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Mamiya M 645 J

Instructions



The Mamiya M645 is a newly developed 6 × 4.5cm SLR which is a result of Mamiya's technology and experience as a leading manufacturer of professional cameras. The M645 is designed to introduce the world of large-negative quality to camera users who are accustomed to the easy handling and compactness of 35mm SLR's.

And the new Mamiya M645J is a simplified, economy version of the popular M645.

Every care has been taken to assure that your Mamiya M645 will provide you with years of trouble-free service. However, to avoid possible mishandling, be sure to carefully read this instruction manual before using your new camera.

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Special Features

The Mamiya M645J is a 6×4.5 cm large-negative SLR that is both extremely versatile and compact.

1. Large-Negative Quality

The 6×4.5 cm format offers approximately 3 times more area than the 35mm format. Moreover, unlike the 6×6 cm square negative, there is little waste of the negative area. For beautiful color enlargements everytime, the 6×4.5 cm format is the ideal format.

2. Compact Design

Despite the large-negative it produces, the Mamiya M645 is designed to handle as easily as a 35mm SLR. Its compact size and light weight are perfectly suited for the action photographer. It fits so well into one's hands that it becomes an extension of his reflexes.

3. Mamiya's Moving Coil Electronic Shutter

Mamiya has developed a revolutionary Moving Coil Electronically Controlled Shutter for the Mamiya M645. Electrical consumption of this new shutter is approximately 1/10 that of previous electronic shutters. Furthermore, consumption remains constant regardless of the shutter speed being used. In addition to accuracy, long battery life is assured by this new shutter.

4. Large, Bright Viewfinder

It becomes easy to catch the peak of action when looking through the large, bright viewfinder. Because of the Mamiya M645's automatic diaphragm and quick-return mirror, the viewfinder never grows dim. It is always bright, ready for the next photograph.

5. Interchangeable Finders

• Lightweight, dual-function Waist-Level Finder S

A compact and lightweight finder which opens and closes with a single touch, the Waist-Level Finder S is ideal for copying, close-ups, low and high angle pictures, and working in dim light. Additionally, it is instantly convertible to an eye-level sports finder which accurately shows the fields for the 80, 110, 150, and 210mm lenses, allowing one to easily follow the quickest action.

• Prism Finder

The Prism Finder is well-suited for action photography. Whether the vertical or horizontal format is utilized, focusing and following action is as easy as on a 35mm SLR.

• AE (Automatic Exposure) Prism Finder

The AE Prism Finder combines an electronic shutter control mechanism and a TTL-type CdS exposure meter to provide aperture-priority, fully automatic exposure.

- **PD Prism Finder**

The PD Prism Finder employs silicon cells for full-aperture, center-weighted readings. It is your assurance that every negative will be properly exposed.

- **CdS Prism Finder with built-in meter**

Accurate through-the-lens exposure measurement is possible with the CdS Prism Finder which couples to the aperture of the lens and indicates the proper shutter speed to set on the camera.

6. Flatness of the Film Plane

Developed through Mamiya's long experience as a manufacturer of 120/220 roll-film cameras, the Roll-Film Inserts for the Mamiya M645 keep the film perfectly flat for edge-to-edge sharpness. Inserts are available for 120 or 220 roll-film.

7. Multi-Coated Lenses

Mamiya-Sekor lenses have achieved world-renown as professional lenses of exceptional contrast, high resolution, clear definition, and excellent color balance. All the lenses for the Mamiya M645, from wide-angle to telephoto, have been multi-coated to maintain their high standard of performance even under adverse lighting.

8. Unlimited Scope

A full range of accessories are available for the Mamiya M645 to assist the photographer in capturing virtually any type of image. Accessories include hand grips, interchangeable focusing screens, and auto extension rings complete with meter coupling.

- **Multiple-Exposure Provision**

Merely lowering the multiple-exposure lever allows the photographer to take as many multiple-exposures as he wishes. During multiple-exposures, the exposure counter does not move.

Specifications

● Camera Body

Camera Type:

6 × 4.5cm electronic focal-plane shutter SLR.

Film Type:

120 roll-film for 15 exposures,
220 roll-film for 30 exposures

Roll Film Insert:

Interchangeable, two types available for 120 and 220 size roll films. Actual negative size 56 × 41.5mm.

Standard Lenses:

Mamiya-Sekor C (multi-coated)
80mm f/1.9, automatic diaphragm,
with meter coupler, 67mm filter size
Mamiya-Sekor C (multi-coated)
80mm f/2.8, automatic diaphragm,
with meter coupler, 58mm filter size

Lens Mount:

Mamiya M645 bayonet mount

Shutter:

B,1–1/500 sec.
Moving Coil Electronic Focal-Plane Shutter,
X (1/60 sec.) synchronization,
Shutter release lock provision

Battery Type:

One 6V silver-oxide battery
(Eveready 544, UCAR 544, Mallory PX28)

Focusing Method:

Each Mamiya-Sekor lens is equipped with its own
helicoid focusing mount

Focusing Screen:

Interchangeable, 94% of the picture area visible

Mirror:

Instant return

Film Transport:

Film transport by a single turn of the crank-equipped
film advance knob. Provision to prevent double exposure.

Exposure Counter:

Progressive type, automatic reset, automatic
changeover with insertion of 120/220 roll-film inserts

Battery Check:

Depressing B.C. button illuminates green L.E.D. if
battery condition is satisfactory.

Multiple-Exposure:

Lowering multiple-exposure lever makes multiple-
exposures possible; exposure counter does not
move during multiple-exposures.

● Interchangeable Finders

Prism Finder:

The image in the Prism Finder is right-side up, laterally correct, and moves in the correct direction; magnification of 0.74X with the standard lens at infinity; built-on hot-shoe; comes with eyecup.

AE Prism Finder:

Aperture-priority, automatic exposure prism finder with built-in electronic shutter control mechanism and CdS exposure meter. Through-the-lens, center-weighted, full-aperture metering with shutter speed in the viewfinder.

Meter coupling range is EV2.85 — EV17 (f/1.9, 1/2 sec. — f/16, 1/500 sec.) with f/1.9 lens and ASA100 film. With the f/2.8 lens, the meter coupling range is EV4—EV18 (f/2.8, 1/2 sec. — f/22, 1/500 sec.) using ASA100 film. Camera battery serves as power source. Other features same as for Prism Finder.

PD Prism Finder S:

Prism Finder with built-in silicon cell, through-the-lens, full-aperture, center-weighted metering; 7 LED's visible in the viewfinder for correct or compensated exposure; with 100 ASA and f/1.9 lens, meter coupling range of EV -1.15 — +18 (f/1.9, 8 sec. — f/22, 1/500 sec.); with f/2.8 lens, EV 0 — 18 (f/2.8, 8 sec. — f/22, 1/500 sec.); camera body battery serves as power source; other features same as Prism Finder.

CdS Prism Finder:

Prism Finder with CdS through-the-lens, full-aperture, center-weighted metering; zero method with indicator needle; couples to aperture and shutter speed manually set; power source, one 1.5V silver oxide battery (Eveready S-76 or equivalent); with 100 ASA and f/1.9 lens, meter coupling range of EV 2.85 — 17 (f/1.9, 1/2 sec. — f/16, 1/500 sec.); with f/2.8 lens, EV 4 — 18 (f/2.8, 1/2 sec. — f/22, 1/500 sec.); other features same as Prism Finder.

Waist-Level Finder S:

Opens and closes with a single touch; magnification

of 1.3X (w/standard lens at infinity); diopter correction lenses interchangeable with standard magnifier; built-in sports finder shows field for standard lens and accepts a mask for 110, 150, and 210mm lenses, all fields showing approximately 80% of the picture-taking area.

Dimensions and Weight:

(width, height, depth, w/80mm f/1.9 lens)		
(w/Waist-Level Finder S)	(w/1.9 lens)	(w/2.8 lens)
3-23/32" × 3-15/16" × 6-9/16"	52.6 oz	46.7 oz
(94.5 × 100 × 166.5mm)	(1490 g)	(1325 g)
(w/Prism Finder)		
3-23/32" × 4-27/32" × 6-9/16"	59.4 oz	53.6 oz
(94.5 × 122.7 × 166.5mm)	(1685 g)	(1520 g)
(w/AE Prism Finder)		
3-23/32" × 4-29/32" × 6-9/16"	64.0 oz	58.2 oz
(94.5 × 124.7 × 166.5mm)	(1815 g)	(1650 g)
(w/PD Prism Finder S)		
3-23/32" × 4-29/32" × 6-9/16"	63.7 oz	57.8 oz
(94.5 × 124.7 × 166.5mm)	(1805 g)	(1640 g)
(w/CdS Prism Finder)		
3-23/32" × 4-29/32" × 6-9/16"	64.4 oz	58.6 oz
(94.5 × 124.7 × 166.5mm)	(1825 g)	(1660 g)
Depth w/80mm f/2.8 lens; 6-1/16" (154mm)		

Names and Functions of Parts (1)

Focusing screen

Five different types are available.

Focusing screen lug

Mounting guide pin for finder

Fits into the finder opening.

Alignment dot

Alignment reference point for mounting lens.

Shutter release button

Built-in safety lock, locks release button if film has not been advanced. Equipped with cable release socket.

Shutter release lock ring

Turn lock ring and align with red dot to lock shutter release button. To unlock, align with white dot.

Battery check lamp

If the green battery check lamp glows when the battery check button on the opposite side is depressed, battery condition is good.

Flash sync terminal

With safety cover, only the cover of the sync terminal being used is removed.

Neck strap lug

Shutter speed alignment mark

Shutter speed dial

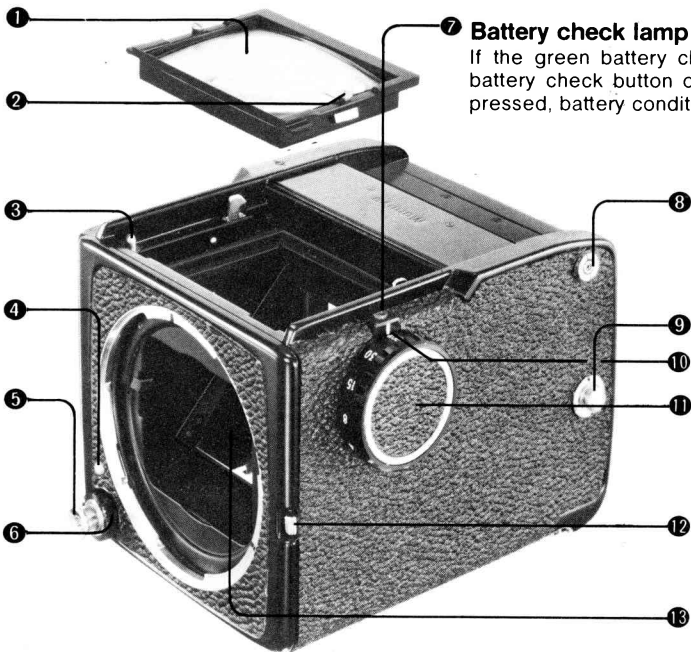
Do not set dial to the \odot position unless using the AE or PD Prism Finder.

Lens release button

Push in and simultaneously turn the lens counterclockwise to remove.

Mirror

Never touch the surface of the mirror.



Back cover latch

While pushing in on the memo clip, simultaneously move the back cover latch in the direction of the arrow to open camera back.

Back cover

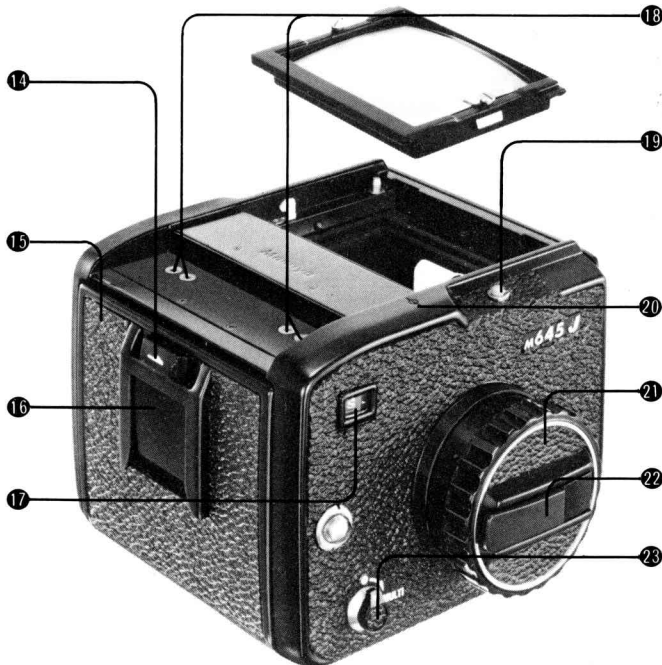
When closing, apply pressure firmly and evenly in the area of the back cover latch.

Memo clip

Holds the film box top as a reminder.

Exposure counter window

Automatic changeover upon insertion of 120 or 220 film insert. Goes up to 15 with 120 film and up to 30 with 220 film.



Electrical contacts

Wipe off oil or dust with clean cloth before attaching a prism finder.

Battery check button

When depressed, the battery check lamp on the opposite side illuminates. Used to check the condition of the battery.

Film plane mark

Indicates the position of the film plane.

Film advance knob

One complete turn cocks shutter and advances film.

Film advance crank

Pull out to use.

Multiple-exposure lever

Move the multiple-exposure lever to the "multi" position for multiple-exposures or to release the shutter when there is no film in the camera.

Names and Functions of Parts (2)



24 Battery chamber cover

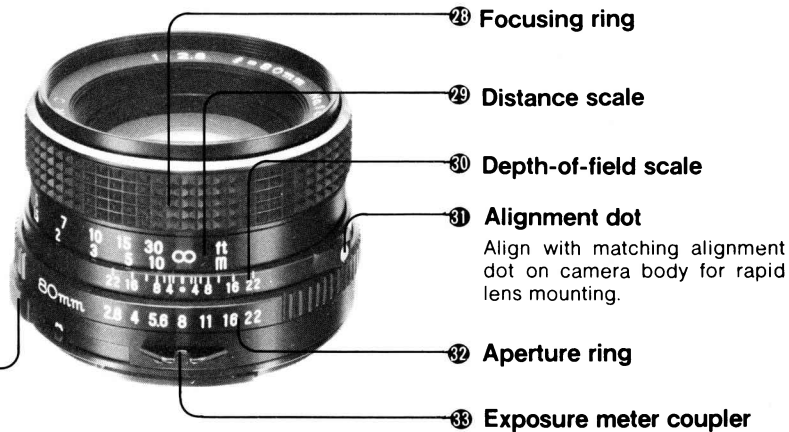
Insert one 6V silver-oxide battery into the battery chamber.

25 Battery chamber opening button

Twist in the direction of the arrow to open battery chamber cover.

26 Tripod socket

1/4 inch tripod socket.



28 Focusing ring

29 Distance scale

30 Depth-of-field scale

31 Alignment dot

Align with matching alignment dot on camera body for rapid lens mounting.

32 Aperture ring

33 Exposure meter coupler

Couples the aperture ring to any prism finder with built-in meter.

A.M. Lever

Automatic diaphragm operation when "A" appears in the window. Diaphragm stopped down to preselected aperture when "M" appears in window.

Names and Functions of Parts (3)

Roll-Film Insert

(120 and 220 roll-film inserts are available)

Start Mark

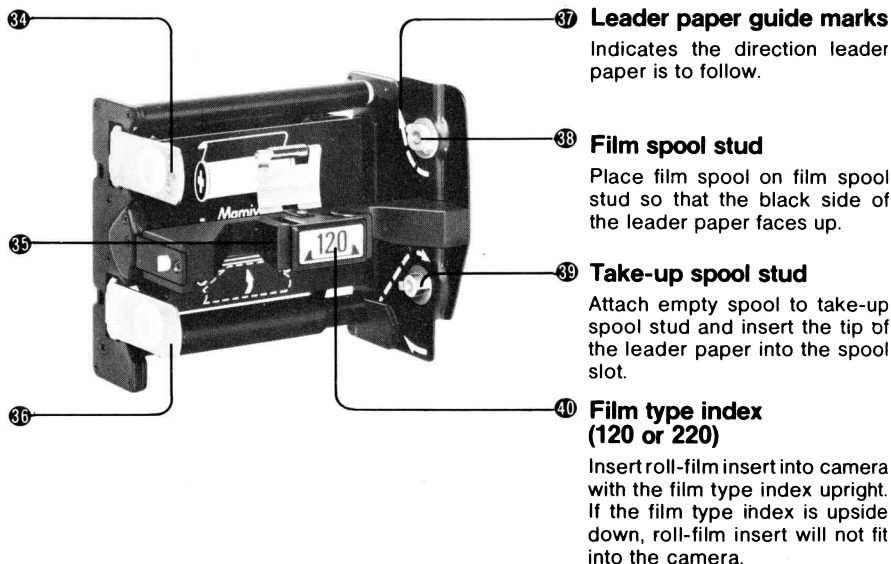
After aligning the start mark on the film's leader paper with this mark, the roll-film insert is ready for insertion into the camera.

Release latch

After squeezing in on both sides of release latch, the roll-film insert can be pulled out of camera.

Spool clip

Pull out and lower spool clip to insert or remove film spools.



Prism Finder

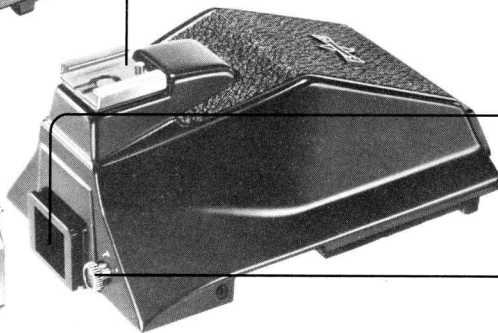
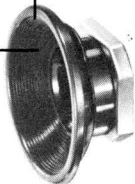


Eyecup

Attach by sliding into the grooves of the eyepiece.

Diopter correction lens retainer ring

Remove by unscrewing in a counterclockwise direction. After inserting correction lens, replace retainer ring.



Hot-shoe (with safety cover)

Automatically fires cordless flash units when the shutter release button is depressed.

Eyepiece

Accessories such as eyecup, magnifier, and angle finder can be attached.

Finder release button

Turn clockwise until it stops, push in, and the finder can be lifted off the camera body.

Names and Functions of Parts (4)

AE Prism Finder

(Detailed Instructions on pp.35-41)

Aperture ring coupling pin

Couples to the exposure meter coupler on the aperture ring.

Hot-shoe (with safety cover)

Automatically fires cordless flash units when the shutter release button is depressed.

Eyepiece

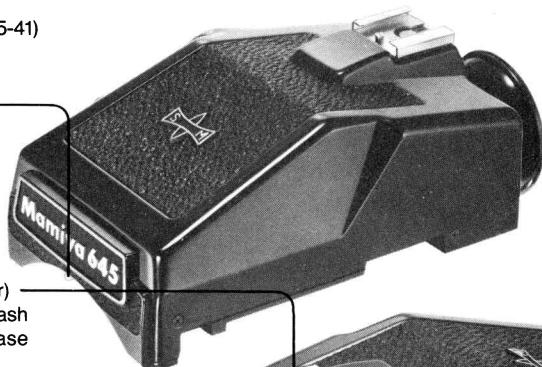
Accepts accessories such as eyecup, magnifier, and angle finder.

Eyecup

Attach by sliding into the grooves of the eyepiece.

Diopter correction lens retainer ring

Remove by unscrewing in a counter clockwise direction. After inserting correction lens, replace retainer ring.



Power switch dial

After attaching the finder to the body and setting the camera's shutter speed dial to the \odot mark, turn the power switch dial to ON to activate the exposure meter.

AE lock button

Used to adjust the exposure to a part of a scene or for intentional under- or over-exposure.

500-1000 adjustment screw

Turn this screw to the left when the maximum shutter speed of the camera is 1/500 sec.

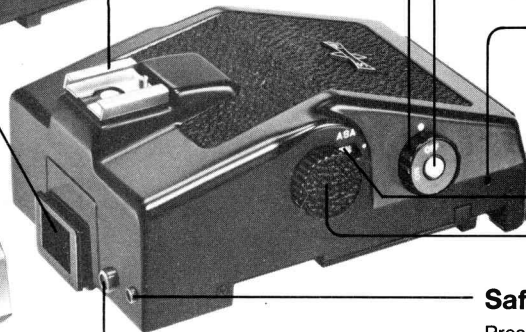
ASA window

ASA dial

Pull out and then turn.

Safety button

Press the finder release button while holding in the safety button, and the finder can be lifted off the camera body.



Finder release button

PD Prism Finder S

(Detailed Instructions on pp. 42-45)

Aperture ring coupling pin

Couples to the exposure meter coupler on the aperture ring.

Hot-shoe

(with safety cover)

Automatically fires cordless flash units when the shutter release button is depressed.

Eyepiece

Accepts accessories such as eyecup, magnifier, and angle finder.

Eyecup

Attach by sliding into the grooves of the eyepiece.

Diopter correction lens retainer ring

Remove by unscrewing in a counterclockwise direction. After inserting correction lens, replace retainer ring

Meter switch

Pushing in on this switch when the finder is attached to the camera will turn on the meter and a LED in the finder will light up. Even if you release pressure from the meter switch, the meter will remain on for approximately 15 seconds and then automatically turn off to conserve electricity.

Shutter speed dial

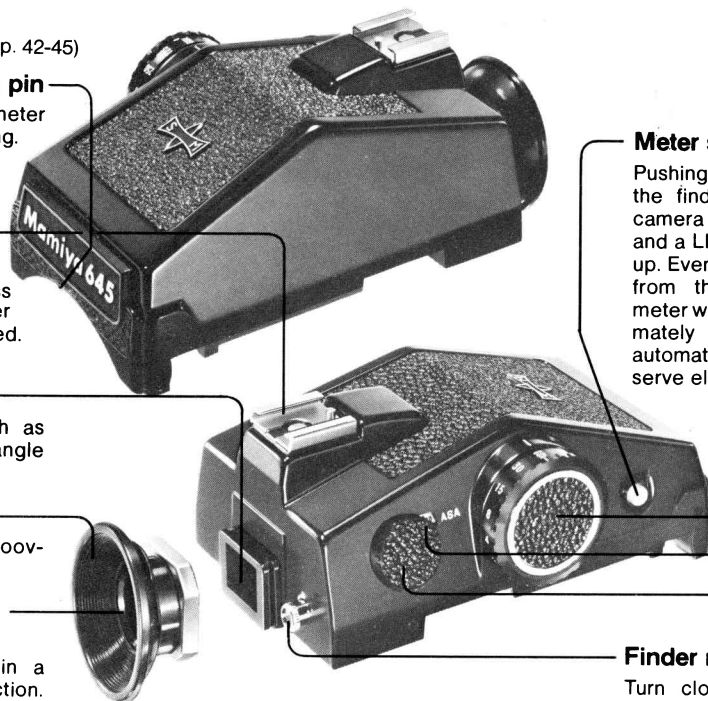
ASA window

ASA dial

Pull out and then turn.

Finder release button

Turn clockwise until it stops, push in, and the finder can be lifted off the camera body.



Names and Functions of Parts (5)

CdS Prism Finder

(Detailed instructions on pp.46-50)

Aperture ring coupling pin

Couples to the exposure meter coupler on the aperture ring.

Hot-shoe (with safety cover)

Automatically fires cordless flash units when the shutter release button is depressed.

Eyepiece

Accepts accessories such as eyecup, magnifier, and angle finder.

Eyecup

Attach by sliding into the grooves of the eyepiece.

Diopter correction lens retainer ring

Remove by unscrewing in a counterclockwise direction. After inserting correction lens, replace retainer ring.

Shutter Speed Dial

Be sure to manually set the shutter speed dial of the camera body to the speed indicated by this dial.

Power switch

Set to OFF when the meter is not being used.

ASA dial

Pull out and then turn.

ASA window

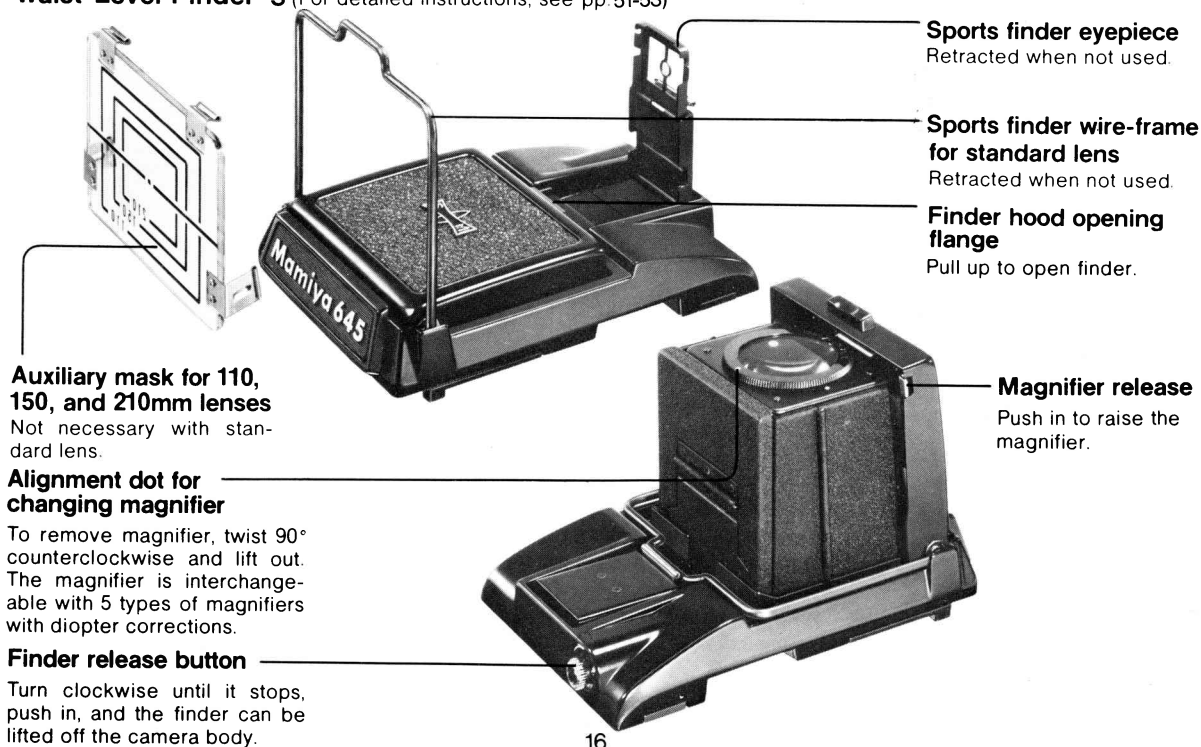
Finder release button

Turn clockwise until it stops, push in, and the finder can be lifted off the camera body.

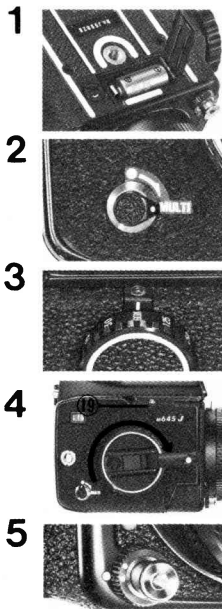
Battery chamber cover

Remove the cover with a coin and insert a 1.5V silver oxide battery into the chamber.


Waist-Level Finder S (For detailed instructions, see pp. 51-53)



Testing to See if the Camera Functions Properly




To release the shutter when there is no film in the camera, proceed as follows. (For detailed instructions on particular points, refer to the page number shown in parentheses.)

1. Insert a battery into the camera (p.22)
2. Set the multiple-exposure lever to "MULTI" (p.57)
(If you have just purchased the camera and the vinyl tube is still on the take-up spool, there is no need to move the multiple-exposure lever.)
3. Set the shutter speed dial to any shutter speed other than the  red mark (p.28)
4. Turn the film advance knob until it stops.
5. Align the shutter release lock ring with the white dot and release the shutter (p.31)

When ready to load the camera with film, return the multiple-exposure lever to its normal position. If this is not done, the film will not advance.

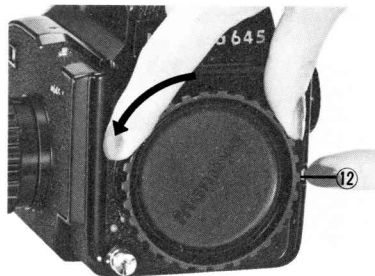
If the shutter is released without a battery in the camera, the mirror will lock in the up position. To return the mirror to its normal position, depress the battery check button (19) as far as it will go.

If the shutter is released with the shutter speed dial set to the red  position, the mirror will lock in the up position. To lower the mirror, turn the shutter speed dial in either direction (B or 1/500 sec.).

At times it may be necessary to rotate the film advance knob two full turns to cock the shutter when an empty take-up spool (without its original vinyl tube) is in the camera.

Interchanging Lenses

● Removing the Body Cap



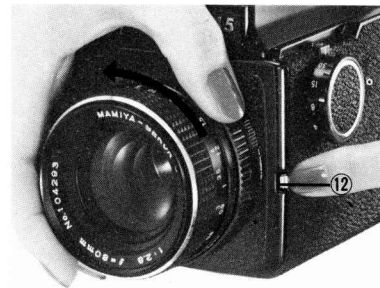
While depressing the lens release button (12), turn body cap counterclockwise until the red dots are aligned and lift out.

● Attaching Lenses



While aligning the two alignment dots (31 & 4), insert lens into camera body. Then twist lens clockwise until it clicks and locks into place.

● Removing Lenses



While depressing the lens release button (12), grasp the part of the lens barrel that has the depth-of-field scale (30) and alignment dot (31), and twist the lens counterclockwise until it stops. Then lift out.

- ★ After removing a lens, be sure to place caps on both the lens and camera body.

- ★ Never touch the surface of the mirror.

- ★ After removing a lens, it is recommended to lock the shutter release button by setting the shutter release lock ring (6) in order to avoid accidentally releasing a cocked shutter when placing the camera body face down on a table.

● Upper Body Cover



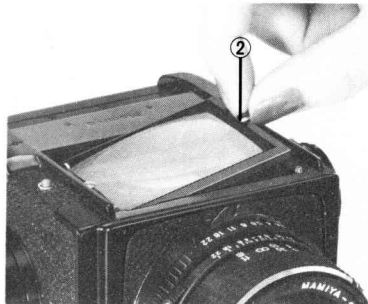
Remove the upper body cover from the camera by sliding it to the rear and lifting up.

● Interchanging Focusing Screens

Five different focusing screens are available to suit various photographic conditions.

Interchanging Finders

● Attaching the Focusing Screen



Insert the two tabs of the focusing screen into the slots at the back of the opening in the camera top and press lightly so that the screen clicks into place.

● Removing the focusing screen

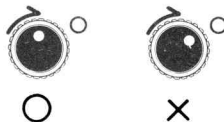
Lift up the focusing screen using the two focusing screen lugs (2).

★The rear surface of the focusing screen is made of plastic so use care to prevent scratches when removing and attaching.

All of the finders are attached and removed in the same way, except for the AE Prism Finder which is removed by a different method.

Prior to attaching the 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.



● Attaching Finders

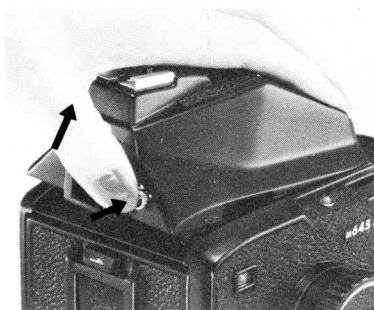


Place the rear part of the finder on the camera body while holding the front part of the finder slightly upward. Slide the rear part forward until it stops and gently lower the front part of the finder on to the camera body. It will then lock into place.

● Removing Finders



1. Turn the finder release button clockwise until it stops (about 60°). Then you will be able to push in on the release button.



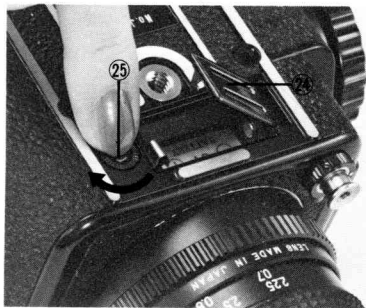
2. While pushing in on the release button with your thumb, lift the finder off the camera body.

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.

Inserting a Battery



The Mamiya M645 uses one 6V silver-oxide battery (Eveready No. 544, UCAR 544, Mallory PX28 or equivalent).

1. Twist the battery chamber opening button (25) clockwise with your finger tip and the battery chamber cover (24) will open.



2. Next, align the $\oplus \ominus$ marks of the battery with those indicated in the battery chamber. Then insert the battery and close the cover.

CAUTION:

1. When replacing a battery, be sure to obtain the correct type (Eveready No. 544 or equivalent). Even if a battery fits into the chamber, if it is not a **silver-oxide battery**, proper functioning of the camera cannot be guaranteed.

2. Carefully wipe the contacts of the battery before inserting it into the chamber. Failure to do so could result in poor electrical contact and consequent erratic functioning of the camera.

3. When the camera is not used for a long period of time, remove the battery and store it in a cool, dry place.

4. When replacing a battery, properly dispose of the used battery immediately as it is potentially dangerous. Silver-oxide batteries are explosive and should therefore never be thrown into a fire.

5. A battery that is not used for a long period, even if it is properly stored in a dry, cool place, may lose some of its charge. Consequently, check its condition after replacing it in the camera with the battery check button.

Battery Check

6. Under normal circumstances, the shutter can be released 100,000 times or more with a single battery. With the PD Prism Finder attached and the metering system turned on for each exposure, the shutter can be released approximately 5,000 times.

(The camera body battery also serves as the power source of the PD Prism Finder and AE Prism Finder. The CdS Prism Finder, however, uses its own 1.5V silver oxide battery for exposure measurement).

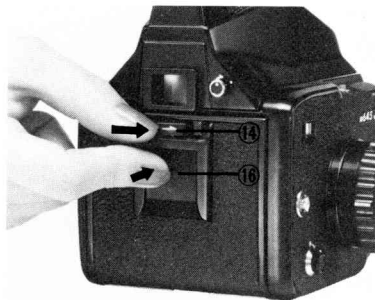


When the battery check button (19, located above the film advance knob) is depressed, the battery check lamp (7, located above the shutter speed dial) illuminates. If the battery check lamp fails to go on, it is time to replace the battery.

★ When the battery is completely exhausted, the opened shutter will not close. At this time, **if the battery check button is pushed all the way down as far as it will go, the shutter will then close.**

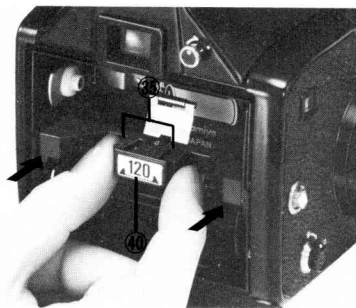
Loading the Film Insert

● Opening the Back Cover



While gently pushing in on the memo clip (16), move the back cover latch (14) in the direction of the arrow and the camera back cover will open.

● Insertion of the Film Insert



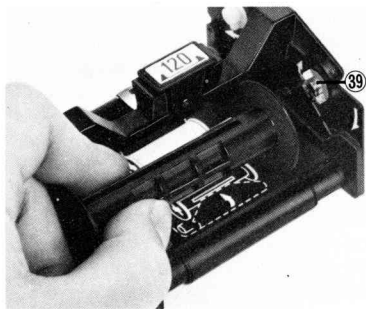
1. Grasp both sides of the release latch (35) of the film insert, making sure that the film type index (40) is not upside down, and place the film insert straight into the camera body. After the film insert has completely entered the camera body, let go of the release latch.

2. Press in on the outer edges of the release latch (indicated by the arrows in the photograph above) and the roll-film insert will lock into place. (If the roll-film insert does not go all the way in on the right-hand side, turn the film advance knob slightly while pushing in on the right side of the film insert.)

● Removing the Film Insert

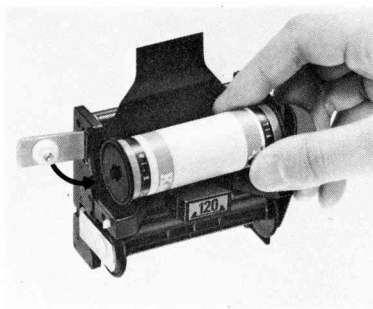
While squeezing in on both sides of the release latch (35), pull the roll-film insert out of the camera body.

Film Loading



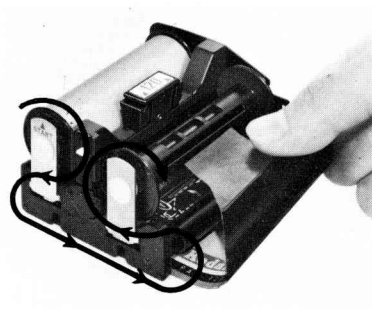
1. Load the film into the roll film insert. Two types of film inserts are available for 120 and 220 roll films. Be sure to select the correct one for the film you normally use. Insertion of film is the same for either type. First, open both spool clips (36) toward the outside.

2. Align the right-hand side of an empty spool with the lower spool stud (39). Then return the spool clip (36) to its former position, making sure that the left-hand side of the spool is properly held by the spool clip.

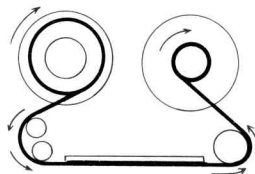


3. In the same manner insert a roll of film in the upper compartment.

4. Make sure that the black side of the leader paper faces up.



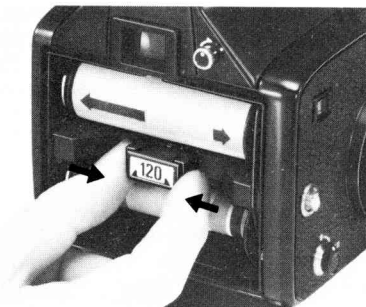
5. Gently pull out some of the leader paper, pulling it over and around the pressure plate. Then insert the tip of the leader paper into the slot of the take-up spool.





6. Gently rotate the take-up spool in the direction of the arrow until the start mark of the film is aligned with the start mark on the spool clip (34).

★ The above step is to be completed before the roll-film insert is placed into the camera.



Load the film insert into the camera in the aforementioned manner. Close the camera back cover by pressing it firmly.

★ If the film advance knob moves slightly from the time the film insert is placed into the camera to the time the back cover is closed, there will be no ill effects. However, if the film advance knob moves too much, the first frame will be fogged.

● Memo Clip



The memo clip found on the camera back cover can be used to hold the film box top.

★ The memo clip also doubles as a safety lock to prevent the camera back from accidentally opening. If excessively thick paper is placed in the memo clip, it will no longer simultaneously serve as a safety lock.

★ **Never load film in direct sunlight. Load it in the shade or in your own shadow.**

★ **Roll-film inserts for both 120 and 220 film are loaded in the same manner. The exposure counter advances to 15 when the 120 film insert is used, and to 30 when the 220 film insert is used.**

Make absolutely sure to match the film insert with the film type being used. If the wrong insert is used, the correct film plane will not be maintained and optimum sharpness will not be achieved. Moreover, if 120 film is used in the 220 film insert, there is the danger of the leader paper getting caught in the shutter causing damage to the camera.

★ **Before placing the film insert into the camera, make sure the leader paper on the take-up spool is flat and lies evenly between the two edges of the take-up spool. The take-up spool should be wound sufficiently tight to make it impossible for the leader paper to ride over the edge of the take-up spool.**

★ **Always align the start marks of the film and spool clip before placing the film insert into the camera. (If the start marks are aligned within the camera with the aid of the film advance knob, the first frame will not be correctly positioned.)**

● Using Roll-Film Designed for Six Exposures

If you wish to use roll-film designed for six 6 × 6cm exposures, follow the procedure outlined below.

1. Load the film in a 120 film insert and use in the normal way. The film will take 7 exposures.

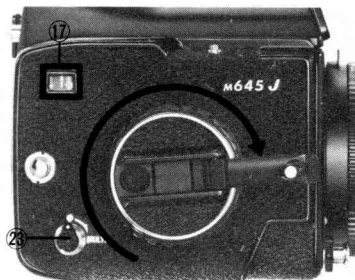
2. After 7 exposures have been taken, set the shutter speed dial to 1/500 sec., wind the film advance knob and release the shutter 4 more times (the exposure counter will indicate "11").

3. Wind the film advance knob once again so that the exposure counter indicates "12", open the back cover, and remove the film insert. (Do not release the shutter when the exposure counter indicates "12".)

4. Completely wind the remaining leader paper around the film take-up spool.

★ **If the film in the camera is completely wound onto the take-up spool, there is the danger of the tip of the leader paper getting caught in the shutter curtain and damaging the camera.**

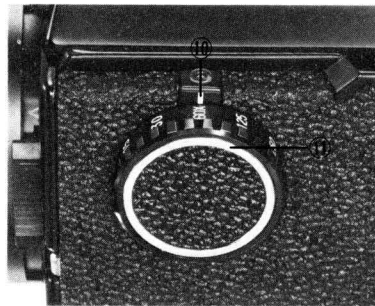
Film Advancing



1. After the film has been placed into the camera make sure that the multiple-exposure lever (23) is aligned with the white dot and not with the word "MULTI".

2. Wind the film advance knob until it stops and the number 1 will appear in the exposure counter window (17). The shutter is now cocked and the camera is ready for the first exposure.

Shutter Speed Dial



Align the desired shutter speed with the shutter speed alignment mark (10) by turning the shutter speed dial (11) in either direction.

(a) The figures on the shutter speed dial represent the denominator of a fraction. (Thus, 30 equals $1/30$ sec.).

(b) The letter B represents BULB. The shutter will remain open as long as the shutter release button is depressed when the shutter speed dial is set to B.

(c) The red 60X represents the highest permissible shutter speed for electronic flash synchronization.

(d) The red \odot mark is the position the

Aperture Ring/Stop-down Operation

shutter speed dial is set to when the AE Prism Finder or PD Prism Finder is used.

★ If the shutter is released with the shutter speed dial set to the \odot position and the AE or PD Prism Finder is not attached to the camera, the shutter will lock in the open position. **If the camera is left in this condition, the battery will lose its power within several hours, so rectify the situation at once.** (Moving the shutter speed dial to B or 1/500 sec. will close the shutter.)

★ Set the shutter speed dial only to the click-stop positions. Using an intermediate position will result in inaccurate exposures.



Set the desired f/stop on the aperture ring (32) by aligning the f/number with the red reference dot (A). (The aperture ring has a click stop for each f/stop. In-between clicks can also be used.)

● AM Lever

1. For normal use, set the AM (Auto-Manual) lever (27) so that "A" appears in the window. When this is done, the aperture is always open, closing only when the shutter is released.
2. When you wish to preview the depth-of-field, move the AM lever to the "M" position.

Focusing



1. While looking through the viewfinder, adjust the focusing ring (30) until the most important part of the subject appears sharp. (The appearance of the image will differ depending on the type of focusing screen used. Shown here is the No. 5 Rangefinder spot 45°/microprism.)

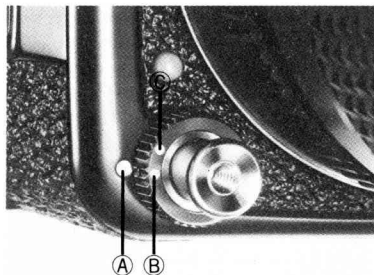
2. Extremely accurate focusing is simplified by the split-image rangefinder spot located in the center of the focusing screen. Its wedge is set at a 45° angle, making it possible to use either horizontal or vertical lines of the subject for precise focusing. The split-image rangefinder spot is surrounded by a microprism collar which fractures the image whenever it goes slightly out-of-focus; consequently, it is an invaluable aid for pinpoint focusing accuracy.

3. The outer ground glass ring (which encircles the microprism collar) can also be used for focusing.

Since the Mamiya M645 is an SLR, the photographer always sees in the viewfinder exactly what will appear on the film, regardless of the lens or accessory being used.

★ As an accessory, Mamiya offers diopter correction lenses which can be attached to the prism finders, and diopter lenses for the waist-level finder. Near and farsighted persons will find these accessories useful for obtaining accurate focus.

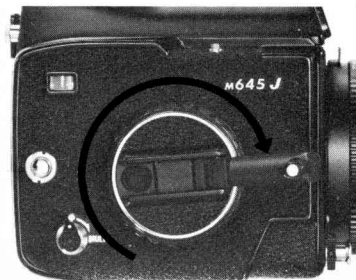
Shutter Release and Film Transport Mechanism



The shutter release button is equipped with a lock ring to prevent accidental release of the shutter.

1. When you wish to release the shutter, turn the shutter release lock ring so that the white dot (B) is aligned with the dot (A) on the camera body.

2. Aligning the red dot (C) of the shutter release lock ring with the dot on the camera body will lock shutter release button.



After releasing the shutter, the film advance knob is automatically unlocked, making it possible to transport the film to the next frame.

Please notice the following points regarding the film transport mechanism:

★ A built-in safety lock prevents the shutter from being released if the film advance knob is not fully wound or if the exposure counter is between S and 1.

★ After the fixed number of exposures has been taken (15 or 30), the shutter release button automatically locks.

★ If the film is advanced while depressing the shutter release button, the shutter will be released at the instant the film is fully advanced. Do not attempt to take pictures in this manner as a degree of camera shake is inevitable.

★ If the AE or PD Prism Finder is not attached to the camera body and the shutter is released with the shutter speed dial set to the \odot position, the mirror will lock in the raised position and the shutter will remain open. (Moving the shutter speed dial to B or 1/500 sec. will lower the mirror and close the shutter.)

★ Use of the multiple-exposure lever is explained on page 57.

★ The shutter release button is threaded to accept cable releases or self-timers.

Unloading Film

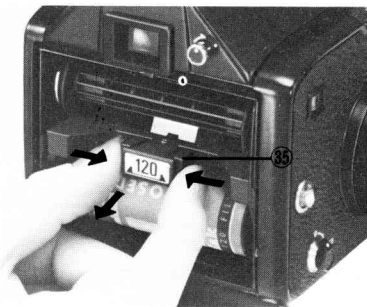
1. After the fixed number of exposures have been taken (15 for 120, 30 for 220), the shutter release button will lock. At that time, wind the film advance knob until the leader paper is completely wound onto the take-up spool. (When winding is complete, resistance will no longer be felt on the film advance knob.)

2. When the camera back cover is opened, the exposed film wound on the spool at the bottom of the film insert and the empty spool at the top can be seen. Remove the film insert by pressing in on both of the release latches (35) in the middle.

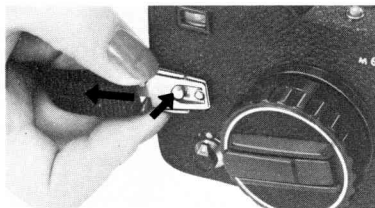
3. When the film insert is removed the exposure counter will reset to S (Start).

The exposure counter will not reset to S if the insert is not removed.

4. Remove the film from the film insert, exercising care that the film does not loosen, and seal it.

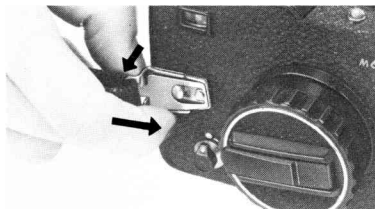


● Attaching to Camera



Place the neck strap fastener over the neck strap lug on the camera body and gently pull it away from the camera while pressing it toward the body until it clicks and locks in place.

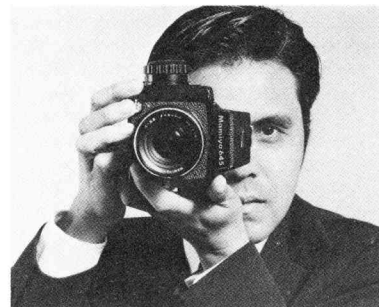
● Removing from Camera



While pushing in on the rear blade of the neck strap fastener with your thumb, slide it forward and remove.

No matter how carefully one focuses the camera, if there is camera movement during the instant the shutter is released, sharp pictures are unlikely. To eliminate camera movement, care must be taken regarding the method of holding the camera and releasing the shutter.

● Eye Level Operation

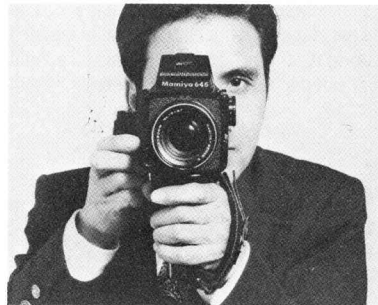


When hand-holding the camera with the waist-level finder attached, adjust the length of the neck strap to take up all slack and support the camera against the body. As accessories, Mamiya offers a selection of hand grips which not only help to eliminate camera-shake, but are also convenient for carrying the camera.

● Waist-Level Operation



● Hand Grips



Using the AE Prism Finder (1)

● Special Features

1. The Mamiya AE Prism Finder employs a pentaprism which provides a correct, upright image and includes a built-in electronic shutter control circuit which makes possible aperture-priority, TTL automatic exposure metering.

2. The electronic shutter control mechanism is of a new type that instantly magnetically records signals coming through the exposure meter to the IC computer.

3. Automatic exposure control is possible by merely attaching the AE Prism Finder to the camera. This means you get correct exposure every time. All you have to do is set the aperture, focus and press the shutter release.

4. Exposure compensation is also easy by using the AE Lock Button. This allows you to obtain correct exposure with backlighting and other difficult conditions.

● Specifications

Viewfinder: Pentaprism type with correct, upright image. The magnification ratio is 0.74x with the standard lens focused at infinity. A hot-shoe, eyecup and hot-shoe/eyepiece cover are provided.

Metering system: Center-weighted, averaged TTL open-aperture metering.

Control system: Aperture-priority, shutter-speed control.

Shutter coupling range: 2 – 1/1000 second.

Light measuring range: (ASA 100)

EV2.85 – EV17 with f/1.9 lens (f/1.9, 1/2 sec. to f/11, 1/1000 sec.).

EV4 – EV18 with f/2.8 lens (f/2.8, 1/2 sec. to f/16, 1/1000 sec.).

Film sensitivity range: ASA25 – ASA6400.

Aperture coupling range: Couples at all apertures of all available lenses.

Displays inside viewfinder: Shutter speeds are indicated by the exposure meter needle. Red under- and overexposure marks are included and a red warning mark appears when the exposure meter is turned off.

Switch dial: The AE Prism Finder is provided with an on/off switch with an AE lock built into its center.

AE Lock: Pressing the AE lock button locks in the exposure value. AE control returns when the lock button is released.

Power source: The meter receives power from the camera battery.

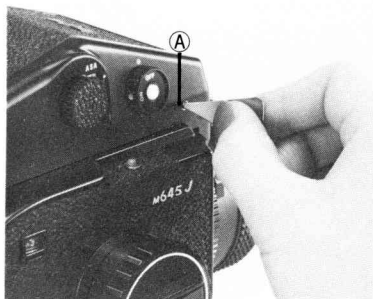
When this finder is attached to the Mamiya M645J, the available shutter speed range is from 2 secs. to 1/500 sec.

Using the AE Prism Finder

The AE Prism Finder has an automatic locking device which allows it to be attached to the camera body by merely pressing it into position.

The "double lock" system of the finder prevents accidental removal. The finder will not come off unless both the safety button and finder release button be pressed at the same time.

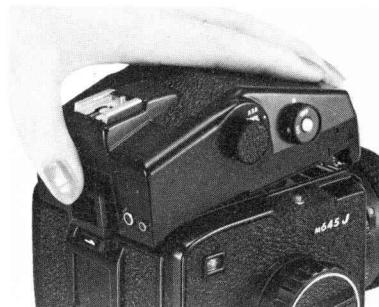
Before attaching to the camera, first press in the finder release button while pressing in the safety button.



Cautions

The AE Prism Finder is adjusted for use with the M645 1000S which has a maximum shutter speed of 1/1000 sec. Adjust as follows to use with the M645J, which has a maximum shutter speed of 1/500 sec.

Use the adjustment key to turn the 500–1000 adjustment screw (A) counter-clockwise as far as it will go (approx. 60°). This causes the exposure meter needle to stop before the 1/1000 sec. position and display a maximum shutter speed of 1/500 sec.



1. To attach the AE Prism Finder to the camera body, lift up the front part of the finder slightly and place the rear part on the camera. Next, press down firmly but gently on the front part of the finder and the locks will automatically engage to hold the finder securely in place.

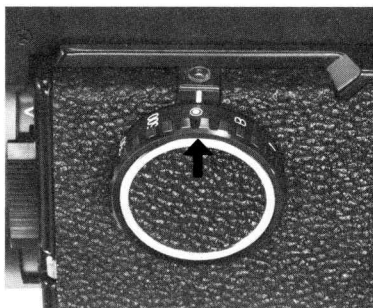
The finder release button will then protrude to indicate that the finder is firmly locked in place.

Using the AE Prism Finder (2)

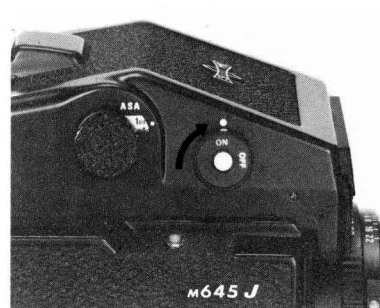


2. The aperture ring coupling pin (B) and exposure meter coupler (33) will connect automatically when the aperture ring is rotated left and right.

- Be sure to check the proper coupling. If the coupling pin cannot be connected, use a small stick or other similar object to push the pin toward the coupler.

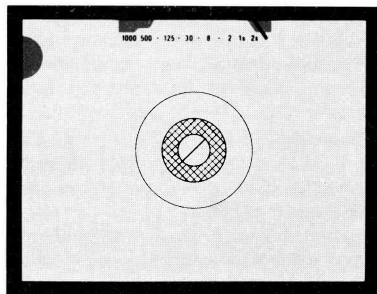
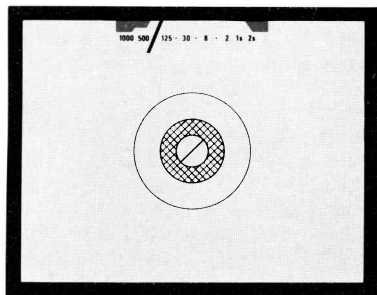


3. Set the ☉ mark on the shutter speed dial of the camera to the alignment mark. The AE Prism Finder and camera body will not be electrically connected if this dial is set to any other position; consequently, the exposure meter will not operate.



4. Pull the ASA dial of the finder out slightly and rotate until the desired ASA value appears in the window.

5. Rotate the switch dial to the ON position to turn the AE Prism Finder on. Always rotate until the click sound is heard.



1000 500 · 125 · 30 · 8 · 2 1s 2s
(250) (60) (15) (4)

- Always set the A/M lever of the lens to "A"; otherwise, correct exposure will not be obtained.
- Use the battery check lamp to check battery condition before making an exposure.

- When the switch is turned off, the exposure meter needle will remain stationary in the red warning mark on the right side of the finder. A semi-circular red mark also appears in the upper left corner to indicate that the exposure meter is turned off.

If you accidentally trip the shutter while the power switch of the AE prism finder is OFF, the shutter will operate at 2 seconds exposure automatically. This long exposure timing is a warning for your inappropriate operation of the camera. Switch on the AE prism finder and it will work properly.

6. Rotate the aperture ring and set to a suitable aperture (about f/5.6 to f/11 with ASA100 film outdoors). The shutter speed will be determined automatically by the AE Prism Finder. The shutter speed being used is indicated by the exposure meter needle and is visible at the top of the field of view when looking through the viewfinder. Incorrect exposure is indicated when the exposure meter needle enters the red warning marks. An intermediate shutter speed will be obtained if the needle indicates between two values.

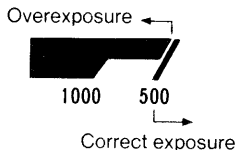
Using the AE Prism Finder (3)

When the exposure meter needle enters the red warning marks

Overexposure is indicated when the exposure meter needle enters the red warning mark on the left side. In this case, set the aperture ring to a smaller aperture (larger f/number).

Underexposure is indicated when the exposure meter needle enters the red warning mark on the right. The aperture must be set to a larger opening (small f/number).

The 500 position is the maximum shutter speed when the AE Prism Finder is used with M645J cameras, which have a maximum shutter speed of 1/500 sec. Overexposure is indicated when the exposure meter needle enters the narrower red warning mark between the 500 and 1000 positions. The aperture must be stopped down further in this case also.



- Since the AE Prism Finder uses TTL metering, it is not necessary to consider exposure factors when using different lenses, filters, or for close-up photography.

Cautions

1. Always set the shutter speed dial of the camera to the ☉ position when using the AE Prism Finder.

2. Turn the AE Prism Finder switch off when it is not to be used for an extended period or when storing in a case, etc. Always rotate the switch until the click sound is heard. If the switch is not turned off completely, the battery will be drained. (The finder can also be turned off by setting the shutter speed dial of the camera to any position other than ☉).

3. Always set the shutter speed dial to a position other than ☉ when the AE Prism Finder has been removed. (The shutter will lock in the open position if released with the shutter speed dial set at the ☉ position. If the camera is left in this condition, the battery will be exhausted within several hours.)

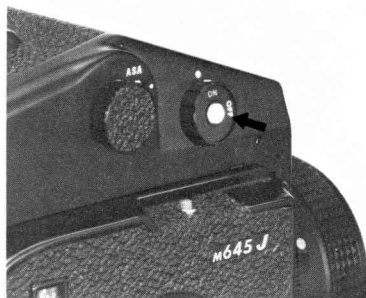
4. As explained in the beginning, set the 500–1000 adjustment screw to the 500 position before using the AE Prism Finder with the M645J, which has a maximum

shutter speed of 1/500 sec. If this adjustment is not made, the correct shutter speed can not be guaranteed when 1/1000 sec. is indicated by the exposure meter needle.

5. When making "Bulb" exposures, rotate the shutter speed dial of the camera to the B position which is next to the ☉ mark. AE photography is not possible at this time because power will not be supplied to the finder. (The exposure meter needle will remain stationary in the red warning mark on the right side.)

6. Four electrical contacts are provided on the top rear of the camera body and the bottom rear of the AE Prism Finder. Poor contact will result if these contacts become oily or dirty, which would affect the operation of the AE mechanism. Always wipe these contacts gently with a dry cloth when attaching the AE Prism Finder.

● Using the AE lock button



The AE lock button is useful when intentional over- or underexposure is desired for special effects, etc., or under difficult lighting conditions. The shutter speed indicated by the exposure meter needle in the viewfinder is held when the AE lock button is pressed. As long as the AE lock button is pressed, the shutter speed will remain the same even when the camera is pointed at a brighter or darker subject.

Exposure compensation under difficult conditions

When taking pictures under the difficult conditions described below, it is necessary to compensate the exposure in the same way as for normal average-metering exposure meters.

How to compensate exposure With a bright background

When the background is exceptionally bright, as with strong backlighting, the subject will normally be underexposed and appear excessively dark. In this case, move the camera close to the subject so that the bright background does not appear in the viewfinder and lock the shutter speed by pressing the AE lock button. Move back into position and recompose the image in the viewfinder; then release the shutter to make the exposure. Do not release the pressure on the AE lock button until the exposure has been made.

With a dark background

Conversely, when the background appears much darker than the subject, the subject will be overexposed. To compensate exposure in this case, proceed exactly the same as described above,

going close to the subject to eliminate the background from the viewfinder and lock in the shutter speed using the AE lock button.

With strong backlighting

The shutter speed selected by the AE Prism Finder can be used with strong backlighting if a silhouette effect is desired. If correct exposure of the subject is desired, however, proceed as described for the above lighting conditions. In this case, the background will be overexposed and appear whitish.

Using the AE Prism Finder (4)

Correct Exposure Measurement

★ The TTL metering system of your AE Prism Finder makes it unnecessary to consider such factors as the difference in angle of view of interchangeable lenses, filter factors, or exposure increase for macrophotography. (For accurate exposure measurement when taking close-ups, be sure to carefully read the instructions packed with the auto bellows, reverse ring, etc.)

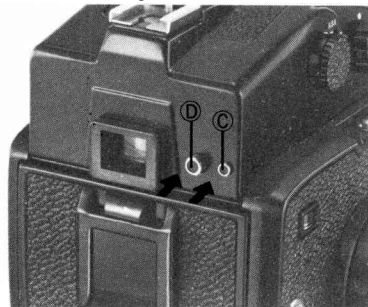
★ In macrophotography, the amount of light reaching the film varies in accordance with the extension of the auto bellows, extension rings, etc. Consequently, for accurate results be sure to first focus on the subject before taking an exposure measurement.

★ Especially in the close-up photography, prevent extraneous light entering in the finder by keeping the eye close to the finder eyepiece or by using the eyepiece cover.

● Flash Photography

Adjust the exposure manually in flash photography. For electronic flash, set the camera shutter speed dial to 1/60 sec. (or slower) and set the aperture in accordance with the guide number of the electronic flash unit and the subject distance. For details refer to the camera or electronic flash instruction manual.

● Removing the Finder



Simultaneously press the safety button (C) with the right hand and the finder release button (D) with the left hand. Next, remove the finder by lifting upward.

When the finder has been removed, the finder release button will remain depressed. After removing the AE Prism Finder, always rotate the shutter speed dial of the camera to a position other than \odot .

Using the PD Prism Finder S (1)

● 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 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 a rapid response because it utilizes silicon photo diodes.

● Specifications

Viewfinder: 0.74 magnification with standard lens at infinity, built-on hot-shoe, comes with eyecup.

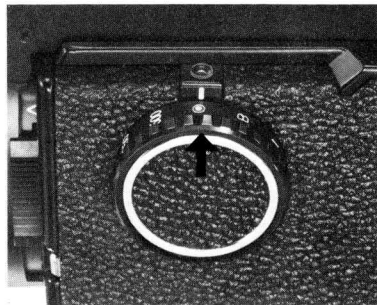
Metering System: Center-weighted, through-the-lens, full-aperture metering. One green and six red LED's built into the viewfinder system for correct exposure determination.

Meter coupling Range: (with f/1.9 lens and 100 ASA film)
EV -1.15 - +18
(f/1.9, 8 sec. - f/22, 1/500 sec.)
(with f/2.8 lens and 100 ASA film)
EV 0 - 18
(f/2.8, 8 sec. - f/22, 1/500 sec.)

Shutter Speed Range: 1/1000 - 8 sec.

ASA Range: 25 - 6400
(aperture coupling in the entire range)

When this finder is attached to the Mamiya M645J, the available shutter speed range is from 1/500 sec. to 8 secs.



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

1. Set the camera body shutter speed dial to the PD Prism Finder position ⊙ located between B and 1/500 sec.

If the shutter speed dial is set to a position other than ⊙, the PD Finder and camera body will not be electrically connected. Consequently, the viewfinder LED's will not illuminate.