CANON INC. 11-28, Mita 3 chome, Minato-ku, Tokyo 108, Japan

CANON U.S.A. INC. HEAD OFFICE 10 Nevada Drive, Lake Success, Long Island, N.Y. 11042, U.S.A. CANON U.S.A., INC. MANHATTAN SERVICE STATION 600 Third Avenue, New York, N.Y. 10016, U.S.A.

CANON U.S.A., INC. ATLANTA OFFICE 6380 Peachtree Industrial Blvd., Norcross, Georgia 30071, U.S.A.

CANON U.S.A., INC. CHICAGO OFFICE 140 Industrial Drive, Elmhurst, Illinois 60126 U.S.A.

CANON U.S.A., INC. LOS ANGELES OFFICE 123 Paularino Avenue East, Costa Mesa, California 92626, U.S.A.

CANON U.S.A., INC. LOS ANGELES SERVICE STATION 3407 West 6th Street, Los Angeles, California 90020, U.S.A.

CANON U.S.A., INC. SAN FRANCISCO SERVICE STATION 776 Market Street, San Francisco, California 94102, U.S.A.

CANON U.S.A., INC. HAWAII OFFICE Bidg. 8-2, 1050 Ala Moana Blvd., Honolulu, Hawaii 96814, U.S.A.

CANADA --- CANO OPTICS & BUSINESS MACHINES CANADA, LTD.

HEAD OFFICE

3245 American Drive, Mississauga, Ontario L4V 1N4, Canada CANON OPTICS & BUSINESS MACHINES CANADA, LTD.

MONTREAL OFFICE 3070 Brabant-Marineau Street, St. Laurent, Quebec H4S 1K7, Canada

CANON OPTICS & BUSINESS MACHINES CANADA, LTD.

VANCOUVER OFFICE

5900A, Nc.2 Road, Richmond, B.C. V7C 4R9, Canada

CANON OPTICS & BUSINESS MACHINES CANADA, LTD. EDMONTON SERVICE CENTER

5222-86 St. Edmonton, Alberta T6E 5J6, Canada

EUROPE AFRICA

CANON AMSTERDAM NV
P.O. Box 7907, 1008 AC Amsterdam, The Netherlands

CANON AMSTERDAM NV CAMERA SERVICE CENTER Gebouw 70, Schiphol Oost, Holland

CENTRAL &

SOUTH AMERICA -- CANON LATIN AMERICA, INC. SALES DEPARTMENT

CANON LATIN AMERICA, INC. REPAIR SERVICE CENTER P.O. Box 2019, Colon Free Zone, Rep. of Panama

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CANON AUSTRALIA PTY. LTD. 22 Lambs Road, Artermon, Sydney 2064, Australia

#### キヤノン株式会社 キヤノン販売株式会社

〒108 東京都港区三田3-11-28 カメラ販売企画部(03) 455-9353

#### サービスステーション

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「 (4 - (060) 札幌市中央区北三条西4 - 1 (第 - 生命ヒル4 階) (011) 231 - 13 13
   (980) 仙 台 市 - 基 町 ( - 1 - 30 (やまと生命仙台ヒル6階) (0222) 66-4(5)
A - (030) 青 A 市 堤 町 1 - 6 - 3 (山 - ヒ ル) (0177) 75-1666
思・(950) 新潟市東大通1-4-1(マルタケヒル1階)(0252) 43-2111
                                             (03) 573-7834
 - (160) 新宿区西新宿 1 - 24 - 1 (第一生島ヒル2階) (03) 348-4721
周-(420) 静 国 市 鷹 匠 2 - 7 - 2 (静 米 会 館 1 掲)(0542) 55-2 2 4 1
屋 - (450) 名古屋市中村区名駅3-21-
                                            (052) 565-0911
島·(730) 広島市小町 2 - 30 (第二有集ヒル4階) (0822) 44-4615
国・(812) 福岡市博多区博多駅前4-20-23 (セントラルヒル 1 階) (092) 411-4 1 7 2
島 · (890) 推 児 島市上之園町 14 - 18
                                           (0992) 57-5311
城・(900) 解 西 市 泊 1 - 2 - 2
                                           (0988) 67-2106
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# Canon

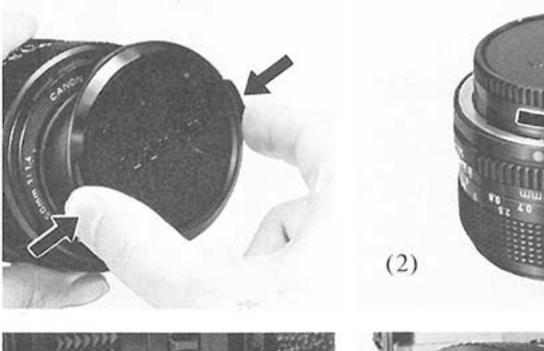
## FDレンズ 使用説明書

Lenses INSTRUCTIONS

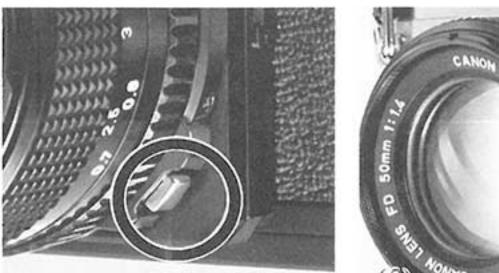
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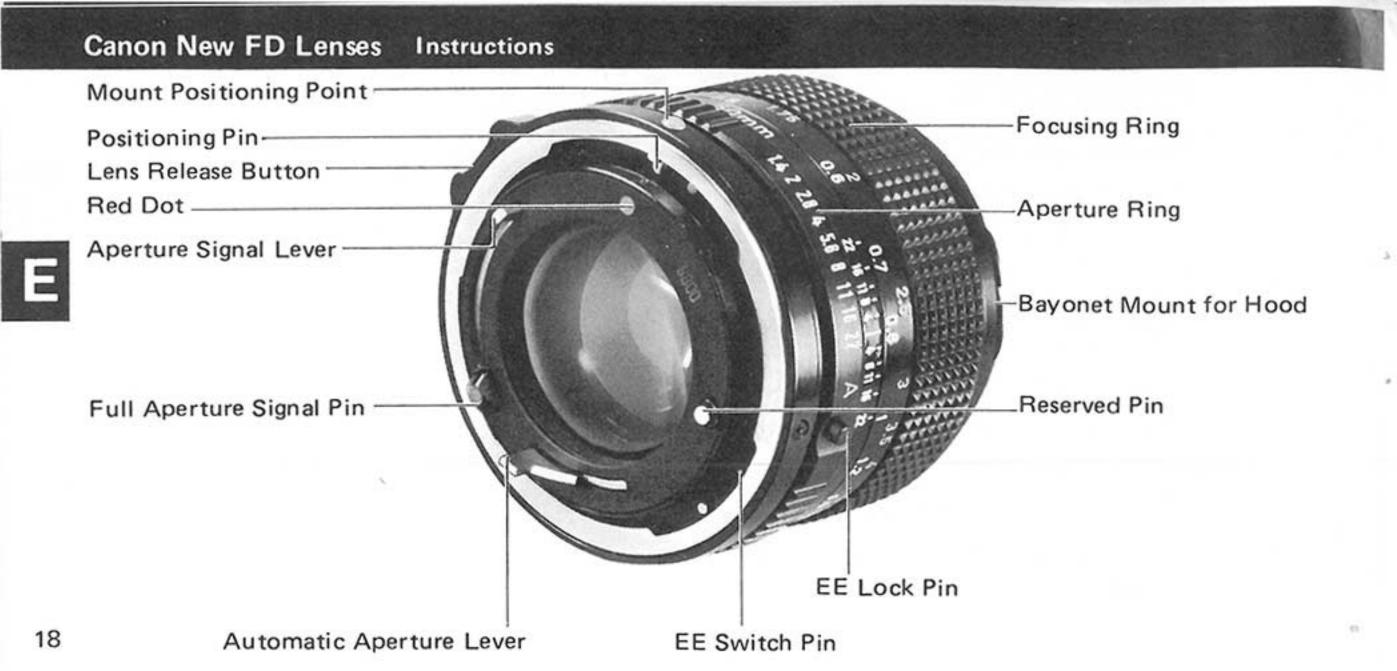
Objetivos FD INSTRUCCIONES











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- ■P.3 とP.98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.
- Desplieque esta página y la última mientras esté levendo estas instrucciones.

#### Aperture Signal Lever

This lever moves in a 1:1 ratio with the rotation of the lens aperture ring to transmit the preset aperture to the camera meter when performing full-aperture metering. In an AE camera, the camera transmits the preset aperture to the lens via this lever.

#### Full Aperture Signal Pin

This pin automatically transmits the speed of the lens to the camera the moment the lens is mounted for automatic meter coupling. It also serves to compensate for error in full-aperture metering.

#### Automatic Aperture Lever

This lever couples with the automatic diaphragm lever in the camera body to close the lens down to the preset aperture automatically at shutter release.

#### EE Lock Pin

When this pin is depressed, the lens aperture ring can be turned past the minimum aperture to the "A" mark for AE photography. It acts as a safety pin to prevent the lens from being set to "A" by mistake. Use of the "A" setting is restricted to the Canon EF, AE-1, A-1 and F-1 (with the Servo EE Finder) alone or with accessories designed for AE photography.

#### Reserved Pin

This pin is designed for use with possible future additions to Canon's SLR system.

### **EE Switch Pin**

When the lens aperture ring is set to the "A" mark, the EE switch pin comes out to signal to an AE camera that the aperture is to be controlled automatically.

Included in this series is one lens, the Fish-eye 7.5mm lens, which does not have the FD signals and, therefore, requires stopped-down metering.

For a clear understanding of the new FD 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 (1). This type of cap can also be attached to a double-screw type filter screwed into the lens. A few lenses come with a screw-in cap or a lid-type cap. The lid-type simply slips over the front of the lens and can be simply pulled off. Unscrew a screw-in cap by turning it counterclock-

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 (2). 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 (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 (4).

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.

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 FD2x-A, perfect 22 alignment is required. In any case, excessive slop-

piness will make mounting impossible, so 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. 24.

#### Dismounting

To dismount the lens, turn it counterclockwise until it stops while pressing the lens release button (5). Then pull the lens out.

When changing lenses, take special care not to damage the protruding pins and levers on the rear. With the exception of the Fish-eye 7.5mm lens, always put a 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

A few lenses have built-in hoods. For most lenses, a bayonet-mount hood is optionally available. Please use only that hood which is specified for the lens in question. The indentations on this type of hood fit into the projections of the bayonet mount at the front of the lens, and the hood is secured by turning it until it is tight. The BW-52B and BW-52C hoods require proper positioning before mounting. Align the red dot on one of these hoods with the notch in the bayonet mount at the front of the lens and then turn the hood until it is tight (7). A bayonet-mount hood can be reverse-mounted on standard and some wide-angle lenses, and, in these cases, will fit perfectly into the camera's case.

#### Filter

Most new FD lenses accept a 52mm-diameter filter (58 or 72mm for large-diameter lenses) which screws into the front of the lens. Do not use more than one of this type of filter at a time on a lens having a focal length shorter than 35mm. The use of two or more filters may cause vignetting around the edges of the

Lenses with a 52mm filter thread may be fitted with a 55mm screw-in filter by placing a 52-55 Step-up Ring (optional) between the filter and lens (8). When this combination is used on the FD 24mm f/2 lens, vignetting is possible if the lens is used at minimum aperture (f/22) while focused at infinity. On the FD 200mm f/4 lens, it makes extending the built-in hood impossible. With this combination, it is also impossible to mount an accessory lens hood.

The Canon Holder for Gelatin Filters, which clamps onto the front of most lenses with adapters, is 23 optionally available.

\*The two Canon Fish-eye lenses have built-in filters. The Fish-eye 7.5mm f/5.6 lens has six built-in filters with the following filter factors: SKY (1X), Y3 (2X), O1 (3X), R1 (6X), CCA4 (1.5X) and CCB4 (1.5X). To change filters, rotate the filter ring while pressing the filter lock pin located towards the rear of the lens until the filter ring click-stops at the desired filter (9).

The Fish-eye FD 15mm f/2.8 lens has four built-in filters with the following filter factors: SKY (1X), Y3 (2X), 01 (3X) and R1 (6X). To change filters, rotate the filter ring while pushing it towards the rear of the lens (10).

For normal photography, the filter rings of these Fish-eye lenses should be set to SKY.

Whether using a screw-in, built-in or gelatin filter on an FD lens, exposure correction with filter 24 factors is unnecessary when the lens is mounted on

a camera with a through-the-lens meter (including all recent Canon models).

#### 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 (6). 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".

#### Manual Diaphragm Control

Manual diaphragm control is necessary whenever a non-automatic accessory is inserted between the camera and lens for close-up shooting and the Canon Macro Auto Ring and/or Double Cable Release are not attached. In manual diaphragm control, the diaphragm will open and close directly with rotation of the lens aperture ring. A new FD lens is set for manual diaphragm control by pushing the automatic aperture lever (located at the rear of the lens) to the right and locking it in that position with a separate manual diaphragm adapter (11). When the manual diaphragm adapter is attached, never mount the lens directly on the camera or directly on accessories designed for automatic diaphragm control, such as the Auto Bellows or Bellows FL.

Setting the lens for manual diaphragm control is also necessary when the lens is reverse-mounted with a macrophoto coupler for close-up photography. In this case, the Macro Hood must also be mounted onto the rear of the lens to unlock the diaphragm blades. Again, this setting is not necessary if the Macro Auto Ring and Double Cable Release are attached for automatic diaphragm control.

For further information concerning the use of an FD lens on your particular Canon SLR, please refer to the camera's instructions.

#### Notes on Focusing

Focus as usual through the viewfinder by turning the focusing ring.

When using telephoto and super telephoto lenses in extreme temperatures, focusing shifts may occur which will invalidate the distance scale. Due to the focusing shifts, these lenses have an allowance for 25

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.

The Fish-eye 7.5mm lens lacks a focusing ring. This is because its short focal length makes depth of field so deep that focusing is not necessary.

#### LENS ACCESSORY

#### Extender FD 2x-A (12)

This accessory is designed to double the focal length of the lens or the zooming range of a zoom 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, 26 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 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** 

Туре		1	Angle of	Dia-	Const-	Minimum	Closest Focusing Distan																	
		Lens	View	phragm	ruction	Aperture	m.	ft.																
Eigh ava	$\Box$	New Fish-eye 7.5mm f/5.6	180°	Manual	8-11	22	_	-																
Fish-eye	ା	New Fish-eye FD 15mm f/2.8	180°	Automatic	9-10	22	0.2	0.7																
Companyation America		New FD 17mm f/4	104°	Automatic	9-11	22	0.25	0.9																
Super Wide-Angle	0	New FD 20mm f/2.8	94°	Automatic	9-10	22	0.25	0.9																
(	0	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																
								İ	Ì									New FD 24mm f/2.8	84°	Automatic	9-10	22	0.3	1
Wide-Angle		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)	Ca	se
		11000	rocusing wechanism	Length (mm)	weight (gr)	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

_	N/CL	Angle of	Dia-	Const-	Minimum	Closest Focusing Distance			
Туре	Lens	View	phragm	ruction	Aperture	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		
0	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		
0	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		
Calanda da	New FD 135mm f/3.5	18°	Automatic	4-4	32	1.3	4.5		
elephoto	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		
Super Telephoto	Reflex 500mm f/8 S.S.C.	5°	Fixed	3-6	-	4	15		
	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		

e 16

Filter Size	Cap	Hood	Focusing Mechanism	Longth (mm)	Mainhalan	Ca	ase
- Filter Size	Сар	noou		Length (mm)	Weight (gr)	Hard-case	Snap-case
58	C-58	BS-58	Double-helicoid focusing. With Canon Floating system	55	575	1	-
58	C-58	BS-58	Double-helicoid focusing	52.5	510	1	-
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		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	_

Type		1.000000	Angle of	Dia-	Const-	Minimum	Closest Focusing Distance			
Type		Lens	View	phragm	ruction	Aperture	m.	ft.		
Super Telephoto		FL 1200mm f/11 S.S.C.	2°05′	Manual	5-6	64	40	130		
	0	New FD 24-35mm f/3.5 L	84°-63°	Automatic	9-12	22	0.4	1.5		
	0	New FD 28-50mm f/3.5	75°-46°	Automatic Automatic	9-10	22	1	3.5		
	0	New FD35-70mm f/2.8-3.5	63°-34°		10-10	22	1	3.5		
Zoom		New FD 35-70mm f/4	63°-34°	Automatic	8-8	22	0.5	2		
	10	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		
CARLORINA CIT		New FD 50mm f/3.5	46°	Automatic	4-6	32	23.2(cm)	9.1(in)		
Macro	0	New FD 100mm f/4 24°		Automatic	3-5	32	0.45	1.48		
Tilt and Shift	The state of	TS 35mm f/2.8 S.S.C.	63° (Shift 79°)	Manual	8-9	22	0.3	1		
		Macrophoto 20mm f/3.5	_	Manual	3-4	22	( - )	-		
Macrophoto		Macrophoto 35mm f/2.8	-/	Manual	4-6	22	_	_		

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

		- Commonwork		Control of the Contro	ASSES ETCONESS VIEGUTINOS	Ca	ise
Filter Size	Сар	Hood	Focusing Mechanism	Length (mm)	Weight (gr)	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	-
		_	name .	20	35	Exclusive	-
-	-			22.5	60	Exclusive	With the same

\* 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 appli-

cable).

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 trans-

mission 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 on FD 28mm lenses.



## CARE AND STORAGE OF THE LENS

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. During humid seasons, 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.





