

Kenko

MIRROR LENS 400mm F8

Instruction Manual

This is a telephoto lens for a single-lens reflex camera or interchangeable lens mirrorless digital camera, adopting reflective optics to achieve a long focal length within a compact body.

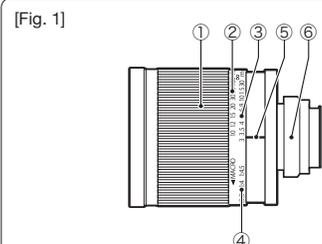
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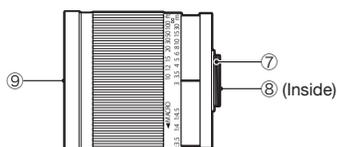
<http://www.kenkoglobal.com>

1. Name of Each Part

- ① Focus ring
- ② Distance scale (in feet)
- ③ Distance scale (in meters)
- ④ Macro magnification scale
- ⑤ Distance scale indicator mark
- ⑥ T-mount adapter (Sold separately)
- ⑦ T-mount attachment thread
- ⑧ Filter attachment thread (Inside of rear)
- ⑨ Filter attachment thread (Front)



[Fig. 1] Lens with T-Mount Removed



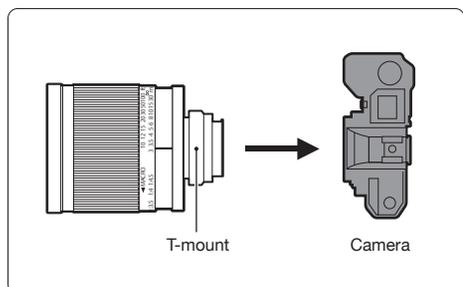
* The shape of the T-mount varies among the different camera brands.

2. Attaching the Lens to the Camera

Align the indicator marks on the T-mount and the camera, and then turn the lens until you hear a "click."

(For attachment and removal, refer to "Attaching the Lens" and "Removing the Lens" in your camera's manual.)

Check the attached lens for any looseness.



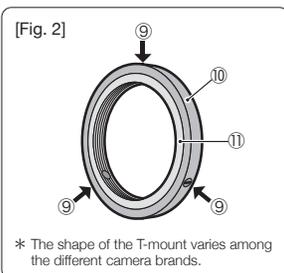
3. T-Mount

You must adjust the position of the T-mount to adjust the position of the lens. Remove the T-mount to attach rear filters to the lens.

Use the following procedure to adjust the position of the T-mount or remove the T-mount:

- ⑨ Outer screw (three locations)
- ⑩ Outer ring
- ⑪ Inner ring

Note: If the outer screws ⑨ are loosened too much, the inner ring ⑪ may come off.



If the distance scale indicator mark (⑤ in Fig. 1) doesn't align at the top center of the lens when it is attached to the camera, make an adjustment with the following procedure:

- 1 Slightly loosen the outer screws ⑨ (three locations) as shown in Fig. 2.
 - * Do not loosen the screws too much, because it may cause the inner ring of the T-mount (⑪ in Fig. 2) to come off.
 - * Use a commercially available precision screwdriver to loosen the screws.
- 2 Turn the lens until the distance scale indicator comes to the top center, and then securely tighten the outer screws ⑨ (three locations) as shown in Fig. 2.

Use the following procedure to remove the T-mount from the lens:

- 1 Take the lens off the camera first.
- 2 Slightly loosen the outer screws ⑨ (three locations) as shown in Fig. 2.
 - * Do not loosen the screws too much, because it may cause the inner ring of the T-mount (⑪ in Fig. 2) to come off.
 - * Use a commercially available precision screwdriver to loosen the screws.
- 3 Remove the T-mount from the lens by turning the T-mount counterclockwise while holding the lens with the other hand.

4. Setting Up the Camera

Some cameras must be set up to be to use a manual lens prior to lens attachment. Set up your camera by referring to the information provided below. For details, refer to your camera's manual.

Tip As a general guide, the shutter speed should be in a range of 1/500 to 1/1000 on a fine day when the ISO sensitivity is set to 400. If you're using a digital single-lens reflex camera, take your photos while checking each image on the LCD monitor:

- The image is too dark: Lower the shutter speed.
- The image is too bright: Raise the shutter speed.

● Canon EOS Series

The lens can be used in the "Av (aperture priority)" mode and "M (manual)" mode.

■ How to use the "Av (aperture priority)" mode

1. Set the exposure mode to "Av."
2. Correct the exposure compensation if necessary.

If this lens is used with a Canon EOS series camera, the following operations may be required on some models due to the mechanism of the camera:

- When the lens is attached, the aperture is displayed as "00.": No action is needed in this regard.
- A value (e.g., F5 or 6) is displayed as an aperture when the lens is attached: Open up the aperture (adjust it to the smallest value).
- * This lens can't be used with the EOS-700, 750 and 850 because those cameras have no aperture priority mode (Av) or manual mode (M).
- * If a conversion lens or an extension tube (ring) is attached, the camera won't operate normally. Do not combine this lens with the above items.
- * The Focus Aid can't be used.
- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

● Nikon

The supported exposure modes are limited depending on the camera model.

Refer to "List of Supported Non-CPU Lenses" or other similar sections in your camera's manual.

D100, D50, D70, D70S, D40, D40X, D60, D80, D90, D5000, D3000, D3100

To use this lens with any camera listed above, set the shooting mode to "M (manual)." The shutter won't release in any other mode.

- * The shutter speed must be adjusted depending on the condition in which photographs are taken.
- * Set the focus mode to "MF."
- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

● Sony α

Set the shooting mode to "M (manual)." On the α77 and certain other models, the non-lens release lock function must be canceled.

Menu ⇒ Setup Menu ⇒ Change the setting for [Release without Lens] to [Permit].

- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

● Sony NEX (E-mount)

The non-lens release lock function must be canceled.

Menu ⇒ Setup Menu ⇒ Change the setting for [Release without Lens] to [Permit].

Any shooting mode can be used, except for those in which priority is given to the shutter speed. It isn't recommended that priority be given to the shutter speed (shutter priority mode).

- * In the program mode, aperture priority mode or manual mode, set the ISO sensitivity to AUTO. Menu ⇒ Brightness/Color ⇒ ISO Sensitivity ⇒ Set to [AUTO].
- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

● Olympus Micro Four-Thirds

Any shooting mode can be used, except for those in which the shutter speed is given priority (shutter priority mode). It isn't recommended that priority be given to the shutter speed.

- * When using the program mode, aperture priority mode or manual mode, set the ISO sensitivity to AUTO. Setup Menu ⇒ Exposure/Light Measurement/ISO ⇒ Set to [AUTO].
- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

● Panasonic Micro Four-Thirds

The non-lens release function must be set to [ON].

Setup Menu ⇒ Release without Lens ⇒ Set to [ON].

Any shooting mode can be used, except for those giving priority to the shutter speed (shutter priority mode). It isn't recommended that priority be given to the shutter speed.

- * When using the program mode, aperture priority mode or manual mode, set the ISO sensitivity to AUTO. Setup Menu ⇒ ISO Sensitivity ⇒ Set to [AUTO].
- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

● Pentax

The "M (manual)" mode and "Av (aperture priority)" shooting mode can be used.

When using the built-in hand-shake correction function, set the "Lens Focal Length" on the "Focal Length Entry" screen.

- * The aperture can't be adjusted in the aperture priority mode.
- * The aperture value isn't displayed under "Exif."

5. Performance Table

Brightness	F8 (fixed)
Lens construction	2 groups, 6 lenses
Minimum focus distance	1.15 m
Macro magnification factor	1:2.5
Filter diameter (diameter of filter at rear of lens)	67 mm* (30.5 mm)
Maximum diameter	φ74 mm
Overall length (excluding T-mount)	82mm
Weight (excluding T-mount)	340 g

* Before attaching a filter to the front of the lens, be sure the filter won't contact the reflective part (black circle) at the center of the front surface of the lens.

Specifications and exterior views are subject to change without notice for the purpose of product improvement.

6. Taking Photographs

● Preventing Blurry Images

- This lens is small and light, but it's still a telephoto lens with a long focal length. Generally, telephoto lenses are associated with a small angle of view and higher probability of the images becoming blurry due to magnifications of every movement of the lens known as "camera shake." It's recommended that you set your camera to high sensitivity and a high shutter speed, or use a stable tripod or monopod.



You can prevent blurry images by using a cable release or self-timer function.

In this case, be sure to use a stable, sturdy tripod. If your camera has a mirror-up function, use the function to further reduce the possibility of blurring.

● Photographing Conditions with a Telephoto Lens

- When a telephoto lens is used, the magnification factor increases and therefore dust, water vapor and other matter suspended in the air will affect the image quality. To capture sharp images, ideally photographs should be taken on a fine day with minimum wind following several consecutive fine days, in a location not subject to exhaust gases, smoke from chimneys, etc.



It is difficult to capture sharp images in mountains and coastal areas during the summer, because the air contains a considerable amount of gas and water vapor. However, your photography can be more enjoyable if you'll take advantage of unfavorable conditions to create works of your own, such as capturing the sea through vibrating air or shooting the ridgelines of mountains veiled in haze.

● Adjusting the Exposure

- This lens employs reflective optics, so the aperture is fixed. Accordingly, the amount of light must be adjusted by changing the shutter speed. (If you're using a digital camera, you can do this by changing the ISO sensitivity.) However, a slow shutter speed tends to cause blurry images, so it's recommended that you set your camera to high sensitivity and use a high-sensitivity film (ISO400 or better).
- Auto exposure is possible on nearly any camera that offers an AE function with aperture priority (except for certain Nikon and Sony models)(the program AE and shutter priority AE are not possible). Set the camera without lens to the aperture priority AE mode, and then try taking photographs in a bright area and a dark area. If you notice that the shutter speed differs from one condition to the next, auto exposure is enabled.



This lens has no electrical contacts, so signals aren't exchanged electrically between the camera and lens. Accordingly, the camera's finder display or LCD screen may not come on, but this doesn't affect the camera or lens function. (It's the same as taking photographs with an astronomical telescope or field scope attached to the camera.)

● Adjusting the Focus

- This lens isn't linked to the auto focus function, so the focus must be adjusted manually. To bring the subject into focus, simply turn the focus ring.
- With a telephoto lens, the depth of field (the range in which the subject can be brought into focus) becomes shallow (= the focus range is small), so it's difficult to adjust the focus. Use a stable tripod or monopod to adjust the focus carefully.



Generally, a super-telephoto lens with a range of 300 mm or more will have some allowance in the position of the infinitely symbol ∞ . This is because the refractive index of light in air changes as the temperature in the mirror cylinder changes, and the focus position may shift slightly as a result. Accordingly, be sure to adjust the focus carefully by checking the image on the finder screen, even when capturing a distant view, starry sky or other very distant subject.



If you're using a digital camera with a live view feature, you can use the zoom-in function to fine-tune the focus.

7. Troubleshooting

Attaching the lens

Condition	Cause	Remedial action
The lens can't be attached to the camera.	<ul style="list-style-type: none"> ❶ The T-mount isn't attached to the lens. ❷ The T-mount doesn't match the mount on your camera. 	<ul style="list-style-type: none"> ❶ Attach the T-mount to the lens and then set the lens on the T-mount to the camera. ❷ Provide a T-mount appropriate for your camera. [Refer to 3, "T-Mount."] <ul style="list-style-type: none"> * Multiple types of mounts may be available depending on the camera brand. For details, contact the camera manufacturer. (Four-Thirds, Micro Four-Thirds, etc.)
The mount rattles.	<ul style="list-style-type: none"> ❶ The outer screws (three locations) on the T-mount are loose. 	<ul style="list-style-type: none"> ❶ Securely tighten the outer screws using a commercially available precision screwdriver. [Refer to 3, "T-Mount."]
The distance scale indicator mark doesn't come to the top center.	<ul style="list-style-type: none"> ❶ The lens and T-mount aren't adjusted to proper positions. 	<ul style="list-style-type: none"> ❶ Loosen the outer screws on the T-mount and turn the lens until the distance scale indicator mark comes to the top center, and then tighten the outer screws on the T-mount. [Refer to 3, "T-Mount."]
Other mount can't be attached.	<ul style="list-style-type: none"> ❶ The inner ring of the T-mount remains on the lens. 	<ul style="list-style-type: none"> ❶ The T-mount has a double-structure. Once the outer screws (three locations) on the T-mount are loosened and removed, place the outer ring on the T-mount again and tighten the outer screws on the T-mount, and then remove the T-mount from the lens. [Refer to 3, "T-Mount."]

Taking photographs

Condition	Cause	Remedial action
The shutter doesn't release.	<ul style="list-style-type: none"> ❶ The shooting mode doesn't support the attached lens. ❷ The camera isn't set correctly, or the camera is set to disable the shutter release when a lens without electrical contacts is used. ❸ The camera's focus mode is set to "AF" (auto focus). In the AF mode the camera may not be able to detect the focus position of this lens, in which case the shutter doesn't release. 	<ul style="list-style-type: none"> ❶, ❷ Set the necessary items beforehand by referring to 4, "Setting Up the Camera," and your camera's manual. ❸ Set the camera's focus mode to "MF" (manual focus).
The camera's finder display or LCD screen doesn't come on.	<ul style="list-style-type: none"> ❶ This lens has no electrical contacts, so it doesn't send or receive electrical signals to/from the camera. 	<ul style="list-style-type: none"> ❶ Neither the camera nor the lens function is affected.
Images become blurry.	<ul style="list-style-type: none"> ❶ The hand shakes when photographs are taken. ❷ The distance to the subject is too close. ❸ Effects of dust and water vapor in the air. ❹ The lens is dirty. 	<ul style="list-style-type: none"> ❶ Firmly secure the camera when taking photographs. <ul style="list-style-type: none"> * The use of a tripod or monopod is recommended. ❷ Increase the distance from the subject. ❸ Take photographs in a place having less airborne dust, water vapor, exhaust gases, etc. ❹ Wipe clean the lens using a soft cloth. [Refer to 6, "Taking Photographs."]
The camera doesn't zoom in.	This lens is a mono-focal lens.	
Auto focus doesn't work.	<ul style="list-style-type: none"> ❶ This lens is a manual focus lens. 	<ul style="list-style-type: none"> ❶ Turn the focus ring and manually adjust the focus. [Refer to 6, "Taking Photographs."]
The aperture can't be adjusted.	<ul style="list-style-type: none"> ❶ This lens has a fixed aperture. 	<ul style="list-style-type: none"> ❶ Adjust the exposure by changing the shutter speed. [Refer to 6, "Taking Photographs."]

Other

Condition	Cause	Remedial action
I want to use my lens with a camera of a different type of mount (a camera from a different manufacturer).	<ul style="list-style-type: none"> ❶ You can attach various T-mounts sold separately. 	<ul style="list-style-type: none"> ❶ Check your camera for the type of mount, and consult the dealer/retail shop where you purchased your lens.
I want to attach a filter.	<ul style="list-style-type: none"> ❶ [Refer to 1, "Name of Each Part."] A filter can be attached to the filter attachment thread ❸ or ❹ as shown in the Fig. 1. 	<ul style="list-style-type: none"> ❶ When attaching a filter in front of the lens, first confirm that the filter won't contact the center of the front surface of the lens.
What appears to be a black cap at the center of the object lens (lens on the subject side) doesn't come off.	<ul style="list-style-type: none"> ❶ This is the part of the lens structure that is used to reflect images. 	<ul style="list-style-type: none"> ❶ Do not remove the black object. It's okay to take a photograph as is.
Photographs are all white or all black.	<ul style="list-style-type: none"> ❶ The exposure is significantly off. 	<ul style="list-style-type: none"> ❶ On cameras with aperture priority mode, this problem can be compensated to some extent by correcting the exposure. On models that only have the "M (manual)" mode, the lens is linked neither to the AE function nor to the exposure meter in the camera. When using such a camera, refer to the instruction manual for information on the appropriate shutter speed.