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MINOX 35 ML

Owners manual

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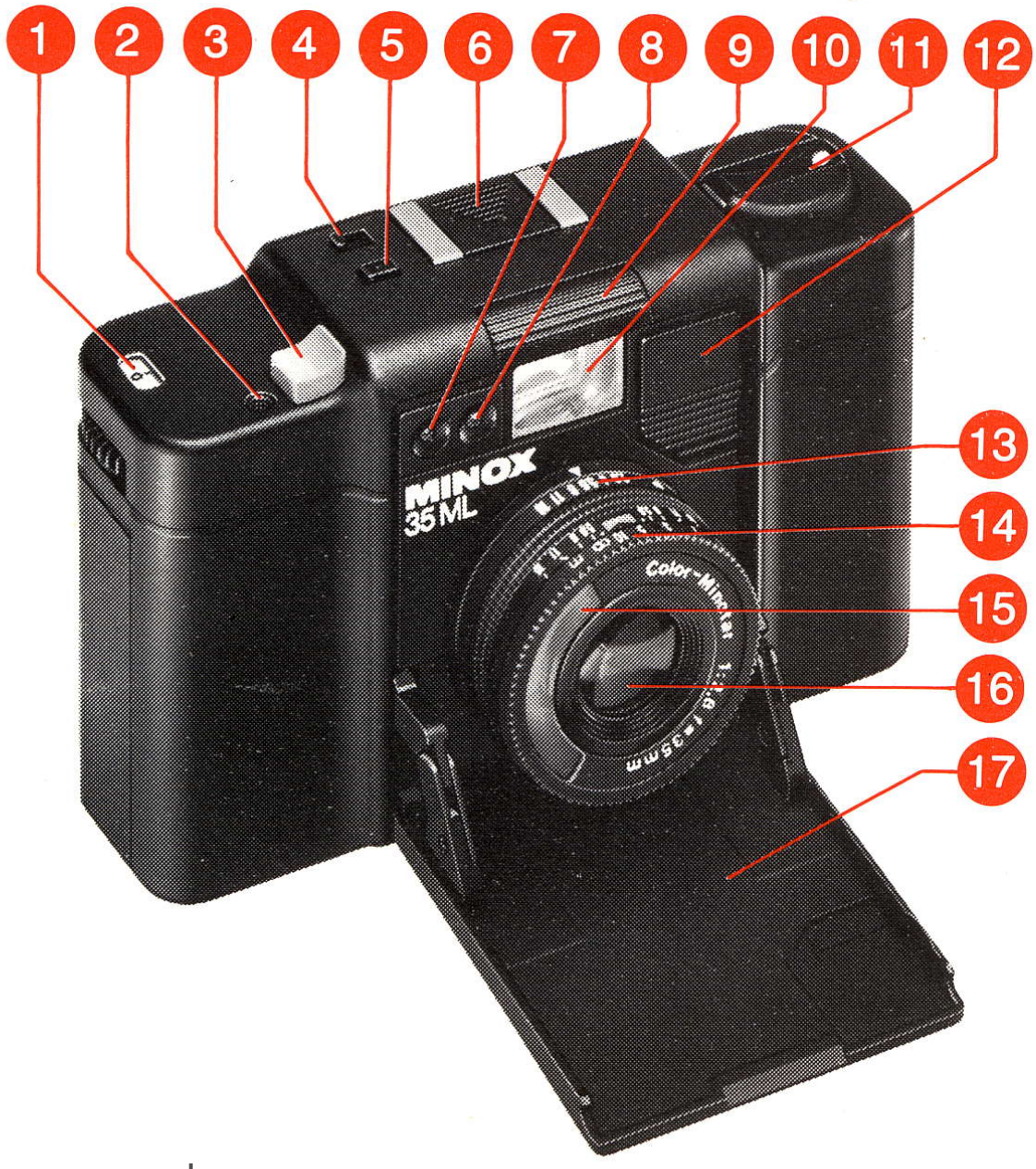
3 Shutter release button
4 Backlight switch
5 Battery test button
6 Hot shoe
7 Selftimer LED
8 CdS cell controlling the LEDs
9 Front opening key
10 Viewfinder
11 Rewind crank
12 Battery compartment
13 Aperture ring
14 Distance scale
15 Silicon cell
16 Lens
17 Front cover



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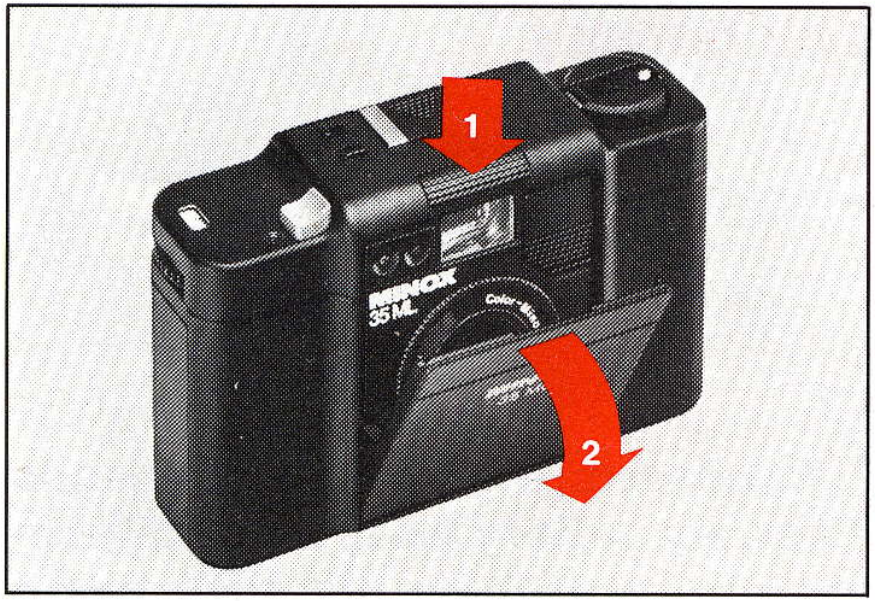
Contents

The front cover

To open the front cover (17): Depress the key (9) to release the front cover, then pull down all the way.

To close the front cover: Push the cover up against the camera body to engage. Do not press the key (9) while doing so.



Closing the front cover retracts the lens (16), covers the finder window (10), locks the shutter release (3) and switches off all circuits.

Hence the front cover is also an electric main switch. So to preserve the battery, close the cover whenever you are not shooting.

The battery

To operate, the Minox 35 ML needs a correct battery fitted in it. Suitable batteries are lithium and silver oxide types in the 6 volt PX 28 size.

Generally lithium batteries have a longer shelf and operating life (about 5 years) and tend to be more efficient at low temperatures. But in freezing cold weather you should still carry the camera inside your coat, anorak etc. If the batteries in the camera have got strongly chilled, put the camera in an inside pocket for 5-10 min. to warm it up before you shoot.

Suitable battery types include:

Lithium batteries

Duracell	PX 28 L
Ucar	L 544 (PX 28 L)
Varta	V 28 PX L

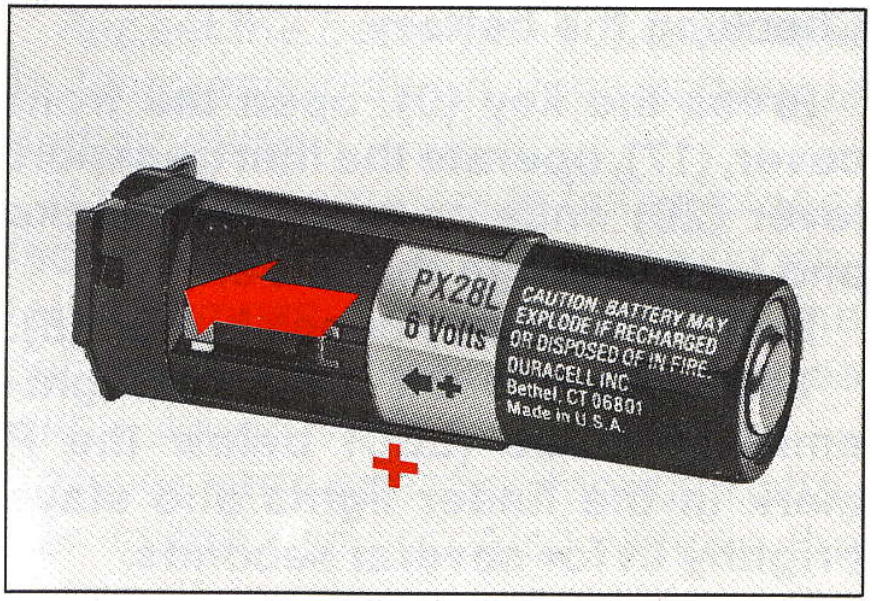
Silver oxide batteries

Duracell	PX 28
Ucar	544 (PX 28)
Varta	V 28 PX

Fitting the battery

Press the key (9) and pull open the front cover (17).

Push up the ribbed section of the



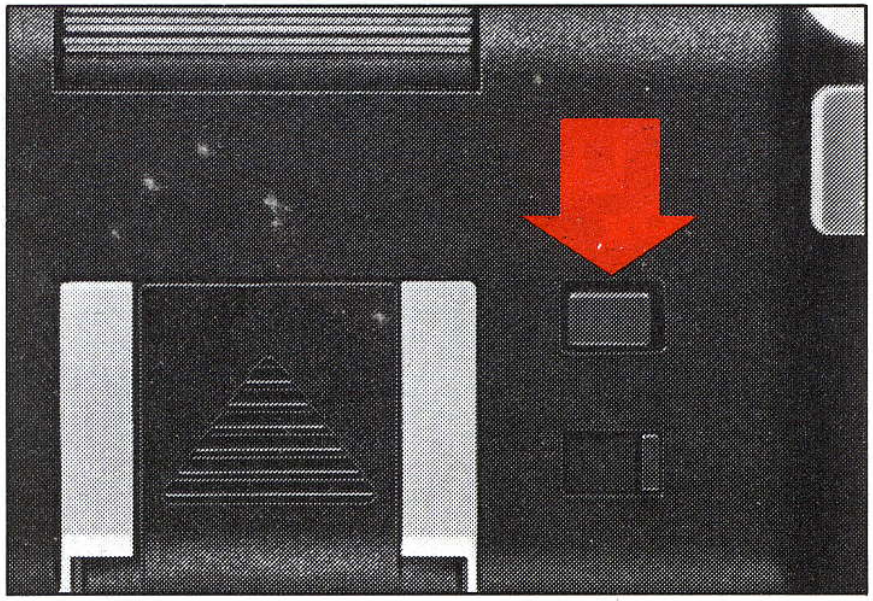
front battery holder (12) panel and let go. This releases the battery holder, allowing you to grip and withdraw it.

Rub both battery terminals clean with a rag and insert the battery in the holder. Be sure it is the correct way round: The plus (+) end of the battery must be next to the plus sign in the holder.

Push back the battery holder with the battery into the camera and let it engage.

Check the battery state (see next page).

A click on pressing the release button does not necessarily indicate correct operation of the electronic shutter. So be sure to check the battery.



Checking the battery

Press the key (9), open the front cover, (17), operate the film transport lever (20) once or twice till it locks and look through the finder.

Press the battery check button (5).

The battery is OK if the red light-emitting diode (LED) below the P mark in the finder lights and stays brightly lit for several seconds.

If the red LED fails to light you have an exhausted, wrongly fitted or no battery in the camera.

If the red LED goes noticeably dimmer after 2-3 sec. the battery is near exhaustion – so replace it as soon as possible.

Repeat the battery check from time to time, especially if your battery is getting older.

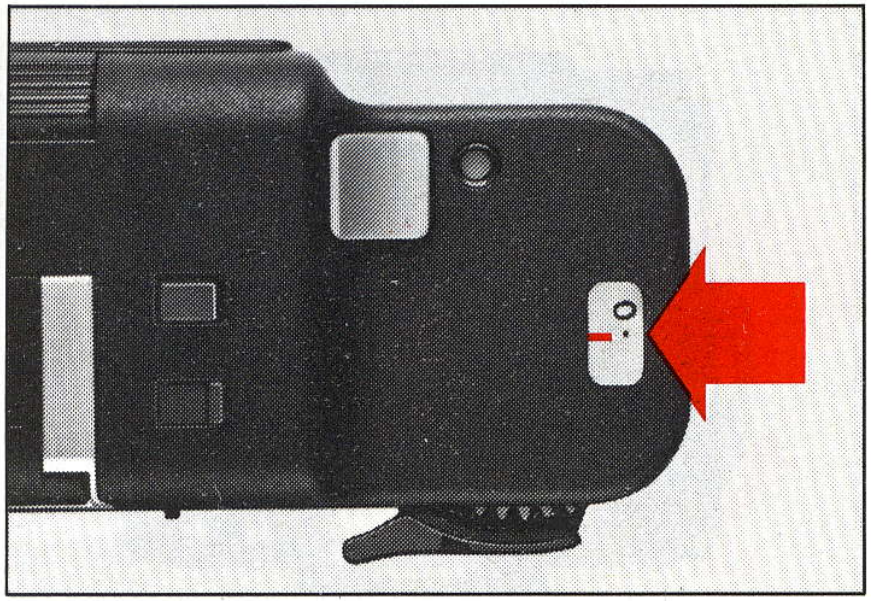
If a battery appears to fail unexpectedly early you may have a poor contact. Remove the battery from the camera, firmly rub both contact faces with a rough cloth and replace.

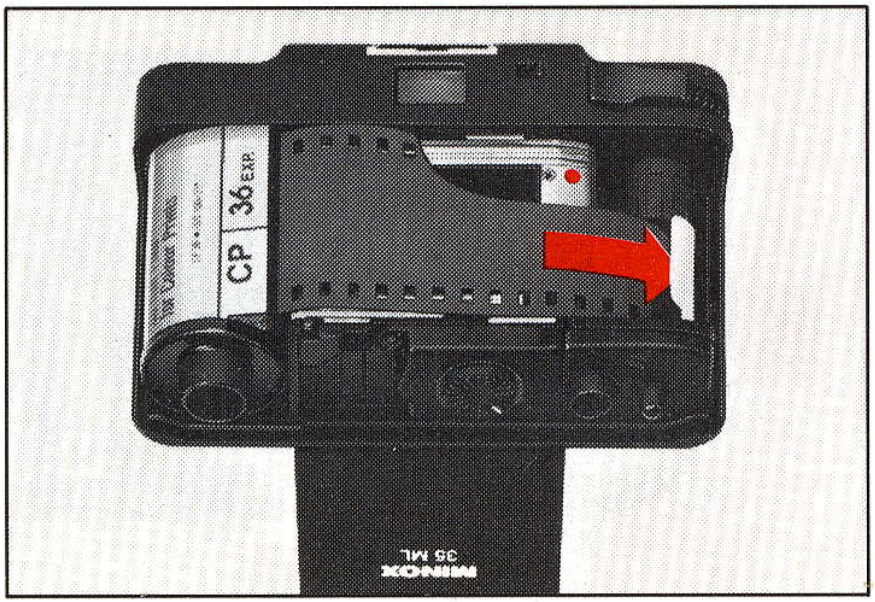
Never keep spent or too old batteries in the camera. Also remove the battery if you do not expect to use the camera for some time.

Loading the film

Never load the camera in direct sunlight – at least do it in the shade of your own body.

Swing over the back cover locking lever (25) in the camera base to uncover the recessed red dot, then pull off the back from below.

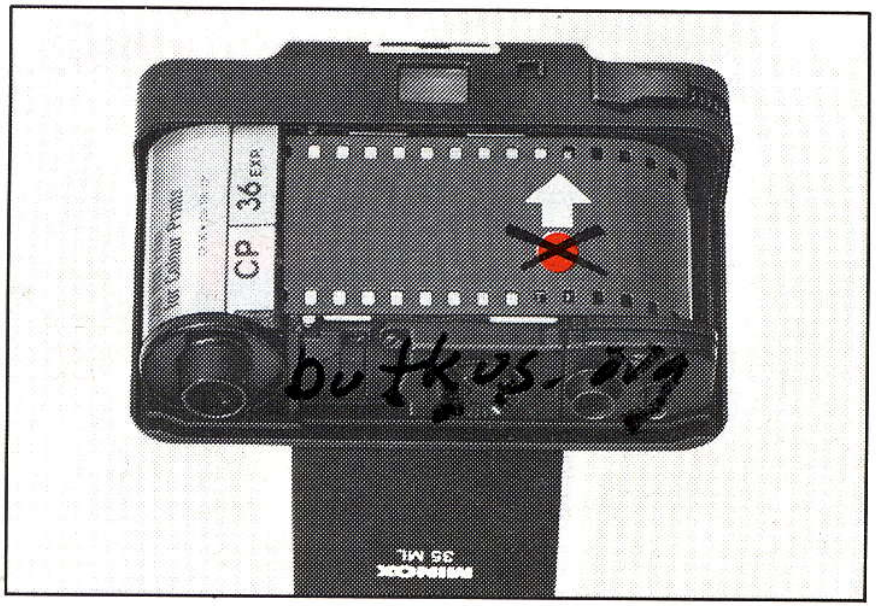




Check that the frame counter (1) is in loading position (black dot before 0). If not, press the key (9), open the front cover, operate the film transport lever till it locks and press the release button (3).

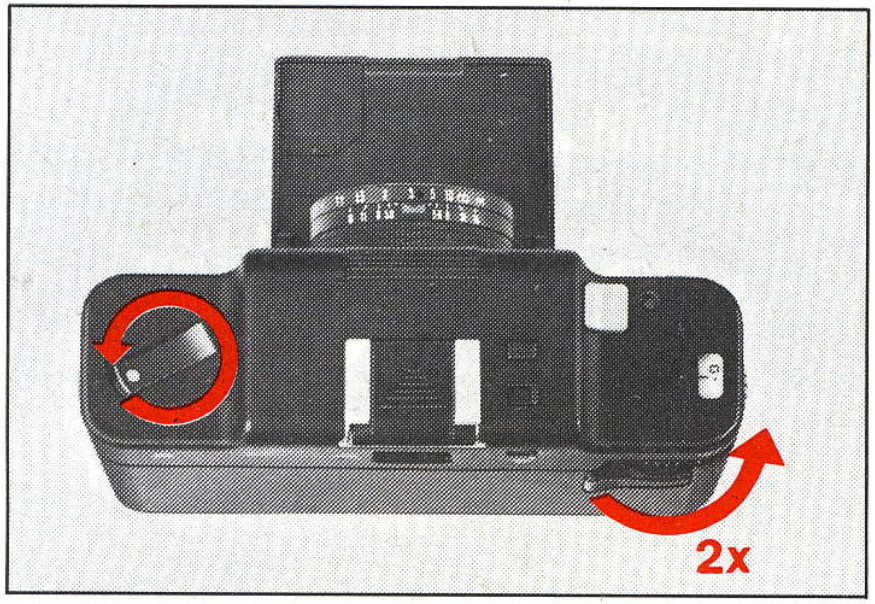
Insert the film cartridge in the film chamber (26) to the left of the film track with the film leader pointing to the right.

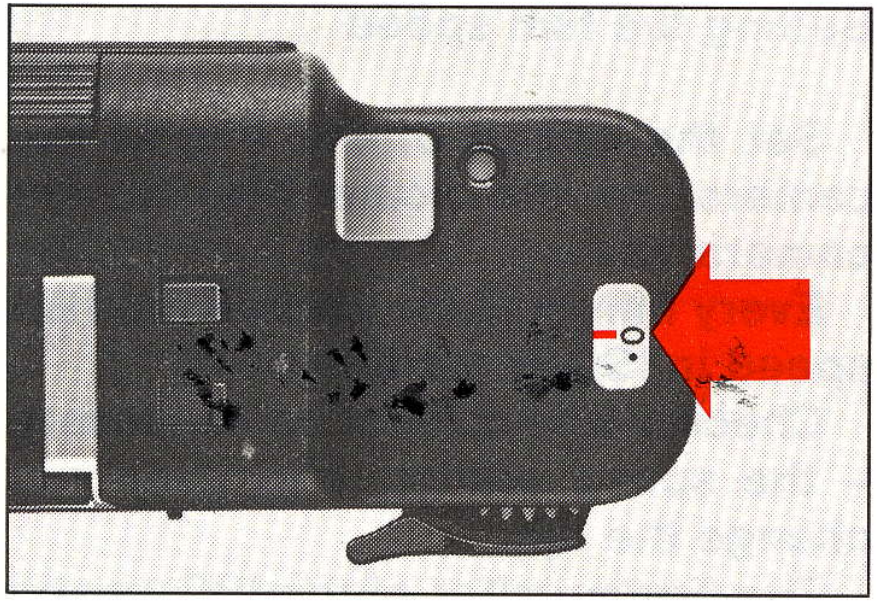
Slowly pull the film transport lever (20) until one of the two white flaps on the film take-up spool (21) swings open. Push the film leader between the open white flap and the black spool core.



Operate the film transport till the film lies flush on the film track and covers the red dot in the track. If necessary, press the shutter release (with the front cover open) in between operating the transport.

Replace the camera back by pushing it on and lock by turning the locking lever (25) to cover the red dot again.

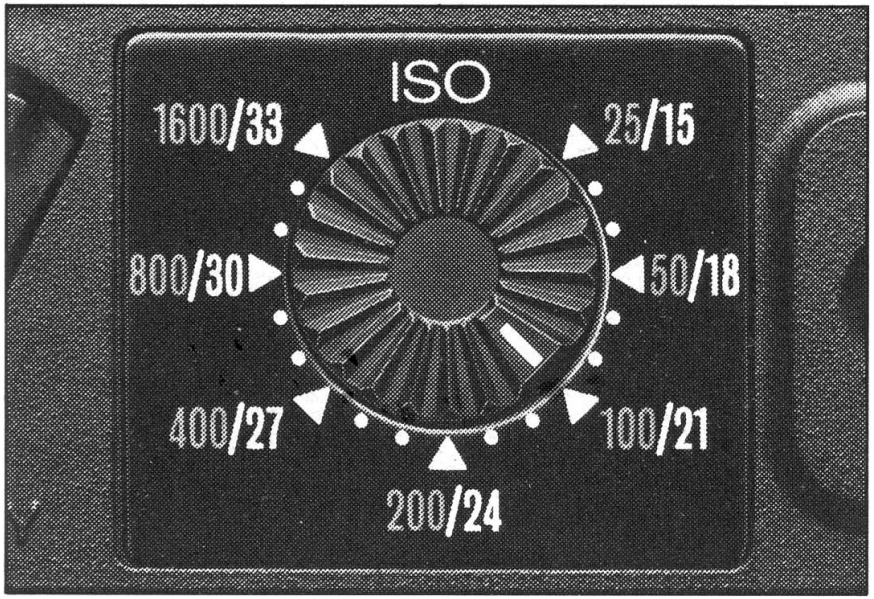




With the front cover open, operate the film transport, press the release button and advance the film once more. Check that the rewind crank (11) at the left in the camera top rotates as well – watch the light dot. If it does not rotate, load the film afresh.

The frame counter is now at 0. After setting the film speed (see next page) the camera is ready for shooting.

Setting the film speed



Set the speed of the film in the camera on the scale (24) in the camera base.

Every film packing carries the film speed in ISO is marked on it.

Check – and correct as necessary – the speed setting whenever you change the film.

The first number of the ISO speed rating is the same as the former ASA speed (red on the scale), the second number – after the oblique – is the former DIN value (green on the scale). The speed setting for auto exposure control covers films from ISO 25/15° to ISO 1600/33°.

With films faster than ISO 400/27° note also the recommendations on page 41.

Daylight shots

For all shots without flash you have a choice of two auto exposure (AE) modes.

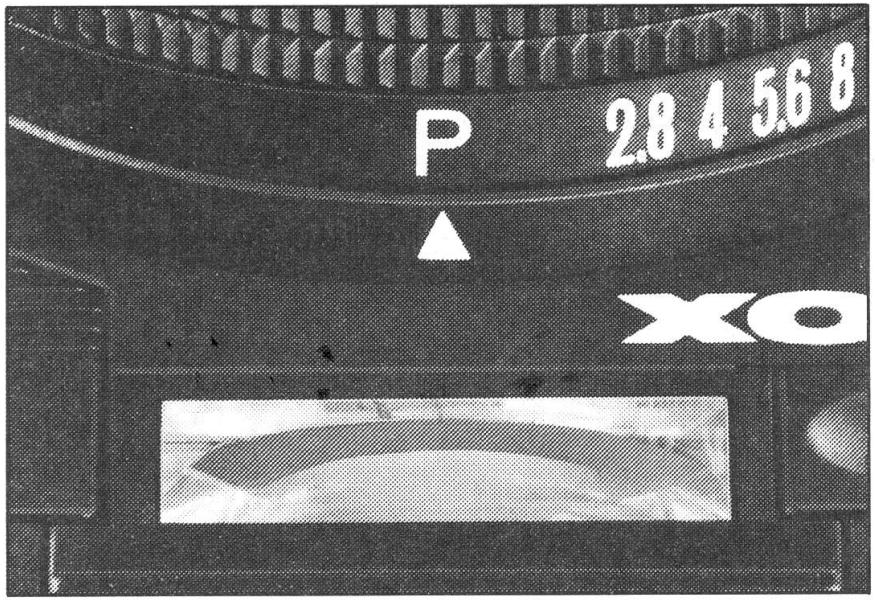
❶

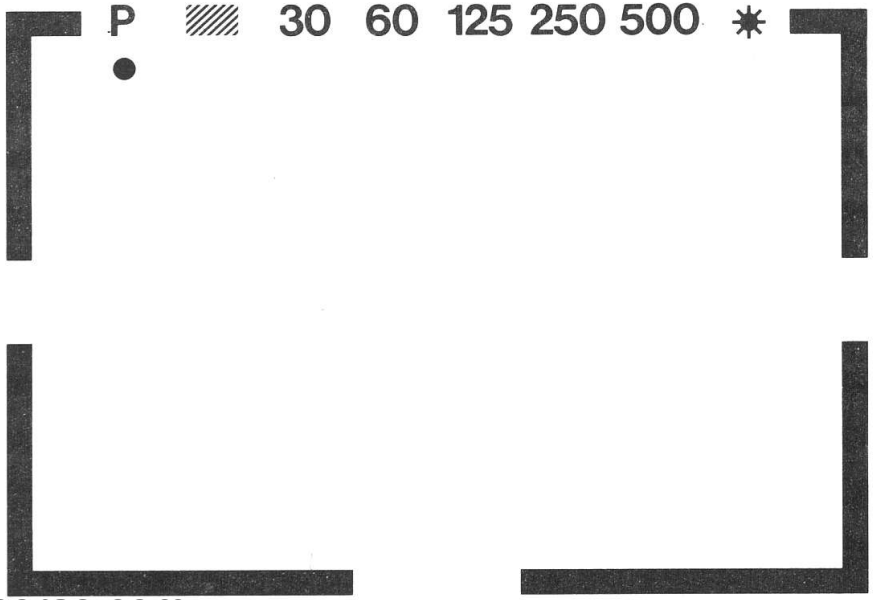
Programmed AE mode (pages 16-19). The auto exposure control selects both the size of the lens opening (aperture) and the exposure time (shutter speed). This is the simplest, fastest and most convenient way of shooting – but you neither know nor can control the aperture, depth of field or shutter speed. Set the aperture ring (13) to "P".

❷

Aperture-priority AE mode (pages 20-29). Set the lens aperture ring (13) to one of the marked f-stops. The auto exposure control now selects the correct shutter speed for the lens aperture chosen. This speed value is marked in the finder when you touch the release button. You can read the depth of field on the lens barrel. By changing the aperture setting you can modify depth of field and shutter speed to suit the subject.

Shooting in programmed AE mode





Programmed AE mode

Switching to programmed AE

Turn the aperture ring (13) to P.

Provided you have opened the front cover (17) and fully advanced the film transport (20), a red LED lights up below the P mark in the finder (18) when you touch (partly depress) the release button. That LED indicates that you are in programmed AE mode.

The brightness of the LED in the finder automatically matches the luminance of the finder image.

With ISO 100 film programmed AE mode extends from 1/500 sec. at f/16 (EV 17) to 1 sec. at f/2.8 (EV 3).

Setting the distance

Turn the ring with the scale (14) to set the distance to the main subject.

This setting does not have to be dead accurate. Even in less favourable conditions (slow film, poor light) the depth of field – the near and far limits of the sharp zone – extends at least from the lefthand tip of the red focusing index to the righthand tip. In brigt light and with medium to high-speed films the depth of field grows, up to the maximum extent from the lefthand "16" mark to the righthand "16".

Where the main subject is more than about 30 ft or 10 m away, set the distance scale (14) to the infinity stop – the infinity symbol ∞ in the centre of the red marker. The nearest distance is 3 ft or 0.9 m.

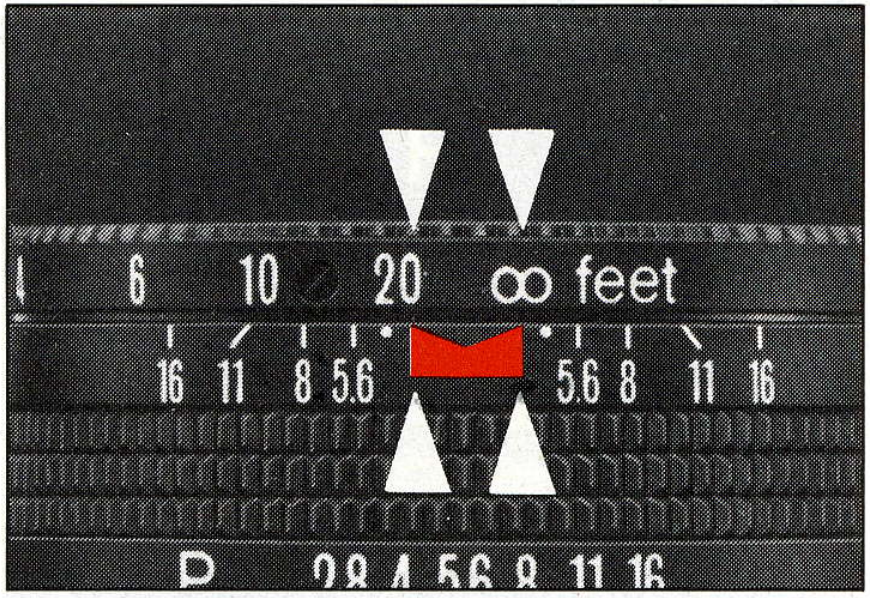
In practice you rarely set exact distances but usually distance ranges. Minimum sharp zones extend for instance from 22 ft (6.6 m) to infinity (set the infinity mark opposite the righthand tip of the red marker), or from about 6 ½ to 10 ft (2 to 3 m) etc.

The maximum sharp zone extends from 4 ft (1.2 m) to infinity (with righthand "16" mark opposite ∞).

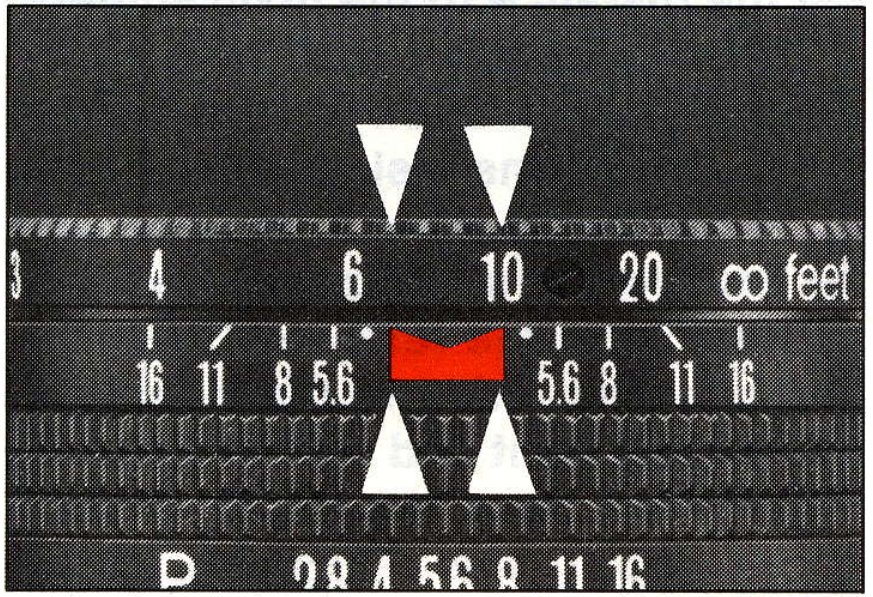
To select specific depth of field zones switch from programmed AE (P) to aperture-priority AE mode (see page 20).

Programmed AE mode

Typical minimum depth of field zones in programmed AE mode:



Top: Minimum sharp zone from 22 ft (6.6 m) to infinity.



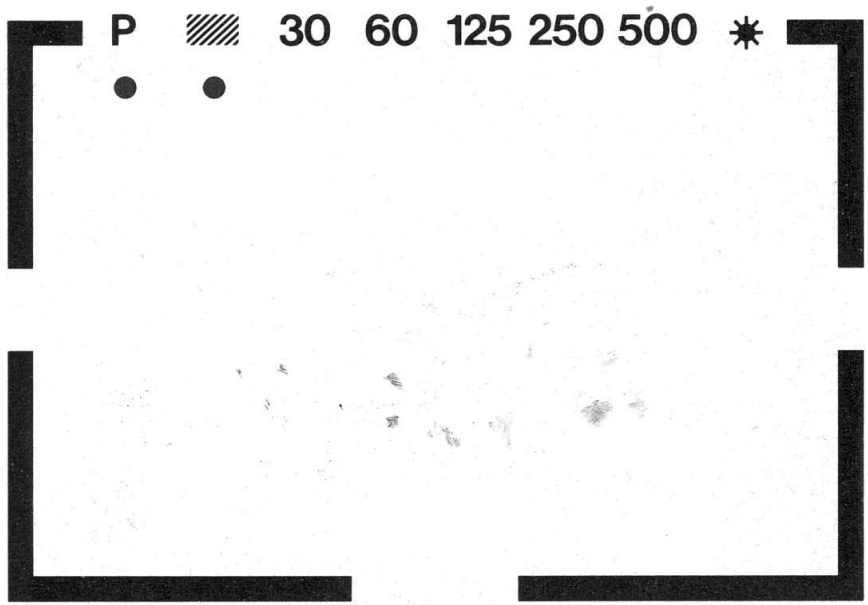
Bottom: Minimum sharp zone from 6 ½ to 10 ft (2 m to 3 m).

Raise the camera to your eye and look through the viewfinder (18).

The bright-line frame outlines the field of view. For upright shots turn the camera through 90°.

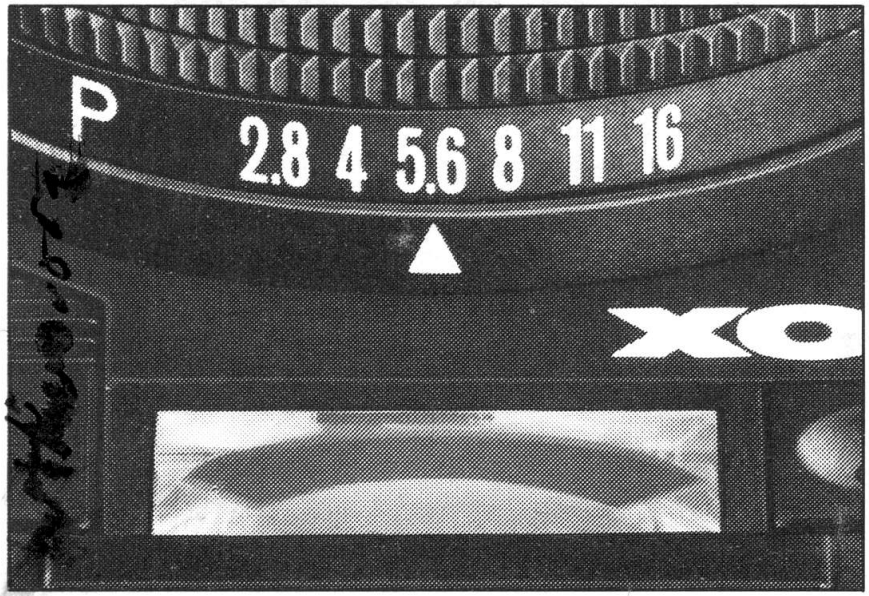
When you touch the yellow release button (3) (slightly depress it to its first pressure point) and the camera is set to programmed AE mode, a red LED should light up underneath the P at the top left of the finder. If it does not, operate the film transport (page 34).

If in addition to the red LED underneath P a second red dot lights up underneath the shaded bar to the right of it (slow speed warning for shutter speed slower than 1/30) use flash (page 38) or – depending on the subject – a tripod (page 39).



Finder display: Slow-speed warning

The shutter speed scale (1/30 to 1/500 sec.) at the top of the finder and the overexposure warning (star symbol to the right of 500) are not operative in programmed AE mode.



Set the aperture ring to an f-stop (here f/5.6): You are now in aperture-priority AE mode.

Shooting in aperture-priority AE mode

The aperture

Set the required f-stop – between f/2.8 and f/16 – including any intermediate value, on the aperture ring (13).

With an f-stop setting and without flash you are in aperture-priority AE mode.

With aperture-priority AE the exposure control selects a correct shutter speed to match the subject brightness, preset aperture and film speed. With ISO 100 film the shutter speed range extends from 1/500 to 1 sec.

To avoid accidental switching between the two AE modes you have to overcome a distinct resistance when moving the aperture ring between 2.8 and P.

The aperture or f-stop designates the size of the lens opening that admits light to the film while the shutter is open. You control the size of this opening by setting different f-stops. With larger openings (low f-values – maximum aperture f/2.8) you can use shorter exposure times (faster shutter speeds) but get more restricted depth of field. With a smaller lens opening (high f-value – smallest aperture f/16) you need longer exposure times (slower shutter speeds) but get an extended depth of field zone of sharpness.

In programmed AE mode (aperture ring set to P) the camera automatically selects both shutter speed and aperture. But in aperture-priority AE mode you can choose whether you want greater depth of field to suit your subject or a faster shutter speed.

The focusing range extends from 0.9 m or 3 ft to infinity (∞).

To set a precise distance (rarely needed) turn the distance scale (14) to centre that distance against the red index on the depth of field scale.

Depth of field: In the picture everything will be sharp from a distance on the scale opposite the lefthand mark of a given aperture (f-stop) to a distance opposite the matching righthand mark. Turn the ring with the distance scale (14) to bring the distances of all main subject parts within the available range. If necessary, set a different aperture on the aperture ring (13). With handheld shots (without a tripod) check also in the finder whether the selected aperture yields a shake-free shutter speed (page 27).

The depth of field markings for f/4 are two dots without numbers.

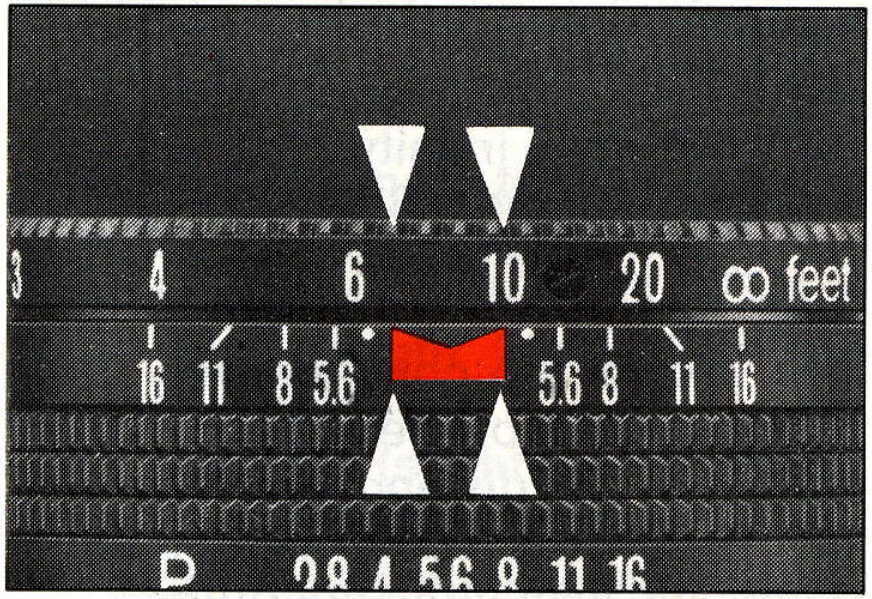
At the full aperture f/2.8 the two tips of the red index mark indicate the sharp zone (minimum depth of field).

Exemples:

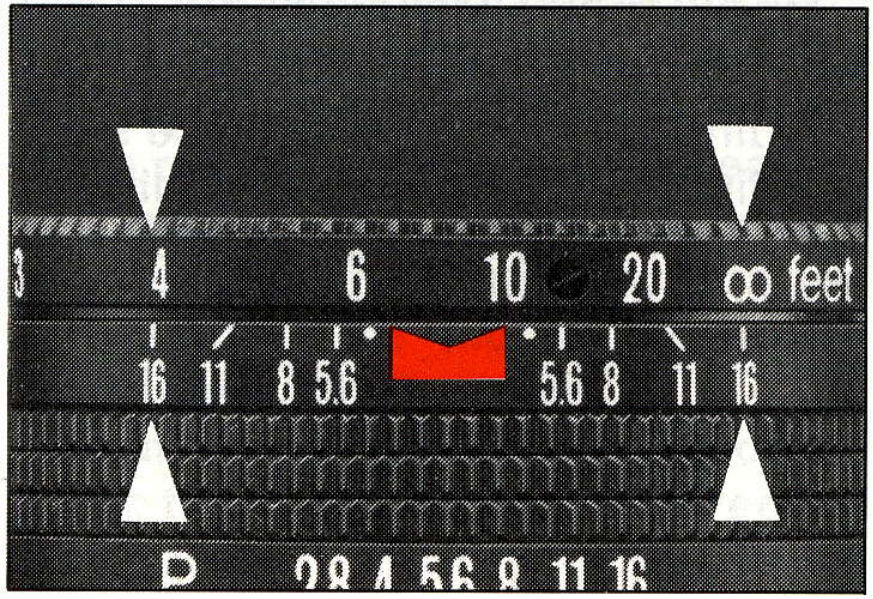
f/11, righthand "11" index set to infinity: Sharp zone from about 5 ½ ft (1.7 m) to infinity.

f/8, distance halfway between 10 and 20 ft: Sharp zone from about 10 to 20 ft (3 to 6 m).

Examples of depth of field control in aperture-priority AE mode:



Depth of field extends from 6 ½ to 10 ft (2 m to 3 m) at maximum aperture f/2.8 (tips of red index).



Same distance setting but depth of field at smallest stop f/16 extends from 4 ft (1.2 m) to infinity.

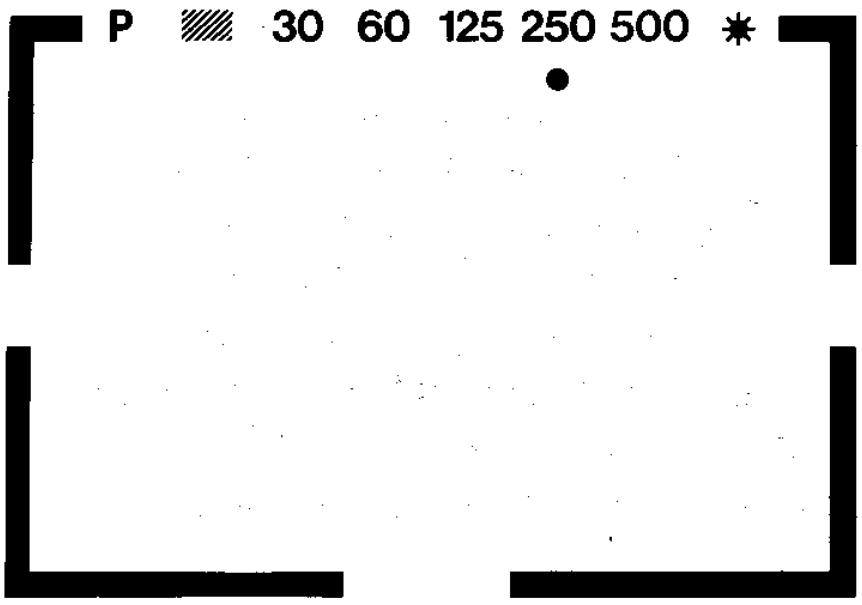
f/2.8, righthand tip of red marker at infinity (∞): Sharp zone from about 22 ft (6.6 m) to infinity.

f/16, righthand "16" mark to infinity (∞): Sharp zone from 4 ft (1.2 m) to infinity.

In view of the comparatively great depth of field of the lens you rarely have to set the distance really accurately. You need to do so mainly at close range and with large apertures.

Where the main subject is more than 30 ft (10 m) away (landscapes, buildings etc.) set the distance scale to infinity (∞), provided no significant parts of the subject are nearer than the near limit indicated for the depth of field zone.

At the minimum and maximum distances of the sharp zone indicated, sharpness drops gradually, not abruptly. Hence close attention to depth of field is more important for pictures to be greatly enlarged (e.g. projected slides) than for shots from which you only make postcard-size prints.



Aperture-priority AE mode, release button partly depressed: The AE control will expose at about 1/250 sec.

The finder and exposure display

Raise the camera to your eye and look through the viewfinder (18). The brightline frame outlines the field of view. For upright shots turn the camera through 90°.

On touching (slightly depressing) the yellow release button (3) a red dot (LED) should light up underneath one of the symbols or one of the numbers at the top edge of the finder. If it does not, operate the film transport. If the red dot appears underneath P, you are in programmed AE mode (see pages 16-19) and not in aperture-priority AE mode. So switch over (page 20) if needed.

Point the camera at the subject and touch the release button. The red dot appearing at the top of the finder

shows the exposure time with which the camera will make the exposure once you fully depress the button – for instance 250 = 1/250 sec.

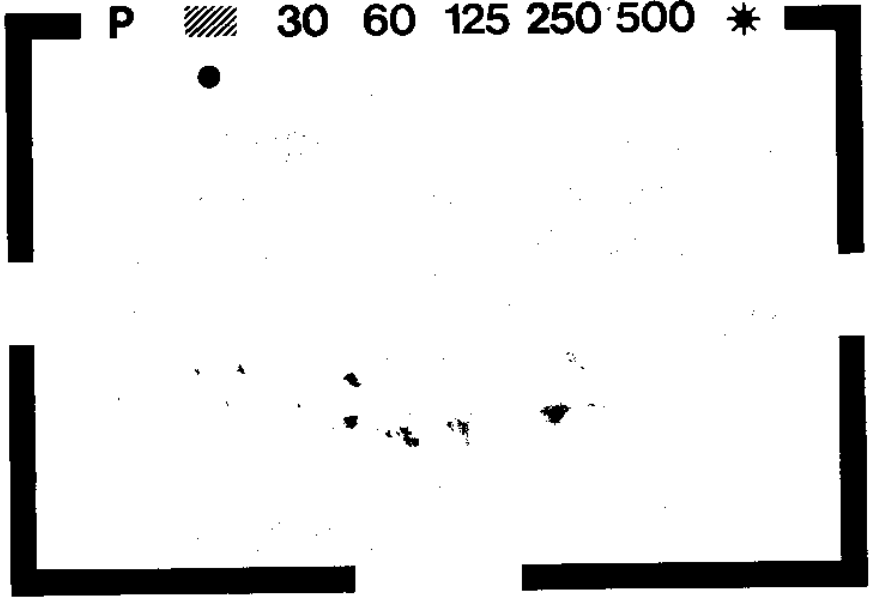
At intermediate speeds the red LED appears below the nearest speed, for instance below 250 for 1/200 sec.

The camera reads the exposure *when you touch the release button* and holds this time in its electronic memory. If you do not let go of the release (keeping the red LED in the exposure display lit) the camera then exposes at this held time as soon as you fully depress the release beyond its first pressure point to take the picture. (See also "Prereadings", page 30).

If you change the aperture after touching the release, for instance because the exposure display warns of camera shake or overexposure, let go of the release and partly depress again after setting the new aperture.

The brightness of the red LED in the finder automatically matches the brightness of the finder image.

The camera shake/slow-speed warning



Aperture-priority AE mode with release partly depressed: The slow-speed warning LED tells you that the exposure control will select a shutter speed slower than 1/30 sec.

If the red LED lights up underneath the tint area to the left of 30 (1/30 sec.) as you measure the exposure, the exposure time at the preselected aperture is longer than 1/30 sec. It may be 1/15, 1/5 or even 4 sec. With hand-held shots that risks camera shake.

If possible, set a larger aperture and take a new reading till the LED indicates 1/30 sec. or a faster speed.

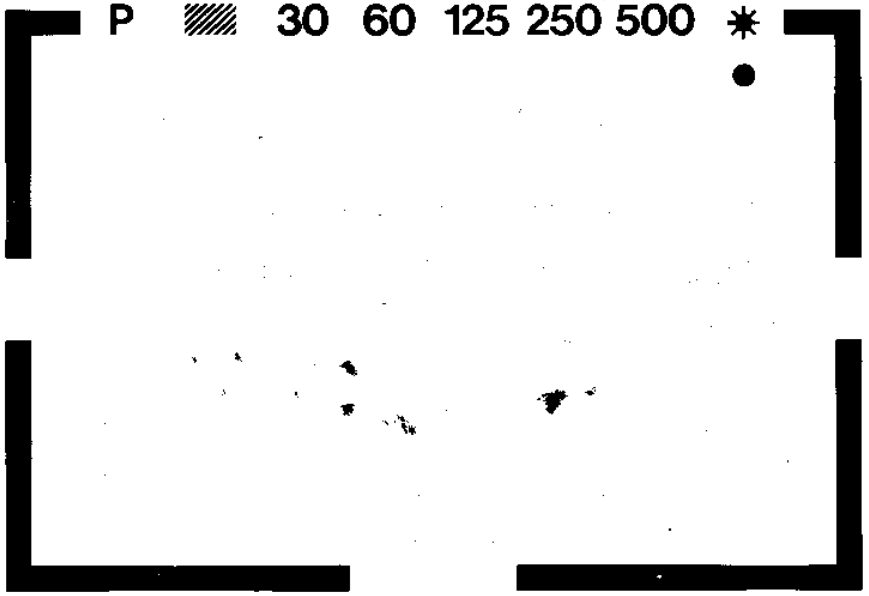
If the red slow-speed warning LED lights up even at f/2.8, fit a flash unit (page 38) or mount the camera on a tripod (page 39).

The overexposure warning

If the red LED underneath the star symbol to the right of 500 (1/500 sec.) lights up during an exposure reading, the shot could be overexposed at the preset aperture even with the shortest possible shutter speed of 1/500 sec.

So set a smaller aperture if possible and take a new reading until the LED lights up underneath 1/500 sec. or a longer time.

If the overexposure warning LED lights up even at the smallest aperture of f/16, you may possibly achieve a correct exposure by using a neutral-density filter (page 48). The ND filter quadruples the theoretically correct (but in practice not achievable) exposure time – for instance to 1/500 instead of 1/2000 sec.



Aperture-priority AE mode with release partly depressed: Overexposure warning.

Note the recommendations on page 41 when using extreme-speed films above ISO 400.

Indirect shutter speed preselection

Depending on light conditions, film speed and the preset aperture, the exposure read and indicated in the finder may be too long (e.g. 1/60 or 1/125 sec.) to avoid movement blur of fast moving objects. Here a fast shutter speed is more important than maximum depth of field.

Touch the release to read the exposure. If by chance this is 1/500 sec. leave the aperture as it stands and shoot.

If the LED indicates a longer time, let go of the release, set a larger aperture, take a fresh reading and if necessary repeat until you have 1/500 sec. If before that the aperture ring reaches the engagement stop for f/2.8, the exposure shown is the shortest feasible time for prevailing conditions. (Do not turn the ring against the resistance past 2.8, as you would then be switching to programmed AE mode.)

If the red LED indicates overexposure, let go of the release, set a smaller aperture and take a fresh reading. If necessary repeat till you get 1/500 sec. If before that the aperture ring reaches the smallest stop of f/16, you may be able to achieve a correct exposure with a neutral density filter (page 48). But this is not certain, especially if you use an ultraspeed film in bright light (see also page 41).

Releasing

Hold the camera firmly and steady with both hands. Keep your fingers clear of the lens (16), finder window (10) and meter cell (15). First partly depress the release button (3) to its first pressure point; the LED lights in the finder as the camera reads and automatically sets the exposure.

Gently depress the release button all the way: The camera takes the picture.

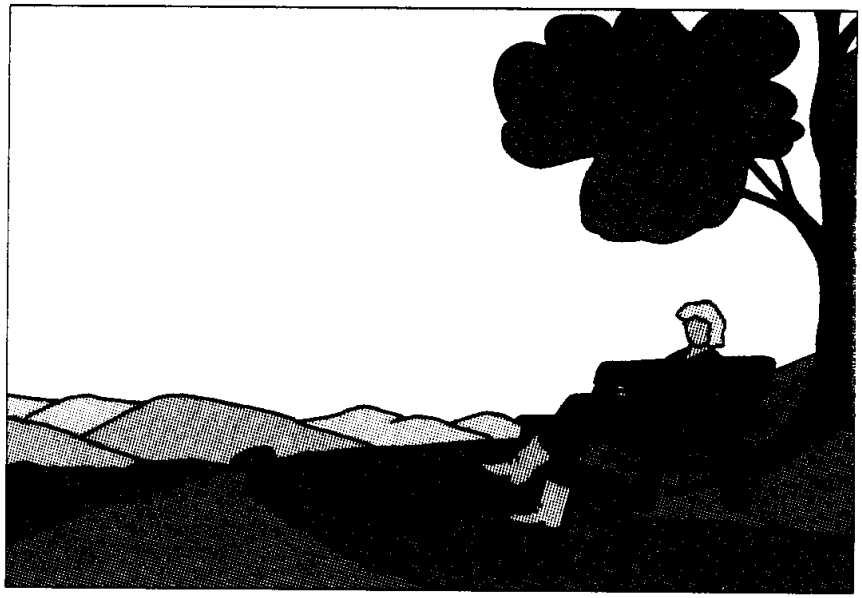
Prereadings

The automatic exposure meter yields a centre-weighted reading of the view in the finder because the main subject is usually near the centre of the picture.

If the main subject is near the edge, the brightness of the centre of the view may be wrong for the correct exposure of the main subject – for instance snow, sky, water etc. In such a case preread and hold the exposure for the subject itself, as follows:

Line up the main subject in the centre of the finder. Touch the release (3); one of the LEDs in the finder lights up as you take the reading. Do not let go of the release. Reframe the picture you want in the bright-line frame. Smoothly depress the release all the way to expose the picture.

The LED in the finder must in this case not go out between the first time you press the release for the reading till you fully depress it for the exposure.



Centre of view much brighter than main subject near edge –

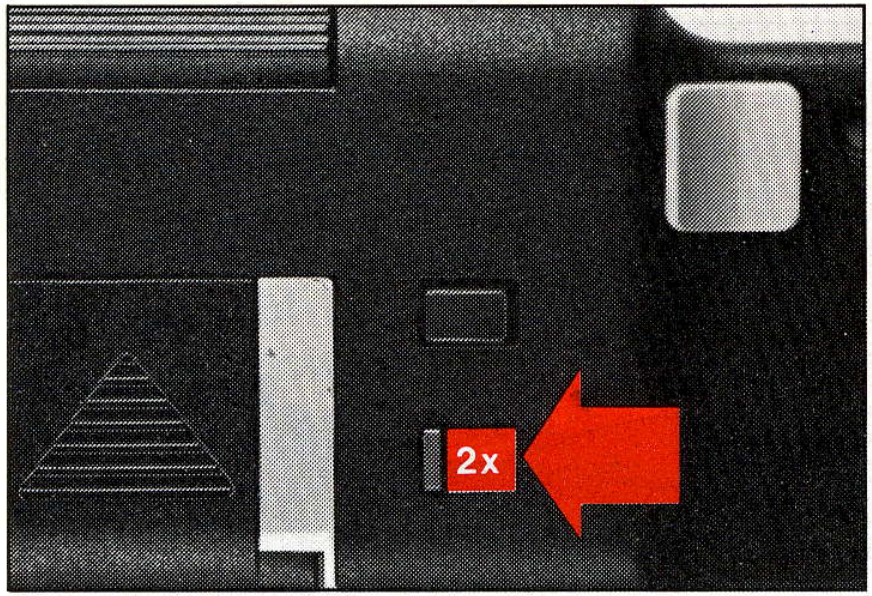
preread and hold the reading on a different part of the view.

Sometimes it is easier to read an object or figure of similar brightness in place of the main subject itself that may perhaps be moving too fast – e.g. a skier.

Letting go of the release clears the held reading.

You can hold readings in this way in programmed or in aperture-priority AE mode.

The backlight switch



In backlight significant parts of the subject are shaded. If these shadow areas are not to record as nearly black, they need more exposure than they get with a normal reading.

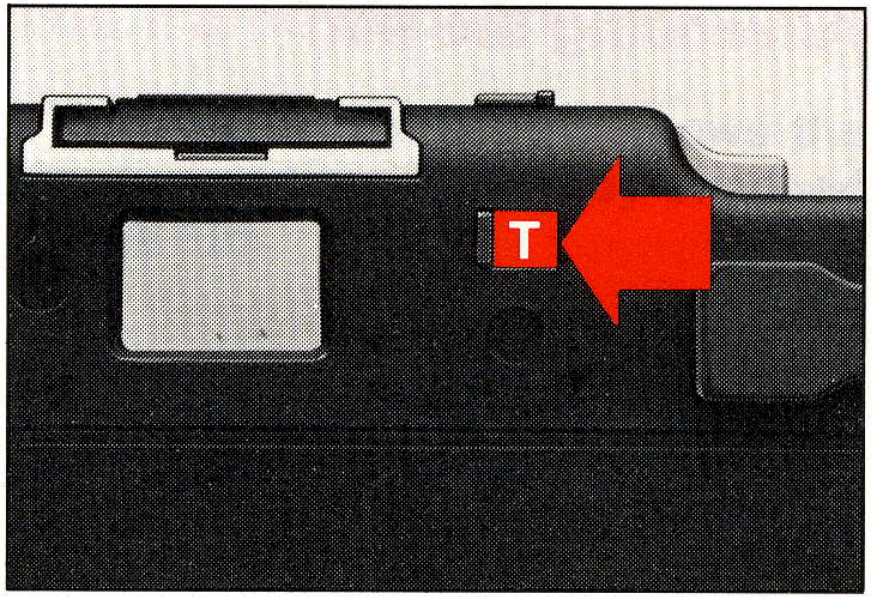
Push the backlight switch (4, small sliding switch to the right of the hot shoe) fully to the left to uncover a red square with "2 x" in white.

With this switch engaged all measured exposure times are doubled, for instance from 1/500 to 1/250 sec.

Disengage the backlight switch (covering the red "2 x" field) when you no longer want the exposure increase for further exposures.

The backlight switch can be used in programmed AE and in aperture-priority AE mode. In the latter mode the finder shows the actual increased exposure time.

The selftimer



Push the small sliding switch (19) to the right of the finder eyepiece fully to the left. This uncovers a white "T" (timer) on red.

With the selftimer engaged each exposure only takes place about 10 sec. after you fully depress the yellow release button.

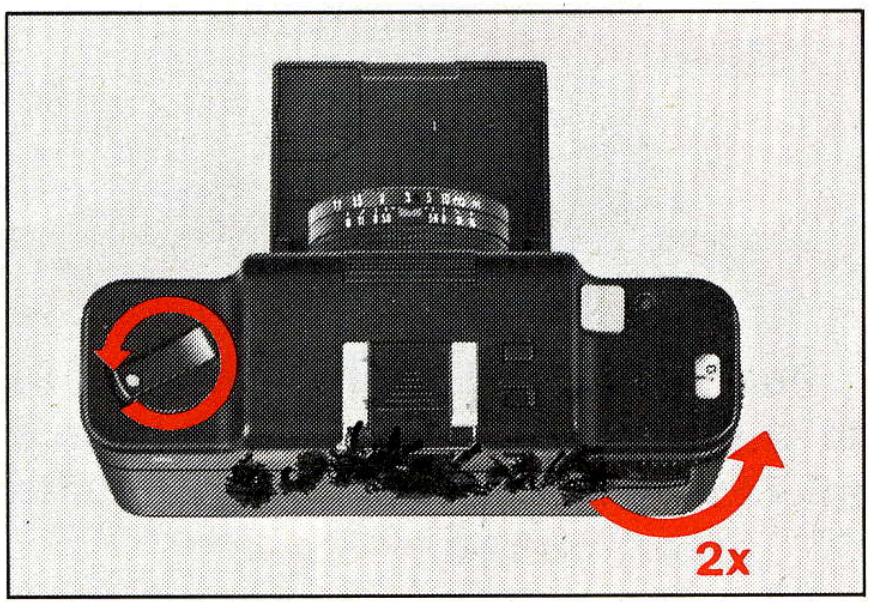
During these 10 sec. a red LED (7) blinks on the camera front in two stages of increasing blink rate.

If after pressing the release you push the selftimer switch back during the rundown period, the exposure still takes place only after the 10 sec. delay.

Disengage the sliding switch (covering the red window with "T") when you intend to make no more selftimed exposures.

The selftimer is operative in programmed AE and in aperture-priority AE mode.

Advancing the film

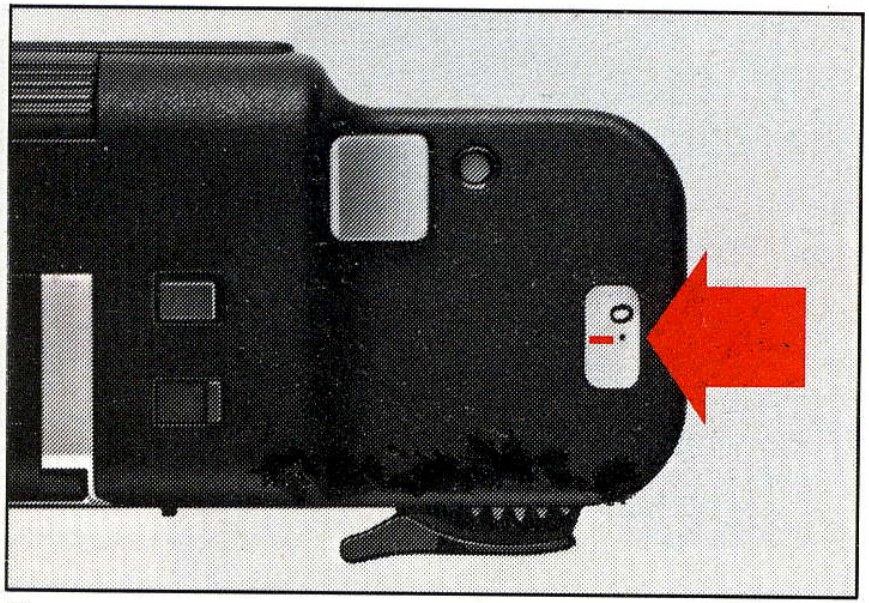


Pull the film transport lever (20) fully to the right and forward, then repeat this movement.

The lever locks as soon as the film is advanced by one frame – that also unblocks the release for the next exposure. If you have not pulled the lever fully the two times, you can operate it a third time till it locks.

Do not hold the rewind crank (11) during film transport. Turning of the crank (watch the light dot) during film transport shows that you have a film in the camera and are advancing it correctly.

If the film transport lever locks before the double pull and does not free the release, the film is fully exposed – after 12, 20, 24 or 36 exposures, depending on the film. Watch the frame counter.



Frame counter in start position (film loading position)

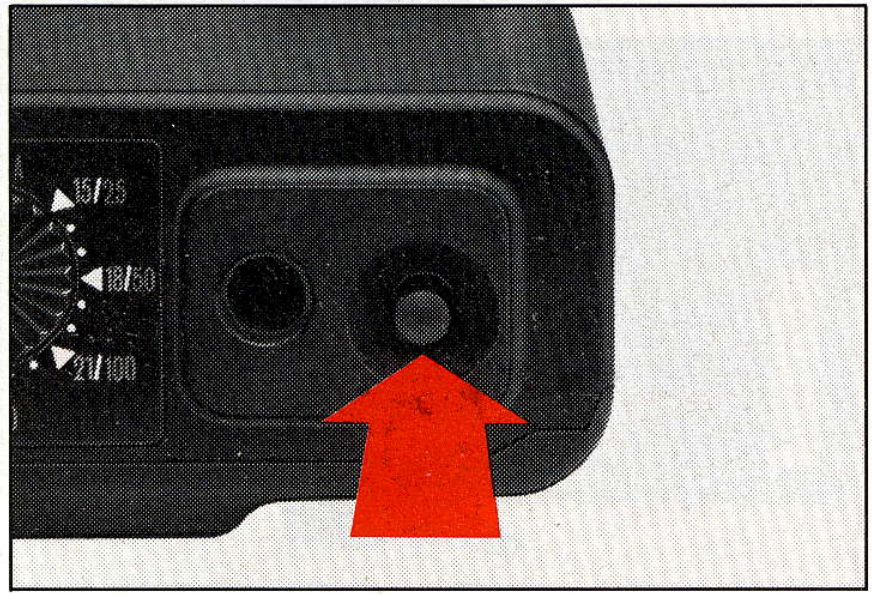
The frame counter

The frame counter (1) shows the number of frames already exposed on the film.

On removing the camera back, the frame counter returns to its start position (dot before zero) – but only if you had not operated the film transport (not even partly) after the last exposures.

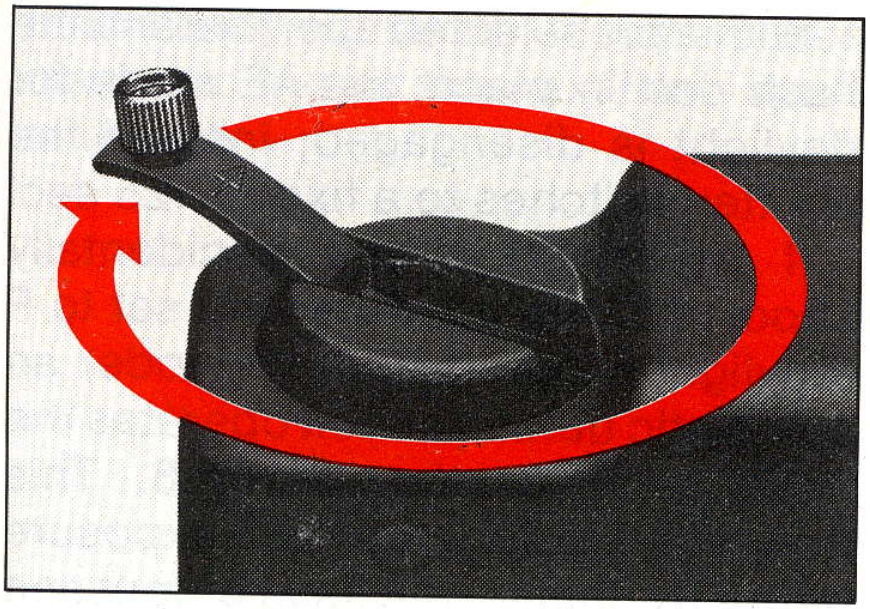
Otherwise (with the camera back removed for film changing) open the front cover and press the release button.

Unloading the film



The film is fully exposed when you cannot pull the transport lever any further and the yellow release button is inoperative. check the frame counter. To rewind the exposed film into its cartridge:

Depress the rewind release button (22) in the recess at the righthand end of the camera base, and let go again.



Unfold the rewind crank end with the light dot (11), in the camera top at the left.

Turn the crank clockwise (see arrow on the crank) until it suddenly turns more freely.

Push over the back cover locking lever (25) in the camera base to uncover a red dot. Pull off the camera back downwards. Remove the film cartridge from the camera.

Check that the frame counter is in its start position (dot before zero). If not, operate the film transport before loading a new film, open the front cover and press the release button.

Shooting with flash

The hot shoe of the Minox 35 ML takes any electronic flash unit with centre contact in its foot – not just the special Minox computer flash units for the Minox 35 ML (pages 44-46).

Push the black cover out of the hot shoe (6) to the rear. Fully push the foot of the flash unit into the camera's hot shoe. Set a specific aperture between f/2.8 and f/16 – as indicated in the instructions for the flash unit – on the camera's aperture ring (13). Do not use flash in the programmed AE mode (with the aperture ring at P).

Set the distance in the usual way as for aperture-priority AE (page 22); check the depth of field ring.

With a preselected aperture and the flash unit in place, the AE mode for daylight is disengaged; instead the shutter switches to a fixed 1/125 sec.

If nevertheless you accidentally shoot with the aperture ring set to P (daylight programmed AE mode) an automatic default circuit operates the flash at 1/40 sec. at f/2.8. This however yields a correct exposure only if by chance the flash output and subject distance call for f/2.8. This default switching merely provides a way of saving a shot even with wrong operation, though possibly with inferior image quality.

With some flash units – not the special Minox units for the 35 ML – you have to operate a film transport immediately after each flash shot. Otherwise – due to the circuitry of such units – the flash does not provide a

flash ready signal or, in some cases, may even trigger the next flash spontaneously.

Slow speeds – the tripod

The slow-speed warning LED in the finder (pages 19, 27) only indicates that the shutter speed is slower than 1/30 sec. and thus risks camera shake. For such slow speeds support the camera on or against something. Best of all, mount it on a tripod.

The Minox pocket tripod (page 50) is a particularly small and handy support.

Shooting from a tripod

Screw the tripod bush (23) in the camera base on to the screw of the tripod. Do not screw down to hard – rather tighten the screw plate of the tripod against the camera body.

Screw a cable release into the socket (2) to the right of the yellow release button.

With larger but not very firm tripods it may be preferable to release the camera with the selftimer (page 33). That allows any camera and tripod vibration to die down during the 10 sec. selftimer rundown.

Long-exposure limits

The longest exposure time of the Minox 35 ML is 1 sec. with ISO 100 film. This time varies with different ISO speed settings:

ISO	Longest time approx.
25/15°	4 sec.
50/18°	2 sec.
100/21°	1 sec.
200/24°	1/2 sec.
400/27°	1/4 sec.
800/30°	1/8 sec.
1600/33°	1/16 sec.

Extreme-speed films

In compact cameras with fixed lens – including also the Minox 35 ML – modern extreme-speed films of around ISO 1000 to ISO 1600 really come into their own with poor-light subjects to be shot without flash. Thus, other things being equal, an ISO 1000 film only needs 1/50 sec. exposure where a standard ISO 100 film would need 1/5 sec. with its attendant risk of camera shake and movement blur.

On the other hand in bright sunlight and with the smallest f/16 aperture and fastest 1/500 sec. shutter speed, such an extreme-speed film would still be overexposed. For instance a frequent exposure setting with a standard ISO 100 film in sunshine might be 1/250 sec. at f/11. An ISO 1000 film would in theory need 1/1250 sec. even at f/16 – at the fastest shutter speed of the 35 ML such a scene would be 150% overexposed. On a colour print film this usually still yields acceptable enlargements – but the same degree of overexposure would ruin a colour slide film.

In aperture-priority AE mode (page 20) the finder shows this overexposure risk (28), but not in programmed AE mode (page 16). In case of doubt therefore preferably work in aperture-priority AE mode.

With the Minox 35 ML you can correct up to 4-fold overexposure – i.e. up to the equivalent of 1/2000 sec. at f/16 – by fitting a Minox 35 neutral-density filter (page 48). The ND filter increases the exposure by a 4 x factor – in other words it reduces the effec-

tive film speed to one-quarter. Thus with the ND filter you can expose an ISO 1000 film as for ISO 250. But extreme lighting levels – sunshine and brilliant landscapes – could lead to overexposure even with this ND filter. So whenever possible use extreme-speed films in a camera such as the 35 ML only as a special material for non-flash exposures in poor light and not as a universal film. Recommended for daylight and flash shots are standard films of ISO 100 to ISO 200.

Accessories

Flash units

Three automatic flash units – the MF 35, MF 35 ST and MT 35 – are specially matched in shape and function to the Minox 35 ML. They are usable also with other Minox 35 models – GT, PL, GL and EL – but are less perfectly adapted in shape to these models.

The Minox FC 35, FC 35 ST and TC 35 flash units (all for the 35 GT, PL, GL and EL) are not usable with the Minox 35 ML. "M" in the model designation indicates flashes specially designed for the 35 ML.

Small yet efficient automatic flash unit with guide No. 18/60 (m/ft, ISO 100). Two aperture options at all film speeds. Range in automatic mode up to 4.5 and 3.2 m (15 and 10 ½ft respectively). Also manual mode which permits for instance flash shots up to 18 m or 60 ft at f/2.8 with ISO 1000 film.

Recycling time approx. 10 sec. (approx. 7 sec. with rechargeable nicads). Capacity approx. 60-80 flashes per set of batteries (20 flashes per charge with nicads).

Size: 75 x 56 x 33.5 mm (3 x 2.2 x 1.3 in.). Weight 76 g, or 100 g with batteries (2.7 and 3.5 oz respectively). Illustrated on next page.

The Minox MF 35 ST

The shape, size, automatic features and range are the same as for the MF 35 but the MF 35 ST has a series-thyristor circuit that reduces recycling times at shorter flash ranges and also increases the flash capacity per battery set.

Recycling time approx. 0.5 to 10 sec. (0.5 to 7 sec. with rechargeable nicads). Capacity per battery set: 60-200 flashes (20-80 flashes with nicads).

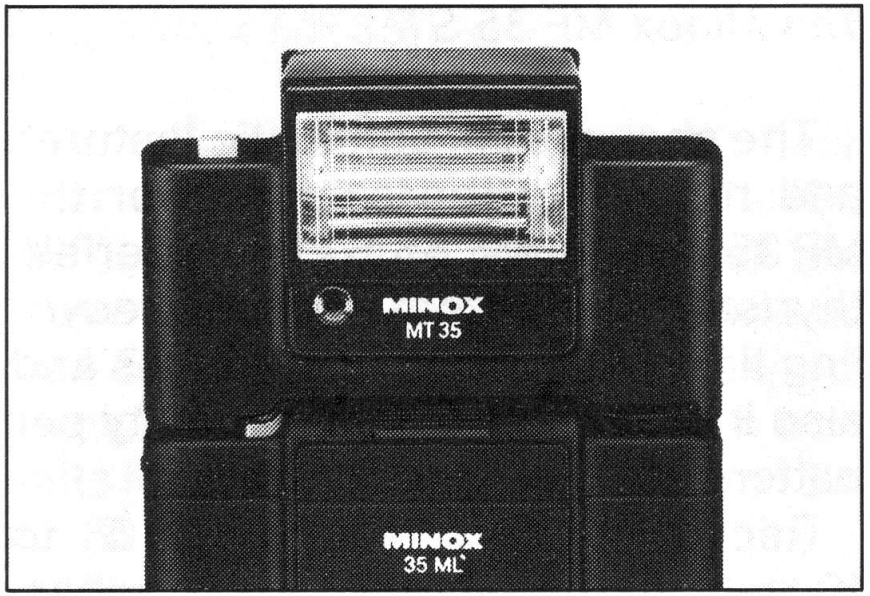
Size: 75 x 56 x 33.5 mm (3 x 2.2 x 1.3 in.). Weight: 76 g, or 100 g with batteries (2.7 and 3.5 oz. respectively).

Minox 35 ST. Two auto aperture options, guide No. 18/60, series-thyristor circuit.
Minox MF 35: Same model but without series-thyristor.

A specially convenient high-power flash unit for the Minox 35 ML. Guide No. 26/85 (m/ft at ISO 100).

The Vario-computer permits a free choice of all six apertures of Minox 35 cameras at any film speed. The range in automatic mode increases with the film speed. For example with ISO 800 film the range in automatic mode extends from about 4.5 to 26 m (15-85 ft) at f/2.8 – or 0.9-4.5 m (3-15 ft) at f/16. A distance scale shows the automatic range at each setting.

The reflector tilts upwards for bounce flash. Auto check with red/green signal for trial flash. Automatically switches off when not in use. Battery check, series-thyristor circuit.



Minox MT 35: Vario-computer with guide No. 26/85 and series thyristor.

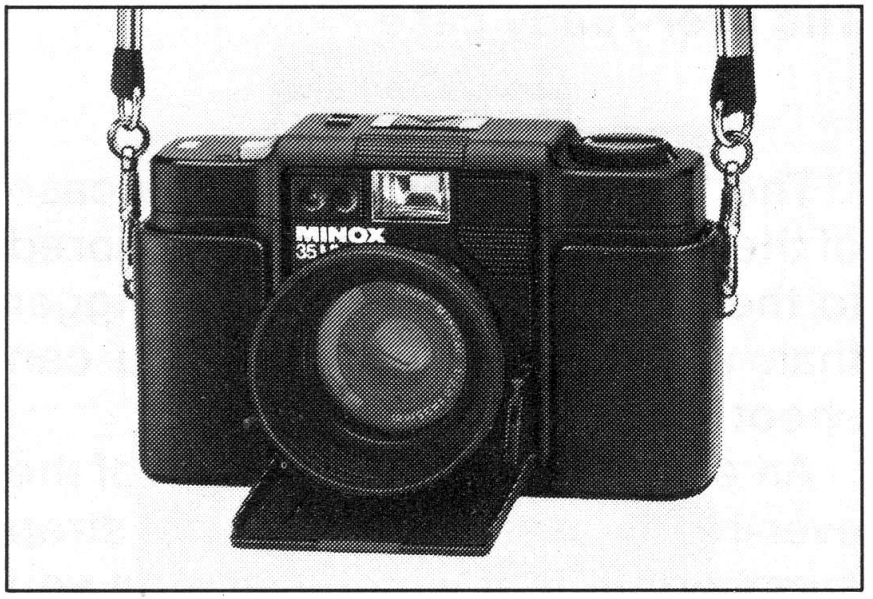
The ever-ready case

The black leather ever-ready case of the Minox 35 ML is closely tailored to the camera so that it is no bigger than a soft zip pouch. But you can shoot much faster with it.

An eyelet at the left and right of the ever-ready case takes the wrist strap supplied; fit it at whichever side you find more convenient for handling. The 90 cm (3 ft) neckstrap – an optional extra accessory – attaches to both eyelets for carrying the camera round the neck.

You can remove the top of the ever-ready case altogether. If you carry the Minox 35 ML slung around your neck in the bottom section of the case with the camera front open and the filter and lens hood in place, you can walk around and be instantly ready to shoot (see illustration on next page).

Push-on filters with collapsible lens hood and leather case



The Minox 35 ML takes Minox 35 filters for the models 35 GT/PL/PE/ML, but not 35 GL/EL which have a different lens mount diameter.

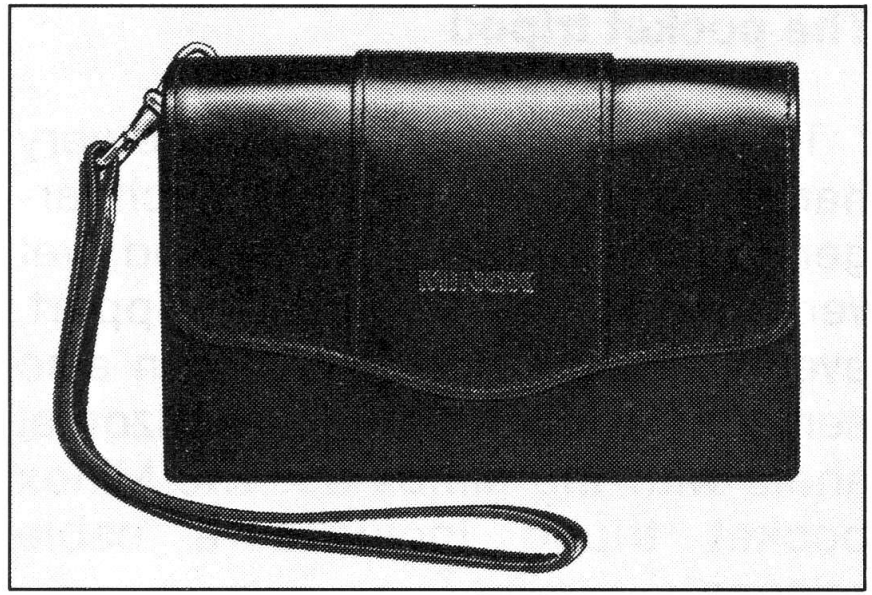
The Skylight filter

This reduces any blue cast liable to arise in colour slides taken by brilliant blue skylight. In daylight the filter also absorbs ultraviolet rays that could – with any film – impair definition.

The 4 x neutral density filter

This filter is needed for extreme-speed films (ISO 400 and faster) in bright daylight where even 1/500 sec. at f/16 would yield overexposure.

The belt and wrist pouch



This smart elegant case is a piece of luxury leatherwork in top-quality soft burgundy-red Naskapi leather. It is totally unlike any ever-ready case: It ideally matches smart leisurewear and you can carry it either slung around your wrist or fixed to your belt (up to 4 cm or 1 ½ in. wide). When used as a belt case, remove the leather wrist strap with its brass snap hook.

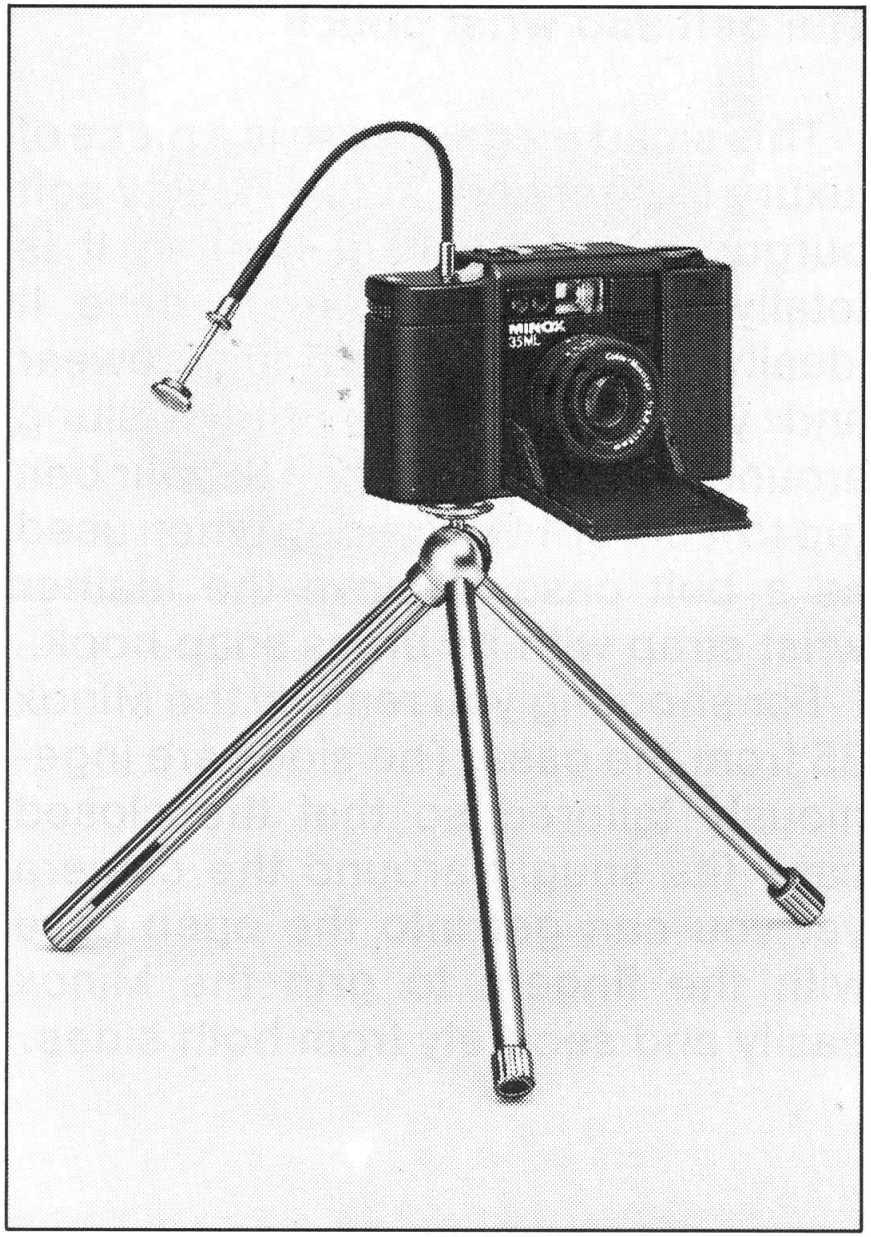
For shooting you remove the Minox 35 from the case. The sides are ingeniously tailored so that the closed case fits snugly around the camera yet you can get into the open case with the fingers to grip the Minox easily and securely from both sides.

The pocket tripod

The Minox pocket tripod is a very handy camera stand – not much larger than a pencil when closed, yet very rigid as a table and wall support, even on rough surfaces. It can also serve as a chestpod for horizontal shots with the Minox 35. The Minox pocket tripod includes a cable release.

Screw the tripod screw into the bush in the camera base. Do not screw the camera too tightly onto the tripod but tighten instead the large milled plate of the tripod against the camera body.

Screw a cable release into the socket (2) next to the yellow release button.



Care of the camera

Periodically clean the front lens elements (16), the outer finder window surfaces (10 and 18) and the curved window in front of the silicon cell (15). Remove any dust with a soft brush, air blower or lens cleaning tissue – these are obtainable from photo dealers. Do not use lens cleaning fluids.

Immediately remove fingerprints from the front lens (16); such marks greatly reduce definition.

When changing film, check that the back of the lens and the camera interior are also clean and dust-free.

Technical data

Size: 32 x 62 x 100 mm (1.3 x 2.4 x 3.9 in.).
Weight: Approx. 180 g (6.35 oz) with battery.
Picture size: 24 x 36 mm (standard 35 mm cartridge).
Four-element lens: 35 mm Color-Minotar f/2.8.
Focusing range: 90 cm (3 ft) to inifinity.
Electronic exposure control in two modes: Aperture-priority AE covering apertures from f/2.8 to f/16; electronic shutter with 1/500 sec. to 1 sec. at ISO 100/21°.
Programmed AE with combined aperture and shutter speed control.
LED signals in finder show mode, shutter speeds, overexposure warning and slow-speed warning.
Reading held on partly depressing release button.
Backlight switch to double exposure time.
Film speed scale with settings from ISO 25/15° to ISO 1600/33°.
Electronic selftimer (approx. 10 sec. rundown).
Hot shoe and automatic selection of 1/125 sec. on shutter.
Power source: PX 28 lithium or silver oxide battery (6 volts).
Battery check.
Cable release socket.
Tripod bush.
Takeup spool with automatic film attachment.
Body: Matt black glass fibre-reinforced Makrolon.
Made by: MINOX GmbH, Giessen, West Germany.