Mamiya
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Mamiya RB67
Auto Extension Tubes

Instructions

Use this auto extension tube to take close-up photographs at a distance nearer than the shortest photographing range of the lens provided. Since the lens shutter and aperture are interlocked by the auto extension tube, close-up photography or copying can be simply obtained the same as when taking ordinary photographs.

There are two types, No. 1 and No. 2, for the auto extension tubes. The operating method is the same for both types, and they can be used in a combined condition.

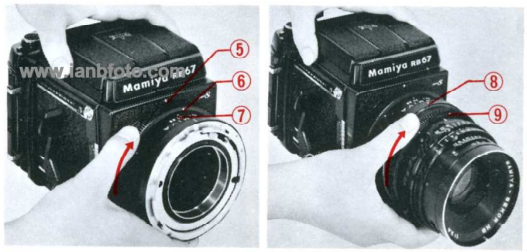
Length of tube: No. 1.....45 mm
No. 2.....82 mm

Prior to Attaching the Auto Extension Tube

1. Cock the mirror (2) by fully pushing down the shutter cocking lever (1) toward the front of the camera.
2. Use your fingers to turn the cocking pins (3) on the auto extension tube to the red cocking position marks (4). When removing your fingers from the pins, the cocking pins will turn back to the green marks (G).
3. Cock the using lens shutter as well as the auto extension tube.

Attaching

1. Turn the bayonet ring of the auto extension tube, and align the red dot (6) on the bayonet ring with the red dot (7) on the extension tube.
2. Mount the extension tube, keeping the red dot (7) aligned with the red dot (5) on the camera body; then firmly turn the bayonet ring clockwise.
3. Also, turn the bayonet ring of the lens, and align the red dot (9) with the triangular mark on the lens barrel.
4. Attach the lens to the extension tube, aligning the triangular mark with the red line (8) on the extension tube; then secure the lens by firmly turning the bayonet ring.



If the lens does not fit smoothly, turn the lens toward the right and left while pushing the lens against the extension tube.

Connecting Method of No. 1 and No. 2 Tubes

1. Cock the both auto extension tubes by turning the cocking pins.
2. Align the red dot on the bayonet ring with the red dot on the extension tube.
3. Connect the two auto extension tubes. In this case, either of the two can be placed in front.
4. Mount the extension tubes on the camera body, then attach the lens.

Removing

1. Press the shutter cocking lever (1) down fully.
2. Turn the bayonet ring of the lens counterclockwise, and remove the lens.
3. Turn the bayonet ring of the extension tube counterclockwise, and remove the extension tube from the camera body.

Note:

The auto extension tube can be detached from the camera body in a combined condition with the lens. Subsequently, however, when using the lens by detaching it from the auto extension tube, always confirm that the lens shutter is cocked.

Photographing

Since the auto extension tube is interlocked with the full automatic diaphragm of the lens, the photographing method is the same as the common procedure. However, the reading method of the exposure compensation scale is different, so correct the exposure by referring to the close-up photography table on pages 8, 9, and 10.

1. Mirror-up photography (independent mirror release) is recommended for close-up photography with the auto extension tube.
2. When photographing through the extension tubes, use as small an aperture as possible.
3. Avoid using a combination other than No. 1 + No. 2 (e.g., No. 2 + No. 2).
4. When photographing in the 6 × 7 size, if the 127mm lens is used, minimal or no corner vignetting will occur; however, when using lenses other than the 127mm lens with two extension tubes (No. 1 and No. 2), the possibility of some vignetting in the four corners of the picture may occur. When using only one extension tube, no vignetting will occur with any lens.
5. When photographing with the Polaroid Land film pack, corner vignetting increases due to the larger picture size; however, a 6 × 7cm portion in the center of the photo will be essentially clear of vignetting.

6. Use only one auto extension tube No.1, for the 65mm lens.
7. Do not use the 50mm lens. Using an extension tube decreases resolving power due to exceeding the life-size.

How to Use the Close-up Photography Table

1. Distance indicates the distance from the front edge of the lens barrel to the subject.
2. The figures in the left column of the close-up table indicate no bellows extension. The figures on the right indicate when the bellows is extended to the maximum (46mm).

Close-up Photography Table for Auto Extension Tube No.1

Lens	Magnification	Distance	Subject Size	Bellows Extension Scale (mm) / Exposure Compensation Value (STEP)
65mm f/4.5 C	0.69~1.40	3 7/16" ~ 1 9/16" (8.7~4.0)cm	3 3/16" × 3 25/32" ~ 1 9/16" × 1 15/16" (8.1×9.9)cm~(4.0×4.9)cm	40 30 20 10 0 / +1.5 / +1
90mm f/3.8 C	0.50~1.01	8 1/32" ~ 4 7/16" (20.4~11.3)cm	4 13/32" × 5 17/32" ~ 2 5/32" × 2 11/16" (11.2×13.7)cm~(5.5×6.8)cm	40 30 20 10 0 / +1.5 / +1
127mm f/3.8 C	0.35~0.72	1' 5 3/8" ~ 10 3/16" (44.1~25.9)cm	6 7/32" × 7 15/32" ~ 3 1/16" × 3 3/4" (15.8×19.3)cm~(7.8×9.5)cm	40 30 20 10 0 / +1.5 / +1
140mm f/4.5 C	0.32~0.65	1' 8 19/32" ~ 1' 1/16" (52.3~30.7)cm	6 13/16" × 8 13/32" ~ 3 13/32" × 4 5/32" (17.3×21.2)cm~(8.6×10.5)cm	40 30 20 10 0 / +1.5 / +1
180mm f/4.5 C	0.25~0.51	2' 9 31/32" ~ 1' 7 21/32" (86.3~49.9)cm	8 13/16" × 10 25/32" ~ 4 3/8" × 5 5/16" (22.4×27.4)cm~(11.1×13.5)cm	40 30 20 10 0 / +1.5 / +1
250mm f/4.5 C	0.18~0.36	5' 4 1/4" ~ 3' 5/8" (163~ 93)cm	1' 1/4" × 1' 2 11/32" ~ 6 1/16" × 7 13/32" (31.1×38.0)cm~(15.4×18.8)cm	40 30 20 10 0 / +1.5 / +1
360mm f/6.3 C	0.13~0.25	11' 6 21/32" ~ 6' 9 11/32" (352~207)cm	1' 5 5/8" × 1' 9 17/32" ~ 8 1/16" × 10 5/8" (44.8×54.7)cm~(22.1×27.0)cm	40 30 20 10 0 / +1.5 / +1

Close-up Photography Table for Auto Extension Tube No.2

Lens	Magnification	Distance	Subject Size	Bellows Extension Scale (mm) / Exposure Compensation Value (STEP)
90mm f/3.8 C	0.91~1.42	4 27/32" ~3 7/16" (12.3~ 8.7)cm	2 13/32" ×2 13/16" ~1 17/32" ×1 7/8" (6.1×7.5)cm~(3.9×4.8)cm	40 30 20 10 0 / +2 / +1.5
127mm f/3.8 C	0.65~1.01	10 11/32" ~8 3/16" (27.9~20.8)cm	3 7/16" ×4 3/16" ~2 7/32" ×2 11/16" (8.7×10.6)cm~(5.6×6.8)cm	40 30 20 10 0 / +2 / +1.5
140mm f/4.5 C	0.59~0.91	1' 1" ~9 5/8" (33.0~24.5)cm	3 3/4" ×4 15/32" ~2 13/32" ×2 15/16" (9.6×11.7)cm~(6.1×7.5)cm	40 30 20 10 0 / +2 / +1.5
180mm f/4.5 C	0.46~0.71	1' 9 3/16" ~1' 3 19/32" (53.8~39.6)cm	4 27/32" ×5 29/32" ~3 1/8" ×3 25/32" (12.3×15.0)cm~(7.9×9.6)cm	40 30 20 10 0 / +2 / +1.5
250mm f/4.5 C	0.33~0.51	3' 3 13/32" ~2' 4 13/16" (100~ 73)cm	6 23/32" ×8 7/32" ~4 9/32" ×5 9/32" (17.1×20.9)cm~(10.9×13.4)cm	40 30 20 10 0 / +1.5 / +1
360mm f/6.3 C	0.23~0.36	7' 3 15/32" ~5' 5 1/8" (222~165)cm	9 11/16" ×11 13/16" ~6 3/16" ×7 9/16" (24.6×30.0)cm~(15.7×19.2)cm	40 30 20 10 0 / +2 / +1.5

Close-up Photography Table for Auto Extension Tube No.1+No.2

Lens	Magnification	Distance	Subject Size	Bellows Extension Scale (mm) / Exposure Compensation Value (STEP)
90mm f/3.8 C	1.41~1.92	3 15/32" ~2 25/32" (8.8~7.1)cm	1 9/16" ×1 7/8" ~1 5/32" ×1 13/32" (4.0×4.8)cm~(2.9×3.6)cm	40 30 20 10 0 / +2.5 / +2
127mm f/3.8 C	1.00~1.36	8 7/32" ~6 7/8" (20.9~17.5)cm	2 7/32" ×2 11/16" ~1 5/8" ×1 31/32" (5.6×6.8)cm~(4.1×5.0)cm	40 30 20 10 0 / +2.5 / +2
140mm f/4.5 C	0.91~1.23	9 1/16" ~8 3/32" (24.6~20.5)cm	2 7/16" ×2 31/32" ~1 25/32" ×2 3/16" (6.2×7.5)cm~(4.5×5.5)cm	40 30 20 10 0 / +2.5 / +2
180mm f/4.5 C	0.71~0.96	1' 3 21/32" ~1' 1" (39.8~33.0)cm	3 1/8" ×3 13/16" ~2 9/32" ×2 25/32" (7.9×9.7)cm~(5.8×7.1)cm	40 30 20 10 0 / +2.5 / +2
250mm f/4.5 C	0.51~0.69	2' 4 15/16" ~1' 11 13/16" (74~61)cm	4 11/32" ×5 5/16" ~3 3/16" ×3 29/32" (11.0×13.5)cm~(8.1×9.9)cm	40 30 20 10 0 / +2 / +1.5
360mm f/6.3 C	0.35~0.48	5' 5 7/16" ~4' 6 23/32" (166~139)cm	6 1/4" ×7 5/8" ~4 19/32" ×5 5/8" (15.9×19.4)cm~(11.7×14.3)cm	40 30 20 10 0 / +2

How to Find the Exposure Compensation Value

1. After focusing the lens, read the extension amount through the bellows extension scale (10).
2. Find the compensation value by the bellows extension scale/exposure compensation value scale located on the right side of the close-up photography table.

For example, assume that 127mm lens is focused after combining it with No. 2 auto extension tube. If the extension amount reads 31mm by the bellows extension scale (10), it is understood that the compensation value is +2 steps by the scale located on the right side of the close-up photography table. In this case, use two steps slower shutter speed or two steps larger aperture (smaller f-number), thus increasing the exposure.