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KONICA

Auto

S

INSTRUCTION

BOOKLET

KONISHIROKU PHOTO INDUSTRY CO., LTD. is grateful for your interest in its products.

The **KONICA AUTO S** is a high grade 35-millimeter miniature camera of strikingly modern design, incorporating the latest developments including **EE** (electric eye) exposure control with the extremely sensitive **CdS** (cadmium sulphide) photocell. Completely automatic control of exposure adjustments is available, while in addition the aperture value can be read off the viewfinder aperture scale while composing your picture. Consequently, you may change the shutter speed to obtain the shutter speed-aperture combination best suited for your subject-matter. Moreover, since the range limits are indicated on the scale in the viewfinder, there is no risk of shooting a subject that is too dark or too bright. When over-riding the automatic **EE** control, manual setting of the aperture can be based on the exposure meter indication on the viewfinder aperture scale. In this case the built-in exposure meter functions as a separate brightness sensing device. The fast, sharp lens of the **KONICA AUTO S** is the popular **HEXANON**, renowned for its speed and high resolving power. Beginners are assured of good, brilliant pictures from the very start, while the advanced features of this camera will give satisfaction to even the most experienced enthusiast.

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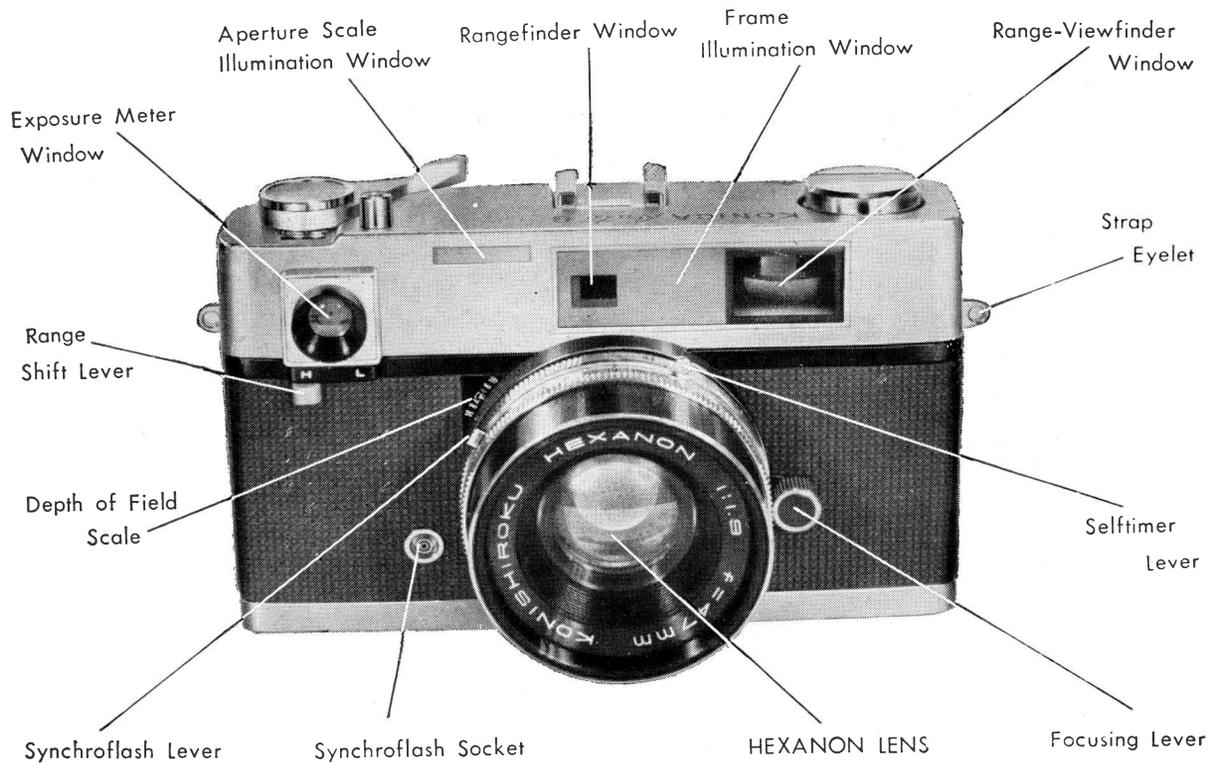
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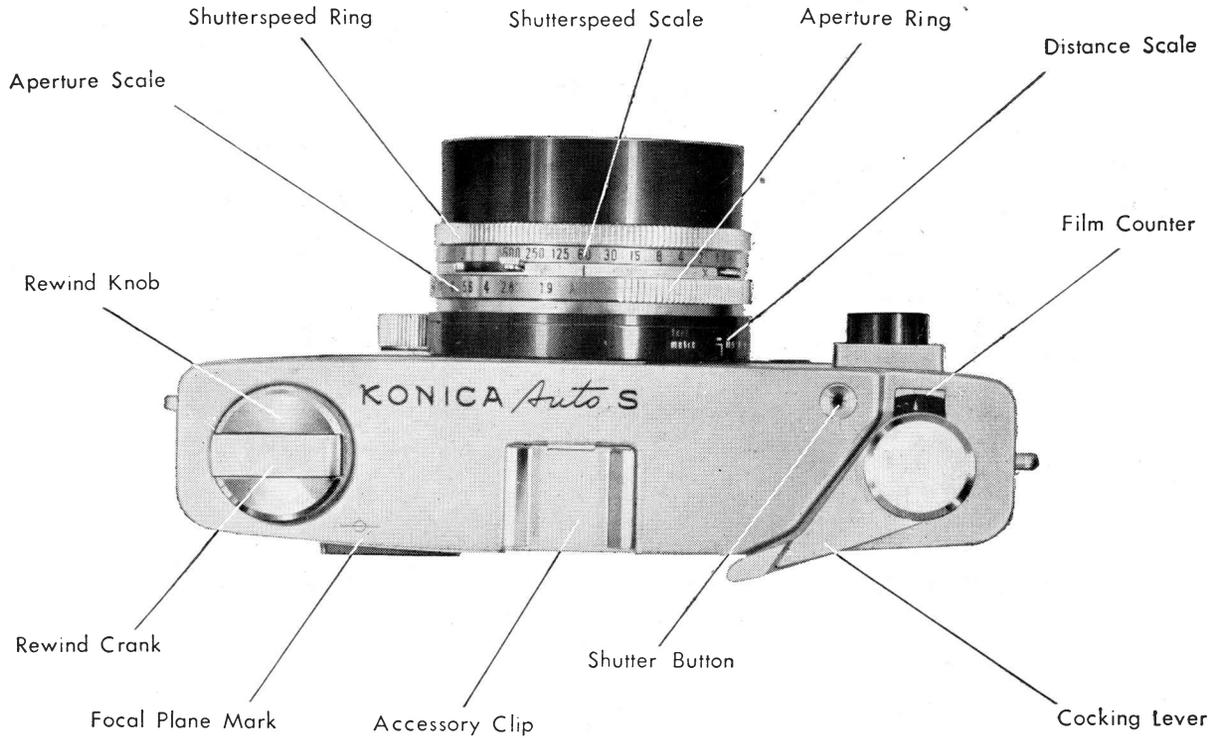
GENERAL DESCRIPTION OF THE KONICA AUTO S

Negative Size	24 × 36 millimeters
Film	35-millimeter film, monochrome or color, preloaded in safety cartridge.
Lens	HEXANON f/1.9, f = 47 mm, 5 elements in 5 groups, improved amber coating.
Shutter	COPAL SVA automatic shutter, B, 1, 2, 4, 8, 15, 30, 60, 125, 250, 500 in multiples of 2, equidistant scale. Full flash synchronization with X and M settings. Built-in self-timer.
Viewfinder	Side illuminated bright frame, automatic parallax compensation, 0.65 × magnification. Aperture scale and warning marks in viewfinder field. Aperture size indicated during EE operation.
Rangefinder	Combined with viewfinder for single eyepiece operation. Double image focusing spot utilizing complementary colored images. Effective triangulation base: 22.8 mm.
Exposure Meter	A supersensitive CdS exposure meter is coupled to the automatic exposure control mechanism. Incidental light, two-range (high-low), coverage angles: 34° horizontal, 28° vertical. Power source: Mercury Cell.

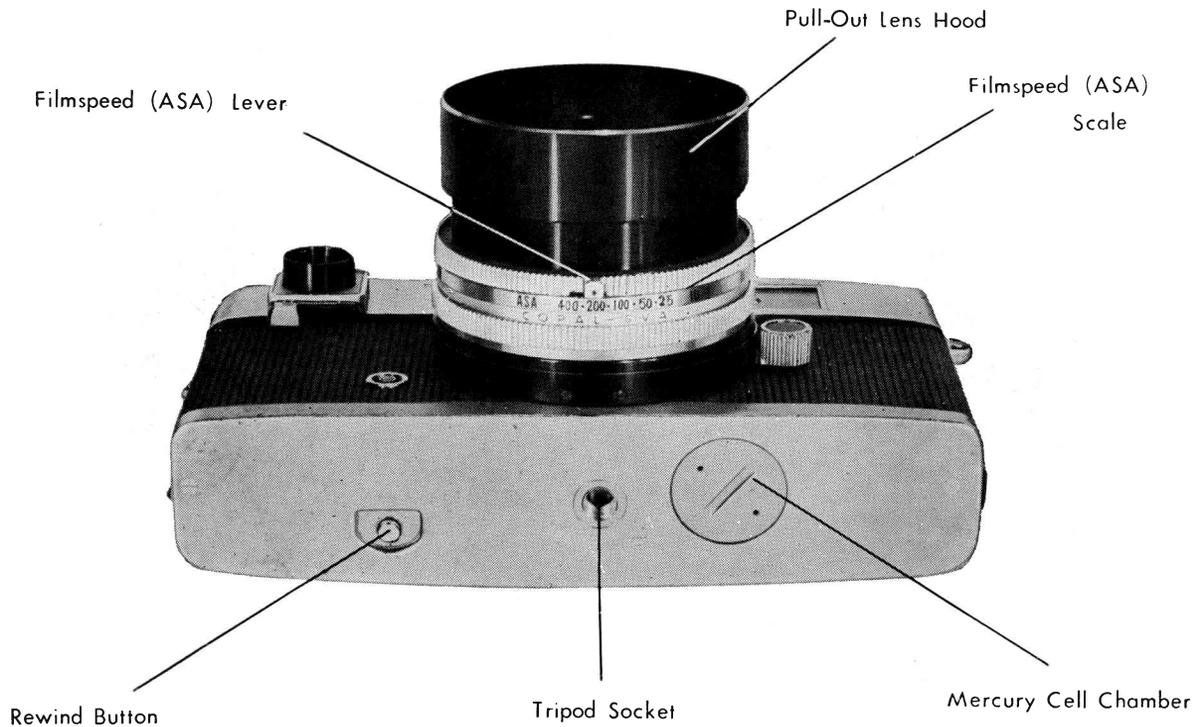
Range of Automatic (EE) Control	EV 3 to EV 17 in conjunction with film of ASA 100 rating. EV 3 to EV 10 with range shift lever at "L" (low), and EV 10 to EV 17 at "H" (high).
Automatic (EE) Control Over-Ride	By shifting the aperture ring from "AUTO" and setting the aperture size manually, the camera can be operated as one of conventional design.
Cocking Lever	Thumb-operated, single stroke cocking lever is positioned on top of the camera. Film is advanced and shutter is cocked so double exposure prevention is positive. Cocking lever moves through 120° swing after initial free play of 20°.
Film Counter	Film counter indicates in normal sequence the number of frames advanced. Automatic re-set at start position upon opening of the backlid.
Film Rewind	Rewind button is pressed in, and the film is returned by rewind crank operation into its safety cartridge.
Other Features	The KONICA AUTO S is provided with a pull-out lens hood. Quick loading of film is facilitated by improved take-up spool.
Filters	Screw-in type, 49 mm diameter, 0.75 mm screw pitch.
Dimensions, Weight	138 (width) × 82.5 (height) × 72 mm (thickness), 740 grams.

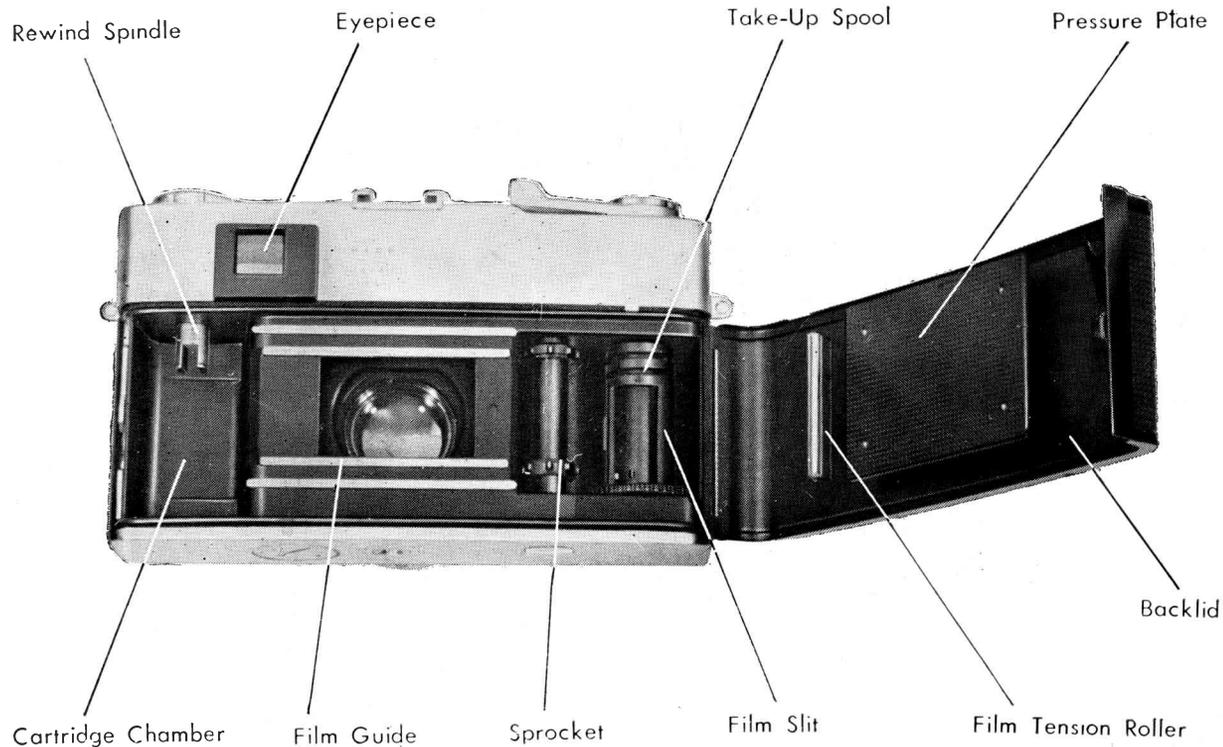
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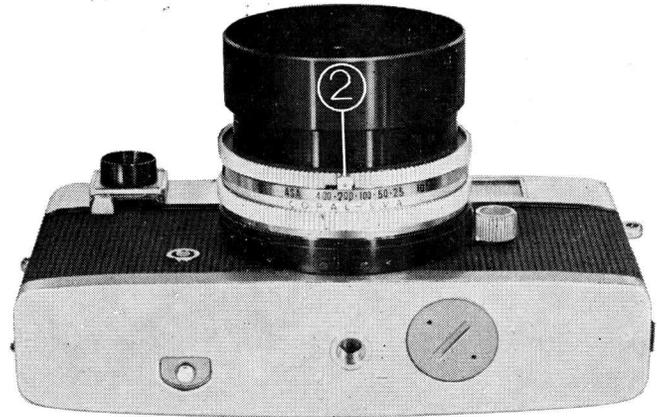
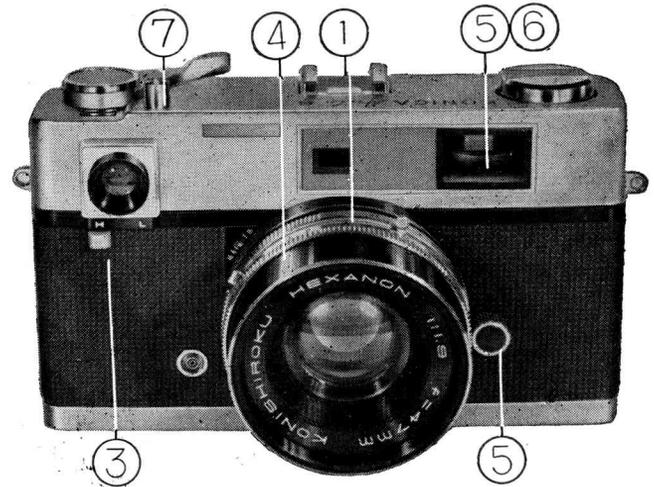
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PROCEDURE FOR EE PHOTOGRAPHY

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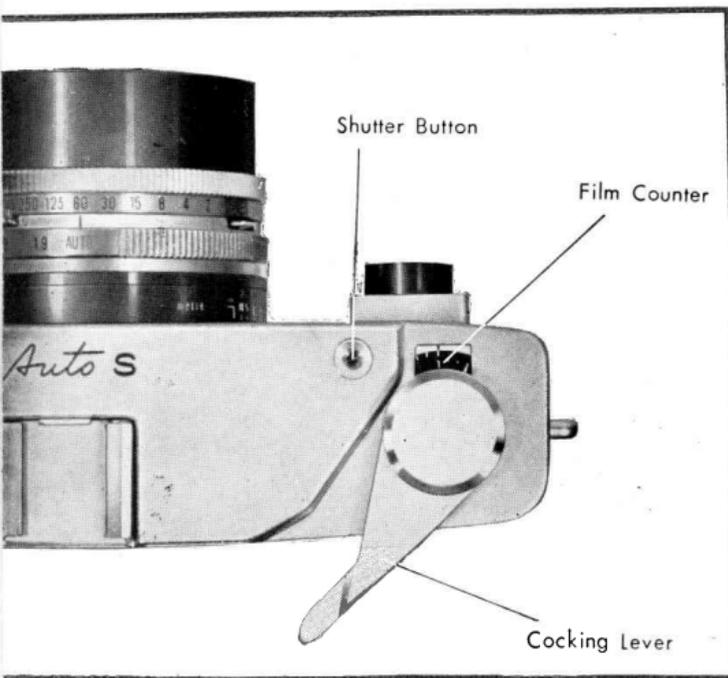


- 1 Set the aperture ring at "AUTO".
- 2 Set the filmspeed (ASA) lever at the ASA number of the film you are using.
- 3 Set the range shift lever at "H" (high) if you are taking pictures out of doors in the daytime. Set at "L" when indoors.
- 4 Determine your shutterspeed, and set on the shutter-speed scale.
- 5 Sight your subject, move the focusing lever to focus your camera, then compose your picture inside the bright optical frame.
- 6 So long as the yellow portion of the viewfinder aperture scale is visible on both sides of the aperture needle you will be able to obtain correct exposure of your film.
- 7 Press the shutter button gently without jerking the camera.

- For detail, please consult the section dealing with EE (electric-eye) photography.

- Make sure that the lens cap is removed before picture-taking.

COCKING

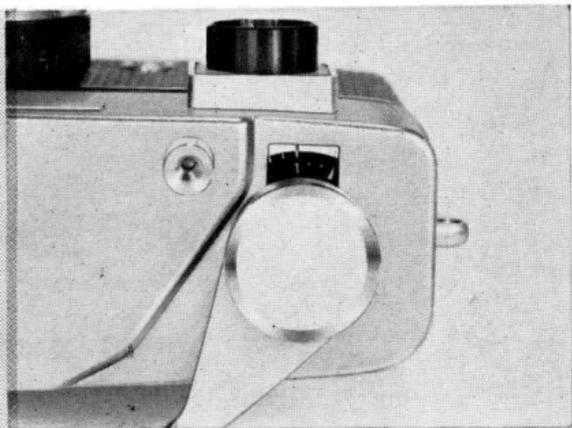


□ The cocking lever is provided with an initial play of 20 degrees. Keep the lever out and ready for action during picture-taking. When the cocking lever is moved beyond this point for 120 degrees until it comes to a stop, the film is advanced one frame, while the shutter mechanism is brought into cock, ready for release by means of the shutter button.

- With each complete stroke of the cocking lever, the film counter advances one step to indicate the number of frames taken up.
- When using such slow shutterspeeds as one second or one-half second do not operate the cocking lever until shutter action has been completed. Be particularly careful when making blank shots.
- Make it a habit to cock your camera just before shooting a picture. Keeping the shutter mechanism under tension over long periods of time can cause loss of precision.
- When the end of a roll of film has been reached, it may happen that the cocking lever will cease to move before its stroke is completed. In this case, do not apply force. Press the rewind button to disengage the sprocket, then the cocking lever will be freed to complete its stroke for return to original position.

FILM

COUNTER



- The film counter moves one step every time the cocking lever is operated to indicate the number of frames that have been exposed.
- Two blank shots made after loading of film will bring the film counter to a step before numeral 1. Start picture-taking from numeral 1.
- When the roll of film has been used up, rewind to return the film into its safety cartridge. When the backlid is opened to remove the exposed film, the film counter will automatically return to the start mark (small triangle).
- While the backlid is open, the film counter will not move even when the cocking lever is operated.

BACKLID

OPERATION

To open the backlid, pull out the rewind knob, then pull up further. The backlid will be released, and it can then be swung fully open by hand.

To close the backlid, merely press down the free end firmly until it catches with a click.

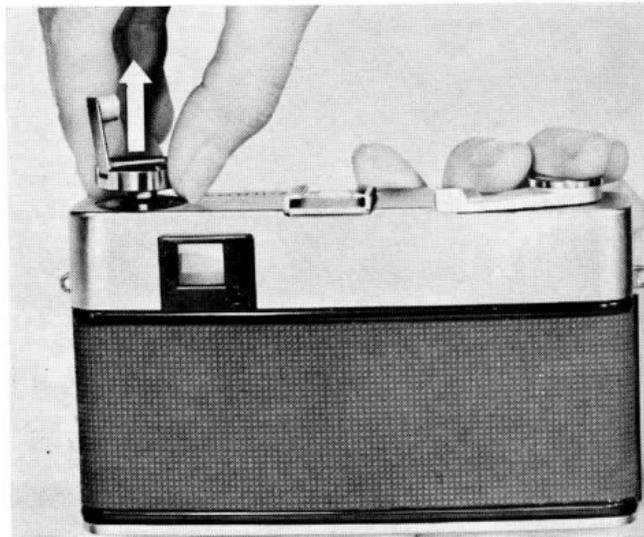
FILM

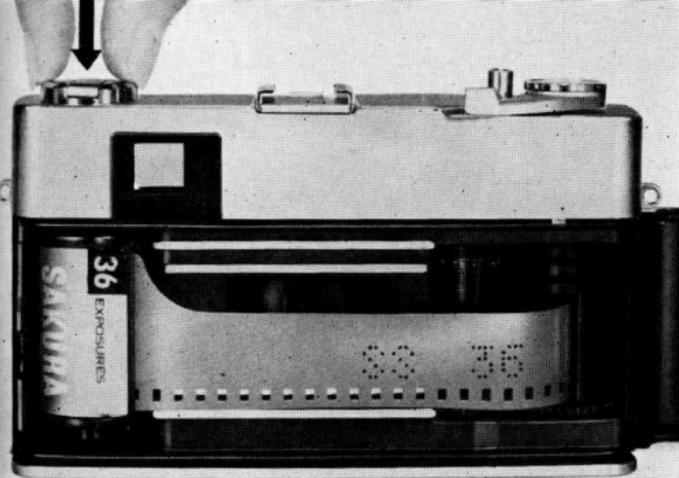
LOADING

- The **KONICA AUTO S** takes 35-millimeter film preloaded in safety cartridge.
- When loading or unloading film avoid direct sunlight, work in the shade. If no suitable shade can be found, use your own body to shield the film and camera.

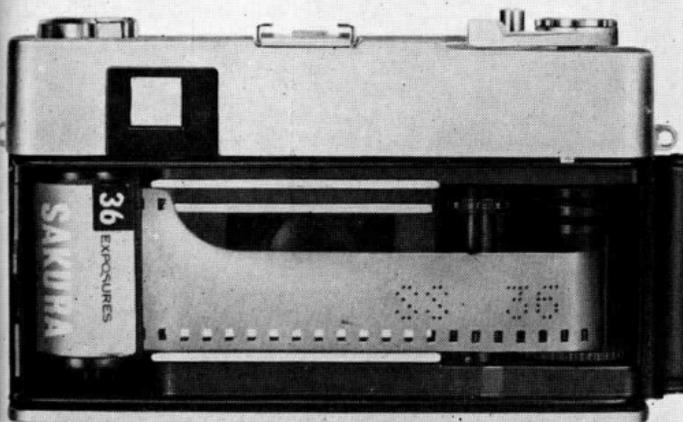
1 Pull out the rewind knob, and pull further to open the backlid.

The non-glossy emulsion side of the film should face the lens.





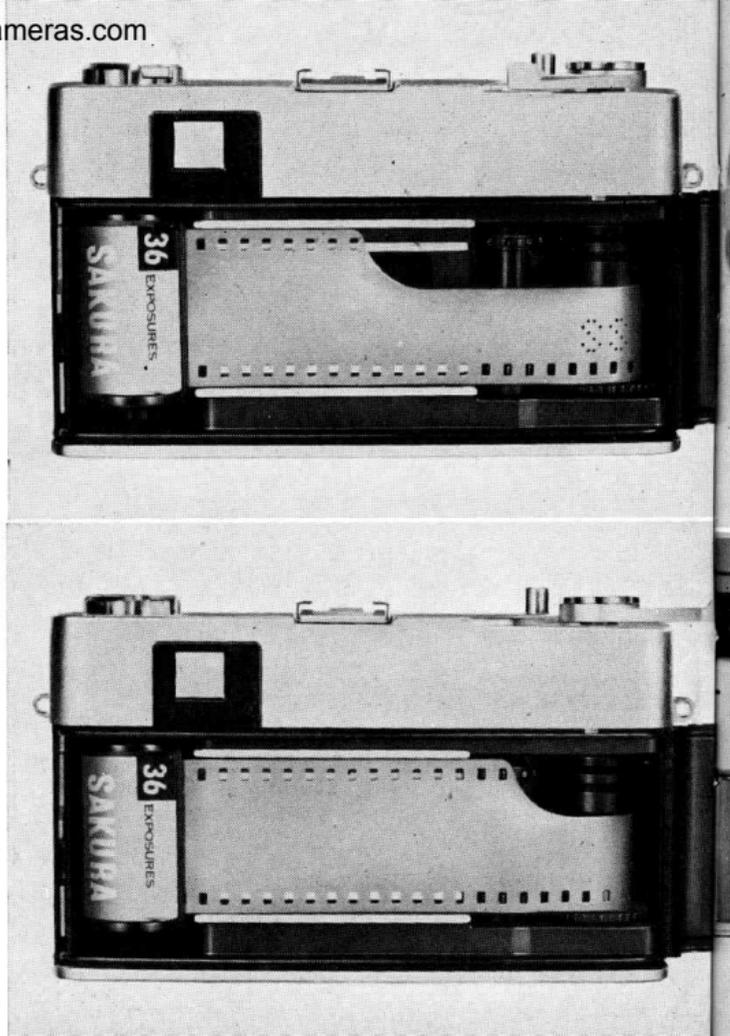
- ② While keeping the rewind knob pulled out, insert the safety cartridge, knob end down, in the cartridge chamber; push in the rewind knob while turning slightly right and left to lock the cartridge in the cartridge chamber.

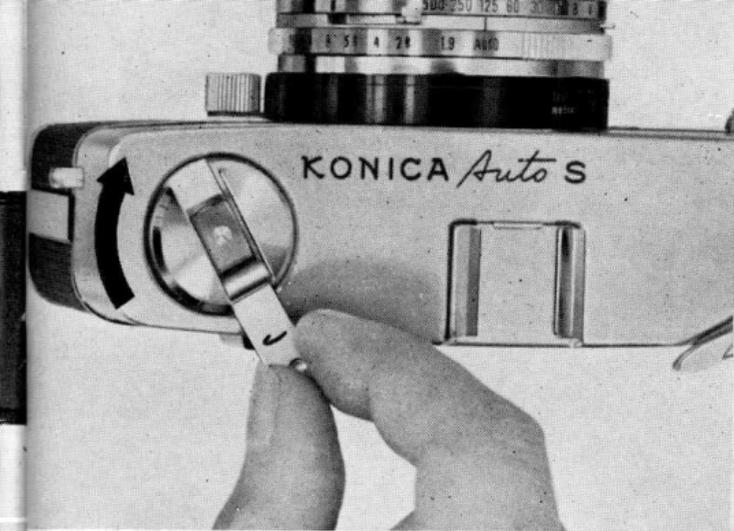


- ③ Pull out enough film to reach across the film gate, and insert the end in the slit of the take-up spool (the spool can be brought into a position convenient for threading). See that the perforations of the film catch on the teeth on the take-up spool.

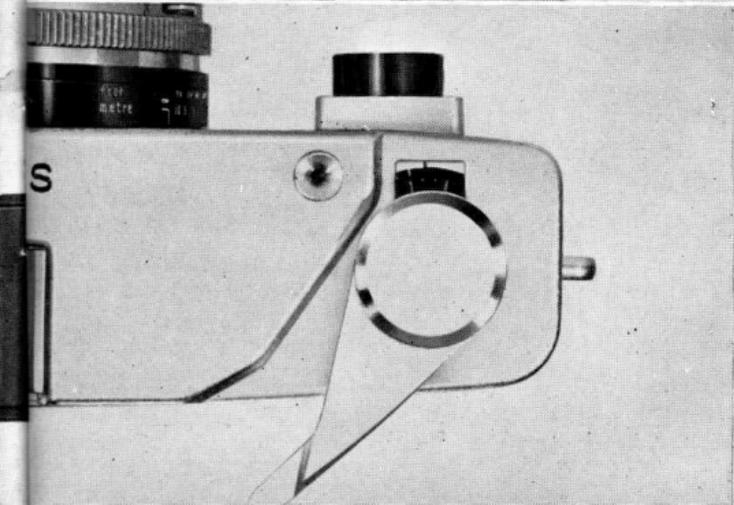
4 Fit the perforations of the lower edge of the film on the sprocket teeth, hold lightly with your fingertip, then operate the cocking lever. The film should be taken up on to the take-up spool.

5 Release the shutter by pressing the shutter button, then continue operating the cocking lever to take up film until the perforations of the upper edge of the film engage the sprocket teeth. Close the backlid then the film counter will indicate starting position (triangle mark)





- 6 Turn the rewind knob gently in the direction indicated by the arrow to take up all slack of the film inside the safety cartridge.



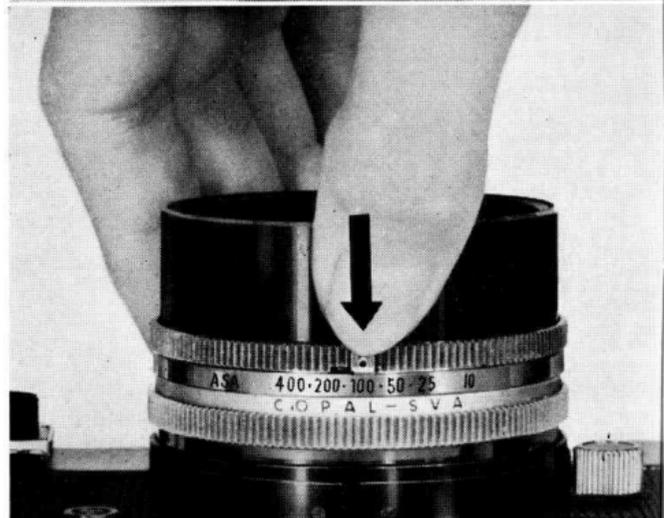
- 7 Cock and release shutter twice, then the film counter will be one step ahead of numeral 1.

- 8 Keep the aperture ring set at "AUTO"



- 9 Set the filmspeed (ASA) lever at the filmspeed rating (ASA number) of the film you have just loaded.

You are now ready for picture-taking. One more stroke of the cocking lever will bring the first frame into position for exposure.

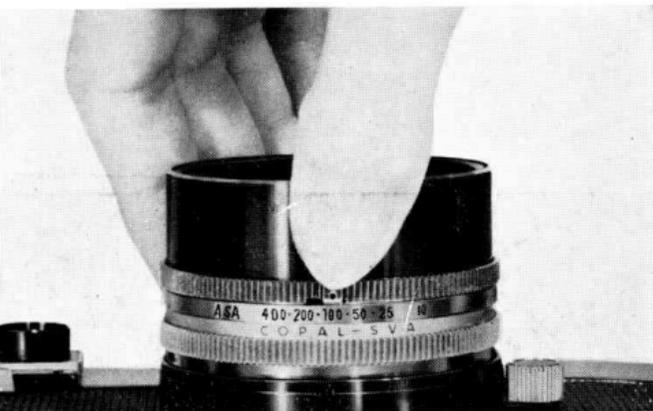


- To Check Whether or not the Film is Being Taken up Properly

When take-up is functioning properly, the rewind knob should turn counterclockwise against the arrow on the rewind crank. If the rewind knob fails to move, the film is not being taken up. Open the backlid and repeat the loading procedure.



LEVER SETTING



After loading film, always remember to set the filmspeed (ASA) lever at the speed rating (ASA number) of the film you have just loaded. Setting the filmspeed lever is done by depressing the lever to free the knurled ring from the ring on which the shutterspeed two rings together at the selected ASA number.

FILMSPEED (ASA) INDICATION SCALE									
10	25	32	50	64	100	160	200	250	400

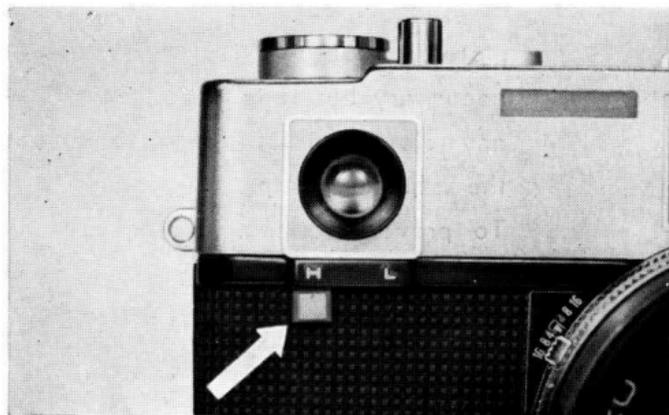
ASA 32, 64, 160 and 250 are indicated by dots

RANGE SHIFT LEVER

Two ranges are provided for the CdS exposure meter, and the range shift lever is used to select the suitable range.

Position H (high brightness) is used when the subject-matter is bright, as in the case of outdoor photography. When the range shift lever is at H, the EV range with ASA 100 film is from EV 10 to EV 17.

Position L (low brightness) is for subjects reflecting light of low intensity. At L, the EV range for accurate coupling of the exposure meter with ASA 100 film is from EV 3 to EV 10. EV 10 is the equivalent of $1/60$ second shutter speed at $f/4$ for ASA 100 film, the condition presented by a dark subject on a dull overcast day.

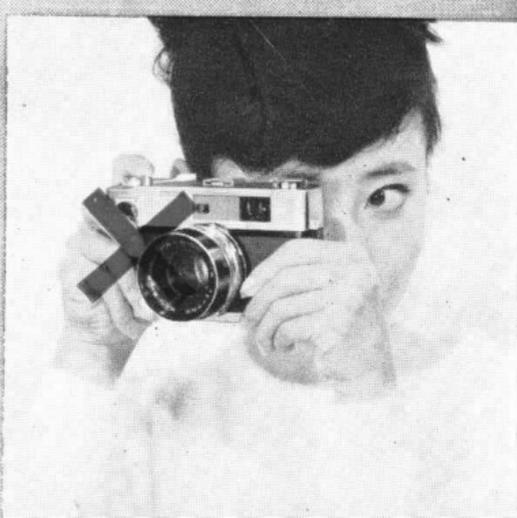


CAMERA GRIP AND SHUTTER BUTTON OPERATION

In order to obtain sharp and brilliant pictures, not only is proper focusing necessary but it is important to avoid any movement of the camera when the shutter button is pressed down. To prevent jerking, a steady grip is recommended. Hold your **KONICA AUTO S** with both hands, and hold steady up against the face. Press the shutter button gently with the ball of your index finger.

When holding the camera at eye-level for picture-taking, be sure that the exposure meter window is not obstructed by your hand or finger.

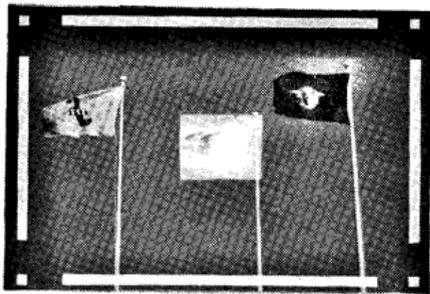




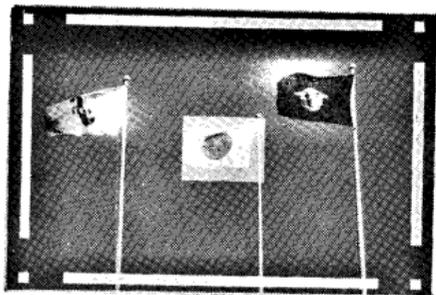
- When using slow shutter speeds, such as one second or one-half second, do not release the shutter button until shutter action is completed. If the shutter button is released before action ends, the aperture is permitted to open up fully, and correct exposure may not result.
- With shutter speeds slower than $1/8$ second it is extremely difficult to obtain blur-free pictures with the camera held in your hand. Use a tripod, or place your camera on some stable support.
- To mount your camera on a tripod, screw the tripod head into the tripod socket at the bottom of the camera body.
- A cable release will screw into the socket at the center of the shutter button.



FOCUSING AND SIGHTING



When a subject is out of focus.



When a subject is in focus.

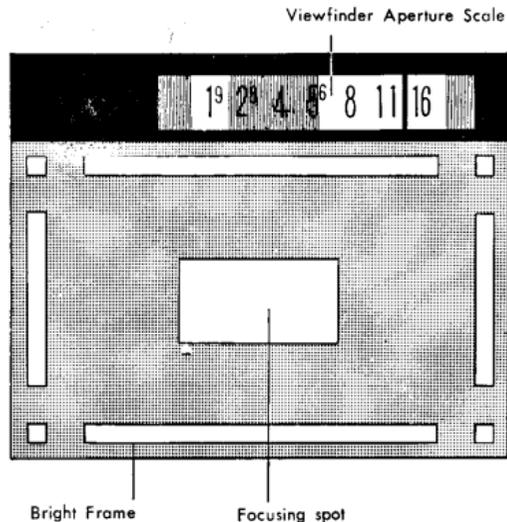


- **Focusing**

At the center of the viewfinder field, an oblong spot of yellowish hue can be seen. This is the double-image focusing spot of the rangefinder, and when the subject is not in focus it will appear in double transposition. When the focusing lever is moved, one of the two images will move. When the two images merge into one, your camera is focused on the subject, and the distance from the camera to the subject will be indicated on the distance scale.

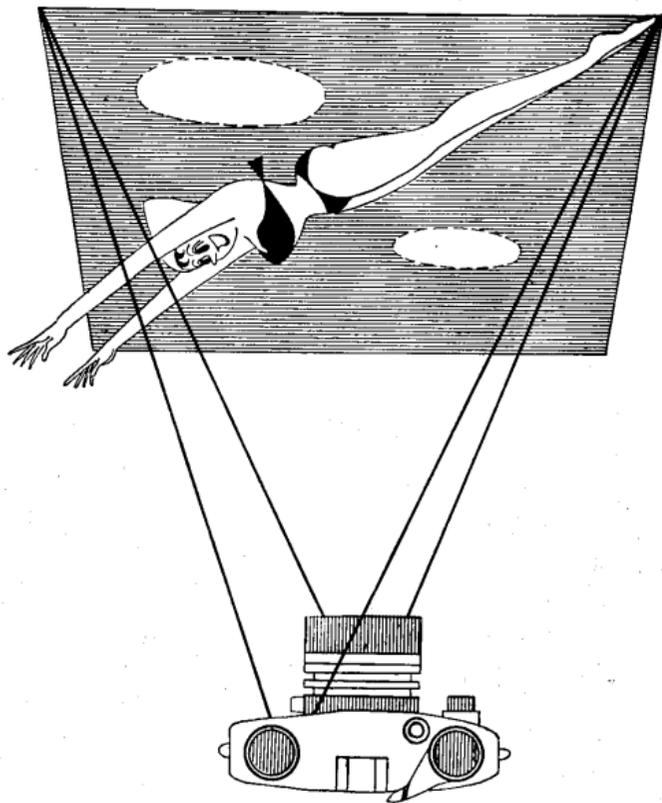
- **Sighting**

The viewfinder, used for sighting and composing your picture, is of the side-illuminated bright frame type which permits easy viewing of the subject inside a luminescent optical frame. Only what can be seen inside the bright frame will register on your film.



● Parallax is Completely Eliminated

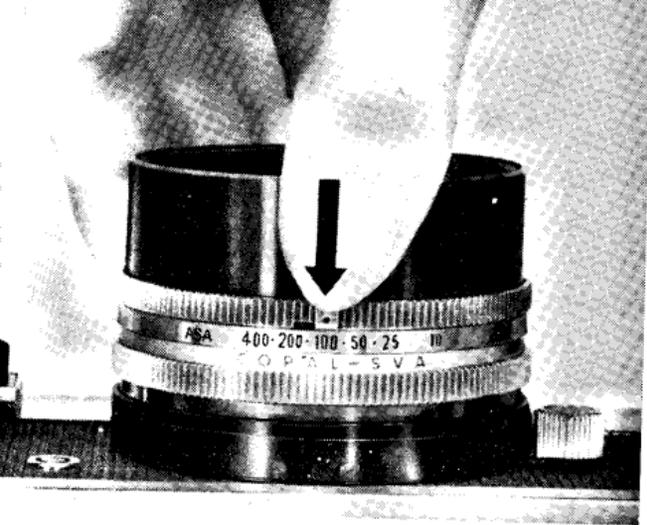
Because the viewfinder and the camera lens are on different optical axes, framing at short ranges would be incorrect were there no compensation arrangement. In your **KONICA AUTO S** the optical frame automatically expands or contracts with shift of focus to eliminate this error. When the focusing lever is pushed down to shorten the range, you will notice that the frame becomes smaller while apparently shifting toward the lower right corner. This is automatic adjustment to match the narrowing of the picture angle as the lens moves forward, while allowance is also made for axis difference. The viewfinder framing exactly matches the limits of the actual photograph throughout the focusing range.





With **EE** (electric-eye) photography, correct exposure can be obtained merely by pointing your camera toward your subject and releasing the shutter. However, before effective automatic control of exposure can be used two adjustments have to be made on your camera.

- 1 Set the aperture ring at "AUTO".



② Set the filmspeed (ASA) lever at the filmspeed rating (ASA number) of the film you have loaded in your camera.

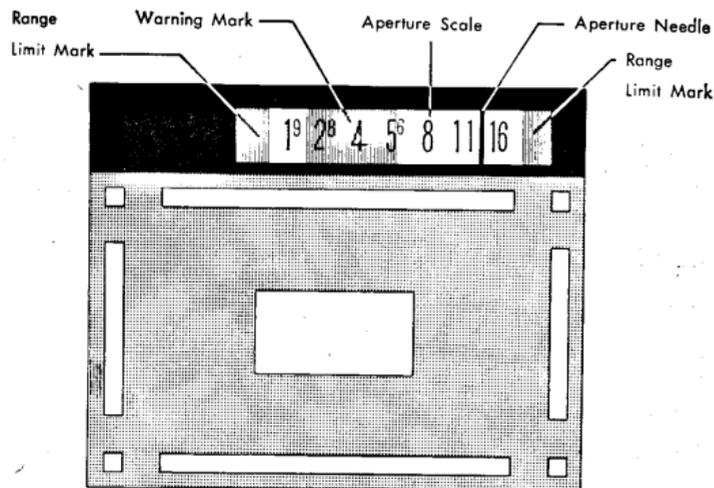
- On the aperture ring there is, besides "AUTO", a scale with aperture values from 1.9 to 16. These $f/$ values have nothing to do with EE photography. The aperture scale on the aperture ring is used when manual control of exposure is desired.
- Shutterspeeds are: 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, and 1/500 second arranged in multiples of 2, and B (bulb). All shutterspeed settings click into position.
- When using EE photography do not use the B (bulb) setting.
- Please note that the built-in selftimer cannot be used when your camera is set for EE photography.



When using automatic exposure control (EE photography) it is convenient to keep your shutterspeed settings as follows:

Condition	Rating of the Film in Use	ASA 100	ASA 50
Clear		$\frac{1}{250}$	$\frac{1}{125}$
Cloudy		$\frac{1}{125}$	$\frac{1}{60}$
Indoors		$\frac{1}{30}$	$\frac{1}{15}$

Inside the viewfinder, above the bright optical frame for picture composition, you will see the viewfinder aperture scale indicating 1.9 to 16. The aperture needle will show the aperture value as set by automatic control (electric eye) for the brightness of the subject-matter. The portions of the aperture scale that appear in red are the limit marks at the two ends, and the warning mark, a zone of red which moves when the shutter speed ring is turned.



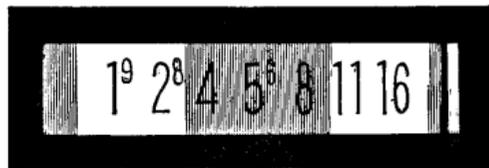
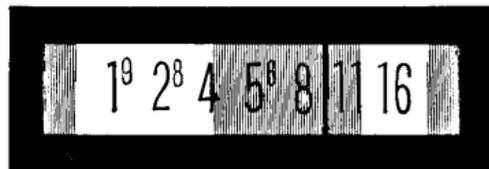
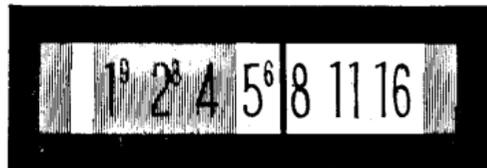
CAUTION

When turning the shutter speed ring to change shutter speed setting, be sure not to touch the filmspeed (ASA) lever. If the filmspeed (ASA) lever is pressed while turning the ring, the correct ASA setting may be lost.

You may safely take pictures so long as bands of yellow can be seen on both sides of the aperture needle.

If the aperture needle is in the red zone of the warning mark move the range shift lever. When the range shift is done in a dark place it takes about three seconds for the aperture needle to steady. Be sure to allow enough time.

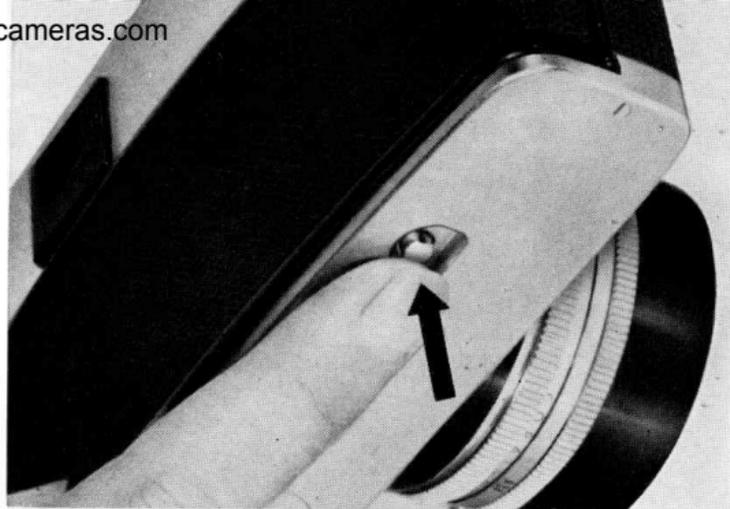
If the aperture needle is in one of the red limit mark zones, change shutterspeed setting.



When shooting a dark subject in low light, if after shifting the range shift lever to "L" and reducing the shutter speed to the minimum practical level the aperture needle still remains in the red limit mark zone at the 1.9 end of the aperture scale, the conditions are insufficient for EE photography. This seldom happens because the CdS exposure meter of your KONICA AUTO S is extremely sensitive, and with the range shift lever at "L" when using film of ASA 100 rating it is possible to measure brightness as low as EV 3. Consequently it is possible to rely on automatic exposure control indoors and in twilight.

When a subject is so bright that despite shifting to "H" and setting shutter speed at 1/500 second the aperture needle remains in the red limit mark zone at the 16 end of the scale, the use of a neutral density (ND) filter to reduce brightness is called for. This too is a rare occurrence. Generally, excessive brightness precluding picture-taking is seldom encountered.

When the available number of frames on a roll of film have been exposed, the film is rewound back into its safety cartridge. Because 35-millimeter film has no special protection, it will be spoiled if the backlid is opened before rewinding into the safety cartridge.



- 1 If, when the end of a roll of film has been reached, the cocking lever cannot be pushed to the end of its stroke, do not apply force. Keep the rewind button depressed to permit the cocking lever to complete its stroke for return to its starting position.
 - 2 To rewind film into its safety cartridge, press down the rewind button. This button will remain depressed.
 - 3 Erect the rewind crank and turn in the direction indicated by the arrow mark. The film will be taken up into the safety cartridge.
 - 4 Open the backlid by pulling out the rewind knob two steps, and release the safety cartridge, now containing exposed film, for removal.
-
- Avoid direct sunlight when removing the safety cartridge.
 - The rewind button will automatically spring out when the cocking lever is next operated.

PHOTOGRAPHY



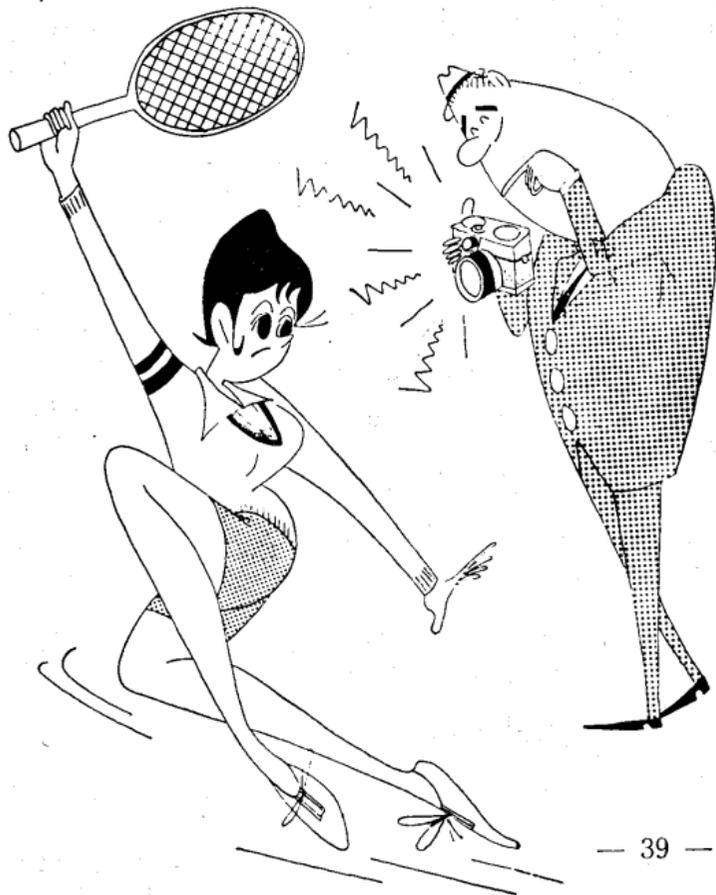
When using the built-in self-timer, undertaking synchroflash photography, or trying for special effects, the aperture ring should be shifted away from "AUTO", and the desired aperture value should be set by hand. The aperture scale values are: 1.9, 2.8, 4, 5.6, 8, 11, and 16. Except for the interval between 1.9 and 2.8, these values are in equidistant steps which mean either a halving or doubling of the intensity of the light passing through the lens. For instance, at $f/4$, the strength of the light impinging on the film is one-half that at $f/2.8$; at $f/4$, the intensity is double that at $f/5.6$.

Aperture size can be adjusted continuously and steplessly. Consequently, intermediate settings can be used.

● The Exposure Meter Can be Used as a Separate Unit

When operating your KONICA AUTO S with manual exposure control, the built-in exposure meter functions as an independent exposure meter, indicating on the viewfinder aperture scale the correct f/ value for the shutter speed set on the shutter speed scale.

The graduations of the viewfinder aperture scale bisect the large numeral. For example, f/2.8 is indicated when the aperture needle, is at the middle of the large figure 2, while f/11 is indicated when the needle comes between the two large numeral "1"

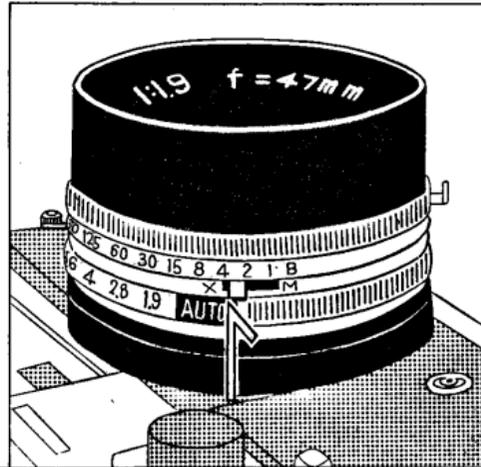
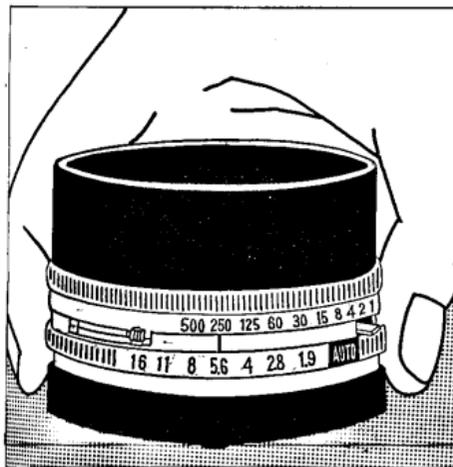


SELF-TIMER OPERATION

When the self-timer lever is pushed all the way to the left, the shutter will go into action about ten seconds after the shutter button is pressed. This delayed action is useful when you want to include yourself in a picture, and also when you wish to keep camera jerk at a minimum.

When using the self-timer, always set the synchroflash adjustment at "X" and set aperture size by hand.





- 1 Set aperture by hand.
- 2 See that the synchroflash adjustment is set at "X".
- 3 Move the self-timer lever fully over to the left.
- 4 Press the shutter button. The shutter will be released approximately ten seconds after the self-timer goes into action.

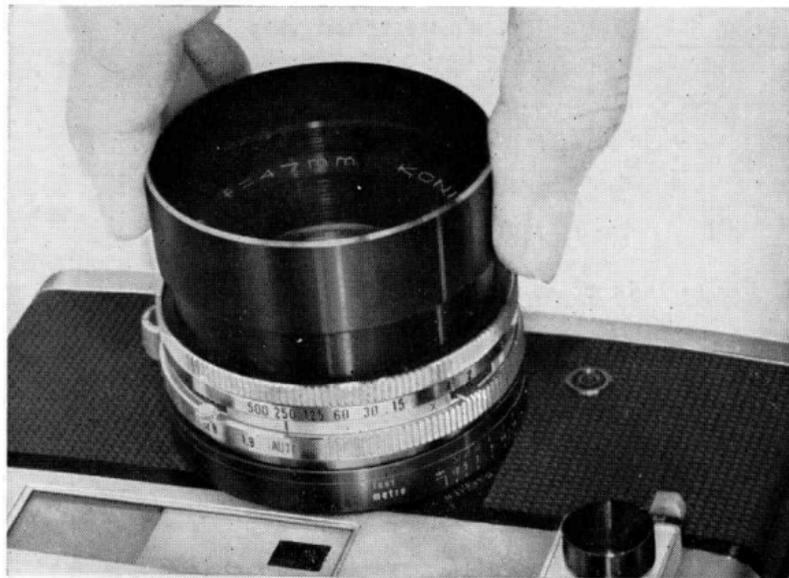
- The self-timer can be used in conjunction with all shutter speeds from 1 to 1/500 second except B.
- By adjusting the extent to which the self-timer lever is moved over to the left, it is possible to reduce the amount of delay before shutter release.
- By using a cable release equipped with a stopper, it is possible to use the self-timer in conjunction with automatic exposure control. After the self-timing mechanism has been actuated by pressing the cable release button, the stopper is brought into play to keep the shutter button depressed. When using this method, work behind the camera to prevent your own body or shadow from affecting the exposure meter.

CAUTIONS

- With the self-timer in use, electric-eye automatic exposure control becomes inoperable. Shift the aperture ring from "AUTO" and set the aperture value by hand as indicated on the viewfinder aperture scale.
- The self-timer operates only when the synchroflash adjustment is set at "X". The self-timer lever will not move when the synchroflash adjustment is set at "M".

PULL-OUT LENS HOOD

The KONICA AUTO S is provided with a lens hood which can be positioned by pulling out forward. The lens hood prevents extraneous light and reflections from entering or striking the lens, and serves in this way to permit the taking of a sharp, clear and interference-free picture of the subject. Use of the lens hood at all times is recommended.



When the shutter speed ring is set at "B" the shutter is operated manually, and will remain open for as long as the shutter button is kept depressed. This manual operation of the shutter is used when exposure time in excess of one second is needed. Bulb exposures, being non-automatic, cannot be used in conjunction with electric-eye automatic exposure control.



FREE CHOICE OF SHUTTERSPEED AND APERTURE SIZE



With your advanced **KONICA AUTO S**, it is possible, even when electric eye automatic exposure control is in use, to ascertain the shutter speed and the aperture setting before the shutter button is operated. Because of this feature, it is possible to choose the best combination of shutter speed and aperture size for the subject being photographed.

● **When Choice of Shutterspeed is Desired**

If a fast shutterspeed is desired for "freezing" a fast-moving object, or if a slow shutterspeed appears best for intentional blurring of the subject to give an impression of motion you must select the shutterspeed setting that appears best for your purpose. Set the shutterspeed to your liking, then sight your subject through the viewfinder. If the yellow zone shows on both sides of the aperture needle, you can safely take a shot.

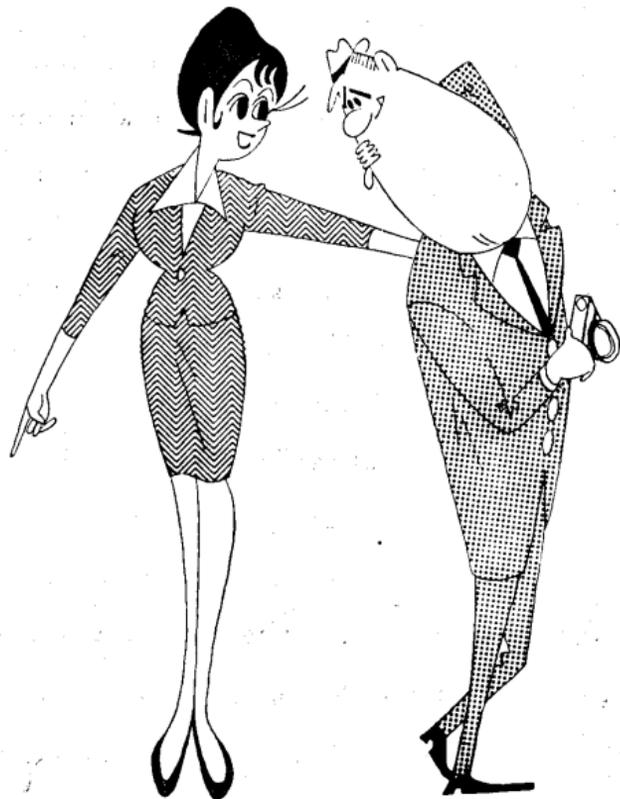
● **When Choice of Aperture Size is Desired**

When aperture size is critical because you want either adequate depth of field or intentional fuzzing of the background, sight the subject through the viewfinder, then while watching the viewfinder aperture scale turn the shutterspeed ring until the aperture needle indicates the aperture value desired.

CONDITIONS CALLING FOR EXPOSURE COMPENSATION

Because the CdS exposure meter incorporated in your KONICA AUTO S has a narrow sensing angle it will not be affected unduly by light other than that reflected by the subject-matter. Automatic exposure control should function satisfactorily so long as the camera is properly pointed toward the subject. However, in the cases described below, corrective adjustments are recommended.

- Dark subject in bright surroundings.
- Bright subject in dark surroundings.



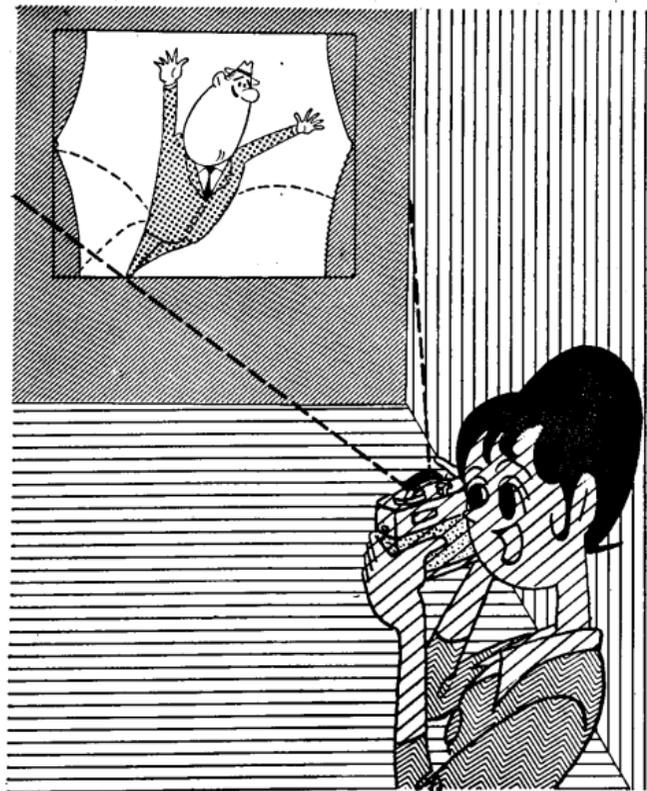
• Dark Subject in Bright Surroundings

When photographing human subjects against a very bright background, or when working with reverse lighting, the subject will tend toward under-exposure because of the surrounding brightness. In such cases, compensate by setting the filmspeed (ASA) lever at one-half the actual rating of the film (ASA 50, for instance, when the rating of the film is ASA 100). Another method is to note the aperture value on the viewfinder aperture scale, and to set the aperture ring at one step higher (f/8, for instance, when the indication is f/11) by hand.



● Bright Subject in Dark Surroundings

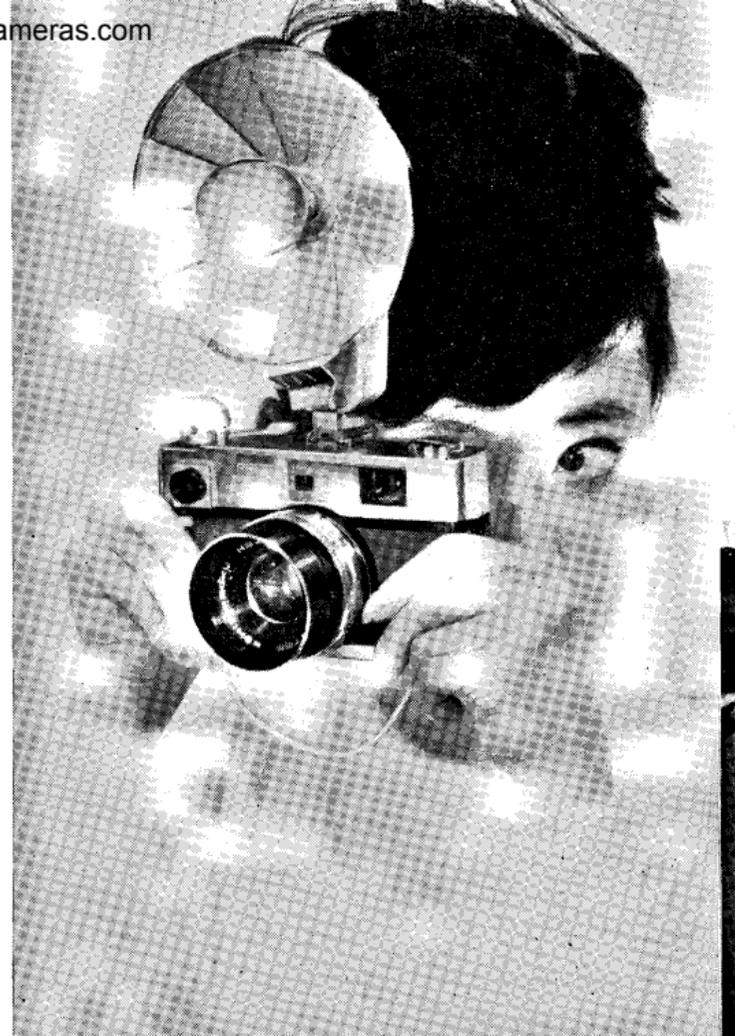
If the subject stands out brightly against a dark background, or when the scenery beyond a tunnel mouth is to be photographed together with the interior of the tunnel, the surrounding gloom will so affect the exposure meter that the principal subject will be overexposed. In such cases, compensate by setting the filmspeed (ASA) lever at double the actual rating called for by the film. An alternative method is to note the aperture value as indicated on the viewfinder aperture scale, then to use on the aperture ring by manual adjustment the value one step below the indicated size.

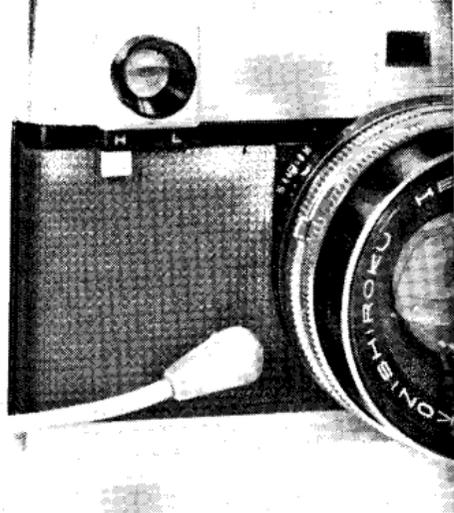


PHOTOGRAPHY

Synchroflash photography with flashbulbs and gun or with an electronic flash unit is resorted to when it is too dark for the automatic exposure control to function, when snapshots must be made under adverse lighting conditions or indoors, and in special cases where the flash is used to supplement available light.

Mount the flashgun or flash unit on the accessory clip of your camera, and attach the connecting cord to the synchroflash socket at the front. Insert a flashbulb if you are using a regular flashgun.





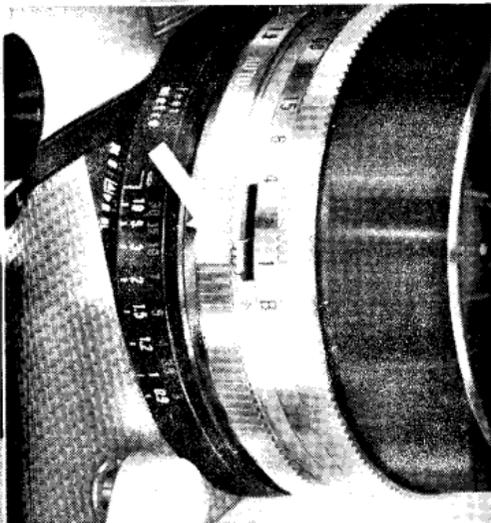
● Synchroflash Adjustment

Position "M"

When using class M flashbulbs, set the synchroflash adjustment at position "M". Full flash synchronization will then be possible at all shutter speeds. Class M bulbs have a timelag of about 20 milliseconds before reaching peak intensity.

Position "X"

When using electronic flash (strobe), set the synchroflash adjustment at position "X". No timelag is introduced at this position since electronic flash units operate practically instantaneously. Full synchronization at all shutter speeds is possible.



- Electronic flash (strobe) and class F flashbulbs will not synchronize properly when the synchroflash adjustment is set at "M". Consult the flash synchronization chart to avoid mistakes.
- Because the self-timer functions only when the synchroflash adjustment is set at "X", delayed shutter action with synchroflash is possible only at this setting. All shutter speeds possible with electronic flash; for flashbulbs consult the flash synchronization chart for selection of proper shutter speed.

FLASH SYNCHRONIZATION
CHART

Setting \ Shutter-speed / Flashbulb		Shutter-speed									
		1	2	4	8	15	30	60	125	250	500
M	Class M	○	○	○	○	○	○	○	○	○	○
	STROBO	○	○	○	○	○	○	○	○	○	○
X	Class F	○	○	○	○	○	○	○	×	×	×
	Class M	○	○	○	○	○	○	×	×	×	×

○ mark proper synchronization,

× mark non-synchronization.

● Exposure Adjustment for Synchronflash Photography

With flash photography, the principal light source is the flash. Consequently, the aperture size is determined by the intensity of the flash and the distance from the flash to the subject. The correct aperture size can be easily computed from the guide number (indicating flash intensity) and the distance between the flash and the subject. Since the guide number is expressed by distance multiplied by the f/ value:

$$\text{aperture size (f/ value)} = \frac{\text{guide number}}{\text{distance}}$$

$$\text{distance (from flash to subject)} = \frac{\text{guide number}}{\text{f/ value}}$$

Obtain the guide number from the instructions accompanying the flashbulbs or electronic flash used. Measure the distance from the flash to the subject. Divide the guide number of the distance to obtain the aperture size (f/ value).

WHEN USING FILTERS

The KONICA AUTO S takes filters of 49-millimeter diameter, with a thread of 0.75 mm pitch.

Most filters absorb a certain amount of light, and the necessary increase of exposure is indicated as the exposure factor. Exposure compensation is done in the manner previously described.



- Filter Use with Electric-Eye Exposure Control

The most convenient method is to shift the filmspeed (ASA) lever so that exposure is increased by the exposure factor of the filter. For instance, if you are using film rated at ASA 100, and you wish to use a filter with an exposure factor of **x2**, you must double the exposure of the film by shifting the filmspeed (ASA) lever to ASA 50, one-half the actual rating.

- Filter Use with Manual Exposure Control

Use either the same method as when working with electric-eye automatic exposure control, or by shifting the aperture ring f/ setting by the exposure factor of the filter. For instance, if the exposure factor of the filter is **x4**, and the viewfinder aperture scale shows f/11, set the aperture ring manually at f/5.6 to obtain four times the normal exposure. Another method would be to set the aperture at the value indicated by the exposure meter, using a shutter speed four times slower than normal.

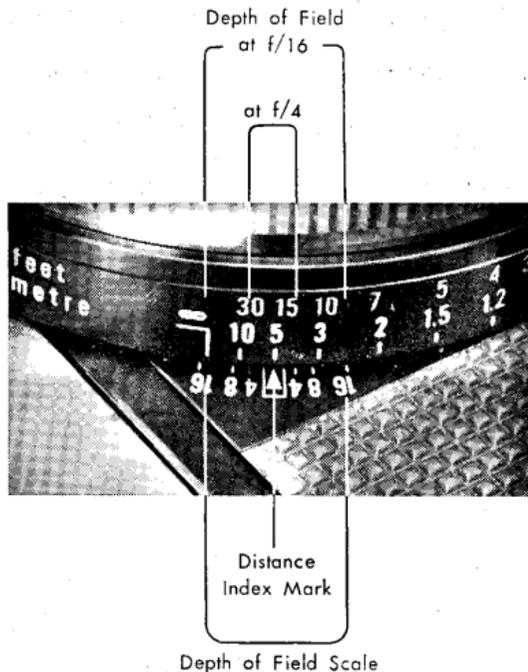
DEPTH OF FIELD

When a subject is brought into sharp and accurate focus the lens provides a zone extending in front of and behind the subject, within which all objects will, for all practical purposes, register sharply and clearly on the film. This zone is called the "depth of field"

Depth of field varies with certain conditions, and its nature is as follows

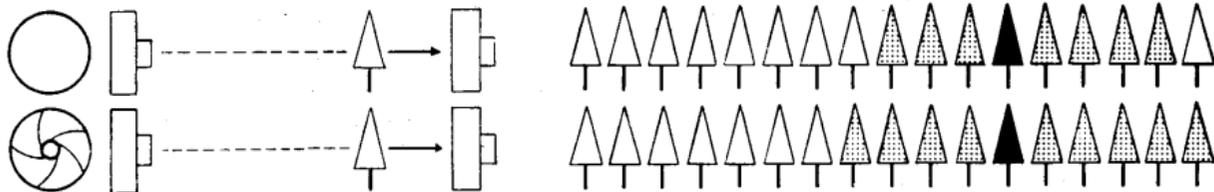
1. With focus set at a certain distance, the smaller the aperture, the greater the depth of field (or focusing tolerance).
2. With the aperture set at a certain value, the farther away the point of focus, the greater the depth of field.
3. Depth of field is greater beyond the point of focus than in front.

Depending on the distance from the camera to the subject, the depth of field for a given aperture size is indicated on the depth of field scale. When you refer to this scale after bringing the subject into focus, the depth of field is the range bracketed by the aperture value in use. For instance, if your distance scale indicates 15 feet, all objects not closer than 12 feet nor farther than 20 feet will register sharply at $f/4$. At $f/16$ the depth of field will be greatly extended so that everything from 7 feet away to practical infinity will be reproduced sharply and clearly.

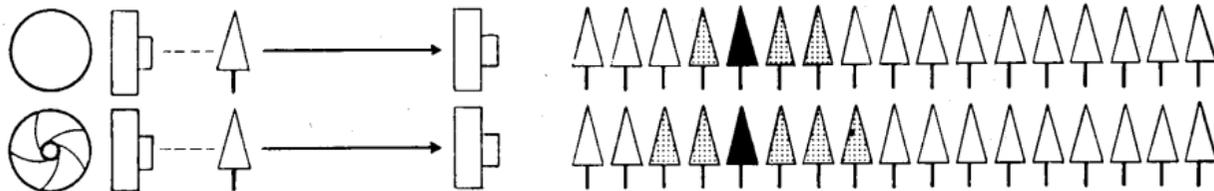


Because depth of field is controlled mainly by aperture size, choice of the $f/$ setting is important when you wish to give emphasis to a portrait by blurring the background, or when you want clear and sharp reproduction of both front and back row faces in a group photograph.

When Camera is Focused on Distant Object

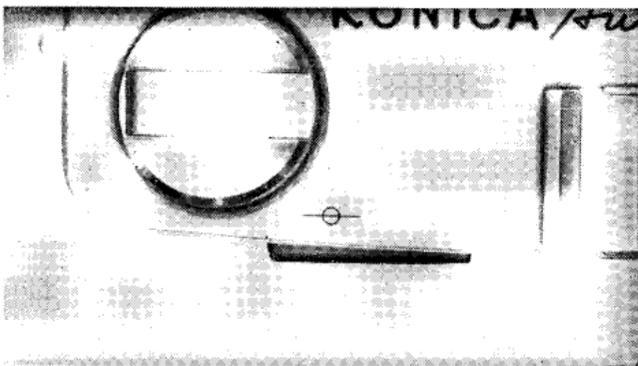


When Camera is Focused on Near Object



FOCAL PLANE MARK

On the camera top, near the rewind knob is the focal plane mark (\ominus), indicating the position of the focal plane and the photosensitive surface of the film. All distances from the camera to the subject matter are measured from this plane.



CORRECTION MARK

When using infra-red film in conjunction with a red filter, correction must be made of the focus adjustment because of the predominance of long wavelength light rays. First focus in the usual manner by means of the rangefinder. Note the distance indicated on the distance scale, then shift this value to the infra-red correction mark (the red "4" of the depth of field scale). If the distance to the subject is 30 feet, shift the "30" from the normal distance scale index mark to the infra-red correction mark. If ∞ (infinity) is indicated, do likewise.



REPLACING THE MERCURY CELL

For exciting the CdS photocell of the KONICA AUTO S there is a self-contained mercury cell. With normal use, the service life of this mercury cell should be about a year. Unlike other dry batteries, the voltage of the mercury cell remains constant to drop off sharply when exhausted. Consequently, when the aperture needle visible inside the viewfinder becomes sluggish in action or fails to move the mercury cell is worn out and must be promptly replaced.

Replacement mercury cell should be : Mallory RM-625R, PX-13, Eveready E 625, or GE No.625, rated at 1.3 volt.

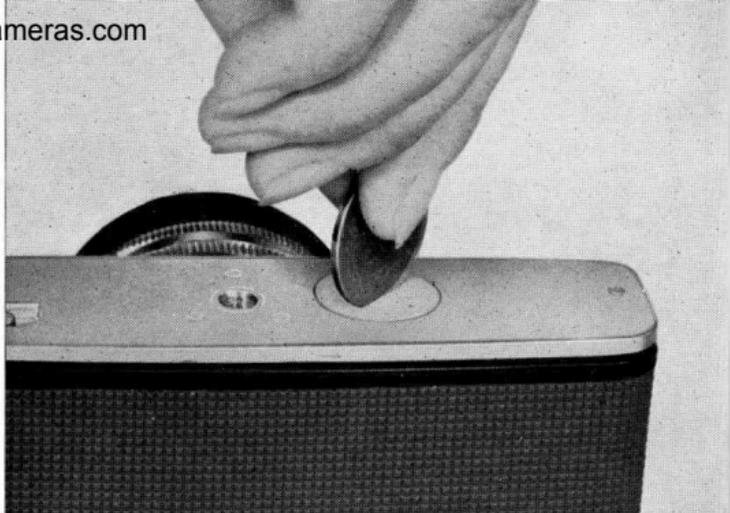


• Mercury Cell Insertion and Removal

1 Using a coin or some convenient tool, unscrew the mercury cell chamber cover by turning counter-clockwise.

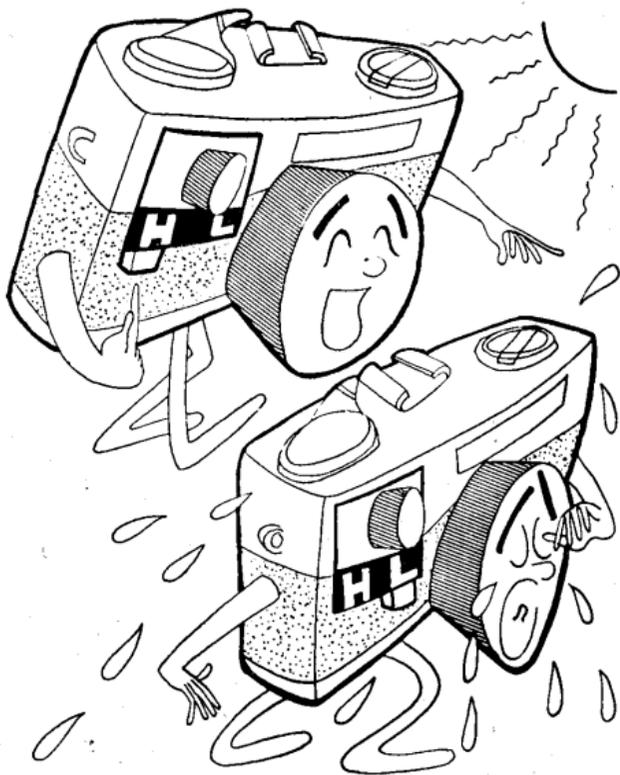
2 Remove the mercury cell contained in the chamber.

3 Insert a new mercury cell with the positive (+) end facing the chamber cover (marked + inside), then screw down the cover.



CAUTIONS :

- When inserting a new mercury cell, polish both positive (+) and negative (-) ends with a clean cloth. Do not reverse polarity.
- For inserting or removing the mercury cell avoid using tweezers or other metallic implements.
- When your **KONICA AUTO S** is out of use and in storage for any length of time, remove the mercury cell and store in a dry place.
- The mercury cell cannot be recharged.
- When carrying your **KONICA AUTO S** out of doors without any protective covering, make sure that the range shift lever is at **H**. If the exposure meter is kept at the low brightness range, the bright light encountered may cause excessive drain of the mercury cell.



DEPTH OF FIELD TABLE

circle of confusion 3/100 mm (in meters)

Me ter F No.	0.9	1.0	1.2	1.5	2.0	3.0	5.0	10.0	∞
1.9	0.88 0.92	0.98 1.02	1.17 1.23	1.45 1.55	1.91 2.10	2.80 3.24	4.45 5.71	7.99 13.38	39.06 ∞
2.8	0.88 0.93	0.97 1.03	1.16 1.25	1.43 1.58	1.87 2.15	2.71 3.36	4.23 6.12	7.30 15.94	26.53 ∞
4	0.87 0.94	0.96 1.05	1.14 1.27	1.40 1.62	1.82 2.22	2.60 3.54	3.97 6.77	6.54 21.42	18.60 ∞
5.6	0.85 0.95	0.94 1.07	1.11 1.30	1.36 1.67	1.76 2.32	2.47 3.82	3.67 7.90	5.75 39.67	13.31 ∞
8	0.83 0.98	0.92 1.10	1.08 1.35	1.31 1.75	1.67 2.50	2.30 4.34	3.30 10.55	4.87 ∞	9.34 ∞
11	0.81 1.01	0.89 1.14	1.04 1.42	1.26 1.87	1.58 2.76	2.12 5.22	2.93 18.26	4.10 ∞	6.82 ∞
16	0.78 1.07	0.85 1.22	0.99 1.55	1.17 2.12	1.44 3.34	1.88 7.94	2.47 ∞	3.24 ∞	4.72 ∞

circle of confusion 3/100 mm (in feet)

Feet F.No.	3.0	3.5	4	5	7	10	15	30	∞
1.9	2'11" 3'01"	3'05" 3'07"	3'11" 4'01"	4'10" 5'02"	6'08" 7'04"	9'04" 10'10"	13'06" 16'11"	24'05" 39'00"	128'10" ∞
2.8	2'11" 3'01"	3'05" 3'07"	3'10" 4'02"	4'09" 5'03"	6'06" 7'07"	9'03" 11'03"	12'10" 18'00"	22'05" 45'06"	87'01" ∞
4	2'11" 3'02"	3'04" 3'08"	3'09" 4'03"	4'08" 5'05"	6'04" 7'10"	8'08" 11'10"	12'02" 19'08"	20'03" 58'05"	61'00" ∞
5.6	2'10" 3'02"	3'03" 3'09"	3'08" 4'04"	4'06" 5'07"	6'01" 8'03"	8'03" 12'10"	11'03" 22'07"	17'11" 94'07"	43'08" ∞
8	2'09" 3'03"	3'02" 3'11"	3'07" 4'06"	4'04" 5'10"	5'09" 8'11"	7'08" 14'07"	10'02" 28'10"	15'04" ∞	30'08" ∞
11	2'08" 3'05"	3'01" 4'01"	3'06" 4'09"	4'02" 6'03"	5'05" 9'11"	7'04" 17'07"	9'01" 44'04"	12'11" ∞	22'04" ∞
16	2'07" 3'07"	2'11" 4'04"	3'03" 5'02"	3'11" 7'01"	5'11" 12'04"	6'03" 27'03"	7'09" 47'01"	10'04" ∞	15'06" ∞

(F1.9 47)

CdS (CADMIUM SULPHIDE) PHOTOCELL

The CdS photocell used in the KONICA AUTO S is a sensitive photoconductive device which changes its resistance depending upon the intensity of the light to which it is exposed. It differs in this respect from the conventional selenium cell which generates electricity when excited by light, and a small mercury cell (1.3 volt) is needed to provide the power for actuating the meter. The CdS cell is highly resistant to heat and moisture, and is several hundred times more sensitive than the selenium photocell.



ASA FILMSPEED RATING

BLACK-and-WHITE FILMS	Daylight	Tungsten	ANSKO Super Anscochrome (Daylight)	100	
ADOX KB 21	200	200	ANSKO Anscochrome(Daylight type)	32	
AGFA Isopan ISS	200	160	FERRANIA Negative	10	10
AGFA Isopan FF	25	25	GEVAERT Negative Daylight Type N. 5	25	—
ANSKO Supreme	100	100	ILFORD Ilfacolor	32	20
FERRANIA P 30	160	160	ILFORD Ilfachrome	10	
GEVAERT Gevapan 27	64	64	KODAK High Speed Ektachrome Daylight Type (E 2)	160	—
ILFORD Pan. F	50	50	KODAK Ektachrome Daylight Type (E 3)	50	—
KODAK Plus-X	160	160	KODAK Ektachrome Daylight (E 2)	32	—
PERUTZ Peromnia 21	200	200	KODAK Kodachrome Daylight Type	10	—
COLOR FILMS	Daylight	Tungsten	KODAK Kodacolor Negative	32	
ADOX Reversal Daylight Type C 18	50	—	PERUTZ Daylight Reversal C 18	50	—
AGFA Agfacolor CT 18 (Reversal)	50	—	RAYCOLOR Reversal Type R 32	32	—

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