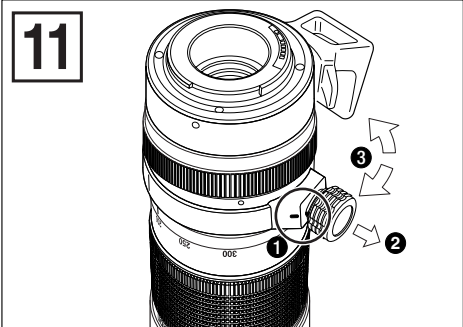
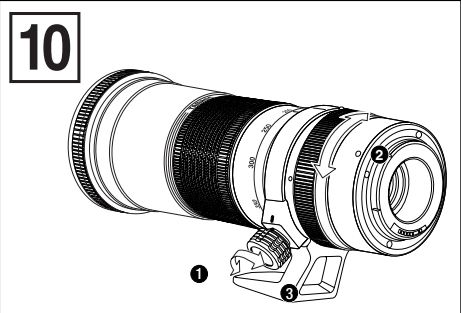
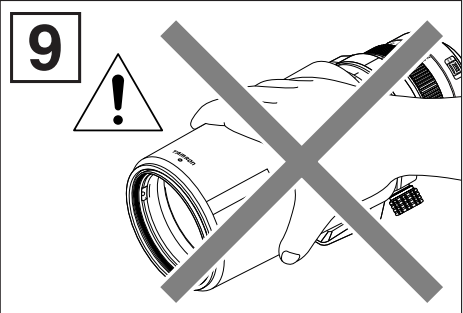
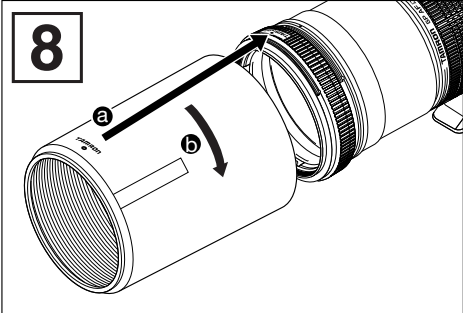
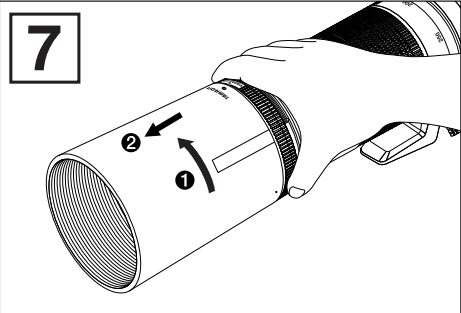
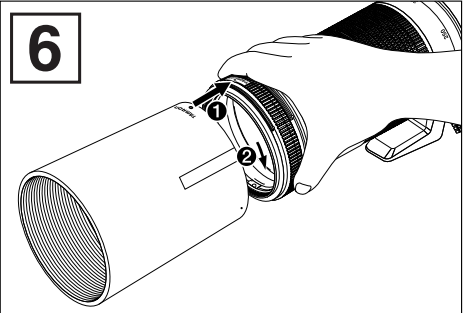
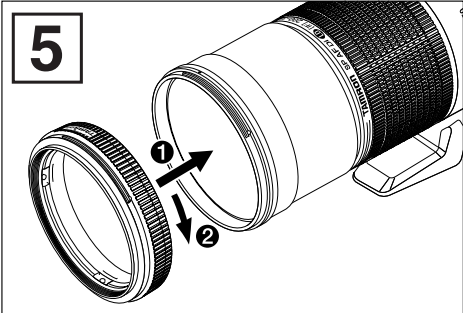
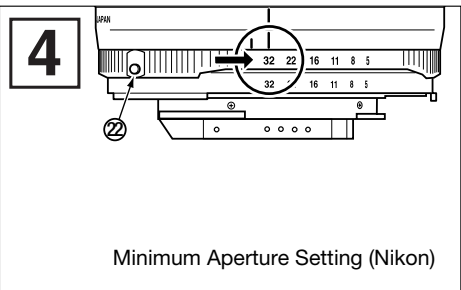
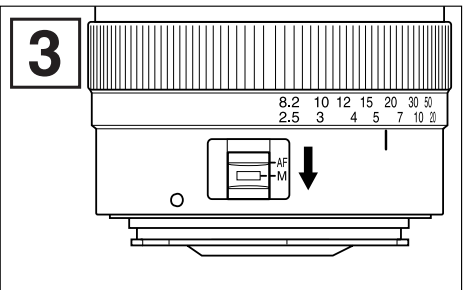
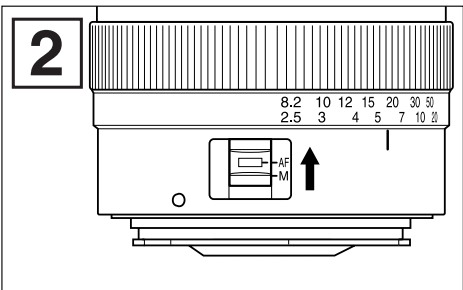
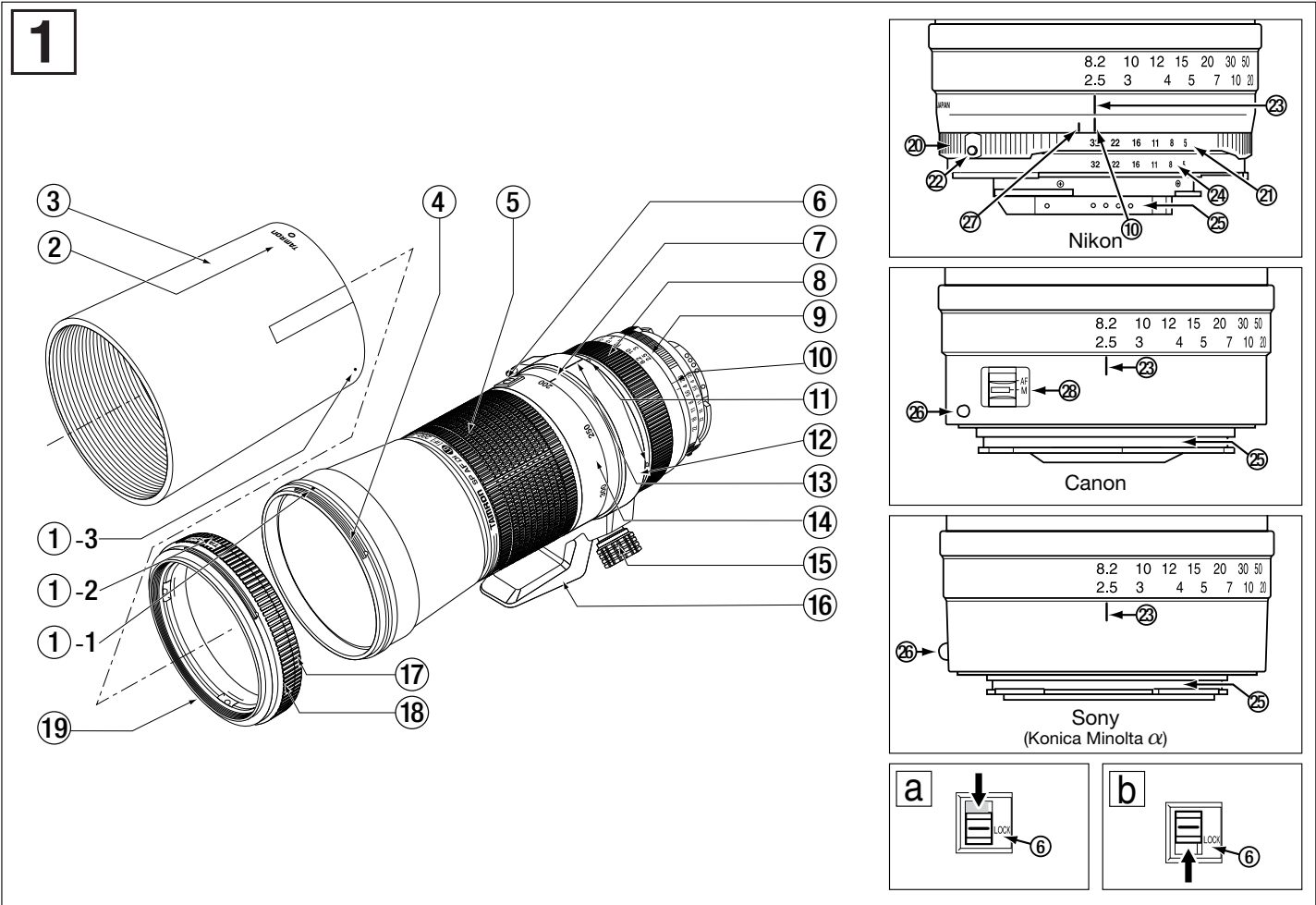


TAMRON

● SP AF 200 ~ 500mm F/5-6.3 Di LD [IF] (Model A08)



CE

* The **CE** Marking is a directive conformity mark of the European Community (EC).

* Das **CE**-Zeichen entspricht der EC Norm.

* La marquage **CE** est un marquage de conformité à la directive CEE (CE).

* La marca **CE** es marca de conformidad segun directiva de la Comunidad Europea (CE).

* Il marchio **CE** attesta la conformita alla direttiva della Comunità Europea (CEE).

* **CE** CE 标志表示符合欧州共同体 (EC) 指标

The EEC Conformity Report applies to the Council Directive 98/336/EEC, 92/31/EEC, 93/68/EEC and is used by Tamron Co., Ltd., manufacturer of this product.

SP AF200-500mm F/5-6.3 Di LD [IF] (Model A08)

	5.0		5.6		8		11		16		22		32	
	2.5m	2.48 - 2.53	2.47 - 2.53	2.46 - 2.54	2.45 - 2.55	2.43 - 2.58	2.40 - 2.61	2.36 - 2.66						
200m	3m	2.96 - 3.04	2.96 - 3.04	2.95 - 3.06	2.93 - 3.08	2.89 - 3.12	2.85 - 3.16	2.79 - 3.24						
	4m	3.94 - 4.07	3.93 - 4.07	3.90 - 4.10	3.87 - 4.14	3.81 - 4.21	3.74 - 4.30	3.63 - 4.45						
	5m	4.90 - 5.11	4.89 - 5.11	4.85 - 5.17	4.79 - 5.23	4.70 - 5.34	4.60 - 5.48	4.43 - 5.73						
	7m	6.80 - 7.21	6.79 - 7.23	6.70 - 7.33	6.59 - 7.47	6.42 - 7.70	6.23 - 8.00	5.93 - 8.55						
	10m	9.60 - 10.4	9.56 - 10.5	9.39 - 10.7	9.18 - 11.0	8.85 - 11.5	8.48 - 12.2	7.93 - 13.5						
	20m	18.4 - 21.9	18.3 - 22.0	17.7 - 23.0	16.9 - 24.4	15.8 - 27.2	14.7 - 31.4	13.1 - 42.4						
	∞	159 - ∞	150 - ∞	116 - ∞	89.8 - ∞	65.4 - ∞	49.4 - ∞	35.0 - ∞						
250m	5.5		5.6		8		11		16		22		32	
	2.5m	2.48 - 2.52	2.48 - 2.52	2.48 - 2.53	2.47 - 2.54	2.45 - 2.55	2.43 - 2.57	2.40 - 2.61						
	3m	2.98 - 3.03	2.98 - 3.03	2.96 - 3.04	2.95 - 3.05	2.93 - 3.08	2.90 - 3.10	2.86 - 3.15						
	4m	3.96 - 4.05	3.95 - 4.05	3.94 - 4.07	3.91 - 4.09	3.87 - 4.14	3.83 - 4.19	3.75 - 4.28						
	5m	4.93 - 5.07	4.93 - 5.07	4.90 - 5.11	4.86 - 5.15	4.80 - 5.22	4.73 - 5.30	4.62 - 5.45						
	7m	6.86 - 7.14	6.86 - 7.15	6.80 - 7.21	6.73 - 7.29	6.61 - 7.44	6.48 - 7.61	6.27 - 7.93						
	10m	9.72 - 10.3	9.71 - 10.3	9.59 - 10.4	9.45 - 10.6	9.22 - 10.9	8.96 - 11.3	8.56 - 12.0						
300m	20m	18.9 - 21.2	18.9 - 21.3	18.4 - 21.9	17.9 - 22.6	17.1 - 24.1	16.2 - 26.1	14.9 - 30.3						
	∞	203 - ∞	200 - ∞	160 - ∞	127 - ∞	94.9 - ∞	72.8 - ∞	52.4 - ∞						
350m	5.7		8		11		16		22		32		45	
	2.5m	2.49 - 2.51	2.48 - 2.52	2.48 - 2.53	2.47 - 2.54	2.45 - 2.55	2.43 - 2.57	2.40 - 2.60						
	3m	2.98 - 3.02	2.97 - 3.03	2.97 - 3.04	2.95 - 3.05	2.93 - 3.08	2.90 - 3.11	2.86 - 3.15						
	4m	3.97 - 4.03	3.95 - 4.05	3.94 - 4.06	3.91 - 4.09	3.88 - 4.13	3.82 - 4.19	3.76 - 4.28						
	5m	4.95 - 5.05	4.93 - 5.07	4.90 - 5.10	4.86 - 5.15	4.81 - 5.21	4.73 - 5.31	4.62 - 5.44						
	7m	6.90 - 7.10	6.86 - 7.15	6.81 - 7.20	6.73 - 7.30	6.63 - 7.42	6.47 - 7.62	6.28 - 7.91						
	10m	9.80 - 10.2	9.72 - 10.3	9.61 - 10.4	9.45 - 10.6	9.26 - 10.9	8.95 - 11.3	8.59 - 12.0						
400m	20m	19.2 - 20.9	18.9 - 21.3	18.5 - 21.8	17.9 - 22.7	17.2 - 23.9	16.2 - 26.2	15.0 - 29.9						
	∞	243 - ∞	202 - ∞	165 - ∞	127 - ∞	98.8 - ∞	72.4 - ∞	53.7 - ∞						
450m	5.9		8		11		16		22		32		45	
	2.5m	2.49 - 2.51	2.49 - 2.51	2.48 - 2.52	2.47 - 2.53	2.46 - 2.54	2.45 - 2.56	2.43 - 2.58						
	3m	2.99 - 3.01	2.98 - 3.02	2.97 - 3.03	2.96 - 3.04	2.95 - 3.05	2.92 - 3.08	2.90 - 3.11						
	4m	3.98 - 4.03	3.97 - 4.04	3.95 - 4.05	3.93 - 4.07	3.91 - 4.10	3.87 - 4.14	3.82 - 4.20						
	5m	4.96 - 5.04	4.95 - 5.06	4.93 - 5.08	4.89 - 5.11	4.86 - 5.15	4.79 - 5.23	4.71 - 5.32						
	7m	6.92 - 7.08	6.90 - 7.11	6.86 - 7.15	6.79 - 7.22	6.72 - 7.30	6.60 - 7.45	6.45 - 7.65						
	10m	9.84 - 10.2	9.79 - 10.2	9.71 - 10.3	9.58 - 10.5	9.44 - 10.6	9.20 - 11.0	8.91 - 11.4						
500m	20m	19.4 - 20.7	19.2 - 20.9	18.9 - 21.3	18.4 - 21.9	17.9 - 22.7	17.0 - 24.2	16.1 - 26.5						
	∞	277 - ∞	240 - ∞	200 - ∞	158 - ∞	125 - ∞	93.4 - ∞	87.7 - ∞						
550m	6.1		8		11		16		22		32		45	
	2.5m	2.49 - 2.51	2.49 - 2.51	2.49 - 2.52	2.48 - 2.53	2.47 - 2.53	2.46 - 2.54	2.44 - 2.56						
	3m	2.99 - 3.01	2.99 - 3.02	2.98 - 3.02	2.97 - 3.03	2.96 - 3.04	2.94 - 3.06	2.92 - 3.09						
	4m	3.98 - 4.02	3.97 - 4.03	3.96 - 4.04	3.95 - 4.05	3.93 - 4.07	3.90 - 4.11	3.85 - 4.16						
	5m	4.97 - 5.03	4.96 - 5.04	4.94 - 5.06	4.92 - 5.09	4.89 - 5.12	4.84 - 5.17	4.77 - 5.25						
	7m	6.94 - 7.06	6.92 - 7.08	6.89 - 7.12	6.84 - 7.17	6.78 - 7.23	6.69 - 7.35	6.57 - 7.50						
	10m	9.87 - 10.1	9.84 - 10.2	9.77 - 10.2	9.68 - 10.4	9.56 - 10.5	9.37 - 10.7	9.14 - 11.0						
600m	20m	19.5 - 20.5	19.4 - 20.7	19.1 - 21.0	18.7 - 21.4	18.3 - 22.0	17.6 - 23.1	16.8 - 24.6						
	∞	306 - ∞	273 - ∞	233 - ∞	187 - ∞	152 - ∞	115 - ∞	87.7 - ∞						
650m	6.2		8		11		16		22		32		45	
	2.5m	2.49 - 2.51	2.49 - 2.51	2.48 - 2.52	2.47 - 2.53	2.46 - 2.54	2.45 - 2.56	2.43 - 2.58						
	3m	2.99 - 3.01	2.99 - 3.01	2.98 - 3.02	2.97 - 3.03	2.96 - 3.04	2.95 - 3.05	2.93 - 3.07						
	4m	3.98 - 4.02	3.98 - 4.02	3.97 - 4.03	3.96 - 4.04	3.95 - 4.06	3.92 - 4.09	3.88 - 4.13						
	5m	4.97 - 5.03	4.97 - 5.03	4.95 - 5.05	4.93 - 5.07	4.91 - 5.09	4.87 - 5.14	4.82 - 5.20						
	7m	6.95 - 7.05	6.94 - 7.07	6.91 - 7.09	6.87 - 7.13	6.82 - 7.19	6.75 - 7.27	6.65 - 7.39						
	10m	9.90 - 10.1	9.87 - 10.1	9.82 - 10.2	9.74 - 10.3	9.65 - 10.4	9.49 - 10.6	9.30 - 10.8						
700m	20m	19.6 - 20.4	19.5 - 20.5	19.3 - 20.8	19.0 - 21.1	18.6 - 21.6	18.1 - 22.4	17.4 - 23.5						
	∞	332 - ∞	302 - ∞	263 - ∞	216 - ∞	178 - ∞	138 - ∞	107 - ∞						
800m	6.3		8		11		16		22		32		45	
	2.5m	2.49 - 2.51	2.49 - 2.51	2.49 - 2.51	2.49 - 2.52	2.48 - 2.52	2.47 - 2.53	2.46 - 2.54						
	3m	2.99 - 3.01	2.99 - 3.01	2.99 - 3.02	2.98 - 3.02	2.98 - 3.03	2.97 - 3.03	2.96 - 3.04						
	4m	3.99 - 4.02	3.98 - 4.02	3.97 - 4.03	3.96 - 4.04	3.95 - 4.04	3.95 - 4.05	3.93 - 4.08						
	5m	4.98 - 5.02	4.97 - 5.03	4.96 - 5.04	4.94 - 5.06	4.92 - 5.08	4.92 - 5.08	4.89 - 5.12						
	7m	6.96 - 7.04	6.94 - 7.06	6.92 - 7.08	6.89 - 7.11	6.85 - 7.16	6.78 - 7.23	6.70 - 7.33						
	10m	9.91 - 10.1	9.89 - 10.1	9.85 - 10.2	9.78 - 10.2	9.70 - 10.3	9.57 - 10.5	9.40 - 10.7						
900m	20m	19.7 - 20.4	19.6 - 20.5	19.4 - 20.6	19.1 - 20.9	18.8 - 21.3	18.4 - 22.0	17.8 - 22.9						
	∞	349 - ∞	322 - ∞	284 - ∞	237 - ∞	198 - ∞	155 - ∞	121 - ∞						

Thank you for purchasing the Tamron lens as the latest addition to your photographic equipment. Before using your new lens, please read the contents of this Owner's Manual thoroughly to familiarize yourself with your lens and the proper techniques for creating the highest quality images possible. With proper handling and care, your Tamron lens will give you many years of photographing beautiful and exciting pictures.

-  • Explains precautions that help to prevent problems.
-  • Explains things you should know in addition to basic operations.

NOMENCLATURE (Refer to Fig. ①, if not specified)

- ①-1 Hood attaching alignment mark (on lens)

①-2 Hood attaching alignment mark (on FEC)

①-3 Hood attaching alignment mark (on hood)

② Hood attachment mark

③ Lens hood

④ Hood filter ring

⑤ Zoom ring

⑥ Zoom lock switch

⑦ Zoom index mark

⑧ Focusing ring
- ⑨ Distance scale

⑩ Aperture index (Nikon)

⑪ Tripod mount horizontal and vertical position mark

⑫ Tripod mount ring

⑬ Tripod mount mark

⑭ Distance index

⑮ Tripod socket fixing screw

⑯ Tripod socket

⑰ FEC attaching ring

⑱ FEC ring

⑲ Filter Effect Control (FEC) adapter
- ⑳ Aperture ring (Nikon)

㉑ Aperture scale (Nikon)

㉒ Minimum aperture lock button (Nikon)

㉓ Distance index

㉔ Aperture scale for finder display (Nikon)

㉕ Lens mount/Lens mount contacts

㉖ Lens attachment mark (Canon, Sony)

㉗ Aperture mark for long focal lengths (Nikon)

㉘ AF/MF switch (Canon)

SPECIFICATIONS

	A08		A08
Focal Length	200~500 mm	Filter Size	86 mm
Maximum Aperture	F/5-6.3	Length	224.5 mm (Except for the FEC adapter)
Angle of View	12°~ 5°	Diameter	93.5 mm
Lens Construction	10/13	Weight	1226 g (Except for the FEC adapter)
Minimum Object Distance	2.5 m (8.20ft) (Full zoom range)		
Maximum Magnification Ratio	1:5.0 (at 500 mm)		

-  • Lengths, diameters and weights listed in lens specifications are for lenses with Nikon mounts.
-  • Features and cosmetic designs of lenses listed in this owner's manual may be revised without notice.

ATTACHING AND REMOVING THE LENS

- How to mount the lens

Remove the rear lens cap and align the lens attachment mark ㉖ on the lens barrel with its counterpart on the camera mount and insert the lens. Rotate the lens clockwise until it click-locks. For Nikon model, align the lens attachment mark on the camera and the aperture index ⑩ on the lens to attach the lens.
- How to detach the lens

Pressing the lens release button on the camera down, turn the lens counter-clockwise (in case of Nikon lens, clockwise), and lift the lens off the camera's lens mount.

-  • For further details, please read the instruction manual of your camera.

FOCUSING (Autofocus) (Ref. Fig. ②)

Switch the camera to the autofocus mode (AF). Press the shutter button lightly while viewing through the camera's viewfinder, the lens focuses automatically. An in-focus mark will light when lens focuses on the main subject sharply. Press the shutter button further to photograph.

-  • When set on AF mode, be very careful not to hinder the autofocusing movements of the lens. Such an interference may cause serious damage to the lens mechanism.
-  • Select between the autofocus and manual focus modes by using the AF/MF switch on the camera body when using a Nikon or Sony lens. The lens for Canon cameras has an AF/MF switch ㉘ on the lens barrel.

-  • For further details, please read the instruction manual of your camera.

FOCUSING (Manual Focus) (Ref. Fig. ③)

Switch the camera to manual focusing mode (MF) in case of a Nikon or Sony. In case of Canon, switch to MF by using AF/MF switch ㉘ on the lens barrel. Focus manually rotating the focusing ring while viewing through the camera's viewfinder. The main subject in the viewfinder will be sharp when the lens is focused correctly.

-  • Press the shutter button lightly while operating the lens for focusing. The focus aid mark in the viewfinder will light up when the subject is in a critical focus.
-  • At infinity, make sure the image in the viewfinder appears sharp. The infinity position on the lens is made with certain allowances to insure proper focus under a variety of conditions.
-  • For further details, please read the instruction manual of your camera.

LENS APERTURE AND AE MODE (Ref. Fig. ④)

- Setting lens f-numbers with Canon & Sony cameras

Set the f-number with the aperture setting device of the camera body in accordance with the selected photographing mode.
- Setting lens f-numbers with Nikon

Depending on the photography mode, it is possible to set the aperture on either the lens aperture ring or on the camera body, or the both.

 - **Setting the aperture on the lens aperture ring**
Move the lens aperture ring ㉒ from the smallest aperture, and align it with the mark for the desired aperture.
 - **Setting the aperture on the camera**
Move the lens aperture ring ㉒ from the smallest aperture, and set the desired aperture on the camera.

-  • For further details, please read the instruction manual of your camera.

FILTER EFFECT CONTROL (FEC) ADAPTER (Ref. Fig. ⑤)

The FEC adapter has been made standard equipment for the A08 and allows a filter to rotate while the hood is attached. By rotating the FEC ring, the filter attached such as a PL filter can be adjusted.

-  • The FEC adapter can be attached using the filter screw on the lens. Please note that forcing the screw or tightening it too far may strip the threads making it impossible to remove the adapter.

-  • **Firmly tighten the FEC adapter when attaching it. If it is not firmly tightened, then it may come off when attaching or removing the hood.**
-  • You can use filters other than the PL filter (such as the cross filter) in the same manner.

- Attaching and Removing the FEC Adapter

Attaching

 - 1) Screw the FEC adapter ⑲ to the hood filter ring ④ in the same way as the filter.
 - 2) Rotate the FEC adapter ⑲ clockwise.
 - 3) The FEC adapter ⑲ attaches to the lens.

Removing

 - 1) Turn the FEC attaching ring ⑰ counter-clockwise.
 - 2) The FEC adapter ⑲ comes away from the lens.

LENS HOOD (Ref. Figs. ⑥, ⑦, ⑧ & ⑨)

- Attaching the lens hood when the FEC adapter is not attached

 - 1) Align the attaching mark ① - 3 (●) on the hood and the hood attaching alignment mark ① - 1 (●) on the lens, then mount the hood evenly.
 - 2) Turn the hood (approx. 90°) until the hood attachment mark ② “TAMRON ○” and the hood attaching alignment mark ① - 1 (●) on the lens lines up and you hear a click when the hood is fixed.
- Removing when the FEC adapter is not attached

 - 1) Firmly turn the hood in a counter-clockwise direction until you hear a click to release it.
 - 2) Then turn the hood attaching alignment (approx. 90°) to remove it.
- Attaching the lens hood when the FEC adapter is attached

 - 1) Hold the FEC ring ⑱ firmly with one hand so that it does not turn.
 - 2) Line up the hood attaching alignment mark ① - 3 (●) on the hood and the hood attaching alignment mark ① - 2 “TAMRON ○” on the FEC, then mount the hood evenly.
 - 3) Turn the hood (approx. 90°) until the hood attachment mark ② “TAMRON ○” and the hood attaching alignment mark ① - 2 “TAMRON ○” on the FEC lines up and you hear a click when the hood is fixed.

- Removing the lens hood when the FEC adapter is attached

 - 1) Hold the FEC ring ⑱ firmly with one hand so that it does not turn.
 - 2) Firmly turn the hood in a counter-clockwise direction until you hear a click to release it.
 - 3) Then turn the hood (approx. 90°) to remove it.
- Stowing the lens hood

You can reverse and attach the lens hood when it is stowed.

 - 1) Reverse the hood and align the hood attachment mark ② “TAMRON ○” with the hood attaching alignment mark ① - 1 (●) on the lens and mount it.
*The mark on the FEC ring is ① - 2 “TAMRON ○” when the FEC adapter is attached.
 - 2) Rotate the hood clockwise (approximately 90°), the hood is difficult to pull off towards the front (because of the construction the hood will not be fixed when attached backwards).

-  • **The hood for the A08 does not lock when it is reversed due to the structural configuration. When carrying the lens, be sure to hold the lens firmly. If you carry it by the hood portion only, the hood may come off the lens causing it to fall. Do not do this as it may cause bodily harm or substantial damage to the lens.**

ZOOMING

Rotate the zoom ring ⑤ of the lens while viewing through the camera's viewfinder and compose your image at the chosen focal length.

ZOOM LOCK SWITCH (A08) (Ref. Figs. ① - a & b)

Model A08 is equipped with a zoom lock mechanism that prevents the lens barrel from extending towards a longer focal length. This mechanism locks the zoom ring in the 200mm position to prevent the lens from extending while hanging around the neck.

- 1) Locking: Set the zoom ring on the lens to the 200mm position. Move the zoom lock switch ⑥ toward the camera. The lens barrel is locked in position when the portion beneath “Lock” is shown in red. (Fig. a)
- 2) Releasing: Push the zoom lock switch ⑥ up. The red indicator is hidden, the zoom lock switch ⑥ lock is released and the zoom ring ⑤ can be rotated. (Fig. b)

-  • **The zoom lock switch can not be activated unless the lens is set to the 200mm position. Do not force the lock switch or try to rotate the lens barrel while locked. Doing so may cause damage to the lens.**
-  • **The zoom lock mechanism is made to prevent the lens barrel from extending while carried around the neck. When not locked in the 200mm position, the lens may change its focal length during a long time exposure when angled in the low or high position.**

-  • The lens can be used in the 200mm setting for picture taking even while in the zoom lock position.

TRIPOD SOCKET (Ref. Figs. ⑩, ⑪)

The A08 comes equipped with a socket for using a tripod. Firmly fix the lens tripod mount to the tripod attaching screw when using a tripod.

- Changing the vertical and horizontal position of the camera

 - 1) Turn the tripod socket fixing screw ⑮ in a counter-clockwise direction to loosen it. (Fig. ⑩ - ①)
 - 2) Rotate the camera using the lens as the axis and line up the indicator on the tripod mount mark ⑬ using the vertical or horizontal indicators ⑪. (Fig. ⑩ - ②)
 - 3) Tighten the tripod socket fixing screw ⑮ in a clockwise direction and lock the camera into place. (Fig. ⑩ - ③)
- Removing the tripod socket

 - 1) Turn the tripod socket fixing screw ⑮ in a counter-clockwise direction and line up the white mark on the top of the knob with the tripod mount mark ⑬. (Fig. ⑪ - ①)
 - 2) Pull the tripod socket fixing screw ⑮ outward to open the tripod mount ring ⑫ and then remove the tripod socket ⑫. (Fig. ⑪ - ②, ③)
- Attaching the tripod socket

 - 1) Open the tripod mount ring ⑫ and set it to the lens.
 - 2) Make sure that the white mark on the top of the tripod socket fixing screw ⑮ and the tripod mount mark ⑬ are aligned, and then pull the knob outward.

- 3) Close the tripod mount ring ⑫, and tighten the tripod socket fixing screw ⑮ in a clockwise direction.
-  • **Hold the camera firmly when removing the tripod socket so that you do not drop the camera or the lens.**
-  • **Make sure that the white mark on the top of the knob and the indicator on the tripod socket are aligned before you pull on the tripod socket fixing screw ⑮.**

DEPTH OF FIELD

With a camera equipped with a depth-of-field-preview button or a aperture-stop-down mechanism, the depth of field can be directly observed through the viewfinder screen of your camera. For the operational details, read the instruction manual of your camera.

-  • You can also download a depth-of-field table of your interest from our web site.
Tamron URL: <http://www.tamron.com>

PRECAUTIONS IN SHOOTING

- The optical design for this lens takes into consideration the various features of digital single reflex cameras. However, due to the configuration of the digital single reflex cameras, even when the autofocus accuracy is within specifications, the focal point may be a little forward or behind the optimum point when shooting with autofocus under some conditions.
- The Tamron lens, SP AF200-500mm (Model A08) employs an internal focusing (IF) system to achieve a remarkable minimum object distance of 2.5 meters (8.20 feet). Because of the characteristics of this optical design, the angles of view at distances other than infinity are wider than that of the lenses applying an ordinary focusing system.
- When the built-in flash on the camera is used, adverse photographic phenomena such as corner illumination fall-off or vignetting at the bottom part of the image may be observed. This is due to the inherent limitation of the coverage of the built-in flash, and/or the relative position of the flash to the edge of the lens barrel which causes shadows on the image. It is strongly recommended to use a suitable separate flash unit provided by the camera manufacturer for all flash photography. For further details, please read the “built-in flash” article on the instruction manual of your camera.
- To attach a lens where the maximum aperture is F3.5 or slower, (ex., high power zoom lenses) is not recommended.
- When a tele-converter is attached, the focal length of the lens becomes longer but the depth of field becomes shallower and it may be difficult to focus in AF mode. Therefore, focusing in MF (Manual Focusing) mode is recommended when a tele-converter is used.
- Tele-converters are efficient tools to add focal length to the photographer's telephoto lenses including zoom lenses but cannot be recommended for use with wideangle lenses or zoom lenses that cover wideangle range focal lengths.
- When using the lens in the telephoto focal range, it may be necessary to use a tripod to avoid camera shake. Using high speed film (ISO 400 or faster) with a fast shutter speed is also helpful to reduce the influence of camera shake.
- Do not forcibly turn the focusing ring when camera and/or lens is/are set in the AF mode. Doing so could damage the lens and/or camera.
- Certain camera models may indicate the maximum and minimum aperture values of the lens inapproximate numbers. This is inherent to the design of the camera and not an indication of an error.
- Please be aware that there is no infrared index line on any models listed in this owner's manual. Therefore practically no black-and-white infrared film can be used with these lenses.

TO ENSURE LONG-TERM SATISFACTION

- Avoid touching the glass element surface. Use a photographic lens cloth or blower to remove dust from the lens element surface. When not using the lens, always place a lens cap on it for protection.
- Use a lens cleaning tissue or lint cloth with a drop of cleaning solution to remove fingerprints or dirt on the glass lens surface with a rotary motion from the center to the edge. Use a silicon cloth to clean your lens barrel only.
- Clean the lens barrel with a silicon cloth. Do not use benzene or paint thinner or other organic cleansers.
- Mildew is an enemy of your lens. Clean the lens after shooting near water or in any humid place. Store your lens in a clean, cool and dry place. When storing the lens in an lens case, store it with commercially available drying agent such as silicagel, and change the agent occasionally. If you find mildew on your lens, consult an authorized repair shop or nearby photographic store.
- Do not touch the lens-camera mount contacts since dust, dirt and/or stains may cause a contact failure between the lens and camera.
- When using your equipment [camera(s) and lens(es)] in an environment where the temperature changes from one extreme to the other, make sure to put your equipment temporarily in a case or a plastic bag for a length of time in order for the equipment to go through a gradual temperature shift. This will reduce potential equipment trouble.