

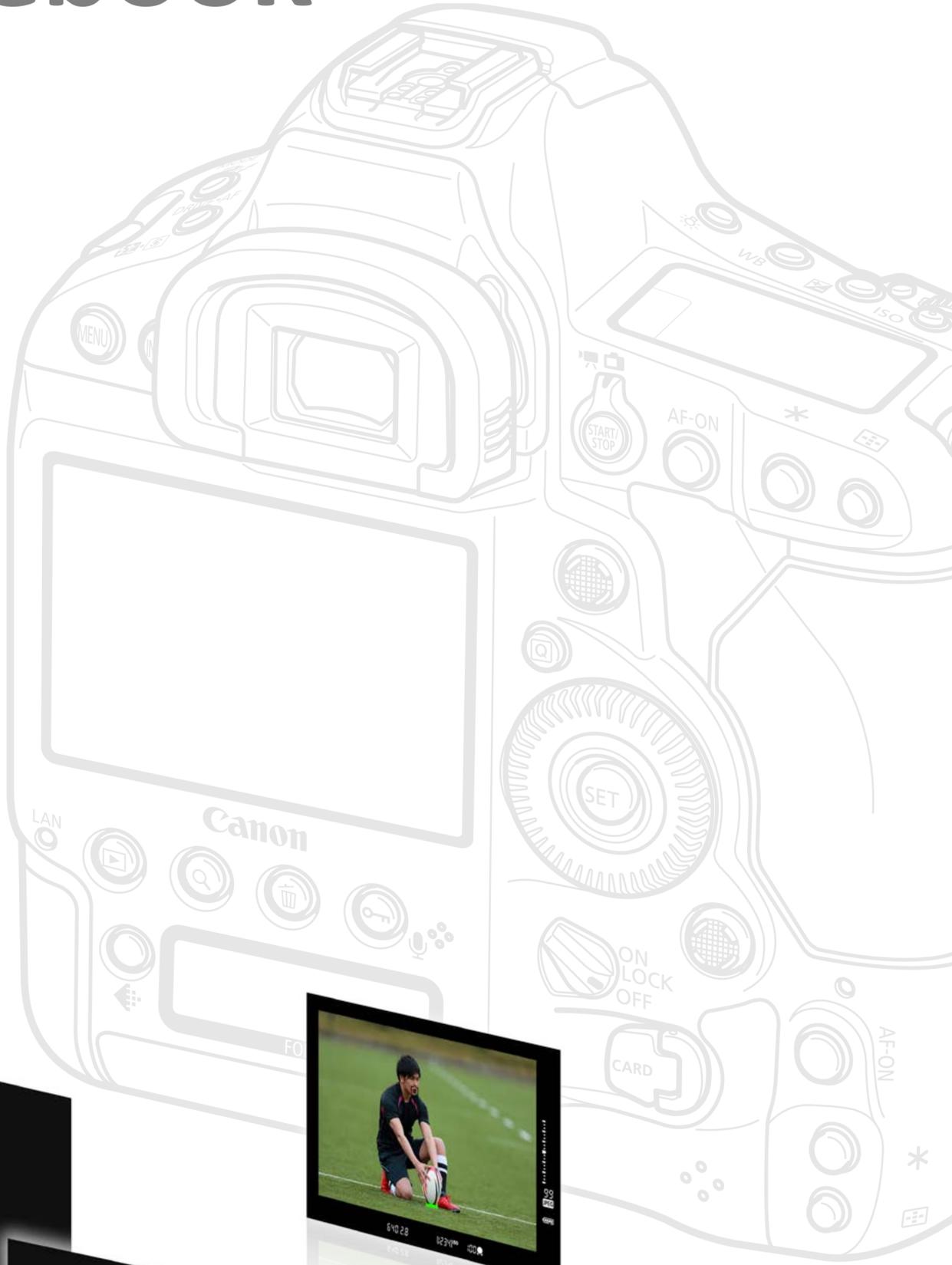
Introduction

Preparation

Shoot & confirm

Adjust

# Canon EOS AF Microadjustment Guidebook



**Canon**

## Introduction

What is AF Microadjustment? ▶ 3

Situations that require AF Microadjustment ▶ 4

Types of AF Microadjustment ▶ 5

## [Preparation]

### AF Microadjustment preparations

1. Shooting environment for the adjustment test ▶ 8

2. Camera and lens settings ▶ 10

## [Shoot & confirm]

### Perform test shooting

1. Shoot images to check the AF ▶ 13

2. Points when comparing the images ▶ 15

3. Confirm the images ▶ 17

## [Adjust]

### Perform AF Microadjustment

1. Adjust by lens ▶ 19

2. Register the lens serial number ▶ 25

3. Adjust "All by same amount" ▶ 27

# Introduction

## What is AF Microadjustment?

It is a function that makes it possible to make fine adjustments for the AF's point of focus when using AF during viewfinder shooting. You can select from two types, "Adjust by lens" and "All by same amount."



## AF Microadjustment important information

The AF point of focus may vary slightly due to shooting conditions such as subject conditions, its brightness, and the zoom position. Therefore, even if you perform AF Microadjustment, the point of focus may not always be at the suitable position. If you feel that focusing errors are not fixed after using this function several times, contact a Canon service center. We appreciate your understanding that if repairs are necessary, there may be a charge.

- Adjusted content has no effect in the AF during Live View shooting or movie shooting.
- Even if the camera settings are reset, adjustment content will remain, however, settings will be set to [Disable].

# Situations that require AF Microadjustment

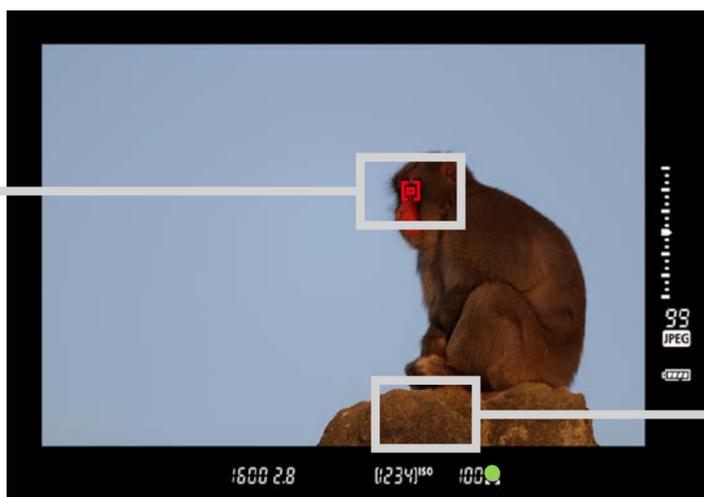
When AF does not focus on the targeted position in situations like these, it is possible to change the point of focus by performing AF Microadjustment.



An AF point on the face was selected, but the result is slightly out of focus.



The point of focus is on the ball, slightly in front of the face, which means the result is front focus.



An AF point on the face was selected, but the result is slightly out of focus.

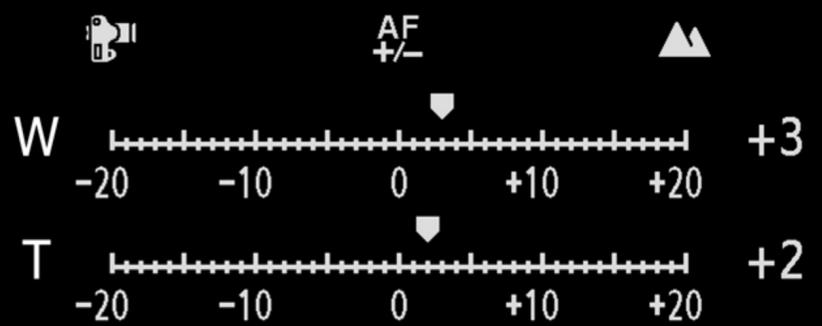


The point of focus is on the rock, slightly in front of the face, which means the result is front focus.

## Types of AF Microadjustment

You can select from two types, "Adjust by lens" and "All by same amount."

### Adjust by lens



#### AF Microadjustment

AF +/-

EF400mm f/2.8L IS II USM  
Adjust focus for each model of  
lens individually

Disable

All by same amount ±0

**Adjust by lens ±0**

INFO Register

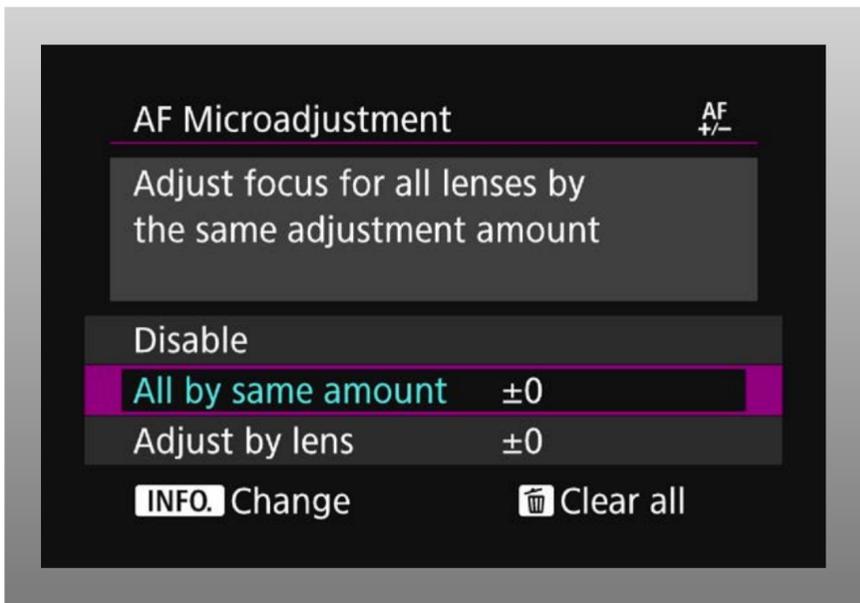
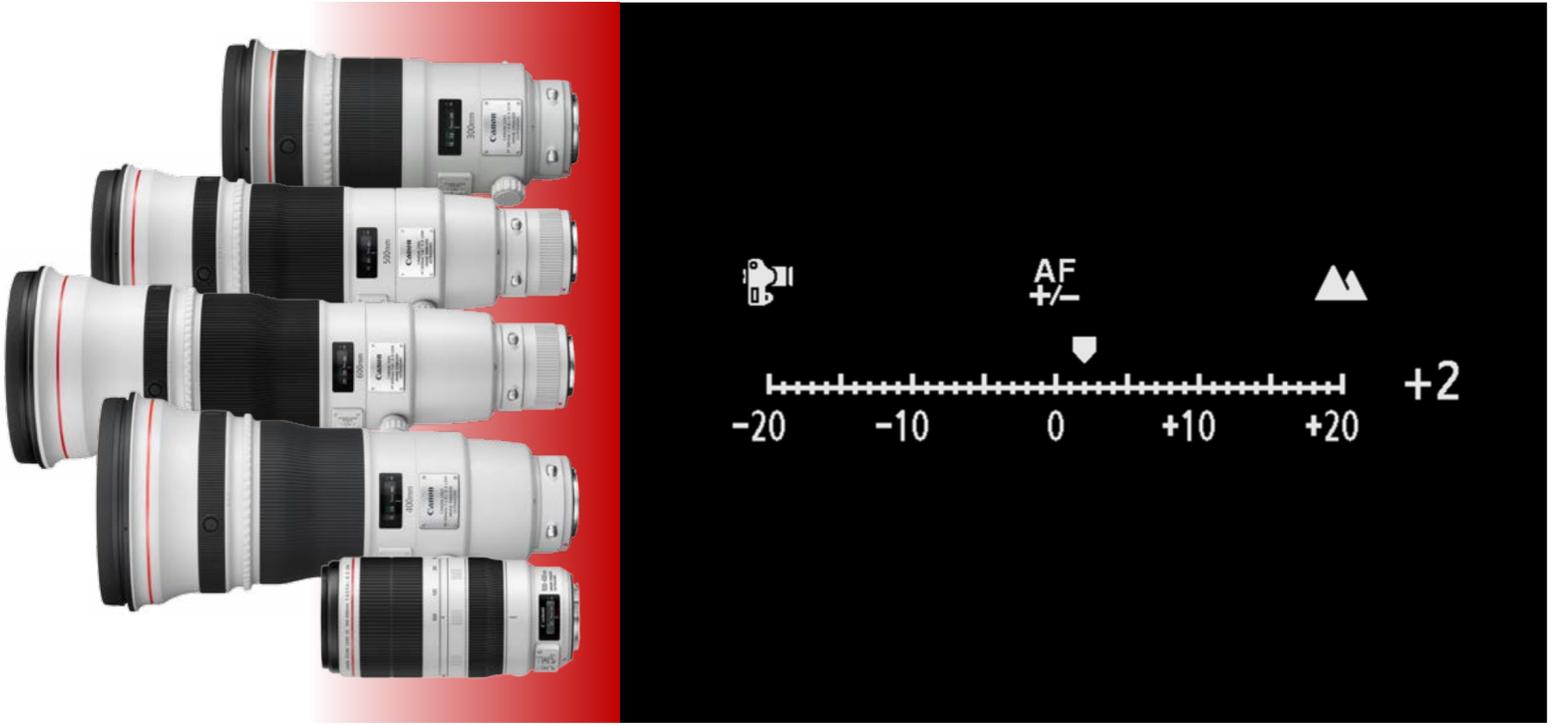
Clear all



#### info

It is possible to register adjustment results for up to 40 lenses on the camera when carrying out adjustments by lens individually. When performing AF using a registered lens, the point of focus will always be corrected by the adjustment value. If you use a zoom lens, it is possible to make adjustments to both the wide-angle(W) and telephoto(T) ends.

# All by same amount



## info

This is effective when focus is in front (or behind) the targeted position no matter which lens is used. After registering it once, regardless of the lens used later, the point of focus will always be corrected by the adjustment value.

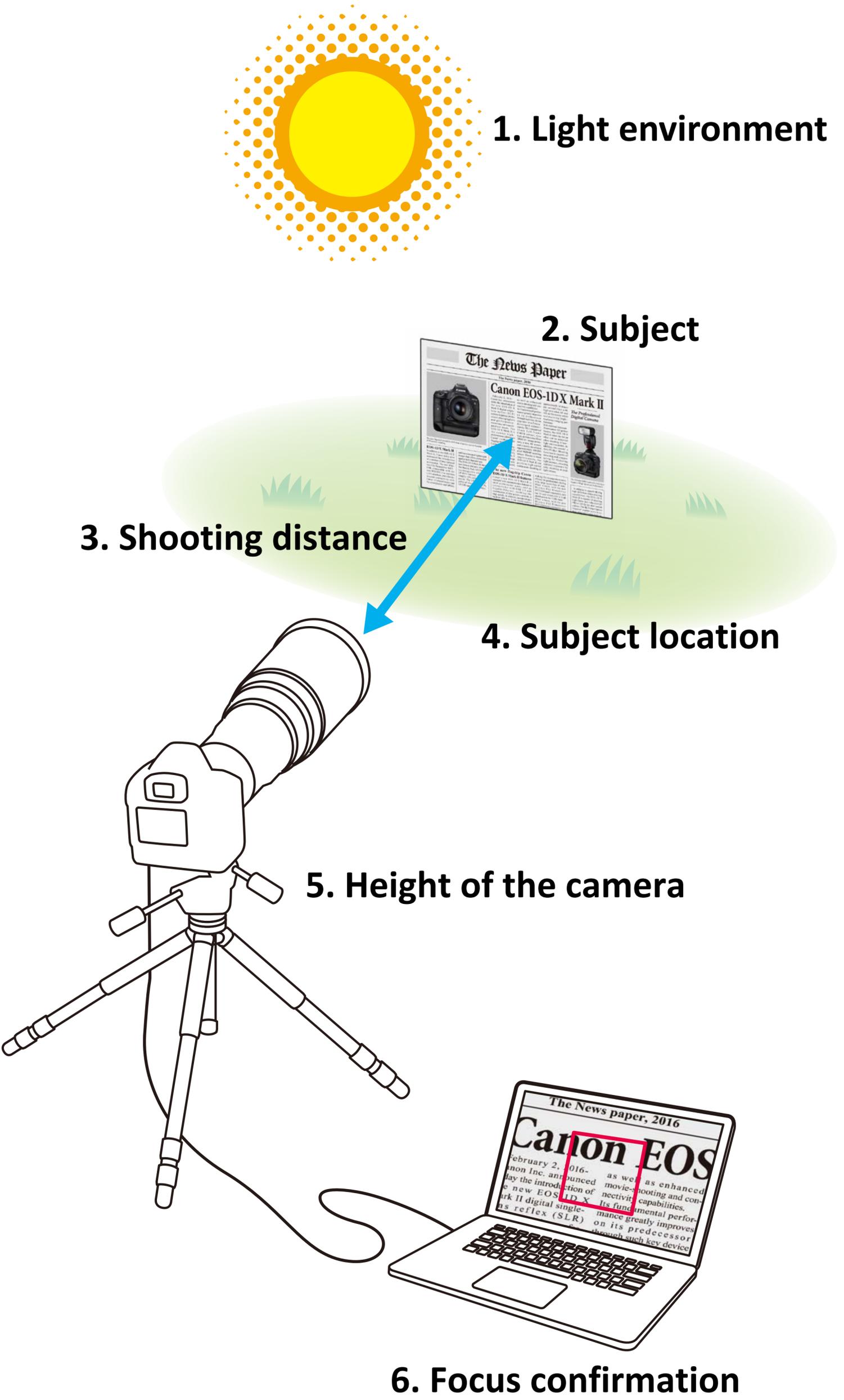
# Preparation

## AF Microadjustment preparations

1. Shooting environment for the adjustment test
2. Camera and lens settings



# 1 Shooting environment for the adjustment test



## 1. Light environment

---

Test in conditions that are the same as when usually shooting. Outdoors if shooting outdoors, and indoors if shooting indoors.

## 2. Subject

---

Select a page from a newspaper or magazine, a subject with text that has a high contrast.

\* If possible, select a subject with illustrations, large text, and that is black and white with good contrast.

## 3. Shooting distance

---

Maintain a distance that is the same as when usually shooting. When it is not possible to ensure the distance, shoot at a distance of 50x the lens focal length.

(Example: For 400 mm, the distance is 20 meters)

\* Precise focus adjustment may not be possible when trying in a distance that differs significantly from the usual shooting.

## 4. Subject location

---

Install the subject on a surface that consists entirely of patterns such as a carpet, stone-paved ground, or grass.

## 5. Height of the camera

---

Handheld is not a problem, however, if possible, install the camera on a monopod or tripod at the same height as the subject. With handheld shooting, or using a monopod, turn on the IS (Image Stabilizer) function of lenses with IS.

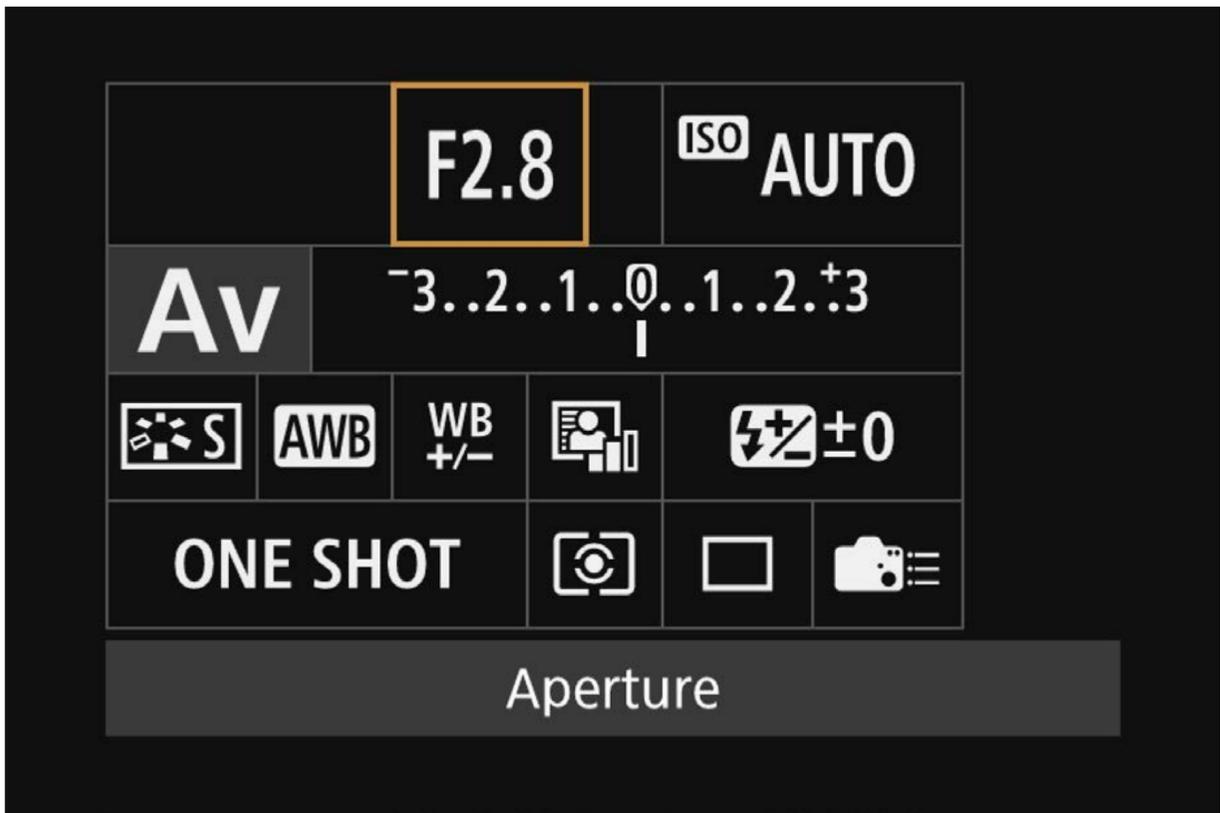
## 6. Focus confirmation

---

Confirm the point of focus on a computer enlarging the image to 100% (unmagnified).

\* Confirm on the camera's LCD monitor if a computer is not available.

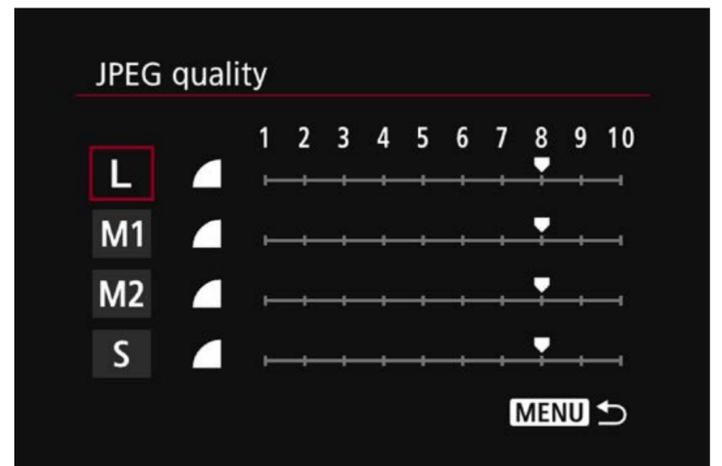
## 2 | Camera and lens settings



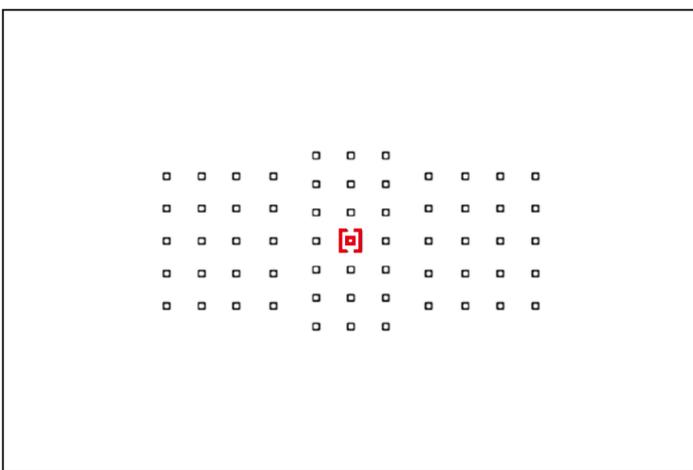
Settings can be made easily using the quick setting menu.



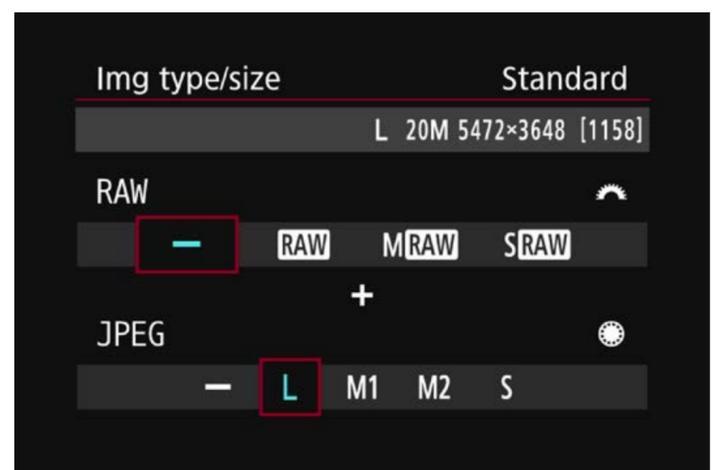
**[Picture Style]**  
Standard



**[Image quality]**  
Compression [8] to [10]



**[AF area]**  
Select Single-point Spot AF (manual selection), and set to the center point.



**[Image size]**  
JPEG L

1	Shooting method	Viewfinder shooting
2	Shooting mode	Av mode
3	Aperture value	Maximum aperture of the lens used * When shooting at the maximum aperture of a wide-angle lens, aberration may occur.
4	Shutter speed	Set to a shutter speed where camera shake does not occur.
5	ISO speed	Set to the value normally used. * When shooting with a monopod or handheld, change the value of the shutter speed so the images will not be affected by camera shake.
6	White balance	Set to the value/item normally used.
7	AF mode	One-Shot
8	Metering mode	Set to the mode normally used. * In order to confirm the point of focus, set it so the ground is properly exposed.
9	Drive mode	Single shooting
10	Picture Style	Set to Standard (The sharpness settings such as Strength, Fineness, and Threshold should be set to 3).
11	AF area selection mode AF point	Select "Manual select.: Spot AF" and set it to the center point. * Adjustment is not possible during  +Tracking and FlexiZone-Single.
12	Image size	JPEG L
13	Image quality	JPEG image quality: Set to 8 or higher
14	Lens	If the IS function is equipped, turn it on. * It can be turned off if using a firmly fixed tripod.

# Shoot & confirm

## Perform test shooting

1. Shoot images to check the AF
2. Points when comparing the images
3. Confirm the images



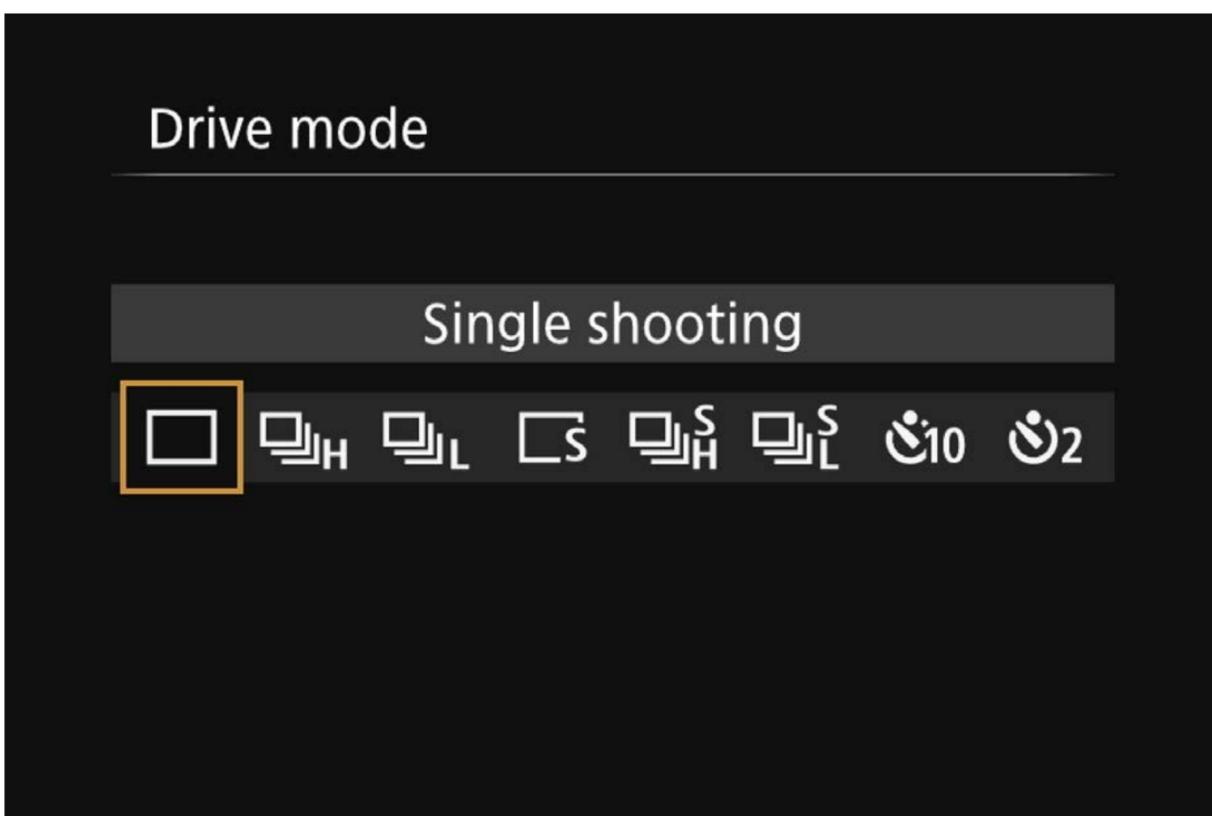
# 1 | Shoot images to check the AF

## 1. Shoot with One-Shot



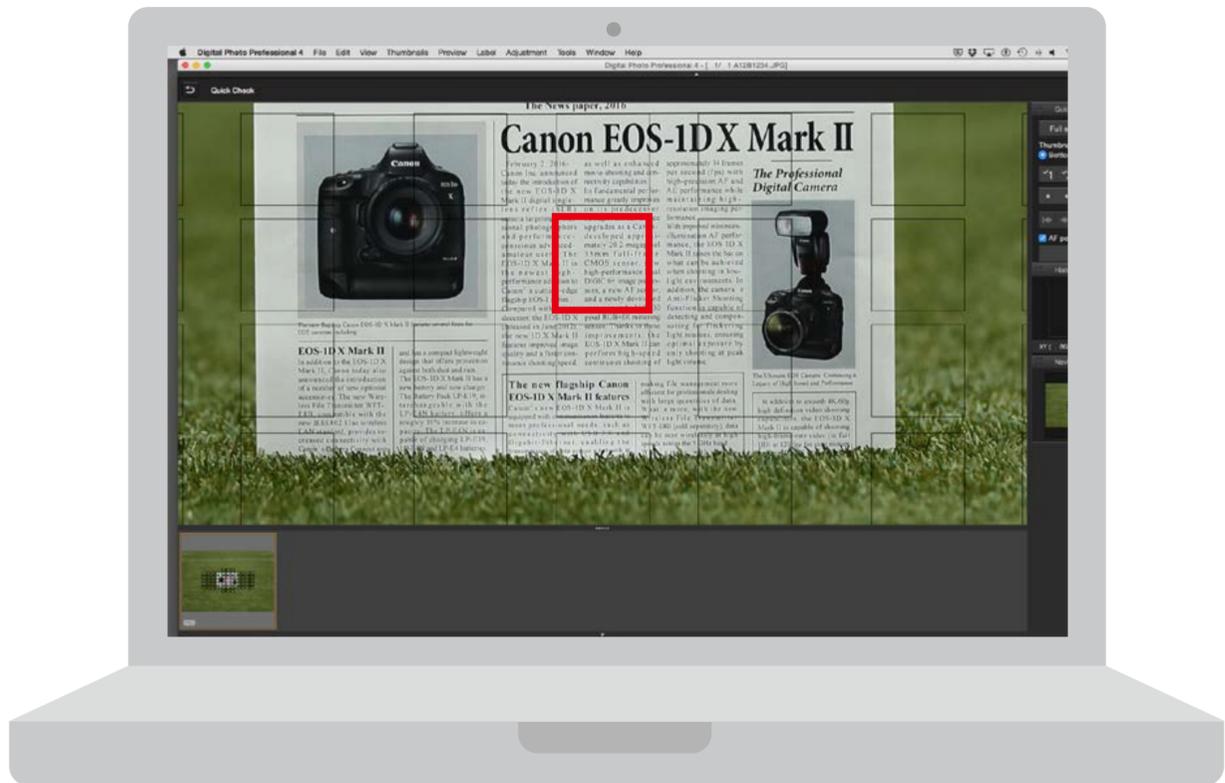
With the AF set to [**One-shot**], select [**Manual select.: Spot AF**] for the AF area selection mode. Place the subject in the center of the screen.

## 2. Shoot about five images in [Single shooting] mode



Shoot about five images as one set. The [**Single shooting**] drive mode is appropriate.

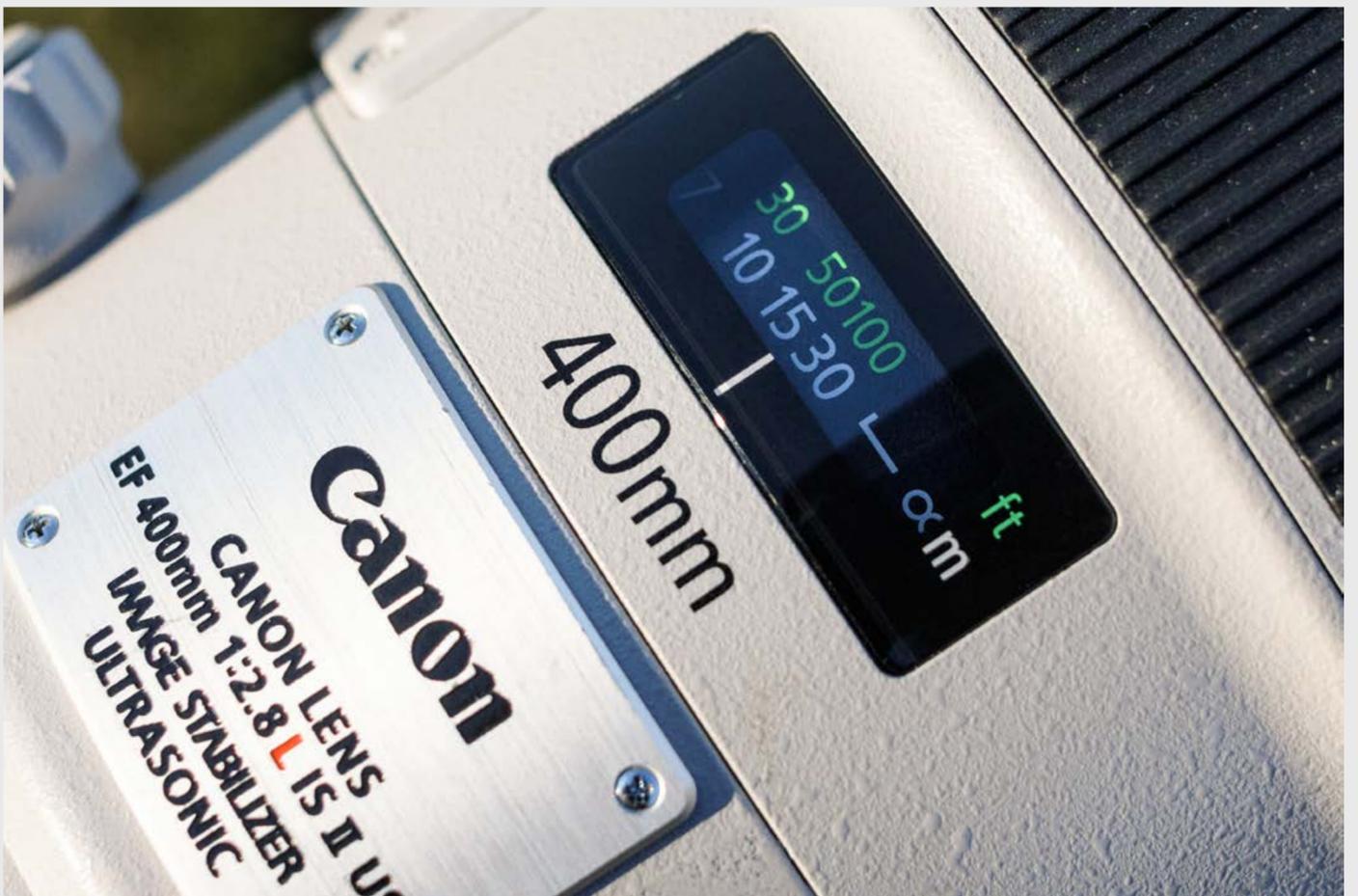
### 3. Playback enlarging it on the computer



Confirm the image enlarging it on the computer. Playback on the camera's rear LCD monitor if a computer is not available.

#### Tips

Adjust the focus for each shot



Set the AF mode to [**One-Shot**] during test shooting. Before shooting each image, turn the focus ring slightly to change the point of focus each time, then shoot using the autofocus.

## 2 | Points when comparing the images

Check on a computer monitor (100% display)



With DPP 4

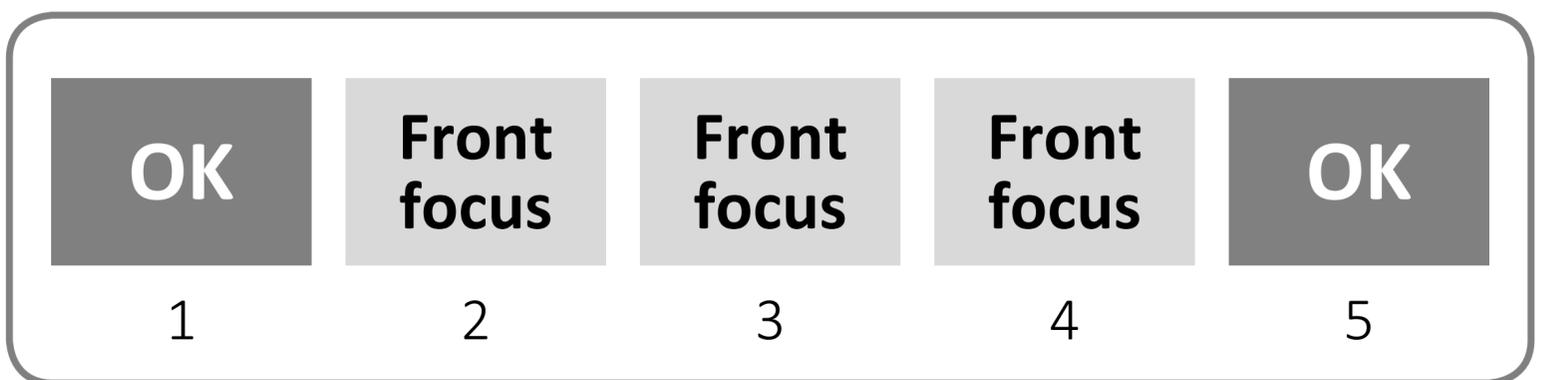


Confirm the test shot images on a computer. Look at the focus of the subject and the pattern where it is placed, and confirm the AF tendency. In the **Digital Photo Professional 4**, playing the images to 100% (unmagnified) to confirm the point of focus is easy and the selected AF point(s) can be also displayed.

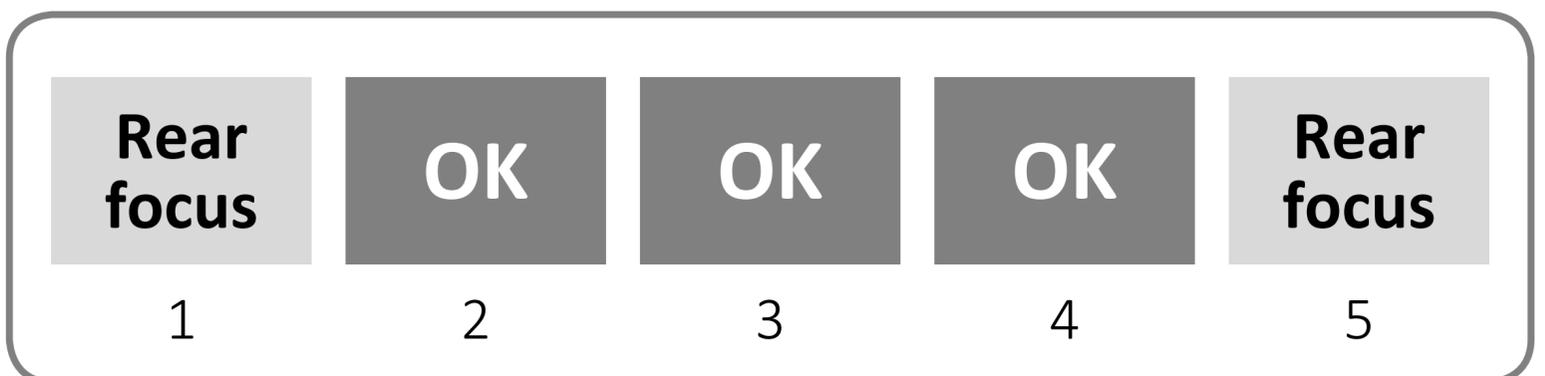
## Shoot several images and find the average point of focus

To confirm the AF tendency, perform AF for each image in the [**Single shooting**] mode, and shoot several images of the subject. From these, you can determine the average point of focus and tendency. In addition, if you are using a zoom lens, shoot images for both the wide-angle(W) and the telephoto(T) ends.

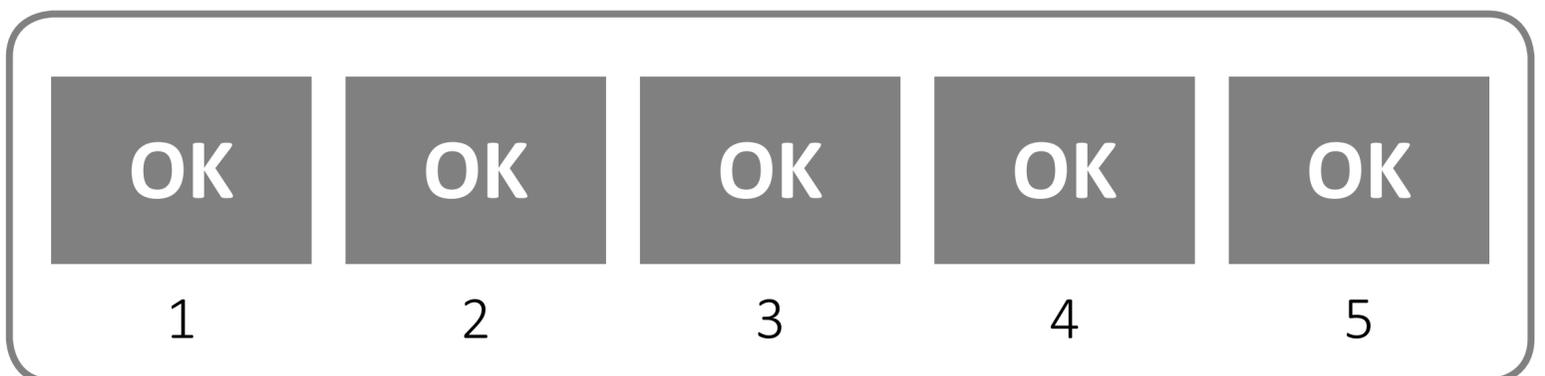
Example :



FRONT FOCUS TENDENCY



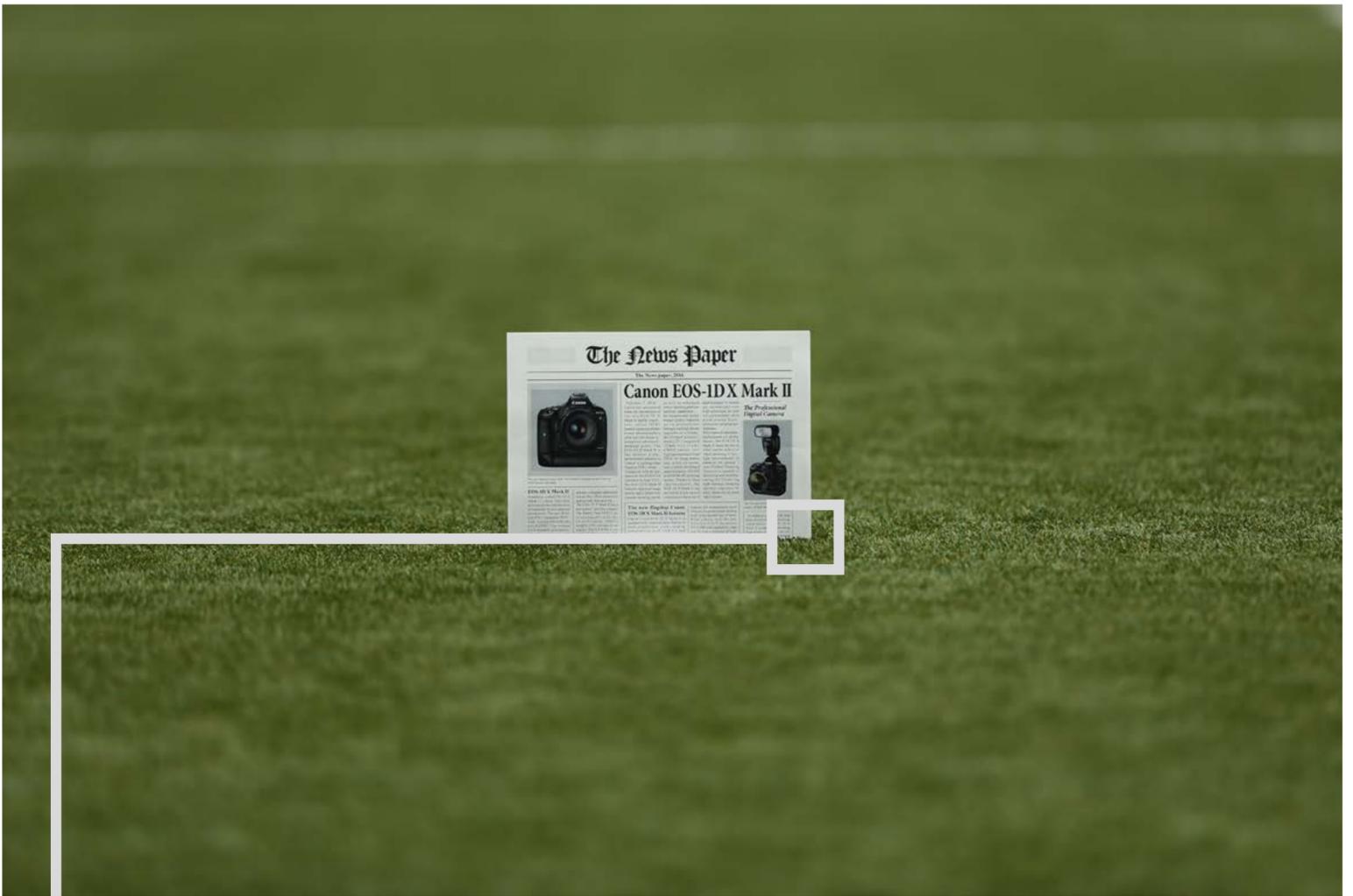
REAR FOCUS TENDENCY



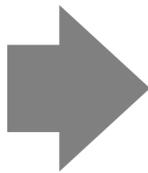
ADJUSTMENT UNNECESSARY

\* Focus may vary due to the influence of heat haze, etc. Shooting several times is recommended.

# 3 | Confirm the images



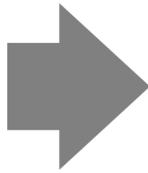
## 1. AF is accurate in all cuts



**OK**

Focus is accurate overall

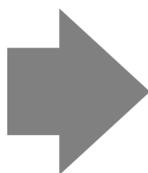
## 2. The point of focus is slightly in front of the targeted position (front focus)



**No Good**

Adjust toward the " +:▲ " side

## 3. The point of focus is slightly behind the targeted position (rear focus)



**No Good**

Adjust toward the " -:■ " side

# Adjust

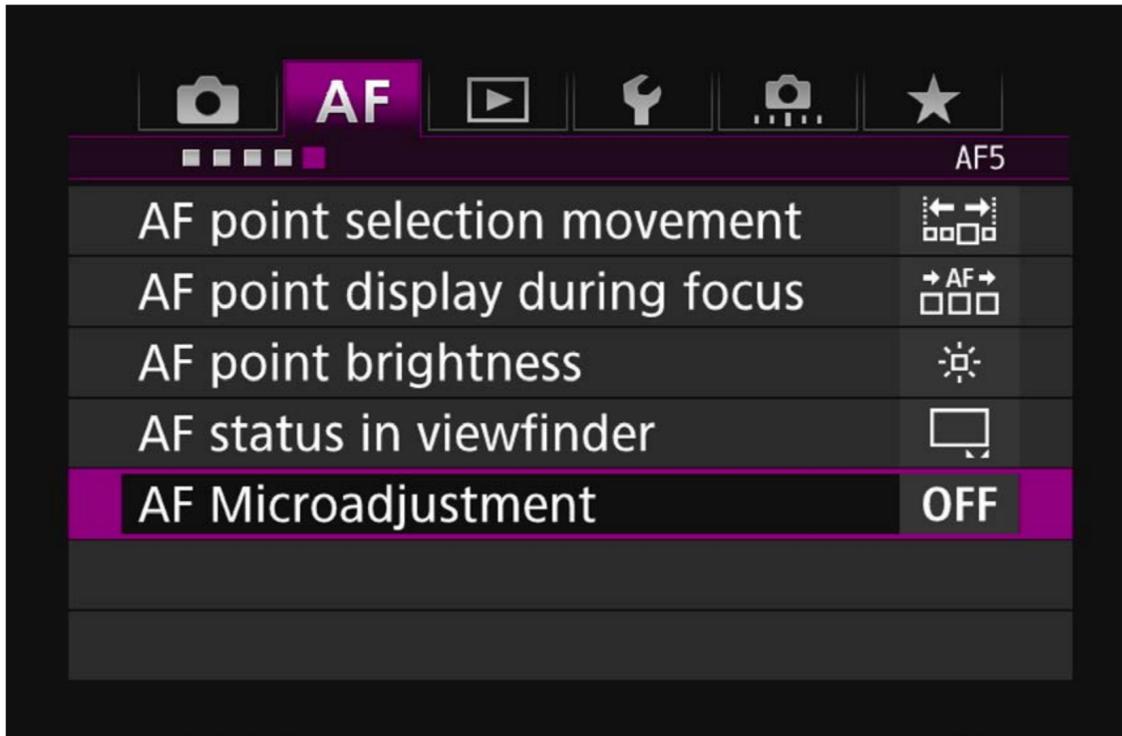
## Perform AF Microadjustment

1. Adjust by lens
2. Register the lens serial number
3. Adjust "All by same amount"



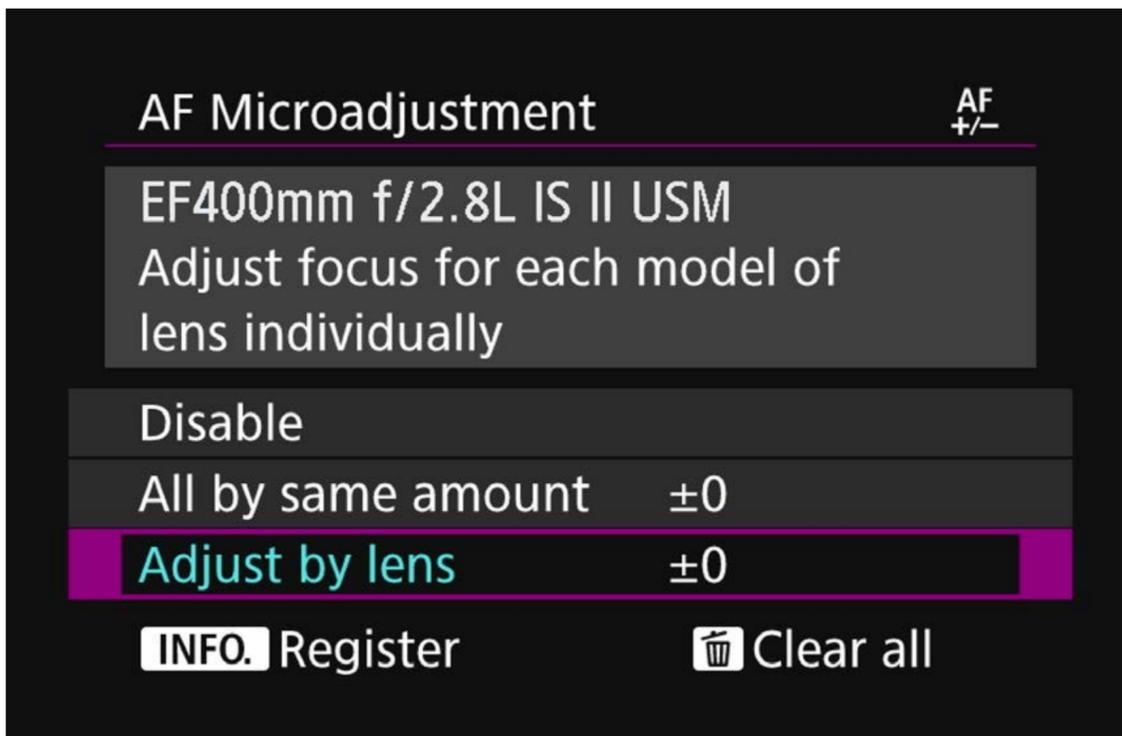
# 1 | Adjust by lens

## 1. Select AF Microadjustment



Select [**AF Microadjustment**] from the [**AF5**] tab, and press the <  > button.

## 2. Select [Adjust by lens]



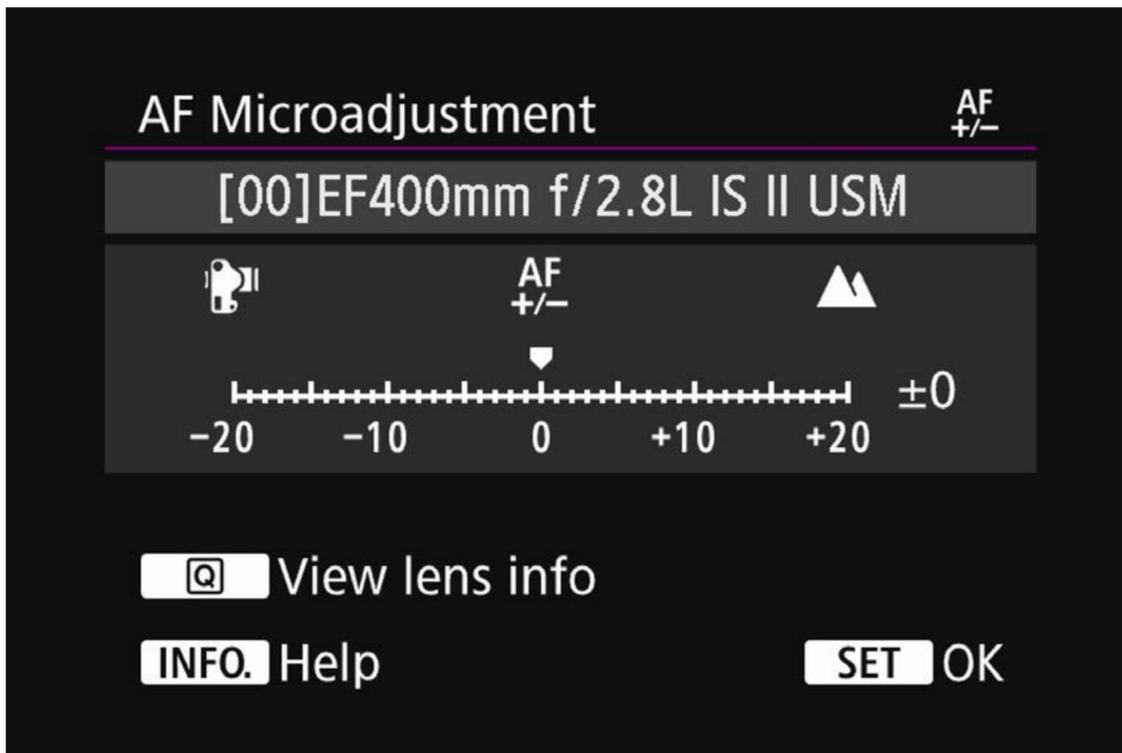
Turn the <  > Quick Control Dial and select [**Adjust by lens**], then press the < **INFO.** > button.

### Notice

### Zoom lens focal length

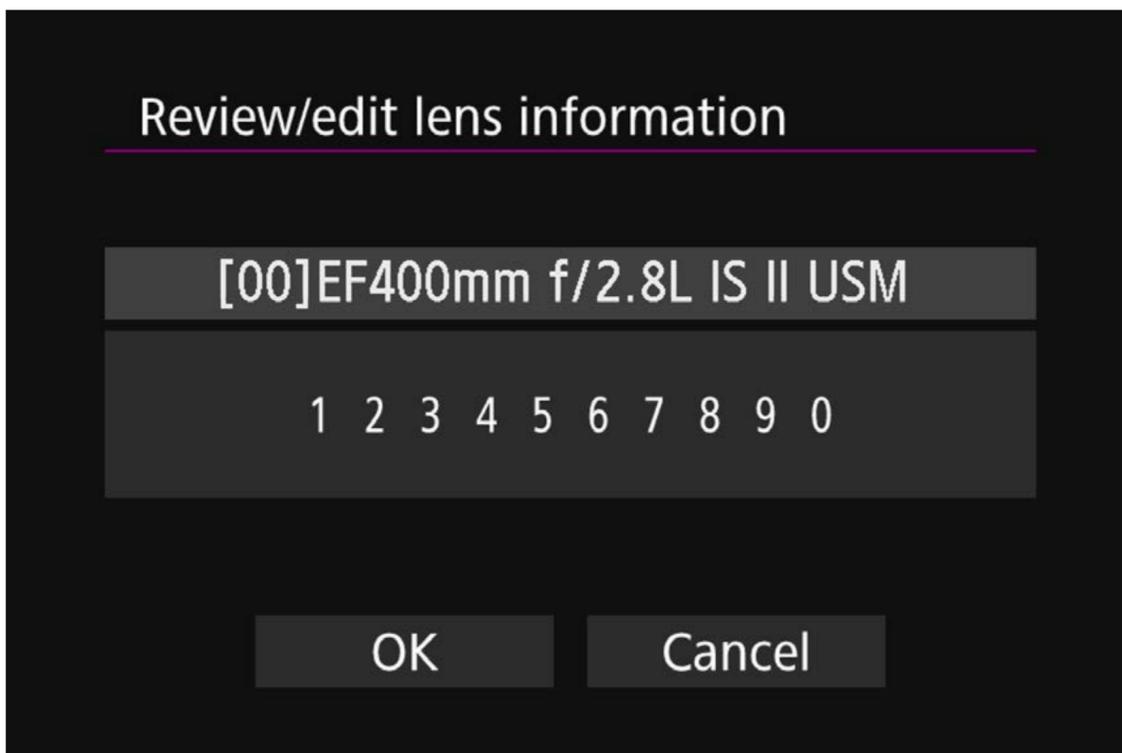
When shooting with the intermediate range (focal length) of a zoom lens, the AF's point of focus is corrected automatically relative to the adjustments made for the wide-angle and telephoto ends. Even if only the wide-angle or telephoto end is adjusted, a correction will be made automatically for the intermediate range.

### 3. The adjustment screen is called up



Confirm that the [**Adjust by lens**] screen is displayed.

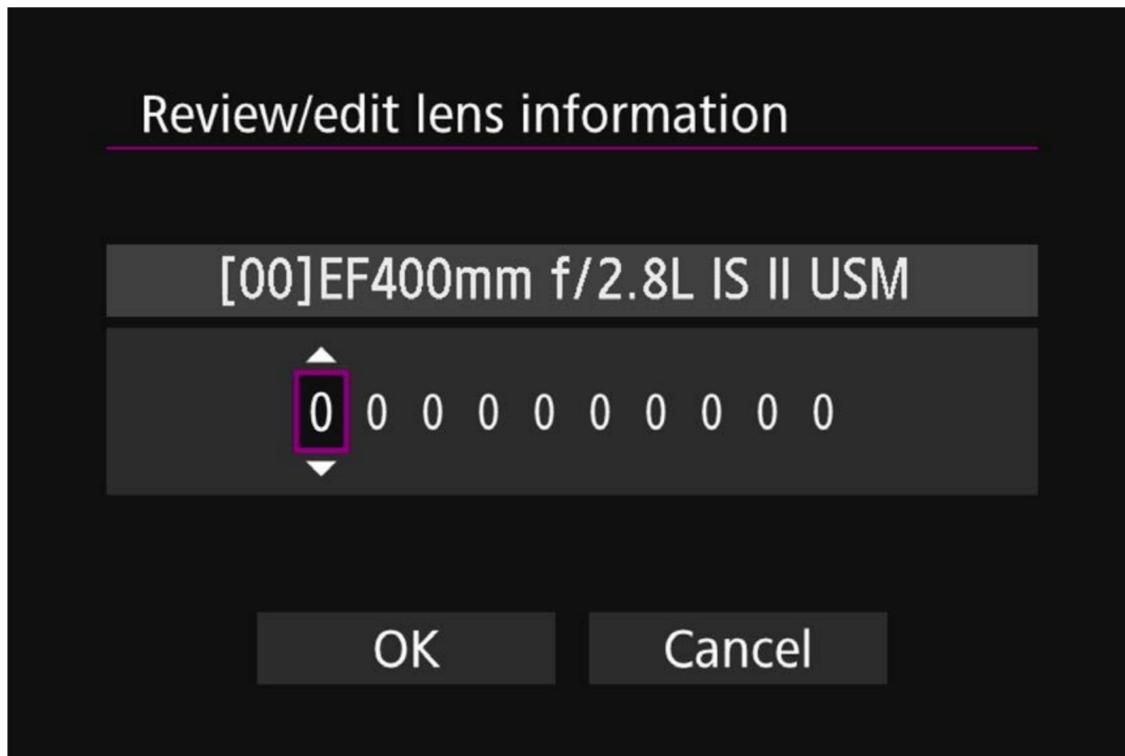
### 4. Confirm/edit the lens information



Press the < **Q** > button.

- The screen will show the lens name and a 10-digit serial number. When the serial number displays, select [**OK**], and proceed to procedure 1\_5 (P. 21).
- If the lens serial number cannot be confirmed, "0000000000" will be displayed. In this case, enter the number by following the instructions on the next page. Refer to P. 25 regarding the "\*" displayed in front of some lens serial numbers.

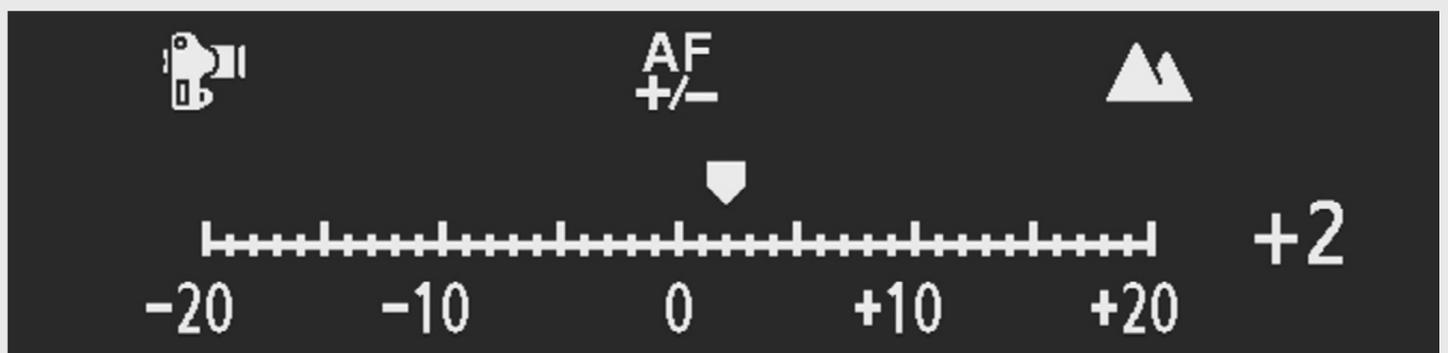
## 5. Input the serial number



1. Turn the <  > Quick Control Dial and select the digit to be entered, then press the <  > button so <  > is displayed.
2. Turn the <  > Quick Control Dial and enter a number, then press the <  > button.
3. After entering all the digits, turn the <  > Quick Control Dial, select [OK], then press the <  > button.

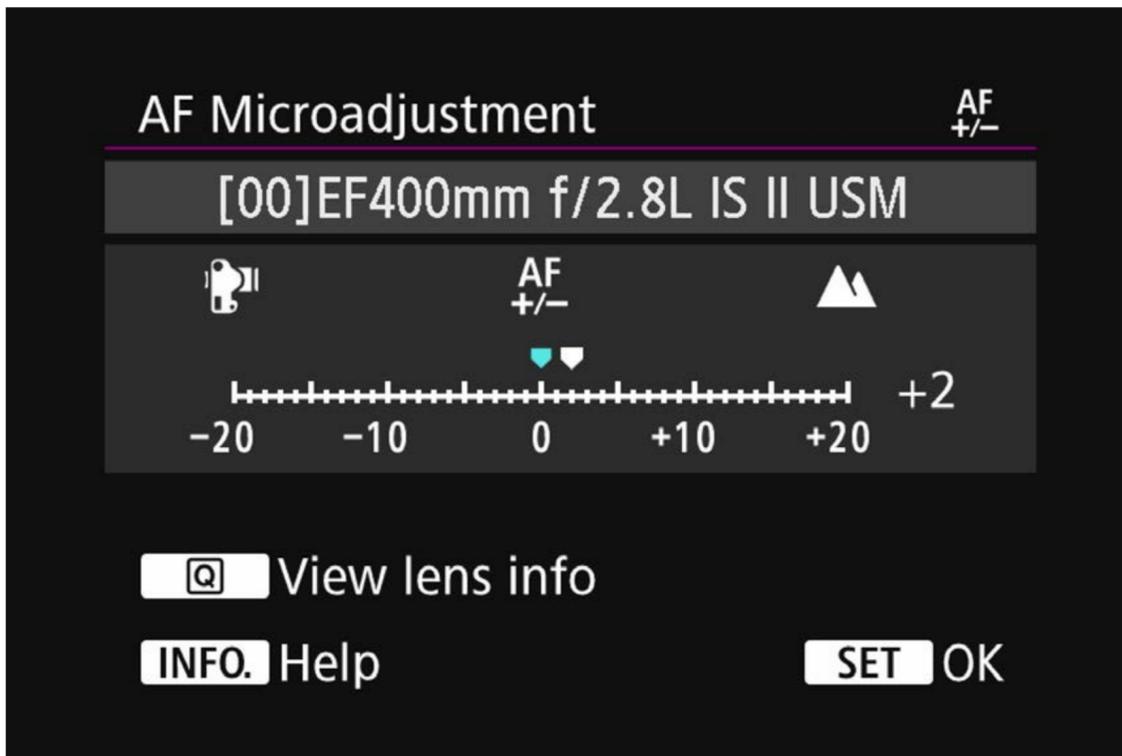
### Tips

**Make adjustments of two steps at a time**



The adjustment quantity of one step will differ according to the maximum aperture of the lens being used. First, move two steps repeatedly making adjustments, shooting, and checking the results each time until the desired result is achieved.

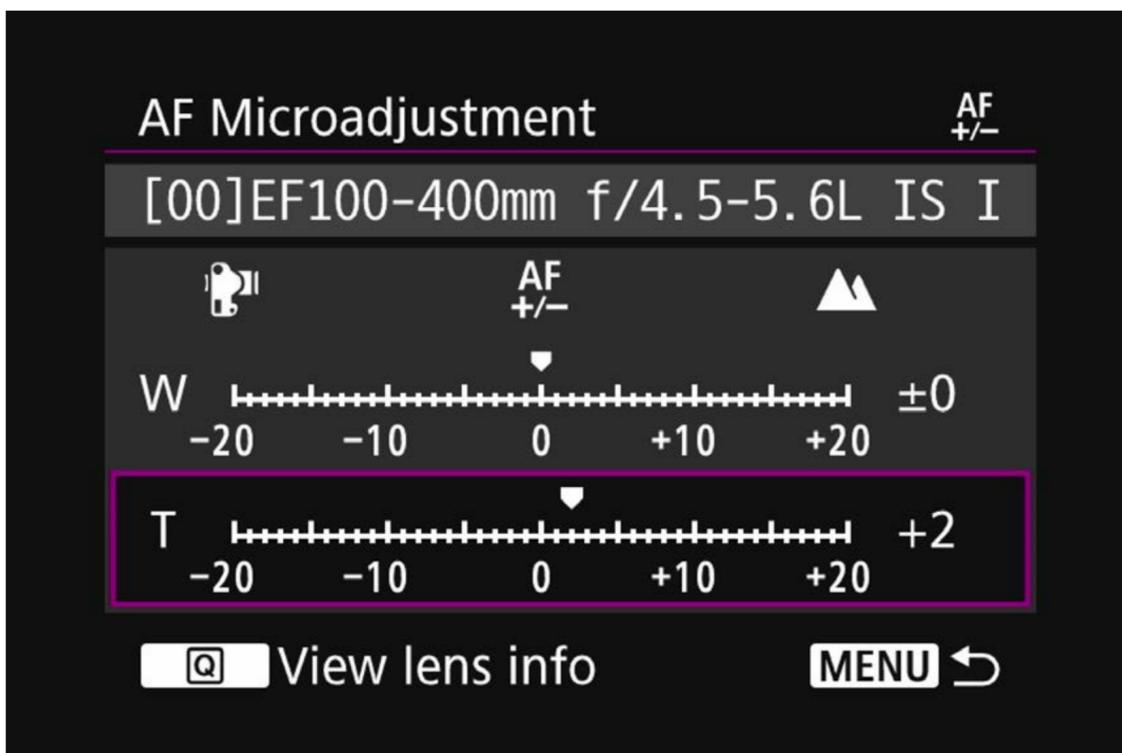
## 6. Make adjustments (With a single focal length lens)



Turn the <  > Quick Control Dial and set the adjustment value. The adjustable range is  $\pm 20$  steps.

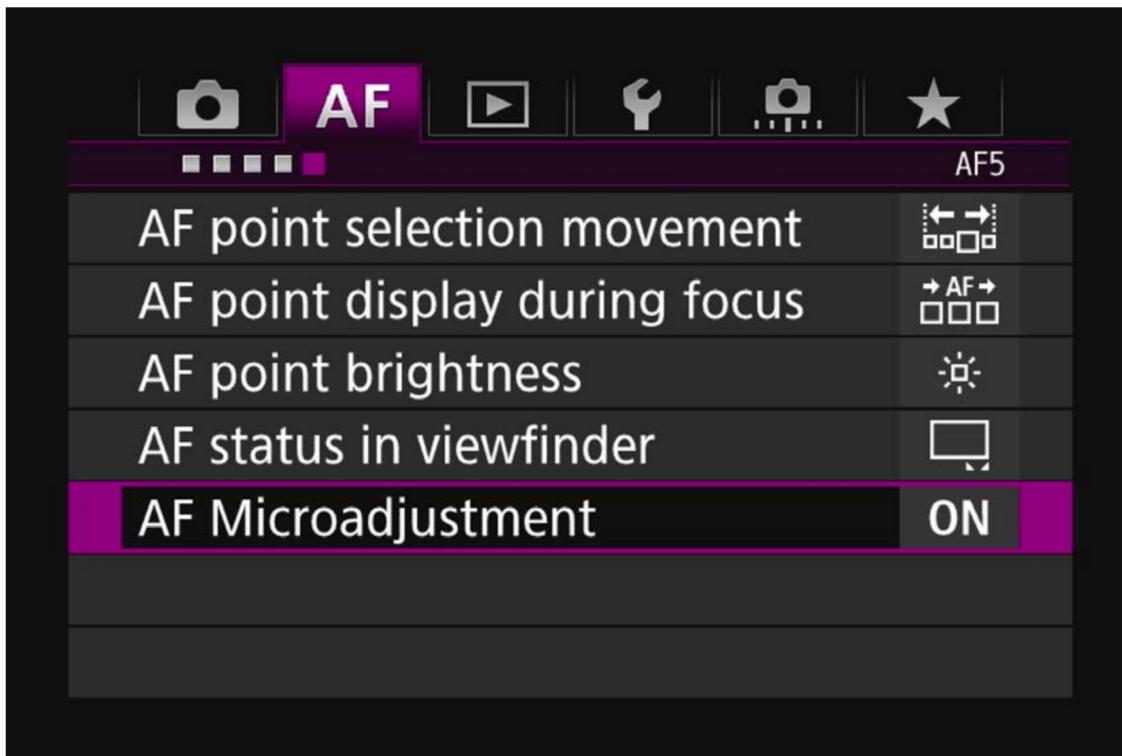
- Setting it toward " -: - Setting it toward " +: 

### (With a zoom lens)



1. For a zoom lens, turn the < - 2. Adjust it for the wide-angle (W) and telephoto (T) ends.

## 7. Determine the adjustment



1. After the adjustment is finished, press the <MENU> button and return to the procedure 1\_2 (P. 19) screen.
2. Turn the <☉> Quick Control Dial and select [**Adjust by lens**], then press the <⊞> button to return to the menu.

## 8. Perform test shooting after the adjustment



Perform test shooting again to verify the adjustment value.

## 9. Confirm on a computer

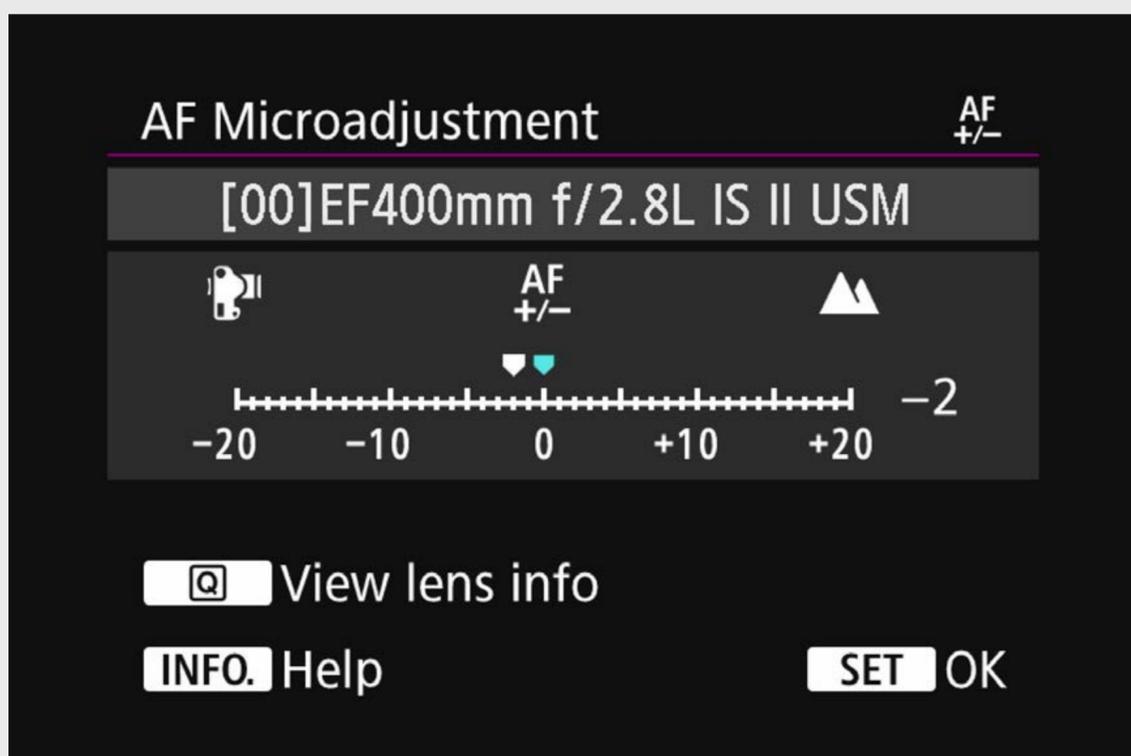


Playback the images and confirm the adjustment results. Adjustments are complete if the AF's point of focus is accurate. If further adjustments are necessary, repeat **making adjustments, shooting, and checking the results** and adjust to the suitable point of focus .

- If the shooting result's focus is ahead of the targeted point of focus, adjust to the " +: ▲ " side, and if focus is behind, adjust to the " -: ▢ " side.

### Tips

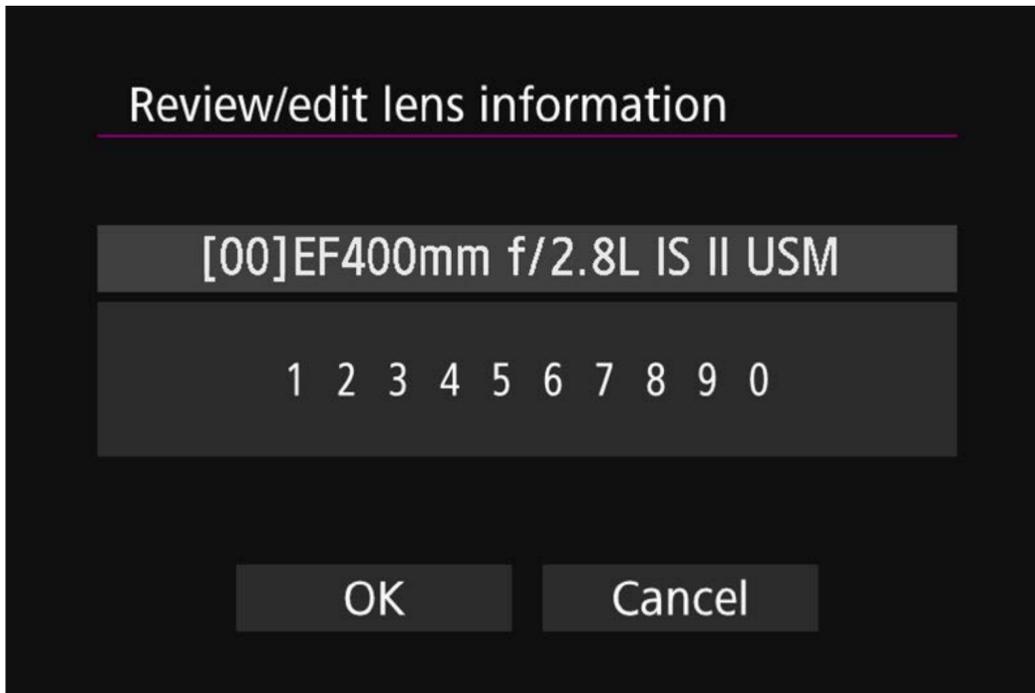
**Repeatedly make adjustments, shooting, and checking the results, if necessary**



After entering an adjustment value, be sure to perform **test shooting** to **confirm** the result. After confirming it, if the adjustment value is insufficient, change it. Repeat this as necessary, and look for the suitable point of focus .

## 2 | Register the lens serial number

### Serial number and lens registration

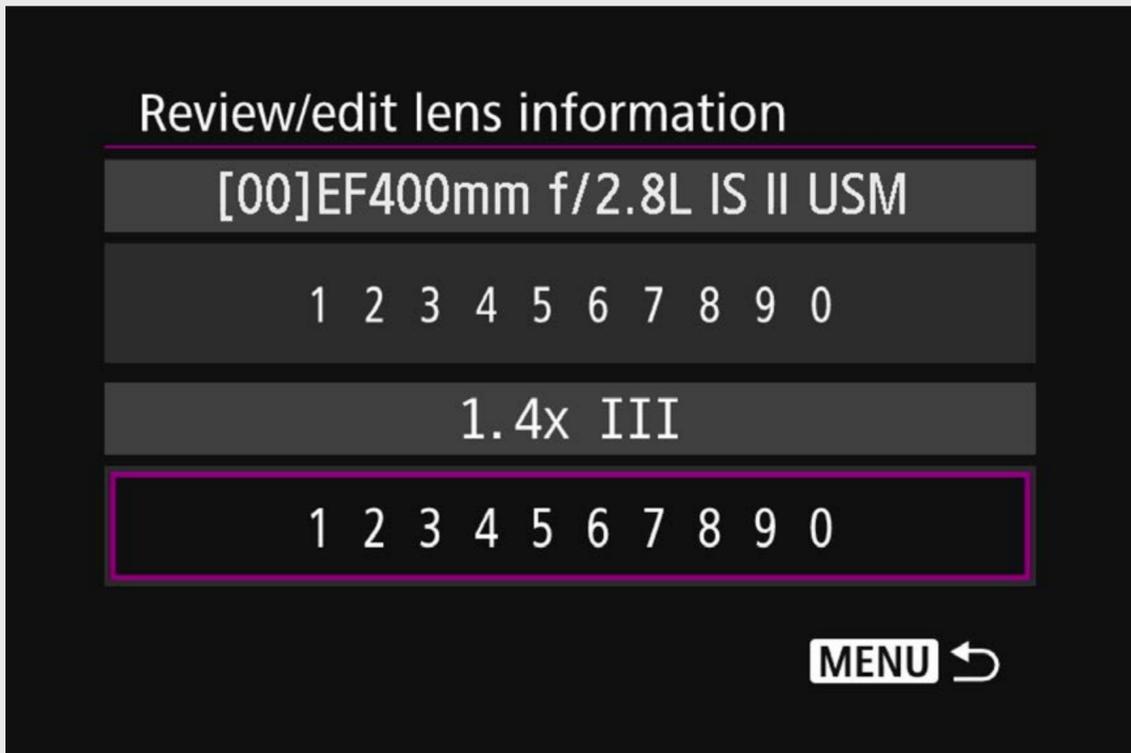


Up to 40 lenses can be registered. A message will appear if 40 lenses have already been registered. After you select a lens whose registration is to be erased(overwritten), you can register another one.

- **In procedure 1\_4 (P. 20), if "\*" appears in front of the 10-digit lens serial number, you can register only one unit of the same lens model. Even if you enter the serial number, "\*" will remain displayed.**
- **The serial number listed for a lens may differ from the serial number displayed in procedure 1\_4, however, this is not a malfunction.**
- If the lens serial number includes letters, enter only the numbers by following the procedure 1\_5 (P. 21).
- If the lens serial number is 11 digits or longer, enter the last 10 digits.
- The location of the serial number varies depending on the lens.
- Some lenses may not have a serial number inscribed. To register a lens that has no serial number inscribed, enter any serial number by following the procedure 1\_4.

## Tips

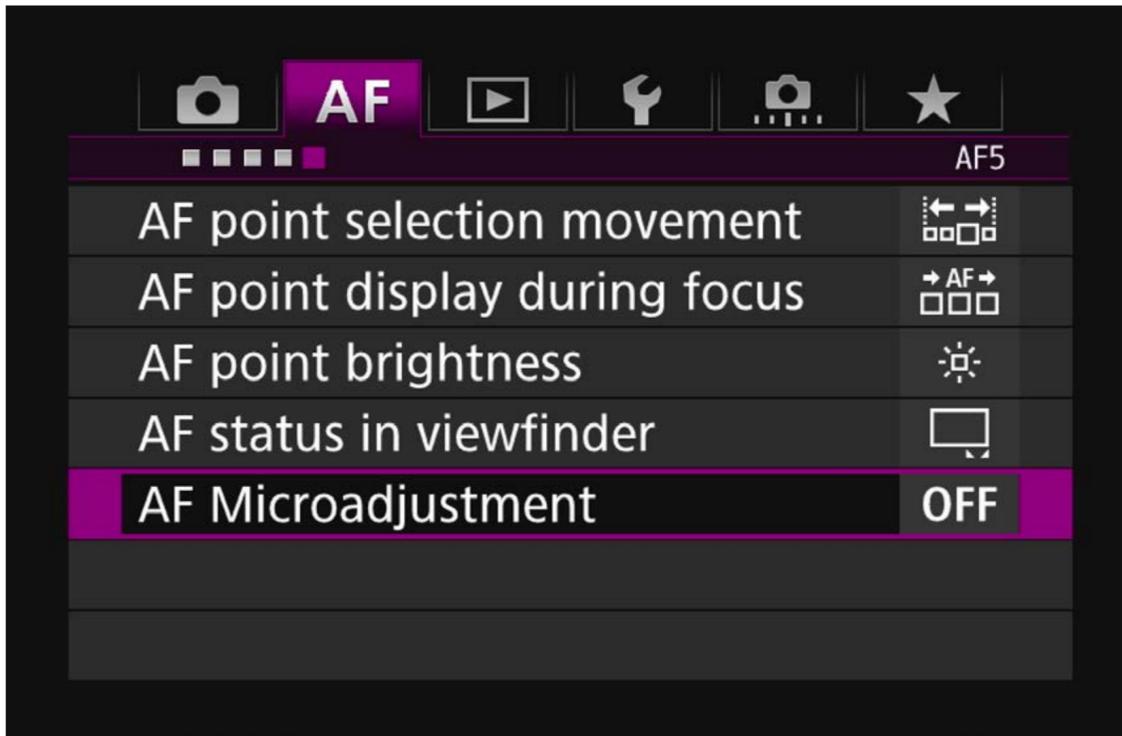
## Using an extender



If [**Adjust by lens**] is selected and an extender is used, the adjustment will be registered for the lens and extender combination.

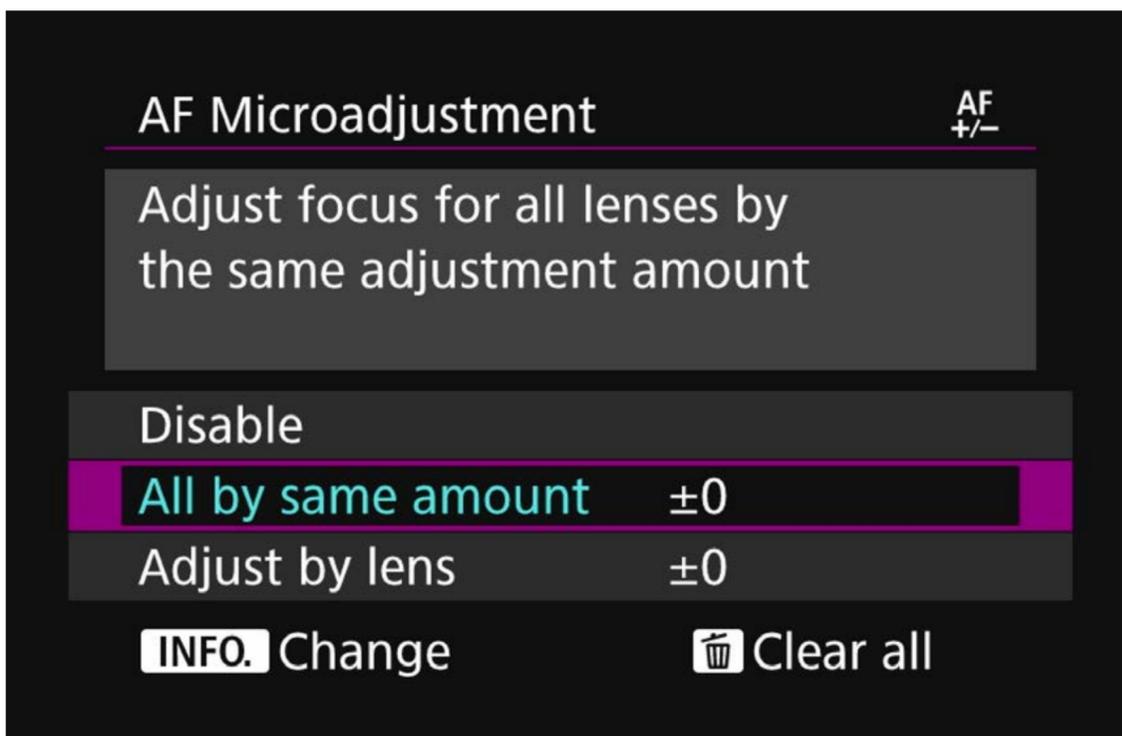
### 3 | Adjust "All by same amount"

#### 1. Select AF Microadjustment



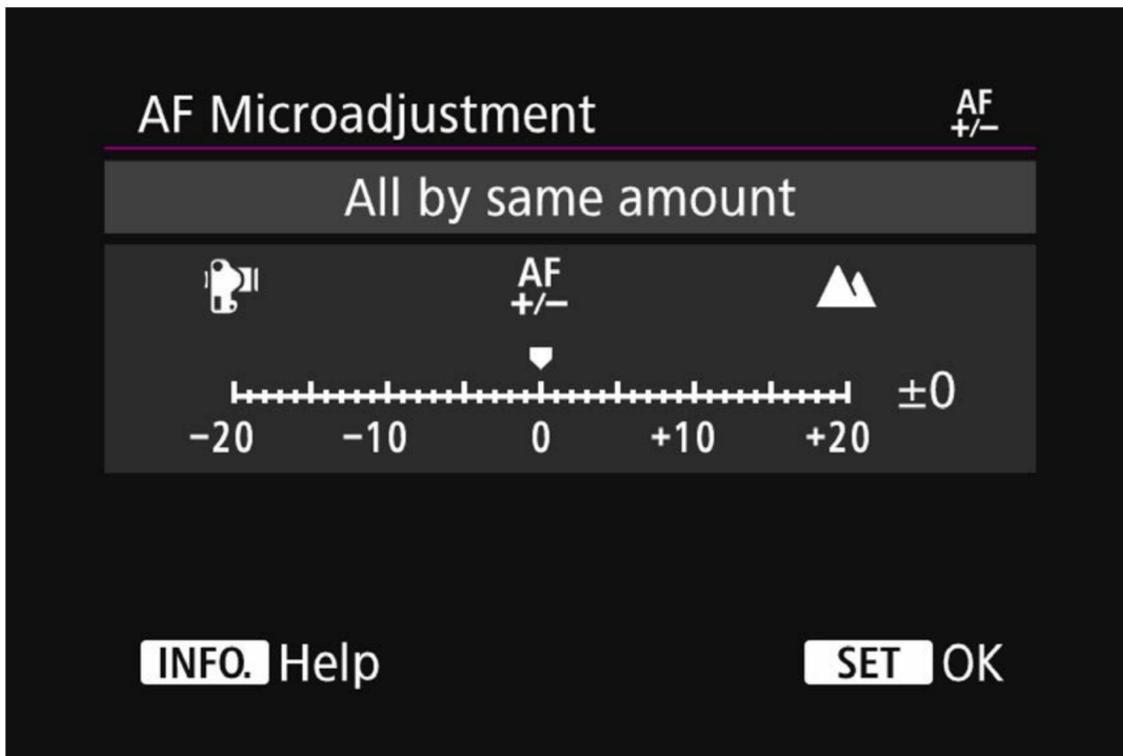
Select [**AF Microadjustment**] from the [**AF5**] tab, and press the <  > button.

#### 2. Select [All by same amount]



Turn the <  > Quick Control Dial and select [**All by same amount**], then press the < **INFO.** > button.

### 3. The adjustment screen is called up

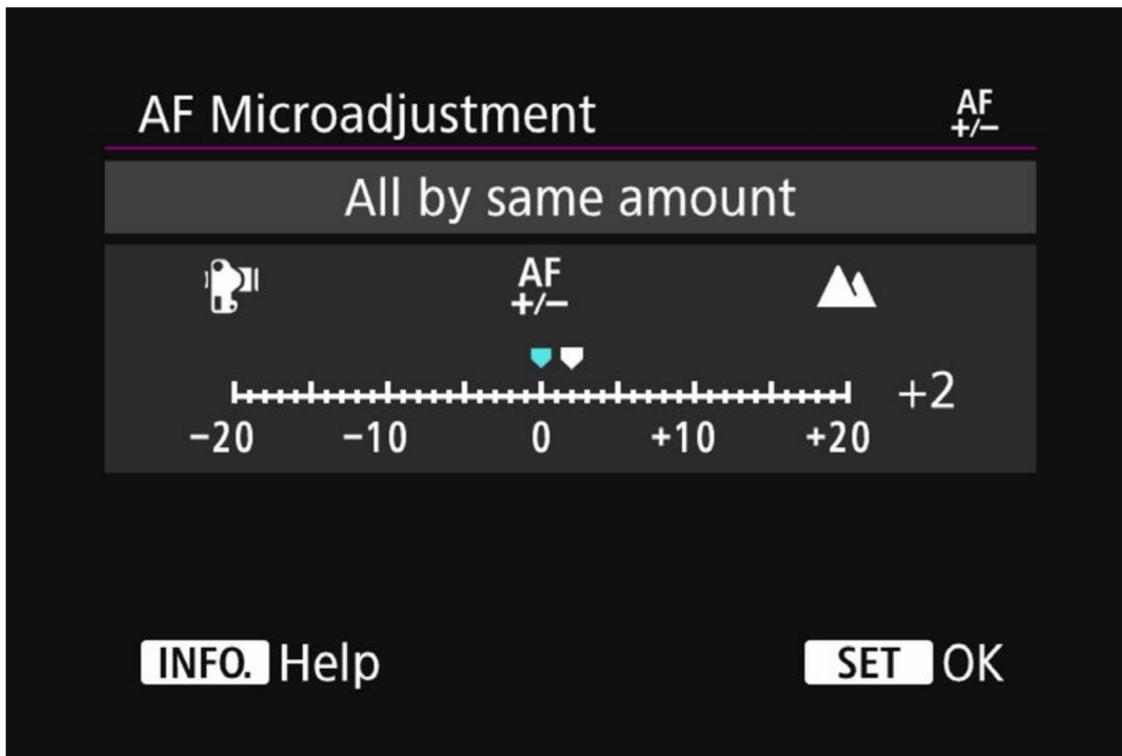


The [**All by same amount**] screen is displayed.

#### Notice Zoom lens adjustment

If [**All by same amount**] is selected, separate AF adjustment will not be possible for the wide-angle and telephoto ends of zoom lenses.

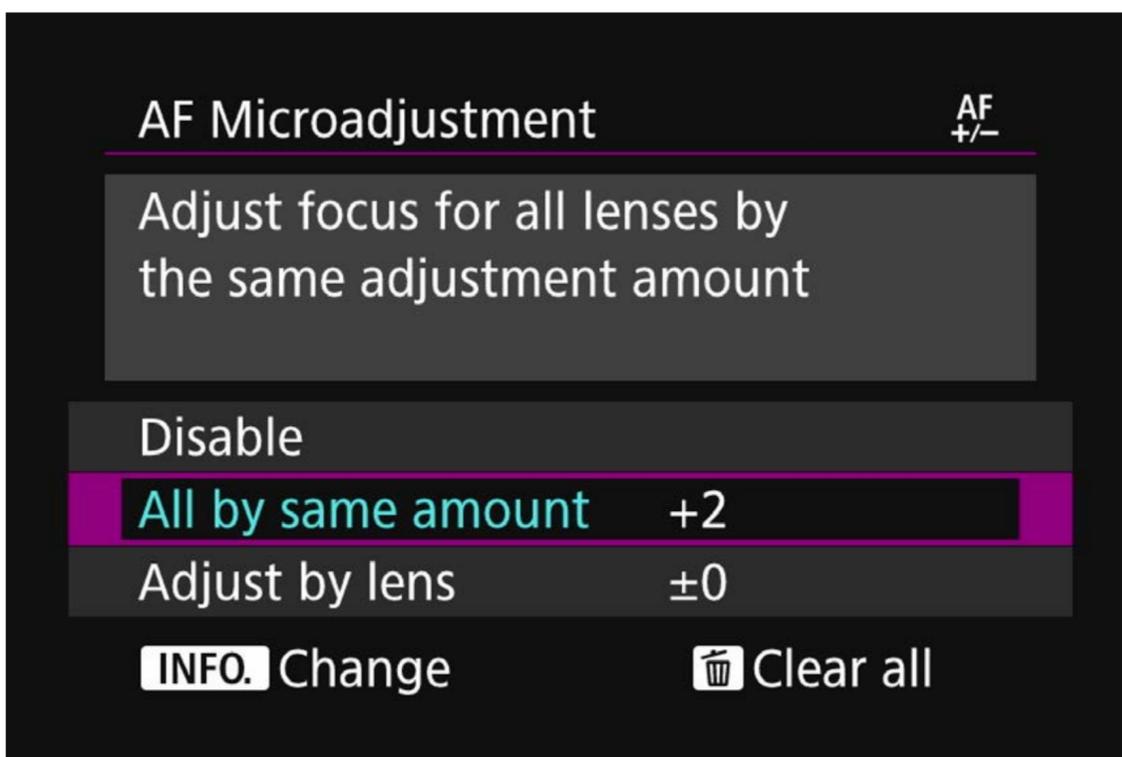
## 4. Make adjustments



Turn the <  > Quick Control Dial and set the adjustment value. The adjustable range is  $\pm 20$  steps.

- Setting it toward " -: - Setting it toward " +: 

## 5. Determine with the <SET> button



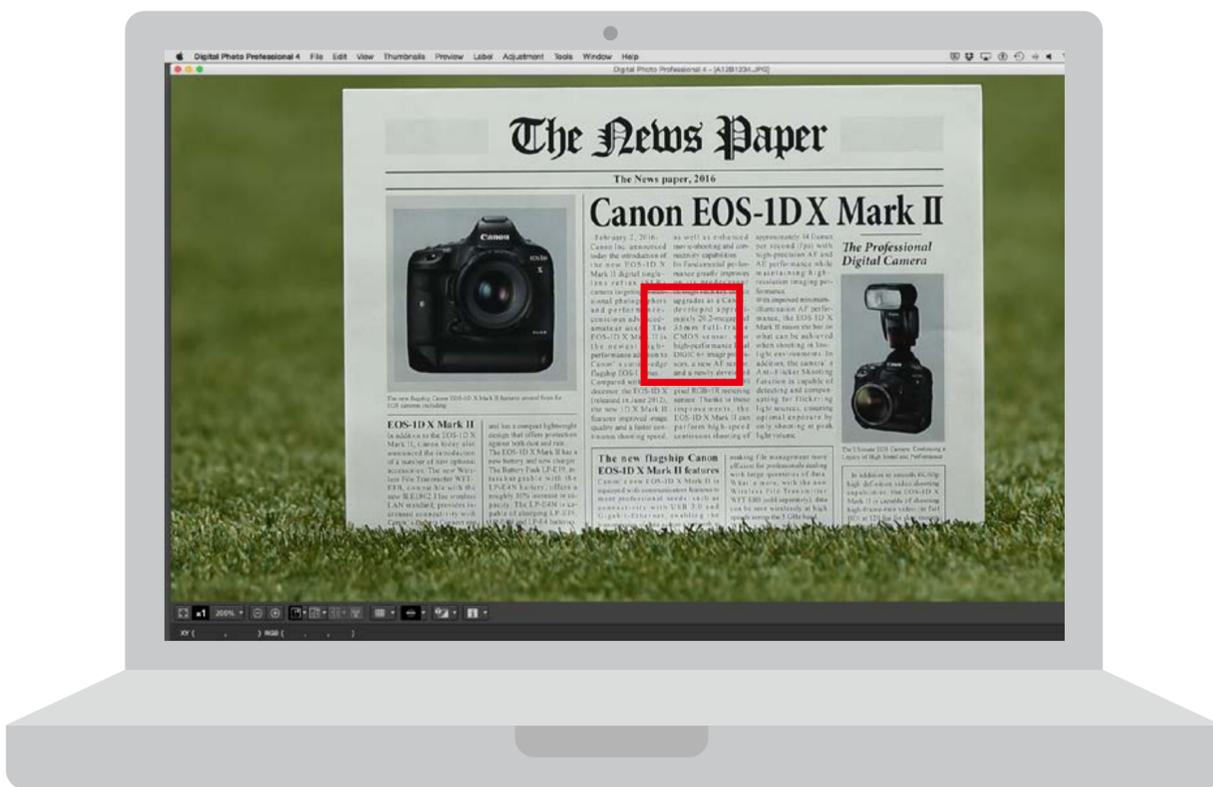
1. When adjustment is finished, press the <  > button.
2. Turn the <  > Quick Control Dial and select [**All by same amount**], then press the <  > button to return to the menu.

## 6. Perform test shooting after the adjustment



Perform test shooting again to verify the adjustment value.

## 7. Confirm on a computer

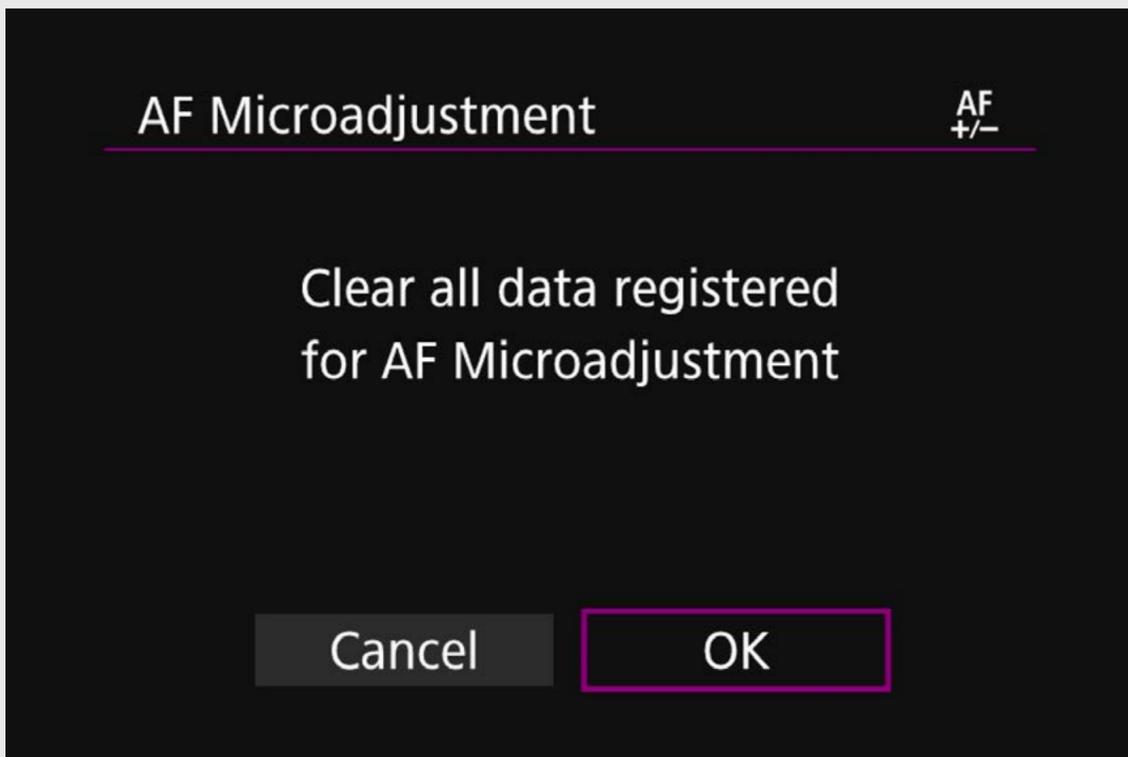


Playback the images and confirm the adjustment results. Adjustments are complete if the AF is accurate.

- When the shooting result's focus is ahead of the targeted point of focus, adjust it toward " +: ▲ " , and if it is behind, adjust it toward " -: ▼ " .

**Tips**

**When you want to clear all AF Microadjustment registered data**



When [  **Clear all** ] appears at the bottom of the screen, pressing the <  > button will clear all the adjustments made for [**All by same amount**] and [**Adjust by lens**].

## Subjects that AF does not handle well

Autofocus can fail to achieve focus with certain subjects and environments. Even when the test environment is similar to the actual shooting environment, note that it may not be possible to perform an appropriate AF Microadjustment in these cases. A mistaken adjustment may cause the camera to be unable to achieve its optimal performance.

---

### 1. Subjects with very low contrast

Example: Skies, monochromatic flat surfaces, etc. (includes heat haze)

---

### 2. Subjects in very low light

---

### 3. Strongly backlit or reflective subjects

Example: Cars with highly reflective bodies, etc.

---

### 4. Near and distant subjects framed close to an AF point

Example: Animals in cages, etc.

---

### 5. Subjects such as dots of light framed close to an AF point

Example: Night scenes, etc.

---

### 6. Subjects with repetitive patterns

Example: Skyscraper windows, computer keyboards, etc.

---

### 7. Subjects with finer patterns than an AF point

Example: Faces or flowers as small as, or smaller than an AF point, etc.

---