Nikon

# N6006/N6000

Instruction Manual

# FLASH PHOTOGRAPHY

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# CONTENTS



This supplement will help you take pictures with Nikon dedicated Speedlights. The camera controls various flash photography functions, so keep its instruction manual on hand for easy reference.

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. To give your flash photos a new dimension, the N6006/N6000 offers the following functions with Nikon dedicated Speedlights.

**Automatic Balanced Fill-Flash**
Performs fill-flash with an exposure automatically balanced for both foreground subject and background. (See pp 6 - 34)

**Manual Flash Output Level Adjustment**
Allows exposure compensation on foreground subject by increasing or decreasing light output. (See pp 35 - 37)

**Slow Sync – Front-Curtain Slow Sync**
Enables you to use slower shutter speeds, giving you greater exposure control in flash photography. (See pp 39 - 40)

**Rear-Curtain Sync – Rear-Curtain Slow Sync**
Lets you synchronize the flash to the instant before the rear curtain begins to close, resulting in natural light flow. (See pp 41 - 43)

For camera/Speedlight compatibility, see page 44.

Procedures with Speedlight set at TTL (through-the-lens) auto flash are explained in the following pages.
For other flash modes, specifications, accessories, and miscellaneous, see instruction manual of each Speedlight.

**FOR N6006 USERS**
When your camera's built-in TTL flash is up, an accessory Speedlight will not fire. To make Speedlight work, store built-in TTL flash in down position.

**FOR SB-24 USERS**
SB-24 provides same functions as the camera, including automatic balanced fill-flash, manual flash output level adjustment and rear-curtain sync. These functions can be controlled on SB-24 using cameras other than N6006/N6000. With N6006/N6000, you *cannot* set these functions on SB-24. Also, lens information such as zoom setting and aperture setting are not relayed to SB-24. You must set zoom setting and lens aperture manually, in the same way as when using a lens with no CPU contacts.

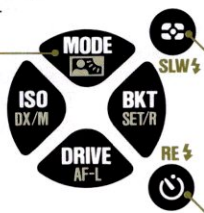
**In flash photography, the following controls on camera body are used:**

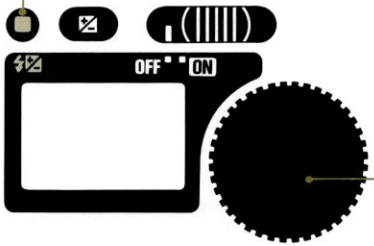
**Exposure mode (MODE) button/Automatic balanced fill-flash ( ) button:** While pressing shift button press to set/cancel automatic balanced fill-flash. (See pages 6 to 34)

**Metering system ( ) button/Slow sync button:** While pressing shift button, press to set/cancel slow sync. (See pages 39 to 40)

**Self-timer ( ) button/Rear-Curtain sync button:** While pressing shift button, press to set/cancel rear-curtain sync. (See pages 41 to 43)

**Shift button**




**Command dial:** While pressing shift button, rotate to manually adjust flash output level. (See pages 35 to 37)

This supplement book uses the **N6006** camera and **SB-22** Speedlight for demonstration purposes.

# AUTOMATIC BALANCED FILL-FLASH

Unlike exposure compensation (through aperture and shutter speed control) which affects the whole image, fill-flash allows you to maintain the overall exposure and brighten just the darker shadow areas of the scene's foreground.
With Nikon's dedicated Speedlights SB-24, SB-23, SB-22, SB-20, etc., set at TTL auto flash mode, you will achieve advanced yet simplified fill-flash photography – Nikon Automatic Balanced Fill-Flash which uses computer control to create a natural balance between overall exposure and fill-flash effect.

You can perform Matrix Balanced Fill-Flash, Center-Weighted Fill-Flash, Spot Fill-Flash, or Standard TTL Flash with all three meters (Matrix, Center-Weighted and Spot) – by using appropriate settings on the N6006/N6000 camera.
As shown on the next page, in Automatic Balanced Fill-Flash, flash output level is automatically compensated to balance foreground subject and background – although you can also do this manually. In standard TTL flash, however, flash output level compensation can only be made manually.

| Automatic Balanced Fill-Flash* / Metering System | Set on N6006 and N6000 ( appears in camera's LCD panel) — Flash output level is automatically compensated | Cancels on N6006 and N6000 ( disappears in camera's LCD panel) — Flash output level is not automatically compensated |
|---|---|---|
| Matrix | Matrix Balanced Fill-Flash | Standard TTL Flash |
| Center-Weighted | Center-Weighted Fill-Flash | |
| Spot** | Spot Fill-Flash | |

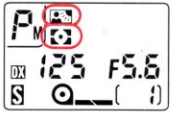
**To set/cancel automatic flash output level compensation, press automatic balanced fill-flash ( ) button while pressing shift button.*

***For N6006 only.*

**For SB-24 users**

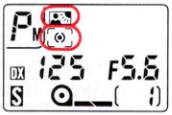
To set/cancel automatic flash output level compensation, use camera's automatic balanced fill-flash button. With N6006/N6000, pressing SB-24's M and SEL buttons has no effect and mark does not appear in SB-24's LCD panel.

## MATRIX BALANCED FILL-FLASH




The N6006/N6000's Matrix meter reads the scene's light levels and light pattern, and signals the computer, which then calculates available-light exposure settings. When shutter is released, N6006/N6000's TTL sensor senses available light and flash illumination, then relays this information to the computer, which automatically controls flash operation. The computer automatically determines appropriate amount of flash exposure compensation required. As soon as the right amount of flash illumination for a balanced fill-flash exposure (based on automatic compensation control) is output, the computer turns off flash. The result is a well-balanced photo with the correct exposure for both background and foreground subject. All this takes place automatically and much quicker than it can be explained.

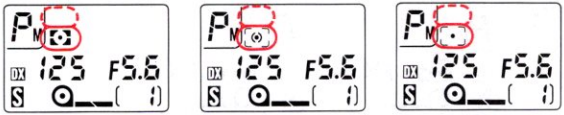
## CENTER-WEIGHTED FILL-FLASH




By pointing the center-weighted area at different parts of the picture, you can choose the brightness level desired for basic available-light exposure. To maintain exposure when recomposing picture, use AE-L (Auto Exposure Lock) lever. (See camera's instruction manual for AE-L function)

If the brightness value you have selected is within the controlled shutter/aperture range, flash output compensation will be automatically set for a natural fill-flash effect. If you select a brightness value beyond the controlled shutter/aperture range, flash output will be set without compensation, as with standard TTL flash operation.

## STANDARD TTL




Standard TTL flash can be performed by cancelling automatic balanced fill-flash. It differs from automatic balanced fill-flash operation because it allows you manual selection of flash compensation level instead of having the computer do it automatically. You have a choice from EV +1 to EV –3.

For standard TTL operation, follow automatic balanced fill-flash operation procedure. In this case, marks will not appear.

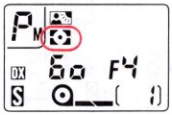
**Spot Fill-Flash:**
Automatic flash output compensation is performed in the same manner as in Center-Weighted Fill-Flash.
As the area measured is represented by the 3.5mm-diameter circle in the center of the viewfinder, Spot Fill-Flash is recommended when shooting a subject with high-contrast background and when you want to emphasize picture contrast. In this case, first measure exposure on the desired part of the background, recompose using auto exposure lock, and then shoot.

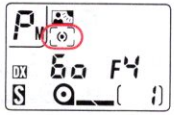
# AUTOMATIC BALANCED FILL-FLASH OPERATION

Regarding all procedures before taking picture including installing batteries in flash unit, attaching flash unit to camera, adjusting flash head, setting film speed on flash unit, adjusting flash head, refer to Speedlight's instruction manual.

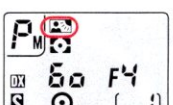
**For SB-24 users:** Set ISO film speed and angle of coverage *manually* on SB-24.

The usable film speed for TTL flash photography with N6006 and N6000 is ISO 25 to ISO 1000.

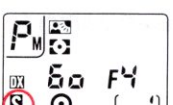




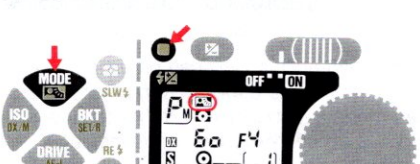
- Metering system is set at Matrix for Matrix Balanced Fill-Flash, at Center-Weighted for Center-Weighted Fill-Flash, or at Spot for Spot Fill-Flash.
- *For Matrix Balanced Fill-Flash, also make sure to use AF Nikkor or AI-P Nikkor lens. With other lenses, metering system automatically switches to Center-Weighted metering with ⊡ mark on LCD panel blinking and Center-Weighted Fill-Flash will be performed.*



- Automatic balanced fill-flash is set on N6006 and N6000 with mark shown in LCD panel.



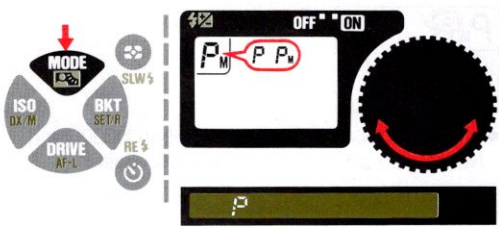
- Choose and set film advance mode to **S** for single-frame shooting.




If mark does not appear, while pressing shift button, press automatic balanced fill-flash ( ) button so mark appears.

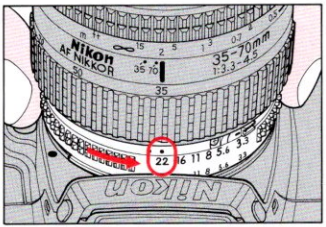
Automatic balanced fill-flash can be performed using any exposure mode. In Aperture-Priority or Manual exposure mode, you can control depth of field by varying aperture. When selecting aperture, see "Note on Selecting Aperture" on page 29.

## OPERATION IN PROGRAMMED AUTO EXPOSURE MODE

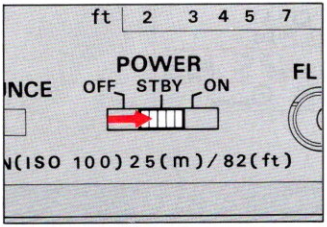



**1.** Set exposure mode to **PM** or **P** .

- *Only lenses with built-in CPU can be used for programmed auto exposure mode. With other lenses, exposure mode automatically switches to Aperture-Priority auto and exposure mode indicator blinks.*

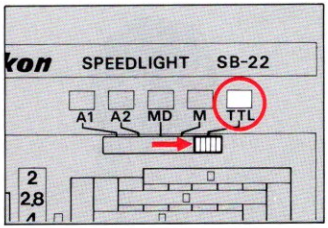



**2.** Set lens aperture to minimum setting and lock.




**3.** Turn on flash unit.

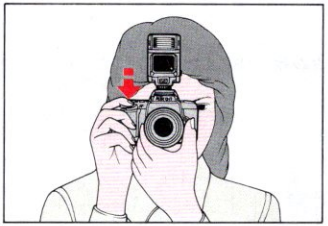
- *If flash unit is not set at TTL, mark and exposure mode indication (**PM** or **P**) blink as a warning for a few seconds and shutter locks.*
  *With N6000, **FEE** also blinks.*



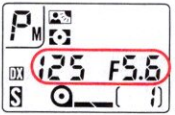

**4.** Set flash unit's mode selector to TTL.

- *With SB-23, setting mode selector to TTL simultaneously turns Speedlight on.*

**For SB-24 users:**
With this camera, F always blinks in SB-24's LCD panel.



**5.** Look into viewfinder, compose picture and lightly press shutter release button.





**6.** Confirm exposure indication in viewfinder or LCD panel. Aperture and shutter speed are controlled as follows.

**Controlled shutter speed**

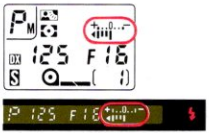
| In normal sync | In slow sync* |
|---|---|
| If focal length in use is 60mm or shorter: 1/(focal length) sec. to 1/125 sec. | 30 sec. to 1/125 sec. |
| If focal length in use is longer than 60mm: 1/60 sec. to 1/125 sec. | |

* *Slow sync can be set with shift button and sync button. For details, see pp 39 - 40.*

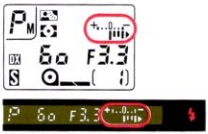
**Controlled aperture:** Aperture is controlled between f/2.8 and minimum aperture, but available maximum aperture depends on camera body and film speed in use.

| ISO film speed | | 25 | 50 | 100 | 200 | 400 | 800 | 1000 |
|---|---|---|---|---|---|---|---|---|
| Max. aperture | With N6006 | 4 | 4.8 | 5.6 | 6.7 | 8 | 9.5 | 10 |
| | With N6000 | 2.8 | 2.8 | 4 | 5.6 | 8 | 11 | 11-1/3 |


**If "FEE" blinks in aperture position:** Lens is not at smallest aperture setting and shutter locks. Set lens to smallest aperture.

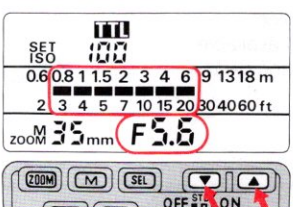



**If electronic analog display indicates "+" value (for N6006) or "HI" appears in shutter speed position (for N6000):** Overexposure may occur.

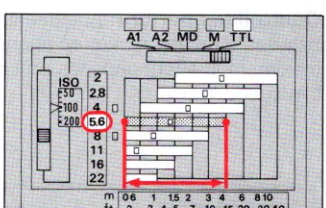



**If electronic analog display indicates "–" value (for N6006):** Underexposure will occur. Switch to slow sync to obtain slower shutter speed or switch to shutter-priority auto exposure mode to select slower shutter speed.

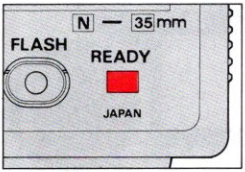
**7.** Confirm shooting distance range. If you are standing beyond indicated range, move closer or switch exposure mode to Aperture-Priority auto or Manual to select a wider aperture.




**With SB-24:**
With SB-24's adjust buttons, set the controlled aperture on SB-24's LCD panel to read flash shooting range.

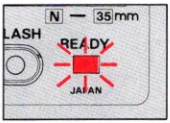



**With SB-23, SB-22 or SB-20:**
Refer to flash shooting range from aperture selection shooting distance range panel.





**8.** Confirm ready-light is on, then take picture.



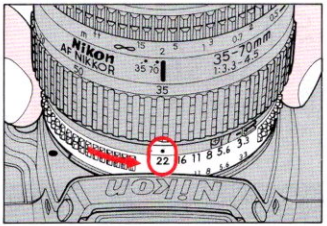


**If both viewfinder ready-light and Speedlight's ready-light blink for a few seconds after shooting:** The flash has fired at its maximum output and light might be insufficient. Confirm shooting distance and, if necessary, move closer to subject or switch exposure mode to Aperture-Priority auto or Manual exposure to select a wider aperture.

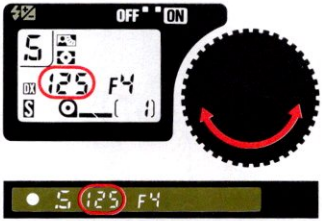
## OPERATION IN SHUTTER-PRIORITY AUTO EXPOSURE MODE


**1.** Set exposure mode to **S**.

- *Only lenses with built-in CPU can be used in Shutter-Priority auto exposure mode. With other lenses, exposure mode automatically switches to Aperture-Priority auto and exposure mode indicator blinks.*

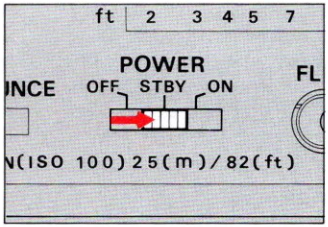



**2.** Set lens aperture to minimum setting and lock.

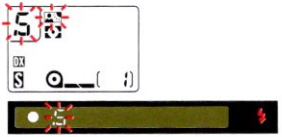



**3.** Set your desired shutter speed.

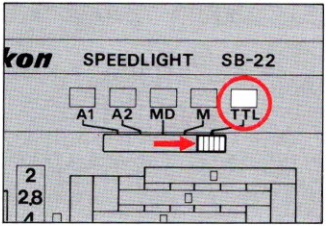
- *If you set shutter speed at 1/250 sec. or faster, camera automatically shifts to 1/125 sec. as soon as Speedlight is turned on.*
- *If a slower shutter speed is set, a smaller aperture will be automatically selected, limiting you to a shorter shooting distance.*




**4.** Turn on flash unit.



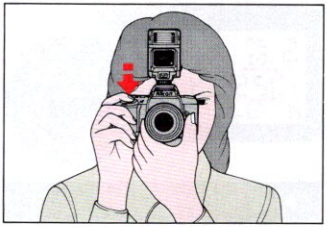

- *If flash unit is not set at TTL, mark and exposure mode indication (S) blink as a warning for a few seconds and shutter locks.*
  *With N6000,* ***FEE*** *also blinks.*



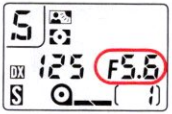

**5.** Set flash unit's mode selector to TTL.

- *With SB-23, setting mode selector to TTL simultaneously turns Speedlight on.*

**For SB-24 users:**
With this camera, F always blinks in the SB-24's LCD panel.



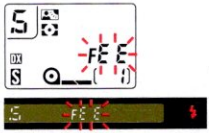
**6.** Look into viewfinder, compose picture and lightly press shutter release button.



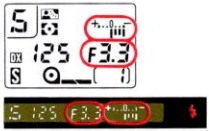


**7.** Confirm exposure indication in viewfinder or LCD panel.
An appropriate aperture is automatically selected (between f/2.8* and lens minimum aperture) while shutter speed is controlled as set.

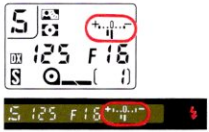
* *For available maximum aperture, see table on page 15.*




**If "FEE" blinks in aperture position:** Lens is not at smallest aperture setting and shutter locks. Set lens to smallest aperture.

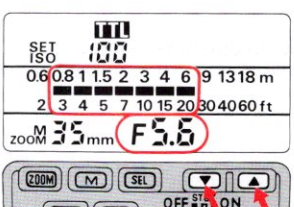



**If lens maximum aperture appears with electronic analog display:** Underexposure may occur. Select slower shutter speed. If electronic analog display remains with a shutter speed of 30 sec., underexposure should occur without automatic flash level compensation.

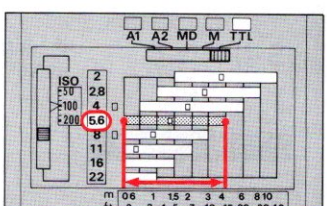



**If electronic analog display indicates "+" value:** Overexposure may occur. For the N6000, "HI" appears in aperture position. Select faster shutter speed.

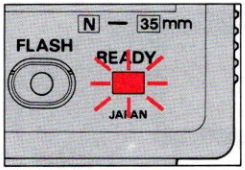
**8.** Confirm shooting distance range.




**With SB-24:**
With SB-24's adjust buttons, set controlled aperture on SB-24's LCD panel to read flash shooting range.

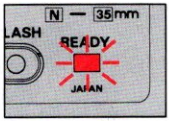



**With SB-23, SB-22 or SB-20:**
Read flash shooting range from Speedlight's aperture selection/ shooting distance range panel.





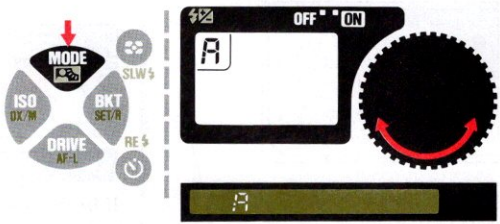
**9.** Confirm ready-light is on, then take picture.



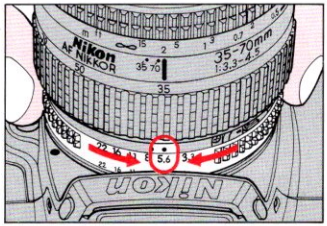


**If both viewfinder ready-light and Speedlight's ready-light blink for a few seconds after shooting:** The flash has fired at its maximum output and light might be insufficient. Confirm shooting distance and, if necessary, move closer to the subject or switch exposure mode to Aperture-Priority auto or Manual exposure to select a wider aperture.

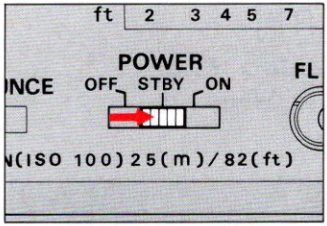
## OPERATION IN APERTURE-PRIORITY AUTO EXPOSURE MODE



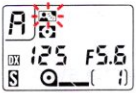

**1.** Set exposure mode to A .



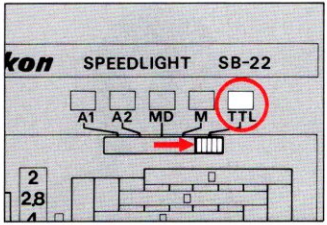

**2.** Set desired aperture on lens.




**3.** Turn on flash unit.



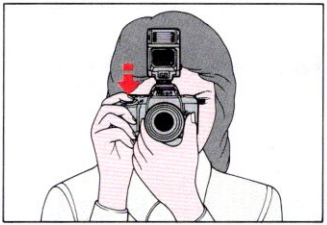

- *If flash unit is not set at TTL, mark blinks as a warning.*



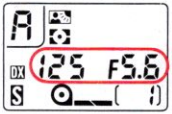

**4.** Set flash unit's mode selector to TTL.

- *With SB-23, setting mode selector to TTL simultaneously turns Speedlight on.*

**For SB-24 users:**
With this camera, F always blinks in SB-24's LCD panel.



**5.** Look into viewfinder, compose picture and lightly press shutter release button.



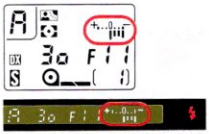


**6.** Confirm exposure with exposure indication in viewfinder or LCD panel.

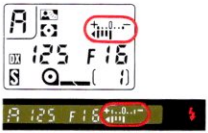
According to manually set aperture, shutter speed is automatically controlled as follows:

| In normal sync | In slow sync* |
|---|---|
| If focal length in use is 60mm or shorter: 1/(focal length) sec. to 1/125 sec. | 30 sec. to 1/125 sec. |
| If focal length in use is longer than 60mm: 1/60 sec. to 1/125 sec. | |

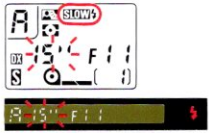
* *For front-curtain slow sync, see pp 39 - 40; for rear-curtain slow sync, see pp 41 - 43.*



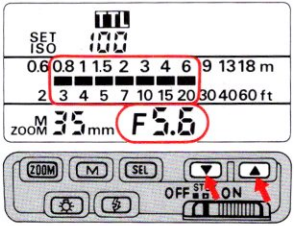

**If analog display appears:** Underexposure will occur. Select a wider aperture until display disappears. If display stays on to indicate underexposure, you change sync from normal to slow sync. (See pp 39 - 40 for front-curtain slow sync or pp 41 - 43 for rear-curtain slow sync.) However, with slow sync, shutter speed will become slower and you must hold camera very steady.




**If electronic analog display indicates "+" value:**
Overexposure will occur. For the N6000, "HI" appears in shutter speed position. Select smaller aperture (larger f-number).

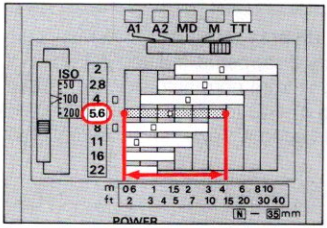



**If shutter speed display blinks:** Selected shutter speed may be too slow for hand held photography or for movement of subject. Choose a wider aperture or use a tripod.

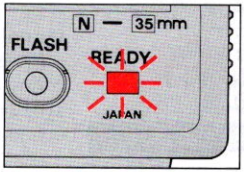



**7.** Confirm shooting distance.

**With SB-24:**
With SB-24's adjust buttons, set manually selected aperture on SB-24's LCD panel in order to read flash shooting range.

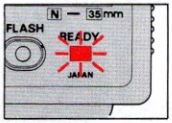



**With SB-23, SB-22 or SB-20:**
Refer to flash shooting range from Speedlight's aperture selection/ shooting distance range panel.





**8.** Confirm ready-light is on, then take picture.



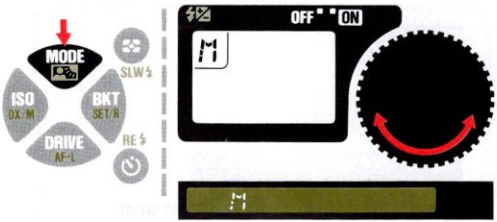


**If both viewfinder ready-light and Speedlight's ready-light blink for a few seconds after shooting:** The flash has fired at its maximum output and light might be insufficient. Check shooting distance and, if necessary, move closer to subject or select a wider aperture.

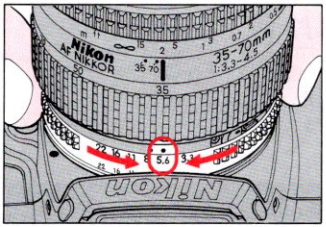
**Note on Selecting Aperture**

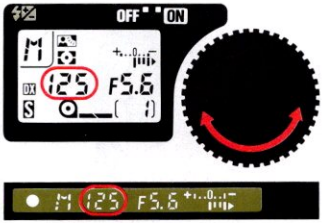
- Make sure your subject is within shooting range indicated on aperture selection/shooting distance panel (or LCD panel of SB-24).
- The larger the aperture (the smaller the f-number) you select, the greater the maximum shooting distance, whereas the smaller the aperture (the larger the f-number), the less the maximum shooting distance.
- If subject distance remains the same, the larger aperture you select, the less depth of field; however, Speedlight recycling time is shorter. On the other hand, the smaller the aperture, the greater the depth of field, but recycling time is longer.

## OPERATION IN MANUAL EXPOSURE MODE



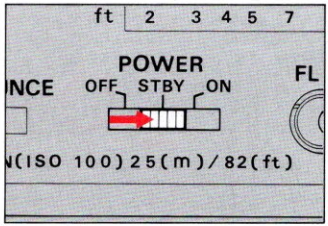

**1.** Set exposure mode to M.



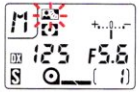




**2.** Set your desired shutter speed and aperture.

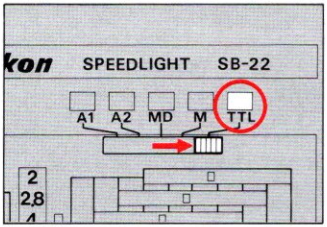
- *If you set shutter speed at 1/250 sec. or faster, camera automatically shifts to 1/125 sec. as soon as Speedlight is turned on.*
- *At Bulb setting, standard TTL flash will be performed with no exposure indication.*
- *Aperture should be selected based on flash guide number and distance to subject.*




**3.** Turn on flash unit.

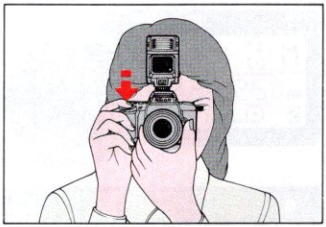



- *If flash unit is not set at TTL,* [ ] *mark blinks as a warning.*

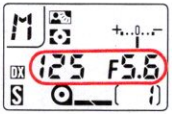



**4.** Set flash unit's mode selector to TTL.

- *With SB-23, setting mode selector to TTL simultaneously turns Speedlight on.*



**5.** Look into viewfinder, compose picture and lightly press shutter release button.



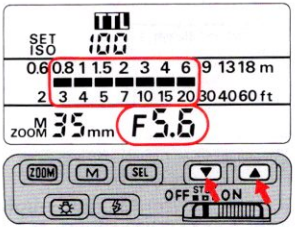


**6.** Confirm manually set shutter speed and aperture in viewfinder or LCD panel.

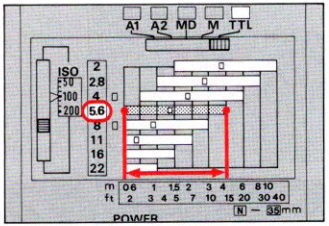
- *If electronic analog display shows underexposure, flash output level compensation can only be made manually.*

**For SB-24 users:**
With this camera, F always blinks in SB-24's LCD panel.

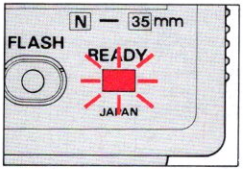
**7.** Confirm shooting distance range.




**With SB-24:**
With SB-24's adjust buttons, set selected aperture on SB-24's LCD panel in order to read flash shooting range.

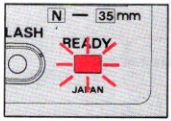



**With SB-23, SB-22, or SB-20:**
Read flash shooting range from Speedlight's aperture selection/ shooting distance range panel.





**8.** Confirm ready-light is on, then take picture.





**If both viewfinder ready-light and Speedlight's ready-light blink for a few seconds after shooting:** The flash has fired at a very narrow lens aperture and light might be insufficient. Check shooting distance and, if necessary, move closer to subject or select a wider aperture.

# EXPOSURE COMPENSATION IN TTL AUTO

In flash photography, you can compensate for exposure in the following ways:

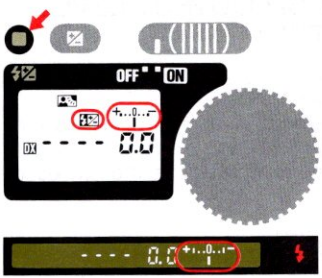
- Manual adjustment of flash output level compensation
- Camera's EV compensation
- Auto exposure bracketing (See camera's instruction manual)

You can use these methods either individually or in combination.

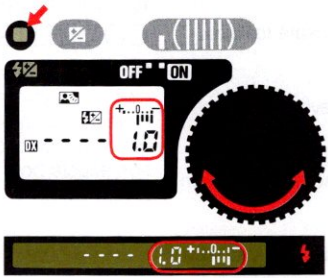
## MANUAL FLASH OUTPUT LEVEL COMPENSATION

By manually compensating flash output level, you can manually balance fill-flash.
Note that flash output level compensation affects foreground subject only while camera's EV compensation affects both foreground subject and background.

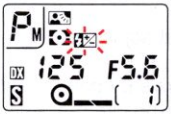
Automatic balanced fill-flash always incorporates some form of computer compensation, even if you make adjustments manually. In Standard TTL mode, only manually selected compensation level is used.




**1.** Press shift button and hold in. Flash output level compensation ( ) mark and electronic analog display appears in LCD panel and viewfinder, indicating that manual flash output level compensation can be set.



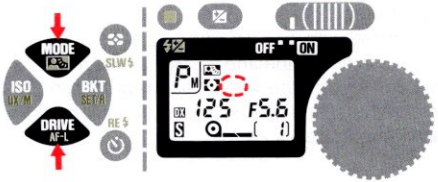

**2.** While holding shift button, rotate command dial to set desired level of compensation from +1EV to –3EV (in 1/3 step increments). Rotate command dial clockwise for overexposure, or counterclockwise for underexposure compensation.



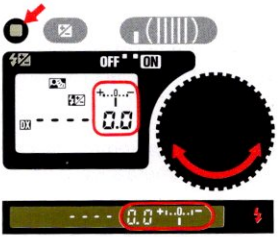

**3.** Remove finger from shift button. Electronic analog display disappears while a  mark remains, indicating that flash output level is manually compensated.

- *To confirm amount of manual flash output level compensation, press shift button.*

**Cancelling manual flash output level compensation:**
There are two methods that can be used:




**A.** Press **MODE** and **DRIVE** buttons simultaneously for more than one second.




**B.** While pressing shift button, rotate command dial to set level of compensation to 0.

# CAMERA'S EV COMPENSATION

Use camera's exposure compensation button to make your picture (foreground subject and background) darker or lighter.
(For operating procedure, see your camera's instruction manual.)
To make picture lighter, use + compensation. For darker pictures use – compensation. Level of compensation depends on result desired.

The shooting distance range for TTL automatic flash operation varies with the level of camera's EV compensation.

See table (below) and read film speed corresponding to compensation value, then set film speed to Speedlight's LCD panel or aperture selection/shooting distance range panel to read the compensated distance range.
For example, with ISO 100 film and a compensation value of +2, follow the line for film speed 100 to where it intersects the vertical line representing exposure compensation of +2 to get a film speed compensation number of 25.

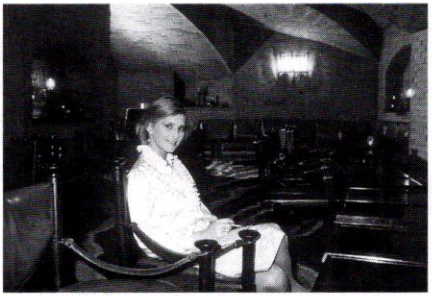
| Exposure compensation value / Film speed in use | +3 | +2 | +1 | 0 | –1 | –2 | –3 | –4 | –5 |
|---|---|---|---|---|---|---|---|---|---|
| 25 | – | – | – | 25 | 50 | 100 | 200 | 400 | 800 |
| 50 | – | – | 25 | 50 | 100 | 200 | 400 | 800 | – |
| 100 | – | 25 | 50 | 100 | 200 | 400 | 800 | – | – |
| 200 | 25 | 50 | 100 | 200 | 400 | 800 | – | – | – |
| 400 | 50 | 100 | 200 | 400 | 800 | – | – | – | – |
| 800/1000 | 100 | 200 | 400 | 800 | – | – | – | – | – |

● *Be sure the compensated film speed is within the usable range of ISO 25 to 1000.*

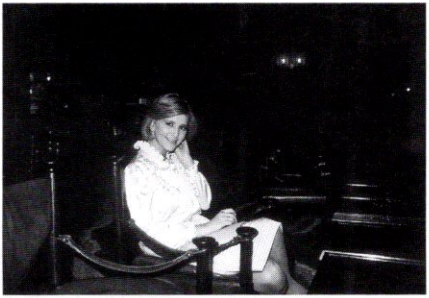
# SLOW SYNC FLASH – Front-Curtain Slow Sync

When flash pictures are taken at high shutter speeds in dim light, the background may come out dark. For sunsets or night scenes, etc., a better background exposure may be achieved with Programmed or Aperture-Priority auto exposure mode, using slow sync.

With slow sync, flash fires at the beginning of exposure and shutter speed is controlled between 1/125 sec. and 30 sec; the slowest shutter speed available in normal sync is 1/60 sec. or 1/(focal length) sec.



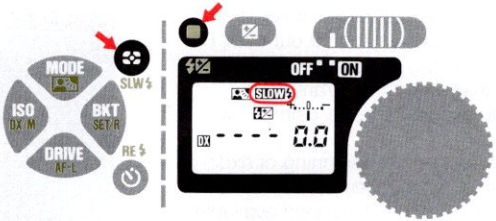
Slow Sync

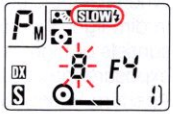


Normal Sync



**1.** Set exposure mode to **PM/P** for Programmed auto or **A** for Aperture-Priority auto.




**2.** While pressing shift button, press slow sync button and confirm SLOW mark shown in LCD panel.

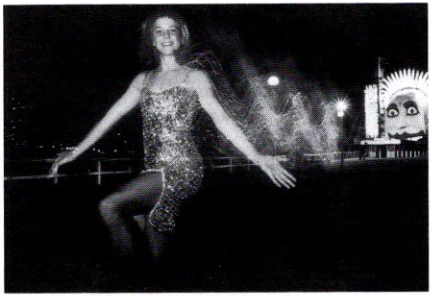
- *While pressing shift button, press slow sync button to either set or cancel the function.*
- *With exposure mode set at Shutter-Priority auto or Manual, slow sync cannot be set and* SLOW *mark does not appear.*

Follow procedures for each exposure mode described on pp 12-17 for Programmed auto or pp 24-29 for Aperture-Priority auto.

When using slow sync, prevent camera shake by using a tripod.

# REAR-CURTAIN SYNC FLASH — Rear-Curtain Slow Sync

In normal flash synchronization, flash fires at the beginning of exposure. At a slow shutter speed, this causes unnatural light patterns. For natural lighting, use rear-curtain sync. In rear-curtain sync, flash fires at the end of exposure, turning available light into a stream of light that follows the flash-illuminated moving subject.



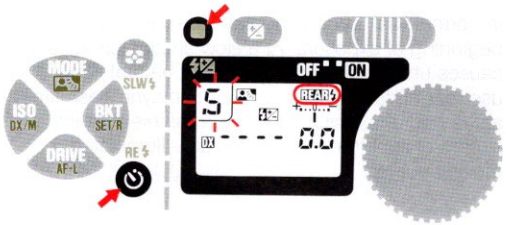
Rear-Curtain Slow Sync

Front-Curtain Slow Sync

Rear-curtain sync flash photography works better with slower shutter speeds*. Although all exposure modes can be used for rear-curtain sync in TTL auto flash, Shutter-Priority auto or Manual exposure modes are recommended because they allow you to choose your desired shutter speed. Slow sync is automatically set in Programmed auto or Aperture-Priority auto exposure mode, when rear-curtain sync is set.

** Use a tripod to prevent camera shake.*

Rear-curtain sync can be used in TTL auto, non-TTL auto and manual flash mode.

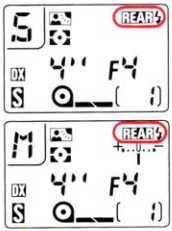



**In Shutter-Priority auto or Manual exposure mode**

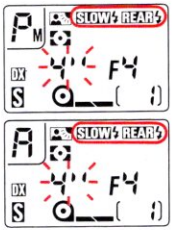
While pressing shift button, press rear-curtain sync button and confirm REAR mark shown in LCD panel.

- *While pressing shift button, press rear-curtain sync button to switch between normal (front-curtain) sync and rear-curtain sync.*

Follow procedures for each exposure mode described on pages 18-23 for Shutter-Priority auto or pages 30-34 for Manual.








**In Programmed auto or Aperture-Priority auto exposure mode**

While pressing shift button, press rear-curtain sync button and confirm REAR and SLOW marks shown in LCD panel.

- *While pressing shift button, press rear-curtain sync to switch between normal (front-curtain) sync and rear-curtain sync. However, once rear-curtain sync is set, slow sync remains until cancelled by pressing shift button and slow sync button (see page 40).*

Follow procedures for each exposure mode described on pp 12-17 for Programmed auto or pp 24-29 for Aperture-Priority auto.

# NIKON SPEEDLIGHT COMPATIBILITY

| Nikon Speedlight | | Camera's exposure mode | | | | Connection |
|---|---|---|---|---|---|---|
| | | PM, P | S | A | M | |
| SB-24, SB-23, SB-22, SB-21B*, SB-20, SB-16B | TTL auto flash | Yes | Yes | Yes | Yes | Direct |
| | Other flash mode | – | – | Yes | Yes | Direct |
| SB-140**, SB-14, SB-11 (with SU-2) | TTL auto flash | Yes | Yes | Yes | Yes | Via SC-23 |
| | Other flash mode | – | – | Yes | Yes | Via SC-13 or sync cord with AS-15 |
| SB-21A***, SB-17, SB-16A*** | TTL auto flash | – | – | Yes | Yes | Via AS-6 |
| | Other flash mode | – | – | Yes | Yes | |
| Medical-Nikkor 120mm f/4 IF | | – | Yes | – | Yes | 3-pin cord SC-22 |

* *Although possible with SB-21B, automatic balanced fill-flash is not recommended for close-up photography.*

** *Ultraviolet and infrared photography can be performed in Manual flash mode only.*

*** *The difference between SB-21A and SB-21B, or between SB-16A and SB-16B, is the type of controller attached. (For details, see Speedlight's instruction manual).*

: Automatic balanced fill-flash possible.

: Slow sync possible.

- To connect camera and Speedlight with a sync cord, use Nikon AS-15 adapter.
- When using a special Speedlight with a time-lag provision or one with a long flash duration (i.e., Medical-Nikkor 120mm f/4 IF), adjust shutter speed down to 1/60 sec. or slower.
- Use only Nikon Speedlights. Other units may damage the camera's electrical circuits due to incompatible voltage requirements*, electric contact alignment or switch phase.
  ** Not compatible with 250V or higher.*

# "RED EYE"

"Red eye" is a common problem in flash photography. Normally, flash pictures are taken when the surrounding light is dim, and under such conditions the subject's eye pupils will be dilated (wide open). Red-eye effect occurs when light from camera's flash reflects from inside the eye to the camera's lens. The wide-open pupil allows a lot of light to enter, resulting in the center portions of the subject's eyes appearing bright red (white in a B&W picture). It is interesting that the intensity of the red-eye effect varies among individuals, and with two people in the same photograph, one may have red eye and the other may not.

The appearance of red eye is also based on the angle of reflection. If the angle is 2 to 2.5 degrees or narrower, then red eye will occur. As you move closer to a subject, the angle becomes wider, and the likelihood of red-eye effect decreases. As you move farther from a subject, the angle narrows and the incidence of red eye increases. When you are very far from a subject, the size of the eye in the picture may become so small that red eye is not apparent. With a lens that has a longer focal length, the subject becomes bigger and red eye is more commonly apparent.
With an angle exceeding 2.5 degrees, red eye is not likely to occur. For example, with a 35-55mm range lens and when 1.4m (4.5 ft.) or closer to the subject, the angle between the flash and lens exceeds 2.5 degrees and it is unlikely for red-eye effect to be visible.

**Nikon**

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