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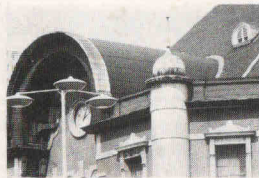
Tamron Bldg., 17-11, 7-chome, Takinogawa, Kita-ku, Tokyo, Japan

Tel: (03) 916-0131

Cable: TAMRONTAISEI TOKYO

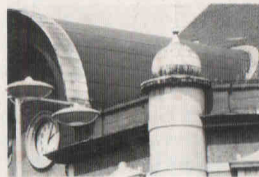
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**ADAPTALL[®] LENS SYSTEM
INSTRUCTION MANUAL**



TO OWNERS OF THE TAMRON ADAPTALL LENS SYSTEM

For virtually a quarter-century, discriminating professional photographers throughout the world have acclaimed the superb quality of TAMRON lenses. TAMRON was the first independent lensmaker in Japan to employ computers in optical design; the first to design an interchangeable-mount system; the first to produce an entire system of interchangeable-mount automatic lenses for today's advanced SLR cameras.

Beyond this, TAMRON lenses see daily use, under the most demanding conditions, in scientific and industrial applications; in laboratories and hospitals, office copier and microfilm-recording instruments; for television cameras, and other highly specialized professional applications.

Today, TAMRON is one of the largest independent lensmakers not only in Japan but throughout the world.

And today, blending space-age computer technology with traditional Japanese craftsmanship, TAMRON automatic lenses bring new standards of excellence to owners of fine 35mm SLR cameras, with the most advanced system of SLR lenses ever created.

Welcome to the ever-expanding world of — TAMRON!

To obtain the best possible results, it is important that you become fully acquainted with the features, performance and proper method of use of the TAMRON LENS you own.

Before photographing your subject, therefore, read the contents of this instruction booklet thoroughly.

With proper handling and care, your TAMRON ADAPTALL LENS will give you faithful service almost indefinitely.

CHARACTERISTIC FEATURES OF THE TAMRON ADAPTALL LENS SYSTEM

The TAMRON ADAPTALL LENS SYSTEM marks the culmination of the efforts of TAMRON engineers towards combining a superb lens design based on the most up-to-date optical theories with ultra-high precision mechanics.

In optical performance, the TAMRON ADAPTALL LENS SYSTEM offers the highest standards. It is characterized by high definition and contrast, plus true-to-life color reproduction.

Featuring the BBAR (Broad Band Anti-Reflection) multilayer coating perfected by TAMRON, they ensure maximum light transmission throughout the visible spectrum, thus making certain of clear and crisp results in color photography.

Structurally, TAMRON ADAPTALL LENSES are designed to offer maximum flexibility and durability.

With a compact, lightweight construction, they provide utmost convenience in use as well as convenience in handling.

The focusing and zooming rings are also de-

signed for the convenience of the photographer. Their travel range is set at a minimum, thus enabling the photographer to conveniently adjust the lens from one extreme to another. These rings, moreover, feature 'Sure Grip' crinkled rubber collars for better control of focusing and zooming operations.

Another characteristic of TAMRON ADAPTALL LENSES is that they can be adapted for use with most models of 35mm SLR cameras simply by interchanging the TAMRON ADAPTALL custom mount which features a readily interchangeable bayonet system.

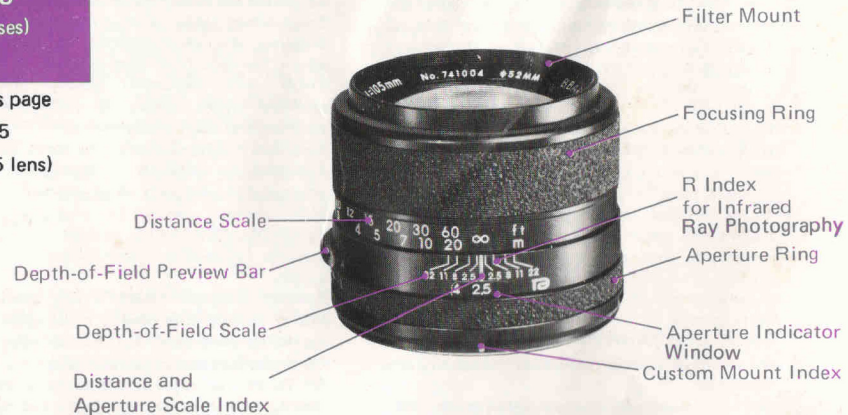
Tamron Adaptall Quick Focus Zooms with Macro controls that permit focusing and zooming to be done with 1/4 turn or less, making them ideal for action photography.

All Tamron Adaptall lenses are supplied with a case to help protect them when not in use. In addition, front and rear lens caps are provided for lenses and rear caps for Adaptall custom mounts.

DESCRIPTION OF PARTS

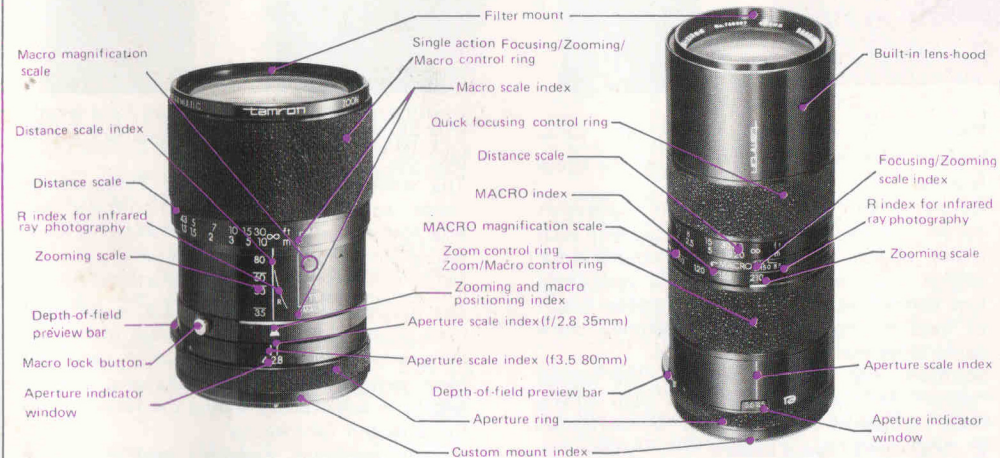
(Prime Lenses)

(Photo on this page
shows CT-105
105mm f/2.5 lens)



ZOOM LENSES

(Photos on this page show QZ-35M 35~80mm F/2.8-F/3.5 lens (left)
and QZ-210M 85~210mm F/4.5 lens (right))



KEY STEPS



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1. FOCUSING

Focus by turning the focusing ring while looking through the viewfinder, until the image is sharp.

Naturally, with wide-angle lenses it's somewhat harder to achieve "Pin-Sharp" focus; with such lenses, objects in front of (and behind) your subject still appear sharp, because wide-angle lens perspective provides both a greater depth of field or apparent zone of sharpness compared to normal or telephoto lenses.

Solution: try focusing through the round "collar" of fine ground-glass in your SLR's finder, instead of the usual "spot" or microprism.

2. ZOOMING (Zoom Lenses)

Turn the zooming ring to the left for a more accentuated telephoto effect. Look through the



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viewfinder and select the optimum focal length. You can check the foreground and background blur too.

The unique cam system (it's Teflon-coated inside, so it will retain its smoothness even after lots of use) adopted in all TAMRON lenses assures smooth zooming. The focal length in use can be checked by referring to the zoom ring.

The QZ35M 35-80mm f/2.8-3.5 is different from other TAMRON zoom lenses in its handling, because it has a single action zoom and focus system and zooming (changing of focal length) is achieved by sliding the focusing ring forwards and backwards.

At the maximum extended position of the focusing ring, your lens is set for 80mm tele-



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photo and at the shortest position 35mm wide angle. We call this type of zooming and focusing system "single action" as one ring controls both focusing and zooming simultaneously.

3. APERTURE SETTING

Turn the aperture ring and set the required f-stop by observing the figure in the aperture indicator window. All ADAPTALL lenses feature half-stops for precise exposure adjustment. All lenses couple precisely to most cameras' exposure control, regardless of whether they are based on stop-down or full aperture light reading.

When using CZ-500 (200-500mm f/6.9 lens) with Konica Autoreflex and Nikon cameras, a stop-down metering method should be used.



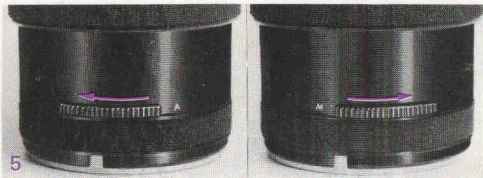
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4. AE OR EE MARK

With shutter-preferred automatic exposure SLRS, such as Konica Autoreflex or Canon, turn the aperture ring past the minimum aperture setting and align the AE or EE mark with the aperture Index. In the AE or EE setting, the lens will couple precisely to the automatic exposure system of these cameras.

PLEASE NOTE: SHOULD YOU PURCHASE YOUR KONICA AUTOREFLEX OR CANON FD/EE MOUNT SEPARATELY, BE SURE IT IS THE ONE DESIGNED FOR THE MAXIMUM APERTURE OF THE LENS YOU OWN.

All aperture-preferred automatic exposure SLRS, which are based on the manual selection of the aperture of the lens while the camera provides automatic shutter speed controls, do not require use of the AE or EE position. Simply set your lens to the aperture desired.



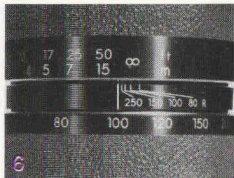
5. DEPTH-OF-FIELD PREVIEW BAR

When the preview bar is set at a position where the 'A' is visible, the lens provides fully automatic diaphragm action, closing down to the preselected f-stop only when the exposure is made. When set at a position where the 'M' is visible, the diaphragm closes down for pre-viewing the depth of field.

Be sure the bar is in the auto position (A) when taking your picture.

6. R INDEX

In infrared photography, focus compensation is essential. First, focus in the normal manner and then set the camera-to-subject distance reading in alignment with this index. With zoom lenses, use the index corresponding to



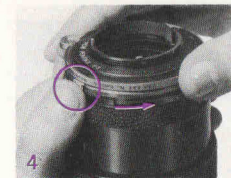
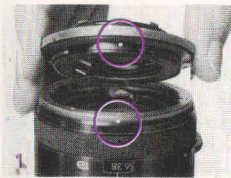
the focal length in use.

TAMRON ADAPTALL LENSES feature a bayonet system for easy interchanging of the TAMRON Adaptall Custom Mount. When properly installed, the custom mount will provide precise coupling of the lens to most automatic exposure systems — stop-down or full aperture light reading or "EE" control.

HOW TO INSTALL THE CUSTOM MOUNT

Match the green index on the bayonet system of the custom mount with the one on the lens barrel and give the mount a 2cm turn to the right until it clicks into place. (See Fig. 1~2)

HOW TO INSTALL THE TAMRON ADAPTALL CUSTOM MOUNT



HOW TO SET THE EXTERNAL APERTURE CONTROL

With custom mounts for cameras featuring full aperture light reading, an external aperture coupling lever is provided. After installing the mount, move this lever so that it engages in the groove on the lens barrel. Depending on the custom mount in use, the size of this lever differs; therefore, see that it is set in the corresponding size groove. (See Fig. 2~3)

When adjusted, the lens will couple precisely with the camera's full aperture exposure control.

HOW TO REMOVE THE CUSTOM MOUNT

An L-shaped lever is provided directly opposite the aperture indicator window, which when depressed, releases the bayonet system. While keeping this lever depressed, turn the mount all the way to the left and lift to remove. (See Fig. 4)

- In the case of custom mounts for cameras featuring full aperture light reading, remove the mount after setting the f-stop to the maximum aperture.

SPECIAL ZOOMING TECHNIQUE

ZOOMING IN THE COURSE OF EXPOSURE

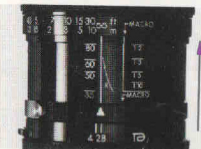
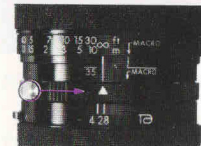
The special effect obtained by zooming in the course of exposure is one of the techniques which can be applied only with zoom lenses.

This consists of aiming the lens at a certain subject and zooming while giving an exposure of 1/2 to 1 sec. or more.

This technique is particularly effective when shooting night scenes or subjects in subdued light.



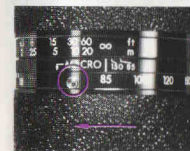
QZ-35M 35-80mm f/2.8-3.5



Set the focusing ring at the 35mm wideangle position. While pressing the macro button, turn the macro ring to align the mark on it to the macro index position. The lens is now set for macro work. Then, slide the focusing ring in the same manner as you do zooming, and select the desired ratio of macro magnification from 1:10~1:2.

(With combined use of exclusive tele-converter specially designed for QZ-35M as an optional accessory, you can enjoy 1:1 lifesize macro photography.)

QZ-150M	70-150mm f/3.5
QZ-210M	85-210mm f/4.5
QZ-250M	80-250mm f/3.8-4.5



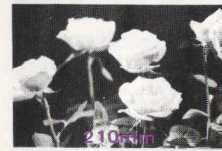
To set the lens for MACRO work, the zooming ring should be turned to the shortest zoom focal length.

Then, turn the zooming ring clockwise while keeping the MACRO ring lock button depressed so that the lens can be switched to MACRO.

While turning the MACRO ring, select your desired MACRO magnification ratio from 1:8 to 1:3. with 85-210mm and 1:10 to 1:2.5 with 70-150mm (QZ-150M) or 80-250mm (QZ-250M). The

MACRO magnification scale will show at a glance the image magnification ratio.

To reset the lens for normal photography depress the macro lock button and turn the macro ring anticlockwise until the focusing/zooming index aligns with the zooming scale.

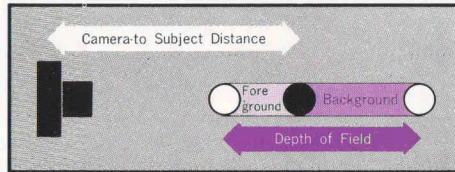


DEPTH-OF-FIELD PREVIEW

When the depth-of-field preview bar is set at a position where the 'M' setting is visible, the diaphragm automatically closes down to the preset aperture, thus previewing the depth of field.

The depth of field is the extent over which all foreground and background objects appear acceptably sharp when the lens is focused on a given subject. It is more extensive in the background than the foreground and varies with the f-stop in use, the camera-to-subject distance and the focal length of the lens in use.

Preview the depth of field by looking through the viewfinder and take full advantage of its effect. Depth-of-field scale (Prime lens only): This shows the distance in front and behind the subject that you are focused on which will appear to be sharp. Note the aperture in use and then read off the relevant distances on either side of the distance scale index against this aperture.



TAMRON BBAR MULTIPLE-LAYER COATING

The purplish tint on your Tamron Adaptall Lens is Tamron's unique BBAR (Broad-Band, Anti-Reflection) multiple layer coating, which helps to eliminate image-degrading flare.

While under certain conditions (say, shooting directly into the sun) you'll get some flare with any glass lens. This advanced coating system really pays off in increased contrast and extra light transmission.

TECHNICAL SPECIFICATIONS OF TAMRON ADAPTALL-SYSTEM COMPACT AUTOMATIC-LENSES

All Lenses with BBAR (Broad-Band Anti-Reflection)-Multiple-Layer Coating

Focal Length	Aperture Range	Angle of View	Construction No. of Elements/Groups	Min. Focus from Film Plane	Close-up/MACRO magnification	Filter size (mm)	Length	Diameter	Weight
24mm	f/2.5-f/16 AE	84°	10/9	9.8" (25cm)		55mm	1.5" (38mm)	2.6" (65mm)	7.7oz (220g)
28mm	f/2.8-f/16 AE	75°	7/7	9.8" (25cm)		52mm	1.7" (42mm)	2.6" (65mm)	8.5oz (240g)
105mm	f/2.5-f/22 AE	23°	4/4	4' 3" (1.3m)		52mm	2.1" (52mm)	2.5" (64.5mm)	9.7oz (275g)
135mm	f/2.8-f/22 AE	18°	4/4	4' 9" (1.5m)		55mm*	3.0" (76.5mm)	2.5" (64.5mm)	13.2oz (375g)
200mm	f/3.5-f/22 AE	12°	4/3	8' 2" (2.5m)		62mm*	4.5" (115mm)	2.7" (69mm)	18.3oz (520g)
300mm	f/5.6-f/22 AE	8°	4/4	8' 2" (2.5m)		58mm*	6.3" (161mm)	2.6" (67mm)	20.5oz (580g)
35-80mm W/MACRO	f/2.8-f/22 f/3.5 AE	63° ~ 30°	13/13	4' 4" (1.3m) w/macro to 2.3' (59mm)	1:2 ~ 1:10	62mm	3.1" (80.5mm)	2.6" (66.5mm)	18.3oz (520g)
70-150mm W/MACRO	f/3.5-f/22 AE	34° ~ 16°	13/11	4' 11" (1.5m) w/MACRO to 4.6' (118mm)	1:2.5 ~ 1:10	52mm*	4.9" (125mm)	2.5" (64.5mm)	19.4oz (550g)
70-350mm	f/4.5-f/22 AE	34° ~ 7°	15/13	8' 2" (2.5m)		82mm*	10.8" (274mm)	3.6" (91mm)	64.2oz (1820g)
80-250mm W/MACRO	f/3.8-f/22 f/4.5 AE	30° ~ 10°	13/10	4' 11" (1.5m) w/MACRO to 5.4' (138mm)	1:2.5 ~ 1:10	62mm*	7.1" (180mm)	2.8" (71mm)	31.0oz (880g)
85-210mm W/MACRO	f/4.5-f/22 AE	28° ~ 11°	12/9	6' 6" (2.0m) w/MACRO to 7.9' (200mm)	1:3 ~ 1:8	55mm	5.7" (145mm)	2.5" (64.5mm)	22.6oz (640g)
200-500mm	f/6.9-f/22	12° ~ 5°	14/8	9' 8" (3.0m)		82mm*	14.6" (370mm)	3.5" (89mm)	98.6oz (2796g)

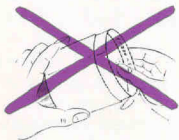
* Built-in Retractable Lens Hood (Individual Lens Hood Available Separately for Other Lenses)

* CLOSEST Focusing from front element.

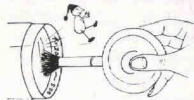
Specifications subject to change without notice.

NOTES ON HANDLING AND CARE OF YOUR ADAPTALL LENSES

Your lenses will give you faithful service almost indefinitely if handled and cared for properly.



Do not touch the lens surface directly with your fingertips.

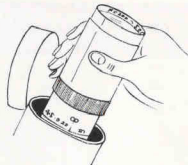


Always use a blower brush or a piece of soft, lintless cloth when cleaning the lens surface.



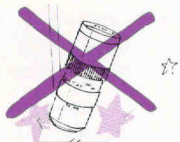
To remove smears, clean the lens surface gently with a silicon cloth

designed for lens cleaning or tissue rolled on the tip of a small stick and moistened with lens cleaning solution.



When returning the lens into its case, make it a rule to reset its distance scale to infinity.

- In case of malfunction, consult your nearest Tamron dealer or Tamron accredited service station.



Avoid dropping or subjecting the lens to knocks and jolts. Lenses are aligned delicately in the course of manufacture. Knocks and jolts may cause disalignment, resulting in poor photographic results.

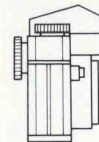
The Tamron Adaptall Custom Mount

A unique advantage of the Tamron Adaptall automatic lens system is that each Tamron lens may be selected by owners of more than 250 individual SLR models. All Tamron Adaptall mounts listed provide perfect cross-coupling with each camera's automatic diaphragm and TTL metering systems, with open-aperture metering for cameras of this type.

TAMRON ADAPTALL CUSTOM MOUNTS ARE AVAILABLE FOR THESE CAMERAS:

Canon FD/FL
Contax/Yashica
Fujica ST
Konica AR
Mamiya SX
Minolta SRT/X
Nikon F/AI

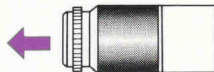
Olympus OM
Pentax Universal Thread
Pentax ES/Spotmatic F
Pentax K
Rollei SL
Topcon RE



CAMERA



MOUNT



LENS

Be sure to see your dealer for the the proper mount for your camera.