On-line camera manual library

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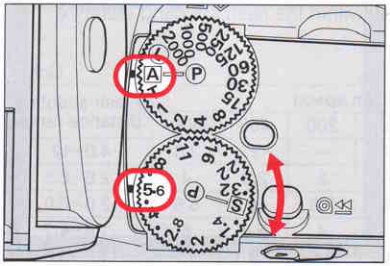
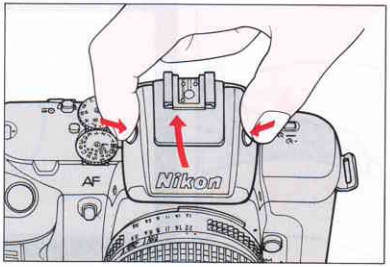
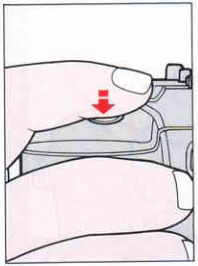


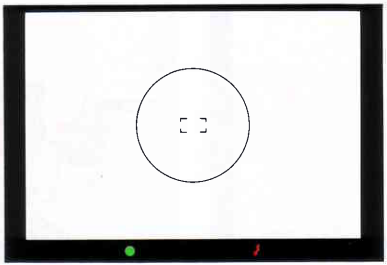
Operation in aperture-priority auto exposure mode

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



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





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

○ lights up	Correct exposure
+ or + ○ light up*	Background may be overexposed. Select smaller aperture (larger f-number)
– or ○ – light up*	Background may be underexposed. Select wider aperture (smaller f-number)

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

- *For controlled shutter speed, see page 62.*
- *Do not use AEL button in Matrix Balanced Fill-Flash.*

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

Unit: m

Aperture	ISO film speed						Flash shooting distance range
	25	50	100	200	400	800	
	–	–	–	–	2	2.8	4.0~12
	–	–	–	2	2.8	4	2.8~8.5
	–	1.4	2	2.8	4	5.6	2.0~6.0
	1.4	2	2.8	4	5.6	8	1.4~4.2
	2	2.8	4	5.6	8	11	1.0~3.0
	2.8	4	5.6	8	11	16	0.7~2.1
	4	5.6	8	11	16	22	0.6~1.5
	5.6	8	11	16	22	–	0.6~1.1
	8	11	16	22	–	–	0.6~0.8

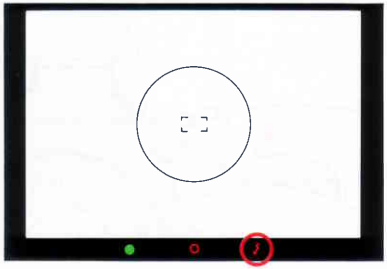
You can also estimate the maximum shooting distance by guide number.

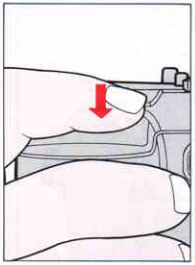
$$\frac{\text{guide number}}{\text{full aperture}} = \text{Maximum shooting distance}$$

i.e., if an f/4 lens is used at ISO 100:

$$\frac{12}{4} = 3\text{m}$$

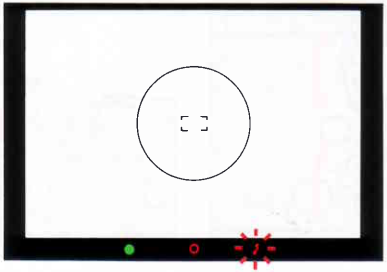
Guide number for each ISO is shown on page 62.



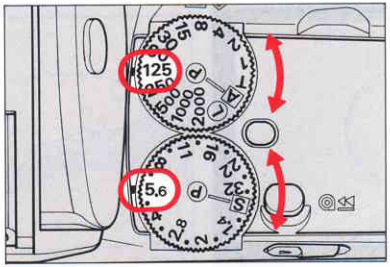


5. Confirm ready-light is on, then fully depress shutter release button to take a shot with a flash.

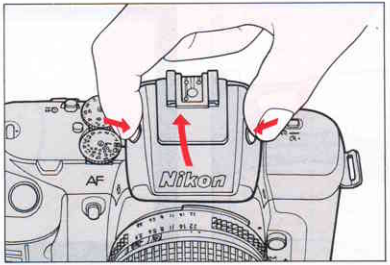
- *With ready-light off, flash is charging and shutter is locked.*



If ready-light blinks for a few seconds after shooting: The flash has fired at its maximum output and light might be insufficient. Confirm shooting distance and, if necessary, move closer to subject or select a wider aperture.

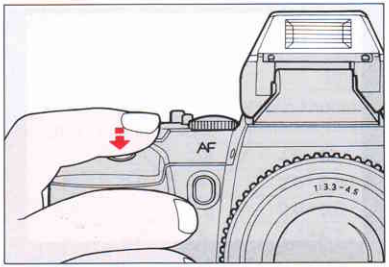


Operation in manual exposure mode

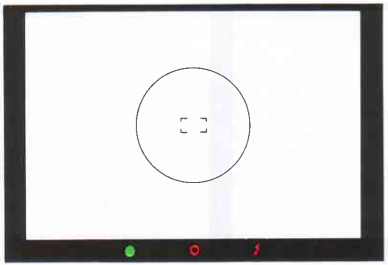


1. Press both flash lock-release buttons. The built-in TTL flash will pop up and automatically turn on.

- *In manual exposure mode, the ready-light does not appear to recommend flash use.*



2. Look through the viewfinder, center camera on the area where you desire a correct exposure and lightly press the shutter release button.



3. Confirm exposure indicator LED.

○ lights up	Correct exposure	
+ lights up	Background may be overexposed. (Over +1EV)	Select faster shutter speed and/or smaller aperture (larger f-number)
+ and ○ lights up	Background may be overexposed. (+1/3EV ~ +1EV)	
– and ○ lights up	Background may be underexposed. (–1/3EV ~ –1EV)	Select slower shutter speed and/or wider aperture (smaller f-number)
– lights up	Background may be underexposed. (Below –1EV)	

● *For controlled shutter speed, see the table on page 62.*

4. Make sure subject is within the flash shooting distance range. With ISO 100 film, for example, flash shooting distance range will be:

At f/2	2.0m ~ 6.0m
At f/2.8	1.4m ~ 4.2m
At f/4	1.0m ~ 3.0m
At f/5.6	0.7m ~ 2.1m
At f/8	0.6m ~ 1.5m
At f/11	0.6m ~ 1.1m
At f/16	0.6m ~ 0.8m

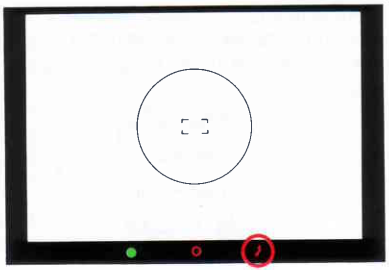
For other film speeds, see the table on page 56. You can also estimate maximum shooting distance using the guide number.

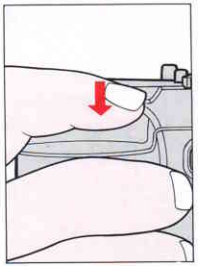
$$\frac{\text{guide number}}{\text{full aperture}} = \text{Maximum shooting distance}$$

i.e., if an f/4 lens is used at ISO 100:

$$\frac{12}{4} = 3\text{m}$$

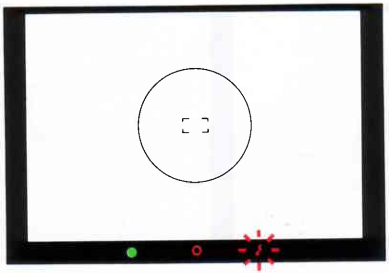
Guide number for each ISO is shown on page 62.





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

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



If ready-light blinks for a few seconds after shooting:
The flash has fired at its maximum output and light might be insufficient. Confirm shooting distance and, if necessary, move closer to subject or select a wider aperture.

USABLE AF NIKKOR LENSES

- All non-Zoom AF Nikkor lenses from 28mm to 300mm can be used, except AF Nikkor ED 300mm f/2.8 IF.
- Usable AF zoom lenses are:
  - AF 24-50mm f/3.3-f/4.5*
  - AF 28-70mm f/3.5-f/4.5**
  - AF 28-85mm f/3.5-f/4.5***
  - AF 35-70mm f/2.8****
  - AF 35-70mm f/3.3-f/4.5
  - AF 35-105mm f/3.5-f/4.5
  - AF 35-135mm f/3.5-f/4.5*****
  - AF 70-210mm f/4
  - AF 70-210mm f/4-f/5.6
  - AF 75-300mm f/4.5-f/5.6
  - AF 80-200mm f/2.8******

* *Cannot be used at a focal length shorter than 28mm, or when shooting a subject within 1m at 28mm focal length.*

** *Cannot be used when shooting a subject within 1m at a focal length shorter than 35mm.*

*** *Cannot be used at a focal length shorter than 35mm, or when shooting a subject within 2m at 35mm focal length.*

**** *Cannot be used at a focal length shorter than 50mm.*

***** *Vignetting may occur when shooting a subject within 2m at 35mm focal length.*

****** *Cannot be used when shooting a subject within 2m at 80mm focal length.*

Note that zoom lenses cannot be used for macro focusing.

- Do not use a lens hood; it could cause slight vignetting.
- Use only AF Nikkor lenses.

BUILT-IN FLASH SPECIFICATIONS

Guide number

Unit: m

ISO film speed					
25	50	100	200	400	800
6	8.5	12	17	24	34

Angle of coverage
28mm to 300mm

Controlled shutter speed/aperture in auto exposure mode

Camera's exposure mode	Controlled shutter speed	Controlled aperture
Programmed auto	**If focal length in use is 60mm or shorter:** 1/(focal length) sec., to 1/125 sec. **If focal length in use is longer than 60mm:** 1/60 to 1/125 sec.	Between available maximum aperture* and smallest aperture
Shutter-priority auto	As set on dial (1/125 sec. to 1 sec.)**	Between available maximum aperture* and smallest aperture
Aperture-priority auto	**If focal length in use is 60mm or shorter:** 1/(focal length) sec., to 1/125 sec. **If focal length in use is longer than 60mm:** 1/60 to 1/125 sec.	As set on dial
Manual	As set on dial (1/125 sec. to 1 sec. or T)**	As set on dial

* *Depends on film speed. See table at right.*

** *If you set shutter speed dial to 1/250 or higher, shutter speed automatically switches to 1/125 sec., the camera's synchronization speed.*

Controlled maximum aperture in programmed and shutter-priority auto exposure mode:

ISO film speed / Lens in use	25	50	100	200	400	800
With f/1.4 lens	f/2	f/2.4	f/2.8	f/3.4	f/4	f/4.8
With f/3.3 lens	f/3.3	f/3.3	f/3.3	f/3.4	f/4	f/4.8
With f/4.5 lens	f/4.5	f/4.5	f/4.5	f/4.5	f/4.5	f/4.8

SPEEDLIGHT COMPATIBILITY CHART

Nikon Speedlight	Connecting	Speedlight's flash exposure mode			
		TTL auto		Non-TTL auto flash***	Manual flash***
		Matrix Balanced Fill-Flash*	Centre-Weighted Fill-Flash**		
SB-24 SB-23 SB-22 SB-20 SB-16B SB-15	Direct	Yes	Yes	Yes (except SB-23)	Yes
SB-21B	Direct	Yes****	Yes****	No	Yes
SB-21A*****	Via AS-6	No	No	No	Yes
SB-11 SB-14 SB-140	Via SC-23	Yes	Yes	Yes	Yes
	Via SC-13 or AS-15	No	No	Yes	Yes
SB-17 SB-16A*****	Via AS-6	No	No	Yes	Yes
Medical-Nikkor 120mm f/4 IF	SC-22 (Provided)	Guide Number System (For details, see the lens' instruction manual.)			

* *Possible when F-401x camera is set at programmed, shutter-priority or aperture-priority auto exposure mode.*

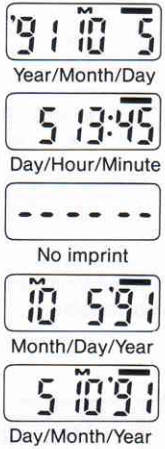
** *Possible when the F-401x camera is set at manual exposure mode.*

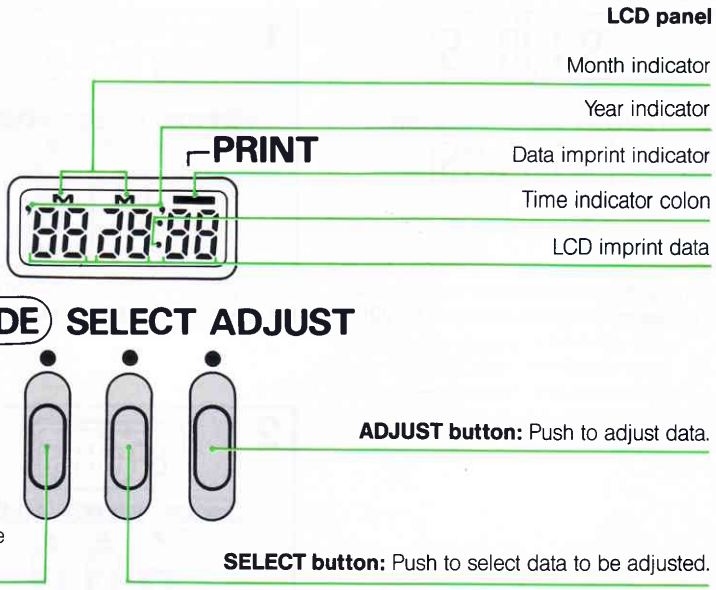
*** *Possible when the F-401x camera is set at aperture-priority auto or manual exposure mode.*

**** *Although possible with the SB-21B, Matrix Balanced Fill-Flash and Centre-Weighted Fill-Flash are not recommended for close-up photography. With the F-401x camera, use SB-21 at manual flash exposure mode.*

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

IMPRINTING DATA (for F-401x Quartz Date)

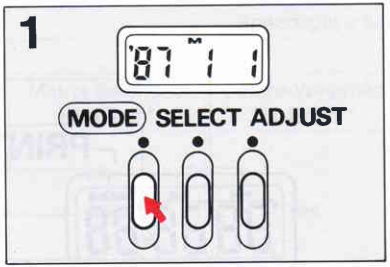




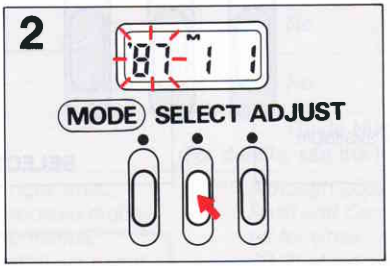
When the LCD becomes faint, replace lithium battery for the data imprint function (See page 72).

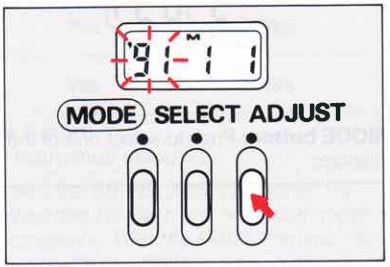
SETTING DATE AND TIME

For practice, adjust date and time, as in this example – 13:45, October 5, 1991.

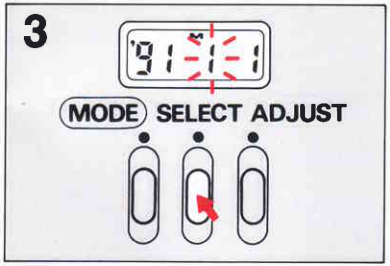


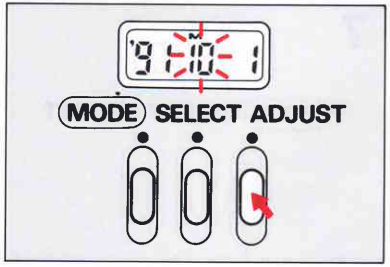
Display should show Year/Month/Day, Month/Day/Year or Day/Month/Year, as desired.
For practice, push MODE button and select Year/Month/Day display.



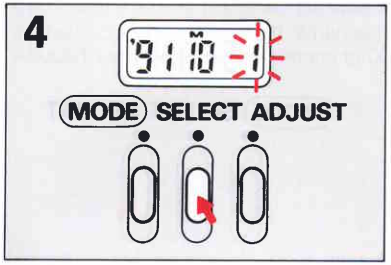


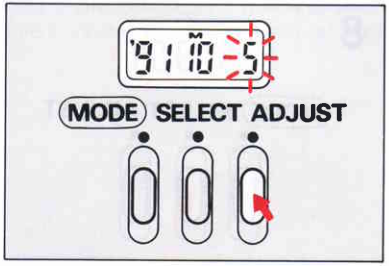
Set the year.
Push SELECT button so year section starts blinking indicating that it can be adjusted.
Push ADJUST button to set the year.



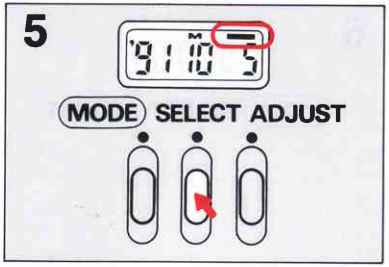


Set the month.
Push SELECT button so month section starts blinking, then push ADJUST button to set the correct month.

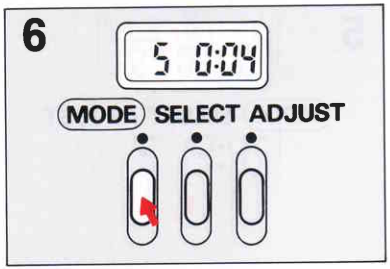




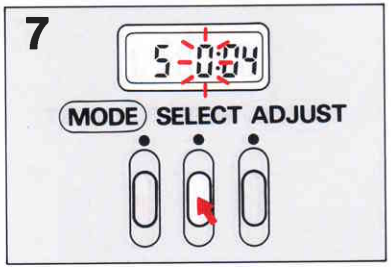
Set the day.
Push SELECT button so day section starts blinking, then push ADJUST button to set the correct day.

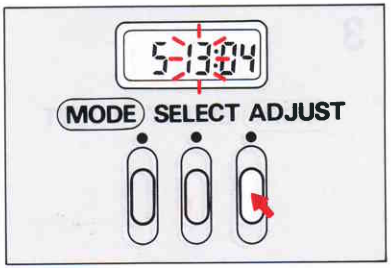


To leave adjust mode and confirm your correct display, push SELECT button while the day display is blinking. The newly adjusted data and data imprint indicator ▬ appears without blinking. This indicator bar always appears except when "No imprint" display is selected.

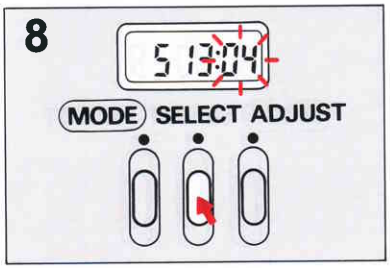


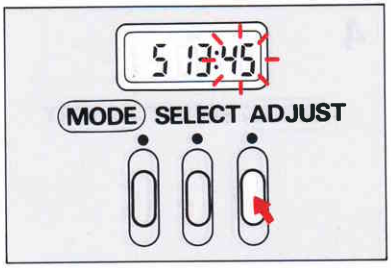
Push MODE button so Day/Hour/Minute is displayed.



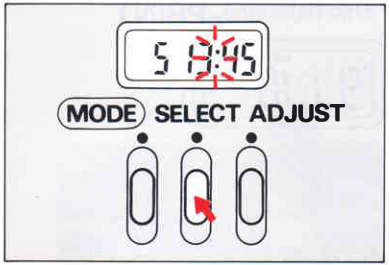


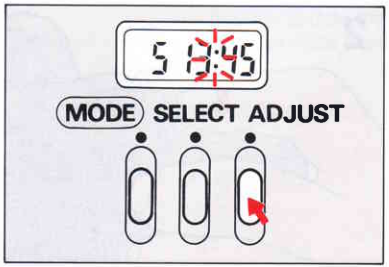
Set the hour.
Push SELECT button so hour section starts blinking, then push ADJUST button to set the correct hour.





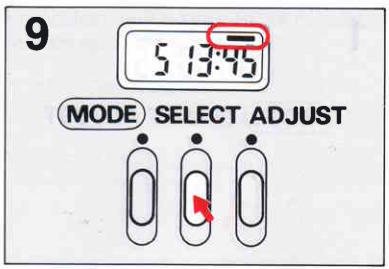
Set the minute.
Push SELECT button so minute section starts blinking, then push ADJUST button to set the minute.





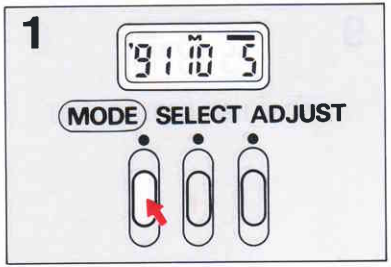
Push SELECT button again so time indicator colon starts blinking. While the colon is blinking, pushing adjust button resets the second to 00 without stopping clock operation.

To set time to precise second: Advance the time one minute ahead of actual time (i.e., if actual time is 12:59, set the time to 13:00). Then push SELECT button so time indicator colon starts blinking. When actual time coincides with the time you set, push ADJUST button to reset the second to 00.

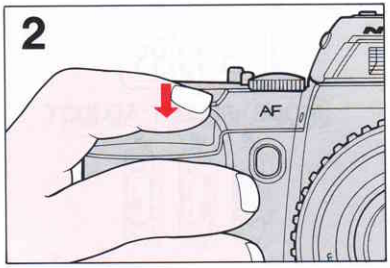


To leave adjust mode, push SELECT button and confirm data imprint indicator ▬ appears.

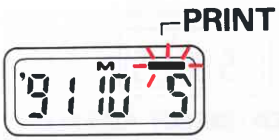
IMPRINTING DATA



Select your desired display by pushing MODE button and confirm date and time are correctly set.



Depress the shutter release button to take picture with imprinted data.



To confirm data is imprinted, check to make sure data imprint indicator ▬ blinks for approx. 2 sec. immediately after taking the picture.

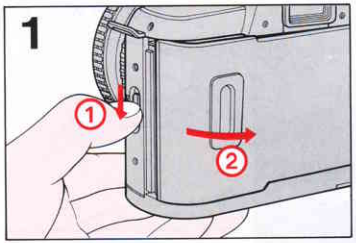
Imprinted data

Year/Month/Day

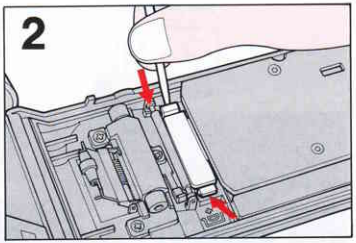
Day/Hour/Minute

Imprinting data may be difficult to read against bright colours such as white or reddish colours.

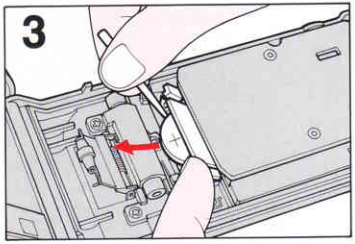
REPLACING LITHIUM BATTERY FOR DATA IMPRINT FUNCTION



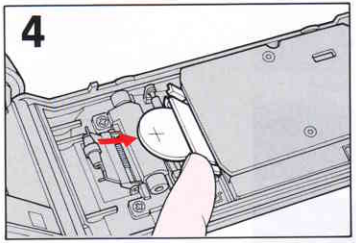
Make sure that film is not loaded, open the camera back.



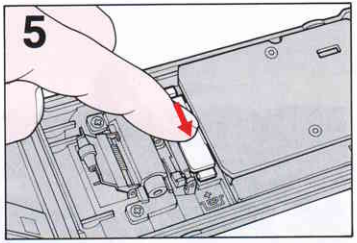
Push the lock-release lever to open the battery chamber lid.



Remove used battery.



Insert new battery with "+" terminal facing upward.



To close, push the lid down until it snaps into place.

Nikon F-401x is designed for autofocus photography with AF Nikkor lenses (except AF-Nikkor lenses for F3AF). To take full advantage of the F-401x's conveniences, it is recommended that you should use AF Nikkor lenses.
However, the following lenses can be used with the Nikon F-401x for manual focusing and manual exposure control, in line with the conditions listed at right.

MOUNTABLE NON-AF NIKKOR LENSES

AI-P Nikkor lenses
AI-type (AI-S, AI and AI-modified) Nikkor lenses except Fisheye 6mm f/5.6 and Fisheye OP 10mm f/5.6, 180-600mm f/8 (No. 174180 or smaller), 200-600mm f/9.5 (No. 301922 or smaller), 360-1200mm f/11 (No. 174127 or smaller)
Nikon Series E lenses
Reflex Nikkor lenses 500mm f/8
1000mm f/11 (No. 143001 or larger)
2000mm f/11 (No. 200311 or larger)
PC-Nikkor lenses 28mm f/3.5
28mm f/4 (No. 180901 or larger)
35mm f/2.8 (No. 906201 or larger)
Medical-Nikkor 120mm f/4
Teleconverters (except TC-16/TC-16A; they cannot be mounted)

Use of other lenses may damage the camera.

When mountable non-AF Nikkor lenses are used:

- Exposure indicator LEDs do not appear. Use external exposure meter, then set the exposure using lens aperture ring and shutter speed dial. Ignore the aperture set on camera's aperture dial.
- If the shutter speed dial is set at L or A, or the aperture dial is set at S, the self-timer indicator LED blinks and the shutter locks.
- Standard TTL flash is possible with built-in TTL flash or accessory Nikon Speedlight SB-24, SB-23, SB-22, SB-20, etc. To use flash or Speedlight, set shutter speed dial to 1/125 sec., or slower, then set the aperture using the lens' aperture ring. For Speedlight settings and shooting distance range, see Speedlight's instruction manual. Except for flash recommendation, ready-light functions as normal. Automatic balanced fill-flash is not possible.
- When using the F-401x with an AI-P-Nikkor lens, automatic exposure control is available but automatic focusing is not.

Lens compatibility

	Focusing			Exposure Control			
	Autofocus	Manual w/electronic focusing confirmation	Manual	Programmed auto	Shutter-priority auto	Aperture-priority auto	Manual
AF Nikkor lenses (except AF Nikkor lenses for F3AF)	○	○	○	○	○	○	○
AI-P Nikkor lens	×	○	○	○	○	○	○
AI-type Nikkor lenses[1)]	×	△[2)]	○	Camera's exposure meter does not operate and exposure indicator LEDs do not appear. Set exposure using the lens aperture ring and camera's shutter speed dial. For Medical Nikkor 120mm f/4 lens, set shutter speed 1/60 sec. or slower.			
Series E lenses	×	△[2)]	○				
Reflex Nikkor lenses[1)]	×	×	○				
PC-Nikkor lenses	×	×	○				
Medical-Nikkor 120mm f/4	×	○	○				
Teleconverters (except TC-16/TC-16A)	×	△[3)]	○				
Bellows Focusing Attachment PB-6	×	△[3)]	○				
K ring set (K1, K3, K4 and K5)	×	△[3)]	○				
Auto Extension Rings (PK-11A, 12, 13 and PN-11)	×	△[3)]	○				

○ Compatible
× Incompatible
△[1)] Some lenses cannot be attached. See page 73.
△[2)] With maximum aperture of f/5.6 or faster.
△[3)] With maximum effective aperture of f/5.6 or faster.

ACCESSORY COMPATIBILITY

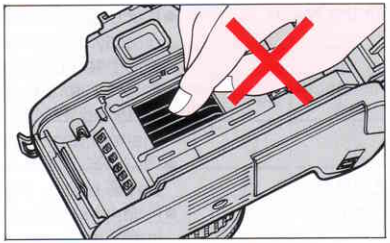
The following accessories cannot be used with the Nikon F-401x.

- Cords that connect to remote terminal
- Accessories that connect to sync terminal
- Cable releases
- Neckstrap AN-1 (leather)
- Others:
  PF-1~PF-3, PH-3, PB-2, PK-1~PK-3, PN-1, K2, BR-2
  Accessories exclusively designed for other cameras

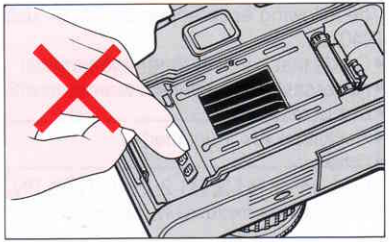
- If accessories such as close-up attachments are mounted directly on the lens mount of the F-401x, exposure indicator LEDs do not appear. Set aperture using lens aperture ring.
- Filters with a larger exposure factor may affect the Matrix Metering. Use Centre-Weighted Metering (with AEL button or manual exposure mode).
- PK-1, PK-11, BR-4 and K1 Rings cannot be mounted directly on AF Nikkor lenses.
- Polarising filters cannot be used for autofocus or auto exposure; use a circular polarising filter.
- Special filters, such as soft focus filters, cannot be used for autofocus or for manual focus with electronic focusing confirmation.

CAMERA CARE TIPS

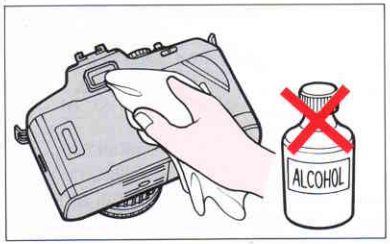
1. Never touch the reflex mirror, focusing screen or AF contacts. Remove dust with a blower brush.



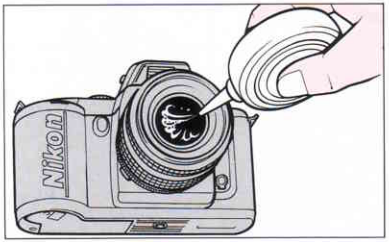
2. Never touch the shutter curtains.



3. Never touch the DX-contacts. Keep clean with blower brush.



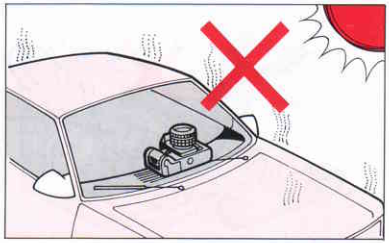
7. Clean the viewfinder eyepiece with a soft, clean cloth. Do not use alcohol.



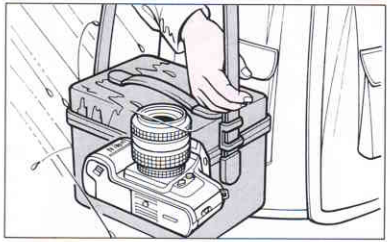
8. Clean glass surfaces such as the lens with a blower brush; avoid using lens tissue as much as possible. To remove dirt and smudges, use soft cotton moistened with pure alcohol and wipe in a spiral motion from center to periphery. Be careful not to leave traces.

Caution

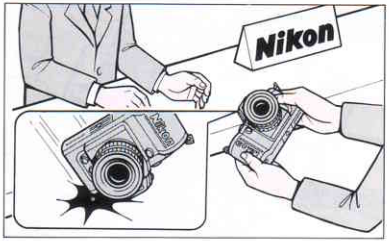
A spray gun-type blower may damage the glass if used to clean the lens, especially when ED glass is used for the front lens element. To avoid damage, hold the blower upright with its nozzle more than 30cm (12 in.) from the lens surface and keep the nozzle moving so the stream of air is not concentrated in one spot.



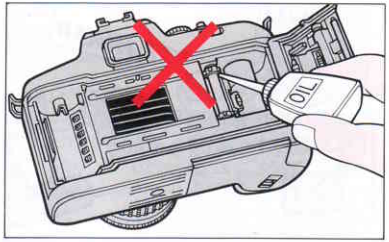
4. Do not leave the camera in an excessively hot place.



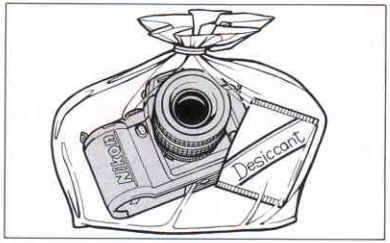
5. If the camera is exposed to rain or mist, or after shooting near the sea, wipe with a clean, soft cloth.



6. If the camera malfunctions, take it immediately to an authorised Nikon dealer or service centre.

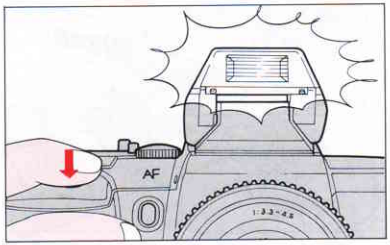


9. Do not lubricate the camera.



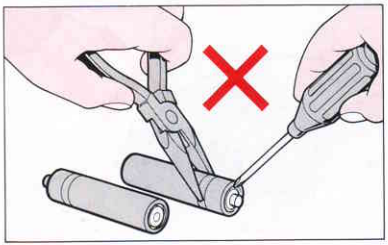
10. Store the camera in a cool, dry place away from naphthalene or camphor (moth repellents).
In a humid environment, store the camera inside a vinyl bag with a desiccant to keep out dust, moisture and salt.
Note, however, that storing the leather case in a vinyl bag may cause the leather to deteriorate.

NOTES ON BATTERIES

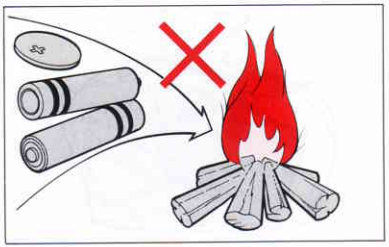


11. If camera has not been used for a long time, recycling time of the built-in flash may be longer. To maintain the flash's condenser in peak condition, thereby enabling you to use the flash for many years, fire the flash a few times every month.

1. Keep batteries out of children's reach. If swallowed, call a doctor immediately.

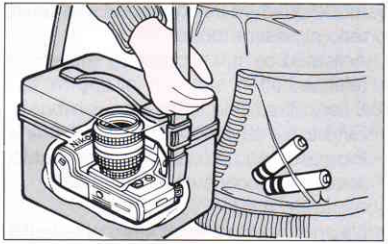


2. Never disassemble, short-circuit or heat batteries.

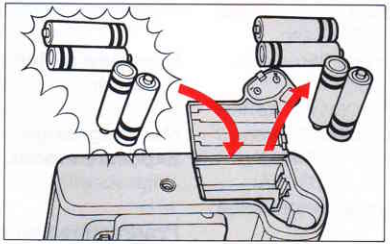


6. Do not throw used batteries into a fire.

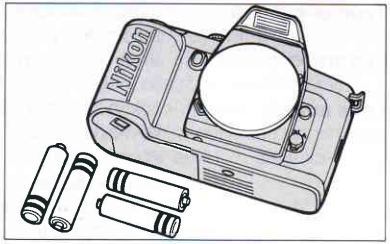
7. If battery chamber is contaminated by battery leakage, take the camera to an authorised Nikon dealer.



3. Battery power falls off in extremely low temperatures – make sure batteries are new and keep the camera body wrapped in something warm.



4. When replacing batteries, be sure to replace all batteries at the same time. Always use fresh batteries of the same brand.



5. When not using the camera for a long period, remove batteries.

- Compared with regular batteries, NiCd batteries provide greater efficiency at low temperatures. Before charging NiCd batteries, thoroughly read the instructions for batteries and battery charger.
- Never charge dry cells.

SPECIFICATIONS

Type of camera	Integral-motor autofocus 35mm single-lens reflex with built-in TTL flash
Picture format	24mm x 36mm (standard 35mm film format)
Lens mount	Nikon bayonet mount
Lens	AF Nikkor lenses (except AF-Nikkor 80mm f/2.8, ED 200mm f/3.5 IF, and autofocus converter TC-16/TC-16A), and non-AF Nikkor lenses (with limitation) available
Focus modes	Autofocus, and manual focus with focusing confirmation
Autofocus	
Autofocus detection system	TTL phase detection system using Nikon Advanced AM200 sensor
Autofocus detection range	Approx. EV –1 to EV 19 (at ISO 100)
Autofocus actuation method	Single servo
Autofocus lock	Possible
Focus tracking	Automatically activated with a moving subject
Focusing confirmation	Available in manual focus mode with an AF Nikkor, mountable Nikkor and Series E lens with a maximum aperture of f/5.6 or faster.
Exposure metering	Matrix Metering (for ensuring correct automatic operation in programmed, shutter-priority and aperture-priority auto exposure modes); Center-Weighted Metering (for manual exposure mode or when using the AEL button in auto exposure mode)
Exposure meter switch	Activated by lightly pressing shutter release button; stays on for approx. 8 sec. after lifting finger from button
Metering range	EV 0 to EV 19 at ISO 100 with f/1.4 lens
Exposure modes	Programmed auto, shutter-priority auto, aperture-priority auto and manual exposure modes
Programmed auto exposure control	Nikon Auto Multi-Program; both shutter speed and aperture are set automatically
Shutter-priority auto exposure control	Aperture automatically selected to match manually set shutter speed
Aperture-priority auto exposure control	Shutter speed automatically selected to match manual set aperture
Manual exposure control	Both aperture and shutter speed are set manually
Shutter	Electronically controlled vertical-travel focal-plane shutter
Shutter release	Electromagnetic
Shutter speeds	1/2000 to 8 sec. on programmed auto exposure mode; 1/2000 to 30 sec. on aperture priority auto exposure mode; 1/2000 to 1 sec., on shutter-priority auto and manual exposure modes; T setting for long-time exposure provided
Viewfinder	Fixed eye-level pentaprism type; 0.8x magnification with 50mm lens set at infinity; 92% frame coverage

Eyepiece cover	Model DK-5 prevents stray light from entering viewfinder
Focusing screen	Nikon BriteView screen with central focus brackets for autofocus operation
Viewfinder information	Green focus indicator LED for focusing, red exposure indicator LED shows over- and underexposure warning, and correct exposure; red flash ready-light for flash photography
Auto exposure lock	Available via pressing the AEL button while the meter is on (Centre-Weighted Metering selected when the AEL button is pressed)
Film speed range	ISO 25 to 5000 for DX-coded film
Film speed setting	Automatically set by DX-coded film (ISO 100 is automatically set for all non-DX-coded films)
Film loading	Film automatically advances to frame one when shutter release button is depressed once; film advance indicator rotates to show that film is loaded and being advanced properly
Film advance	Film automatically advances one frame at approx. 0.4 sec. when shutter is released; film advance stops automatically at end of film roll
Frame counter	Accumulative type; automatically reset when camera back is opened
Film rewind	Automatically rewound by built-in motor
Self-timer	Electronically controlled; approx. 10 sec. exposure delay; blinking LED indicates self-timer operation; two-shot self-timer is possible; cancellable
Reflex mirror	Automatic, instant-return type
Camera back	Hinged back; film cartridge confirmation window and film advance indicator
Accessory shoe	Standard ISO-type with hot-shoe contact, ready-light contact, TTL flash contact, monitor contact
Built-in TTL flash	Guide number: 12 (meters) at ISO 100 and 20°C; angle of coverage: 28mm lens or longer; Matrix Balanced Fill-Flash is possible in auto exposure modes; Centre-Weighted Fill-Flash is possible in manual exposure mode
Flash synchronisation	In programmed auto or aperture-priority auto, shutter operates 1/125 to 1/60 sec. (or 1/[focal length] sec. with lens focal length less than 60mm); in shutter-priority auto or manual exposure mode, automatically set to 1/125 sec. when shutter is manually set at 1/125 sec. or faster; if shutter is manually set at 1/125 sec. or slower, shutter fires as set

Flash indication Flash ready-light blinks when flash is recommended (scene darker than EV 10 at ISO 100, or a scene with brightness of EV 10 or higher at ISO 100 where the center portion is darker than other areas by more than EV 2) and lights up when built-in TTL flash or accessory Nikon Speedlight is ready to fire

Autofocus flash photography Possible only with Nikon Autofocus Speedlight SB-24, SB-23, SB-22 and SB-20

Power source Four AA-type batteries

Number of 36-exposure film rolls per set of fresh batteries (approx.)

For autofocus operation with AF Zoom-Nikkor 35-70mm f/3.3-f/4.5 lens covering the full range from infinity (∞) to the closest distance and back to infinity (∞) before each shot, at 1/125 sec. or faster shutter speed

Batteries	With AF Nikkor 35-70mm f/3.3-4.5			
	Without flash		With flash	
	at 20°C	at –10°C	at 20°C	at –10°C
AA-type alkaline-manganese (LR06)	78	20	19	4
NiCd (KR-AA)	38	22	11	6
Zinc-carbon (SUM-3)	20	5	2	–

Dimensions (WxHxD) F-401x: 154 x 102 x 65mm
F-401x Quartz Date: 154 x 102 x 67mm

Weights (body only) F-401x: Approx. 650g
F-401x Quartz Date: Approx. 655g

For databack function (F-401x Quartz Date only)

Data imprint functions Year/Month/Day, Day/Hour/Minute, No imprint, Month/Day/Year and Day/Month/Year are selectable; 24-hour built-in clock with timing accuracy within ±90 seconds a month at normal temperatures

Power source One 3V lithium (CR2025) battery

With fresh alkaline batteries at normal temperature (20°C).
Specifications and design are subject to change without notice.

"This digital apparatus does not exceed the (Class B) limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications."

AEL (Auto Exposure Lock)
AEL is recommended for shooting small dark subjects against a bright background or for shooting dramatic sunset scenes. When AEL is used in auto exposure mode, camera automatically switches to Centre-Weighted Metering.

AF illuminator
When existing light is below a certain level and the camera is set for autofocus mode, the SB-24/SB-23/SB-22/SB-20's AF illuminator turns on automatically and provides enough subject contrast to enable the F-401x's autofocus system to function as though it were daytime.

Balanced fill-flash operation
A method of flash photography that keeps flash brightness in balance with the ambient light. (See "Fill-flash.")
With the built-in TTL flash or Nikon-dedicated TTL-controlled Speedlights, the F-401x performs automatic balanced fill-flash, called Matrix Balanced Fill-Flash, so both subject and background are correctly exposed, to produce a well-balanced picture. (For automatic balanced fill-flash, see page 46.)

Centre-Weighted Metering
In manual mode, or when the AEL button is used in auto exposure modes, the camera automatically switches to Centre-Weighted Metering. This secondary metering system places special emphasis on brightness within the 12mm-diameter central area of the viewfinder, making the F-401x exceptionally versatile for a wide variety of subjects.

Depth of field
The zone of acceptable sharpness in front of and behind the subject on which the lens is focused. Depth of field can be increased by using small apertures (larger f-numbers) or short focal-length lenses, or by taking the picture from farther away. To reduce depth of field, use larger apertures (small f-number), long focal-length lenses, and/or near subjects.

DX code
Film information code printed on the film cartridge. The F-401x automatically senses the film speed (ISO 25 to 5000) of DX-coded film the instant it is loaded.

EV
Exposure Value. A number representing the available combinations of shutter speed and aperture that give the same exposure effect when the scene brightness and ISO remain the same.
At ISO 100, the combination of a one-second shutter speed and an aperture of f/1.4 is defined as EV1.
The camera's meter may be used only within EV range of the exposure meter. For example, with the F-401x, exposure metering range is from EV 0 to EV 19 at ISO 100 with f/1.4 lens.

Exposure control
Programmed auto: Camera controls both shutter speed and aperture for correct exposure.

Shutter-priority auto: User selects shutter speed and camera chooses aperture for correct exposure.

Aperture-priority auto: User selects aperture and camera chooses shutter speed for correct exposure.

Manual: User select both shutter speed and aperture with the meter's recommendations for correct exposure.

Fill-flash
A method of flash photography that combines flash illumination and ambient light.
Subjects lit from behind or near a window normally appear too dark in photographs, so it is recommended you use a flash for fill-in lighting.
(See "Balanced fill-flash.")

Flash synchronisation
The timing of the flash so it fires coincident with the operation of the camera's shutter.

f-number
Number that indicates brightness of film plane image. Increasing/decreasing f-number is equivalent to opening/stopping down lens aperture. The f-number series is 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, 22, 32, etc. Changing one step to the next larger number (i.e., from f/11 to f/16) decreases image brightness by 1/2; moving to nearest lower number doubles the brightness.

Guide number
The number given to a flash bulb or electronic flash unit to indicate its power. A guide number may be quoted in meters or feet, and depends on the speed of the film being used. Guide numbers quoted assuming a relatively efficient reflector surrounds the flash source, e.g., an average-sized room.

ISO film speed
The international standard for representing film sensitivity (speed with which it reacts to light). The higher the number, the greater the sensitivity, and vice versa. A film speed of ISO 200 is twice as fast as ISO 100, and half the speed of ISO 400 film.

LED
Light-Emitting Diode. For the F-401x, used to provide indications inside the viewfinder and self-timer indication.

Matrix Metering system
An advanced camera light metering system using a multi-segment sensor and computer; available Nikon SLR models F-401x/N5005, F-601/N6006, F-601M/N6000, F4, F-801s/N8008s and F-801/N8008. A basic version is used with the Nikon F-401/N4004 and F-401s/N4004s models. Matrix Metering is an exclusive Nikon feature.

SLR
Single Lens Reflex. A type of camera in which you look through the camera's lens as you view through the camera finder. Other camera functions, such as light metering and flash control, also operate through the camera's lens.

TTL
Through-The-Lens. Most SLR cameras have built-in meters that measure light after it has passed through the lens, a feature that enables exposure readings to be taken from the actual image about to be recorded on film, whatever the lens' angle of view and regardless of whether a filter is used.

TTL auto flash
The camera's light sensor measures flash light, as reflected by the subject on the film and shuts off the flash when measurement indicates correct exposure. Because the sensor that controls the flash receives light through the lens, TTL auto flash can be used for bounce photography, fill-in flash, multiple flash photography, etc. An additional advantage of TTL auto flash is that you can use a wide range of aperture settings, while ensuring correct exposure.

VIEWFINDER INFORMATION

Exposure mode		Programmed auto	Shutter-priority auto	Aperture-priority auto	Manual
Focus indicator LED	● lights up	In focus			
	● blinks	Autofocus impossible			
	● disappears	Rear/front focus (shutter does not lock in manual focusing)			
Exposure indicator LEDs (without flash)	○ lights up	Correct exposure			
	○ blinks	Camera shake warning	–	Camera shake warning	–
	+ lights up	Too bright for auto exposure			Over (+1EV ~)
	– lights up	Too dark for auto exposure			Under (~ –1EV)
	+ – blink alternately	Lens aperture not set to minimum			
	+ ○ light up	–	Over (+1~+1/3 EV)		
	○ – light up	–	Under (–1/3~–1EV)		
Ready-light LED	⚡ blinks (before shooting)	Flash recommended (when built-in flash or external speedlight is OFF)			–
		SB-19 is set to B or B (EM)		SB-19 is set to B or B (EM)	
	⚡ disappears	Recharging (shutter does not lock with external speedlight)			
	⚡ lights up	Recharged			
		External speedlight not set to TTL		External speedlight not set to TTL	
	⚡ blinks (after shot)	Insufficient light for correct exposure			

Shutter is locked