

Canon EF LENS

EF100-400mm

F4.5-5.6L IS USM

Instructions



ULTRASONIC

IMAGE STABILIZER

100-400mm

USM

Thank you for purchasing a Canon IS USM lens.

The Canon EF100–400mm f/4.5–5.6L IS USM lens is a high-performance telephoto zoom lens for EOS cameras. It is equipped with an image stabilizer effective for hand-held shooting at slow shutter speeds.

- “IS” stands for Image Stabilizer.
- “USM” stands for Ultrasonic Motor.

Handling Cautions

If the lens is taken from a cold environment into a warm one, condensation may develop on the lens surface and internal parts. To prevent condensation in this case, first put the lens into an airtight plastic bag before taking it from a cold to warm environment. Then take out the lens after it has warmed gradually. Do the same when taking the lens from a warm environment into a cold one.

Conventions used in this instruction



Warning to prevent lens or camera malfunction or damage.



Supplementary notes on using the lens and taking pictures.

Features

1. Fluorite and super UD lens elements for truly exceptional imaging capability.
2. Dual mode image stabilizer with up to two-stop shutter speed conversion.
 - A second image stabilizer mode that is optimized for continuous shooting (MODE 2) is provided.
 - The image stabilizers can be switched on and off as needed.
3. USM for fast, quiet focusing.
4. Manual focusing available in autofocus mode.
5. Adjustable zoom ring touch lets you lock at any focal length.
6. Can be used with EF1.4× II or EF2× II extenders.
 - Extenders operate with manual focusing only.
 - Image stabilizer will operate with extender*.

* According to camera model. See page 9.

Safety Precautions

Safety Precautions

1. **Do not look at the sun or a bright light source through the lens or camera.** Doing so could result in loss of vision. Looking at the sun directly through the lens is especially hazardous.
2. **Whether it is attached to the camera or not, do not leave the lens under the sun without the lens cap attached.** This is to prevent the lens from concentrating the sun's rays, which could cause a fire.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Do not make any changes or modifications to the equipment unless otherwise specified in the instructions. If such changes or modifications should be made, you could be required to stop operation of the equipment.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful

interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

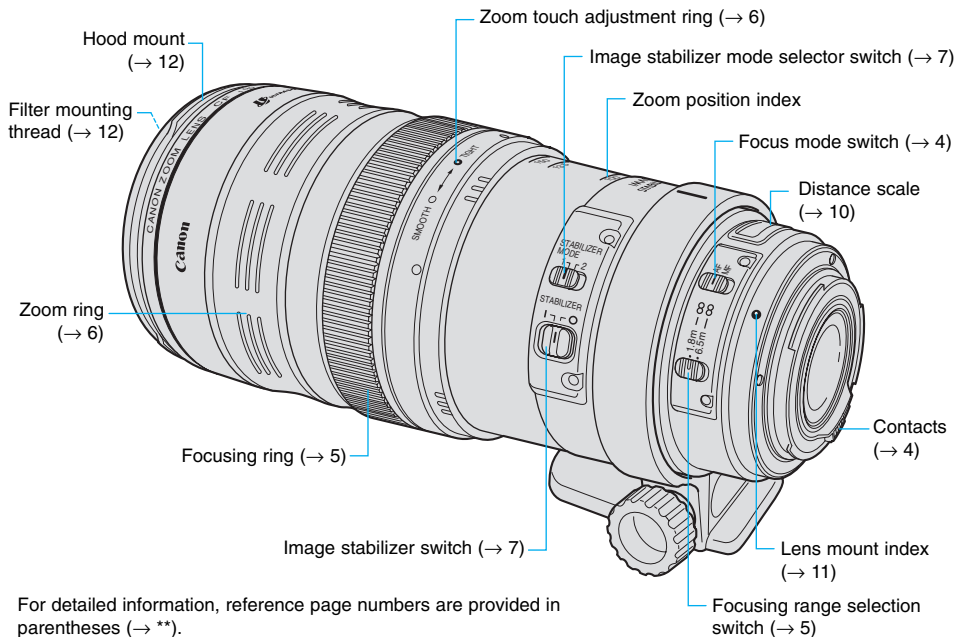
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Industry Canada.

Precautions after fitting to EOS-1N RS

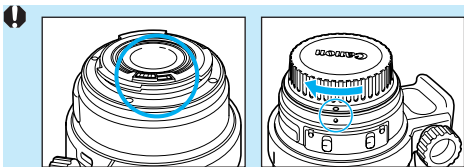
- When shooting with this lens fitted to EOS-1N RS, use $-1/3$ step exposure compensation ($-1/2$ step if CF-6-2 is selected) under all conditions including the lens alone or in conjunction with extender EF1.4 \times II or EF2 \times II.


Nomenclature



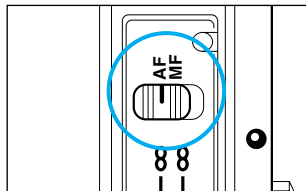
1. Mounting and Detaching the Lens

See your camera's instructions for details on mounting and detaching the lens.



- After detaching the lens, place the lens with the rear end up to prevent the lens surface and contacts from getting scratched.
- If the contacts get soiled, scratched, or have fingerprints on them, corrosion or faulty connections can result. The camera and lens may not operate properly.
- If the contacts get soiled or have fingerprints on them, clean them with a soft cloth.
- If you remove the lens, cover it with the dust cap. To attach it properly, align the lens mount index and the  index of the dust cap as shown in the diagram, and turn clockwise. To remove it, reverse the order.

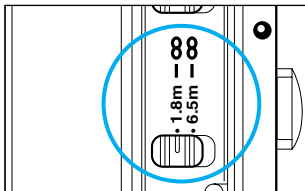
2. Setting the Focus Mode



To shoot in autofocus mode, set the focus mode switch to AF.

To use only manual focusing, set the focus mode switch to MF, and focus by turning the focusing ring.

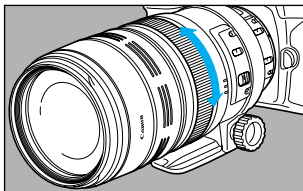
3. Switching the Focusing Range



A range switch lets you select a focusing range of either 1.8 m/5.9 ft. to infinity or 6.5 m/21.3 ft. to infinity, depending on shooting conditions. This setting can reduce the actual autofocus time.

- Before switching the focusing range, turn the focusing ring to select a focusing distance somewhere within the desired range.
- If you do not set the lens to a focusing distance that is within the selected focusing range, autofocus may stop when it reaches the range boundary. This is not a fault. If it happens, press the shutter button halfway down again.

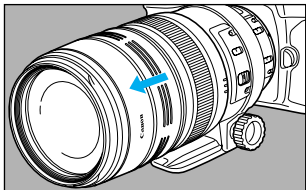
4. Full-Time Manual Focusing



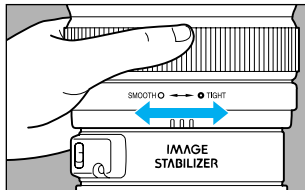
The focusing ring always works, regardless of the focus mode.

- After autofocus in ONE SHOT AF mode, focus manually by pressing the shutter button halfway and turning the focusing ring.

5. Adjusting the Zooming Touch



Move the zoom ring forward or backward to zoom.



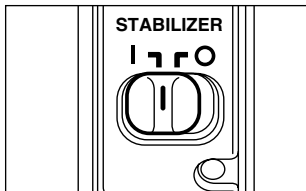
You can adjust the zooming “touch” (resistance) as needed by holding the focusing ring in place and turning the adjustment ring.

- Turn the adjustment ring towards the word SMOOTH to reduce the zooming touch, or towards TIGHT to increase it. To lock the zoom ring in place, turn the adjustment ring towards TIGHT until it stops.

- Be sure to finish zooming before focusing. Changing the zoom ring after focusing can affect the focus.
- To prevent unintended zooming when not shooting, be careful not to set the zooming touch too loose.
- This lens can partially obstruct the light from the built-in flash units. To avoid this, use an external flash.

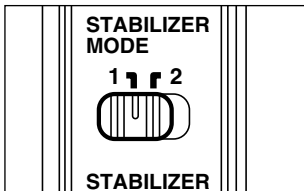
6. Image Stabilizer

You can use the image stabilizer in AF or MF mode.



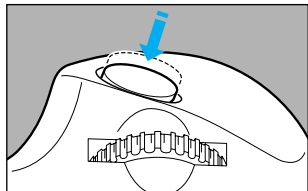
1 Set the image stabilizer switch to **I** (ON).

- If you are not going to use the image stabilizer function, set the switch to **O** (OFF).



2 Select the stabilizer mode.

- Select MODE 1 for standard photography. MODE 1 corrects all vibrations no matter whether the camera is being held horizontally, vertically, or at an angle.
- To pan a moving subject, select MODE 2. MODE 2 corrects vibrations and shaking only in the direction at right angles to the camera's panning movement.



3 Press the shutter button down halfway to check the stabilization.

- Make sure the image in the viewfinder is stable, then press the shutter button all the way down to take pictures.

7. Tips on Using the Image Stabilizer

The image stabilizer is particularly effective for hand-held shots in the following conditions.

● MODE 1



I (ON)

O (OFF)

- ① In semi-darkened areas such as indoors or outdoors at night.
- ② In locations where flash photography is prohibited, such as art museums and theater stages.
- ③ In situations where fast shutter settings cannot be used.
- ④ In situations where your footing is uncertain.

● MODE 2






I (ON)

O (OFF)

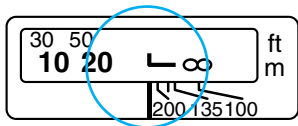
- ① When panning subjects in motion.
- ② When following subjects that are moving erratically.

* We recommend MODE 1 for all other situations.

Tips on Using the Image Stabilizer

- The image stabilizer does not compensate for subject movement (where the subject itself moves).
 - The image stabilizer should be  (OFF) in the following situations. If the switch is  (ON), the image stabilizer may not operate correctly.
 - Shots using a tripod
 - Bulb (time exposure) shots
 - The image stabilizer may not be fully effective in the following situations:
 - Panning with large camera movements in MODE 1.
 - Taking pictures from a moving object such as a vehicle in MODE 1.
 - Taking pictures other than panning shots in MODE 2.
 - When this lens is used with an extender, the image stabilizer operates normally with models sold since the fall of 1993 (EOS REBEL XS/500, EOS-1N/DP/HS/RS, EOS ELAN IIE/50E, EOS REBEL G/500 N, EOS 5000/888, EOS IX, EOS IX Lite/IX 7 etc.), but does not operate with the following EOS-series cameras sold before that date:
 - * EOS650, EOS620, EOS 630/600, EOS RT, EOS 700, EOS750, EOS850, EOS-1, EOS A2/A2E/5, EOS10S/10, EOS ELAN/100, EOS REBEL S/REBEL/1000F/1000, EOS REBEL SII/REBEL II/1000FN/1000N
- The image stabilizer operates for about two seconds even when your finger is off the shutter button. Do not remove the lens while the stabilizer is in operation. This will cause a malfunction.
 - With the EOS-1V/HS, EOS-3, EOS ELAN 7E/7/EOS 30/33, EOS ELAN7NE/ELAN7N/EOS30V/33V, EOS ELAN IIE/50E, EOS REBEL 2000/300, EOS IX, and EOS D30, the image stabilizer will not work during self-timer operation.
 - The image stabilizer does not operate with the manual-focus EF-M camera.
-  If you set the camera's Custom Function to change the assigned button to operate the AF, the image stabilizer will operate when you press the newly assigned AF button.

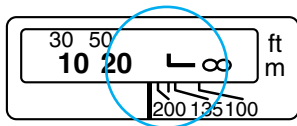
8. Infinity Distance Mark



To compensate for shifting of the infinity focus point that results from changes in temperature. The infinity position at normal temperature is the point at which the vertical line of the L mark is aligned with the distance indicator on the distance scale.

- For accurate manual focusing on subjects at infinity distance, look through the viewfinder while rotating the focusing ring.

9. Infrared Index



The infrared index corrects the focus setting when using monochrome infrared film. Focus on the subject manually, then adjust the distance setting by moving the focusing ring to the corresponding infrared index mark. The intermediate marker between 200 and 135 is 150 mm.

- Some EOS cameras cannot use infrared film. See the instructions for your EOS camera.



- The infrared index position is based on a wavelength of 800 nm.
- Be sure to observe the manufacture's instructions when using infrared film.
- Use a red filter also when you take the picture.

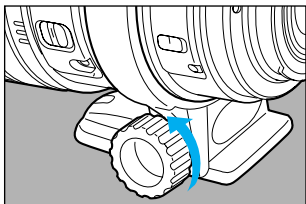
10. Using the Tripod Mount

Adjusting the Tripod Mount

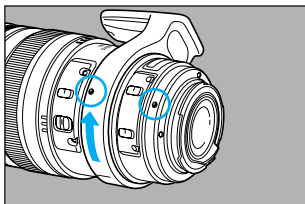
Loosening the orientation lock knob on the tripod mount allows you to turn the lens and camera freely. This is useful when you want to switch the camera between landscape and portrait positions while it is mounted on a tripod. Once you have set the camera to the desired position, tighten the lock knob firmly.

Detaching the Tripod Mount

First remove the lens from the camera and then remove the tripod mount from the lens as shown below. To attach the tripod mount, reverse the procedure.

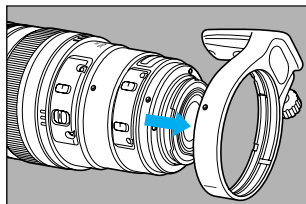


- 1** Loosen the orientation lock knob.



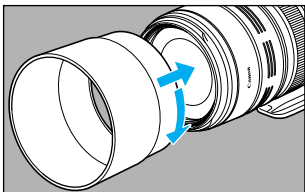
- 2** Align the red mark on the tripod mount with the lens mount index.

- Rotate the tripod mount to align the red marks.



- 3** Move the tripod mount towards the back of the lens.


11. Hood



The ET-83C hood can keep unwanted light out of the lens, and also protects the lens from rain, snow, and dust.

To mount the hood, align it with the front of the lens, and turn clockwise until the hood is firmly in place.

The hood can be reverse-mounted on the lens for storage.

 When attaching or detaching the hood, grasp the base of the hood to turn it. To prevent deformation, do not grasp the rim of the hood to turn it.

12. Filters (Sold Separately)

You can attach filters to the filter mounting thread on the front of the lens.

- You can use up to two 77 mm/2.8 inch filters with this lens.
- If you need a polarizing filter, use Canon's PL-C 77mm II polarizing filter.
- To adjust the polarizing filter, first remove the lens hood.
- When using the PL-C 77mm II polarizing filter, a lens cap cannot be mounted.

13. Extenders (Sold Separately)

This lens can use the EF1.4× II or EF2× II extender with manual focusing. Using an extender changes the lens specifications as follows.

Item			With EF1.4× II Extender	With EF2× II Extender
Focal length (mm)			140 – 560	200 – 800
Aperture	1/2 steps	Wide-angle (100mm)	f/6.7 – 45	f/9.5 – 64
		Telephoto (400mm)	f/8 – 54	f/11 – 76
	1/3 steps	Wide-angle (100mm)	f/6.3 – 45	f/9 – 64
		Telephoto (400mm)	f/8 – 57	f/11 – 81
Angle of view	Diagonal		17° 34' – 6° 10'	12° – 3° 06'
	Vertical		9° 48' – 3° 22'	7° – 1° 40'
	Horizontal		14° 39' – 5° 05'	10° – 2° 35'
Maximum magnification (×)			0.28	0.41



- When using this lens with an extender, the focusing mode is automatically set to manual mode, even if the switch is set to AF mode.
- Extenders cannot be used more than one at a time.
- Use the following exposure compensations when shooting with this lens fitted to EOS-1N RS or EOS A2/A2E/5 and used in conjunction with extender EF1.4× II or EF2× II.

	EOS-1N RS	EOS A2/A2E/5
Extender EF1.4× II	-1/3 step (-1/2 step for CF-6-2)	-1/2 step
Extender EF2× II		-1 step

Specifications

Image Size	24 × 36 mm
Focal Length/Aperture	100 – 400 mm f/4.5 – 5.6
Lens Construction	14 groups, 17 elements
Minimum Aperture	f/32 – 38 *
Angle of View	Diagonal: 24° – 6° 10' Vertical: 14° – 3° 30' Horizontal: 20° – 5° 10'
Min. Focusing Distance	1.8 m/5.9 ft.
Max. Magnification	0.2× (at 400 mm)
Field of View	Approx. 120 × 180 mm/4.7 × 7.1 inch (at 0.5 m/5.9 ft.)
Filter Diameter	77 mm/2.8 inch
Max. Diameter and Length	92 × 189 mm/3.6 × 7.4 inch
Weight	1380 g/48 oz (1510 g/53.3 oz with tripod mount)
Hood	ET-83C
Case	LZ1324

* Values shown are for models with aperture settings shown in half-step increments. For models with 1/3 step aperture increments, the values are f/32 to f/40.

- The lens length is measured from the mount surface to the front end of the lens. Add 21.5 mm when including the lens cap and dust cap.
- The size and weight listed are for the lens only, except as indicated.
- Aperture settings are specified on the camera. The camera automatically compensates for variations in the aperture setting when the camera is zoomed in or out.
- All data listed is measured according to Canon standards.
- Product specifications and appearance are subject to change without notice.

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