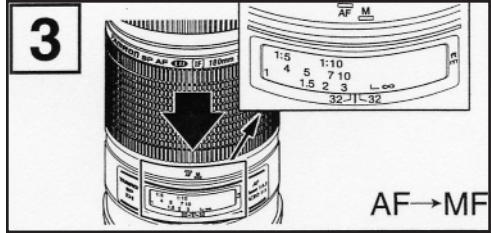
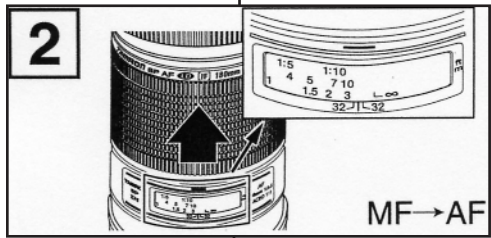
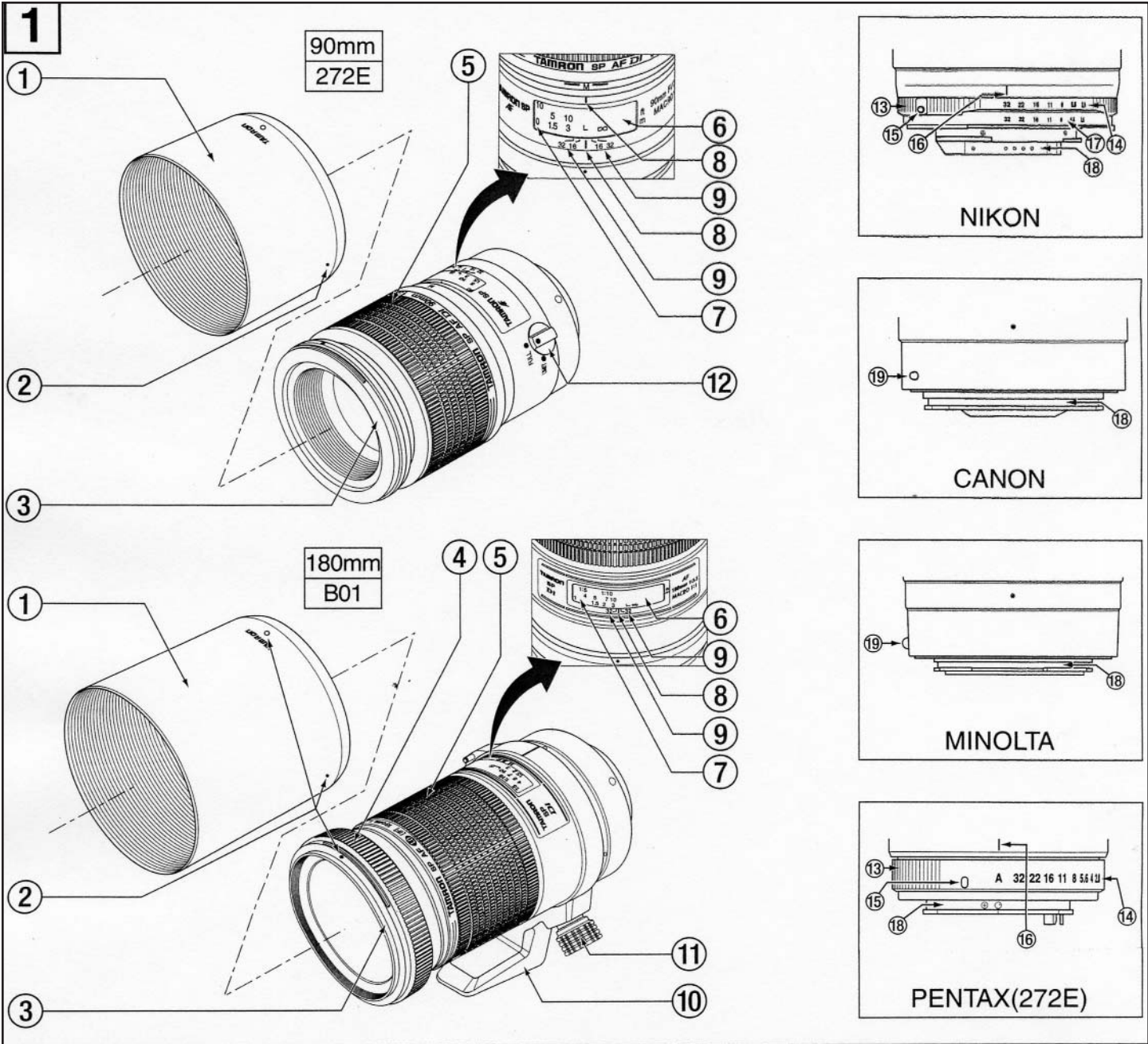


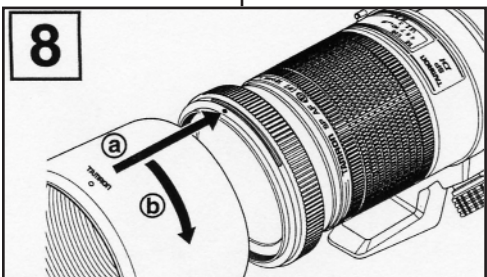
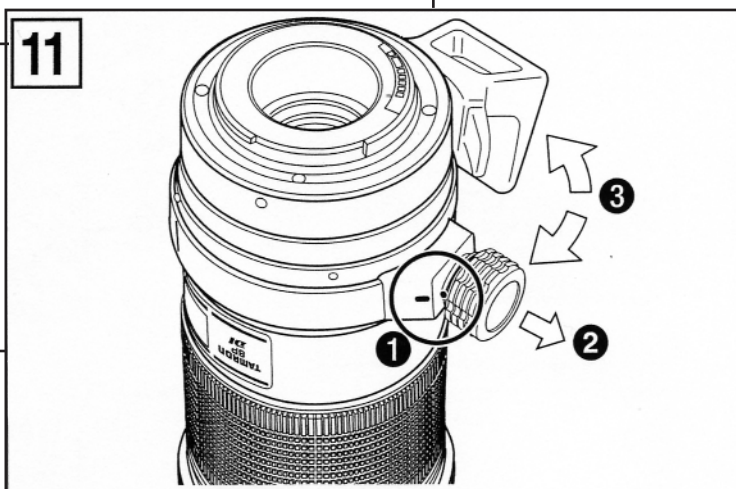
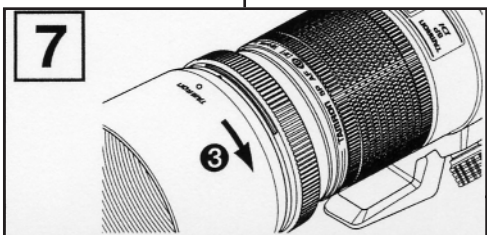
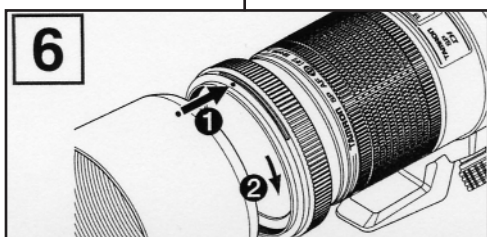
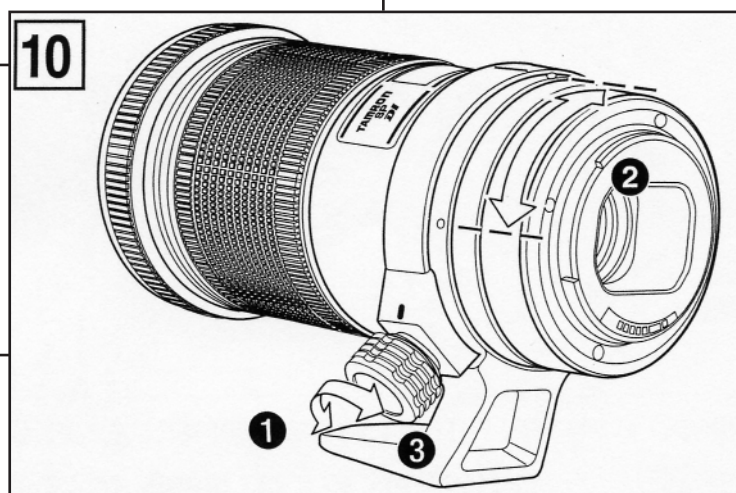
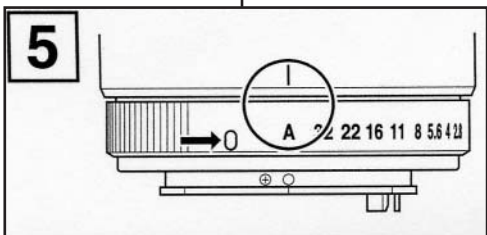
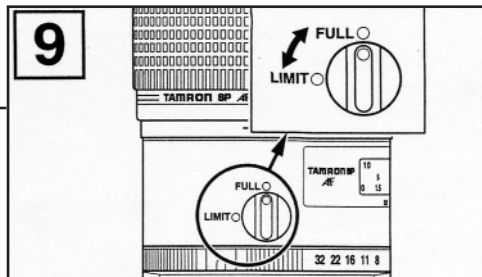
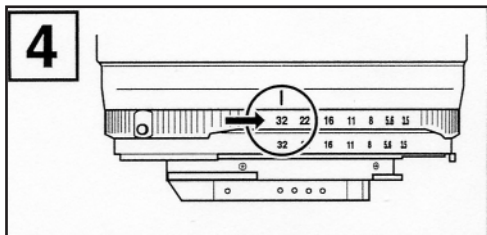
# TAMRON

## SP AF 90mm F/2.8 Di Macro 1:1 (Model 272E)



Thank you for purchasing this 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.





## NOMENCLATURE

1. Lens hood
2. Hood attaching alignment mark
3. Hood attaching bayonet ring
4. Filter Effect Control (FEC) Ring (B01)
5. Focusing ring
6. Focus macro magnification scale display
7. Distance (macro magnification) scale
8. Distance (macro magnification) index
9. Depth-of-field scale
10. Tripod socket (B01)
11. Tripod socket fixing screw (B01)
12. Focus limiter knob (272E)
13. Aperture ring (Nikon, Pentax)
14. Aperture scale (Nikon, Pentax)
15. AE lock button
16. Aperture index (Nikon, Pentax)
17. Aperture scale for finder display (Nikon)
18. Lens mount/Lens mount contacts
19. Lens attachment mark (Canon, Minolta)

## SPECIFICATIONS

	<b>272E</b>
Focusing Distance	90mm
Maximum Aperture	F/2.8
Angle of View	27°
Lens Construction	9/10
Minimum Focus Distance	0.29m
Maximum Magnification Ratio	1:1
Filter Size	55mm
Length	97mm
Diameter	71.5mm
Weight	405g

\* 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 LENS TO CAMERA

### How to mount the lens

Remove the rear cap of the lens, align the lens attachment mark on the lens barrel with its counterpart on the lens mount of the camera and insert the lens mount into camera's mount opening. Rotate the lens clockwise until it click-locks. For Nikon models, align the lens attachment mark with the dot on the camera and rotate the lens counter-clockwise until it click-locks.

### How to detach the lens

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

\* For further details, please read the instruction manual of your camera.

## SWITCHING BETWEEN AF & MF MODES (Ref. Figs. 2 & 3)

### Nikon and Canon models

Simply move the focusing ring forward (to AF) and backward (to MF) to change the focusing mode between autofocus (AF) and manual focus (MF).

### Minolta and Pentax models

Move the focusing ring forward (to AF) and backward (to MF) and at the same time, set the AF/MF selector switch of the camera body to the coinciding focusing mode (AF or MF).

Mount	AF/MF Switching Operation
Nikon, Canon	Move focusing ring only
Minolta, Pentax	Move and switch both focusing ring and selector of camera body

\* Carefully read "Autofocus" and "Manual focus" sections below and operate the camera and lens accordingly. In addition, please refer to the instructions related to focusing operations of your camera.

## FOCUSING (Autofocus) (Ref. fig. 2)

1. Set the camera in the AF mode, and move the focusing ring upward to the AF position.
2. Press the shutter release button half-way while looking through the viewfinder. The focusing ring will move automatically to focus.

\* With Minolta and Pentax cameras, when focusing ring is set in the manual focus position while the camera is set in AF mode, the focusing ring rotates as if it were in the autofocus mode. Turning of the focusing ring in this instance may cause damage to the lens and/or the camera body. Also, do not force the focusing ring when it is set in the manual focus mode.

## **FOCUSING (Manual Focus) (Ref. Fig. 3)**

### **Nikon and Canon models**

1. Simply move the focusing ring backward to the MF position.
2. Rotate the focusing ring manually while looking through the viewfinder until the image in the finder comes into sharp focus.

### **Minolta and Pentax models**

1. Switch the AF/MF selector switch on the camera body to MF mode, then slide the focusing ring backward to the MF position.
2. Rotate the focusing ring manually while looking through the viewfinder until the image in the finder comes into sharp focus.

\* Before rotation of the focusing ring, make sure that the camera is set to the MF mode. Manual rotation of the focusing ring when the camera is still set in AF mode will cause mechanical damage to the lens and/or to the camera body.

\* When using the lens on Nikon F-501 (N2020), please use the switches both on camera body and the lens in order to select MF or AF.

\* When the focusing ring is set to the AF position, the focusing ring rotates freely and you cannot adjust focus.

\* If you use the lens in the manual focus mode on an autofocus camera, rotate the focusing ring while holding the shutter release button depressed half-way. The focus confirmation indicator will light when subject comes into focus.

\* The focusing ring rotates beyond the infinity position in order to properly focus to infinity under a variety of environmental conditions. When manually focusing, make sure the subject at infinity is sharp in the viewfinder.

## **LENS APERTURE AND AE MODE (Ref. Figs. 4 & 5)**

### **Setting lens f-numbers with Canon & Minolta cameras**

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

### **Setting lens f-numbers with Nikon & Pentax**

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

## LENS APERTURE AND AE MODE (Ref. Figs. 4 & 5) (con't)

### Setting the aperture on the aperture ring

Set the lens aperture ring so it is on the smallest f-stop for a Nikon camera and so it is not on the A mark for a Pentax, then set the f-stop you want with the indicator.

### Setting the aperture on the camera

Set the lens aperture ring so it is on the smallest f-stop for a Nikon camera and so it is on the A mark for Pentax, then set the f-stop you want with the indicator of the camera body.

\* The lens aperture varies with focusing movement. Cameras read the different lens openings and automatically adjust the exposure properly.

\* For further details, please read the instruction manual of your camera.

## ATTACHING THE LENS HOOD (Ref. Figs 1, 6, 7, & 8)

1. Align the index mark on the hood with the corresponding index mark on the lens. Place the hood onto the hood's attaching bayonet ring. (6-1)

2. Turn the hood clockwise until it clicks (6-2). The index mark (O) on the hood appears on the top when it is correctly attached. (7-3)

### Stowing lens hood on the lens (Ref. Fig. 8)

1. Detach and reverse the lens hood. Then align the index mark (O) on the hood with the index mark on the lens. Place the hood onto the hood's attaching bayonet ring. (8-a)

2. Turn the hood clockwise until it clicks. The index mark on the hood appears at the top when correctly stowed.

## USING THE FOCUS LIMITER (Ref. Fig 9)

When the focus limiter knob is set to "LIMIT", the camera can be autofocused with greater speed within that range.

### For range from maximum close-up to infinity

Set the focus limiter knob to "FULL"

### For close-ups (0.29m to approx. 0.4m)

Set the distance scale to a point between 0.29m and 0.4m, and then set the focus limiter knob to "LIMIT".

### For normal photos (0.45m to infinity)

Set the distance scale to a point between 0.45m and infinity, and then set the focus limiter knob to "LIMIT".

\* When shooting close-ups with the focus ring set between about 0.40m and 0.45m the focus limit knob cannot be set to LIMIT. This is due to the camera's mechanical system.

## ABOUT MACRO PHOTOGRAPHY (Ref. Fig. 12)

From infinity to the macro zone, you can use AF or MF operation. Since the distance scale and the magnification scale are imprinted side by side, you can get a general idea of the magnification when shooting a picture.

	<b>272E</b>
Minimum Focus Distance	0.29m
Maximum Magnification Ratio	1:1
Magnification Scale	1:10 - 1:1

\* For the correlation between the photographic distance and photographic magnification, please refer to table 12.

## EXPOSURE RATE (Ref. Fig. 12)

When the lens is moved outwards to increase the magnifications ratio for shooting close-ups, the actual brightness on the film decreases, and the effective F number changes. For auto exposure photographing, using an external exposure meter, or when using and external light-adjusting flash however, the exposure must be corrected for this decrease in brightness according to the magnification ratio. For the amount of the correction, refer to table 12.

## DEPTH-OF-FIELD (Ref. Fig. 13)

With a camera equipped with a depth-of-field preview button or an 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.

## INFRARED PHOTOGRAPHY

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.



## PRECAUTIONS IN SHOOTING

Do not use the lens hood when using the camera's built-in flash. Also, when shooting close-ups, the lens unit may obstruct the light of the flash even when not using the lens hood, resulting in vignetting at the bottom part of the image. Thus, we recommend using a special externally mounted flash or flash photography.

Also refer to the section of your camera's instruction manual pertaining to the use of the built-in flash.

When using 272E with a tele-converter, use the manual focus. When a tele-converter is used with the macro lens, the autofocus may not operate correctly, depending on the focusing distance. This is due to the camera's mechanical system. Use a Tamron tele-converter with a Tamron lens or best results. Tele-converters produced by other manufacturers may not mount properly and/or cause malfunctions. When a tele-converter is mounted onto a lens, the focusing ring normally feels heavier when rotating.

When using the lens in macro 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 aperture values of the lens as approximate numbers. This is inherent to the design of the camera and not an indication of error.

## TO ENSURE LONG-TERM SATISFACTION

Avoid touching the glass element surface. Use a photographic lens cloth or blower brush 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.

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 a lens case, store it with commercially available drying agent such as silica gel, and in 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 interface 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.