

INSTRUCTIONS FOR USING THE

CONTAX II CAMERA

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The Parts of the Contax II:

a = Release button for the delayed-action shutter release

(Almost hidden by the lever b)

b = Setting leverfor the delayed-action shutter release c =Object glass of the

distance meter d = Metal loops for car-

rving strap e = Shutter winding knob

f = Shutter release button

g = Window showing number of exposures made

h = Milled wheel of the coupled distance meter

n =Spring catch of lens-changing device

i = Infinity stop for the distance meterk = Finder shoe

l = Film rewinding knob

m = Object glass of the distance meter and view-finder

The Parts of the Contax II:

o = Locks for opening and closing p = Tripod bush [the camera

q =Base support for the camera r = "Free - wheeling" claw holding

full spool of film s = Evepiece of the distance meter and view-finder

u = Claw holding take up spool v =Spool retaining spring

w = Film transporting sprocket

x =Picture aperture

counter

v = Button releasing the film during rewinding

t =Wheel adjusting the film picture

Important Note!

The Contax II is a precision miniature camera, the handling of which differs considerably from that required in ordinary types of cameras. With careful handling and intelligent use, the Contax will give excellent service and perfect photographic results, but it is essential that the instructions should be studied, and the various mechanical movements practised as described in the pages hereafter, before any attempt is made to use the camera with film in it. The instructions are consequently arranged to give all the information necessary for perfect service in practice. It is recommended in particular that the pages relating to the technique of exposure should be specially studied, and the handling of the camera practised without loading it with film. When an understanding of the Contax has been gained by this practice, the camera may be loaded with film and experience in practical work can then begin. The Contax spool of daylightloading film is particularly recommended for use with all Zeiss Ikon miniature cameras, and when using it a film jam is absolutely impossible provided that it has been correctly inserted in the camera. Contax spools may be had loaded with either the Zeiss Ikon orthochromatic film, or with the special ultra-fast fine-grain Zeiss Ikon panchromatic film of speed $^{17}/_{10}$ ° DIN.

I. Loading the Camera with the Contax Spool

Preliminary remarks

The camera may now be supplied with a spool of black composition (Trolitul) in place of the metal spool. They are very light and allow a particularly quick and secure fastening of the leading end of the film.

For a certain transitional period both types of spool will be found particurlarly as there is still a large number of Contax Daylight Spools available. Therefore, in any case, both are described in the instructions. In order that the Contax spool should be made suitable for daylight loading, a paper leader is attached to the beginning of the film and a paper trailer to the end. The film is thus protected from light, but when loading or changing the film it is still necessary to take precautions. These operations must be performed in subdued or diffused light, and on no account should direct sunlight be allowed to reach the spool of film.

With metal spools the paper leader or the corresponding cut leading end of the film must be threaded through the wide slit of the spool and a length of about $1^1/4^{\prime\prime}$ must be folded back sharply to the outside.



 Open the camera by raising the two locking keys (o) on the camera base and giving them half a turn. In the open position the keys cannot be folded down against the camera body.



With composition spools the perforated paper leader or the ready cut leading end of the film must be slid under the tongue until the first perforation hooks on to the tooth which is to be found there. When the film is to be taken off the spool again, the end is torn out of the tooth by a moderate pull.



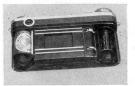
Draw the camera back slightly downwards, and then lift it away from the body of the instrument.



3. Wind up the shutter winding knob (e) as far as it will go in a clockwise direction, until a hard stop is felt. (A slight resistance may mean that the shutter is not fully wound, so that it is necessary to turn fully until the stop is reached.)



 Place the Contax spool with its hollow end on the claw (r) of the left-hand spool chamber, and break the gumstrip that holds down the end of the paper leader.



5. Pulling the leaf spring (v) towards the film sprocket with the left forefinger, take out the empty spool in the right-hand spool chamber.



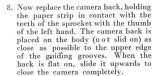
6. Tear off the sticky paper fastening the Contax-Spool and tread the paper leader through the wide slit of the take-up metal spool and fold back about 1¹/₄" sharply to the outside so that the black side of the paper lies outside. The empty spool must be reinserted in the take-up spool chamber with the fork (u) engaging in the hollow end.



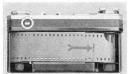
For composition spools hook the end of the paper leader on the tooth. (See page 7.)



 Turn on the empty spool until the line to which the arrow on the paper leader points lies over the teeth of the sprocket (w).



 Give a half-turn to the locking keys on the under side of the camera to lock the back in place, and fold them flat once more.



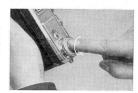


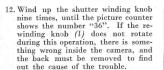
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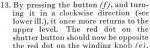
10. By means of the milled wheel (t) set the red dot on the picture counting disc (next the number "27") to the small triangular indicator on the edge of the window above the disc (also marked with a red dot).

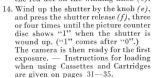


11. Press the shutter release button (f) (this will work the shutter), and — holding it down — turn it in an anti-clockwise direction until a stop is felt. In this position the shutter button will stay permanently in the lower level.













II. Unloading the Camera (after the 36 exposures have been made)

- Press down the shutter release button and lock it as directed in I, 11.
 Then wind on the shutter winding knob until the end of the paper trailer is reached. This point is found by noticing when the rewinding knob (I) no longer revolves when the shutter winding knob is turned.
- 2. Again release the shutter release button as in I, 13.
- 3. Take off the camera back, as in I, 1, 2.
- Remove the full spool and stick down the end of the paper trailer with the gumstrip provided.
- 5. Transfer the now empty spool from the left-hand chamber to the right-hand chamber. Always hold the leaf spring away from the spool when removing it from the camera.

III. The Distance Meter — View-Finder Combination

Focusing in the Contax II is done exclusively with the distance meter—view-finder combination, which guarantees sharp focus under all circumstances, since the distance meter is coupled to the lens. The view-finder field shows the camera field when using the normal Contax lens of 2" (5 cm) focal length. For all other lenses special finders are used, that fit into the finder shoe (k) on top of the camera.

By looking through the eyepiece (s) of the distance meter and view-finder, a lighter rectangular portion of the field in the centre of the picture will be seen to have a lighter shade, in which a double image of the object included in that portion of the field is easily detected. By turning the small wheel (h)





one of these images will be seen to move sideways, and when the two images fuse into a single one, the lens is accurately focussed at the distance of the object seen in that portion of the field.

It should be noted that this adjustment must be made with the object on which focus is desired in the centre of the lighter rectangular field, and not at the left or right-hand edges.

The small lever (i) behind the focussing wheel (h) releases the infinity catch on the mechanism. When the wheel (h) is turned to focus, the catch is automatically pressed down and the focusing device is put into action.

IV. The Focal-Plane Shutter

1. Setting the shutter speeds

Shutter speeds are set by adjusting the shutter winding knob (e). This is done by lifting the knob (e) against a strong spring and turning it (still in the raised position) until the black dot on its peripherie is opposite the exposure time desired. (The engraved numbers 2, 5, 10, 25 etc. indicate speeds of $\frac{1}{2}$, $\frac{1}{2}$, sec.) At this point the knob is



released, and it will drop into position, since a catch (not seen) holds the knob against the exposure time that has been selected. The catches for the $^1\!/_{500}$ th and $^1\!/_{1250}$ th of a second speeds are very close to each other. The $^1\!/_{500}$ th speed is set by lifting the knob and turning forward from $^1\!/_{250}$ th second until the eatch allows the knob to drop into position. When setting the shutter to $^1\!/_{1250}$ th second the knob is raised and turned as far towards the marking $^1\!/_{1250}$ as it will go, and in the correct position it drops into place as the catch is reached. By this means the correct exposure times are set with certainty.

When setting shutter speeds it is essential that the shutter is either fully wound up or fully run down. In both these positions the black dot may be set to the desired figure. It should also be noted that when changing from a slower speed to a higher one, a certain amount of resistance is felt when turning the knob. This is due to the spring loading of the shutter slit, which must be altered for the different speeds, and the knob must be wound against the extra tension. If it is desired to have the shutter open fully, set the knob to "B" and then lock the shutter release button down by pressing it to release the shutter and turning it in an anti-clockwise direction. The shutter may be closed later by turning the knob back in the clockwise direction until it rises to its normal working level.

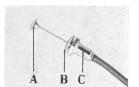
2. Shutter winding and film transport

Wind up the shutter by a complete turn of the winding knob. In doing so take care that the knob is turned till a definite hard stop is felt. The film will then at the same time be wound on a complete picture. The exposure is made by a light pressure on the knop (f) till it comes to a stop.

3. Flexible wire release

For long "Time" exposures a special flexible wire release is delivered with the Contax II which is screwed into the thread of the shutter release button (f). This release is different from ordinary types in having a moveable plate B between the pressure stud A and the socket C. By setting the shutter to "B" and pressing the stud A of the wire release, the shutter opens, and remains open until the plate B of the release is pressed with the thumb.





This wire release can be used for short time exposures and for ordinary snapshot exposures merely by turning the moveable plate B to the right, which presses it down into the socket C. In this position the release works just in the same way as the ordinary type.

4. Delayed-action shutter release

The Contax II has a built-in delayed-action shutter release, which operates the shutter some ten seconds after the mechanism has been set in action.

The shutter is first wound up in the normal way, and then the delayed-action mechanism is wound by pulling the lever (b) to the left (anti-clockwise) as far as it will go.

The clockwork is set going by pressing the release button (a) in the direction of the arrow engraved on it, and the same exposures may be given in the normal way. With the shutter set to "B", the delayed-action mechanism will give an exposure of approximately one



second, and then close the shutter. Even when the delayed-action mechanism is fully wound the shutter time may be set or the shutter wound up, but this can only be done with the delayed-action device either fully wound or else fully run down.

5. Using the Contax II without a Tripod

On the rectangular camera bush of the Contax II is a hinged foot (q), which is usually folded backwards against the base of the camera. When, however, it is desired to hold the camera firmly, particularly when using the large-aperture Sonnar lenses, the foot may be turned over and pointed forwards, so that the camera will stand up on a table or other flat surface. When using the foot for this purpose the camera is quite firm and well balanced.





V. The Lens and interchangeable Bayonet Mounting

When the camera is not in use, the collapsible 2" (5 cm.) lenses — Tessar f/3.5, Tessar f/2.8, and Sonnar f/2 are pushed backwards into the camera body, and before making an exposure they must be pulled forward into the correct position. This is simply done by holding the lens by the larger milled ring, pulling it out from the camera body as far as it will go, and then locking it into position by turning it to the right until a stop is felt. After exposure the lens may be turned to the left once more and pushed back into the body of the camera for convenience in carrying.

The adjustment of the lens aperture is made by turning the milled ring on the lens, which is made in different patterns in the various lenses. It is important to





set the lens aperture before focussing, since the latter adjustment may be altered by turning the lens aperture ring to adjust it correctly.

The camera has a scale of focussing distances for the 2" (5 cm.) focus lenses. On either side of the focussing mark (a black dot or line) are also a number of aperture numbers that indicate the depth of focus. With this device the appropriate depth of focus for any particular aperture and focussing distance can be



aperture and rocussing distance can be read off. For example: with the Tessar f/2.8 (2"-5 cm.) focussing on a distance of 8 feet, the depth of focus at f/8 lies between 12 feet and 6 feet. The depth of focus scale is based on a circle of confusion of $^{1}/_{20}$ th of a millimeter. (See also the special tables of depth of focus used in miniature camera work.)

Changing the lenses:

Lenses of 2" (5 cm.) focal length are placed in the inner bayonet mounting of the camera, and all other lenses in the outer mounting.

1. Removing the 2" (5 cm.) lenses

The camera focussing mount is first set at infinity. Then the thumb is

pressed on the spring (n) so that the projection on the lens barrel, marked with a red dot, slides out of the spring catch holding it. A slight turn of the lens in a clockwise direction releases it, and it may then be carefully drawn out of the helical focussing mount.

2. Replacing the 2" (5 cm.) lens

The lens is inserted into its mounting by reversing the operations mentioned above. It is important to remember that the lens will only fit easily into the mount when the two red dots are opposite each other, and when the lens is held in the same plane as the front of the camera. By slightly turning to the left, the lens slips past the catch (n) and the latter snaps back, holding the lens firmly in the infinity position.





3. Inserting other lenses than 2" (5 cm.) focal length

All lenses other than those of 2" focal length are placed on the outer bayoner mount. The lens is held so that the two red dots, one on the camera front and the other on the lens itself, are opposite each other, and the lens is then turned to the left until a stop is felt. The catch on the side of the lens will then be heard to snap into position.

The removal of the lenses fitting the outer bayonet follows the procedure of inserting them. The side catch must first be lifted with the thumb, and then the lens is turned through 90° to the right, in which position it may be removed from the camera. The long-focus lenses are also coupled to the distance meter for focussing, and in order to make sure that the mechanism is working correctly, the fo





cussing ring on the lens should be turned. When this is done, the focussing wheel (h) on the camera should also revolve. It is extremely important to note that when using long-focus lenses the focussing must be done by adjusting the ring on the lens and not by turning the usual focussing wheel (h) on the camera. The gear ratio of the mechanism is so high with these lenses that turning the usual wheel may damage the mechanism.

Since the centre of gravity lies in the lens when using a long-focus lens, it is desirable to hold the camera for exposure by grasping the lens with the left hand. This hand will then attend to the focusing, while the right hand steadies the camera and operates the shutter. The special finders for long-focus lenses are placed in the finder shoe on top of the camera, since the distance meter viewfinder is not equipped with masks.





VI. Making the Exposure

In the open air, the ever-ready carrying case protects the Contax from dirt and moisture. If it is desired to hang the camera round the neck without using this case, the eyelets (d) may be used to attach the strap.

The camera should be held firmly, but not so firmly that the arms become cramped, in the hollow of the hands. Focussing is done by the middle finger of the right hand, while the forefinger of this hand operates the shutter release. This should be practised until one's technique is perfect, if only because the method given above does away with the hasty change of the forefinger from the focussing wheel to the shutter release, which is necessary if one finger is used for both controls. With practice and care it is quite possible to hold the camera still for the longer exposures of





¹/₁₀th, ¹/₅th, and even ¹/₂ a second without incurring camera shake.

The illustrations show the correct way of holding the camera for both horizontal and vertical pictures. It will also be seen that the shutter release should be pressed with the ball of the finger and not with the finger-tip. Having big hands it is better to use the first joint of the forefinger for this operation, as is clearly seen in the lower illustration of this page.

The important points to observe for each exposure are:

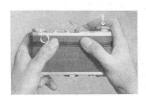
Adjust the lens aperture to the desired number.

Set the time of exposure by the shutter winding knob.
 Focus the object to be taken with

3. Focus the object to be taken with the distance meter.

4. After each exposure wind up the shutter immediately, so that the camera is always ready for use.





VII. Working with further types of film packings commercially available

Besides the Contax Spool and the Contax Short Spool there are still other packings of perforated 35 mm. wide for miniature cameras, which in the majority of cases can be found suitable for the Contax. Only those kinds of chargers, cassettes, or cartridges can however be used that are small enough to fit the spool chambers of the camera comfortably, as otherwise it may happen that the film jams in the camera instead of winding on correctly. In particular, the knob of such spools or chargers must have a hollow in it that will fit the projecting stud in the revolving keys that lock the back of the Contax II into place.

All film cartridges need to be rewound after the 36 exposures have been made.





For this purpose, the rewind release knob (y) is pressed inwards and the film rewound into the cartridge by turning the rewinding knob (l) in the direction of the arrow (see lower ill. page 28). Since nearly every kind of film made for miniature cameras is now available in the form of Contax spools, these should be used if possible, in order not to have to wind the

film twice through the picture aperture of the camera. Before inserting cartridges the shutter has to be wound up and the counter disc has to be set to No. 37. The cartridge is now placed in the left hand feeding spool chamber (r). The end of film projecting out of the cartridge is threaded through the large slot of the take-up core and bent backwards quite shortly (approximately 2—3 mm). Then sufficient film is wound on the take-up core that when placing it in the spool chamber, the teeth of the feeding sprocket engage with the perforations on both sides.

When using composition spools the beginning of the film is hooked on the tooth of the spool (see previous remarks in section I). Then sufficient film is wound on to the spool so that when it is put into the spool chamber the sprockets can already grip the perforations on both sides.

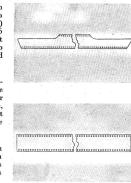
the sprockets can already grip the periodations of hoth sixes. The camera is now closed in the usual way, the shutter wound and released twice. After having wound up the shutter again the first frame of the film which has not been exposed to the light is in the gate.

Naked cinema film may be obtained in lengths of approximately 16 feet, 32 feet, 50 feet, and 82 feet, from which lengths may be cut and loaded

into the camera. The ends of the film must be cut to the correct shape with the Zeiss Ikon cutting guide (No. 541/16) and a length of 62½ inches will give 36 exposures in the Contax II. Ready-cut lengths of film for 36 pictures are also on the market, and these may be loaded into the cassette in the dark-room.

For composition spools the film is already suitably cut, as the lower picture shows. A length of 62¹/₂" is sufficient for 36 pictures and the margins. There are, as well, ready cut lengths of different makes which can be loaded into the cassette in the darkroom.

Zeiss Ikon Orthochrom and Panchrom films are available as Contax-Spool in prepared lengths (621/2") for 36 pictures (on cardboard cores) and in uncut lengths of 16, 50 and 82 ft.



VIII. Loading the Contax II with

- A. Loading the cassette with film
- 1. Cassette, empty, and closed.



Press down the small nickeled button and turn in direction of the arrow until the apertures in the two containers are over each other.



3. Draw the two containers apart.



4. To fasten the film strip on the (Metal) core fold over only a little way (emulsion side inwards) and push into the wide slit of the take up spool. This ensures that, in rewinding, the film end slips out easily. When using composition spools cut the film as shown in the lower picture on page 30 a slip under the tooth of the spool. Wind the film on to the core and with the spool knob in front put it into the inner container.



5. Slide the two containers together, with the end of the film outside.



6. Close the cassette by giving half a turn in direction of the arrow. The word "zu" (= shut) should then be visible.



B. Loading the film into the take up cassette

- 1. Open and take apart as A 1-3.
- Thread the beginning of the film in the (Metal) spool and fold ¹/₈" towards the outside.
 For composition spools hook the beginning of the film on to the tooth of the spool.
- Slide the inner and outer containers over the core.





4. Close the cassette by turning until the word "zu" (= shut) is visible.

C. Loading the cassette into the camera and shutting the latter

Place the cassettes into the spool chambers so that the outer small projecting piece (marked "z" in the illustration) lies in the channel cut in the spool chamber to receive it. (It is preferable to use two cassettes in the camera rather than one only.) When loading, the cassettes must always be shut the word "zu" must be visible on them. When the camera back is replaced and the locking buttons are turned, the action will open the two cassettes, and the film will run freely through the picture aperture and over the sprocket teeth.





IX. Accessories for the Contax II

1. The Contax lenses:

Wide-angle Tessar f/8 = focal length $1^{1}/_{8}$ " (2.8 cm.)

Orthometar $f/4.5 = 1^3/s''$ (3.5 cm.) Biogon $f/2.8 = 1^3/s''$ (3.5 cm.) Biotar $f/2 = 1^9/s''$ (4 cm.) Tessar f/3.5 = 2'' (5 cm.) Tessar f/2.8 = 2'' (5 cm.) Sonnar f/2 = 2'' (5 cm.) Sonnar f/3.5 = 2'' (5 cm.) Triotar $f/4 = 3^3/s''$ (8.5 cm.)

- Filters: either push-on or screw-in pattern:
 White (ultra-violet), yellow, orange, yellow-green, green, light red, red, deep red, black-red (infra-red).
- 3. Push-on and screw-in lens hoods for all types of lenses.

4. Proxar supplementary lenses of one or two dioptres, for push-on or screw-in fitting, to enable exposures to be made on distances nearer than 3 feet. The focussing distances involved are given in the following table:

Proxar lenses on Contax II at stop f/8

Camera lens set to	Focus obtained with Proxar 1* Focus obtained with Proxar 2* Distance measured from the object to the supplementary lens		Camera lens set to	Focus obtained with Proxar 1* Focus obtaine with Proxar 2 Distance measured from the object to the supplementary lens	
\$\infty\$ 100 60 50 30 20 15 12	3′2″ 3′1¹/₄″ 3′¹/₂″ 3′¹/₂″ 2′10¹/₂″ 2′9″ 2′7¹/₂″ 2′6¹/₂″	1'8" 1'73/4" 1'771/2" 1'71/2" 1'71/2" 1'61/2" 1'6" 1'51/2"	10 9 8 7 6 5 4	2′5 ¹ / ₄ ″ 2′4 ¹ / ₄ ″ 2′3 ¹ / ₂ ″ 2′2 ¹ / ₂ ″ 1′11 ¹ / ₂ ″ 1′9 ¹ / ₂ ″ 1′6 ¹ / ₄ ″	1'5" 1'43'4" 1'41'2" 1'4" 1'31'2" 1'3" 1'13'4" 1'3'4"

Push-on supplementaries are made for lenses of 27 and 42 mm. diameter, and screw-in supplementaries for 25.5 and 40.5 mm. diameter.

36

5.	Sight	correcting lenses for defective sight.	
6.	Plate	back adapters and single dark-slides for exposures on plates	iı
	the 3	$\times 4.5$ cm. $(1^{1}/_{4} \times 1^{3}/_{4})$ size.	

- 7. View-finders for various focal lengths of lens.
- 8. The Contameter an optical near-focussing device for exposures at distances of 8 inches, 12 inches, and 20 inches without measurement of distances being required.
- 9. "Helios" photoelectric exposure meter for fitting on the finder shoe.
- 10. Small portable tripod No. 1621 for serial exposures with the Contax and also specially recommended for the slow instantaneous speeds. Can be used only without Ever Ready Case.
- 11. Reproduction apparatus in different sizes for reductions of 1-20 times.
- 12. Micro-attachments for photo-micrography.
- 13. Enlargers: fixed focus, variable enlargement (hand adjusted), and variable enlargement (automatic focussing).
- 14. Developing tanks and accessories.
- 15. Various devices for printing transparencies.
- 16. Projection lanterns for monochrome and colour projection.

Special accessories for scientific photography.

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