

**Mamiya**  
**M 645**

**PD Prism Finder**  
**Instructions**

  
**Mamiya**  
CAMERA CO., LTD.

## Names of Parts

### ● Special Features

1. The PD Prism Finder is an eye-level finder with a built-in silicon photo diode exposure meter and electronic shutter control circuit.
2. The PD Prism Finder offers complete coupling of the lens aperture, shutter speed, and film speed (ASA).
3. Seven LED's are built into the viewfinder system. A yellow-green LED indicates correct exposure and red LED's indicate over, under, and compensated exposure.
4. The built-in meter covers a broad range, is highly accurate even in dim light, and has rapid response because it utilizes silicon photo diodes.

### ● Specifications

**Viewfinder:** 0.7 magnification with standard lens at infinity; built-on hot-shoe; comes with eyecup.

**Metering System:** Center-weighted, through-the-lens, full-aperture metering. One yellow-green and six red LED's built into the viewfinder system for correct exposure determination.

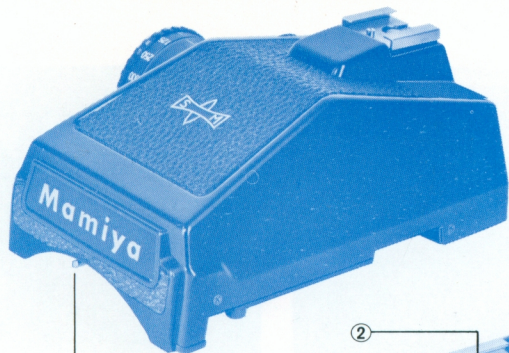
**Metering Range:** EV 0 — EV 18 with 100 ASA  
(f/2.8, 8 sec. — f/22, 1/500 sec.)

**ASA Range:** 25 — 6400

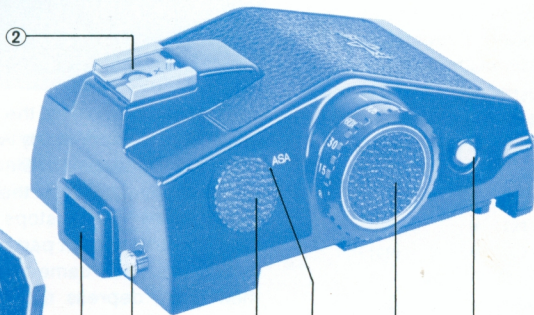
1. Aperture ring coupling pin
2. Hot-shoe
3. Eyecup
4. Diopter correction lens retainer ring
5. Eyepiece
6. Finder release button
7. ASA dial
8. ASA window
9. Shutter speed dial
10. Meter switch

Since the PD Prism Finder utilizes the battery in the camera body, a timer is incorporated in the meter switch of the PD Prism Finder to prevent unnecessary electrical consumption.

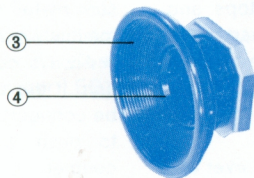




①



②



③

④

⑤

⑥

⑦

⑧

⑨

⑩

## Using the PD Prism Finder

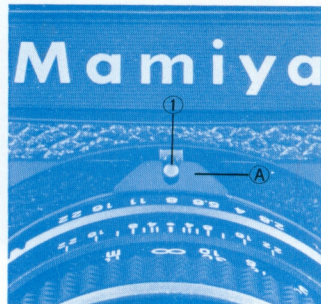
Prior to attaching the PD Prism Finder to the camera, confirm that the white dot on the finder release button is pointing upward.

If the white dot on the button is aligned with the white dot on the finder, by depressing the button and removing your finger from it, the white dot on the button will automatically point upward. In this condition, the button cannot be depressed; consequently, the finder will not be accidentally detached from the camera.



1. Place the rear part of the finder on the camera body while holding the front part of the finder slightly upward. Slide the rear part forward until it stops and gently lower the front part of the finder onto the camera body then firmly depress the finder downward. It will then lock into place.

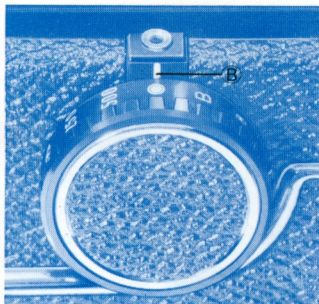
★ Always set the A.M. Lever on the lens to "A", otherwise correct exposure cannot be obtained.



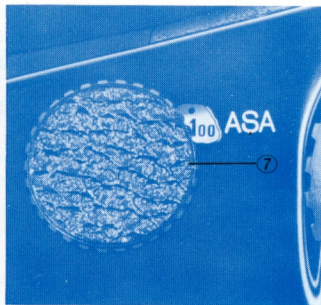
2. Turn the lens aperture ring to the left or right where the coupling pin (1) is located, whereby the aperture ring and the exposure meter coupler (A) are automatically connected.

★ Always confirm the connection. If the coupling pin cannot be connected, use a small stick to push the pin toward the coupler.



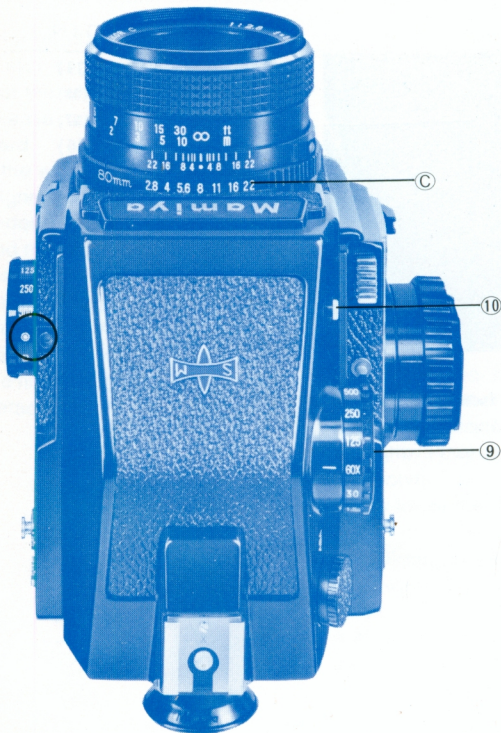


3. Set the camera body shutter speed dial  $\odot$  to index (B). If the shutter speed dial is set to a position other than  $\odot$ , the PD Finder and camera body will not be electrically connected. Consequently, the viewfinder LED's will not illuminate.



4. Pull out and turn the ASA dial (7) until the appropriate ASA number appears in the window.

ASA	DIN
6400	(39)
(5000)	● (38)
(4000)	● (37)
3200	(36)
(2500)	● (35)
(2000)	● (34)
1600	(33)
(1250)	● (32)
(1000)	● (31)
800	(30)
(650)	● (29)
(500)	● (28)
400	(27)
(320)	● (26)
(250)	● (25)
200	(24)
(160)	● (23)
(125)	● (22)
100	(21)
(80)	● (20)
(64)	● (19)
50	(18)
(40)	● (17)
(32)	● (16)
25	(15)



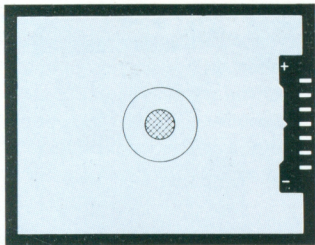
5. When metering, priority can be given either to the aperture or to the shutter speed; however, determining the shutter speed first will prove convenient for subsequent procedures.

**Always set the shutter speed with the finder dial (9).**

★ When priority is given to the shutter speed, usually set the speed to 1/125 sec. or 1/250 sec. when photographing outdoors, and to 1/60 sec. when photographing indoors (when an usual film is used).

6. Determining the correct exposure  
Push in and release the meter switch (10) to turn on the meter. With the meter on and while looking through the viewfinder, adjust the aperture ring (C) until the central (yellow-green) LED in the right-hand side LED panel illuminates, indicating correct exposure. When the correct exposure cannot be obtained, turn the shutter speed dial (9) and repeat the same operation.

(The meter circuit remains on as long as the meter switch is depressed. After releasing your finger from the switch, it will stay on approximately 15 seconds longer, then the meter will automatically turn off to conserve electrical consumption.)



Seven LED's are arranged in parallel at 1 EV intervals in the finder. The center is a yellow-green diode, and the others are red diodes.

★ If two LED's illuminates simultaneously, make fine adjustments with the aperture ring until the central yellow-green LED appears the brightest.

★ To determine the exposure in special photography, refer to the instructions on the last page.

(1) Lighting of the upper red diodes indicates overexposure. (The uppermost red diode is lit when overexposure is 3 EV or more.) In this instance, either set the shutter speed faster, or stop down the aperture.

(2) Lighting of the lower red diodes indicates underexposure. (The lowermost red diode is lit when underexposure is 3 EV or more.) In this instance, slow down the shutter speed or open the aperture.

★ 1 EV is equivalent to one shutter speed or aperture step. Use the aperture ring when making fine adjustment of less than one step.

★ Since the TTL metering system is adopted, giving consideration to the exposure factor is unnecessary even when the picture angle is varied due to changing a lens, when a filter is attached, or when taking close-up photographs.

★ When a lens is greatly extended during close-up photography or macrophotography by employing extension rings or other attachments, the brightness on the film plane will delicately vary in parallel with the lens extension amount. In this instance, always determine the focus before determining the exposure.

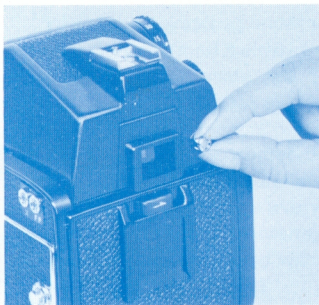
★ With the PD Prism Finder normally attached to the camera body and the metering system turned on for each exposure, the shutter can be released approximately 5,000 times with one battery.



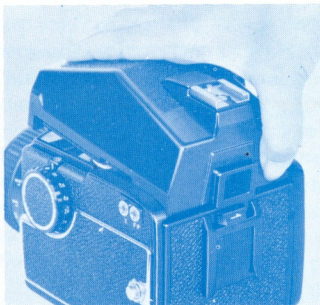
## CAUTIONS

1. Remember to adjust the shutter speed with the PD finder shutter speed dial and to keep the camera body shutter speed dial set to  $\odot$  position.
2. For BULB exposures, turn the camera body shutter speed dial and set it to the B mark adjoining the  $\odot$  mark. Since electric power is not supplied to the finder in this instance, exposure coupling is not effected.
3. There are four electrical contacts on the upper, rear plane of the camera body and on the bottom plane of the finder. Oil or fingerprints on the contacts will result in faulty power conduction and lighting failure of the LED's. Always completely wipe off oil or dust with a clean cloth before attaching the finder.
4. When the camera body with the PD Prism Finder attached is carried in the case or any other container, the camera shutter speed dial must set to a position other than the  $\odot$  position. (If the meter switch remains turned ON in the carrying case, battery drainage will result.)
5. Also, when the finder has been removed, always set the shutter speed dial to a position other than the  $\odot$  position. (If the shutter is inadvertently released with the shutter speed dial set to the  $\odot$  position, the shutter will lock in the open position; if the camera is left in this condition, battery power will be exhausted within several hours.)
6. When using extension rings, first attach the extension rings to the lens; then mount the assembly on the camera body and finally connect the coupling pin.  
(Note that the aperture ring coupler of the extension rings is rotatable the full  $360^\circ$ . If the coupler ring is rotated when the lens is not attached, the coupling pin will be fully pressed to the right end. Should pressing force be further applied, the coupling pin may be damaged. Exercise care!)

## Removing Finders



1. Turn the finder release button clockwise until it stops (about 60°), so that the white dot on the button is aligned with the white dot on the finder. Then you will be able to push in on the release button.



2. While pushing in on the release button with your thumb, lift the finder off the camera body.

### Precaution:

Do not leave both white dots aligned by turning the button while the finder is attached to the camera. The finder may become detached when the button is occasionally depressed, possibly causing damage.

If you depress the button to point the white dot upward while the finder is attached to the camera, be sure to depress the finder against the camera body; otherwise the finder will not be locked into place.

## Diopter Correction Lenses



(When - Diopter Lenses are used)



(When + Diopter Lenses are used)

As an accessory, Mamiya offers diopter correction lenses which can be attached to the PD Prism Finders. Nearsighted and farsighted persons will find these accessories useful for obtaining accurate focus.

Diopter Correction Lenses in six strengths are available,  $-3$ ,  $-2$ ,  $-1$ ,  $+1$ ,  $+2$ , and  $+3$  diopters.

Merely unscrew (counterclockwise) the diopter correction lens retainer ring (4) from the eyecup, insert the necessary correction lens, where the lens direction must conform to those shown in the diagram, and replace the retainer ring. Then slide the eyecup on the eyepiece of the PD Prism Finder for easier focusing.



## ● Exposure Compensation under Special Photographic Conditions

When photographing under such special conditions as described below, it is necessary to somewhat compensate the exposure as required for conventional average-metering exposure meters.

The LED Panel incorporated in the PD Prism Finder simplifies exposure compensation, assuring perfect exposures every time. Each LED represents a full stop increment, and plus and minus signs are indicated within the viewfinder to assist in compensating.

### ● Compensation Hints

1. For strongly back-lit subjects outdoors, set the exposure to +1 (the red LED directly above the yellow-green one).
2. To photograph a person indoors, seated next to a window and strongly back-lit, set the exposure to +2.
3. When photographing interiors, to compensate for the bright interior lights, set the exposure to +1 or +2.
4. When copying white documents, set the exposure to +2. If a standard gray card is used to determine exposure, no correction is necessary.

5. When photographing a brightly lit subject against a dark background, such as a night club performer, set the exposure to -1 or -2.

6. Brightly lit night scenes, such as city streets, are usually rendered most naturally with the correct exposure (yellow-green LED).

7. When photographing extremely dark subjects (e.g. close-up of a black cat), set the exposure to -1.

★ The exposure compensation or LED panel can also be used to increase the ASA range to 3 — 51200. For example, with the ASA dial set to 25, instead of using the yellow-green LED for correct exposure, use the +3 LED when using ASA 3 film.

★ Since the upper and lowermost LED's represent 3 or more stops difference from the central (yellow-green) LED, whenever compensating by 3 stops, first adjust the aperture or shutter speed for 2 stops of compensation and then move the aperture ring or shutter speed dial one more click stop for 3 stops of compensation.

## Correction:

Under normal circumstances, the shutter can be released approximately 5000 times with the PD prism finder attached and the metering system turned on for each exposure.

In the instruction booklet provided with your camera, marked "SLS 50 75A 50" on the back cover, the above-mentioned releasing capacity is misprinted as 10000 times on pp. 20 and 33. Please correct those number to 5000 times.



**Mamiya**  
**M 645**  
**PD Prism Finder**  
**Instructions**

**M**  
CAME