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PENTAX®

645N

OPERATING MANUAL

Welcome to the Fantastic World of Pentax Autofocus Multi-Mode Medium Format Photography

The Pentax 645N, our latest development in the area of the medium format SLR, promises a superior 6 x 4.5cm result with 120, 220, or 70mm film.

Made possible through our vast experience and technology accumulated over the years, the new autofocus multi-mode 645N assures pin-sharp focus accuracy with AF Spot and AF Wide selection, and the 6-segment multi-pattern metering allows precise exposure control under widely varying conditions. Unsurpassed versatility is assured through the utilizing of a full range of exposure modes (Programmed AE, Aperture-Priority AE and Shutter-Priority AE, Metered Manual and TTL auto flash control), as well as an exposure compensation control and Auto-Bracketing Mode.

With a 645 A- or FA lens attached, the 645N imprints relevant information (frame number, shutter speed, aperture setting, exposure control and auto-bracketing mode.

The Pentax 645N is a professional camera possessing a number of highly sophisticated features: built-in automated film wind, an external LCD information panel and clearly visible LCD information in the viewfinder.

Lenses and accessories produced by other manufacturers are not made to our precise specifications and therefore may cause difficulties with or actual damage to your Pentax camera. We do not assume any responsibility or liability for difficulties resulting from the use of lenses and accessories made by other manufacturers.

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PRECAUTIONS FOR YOUR CAMERA

Your Pentax camera is a high-precision mechanism. Handle it with great care.

Precautions when taking pictures

- Do not use the camera where it may come in contact with rain, water, or any other liquid, because the camera is not weather, water, or liquid resistant. Should the camera get wet from rain, splashing water, or any other liquid wipe it off immediately with a dry soft cloth.
- Do not drop the camera or allow it to hit solid objects. If the camera suffers a shock or impact, take it to a Pentax service center for inspection.
- Be careful not to subject the camera to strong vibrations, shock or pressure. Use a cushion to protect the camera when carrying it in a motorcycle, car, boat, etc.
- Condensation on the interior or exterior of the camera may be extremely harmful to the camera mechanism as it may cause rust. Furthermore, if the camera is taken from warm temperature to a subfreezing one or vice versa, the formation of icelets may cause damage. In such a case, put the camera into a case or plastic bag so that any changes in temperature difference is minimized. Do not remove it from the bag until temperature has stabilized.
- Regular size color prints may cut off what appears on the extreme edges of the film frame. Compose your picture with a margin of safety at the edges.

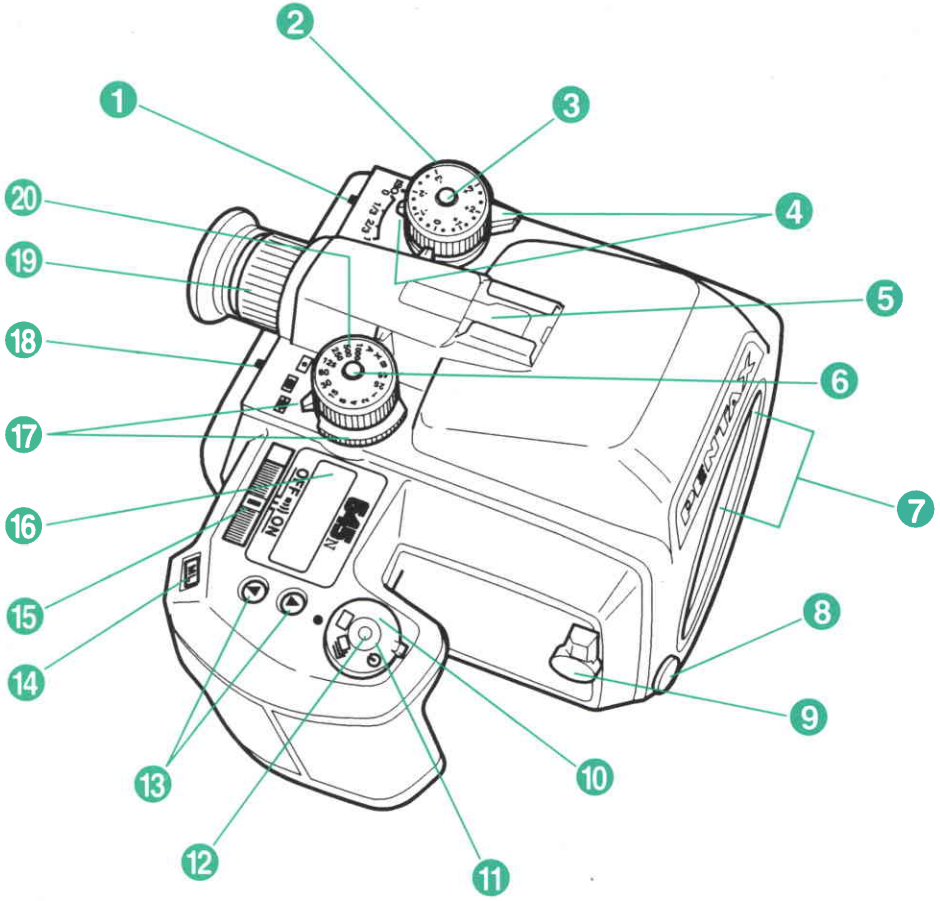
Precautions for storage

- Avoid leaving the camera for extended periods in places where the humidity and temperature are very high, such as in a car.
- Do not store the camera in a closet with moth balls or in an area where chemicals are handled. Store it in a place with good dry air circulation to prevent the growth of fungus.

Precautions for proper care

- Never touch the shutter curtain or mirror with your finger or any other object.
- Use a blower and lens brush to remove dust accumulated on the lens or viewfinder.
- Never use solvents such as paint thinner, alcohol or benzene to clean the camera.
- Electrical problems may often be caused by water, dirt or dust at points of electrical contact. Also check for battery leakage, traces of dirt or grease, or corrosion due to salinity or gas. If you cannot correct the problems, have your camera inspected at a Pentax service center. Repairs of this nature are not covered under the terms of the warranty and charges may be assessed.

NAMES OF WORKING PARTS I



1. AF mode selector (p.29,53)
2. Exposure compensation dial (p.48)
3. Exposure compensation dial release button (p.48)
4. Auto bracketing selector (p.49)
5. Hotshoe (p.62)
6. Shutter speed dial release button
7. Lens information contacts
8. Lens unlock button (p.12)
9. Preview lever (p.68)
10. Drive mode selector (p.30,34,35)
11. Shutter release button (p.16)
12. Release socket (p.47)
13. Up / down buttons
14. Memory lock button (p.52)
15. Main switch (p.10)
16. LCD panel (p.3)
17. Metering mode selector (p.27,50, 51)
18. AF farame selector (p.30,54)
19. Diopter adjustment ring (p.24)
20. Shutter speed dial

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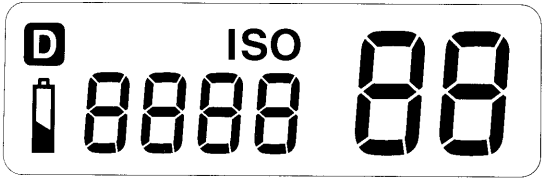
PRECAUTIONS FOR BATTERY USAGE

Other precautions

- The temperature range at which this camera functions properly is 50°C to -10°C (122°F to 14°F).
- A camera which has been submerged in water usually cannot be repaired. If such an accident should occur, it is advisable to contact a Pentax Service Center immediately.
- To maintain optimum performance, it is recommended that the camera be inspected every one or two years. If the camera has not been used for an extended period, or is being prepared for an important photographic session, it is recommended that you have the camera inspected or test shoot with it.
- Repairs deemed necessary due to usage of this product in an industrial or commercial application may not be covered under the terms of the Pentax warranty.
- The PENTAX warranty provides only for the repair of defects in materials or workmanship. Damage of any kind cannot be repaired at no charge under the terms of the warranty. If the difficulty is caused as a direct result of the product being used in conditions as outlined in the "Precautions for Your Camera" section or any other operation contrary to the instructions outlined in this manual, charges will be assessed and a repair quotation will be provided.

- Use six 1.5V AA size alkaline, or lithium batteries.
- Misuse of the battery can cause hazards such as leakage, overheating, explosion, etc. The battery should be inserted with the "+" and "-" sides facing correctly.
- Battery performance may be temporarily hindered in low temperatures, but will recover in normal temperatures.
- Keep a spare battery on hand for replacement convenience when shooting outdoors or while traveling.
- Replace the batteries at the same time. Do not mix battery brands, type or an old battery with a new one. As this may cause explosion or overheating.

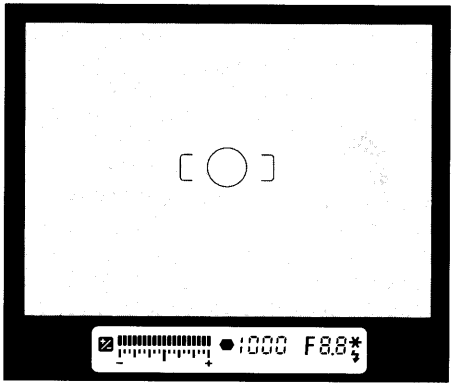
LCD PANEL INDICATION



88 : Frame Counter (p.22)
8888: Film Speed Information (p.20)
ISO : Film Status Information (p.20)
: Battery Exhaustion Warning (p.11)
D : Imprinting Exposure Data Information (p.60)

LCD (Liquid-Crystal Display)
When the LCD is exposed to high temperatures over approximately 60°C it may blacken, but when the temperature normalizes, it should return to normal.

VIEWFINDER INDICATION



[ ]: 3-point AF Frame (p.30)
1000 : Shutter Speed (p.38, 41, 43, 45)
F8.8 : Aperture Value (p.38, 41, 43, 45)
: Flash Status Information (p.62)
: In-Focus Indicator (p.32)
: Exposure Compensation (p.48)
: Bar Graph (p.45, 48)
○ : Spot Metering / Focusing Area (p.51, 54)

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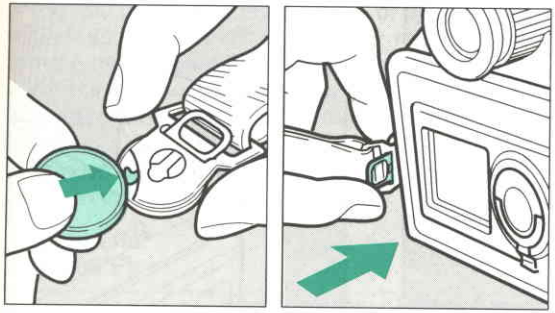
I. BASIC OPERATION (PREPARATION)

Icon indicators used in this manual

Operation direction	
Automatic operation	
Attention	
Lamp blinking	
Correct	
Incorrect	

ATTACHING THE CAMERA STRAP

1 2



1. **Slide the illustrated part of the clasp in the direction of arrow by using a coin or similar object.**
2. **Put the clasp onto the strap lug with its black surface side facing out, and return the lock plate to the original position. It will securely attach to the strap lug.**

- Adjust the length of the strap with the buckle.
- To remove the strap, slide the lock plate with a coin or similar object (as in step 2, above).
- After fitting the strap and adjusting the length, pull the strap hard to confirm if the strap has securely attached to the camera.

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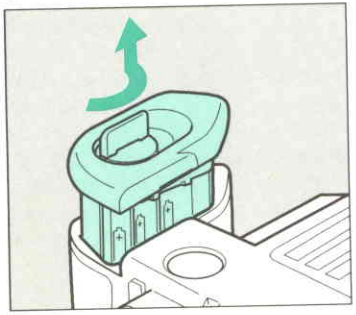
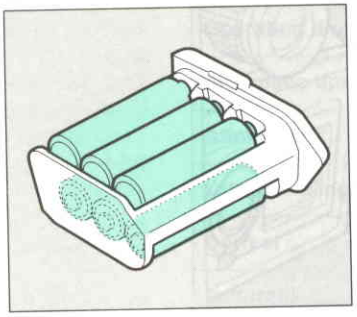
LOADING THE BATTERIES

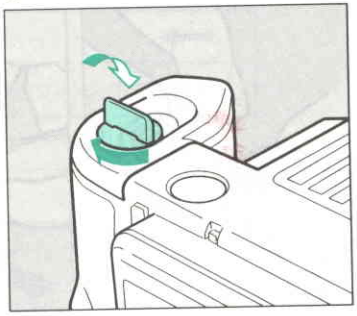
1



2



3



1. To remove the battery holder, lift up the battery holder release knob and turn it in the direction of the arrow.
2. Load six 1.5V AA-size batteries in the battery holder in accordance with the diagram located in the battery holder.
3. To secure the battery holder, turn the battery holder release knob in the direction of the arrow.

- This camera requires battery power for operation. Always use six 1.5V AA size batteries.
- The ISO film speed and number of exposed frames are unchanged even if the batteries are replaced.
- Keep spare batteries on hand for replacement convenience when shooting out doors or while traveling. Using the optional Remote Battery Pack 645 and Power Cord 645 are recommended when the camera is used under the extremely low temperatures.
- Replace all the batteries at the same time. Do not mix battery brands, types or an old batteries with new one.
- Remove batteries when not using the camera for long periods of time. The batteries tend to leak if left too long in the camera.

Battery Life
[20°C/68°F]

	Alkaline Battery	Lithium Battery
120 film holder:	about 130 rolls	about 320 rolls
220 film holder:	about 100 rolls	about 250 rolls
Bulb exposure time	about 8 hours	about 12 hours

Battery Life
[–10°C/14°F]

	Alkaline Battery	Lithium Battery
120 film holder:	about 7 rolls	about 120 rolls
220 film holder:	about 5 rolls	about 9 rolls
Bulb exposure time	about 6 hours	about 10 hours

- The batteries were used under Pentax testing conditions. Actual battery life and performance may vary drastically depending on external conditions such as temperature and freshness of the battery.
- Battery performance may be temporarily hindered in low temperatures, but should recover in normal temperatures.

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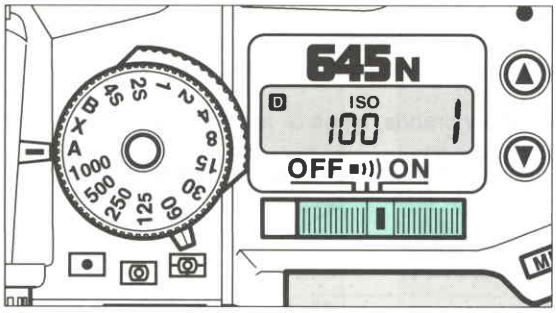
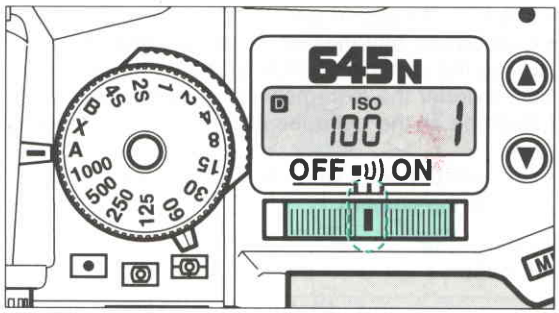
TURNING THE POWER ON

1



1. Set the main switch to [ON]

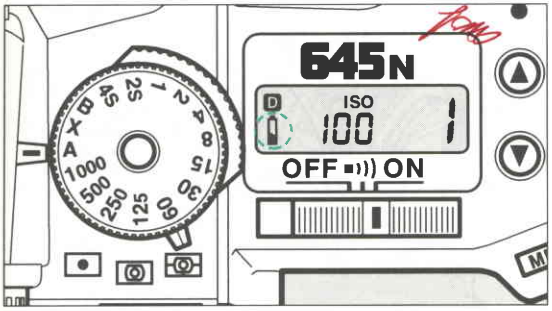
2



2. With the main switch set to [ ] , an audible PCV signal is heard when the subject comes into focus.

- When the camera is not in use, make sure that the main switch is OFF to prevent battery drain if the shutter release button is accidentally depressed.

*



* Low Battery Warning

When the batteries are nearly exhausted, the battery symbol [▮] appears on the LCD panel as a warning. Replace the batteries as soon as possible. See page 8 for replacing the batteries.

- Even if the low-battery symbol appears, exposure will be correct as long as the shutter can be released. It is recommended to replace the batteries as soon as possible.

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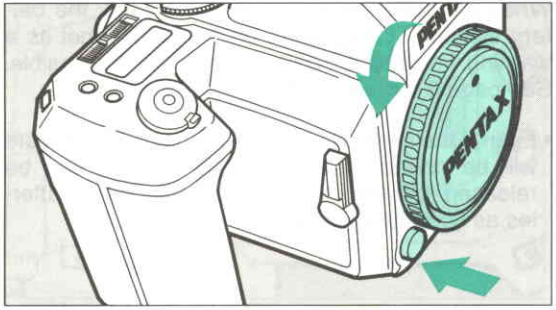
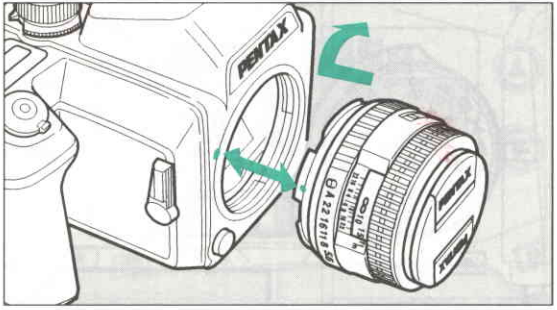
ATTACHING THE LENS

1



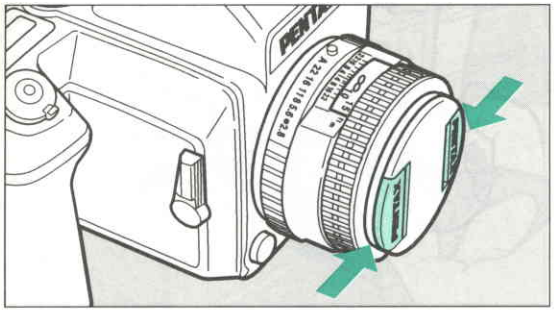
1. Remove the body mount cap while depressing the lens unlock button.

2



2. Align the red dots on the camera and lens mount, attach the lens to the camera body, and turn it fully to the right until you hear a click.

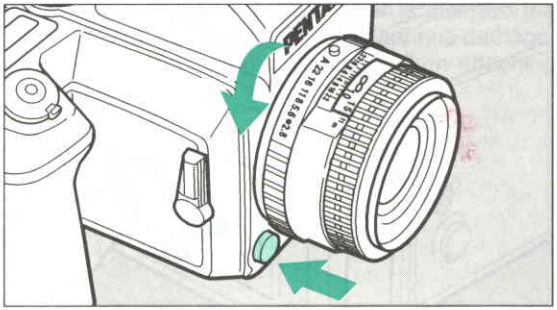
3



3. To remove the front lens cap, squeeze the tabs on both sides in the direction of the arrow.

- With a non-autofocus lens attached, all available functions in this camera operate except autofocus operation.
- We assume no responsibility nor liability for damages resulting from the use of lenses made by other manufacturers.
- The camera body and lens mount incorporate lens information contacts and an AF coupler. Dirt, dust, or corrosion may cause damage to the electrical system. Clean the contacts with a soft, dry cloth.

*



* How to remove

To remove the lens, turn it to the left while depressing the lens unlock button.

- To protect the contacts and AF coupler of the lens against damage after removal, be sure to set the lens down with the mount side facing upward.

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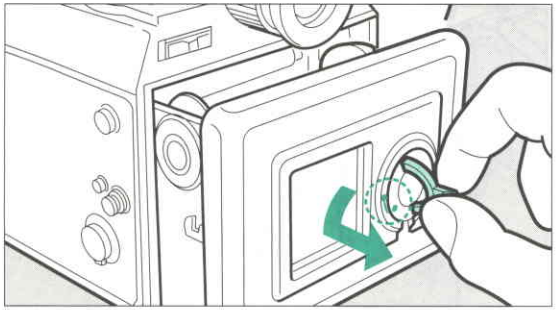
ATTACHING/DETACHING FILM HOLDER 645

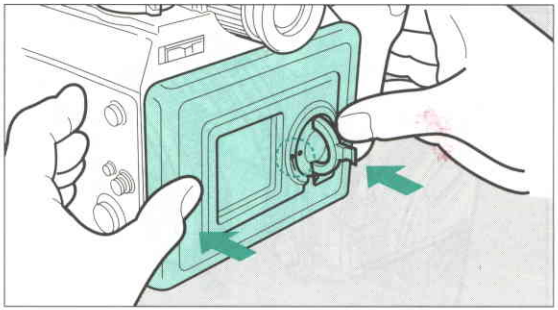
1



Detaching

1. Raise the film holder knob and turn until the red dot markings align and a click is heard. Continue to turn the film holder knob to the end of the red line; the locking mechanism will release and the film holder is now detached from the camera body.

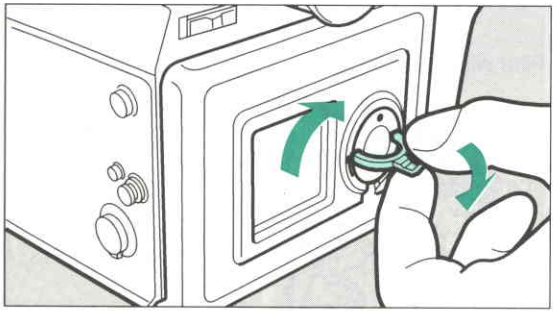
2



Attaching

2. Align the red dots on the film holder knob and film holder, then insert the film holder into the camera chamber. Depress both sides of the film holder until you hear a click.

3



3. Turn the film holder knob 90° to the right. After attaching the film holder to the camera, fold the film holder knob into its original position.

- When inserting the film holder into the camera body, be sure that the film holder is inserted the right way up in order to avoid any serious damage.
- The same precaution is required when attaching the 220 film holder.

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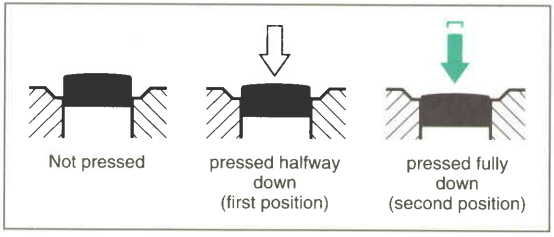
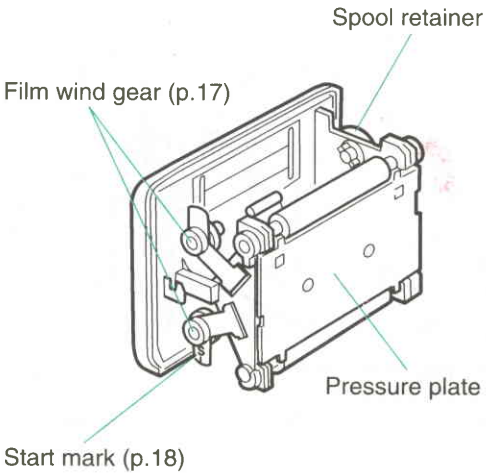
The shutter release button has two positions. Depressing it down halfway (first position) turns on the exposure meter and autofocus system. Depressing it fully (second position) releases the shutter. When taking a picture, depress the shutter release button gently to prevent camera shake.

- To prevent camera shake, depress the shutter release button gently.
- Before loading a roll of film, slowly depress the shutter release button to learn where the first position is.
- The LCD indication stays on for about 10 seconds after the button is released from the halfway position. Depressing the shutter release button down halfway keeps the LCD indicator on.

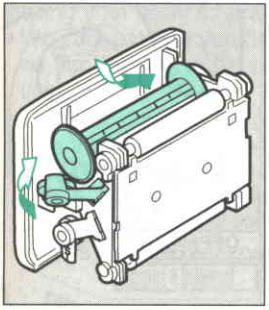


LOADING FILM

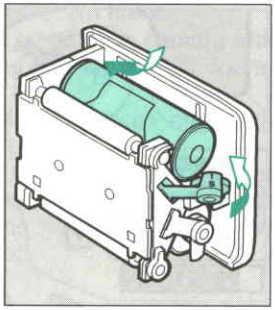


After loading the film, be sure to set the proper film speed. See page 20 for setting the film speed.

1

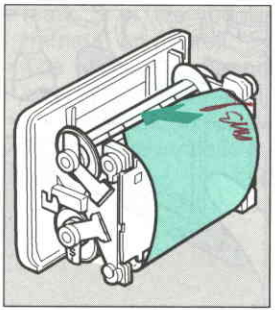


2

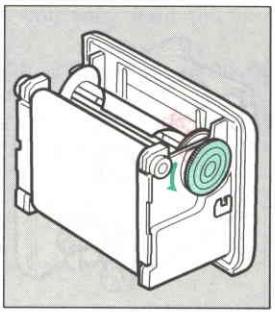


1. Install the emptied spool to the spool retainer as illustrated.
2. Tear off the tape and install the spool to the film holder so that the black inner side of the leading must face outwards.

3



4



3. Insert the tip of the leader into the take-up spool's slit.
4. Slowly rotate the film winding gear in the direction of the arrow while lightly holding the leader paper.

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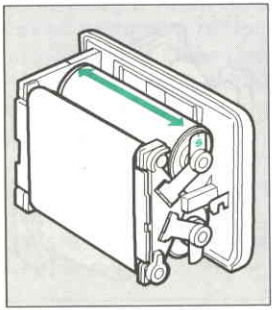
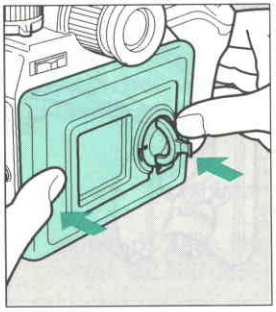
5

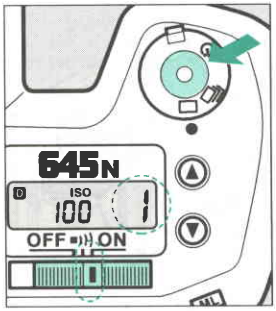


6

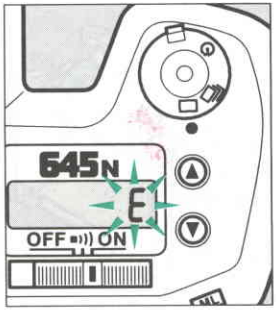


5. Wind the leader paper to the take-up spool until arrow marking on the leader paper aligns with the holder's start mark S and the red line.
6. Attach the film holder to the camera body.

7



8



7. Set the main switch to [ON] or [▪)))]. Release the shutter. The film automatically advances to the first frame. [1] is displayed on the LCD panel.
8. If the [E] appears, indicating that the film is not properly loaded. Detach the film holder from the camera and load the film once again.

- Always load or unload a film in the shade or by using your body to shade the film holder.
- We suggest that you first operate the camera with no film loaded to become familiar with its operations.
- The film counter indication advances one each time the shutter is released.
- With a 220 film loaded, the dot marks appear before the arrow marking. If the dot marks align with the start mark on the film holder, the first 3 frames will not be exposed.
- If the leader paper is wound far beyond the start mark S or the red line, you may lose the last frame(s) on the roll.
- The film holder cannot be changed or removed when the film is in mid-roll.
- 16 pictures are taken with the 120 roll film and 33 pictures are taken with the 220 roll film.

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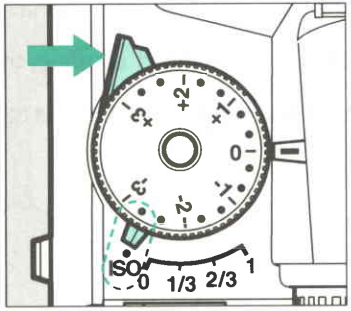
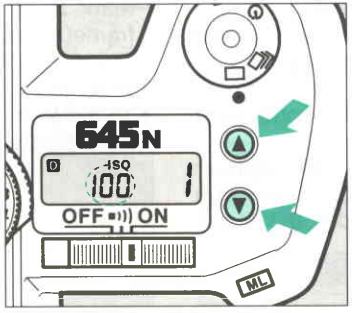
SETTING THE FILM SPEED (ISO)

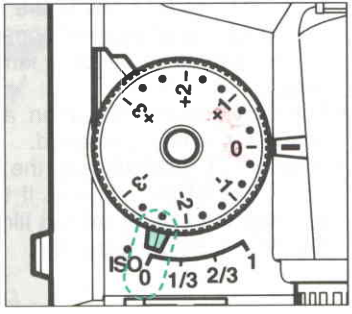
1



2



3



1. Slide the auto bracketing selector to the ISO position.

- The auto bracketing selector returns to the original position when your finger is lifted.

2. While holding the auto bracketing selector at the ISO position, depress the up/down button.
To change the film speed to a larger number (higher film speed), depress the [▲] button repeatedly until the desired ISO appears on the LCD panel. To change the film speed to a smaller number (lower film speed), depress the [▼] button repeatedly until the desired film speed appears on the LCD panel.

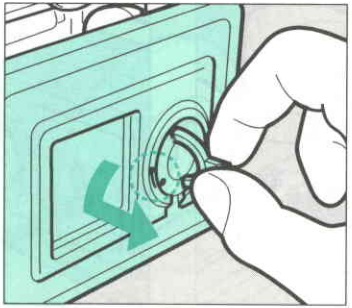
3. After the desired film speed is set, slide the auto bracketing selector to the [0] position.

- [ISO] on the LCD panel blinks when the auto-bracketing lever is set to [ISO].
- The film speed setting range is ISO 6 to 6400 in 1/3 EV step increments.
- You can tear off the end cover of the film package indicating the type of film and speed and insert it into the memo holder provided on the film holder to remind you of the film type/speed that you are using.
- [ISO] and film speed are always displayed on the LCD panel with the main switch set to the ON position.

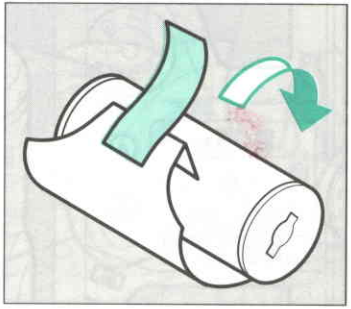
UNLOADING FILM

1

2



3



1. **After the last frame of the roll is exposed, the camera will automatically wind the film and stops winding as soon as the back of the leader paper is wound to the take-up spool. [End] on the LCD panel is displayed.**
2. **Detach the film holder from the camera.**
3. **Fold the tip of leader paper as illustrated. While firmly holding the wound film roll, affix the paper seal securely on the back of the paper leader to prevent from accidental unwinding of the exposed roll.**

- Remove the film in the shade or by using your body to shade the camera.
- The number of exposed frames on the LCD panel disappears from the LCD panel.

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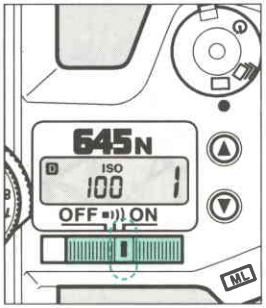
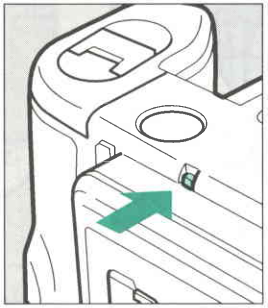
UNLOADING THE FILM IN MID-ROLL

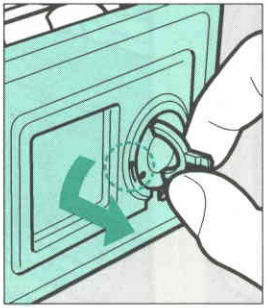
1



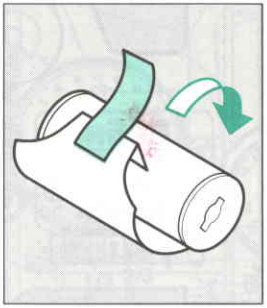
2



3



4



If you wish to remove the film before exposing all the frames, use this function.

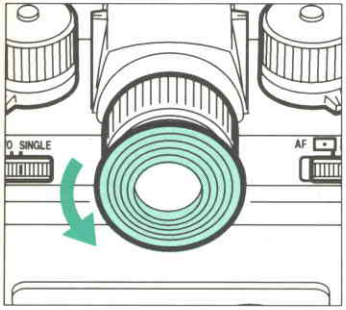
1. **Set the main switch to [ON].**
2. **Depress the mid-roll wind-up button with a finger, the film will wind completely.**
3. **Before detaching the film holder, check that [End] is displayed on the LCD panel.**

4. **Fold the tip of leader paper as illustrated. While firmly holding the wound film roll, affix the paper seal securely on the back of the paper leader to prevent from accidental unwinding of the exposed roll.**

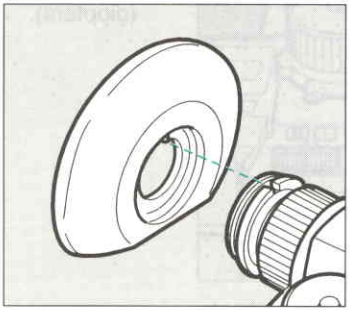
- The number of exposed frames on the LCD panel disappears from the LCD panel.
- When removing the film from the camera, protect it from exposure to direct sun light .

INSTALLING THE EYECUP

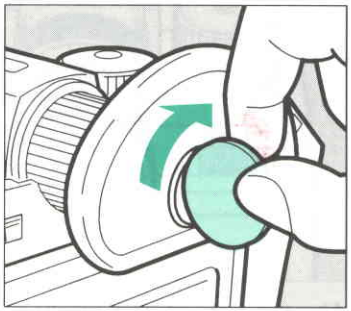
1



2



3



Two types of eyecups, a standard and a larger one are provided as accessories; they may be utilized according to a given situation. The larger is constructed of rubber and designed to fit close to the face for easy shooting.

To install

1. **The standard eyecup may be easily removed from the viewfinder by rotating the cup to the left.**
2. **To install the larger eyecup: match the eyecup pin with fitting eyepiece hole.**
3. **Turn the fixing screw by turning to the right with a coin or similar object.**

- When using accessories such as the Refconverter 645, remove the eyecup first.

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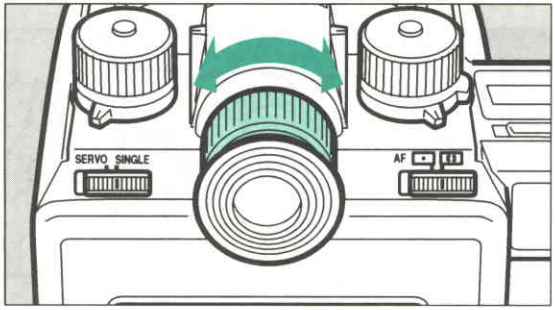
ADJUSTING THE VIEWFINDER DIOPTER



Aim the camera at a bright subject. While looking through the viewfinder, turn the diopter adjustment ring to the left or right until the autofocus frame [ ] appears in the sharpest focus.

- The diopter adjustment range is +1.0D to -3.5D (diopters).

II. BASIC OPERATION (SHOOTING)

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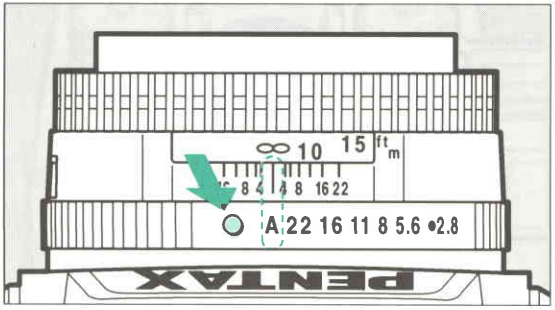
USING THE PROGRAMMED AE MODE

1



Purpose

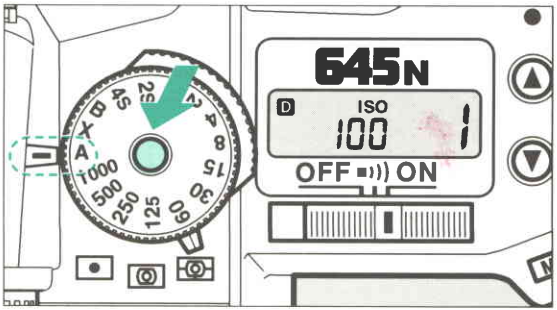
For easy picture taking, use this mode. In the Programmed AE mode, the camera automatically selects the best combination of aperture and shutter speed setting allowing you to take pictures by simply depressing the shutter release button.

To set

1. Turn the lens aperture ring to the [A] position as shown in the illustration.

- To move the lens aperture ring to the [A] position, turn the aperture ring while holding down the aperture-A lock button on the lens. The lens aperture ring can be released from the [A] position in the same manner.

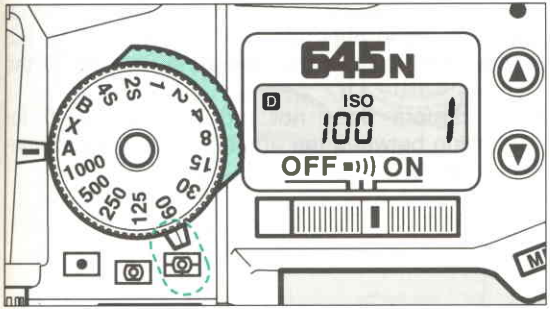
2



2. Turn the shutter speed dial to [A] while holding down the shutter speed dial release button. The shutter speed dial can be released from [A] in the same manner.

- See page 40, 42, 44, and 46 for other available exposure modes.

USING THE MULTI(6)-SEGMENT METERING MODE



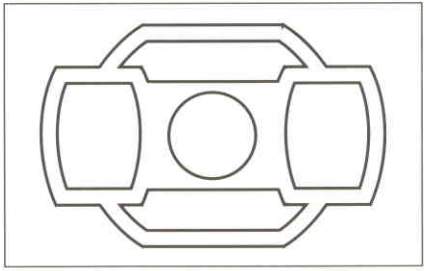
In the multi(6)-segment metering mode, the metering system automatically measures light in six different zones, enabling proper exposure value in a wide variety of normal and adverse lighting conditions.

Set the metering mode switch to [▣].

- The center-weighted metering mode and spot metering mode are also available in this camera. See page 50 and 51 for more details.
- When the Adapter 645 for 67 lens or Helicoid Extension Tube 645 is attached, the center-weighted metering mode is automatically set even if you select the multi-segment metering mode. The multi-segment metering mode cannot be used.

MULTI(6)-SEGMENT METERING

This camera incorporates a high-precision six-segment TTL metering system. Light values are measured in six segments within the image field, enabling an optimal exposure to be made under a variety of lighting conditions. With conventional averaged metering systems, underexposure of the subject results from the brightness of the background affecting the overall metering. With multi(6)-segment metering, the camera records the brightness in six zones within the image field and uses these measurements to choose an exposure that will not underexposed the subject. The multi(6)-segment metering system also calculates exposure values for a scene to automatically compensate for high-contrast and other difficult lighting conditions. Even a beginner can achieve excellent results with ease.



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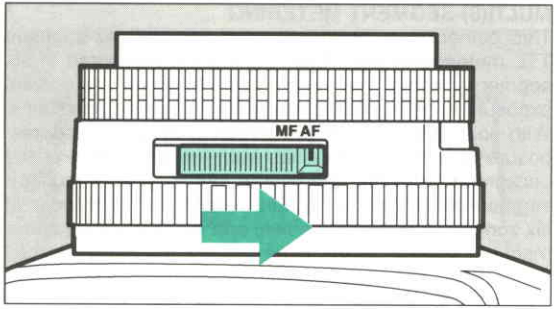
USING AUTOFOCUS MODE

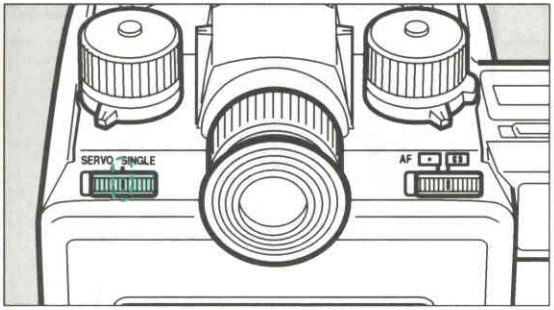


With the Pentax 645 FA lens attached, the lens automatically focuses when you press the shutter release button halfway down.

Set the lens in the autofocus mode.

- Switching between the autofous mode and manual focus mode depends on the lens you use. For more details, read the operating manual of the lens.
- The camera does not provide the switch for switching between the autofous mode and manual mode.

USING THE SINGLE AF MODE



When you depress the shutter button, the lens automatically focuses. As soon as the subject is in focus, the shutter is released. For normal use, select this position. The shutter cannot be released if the subject is out of focus.

Set the AF mode selector to [SINGLE].

- Servo AF Mode is also available in this camera. See page 53.

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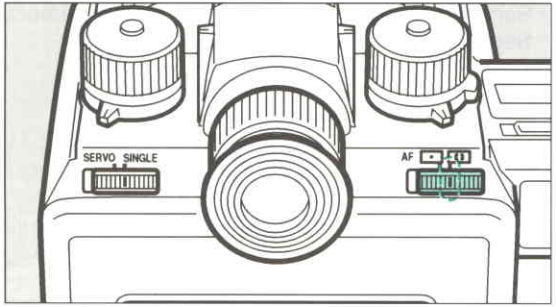
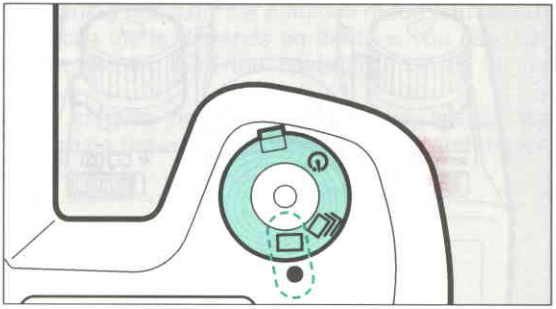
USING THE 3-POINT AF MODE



In the 3-point autofocus system, the subject will be focused properly even if the main subject is slightly off-center of the AF frame.

Set the AF mode selector to [ ].

USING THE SINGLE-FRAME DRIVE MODE



One picture is taken each time the shutter release button is depressed.

Set the drive mode dial to [ ].