene containing the sun or scenes with high reflectivity

If a scene containing strong highlights, such as the sun, snow or bright reflections, Centre-Weighted Metering renders the main subject as a silhouette. With Matrix Metering, however, the light value of darker parts is evaluated, resulting in an overall well-balanced exposure.

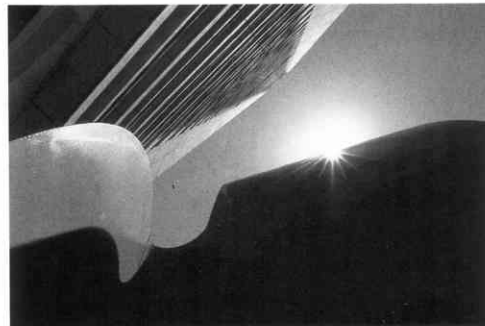
B. Outdoor backlit subject

With Centre-Weighted Metering, a backlit subject or scene with people against a bright sky and/or clouds may lead to an underexposed subject. With Matrix Metering, however, the camera automatically gives more exposure to darker subjects to ensure a balanced overall exposure.

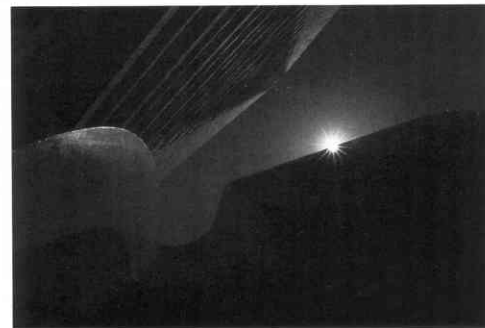
C. Front-lit subject against dark background

If a brightly lit off-centre subject is positioned against a dark background, Centre-Weighted Metering places too much emphasis on the dark centre of the picture. So although the background is correctly exposed, the main subject will be overexposed. Matrix Metering, however, automatically integrates a dark background with a bright subject to ensure the best overall exposure.

Scene containing the sun



Matrix Metering



Centre-Weighted Metering

Outdoor backlit subject



Matrix Metering



Centre-Weighted Metering

Front-lit subject



Matrix Metering



Centre-Weighted Metering

D. Small, dark subjects against a bright background

A subject significantly smaller than any one of the five sensor areas may not be recognised and integrated into the automatic exposure evaluation. For such subjects, we recommend you use either the AEL button or manual exposure control for Centre-Weighted Metering.



Centre-Weighted Metering (with AEL button)
Main subject is correctly exposed. For details, see page 42.



Matrix Metering



Centre-Weighted Metering

E. Sunset scenes

When you want to emphasise a dramatic sunset, but don't want the Matrix Metering to lighten the scene for dark foreground subject, use the AEL button or manual exposure control for Centre-Weighted Metering.



Matrix Metering



Centre-Weighted Metering

CENTRE-WEIGHTED METERING FOR SPECIAL EXPOSURE SITUATIONS

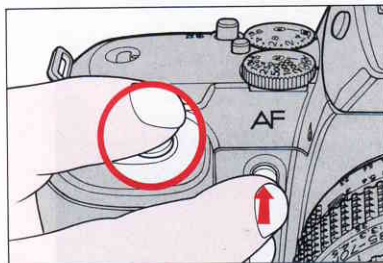
AEL (Auto Exposure Lock) button



1. Centre main subject inside viewfinder and/or move in closer so the 12mm circle is covered by the subject.



2. Lightly press shutter release button.

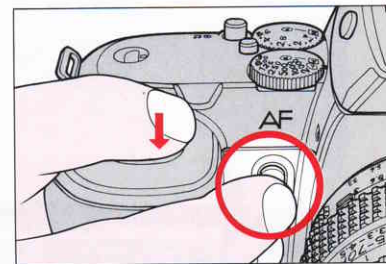


3. While lightly pressing shutter release button, depress the AEL button and hold it in.

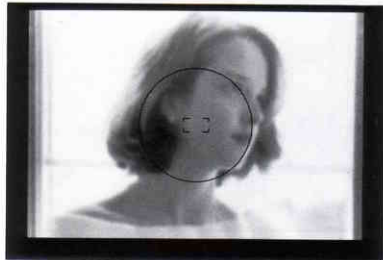


4. Recompose and shoot.

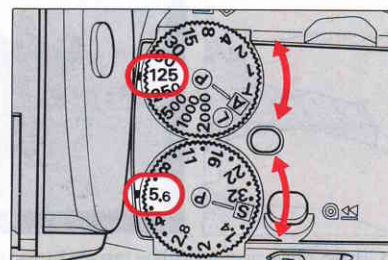
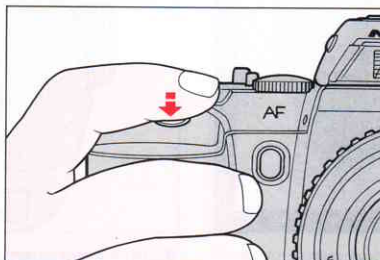
- When recomposing may change the subject-to-camera distance, refocus by briefly removing your finger from the shutter release button and lightly pressing it again.



Manual exposure mode



1. Centre main subject inside viewfinder and/or move in closer so the 12mm circle is covered by the subject. Lightly press the shutter release button.



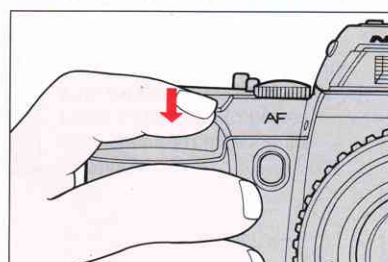
2. Adjust the shutter speed and aperture for correct exposure.



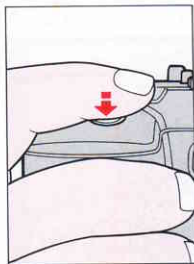
3. Confirm the exposure indicator LED lights up.



4. Recompose and shoot.
 - When recomposing may change the subject-to-camera distance, refocus by briefly removing your finger from the shutter release button and lightly pressing it again.



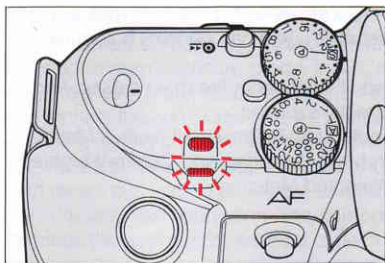
SELF-TIMER



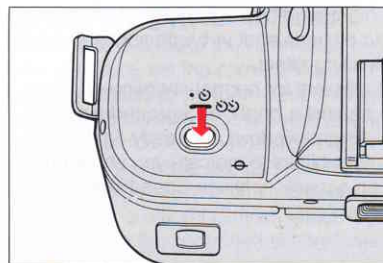
1. Compose picture, lightly press shutter release button, then confirm focus and exposure.

- *In self-timer operation, the shutter is released whether subject is in focus or not. To assure a focused image, focus subject before pressing self-timer button.*

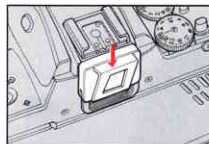
2. Press self-timer button to start self-timer operation.
For one-shot self-timer: Press self-timer button and remove finger within two seconds (before self-timer indicator starts blinking).
For two-shot self-timer: Press self-timer button for three seconds or longer, confirm self-timer indicator LED has started blinking, then remove finger from the button.



3. Shutter will be released after approx. 10 seconds. For the first seven seconds, self-timer indicator LED blinks; for the final three seconds, the LED lights up, warning you to get ready. For two-shot self-timer operation, the second shot will be taken five seconds after the first.



To cancel the self-timer after activating: Press self-timer button again.



In programmed auto, shutter-priority auto or aperture priority-auto exposure mode, use eyepiece cover DK-5 to prevent stray light from entering the viewfinder.

FLASH PHOTOGRAPHY

Generally performed at night or in dim light, flash photography also removes shadows in pictures shot in bright sunlight, resulting in a more natural, pleasing effect.

When existing light is insufficient for normal shooting or when shooting a dark subject against a bright background (i.e., subject positioned against a bright window), the ready-light indicator LED inside the viewfinder blinks to indicate you should use the built-in TTL flash or an accessory Nikon Speedlight.



AUTOMATIC BALANCED FILL-FLASH

With either the Nikon F-401x's built-in TTL flash or Nikon dedicated Speedlight set at TTL you can perform automatic balanced fill-flash.

With automatic balanced fill-flash, both the main subject and the background are correctly exposed.

There are two types of automatic balanced fill-flash — Matrix Balanced Fill-Flash with Matrix Metering and Centre-Weighted Fill-Flash with Centre-Weighted Metering.

Matrix Balanced Fill-Flash

As mentioned on page 37, Matrix Metering is automatically selected in auto exposure mode. In TTL auto flash photography, the Matrix Meter reads the scene's light levels/light pattern and signals the computer, which then calculates available-light exposure settings. When the shutter is released, the camera's TTL sensor senses the available light and flash illumination, then relays this information to the computer, which automatically controls flash operation. The computer automatically determines the appropriate amount of flash output compensation required. As soon as the right amount of flash illumination is output (with automatic compensation), the computer turns off the flash. The result is a well-balanced photo with correct exposure for both the background and foreground subject. All this takes place automatically and much quicker than it can be explained.

Centre-Weighted Fill-Flash

If you want to choose the brightness level for a basic available-light exposure, set the camera's exposure mode to manual exposure mode to perform Centre-Weighted Fill-Flash. By pointing the centre-weighted area at different parts of the picture, you can choose the desired brightness level. If the brightness value you have selected is within the controlled shutter/aperture range*, flash output compensation will be made automatically for a natural fill-flash effect. If you select a brightness value beyond the controlled shutter/aperture range, flash will be output without compensation.

** See page 62.*

The following shows operation with the built-in TTL flash. For flash photography operation with an accessory Nikon Speedlight, see the Speedlight instruction manual. For accessory Nikon Speedlight compatibility, see page 64.

USING BUILT-IN TTL FLASH

- Do not touch the flash when firing it; normal operation can make it quite hot.
- *Never fire the flash more than 20 consecutive times at intervals of 5 sec. or shorter. Firing continuously more than 20 times may impair flash performance. After each major flash shooting, let the flash rest at least 10 minutes before firing again.*
When you continuously fire the flash, the camera's handgrip may become hot due to normal operation. In this case, it will take longer for the ready-light come on because the flash automatically stops charging for a while.
- When battery voltage decreases due to low temperature or weak batteries, the ready-light may turn off even after it lights up once. Before shooting, make sure the ready-light is on.
- When the built-in TTL flash is up, an accessory Speedlight will not fire. When using a Speedlight, store the built-in TTL flash in the down position.
- Before shooting, make sure your subject is within the flash shooting distance range.
- Usable film speed range for the built-in TTL flash is ISO 25 to ISO 800.
- For usable lenses, see page 61.

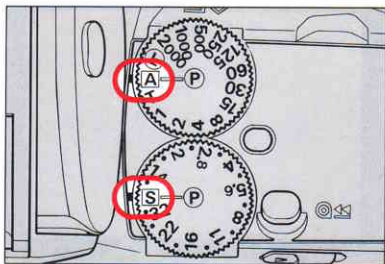
Notes on selecting aperture

In aperture-priority auto and manual exposure mode

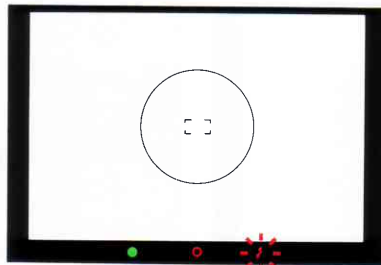
- The larger the aperture (the smaller the f-number) you select, the greater the maximum shooting distance, whereas the smaller the aperture (the larger the f-number), the less the maximum shooting distance.
- When subject distance remains the same, as the aperture increases, the depth of field becomes smaller. The smaller the aperture, the greater the depth of field.

In shutter-priority auto exposure mode

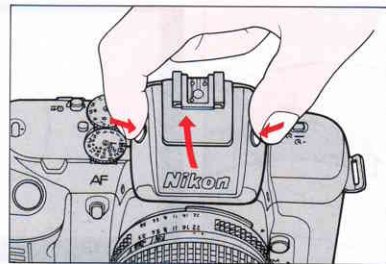
- With a slower shutter speed, a smaller aperture is automatically selected, causing a shorter shooting distance range.
- If shutter speed remains the same, as background brightness increases, the aperture becomes smaller. To perform flash shooting in daytime, Nikon recommends that you switch to aperture-priority auto or manual exposure mode in order to select a wider aperture for greater flash shooting distance.



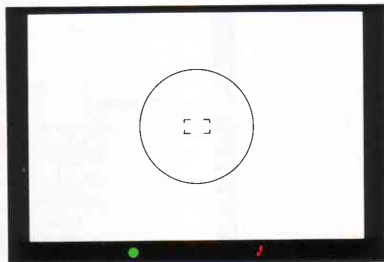
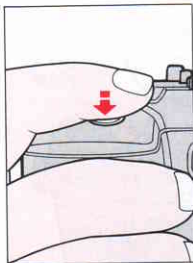
**Operation in programmed
auto exposure mode**



1. If subject brightness is insufficient, the viewfinder ready-light blinks to suggest that you use a flash.



2. Press both flash lock-release buttons. The built-in TTL flash will pop up and automatically turn on.



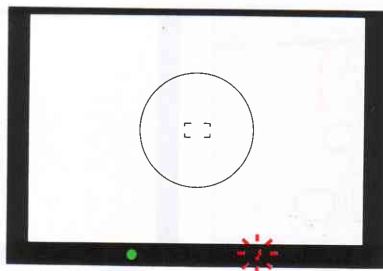
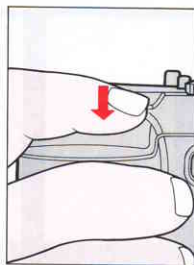
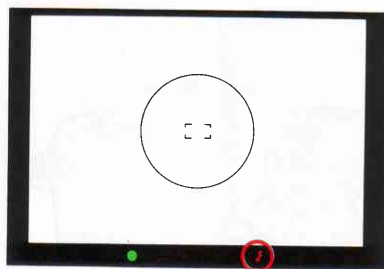
3. Compose picture and lightly press shutter release button.
- Do not use AEL button in Matrix Balanced Fill-Flash.
 - For controlled shutter speed/aperture, see table on page 62.

4. Make sure the subject is within the flash shooting distance range.

Guide for flash shooting distance range (at ISO 100):

For subjects backlit by the sun	0.6m ~ 0.8m
For outdoor subjects on sunny day	0.6m ~ 1.5m
For outdoor subjects on cloudy day or in shadows	0.7m ~ 2.1m
For indoor subjects	0.7m ~ 4.3m

The listed ranges should only be used as a guide. To choose desired flash shooting distance range, switch exposure mode to aperture-priority auto or manual.

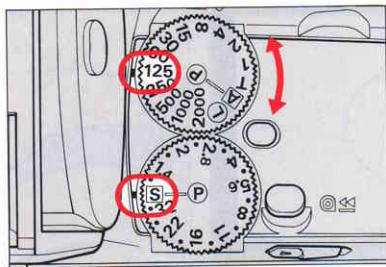


5. Confirm ready-light is on, then fully depress shutter release button to take a shot with the flash.

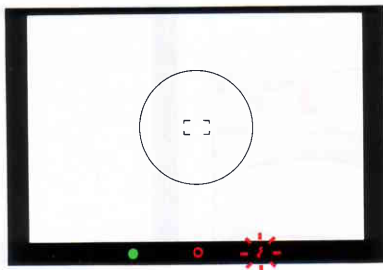
- *With ready-light off, the flash is charging and shutter remains locked.*

If ready-light blinks for a few seconds after shooting:

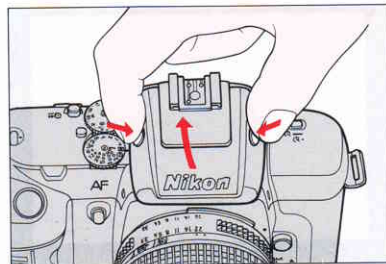
The flash has fired at its maximum output and light might be insufficient. Confirm shooting distance and, if necessary, move closer to subject, or switch exposure mode to aperture-priority auto to select a wider aperture.



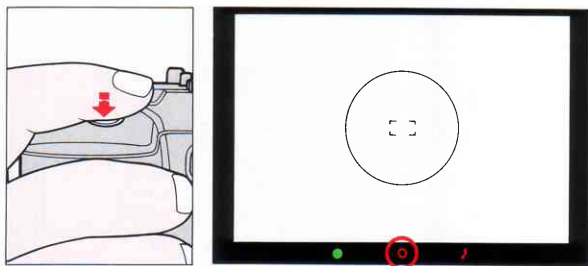
Operation in shutter-priority auto exposure mode



1. If subject brightness is insufficient, the viewfinder ready-light blinks to suggest that you use a flash.



2. Press both flash lock-release buttons. The built-in TTL flash will pop up and automatically turn on.



- 3.** Compose picture and lightly press shutter release button. Confirm exposure indicator LED for background exposure.

○ lights up	Correct exposure
+ or + ○ light up*	Background may be overexposed. Select faster shutter speed
– or ○ – light up*	Background may be underexposed. Select slower shutter speed. If – remains with a shutter speed of 1 sec., background will be underexposed

* With a flash, the shutter will not lock even if + or – lights up.

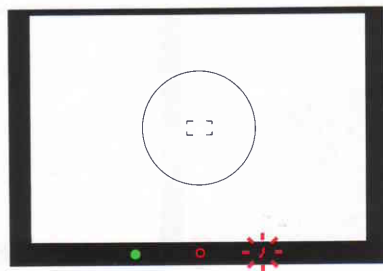
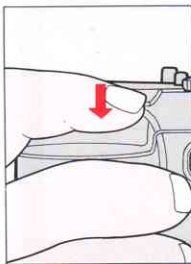
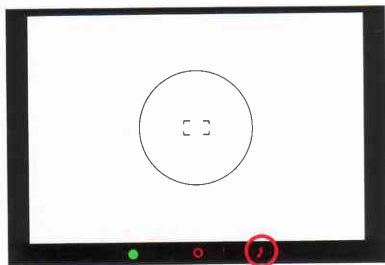
- For controlled shutter speed/aperture, see the table on page 62.
- Do not use AEL button in Matrix Balanced Fill-Flash.

- 4.** Make sure subject is within the flash shooting distance range.

Guide for flash shooting distance range (at ISO 100):

For subjects backlit by the sun	0.6m~0.8m at 1/125 sec.
For outdoor subjects on sunny day	0.6m~1.5m at 1/125 sec.
For outdoor subjects on cloudy day/in shadows	0.7m~2.1m at 1/125 sec.
For indoor subjects	0.7m~4.3m at 1/30 sec.

The listed ranges should only be used as a guide. To choose desired flash shooting distance range, switch exposure mode to aperture-priority auto or manual.



5. Confirm ready-light is on, then fully depress shutter release button to take a shot with the flash.

- *With ready-light off, the flash is charging and shutter remains locked.*

If ready-light blinks for a few seconds after shooting:

The flash has fired at its maximum output and light might be insufficient. Confirm shooting distance and, if necessary, move closer to the subject or switch exposure mode to aperture-priority auto to select a wider aperture.