

**Mamiya**

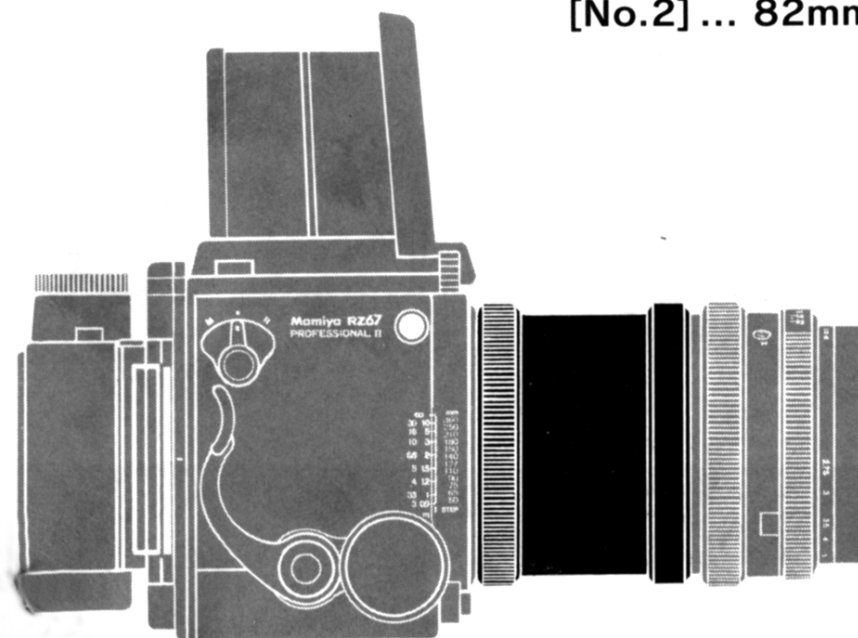
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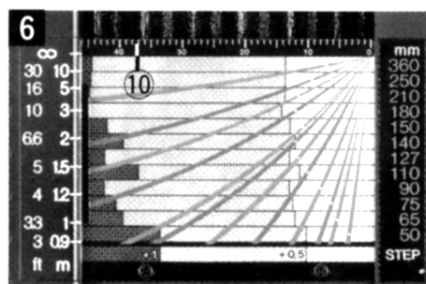
# RZ67

オート中間リング RZ  
Auto Extension Tubes RZ  
Automatik-Zwischenringe RZ  
Bagues macro RZ

[No.1] ... 45mm  
[No.2] ... 82mm



日本語	使用説明書
English	Instructions
Deutsch	Bedienungsanleitung
Français	Mode d'emploi



## Special Features

When desiring to approach the subject closer than the bellows extension of the camera permits, Auto Extension Tubes RZ are used. Because shutter and aperture coupling is fully retained when mounted on Auto Extension Tubes RZ the lens operates in the normal manner, greatly simplifying close-up photography.

Auto Extension Tubes RZ are available in two size, both of which operate identically. They may also be used in combination.

Extension (length) of the tubes follows:

No.1	.....	45mm
No.2	.....	82mm
No.1+No.2	.....	127mm

If the electrical contacts on the front and rear of Auto Extension Tube RZ are allowed to get soiled with grease or dirt, the electronic coupling may be disrupted, making the tubes inoperative. Should the contacts get soiled, be sure to carefully wipe them with a clean cloth.

## Before Mounting Auto Extension Tube RZ

1. Set the mirror (2) by pushing the Cocking Lever (1) completely down. (Photo 1)
2. Rotate the Cocking Pin of the tube (3) until it is aligned with the red dot. When the pin is released, it will return to the green dot (G). (Photo 2)
3. Repeat the same procedure with the lens (not necessary if the lens shutter is already cocked).

### Mounted Auto Extension Tube RZ

1. Rotate Bayonet Ring of the tube, aligning the white dot on the ring ⑥ with the red index on top of the tube ⑦.
  2. While aligning the red index of the tube ⑦ with the red dot on the camera body ⑤, seat the tube properly on the camera body mount, and lock it in place by firmly rotating the Bayonet Ring clockwise. (Photo 3)
  3. Rotate the Bayonet Ring of the lens also, aligning its white dot ⑨ with the central red index of the lens.
  4. Align the central red index of the lens with the red dot of the tube ⑧, mounting the lens and locking it in place by twisting the Bayonet Ring clockwise. (Photo 4)
- If the lens does not fit into the mount of the tube properly, twist the lens to-and-fro slightly until it does, and then lock it in place by twisting the Bayonet Ring clockwise.

### Using Both Tubes Simultaneously

1. Rotate the cocking pin of each tube, aligning it with the red dot.
2. Align the white dot on the Bayonet Ring of each tube with the red index on the tube.
3. Mount one tube onto the other (the order of the tubes does not matter).
4. Mount the combination of tubes on the camera body. Finally, mount the lens on the tube combination.

### Removing the Tubes

1. Push the Cocking Lever ① all the way down.
2. Twist the Bayonet Ring of the lens completely counterclockwise and remove the lens.
3. Twist the Bayonet Ring of the tube counterclockwise and remove the tube from the camera body. (Photo 5)

### Precautions

Instead of removing them individually, the combination of lens and tube can be removed from the camera body if desired; however, after removing the tube from the lens, make sure the shutter of the lens is cocked before remounting the lens on the camera body.

### Close-up Photography

Because the shutter and diaphragm automation of a lens mounted on Auto Extension Tube RZ is fully retained operation of the lens is the same as when it is mounted on the camera body.

However, because the exposure factors appearing on the Exposure Compensation Scale on longer apply when using extension tubes, refer to the Close-up Tables.  
(See page 25 ~ 28)

1. Mirror-up operation is recommended for optimum results in close-up photography.
2. Use as small an aperture as possible.
3. Avoid using combinations other than No.1+No.2 (e.g. No.2+No.2).
4. Do not use the 37mm, 50mm, 500mm, 100-200mm and the Shift 75mm lens on an extension tube.

### Determining the Exposure Factor

1. Determine the bellows extension by checking the Bellows Extension Scale ⑩ which is found above the Focal Length Scale. In the illustration above, the bellows extension is 46mm. (Photo ⑥)
2. Read the exposure factor for the appropriate lens and extension tube combination in the right-hand column of the Close-up Table (Bellows Extension/Exposure Factor column). (See page 26, 28)  
For example, assume that the combination of 110mm lens and Extension Tube No.2 is used. If the bellows extension were the same as in the above illustration (46mm), the exposure factor would be +2 stops (steps) according to the Close-up Table. With an exposure factor of +2 stops, exposure would be increased by making the shutter speed two stops longer (such as changing 1/60 sec to 1/15 sec) or the aperture two stops larger (such as changing f/22 to f/11).

### Close-up Table (See page 25 ~ 28)

1. "Subject Distance" refers to the distance between subject and front rim of the lens.
2. In columns of the Close-up Table that have two rows of figures, the left-hand row indicates the result when lens and tube combination is set at zero bellows extension, and the right-hand row indicates the result when set at maximum bellows extension (46mm).
3. For clarity, the exposure factors in the right-hand column of the table are shown in 1/2 stop increments (+1, +1.5, +2, +2.5); however, for precise exposure compensation, the line dividing two zones should be read as 1/4 stop. Thus, the line between the +1 and +1.5 areas represents +1 1/4. Similarly, the line dividing the +1.5 and +2 zones represents +1 3/4.

- When using extension tubes and working at large magnifications, do not determine exposure with a finder incorporating exposure meter until the lens is focused.  
As a large change in bellows extension can significantly alter the exposure reading, it is necessary to first focus the lens for precise exposure measurement.
- Recommended f/number for each tube.  
No.1: F11 or narrower  
No.2: F16 or narrower  
No.1+No.2: F22 or narrower
- ※ It is recommended to be careful when the tubes are used in this combination, since a poor peripheral light transmission or vignetting may occur according to the aperture or the body's bellows extension.

接写表 /Close-up Table/Nahaufnahmetabelle/Table macro

レンズの種類 Lens Objektiv Objektif	中間リング Tube Tubus Bague	撮影倍率 Magnification Vergrößerung Gandissement	被写体距離 (cm) Subject Distance Objektstand Distance sujet	写る大きさ (cm) Area Covered Objekteldgröße Champ couvert	繰り出し量目盛・Bellows Extension (mm) Balgenauszug・Extension de soufflet 露出修正値・Exposure Factor (STEP) Verlängerungsfaktor・Facteur d'exposition
M 65mm f/4L-A	No.1	0.68~1.38	8.7~3.9	(8.2X10.2)~(4.1X5.0)	
M 75mm f/3.5L	No.1	0.6~1.21	12.8~6.4	(9.4X11.7)~(4.7X5.8)	
	No.2	1.1~1.7	7.1~4.6	(5.2X6.4)~(3.3X4.1)	
Z 90mm f/3.5	No.1	0.50~1.01	20.1~11.0	(11.2X13.9)~(5.5X6.9)	
	No.2	0.91~1.42	12.0~8.4	(6.1X7.6)~(3.9X4.9)	
	No.1+No.2	1.41~1.92	8.5~6.8	(4.0X4.9)~(2.9X3.6)	
Z 110mm f/2.8	No.1	0.41~0.82	31.9~18.1	(13.8X17.1)~(6.8X8.5)	
	No.2	0.74~1.15	19.6~14.2	(7.6X9.4)~(4.8X6.0)	
	No.1+No.2	1.15~1.56	14.3~11.7	(4.9X6.1)~(3.6X4.5)	
Z 127mm f/3.5	No.1	0.35~0.72	41.6~23.4	(15.8X19.6)~(7.8X9.7)	
	No.2	0.65~1.01	25.4~18.3	(8.7X10.8)~(5.6X6.9)	
	※ No.1+No.2	1.00~1.36	18.4~15.0	(5.6X7.0)~(4.1X5.1)	
Macro M 140mm f/4.5 M/L-A	No.1	0.32~0.64	52.2~29.7	(17.6X21.9)~(8.7X10.8)	
	No.2	0.58~0.90	32.1~23.3	(9.7X12.0)~(6.2X7.7)	
	※ No.1+No.2	0.90~1.22	23.4~19.2	(6.3X7.8)~(4.6X5.7)	
Z 150mm f/3.5	No.1	0.30~0.61	59.5~34.1	(18.7X23.2)~(9.3X11.5)	
	No.2	0.55~0.85	36.8~26.9	(10.3X12.7)~(6.6X8.2)	
	※ No.1+No.2	0.85~1.15	27.1~22.3	(6.6X8.2)~(4.9X6.0)	



接写表 / Close-up Table / Nahaufnahmetabelle / Table macro

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Z 180mm f/4.5	No.1	0.25~0.51	84.5~48.7	(22.2X27.6)~(11.0X13.6)	+1.5
	No.2	0.46~0.72	52.5~38.6	(12.2X15.1)~(7.8X9.7)	
	※ No.1+No.2	0.71~0.97	38.8~32.1	(7.9X9.8)~(5.8X7.2)	
Z 250mm f/4.5	No.1	0.18~0.37	160.0~93.1	(30.4X37.7)~(15.0X18.6)	
	No.2	0.34~0.52	100.2~74.1	(16.7X20.7)~(10.7X13.3)	+2
	※ No.1+No.2	0.52~0.71	74.5~62.0	(10.8X13.4)~(7.9X9.8)	
APO Z 210mm f/4.5	No.1	0.20~0.43	118.9~69.3	(26.1X32.5)~(12.9X16.1)	
	No.2	0.40~0.61	74.6~55.3	(14.4X17.8)~(9.2X11.4)	+2
	※ No.1+No.2	0.60~0.82	55.7~46.3	(9.3X11.5)~(6.8X8.4)	
APO Z 250mm f/4.5	No.1	0.18~0.37	159.3~91.9	(30.5X37.8)~(15.1X18.7)	
	No.2	0.34~0.52	99.2~72.9	(16.7X20.8)~(10.7X13.3)	+2
	※ No.1+No.2	0.52~0.71	73.2~60.7	(10.8X13.4)~(7.9X9.8)	
APO Z 350mm f/5.6	No.1	0.13~0.26	313.9~180.2	(42.9X53.3)~(21.2X26.4)	+1.5
	※ No.2	0.24~0.37	194.5~142.4	(23.6X29.2)~(15.1X18.7)	
	※ No.1+No.2	0.37~0.50	143.1~118.2	(15.2X18.9)~(11.2X13.9)	