

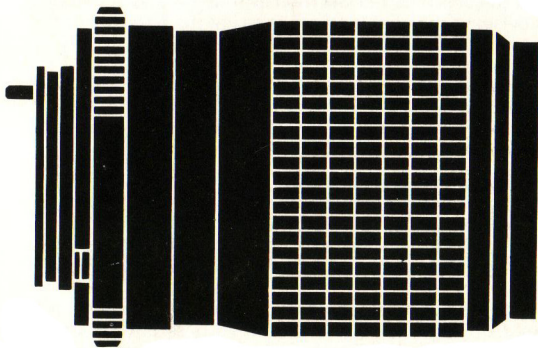
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MINOLTA CELTIC LENSES DEPTH-OF-FIELD TABLES



Ⓔ



DEPTH OF FIELD

When a lens is focused at a given subject point, there is a certain distance range behind and in front of that point within which the photographic image will appear acceptably sharp. This distance is known as "depth of field" and may vary from paper thin to extremely deep in accordance with three factors: Depth of field decreases the longer the focal length of the lens, the larger the lens opening used, and the closer the lens is focused. It increases the shorter the lens focal length, the smaller the lens opening used, and the farther from the camera the lens is focused.

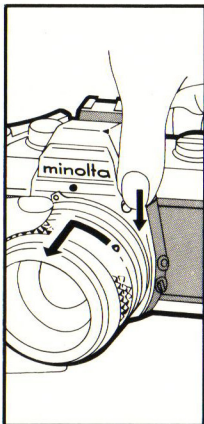
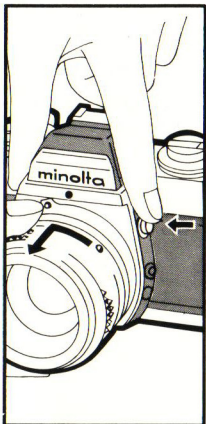
With Minolta single-lens reflex cameras, effective depth of field may be visualized by pushing the depth-of-field preview button and viewing the subject through the finder with the lens stopped down to the aperture at which the picture is to be taken. It may also be determined approximately from the depth-of-field scale on the lens barrel. The tables in this booklet provide precise data on near and far limits of acceptable focus at marked apertures at all or all scale-marked distances on Celtic Lenses of fixed focal length.

CHANGING CELTIC LENSES

To Remove from Camera

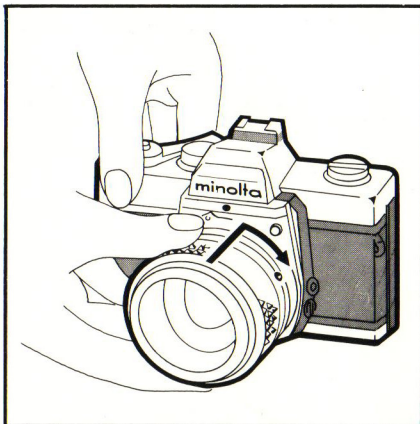
While pushing lens-release button on camera, turn lens counterclockwise as far as it will go; then lift lens bayonet out of mount.

2



To Install Lens on Camera

Align red dot on lens barrel with red dot on camera lens-mount flange, insert lens bayonet into mount; and turn lens clockwise until it locks in place with a click.



28mm F2.8 CELTIC LENS IN METERS

F.No. Dist. (m)	2.8	4	5.6	8	11	16	22
∞	∞ 8.7	∞ 6.07	∞ 4.31	∞ 3.07	∞ 2.19	∞ 1.57	∞ 1.16
5	11.5 3.21	27.0 2.78	∞ 2.35	∞ 1.94	∞ 1.56	∞ 1.22	∞ 0.96
3	4.50 2.26	5.75 2.04	9.37 1.81	90.8 1.56	∞ 1.30	∞ 1.06	∞ 0.86
2	2.55 1.65	2.90 1.53	3.58 1.40	5.36 1.25	18.9 1.08	∞ 0.92	∞ 0.76
1.5	1.78 1.30	1.94 1.23	2.21 1.14	2.76 1.04	4.31 0.93	22.6 0.81	∞ 0.69
1.2	1.37 1.07	1.46 1.02	1.60 0.97	1.86 0.90	2.43 0.81	4.37 0.72	∞ 0.62
1.0	1.11 0.91	1.17 0.88	1.25 0.84	1.40 0.78	1.69 0.72	2.42 0.65	5.68 0.57
0.8	0.87 0.74	0.90 0.73	0.95 0.70	1.03 0.66	1.17 0.62	1.45 0.57	2.19 0.51
0.6	0.63 0.57	0.65 0.56	0.67 0.54	0.71 0.52	0.77 0.50	0.87 0.47	1.08 0.43
0.5	0.52 0.48	0.53 0.47	0.55 0.46	0.57 0.45	0.60 0.43	0.66 0.41	0.77 0.38

28mm F2.8 CELTIC LENS IN FEET

4

F.No. Dist. (ft)	2.8	4	5.6	8	11	16	22
∞	∞ 28' 7 ⁵ / ₁₆ "	∞ 19' 11"	∞ 14' 2"	∞ 10' 1"	∞ 7' 2"	∞ 5' 2"	∞ 3' 10"
20	64' 11 ⁵ / ₁₆ " 11' 10 ¹ / ₂ "	∞ 10' 1"	∞ 8' 4 ³ / ₄ "	∞ 6' 9 ³ / ₄ "	∞ 5' 4 ⁵ / ₈ "	∞ 4' 2"	∞ 3' 3"
10	15' 1 ⁵ / ₁₆ " 7' 5 ¹⁵ / ₁₆ "	19' 6" 6' 9 ¹ / ₄ "	32' 5" 6'	∞ 5' 1 ³ / ₄ "	∞ 4' 3 ⁵ / ₈ "	∞ 3' 6 ¹ / ₈ "	∞ 2' 10"
7	9' 1 ³ / ₈ " 5' 8 ⁵ / ₁₆ "	10' 6" 5' 3 ¹ / ₄ "	13' 3 ¹ / ₄ " 4' 9 ¹ / ₂ "	21' 4" 4' 3"	171' 3' 8"	∞ 3' 1"	∞ 2' 6 ¹¹ / ₁₆ "
5	5' 11 ¹ / ₂ " 4' 3 ¹¹ / ₁₆ "	6' 6" 4' 1 ³ / ₁₆ "	7' 5 ¹ / ₈ " 3' 9 ¹ / ₂ "	9' 4 ¹ / ₄ " 3' 5 ⁵ / ₈ "	14' 10" 3' 7 ¹ / ₈ "	101' 2' 7"	∞ 2' 3 ³ / ₁₆ "
4	4' 6 ⁷ / ₈ " 3' 6 ³ / ₈ "	4' 10 ¹ / ₂ " 3' 4 ³ / ₄ "	5' 4 ³ / ₈ " 3' 2 ³ / ₈ "	6' 3 ¹ / ₄ " 3'	8' 3 ¹ / ₈ " 2' 8 ¹ / ₄ "	15' 4" 2' 4 ¹ / ₂ "	∞ 2' 1 ¹ / ₁₆ "
3	3' 3 ⁹ / ₁₆ " 2' 9"	3' 5 ¹ / ₄ " 2' 7 ⁷ / ₈ "	3' 8" 2' 6 ¹ / ₂ "	4' 1 ¹ / ₂ " 2' 4 ³ / ₄ "	4' 9" 2' 2 ⁵ / ₈ "	6' 4 ¹ / ₄ " 2' 4 ¹ / ₈ "	11' 7 ¹⁵ / ₁₆ " 1' 9 ³ / ₈ "
2.5	2' 8 ⁵ / ₁₆ " 2' 3 ¹⁵ / ₁₆ "	2' 9 ³ / ₈ " 2' 3 ¹ / ₄ "	2' 11 ¹ / ₈ " 2' 2 ¹ / ₄ "	3' 1 ⁷ / ₈ " 2' 1"	3' 6 ¹ / ₂ " 1' 11"	4' 3 ⁷ / ₈ " 1' 9 ¹ / ₂ "	6' 2 ⁵ / ₈ " 1' 7 ³ / ₈ "
2	2' 1 ³ / ₈ " 1' 10 ¹¹ / ₁₆ "	2' 2" 1' 10 ¹ / ₄ "	2' 3" 1' 9 ⁵ / ₈ "	2' 4 ³ / ₈ " 1' 8 ³ / ₄ "	2' 6" 1' 7 ³ / ₄ "	2' 11 ¹ / ₈ " 1' 6 ¹ / ₂ "	3' 7 ¹⁵ / ₁₆ " 1' 4 ¹⁵ / ₁₆ "
1.5	1' 6 ¹¹ / ₁₆ " 1' 5 ⁵ / ₁₆ "	1' 7" 1' 5 ¹ / ₈ "	1' 7 ³ / ₈ " 1' 4 ³ / ₄ "	1' 8 ¹ / ₈ " 1' 4 ¹ / ₄ "	1' 9 ¹ / ₈ " 1' 3 ³ / ₄ "	1' 11" 1' 3"	2' 2 ¹ / ₁₆ " 1' 1 ¹⁵ / ₁₆ "

35mm F2.8 CELTIC LENS In METERS

F.No. Dist. (m)	2.8	4	5.6	8	11	16	22
∞	∞ 13.1	∞ 9.25	∞ 6.56	∞ 4.66	∞ 3.32	∞ 2.36	∞ 1.74
5	7.98 3.65	10.6 3.28	20.1 2.88	∞ 2.45	∞ 2.03	∞ 1.64	∞ 1.31
3	3.84 2.47	4.35 2.30	5.36 2.10	8.01 1.87	27.2 1.62	∞ 1.36	∞ 1.13
2	2.33 1.75	2.50 1.67	2.80 1.56	3.35 1.43	4.71 1.29	11.2 1.13	∞ 0.96
1.5	1.67 1.36	1.76 1.31	1.89 1.25	2.13 1.17	2.58 1.07	3.73 0.96	9.01 0.84
1.2	1.30 1.11	1.35 1.08	1.43 1.04	1.56 0.98	1.78 0.91	2.24 0.83	3.43 0.74
1	1.07 0.94	1.10 0.92	1.15 0.89	1.23 0.85	1.36 0.80	1.60 0.74	2.12 0.67
0.8	0.84 0.76	0.86 0.75	0.89 0.73	0.93 0.70	1.00 0.67	1.12 0.63	1.35 0.58
0.6	0.62 0.58	0.63 0.57	0.64 0.56	0.66 0.55	0.70 0.53	0.75 0.51	0.84 0.47
0.5	0.51 0.49	0.52 0.48	0.53 0.47	0.54 0.47	0.56 0.45	0.59 0.44	0.64 0.41
0.4	0.41 0.39	0.41 0.39	0.42 0.39	0.42 0.38	0.43 0.37	0.45 0.36	0.48 0.35
0.3	0.30 0.30	0.31 0.29	0.31 0.29	0.31 0.29	0.31 0.29	0.32 0.28	0.33 0.27

35mm F2.8 CELTIC LENS In FEET

6

F.No. Dist. (ft)	2.8	4	5.6	8	11	16	22
∞	∞ 42' 10"	∞ 30' 4"	∞ 21' 6"	∞ 15' 3"	∞ 10' 11"	∞ 7' 9"	∞ 5' 8"
20	36' 11" 13' 9"	57' 2" 12' 2"	256' 10' 6"	∞ 8' 10"	∞ 7' 2"	∞ 5' 8 ³ / ₈ "	∞ 4' 6 ¹ / ₈ "
10	12' 10" 8' 2 ¹ / ₄ "	14' 7" 7' 7 ¹ / ₂ "	18' 1" 6' 11"	27' 6" 6' 2 ¹ / ₈ "	105' 5' 4 ¹ / ₄ "	∞ 4' 6"	∞ 3' 8 ³ / ₄ "
7	8' 3 ¹ / ₈ " 6' 1"	8' 11" 5' 9 ¹ / ₄ "	10' 1" 5' 4 ¹ / ₂ "	12' 4 ¹ / ₂ " 4' 11"	18' 4" 4' 4 ³ / ₄ "	58' 11" 3' 9 ³ / ₄ "	∞ 3' 3"
5	5' 7" 4' 6 ¹ / ₄ "	5' 10" 4' 4 ¹ / ₄ "	6' 4 ¹ / ₈ " 4' 1 ³ / ₄ "	7' 1 ³ / ₄ " 3' 11"	8' 8 ³ / ₄ " 3' 6 ¹ / ₂ "	12' 9" 3' 2"	32' 11 ³ / ₈ " 2' 9 ¹ / ₄ "
4	4' 4 ¹ / ₄ " 3' 3 ³ / ₈ "	4' 6 ¹ / ₄ " 3' 7"	4' 9 ³ / ₈ " 3' 5 ¹ / ₄ "	5' 2 ¹ / ₂ " 3' 3 ¹ / ₈ "	6' 3' 3 ⁸ / ₈ "	7' 7" 2' 9 ¹ / ₈ "	11' 10 ¹ / ₁₆ " 2' 5 ¹ / ₂ "
3	3' 2 ¹ / ₄ " 2' 10"	3' 3 ¹ / ₄ " 2' 9 ¹ / ₄ "	3' 4 ³ / ₄ " 2' 8 ¹ / ₄ "	3' 7 ¹ / ₈ " 2' 7"	3' 11" 2' 5 ¹ / ₄ "	4' 6 ¹ / ₄ " 2' 3 ¹ / ₄ "	5' 8 ³ / ₄ " 2' 1 ¹ / ₁₆ "
2.5	2' 7 ¹ / ₂ " 2' 4"	2' 8 ¹ / ₈ " 2' 4 ¹ / ₈ "	2' 9 ¹ / ₈ " 2' 3 ³ / ₈ "	2' 11" 2' 2 ¹ / ₂ "	4' 2' 1 ³ / ₈ "	3' 5" 1' 11"	4' 5 ⁵ / ₈ " 1' 10"
2	2' 7 ⁷ / ₈ " 1' 11"	2' 1 ¹ / ₄ " 1' 11"	2' 1 ³ / ₄ " 1' 10"	2' 2" 1' 9"	2' 3" 1' 9 ¹ / ₈ "	2' 6" 1' 8 ¹ / ₈ "	2' 9 ¹³ / ₁₆ " 1' 6 ³ / ₄ "
1.5	1' 6 ³ / ₈ " 1' 5 ¹ / ₂ "	1' 6 ¹ / ₂ " 1' 5 ³ / ₈ "	1' 6 ³ / ₄ " 1' 5 ⁵ / ₈ "	1' 7 ¹ / ₄ " 1' 4 ³ / ₄ "	1' 7 ³ / ₈ " 1' 4 ¹ / ₂ "	1' 8 ³ / ₄ " 1' 4"	1' 10 ⁷ / ₁₆ " 1' 3 ¹ / ₈ "
1.25	1' 3 ¹ / ₄ " 1' 2 ³ / ₄ "	1' 3 ³ / ₈ " 1' 2 ⁵ / ₈ "	1' 3 ¹ / ₂ " 1' 2 ¹ / ₂ "	1' 3 ³ / ₄ " 1' 2 ¹ / ₄ "	1' 4 ¹ / ₈ " 1' 2"	1' 4 ¹ / ₂ " 1' 1 ³ / ₄ "	1' 5 ¹ / ₁₆ " 1' 1 ¹ / ₁₆ "
1.0	1' 1 ¹ / ₈ " 11 ¹ / ₈ "	1' 1 ¹ / ₈ " 11 ³ / ₄ "	1' 1 ¹ / ₄ " 11 ³ / ₄ "	1' 3 ³ / ₈ " 11 ⁵ / ₈ "	1' 1 ¹ / ₂ " 11 ¹ / ₂ "	1' 3 ¹ / ₄ " 11 ¹ / ₄ "	1' 1 ³ / ₈ " 10 ¹ / ₈ "

135mm F2.8 AND F3.5 CELTIC LENSES In METERS

F No. Dist. (m)	2.8	4	5.6	8	11	16	22
∞	∞ 196	∞ 137	∞ 97	∞ 69	∞ 49	∞ 34	∞ 24
20	22.2 18.2	23.4 17.5	25.1 16.6	28.1 15.5	33.7 14.2	47.1 12.7	∞ 11.1
10	10.5 9.5	10.8 9.3	11.1 9.1	11.6 8.8	12.5 8.3	13.9 7.8	16.7 7.2
7	7.3 6.8	7.4 6.7	7.5 6.6	7.8 6.4	8.1 6.2	8.7 5.9	9.7 5.5
5	5.1 4.9	5.2 4.8	5.3 4.8	5.4 4.7	5.5 4.6	5.8 4.4	6.2 4.2
4	4.08 3.93	4.11 3.90	4.16 3.86	4.22 3.80	4.32 3.72	4.48 3.62	4.71 3.48
3	3.04 2.96	3.06 2.94	3.08 2.92	3.12 2.89	3.17 2.85	3.26 2.79	3.37 2.71
2.5	2.53 2.47	2.54 2.46	2.56 2.45	2.58 2.43	2.61 2.40	2.67 2.35	2.74 2.30
2	2.02 1.98	2.02 1.98	2.03 1.97	2.05 1.95	2.07 1.94	2.10 1.91	2.14 1.88
1.7	1.71 1.69	1.72 1.68	1.72 1.68	1.73 1.67	1.75 1.66	1.77 1.64	1.80 1.61
1.5	1.51 1.49	1.51 1.49	1.52 1.48	1.52 1.48	1.54 1.47	1.55 1.45	1.57 1.43

135mm F2.8 AND F3.5 CELTIC LENSES In FEET

8

Dist. (ft) \ F No.	2.8	4	5.6	8	11	16	22
∞	∞ 246'	∞ 449'	∞ 318'	∞ 225'	∞ 159'	∞ 113'	∞ 80'
50	54' 1" 46' 6"	56' 1" 45' 1"	59' 1" 43' 4"	63' 11" 41' 1"	72' 3" 38' 3"	88' 8" 34' 11"	131' 31'
30	31' 5" 28' 9"	32' 1" 28' 2"	33' 27' 6"	34' 5" 26' 7"	36' 8" 25' 5"	40' 5" 23' 11"	47' 2" 22' 1"
20	20' 7" 19' 5"	20' 11" 19' 2"	21' 3" 18' 11"	21' 10" 18' 6"	22' 8" 17' 11"	24' 17' 2"	26' 3" 16' 2"
15	15' 4" 14' 8"	15' 6" 14' 7"	15' 8" 14' 5"	16' 14' 2"	16' 5" 13' 10"	17' 1" 13' 4"	18' 2" 12' 10"
12	12' 2" 11' 10"	12' 4" 11' 9"	12' 5" 11' 7"	12' 7" 11' 5"	12' 11" 11' 3"	13' 3" 10' 11"	13' 11" 10' 7"
10	10' 2" 9' 10"	10' 2" 9' 9"	10' 3" 9' 8"	10' 5" 9' 7"	10' 7" 9' 5"	10' 10" 9' 3"	11' 3" 9' 1/4"
8	8' 1" 7' 11"	8' 1 3/8" 7' 10 5/8"	8' 2" 7' 10"	8' 3" 7' 9 1/4"	8' 4 1/4" 7' 8 1/8"	8' 6 1/8" 7' 6 5/8"	8' 9" 7' 4 1/2"
7	7' 3/4" 6' 11 1/4"	7' 1" 6' 11"	7' 1 5/8" 6' 10 1/2"	7' 2 1/8" 6' 9 7/8"	7' 3 1/8" 6' 9 1/8"	7' 4 1/2" 6' 8"	7' 6 5/8" 6' 6 3/8"
6	6' 1/2" 5' 11 1/2"	6' 3/4" 5' 11 1/4"	6' 1 1/4" 5' 11"	6' 1 1/2" 5' 10 1/2"	6' 2 1/4" 5' 10"	6' 3 1/4" 5' 9 1/8"	6' 4 5/8" 5' 8"
5	5' 3/8" 4' 11 5/8"	5' 1/2" 4' 11 1/2"	5' 5/8" 4' 11 3/8"	5' 1" 4' 11"	5' 1 3/8" 4' 10 5/8"	5' 2 1/8" 4' 10 1/8"	5' 3" 4' 9 3/8"

200mm F4 CELTIC LENS IN METERS

F No. Dist. (m)	4	5.6	8	11	16	22	32
∞	∞ 299	∞ 212	∞ 150	∞ 106	∞ 75	∞ 53	∞ 38
30	33 27	35 26	37 25	42 24	50 22	68 19	136 17
15	15.8 14.3	16.1 14.0	16.6 13.7	17.4 13.2	18.6 12.6	20.6 11.8	24.2 10.9
10	10.3 9.7	10.5 9.6	10.7 9.4	11.0 9.2	11.4 8.9	12.2 8.5	13.3 8.0
7	7.2 6.9	7.2 6.8	7.3 6.7	7.5 6.6	7.7 6.5	8.0 6.3	8.4 6.0
5	5.1 4.9	5.1 4.9	5.2 4.8	5.2 4.8	5.3 4.7	5.5 4.6	5.6 4.5
4	4.1 3.96	4.1 3.94	4.1 3.91	4.1 3.88	4.2 3.83	4.2 3.76	4.4 3.68
3	3.02 2.98	3.03 2.97	3.05 2.95	3.07 2.93	3.10 2.91	3.14 2.87	3.20 2.83
2.5	2.52 2.48	2.52 2.48	2.53 2.47	2.54 2.46	2.56 2.44	2.59 2.42	2.63 2.39

200mm F4 CELTIC LENS IN FEET

F.No. Dist. (ft)	4	5.6	8	11	16	22	32
∞	∞ 982'	∞ 695'	∞ 491'	∞ 348'	∞ 246'	∞ 174'	∞ 125'
100	111' 91'	116' 88'	125' 83'	139' 78'	167' 72'	231' 64'	479' 56'
50	52' 7" 47' 8"	53' 8" 46' 9"	55' 5" 45' 7"	58' 43' 11"	62' 2" 41' 10"	69' 2" 39' 3"	81' 6" 36' 2"
30	30' 11" 29' 2"	31' 3" 28' 10"	31' 10" 28' 5"	32' 8" 27' 9"	33' 10" 26' 11"	35' 9" 25' 10"	38' 8" 24' 7"
20	20' 4" 19' 8"	20' 6" 19' 6"	20' 9" 19' 4"	21' 1" 19'	21' 7" 18' 8"	22' 4" 18' 2"	23' 4" 17' 6"
15	15' 2" 14' 10"	15' 3" 14' 9"	15' 5" 14' 7"	15' 7" 14' 6"	15' 10" 14' 3"	16' 3" 14'	16' 9" 13' 7"
10	10' 1" 9' 11"	10' 1" 9' 10 ³ / ₈ "	10' 2" 9' 10 ¹ / ₄ "	10' 3" 9' 9 ³ / ₈ "	10' 4" 9' 8 ¹ / ₄ "	10' 6" 9' 6 ³ / ₄ "	10' 8" 9' 5"
8	8' 1/2" 7' 11 ³ / ₈ "	8' 3/4" 7' 11 ¹ / ₄ "	8' 1 1/8" 7' 10 ¹ / ₈ "	8' 1 1/2" 7' 10 ³ / ₈ "	8' 2 3/8" 7' 9 3/4"	8' 3 1/4" 7' 8 7/8"	7' 3 5/16" 6' 8 7/8"

LENS CARE

Never touch glass lens surface with the fingers.

Should a glass lens surface become dirty, gently whisk loose, dry matter off it with a bellows lens brush. If necessary, the glass surface may then be wiped gently with a circular motion from the center outward with a soft, clean cotton cloth or special photographic lens tissue.

Liquid lens cleaner should be used only when fingerprints or other matter cannot be removed with a dry cloth or lens tissue. *Never drop lens cleaning fluid directly on lens surfaces.* Instead, apply only one drop of fluid to the cloth or tissue and wipe the glass surface gently from center to edge.

The lens barrel and other metal parts may be wiped with a silicon-treated cloth.

For all other service and repairs, contact your authorized Minolta repair facility.

STORAGE

When not in use, glass surfaces should be protected by attaching front and rear caps and the lenses stored in their cases. Do not store lenses where temperature or humidity is high or near corrosive chemicals or gases.

If a lens is to be stored for an extended period, it is best to place it in its case in an airtight container (such as a heavy or double plastic bag) along with a small bag of a drying agent (such as silica gel).

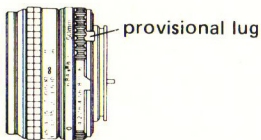
NOTES ON MINOLTA MD CELTIC LENSES

Minolta MD Celtic lenses have a "provisional lug" (see Illustration A) in addition to the meter-coupling lug found also on MC Celtic lenses. Please note the following regarding this provisional lug:

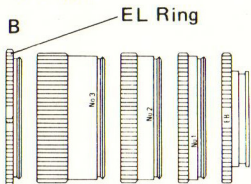
With earlier SR models

With an MD Celtic lens attached to certain earlier SR models, the minimum f-stop cannot be selected because the provisional lug will bind on or strike the body's front cover or one of the screws securing it. This is true of the SR-1, SR-2, SR-3, SR-7, SR-1s, and SR-M *used as they are*.

A



B



However, all f-stops on MD lenses can be used on SR-1s or SR-M or on SR-1 or SR-7 bodies with serial numbers over 2500000 by having the screw changed at an authorized Minolta service facility.

With Extension Tube Set II

It may also be impracticable to use an MD Celtic lens with an earlier Minolta Extension Tube Set II *as it is* because there is not enough clearance between its EL Ring (Illustration B) and the MD lens' provisional lug.

This can be remedied, however, by exchanging your EL Ring at an authorized Minolta service facility for one modified to provide the necessary clearance.

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MINOLTA MASTERS PHOTOGRAPHY

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