Mamiya ZE-2 Quartz

AKA - REVUE AM QUARTZ

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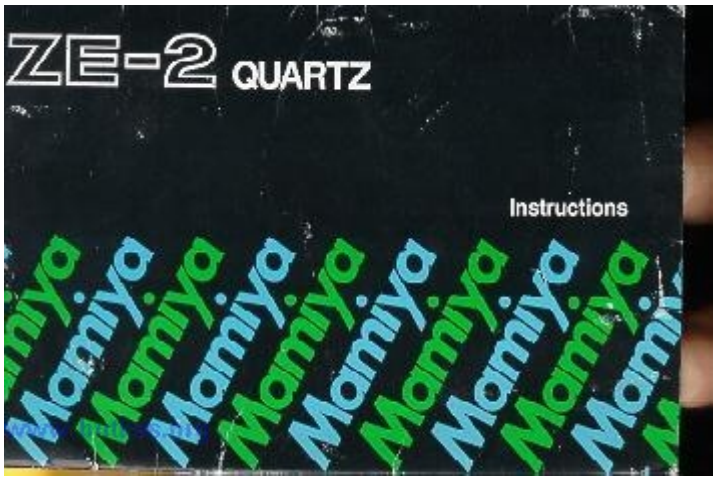
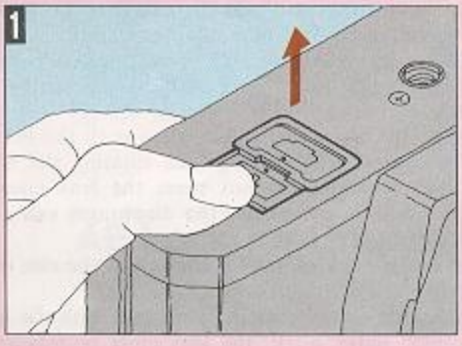
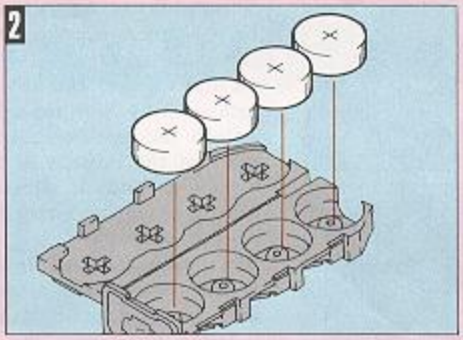
MAMIYA ZE LENSES



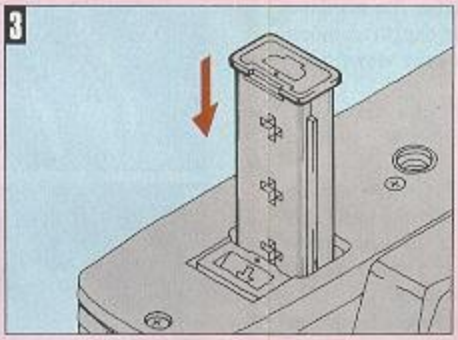
The First Step is Loading the Batteries



1. Pull the battery cartridge release in the direction of the arrow. The cartridge will pop up for easy removal.

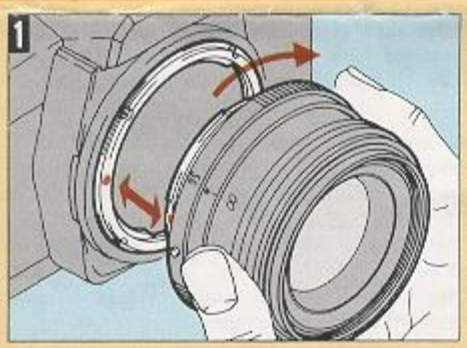


2. Load the four batteries that come with the camera, making sure that plus (+) terminals are facing up.

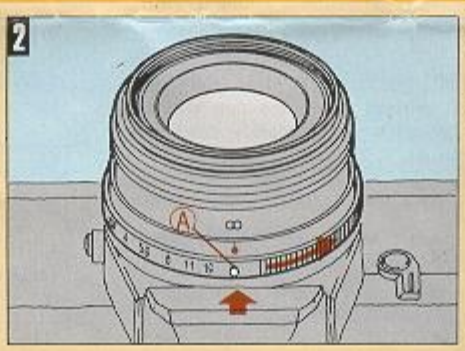


3. Insert the cartridge as shown in the illustration. If inverted, the cartridge will not enter. Then press down until the cartridge locks into place.

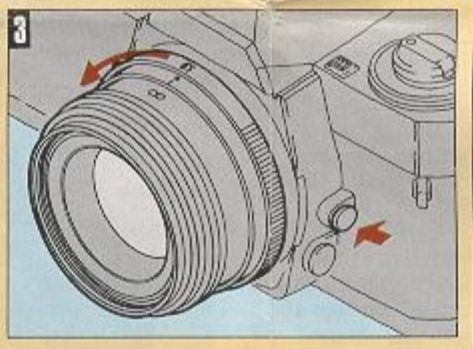
Next Mount the Lens



Match the red dots on the lens and camera body, then rotate the lens in the direction of the arrow until it clicks into position.

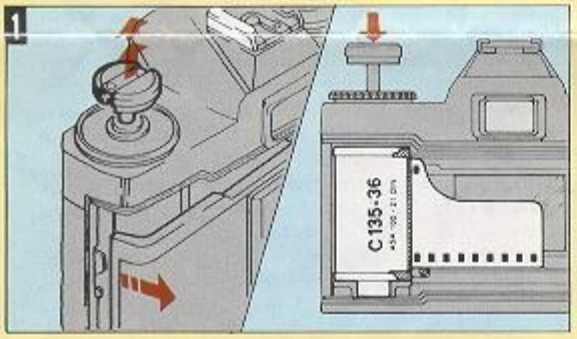


If the white button (A) is set at the central index mark, the aperture ring cannot be turned. In this case, rotate the aperture ring away from the index mark while depressing the white button.



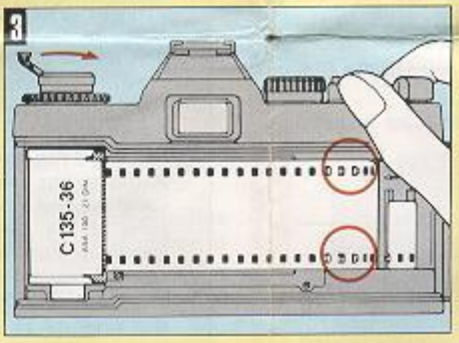
Removing the lens
Press the lens release button and rotate the lens to the left until it stops.

Now Carefully and Surely Load a Roll of Film

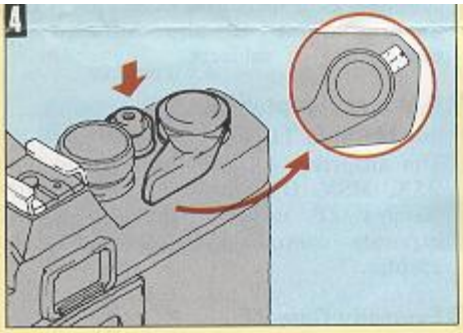


1. Open the back cover of the camera by pulling up on the rewind knob. (Avoid direct sunlight when loading or unloading film. Stand in the shade or cast a shadow with your own body.)
Load a film cartridge into the film chamber of the camera and return the rewind knob to its original position to hold the film in place.

2. Insert the end of the film into the slot of the film take-up spool.

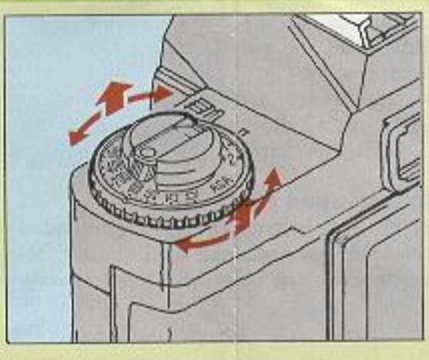


3. First advance the film by operating the film advance lever; then rotate the rewind knob in the direction of the arrow to take the slack out of the film. It is important to make sure that the both the upper and lower teeth of the sprocket are engaged in the perforations of the film.



4. Close the back cover of the camera and advance the film by alternately operating the film advance lever and releasing the shutter until the numeral "1" appears in the exposure counter. While performing this operation, make sure that the film is advancing properly by checking if the rewind knob rotates when the film advance lever is operated.

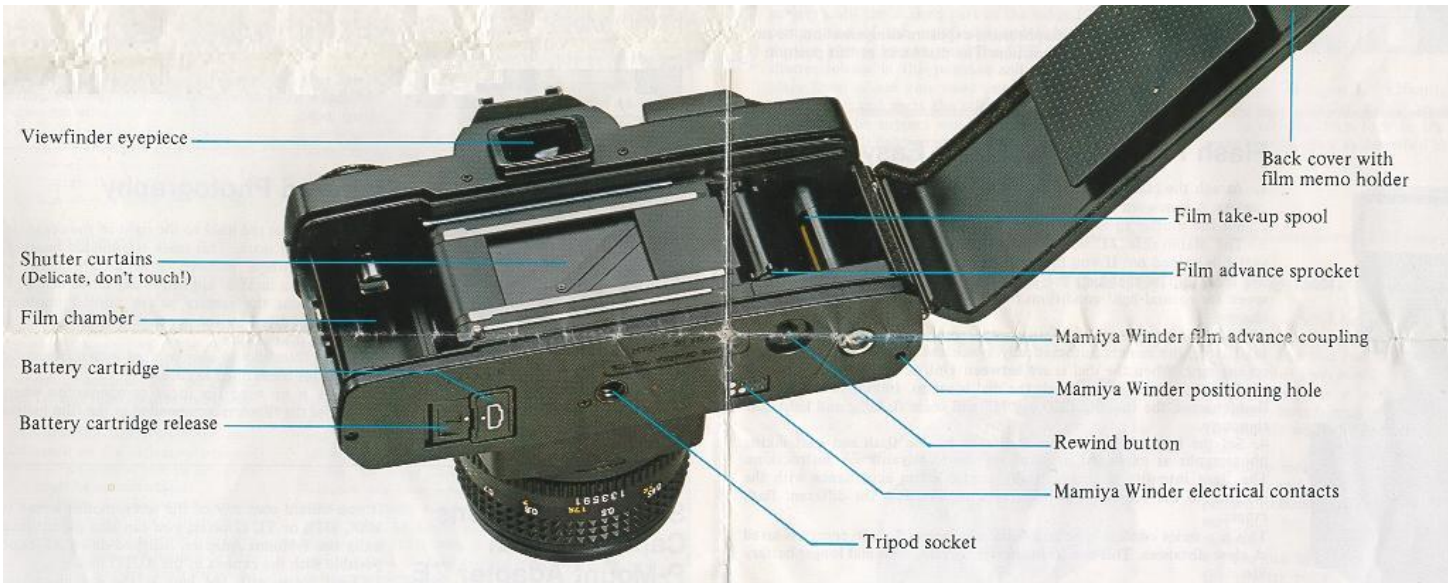
Don't Forget to Set the Film Speed



Set the film speed of the film being used by lifting up the outer rim of the film speed dial and rotating until the index indicates the correct ASA value on the film speed scale. (Film speed is noted on the film cartridge or film box.) It is convenient to remove the end of the film box and insert it into the memo holder on the back of the camera.
Intermediate film speeds can be set as follows when necessary.

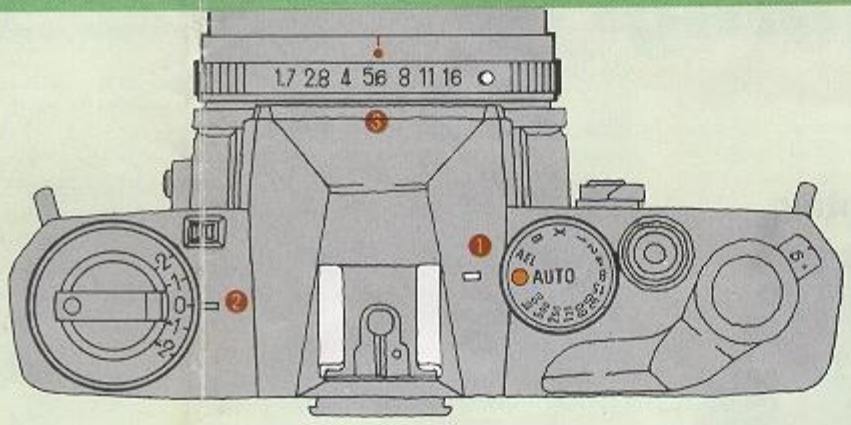
ASA	25	·	·	50	·	·	100	·	·	200	·	·	400	·	·	800	·	·	1600	·	·	3200		
		32	40		64	80		125	160		250	320		500	640		1000	1250		2000	2500		
DIN	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	


Automatic aperture coupling lever
Alignment index for mounting
White button
Aperture ring
Depth-of-field scale
Distance scale
Focusing ring


Viewfinder eyepiece
Shutter curtains
(Delicate, don't touch!)
Film chamber
Battery cartridge
Battery cartridge release
Back cover with film memo holder
Film take-up spool
Film advance sprocket
Mamiya Winder film advance coupling
Mamiya Winder positioning hole
Rewind button
Mamiya Winder electrical contacts
Tripod socket

What You See in the Viewfinder

Leave the Exposure to the Mamiya ZE...
But, Just to Make Sure...



Recommended Apertures for Getting Started
(with ASA 100 film)


f/16–11

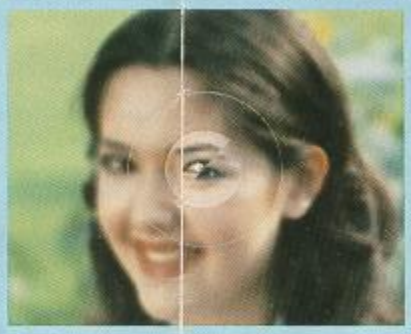

f/11–8


f/5.6–4

1. Set the shutter speed dial to AUTO for AE (automatic exposure) operation.
2. Set the exposure compensation dial to the "0" mark. (How to use exposure compensation is explained later.)
3. Set the aperture after selecting in accordance with the light conditions as shown in the above illustration.

• Do not set the white button on the aperture ring at the central index mark; otherwise, correct exposure cannot be obtained.

Focusing is All Up to You



Before taking a photograph, the subject must be brought into sharp focus by rotating the focusing ring. Correct focus can be checked by any of the following conditions:

(1) When lines in the central split-image rangefinder appears straight.
(2) When the part of the image in the microprism ring appears sharply defined.
(3) When the part of the image in the matte field is clear and sharp.

Manual Exposure

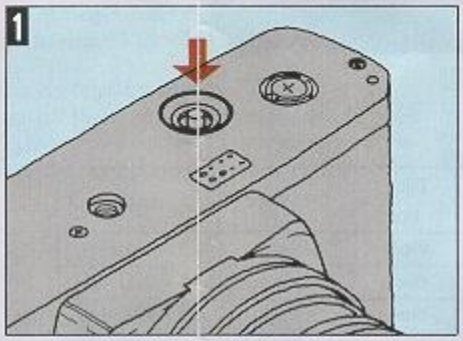
Manual shutter speeds for the ZE-2 work independently of the metering system, allowing for maximum creativity in exposure control. During manual operation, set the shutter speed and lens aperture to accord with your specific exposure requirements. In the manual exposure mode, the metering system of the camera will be switched off and the "M" LED inside the viewfinder will flash while manual shutter speeds are being employed.

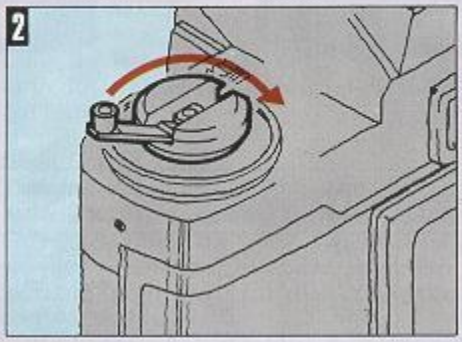
A Steady Hold Means Sharper Photographs

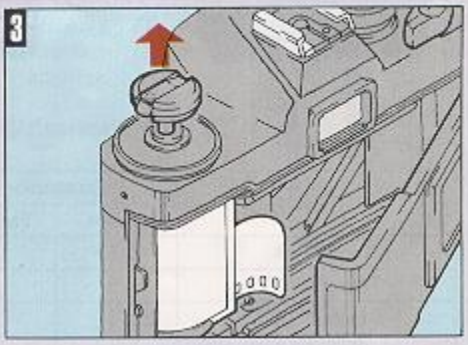
Press the elbow firmly against the side of your body for a steadier hold, whether using the camera horizontally or vertically. It is also recommended that you press the camera against your forehead for extra steadiness.

Most blurred photographs are due to camera shake caused by not holding the camera steady. Improve the sharpness of your pictures by holding your camera steady. Depress the release button gently with a squeezing motion, without jerking.

When a Roll Finishes... Just Rewind





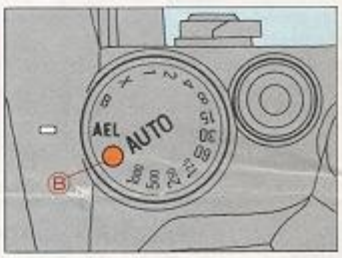


WHEN THE LAST EXPOSURE HAS BEEN MADE, THE FILM MUST BE REWOUND BACK INTO THE CARTRIDGE BEFORE REMOVING IT FROM THE CAMERA. NEVER OPEN THE CAMERA BACK UNTIL THIS HAS BEEN DONE.

1. Press in the rewind button.
2. Fold the crank out from the rewind knob and rotate in the direction of the arrow.

3. When the rewind knob starts to turn lightly, pull up on the rewind knob to open the camera back and remove the film.

AE Lock for Unusual Lighting



The Mamiya ZE is equipped with a special device for obtaining correct exposure not only with backlighting, but any other difficult lighting situation as well. And this device is called the AE Lock.
Just press the shutter speed dial lock button (B) and rotate the dial to the "AEL" (AE Lock) position.
When the shutter release button is lightly pressed the camera locks in, or memorizes, the exposure reading until the finger is removed from the release button.
To use the AE Lock function, move close to the subject until the desired part of the subject covers the center area of the viewfinder and lightly press the shutter release button until the LED lights. Hold the shutter release in this position and move back to the place from where you want to photograph, compose the picture and press the release button to make the exposure. The subject will be correctly exposed even under difficult light conditions.
If it is not possible to move close to the subject, determine the exposure using the palm of the hand at

a distance of about 12" (30cm), or point the camera so that sky or other bright areas are not included in the viewfinder; then lock in the exposure value and make the exposure as described above.

Include Yourself with the Self-Timer

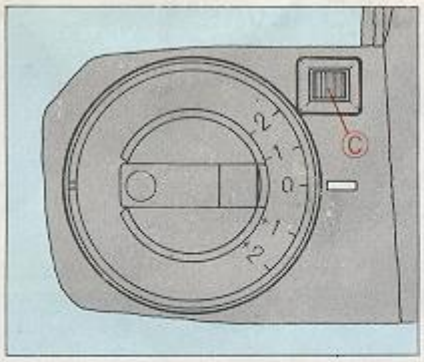
1. Move the self-timer lever counterclockwise until it stops. The film must be advanced before making the exposure, but this can be done either before or after the self-timer lever is set.
2. The self-timer is activated by pushing back the self-timer lever slightly toward its original position. The shutter will be released approximately 10 seconds later.

- Before making an exposure, remove the hot-shoe cover (D) and place it over the viewfinder eyepiece to prevent extraneous light entering the finder. Exposure may not be correct unless the finder eyepiece is covered.
- You can bypass the self-timer merely by pressing the shutter release button even after the self-timer lever has been set.

Mamiya-Sekor E Lenses

Lens	Construction		Angle of view	Mini. aperture	Mini. focusing distance	Filter size	Lens hood	Weight
	Groups	Elements						
28mm f/2.8	7	8	74°	22	1ft. or 0.3m	49mm	Screw-in	5.8oz. (165g)
28mm f/3.5	5	5	74°	22	1ft. or 0.3m	49mm	Screw-in	4.9oz. (140g)
35mm f/2.8	6	6	63°	22	1.5ft. or 0.4m	49mm	Screw-in	5.1oz. (145g)
50mm f/1.7	5	6	47°	16	1.5ft. or 0.45m	49mm	Screw-in	5.3oz. (150g)
50mm f/2	4	6	47°	16	1.5ft. or 0.45m	49mm	Screw-in	5.1oz. (145g)
Macro 50mm f/3.5	4	5	47°	22	0.75ft. or 0.22m	49mm	Screw-in	7.1oz. (200g)
135mm f/2.8	4	5	18°	22	5ft. or 1.5m	52mm	Built-in	10.9oz. (310g)
135mm f/3.5	4	4	18°	22	5ft. or 1.5m	49mm	Built-in	10.1oz. (285g)
200mm f/4	5	5	12°	32	7ft. or 2m	52mm	Built-in	14.3oz. (405g)
Zoom 28–50mm f/3.5–4.5	8	9	74°–47°	22	2ft. or 0.6m	55mm	Screw-in	10.2oz. (290g)
Zoom 70–150mm f/3.8	9	12	34°–17°	32	3.5ft. or 1m	52mm	Built-in	17.5oz. (495g)
Zoom 80–200mm f/3.8	10	14	30°–12°	32	4ft. or 1.3m	58mm	Screw-in	26.5oz. (750g)

Exposure Compensation for High- and Low-Key Effects



High- and low-key shots are also possible with the Mamiya ZE. High-key shots have a bright, ethereal appearance while low-key shots are dark and powerfully dramatic.

Excellent high-key effects can be obtained by overexposing one or two steps. Low-key is possible with underexposure of one step, or made more pronounced by two steps.

The exposure compensation dial lock (C) must be pressed to turn the exposure compensation dial in either direction from the "0" position. Click stops are provided for each step but intermediate settings are also possible.

For high-key effects, the background should have flat, bright lighting 2 to 4 times brighter (1 to 2 steps) than the subject. For low-key, only the highlights should be 2 to 4 times brighter than the rest of the subject for best results.

After finishing taking photographs using exposure compensation, be sure to return the dial to the "0" position. The dial locks at this position to prevent errors.

Flash Photography Made Easy

1. Attach the Mamiyalite ZE auto electronic flash to the hot-shoe of the camera. A sync-cord is not required.
2. Set the shutter speed dial to the "AUTO" or "AEL" position.
3. The Mamiyalite ZE will be fully charged a few seconds after the switch is turned on. If you lightly press the shutter release button while the flash unit is charging, the LED dispaly will shift from the shutter speed for natural light conditions to 1/60 sec. as soon as the flash is fully charged.

When the shutter speed dial is at a manual speed between 1/1000 sec. and 1/125 sec., the camera automatically synchronizes for flash at 1/60 sec. on charging. When the dial is set between 1/60 sec. and 1 sec. flash will be obtained at the speed which the dial is set to. In addition, when the flash charges, the flashing LED at "M" will cease flashing and light continuously.

4. Set the lens to the aperture indicated by the flash and start taking photographs as explained in detail on the Mamiyalite ZE instructions. The flash intensity is automatically controlled in accordance with the distance to the subject. Two apertures are available for different flash ranges.

This is a series control type automatic electronic flash so energy is saved at close distances. This results in shorter recycle times and longer battery life.

- When using flash units other than the Mamiyalite ZE, set the shutter mode selector to the "X" position. The shutter speed will be 1/90 sec. in this case.
- When using flash units that cannot be mounted on the hot-shoe, connect the sync-cord to the sync-cord terminal of the camera.

Accessories

Filters

Mamiya filters are made of high-quality optical glass to maintain the high performance of the camera lens. They are available in the following five types : SY48 (Y2), SO56 (02), SL39 (UV), YG, and SL-1B (skylight).

Lens Hoods ZE

Mamiya lens hoods are an important accessory for getting the best possible performance from the camera lens because they minimize the entry of stray light which can cause internal reflection and lead to flare or ghost images.

Always use the lens hood designed for the specific focal length of the lens being used.

Diopter Correction Lenses ZE

Far- and near-sighted people sometimes find it difficult to focus a camera due to the optical characteristics of the viewfinder system. This situation, however, can easily be remedied by using a diopter correction lens and adapter.

These diopter correction lenses are available in six different strengths: +3, +2, +1, −1, −2 and −3.

Before purchasing a diopter correction lens at your Mamiya dealer, be sure to actually try various strength diopter lenses and select the one that suits your eyesight.

Effortless Film Advance with Mamiya Winder ZE

Mounting the Mamiya Winder ZE on the camera eliminates the need to advance film manually. Photographic opportunities can be captured more easily because there is no need to take the eye away from the viewfinder for film advance.

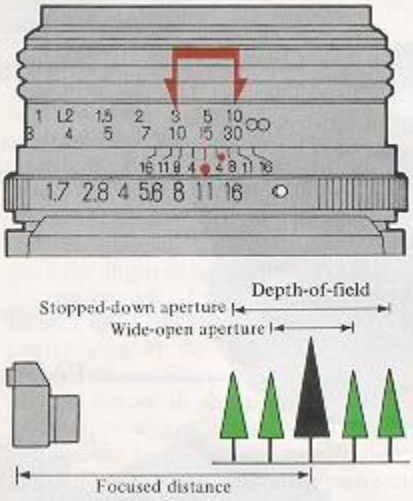
Continuous sequence photography is possible at the rate of approximately 2 frames per second by merely holding down the shutter release button.

When the camera is used with the Mamiya Winder ZE while set at "AUTO", each frame will be correctly exposed even if light conditions change. AE Lock operation is also possible. In this case, however, any single sequence of photographs will all be exposed at the value determined by the camera for the first frame. Use only as required.

Single frame photography is easy by simply removing the finger from the shutter release after each shot.

B (bulb) for Long Exposures

Set the shutter speed dial at the "B" (bulb) for exposures longer than 1 second. At this position the shutter will remain open as long as the shutter release button is held down. The use of a cable release and tripod is recommended to prevent camera shake. The camera operates at the "B" position even if the batteries are dead.



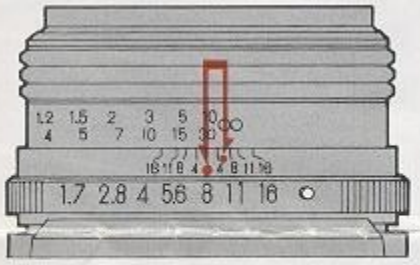
Controlling Depth-of-Field

When the camera is focused on a subject, a certain distance in front and back of the subject is also in relatively sharp focus. This is called the depth-of-field and increases as the lens aperture is stopped down while it decreases as the lens is opened up to larger apertures.

To render a background in sharp focus, or to allow snap-shooting without the bother of pinpoint focusing, the lens can be stopped down to increase the depth-of-focus. Opening up the lens aperture appropriately enables a subject to be rendered in sharp detail against a purposely blurred background or foreground.

The depth-of-field range can be determined using the depth-of-field scale of the camera lens. Once the desired aperture is selected, the corresponding figures on both sides of the center index mark indicate the depth-of-field for that aperture on the distance scale.

For example, if the camera is focused at 15ft (5m) at an aperture of f/11, the range from approximately 10ft (3m) to 30ft (10m) will also be in sharp focus.

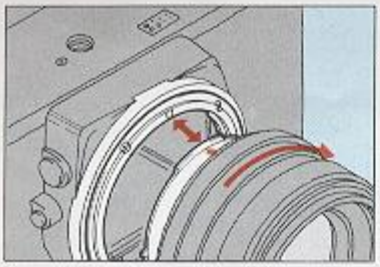


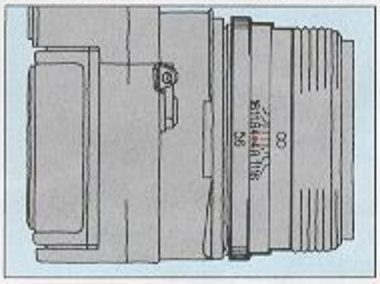
Infrared Photography

The red dot (or red line) to the right of the center index mark of the lens is the infrared mark. This mark is provided because focusing when using black and white infrared film differs than with ordinary films. Compensation must be applied as explained below.

1. First focus the camera as for normal photography; then read the distance indicated by the center index mark and move this value to the infrared mark position.
2. A red filter should also be used with infrared film so refer to the film instructions concerning exposure.

• There is no need for focus compensation when using color infrared films. Use the filters recommended in the film instructions.





CS Lenses for the Mamiya NC

Stopped-down AE exposure control is also possible using the CS lenses by the same procedure described in the P-Mount Adapter section.

Before attaching the CS lenses on the Mamiya ZE, press the AE button on the CS lens and rotate the aperture ring so that the AE button is located away from the index mark.

Attach the lens by matching the alignment index mark with the index mark at the bottom of the camera lens mount, then rotating the lens clockwise until it clicks into position. Do not press the lens release button when mounting the CS lens; otherwise, the diaphragm will not operate properly.

When mounted, the center index mark of the CS lenses is at the side but the lens will operate properly.

- If a telephoto lens is mounted on the camera by mistake with the AE button aligned with the center index mark, the lens must be removed from the camera before moving the AE button away from the index and then remounted. DAMAGE MAY RESULT IF YOU ATTEMPT TO MOVE THE AE BUTTON WITH THE LENS MOUNTED ON THE CAMERA.
- The Fisheye 14mm f/3.5 lens is not adaptable to the ZE camera.

Don't Run Short of Battery Power

The Mamiya ZE has a built-in circuit that automatically gives a warning when battery power is running low. In this case, the LED corresponding to the correct shutter speed flashes at the rate of 4 times per second when the shutter release button is lightly pressed.

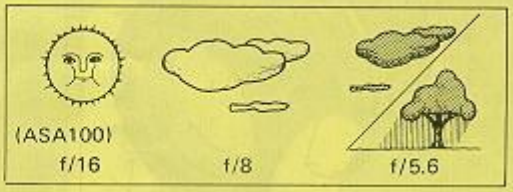
- The batteries should be replaced as quickly as possible, although several exposures can still be made. When the batteries go completely dead, the LEDs won't light at all.

How to Take Pictures Without Battery Power

Set the shutter speed dial to "X". At this setting the shutter operates at the speed of 1/90 sec. Reset the aperture according to the recommendation shown on the right.

Also, you can use a flash unit at the "X" setting with or without batteries.

Batteries normally last for one year or more, but it is advisable to replace them once a year at least. Those who take large numbers of photographs should replace the batteries more frequently. Always be on the lookout for the flashing LED warning.



Getting the Most Out of Your Batteries

- Batteries should always be removed when the camera is not to be used for an extended time. Keep them in a cool, dry place. Leaving batteries in the camera for long periods may result in leakage which could damage the internal mechanisms.
- When replacing batteries, use 1.5V silver oxide types (Eveready S-76, UCAR S-76, Ray-O-Vac RS-76, Mallory MS-76, or equivalent). Although 1.3V mercury batteries are the same shape and size, they will not operate the camera normally.
- Be sure to replace all four batteries at the same time. Do not mix new and old batteries or batteries of different types or brands.
- When loading batteries into the battery cartridge, be sure the plus and minus terminals are located properly. Before loading the batteries, be sure to wipe the terminals of the batteries and the cartridge with a dry cloth to remove any soiling or finger marks, etc.
- Never take apart silver oxide batteries, short them, or throw them into fire.

Handling Cautions

Be sure that the shutter release button isn't pressed down when carrying the camera or when putting it away as the LED display will stay on and drain the batteries.

The depth of the tripod socket is 2-3/16 in. (5.5 mm). If a tripod is used with a mount screw longer than this, the internal mechanisms of the camera may be damaged. Do not use excessive force when mounting the camera on a tripod.

Avoid strong vibration and shock since this may cause adverse influence on the delicately adjusted parts of the camera. Be careful not to drop the camera or allow it to strike against objects.

Do not keep the camera for extended periods where temperature is above 100°F (40°C) or below 5°F (-15°C), or where there is excessive humidity or salt in the air. The camera mechanism or film can also be damaged if the camera is left for a long time in a place where there is napthalene or formalene gas. Always store color film at the designated temperature.

Never touch the surface of the mirror or lens with the hands. Any dust should be blown off with a blower or wiped off by lightly applying a soft cloth. Be especially sure to never rub the surface of the mirror.

Always clean the camera carefully after photographing at the beach or other place where there is salt in the air. Clean the many plastic parts by gently wiping with a soft, dry cloth. Never use solvents when cleaning.

Inspect the camera periodically when it is not being used. Be sure to inspect moving parts before trying to take important photographs. This includes the film advance and shutter operation, electronic flash synchronization, etc. Test shots should also be taken if possible to discover any irregularities that may exist. (Incidental damage which results in this camera malfunctioning will not be compensated.)

Do not try to repair or lubricate the camera if some irregularity is discovered. Leave this to your Mamiya dealer.

Printed in Japan

Screw-Mount Lens Capability with P-Mount Adapter ZE

If you should own any of the screw-mount lenses for the Mamiya DSX, MSX, DTL or TL cameras, you can also mount them on the Mamiya ZE using the P-Mount Adapter. Stopped-down AE exposure control is then possible with the camera in the AUTO mode.

1. First focus with the lens at the maximum aperture; then set the aperture to be used for the exposure.
2. When the shutter release is lightly pressed, one of the LEDs that indicate shutter speeds inside the viewfinder will light to show that exposure is correct.

SPECIFICATIONS

Type of camera:
35mm single-lens reflex (SLR), aperture priority "Quartz Timed" automatic exposure camera, manual override.

Picture format: 24mm x 36mm.
Usable lenses: Mamiya-Sekor E series lenses with fully automatic diaphragm operation and open-aperture metering. CS lenses for the NC cameras and thread mount lenses for other Mamiya 35mm cameras also usable on AUTO with stopped-down metering.

Shutter:
Electronically controlled metal focal plane. Speed range from 1 sec. to 1/1000 sec. at AUTO position; Manual speed from 1 sec. to 1/1000 sec. in one stop increment with click stop at each nominal position, plus mechanical speeds of X (1/90 sec.) and B.

Slow shutter speed warning:
Buzzer sounds when shutter speed drops below the slowest safe speed for hand-held shooting with the lens in use.

Self-timer:
Approx. 10-second delay.

Sync contact:
X-sync terminal and hot-shoe.

Metering system:
TTL center-weighted, open-aperture metering using SPD (silicon photo diode).

Metering range:
EV1.5—EV18 (ASA100, f/1.7 lens) EV2 - EV18 (ASA100, f/2 lens).

Exposure compensation:
+2 f-stops.

Film speed range:
ASA12-3200.

Viewfinder information display:
LED dot displays shutter speeds of 1/30 - 1/1000 sec., plus LT. Flashing LEDs warn of over- and under-exposure and battery condition. LED dot flashes at "M" with dial set at manual shutter speeds.

Viewfinder magnification ratio:
0.85X with 94% coverage of field of view (with 50mm lens at infinity).

Focusing screen:
Fixed-type with 45° split-image rangefinder spot, microprism and matte field.

Film advance:
Using film advance lever with 130° winding angle and 30° stand-off angle.

Exposure counter:
Additive type. Automatic reset to "S" mark when camera back is opened.

Film rewind:
Manual rewind with rewind lever.

Power source:
Four 1.5V silver oxide batteries SR44 (Eveready S-76, UCAR S-76, Ray O Vac RS-76 Mallory MS-76, or equivalent). Four 1.5V alkaline manganese LR44 (same size as S-76, RS-76 or MS76).

Power switch:
Shutter release button.

Flash synchronization:
Shutter speed automatically set to 1/60 sec. when the Mamiyalite ZE is fully charged. Other electronic flash units usable at "X" position (1/90 sec.).

Winder coupling:
Electrical contact and coupler built-in for operation with the Mamiya Winder ZE.

Dimensions:
139.5mm(W) x 88.5mm(H) x 50.5mm(D)

Weight:
460g (body only)

Specifications and design are subject to change without notice.

ACCESSORIES FOR YOUR ZE-2

Filters
Mamiya filters are made of high quality optical glass to maintain the high performance of the camera lens. They are available in the following five types: SY48 (Y2), S056 (02), SL39 (UV), YG, and SL-I B (skylight).

Lens Hoods ZE
Mamiya lens hoods are an important accessory for getting the best possible performance from the camera lens because they minimize the entry of stray light which can cause internal reflection and lead to flare or ghost images. Always use the lens hood designed for the specific focal length of the lens being used.

Diopter Correction Lenses ZE

Far- and near-sighted people sometimes find it difficult to focus a camera due to the optical characteristics of the viewfinder system. This situation, however, can easily be remedied by using a diopter correction lens and adapter.
These diopter correction lenses are available in six different strengths: +3, +2, +1, -1, --2 and -3.

Before purchasing a diopter correction lens at your Mamiya dealer, be sure to actually try various strength diopter lenses and select the one that suits your eyesight.

1. Rubber Eye-cup ZE with Adapter
This adapter is required for attaching the diopter correction lenses to the camera. The rubber eye-cup helps to prevent stray light entering the viewfinder while taking photographs.
To attach the diopter correction lens, first remove the mounting ring located inside the eye-cup by turning it counter-clockwise; then put the lens in place and replace the ring.

2. Magnifier ZE
The magnifier is a useful aid for critical focusing as required in copy work, close-up photography, and similar applications. The size of the image is doubled and only the center part

is visible for more accurate work. The magnifier also features diopter adjustment from -5 to +5.

3. Angle Finder ZE
The angle finder is useful when shooting at low angles and for copy work. Click stops are provided every 90°, but full 360° rotation is possible for viewing even from the side or from below. The angle finder also features built-in diopter adjustment from -4 to +4.

4. Mamiyalite ZE
The Mamiyalite ZE is a compact auto electronic flash with a Guide Number of 17 (ASA100, meters) and contact for hot-shoe synchronization. Two auto ranges and manual operation are available using the selector switch.
When used with the Mamiya ZE, the LED at the 60 position inside the viewfinder lights when the flash unit is fully charged and the shutter speed is automatically set to 1/60 sec.
Angle of coverage: 45° vertical, 60° horizontal. Attaching the wide-angle diffuser provides coverage for a 28mm wide-angle lens.
Batteries used: Four alkaline or Ni-Cad penlight batteries.

5. Mamiya Winder ZE
The Mamiya Winder ZE provides continuous sequence photography capability at speeds of up to approximately two frames per second. Since there is no need to operate the film advance lever, additional photographic opportunities can be captured because the subject can be followed continuously without taking the eye away from the viewfinder.
Batteries used Four alkaline or Ni-Cad penlight batteries.

6. Close-up lens ZE
The close-up lenses ZE are convenient attachment lenses which screw directly to the filter threads of the master camera lens enabling swift and easy conversion to close-up photography.

Two models are available: Close-up lens No. 1 having +2 diopters, and Close-up lens No. 2 having +4 diopters.

7. Auto Extension Rings ZE
A set of three extension rings are intended for close-up photography and mount between the camera body and lens, directly coupling with the ZE camera metering system and the lens automatic diaphragm. Three different lengths of the rings can be used individually or in combination.

8. Auto Bellows ZE
This is an easy to operate, precision bellows type close-up attachment. Automatic aperture stop-down coupling is possible using a double cable release. And the front standard can be swiveled 360°, permitting simple reversing of the lens for large magnification ratios with images that are sharp to the very edges. Shift control also enables control of perspective. And the camera can also be rotated at the back for a choice of vertical or horizontal format with easy operation. The focusing rail allows the entire bellows unit to be shifted back and forth for sensitive adjustment

of distance . and focusing.

9. Slide Copier ZE
This device is mounted on the front of the Auto Bellows for making copies of slides. Convenient film trays are provided for copying film strips The slide stage also moves vertically and horizontally for easier cropping of 35mm slides.

10. Bellows Stand ZE
Used with the Auto Bellows, the Bellows Stand is used for copying small objects such as stamps, coins, insects, etc.. Clips are provided for holding subjects on the platform. And the platform rotates for precise positioning. The platform is also. finished to provide 18% reflectance, convenient for measuring exposures. A clear glass platform is also included for backlighting of subjects.

11. P-Mount Adapter ZE for Mamiya TL/SX Lenses:
This adapter is used for mounting Mamiya DSX, MSX, DTL and TL lenses on the Mamiya ZE camera. Stopped-down AE exposure control is possible using this adapter.

<<<< Additional information not in the manual:
I just wanted to point out that not all Mamiya M42 lenses are safe to use with the P adapter for the Auto-XTL. If you attempt to use the SX type lenses with the Auto-XTL P adapter, the aperture sensing pin will dig into the P adapter face since it is not perfectly flush with the outer surface edge of the SX lense. Furthermore, since the entire moving surface of the aperture ring of the SX lense comes to rest against the P adapter face, it will lock down the aperture control of the lense and make it impossible to turn, therefore preventing SX lens f-stop manipulation.

Mamiya M42 AUTO lenses seem to be safe choices as are M42 Yashica-Yashinon, M42 Meyer-Optik and M42 Zeiss MC Sonnar (S) lenses. Any aperture ring that rotates at the extremity of a lens should be avoided. Of course the SX lens works perfectly well with the "ZE" P adapter for Mamiya ZE series lenses which it was designed for. Lenses with Auto and Manual switches like Zeiss MC Sonnar work well with the Auto-XTL P adapter in conjunction with its Auto Aperture pin. Lenses that have no Auto Aperture and only manual control of aperture appear to work equally well like Meyer-Optik Orestor M42.

Robert A. Genna, Connecticut teacher and photographer, 10-23-04 >>>>>>

This info was provided by a reader:
<< In an added note, I have found that the "ZE" P adapter designed for use with the ZE and ZE-2 Mamiya cameras will not work on the Mamiya ZE-X camera. Most references for the "ZE" P adapter give the perception that it can be used on all ZE series cameras. This is not the case for the ZE-X. If you attempt to use the "ZE" P adapter on the ZE-X camera the adapter will stop cold at the gold dedicated EF camera/lens contacts of the ZE-X and if you force the installation

of the "ZE" P adapter onto the ZE-X it will damage those gold contact pins.

I have not seen a reference to this effect in any description of the ZE-X. Furthermore, I have seen no references for the Mamiya ZM camera allowing adapters that permit the use of lenses from the DSX, MSX, DTL and TL series of cameras. The ZM does allow 645 series lenses to be used on "ZE" and "ZE-2" cameras utilizing their "645 adapter ZE". I have however installed the Mamiya "ZE" P adapter to an Auto Mamiya-Sekor 1:1.8 f=55mm M42 mount lens with it's f-stop aperture switch set in manual mode on the Mamiya ZM in auto shutter mode with good operational results. >>

12. Eveready Case ZE

DON'T RUN SHORT ON BATTERIES
The Mamiya ZE has a built-in circuit that automatically gives a warning when battery power is low this case, the LED corresponding to the correct shutter speed flashes at the rate of 4 times per second when the shatter release button is lightly pressed.

· The batteries should be replaced as quickly as possible, although several exposures can still be made. When the batteries go completely dead, the LEDs won't light at all.

How to Take Pictures Without Battery Power

Set the shutter speed dial to "X". At this setting the shutter operates at the speed of 1/90 sec. Reset the aperture according to the recommendation shown on the right.

Also, you can use a flash unit at the "X" settings, with or without batteries.

Batteries normally last for one year or more, but it is advisable to replace them once a year at least. Those who take large numbers of photographs should replace the batteries more frequently. Always be on the lookout for the flashing LED warning,

GETTING THE MOST FROM YOUR BATTERIES
· Batteries should always be removed when the camera is not to be used for an extended time. Keep them in a cool, dry place. Leaving batteries in the camera for long periods may result in leakage which could damage the internal mechanisms.

· When replacing batteries, use 1.5V silver oxide types (Eveready S-76, UCAR S-76, Ray-O-Vac RS-76, Mallory MS-76, or equivalent. Although 1.3V mercury batteries are the same shape and size, they will not operate the camera normally.

· Be sure to replace all four batteries at the same time. Do not mix new and old batteries or batteries of different types or brands.

· When loading batteries into the battery cartridge, be sure the plus and minus terminals are located properly. Before loading the batteries, be sure to wipe the terminals of the batteries and

the cartridge with a dry cloth to remove any soiling or finger marks, etc.

· Never take apart silver oxide batteries, short them, or throw them into fire.

HANDLING CAUTIONS

* Be sure that the shutter release button isn't pressed down when carrying the camera or when putting it away as the LED display will stay on and drain the batteries.

* The depth of the tripod socket is 2-3/16 in. (5.5 mml. If a tripod is used with a mount screw longer than this, the internal mechanisms of the camera may be damaged. Do not use excessive force when mounting the camera on a tripod.

* Avoid strong vibration and shock since this may cause adverse influence on the delicately adjusted parts of the camera. Be careful not to drop the camera or allow it to strike against objects.

* Do not keep the camera for extended periods where temperature is above 100°F (40°C) or below 5°F (-15°C), or where there is excessive humidity or salt in the air. The camera mechanism or film can also be damaged if the camera is left for a long time in a place where there is napthalene or formalene gas. Always store color film at the designated temperature.

* Never touch the surface of the mirror or lens with the hands. Any dust should be blown off with a blower or wiped off by lightly applying a soft cloth. Be especially sure to never rob the surface of c mtrror.

* Always clean the camera carefully after photographing at the beach or other place where there is salt in the air. Clean the many plastic parts by gently wiping with a soft, dry cloth. Never use solvents when cleaning.

* Inspect the camera periodically when it is not being used. Be sure to inspect moving parts before trying to take important photographs. This includes the film advance and shatter operation, electronic flash synchronization, etc. Test shots should also be taken if possible to discover any irregularities that may exist. (Incidental damage which results in this camera malfunctioning will not be compensated)

* Do not try to repair or lubricate the camera if some irregularity is discovered. Leave this to your Mamiya dealer.

When the shutter release button is lightly pressed, an LED lights inside the viewfinder to indicate the correct shutter speed automatically selected by the camera in accordance with the aperture setting.

* The 1/1000 LED flashes at the rate of 8 times per second to indicate overexposure. To obtain

correct exposure, turn the aperture ring until the LED stops flashing.

* The "LT" LED flashes and the buzzer sounds at the rate of 8 times per second to indicate underexposure. Again, turn the aperture ring until the LED stops flashing. If it does not, use of the Mamiyalite ZE is recommended.

* The "LT" LED also lights to indicate when the shutter speed is set in the range below 1/30 sec. down to I sec. To shoot at the slow shutter speeds indicated by the "LT" LED, it is recommended to use either a tripod or the Mamiyalite ZE to prevent blurring.

* Flashing of any of the shutter-speed LEDs at the rate of 4 times per second indicates that the batteries should be replaced.

* As long as the shutter release button is pressed, the LED display continues indicating the same shutter speed after the exposure is completed for easy checking of whether or not exposure was correct.

* The "M" LED flashes at the rate of 8 times per second to indicate the shutter dial is set at a manual speed.

Slow Shutter Speed Warning

When the shutter speed automatically selected by the camera in the AUTO and AEL (AE Lock) modes is too slow for hand-held shooting, a buzzer will sound at the rate of I time per second warning you to set the lens to a wider aperture (giving you a faster shutter speed), or to mount the camera on a sturdy tripod to avoid the possibility of blurred pictures.

The safe slowest shutter speed for hand-held shooting varies with the focal length of the lens in use. The slow shutter speed warning stem automatically adjust for this variation when you change lenses.