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The large manuals are split only for easy download size.

Shutter-Priority Auto exposure mode

You manually set the shutter speed you want. To freeze the action, use a high shutter speed; to create motion effects, choose a slower shutter speed. The N90s's microcomputer automatically sets the proper aperture to match the manually selected shutter speed for correct exposure. See pp. 56-59 for Shutter-Priority Auto operation.

Note that Shutter-Priority Auto exposure mode operates only with Nikon lenses that have a built-in CPU (AF Nikkor and AI-P Nikkor lenses).

Aperture-Priority Auto exposure mode

You can control depth of field by varying the aperture. Smaller apertures make the background and foreground sharper (recommended for landscape pictures) while larger apertures tend to blur the background (recommended for portraits). Your selected aperture will determine the shutter speed that is automatically set by the camera's microcomputer. When using smaller apertures with correspondingly slower shutter speeds, remember that, generally, any speed below 1/(focal length in use) second, requires the use of a tripod to prevent picture blur due to camera shake. The higher the corresponding shutter speed to the aperture you set, the easier it is to stop action. Adjust the selected aperture if the speed is not appropriate for conditions or the specific effect you want.

For Aperture-Priority Auto operation, see pp. 60-62.

Manual exposure mode

Manual exposure control allows you to make both aperture and shutter speed settings. For a technically correct exposure, follow the recommendation of the camera's light meter, as indicated by LCD readout. To achieve a specific creative effect (e.g., intentional blur, intentional under- or over-exposure), disregard the LCD and modify the recommended exposure settings.

For Manual exposure operation, see pp. 63-66.

Pictures taken at different shutter speeds



High shutter speed



Slow shutter speed

Pictures taken at different apertures



Wide aperture

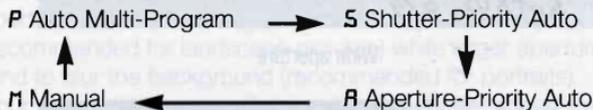


Narrow aperture

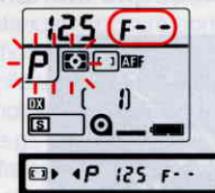
SETTING EXPOSURE MODE



While pressing **MODE** button, rotate command dial. The exposure mode changes as in the following sequence:



- To activate Vari-Program, use **Ps** button. For details, see pp. 67-85.
- If your Custom Program has been stored in the camera, **P** with **CP** will appear in the LCD between **M** and **P**.



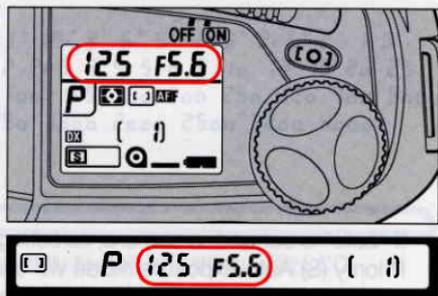
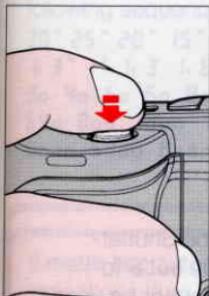
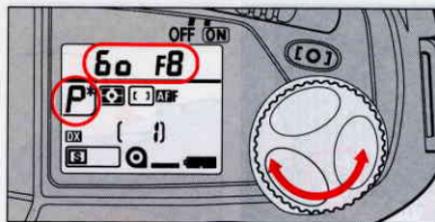
For users of lenses that have no CPU, or accessories such as bellows attachment or extension rings

Use Aperture-Priority Auto or Manual exposure mode. Auto Multi-Program or Shutter-Priority Auto exposure mode automatically shifts to Aperture-Priority Auto exposure mode with **F--** and blinking exposure mode indicator. (If Matrix Metering is set on the camera, metering system is also automatically shifted to Center-Weighted and **AF** blinks). Vari-Program cannot be used for these lenses or accessories.

FLEXIBLE PROGRAM

To change the shutter speed/aperture combination in Auto Multi-Program, Vari-Program or Custom Program, use the Flexible Program function. Flexible Program lets you temporarily change an automatically set shutter speed/aperture combination in 1/3 EV steps*, while maintaining a correct exposure. Flexible Program function can be used with any Nikon Speedlight. When performing flash photography, however, you cannot shift shutter speed over 1/250 sec.

* Although shutter speed indication changes in 1/3 EV steps, aperture indication changes in 1EV steps.



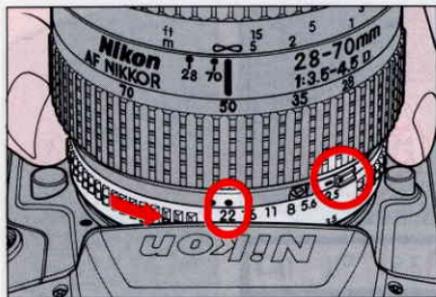
1. Lightly press shutter release button.

2. Turn command dial until desired shutter speed or aperture value appears in viewfinder and in LCD panel. The Flexible Program indicator (P*) appears to indicate the program has been shifted or changed.

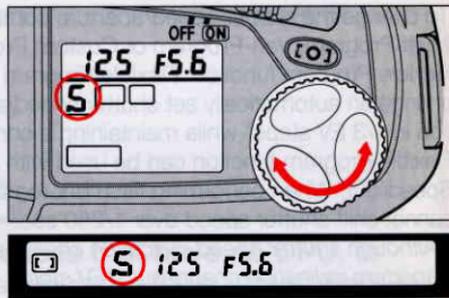
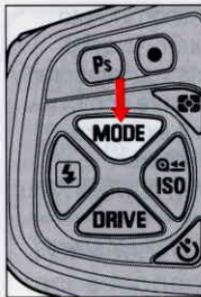
- The shifted program is maintained as long as the exposure meter stays on, unless you turn the command dial to the previous shutter speed/aperture. As soon as the meter switches off (i.e., the viewfinder and LCD panel displays disappear), Flexible Program is cancelled.

Flexible Program is also cancelled when you switch the exposure mode to another mode, readjust the camera settings or turn off the power switch.

OPERATION IN SHUTTER-PRIORITY AUTO EXPOSURE MODE

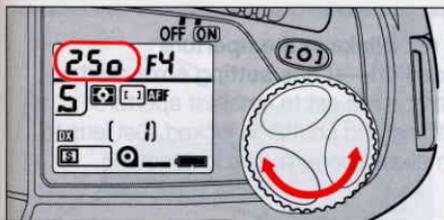


1. Set lens to its minimum aperture setting (highest f-number).
With AF Nikkor and AI-P Nikkor lenses, lock lens aperture at minimum setting (refer to lens instruction manual).



2. While pressing **MODE** button, rotate command dial until "S" appears on LCD panel and viewfinder.

If "bulb" is set on the camera, selecting the Shutter-Priority (S) Auto exposure mode will cause **bulb** to blink—a warning that the "bulb" setting cannot be used in the S mode.

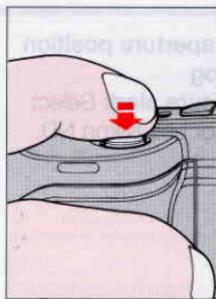


3. Remove finger from **MODE** button, and rotate command dial to select desired shutter speed.

Shutter speed indication changes 1/3 step at a time in the following sequence:

30" 25" 20" 15" 13" 10" 8" 6" 5" 4" 3" 2.5" 2" 1.6"
 1.3" 1" 1/3 1/6 2 2.5 3 4 5 6 8 10 13 15 20 25
 30 40 50 60 80 100 125 160 200 250 320 400 500
 640 800 1000 1250 1600 2000 2500 3200 4000
 5000 6400 8000

If meter has automatically turned off, along with LCD indications, turn on meter—and LCD readout—again by lightly pressing shutter release button.

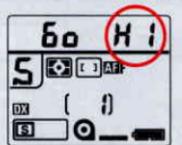


4. Look inside viewfinder, compose and lightly press shutter release button. Confirm the automatically set aperture value.

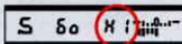
Photo Secretary for N90s/N90 Users

The User Custom Option lets you change the direction of command dial rotation for setting the shutter speed.

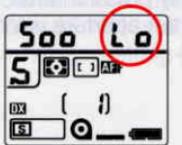
OPERATION IN SHUTTER-PRIORITY AUTO EXPOSURE MODE



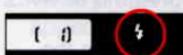
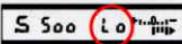
If **Hi** appears in the aperture position with electronic analog display*—**Overexposure alert:** Select higher shutter speed or use Nikon ND filter.



If **FE E** blinks in the aperture position—**Lens setting error alert:** Lens is not set to smallest aperture setting and shutter is locked. Set lens to smallest aperture, and lock setting.

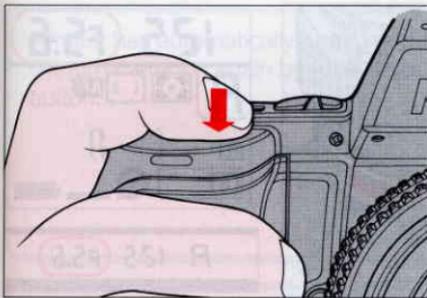


If **Lo** appears in the aperture position with electronic analog display*—**Underexposure alert:** Select slower shutter speed, or use accessory Nikon Speedlight.



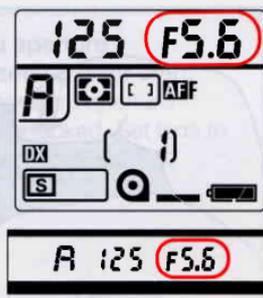
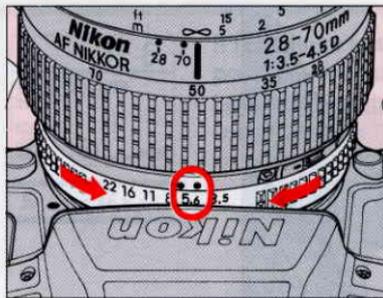
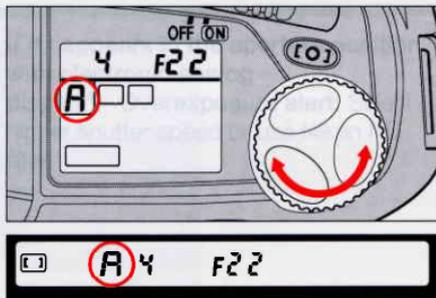
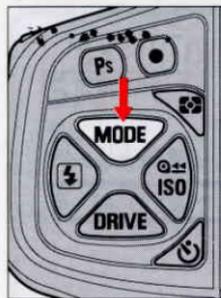
If **⚡** mark in green appears—**Flash photography is recommended:** If subject brightness is insufficient, **⚡** mark lights up in green. Use Nikon Speedlight.

*Shows value difference from correct exposure. If difference is beyond ± 1 EV, **▶** for underexposure or **◀** for overexposure appears.



5. To take the picture, fully depress shutter release button.

OPERATION IN APERTURE-PRIORITY AUTO EXPOSURE MODE



1. While pressing **MODE** button, rotate command dial until **A** appears on LCD panel and viewfinder.
 - If using an AF Nikkor or AI-P lens, make sure it is not locked to smallest aperture before next step.

2. Remove finger from **MODE** button and set lens to desired f-number by rotating lens aperture ring. Aperture set on lens is indicated in the LCD panel and viewfinder as follows:
F1 F1.4 F2 F2.8 F4 F5.6 F8 F11 F16 F22 F32 F45 F64
(Available apertures limited to those of lens in use.)
 - Intermediate figure (e.g. **F1.8**, **F3.3**) displayed indicates maximum aperture of lens in use. Also, with zoom lenses, the maximum aperture for different focal length settings appears in 1/6 EV steps.

Photo Secretary for N90s/N90 Users

The User Custom Option enables Easy Exposure Compensation by rotating the command dial.

OPERATION IN MANUAL EXPOSURE MODE

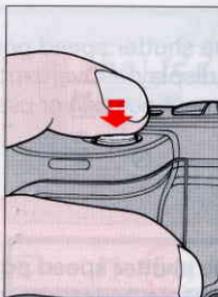
If meter has automatically turned off and the LCD panel is off, turn meter on again by lightly pressing shutter release button.

With lenses having no CPU, F- - appears instead of aperture value in LCD panel and viewfinder.

With AI-type lenses including AI-modified Nikkor lenses: Confirm aperture value on lens barrel.

With lenses having fixed aperture, such as Reflex-Nikkor lenses: Aperture cannot be changed.

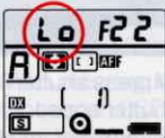
With lenses having no auto diaphragm such as PC-Nikkor lenses: Switch to Manual exposure mode (pp. 63-66).



3. Look inside viewfinder, compose and lightly press shutter release button. Confirm automatically set shutter speed.
 - If shutter speed indicated is 1/(lens focal length) sec. or slower, the picture may come out blurred. To avoid this, hold camera firmly or use a tripod.



If **Hi** appears in the shutter speed position with electronic analog display*—**Overexposure alert:** Select smaller aperture (larger f-number) or use ND filter.



If **Lo** appears in the shutter speed position with electronic analog display*—**Underexposure alert:** Select wider aperture (smaller f-number), or use a Nikon Speedlight.

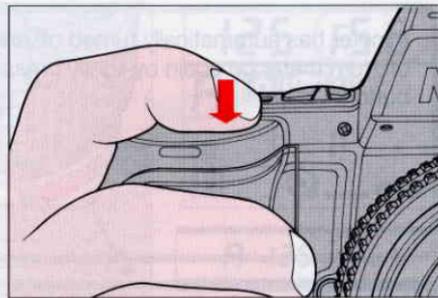


* Shows value difference from correct exposure. If difference is beyond ± 1 EV, \blacktriangle for underexposure or \blacktriangle for overexposure appears.

Photo Secretary for N90s/N90 Users



If **⚡** mark in green appears—**Flash photography recommended:** If subject brightness is insufficient, ready-light blinks. Use Nikon Speedlight.

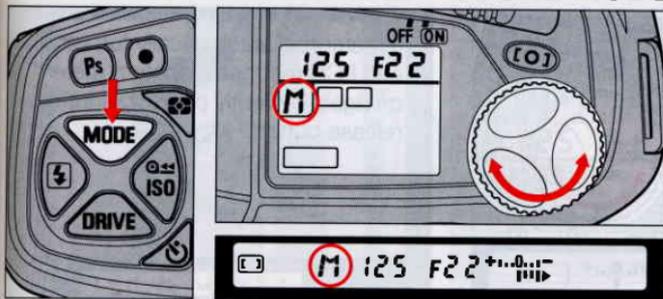


4. To take the picture, fully depress shutter release button.

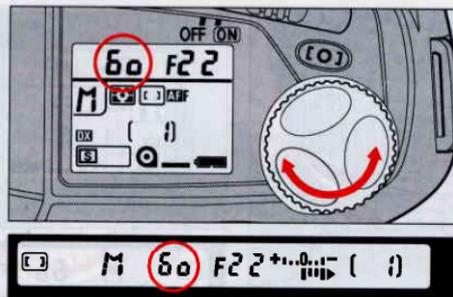
Photo Secretary for N90s/N90 Users

The User Custom Option lets you activate the electronic beeper for exposure alert.

OPERATION IN MANUAL EXPOSURE MODE



1. While pressing **MODE** button, rotate command dial until **M** appears in the LCD panel and viewfinder.
 - If using an AF Nikkor or AI-P lens, make sure it is not locked to smallest aperture before proceeding to next step.

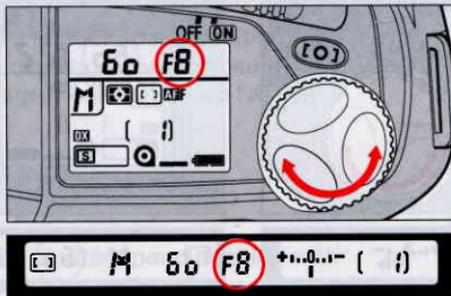
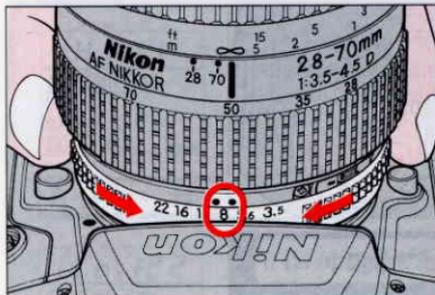


2. Remove finger from **MODE** button, set shutter speed by rotating command dial.
 - In Manual exposure mode, you can set shutter speed to **bulb** for long time exposure by rotating command dial. For details about **bulb** setting, see pp. 97-98 .

Each one of the display blinks when the shutter speed is set on the camera to beyond the maximum range of the N90s.

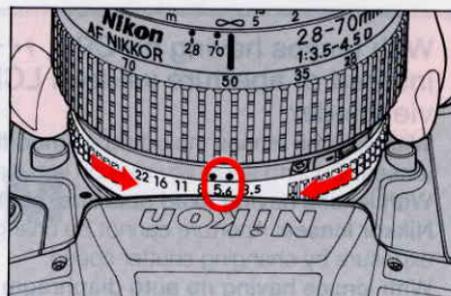
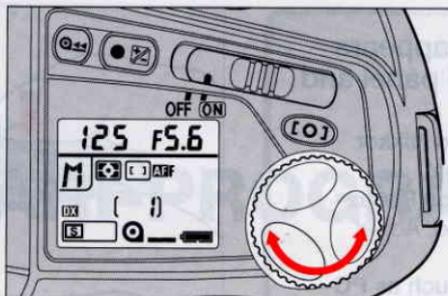
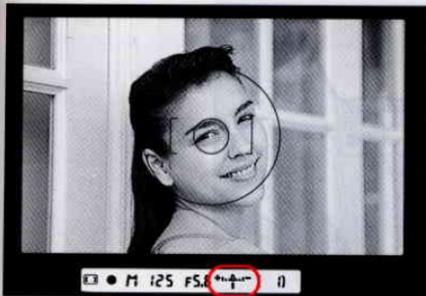
Photo Secretary for N90s/N90 Users

The User Custom Option lets you change the direction of command dial rotation for setting the shutter speed.



Set aperture by rotating the lens aperture ring.

If meter has automatically turned off and LCD readout is off, turn meter on again by lightly pressing shutter release button.

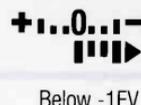
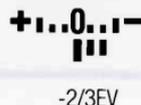
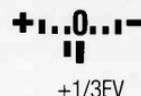
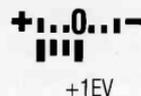


3. Look into the viewfinder, compose and lightly press shutter release button.
Adjust aperture and/or shutter speed until electronic analog display shows "0" or desired amount.

Electronic analog display blinks when the shutter speed/aperture set on the camera is beyond the metering range of the N90s.



Examples

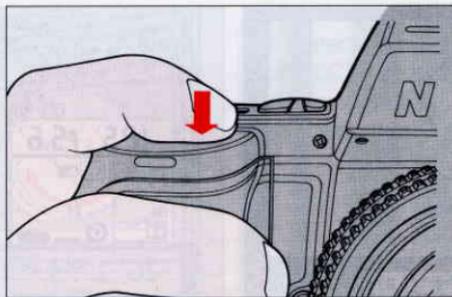


With lenses having no CPU, **F--** appears instead of aperture value in LCD panel and viewfinder.

With AI-type lenses including AI-modified Nikkor lenses: Confirm aperture value on lens barrel.

With lenses having fixed aperture, such as Reflex-Nikkor lenses: Aperture cannot be changed. Adjust exposure by changing shutter speed.

With lenses having no auto diaphragm such as PC-Nikkor lenses: Lens is stopped down when a smaller aperture (larger f-number) is selected. Focus manually with the lens set at maximum aperture.



4. To take the picture, fully depress shutter release button.

VARI-PROGRAM

Here's how you can benefit from the N90s's Vari-Program options for specific picture-taking situations.

Portrait Program (P)

Portrait Program (P) is designed to optimize exposure and focus for portraits. It automatically selects a wide aperture and a slow shutter speed to ensure a soft, out-of-focus background. The lens is centered at infinity. The metering is spot.

Landscape Program (L)

Landscape Program (L) is designed to optimize exposure and focus for landscapes. It automatically selects a narrow aperture and a fast shutter speed to ensure a sharp, detailed background. The lens is centered at infinity. The metering is spot.

Silhouette Program (S)

Silhouette Program (S) is designed to optimize exposure and focus for silhouettes. It automatically selects a wide aperture and a fast shutter speed to ensure a sharp, detailed background. The lens is centered at infinity. The metering is spot.

Programmed exposure control enables the camera's computer to automatically select both lens aperture and shutter speed for the correct exposure. The lens is centered at infinity. The metering is spot. System determines the correct exposure, applying exposure compensation as deemed necessary by the computer.

However, other factors can affect exposure, including the use of different shutter speeds. The N90's Auto Multi-Program is designed to coordinate the selection of shutter speed and aperture for various situations. It guides the exposure control system and automatically selects a high shutter speed to ensure a sharp, detailed background. The lens is centered at infinity. The metering is spot.

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WHAT IS VARI-PROGRAM?

Programmed exposure control enables the camera's computer to automatically adjust both lens aperture and shutter speed for the correct exposure. The N90s camera's Matrix Metering System determines the correct exposure, applying exposure compensation as deemed necessary by the computer's program. However, other factors can affect the picture, including the use of different shutter speeds and different apertures.

The N90s's Auto Multi-Program is designed to coordinate the selection of shutter speed and aperture for average situations. It guides the exposure control system into using reasonably high shutter speeds to avoid blur due to camera shake. The N90s incorporates a versatile Vari-Program System that gives you the option to choose from different programs, each designed to accommodate different picture-taking situations. Please review the concept behind and recommended use for each program, using each as described, or in a different way to express your own picture-taking creativity. Once you understand how each program operates, you'll be able to experiment, using each program for an application different from its originally intended use.

Please note that the effect achieved by using each Vari-Program can be reproduced with the use of other exposure control methods such as Shutter-Priority Auto, Aperture-Priority Auto and Manual. But with Vari-Program control, you allow the camera's computer to take care of all exposure control tasks while you concentrate on composition. This versatility is one of the highlights of the N90s camera's advanced exposure control system.

Portrait Program (P)

This enables you to take a portrait, with your subject standing out against a blurred background.

Portrait Program with Red-Eye Reduction (rE)

Notice how, when taking pictures of people in dim light with flash, sometimes their eyes appear red. This program reduces the possibility of "red-eye" in color pictures or "white-eye" in B&W.

Hyperfocal Program (HF)

The program to use if you want both your main subject and the background to appear sharper.

Landscape Program (L)

Ideal for most scenes, with both far and near objects appearing more sharply focused.

Silhouette Program (S)

Your subject will literally look like a silhouette against the sky or a dramatic sunset.

Sport Program (SP)

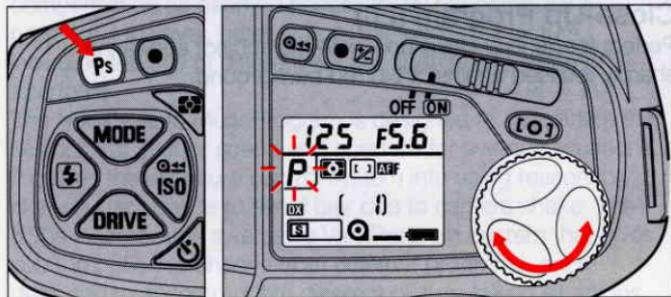
Select this program to capture action. Great for sports photography or for shooting a fast-moving subject.

Close-Up Program (CU)

Perfect for general close-ups, with the subject appearing sharply focused against a blurred background.

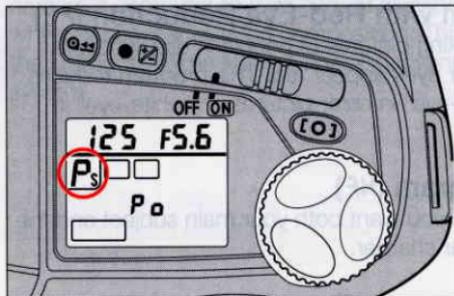
SELECTING VARI-PROGRAM

Use Nikkor lenses with CPU such as AF Nikkor or AI-P-Nikkor lenses and be sure to set lens aperture to the minimum setting.



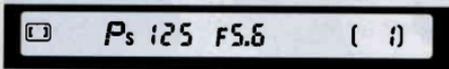
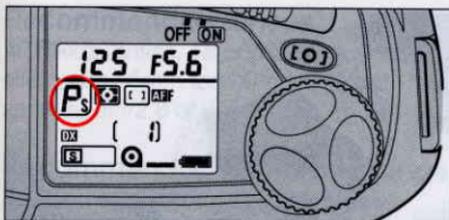
1. Set Vari-Program.

Press and hold **Ps** button and confirm exposure mode indication (**P**, **S**, **A** or **M**) starts blinking.



2. While keeping the **Ps** button pressed, rotate command dial until it clicks once. **P_s** appears in place of the blinking exposure mode indication and one of the Vari-Program indicators (**P_a**, **rE**, **HF**, **L R**, **SL**, **SP** or **U**) appears in place of the frame counter.

Without removing your finger from **Ps** button, to select program, continue to rotate command dial until the indication for your desired program appears on the LCD.



3. Remove your finger from **Ps** button. The frame counter appears again in the LCD panel but Vari-Program indicator remains in the viewfinder. When Vari-Program is set, camera settings are automatically reset as follows:

Flexible Program
Metering system
Focus area

Cancelled
Matrix Metering*
Wide* (or Spot when attached Speedlight is activated)
Normal for **Pa**, **Hf**, **Lr**, **Sl**, **Sp** or **Lu** or Red-Eye
Reduction for **rE**

* You can change setting as desired.

To confirm selected Vari-Program in the LCD panel

Press the **Ps** button. The selected Vari-Program (**Pa**, **rE**, **Hf**, **Lr**, **Sl**, **Sp** or **Lu**) is temporarily indicated in place of the frame counter in the LCD panel. If you want to change the Vari-Program option, without removing your finger from the **Ps** button, rotate the command dial.

To cancel Vari-Program

Press **MODE** button and hold it in. Confirm **Ps** starts blinking, then rotate command dial until desired exposure mode appears.

For beautiful portrait pictures

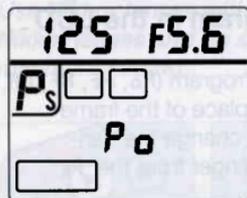
* The former default the selected the background is, the more

MF-26 users

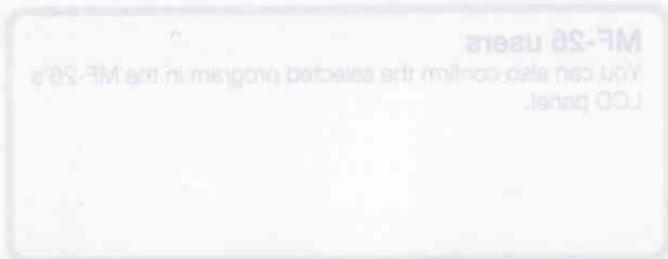
You can also confirm the selected program in the MF-26's LCD panel.

SHOOTING WITH VARI-PROGRAM

PORTRAIT PROGRAM



This program selects the widest aperture possible, thus minimizing depth of field and producing a sharply focused main subject against a blurred background and foreground. It makes the focused subject seem sharper and minimizes distracting elements that may appear in the foreground or background.



Recommended lenses

AF Nikkor lenses. To obtain pronounced blurred background effect, use 85mm to 200mm telephoto lenses with a maximum aperture of f/2.8 or wider.

Recommended camera settings

| | |
|-------------------|--|
| Metering system |  for Matrix* |
| Focus area |  for Wide* or  for Spot |
| Focus mode | S for Single Servo AF |
| Film advance mode |  for single-frame shooting, or  or  for continuous shooting |

* Automatically selected.

With Nikon Speedlight

Use ISO 100 to 400 film. Other films may result in overexposed background.

Procedure

You can follow steps 4-6 of basic shooting procedure on pp. 21-24. To make a really good portrait, make sure your subject's eyes are in sharp focus. To achieve this effect—

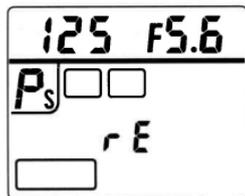
1. Set focus area to  for Spot.
2. Set focus mode to **S** for Single Servo AF with Focus Priority.
3. Set film advance mode to  for single-frame shooting.*
4. Center the subject's eye inside the viewfinder.
5. Lightly press the shutter release button and confirm in-focus indicator ● appears. Focus is locked as long as you keep pressing the shutter release button.
6. Without removing your finger from the shutter release button, recompose the picture as desired.
7. Fully depress the shutter release button to take the picture.

* Continuous shooting is convenient for capturing the subject's expression which may vary from moment to moment. However, continuous shooting is not recommended for a situation where focus lock is needed. In the Single Servo AF mode, the camera detects focus every time the shutter is released during continuous shooting so focus is not locked after the first shot is taken.

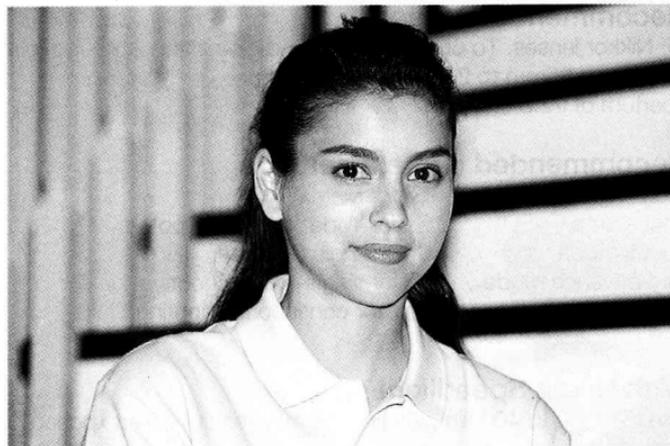
For beautiful portrait pictures

- The farther behind the subject the background is, the more blurred it will appear.
- Back lighting or side lighting usually enhances a portrait; try using fill-flash with a compensation of from -1 to -3 for pleasing results.

PORTRAIT PROGRAM WITH RED-EYE REDUCTION (with SB-28/SB-27/SB-26)



Using the same exposure control as the Portrait Program, this program adds the benefit of Red-Eye Reduction in portraits taken with flash. Use this program for both indoor and outdoor portraits, along with the SB-28/SB-27/SB-26 flash which offers Automatic Balanced Fill-Flash for really enhanced results.



Recommended lenses

AF Nikkor lenses. To blur the background, use a telephoto lens with a maximum aperture of f/2.8 or brighter. However, in close-range shooting, use wider angle lenses to reduce red-eye.

Speedlight

Nikon SB-28, SB-27 or SB-26 Speedlight Unit.

Use ISO 100 to 400 film. Other films may cause overexposed background.

If you set the Portrait Program with Red-Eye Reduction with other Speedlight and turn on the Speedlight,  mark blinks.

Recommended camera settings

| | |
|-------------------|---|
| Metering system |  for Matrix* |
| Focus area |  for Spot** |
| Focus mode | S for Single Servo AF |
| Film advance mode |  for single-frame shooting |
| Flash sync |  for Red-Eye Reduction*** |

*Automatically selected.

**Vari-Program automatically sets the camera to Wide-area focus. However, when the Nikon SB-28/SB-27/SB-26 AF Speedlight is connected to the camera and turned on, the focus area automatically switches to Spot. In this case,  blinks in the LCD panel, with  appearing in the viewfinder display.

***Automatically selected and cannot be cancelled.

Procedure

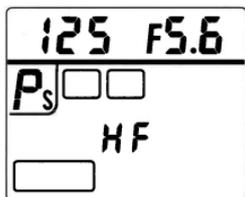
For flash shooting procedure, see instruction manual of SB-28/SB-27/SB-26.

To further reduce red-eye

- Have the subject look away from the lens, toward a bright light.
- When shooting indoors, make the room as bright as possible.

Note that red-eye tends to be more pronounced with children and cannot be as effectively reduced.

HYPERFOCAL PROGRAM



Although this program does not actually set the hyperfocal distance, it emulates the effects achieved by using very small lens apertures and short focal length lenses. The result will be a very large depth of field which yields a wide range of acceptable sharpness surrounding the focused plane of maximum sharpness. Use this program when photographing landscapes and other subjects that encompass great depth. The effect becomes more pronounced if there is an interesting foreground within the scene.



Recommended lenses

50mm or wider angle AF Nikkor lenses, or AF Zoom-Nikkor lenses with 50mm or shorter zooming position.

Recommended camera settings

| | |
|-------------------|--|
| Metering system |  for Matrix* |
| Focus area |  for Wide* or  for Spot |
| Focus mode | S for Single Servo AF or C for Continuous Servo AF |
| Film advance mode |  for single-frame shooting, or  or  for continuous shooting |

* Automatically selected.

With Nikon Speedlight

Use ISO 100 to 400 film. Other films may result in overexposed background.

Procedure

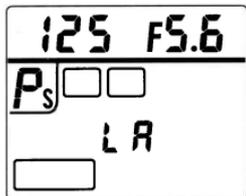
You can follow steps 4-6 of basic shooting procedure on pp. 21-24. If you don't want to center your main subject, also see pp. 40-43.

Hyperfocal program tends to select a *slow shutter speed* and smaller aperture to assure both subject and background in focus. To avoid camera shake, use a tripod.

To ensure sharper focused subject and background

- Background must not be too far from subject.

LANDSCAPE PROGRAM



Similar in concept to the Hyperfocal Program with respect to depth of field and overall sharpness.



Recommended lenses

Select lens according to the desired effect. If you want an expansive view, use a wideangle AF Nikkor lens. If you prefer to emphasize your subject by magnifying it, use a telephoto AF Nikkor lens.

Recommended camera settings

Metering system

 for Matrix*

Focus area

 for Wide*

Focus mode

S for Single Servo AF

Film advance mode

 for single-frame shooting, or  or

 for continuous shooting

* Automatically selected.

Procedure

You can follow steps 4-6 of basic shooting procedure on pp. 21-24.

Landscape Program tends to select a *slow shutter speed* and a smaller aperture to assure sharply focused landscape pictures. To avoid camera shake, use a tripod.

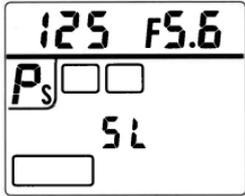
Some ways to increase apparent sharpness

- Use a higher ISO film to get smaller f/stops.
- Choose a scene where the foreground and background are relatively close to each other.
- Shoot from the same position, but use a lens with a wider angle.

MF-26 users

Use the All Mode Exposure Bracketing feature to take several pictures at different f/stops. This will give you a variety of pictures from which you can choose the best result.

SILHOUETTE PROGRAM



A silhouette photograph intentionally underexposes the backlit foreground subject so that it appears nearly black against the brighter background. This program works effectively only when the subject is at least 2 EV values lower (i.e., darker) than the background. It cannot be effective if the subject is frontlit or has about the same brightness as the background.



Recommended lenses

Choose your lens according to the desired effect. If you want to picture a dynamic sunset, for example, use a telephoto AF Nikkor to magnify the sun.

Recommended camera settings

| | |
|-------------------|--|
| Metering system |  for Matrix* |
| Focus area |  for Wide* or  for Spot |
| Focus mode | S for Single Servo AF |
| Film advance mode |  for single-frame shooting, or  or  for continuous shooting |

* Automatically selected.

Procedure

You can follow steps 4-6 of basic shooting procedure on pp. 21-24.

Silhouette Program tends to select a *slow shutter speed* to produce effectively silhouetted pictures. To avoid camera shake, use a tripod.

With Nikon Speedlight on, **5L** inside the viewfinder blinks, telling you to turn off the Speedlight.

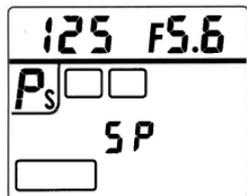
To make your main subject beautifully silhouetted

- There must be a difference (at least 2 EV) in brightness between subject and background.

CAUTION!

The Silhouette Program is effective for taking pictures of people silhouetted against the sun or a bright sky. However, ***never look at the sun, with your naked eye, a filter or through a camera.*** The sun may damage the retina and cause permanent blindness. To protect your eyes, use a medically approved solar viewing filter.

SPORT PROGRAM



This program is designed to use select shutter speed and aperture combinations that correspond to those of the long lenses typically used for sports photography. It is biased towards higher shutter speeds to freeze action but make the subject's arms or legs, for example, appear blurred.



Recommended lenses

AF Nikkor lenses. For a more pronounced blurred background effect, use 80mm to 300mm telephoto lenses with a maximum aperture of f/2.8 or brighter.

Recommended camera settings

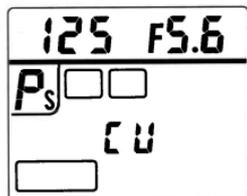
| | |
|-------------------|--|
| Metering system |  for Matrix* |
| Focus area |  for Wide* or  for Spot |
| Focus mode | C for Continuous Servo AF |
| Film advance mode |  or  for continuous shooting |

* Automatically selected.

Procedure

1. Set focus area focus mode to **C** for Continuous Servo AF with Release Priority.
2. Set film advance mode to  or . Continuous shooting is recommended because quick response is crucial to action photography. Continuous shooting also allows you to create action-filled sequences.
3. Center the subject inside the viewfinder, lightly press the shutter release button to start Focus Tracking. Focus Tracking remains on as long as you keep the shutter release button lightly pressed and subject remains centered in the viewfinder.
4. Confirm viewfinder shows  , then fully depress the shutter release button.

CLOSE-UP PROGRAM



In close-up photography, various effects can be achieved with different f /stops. A very small aperture increases depth of field and enhances overall apparent sharpness. A wider aperture decreases depth of field and makes the focused subject stand out from the surrounding area (foreground and background) which will appear less sharp due to the shallow depth of field. This program selects aperture settings between $f/4$ and $f/5.6$, providing a rather shallow depth of field. The result is a sharply focused subject against a blurred background and foreground.



Recommended lenses

AF Micro-Nikkor lenses or AF Zoom-Nikkor lenses with macro focusing function.

Recommended camera settings

| | |
|-------------------|---|
| Metering system |  for Matrix* |
| Focus area |  for Spot |
| Focus mode | S for Single Servo AF or M for manual focus |
| Film advance mode |  for single-frame shooting |

* Automatically selected.

Procedure

You can follow steps 4-6 of basic shooting procedure on pp. 21-24. However, the area you want to appear sharply focused may be slightly out of focus because depth of field is very shallow in close-up shooting. To avoid this:

1. Set focus area to  for Spot.
2. Set focus mode to **S** for Single Servo AF with Focus Priority.
3. Set film advance mode to  for single-frame shooting.
4. Center the desired area inside the viewfinder.
5. Lightly press the shutter release button and confirm in-focus indicator ● appears. Focus is locked as long as you keep the shutter release button lightly pressed.
6. Without removing your finger from the shutter release button, recompose the picture as desired.
7. Fully depress the shutter release button to take the picture. To avoid camera shake, use a Nikon remote cord and a tripod.

SPECIAL FUNCTIONS

This chapter explains advanced photographic techniques and applications including exposure compensation methods. It also shows you how to use the self-timer, how to perform long time exposure, how to check depth of field and what to do when using non-DX-coded films.

EXPOSURE COMPENSATION

Exposure compensation is a photographic technique that enables you to vary the final exposure settings from those measured by the camera's light meter. Nikon's 3D Matrix Metering employs methods of exposure calculation that automatically apply exposure compensation, depending upon scene brightness and contrast. As a result, your subject, whether it is centered in the viewfinder or not, is given corrected exposure in most lighting situations.

We do not recommend using any manually or automatically applied exposure compensation when using Matrix Metering. If you identify an extreme condition under which Matrix may have some difficulty, such as a severely backlit scene or one with extremes of contrast, we recommend using your camera's other built-in meters, Center-Weighted or Spot. Ultimately, only you know what the subject or a part of it requires in terms of exposure measurement. That's why the N90s camera incorporates three meters plus a variety of exposure compensation systems. The photographer's creativity is always the final deciding and controlling factor. To use the various exposure compensation functions, please refer to the following.

- Using AE-L (Auto Exposure Lock) lever (pp. 88-89)
- To obtain meter reading for a particular subject in Manual exposure mode (pp. 90-91)
- Using exposure compensation button (pp. 92-93)
- All Mode Exposure Bracketing (MF-26 users only) (see MF-26 instruction manual)

Results will vary, depending on conditions, so you will want to experiment with each method.

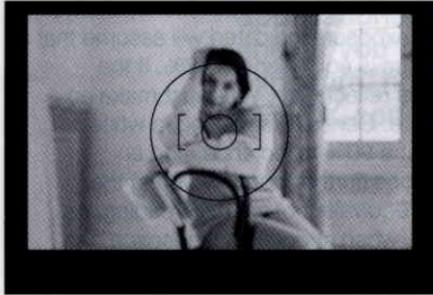
About reflectance

When using the Center-Weighted or Spot Meter, always keep in mind that the exposure indicated will assume that the subject's reflectance is equivalent to 18%. If the subject varies from this reflectance, you must make an adjustment to exposure. Generally speaking, a white subject will have about a 90% reflectance, and an adjustment of 2.5 f/stops (further open) will bring the exposure back to the equivalent of an 18% reading. As another rule of thumb, when shooting a landscape, the light meter reading from green grass is roughly equivalent to 18% reflectance.

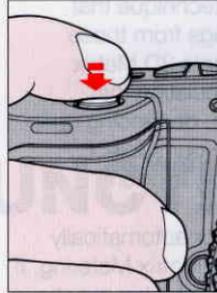
AE-L (AUTO EXPOSURE LOCK) LEVER

In the auto exposure mode, when you want to control exposure based on the brightness of a specific area within the scene, switch the metering system to Center-Weighted or Spot and use the AE-L lever as follows:

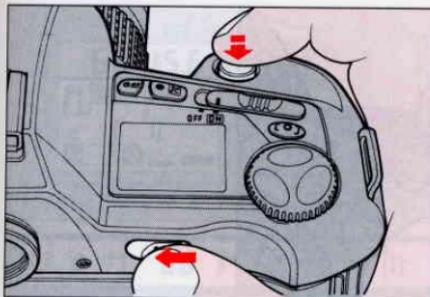
SPECIAL FUNCTION



1. Center main subject inside viewfinder and/or move in closer until reference circle for Center-Weighted metering or Spot metering is fully covered by the subject.



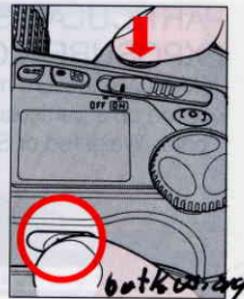
2. Lightly press shutter release button, and confirm shutter speed and aperture in viewfinder.



3. Keep shutter release button lightly pressed, slide AE-L lever and hold it in.



4. Recompose the picture and shoot.



In **Single Servo AF mode**, if recomposing the picture could change subject-to-camera distance, refocus by briefly removing your finger from the shutter release button and lightly pressing it again.

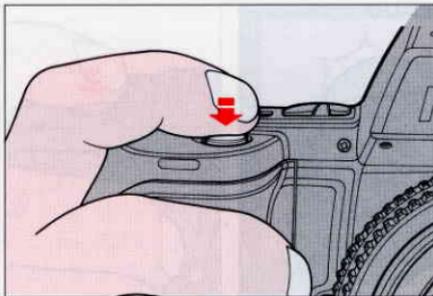
In **Continuous Servo AF mode**, if recomposing the picture will not change subject-to-camera distance, push and hold the AF-L button before recomposing.

TO OBTAIN METER READING FOR A PARTICULAR SUBJECT IN MANUAL EXPOSURE MODE

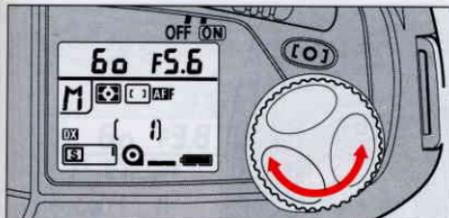
In Manual exposure mode, if you want to set exposure as desired on a particular subject, switch metering system to Center-Weighted or Spot and use the following method.



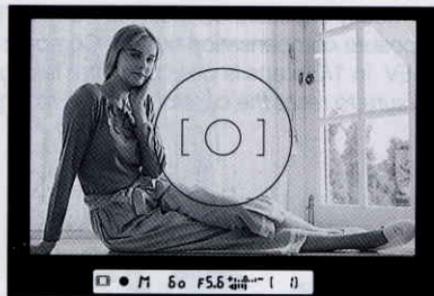
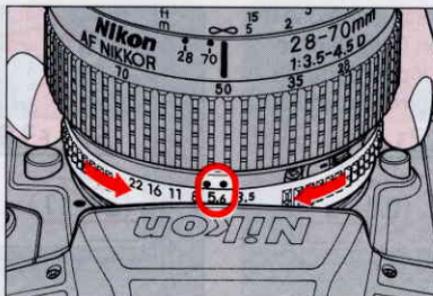
1. Center main subject inside viewfinder and/or move in closer until reference circle for Center-Weighted metering or Spot metering is fully covered by the subject.



2. Lightly press shutter release button.



3. Adjust shutter speed and aperture until electronic analog display shows desired exposure.



4. Recompose the picture and shoot.

In Single Servo AF mode, if recomposing the picture could change subject-to-camera distance, refocus by briefly removing your finger from the shutter release button and lightly pressing it again.

In Continuous Servo AF mode, if recomposing the picture will not change subject-to-camera distance, push and hold the AF-L button before recomposing.

EXPOSURE COMPENSATION BUTTON

To modify exposure control (i.e., from the ISO standard) use the exposure compensation button. Compensation from -5EV to +5EV in 1/3 steps is possible. After taking your photographs, be sure to reset the control to "0" to resume normal operation.

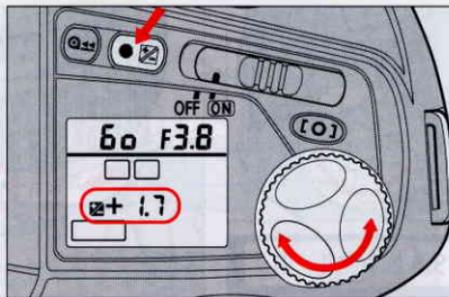
(Center-Weighted Metering)



Without compensation



With compensation



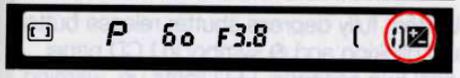
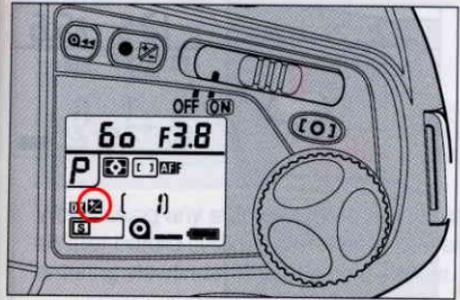
1. While pressing  button, rotate command dial to set desired compensation value. The following display appears in LCD panel and viewfinder.

 symbol

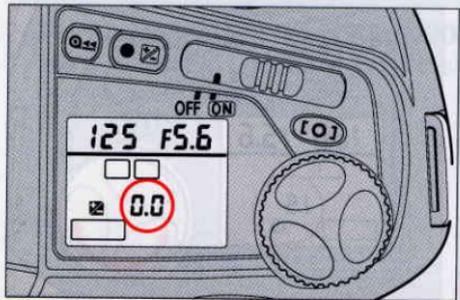
Compensation value from -5 to +5 EV in 1/3 steps:

Confirm amount of exposure compensation.

In the example above, +1²/₃ compensation is set.



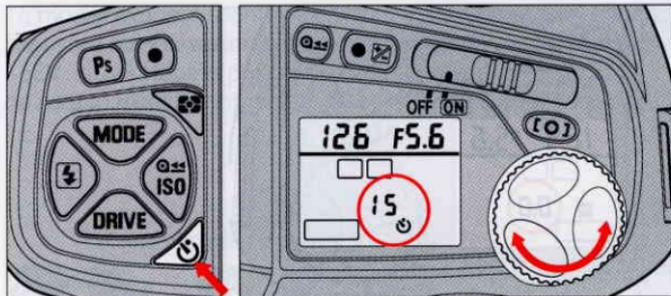
2. Once set, exposure compensation remains fixed until reset. Although the  symbol stays on to indicate that exposure compensation is on, the compensation value disappears from the readout when you remove your finger from  button. To confirm compensation value, press  button again.



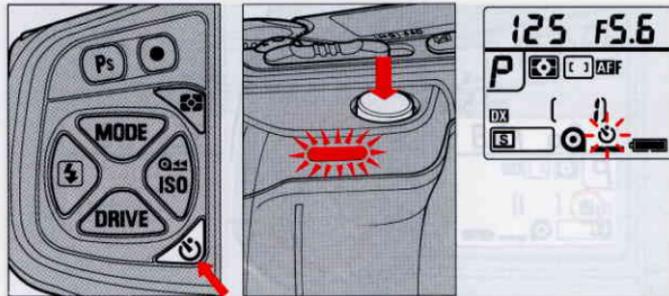
3. After shooting, be sure to reset amount of compensation to "0" to resume normal operation.

SELF-TIMER OPERATION

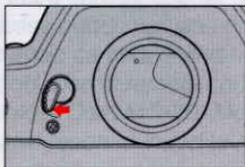
EXPOSURE COMPENSATION BUTTON



1. While pressing  button, rotate command dial until desired timer duration with  symbol appears in LCD panel. Timer duration can be varied from 2 to 30 seconds in one-second increments.
2. Compose picture, lightly press shutter release button, and confirm focus and exposure.



3. While pressing  button, fully depress shutter release button. Self-timer LED starts blinking and  symbol in LCD panel blinks. During the final two seconds, LED lights up, warning you to get ready for the shot.
- To cancel self-timer, press  button at any time.



When using any auto exposure mode, use eyepiece shutter before setting self-timer to prevent stray light from entering viewfinder and affecting exposure.

- Regardless of film advance mode setting, continuous shooting is not performed.
- Long time exposure at **bulb** setting cannot be used for self-timer operation.

Photo Secretary for N90s/N90 Users

The User Custom Option lets you activate the electronic beeper for self-timer operation.

