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Nikon

F90X

AF

INSTRUCTION MANUAL

CE

E

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FOREWORD

Thank you for choosing the new Nikon F90X camera. It's a high-performance camera that offers today's newest and most advanced capabilities, all designed to enable you to take more exciting pictures.

Because the F90X camera has a host of new features, many of which you may not be familiar with, before actually taking pictures you should thoroughly read the instruction manuals provided, including the "PHOTOGRAPHIC SYSTEM" leaflet. These will help you understand the technical terminology used and how the various new features work.

The F90X, in its standard configuration, is a powerful camera with important features such as Nikon's exclusive Advanced Matrix Meter, many autofocus features including Focus Tracking, and Nikon's latest innovation, TTL Multi-Sensor flash control. To expand the camera's performance and take full advantage of all its capabilities, you will want to consider using the F90X with accessories such as the Nikon MF-26 Multi-Control Back, the Nikon SB-28 AF Speedlight, Nikon Photo Secretary for F90X/F90 software and the Nikon Data Link System with Nikon AC-2E card which works exclusively with the Sharp® Electronic Organizer.

Please read this manual thoroughly, then enjoy experimenting with all of the F90X's exciting features. Good luck, and have a great time with this high-tech Nikon.

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NOMENCLATURE

Once you know the names of the parts of your new Nikon F90X, as well as their functions and the camera's other controls, you will be surprised how simple and logical the F90X system's operation can be.

LCD panel (p. 9)

Shutter release button: To activate exposure meter and autofocus function, lightly press; to release shutter, depress fully; exposure meter automatically switches off after 8 sec.

Self-timer indicator LED
(p. 94)

Depth-of-field preview button (p. 96)

AF-L (Auto Focus Lock) button: Locks focus when pressed and held in.

Minimum aperture lock: Setting for all Programmed and Shutter-Priority Auto exposure modes.

Aperture scale

Accessory shoe: For Nikon dedicated Speedlights. The rear edge of the shoe indicates film plane. Exact distance from lens mounting flange to film plane is 46.5mm.

Sync terminal

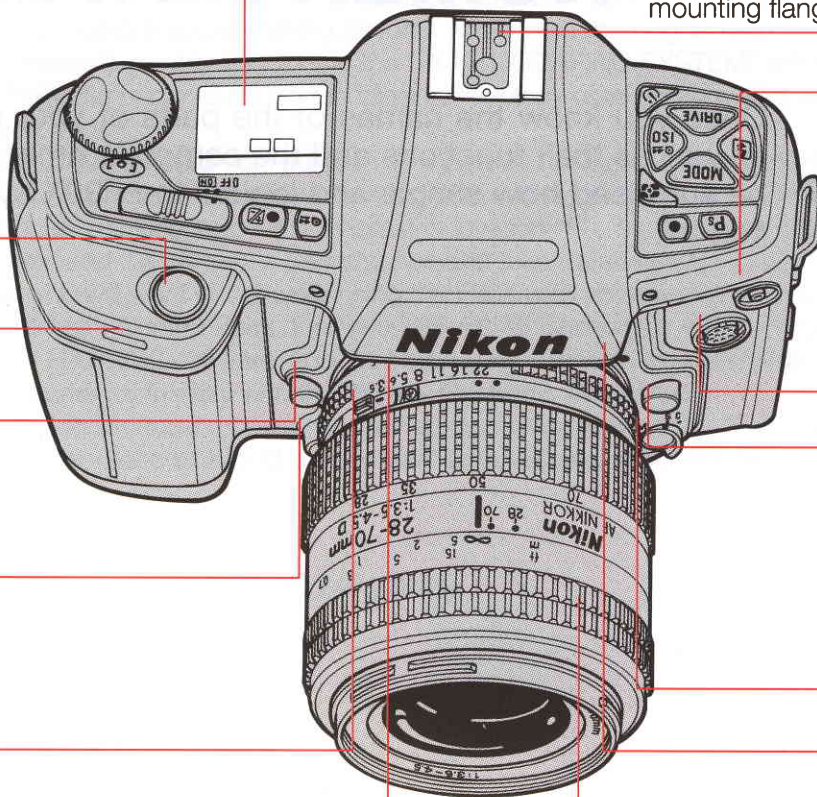
10-pin remote terminal: For Electronic Organizer Connecting Cord MC-27, Remote Cord MC-20, etc. (see attached PHOTOGRAPHIC SYSTEM leaflet).

Lens release button

Focus mode selector:
S for Single Servo AF (pp. 36-37).
C for Continuous Servo AF (pp. 38-39).
M for Manual focus (pp. 46-48).

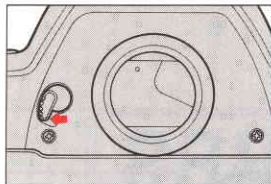
Lens mounting index

Focusing ring



Optional lens illustrated
(AF Zoom-Nikkor 28-70mm f/3.5-4.5 D)
www.orphancameras.com

Eyepiece shutter lever: Used to prevent stray light from entering viewfinder.



Viewfinder/LCD panel illumination button:

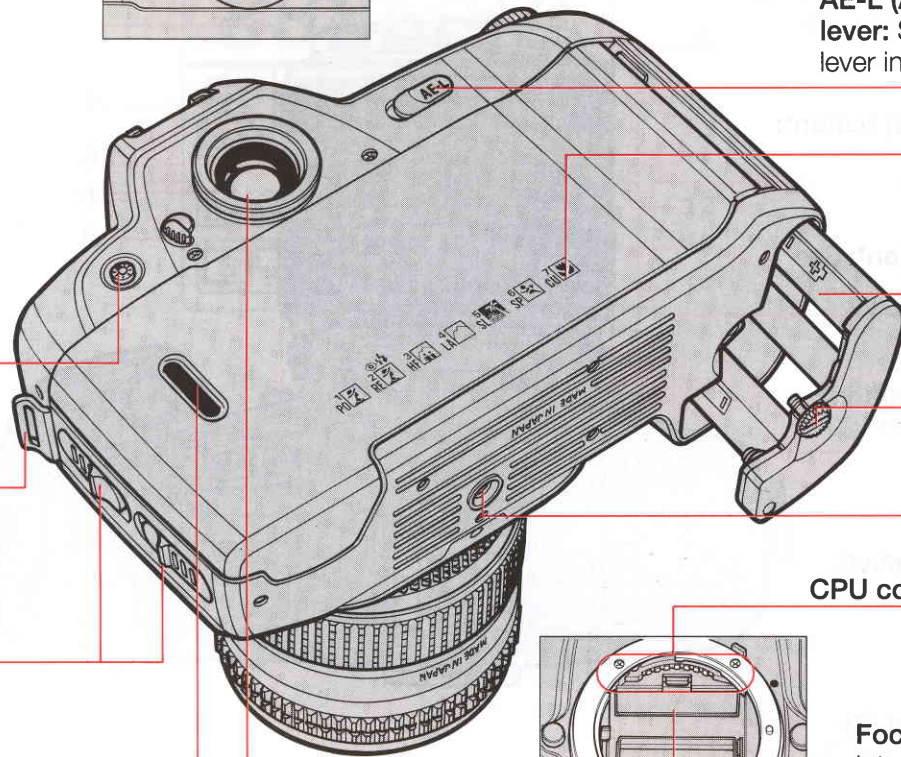
Press to illuminate viewfinder and LCD panel, useful in dim light. Illumination automatically switches off 8 sec. after you remove your finger from button.

Camera strap eyelet

Camera back lock releases: To open camera back, slide camera back lock releases together.

Film cartridge confirmation window

Viewfinder eyepiece



AE-L (Auto Exposure Lock) lever: Sliding and holding lever in locks auto exposure.

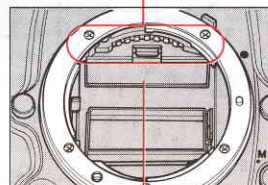
Vari-Program list

Battery holder MS-8: Interchangeable with optional Multi-Power Vertical Grip MB-10

Battery holder lock screw

Tripod socket

CPU contacts: Don't touch!



Focusing screen type B: Interchangeable with optional type E screen (pp. 100-101).

Reset button: Press and hold this button and exposure compensation/reset button together for instant reset of basic camera settings (p. 19)

Exposure mode (MODE) button*:
See page 54.

Vari-Program (Ps) button*: See pages 70-71.

Flash sync mode (⚡) button*:
See pages 119, 121 and 123 .

Film advance mode (DRIVE) button*: See pages 28-29.

Film speed/film rewind (ISO) button: See pages 25 and 99.

** Used with command dial*

Metering system (☉) button*:
See page 32.

Film rewind button

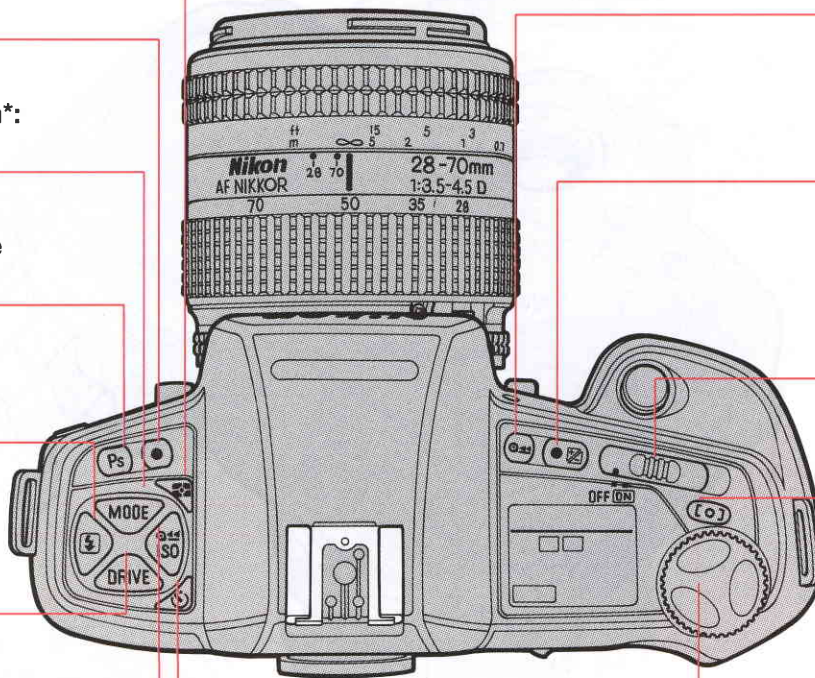
Exposure compensation/reset button (⬆) *: See pages 19 and 92.

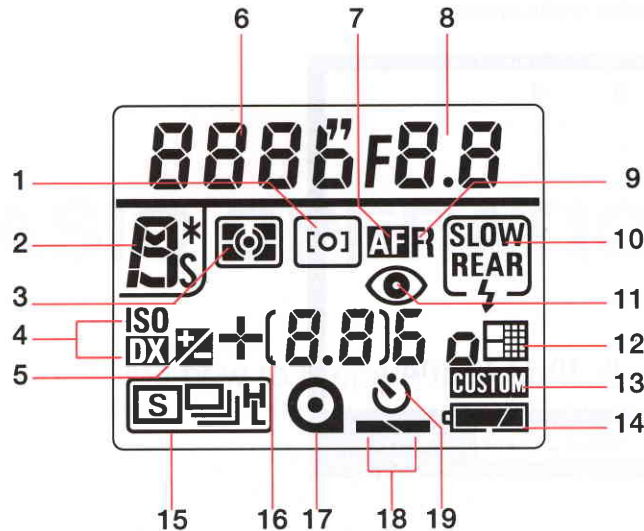
Power switch

Focus area button: See page 33.

Command input control dial (Command dial):
Rotate to set various functions.

Self-timer button (⌚) *: See page 94.



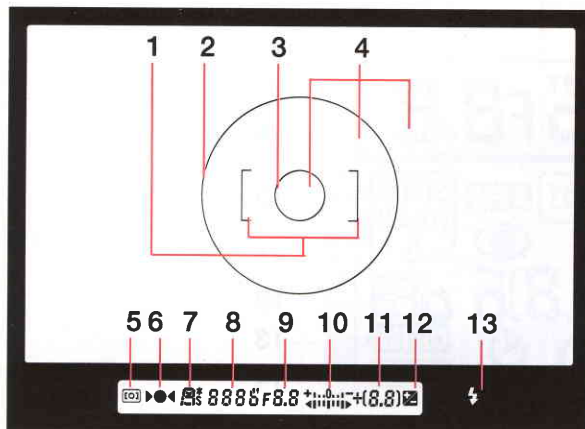


LCD panel indications

- | | |
|-----------------------------------|---|
| 1. Focus area | 12. Electronic Organizer* |
| 2. Exposure mode/Flexible Program | 13. Custom* |
| 3. Metering system | 14. Battery |
| 4. Film speed setting mode | 15. Film advance mode |
| 5. Exposure compensation | 16. Frame counter/Vari-Program/ISO speed/Self-timer duration/compensation value |
| 6. Shutter speed | 17. Film loading |
| 7. Autofocus | 18. Film advance and rewind |
| 8. Aperture | 19. Self-timer |
| 9. Release/Focus priority | |
| 10. Flash sync mode | |
| 11. Red-Eye Reduction | |

**Appears only when Data Link System is in use.*

Viewfinder indication



1. Wide-Area focus brackets
2. 12mm-dia. reference circle for Centre-Weighted Metering
3. 3mm dia. reference circle for Spot Metering/Spot-Area focus
4. Clear matte field
5. Focus area
6. Focus indicators: ● indicates a subject is in focus; ► ◄ shows Focus Tracking, also indicates that a moving subject is expected to be in focus; blinking ► ◄ indicates autofocus is impossible; ◄ and ► arrows indicate front and rear focus, respectively.
7. Exposure mode/Flexible Program
8. Shutter speed
9. Aperture
10. Electronic analog display/exposure difference*
11. Frame counter/Vari-Program/compensation value/amount of exposure difference*
12. Exposure compensation
13. Flash recommend/ready light

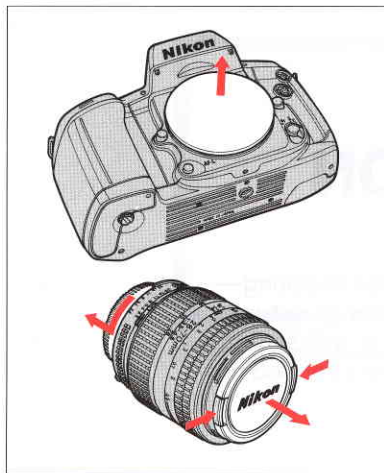
* Appears only when the AC-2E card's User Custom Option lets you set exposure difference indicator.

Lightly pressing the shutter release button to turn on the exposure meter switches on the viewfinder illuminator at a low light level. In dim light, when the exposure meter is on, the illuminator automatically switches on at full brightness.

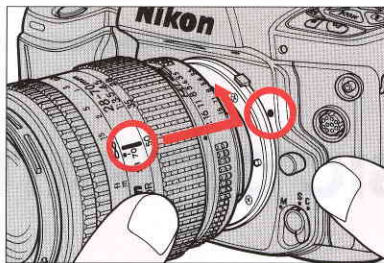
BASIC OPERATION

This section shows you how to prepare the camera for shooting—e.g., how to mount lens, load film, etc.—as well as how to actually take pictures. Whether you're a beginner or a seasoned photographer, you should master this section before proceeding further.

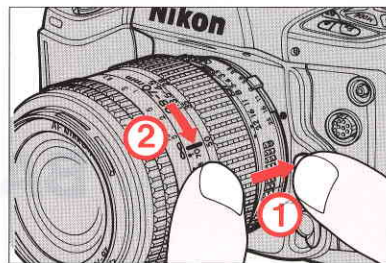
MOUNTING THE LENS



- 1 Remove camera body cap and front and rear lens caps.



- 2 Position the lens in the camera's bayonet mount so that the mounting indexes on lens and camera body are aligned. Taking care not to press the lens release button, twist lens counterclockwise until it locks into place.



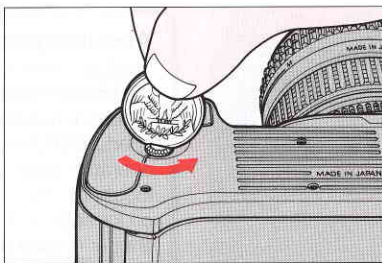
To remove

Push and hold lens release button and turn lens clockwise.

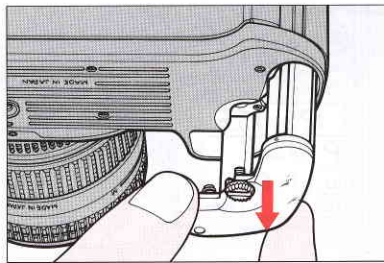
- When mounting/removing lens, make sure that the camera's power is turned off and avoid direct sunlight.
- See page 104 for Nikon lens compatibility chart.

INSTALLING BATTERIES

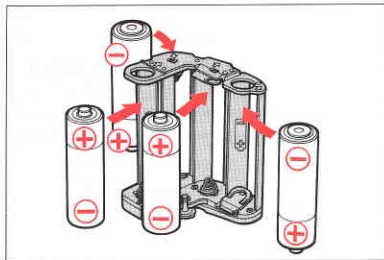
- Make sure the power switch is set at OFF position.
- NiCd batteries that have "+" terminals exceeding 6mm in diameter cannot be used.
- Manganese batteries are not recommended for use at low temperatures.
- When installing/replacing batteries, always read "NOTES ON BATTERIES" on pages 130 to 131.



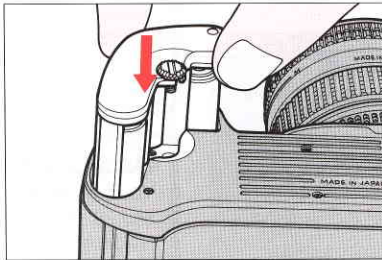
1 Loosen battery holder lock screw with a coin or similar object.



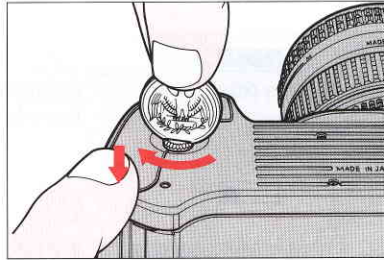
2 Remove battery holder.



3 Install four AA-type alkaline-manganese, NiCd or high-performance manganese batteries with "+" and "-" terminals positioned as shown inside holder.

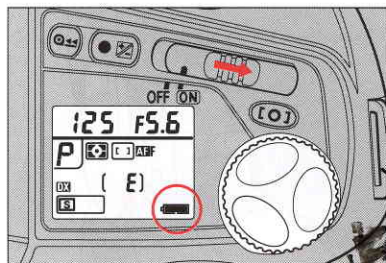


4 Return battery holder to battery chamber.



5 Press holder into place as you tighten lock screw with coin.

CHECKING BATTERY POWER



Slide power switch to ON position, and confirm that a full battery mark appears on LCD panel, indicating sufficient battery power. The battery mark and exposure indications automatically turn off after 8 sec.




Sufficient battery power.



Batteries are nearing exhaustion.
Have a fresh set ready.



If  blinks with/without blinking **Err**, batteries are just about exhausted. Slide power switch to OFF and replace batteries with a fresh set.

If no indication/mark appears, batteries are completely exhausted or improperly installed. Replace.

About exposure meter

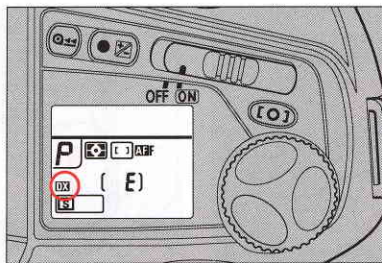
You can check battery power anytime by lightly pressing the shutter release button. This action activates the exposure meter; the LCD panel and viewfinder LCD show aperture/shutter speed indications, and autofocus operation starts (unless camera is set for manual focusing). The exposure indications and battery mark stay on for approx. 8 sec. after you take your finger off the shutter release button, then automatically turn off. If the shutter is released, these LCD readouts go off approx. 2 sec. after you take your finger off the button.

Data Link System users

You can set automatic meter switch-off as desired: 4 sec., 8 sec., 16 sec., 30 sec., 60 sec. For details, see Nikon AC-2E card instruction manual.

LOADING FILM

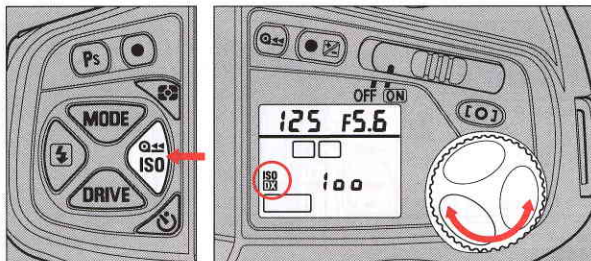
- To avoid fogging film (especially high-ISO film), do not load/unload film in direct sunlight.
- Usable film speed range for DX-coded film is ISO 25 to 5000.
- For non-DX coded film, see p. 99.



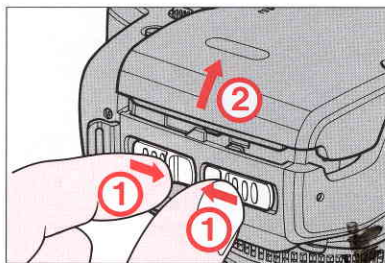
- 1 Confirm whether **DX** for DX-coded film is shown on the LCD panel.

Data Link System users

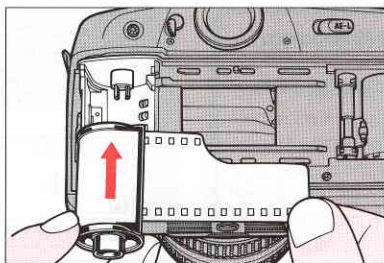
- The AC-2E card's User Custom Option lets you set the camera to DX-priority.
 - The AC-2E card's User Custom Option lets you activate the electronic beeper for film operation alert.
- For details, see AC-2E card instruction manual.*



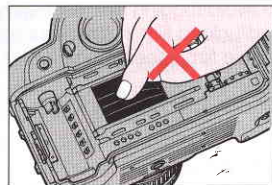
If not, press and hold ISO button in, then rotate command dial until **DX** appears.



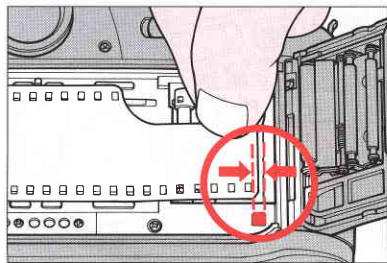
2 Slide camera back lock releases together to open camera back.



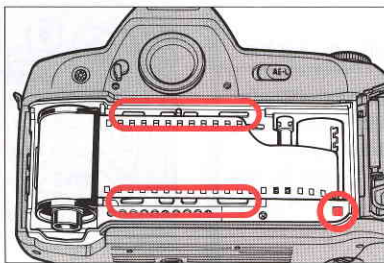
3 Insert film cartridge.



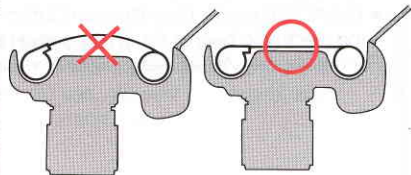
Do not touch the shutter curtains with your finger or with film leader.

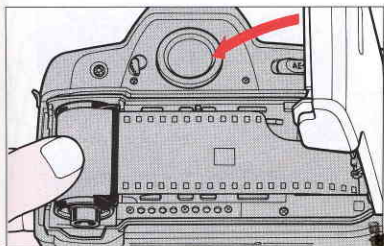


4 Pull film leader out to red index mark.

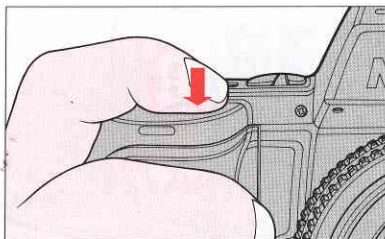


5 Check to ensure film is properly positioned with no slack (see illustration).





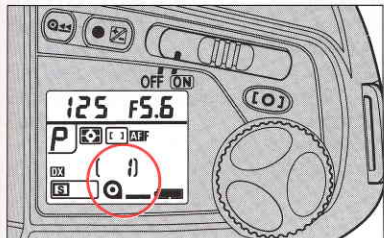
6 Gently close camera back until lock releases snap closed.




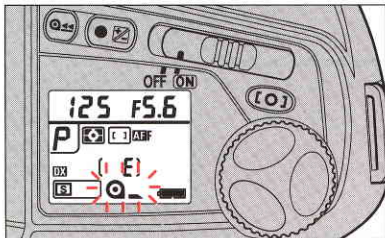
7 Fully depress shutter release button to advance film to frame #1.


- If non-DX-coded film or film with an unacceptable DX code is loaded, the **Err**, **ISO** and **DX** marks in the LCD

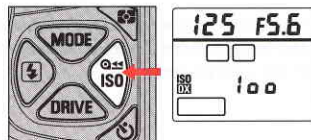
panel blink and the shutter is locked. Set ISO speed manually (see p. 99).



8 Confirm frame counter shows 1 and  symbol appears on LCD panel.



- If film is incorrectly positioned, **Err** remains,  symbol blinks and shutter is locked. Open camera back and reload film properly.



To confirm ISO number of DX-coded film, press film speed button.

BASIC SHOOTING

This section features the settings for most common picture-taking situations when AF Nikkor* lenses are used:

Film advance mode: single-frame shooting

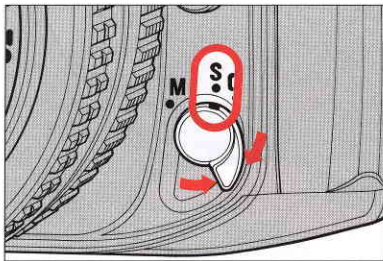
Metering: Advanced Matrix Metering

Focus mode: Single Servo AF

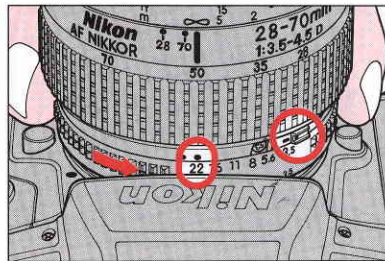
Exposure mode: Auto Multi-Program

(If you are using AI-P-Nikkor lens, use manual focus [see pp. 46-48]. If you are using other non-AF Nikkor lenses, use Centre-Weighted or Spot Metering [see p. 32], manual focus, and Aperture-Priority Auto or Manual Exposure mode [see pp. 60-62 or 63-66]. To confirm usable mode by lens, see chart on p. 104.)

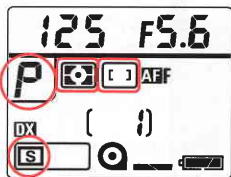
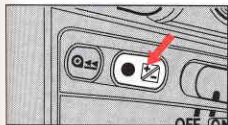
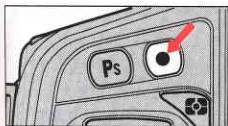
* AF Nikkor lenses includes D-type AF Nikkor lenses and AF-I/AF-S Nikkor lenses.



1 Set focus mode selector to **S** for Single Servo autofocus. If lens has an A-M switch, set switch to A. If you are using an AF-I/AF-S Nikkor lens, set the lens focus mode to A or M/A.



2 Set lens to its minimum aperture (highest f-number marked in orange on AF Nikkor lenses) and lock lens aperture of AF Nikkor lens at its minimum setting (see lens instruction manual).



3 Press ● reset button and ● button simultaneously for two seconds until **P**, , **S** and appear in the LCD panel, indicating that the camera settings are automatically reset for basic shooting shown here:

Film advance:	Single frame (S)
Metering system:	Matrix ()
Exposure control:	Auto Multi-Program (P)
Focus area:	Wide ()
Flexible program setting:	Cancel
Exposure compensation:	±0
Flash sync mode:	Normal (If Speedlight is set at rear-curtain sync, rear-curtain sync will be performed.)

MF-26 users

Pressing the reset buttons also cancels the MF-26's following functions:

- Auto Exposure Bracketing
- Multiple Exposure Operation
- Auto Sequence Shooting
- Long Time Exposure
- Interval Timer
- Flash Exposure Bracketing
- Focus Priority

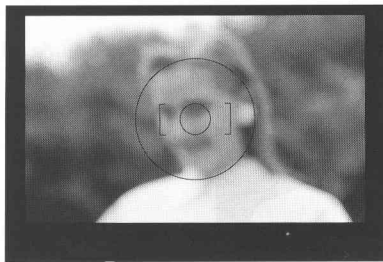
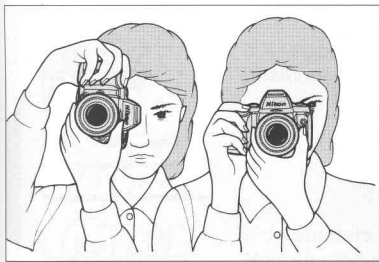
Data Link System users

When activating Custom Reset with the Nikon AC-2E card's Customized Settings function, press and hold the **●** and **●/Z** buttons for two seconds to retrieve the Custom Reset settings.

When one or more functions/options (including Custom Reset) of the Customized Settings have been set, **CUSTOM** appears in the camera's LCD panel*. To cancel the functions/options of the Customized Settings and reset your camera to the default setting (which will make **CUSTOM** disappear from the LCD), press and hold the **●** and **●/Z** buttons for more than four seconds until **CUSTOM** starts blinking; then remove your fingers from the reset buttons and press them again within two seconds. (**CUSTOM** stops blinking when the reset buttons are left untouched for two seconds.)

CUSTOM also appears when "Store shooting data" is selected and/or "Download stored data" is likewise selected in the Memo Holder function. In this case, you also can make **CUSTOM** disappear from the LCD by following the instructions given above.

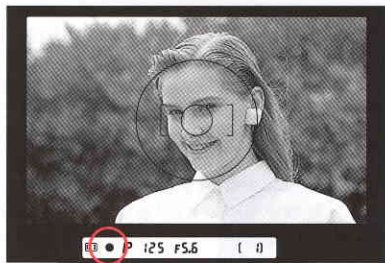
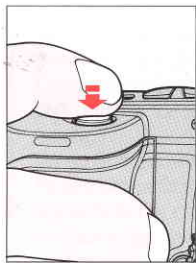
** When Custom Reset and/or "Simultaneous Lock of AF and AE" of User Custom Option is set with the MF-26 attached to the camera, **CUSTOM** does not appear. To cancel Custom Reset or "Simultaneous Lock of AF and AE" with the MF-26, use the MF-26's **(SEL/RESET)** button and the camera's command dial. (For details, see the MF-26's instruction manual.)*



- 4 Hold camera, look through viewfinder and position focus brackets on main subject.

Although the viewfinder covers approx. 92% of the image area of the actual photograph, a negative film will show you an image larger than what you see through the viewfinder.

Note: The image in a slide film may be partially cropped by the mount. Also, the edges of negative film are partially cropped by most labs.



5 Lightly press shutter release button to start autofocus operation and switch exposure meter on.

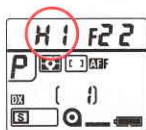
With a stationary subject, confirm that the in-focus indicator ● appears on the viewfinder's LCD readout. With a moving subject, confirm that Focus Tracking indicator ► ◄ appears. Confirm, too, that the shutter speed and aperture indications are shown. Exposure readouts also appear in the camera's external LCD panel.

- If ◄ appears, subject is located closer than the lens' closest focusing distance. Move away from the subject and refocus.
- If ► appears when TC-16A is used, the lens focusing ring is not set at infinity (∞). See p. 36.
- If ► ◄ blinks in the viewfinder: Autofocus is not possible (p. 44).
- 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.

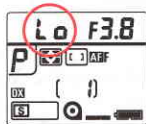
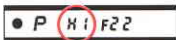
Note on Single Servo AF with a stationary subject

After focusing is achieved and in-focus indicator ● appears, focus is locked as long as the shutter release button is lightly pressed. If the distance between you and the stationary subject changes, remove your finger from shutter release button, then lightly press it again to refocus.

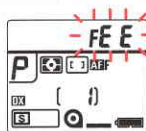
For details about Single Servo AF, see page 36.



If **HI** appears in the shutter speed position—**Overexposure alert**: Use Nikon ND or similar filter.



If **LO** appears in the shutter speed position—**Underexposure alert**: Use a Nikon Speedlight, higher ISO film or lens with faster aperture, whichever is suitable.

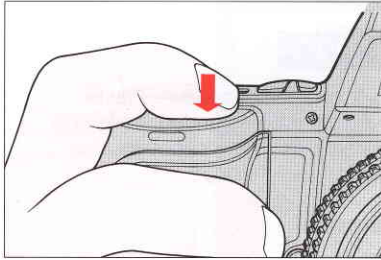


If **FE E** blinks in the aperture position—**Lens setting error alert**: Lens is not set to smallest aperture setting, so shutter is locked. Set lens to smallest aperture.

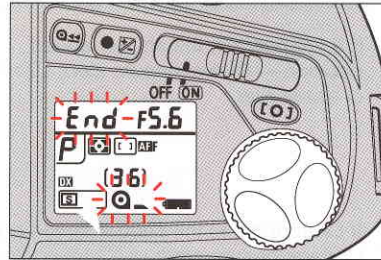


If **⚡** mark in green appears—**Flash-photography recommended**: If available light is insufficient, **⚡** mark appears. Use Nikon TTL-type Speedlight.

REWINDING FILM



6 To take picture, fully depress shutter release button. Camera automatically advances film by one frame, and LCD frame counter increases by one.

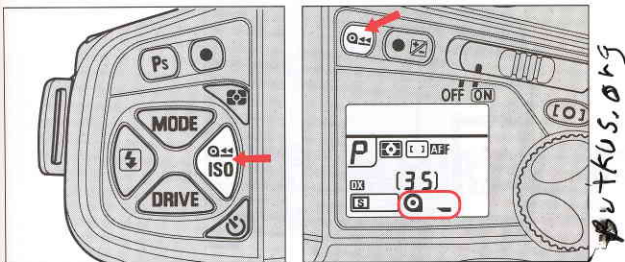


1 Film advance stops automatically at end of roll with **End** and **Q** symbol in LCD panel blinking.

At the end of film roll, each time you press shutter release button, **End** and **Q** blink, reminding you to rewind film.

- Alert signal sounds if "Beep for Film Operation Alert" is set with the Nikon Data Link system.



Shutter speed/aperture indications in LCD panel and inside viewfinder turn off approx. 2 sec. after you release shutter and take your finger off shutter release button.

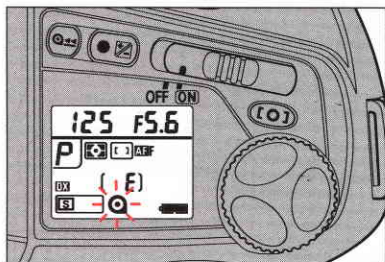



2 Press **Q** button and **ISO** button to start film rewind. During film rewind, **Q** appears on LCD panel, and frame counter counts backwards until rewind is complete.

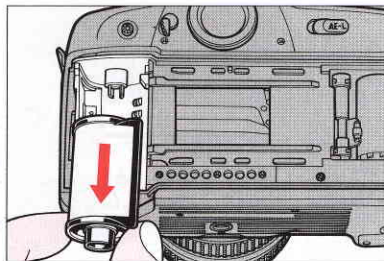
- You can rewind film, before it reaches end of roll, in the same manner.
- If film does not start rewind or if film rewind has stopped at mid-roll, check battery power. If battery power is insufficient, turn power switch off, replace batteries with a fresh set, turn power on, then press the film rewind and film speed setting/film rewind buttons again to restart film rewind.
- Do not open the camera back during film rewind. If the camera back is opened, film rewind will stop at mid-roll; to restart film rewind, press the **Q** and **ISO** buttons again.

If film advance stops, the LCD panel shows *End*, but the frame counter will not indicate the end of the roll.

If  blinks, turn the power off and replace batteries with a fresh set. Then turn the power on to continue shooting. If  is shown, to resume normal operation, turn the power off, then on again. Next, lightly press the shutter release button to confirm that *End* disappears.



- 3 After rewind automatically stops, confirm frame counter shows **E**, and film installation symbol  blinks for a few seconds.



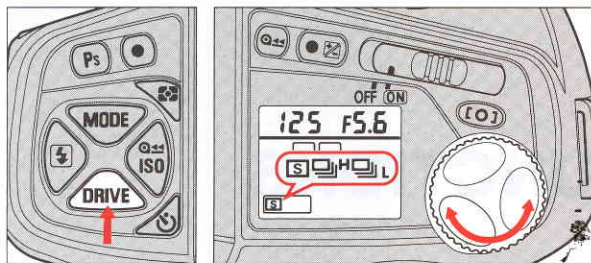
- 4 Open camera back and remove film cartridge.

To conserve battery power, turn off the power switch when you are not using the camera. Always remove batteries before storing a camera to prevent damage due to leaking batteries.

GENERAL FUNCTIONS

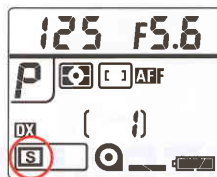
This chapter explains the various modes of the F90X camera's operation. Please review it thoroughly.

FILM ADVANCE MODE



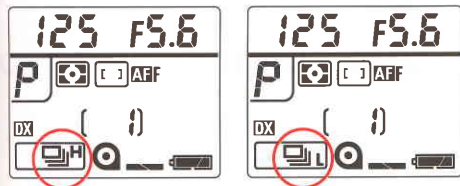
There are three automatic film advance modes. To choose a mode, press and hold the film advance mode button and rotate the command dial. Set **[S]** for single-frame shooting, **[L]** for continuous low-speed shooting or **[H]** for continuous high-speed shooting, and so on.



SINGLE-FRAME SHOOTING



With the film advance mode at **[S]**, fully depressing the shutter release button takes one picture and automatically advances the film by one frame. Film is advanced immediately after the shutter closes whether you remove your finger from the shutter release button or keep the button depressed. To take the next shot, lift your finger from the button, then fully depress it again.





CONTINUOUS SHOOTING



Shots are taken continuously as long as you keep the shutter release button fully depressed. You have a choice of shooting speeds: approx. 4.3 fps (frames per second) in the  mode, and approx. 2.0 fps in the  mode—with fresh alkaline AA-type batteries at normal temperature and at shutter speed of 1/250 sec. or higher in the Manual exposure and Manual focus modes. With shutter speeds slower than 1/250 sec., the framing rate becomes progressively slower in proportion to the shutter speed in use.

If Focus Tracking is on, the maximum shooting speed is approx. 4.1 frames per second in  mode.

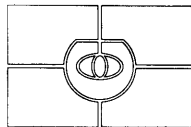
Nikon Multi-Control Back MF-26 users

- When imprinting Frame Count or Sequence Number in continuous shooting, set the camera's film advance mode to . In the  mode, Frame Count or Sequence Number may be incorrectly imprinted.
- When imprinting with an ISO 25 or lower-speed film in continuous shooting, set the camera's film advance mode to . In the  mode, the date and time may be reset and any other function(s) you have set may be cancelled.

EXPOSURE METERING SYSTEM

The Nikon F90X has three type of exposure metering systems— Matrix Metering, Centre-Weighted Metering and Spot Metering.

MATRIX METERING



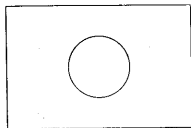
This system is ideal for quick operation in any exposure mode (pp. 49-66). With D-type AF Nikkor lenses including AF-I/AF-S Nikkor, 3D Matrix Metering is automatically activated. 3D Matrix Metering uses three types of data: (1) scene brightness, (2) scene contrast and (3) focused subject's distance (Distance Information). Data on scene brightness and contrast are detected by the camera's 8-segment Advanced Matrix Sensor, while data on the focused subject's distance is detected and relayed by the D-type AF Nikkor lens in use. In addition, the information sent by the camera's autofocus system indicating

whether the main subject is centred is also considered in the computation. By analysing these data, the F90X's built-in microcomputer is able to provide correct exposure even in extremely complex lighting situations. If a non-D-type lens is used, Advanced Matrix Metering is performed. Although lens' Distance Information is not given, 8-segment Matrix sensor provides the correct exposure in most lighting situations. Note that Matrix Metering system can be used only with lenses that have a built-in CPU (such as AF Nikkor and AI-P lenses.)

Data Link System Users

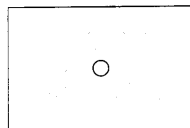
The AC-2E card's User Custom Option lets you check the exposure difference from Centre-Weighted Metering when Matrix Metering is activated.

CENTRE-WEIGHTED METERING



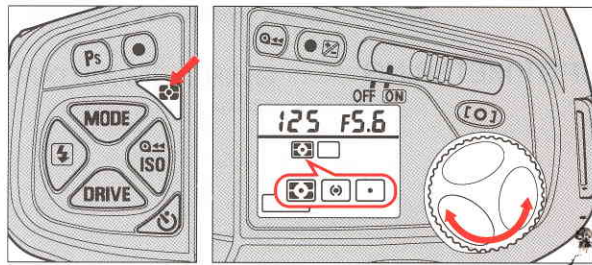
With 75% of the meter's sensitivity concentrated on the 12mm-dia. circle in the viewfinder and 25% outside this circle, this meter becomes useful in situations where you want to base exposure on a specific area in the scene. In the auto exposure mode, to measure the brightness of the picture's off-centre portion, use the camera's AE-L lever (pp. 88-89).

SPOT METERING

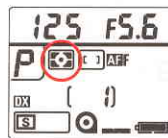


Nearly 100% of the meter's sensitivity is concentrated on the 3mm-dia. circle in the centre of the viewfinder. Use this meter for really selective exposure control—achieving the best results requires experience.

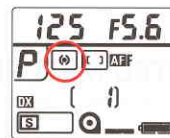
SETTING METERING SYSTEM



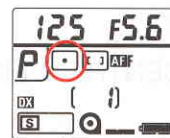
While pressing the metering system () button, rotate command dial until the desired symbol— for Matrix Metering, for Centre-Weighted Metering or for Spot Metering— appears in the LCD panel.



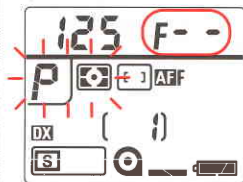
Matrix Metering



Centre-Weighted
Metering



Spot Metering

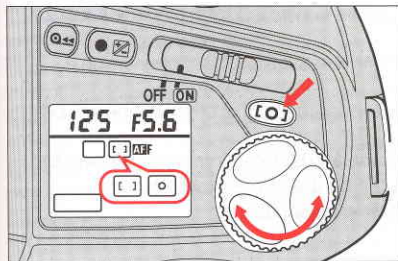


If you are using a lens without CPU, or accessories such as bellows or extension rings

8-segment Matrix Metering automatically switches off and Centre-Weighted Metering switches on while the metering icon blinks. (If Auto Multi-Program or Shutter-Priority Auto is set on the camera, the exposure mode also switches automatically to Aperture-Priority Auto with **F - -** and blinking exposure mode indicator.) In this case, use Centre-Weighted Metering or Spot Metering.

FOCUS



FOCUS AREA

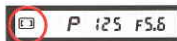
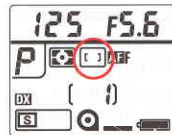


The F90X's autofocus system offers a choice of two focus areas: Wide and Spot.

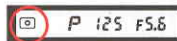
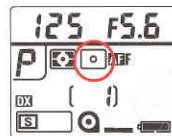
While pressing focus area button, rotate command dial until the desired symbol— for Wide Area or  for Spot Area—appears in the LCD panel.

When using Nikon dedicated Speedlight

When a Nikon dedicated Speedlight connected to the camera is turned on, Wide Area is automatically switched over to Spot Area focus. In this case,  blinks in the LCD panel and  appears inside the viewfinder.



Wide-Area Autofocus



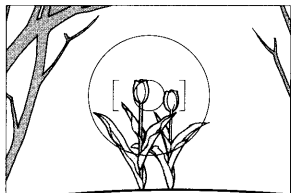
Spot-Area Autofocus

The Wide-Area focus brackets delineate the focus detecting area in the viewfinder. Subjects of sufficient brightness and detail can be detected within these brackets. In addition to general photography, autofocus using Wide-Area focus brackets is suited to action photography in which the moving subject requires a wide-range focus detection area. However, focus detection may not be possible if the subject is too small to fully cover the Wide-Area focus brackets. If various subjects, each at a different distance, fall within the focus

detection area, focus will be confirmed for a single subject as follows:

- For subjects of equal brightness: the closer one will be focused.
- For subjects of unequal brightness: the brighter one will be focused.

Spot Area AF, in which the focus detecting area is shown by the 3mm-dia. circle at the centre of the viewfinder, is recommended in the following situations:



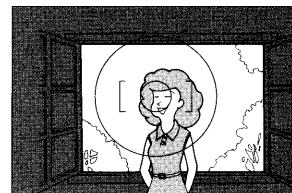
a. Subject considerably smaller than the Wide-Area focus brackets*



b. Subject obscured by an object, such as a fence, in the foreground



c. A particular portion of the subject must be in focus, such as the eyes in a portrait



d. Strongly backlit subject, such as someone standing beside bright window**

* Use focus lock. See "AUTOFOCUS WITH MAIN SUBJECT OFF CENTRE" on pages 40 to 43.

** To give correct exposure on your subject, see "AE-L LEVER" on pages 88 to 89 or "TO OBTAIN METER READING FOR A PARTICULAR SUBJECT IN MANUAL EXPOSURE MODE" on pages 90 to 91.

AUTOFOCUS

The Nikon F90X has two autofocus modes, Single Servo AF with Focus-Priority and Continuous Servo AF with Release-Priority.

In either autofocus mode and in any film advance mode, Focus Tracking automatically activates when the subject starts moving. Focus Tracking enables the camera to analyse the speed of the moving subject according to the focus data detected, and to obtain correct focus by anticipating the subject's position—and driving the lens to that position—at the exact moment of exposure. You can thus obtain correctly focused pictures for many moving subjects.

Data Link System users

- You can activate double beep for in-focus signal.
- You can give Focus-Priority to Continuous Servo AF and/or Release-Priority to Single Servo AF.
- For Single Servo AF in continuous shooting, you can cancel focus detection and lens driving for the next shot after the first shot is taken so that the subject focus remains locked.

For details, see the Nikon AC-2E card's instruction manual.

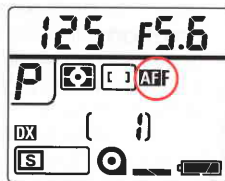
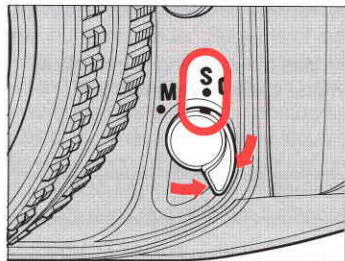
Caution

Do *not* attempt to turn the lens focusing ring or impede its rotation when the focus mode selector is set to **S** or **C**.

In addition to AF Nikkor lenses (including D-type AF Nikkor and AF-I/AF-S Nikkor lenses except the AF Nikkor lenses for F3AF), autofocus is possible with AF Teleconverter TC-16A attached to non-AF AI-Nikkor lenses with a maximum aperture of f/3.5 or brighter. AI-Nikkor lenses that cannot be used with the TC-16A are:

- AI-S type 20mm f/2.8
- AI-S type ED 400mm f/2.8 IF
- AI-S type ED400mm f/3.5 IF
- 28mm f/2 (with factory serial No. 540020 or smaller)
- 28mm f/2.8 (No. 500000 or smaller)
- 35mm f/1.4
- 35mm f/2 (No. 931000 or smaller)
- 35mm f/2.8 (No. 880000 or smaller)
- 50mm f/1.4 (No. 398000 or smaller)
- 50mm f/2 (No. 364000 or smaller)
- ED 400mm f/3.5 IF
- Micro 55mm f/3.5
- All modified-AI-Nikkor and PC-Nikkor lenses

For details, see the TC-16A's instruction manual.

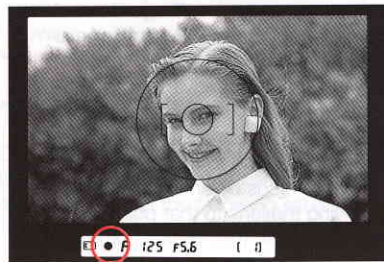


Single Servo AF with Focus-Priority

For Single Servo AF with Focus-Priority, set the focus mode to **S**.

You lightly press the shutter release button, the lens starts adjusting for focus. Because the priority is on correct focus, the shutter locks until the stationary subject is in focus (with ●) or until the moving subjects expected to be in focus (with ► ◄).

After focus is achieved with a stationary subject, the focus remains locked for as long as the shutter release button is lightly pressed. This feature is useful, especially when recomposing the picture with the main subject off centre. However, if the camera-to-subject distance changes, you have to refocus.



Stationary subject is in focus



With a stationary subject: Lightly press the shutter release button. When the subject is in focus, the lens stops moving, the in-focus indication ● appears in the viewfinder, and focus is locked. You can release shutter.


If the subject moves before shutter release, remove your finger from the shutter release button, then lightly press it again to re-start autofocus.

- Subject is located closer than the closest focusing distance of the lens. Move away from subject and refocus.
- Appears when TC-16A is used, alerting that the lens focusing ring is not set at infinity (∞). Set focus mode selector to **M**, set lens focusing ring to ∞, set focus mode selector to **S** again, then refocus.







Moving subject is expected to be in focus

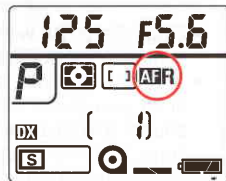
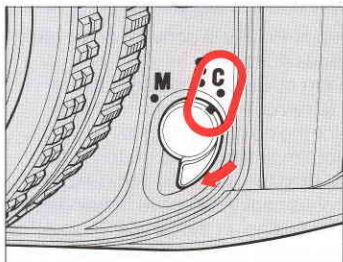
With a moving subject: Lightly press the shutter release button and Focus Tracking is automatically activated. Confirm   appears in the viewfinder, then fully depress the shutter release button.

Focus Tracking remains activated as long as you keep lightly pressing the shutter release button. If subject stops and  appears, focus is locked. If subject moves again, remove your finger from the shutter release button and lightly press it again to start autofocus with Focus Tracking.



If   blinks in the viewfinder: Autofocus is not possible (p. 44).

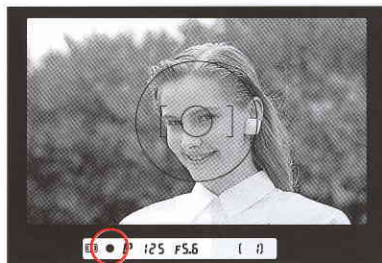
- Single Servo AF with Focus-Priority is convenient for off-centre subjects. See pages 40 to 41.
- After shooting with the film advance mode selector set at , you do not have to remove your finger from the shutter release button for the next shot. Slightly lift your finger from the button (but maintaining the button in the half-depressed position) then fully depress it to release the shutter again. The focus setting will have remained unchanged from the prior setting. In the Single Servo AF with Focus-Priority mode, focus remains locked even after the shutter is released, unless you remove your finger from the shutter release button. With film advance mode set at  or , camera detects focus every time the shutter is released.
- With a moving subject, depending on subject status and lens in use, slightly out-of-focus pictures may result.



Continuous Servo AF with Release-Priority

Under some conditions, such as very fast action situations, you may want to take a picture even if focus has not been successfully accomplished. In such cases, use this mode. Set focus mode to **C** to use Continuous Servo AF with Release-Priority.

In Continuous Servo autofocus mode, as you lightly press the shutter release button, focus detection begins and the lens focuses for as long as you keep the shutter release button lightly pressed. Since the priority is on shutter release, you can fully depress the shutter release button regardless of focus status.



Stationary subject is in focus

With a stationary subject: Lightly press the shutter release button to start autofocus operation. When the subject is in focus, the camera's autofocus motor (or the built-in motor of an AF-I/AF-S Nikkor lens) stops driving the autofocus lens and ● lights up. Unless you remove your finger from the shutter release button, the motor will start driving the lens again to obtain an in-focus picture if the focus distance changes.

- ▶ Subject is located closer than the closest focusing distance of the lens. Move away from subject and refocus.
- ▶ Appears when TC-16A is used, alerting that the lens focusing ring is not set at infinity (∞). Set focus mode



Moving subject is expected to be in focus

With a moving subject: Lightly press the shutter release button and Focus Tracking is automatically activated. To take a in-focus picture confirm that **▶ ◀** appears in the viewfinder then fully depress shutter release button. Focus Tracking remains activated as long as you keep lightly pressing the shutter release button. When the subject stops, the viewfinder will show **●** indicating the stationary subject is in focus.

selector to **M**, set lens focusing ring to ∞ , set focus mode selector to **C** again, then refocus.



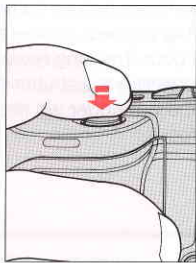
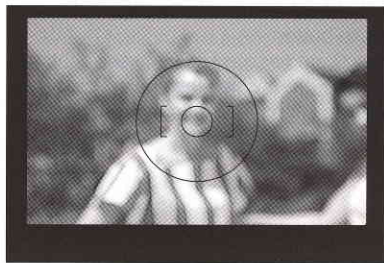
If **▶ ◀** blinks in the viewfinder: Autofocus is not possible (p. 44).

- As focus is not locked in Continuous Servo AF, to take an off-centre subject, use AF-L button. See pages 42 to 43.
- With a moving subject, depending on subject status and lens in use, slightly out-of-focus pictures may result.

AUTOFOCUS WITH MAIN SUBJECT OFF CENTRE

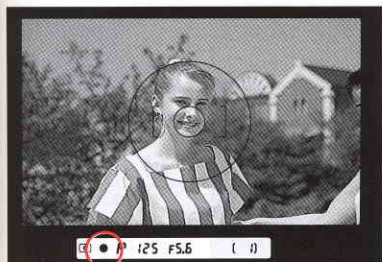
In Single Servo AF mode

As previously noted, in Single Servo autofocus, focus is locked as long as the shutter release button is kept lightly pressed. Use this feature for off-centre subjects. In the following procedure, Spot-Area AF demonstration photos are used.



- If there is substantial difference of brightness between subject and background, switch to Centre-Weighted or Spot Metering and use AE-L lever. See pages 88 to 89.
- With a moving subject, focus cannot be locked.

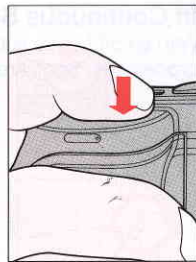
1. Position focus brackets on subject and lightly press shutter release button to start autofocus operation.



2. Confirm in-focus indicator ● appears in the viewfinder.

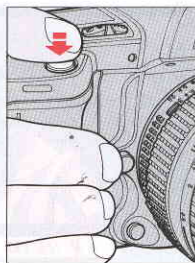
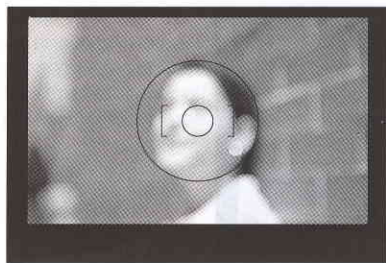
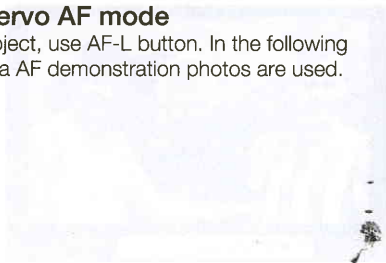


3. Keeping the shutter release button lightly pressed, recompose, then fully depress shutter release button to take picture.



In Continuous Servo AF mode

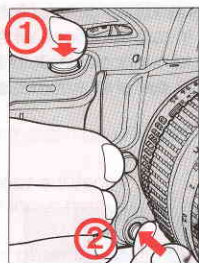
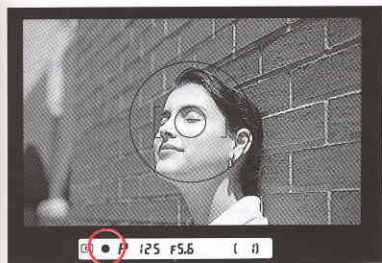
With an off-centre subject, use AF-L button. In the following procedures, Spot-Area AF demonstration photos are used.



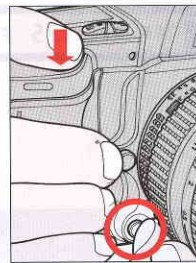
1. Position focus brackets on subject and lightly press shutter release button to start autofocus operation.

MF-26 or Data Link System users

The MF-26 or the Data Link System enables you to set simultaneous lock of autofocus and auto exposure. For details, see MF-26 or AC-2E instruction manual.

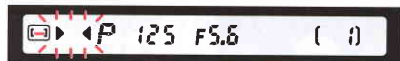


2. Keeping shutter release button lightly pressed, confirm in-focus indicator ● appears in viewfinder. Then press and hold AF-L button to lock focus. Keep holding AF-L button until next step is completed.

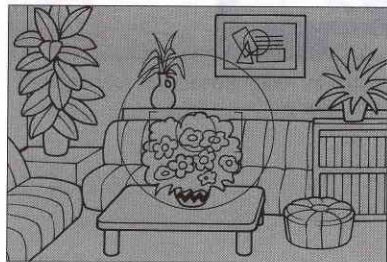


3. While holding AF-L button in, recompose, then fully depress shutter release button to take picture.

SPECIAL FOCUSING SITUATIONS

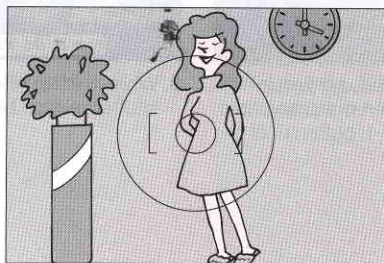


Autofocus operation depends on general lighting, subject contrast and detail, and other technical factors. In rare situations where autofocus (and manual focus with Electronic Rangefinder) is not possible, ► ◄ blinks telling you to focus manually with clear matte field (p. 48) or perform autofocus on another subject located at same distance.



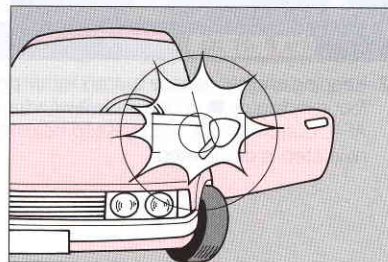
A. Very dark subject

Focus manually with clear matte field, or for autofocus, focus on another brighter subject located at same distance, then use focus lock (pp. 38-43). Or, use a Nikon autofocus Speedlight to perform autofocus with Speedlight's AF illuminator.



B. Low contrast subject

Focus manually with clear matte field, or for autofocus, focus on another subject at same distance but with more contrast, then use focus lock (pp. 38-43).



C. Strongly backlit subject or bright subject with shiny surface such as silver or aluminum, or scene in which there is a pronounced difference in brightness, such as the light patterns created by blinds.

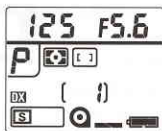
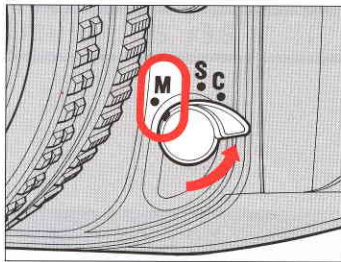
Focus manually with clear matte field.

In the following situations, ignore in-focus indicator ● or Focus Tracking indicator ▶ ◀.

- **Scene with subject located at different distances. (For example, when shooting a person over a fence or when shooting animals inside a cage)**
Use Spot Area for autofocus (page 34) or focus manually with clear matte field.
- **With an extremely bright object near your subject**
Use Spot Area for autofocus (page 34) or focus manually with clear matte field.
- **When using a linear polarising filter*, or other special filter such as a soft-focus filter.**
Focus manually with clear matte field.

* Circular polarising filter can be used in connection with autofocus operation.

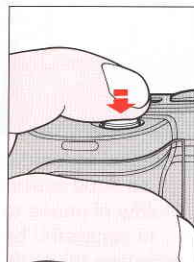
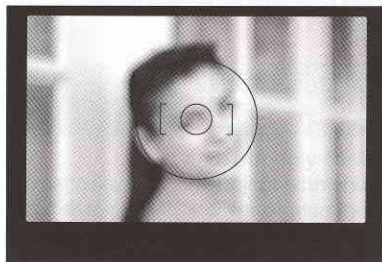
MANUAL FOCUS



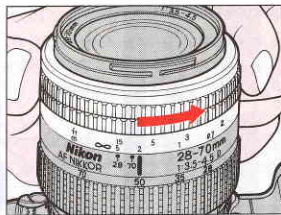
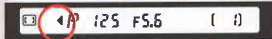
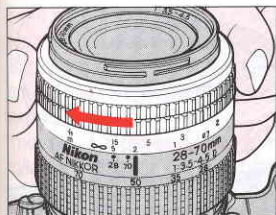
To focus manually, set the focus mode selector to **M**. (If the lens has an A-M switch, set it to M. If you are using an AF-I/AF-S Nikkor lens, set the focus mode to M or M/A.) There are two ways of assuring precise manual focus: with the Electronic Rangefinder or with the viewfinder's clear matte field.

Manual focus with Electronic Rangefinder

The Electronic Rangefinder enables you to see focus status with the viewfinder indications while you are manually focusing. It works with most Nikon lenses (including AF Nikkor when operated manually) which have a maximum aperture of f/5.6 or faster. (For a complete list of usable lenses, see LENS COMPATIBILITY CHART on p. 104).

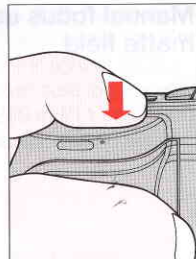


1. Look through viewfinder and position focus brackets on main subject. Then lightly press shutter release button.



2. Keeping shutter release button lightly pressed, rotate lens focusing ring in direction indicated by focus-to-left arrow (◀) or focus-to-right arrow (▶), until arrow disappears and in-focus indicator ● appears.

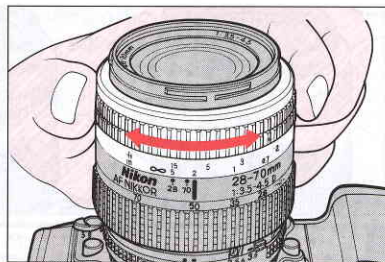
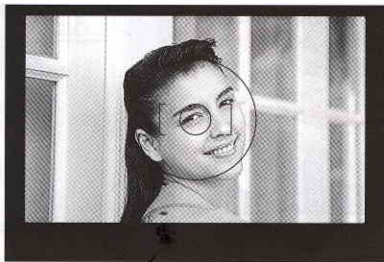
If focus-to-left arrow (◀) does not disappear when you turn focus ring counterclockwise to the limit, subject is closer than the distance at which the lens is able to focus. Move back from subject.



3. Confirm in-focus indicator ● appears, then fully depress shutter release button to take picture.

For special focusing situations shown on page 44, ▶ ◀ blinks to indicate that the Electronic Rangefinder does not correctly work. Focus with clear matte field (p. 48).

Manual focus using clear matte field



Look through viewfinder and rotate lens focusing ring until image on clear matte field appears sharp.