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KONICA



INSTRUCTION BOOKLET

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KONISHIROKU PHOTO IND.CO , LTD. is grateful for your special interest in the KONICA line of outstanding cameras.

Your KONICA FP is a vastly improved version of the KONICA FS, a highgrade pentaprism type reflex camera which has won acclaim throughout the world. The new Model FP features extra sharp focusing by virtue of the patented "microdiaprism" focusing spot for easy and accurate judgement of precise adjustment in conjunction with the extremely high resolving power of the superb HEXANON lenses. The accurate and efficient metallic focal plane shutter permits full synchronization at all shutterspeeds with class M flashbulbs, and at speeds up to 1/125 second with instantaneous electronic flash equipment. Quick return mirror in conjunction with fully automatic aperture reduces viewing blackout to a minimum, while all the conveniences, including cross-coupled, cadmium sulphide KONICA LIGHTMETER for automatic exposure control, are available. Your satisfaction is guaranteed.

A full range of HEXANON interchangeable lenses, from wide-angle to telephoto, equipped with quick change KONICA mount as well as copying and close-range accessories makes your KONICA FP the most versatile of all 35-millimeter miniature cameras.

CAUTIONS

- When fitting or removing lens, do not touch manual aperture lever.
- Never touch the reflex mirror. To remove dust, use a soft hair brush.
- Never tamper with the shutter mechanism. Besides being precisely adjusted, the metallic vanes are paper-thin.
- Never operate cocking lever while shutter is in action.

KONICA



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FP

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GENERAL DESCRIPTION

Negative Size..... 24 × 36 mm

Film Used 35-mm in safety cartridge

Standard Lens.....HEXANON f/1.4, f=52mm, 7elements in 5groups or HEXANON
f/1.8, f=52mm, 6elemets in 5groups, improved amber coated,
minimum focusing range 2 feet

Lens MountBayonet type **KONICA mount** (40-mm diameter, flange back
40.5mm)

Aperture MechanismFull automatic with manual control for depth of field
checking

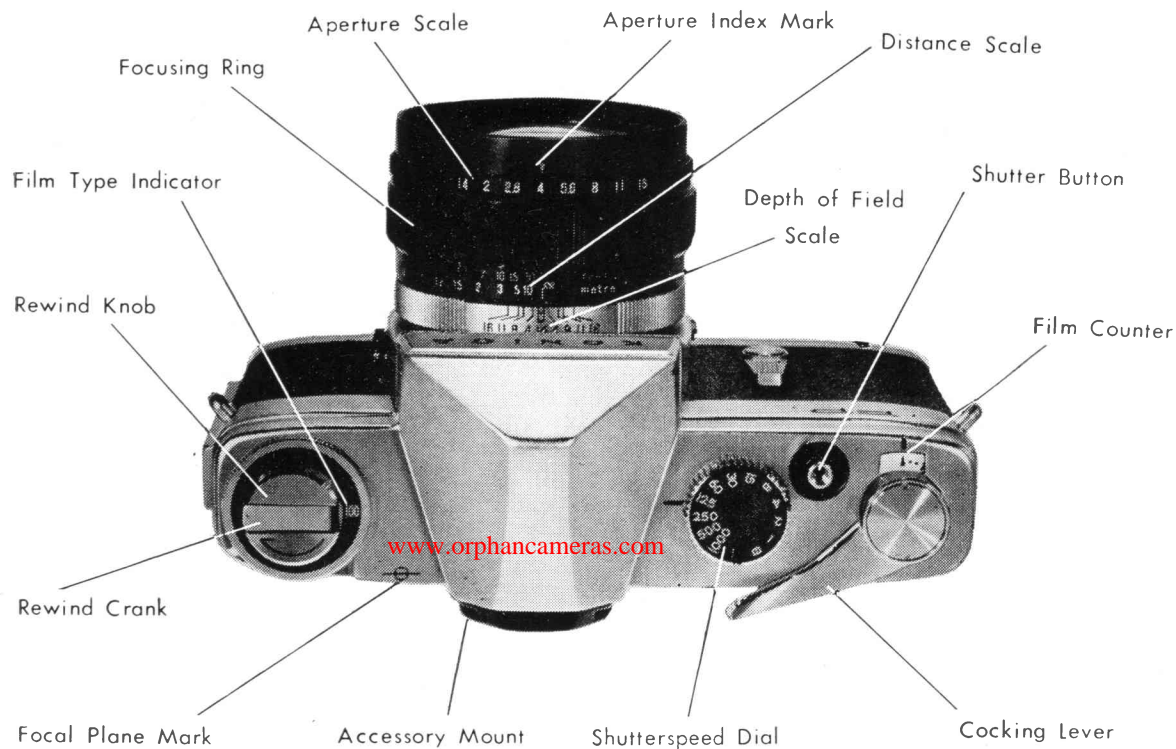
ViewfinderFull negative size, pentaprism reflected, correctly oriented
image. Eye-level viewing

Focusing"**Microdiaprism**" focusing spot at center of viewing field for
quick and accurate focus adjustment

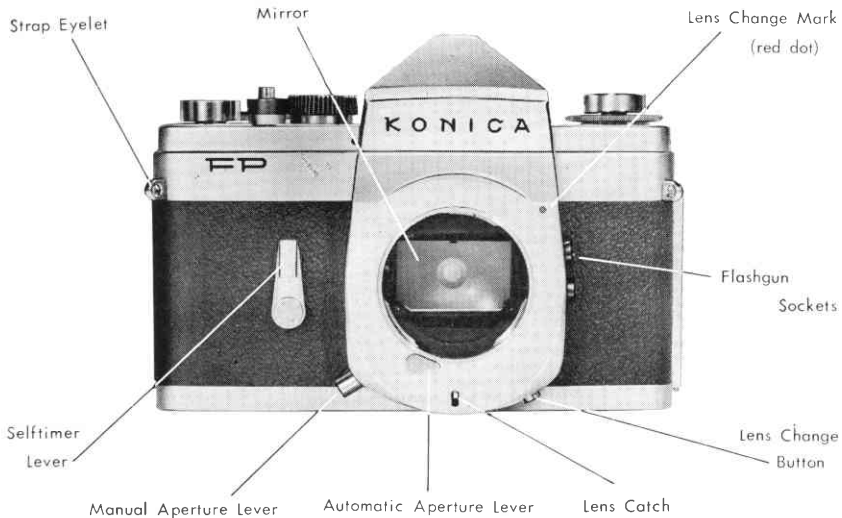
Reflex Mirror.....Lower edge rectilinear rise type, designed of instantaneous
return

- Shutter.....**COPAL SQUARE METALLIC** focal plane type. Single non-revolving adjustment knob scaled equidistantly in multiples of 2 : **B. 1. 2. 4. 8. 15. 30. 60. 125. 250. 500. 1000** Cross-couples with clip-on type **KONICA CdS LIGHTMETER**
- Selftimer.....Self-contained in camera body. Maximum delay setting angle **70°** Maximum action delay about **10** seconds
- Synchroflash**M** and **X** settings by **JIS** type **B** sockets. Full flash synchronization at all shutterspeeds with class **M** flashbulbs, **M** setting (automatic time lag adjustment) up to **1/125** second with electronic flash, **X** setting
- Cocking ActionSingle-stroke, thumb-operated cocking lever (swing about **180°**) Simultaneous film wind and shutter cocking Positive prevention of multiple exposure
- Other FeaturesSelf-resetting film counter; crank film rewind; self-resetting film rewind button & c.
- Lens HoodSpecial slip-over type, **57**mm diameter
- FiltersScrew-in type, **55**mm diameter, **.75**mm pitch
- Dimensions and Weight ...**145 × 102.5 × 85.5**mm **1050**grams (w/standard lens f/1.4)
145 × 102.5 × 80 mm **958**grams (w/standard lens f/1.8)

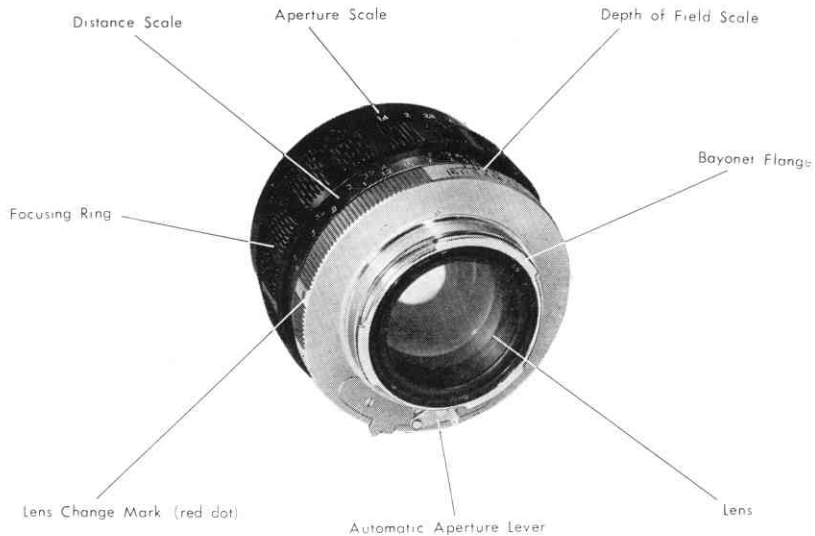
NOMENCLATURE — I



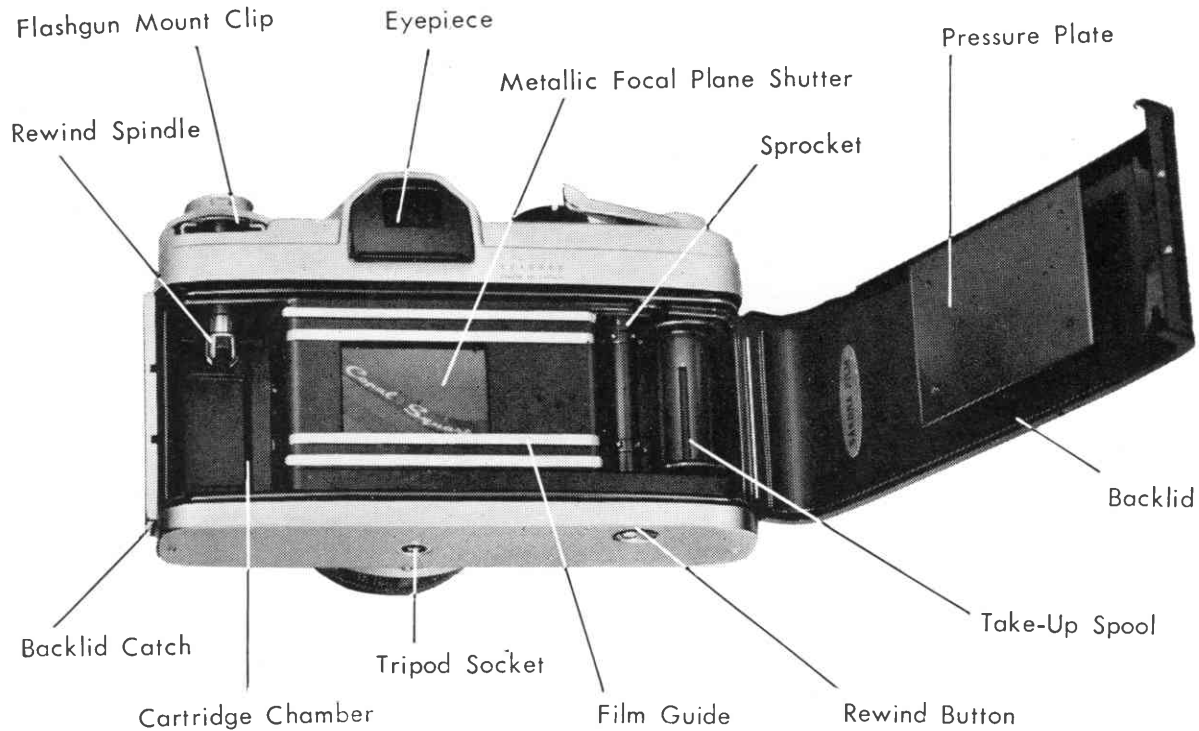
NOMENCLATURE — 2



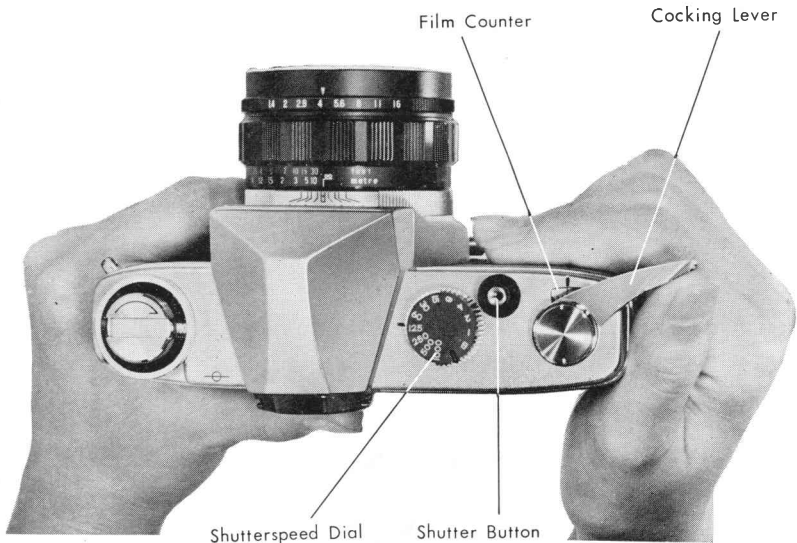
NOMENCLATURE — 3



NOMENCLATURE — 4



COCKING LEVER OPERATION



Film Counter

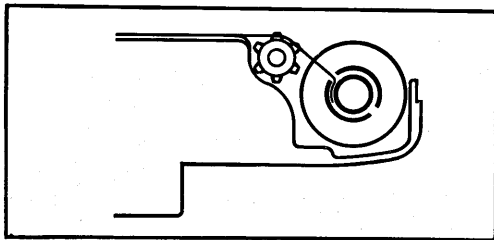
Cocking Lever

Shutterspeed Dial

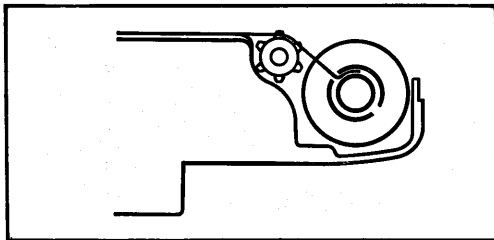
Shutter Button

- When the cocking lever is moved fully through its stroke, the film is advanced one frame, the mirror return mechanism is set, and the shutter is cocked.
- With each full stroke of the cocking lever, the film counter moves one step up to 36 where it becomes disengaged. When after rewind of exposed film into its safety cartridge the backlid is opened, the film counter automatically returns to the triangular start mark.
- Cultivate the practice of cocking immediately before taking a picture. It is harmful to keep the shutter and mirror mechanism cocked and under tension for too long, while, by leaving your camera uncocked until ready for picture taking the risk of unintentional exposures is minimized.
- Shutter speed adjustments may be made either before or after cocking.
- The cocking lever may jam part way through its stroke when the end of the film is reached. In this case, keep the rewind button depressed when operating the cocking lever. Its stroke can be completed so that return to original position will take place.

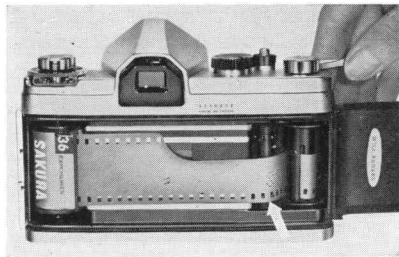
- Insert end of film in the manner shown here. It will disengage easily upon completion of rewind after picture-taking.



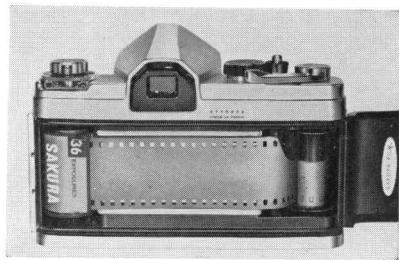
- If the film is inserted in the manner shown here, it will not come off the take-up spool at the end of the rewinding operation. In this case, do not apply force to the rewind crank. Open the backlid, and release film by using your fingertip.



④ Making sure that the perforations on the lower side of the film engage the teeth of the sprocket, operate the cocking lever. The film should be wound smoothly onto the take-up spool.

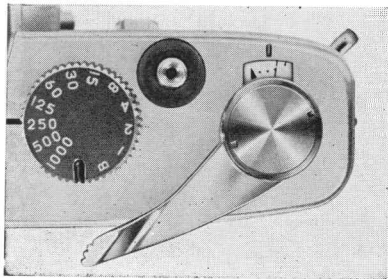


⑤ Push shutter button, and repeat cocking action until perforations on both sides of the film are caught on the sprocket. Close the backlid. Turn the rewind knob clockwise (as indicated by the arrow mark) to take upslack.



- 6 Operate the cocking lever twice.
Then the film counter will indicate
the dot preceding numeral 1

The loaded film is now in proper
position for its first exposure.

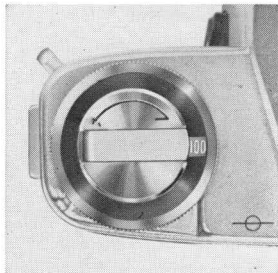


- If the film is correctly loaded, the rewind knob should turn counterclockwise (against the arrow mark) when the cocking lever is operated. If the rewind knob does not turn, the film is not being taken up properly. Open the backlid and check the loading operations step by step.

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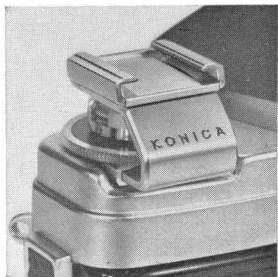
FILM RATING AND TYPE INDICATOR

After loading your camera with film, set the film indicator to show the speed rating (ASA number) and type (monochrome or color) of the film you are using. Blue is for monochrome or color negative; red is for color positive (reversal).

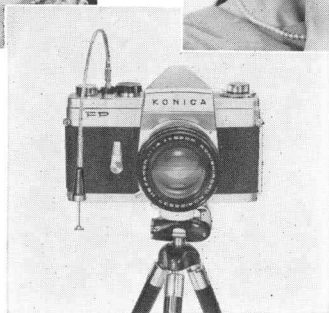
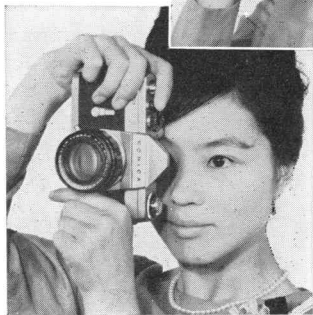
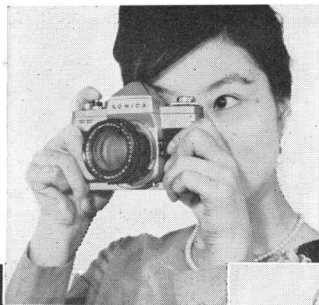


FLASHGUN MOUNT

This special accessory is used for attaching a flashgun or electronic flash head to your camera. When the flashgun mount is fitted in the clip under the rewind knob, your **KONICA FP** can be readily equipped with such flashguns as the **KONIFLASH III** or **KONIFLASH III M**.



PICTURE-TAKING



With your **KONICA FP** loaded with film, first decide on the combination of shutter speed and aperture that will give correct exposure for the subject you intend to photograph. Set your selected shutter speed and aperture values. Sight your subject through the eyepiece and viewfinder, then turn the focusing ring to obtain maximum sharpness.

Gripping your camera with both hands, and holding it firmly against your face to obtain maximum steadiness, compose your picture in the viewfinder. With great care not to impart the slightest jerk, gently apply fingertip pressure to the shutter button. You now have an imprint of your subject on your film.

Before taking your next picture, operate the cocking lever to advance the film one frame. Repeat the steps described above for picture-taking. When the film in your camera has been used up, and you have made **20** or **36** exposures, rewind the film into its safety cartridge (the rewind operation is described later), open the backlid, and remove the safety cartridge now holding exposed film.

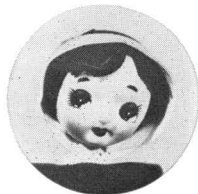
To mount your **KONICA FP** on a tripod, screw the tripod head into the tripod socket on the base plate. A cable release can be screwed into the screw socket at the center of the shutter button.

FOCUSING AND SIGHTING

Focusing Sight your subject through the eyepiece and viewfinder. Turn the focusing ring to obtain the sharpest possible image. In the **KONICA FP** cocking action introduces no error due to shift of mirror position. Accurate focusing is possible at any time, either before or after operation of the cocking lever.

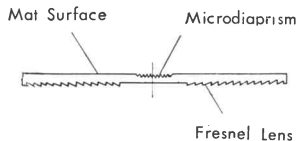
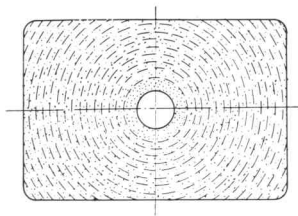


Subject is out of focus

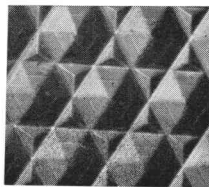


Subject is in sharp focus





Magnified view of a portion of the "microdiaprism" screen.



The "microdiaprism" focusing spot is a unique **KONISHIROKU** development consisting of a geometrical pattern of hexagonal prisms of minute size. This special focusing screen shows the subject sharp and clear and intact when in proper focus, but when there is even a slight error of adjustment the image is minutely broken up in six directions. This permits focusing of extreme accuracy with maximum ease.

Focusing by means of point sources of light at night is particularly easy since a distinctive pattern becomes visible when focusing is correct.

The **COPAL SQUARE** metallic focal plane shutter of your **KONICA FP** is notably durable and is not affected by extremes in heat and cold. The transit speed of its vanes is extremely fast (about **7.5** millisecond across the shorter distance), while because the "slit" is wide even at high shutterspeeds the timing is accurate and uniform. Distortion of subjects in rapid motion does not occur. Because automatic regulation of time lag is provided, full flash synchronization is possible at all shutterspeeds up to and including **1/1000** second in conjunction with class **M** flashbulbs, and up to **1/250** second at **X** setting with electronic flash equipment. The shutter dial couples to the **KONICA CdS** (cadmium sulphide) **LIGHTMETER** which clips on over the pentaprism housing of your **KONICA FP**.

The Shutterspeed Dial click stops at all settings from B to 1000. The colored numeral 125 indicates the top speed for electronic flash synchronization.

Function of the Shutter

- 1 One of the functions of the shutter is to stop or freeze moving objects. High shutterspeeds are used to prevent blurring of subjects in rapid motion. For a given motion, the closer the subject the higher must be the shutterspeed to eliminate blurring.
- 2 Another important function of the shutter is to regulate the amount of light reaching the film. While the aperture functions by controlling the intensity of the light, the shutter controls the time during which light is permitted to enter the camera.

Shutterspeed Settings											
B	1	2	4	8	15	30	60	125	250	500	1000

Aperture Settings are equidistantly spaced, increase or decrease of aperture size by a step means doubling or halving of the intensity of the light passing through the lens. At $f/4$, the intensity of the light impinging upon the film is half that at $f/2.8$. $f/4$ gives double the exposure of $f/5.6$. However, intermediate steps can be used because aperture size change is continuous. In the **KONICA FP**, the aperture mechanism is fully automatic to provide full aperture for viewing and focusing, with automatic close down to pre-determined value only at shutter action or by manual operation for checking depth of field.

Function of the Aperture

- ① Regulation of the intensity of the light passed through the lens. When the subject is dimly lit the aperture must be opened up, while when extremely strong light is encountered the aperture is closed down.
- ② Regulation of the depth of field (focusing tolerance) The larger the aperture the smaller becomes the available depth of field, and vice versa.

Aperture Settings								
$f/1.4$	1.4	2	2.8	4	5.6	8	11	16
$f/1.8$	1.8	(2)	2.8	4	5.6	8	11	16

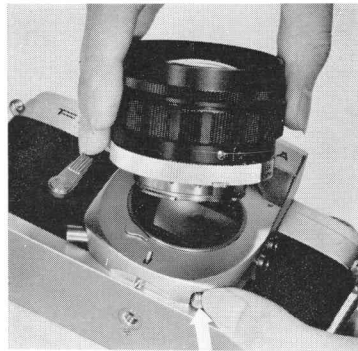
Relationship Between Shutterspeed and Aperture

Correct exposure in picture-taking is obtained by a proper combination of shutterspeed and aperture settings. Correct exposure means giving the film the right amount of light to obtain proper density and gradation from highlights to dark shadows. As already mentioned, the factors to be considered for correct exposure are filmspeed, the nature of the subject, and the various conditions of lighting. Until experience is gained, it is advisable to rely upon the simplified exposure table, or upon a good exposure meter. Because both shutterspeed and aperture are scaled in steps of multiples of 2, exposure can be halved or doubled simply by shifting one of the two controls by a step. For instance, if your camera is set at $f/11$ at $1/250$ second, exposure can be doubled either by opening up the aperture to $f/8$ or by reducing shutterspeed to $1/125$ second. By the same token, exposure can be kept unchanged if shutterspeed and aperture settings are shifted together step-by-step in a given relationship. For example, $1/250$ second at $f/8$, $1/125$ second at $f/11$, and $1/60$ second at $f/16$ should give identical exposure results.

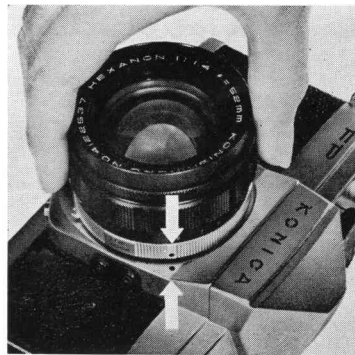
LENS CHANGING www.orphancameras.com

- Because the interchangeable lenses for your **KONICA FP** are provided with bayonet type, triple flange **KONICA** mount fittings, they can be speedily fitted or removed by a slight twist of about $1/6$ turn.

To Remove Lens While keeping the lens change button depressed, turn lens counterclockwise to the left until it stops (and the red dots on the lens and body are in alignment). The lens can then be lifted out.



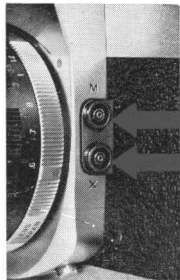
To Attach Lens Match the lens change marks (red dots) on the lens barrel and camera body, and gently lower lens into the body. Turn to the right (clockwise) until it comes to a full stop with the lens catch locking the lens in position.



- Upon attaching the lens to the body, the automatic aperture levers of the body and the lens couple automatically.
- When attaching lens, be sure that you do not touch the manual aperture lever.

SYNCHROFLASH PHOTOGRAPHY

The KONICA FP COPAL SQUARE focal plane shutter permits full flash synchronization up to 1/1000 second using class **M** flashbulbs, and up to 1/125 second with **electronic flash**.



When using Class **M** Flashbulbs, plug the flashgun cord connector into the socket marked **M**. Use socket marked **X** for **electronic flash** equipment.



Synchroflash photography is accomplished by means of the light emanating from a flashbulb or electronic flash tube. Correct exposure is determined by the intensity of the flash and the distance between the flash and the subject. A guide number is indicated for each type of flashbulb. Dividing the guide number by the distance between the light source and the subject will give you the aperture value for correct exposure.

FLASH SYNCHRONIZATION TABLE

Setting \ Flashbulb		Shutterspeed										
		1	2	4	8	15	30	60	125	250	500	1000
M	Class M	○	○	○	○	○	○	○	○	○	○	○
	Class FP	○	○	○	○	○	○	○	○	○	○	○
	Class F	○	○	○	○	○	×	×	×	×	×	×
X	STROBE	○	○	○	○	○	○	○	○	×	×	×
	Class F	○	○	○	○	○	○	×	×	×	×	×

○ mark proper synchronization.

× mark non-synchronization.

For example: with the Toshiba Super O flashbulb in conjunction with ASA 100 film the guide number for shutterspeeds up to 1/50 second is 42. If the distance from flash to subject is 5 meters, then the aperture setting for correct exposure is $42/5 \doteq 8$ (f/8)

SELFTIMER OPERATION



The selftimer lever can be set either before or after cocking. The maximum setting angle is about 70° and this will give about 10 seconds delayed shutter action.

- The selftimer can be used for all shutterspeeds except B (bulb).
- To shorten delay time, use smaller setting angle.
- Shutterspeed can be changed after selftimer is set.
- In addition to use of selftimer for self-photography, it is specially useful in close-range, copying and microscopic photographs as well as when camera jerk must be assiduously avoided.

DEPTH OF FIELD

Once your camera is properly focused on a certain subject, there will be a certain range, in front of and behind the point of exact focus, within which sharp register of image can be achieved. This range, which depends on aperture size and distance, is known as the depth of field (focusing tolerance). The following are the attributes of depth of field:

- At a given distance, depth of field is greater the smaller the aperture, and vice versa.
- At a given aperture setting, depth of field is greater the greater the distance between camera and subject.
- The depth behind the point of exact focus is greater than in front.
- For a given aperture size and distance, the depth of field is greater the shorter the focal length of the lens in use.

With your **KONICA FP** the available depth of field can be checked in two ways:

- 1 Visually, by operation of the manual aperture lever to obtain a viewfinder image identical to that which will register on the film.
- 2 By referring to the depth of field scale adjacent to the distance scale.

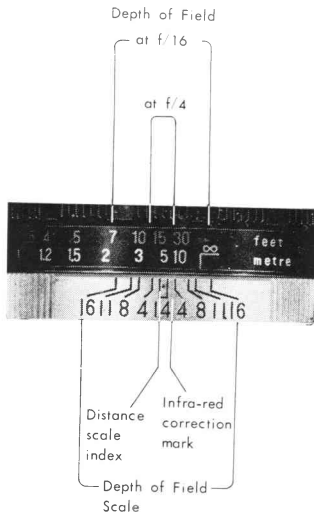
Visual Check



Normally, the viewfinder image is at maximum brightness at full aperture (giving minimum depth of field). Operation of the manual aperture lever closes down the diaphragm to pre-set value, and it is possible to check by sight how sharply what objects will actually register.

- It is possible, by sighting your subject while keeping the manual aperture lever depressed, to adjust the aperture ring to give the desired amount of depth of field.

Depth of Field Scale



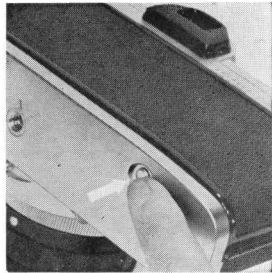
Scale graduations are provided on both sides of the distance scale index mark. The range bracketed by the aperture (f/) value in use is the depth of field available.

Infra-Red Correction Mark

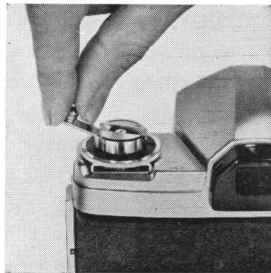
When using infra-red film in conjunction with filters of reddish hue for infra-red photography, first focus in the normal way. Note the distance on the distance scale, and shift that distance to the infra-red correction mark (red numeral 4) to obtain corrected focus.

1. Push in the rewind button (it is self-resetting, so a single push suffices)

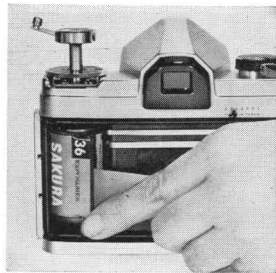
- When the film in your camera has been used up, the cocking lever may stop part way through its stroke. In such cases, never apply force.
- If the cocking lever jams at end of film, push in the rewind button and keep depressed while pushing the cocking lever to end of its stroke to permit it to return to original position.



② Erect the rewind crank, and turn clockwise in the direction indicated by the arrow mark. The exposed film will be wound back into its safety cartridge



③ When all the exposed film is taken up into the safety cartridge, open the backlid, pull out the rewind knob, and remove the safety cartridge.



- When at completion of rewind the end of the film becomes detached from the take-up spool, there will be felt some resistance followed by a sudden easing. Stop rewinding immediately if you wish to leave the end of film protruding from the safety cartridge.
- Work in the shade when removing safety cartridge from your camera.

INTERCHANGEABLE HEXANON LENSES



HEXANON f/2.8 f = 35 mm

w/full automatic aperture
w/presetting aperture

HEXANON f/2.8 f = 100 mm

w/full automatic aperture
w/presetting aperture

HEXANON f/3.5 f = 135 mm

w/full automatic aperture
w/presetting aperture

HEXANON f/3.5 f = 200 mm

w/presetting aperture

HEXANON f/4.5 f = 400 mm

w/presetting aperture

Lens Hoods and Filters
(UV, Y1, Y2, R1, R2)

Complete set of lenses in
wooden carrying case

The new **KONICA Cds LIGHTMETER** clips on over the pentaprism housing of the **KONICA FP**, and couples to the shutter speed dial of the camera. Because cadmium sulphide is used instead of the conventional selenium cell, the sensitivity range is vastly greater, while the coverage angle of about 40° approximates that of the standard lens facilitating exposure measurements from camera position.



TYPE Cds Cell, Reflected Light, 2-Range

RANGE : (using film of **ASA 100** rating) from **L_V 2** (1 second at f/2)
to **L_V 18** (1/1000 at f/16)

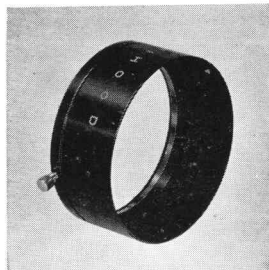
Power Source : 1.3 V mercury cell type **MD**

Power Source Check : Button provided for instantaneous visual check

Film Rating Range : from **ASA 6** (DIN 9) to **ASA 3200** (DIN 37)

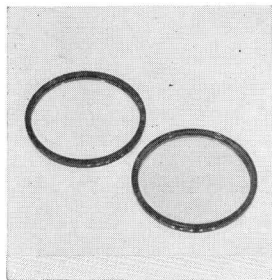
KONIHOOOD

The KONIHOOOD lens hood shields the lens from extraneous rays and reflections, and is particularly necessary for synchroflash photography. Designed for maximum efficacy, the lock screw prevents dislocation during picture-taking.

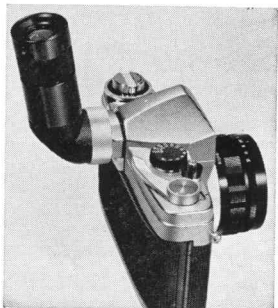


KONIFILTERS

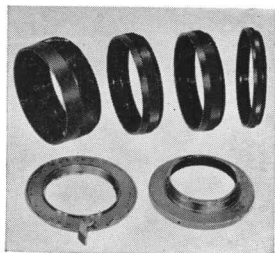
Optically precise and scientifically designed filters mounted in metal frames for screw-in mounting. Types available · SL 39 (UV), SY 48 (Y1), SY52 (Y2), SO56 (R1)



ANGLE FINDER ATTACHMENT



Permits sighting and focusing from above to permit low camera position as well as added convenience for closerange photography, copying and microphotography.



EXTENSION RINGS

Fitted between the body of the KONICA FP and the any interchangeable lens, these rings increase the focusing range to permit extreme close-up photography of high magnitude up to actual size. Various combinations for changes of range. Indispensable for copying works, documentaries, scientific and industrial applications & c.

CLOSE-UP AUXILIARY LENSES

These lenses screw into KONICA FP lenses to permit close range photography without disconnecting the automatic aperture mechanism.

Available in two ranges

1 for distances of 64 to 36 cm (2'01" to 1'02")

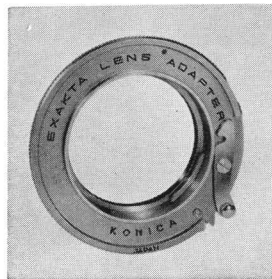
2 for distances of 36 to 28 cm (1'02" to 11")

The two combined permits shortening the distance to 24 centimeters. (9½")

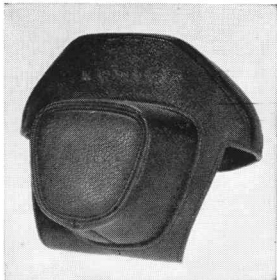


EXAKTA LENS ADAPTOR

This adaptor permits use of all EXAKTA type lenses on your KONICA FP.



CAMERA CASE FRONT COVER



This interchangeable camera case front cover permits permanent mounting of the **KONICA CdS LIGHTMETER** on your **KONICA FP**.



LENS EXTENSION BELLOWS

This flexible lens extension system permits versatile close-range work for copying, documentation, scientific and industrial photography, & c. Magnification from **X 1** to **X 2.5**.

DEPTH OF FIELD TABLE

HEXANON $f/1.4$, $f/1.8$ $f = 52$ mmcircle of confusion $3/100$ mm (in meters)

Meter F.No.	0.6	0.7	0.8	1.0	1.2	1.5	2.0	3.0	5.0	10.0	∞
1.4	$\frac{0.60}{0.61}$	$\frac{0.69}{0.71}$	$\frac{0.79}{0.81}$	$\frac{0.99}{1.01}$	$\frac{1.18}{1.22}$	$\frac{1.47}{1.53}$	$\frac{1.94}{2.06}$	$\frac{2.86}{3.15}$	$\frac{4.63}{5.44}$	$\frac{8.58}{11.98}$	$\frac{59.45}{\infty}$
1.8	$\frac{0.60}{0.61}$	$\frac{0.69}{0.71}$	$\frac{0.79}{0.81}$	$\frac{0.98}{1.02}$	$\frac{1.18}{1.22}$	$\frac{1.46}{1.54}$	$\frac{1.93}{2.07}$	$\frac{2.84}{3.17}$	$\frac{4.57}{5.52}$	$\frac{8.40}{12.37}$	$\frac{51.39}{\infty}$
2	$\frac{0.59}{0.61}$	$\frac{0.69}{0.71}$	$\frac{0.79}{0.81}$	$\frac{0.98}{1.02}$	$\frac{1.17}{1.23}$	$\frac{1.45}{1.55}$	$\frac{1.92}{2.09}$	$\frac{2.81}{3.22}$	$\frac{4.48}{5.66}$	$\frac{8.09}{13.10}$	$\frac{41.64}{\infty}$
2.8	$\frac{0.59}{0.61}$	$\frac{0.69}{0.72}$	$\frac{0.78}{0.82}$	$\frac{0.97}{1.03}$	$\frac{1.16}{1.24}$	$\frac{1.44}{1.57}$	$\frac{1.89}{2.13}$	$\frac{2.74}{3.31}$	$\frac{4.30}{5.97}$	$\frac{7.52}{14.96}$	$\frac{29.77}{\infty}$
4	$\frac{0.59}{0.61}$	$\frac{0.68}{0.72}$	$\frac{0.78}{0.82}$	$\frac{0.96}{1.04}$	$\frac{1.14}{1.26}$	$\frac{1.41}{1.60}$	$\frac{1.84}{2.19}$	$\frac{2.64}{3.47}$	$\frac{4.06}{6.51}$	$\frac{6.80}{19.02}$	$\frac{20.87}{\infty}$
5.6	$\frac{0.58}{0.62}$	$\frac{0.67}{0.73}$	$\frac{0.77}{0.83}$	$\frac{0.95}{1.06}$	$\frac{1.12}{1.29}$	$\frac{1.38}{1.65}$	$\frac{1.78}{2.28}$	$\frac{2.53}{3.71}$	$\frac{3.78}{7.42}$	$\frac{6.04}{29.87}$	$\frac{14.93}{\infty}$
8	$\frac{0.58}{0.63}$	$\frac{0.66}{0.75}$	$\frac{0.76}{0.85}$	$\frac{0.93}{1.09}$	$\frac{1.09}{1.33}$	$\frac{1.33}{1.72}$	$\frac{1.71}{2.43}$	$\frac{2.37}{4.13}$	$\frac{3.43}{9.38}$	$\frac{5.17}{\infty}$	$\frac{10.48}{\infty}$
11	$\frac{0.57}{0.64}$	$\frac{0.64}{0.77}$	$\frac{0.74}{0.87}$	$\frac{0.90}{1.12}$	$\frac{1.06}{1.39}$	$\frac{1.28}{1.82}$	$\frac{1.62}{2.64}$	$\frac{2.19}{4.81}$	$\frac{3.07}{14.07}$	$\frac{4.38}{\infty}$	$\frac{7.65}{\infty}$
16	$\frac{0.56}{0.65}$	$\frac{0.62}{0.80}$	$\frac{0.72}{0.91}$	$\frac{0.87}{1.19}$	$\frac{1.01}{1.50}$	$\frac{1.20}{2.02}$	$\frac{1.49}{3.10}$	$\frac{1.96}{6.68}$	$\frac{2.62}{87.85}$	$\frac{3.50}{\infty}$	$\frac{5.29}{\infty}$

(F1.4, F2 52)

HEXANON f/1.4, f/1.8 f = 52 mm

circle of confusion 3 / 100 mm (in feet)

F.No. \ Feet	2.0	2.5	3.0	3.5	4.0	5.0	7.0	10.0	15.0	30.0	∞
1.4	2'00" 2'01"	2'06" 2'07"	3'00" 3'01"	3'05" 3'07"	3'11" 4'01"	4'11" 5'01"	6'09" 7'03"	9'06" 10'06"	14'00" 16'02"	26'01" 35'04"	195'01" ∞
1.8	2'00" 2'01"	2'05" 2'07"	2'11" 3'01"	3'11" 3'07"	3'11" 4'01"	4'10" 5'02"	6'09" 7'03"	9'06" 10'07"	13'10" 16'05"	25'07" 36'04"	168'07" ∞
2	2'00" 2'01"	2'06" 2'07"	2'11" 3'01"	3'05" 3'07"	3'11" 4'01"	4'10" 5'02"	6'08" 7'04"	9'04" 10'09"	13'07" 16'09"	24'08" 38'03"	136'08" ∞
2.8	2'00" 2'01"	2'05" 2'07"	2'11" 3'01"	3'05" 3'07"	3'10" 4'02"	4'09" 5'03"	6'07" 7'06"	9'01" 11'01"	13'01" 17'07"	23'01" 43'00"	97'08" ∞
4	2'00" 2'01"	2'05" 2'07"	2'11" 3'01"	3'04" 3'08"	3'10" 4'03"	4'08" 5'04"	6'05" 7'09"	8'10" 11'07"	12'05" 19'00"	21'00" 52'11"	68'06" ∞
5.6	1'11" 2'01"	2'05" 2'07"	2'10" 3'02"	3'04" 3'09"	3'09" 4'04"	4'07" 5'06"	6'02" 8'01"	8'05" 12'05"	11'07" 21'00"	18'09" 76'05"	49'00" ∞
8	1'11" 2'01"	2'04" 2'08"	2'10" 3'03"	3'03" 3'10"	3'08" 4'05"	4'05" 5'09"	5'11" 8'08"	7'10" 13'10"	10'07" 26'01"	16'02" ∞	34'05" ∞
11	1'11" 2'01"	2'04" 2'09"	2'09" 3'04"	3'02" 4'00"	3'06" 4'08"	4'03" 6'01"	5'07" 9'06"	7'03" 16'02"	9'06" 36'04"	13'10" ∞	25'01" ∞
16	1'10" 2'02"	2'03" 2'10"	2'08" 3'06"	3'00" 4'03"	3'04" 5'00"	4'00" 6'09"	5'01" 11'04"	6'06" 22'09"	8'02" 106'06"	11'02" ∞	17'04" ∞

(F1.4, F2 52)