

This manual is for reference and historical purposes, all rights reserved.

This page is copyright© by M. Butkus, NJ.

This page may not be sold or distributed without the expressed permission of the producer

I have no connection with any camera company

On-line camera manual library

This is the full text and images from the manual. This may take 3 full minutes for the PDF file to download.

If you find this manual useful, how about a donation of \$3 to: M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701 and send your e-mail address so I can thank you. Most other places would charge you \$7.50 for a electronic copy or \$18.00 for a hard to read Xerox copy.

This will allow me to continue to buy new manuals and pay their shipping costs.

It'll make you feel better, won't it?

**If you use Pay Pal or wish to use your credit card,
click on the secure site on my main page.**

Mamiya M 645 1000 S

Instructions



The Mamiya M645 1000S is a new improved model of the M645, a camera widely acclaimed for bridging the gap between small and large format cameras by introducing the medium format, the purpose of which is to offer the world of larger-negative quality to camera users who are accustomed to the handling ease and compactness of 35mm SLR's.

Every care has been taken to assure that your Mamiya M645 1000S 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.

CONTENTS

Special Features of the Mamiya M645 1000S	3	Using the Waist-Level Finder S	44
Specifications	5	The Mamiya Moving Coil Electronic Shutter	47
Names and Functions of Parts	7	Depth-of-Field	48
Testing to See if the Camera Functions Properly	16	Using Flash	49
Interchanging Lenses	17	Multiple-Exposures	50
Interchanging Finders	18	Infrared Photography	50
Focusing Screens	20	Mirror Lock-up	51
Inserting a Battery	21	Using the Delayed Shutter Release	52
Battery Check	22	Interchanging the Film Advance Crank	53
Film Loading	23	Tripod Socket	55
Film advancing	27	Time Exposures	55
Shutter Speed Dial	27		
Aperture Ring/Stop-down Operation	28	Trouble-Shooting	56
Focusing	29	Precautions	57
Shutter Release and Film Transport Mechanism	30	Care of the Camera	58
Unloading Film	31		
The Neck Strap	32	Mamiya-Sekor C Lenses	59
Holding the Camera	32	Depth-of-Field Table	62
Using the PD Prism Finder S	35	Accessories	63
Using the CdS Prism Finder	39		

Special Features of the Mamiya M645 1000S

The Mamiya M645 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.

● 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.

- **Mirror Lock-Up**

The Mamiya M645 is designed to have minimal mirror shock; nevertheless, when it is necessary to completely eliminate vibrations, all you have to do is lock the mirror in the up position. To do so, simply lower the mirror lock-up lever. Mirror lock-up provision makes close-up and telephoto photography possible even at slow shutter speeds.

- **Two Shutter Release Buttons**

The Mamiya M645 is equipped with two ideally located shutter release buttons, so that regardless of how you hold the camera, there is always a release button at your finger tips.

- **Built-in Delayed Shutter Release**

- **Depth-of-Field Preview Lever**

A single touch on the Depth-of-Field Preview Lever, which is ideally located on the camera body, stops the lens down to the preselected aperture for direct viewing of the depth-of-field.

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

Actual Negative Size:

56 × 41.5mm (2-13/64" × 1-41/64")

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, 8—1/1000 sec.

Moving Coil Electronic Focal-Plane Shutter,

FP and X (1/60 sec.) synchronization,

Shutter release lock and shutter speed dial lock
provision

Battery Type:

One 6V silver-oxide battery 4SR44

(Eveready 544, UCAR 544, Mallory PX28)

or 6V alkaline battery 4LR44

Focusing Method:

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

Focusing Screen:

The standard focusing screen, which is interchangeable, has three focusing aids, a central split-image rangefinder spot (wedge set at a 45° angle) surrounded by a micro-prism collar and outer ground glass ring. A Fresnel lens assures corner-to-corner brightness, and 94% of the picture-taking area is visible.

Mirror:

Instant return, with mirror lock-up provision

Film Transport:

A single revolution of the interchangeable film advance crank transports the film. The camera is equipped with double exposure prevention, but multiple exposure can be easily made.

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.

Delayed Shutter Release:

Variable time delay of 5—10 seconds.

Depth-of-Field Preview Lever:

Spring-loaded, self-returning.

● 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.

PD Prism Finder:

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 — +19 (f/1.9, 8 sec. — f/22, 1/1000 sec.); with f/2.8 lens, EV 0 — 19 (f/2.8, 8 sec. — f/22, 1/1000 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 SR44 or alkaline battery LR44; with 100 ASA and f/1.9 lens, meter coupling range of EV 2.85 — 17 (f/1.9, 1/2 sec. — f/11, 1/1000 sec.); with f/2.8 lens, EV 4 — 18 (f/2.8, 1/2 sec. — f/16, 1/1000 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)
3-29/32" × 3-15/16" × 6-9/16" (99.3 × 100 × 166.5mm)	55.4 oz (1570 g)	49.6 oz (1405 g)
(w/Prism Finder)		
3-29/32" × 4-27/32" × 6-9/16" (99.3 × 122.7 × 166.5mm)	62.3 oz (1765 g)	56.4 oz (1600 g)
(w/PD Prism Finder S)		
3-29/32" × 4-29/32" × 6-9/16" (99.3 × 124.7 × 166.5mm)	66.5 oz (1885 g)	60.7 oz (1720 g)
(w/CdS Prism Finder)		
3-29/32" × 4-29/32" × 6-9/16" (99.3 × 124.7 × 166.5mm)	67.2 oz (1905 g)	61.4 oz (1740 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.

Depth-of-Field Preview Lever

A slight upward push on the lever stops lens down to preselected aperture, spring-loaded for self-return.

Shutter release button (front)

When pushing in on this button, the upper shutter release button is coupled to move in unison. Equipped with cable release socket.

Shutter release lock ring

Turn lock ring and align with red dot to simultaneously lock both shutter release buttons. 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 terminals

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

Neck strap lug

Shutter speed alignment mark

Shutter speed dial

Push in on safety lock built into the center of the shutter speed dial while rotating dial to desired speed. Do not set dial to the \odot position unless using the PD or AE Prism Finder.

Lens release button

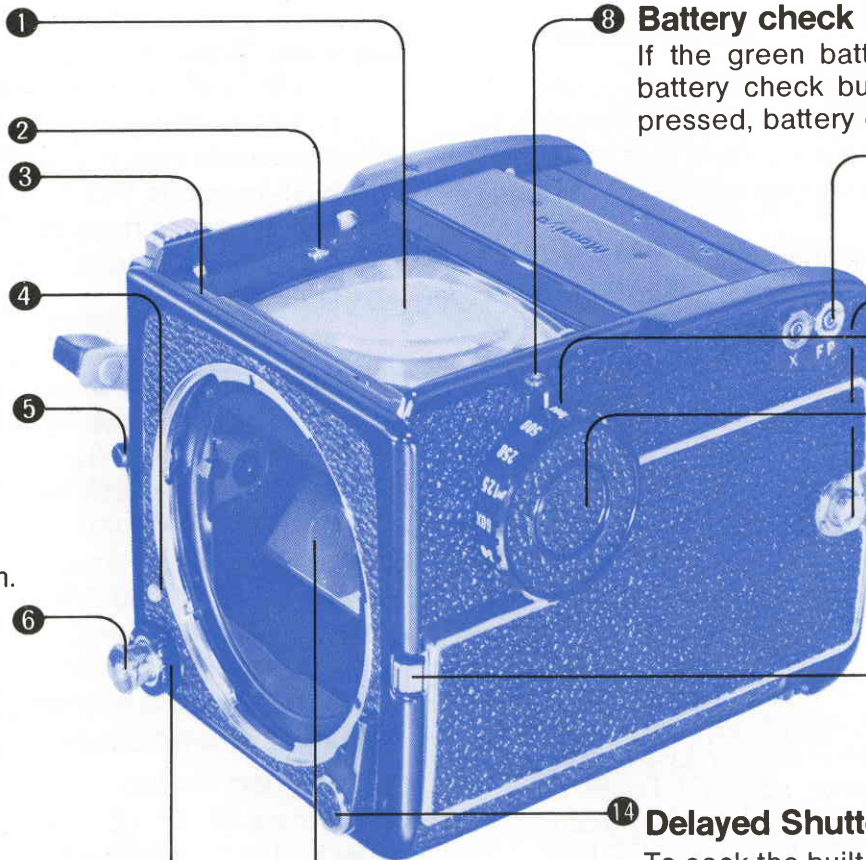
Push in and simultaneously turn the lens counterclockwise to remove.

Delayed Shutter Release Lever

To cock the built-in delayed shutter release, turn the lever clockwise. Upon removing your finger from the lever it will return to its former position, leaving the activating lever exposed. Push the activating lever in the direction of the engraved arrow to start the delayed shutter release.

Mirror

Never touch the surface of the mirror.



Film plane mark

Indicates the position of the film plane.

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

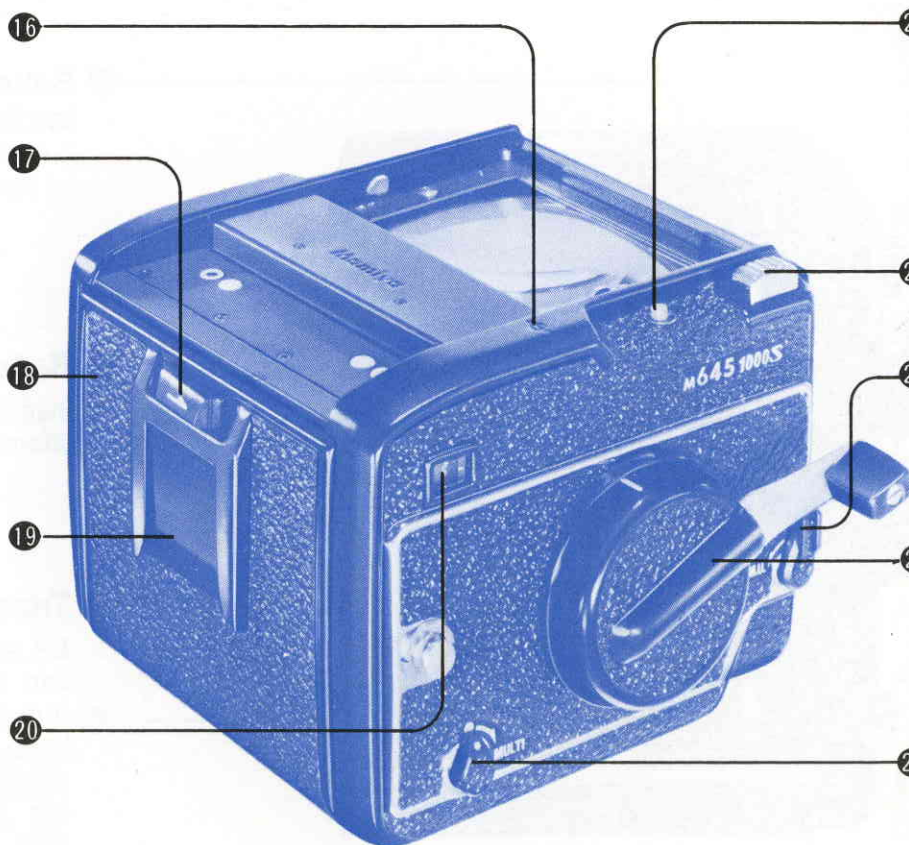
When closing, apply pressure firmly and evenly in the area of the back cover latch.

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.



Battery check button

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

Shutter release button (upper)

Mirror lock-up lever

Push backward to lock mirror in the up position.

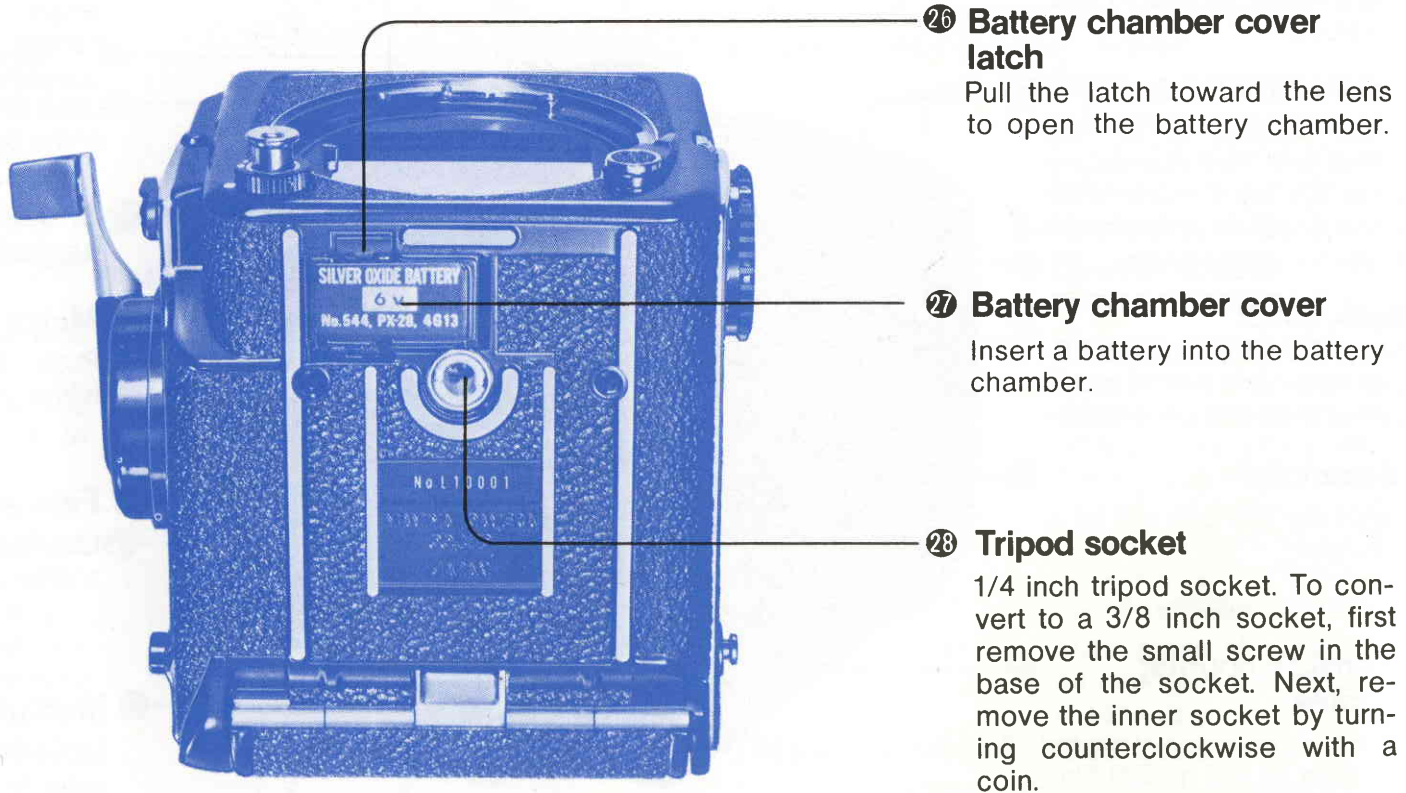
Film advance crank

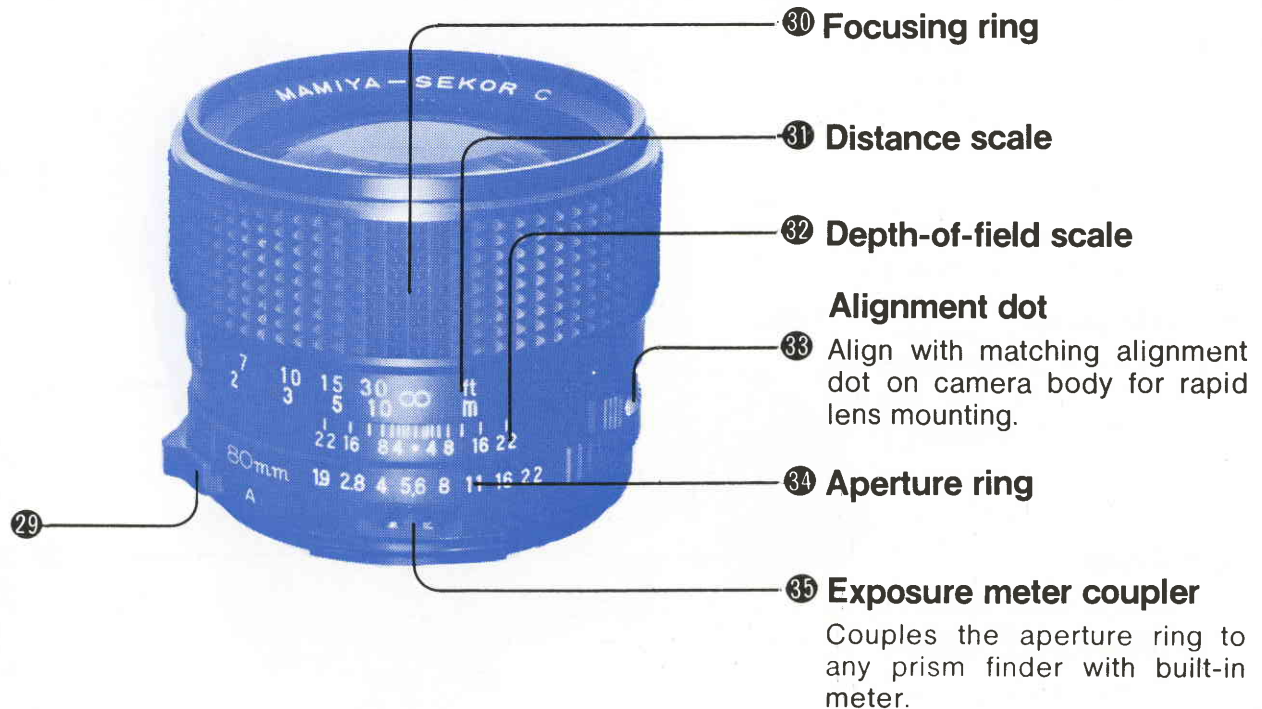
One complete turn cocks shutter and advances film.

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)





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

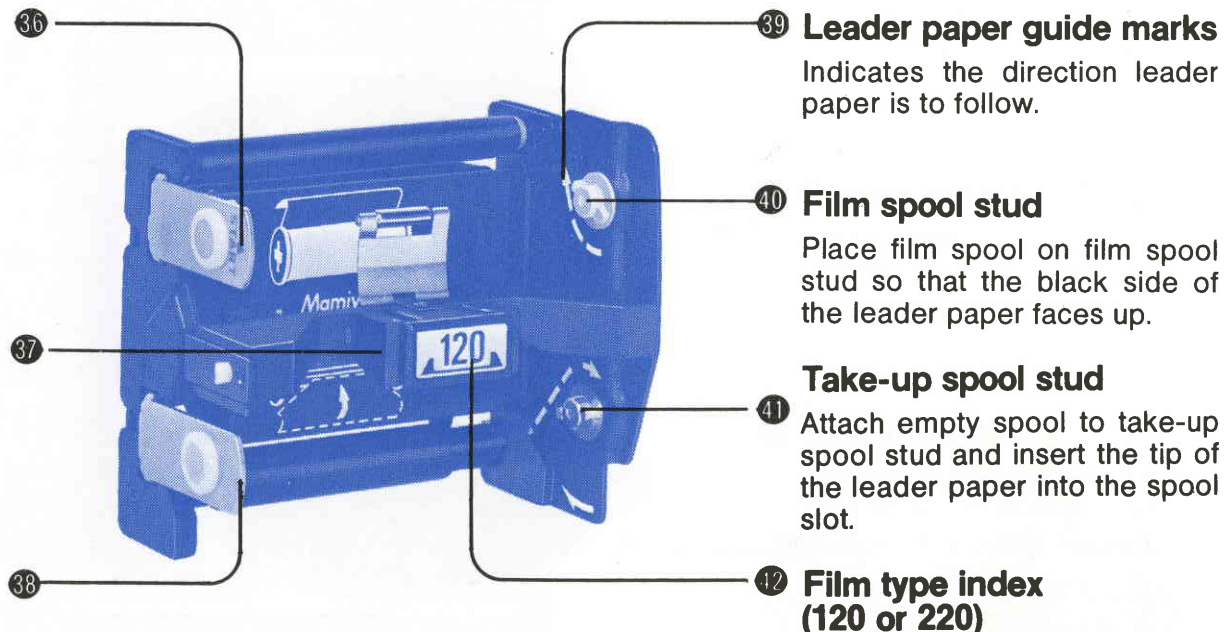
After aligning the start mark on the film's leader paper with this mark, the roll-film insert is ready for insertion into the camera.

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.



Leader paper guide marks

Indicates the direction leader paper is to follow.

Film spool stud

Place film spool on film spool stud so that the black side of the leader paper faces up.

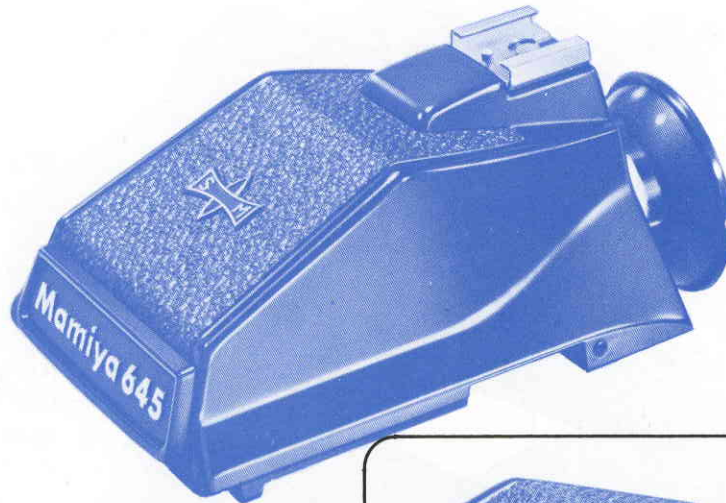
Take-up spool stud

Attach empty spool to take-up spool stud and insert the tip of the leader paper into the spool slot.

Film type index (120 or 220)

Insert roll-film insert into camera with the film type index upright. If the film type index is upside down, roll-film insert will not fit into the camera.

Prism Finder



Hot-shoe (with safety cover)
Automatically fires cordless flash units when the shutter release button is depressed.

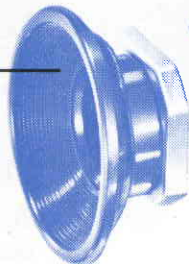
Eyepiece
Accessories such as eyecup, magnifier, and angle finder can be attached.

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

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.



Names and Functions of Parts (4)

PD Prism Finder S

(Detailed Instructions on pp. 35-38)

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.

CdS Prism Finder

(Detailed instructions on pp.39-43)

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.

Battery chamber cover

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

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.

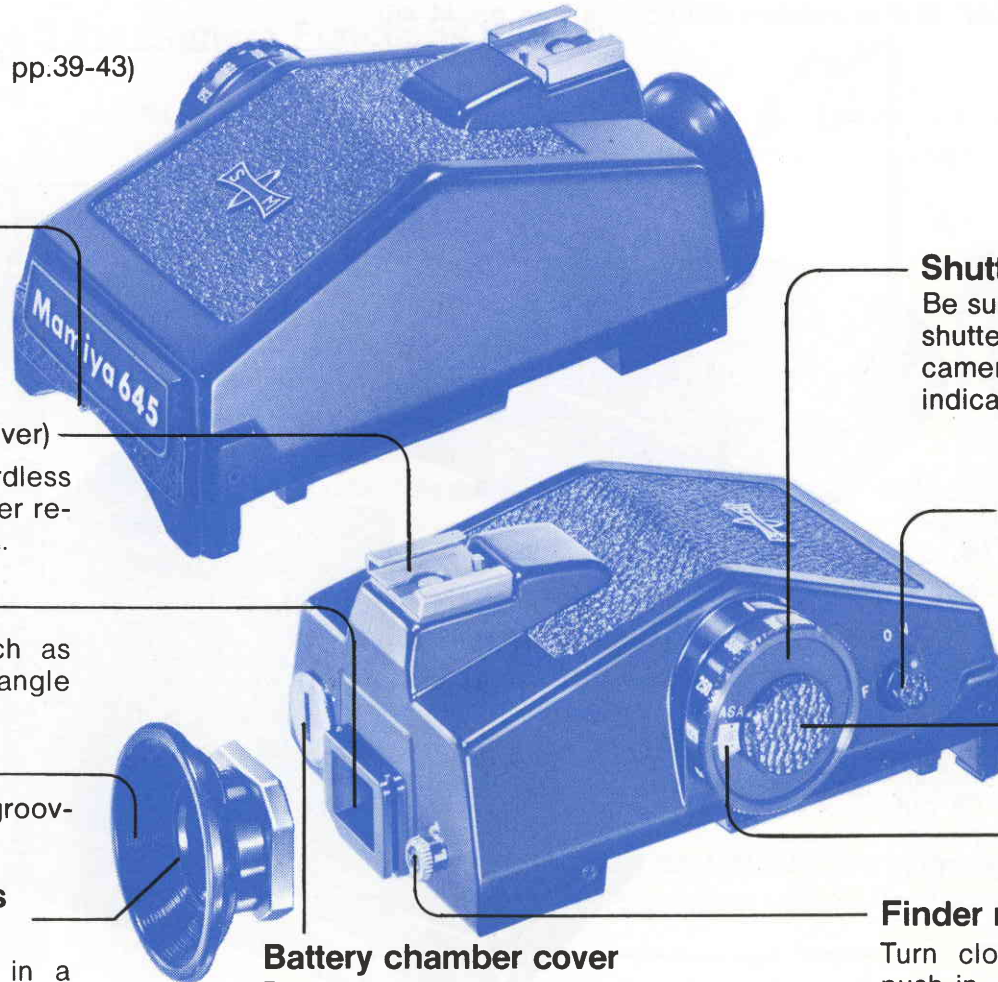
ASA dial

Pull out and then turn.

ASA window

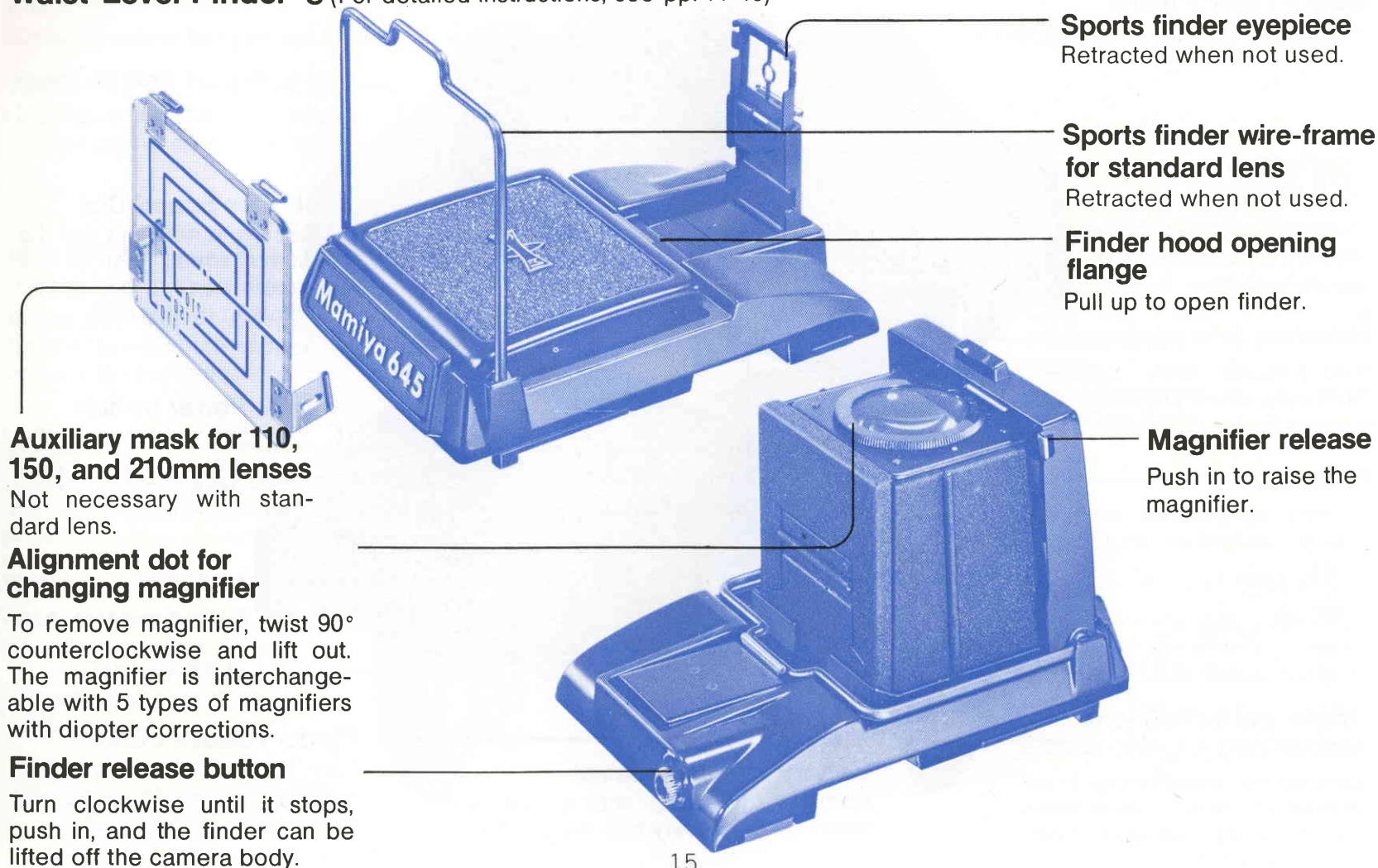
Finder release button

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

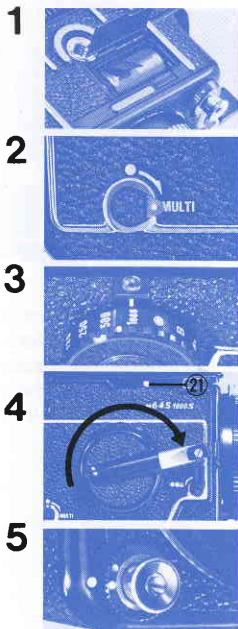


Names and Functions of Parts (5)


Waist-Level Finder S (For detailed instructions, see pp. 44-46)



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.21).
2. Set the multiple-exposure lever to "MULTI" (p.50).
(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.27).
4. Turn the film advance crank until it stops.
5. Align the shutter release lock ring with the white dot and release the shutter (p.30).

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.

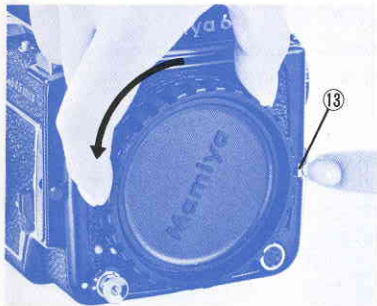
If the shutter is released without a battery in the camera, the mirror will lock in the up position. To return the mirror to its normal position, depress the battery check button (21) as far as it will go.

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 1/1000 sec.).

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

Interchanging Lenses

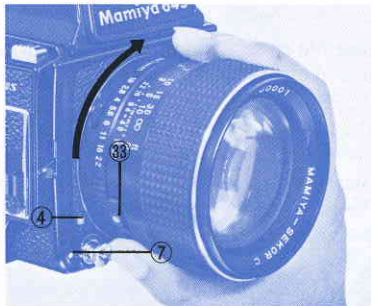
● Removing the body cap



While depressing the lens release button (13), turn body cap counterclockwise until the red dots are aligned and lift out.

The upper body cover can be removed by merely sliding backwards and lifting.

● Attaching Lenses



While aligning the two alignment dots (33 & 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 (13), grasp the part of the lens barrel that has the depth-of-field scale (32) and alignment dot (33), and twist the lens counterclockwise until it stops. Then lift out.

Interchanging Finders

★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 (7) in order to avoid accidentally releasing a cocked shutter when placing the camera body face down on a table.

All finders are interchanged in the same manner.

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.

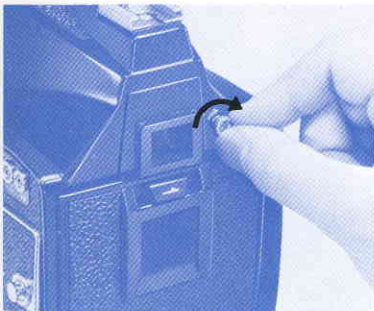


● Attaching Finders

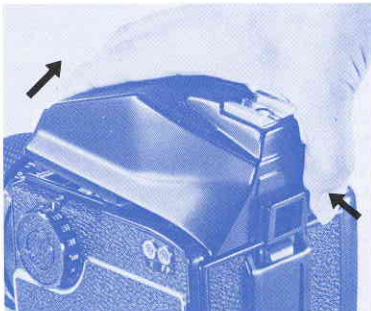


Place the rear part of the finder on the camera body while holding the front part of the finder slightly upward. Slide the rear part forward until it stops and gently lower the front part of the finder on to the camera body. It will then lock into place.

● 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:

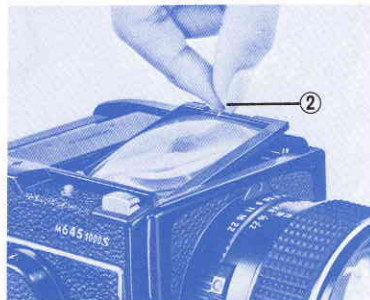
Do not leave both white dots aligned by turning the button while the finder is attached to the camera. The finder may become detached when the button is occasionally depressed, possibly causing damage.

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.

Focusing Screens

● Interchanging Focusing Screens

The focusing screens are readily interchangeable. Five different focusing screens are available to meet various photographic needs.



Remove the finder, grasp the focusing screen lug (2), pull up, and lift out. To replace screen, gently insert and lightly push it in on both sides until it stops.

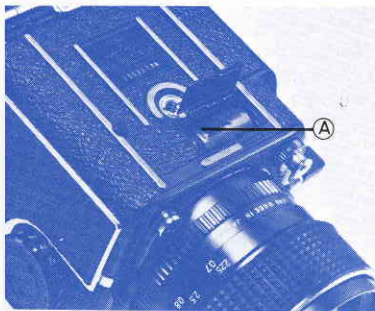
★ Since the rear surface of the screen is made of plastic, be careful not to scratch it when interchanging screens.

Inserting a Battery



The Mamiya M645 uses one 6V silver-oxide battery 4SR44 (Eveready No. 544, UCAR 544, Mallory PX28 or equivalent) or alkaline battery 4LR44.

1. Pull the battery chamber cover latch (26) slightly toward the lens and the chamber cover will open.



2. Next, insert the battery, exercising caution that the \pm poles match those shown on the diagram of the chamber. Battery removal will be simplified if the battery removal ribbon (A) passes under and over the battery.

CAUTION:

1. 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.

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

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

4. 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

This camera is designed for use with either silver oxide or alkaline batteries. Although both types offer adequate performance, silver oxide batteries last much longer.

IMPORTANT: When using the PD Prism Finder, make it a point to use silver oxide batteries when available (in this instance, battery life is shortened if alkaline batteries are used).

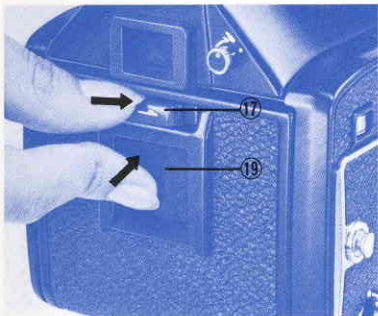


When the battery check button (21, located above the film advance knob) is depressed, the battery check lamp (8, located above the shutter speed dial) illuminates. If the battery check lamp fails to go on, it is time to replace the battery.

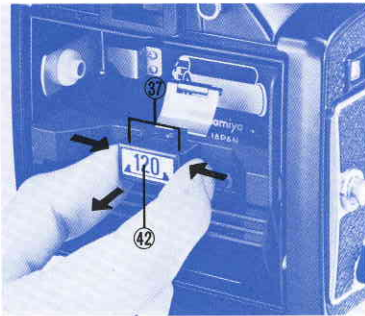
★ When the battery is completely exhausted, the opened shutter will not close. At this time, **if the battery check button is pushed all the way down as far as it will go, the shutter will then close.**

Film Loading

● Loading the Film



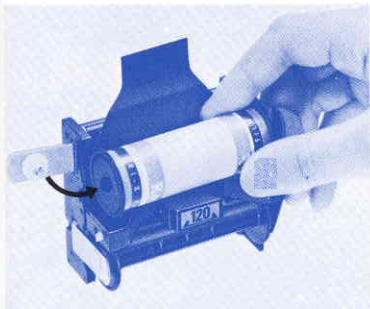
1. While gently pushing in on the memo clip (19), move the back cover latch (17) in the direction of the arrow and the camera back cover will open.



2. While squeezing in on both sides of the release latch (37), pull the roll-film insert out of the camera body. Place the film insert on a table making sure that the film type index (42) is not upside down. Then pull out and lower the spool clips found on the left-hand side.

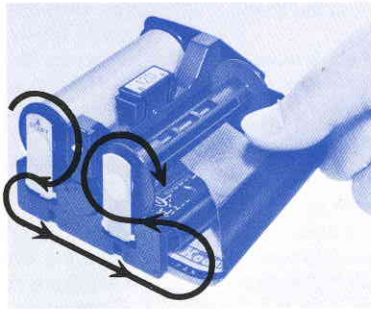


3. Align the right-hand side of an empty spool with the lower spool stud (41). Then return the spool clip (38) to its former position, making sure that the left-hand side of the spool is properly held by the spool clip.



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

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

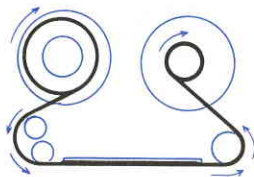


6. Gently pull out some of the leader paper, pulling it over and around the pressure plate. Then insert the tip of the leader paper into the slot of the take-up spool.



7. 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 (36).

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



★ 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 crank, 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.

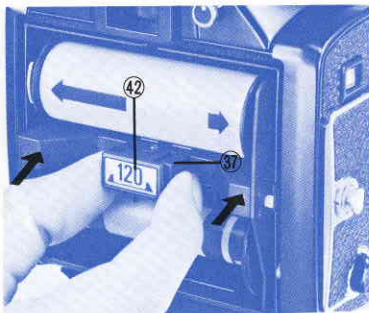
2. After 7 exposures have been taken, set the shutter speed dial to 1/500 sec., wind the film advance knob and release the shutter 4 more times (the exposure counter will indicate "11").

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.

● Insertion of the Film Insert



1. Grasp both sides of the release latch (37) of the film insert, making sure that the film type index (42) 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 crank slightly while pushing in on the right side of the film insert.)

3. After insertion has been completed, securely close the camera back cover.

★ If the film advance crank 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 crank moves too much, the first frame will be fogged.

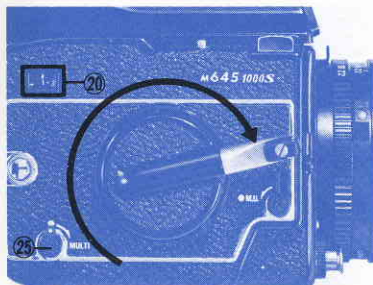
● Memo Clip



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.

Film Advancing



1. After the film has been placed into the camera make sure that the multiple-exposure lever (25) is aligned with the white dot and not with the word "MULTI".

2. Wind the film advance crank until it stops and the number 1 will appear in the exposure counter window (20). The shutter is now cocked and the camera is ready for the first exposure.

Shutter Speed Dial



1. Align the shutter speed of your choice with the white alignment index by rotating the shutter speed dial (12) in either direction while pushing in the safety lock button located in the center of the dial.

2. Color Coding

(a) Green figures represent full seconds, all other figures represent the denominator of a fraction. (Thus, 30 equals $1/30$ sec.).

(b) Orange represents caution. The shutter speeds appearing in orange are not suitable for hand-held shooting. Use a tripod.

★ While gently pushing in on the safety lock button, the shutter speed dial can be set to any click-stop and then locked into place by releasing the lock button; however, the shutter speed dial can not be used at intermediate speed positions.



Set the desired f/stop on the aperture ring (34) 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.)

★ When desiring to use the depth-of-field preview lever with the 70mm f/2.8 lens (w/built-in between-the-lens shutter), first set the shutter speed ring of the lens to F (Focal plane shutter) index mark.

Focusing



1. While looking through the viewfinder, adjust the focusing ring (30) until the most important part of the subject appears sharp.

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.

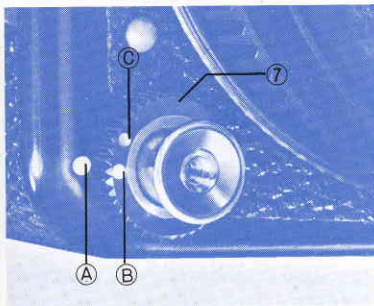
Since the Mamiya M645 is an SLR, the photographer always sees in the viewfinder exactly what will appear on the film, regardless of the lens or accessory being used.

Moreover, simply moving the depth-of-field preview lever upward will allow one to preview the depth-of-field and appearance of out-of-focus images.

★ 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.

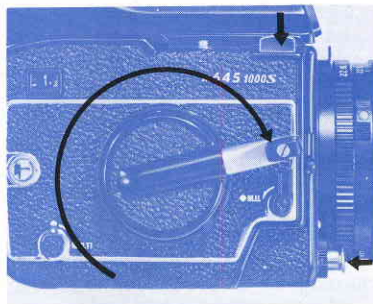
Shutter Release and Film Transport Mechanism

● Shutter Release Lock Ring



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 simultaneously lock both shutter release buttons.



1. When releasing the shutter, you may use either the front or upper shutter release button.
2. After releasing the shutter, the film advance crank 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 crank 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 PD Prism Finder is not attached to the camera body and the shutter is released with the shutter speed dial set to the ⊙ position, the mirror will lock in the raised position and the shutter will remain open. (Moving the shutter speed dial to B or 1/1000 sec. will lower the mirror and close the shutter.)

★ Use of the multiple-exposure lever is explained on page 50.

★ The front shutter release button is threaded to accept cable releases.

★ Do not strongly depress the upper shutter release button while simultaneously advancing the film. If this is done, the film advance automatic stop mechanism will be disengaged, and the film will advance even during the operation of the shutter. Moreover, the

Unloading Film

mirror may lock in the up position, which results in rapid depletion of the battery. Should the mirror lock in the raised position for the above reason, first continue to rotate the film advance crank until it stops (after the fixed number of exposures (15 or 30) have been taken, the film advance crank should be rotated more than one full turn), then lower and raise the mirror lock-up lever, and the mirror will return to its normal position, simultaneously terminating needless electrical consumption.

(The only time it is necessary to strongly depress the upper shutter release button is in the event that the mirror locks in the raised position upon releasing the shutter when working at extremely low temperatures. At such a time, if the film is advanced after first strongly depressing the release button, then lower and raise the mirror lock-up lever, the mirror will lower and the camera will be ready for the next exposure.)

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 crank 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 crank.)

2. Open the back cover, remove the roll-film insert and the exposure counter will reset to S (Start). **The exposure counter will not reset to S if the insert is not removed.**

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

The Neck Strap

Methods of holding the camera securely

● 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.

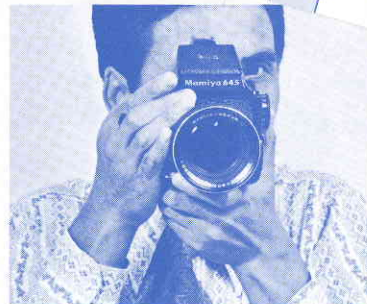
● Removing from Camera



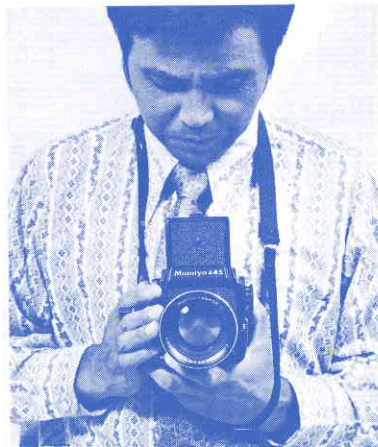
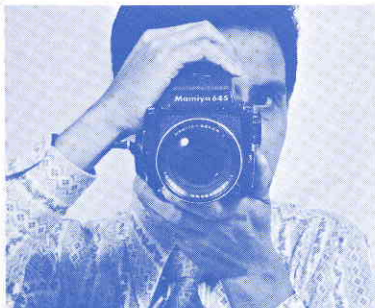
While pushing in on the rear blade of the neck strap fastener with your thumb, slide it forward and remove.

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 Operati

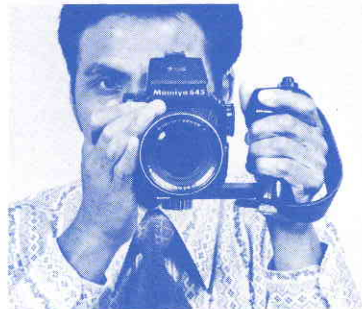


● Waist-Level Operation



● Hand Grips

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.



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

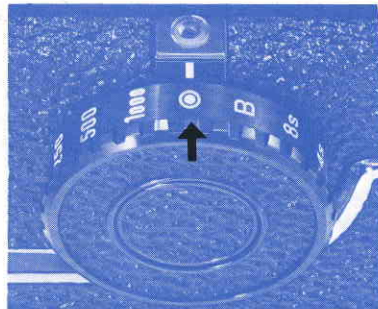
Viewfinder: 0.74 magnification with standard lens at infinity, built-on hot-shoe, comes with eyecup.

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 — +19
(f/1.9, 8 sec. — f/22, 1/1000 sec.)
(with f/2.8 lens and 100 ASA film)
EV 0 — 19
(f/2.8, 8 sec. — f/22, 1/1000 sec.)

Shutter Speed Range: 1/1000 — 8 sec.

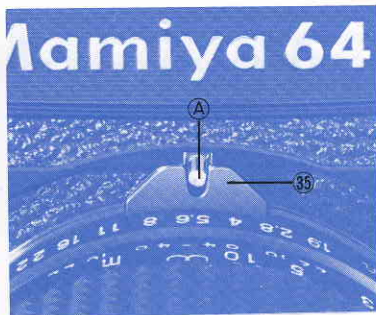
ASA Range: 25 — 6400
(aperture coupling in the entire range)



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 1/1,000 sec. .

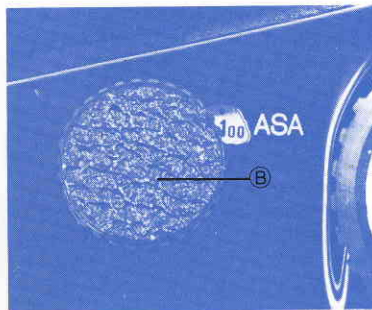
If the shutter speed dial is set to a position other than ⊙, the PD Finder and camera body will not be electrically connected. Consequently, the viewfinder LED's will not illuminate.



2. Attach the PD Prism Finder to the camera body.

3. Turn the aperture ring of the lens so that the exposure meter coupler (35) of the lens and the aperture ring coupling pin (A) of the PD Finder engage.

★ **Be sure to check for proper coupling.** If the aperture ring coupling pin (A) is not properly seated in the fork of the exposure meter coupler (35), use a pen (or similar device) to push the aperture ring coupling pin into its proper position into the fork.



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

★ **Always set the AM Lever on the lens to "A", otherwise correct metered exposure cannot be obtained. For the same reason, do not touch the Depth-of-Field Preview Lever when making an exposure measurement.**

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)