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**159**  
**MM**



Instruction manual  
Bedienungsanleitung  
Mode d'emploi  
Manual de instrucciones

4

The Contax 159 MM is a multi-mode, AE single-lens reflex camera of the highest quality that facilitates photographing by Program AE mode, by Aperture-priority AE mode, or by Manual mode. Its Program AE mode distinguishes the Contax 159 MM from all other competitive program cameras because its program comes in three modes: normal, high speed and low speed, and thus enables the photographer to fully achieve his photographic objectives. This camera also offers a diverse range of functions because of its super high-speed shutter (1/4000 sec.), its high-speed X-synchronization (1/250 sec.), its informative viewfinder with digital LED display, continuous AE lock, its TLA electronic flash system and other features. As an accessory, Contax 159 Winder W-7 (three frames per second) is available. Please read this instruction booklet carefully before attempting to use the camera so that you will be able to operate it properly and enjoy using it for many years.

The operating instructions in this manual are given with reference to the camera when used with the Planar T\* 50 mm f/1.4 for Program Mode. However, the operations are the same when other interchangeable Zeiss T\* lenses with Program Mode capability are used.

Die Contax 159 MM ist eine Mehrfachbetriebs-, Belichtungsautomatik-ESR-Kamera allerhöchster Qualität, die das Fotografieren mit einem eingebauten Belichtungsautomatik-Programm, einer Blendenprioritäts-Belichtungsautomatik und manueller Einstellmöglichkeit so einfach und angenehm wie möglich macht. Das Belichtungsautomatik-Programm der Contax 159 unterscheidet diese Kamera von allen vergleichbaren Kameras, weil ihr Programm drei verschiedene Betriebsarten bietet, mit denen sie jeder fotografischen Aufgabe gerecht wird. Diese Kamera ist wirklich vielseitig. Einige Beispiele: superschneller Verschuß (1/4000 Sek.), schnelle X-Synchronisation (1/250 Sek.), Sucher mit digitaler LED-Anzeige, der alle notwendigen Informationen enthält, Dauermeßwert-speicher, TLA-Elektronikblitzsystem und viele andere Merkmale. Als Sonderzubehör ist der Contax 159 Winder W-7 (drei Bilder pro Sekunde) erhältlich. Lesen Sie bitte vor Gebrauch Ihrer Kamera diese Bedienungsanleitung aufmerksam durch, damit Sie mit den Funktionen voll vertraut werden und die Kamera richtig bedienen lernen. Sie haben dann bestimmt lange Zeit Freude und ihr.

Die in dieser Broschüre gegebenen Bedienungsanleitungen beziehen sich auf die Kamera in Verbindung mit dem Planar T\* 50 mm, f/1,4 für Programm-Betriebsart. Die gleichen Bedienungsschritte gelten aber auch, wenn andere Zeiss T\*-Wechselobjektive mit Programm-Betriebsarten-Einrichtung verwendet werden.

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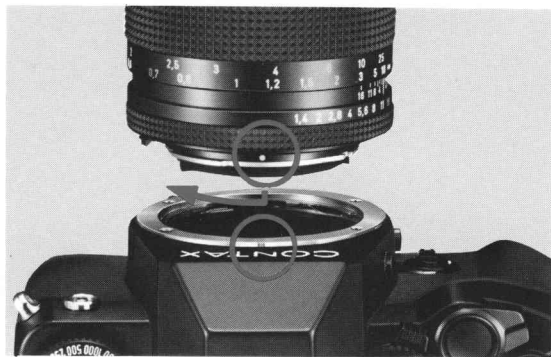
## Description of Parts



- 1 Film Speed Ring
- 2 Exposure Compensation Dial
- 3 Main Switch/Battery Check
- 4 Electromagnetic Shutter Release
- 5 Film Advance Lever
- 6 Multiple-Exposure Lever
- 7 Exposure Counter
- 8 AE (Auto Exposure) Lock Lever
- 9 Lens Release Button
- 10 Carrying Strap Eyelet
- 11 Self-Timer Index
- 12 Self-Timer Button Lock Ring
- 13 Self-Timer Button/Self-Timer Flasher
- 14 Depth-of-Field Preview Button
- 15 Auto Flash Contacts
- 16 Shutter Control Dial
- 17 Film Rewind Crank-Handle
- 18 Film Rewind Knob
- 19 Direct X Contact
- 20 X Synch Terminal
- 21 Contax/Yashica Mount
- 22 Deflection Mirror
- 23 Program Coupling Lug
- 24 Lens Index



- 25 Viewfinder Eyepiece
- 26 Accessory Shoe
- 27 Shutter Speed Index
- 28 Shutter Dial Lock-Release Button
- 29 Film Rewind Stud
- 30 Film Cassette Chamber
- 31 Shutter Curtain
- 32 Data Back LED
- 33 Film Guide Rails
- 34 Winder Coupling Terminal
- 35 Winder Coupling
- 36 Film Rewind Release Button
- 37 Battery Check Lamp
- 38 Release Socket
- 39 Sprocket
- 40 Take-up Spool
- 41 Pressure Plate
- 42 Memo Holder
- 43 Camera Back
- 44 Battery Compartment Cover
- 45 Tripod Socket



### <Mounting the Lens>

First remove the camera-body cap and then insert the lens mount into the camera-body mount, matching the red dot on the lens mount with that on the camera body. Then, gripping the lens barrel firmly, turn the lens clockwise until it locks with a click.

When using a lens cap of the snap on type, attach or remove it from the lens by pressing in the two side-tabs.



### <Removing the Lens>

While pressing the lens release button, turn the lens counterclockwise slightly and remove it from the camera-body mount. Always keep caps on the camera-body mount and the lens mount when the lens is left off the camera.

- Avoid touching camera interior or lens surface with your fingers.
- Avoid direct sunlight when removing or mounting the lens with film loaded in the camera.



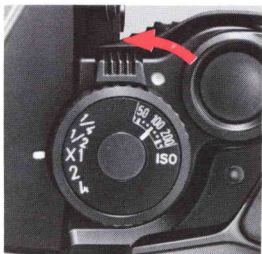
*The electronic shutter and exposure control systems of the Contax 159 MM are battery powered so be sure to operate the camera with the batteries loaded. Use two 1.55 V silver-oxide batteries (SR44 or equivalent) or 1.5 V alkaline-manganese batteries (LR44 or equivalent).*

- 1** Open the battery compartment cover on camera base by unscrewing it counterclockwise with a coin edge.

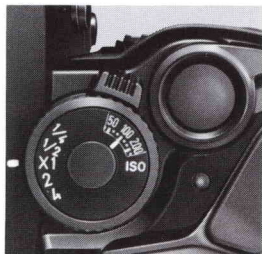


- 2** Insert two batteries, stacked together, into the battery holder with the (+) side facing up as shown by the battery polarity marks on the holder. Then replace the holder in the battery compartment and firmly secure the cover. If the (+) and (-) sides are incorrectly inserted, the camera will not function.





*In ON position  
Position EIN  
En position marche (ON)  
En la posición ON*



*In OFF position  
Position AUS  
En position arrêt (OFF)  
En la posición OFF*



### <Battery Check>

If the battery check lamp lights up (red) when the main switch is further turned from its ON position in direction of the arrow, it means the batteries are good. When the batteries weaken, the lamp will give a warning flash. In this case, have fresh batteries ready or replace the batteries. When the batteries fall below a rated output, the lamp will not light and the camera will not function.

### <Main Switch>

The Contax 159 MM has a main switch which is used to turn the power ON/OFF. Turn the switch in direction of the arrow until it click stops and a red dot (for ON) appears, setting the camera in a state of readiness. With the main switch turned on, pressing of the shutter release partway in will cause the viewfinder LEDs to light up and stay on for 16 seconds. When the main switch is turned back (red dot in covered position), all of the electrical circuits will be turned off, causing all camera functions to cease.

When not using the camera, make sure that the main switch is turned OFF (red dot in covered position) to prevent accidental release of the shutter.

### <Battery Precautions>

- Battery life is approximately 1 year with silver-oxide batteries, and about 6 months with alkaline-manganese batteries, but this may vary depending on frequency of camera use, the strength of batteries at time of purchase, ambient temperature, etc.
- When changing batteries, replace both batteries at the same time. Do not mix old and new batteries or those of different types.
- Batteries are apt to perform poorly in sub-zero temperatures, causing picture taking difficulties and LED failure. Keep the camera as warm as possible and carry extra batteries just in case those in the camera should fail. Batteries affected by such extreme temperatures will recover power after being kept warm for a while.
- When installing batteries, wipe the cell cap and base clean. Oily residue on battery terminals could cause poor electrical contact.
- When going on extended trips, take along a spare set of fresh batteries.
- Do not throw batteries into a fire or attempt to take them apart.
- Keep the batteries out of children's reach. If swallowed, immediately consult a physician for emergency treatment.

### <Vorsichtsmaßnahmen für die Batterien>

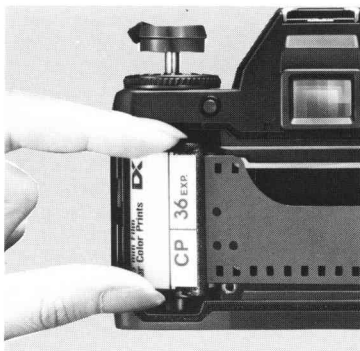
- Silberoxidbatterien haben eine Lebensdauer von etwa einem Jahr, Alkalimanganbatterien von etwa 6 Monaten. Die Lebensdauer der Batterien hängt jedoch von der Häufigkeit des Kameraeinsatzes, der Batteriespannung zum Zeitpunkt des Kaufs, der Umgebungstemperatur und anderen Einflußfaktoren ab.
- Tauschen Sie immer beide Batterien gleichzeitig aus. Mischen Sie nicht alte und neue Batterien und solche verschiedener Typen.
- Bei Temperaturen unter Null nimmt die Batterieleistung ab, was zu Schwierigkeiten beim Fotografieren und Versagen der Leuchtdioden führt. Die Kamera möglichst warmhalten, und Ersatzbatterien mitnehmen, falls die Batterien in der Kamera versagen sollten. Die Spannung der bei sehr tiefen Temperaturen versagenden Batterien nimmt wieder zu, wenn diese eine Zeitlang warmgehalten werden.
- Vor Einsetzen der Batterien diese oben und unten sauberwischen. Ölicher Rückstand auf den Batteriepolen kann unter Umständen einen schlechten elektrischen Kontakt verursachen.
- Wenn Sie auf längere Reisen gehen, nehmen Sie einen Satz frischer Batterien mit.
- Batterien weder in ein Feuer werfen noch zerlegen.
- Halten Sie die Batterien aus der Reichweite von Kindern. Wenn sie verschluckt werden, rufen Sie sofort einen Arzt.

## Film Loading



*Always use a standard 35 mm film cartridge (12, 20, 24 or 36 exposure roll). Avoid direct sunlight when loading film.*

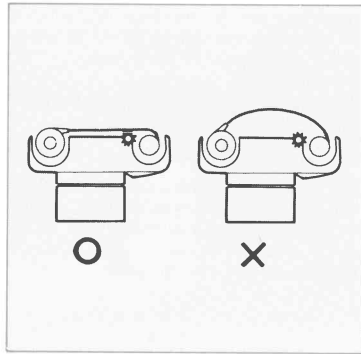
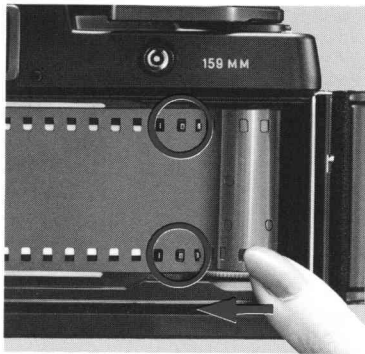
**1** Open the camera back by pulling the film rewind knob all the way out.



**2** Place the film cartridge in the film chamber. Then, push the rewind knob back in, turning it slightly until it falls into position, if necessary.

**3** Draw out the film leader and insert the tip into any slot on the take-up spool.

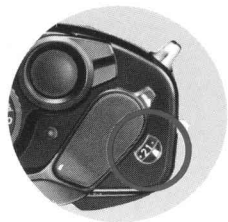




**4** Then slowly turn the spool with the finger, advancing the film until its top and bottom perforations engage the sprocket teeth.

**5** Before closing the camera back, make sure that the film perforations are engaging the sprocket teeth and that the film cassette port is properly positioned as shown in the illustration.

**6** Take up any film slack by unfolding the film crank and turning it gently in direction of the arrow until it stops with a tightening of the film.

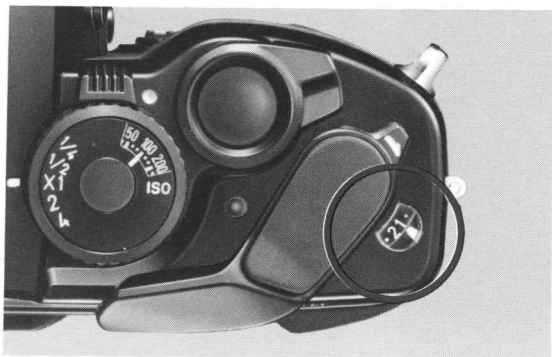


**7** Alternately operating the film advance lever and shutter release button, take some blank exposures until the exposure counter reads "1." Use the "1" reading on the exposure counter as your starting point for taking photos. If the film rewind knob turns when you operate the film advance lever, it means that the film is being fed properly.

#### <Film Advance Lever>

When the film advance lever is stroked a full throw, it advances the film one frame and winds the shutter with the same action. Set the lever in the stand off position beforehand to ensure a smoother lever operation.

When blank exposures are being made before the exposure counter reaches "1," the camera shutter will release at 1/100 sec. regardless of the selected shutter speed (except "B") setting, and the shutter speed LED within the viewfinder display will pulsate at "125." When the counter reaches "1," the camera will automatically switch to the selected exposure mode.



#### <Exposure Counter>

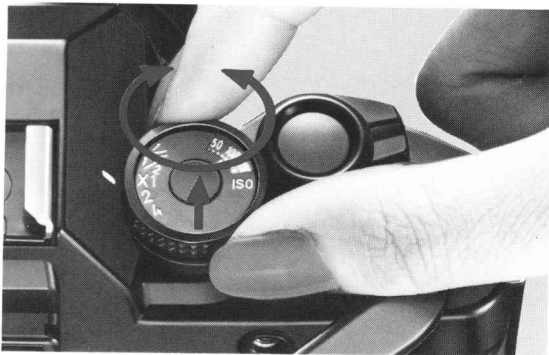
The exposure counter moves each time the film advance lever is fully stroked, and automatically resets to "S" (Start) when the camera back is opened, regardless of whether the camera is loaded or not. The exposure counter starts with "S," then "1," followed by even numbers from "2" through "36." The odd numbers are indicated by dots marked between the even numbers. The orange-colored numbers "12," "20," "24" and "36" correspond to the number of exposures in standard 35 mm film cartridges.



#### <Memo Holder>

Use the memo holder to remind yourself of what type of film is loaded in your camera by slipping the end of the film carton into it, or even use it to hold the exposure data for the shots you have taken.

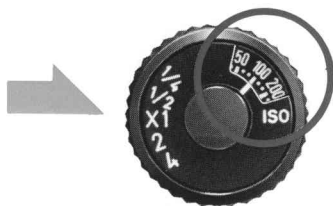
## Setting the Film Speed



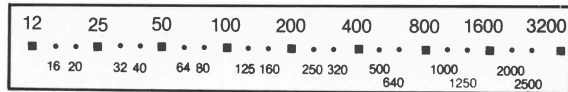
*Be sure to set the film speed properly as it is vital to obtaining correct exposure. The applicable film speed is indicated on the outside film packet.*

While pulling up on the film speed ring, rotate it till the film speed number for the film in use aligns with the white index mark. Then, release the ring, letting it click right on the proper click stop.

Soon after setting the film speed, check to see that the exposure compensation dial is set at "X1." If it is at any setting other than "X1," you will not be able to obtain correct exposures.



Film Speed Values (ISO)  
Filmempfindlichkeitsskala (ISO)  
Sensibilités de pellicule (ISO)  
Valores de la sensibilidad de la película (ISO)





*In Focus/Scharf/ Mise au point correcte/Enfocado*

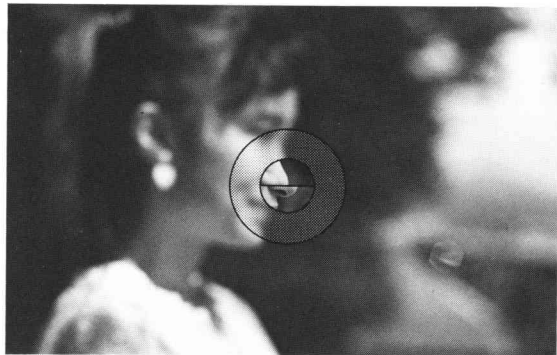
**Focusing is done with a split-image focusing center, microprism collar and a surrounding matte screen.**

**<Horizontal Split-image Spot>**

When using the split-image spot to focus, turn the focusing ring until the top and bottom halves of the image merge. If the image is out of focus, the two halves will not merge.

**<Microprism Collar/Matte Field>**

To focus with the microprism collar, turn the focusing ring until the glittering effect disappears from the collar area,



*Out of Focus/Unsharp/ Mise au point incorrecte/Desenfocado*

giving you a sharp, clear image when in focus. To focus with the outer matte field, turn the focusing ring until the image appears sharp and clear, free of any foggy effect.

- When using long focal-length lenses, or lenses with a relatively small maximum aperture (f4 or slower), or when performing close-up photography at high magnification, the microprism collar and split-image spot may become dark, making focusing difficult. In this case, focus using the outer matte field.



## Viewfinder Display

When the shutter release button is pressed partway in, the necessary exposure information is indicated by LEDs. Since the eyepoint has been made longer than usual, you can see the entire viewfinder image without any vignetting. The LED display features a 3-stage brightness control

which automatically adjusts the intensity to the prevailing lighting condition.

- When the exposed film is sent out for processing and printing of standard size prints, be mindful that the prints will show somewhat less than what will appear on the film.



Dedicated flash mark  
 Markierung für angepaßten Blitz  
 Repère de flash  
 Marca del flash

Shutter speed LED  
 Verschlußzeiten-LED  
 LED de vitesse d'obturation  
 LED de velocidad del obturador

Shutter speed scale  
 Verschlußzeitenskala  
 Echelle des vitesses d'obturation  
 Escala de velocidades del obturador

Program AE mode display  
 Programm-AE Betriebsart Display  
 Affichage du mode AE programmé  
 Indicación del modo programado AE

Aperture display  
 Blenden-Display  
 Affichage de l'ouverture  
 Indicación de la abertura

Exposure compensation display  
 Belichtungskompensations Display  
 Affichage de la compensation d'exposition de exposición  
 Indicación de la compensación



The aperture ring regulates the amount of light transmitted to the film plane. The amount of light transmission is halved when the aperture is changed to the next larger f value (for example, when f/4 is changed to f/5.6), and doubled when it is changed to the next smaller f value.

The aperture also controls the depth of field, a lens property giving you varying depth in the plane of focus at different apertures. (Refer to page 102)

To set the aperture, turn the aperture ring until the desired aperture setting is aligned with the aperture/distance scale index. The aperture ring can be used at in-between positions.

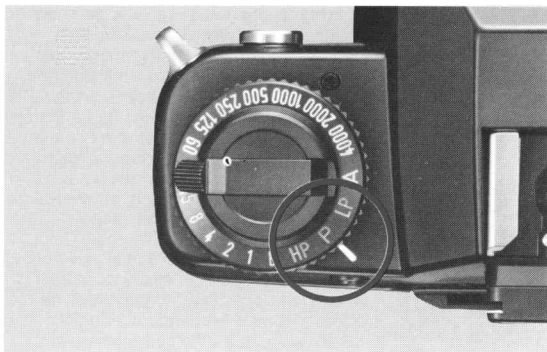
The minimum aperture setting of "16" is in green to indicate that the lens is to be set at this position in the

Program AE mode. The minimum aperture setting varies with the type of lens in use.

The aperture can be confirmed using the viewfinder aperture display. In the Program AE mode, the camera-selected aperture, and in the Aperture-priority AE and the Manual modes, the user-selected aperture, as well as intermediate values, are displayed.



## Shutter Control Dial



*The function of the shutter is to control the length of time the film is exposed to light. On the Contax 159 MM, whether set in the Program AE, Aperture-priority AE, or Manual exposure mode, the shutter speed is controlled by an electronic circuit incorporating a high precision quartz oscillator.*

### <Shutter Control Dial Settings>

**“P”** (for Normal Program Mode) ..... For taking pictures in the general program AE mode.

**“HP”** (for High-speed Program Mode) ..... For taking pictures in the program AE mode using a high shutter-priority speed of 1/1000 second.

**“LP”** (for Low-speed Program Mode) ..... For taking pictures in the program AE mode using a low shutter-priority speed of 1/60 second.

**“A”** ..... For taking pictures in the Aperture-priority AE mode.

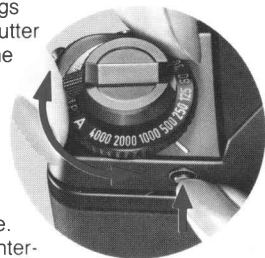
**“4000” ~ “1”** ..... For exposure settings using the Manual exposure mode. “4000,” “500,” “60,” and “1” represent usable shutter speed settings of 1/4000, 1/500, 1/60 and 1 second respectively. When the setting is shifted to a next larger number (for example, from 125 to 250), the exposure time is successively halved with each setting; conversely, when shifted to a next smaller number, the exposure time is successively doubled with each setting.

**“B”** ..... The shutter remains open during the time the shutter release button is kept pressed so it is used for taking long exposure shots.

### <Setting the Shutter Control Dial>

Set the shutter control dial by turning it until the desired number or letter (all letter settings click-stopped) aligns with the shutter speed index. The dial locks in the “P,” “HP,” “LP,” and “A” positions to prevent accidental shifting of the dialed mode. The dial can be unlocked by pressing the shutter dial lock-release button and turning the dial at the same time.

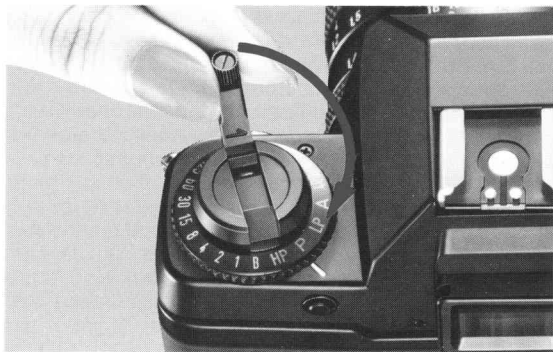
- The dial cannot be used in intermediate settings between click stops.





*When the end of the roll of film is reached it will not be possible to advance the film any further. Instead of attempting to forcibly advance the film, check the exposure counter to see whether you have come to the end of the roll. If so, be sure to rewind the film into its cassette before removing it from the camera.*

**1** Depress the film rewind release button on camera base for an instant and let go.

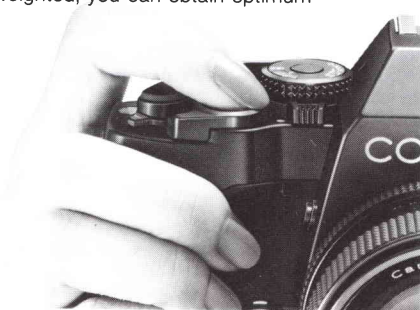


**2** Unfold the film rewind crank handle and turn it in direction of the arrow. When the film end unhitches from the take-up spool you will feel a slight resistance; however, continue rewinding until the crank handle rotates freely. Then open the camera back and remove the cassette from the camera.

*The Contax 159 MM features a TTL full-aperture metering system that measures the light coming through the lens at its maximum aperture. It is of the "center-weighted" metering type which emphasizes the central portion of the viewfinder image while taking into account the surrounding area seen in the viewfinder.*

### <Built-in Exposure Meter>

When the shutter release button is pressed partway in, the switch for the built-in exposure meter is turned ON, and aperture display and shutter speed LEDs inside the viewfinder will indicate the exposure in effect. Even after the finger has been removed from the shutter release button, the exposure meter remains ON for 16 seconds before automatically turning itself OFF. Since the metering system is center-weighted, you can obtain optimum correct exposure by framing and metering your subject in the center of the viewfinder.

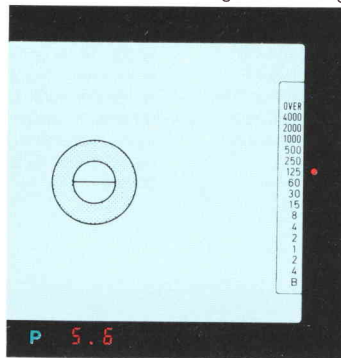


*Die Contax 159 MM bietet ein TTL Offenblenden-Meßsystem, das das durch die voll geöffnete Blende einfallende Licht mißt. Es arbeitet mit "Mittenbetonung", wobei der Mittelteil des Bildes stärker und das Randgebiet schwächer berücksichtigt wird.*

### <Eingebauter Belichtungsmesser>

Wenn der Auslöser halb gedrückt wird, wird der Schalter des eingebauten Belichtungsmessers eingeschaltet, und die Blenden- und Verschlusszeiten-Displays im Sucher werden aktiviert. Auch nachdem der Auslöser losgelassen wird, bleibt der Belichtungsmesser 16 Sekunden lang eingeschaltet, bevor er sich automatisch wieder ausschaltet. Das das Belichtungsmessungssystem mittenbetont ist, können Sie immer richtige Belichtung erzielen, wenn Sie

das Motiv in der Bildmitte platzieren.



### <Precautions When Using Accessories>

When using a lens with a maximum aperture under  $f/5.6$ , or with the Contax Auto Bellows PC, Extension Ring 7.5 mm, Microscope Adapter, Reverse Ring and such other accessories which do not couple with the auto-diaphragm mechanism, the following points should be noted.

- ① Although the viewfinder aperture display will continue indicating the "1.4" mark even after the camera is switched to another mode, the metering function will continue operating normally.
- ② Programmed AE will not be possible. Use the camera in the aperture-priority AE mode or manual mode.

When using an older type Zeiss T\* lens without the program coupling pin, an auto extension tube, or any of the above accessories, set the camera in the Aperture-Priority AE or Manual exposure mode. If the shutter control dial is set in the Program modes, the camera will operate as follows:

- At the "P" setting** ... Aperture-Priority AE mode.  
**At the "HP" setting** ... 1/1000 sec. manual exposure mode.  
**At the "LP" setting** ... 1/60 sec. manual exposure mode.

### <Vorsichtsmaßnahmen bei Verwendung von Zubehör>

Bei Verwendung von Objektiven mit Maximalblenden von  $f/5,6$  oder bei dem Contax Automatikkalbgengerät PC, dem Zwischenring 7,5 mm, dem Mikroskop-Adapter, Umkehr- und anderen Zubehörteilen, die nicht mit dem Auto-Blendenmechanismus einkuppeln, müssen die folgenden Punkte beachtet werden.

- ① Obwohl das Sucher-Blendendisplay weiterhin "1,4" anzeigt, wenn die Kamera auf eine andere Betriebsart umgeschaltet wurde, arbeitet die Meßfunktion weiterhin normal.
- ② Programm-AE ist nicht möglich. Verwenden Sie die Kamera in Blendenvorwahl-AE-Betriebsart oder manueller Betriebsart.

Bei Verwendung älterer Zeiss T\* Objektiv ohne den Programmkupplungszapfen, eines Auto-Zwischenrings oder eines der oben aufgeführten Zubehörartikel stellen Sie die Kamera auf Blendenvorwahl-AE oder manuelle Betriebsart. Wenn die Verschlusszeitscheibe auf eine der Programm-Betriebsarten gestellt ist, arbeitet die Kamera wie folgt:

- Bei "P"-Einstellung** ... Blendenvorwahl-AE Betriebsart  
**Bei "HP"-Einstellung** ... Manuelle Belichtung mit 1/1000 Sek.  
**Bei "LP"-Einstellung** ... Manuelle Belichtung mit 1/60 Sek.

### <Light Reading Range>

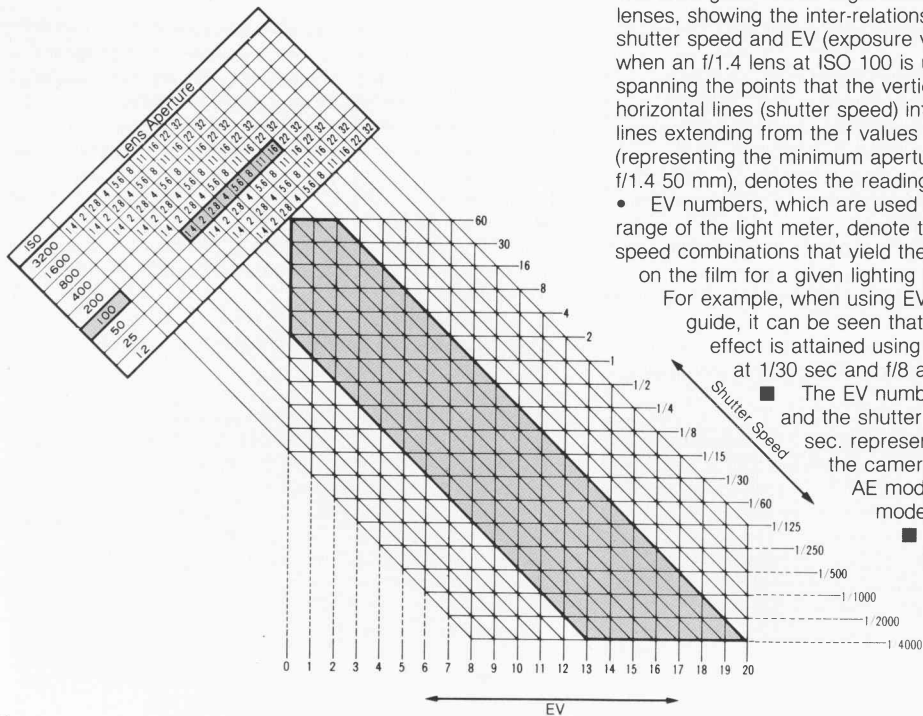
The table gives the EV Light reading range for various lenses, showing the inter-relationship between aperture, shutter speed and EV (exposure values). For instance, when an f/1.4 lens at ISO 100 is used, the reading range spanning the points that the vertical lines (EV) and the horizontal lines (shutter speed) intersect with the diagonal lines extending from the f values of "1.4" to "16" (representing the minimum aperture of the Zeiss Planar T\* f/1.4 50 mm), denotes the reading range from EV 0 to 20.

• EV numbers, which are used to indicate the coupling range of the light meter, denote the aperture and shutter speed combinations that yield the same exposure effect on the film for a given lighting condition.

For example, when using EV 13 from the scale as a guide, it can be seen that the same exposure effect is attained using the combinations of f/16 at 1/30 sec and f/8 at 1/125 sec.

■ The EV numbers from 0 through 20, and the shutter speed from 60 to 1/4000 sec. represent the range over which the camera normally meters in the AE modes (P, HP, LP and A modes).

■ That part of the metering range which is shown in color denotes the light reading range when using an f/1.4 lens at ISO 100.



## Exposure Mode Selection

*With the Contax 159 MM, you can use the shutter control dial to select any one of three program modes, aperture-priority AE mode, and manual exposure mode to suit any photographic objective.*

### <Program AE Mode>

In the Program AE mode, the camera automatically selects the optimum combination of shutter speed and aperture settings for correct exposure according to lighting condition by using its pre-programmed matching shutter speed and lens aperture settings. This eliminates exposure worries, thus leaving you free to concentrate on composition and making it a boon when it is top priority on capturing those fleeting, decisive moments. Depending on the desired objective, the Contax 159 MM makes Program modes available in Normal Program, High-speed Program, and Low-speed Program.

① **“P”** (Normal Program AE Mode) ... In this mode, the camera selects the correct balance of shutter speed and aperture settings, making it easy even for the beginning photographer to use the camera with confidence.

② **“HP”** (High-speed Program AE Mode) ... With this mode, the camera matches aperture settings with a shutter-priority setting of 1/1000 second. It is ideally suited for fast action sports photography and for intentional blurring of the background of portrait shots. And it even has the merit of minimizing camera shake when using long telephoto lenses.

③ **“LP”** (Low-speed Program AE Mode) ... When using this mode, the camera matches aperture settings with a shutter-priority setting of 1/60 second. It is suitable for stopped-down shots, for landscape photography, or even for still-life photos.

### <Aperture-Priority AE Mode>

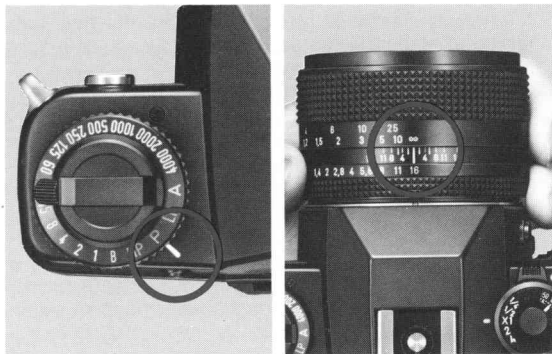
You set the lens aperture, and the camera automatically selects the shutter speed according to the lighting condition to give you the correct exposure combination. You will find it not only suitable for general photography work but also for shots with depth of field considerations because you can freely control the aperture setting.

### <Manual Exposure Mode>

With this mode, you control the aperture and shutter speed settings in selecting the correct exposure combination needed to obtain the intended results or effect. And aided by the exposure information displayed in the viewfinder, you can easily take those intentional over- or underexposed shots.



## Using the Program AE Mode



### 1 Set the Shutter Control Dial to "P."

The camera is now ready for shooting in the Normal Program AE mode. If the High-speed or Low-speed Program AE mode is desired, set the shutter control dial to "HP" or "LP."

The "P" is displayed in the viewfinder, indicating the camera is in the Program AE mode.

- When older Zeiss lenses, not fitted with a program coupling pin, are used, the "P" will not be displayed.

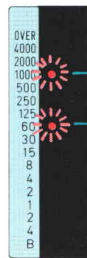
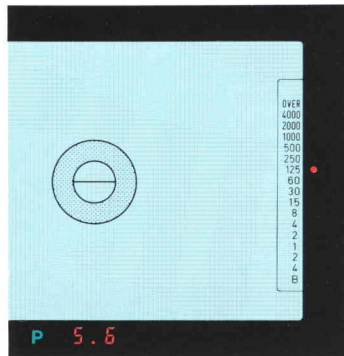
### 2 Stop the Lens Down to Its Minimum Aperture Setting

Turn the lens aperture ring to its minimum setting of "16," etched in green.



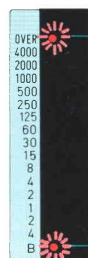
### 3 Focus and Compose

Focus on subject by turning the focusing ring, and compose your picture at the same time.



HP mode  
 HP-Betriebsart  
 Mode HP  
 Modo HP

LP mode  
 LP-Betriebsart  
 Mode LP  
 Modo LP



Overexposure  
 Überbelichtungs  
 sur-exposition  
 sobreexposición

Underexposure  
 Unterbelichtungs  
 sous-exposition  
 subexposición

#### 4 Confirm Exposure and Shoot

When you depress the shutter release button partway, the viewfinder LEDs will indicate the correct shutter speed and aperture settings in effect. If the shutter speed LED's light up at any setting from "4000" to "B," it indicates correct exposure. Press the shutter release button all the way to effect exposure.

When the dial is set at the "HP" or "LP" AE mode, the shutter speed LED for 1/1000 or 1/60 second respectively will pulsate if the exposure in effect is within the working range of the camera-selected shutter speeds (1/1000 sec. for "HP," and 1/60 sec. for "LP"). See illustration.

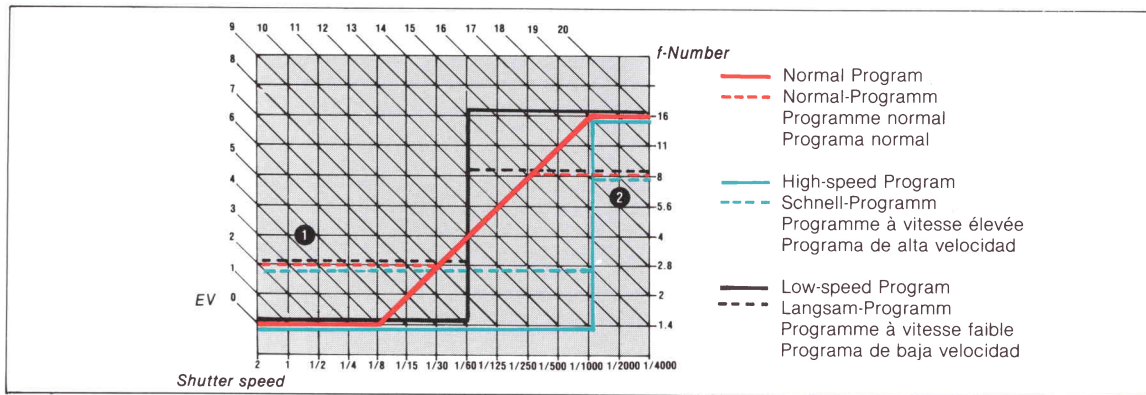
- When a shutter speed of 1/30 sec. or slower is indicated, there is a danger of camera shake. In this case, use auto flash or support the camera with a tripod.

#### <Overexposure Warning>

When the shutter speed LED pulsates at the "OVER" position, it indicates overexposure. Since the ambient light is too intense, adjust for correct exposure by using an ND (neutral density) filter to reduce light transmission.

#### <Underexposure Warning>

When the shutter speed LED pulsates at the "B" position, it indicates underexposure. Since the ambient light level is too low, compensate by using auto flash or supplementary illumination.



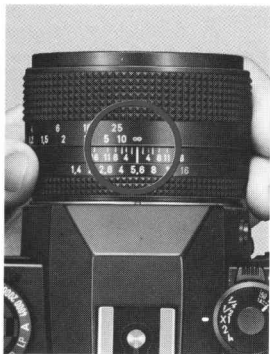
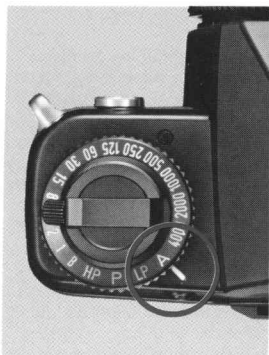
### <Program AE Control Scale>

The aperture and shutter speed combinations available in the Normal Program, High-speed Program, and Low-speed Program AE modes are as shown in the accompanying scale. When the matching aperture is within the working shutter speed range of 1/1000 sec. in the High-speed Program and of 1/60 sec. in the Low-speed Program modes, the shutter speed LEDs will pulsate at the respective shutter speeds.

If a lens with a different maximum aperture is used, the working range will vary by the extent of the light value difference. For example, if an f/2.8 lens is used, its

performance will be as shown by the dotted lines ①.

- Even when the aperture ring is at a setting other than minimum aperture, the camera will still operate in the program AE mode. However, in this case, the camera-selected shutter speed will work within a narrower working range between whatever smaller aperture you have selected and the maximum aperture of the lens, causing the camera-selected shutter speed to shift under intense lighting conditions. For example, when set at f/8, the working range will be narrowed as shown by the dotted line ②.



**1** Set the Shutter Control Dial at “A”

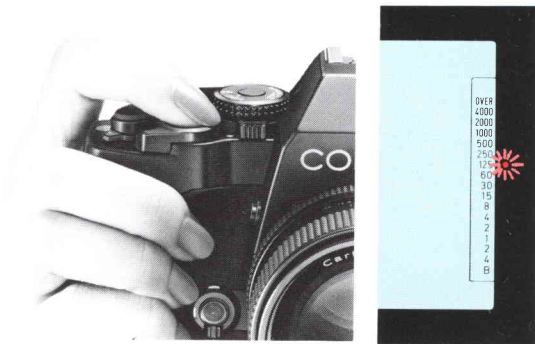
The camera is now in the Aperture-priority AE mode.

**2** Select the Aperture Setting

Select the desired aperture by turning the lens aperture ring, and use the viewfinder display to confirm the aperture setting.

**3** Focus and Compose

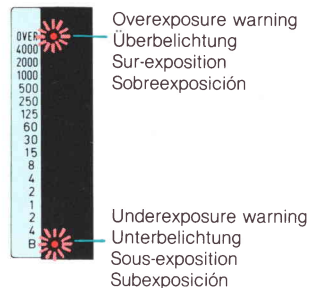
Compose the picture while focusing with a turn of the focusing ring.



#### 4 Confirm Exposure Setting and Shoot

Depress the shutter release partway in and the shutter speed LED will light, indicating the correct exposure in effect. If the LED lights steadily at any position from "4000" through "B", it indicates correct exposure. Then depress the button the rest of way in to effect exposure. When two LEDs light up simultaneously, an intermediate shutter speed somewhere between the two indicated speeds will be used.

- If a shutter speed of 1/30 second or slower is indicated, there is a danger of camera shake with hand held shots. In this case, use auto flash, or support the camera with a tripod.

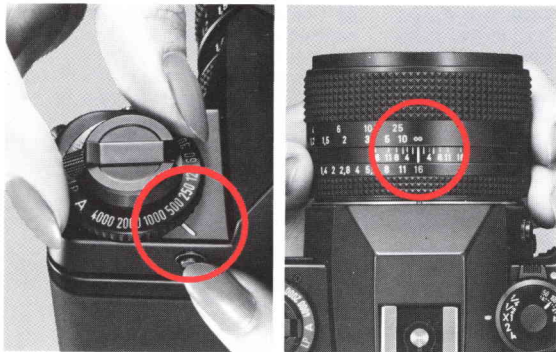


#### <When LED at "OVER" Pulsates>

This indicates an overexposure setting because of excessive lighting on subject. Stop down the aperture until a usable shutter speed is indicated. If the "OVER" LED still pulsates after adjusting aperture, then use an optional neutral density filter.

#### <When LED at "B" Pulsates>

This indicates an underexposure setting. Since your subject is too dimly lit, select a wider aperture. If the "B" LED still pulsates after adjusting aperture fully, then use auto flash or supplementary illumination.

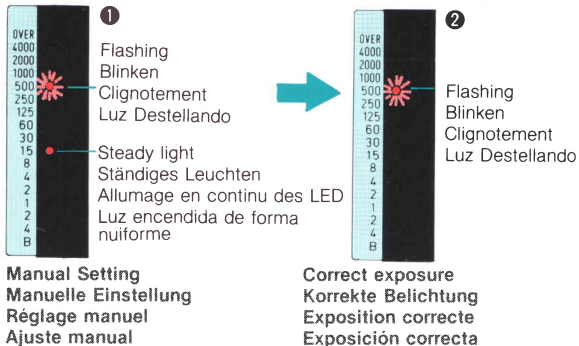


### 1 Set the Shutter Speed

While pressing down on the shutter dial lock-release button, turn the shutter control dial to the desired manual shutter speed setting.

### 2 Set the Lens Aperture

Turn the lens aperture ring to the desired aperture setting, and use the viewfinder display to confirm the aperture setting.



### 3 Check the Exposure and Shoot

Depress the shutter release button partway in and the shutter speed LED will pulsate to indicate the user-selected shutter speed, and will light up to indicate the correct shutter speed for the aperture setting in effect (Figure 1). For correct exposure, adjust the shutter or aperture settings until the pulsating and steadily lit LEDs merge (Figure 2). Now, depress the shutter release button all the way to effect exposure.

- When two steadily lit LEDs appear at the same time, it will not be possible to merge the LEDs by turning the shutter control dial. In this case, merge the LEDs by a fine adjustment of the aperture ring.



### <“B” (Bulb) Photography>

When making photographs of stars, or other photography at night requiring long exposure times (1 second or longer), set the shutter control dial to “B” (Bulb). In this mode, the shutter will remain open, and the film will be exposed for as long as the shutter release button is held depressed. In this case, camera shake is inevitable with hand-held photography, thus the camera should always be mounted on a tripod, or rested on a solid surface to keep it immobile. To further remove any possibility of camera shake, the Cable Switch (optional accessory) should be connected to the camera.

