Tokina Instruction Manual

10~17mm F3.5~4.5 Fisheye DX
11~16mm F2.8 DX
12~24mm F4 DX
12~24mm F4 DX II
16~50mm F2.8 DX
16.5~135mm F3.5~5.6 DX
80~400mm F4.5~5.6 D
35mm F2.8 Macro DX
100mm F2.8 Macro D

D series

ENGLISH
中國語

Tokina's DX lens is designed for use with a digital single-lens reflex (SLR) camera of APS-C size. Do not use it with a digital SLR camera with a solid-state imaging device of a size larger than APS-C, nor with a SLR camera designed for silver-halide film. The D lens can be used with both digital SLR cameras with APS-C size sensors and 35mm SLR film cameras.

■More Information
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● Descriptions of Parts

❶ Manual Focus Ring
❷ Focus Distance Scale
❸ Focus Distance Index
❹ Zoom Ring
❺ Focal Length Scale
❻ Center Index
❼ Auto-Focus (AF) Position
❽ Manual Focus (MF) Position
❾ Hood Attachment Index
❿ Aperture ring
⓫ Focus-limiting switch
⓬ Zoom lock mechanism
⓭ Tripod mounting screw
⓮ Tripod indicator
⓯ Tripod ring
⓰ Hood Right Position Indicator

10~17mm F3.5~4.5 DX
TO FIT NIKON Digital

35mm F2.8 Macro DX
TO FIT NIKON Digital

100mm F2.8 Macro D
TO FIT NIKON

16.5~135mm F3.5~5.6 DX
TO FIT NIKON

16~50mm F2.8 DX
TO FIT NIKON Digital

12~24mm F4 DX
TO FIT NIKON Digital

12~24mm F4 DX II
TO FIT NIKON Digital

16~50mm F2.8 DX
TO FIT NIKON Digital

80~400mm F4.5~5.6 D
TO FIT NIKON

● How to Attach / Detach the Lens

Attach/detach the lens to/from your camera according to the instructions provided in the manual provided with your camera.

* When attaching/detaching the lens, be careful not to touch the electronic contacts on the lens mounting surface nor crush these contacts due to strong impact.

● Focusing

The lens is normally focused automatically when the focus mode switch is set to the Auto focus position. If the camera is in the manual-focus mode, adjust the focus by looking into the finder and turning the manual focus ring. This lens also supports focusing through the use of a focusing aid.

● One-Touch Controllable Focus-Clutch Mechanism

<How to switch from the Auto focus position to manual focus position>

The lens focus mode can be switched between the Auto focus and manual focus positions at any time by moving the manual focus ring forward and backward.

* For lenses using either the Nikon or Canon mounting system, it is possible to use manual focus without switching the focus mode switch on either the camera body or the lens to the manual position.
  In the Auto focus position the manual focus ring turns freely.
* For all Canon mounts and 12~24mm F4 DX II Nikon mount, switch of the built-in motor will be automatically turned off when switched to MF mode positon.

● Exposure Modes

For the exposure mode settings, follow the applicable instructions provided in the manual provided with your camera.

● Lens Hood

A lens hood is designed to prevent the flares and ghost images that are caused by strong diagonal or side rays striking the front of the lens. We recommend that you use a lens hood to ensure clear, problem-free photographs and protect the lens.

* The 12~24mm F4 DX/12~24mm F4 DX II/16~50mm F2.8 DX/100mm F2.8 Macro D/80~400mm F4.5~5.6 D lens hood can be attached in the reverse direction on the front of the lens for storage.

<How to attach the lens hood>

[100mm F2.8 Macro D]

Place the lens hood on the lens by aligning the index (IN●) on the hood with the hood attachment index (●) on the lens. Secure the hood by turning it clockwise (when viewed from the front) until it clicks into place. Grabbing the tip of the lens hood with a strong force will make it difficult to attach/detach the hood. When attaching /detaching the lens hood, do so by holding the base of the hood (the part attached to the lens).

[11~16mm F2.8 DX] [12~24mm F4 DX] [16~50mm F2.8 DX] [16.5~135mm F3.5~5.6 DX]

To securely install the hood, align the IN● mark on the hood with the hood attachment indicator (●) on the lens, and then turn the hood clockwise, as viewed from the front, until a click is heard.
Confirm that the ▼ mark on the hood is aligned with the center index on the lens.

[12~24mm F4 DX II]

To securely install the hood, align the IN● mark on the hood with the hood attachment index (●) on the lens, and then turn the hood clockwise, as viewed from the front, until a click is heard. Them, confirm the position of the IN● mark on the hood aligns with the position of the Hood Right Position Indicator on the lens.

[80~400mm F4.5~5.6 D]

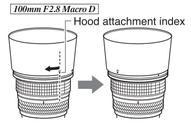
To securely install the hood, align the IN● mark on the hood with the hood attachment indicator (●) on the lens, and then turn the hood clockwise, as viewed from the front, until a click is heard.
Confirm that the ▼ mark on the hood is aligned with the hood attachment indicator (●) on the lens.

<PL Assist Hood Mechanism>

The 80~400mm F4.5~5.6 D's hood incorporates a PL-filter rotating device. By turning the rubber operation dial, you can use the PL filter while the hood is installed.

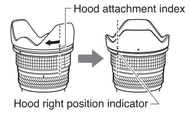
* PL Filter
  You can use the PL filter with Hoya's PRO 1 Digital Circular PL (W), Circular PL.
  When other kind of filter is used, it is recommended you check in advance if it works on your lens.

100mm F2.8 Macro D

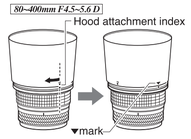


11~16mm F2.8 DX | *12~24mm F4 DX*
16~50mm F2.8 DX | *16.5~135mm F3.5~5.6 DX*

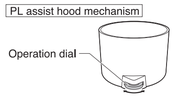
12~24mm F4 DX II



80~400mm F4.5~5.6 D



PL assist hood mechanism



When installing or removing the hood, do not grab the tip strongly because doing so will make it difficult to install or remove the hood. Install or remove the hood by holding the base (attachment part) of the hood.

* **When attaching the hood, turn it until you hear a "click" to ensure a secure fit. If the hood is not attached properly, vignetting could occur.**

[35mm F2.8 Macro DX]

35mm F2.8 Macro DX comes with a screw-in hood used for attachment of PL filter. Screw it out if it impedes your close distance shooting.

● Filters

Use threaded filters with this lens. Perfect photographs cannot be taken if the filter is dirty or when water droplets or other foreign particulates are attached to the filter. Clean the filter thoroughly before taking photographs.

* Always use one filter at a time. If two or more filters are used together, or when a thick filter such as a polarized filter is used, vignetting (darkening at the corners of the exposed image) may occur.

● Caution Regarding Use of a Built-in Flash

If the camera's built-in flash is used, the light of the built-in flash will be partially obstructed by the lens, so that the film shows a large shaded area. Therefore, use an external flash when this lens is attached.

● Flash Photography (Red-eye phenomenon)

When people are photographed with the aid of a flash, their eyes sometimes become red. This is called the "red-eye phenomenon." Follow the manual of your camera for information on how to remove red eye.

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* Depending on the lens model, you may hear a sound from inside the lens when the lens is shaken lightly. This is the sound of the ball bearings that are designed to smooth the action of the focus ring. It does not indicate a problem with the general functioning of the lens.

【*35mm F2.8 Macro DX*】

● Limiting the Focus Distance Range

This lens is equipped with a focus-limiting switch, which makes it ideal for use as a moderate telephoto or portrait lens. Lock the lens out of the macro range and shorten the focusing time by setting this switch to the LIMIT position instead of the FULL position.

FULL: The lens will focus from 0.14m to infinity.

LIMIT: The lens will focus from approximately 0.2m to infinity or from approximately 0.18m to 0.14m.

● Macro Magnification

"Macro magnification" refers to the ratio of the image captured on the image sensor to the actual subject size. For example, if a subject 3cm in size is captured as a 1cm image on the image sensor, the magnification is "1:3." The macro magnification is indicated above the focus distance. In the example shown at right, the focus distance is 0.15m, while the macro magnification is approximately 1:1.5.

<Effective F-Value and Exposure Magnification>

The F-value shown on the lens indicates the brightness of a subject located at infinity. If the macro magnification is raised, the brightness of the subject will decrease. This reduced brightness is called the "effective F-value," while the exposure correction corresponding to the decrease in subject brightness is called "exposure magnification."

* If you are doing macro photography using a Nikon mount, the display on the camera body will indicate a change in aperture as the focus distance approaches the minimum value, even when the lens's F-value is set to F2.8 (fully open), until the effective F-value finally reaches F4.5.

● Exposure Correction

When the macro magnification is increased, the brightness on the image sensor will decrease. On a TTL auto-focus camera or when shooting with a TTL flash, the quantity of light passing through the lens is measured and the exposure is corrected automatically.

If the exposure is measured using an external light meter or when a non-dedicated external flash is used, the exposure must be corrected by a corresponding increase (in exposure magnification) equal to the decrease in brightness from the change in macro magnification.

The table shown at right lists the exposure magnifications for the different macro magnifications applicable to the 35mm F2.8 Macro DX lens.

<Macro Magnifications in the Exposure Magnification Table>

The table shown at right lists the exposure magnifications and aperture openings at different macro magnifications of 1:10 and above. If you don't want to change the aperture setting, correct the exposure by changing the shutter speed.

Macro magnification	Exposure magnification	Aperture openings
1 : 10	1.13	1/5
1 : 7	1.18	1/5
1 : 5	1.26	1/3
1 : 4	1.34	1/3
1 : 3	1.47	1/2
1 : 2.5	1.57	2/3
1 : 2	1.74	4/5
1 : 1.7	1.91	1
1 : 1.5	2.06	1
1 : 1.3	2.27	1 1/5
1 : 1.2	2.41	1 1/3
1 : 1.1	2.58	1 1/3
1 : 1	2.80	1 1/2

【*100mm F2.8 Macro D*】

● Limiting the Focus Distance Range

This lens is equipped with a focus-limiting switch, which makes it ideal for use as a moderate telephoto or portrait lens. Lock the lens out of the macro range and shorten the focusing time by setting this switch to the LIMIT position instead of the FULL position.

FULL: The lens will focus from 0.3m to infinity.

LIMIT: The lens will focus from approximately 0.38m to infinity or from approximately 0.3m to 0.36m.

● Macro Magnification

"Macro magnification" refers to the ratio of the image captured on film to the actual subject size. For example, if a subject 3cm in size is captured as a 1cm image on film, the magnification is "1:3." The macro magnification is indicated above the focus distance. In the example shown at right, the focus distance is 0.32m, while the macro magnification is approximately 1:1.3.

<Effective F-Value and Exposure Magnification>

The F-value shown on the lens indicates the brightness of a subject located at infinity. If the macro magnification is raised, the brightness of the subject will decrease. This reduced brightness is called the "effective F-value," while the exposure correction corresponding to the decrease in subject brightness is called "exposure magnification."

* If you are doing macro photography using a Nikon mount, the display on the camera body will indicate a change in aperture as the focus distance approaches the minimum value, even when the lens's F-value is set to F2.8 (fully open), until the effective F-value finally reaches F5.6.

● Exposure Correction

When the macro magnification is increased, the brightness at the film plane will decrease. On a TTL auto-focus camera or when shooting with a TTL flash, the quantity of light passing through the lens is measured and the exposure is corrected automatically.

If the exposure is measured using an external light meter or when a non-dedicated external flash is used, the exposure must be corrected by a corresponding increase (in exposure magnification) equal to the decrease in brightness from the change in macro magnification.

The table shown at right lists the exposure magnifications for the different macro magnifications applicable to the 100mm F2.8 Macro D lens.

<Macro Magnifications in the Exposure Magnification Table>

The table shown at right lists the exposure magnifications and aperture openings at different macro magnifications of 1:10 and above. If you don't want to change the aperture setting, correct the exposure by changing the shutter speed.

Macro magnification	Exposure magnification	Aperture openings
1 : 10	1.23	1/3
1 : 7	1.33	2/5
1 : 5	1.47	1/2
1 : 4	1.59	2/3
1 : 3	1.82	4/5
1 : 2.5	2.01	1
1 : 2	2.31	1 1/5
1 : 1.7	2.60	1 2/5
1 : 1.5	2.88	1 1/2
1 : 1.3	3.24	1 2/3
1 : 1.1	3.80	1 4/5
1 : 1	4.00	2

● Note on Macro Photography

In macro photography, the subject and lens become very close and the magnification increases as a result. Therefore, even a slight vibration or movement of the camera can affect the quality of photographs. In macro photography, hold the camera securely to eliminate vibrations. For vibration-free photographs Tokina highly recommends the use of a tripod, cable release and/or a wireless remote control and an external flash.

【*80~400mm F4.5~5.6 D*】

● Zoom Lock Mechanism

When the lens is tilted downward in the Wide mode, the zoom assembly comes down toward the telephoto side due to the weight of the assembly. The zoom lock mechanism locks the zoom assembly so that it will not move. This way, you can carry the camera in the Wide mode (a compact configuration).

①

② * Locked

* To lock, turn the zoom ring to the widest point (80 mm), and then pull the Zoom Lock button toward the rear of the lens. (See photographs ① and ②.)

Note) Zoom lock is engaged only when the focus distance is 80 mm. Do not attempt to forcibly lock the zoom assembly at any other focus distance, since it will damage the zoom lock mechanism.

■ Precautions for Use

● Attaching a lens hood

Unlike a SLR camera using a silver halide film , a digital SLR camera produces a large measure of reflection due to its solid-state imaging device. It is therefore recommended that a lens hood be attached when you're taking photographs with a digital SLR camera. Especially when a wide lens is used, a lens hood should be attached even indoors.

● The DX lens is designed exclusively for a digital SLR camera of APS-C size.

Tokina's DX lens is deigned exclusively for use with a digital SLR camera of APS-C size. Using the lens with a digital SLR camera with a solid-state imaging device of a size larger than APS-C, or with a SLR camera designed for silver-halide film, will cause vignetting.

■ Performance Table

Item / Model	Optical structure elements/groups	Angle of view	Minimum focus distance (m)	Maximum macro magnification	Minimum aperture	Number of aperture diaphragms	Filter size (mm)	Overall length (mm)	Maximum diameter (mm)	Weight (g)	Lens hood
10~17mm F3.5~4.5 DX	10—8	180°~100°	0.14	1 : 2.56	22	6	—	71.1	70.0	350	—
11~16mm F2.8 DX	13—11	104°~82°	0.3	1 : 11.6	22	9	77	89.2	84	560	BH77A
12~24mm F4 DX	13—11	99°~61°	0.3	1 : 8	22	9	77	89.5	84	515	BH779
12~24mm F4 DX II	13—11	99°~61°	0.3	1 : 8	22	9	77	89.5	84	540	BH777
16~50mm F2.8 DX	15—12	82°4'~31°3'	0.3	1 : 4.88	22	9	77	97.4	84	620	BH777
16.5~135mm F3.5~5.6 DX	15—12	81°19'~12°14'	0.5	1 : 5.43	22	9	77	78	84	610	BH777
80~400mm F4.5~5.6 D	16—10	29°50'~6°13'	2.5	1 : 5.4	32	8	72	136.5	79	990	BH725
35mm F2.8 Macro DX	9—8	43°	0.14	1 : 1	22	9	52	60.4	73.2	340	MH522
100mm F2.8 Macro D	9—8	24°30'	0.3	1 : 1	32	9	55	95.1	73	540	BH551

The specification data is based on the use of the lens with a Nikon camera.

※ The CE Mark (certification mark for conformance with the European export inspection requirements) is shown on lenses containing electronic parts.

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