

TAMRON

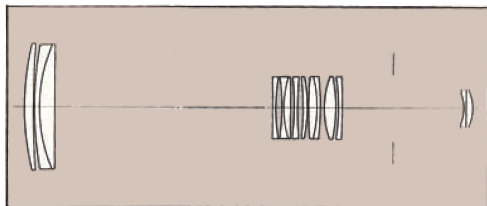
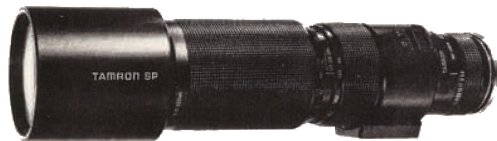
SP 200~500_{mm} F/5.6

Model 31A



OWNER'S MANUAL

Thank you for selecting the Tamron SP 200–500 mm F/5.6 zoom 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 become fully acquainted with the proper techniques that will give you the best results possible. With proper handling and care, your Tamron lens will give you many years of beautiful and exciting pictures.



CONTENTS

1. NAMES OF PARTS	3
2. SPECIFICATIONS	4
3. FITTING/REMOVING THE ADAPTALL-2 MOUNT AND MOUNTING THE LENS TO YOUR CAMERAS	5
4. TAMRON ADAPTALL-2 CUSTOM MOUNTS	9
5. OPERATING INSTRUCTIONS	10
1) Focusing	10
2) Checking of Depth-of-Field	11
3) Zooming	12
4) Aperture Control	13

5) AE Setting	14
6) Infra-Red Indices	15
7) Lens Hood	16
8) Tripod Mount Ring	17
9) Depth-of-Field Tables	18
10) Filter	19
6. DEPTH-OF-FIELD TABLES	20
7. SPECIFICATIONS OF TAMRON LENSES	23
8. CARING OF YOUR LENS	25

1. NAMES OF PARTS

Indices for Infra-Red Photography

Focusing Ring

Lens Accessory Thread

Lens Hood

Distance Scale

Zooming Scale

Zooming Ring

Filter Frame

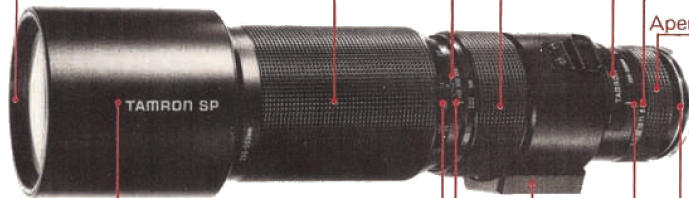
Aperture Scale

Aperture control ring

Adaptall Mount
Index

Aperture Index

Tripod Mount Ring

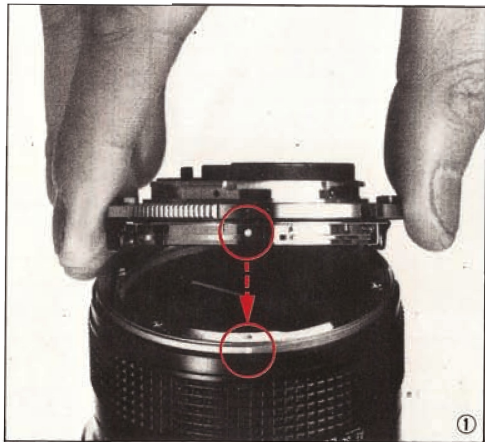


2. SPECIFICATIONS

Focal Length:	200 – 500mm
Maximum Aperture:	F/5.6
Lens Construction:	10 groups, 14 elements
Coating:	BBAR Multiple-layer coating
Angle of View:	12.5° – 5°
Minimum Object Distance:	2.5m (8.2 ft.)
Maximum Magnification Ratio:	1:3.52 (f=500mm at 2.5m or 8.2 ft.)
Zoom Control:	Two-Ring Rotation
Aperture Control:	Fully coupled with TTL automatic exposure
Aperture Range:	F/5.6–32, AE
Mount System:	Adaptall-2 Interchangeable mount System
Filter Size:	ø43mm (Rear), ø95mm (Front)
Overall Length:	365mm (14.4 in.) with mount for Nikon
Maximum Barrel Diameter:	105mm (4.1 in.)
Weight:	2,780 g (98 oz.)
Hood:	Built-in, retractable
Optional Accessories:	SP Flat-Field 2X Tele-Converter, 43mm rear filter

* Specifications and availability are subject to change without notice. 4

3. FITTING/REMOVING THE ADAPTALL-2 MOUNT AND MOUNTING THE LENS TO YOUR CAMERA



This lens employs the Tamron Adaptall Interchangeable Mount system. The lens can be fitted to most of the SLR cameras on the market. Please read the instruction manual enclosed with the Adaptall Interchangeable Mount, so that the proper fitting is made.

1. Fitting the Mount to Your Lens

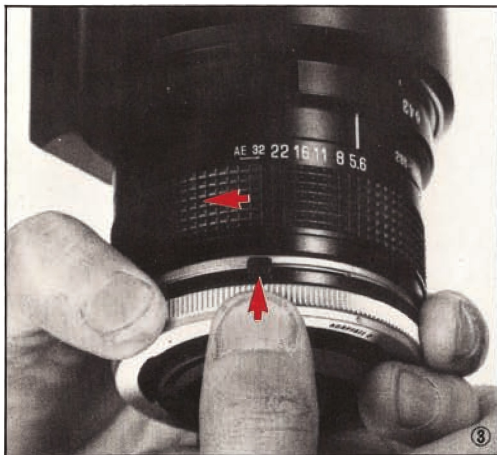
- (1) Align the green dot on the bayonet of the custom mount with the matching green dot on the lens barrel and turn the mount clockwise for approximately 2cm until the mount is locked into the proper position.



- (2) The custom mounts for cameras featuring TTL light-metering, AE and automatic diaphragm control, are provided with a meter coupling lever which activates the control ring. After fitting the custom mount, move the meter coupling lever so that it engages in the slot provided on the lens, and the exposure control mechanism of the lens will crosscouple to the camera's system.

NOTE: Some mounts have two coupling levers on both sides, so when fitting the mount of the lens, engage the two coupling levers in the corresponding slots on both sides of the lens.

FITTING/REMOVING THE ADAPTALL-2 MOUNT AND MOUNTING THE LENS TO YOUR CAMERA



2. Removing the Mount from Your Lens

- (1) Before removing the custom mount, be sure to move the aperture ring to the maximum opening. When the aperture ring is set at the AE position, depress the AE lock button to release the AE setting and then move the aperture control ring to the maximum opening.
- (2) An L-shaped mount release lever is provided directly opposite the aperture indicator which, when depressed, will release the mount. Therefore, while keeping the L-shaped mount release lever depressed, turn the custom mount counter-clockwise all the way until it stops and then lift the mount off the lens.



3. Mounting the Lens to Your Camera

Your Tamron lens with the Adaptall custom mount can be fitted to your camera in the same manner as the camera manufacturer's lenses. When fitting the lens and adapter onto a camera, be sure to move the aperture control ring of the lens to the maximum opening.

4. TAMRON ADAPTALL-2 CUSTOM MOUNTS

Mount	Mount Type	Adaptall lenses	SP/ Adaptall-2 lenses
For Canon	Bayonet type	X	○
For Minolta MD	Bayonet type	X	○
For Konica AR	Bayonet type	X	○*
For Contax/Yashica	Bayonet type	X	○
For Olympus	Bayonet type	○	○
For Pentax K	Bayonet type	○	○
For Pentax ES	Screw-in type	○	○◆
For Pentax Universal	Screw-in type	○	○
For Nikon AI/E	Bayonet type	X	○
For Nikon AI	Bayonet type	○▲1	○▲1
For Fujica AX	Bayonet type	X	○
For Fujica ST	Screw-in type	○	○
For Mamiya ZE	Bayonet type	○	○
For Rollei	Bayonet type	○	○
For Topcon	Bayonet type	○	○◆
For Praktica-B	Bayonet type	○▲2	○
For Praktica-LLC	Screw-in type	○	○
For "C" mount for CCTV/VTR cameras and 16mm movie cameras		○	○
For "MS" mount for CCTV/VTR cameras		○	○

* Mount requires initial maximum aperture adjustment.

◆ Due to small rear aperture, this mount will not accept the SP 70-210mm F/3.5-4 (52A), SP 90mm F/2.5 (52B), SP flat-field 2X tele-converter (01F), Adaptall-2 80-210mm F/3.8-4 (03A) and Adaptall-2 75-250mm F/3.8-4.5 (04A & 104A).

▲1 Will not synchronize with Auto Mode of designated speed light of Nikon EM.

▲2 Program AE system and AE system of shutter speed priority will not work.

5. OPERATING INSTRUCTIONS



1) Focusing

Focus by turning the focusing ring until the subject appears sharp in the viewfinder. A zoom lens can be focused easier at its maximum focal length ($f=500\text{mm}$) where the depth-of-field is shallower. The position of the infinity mark (∞) of this lens is slightly shifted to the positive side to enable focusing adjustment even when focus shifts occur, due to temperature changes. Be sure to check the focus through the viewfinder even when you shoot at infinity.

OPERATING INSTRUCTIONS



2) Checking of Depth-of-Field

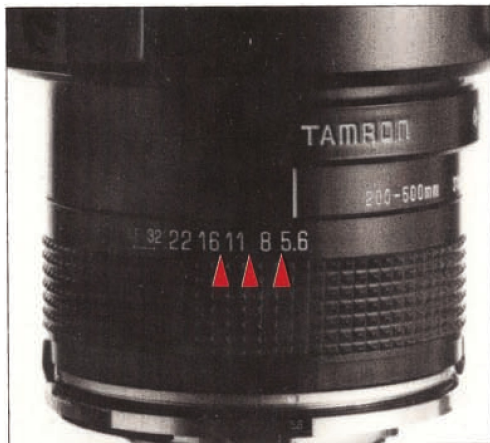
This lens does not have depth-of-field scales. As it is an ultra telephoto zoom lens, the depth-of-field is very narrow. For precise depth-of-field, please look at the depth-of-field tables on pages 20-22. When you want to check depth-of-field through the viewfinder, push the depth-of-field preview button on your camera (in the case of Olympus cameras, push the built-in preview lever on the mount).



3) Zooming

The focal length can be changed by turning the zooming ring, steplessly increasing or decreasing the size of subject. Select the desired subject size, perspective and out-of-focus effects on foreground and background while looking through the viewfinder.

OPERATING INSTRUCTIONS



4) Aperture Control

Rotate the aperture control ring and set the required aperture against the index line. Intermediate click stops are provided from F/5.6 to F/16 for more precise aperture control.



5) AE Setting

When using your lens on cameras which incorporate a shutter priority automatic mode, turn the aperture control on your lens to the AE position which also serves as F/32 when the lens is used on other cameras.

OPERATING INSTRUCTIONS



6) Infra-Red Indices

Since the focal point shifts in infra-red photography, it is necessary to correct the focus. There are three red lines adjacent to focal length/distance index, marked 500, 300 and 200 respectively. The figures, 500, 300 and 200, represent the focal lengths. Correct the focus as follows: Focus in the normal manner, set an infra-red filter and shift the indicated distance to the red line of the corresponding focal length (for example, shift to the line marked 500 when using the lens at $f=500\text{mm}$ setting). When using the lens at an intermediate focal length setting, shift the indicated distance to the intermediate position between the lines which roughly corresponds to the focal length used.



7) Lens Hood

The lens has a built-in, retractable lens hood. When shooting, pull forward the lens hood till it stops. The use of this lens hood is always recommended since it prevents unwanted light from striking the lens causing image degrading flare.

OPERATING INSTRUCTIONS



8) Tripod Mount Ring

A sturdy tripod mount ring which can rotate 360 degrees is built into the lens. By loosening the tripod mount ring fastening screw on one side of the ring, you can select any position within 360°. As the lens is an ultra telephoto lens, use a sturdy tripod and a cable release to prevent "camera shake" problems.

Focal Length	Aperture (F)	Distance (m)		
		5.6	8	11
f = 500mm	3.00	2.99 ~ 3.01	2.99 ~ 3.01	2.99 ~ 3.01
	4.00	3.99 ~ 4.01	3.98 ~ 4.02	3.98 ~ 4.02
	5.00	4.98 ~ 5.02	4.97 ~ 5.03	4.96 ~ 5.04
	8.00	7.95 ~ 8.05	7.93 ~ 8.07	7.91 ~ 8.09
	10.00	9.93 ~ 10.1	9.90 ~ 10.1	9.86 ~ 10.1
	15.00	14.8 ~ 15.2	14.8 ~ 15.2	14.7 ~ 15.3
	30.00	29.3 ~ 30.7	29.1 ~ 31.0	28.7 ~ 31.4
	∞	1302.0 ~ ∞	912 ~ ∞	663 ~ ∞

9) Depth-of-Field Tables

The three depth-of-field tables for the focal lengths of 200mm, 300mm and 500mm are on this manual.

Example of the use of depth-of-field tables:
Shooting at a distance of 5 meters (16.4 ft.) with the aperture set at F/11 at a focal length of 500mm. Read off the depth-of-field from where the F/11 column intersects with 5 meters (16.4 ft.) distance on the horizontal row. In this case, the depth-of-field is from 4.96 to 5.04 meters (16.3 to 16.5 ft.).

OPERATING INSTRUCTIONS



10) Filter

This lens features a rear drop-in type filter system. To use a filter, mount it in the filter frame, and insert the frame into the slot in front of the aperture ring. The filter frame accepts a 43mm filter. Since the focusing system of this lens is adjusted with a rear filter built-in the lens, it is always necessary to use a rear 43mm filter. One rear normal filter is supplied, mounted in a frame at the factory. Also, the lens takes a 95mm normal front filter for protection of the front lens element.

6. DEPTH OF FIELD TABLES

Focal Length	Aperture (F) Distance (m)	5.6	8	11	16	22	32
f = 200mm	3.00	2.97 ~ 3.03	2.96 ~ 3.04	2.94 ~ 3.06	2.92 ~ 3.09	2.89 ~ 3.12	2.84 ~ 3.18
	4.00	3.94 ~ 4.06	3.92 ~ 4.08	3.89 ~ 4.11	3.85 ~ 4.17	3.79 ~ 4.23	3.70 ~ 4.35
	5.00	4.91 ~ 5.09	4.87 ~ 5.14	4.83 ~ 5.19	4.75 ~ 5.28	4.66 ~ 5.39	4.52 ~ 5.59
	8.00	7.75 ~ 8.26	7.65 ~ 8.38	7.53 ~ 8.53	7.34 ~ 8.80	7.12 ~ 9.14	6.78 ~ 9.77
	10.00	9.61 ~ 10.4	9.45 ~ 10.6	9.26 ~ 10.9	8.96 ~ 11.3	8.63 ~ 11.9	8.13 ~ 13.0
	15.00	14.1 ~ 16.0	13.8 ~ 16.5	13.4 ~ 17.1	12.7 ~ 18.3	12.0 ~ 19.9	11.1 ~ 23.4
	30.00	26.6 ~ 34.4	25.3 ~ 36.8	23.9 ~ 40.2	21.9 ~ 47.6	19.9 ~ 61.0	17.3 ~ 115 ~
	∞	226 ~ ∞	158 ~ ∞	115 ~ ∞	79.2 ~ ∞	57.6 ~ ∞	39.7 ~ ∞

DEPTH OF FIELD TABLES

Focal Length	Aperture (F) Distance (m)	5.6	8	11	16	22	32
f = 300mm	3.00	2.99 ~ 3.01	2.98 ~ 3.02	2.97 ~ 3.03	2.96 ~ 3.04	2.95 ~ 3.06	2.92 ~ 3.08
	4.00	3.97 ~ 4.03	3.96 ~ 4.04	3.95 ~ 4.05	3.93 ~ 4.07	3.90 ~ 4.10	3.86 ~ 4.15
	5.00	4.96 ~ 5.04	4.94 ~ 5.06	4.92 ~ 5.08	4.89 ~ 5.12	4.84 ~ 5.17	4.78 ~ 5.24
	8.00	7.89 ~ 8.11	7.85 ~ 8.16	7.79 ~ 8.22	7.70 ~ 8.32	7.59 ~ 8.45	7.42 ~ 8.67
	10.00	9.83 ~ 10.2	9.76 ~ 10.3	9.67 ~ 10.4	9.53 ~ 10.5	9.36 ~ 10.7	9.10 ~ 11.1
	15.00	14.6 ~ 15.4	14.5 ~ 15.6	14.3 ~ 15.8	13.9 ~ 16.2	13.6 ~ 16.7	13.0 ~ 17.7
	30.00	28.5 ~ 31.7	27.8 ~ 32.5	27.1 ~ 33.6	26.0 ~ 35.5	24.7 ~ 38.1	22.9 ~ 43.4
	∞	542 ~ ∞	380 ~ ∞	276 ~ ∞	190 ~ ∞	138 ~ ∞	94.9 ~ ∞

Focal Length	Aperture (F) Distance (m)	5.6	8	11	16	22	32
f = 500mm	3.00	2.99 ~ 3.01	2.99 ~ 3.01	2.99 ~ 3.01	2.98 ~ 3.02	2.97 ~ 3.03	2.96 ~ 3.04
	4.00	3.99 ~ 4.01	3.98 ~ 4.02	3.98 ~ 4.02	3.97 ~ 4.03	3.95 ~ 4.05	3.93 ~ 4.07
	5.00	4.98 ~ 5.02	4.97 ~ 5.03	4.96 ~ 5.04	4.95 ~ 5.05	4.93 ~ 5.07	4.90 ~ 5.11
	8.00	7.95 ~ 8.05	7.93 ~ 8.07	7.91 ~ 8.09	7.87 ~ 8.14	7.82 ~ 8.19	7.74 ~ 8.28
	10.00	9.93 ~ 10.1	9.90 ~ 10.1	9.86 ~ 10.1	9.79 ~ 10.2	9.72 ~ 10.3	9.59 ~ 10.4
	15.00	14.8 ~ 15.2	14.8 ~ 15.2	14.7 ~ 15.3	14.5 ~ 15.5	14.4 ~ 15.7	14.1 ~ 16.0
	30.00	29.3 ~ 30.7	29.1 ~ 31.0	28.7 ~ 31.4	28.2 ~ 32.1	27.5 ~ 32.9	26.5 ~ 34.5
	∞	1302.0 ~ ∞	912 ~ ∞	663 ~ ∞	456 ~ ∞	331 ~ ∞	228 ~ ∞

7. SPECIFICATIONS OF TAMRON LENSES

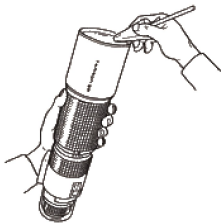
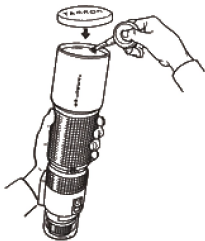
Model No. Specification	13A	17A	27A	01A	28A	22A	26A	19AH	103A
Focal Length	24-48mm	35-70mm	28-80mm	35-80mm	28-135mm	35-135mm	35-210mm	70-210mm	80-210mm
Max. Aperture	F/3.5-3.8	F/3.5	F/3.5-4.2	F/2.8-3.8	F/4-4.5	F/3.5-4.2	F/3.5-4.2	F/3.5	F/3.8-4
Angle of View	84°-48°	64°-34°	75°-30.5°	64°-30°	75°-18°	63°-18°	64°-11°	34.5°-12°	30°-11°
Lens Construction	9/10	7/7	8/9	8/9	10/17	12/14	12/16	11/15	10/13
Coating	BBAR Multiple Layer Coating								
Minimum Focus from Film+ Plane	0.6m	0.25m	0.35m	0.27m	2.0m	1.8m	1.6m	0.65m	0.9m
Max. Reproduction Ratio	—	1 : 2.8	1 : 3.4	1 : 2.5	1 : 4	1 : 4	1 : 3.8	1 : 2.66	1 : 2.8
Aperture Range	3.5/3.8-32, AE	3.5-32, AE	3.5/4.2-32, AE	2.8/3.8-32, AE	4/4.5-32, AE	3.5/4.2-32, AE	3.5/4.2-22, AE	3.5-32, AE	3.8/4-32, AE
Lens Accessory Size	77mm	58mm	67mm	62mm	67mm	67mm	67mm	62mm	58mm
Length at — [W/Nikon Mount] (mm)	61 [65.5]	55 [59.5]	62 [66.5]	72 [76.5]	106 [110.5]	105 [109.5]	121.2 [125.7]	150 [154.5]	137.7 [142.2]
Max. Diameter (mm)	64.5	65.0	70	64.5	70	72.4	73	71	65
Weight (g)	346	330	480	386	715	625	875	860	634
Lens Hood	Bayonet	Push-on	Bayonet	Push-on	Bayonet	Bayonet	Bayonet	Bayonet type, coupled to zooming	Screw-in

23A	06A	31A	51B	01B	02B	52B	03B	107B	54B	06B	55BB	01F
60–300mm	200–500mm	200–500mm	17mm	24mm	25mm	90mm	135mm	300mm	300mm	350mm	500mm	
F/3.8–5.4	F/6.9	F/5.6	F/3.5	F/2.5	F/2.5	F/2.5	F/2.5	F/2.8	F/5.6	F/5.6	F/8	
40°–8°	12°–5°	12.5°–5°	104°	84°	75°	27°	18°	8°	8°	7.3°	5°	—
11/15	8/14	10/14	10/12	9/10	7/7	6/8	4/4	6/7	5/6	4/7	4/7	5/6
BBAR Multiple Layer Coating												
1.0m	3.0m	2.5m	0.25m	0.25m	0.25m	0.30m	1.2m	3.0m	1.4m	1.1m	1.7m	—
1 : 1.55	—	1 : 3.52	—	—	1 : 5.8	1 : 2	1 : 7	—	1 : 3.3	1 : 2.5	1 : 3	—
3.8/5.4–32, AE	6.9–32	5.6–32	3.5–22, AE	2.5–22, AE	2.5–32, AE	2.5–32, AE	2.5–32, AE	2.8–32, AE	5.6–32, AE	—	—	—
62mm	82mm	96mm 43mm (rear)	Built-in	55mm	49mm	49mm	58mm	112mm 43mm (rear)	58mm	82mm 30.5mm (rear)	82mm 30.5mm (rear)	—
161.5 [166]	370 [374.5]	365 [369.5]	43 [47.5]	38 [42.5]	33 [37.5]	66 [70.5]	79.5 [84]	199 [203.5]	163.5 [168]	74.5 [79]	87 [91.5]	42.5 [47]
66	90	105	70	64.5	64.5	64.5	64.5	117.5	64.5	86	84	64.5
870	2,770	2,780	270	230	180	420	410	2,071	610	577	535	250
Bayonet	Built-in	Built-in	Push-on	Screw-in	Screw-in	Screw-in	Built-in	Bayonet	Built-in	Screw-in	Screw-in	—

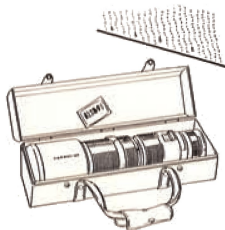
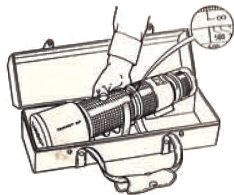
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8. CARING FOR YOUR LENS

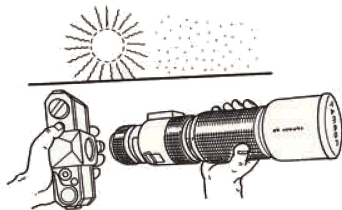
1. Avoid touching the lens surface. Use a photographic brush or blower to remove dust from the lens surface. When not using the lens, put a lens cap on for protection.
2. Use a lens cleaning tissue or lintless cloth with a drop of cleaning solution to clean fingerprints or dirt on the lens surface with a rotary motion from center to edge. Use a silicon cloth to clean your lens barrel only.
3. When carrying a lens on your camera without a camera case, hang it from your shoulder with the lens towards your body to protect it from objects which it might hit.



4. When storing your lens in a lens case, turn the focusing ring so that the ∞ mark on the distance scale is aligned to the index line. Also store it with a packet of desiccant



5. Fungus is an enemy of your lens. Clean the lens after shooting at seaside or in a humid place. Store your lens in a clean, cool and dry place. If you find fungus on your lens, please consult a repair shop or nearby photographic store.



TAMRON International Service

Should any TAMRON product require service, TAMRON's international service is available in over 48 nations worldwide.

TAMRON CO.,LTD.

Manufacturers of lenses for photographic, industrial, laboratory, video, and scientific applications.

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