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FDズームレンズ 使用説明書

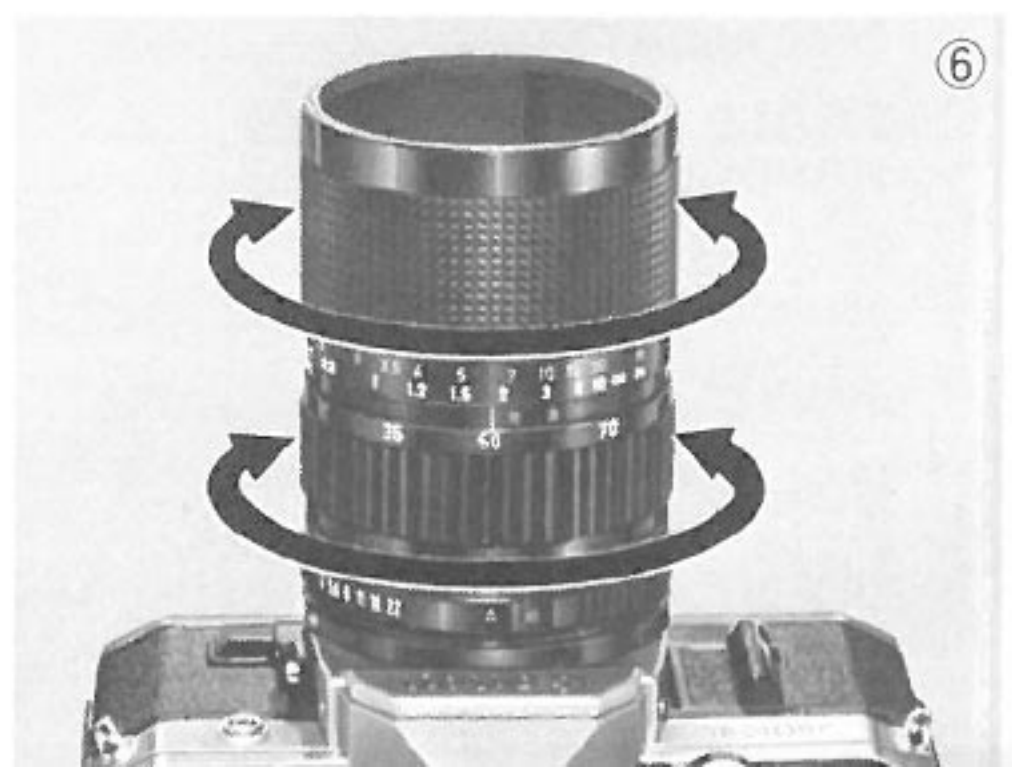
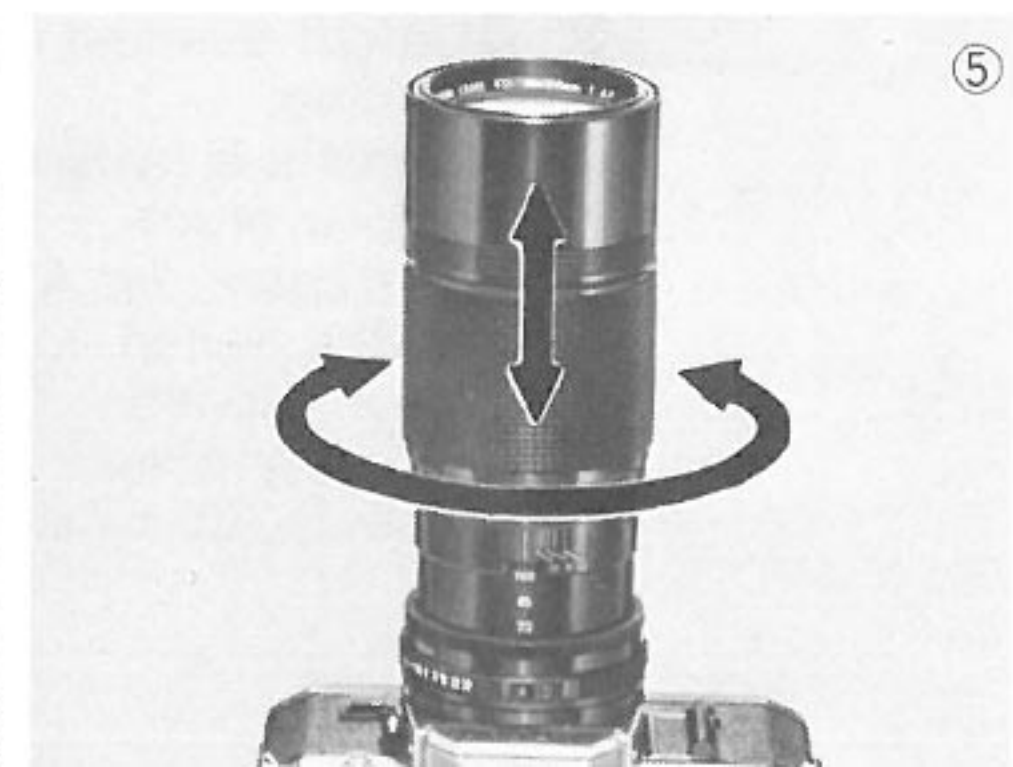
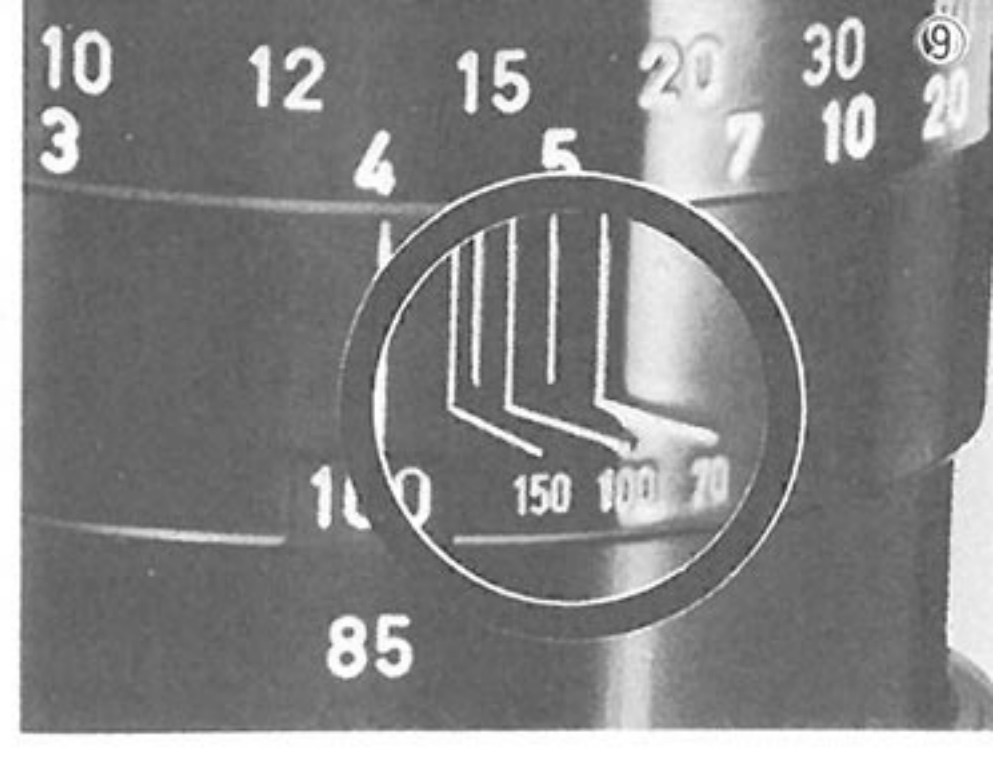
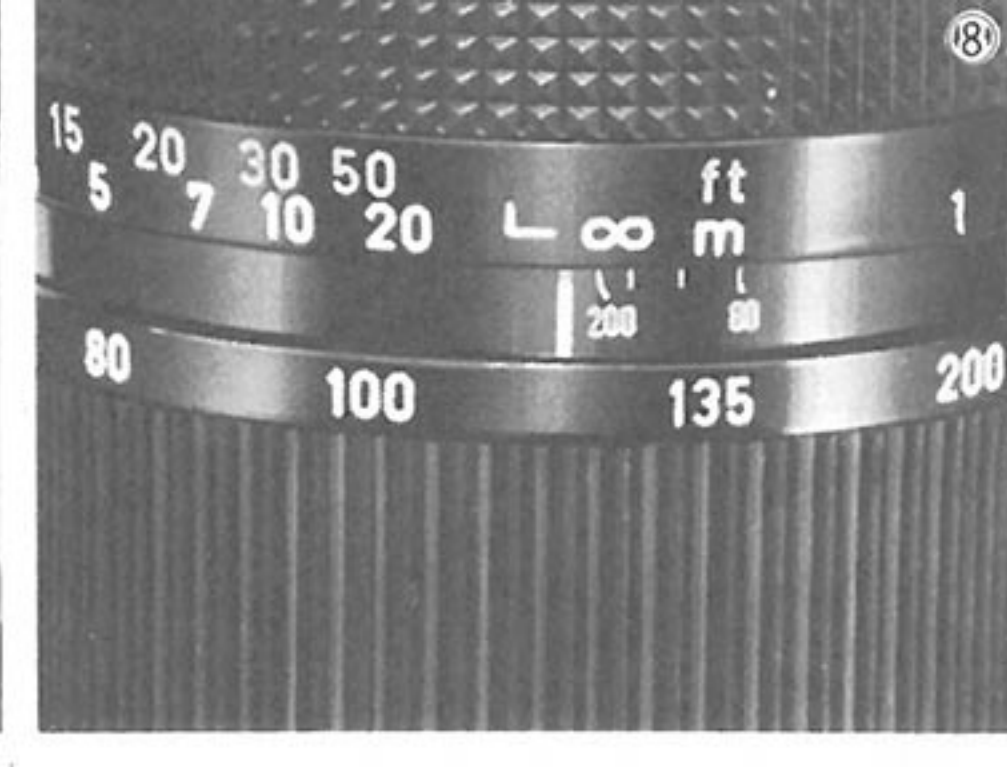
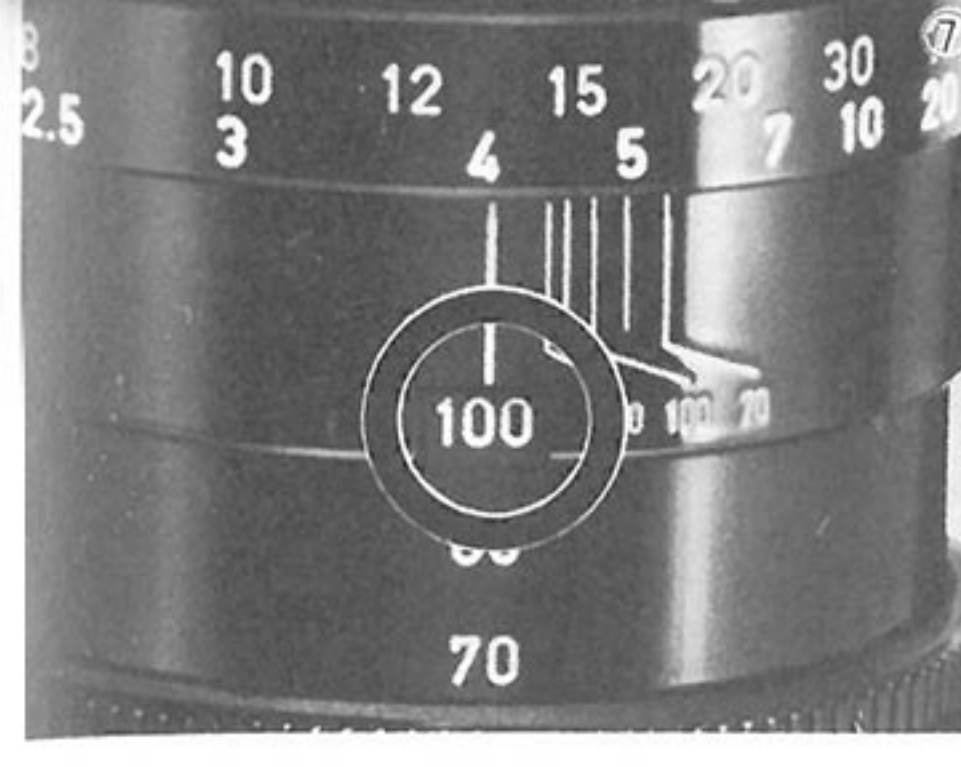
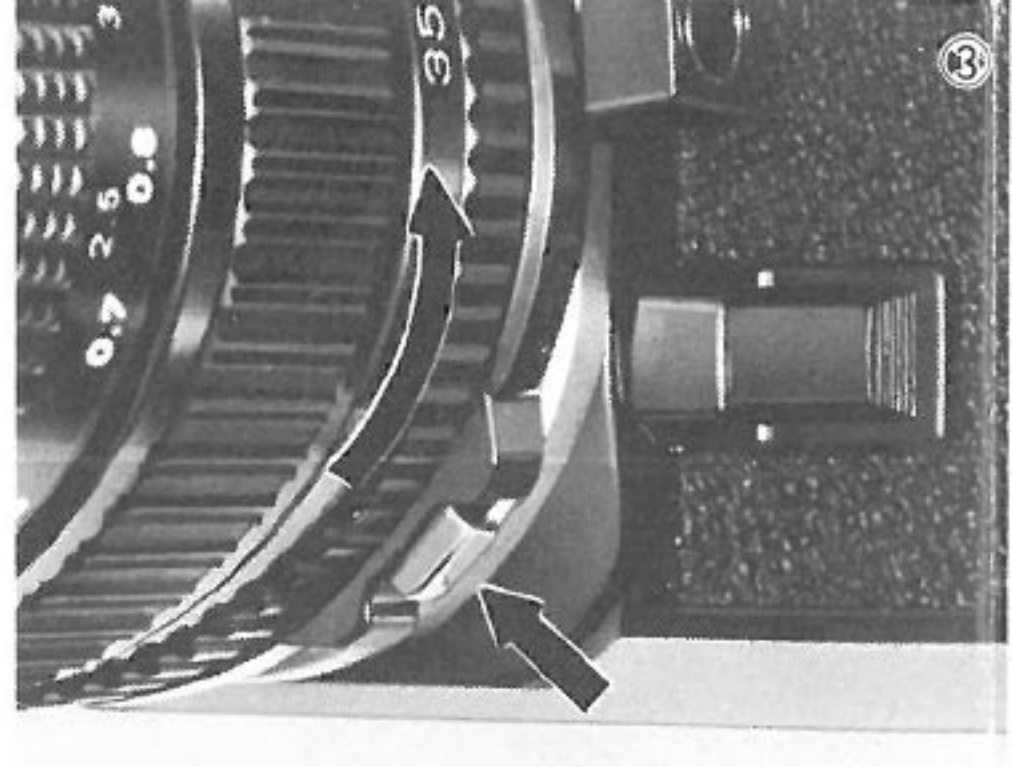
FD Zoom Lenses Instructions

Objectifs zoom FD Notice d'emploi

FD-Vario-Objektive Bedienungsanleitung

Objetivos FD de distancia focal variable Instrucciones

PRINTED IN JAPAN



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■ P. 3 と P. 110 を開き、説明文と写真を照合して、お読みください。

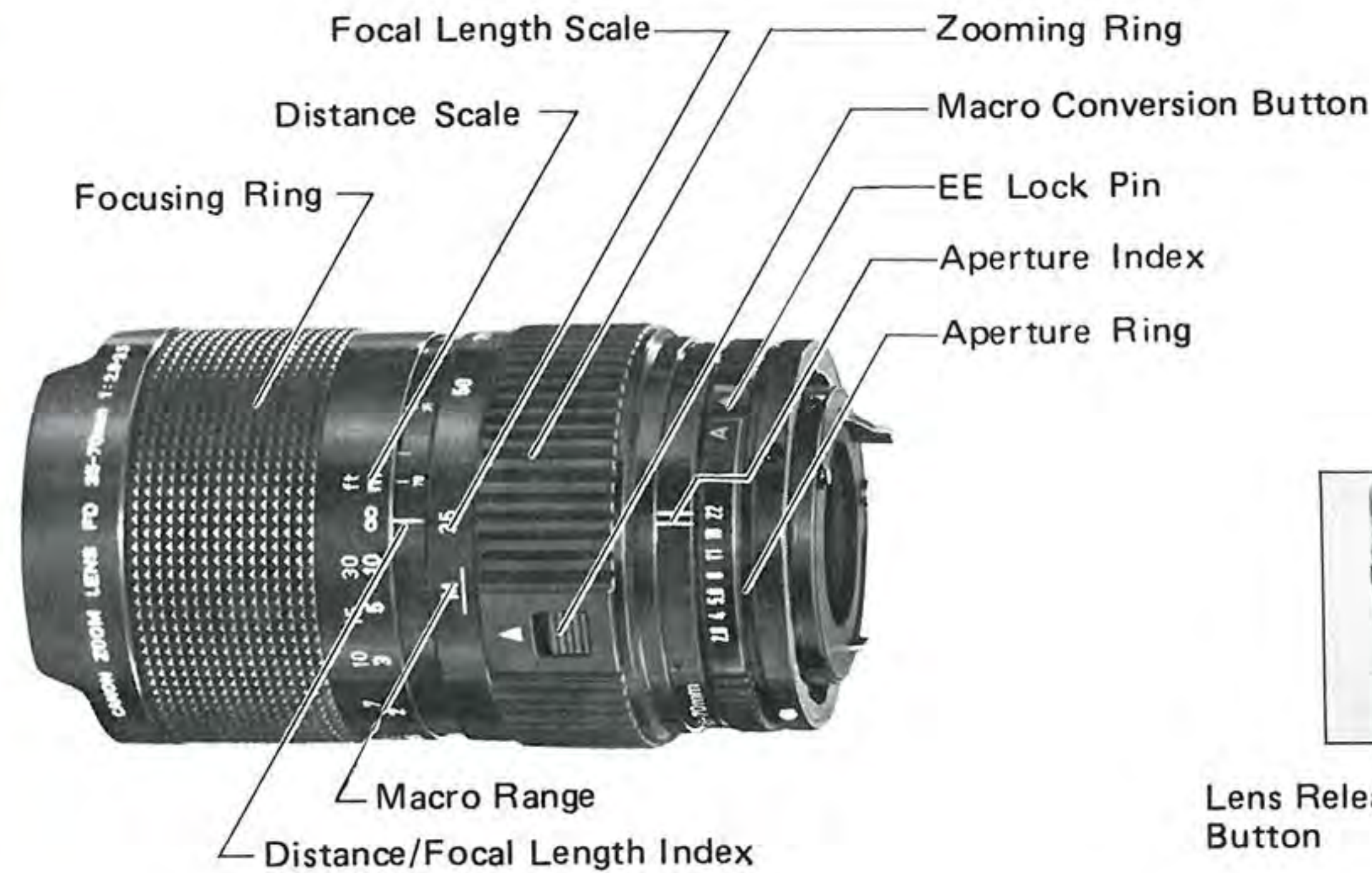
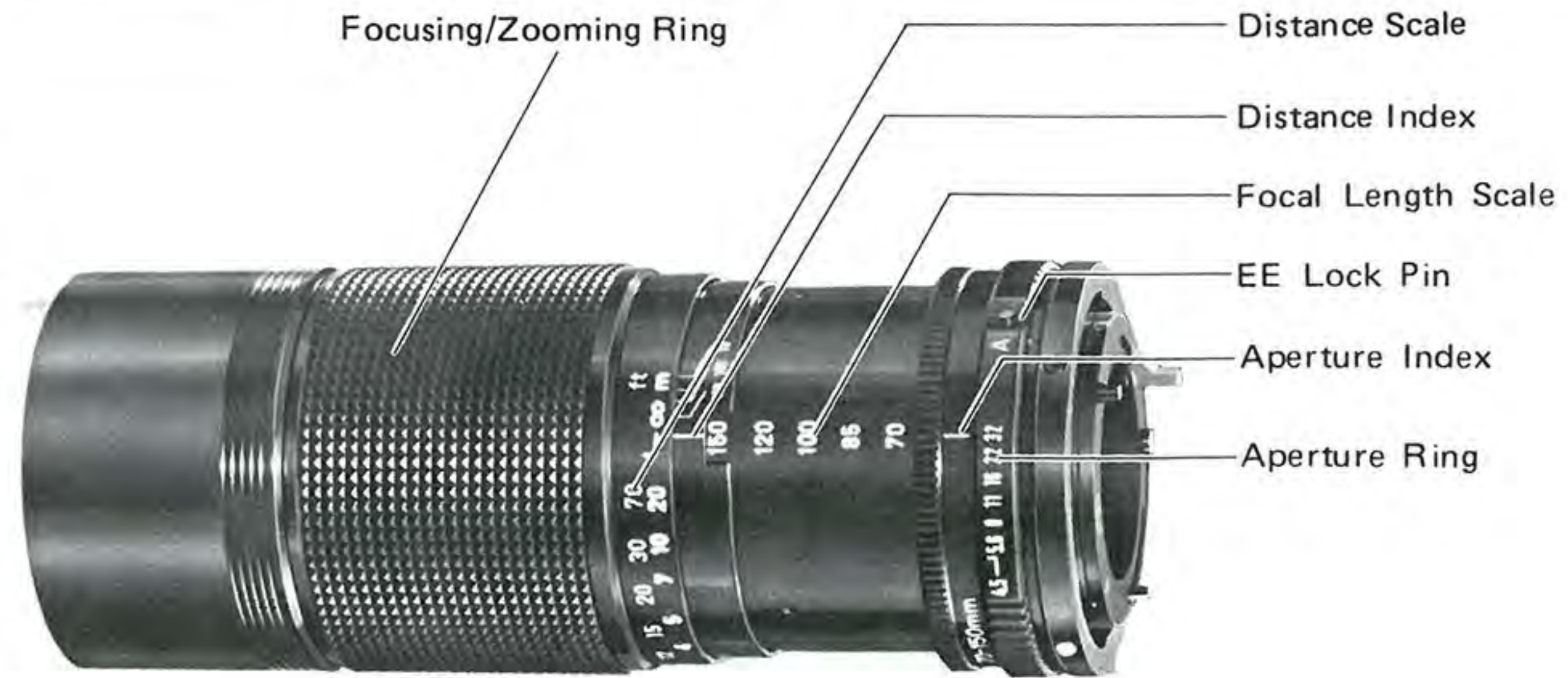
■ Unfold this and last page for easy reference while reading.

■ Pendant la lecture de cette notice, dépliez les pages de couverture.

■ Zum Lesen der Anleitung empfehlen wir Ihnen, die beiden Seiten am Anfang und Ende der Anleitung auszuklappen.

■ Despliegue esta página y la última mientras esté leyendo estas instrucciones.





Lens Release Button

Mount Positioning Point

INTRODUCTION

This instruction booklet describes the operation and handling of Canon's new FD zoom lenses. These are a new breed of smaller, lighter, easier to handle FD zoom lenses. They are all multi-layer coated for images virtually free of ghost and flare.

E For a clear understanding of the new FD zoom lenses, please read this instruction booklet carefully.

HANDLING THE LENS

Lens Cap and Rear Dust Cap

The lens is provided with protective caps for both front and rear. Both should always be attached when the lens is dismounted. For protection when the lens is mounted but not in use, please see to it that the front cap is attached.

Most lenses come with a clip-on lens cap which is easily attached and removed by pressing in the tabs on both sides of the cap. This type of cap can also be attached to a double-screw type filter screwed into the lens. The FD 35–70mm f/4 lens comes with a lid-type cap which simply slips over the front of the lens and can be simply pulled off. The FD 24–35mm f/3.5 L lens comes with a screw-in cap.

The rear dust cap is identical for every lens. It must be removed before mounting the lens. To remove it, either turn the lens clockwise or the cap itself

counterclockwise until it stops and pull the cap out (photo 1). To replace the rear dust cap, first align the arrow on its top with the red dot at the rear of the lens. Then, applying slight pressure, turn the cap clockwise until it is tight.

The rear lens cap specified for these lenses has serrated edges. Do not use a rear lens cap which lacks the serrated edges.

Mounting onto the Camera

1. Remove the lens' rear dust cap and the camera's body cap.
2. Align the projecting red mount positioning point on the lens with the red dot above the camera mount (photo 2).
3. In that position, apply slight pressure to the lens and rotate it clockwise until it stops and the lens release button pops out with a click.

E Do not press the lens release button while mounting the lens. Only when the lens release button pops out can you be sure that the lens is completely locked on and that it will function properly. In low temperatures, the click sound may not be audible; visually confirm that the lens release button has popped out.

E As a rule, the lens and camera body should be perfectly aligned for mounting. However, on rare occasions, such as when it is very dark or when you are in a great hurry, perfect alignment can be difficult. For easier mounting under these circumstances, Canon has given the mount positioning point a rounded design. Simply find the point with your finger and align it as closely as possible with the red dot on the camera. Then turn the lens only slightly back and forth until it drops into position and, applying slight pressure to the lens, continue to turn it to the right until you hear the click that indicates that the lens release button has popped out. This imprecise procedure is possible when mounting new FD lenses onto most cameras and accessories. However, when mounting the lens onto the Canon Pellix or automatic accessories, such as Extension Tubes FL and FD-U or Extender FD 2x-A, perfect

alignment is required. In any case, excessive sloppiness will make mounting impossible; please be as accurate as possible.

Please note that, if the aperture ring of the lens is set to "A" before mounting, mounting may be impossible on certain non-AE cameras and accessories. For further details, please see p. 26.

Dismounting

To dismount the lens, turn it counterclockwise until it stops while pressing the lens release button. Then pull the lens out (photo 3).

When changing lenses, take special care not to damage the protruding pins and levers on the rear. Always put a zoom lens down with the rear facing up and attach the rear dust cap immediately. When the lens is dismounted, the diaphragm blades are locked in a half-closed position and will not move even if you turn the aperture ring.

Hood

There are three types of hoods for Canon zoom lenses. Some have a built-in, retractable hood which is simply pulled out when needed. For others, a clamp-on hood or a bayonet hood is optionally available. Of these hoods, please use only that which

is specified for the lens. The clamp-on hood is attached by slipping it over the front of the lens and tightening the clamp screw. The bayonet hood fits into the mount at the front of the lens and is fixed by turning.

Filter

E Most Canon zoom lenses have a filter thread at the front of the lens for screw-in filters. With some zoom lenses, such as the FD 35–70mm f/2.8–3.5 lens, the lens recesses far into the lens body when focused at infinity and zoomed to the longest focal length. For easy access to the filter thread in these cases, it is better to set the zooming ring to the shortest focal length and the focusing ring to the closest distance.

Those lenses which take a 52mm filter, except for the FD 35–70mm f/4 lens, may also be fitted with a

55mm screw-in filter by placing a 52–55 Step-up Ring (optional) between the filter and lens (photo 10). Please note, however, that this combination makes extending a built-in lens hood impossible.

As a rule, only one screw-in filter should be used at a time. The use of two or more filters may cause vignetting around the edges at focal lengths shorter than 35mm. This problem can be overcome by attaching the Canon Holder for Gelatin Filters, which is optionally available, to the front of the lens. Adapters are available for attaching this holder to most lenses, and it can hold up to three gelatin filters at a time.

OPERATION

Setting the Lens for AE Photography

If, according to the instructions for a Canon AE SLR, the lens aperture ring must be set to "A" for AE photography, this can be done by turning the aperture ring from the minimum aperture to "A" while pressing the EE lock pin (4). Follow the reverse procedure to remove the lens from "A". Use of the "A" setting is restricted to the Canon A-1, AE-1, EF, the F-1 equipped with the Servo EE Finder and these cameras equipped with accessories designed for AE photography. The aperture ring should always be off "A" when the lens is used with any other cameras or accessories — including while mounting and dismounting. It is simply impossible to mount the lens onto certain cameras and accessories, such as early AT-1 models and M Extension Tubes, when it is set to "A".

The new FD zoom lenses have all the usual FD signals. For further information concerning the use of an FD lens on your particular Canon SLR, please refer to the camera's instructions.

Focusing and Zooming

Most zoom lenses have separate rings for focusing and zooming. Focusing and zooming are done separately by rotating the respective rings (photo 6). Some lenses, such as the FD 70–150mm f/4.5 zoom, have only one ring for both operations. With this type of lens, focus by rotating the ring and zoom by extending and retracting the same ring (photo 5). The focal length of this type of lens can be read through the focal length indication window on the lens barrel (photo 7). Intermediate as well as the longest and shortest focal lengths are indicated. Of those zoom lenses which have separate rings for focusing and zooming, the focal length scale is on the zooming

ring (photo 8).

Single-ring Zoom Lenses	FD 100-200mm f/5.6 FD 70-150mm f/4.5
Two-ring Zoom Lenses	FD 24-35mm f/3.5 L, FD 28-50mm f/3.5 FD 35-70mm f/2.8-3.5 FD 35-70mm f/4 FD 80-200mm f/4

With any zoom lens, it is advisable to focus with the zooming ring at the longest focal length. It is not as easy to focus at the shorter focal lengths, and inaccurate focus will be aggravated by shallow depth of field if the lens is zoomed to telephoto after focusing at wide-angle. There is no problem in changing the focal length once the subject is focused at the telephoto end. The lens will maintain the focus throughout the zoom.

When using a telephoto zoom lens in extreme temperatures, focusing shifts may occur which will invalidate the distance scale. Due to the focusing shifts, these lenses have an allowance for focusing past infinity. Under these conditions, and even when shooting a far-distant subject, it is especially important to focus through the viewfinder rather than estimating the shooting distance by eye.

When using black and white infrared film, it is necessary to make a slight adjustment in focus using the infrared index. Several infrared indices, corresponding to various focal lengths, are engraved on the lens barrel (photo 9). After focusing through the viewfinder, make the correction by turning the focusing ring to align the focused distance with the appropriate infrared index depending on the focal length being used.

Macro Mechanism

Two of Canon's short zoom lenses, the FD 28–50mm f/3.5 and the FD 35–70mm f/2.8–3.5 lenses, are equipped with a macro mechanism for low close-up magnifications. To set the lens for close-up shooting, rotate the zooming ring into the macro range while pushing the macro conversion button on the zooming ring in the direction of the arrow (photo 11). The macro range is defined by a yellow line under a yellow "M" to the left of the shortest focal length on the scale. Once the lens is set for macro shooting, it is locked in this yellow range.

Focusing in macro shooting should be done by turning the zooming ring within the limits of the macro range. The focusing ring should be used only for making fine adjustments. The magnification obtained depends on the settings of both the focusing ring and the zooming ring as described in the table

below. Shooting distances in the table stand for the distance between the subject and the film plane.

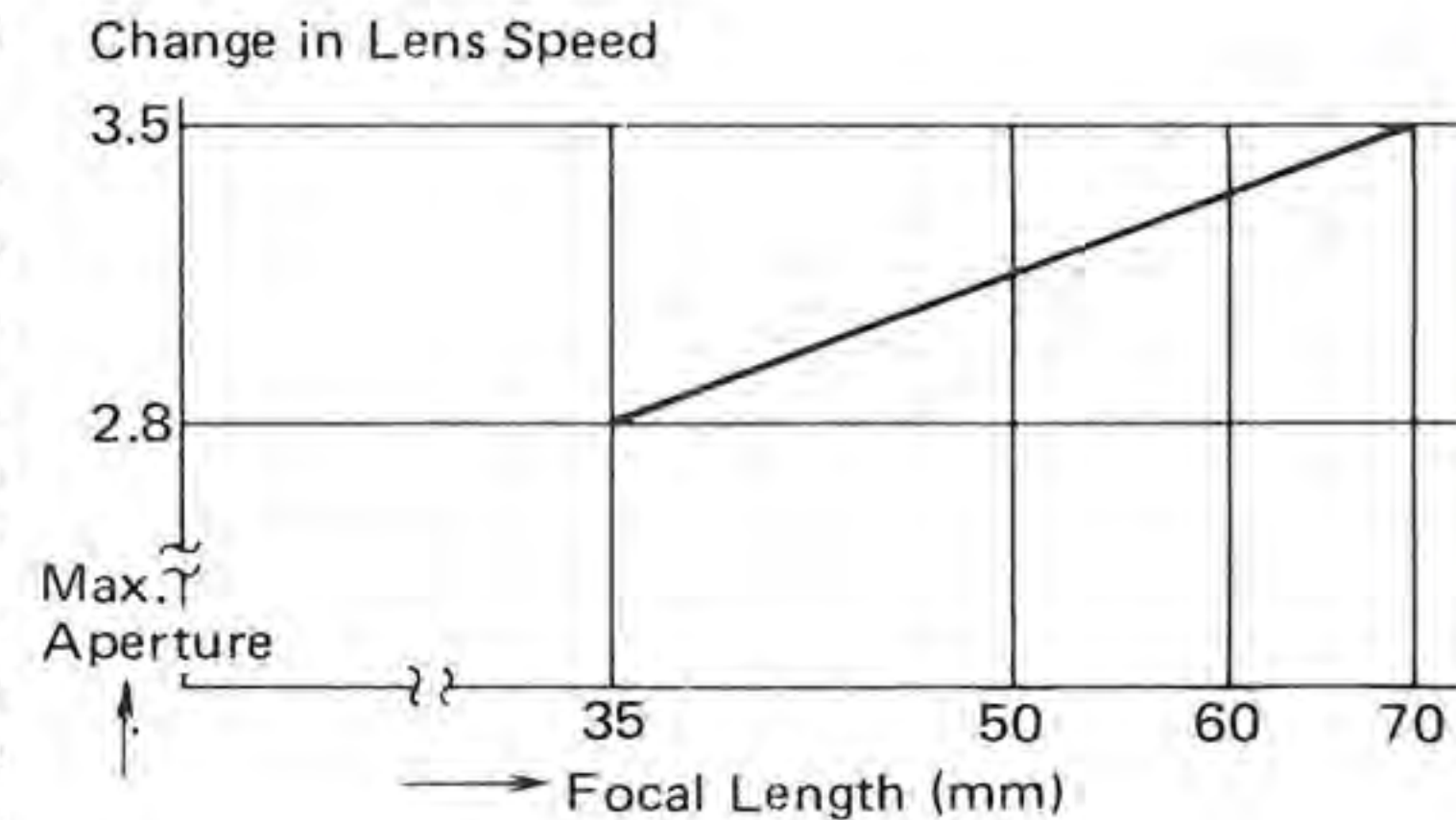
Lens	Distance Scale	Shooting Dist. Range (cm)	Field of View (mm) (max. to min.)	Magnification
FD28-50mm f/3.5	∞ 1m	60-30 40-25	381x571 to 103x155	1:15.9 to 1:4.3
FD35-70mm f/2.8-3.5	∞ 1m	120-40 60-30	342x513 to 122x182	1:14.3 to 1:5

When the FD 28–50mm lens is set in the macro range, the longest shooting distance possible is 60cm, and it is no longer possible to focus between 60cm and 1m. If it is necessary to focus in this range, press the macro conversion button in the direction of the arrow and focus by turning the zooming ring between the "M" range and the 28mm focal length. To return from the macro range to normal photography, turn the zooming ring towards the longer focal length range while pressing the macro conversion button in the direction of the arrow.

The low magnifications permitted by the macro mechanism of these zoom lenses are very convenient for shooting three-dimensional subjects, such as insects and flowers. These lenses are not intended for copying; the specially-corrected Canon macro lenses are recommended for copying documents, drawings, etc.

Maximum Aperture of FD 35–70mm f/2.8–3.5 Lens

The maximum aperture of this lens changes according to focal length as indicated in the graph on the right. Starting at f/2.8 in the 35mm range, it gradually becomes smaller as the focal length increases, reaching a minimum of f/3.5 at 70mm. This does not require any special operation with a camera which has a through-the-lens meter. When using a separate exposure meter, however, the effective aperture index changes according to focal length. Use the blue aperture index at 35mm, the pink aperture index at 70mm and read or set the aperture between these two indices at 50mm.



LENS ACCESSORY

Canon Extender FD 2x-A (photo 12)

This accessory is designed to double the zooming

range of a zoom lens or the focal length of a fixed-focal-length lens. It can be used with any FD telephoto lens having a focal length from 100mm to 800mm and with any FD zoom lens having 100mm within its range. The Extender has all FD signals, so metering and shooting procedures are the same as if an FD lens was mounted directly on the camera. The minimum focusing distance of the prime lens remains the same.

The Extender is aberration-corrected to give very high performance with any of the FD lenses specified above. It will give high resolution and contrast over the entire image and will in no way adversely affect the efficiency of the above FD lenses.

When the Extender is mounted, the apertures on the aperture scale of the lens will be reduced by two f/stops. This will not affect metering with a camera which has a through-the-lens meter.

Specifications

Type	Lens	Angle of View	Dia-phragm	Con-struction	Minimum Aperture	Closest Focusing Distance	
						m.	ft.
Fish-eye	New Fish-eye 7.5mm f/5.6	180°	Manual	8—11	22	—	—
	New Fish-eye FD 15mm f/2.8	180°	Automatic	9—10	22	0.2	0.7
Super Wide-Angle	New FD 17mm f/4	104°	Automatic	9—11	22	0.25	0.9
	New FD 20mm f/2.8	94°	Automatic	9—10	22	0.25	0.9
Wide-Angle	New FD 24mm f/1.4 L	84°	Automatic	8—10	16	0.3	1
	New FD 24mm f/2	84°	Automatic	9—11	22	0.3	1
	New FD 24mm f/2.8	84°	Automatic	9—10	22	0.3	1
	New FD 28mm f/2	75°	Automatic	9—10	22	0.3	1
	New FD 28mm f/2.8	75°	Automatic	7—7	22	0.3	1
	New FD 35mm f/2	63°	Automatic	8—10	22	0.3	1
	New FD 35mm f/2.8	63°	Automatic	5—6	22	0.35	1.25
Standard	New FD 50mm f/1.4	46°	Automatic	6—7	22	0.45	1.5
	New FD 50mm f/1.8	46°	Automatic	4—6	22	0.6	2

Filter Size	Cap	Hood	Focusing Mechanism	Length (mm)	Weight (gr)	Case	
						Hard-case	Snap-case
Built-in	Exclusive	—	Fixed	62	380	LH-C10	LS-B11
Built-in	Exclusive	Built-in	Double-helicoid focusing	60.5	470	LH-C10	LS-B11
72	C-72	BW-72	Double-helicoid focusing. With Canon Floating system	56	375	LH-C10	LS-B11
72	C-72	BW-72	Double-helicoid focusing. With Canon Floating system	58	320	LH-C10	LS-B11
72	C-72	BW-72	Double-helicoid focusing. With Canon Floating system	68	450	LH-C13	LS-B11
52	C-52	BW-52C	Double-helicoid focusing. With Canon Floating system	50.6	310	LH-B9	LS-A9
52	C-52	BW-52C	Double-helicoid focusing. With Canon Floating system	43	280	LH-B9	LS-A9
52	C-52	BW-52B	Double-helicoid focusing. With Canon Floating system	47.2	280	LH-B9	LS-A9
52	C-52	BW-52B	Double-helicoid focusig	40	210	LH-B9	LS-A9
52	C-52	BW-52A	Double-helicoid focusing. With Canon Floating system	46	260	LH-B9	LS-A9
52	C-52	BW-52A	Double-helicoid focusing	40	200	LH-B8	LS-A9
52	C-52	BS-52	Double-helicoid focusing	41	240	LH-B8	LS-A9
52	C-52	BS-52	Double-helicoid focusing	35	180	LH-B8	LS-A9

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Type	Lens	Angle of View	Dia-phragm	Con-struction	Minimum Aperture	Closest Focusing Distance	
						m.	ft.
Standard	FD 55mm f/1.2 S.S.C. ASPHERICAL	43°	Automatic	6—8	16	0.6	2
	FD 55mm f/1.2 S.S.C.	43°	Automatic	5—7	16	0.6	2
Telephoto	○ New FD 85mm f/1.2 L	28°30'	Automatic	6—8	16	0.9	3
	○ New FD 85mm f/1.8	28°30'	Automatic	4—6	22	0.85	3
	New FD 100mm f/2	24°	Automatic	4—6	32	1	3.5
	New FD 100mm f/2.8	24°	Automatic	5—5	32	1	3.5
	New FD 135mm f/2.8	18°	Automatic	5—6	32	1.3	4.5
	New FD 135mm f/3.5	18°	Automatic	4—4	32	1.3	4.5
	New FD 200mm f/2.8	12°	Automatic	5—5	32	1.8	6
	New FD 200mm f/4	12°	Automatic	6—7	32	1.5	5
	FD 300mm f/2.8 S.S.C. FLUORITE	8°15'	Automatic	5—6	22	3.5	11.5
	FD 300mm f/4 L	8°15'	Automatic	7—7	32	3	10
	New FD 300mm f/4	8°15'	Automatic	6—6	32	3	10
	New FD 300mm f/5.6	8°15'	Automatic	5—6	32	3	10
	FD 400mm f/4.5 S.S.C.	6°10'	Automatic	5—6	22	4	13
	FD 500mm f/4.5 L	5°	Automatic	6—7	32	4	15
	Reflex 500mm f/8 S.S.C.	5°	Fixed	3—6	—	4	15
Super Telephoto	FD 600mm f/4.5 S.S.C.	4°10'	Automatic	5—6	22	8	27
	FD 800mm f/5.6 S.S.C.	3°06'	Automatic	5—6	22	14	45

Filter Size	Cap	Hood	Focusing Mechanism	Length (mm)	Weight (gr)	Case	
						Hard-case	Snap-case
58	C-58	BS-58	Double-helicoid focusing. With Canon Floating system	55	575	I	—
58	C-58	BS-58	Double-helicoid focusing	52.5	510	I	—
72	C-72	BT-72	Double-helicoid focusing. With Canon Floating system	71	680	LH-C13	LS-B11
52	C-52	BT-52	Double-helicoid focusing	53.5	350	LH-C10	LS-B11
52	C-52	BT-52	Double-helicoid focusing	70	450	LH-B12	LS-B11
52	C-52	BT-52	Double-helicoid focusing	53.4	300	LH-C10	LS-B11
52	C-52	Built-in	Double-helicoid focusing	78	420	LH-B12	LS-B11
52	C-52	Built-in	Double-helicoid focusing.	85	360	LH-B12	LS-B13
72	C-72	Built-in	Double-helicoid focusing	140.5	700	LH-C18	LS-B21
52	C-52	Built-in	Rear-group focusing	121.5	500	LH-A17	LS-A18
34 (drop-in type)	Exclusive	Built-in	Double-helicoid focusing	230	1,900	Exclusive	—
34 (drop-in type)	84	Built-in	Rear-group focusing	208	1,100	Exclusive	—
34 (drop-in type)	84	Built-in	Rear-group focusing	204	965	LH-D24	—
58	C-58	Built-in	Rear-group focusing	198.5	685	LH-B24	LS-A24
34 (drop-in type)	Exclusive	Built-in	Rear-group focusing	282	1,300	Exclusive	—
48 (drop-in type)	Exclusive	Built-in	Rear-group focusing	395	2,650	Exclusive	—
34 (drop-in type)	S-83	Built-in	Front-element focusing	146	740	Exclusive	—
48 (drop-in type)	Exclusive	Built-in	Rack-and-pinion	455	4,300	Exclusive	—
48 (drop-in type)	Exclusive	Built-in	Rack-and-pinion	567	4,300	Exclusive	—

E

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Type	Lens	Angle of View	Dia-phragm	Con-struction	Minimum Aperture	Closest Focusing Distance	
						m.	ft.
Super Telephoto	FL 1200mm f/11 S.S.C.	2°05'	Manual	5—7	64	40	130
Zoom	○ New FD 24-35mm f/3.5 L	84°—63°	Automatic	9—12	22	0.4	1.5
	○ New FD 28-50mm f/3.5	75°—46°	Automatic	9—10	22	1	3.5
	○ New FD 35-70mm f/2.8-3.5	63°—34°	Automatic	10—10	22	1	3.5
	New FD 35-70mm f/4	63°—34°	Automatic	8—8	22	0.5	2
	New FD 70-150mm f/4.5	34°—16°20'	Automatic	9—12	32	1.5	5
	New FD 80-200mm f/4	30°—12°	Automatic	11—15	32	1	3.5
	New FD 100-200mm f/5.6	24°—12°	Automatic	5—8	32	2.5	8
	FD 85-300mm f/4.5 S.S.C.	28°30'—8°15'	Automatic	11—15	22	2.5	8
Macro	○ New FD 50mm f/3.5	46°	Automatic	4—6	32	23.2(cm)	9.1(in)
	○ New FD 100mm f/4	24°	Automatic	3—5	32	0.45	1.48
Tilt and Shift	TS 35mm f/2.8 S.S.C.	63° (Shift 79°)	Manual	8—9	22	0.3	1
Macrophoto	Macrophoto 20mm f/3.5	—	Manual	3—4	22	—	—
	Macrophoto 35mm f/2.8	—	Manual	4—6	22	—	—

○ indicates that this lens will be available in the near future.

Filter Size	Cap	Hood	Focusing Mechanism	Length (mm)	Weight (gr)	Case	
						Hard-case	Snap-case
48 (drop-in type)	Exclusive	Built-in	Rack-and-pinion	853	6,200	Exclusive	—
72	C-72	BW-72	Front-element focusing With Canon Floating system	86.6	500	LH-C13	LS-B13
58	69	W-69B	Front-element focusing	99.5	455	LH-B15	LS-B13
58	69	W-69	Front-element focusing	120	560	LH-B15	LS-A18
52	Exclusive	W-62	Front-element focusing	85.5	315	LH-B12	LS-B11
52	C-52	Built-in	Front-element focusing	132	565	LH-A17	LS-A18
58	C-58	Built-in	Front-element focusing	161	790	LH-B24	LS-B21
52	C-52	Built-in	Front-element focusing	167	660	LH-B24	LS-B21
Series IX (82)	Exclusive	Built-in	Front-element focusing	243.5	1,695	Exclusive	—
52	C-52	BW-52A	Double-helicoid focusing	57	240	LH-C10	LS-B11
52	C-52	BT-52	Double-helicoid focusing	95	480	LH-B15	LS-B13
58	C-58	BW-58B	Double-helicoid focusing. With Canon Floating system	74.5	550	Exclusive	—
—	—	—	—	20	35	Exclusive	—
—	—	—	—	22.5	60	Exclusive	—

- * The length of the lens is measured from the camera mount to the lens front vertex. For approximate overall length including front and rear dust caps, add 22mm.
- * Lens weight is for lens alone. Does not include lens caps, hood (optional) or tripod mount (if applicable).
- * It is not advisable to use a filter of a make other than Canon. Some filters of other makes may hit the lens surface, causing the filter to crack or possible damage to the lens.
- * All new FD lenses are coated and their inner surfaces anti-reflection treated for optimum light transmission and color balance and maximum elimination of ghost and flare.
- * The "L" designation of certain lenses indicates that the lens concerned is specially constructed to give extra high performance. This designation replaces the "aspherical" and "fluorite" designations used formerly.
- * The lens construction and weight of the FL 1200mm f/11 S.S.C. lens include the Focusing Unit.
- * Canon Extender FD 2x-A can be used with any Canon FD lens having a focal length from 100mm to 800mm and any FD zoom lens having 100mm within its range.
- * Canon Extension Tubes FD 15-U, FD 25-U and FD 50-U can be used with any Canon FD lens having a focal length from 35mm to 200mm except for the FD 85mm f/1.2L. The FD 15-U tube can also be used with FD 28mm lenses.



CARE AND STORAGE OF THE LENS

E The first thing to keep in mind is to avoid touching the lens surface. Even with this precaution, the lens should be cleaned regularly. Especially when used outdoors, it is possible for dust and other foreign particles to adhere to the lens surface without your noticing it. Obtain cleaning materials manufactured especially for camera lenses, such as a blower brush and lens cleaning tissue and fluid. Never use a handkerchief, eyeglass tissue, facial tissue or any other cloth which might permanently scratch the lens, and never use a cloth treated with a chemical which might totally ruin the lens coating.

The first step in cleaning the glass surface of the lens is to blow off dust particles with a blower brush. It is not advisable to use a cloth for this purpose since it is very liable to scratch the lens. Then, if you have accidentally smudged the lens with fingerprints or

whatever, put only one or two drops of the lens cleaning fluid on the lens tissue, not the lens! , and, starting at the center of the lens, lightly wipe it while working towards the outer edges in a circular motion. To clean the lens body, first blow off dust with a second blower brush. You may use a silicon cloth or chamois leather, if necessary, to wipe off smudges. Never use a silicon cloth or chamois leather on the glass surface of the lens!

The lens should be cleaned particularly well immediately after using it on the beach. Nothing can harm a lens more than sand and salt water, and even salt water on the breeze may have an effect.

For best performance, it is best to use the lens regularly. If, for some reason, it is necessary to store the lens for quite a long period, first remove it from any soft case or camera bag. Then wrap it in a clean, soft cloth and store it in a cool, dry, dust-free

place. It is not unusual for harmful mildew to form on the lens if it is stored in a humid area. Special care is, of course, necessary during humid seasons. At these times it is best to clean the lens about once a week. It is also very important to keep the lens away from great heat; storing it in the rear window shelf or glove compartment of an automobile is absolutely taboo. After storing a lens for a long time, mount it on the camera and take several blank shots to make sure everything is in working order.

With these few precautions, Canon's new FD lenses will serve you long and well. Should you have any problems, please refer them to the nearest authorized Canon service facility.

Subject to change without notice.