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PENTAX®

645

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OPERATING MANUAL



Welcome to the Fantastic World of Pentax Multi-mode Photography with Medium Picture Format !

The Pentax 645, 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 multi-mode 645 camera allows accurate exposure control utilizing the full range of available modes; Programmed AE, Aperture-priority AE and Shutter-priority AE, Metered manual mode and TTL auto flash control.

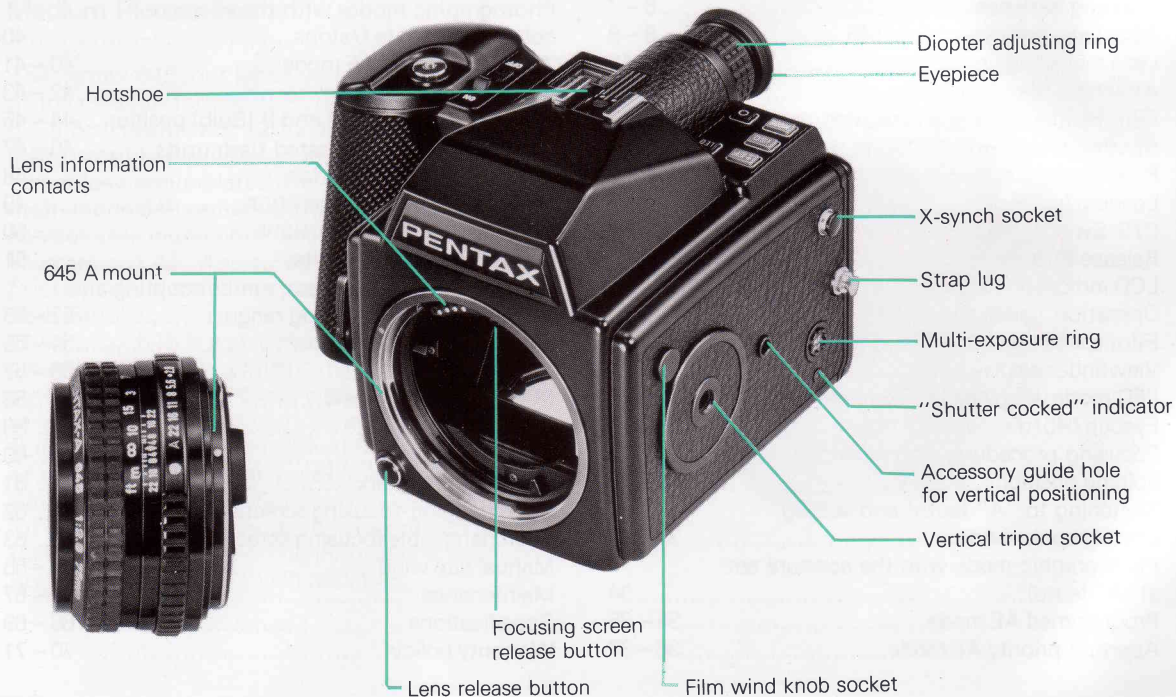
The Pentax 645 is a professional camera possessing a number of highly sophisticated features; a built-in automated film wind along with digital indications of various photographic information through LCD (Liquid Crystal Display) viewed from the outside of the camera, and clearly visible LED (Light Emitting Diode) indications within the viewfinder. To obtain optimum results, it is recommended that this manual be thoroughly read and understood prior to actual use of the Pentax 645.

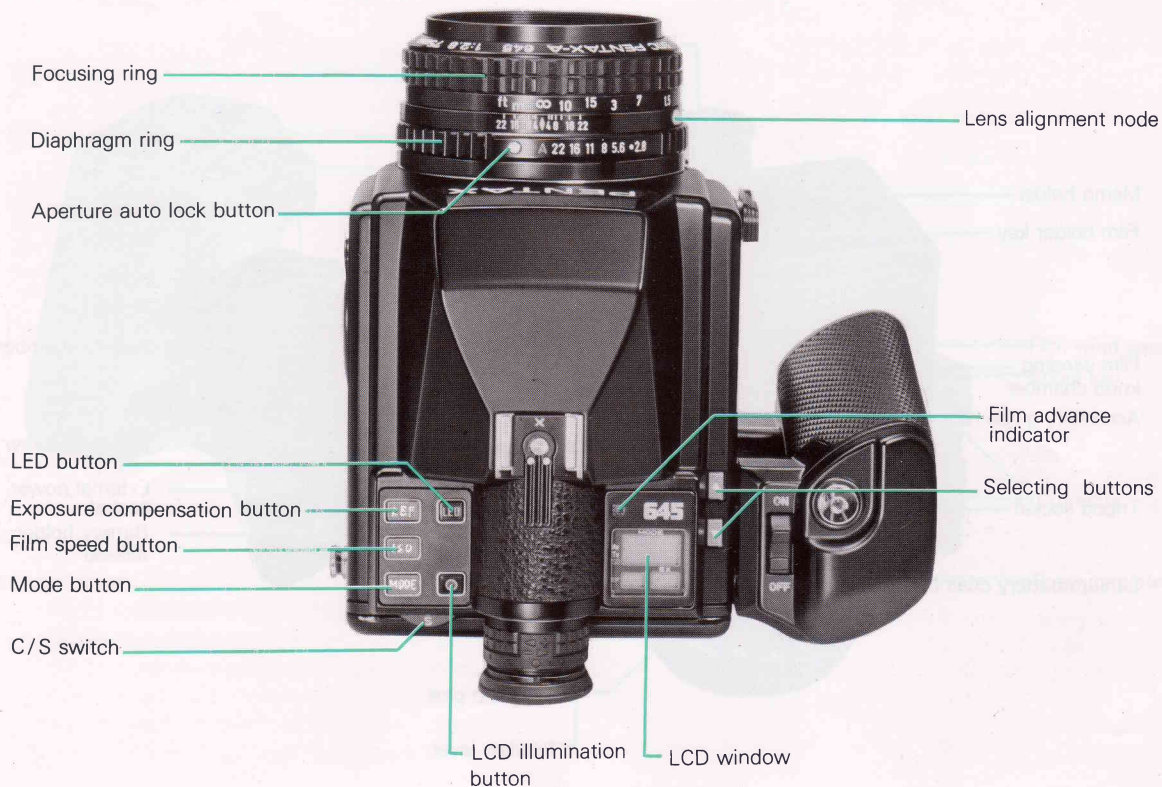


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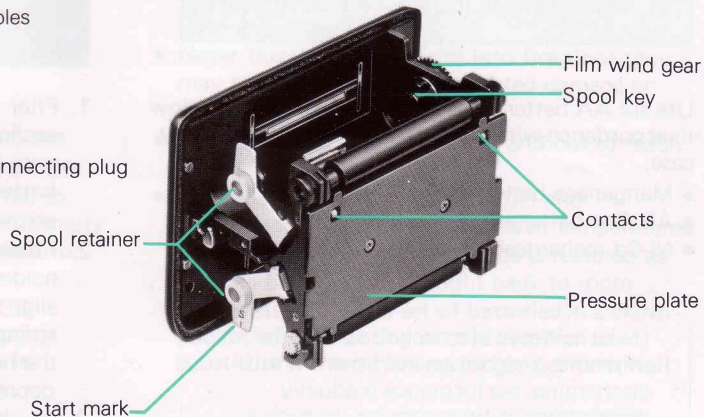
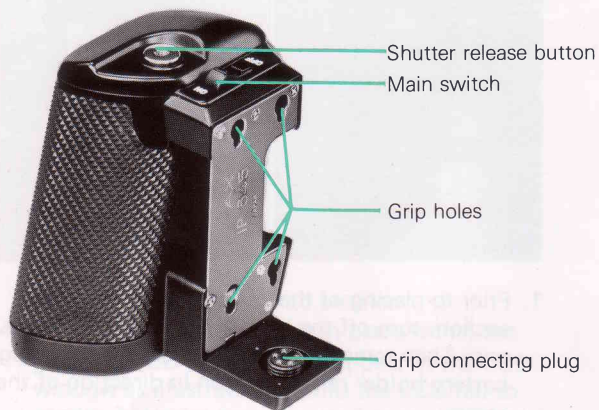
DESCRIPTION OF PARTS





DESCRIPTION OF PARTS





BASIC PREPARATION

Use six AA batteries of the types mentioned below in accordance with the instructions on the battery case;

- Manganese batteries
- Alkaline batteries
- Ni-Cd rechargeable batteries (a charger needed)

(New batteries are packed at the time of shipment, but because of inherent self-discharging, performance gradually deteriorates as time goes by. In such a case, replace the packed batteries with brand-new ones.)

INSERTING BATTERIES (GRIP 645)

1



2



1. Prior to placing of the batteries into the grip section, turn off the main switch located on the grip. Then remove the battery holder by pushing battery holder release button in direction of the arrow.
2. Arrange six 1.5V "AA" batteries within battery holder in proper sequence: polarity + and - to align with those shown in holder. Depress the spring plate (contacts) and place batteries into the holder. Batteries may be easily removed by depressing the arrow-designated opening.
3. As shown in the illustration, battery holder should be inserted into the grip; depressing the same will insure firm locking. Confirm that the

3



4



unit is securely locked into position.

4. Once batteries are properly in place within the grip, the LCD indicator will appear in the LCD window as illustrated. Should the LCD fail to appear, batteries are exhausted or are improperly inserted or the grip is not securely attached to the body.
5. A common battery source is used for LCD display and motor drive. For battery check, confirm the motor drive function which is affected earlier than that of LCD display.

Precautions

- Make sure that polarities of all the batteries are properly aligned. Incorrect polarity alignment may cause unexpected damage to your equipment.
- Replace all batteries at the same time. Do not mix battery brands, types or old batteries with new ones.
- Remove batteries when not using your equipment for a long time. Batteries may tend to leak if left too long in your equipment and may cause serious damage.
- Never throw used batteries into fire since they may explode, causing unexpected damage or injury to you.
- Store batteries in a cool place, and out of reach of children.
- Batteries are very sensitive to cold and performance tends to deteriorate at temperatures near freezing point. Performance is restored as soon as batteries are brought back to room temperature. Keep a set of batteries in a warm pocket when shooting in cold weather to substitute if the others no longer perform well.

Be sure to turn off the main switch to avoid unexpected battery drain, when putting your camera into a bag.

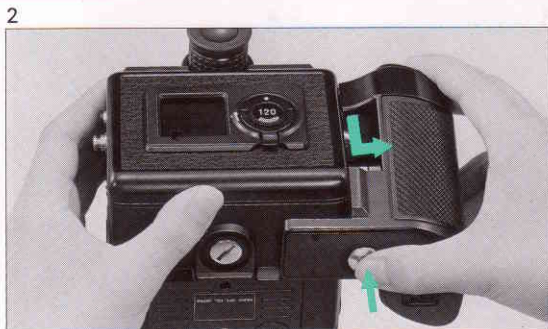
ATTACHING/REMOVAL OF GRIP 645



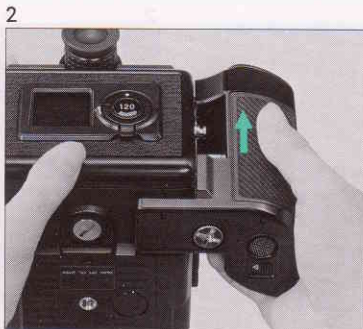
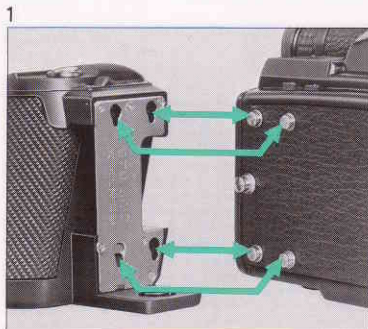
Confirm that the main switch located on the grip has been turned to OFF position.

Removal:

1. Using a coin or similar tool, completely loosen the grip lock screw by turning the same in the direction opposite to the "LOCK" arrow designation.



2. While simultaneously depressing the grip lock screw, carefully pull the grip down, and withdraw the same out to the side. The grip will come away from the camera body.



Attaching:

1. Loosen the grip lock screw. As indicated in the photographic illustration, align grip holes on the grip with the corresponding pins on the side of the camera.
2. Push up the grip until it engages with an audible click, signifying correct contact.
3. Turn the grip locking screw located on the bottom, in the direction of the "LOCK" arrow designation, using a coin or a similar tool.

LENS MOUNTING/INTERCHANGE

(Go over these instructions since this process will be required also when lens is already mounted.)

1



1. Depress the lens release button and turn the body mount cap to remove it.

2



2. To mount the lens, align red dot (A) found on the camera body with red dot (B) on the lens unit, then seat the lens mount into the camera mounting. Turn clockwise until the lens locks with a click.

The procedure (C) illustrated is recommended in mounting lenses in a dimly lit area since the lens may be easily mounted by touch alone.

3



4



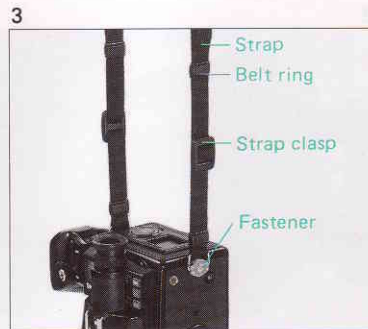
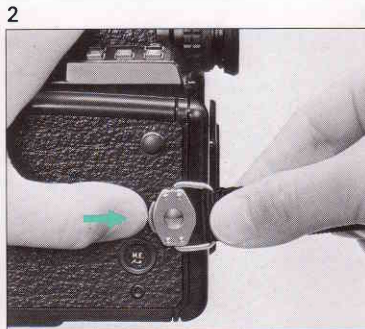
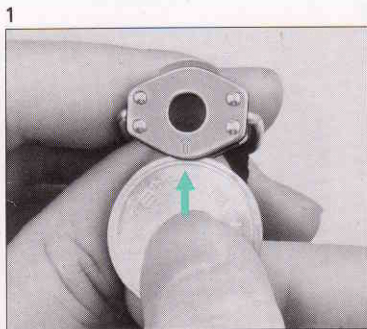
5



3. To remove/attach the lens cap, depress notches at both sides inward.
4. To remove the lens, depress the lens release button, and rotate the lens unit to the left. It will come out easily.
5. Following lens removal, the front and rear mount protective caps must be fitted to prevent foreign bodies and finger marks from accidentally gathering on the lens itself.

Note: Particular care must be taken in preventing damage or staining of the electrical contact points on the mount surface of the lens. A clean, dry cloth should be used to immediately wipe off any grease or accidental stains.

ATTACHING SHOULDER STRAP



For carrying convenience, a shoulder strap can be attached to the camera by the lugs provided.

1. As illustrated, release lock by depressing the lock plate of the fastener in the direction of the arrow, using a coin.
2. Fit the strap lug into the opening of the fastener with its arrow facing out, and return the locking plate to the original position. It will securely attach to the strap.

To remove the strap, depress the lock plate in the same manner, and withdraw it from the lug.

3. To adjust the length of the strap, use the strap clasp.

- * After fitting the strap and adjusting the length, pull the strap hard on trial to see if the strap has securely engaged with the camera.

FILM HOLDERS 645 AND ATTACHING/DETACHING



The following film holders are available, depending upon your photographic requirements; each provided with its own exclusive case for carrying convenience and protective purposes.

- 120 film holder: For 120 film (15 frames per roll)
- 220 film holder: For 220 film (30 frames per roll)
- 70mm film holder: For 70mm film (approx. 90 frames per roll)

● **Attaching / detaching of 120/220 film holders**

※ When inserting the film holder into the camera body, be careful not to make its upside down to avoid any serious damage.

1. Align the red dots on the film holder and film holder key as shown, then insert the film holder into the camera chamber. Make sure that two tabs

lock in place with a film click when the film holder is inserted.

2. Lock it by rotating the film holder key 90° to the right while simultaneously depressing the key. After locking, the film holder key should be folded into its original position.
 3. Raise the film holder key and rotate until the red dot markings are aligned. Continue to rotate the key counterclockwise up to the end of the red line; the locking mechanism will release with an audible click, permitting the film holder to be removed from the camera body.
- ※ Refer to the 70mm film holder operating manual for its use.

SHUTTER RELEASE WITHOUT FILM IN CAMERA



To release the shutter without film in the camera, remove the film holder or fix the rear body cap. The lens can be removed without affecting shutter release operation. However, such operation is not possible if the film holder without film is attached.

1. When releasing the shutter without the film holder, turn the main switch ON and then press the shutter button to operate the shutter.
 - * Be sure to set the C/S Switch to "S". Setting it to "C" may cause erroneous operation and/or functional problems.
 - * Avoid releasing the shutter with the pin (indicated in the photo by the "*" mark) being pressed, which may cause erroneous operations and/or

functional problems.

2. With the film holder removed, the available shutter speed is 1/1000 sec. only if the aperture ring is set to A (auto). Meanwhile, when the aperture is shifted to any of respective f/stops, the shutter can be operated at 1/1000 sec., 1/60 sec. or B (bulb). For details, see the pages 32 and 33.
3. When Rear Body Cap 645 is attached in place of the film holder removed, release the shutter once. Then the selection of each photographic mode, shutter speed and f-stop will become possible.

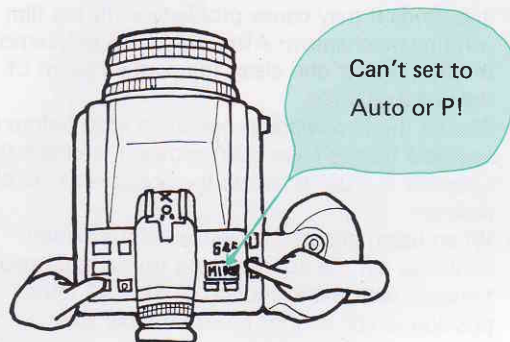
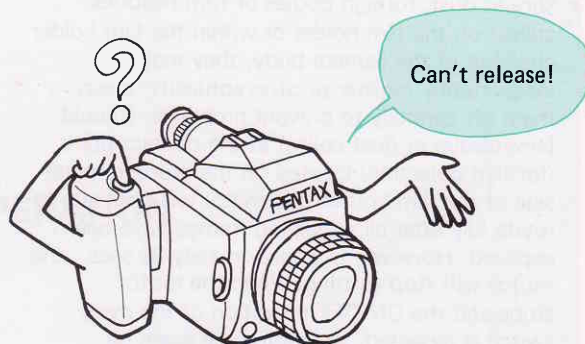
PROBLEMS AND REMEDIAL SOLUTIONS

- Under the following conditions, the shutter release action will not be possible even though the shutter release button is depressed.

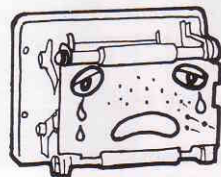
1. Main switch is not turned ON.
2. Batteries in the grip are depleted; no batteries in the grip; or the batteries incorrectly loaded.
3. Film holder without a film has been installed in the camera's film chamber.
4. The available film frames have been completely exposed.

5. During photographic operations.

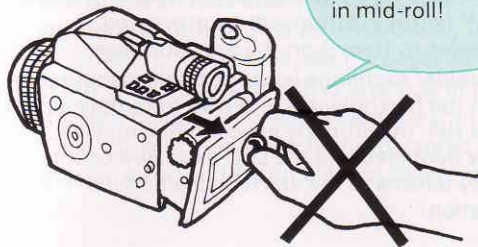
- Should the exposure counter not register "1" or should a non-A lens be used even if the film be loaded in the camera, any photographic mode setting, or shutter speed and/or f/stop adjustments will not function. When an A lens is not set at "A", the photographic modes available at "A" (auto) position will be prevented. Also refer to Item 3 on the previous page.
- Film holder exchange is not possible in mid-roll. When the film holder is removed from the camera in mid-roll, the properly exposed film may be totally damaged and the LCD exposure count display returns to the starting position (no indication).



- Should dust, foreign bodies or film residues collect on the film holder or within the film holder chamber of the camera body, they may inadvertently register photographically; clean them off carefully to prevent problems. Should film residue or dust collect at the contact point (for film detection) located on the pressure plate side of the film holder, the motor will continue to rotate idly after all remaining frames have been exposed. However, in approximately 30 secs., the motor will stop turning. When the motor stops and the ON-OFF operation of the main switch is repeated, the motor will again be activated in idle rotation; however, avoid doing this, since it may cause problems with the film winding mechanism. After switching off, remove the film holder and clean the contact point of the pressure plate.
- Should the film winding operation stop before all available frames have been exposed, recheck the batteries in order to locate the possible cause of the problem.
- When using accessories without information contacts, set the aperture ring to the appropriate f/stops, with the exception of the "A" (auto) position which cannot be used under this situation.



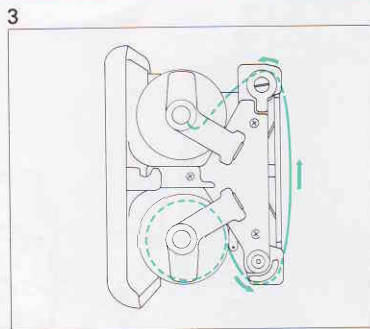
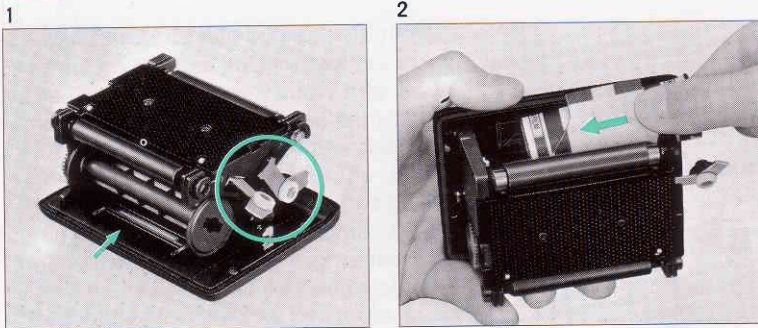
Keep it clean!



Don't change the film in mid-roll!

BASIC OPERATION

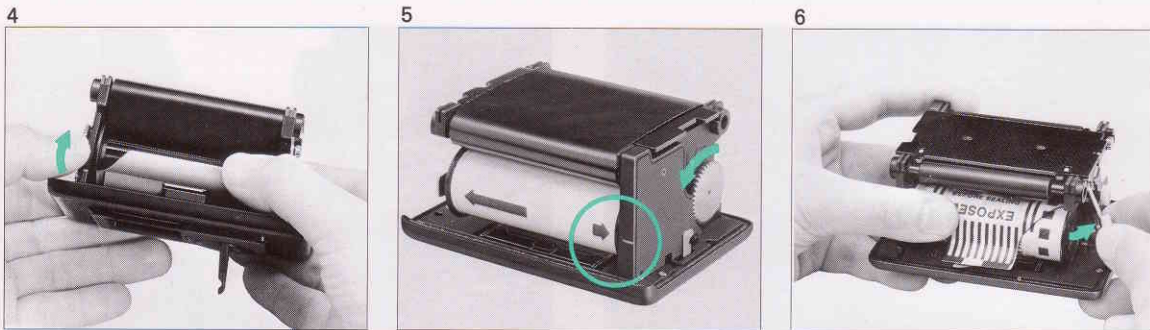
LOADING/UNLOADING FILM



Always load or unload the film in a shady spot, or shield the camera and film from direct sunlight with your body. Insert the film and the empty take-up spool into the film holder, as indicated inside the holder.

- When exchanging the film, be sure to do it with the grip's batteries or power source (cord for remote-control operation) connected with the camera body. If the power source connection is done after the film exchange, the camera's shooting functions work properly, but the exposure counter does not automatically reset.

1. To transfer the emptied spool to the opposite side, push the spool retainer outward, and the hole of the spool should be set into the key (holder) so that both are engaged firmly. The retainer should then be returned to its original position.
2. A new film is to be positioned according to the film marking indicated, in the similar manner of the empty spool moving/setting; it is then secured with the spool retainer. [While loading a roll of film, securely hold onto the roll to prevent the backing (paper) from loosening. Carefully tear off the tape holding the paper leader.]
 - ※The black inner side of the leading paper must face outwards.



3. Draw the leader from the film roll, and insert the leader end into the take-up spool's slit. Slowly rotate the film winding gear by one turn in the direction of the arrow.
4. Wind the leader paper upon the take-up spool until the arrow marking on the leader appears; it should be aligned with the holder's start mark S (red line).
- Care must be taken so that the leader paper's arrow marking does not go far beyond the holder's red dot, for you may lose the last frame(s) on the roll. **Then attach the holder to the camera body according to the holder attaching/detaching instructions. Refer to p. 20 ~ 43 for shooting. After all of the frames on the roll have been exposed, remove the film holder from the camera, following the attaching/detaching instructions.**
- The built-in motor drive unit automatically stops as soon as the last frame is exposed and wound onto the take-up spool. Then the LCD exposure counter displays the number which is the total exposure number of the film in use, plus one. For example, 16 in the case of 120 film.
5. Take the film holder out, and you will see the exposed film wound on the take-up spool.
6. While firmly holding the wound film roll, remove it after pushing the spool retainer out. Using the paper seal on the back of the paper leader, securely paste to prevent accidental unwinding of the exposed roll.

C/S SWITCH, MAIN SWITCH AND SHUTTER RELEASE BUTTON



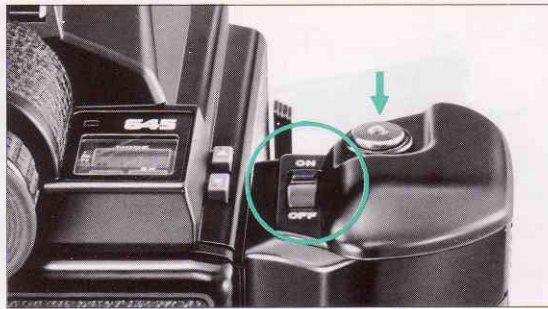
The Pentax 645 incorporates a motor drive unit, permitting either single or consecutive shooting through the C/S switch. Select either the C or S position by turning the C/S switch.

- **Single frame shooting (S)**

By depressing the shutter release button, a single frame is exposed and automatically wound to the next frame, at which point the motor halts.

- **Consecutive shooting (C)**

While the shutter release button is kept depressed, the frames are continuously exposed at about 1.5 frames/sec. Once finger pressure is released from the shutter release button, the motor will halt after winding the film to the next frame.



- **Main switch and shutter release button**

A light pressure upon the shutter release button with the main switch turned ON will immediately activate the exposure meter causing the LED indicator to appear in the viewfinder of the camera; further pressure on the button will release the shutter. A timer switch has also been integrated into the exposure meter circuit, and will automatically terminate power approximately 30 seconds after finger is removed from the release button.

- Turning the main switch off during exposure will result in incorrect exposure.

LCD INDICATION FOR EXPOSURE COUNT (The first frame automatically set)



Turn the main switch ON, and the shutter is released by depressing the shutter release button; the paper leader will be automatically wound up to the first frame. 15 frames can be exposed using a 120 film roll and 30 exposures with a 220 film roll.

- When the 6-exposure 120 film is used with your camera, you can take about seven pictures. And, the shutter and the exposure counter LCD continue to work until about 12 exposures.

As shown above, the exposure counter LCD indicates "1."

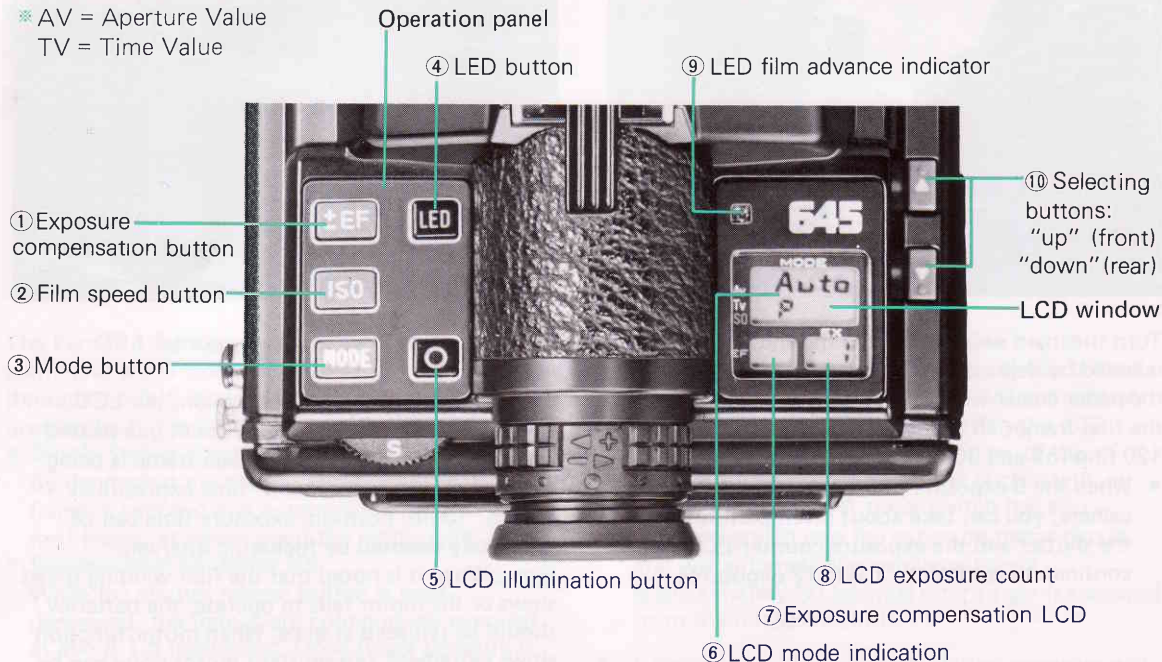
During the shutter release operation, the LCD for the exposure count will flicker at one-second intervals, indicating that the given frame is being exposed. Thus, in the case of time exposure at the "B" (Bulb) position, exposure time can be accurately counted by flickering intervals.

Note: When it is noted that the film winding speed slows or the motor fails to operate, the batteries should be replaced at once. When motor function slows extremely, intermittent motor noise can be heard.

OPERATION PANEL AND LCD WINDOW

※ AV = Aperture Value


TV = Time Value



When you practice setting photographic mode, shutter speed or f/stop without the film holder, attach Rear Body Cap 645 in place and release the shutter once before commencing practice.

- 1) Exposure compensation button
- 2) Film speed button
- 3) Mode button
Exposure compensation, film speed and mode selection are activated by depressing the "up" (front) or "down" (rear) selecting button while depressing one of the three mode buttons. The depressing action of the button concerned will cause the LCD to flicker.
- 4) LED button
The LED display circuit is activated by slightly depressing the shutter button. When the LED is not lit by this operation, depress the LED button to light the LED. To turn it off depress the LED button once again.
- 5) LCD illumination button
Should the LCD indication appear somewhat dim in a dark area, the LCD window can be further illuminated by depressing the LCD illumination button to cause the indicator to become clearly visible.
The light will go out by repeating the button depressing action; should the illumination be kept lit, it will still turn off automatically in approximately 12 seconds due to the built-in timer.

Displays in LCD Window

- 6) LCD mode indication
Auto, P, 1000 to 15", F1.7 to 45; M, 60, B, LS, , 6 to 6400 [ISO]
- 7) Exposure compensation LCD
+3 ~ 0 ~ -3 (3 steps each for + and -)
- 8) LCD exposure count
120 film = 1 to 16
220 film = 1 to 31
70mm film = 1 to about 90

Film Advance Indication and Selecting Buttons

- 9) LED film advance indicator
This LED indicator is lit during the film winding operation.
 - 10) Selecting buttons
These two "up" (front) and "down" (rear) buttons are operated to select the desired photographing mode, shutter speed and aperture value; to adjust the film speed; and to set exposure compensation.
- * Even when film is loaded in the camera, it is not possible to operate mode button or selecting buttons unless the film counter is set to the frame number ready for shooting, viz., the first frame or subsequent.