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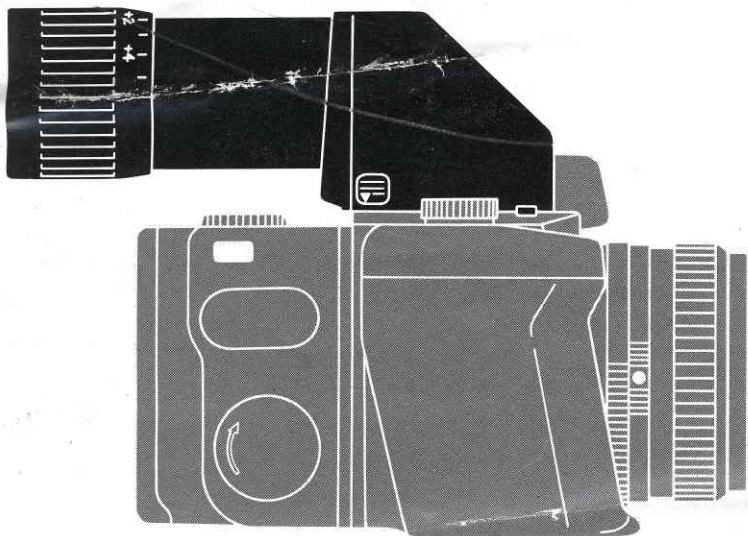
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# Mamiya 645



## AE Finder FK402



Instructions

## **AE Finder FK402**

The finder shows a laterally correct unreversed image and is ideal for action photography. The eyepiece features adjustable diopter correction from +5 to -5.

Two metering modes are available, aperture priority auto exposure (AE) and MANUAL METERING.

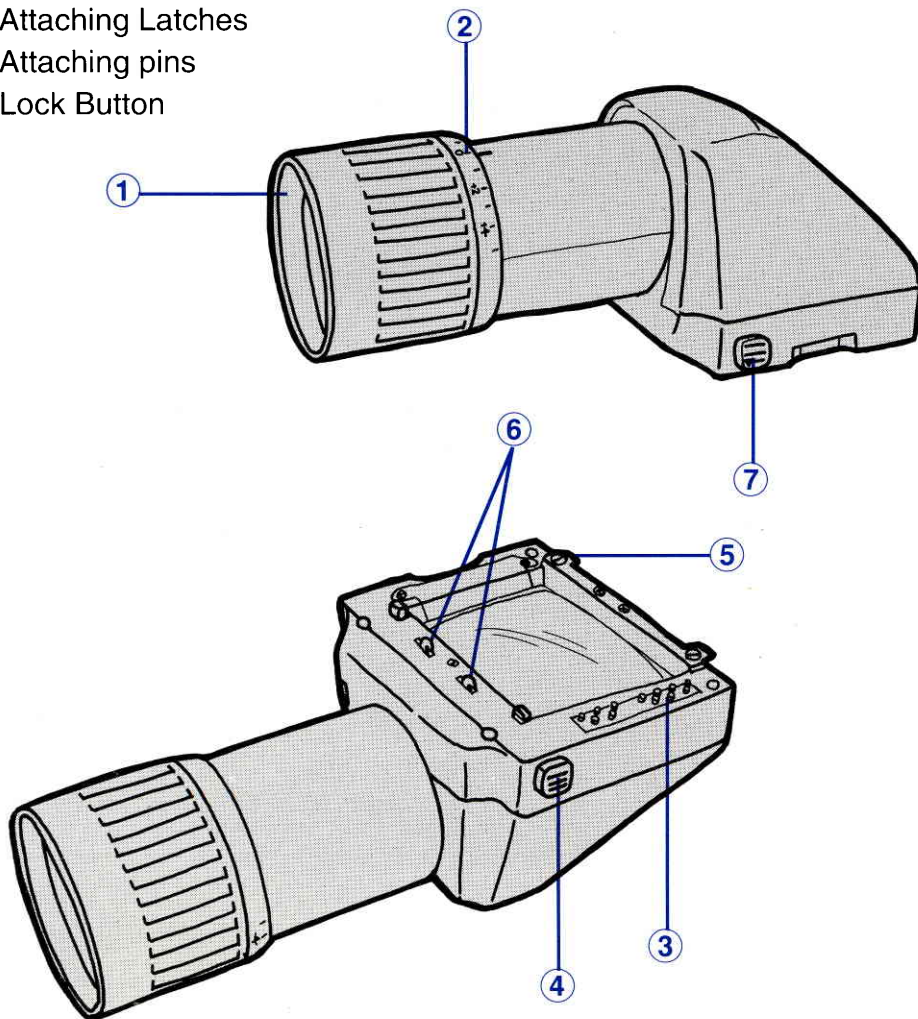
Four LED's (Orange LED for AE mode, Green LED for correct exposure and two red LEDs for over and under exposure) on the left side of finder indicate exposure readings The finder is very useful for quick, sharp and accurate focusing.

### **Handling Precautions**

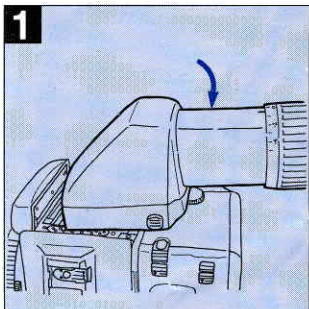
1. The Finder FK402 is exclusively designed for 645PRO camera and it cannot be fitted with M645SUPER camera.
2. Make sure that the finder is firmly fixed on the camera body.
3. There are 15 electronic contact pins on the front and lower part of the AE finder. Should dirt or grease adhere to these pins, electronic coupling may be impaired, resulting in malfunction of the Finder's AE metering. If the contacts need cleaning, remove the finder and use a soft, clean cloth to gently and thoroughly clean them.
4. The battery in the camera body is used for the metering circuits of the AE finder. Be sure to check the battery for proper function of the AE finder.
5. The eyepiece has a built-in "diopter correction" device. Be sure to adjust it for your eyesight before focusing.

## Names of parts

- ① Rubber Eye-cup
- ② Diopter adjustment ring
- ③ Electronic Contact pins
- ④ Lock Release Button
- ⑤ Attaching Latches
- ⑥ Attaching pins
- ⑦ Lock Button



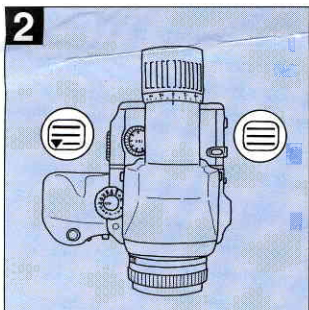
## Attaching and Detaching the Finder



### Attaching

Insert the two Attaching Latches on the front of the finder into the mounting holes on the front of the camera body, as illustrated. Then, depress the finder until the back of the finder clicks into place and firmly locks.

( Fig 1 )

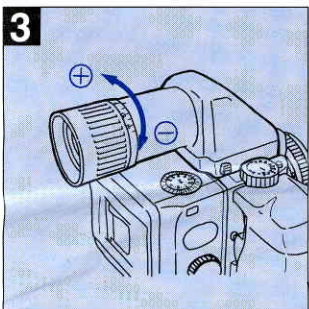


### Detaching

Push the Finder Lock-Release Button while pushing down on the button on the opposite side. The finder then can be removed from the camera body. ( Fig 2 )

### How to adjust the diopter to your eye

In order to obtain critical focusing, adjust the diopter setting for your eye sight. ( Fig 3 )

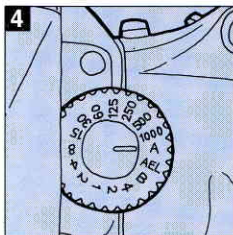


1. Rotate the diopter adjustment ring until you can clearly see the lines on the camera's focusing screen.

2. Turn the lens Focusing Ring until a target appears sharp and clear and then make fine adjustment of the eyepiece diopter by rotating the diopter adjustment ring slightly.

3. Read the diopter scale and mark or bear in mind of your own retain the diopter point for future photography.

# Using AE Finder FK402

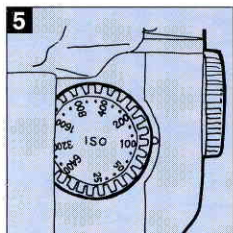


## [1] AE Photography

1. To switch to the AE mode, align “A” on the Shutter Speed Dial on the camera body with the white index line.

(Fig. 4)

2. Make sure that you have properly set the speed of the film which you have loaded, on the ISO Dial of your roll film holder. (Fig. 5)

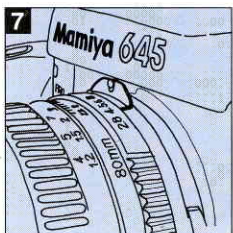
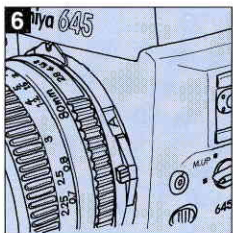


3. Before metering, make sure that the lens A-M Lever is set at “A”. When set at “M”, correct exposure cannot be obtained. Also make sure that the Exposure Meter Coupler engages properly with the Aperture Ring coupling Pin. If they are not engaged properly, correct exposures cannot be obtained. (Fig. 6, 7)

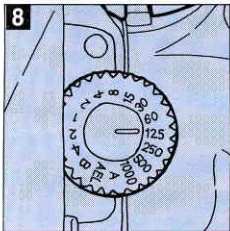
4. After setting the aperture the correct shutter speed will be determined automatically, corresponding to the selected aperture.

In the green LED will illuminate when the shutter release button is depressed half-way, the shutter speed will be faster than 1/60 sec.

If the shutter speed is slower than 1/30 sec. The underexposure symbol (▼) will blink to warn against possible camera movement.





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## [2] Manual Photography :

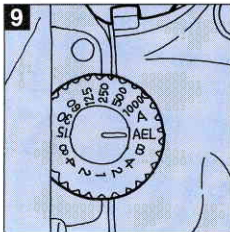
1. Move the camera's shutter speed dial from the AE mode to any other speed setting, by pressing the nearby dial release button. (Fig. **8**)

Read the finder displays with the shutter release button depressed halfway.

2. In order to obtain a correct exposure, adjust the Lens Aperture Ring or turn the Shutter Speed Dial until the Green LED illuminates steadily.

\* Please refer to the table 2 LEDs display at the manual mode.

\* The display will illuminate for only 10 seconds and will then automatically stop to conserve battery power.

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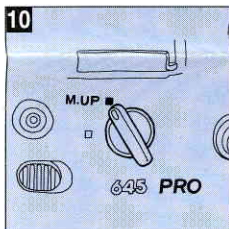
## [3] AEL (AE-LOCK) Photography

The AEL position is very useful when making selective exposure measurements of important subject areas which are not in the center of screen. This applies particularly to subjects with backlighting.

1. Set the Shutter Speed Dial on the camera body to the AEL position. (Fig. **9**)

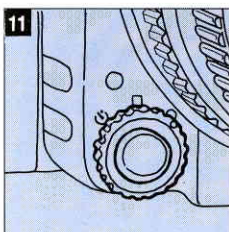
2. While looking through the finder, center the most important part of the subject in the center circle while keeping the Shutter Release Button depressed half way. In this state, the exposure reading is memorized. After adjusting for composition as desired, release the shutter.

#### [4] Mirror-up photography when using AE Finder



In the AE position “A”, mirror-up photography in the automatic mode is not possible. So during mirror-up operations, be sure to photograph in the manual mode.

- However, it is possible in the AE Lock (AEL) position. While pressing down on the Shutter Release Button half way, raise the Mirror-up Lever and then release the shutter. If, at this time, you leave your finger on the button for even an instant, exposure will immediately lengthen. So, be careful when taking photographs in that mode. ( Fig. 10 )



- Since TTL metering is employed, exposure correction is unnecessary even when lens accessories, such as filters, auto extension tubes, bellows and macro lens, which usually require exposure correction, are used.

- Ambient light coming into the finder through the eyepiece will hardly affect the metering for this finder, but be sure to snugly fit your eye on the eyecup to prevent any incidental light from entering.

- When the Self-timer is used with the finder in the “A” position, the exposure will be determined an instant before the shutter goes off.

When the Self-timer is used with the finder in the “AEL” position, the exposure will be determined by light conditions an instant before the Self-timer was activated.

- The electric contacts located on the front and lower parts of the finder are very important for transmitting data used for AE metering. In order to ensure correct AE finder functioning, make sure that all contacts are kept clean. Before attaching the finder, always clean the surfaces of these contacts using soft clean cloth.

- When the camera is not in use, turn the Shutter Release Selector to the Red Dot or “OFF” position. The Shutter Release Button will then be locked to prevent accidental release.( Fig. 11 )



# Using the AE viewfinder FK402 with Leaf Shutter lenses (A55mm, A80mm, A150mm N/L)

## 1. In the Focal Plane Shutter Mode (F)

As with lenses in barrel, perform AE or manual photography. (The lens shutter speed is in the F position.)

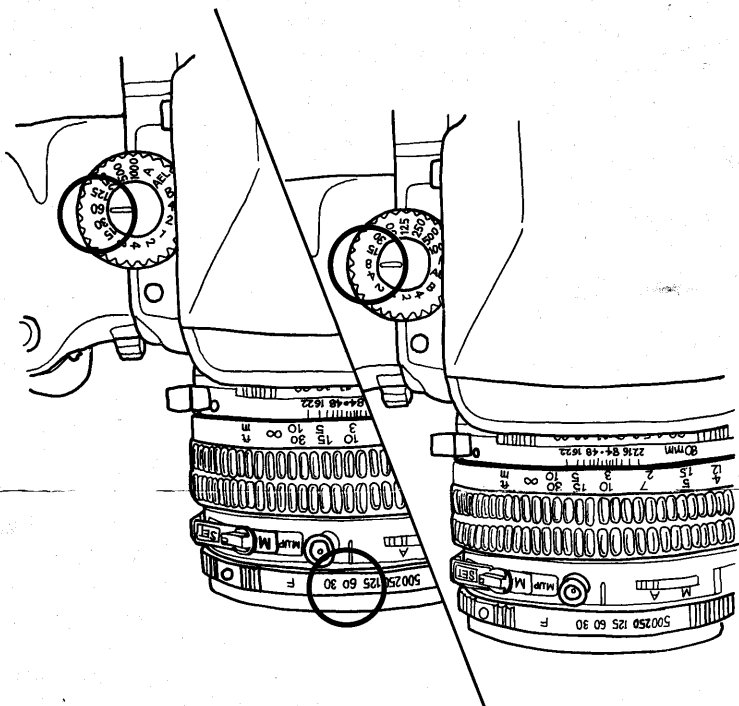
## 2. In the Lens Shutter Mode

### \* AE-Mode

It cannot be possible to perform AE-Mode photography.

### \* Manual mode (Use AE finder as an exposure meter.)

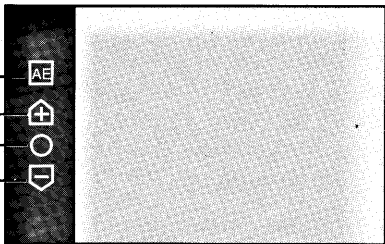
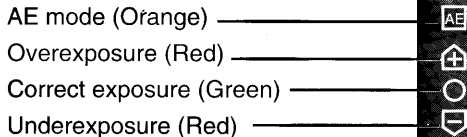
- 1) Set the determined shutter speed on the Leaf Shutter Lens to the Shutter Speed Dial on the camera body.
- 2) After pressing the Shutter Release Button halfway, light up the Green LED by rotating the Aperture Ring of the lens.
- 3) Set the shutter speed dial of the camera to 1/8 sec without fail before using camera.
- 4) See instruction manual when using Leaf shutter lenses.



## Checking the Battery

The AE Finder FK402 does not provide a battery check button. Battery strength should be checked by pressing the Battery Check Button "B.C." on lower front of the camera.

## LED Display in the finder







- \* AEL Mode – AE (orange) LED blinks
- \* The Dark Slide in the Roll Film Holder – LED blinks slowly

## How to distinguish LED displays in the finder.

1. Discrimination of the shutter speed at AE Mode Displays of three LEDs will show you the shutter speed at AE Mode.




**Table-1 LEDs Display at AE Mode**

Shutter speed	 AE Orange	 Red	 Green	 Red
over exposure	Blinks 8Hz	Blinks 8Hz		
1/1000 ~ 1/500 sec	Illuminates	Illuminates	Illuminates	
1/250 sec	Illuminates		Illuminates	
1/125 ~ 1/60 sec	Illuminates		Illuminates	Illuminates
1/30 ~ 1/15 sec	Illuminates			Blinks 2Hz
1/8 ~ 1/2 sec	Illuminates			Blinks 4Hz
1 ~ 4 sec	Illuminates			Blinks 8Hz
under exposure	Blinks 8Hz			Blinks 8Hz

2. Correlation of exposure value between lens aperture and shutter speed at Manual Mode :

Displays of the three LEDs will show condition of exposure time at Manual Mode

**Table-2 LEDs Display at Manual Mode**

	 Red	 Green	 Red
Out of metering in high brightness range	Blinks 8Hz		
More than +2 stops over	Blinks 4Hz		
+2 stops over	Blinks 2Hz		
+1 stop over	Illuminates		
+1/2 stop over	Illuminates	Illuminates	
Correct exposure		Illuminates	
-1/2 stop under		Illuminates	Illuminates
-1 stop under			Illuminates
-2 stop under			Blinks 2Hz
More than -2 stops under			Blinks 4Hz
Out of metering in low brightness range			Blinks 8Hz
Bulb	Blinks 2Hz		Blinks 2Hz

## SPECIFICATIONS

<b>Finder</b>	: * Finder in an unreversed, laterally correct image * Image magnification : 0.79 x (with 80mm f/2.8 N standard lens at infinity) with 94% field of view
<b>Metering system</b>	: TTL center-weighted, open aperture metering
<b>Aperture Range</b>	: EV1 (F2.8, 4 sec) ~ EV19 (F22, 1/1000 sec) with 80mm f/2.8 standard lens
<b>Control system</b>	: Electronic Aperture-Priority AE
<b>Shutter Speed Range</b>	: AE : 8 sec ~ 1/1000 sec Manual : 4 sec ~ 1/1000 sec (1EV step)
<b>Exposure compensation</b>	: Without Exposure compensation device (It can be possible to compensate by the film speed (ISO) dial of the roll film holder.)
<b>Finder LED display</b>	: Glowing and flashing at 2,4 and 8Hz of four LEDs indicate shutter speed at AE mode and state of the correct exposure at manual mode
<b>AE Lock</b>	: When the shutter speed dial on the camera is set to the AEL position, the exposure reading is stored in the finder
<b>Range of diopter adjustment</b>	: -5 ~ +5
<b>Power supply</b>	: Battery in the camera body