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Mamiya

Lenses
for Mamiya RB
INSTRUCTIONS

■ Before Attaching a Lens...

Before attaching a lens to the camera, always cock both the lens shutter, and cock the mirror down position in the camera body.

Refer to page 3 for details.

High-performance Seiko #1 shutters are built-in Mamiya Sekor lenses, offering excellent image quality, and superb resolving power, are equipped with an automatic aperture control feature. The lenses are available in four types from 65 mm wide angle to 250 mm telephoto.

■ Specifications

Lens mount : Bayonet type
Shutter : Seiko #1 lens shutter
Shutter speed scale : T, 1 to 1/400 second
Flash synchronization : M-X
Shutter charging : By lever on the camera body
With independent shutter release
With depth of field preview lever
Filter screw diameter : 77 mm

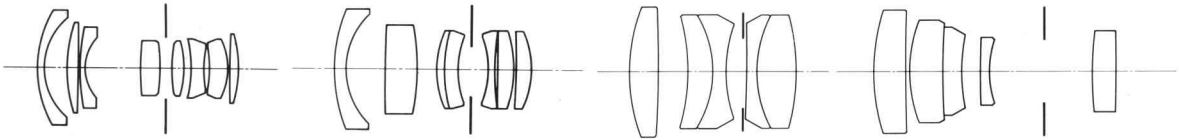
Lens	Composition	Picture angle	Minimum aperture	Hood	Weight
65 mm f/4.5	8 element 8 group	68° 10′	32	Slip-on type, 80 mm φ	29 5/8 oz (840g)
90 mm f/3.8	7 element 6 group	51° 50′	32	Screw-in type, 77 mm φ, common to these three types	24 7/8 oz (705g)
127 mm f/3.8	5 element 3 group	38° 16′	32		23 1/8 oz (655g)
250 mm f/4.5	5 element 4 group	20°	45		46 3/16 oz (1310g)

65mm F4.5

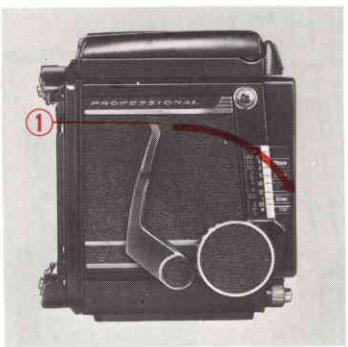
90mm F3.8

127mm F3.8

250mm F4.5



■ Attaching and Removing Lenses



Attaching the lens

1. Cock the mirror by fully pushing down the shutter cocking lever (1) toward the front of the camera.
2. Remove the rear cap of the lens.
3. Cock the lens shutter.

Firmly turn the shutter cocking pins (2) with your fingers, to the red cocking position marks (3). When removing your fingers from the pins, the cocking pins will turn back to the green marks, and the shutter blade will be left opened. The shutter will not be cocked perfectly if turned only to the green marks.

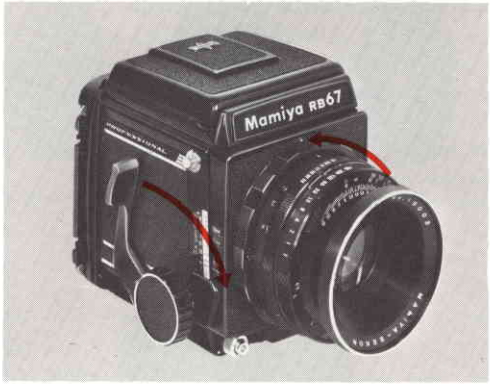
When removing the lens from the camera body, the shutter is always in a cocked condition.

4. Turn the bayonet ring and align the red mark (4) on the bayonet ring with the triangular mark at the center.
5. Mount the lens keeping the triangular mark aligned with the red lens mounting mark (5) on the camera body, then firmly twist the bayonet ring clockwise.

Removing the lens

1. Press the shutter cocking lever down fully.
2. Turn the bayonet ring counterclockwise, aligning its red mark (4) with the lens mounting mark (5) on the body, and remove the lens.

If you attempt to remove the lens with the mirror in the up position, the camera safety interlock mechanism is engaged which does not permit the lens bayonet ring from turning fully to the dismount position. Cocking the camera, which lowers the mirror and protects the film plane from accidental light leak, disengages this safety mechanism permitting lens removal easily.



It is advisable to release the shutter when the lens is not to be used for several days or longer.

■ How to Release the Shutter

To release a lens shutter which is removed from the camera body, turn the cocking pins (2) clockwise, while pressing the shutter lock pin (6) with a finger. The cocking pins should be turned all the way, do NOT leave the pins turned only halfway.

* Always set the shutter speed to the click stop position. In-between shutter speeds cannot be used.
* After cocking the shutter, do not turn the shutter speed ring rapidly.
* The fully automatic diaphragm can be set at full and half click stops.
* When not using flash, the M-X selector lever can be set to either M or X; however, never set the lever between M and X.

■ Time Operation

When releasing the shutter by setting the shutter speed scale on T (time), the shutter will remain open for effecting an extended time exposure.

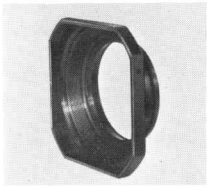
To close the shutter, turn the shutter speed ring toward the 1 second marking or press down the shutter cocking lever about 30°; however, do not move the shutter cocking lever until just before closing the shutter.

■ How to Use the Lens Hood

The lens hood for the 65mm lens, is a square, slip-on type. The lens hood commonly used for the 90, 127 and 250mm lens is a round, screw-in type.

Lens hood for 65 mm lens

This hood can be attached by slipping it to the lens front ring. By pushing the hood from the front, it can be folded flat. A filter can be screwed in the lens front ring.



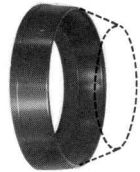
For 65 mm lens

Lens hood for 90, 127, and 250 mm lenses

This hood can be attached by screwing it into the lens front ring. When using it as the hood for the 127 mm and 250 mm lenses, pull the folded rubber hood straight out. For the 90 mm lens, fold the hood back halfway.

For 90 mm lens

For 127, and 250 mm lenses



Folded lens hood

By pushing the extended hood from the front, the hood is easily folded.

By pushing back and turning out the hood while it is attached to the lens, you can also leave the hood on the lens so that the lens barrel is protected.

A filter can be screwed in between the lens and the hood, or in front of the lens hood.

65mm

Depth of Field Table

Aperture	Distance in Feet									
	∞	30	15	10	8	7	6	5	4	3.5
4.5	35′ 4″ ∞	16′ 6″ 186′	10′ 9″ 25′ 2″	7′11½″ 13′ 6″	6′ 8″ 10′	5′11½″ 8′ 5½″	5′ 3″ 7′	4′ 5¾″ 5′ 7½″	3′ 8¼″ 4′ 4½″	3′ 3¼″ 3′ 9¼″
5.6	28′ 2″ ∞	14′ 9″ ∞	10′ 30′ 7″	7′ 7″ 14′10″	6′ 5″ 10′ 9″	5′ 9″ 8′11½″	5′ 1″ 7′ 4″	4′ 4½″ 5′10″	3′ 7¼″ 4′ 6″	3′ 2½″ 3′10¼″
8	20′ 1″ ∞	12′ 3″ ∞	8′10″ 54′ 8″	6′11″ 18′ 8″	5′11″ 12′ 6″	5′ 4½″ 10′ 2″	4′ 9½″ 8′ 1″	4′ 2″ 6′ 3½″	3′ 5¾″ 4′ 8¾″	3′ 1¼″ 4′ ¼″
11	14′ 4″ ∞	9′11″ ∞	7′ 7″ ∞	6′ 1½″ 29′ 9″	5′ 4½″ 16′ 6″	4′11¼″ 12′ 6″	4′ 5¼″ 9′ 6″	3′11″ 7′ 1″	3′ 3½″ 5′ 1½″	2′11½″ 4′ 3½″
16	10′ 3″ ∞	7′10″ ∞	6′ 4″ ∞	5′ 3½″ ∞	4′ 9″ 30′ 8″	4′ 5″ 19′ 1″	4′ ¼″ 12′ 8″	3′ 7″ 8′7 ½″	3′ 1″ 5′10″	2′ 9¾″ 4′ 9″
22	7′ 4″ ∞	6′ 1″ ∞	5′ 2″ ∞	4′ 6″ ∞	4′ 1¼″ ∞	3′10¼″ ∞	3′ 6¾″ 24′10″	3′ 2¾″ 12′ 8″	2′10″ 7′ 4″	2′ 7¼″ 5′ 7½″
32	5′ 4″ ∞	4′ 7¾″ ∞	4′ 1½″ ∞	3′ 8½″ ∞	3′ 5½″ ∞	3′ 3½″ ∞	3′ 1″ ∞	2′10¼″ 41′	2′ 6½″ 11′ 8″	2′ 4½″ 7′ 9″

Depth of Field Table

Aperture	Distance in Meter									
	∞	10	5	4	3	2.5	2	1.5	1.2	1
4.5	10.8	5.27	3.48	2.98	2.40	2.08	1.73	1.35	1.11	0.939
	∞	∞	9.01	6.15	4.03	3.16	2.38	1.69	1.31	1.071
5.6	8.60	4.70	3.24	2.80	2.29	1.99	1.67	1.32	1.09	0.925
	∞	∞	11.4	7.16	4.42	3.39	2.51	1.75	1.34	1.091
8	6.12	3.87	2.83	2.50	2.08	1.84	1.57	1.26	1.05	0.898
	∞	∞	24.8	10.8	5.53	3.98	2.81	1.88	1.42	1.134
11	4.36	3.10	2.41	2.17	1.86	1.66	1.44	1.18	0.99	0.862
	∞	∞	∞	38.5	8.64	5.33	3.39	2.11	1.53	1.203
16	3.12	2.44	2.00	1.83	1.61	1.47	1.30	1.08	0.93	0.817
	∞	∞	∞	∞	∞	10.4	4.84	2.56	1.74	1.317
22	2.24	1.88	1.62	1.51	1.36	1.26	1.14	0.97	0.85	0.762
	∞	∞	∞	∞	∞	∞	12.8	3.70	2.16	1.529
32	1.62	1.44	1.29	1.22	1.13	1.06	0.97	0.86	0.77	0.697
	∞	∞	∞	∞	∞	∞	∞	10.8	3.37	2.001

When using the 65 mm lens closer than 3¼ feet (1 meter) it is necessory to use a lens aperture of f/16, or smaller, in order to obtain satisfactory lens performance.

90mm Depth of Field Table

Aperture	Distance in Feet									
	∞	30	15	10	7	5	4	3	2	1.5
3.8	80′ 7″ ∞	22′ 1″ 47′ 1″	12′ 9″ 18′ 2″	9′ 11′ 3″	6′ 6″ 7′ 7″	4′ 9¼″ 5′ 3″	3′ 10¼″ 4′ 1¾″	2′ 11″ 3′ ¾″	1′ 11¾″ 2′ ¼″	1′ 5⅞″ 1′ 6⅛″
5.6	54′ 3″ ∞	19′ 7″ 65′ 4″	11′ 11″ 20′ 3″	8′ 7″ 12′	6′ 3½″ 7′ 10½″	4′ 8″ 5′ 5″	3′ 9½″ 4′ 2¾″	2′ 10¾″ 3′ 1¼″	1′ 11⅝″ 2′ ½″	1′ 5⅞″ 1′ 6⅛″
8	38′ 6″ ∞	17′ 1″ 129′	11′ 23′ 10″	8′ 1½″ 13′ 1″	6′ ½″ 8′ 3½″	4′ 6¼″ 5′ 7″	3′ 8½″ 4′ 4″	2′ 10¼″ 3′ 2″	1′ 11⅜″ 2′ ⅝″	1′ 5¾″ 1′ 6¼″
11	27′ 4″ ∞	14′ 7″ ∞	9′ 11″ 31′ 7″	7′ 6½″ 15′ 1″	5′ 9″ 9′	4′ 4¼″ 5′ 10½″	3′ 7¼″ 4′ 6″	2′ 9½″ 3′ 3″	1′ 11⅛″ 2′ ⅞″	1′ 5¾″ 1′ 6⅜″
16	19′ 5″ ∞	12′ ∞	8′ 8½″ 59′ 2″	6′ 10″ 19′ 2″	5′ 4″ 10′ 3″	4′ 1¾″ 6′ 4″	3′ 5½″ 4′ 9″	2′ 8¾″ 3′ 4¼″	1′ 10⅞″ 2′ 1⅜″	1′ 5⅝″ 1′ 6½″
22	13′ 10″ ∞	9′ 8½″ ∞	7′ 5½″ ∞	6′ ½″ 31′ 6″	4′ 10¾″ 12′ 10″	3′ 10½″ 7′ 2″	3′ 3½″ 5′ 2″	2′ 7½″ 3′ 6¼″	1′ 10⅜″ 2′ 1⅞″	1′ 5⅜″ 1′ 6⅝″
32	9′ 10½″ ∞	7′ 7½″ ∞	6′ 2½″ ∞	5′ 3″ ∞	4′ 4¼″ 20′	3′ 6¾″ 8′ 9½″	3′ ¾″ 5′ 11″	2′ 6″ 3′ 9¾″	1′ 9⅞″ 2′ 2⅞″	1′ 5⅛″ 1′ 7″

Depth of Field Table

Aperture	Distance in Meter									
	∞	10	5	3	2	1.5	1	0.8	0.6	0.5
3.8	24.57	7.17	4.20	2.70	1.87	1.43	0.973	0.784	0.593	0.496
	∞	16.60	6.19	3.37	2.15	1.58	1.029	0.816	0.607	0.504
5.6	16.54	6.31	3.90	2.58	1.82	1.40	0.960	0.777	0.590	0.494
	∞	24.59	7.01	3.59	2.23	1.62	1.044	0.825	0.611	0.506
8	11.73	5.48	3.57	2.44	1.75	1.36	0.945	0.768	0.586	0.492
	∞	63.09	8.43	3.91	2.34	1.67	1.064	0.835	0.615	0.508
11	8.33	4.62	3.20	2.27	1.66	1.31	0.924	0.756	0.580	0.489
	∞	∞	11.84	4.48	2.52	1.76	1.093	0.851	0.622	0.512
16	5.92	3.79	2.79	2.06	1.56	1.25	0.896	0.739	0.572	0.485
	∞	∞	28.05	5.67	2.84	1.89	1.138	0.875	0.632	0.517
22	4.22	3.04	2.37	1.83	1.43	1.17	0.860	0.717	0.561	0.479
	∞	∞	∞	9.12	3.45	2.13	1.208	0.911	0.646	0.524
32	3.02	2.38	1.96	1.59	1.28	1.08	0.814	0.688	0.547	0.470
	∞	∞	∞	∞	5.03	2.60	1.327	0.968	0.668	0.536

127mm

Depth of Field Table

Aperture	Distance in Feet									
	∞	30	15	10	7	5	4	3	2.5	2.25
3.8	157′ ∞	25′ 4″ 36′ 9″	13′ 9″ 16′ 5″	9′ 5½″ 10′ 0″	6′ 9″ 7′ 3″	4′10½″ 5′ 1½″	3′11¼″ 4′ ¾″	3′ 0″ 3′ ½″	2′ 5¾″ 2′ 6¼″	2′ 2⅞″ 2′ 3⅛″
4	149′ ∞	25′ 2″ 37′ 2″	13′ 8″ 16′ 6″	9′ 5″ 10′ 7″	6′ 9″ 7′ 3½″	4′10½″ 5′ 1½″	3′11″ 4′ 1″	2′11½″ 3′ ½″	2′ 5¾″ 2′ 6¼″	2′ 2⅞″ 2′ 3⅛″
5.6	106′ ∞	23′ 7″ 41′ 4″	13′ 3″ 17′ 3″	9′ 8″ 10′11″	6′ 7½″ 7′ 5″	4′10″ 5′ 2″	3′10¾″ 4′ 1¼″	2′11½″ 3′ ½″	2′ 5½″ 2′ 6¼″	2′ 2¾″ 2′ 3¼″
8	74′11″ ∞	21′ 8″ 49′ 0″	12′ 8″ 18′ 5″	8′11½″ 11′ 4″	6′ 6″ 7′ 7″	4′ 9″ 5′ 3″	3′10¼″ 4′ 1¾″	2′11″ 3′ 1″	2′ 5½″ 2′ 6½″	2′ 2⅝″ 2′ 3⅜″
11	53′ 1″ ∞	19′ 5″ 66′ 8″	11′11″ 20′ 4″	8′ 7″ 12′ 0″	6′ 3½″ 7′10½″	4′ 8″ 5′ 4½″	3′ 9½″ 4′ 2¾″	2′11″ 3′ 1¼″	2′ 5¼″ 2′ 6¾″	2′ 2½″ 2′ 3½″
16	37′ 8″ ∞	17′ 0″ 137′	11′ 0″ 23′11″	8′ 1″ 13′ 1″	6′ 1″ 8′ 3½″	4′ 6½″ 5′ 7″	3′ 8¾″ 4′ 4″	2′10½″ 3′ 1¾″	2′ 5″ 2′ 7″	2′ 2¼″ 2′ 3¾″
22	26′ 9″ ∞	14′ 5″ ∞	9′10″ 31′11″	7′ 6″ 15′ 1″	5′ 9″ 9′ 0″	4′ 4½″ 5′10″	3′ 7½″ 4′ 5¾″	2′ 9¾″ 3′ 2½″	2′ 4⅝″ 2′ 7½″	2′ 2″ 2′ 4⅛″
32	19′ 0″ ∞	11′11″ ∞	8′ 7½″ 61′ 3″	6′10″ 19′ 3″	5′ 4½″ 10′ 2″	4′ 2″ 6′ 3½″	3′ 6″ 4′ 8½″	2′ 9″ 3′ 3¾″	2′ 4⅛″ 2′ 8¼″	2′ 1⅝″ 2′ 4½″

Depth of Field Table

Aperture	Distance in Meter									
	∞	10	5	3	2	1.5	1	0.8	0.7	0.65
3.8	47.96	8.33	4.56	2.84	1.93	1.47	0.987	0.793	0.695	0.646
	∞	12.53	5.54	3.17	2.07	1.54	1.01	0.807	0.704	0.654
4	45.57	8.26	4.54	2.84	1.93	1.46	0.986	0.793	0.695	0.646
	∞	12.70	5.57	3.18	2.07	1.54	1.01	0.807	0.705	0.654
5.6	32.26	7.70	4.37	2.77	1.90	1.45	0.981	0.790	0.693	0.645
	∞	14.30	5.84	3.27	2.11	1.55	1.02	0.811	0.707	0.655
8	22.84	7.03	4.16	2.69	1.87	1.43	0.973	0.786	0.690	0.643
	∞	17.42	6.29	3.39	2.16	1.58	1.03	0.815	0.710	0.658
11	16.19	6.27	3.89	2.58	1.82	1.40	0.963	0.780	0.687	0.640
	∞	25.24	7.04	3.59	2.23	1.61	1.04	0.822	0.714	0.661
16	11.48	5.44	3.56	2.44	1.75	1.37	0.948	0.772	0.681	0.635
	∞	69.73	8.50	3.91	2.34	1.67	1.06	0.831	0.720	0.666
22	8.16	4.59	3.19	2.27	1.67	1.32	0.929	0.761	0.674	0.630
	∞	∞	12.04	4.49	2.52	1.75	1.09	0.845	0.729	0.672
32	5.80	3.76	2.78	2.06	1.56	1.26	0.903	0.746	0.664	0.622
	∞	∞	29.80	5.69	2.83	1.88	1.126	0.865	0.742	0.682

250mm

Depth of Field Table

Aperture	Distance in Feet								
	∞	200	100	50	30	20	15	10	7
4.5	507′ ∞	144′ 328′	83′ 10″ 124′	45′ 9″ 55′ 2″	28′ 5″ 31′ 9″	19′ 4″ 20′ 9″	14′ 8″ 15′ 5″	9′ 10″ 10′ 2″	6′ 11½″ 7′ 1″
5.6	404′ ∞	134′ 393′	80′ 6″ 132′	44′ 9″ 56′ 8″	28′ 1″ 32′ 2″	19′ 2″ 20′ 11″	14′ 7″ 15′ 6″	9′ 10″ 10′ 2″	6′ 11″ 7′ 1″
8	286′ ∞	118′ 657′	74′ 7″ 152′	42′ 10″ 60′ 1″	27′ 4″ 33′ 3″	18′ 10″ 21′ 4″	14′ 4″ 15′ 8″	9′ 9″ 10′ 3″	6′ 10½″ 7′ 1½″
11	202′ ∞	101′ ∞	67′ 5″ 195′	40′ 6″ 65′ 6″	26′ 5″ 34′ 9″	18′ 5″ 21′ 11″	14′ 1″ 16′ 0″	9′ 7½″ 10′ 5″	6′ 10″ 7′ 2″
16	143′ ∞	84′ 1″ ∞	59′ 6″ 321′	37′ 6″ 75′ 3″	25′ 2″ 37′ 3″	17′ 10″ 22′ 10″	13′ 10″ 16′ 5″	9′ 6″ 10′ 7″	6′ 9½″ 7′ 3″
22	102′ ∞	67′ 11″ ∞	51′ ∞	34′ 1″ 95′ 5″	23′ 7″ 41′ 5″	17′ 1″ 24′ 3″	13′ 4″ 17′ 2″	9′ 3½″ 10′ 10″	6′ 8½″ 7′ 4″
32	72′ ∞	53′ 5″ ∞	42′ 6″ ∞	30′ 1″ 154′	21′ 8″ 49′ 3″	16′ 1″ 26′ 8″	12′ 9″ 18′ 3″	9′ ½″ 11′ 2″	6′ 7″ 7′ 6″
45	51′ 2″ ∞	41′ 2″ ∞	34′ 5″ ∞	25′ 11″ ∞	19′ 6″ 67′ 6″	14′ 11″ 30′ 11″	12′ 1″ 20′ 1″	8′ 8½″ 11′ 9″	6′ 5″ 7′ 8½″

Depth of Field Table

Aperture	Distance in Meter									
	∞	50	30	20	15	10	7	5	3	2
4.5	155 ∞	37.9 73.5	25.2 37.0	17.8 22.9	13.7 16.5	9.44 10.6	6.73 7.30	4.87 5.14	2.96 3.04	1.98 2.02
5.6	123 ∞	35.7 83.6	24.2 39.4	17.3 23.7	13.4 17.0	9.30 10.8	6.66 7.38	4.83 5.18	2.95 3.06	1.98 2.02
8	87.1 ∞	32.0 116	22.5 45.3	16.4 25.7	12.9 18.0	9.04 11.2	6.53 7.54	4.77 5.26	2.92 3.08	1.97 2.03
11	61.6 ∞	27.8 257	20.3 57.5	15.2 29.2	12.2 19.6	8.69 11.8	6.36 7.80	4.68 5.37	2.89 3.11	1.96 2.04
16	43.7 ∞	23.5 ∞	18.0 93.1	13.9 36.1	11.3 22.4	8.25 12.7	6.12 8.19	4.56 5.55	2.85 3.16	1.94 2.06
22	30.9 ∞	19.3 ∞	15.4 ∞	12.3 54.4	10.3 28.2	7.70 14.4	5.82 8.81	4.40 5.81	2.80 3.24	1.92 2.09
32	22.0 ∞	15.4 ∞	12.9 ∞	10.7 195	9.09 44.7	7.03 17.6	5.45 9.88	4.19 6.23	2.72 3.35	1.89 2.12
45	15.6 ∞	12.0 ∞	10.4 ∞	8.95 ∞	7.84 ∞	6.28 25.8	5.00 11.9	3.93 6.96	2.62 3.52	1.85 2.18

The dot between 4.5 and 8 on the aperture ring indicates f/5.6.