Only perfect knowledge of all functions of the ALPA will give you the best results and avoid unnecessary troubles.

It is therefore in your own interest to study these instructions carefully, starting with the brief instruction guide attached to the inside back cover.

Manufactured in Switzerland by
PIGNONS S.A., Ballaigues

Instructions for use of the ALPA 6c 35 mm single-lens reflex camera

ALPA REFLEX 35 mm

The ALPA 6c represents the result of years of research, development and quality controls in the manufacture of this Swiss precision camera to meet the ever increasing demands of the photographer. It accepts the same lenses and accessories as the previous models ALPA 4, 5, 6, 7, 8 and 4b, 5b, 6b, 7b and 8b, except for the everready case.
For quick reference there is a brief summary of the instructions for use at the end of this booklet.

Please note that these instructions refer exclusively to the use of the ALPA.
For further information, kindly write for the complete textbook "The ALPA Camera" by Jacob Deschin ($ 4.95).

A. SPECIFICATIONS

The ALPA 6c has a built-in prism, which offers you straight (0°) through-the-lens framing, focusing and depth-of-field control on the groundglass.
Operated by a hairtrigger release, the lightning reflex mirror of the ALPA flips up instantly for the exposure and returns into viewing position immediately thereafter. There is no noticeable image blackout, even if you keep the release button depressed.

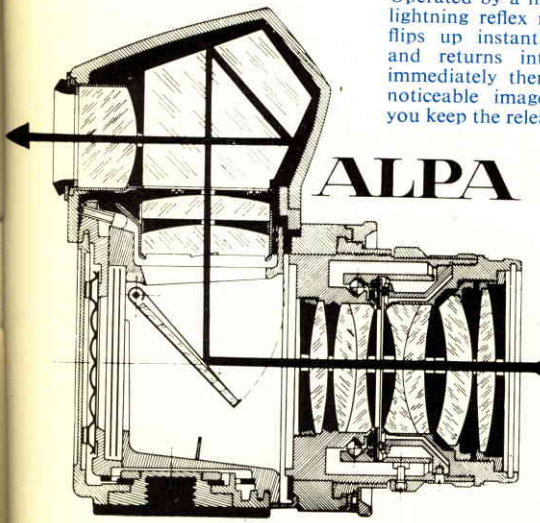


Fig. 1

Path of light rays in ALPA 6c with Macro-Switar. As the rays reaching the eye are parallel to the optical axis, we speak of a viewing angle of 0°.

Like the earlier models the ALPA 6c is made of a light-metal, which combines exceptionally light-weight with extreme sturdiness. The body is protected by a plastic material that is impervious to sweat, cold, heat and other climatic influences. The camera has been designed for utmost simplicity and speed of operation, with fingertip controls that are readily accessible.

Although the ALPA 6c is practically foolproof, it is highly recommended that you study these instructions, or at least the brief instruction guide at the end of this booklet, before operating the camera.

Important : Two earlier 50 mm standard lenses, which came in a retractable mount, the Alorar 50 mm f/3.5 and the Alfinon 50 mm f/2.8, should not be used with the ALPA 6c or the ALPA b models. Since the lightning reflex mirror of these cameras cannot be pushed back, it will be damaged, if these lenses are retracted.

B. EXTERNAL CONTROLS

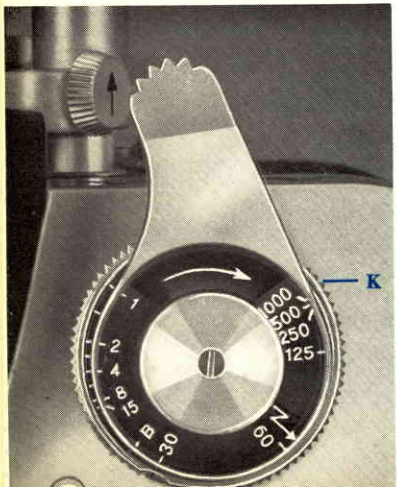
Focal plane shutter : The winding knob (K) cocks the shutter, transports the film and counts the exposures. This operation is greatly facilitated by a frontal rapid wind lever, attached to this knob. ONE stroke of the lever winds your ALPA instantly and without removing the camera from your eye. The short clockwise turn (about 160°) of lever and knob encounters only a slight resistance and ends with a complete stop.

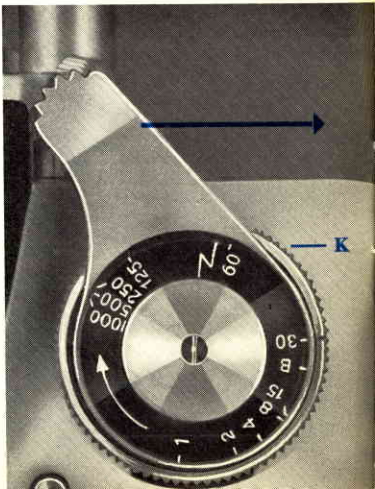
Important : Please do not try to force the lever past this point ! If the rapid wind lever is not fully wound, the release button will be blocked and no exposure can be taken, until you advance it to its final stop.

Fig. 2

Left : position of rapid wind lever, if ALPA 6c is wound.

Right : position, if ALPA 6c is not wound.





Setting the Shutter Speed: For changing the shutter speeds press the milled outer ring of the film wind knob downwards and turn it in either direction, until the index mark is opposite the required speed. When released the milled ring snaps up again automatically. Although it can be done either way, it is recommended to wind the camera first and change the speeds afterwards.

Both the position of the rapid wind lever and the arrow on the winding knob indicate, if the shutter is cocked or not (fig. 2).

The speed markings follow the international system: 1, 1/2, 1/4, 1/8, 1/15 — B — 1/30, 1/60, 1/125, 1/250, 1/500 and 1/1000 second. Additional speeds of 3/4, 1/3, 1/6, 1/38, 1/48, 1/70, 1/90 and 1/160 second are indicated by intermediate markings (fig. 4).

Other intermediate speeds may be set between calibrations for a total of 60 different settings. The only exceptions are the 2 zones marked with a continuous line at the edge

Fig. 3

Depress outer ring and set index mark opposite required shutter speed.

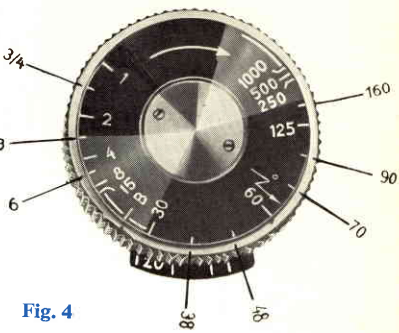


Fig. 4

of the ring; there are no settings faster than 1/1000 second, between 1/15 and B and between B and 1/30 second. If you set the index mark opposite past 1/1000 second, the shutter operates, but does not open. Position B (bulb) is used for exposures longer than 1 second. The shutter stays open, as long as you depress the release knob. For time exposures (T), it is recommended to use a cable release with locking screw which keeps the knob depressed, until you open it again. Short time exposures of 2-3 seconds can also be done with the built-in selftimer (see below).

The flash symbol (see ✓ beside 1/60) indicates the limit for synchronization with electronic speedlights.

Shutter speeds slower than 1/30 second should not be used without a tripod or other camera support. Both winding knob (K) and rapid wind lever rotate, when the shutter is released and should not be obstructed. (Watch out for your hat rim, etc.).

The Shutter Release Knob (P) is on the camera front (Fig. 5): It is recommended to depress it with the index finger of the right hand, while

the thumb exerts a slight counter pressure against the back of the camera, in order to prevent the camera from shaking. The release knob has a conical thread for the cable release (see also fig. 36, page 21). Lenses with automatic diaphragms have their own release knobs, which automatically depress the camera release knob underneath.

Important : If the release knob (P) is depressed accidentally during winding of the rapid wind lever or winding knob, the reflex mirror will not flip up for the next exposure and this picture will be lost.

Delayed Action or Self-Timer (fig. 5): The ALPA 6c has a built-in delayed action release, also called self-timer. Its lever (L) can be wound more or less for a longer or shorter delay. If turned completely to its final stop, the delay will be about 20 seconds, if turned only 90°, it will be about 6 seconds.
First wind the camera, then turn the lever (L) as far as required. The delayed action mechanism starts when

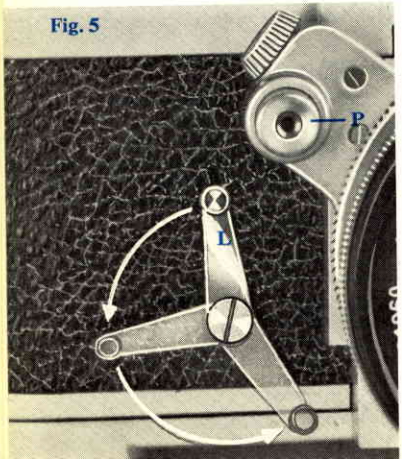


Fig. 5

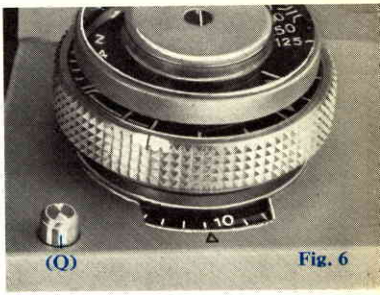


Fig. 6

the shutter release knob (P) is firmly depressed. If you wish to be in the picture yourself, there is ample time to move into position.

When using a lens with automatic diaphragm the automatic mechanism must be disconnected. Otherwise the diaphragm will open again to its full aperture, once you take your finger off the release knob.

If you set the shutter to B, the self-timer will give an exposure time of approximately 2-3 seconds. The very gentle release of the shutter by means of the self-timer is highly recommended for exposures at all slow shutter speeds (below 1/30) made from a tripod and especially if no cable release is available.

Automatic Frame Counter (fig. 6): After loading the camera the built-in frame counter is brought back to 0 by pressing the counter release button (Q). It shows the number of the exposed pictures. If by mistake it is not released after more than 40 exposures, you hear a warning signal in form of a scratching noise during winding. The button (Q) should be immediately depressed for 0 setting.

Built-in Exposure Meter (fig. 7): Whenever you load the ALPA 6c, set the exposure meter for the correct ASA rating, by turning the dial with the small button (N). When pointing the camera towards the object the needle (Z) measures the reflected light. Turn the milled outer ring, so that the diamond shaped marker (◇) matches the needle (Z). This gives you a direct reading of shutter speeds and corresponding apertures. If the diamond shaped marker does no longer coincide with the needle, a change of light is indicated and a new reading must be taken. A special plate for incident light reading can be attached.

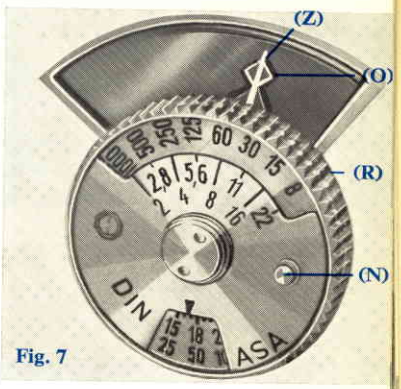


Fig. 7

Setting the Aperture : Set the aperture of the lens according to the reading of the exposure meter. Depending on the lens, this is done either by turning a ring or a dial on top of the lens mount (see pages 11-14). The choice of the f/stop depends on the ASA rating of the film, the shutter speed, the lighting conditions and the required depth-of-field (see page 14).

Distance Setting : Set the distance by turning the helical mount of the lens. The ALPA 6c offers you three ways of focusing for the correct distance setting :

a) FOCUSING ON THE GROUNDGLASS : In the ALPA 6c the reflex image is upright and due to the built-in prism correct left to right. The image visible on the groundglass is exactly 23 × 35 mm, i.e. 1 mm smaller on each side than the 24 × 36 mm frame. This area corresponds to the largest cutout of the slide mounts for 2 × 2″ (35 mm) transparencies and is a safety margin against cut off heads, feet, etc. The three built-in magnifying glasses enlarge the image on the groundglass to life size of 1 : 1 (actually about 0.95 : 1 !) with the standard lens. When using telephoto lenses, the groundglass image is larger as seen by your eye.
The image is also exceptionally bright, right up to the corners, even when relatively small apertures are used, which makes it easy to check the depth-of-field. The washer of the reflex eyepiece is made of rubber, so as to prevent scratches on eyeglasses. Adapters for correction lenses are available on request (see page 21).

b) FOCUSING WITH THE OPTICAL SPLIT-IMAGE RANGEFINDER : (fig. 8 and 9). The groundglass has in its center two deflecting prisms, visible as semi-circles, surrounded by a clear ring-zone. If both the lines (S) and the aerial image in the clear zone appear perfectly sharp, the image will correspond exactly with the plane of the groundglass. The clear ring-zone is also useful for rapid location of the subject as well as for photomicrography at high magnifications.
The diagonal 45° split between the two prisms allows focusing on either vertical or horizontal lines. If the

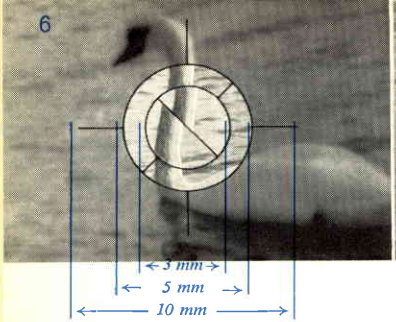


Fig. 8
not sharp

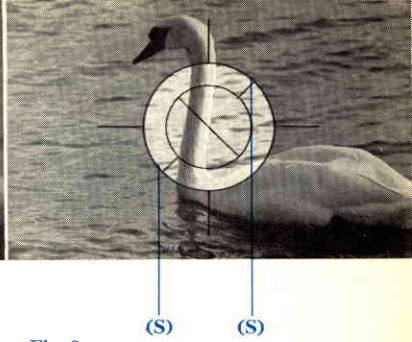


Fig. 9
sharp

distance setting is incorrect, the image is out of alignment (see fig. 8). As soon as the lens is in focus, the image split by the two prisms and the surrounding clear zone appears in perfect alignment (fig. 9). The ground-glass image is now critically sharp and shows the exact depth-of-field as well. **Please note that the optical rangefinder couples to any lens, at any distance, for any magnification.**

Small lens stops may cause a black-out of one of the two prisms (which can be frequently overcome by centering your eye). When lenses with automatic diaphragm are used, the distance setting should therefore always be done at full aperture. But even if one of the prisms blacks out, the distance can still be set by aligning the image between the other prism and the clear ring zone.

Since the highly enlarged groundglass image might induce to photograph subjects, which will appear much too small on the film, the optical range-finder also offers a standard of comparison. Please note that the inside diameters are 3 mm for the prisms, 5 mm for the ring zone, the overall length of the two

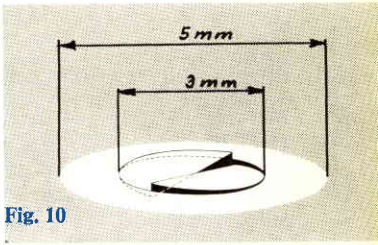


Fig. 10

cross hairs is 10 mm. This is an excellent means to determine the actual size of the subject with reference to the entire picture area of 23 × 35 mm (fig. 8 and 10).

c) FOCUSING WITH THE DISTANCE SCALES : Interchangeable ALPA lenses are equipped with distance scales marked on their helical mount. This permits you to set the scale in advance at a certain distance and, by taking full advantage of the depth-of-field, make the exposure when the desired object is approximately at this distance. This system is recommended, whenever there is no time for accurate distance setting or for

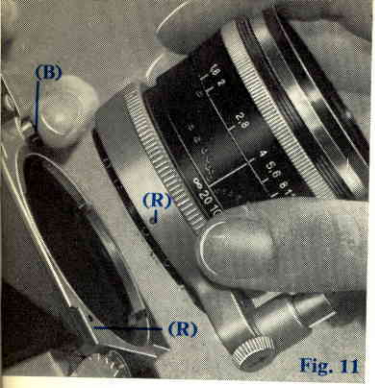


Fig. 11

flash exposures in poor light, where focusing on the groundglass or with the rangefinder is impossible.

Interchanging of Lenses : Depress the knob (B, fig. 11) and turn the lens counter-clockwise, until it can be easily removed. For re-inserting the lens match the red dot on the lens (R) mount with the red dot on the camera front (R), exert slight pressure and turn the lens clockwise until you hear an audible click, indicating the correct fitting.

Important : Please note that the three adjustments described on the previous pages are indispensable for picture taking :

1. Setting of shutter speed.
2. Setting of aperture.
3. Setting of distance.

Flash Synchronization : The ALPA 6c has two flash contacts (fig. 12), which accept the German PC-tip. The top contact marked X and F permits the use of electronic speedlights at shutter speeds up to 1/60 sec. If faster speeds are used, only part of the image will be exposed. At slow speeds up to 1/15 second it is also possible to use this contact for flash bulbs with a very short delay (5 milliseconds, class F), which are not designed for use with focal plane shutters, but are more economical.

The lower contact marked M is designed for the use of class FP bulbs for focal plane shutters, which have a long peak for uniform illumination of the entire image field. They synchronize at all shutter speeds up to 1/1000 sec.

The brief instruction guide at the end of this booklet contains a table of the various types of flash bulbs which synchronize with the ALPA 6c, as well as the shutter speeds recommended for their use.

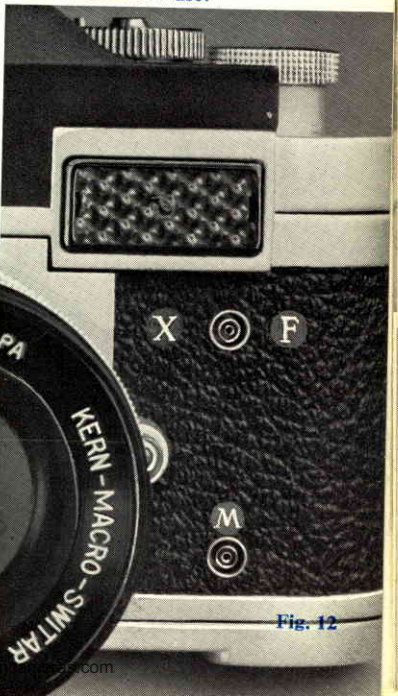


Fig. 12

C. LOADING AND UNLOADING THE ALPA 6c

Removing of camera back : Lift the key at the bottom of the camera (fig. 13) and turn it to the right. Pull the key gently to remove both bottom and back.
Loading should always be done in dim light, for instance within a person's own shadow, so that no part of the usable film is exposed.

Loading : Hold the film cartridge in your right hand and push the tapered end of the film beneath the spring clip of the take-up spool on the right side as indicated by the arrow (fig. 14A). Pull just enough film from the cartridge so that you can insert it into the empty chamber on the left side.

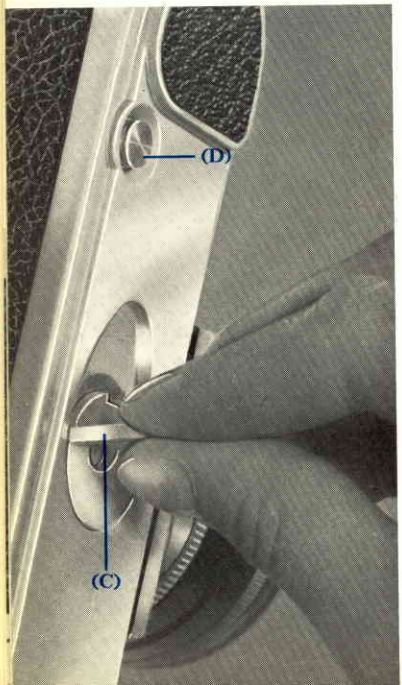
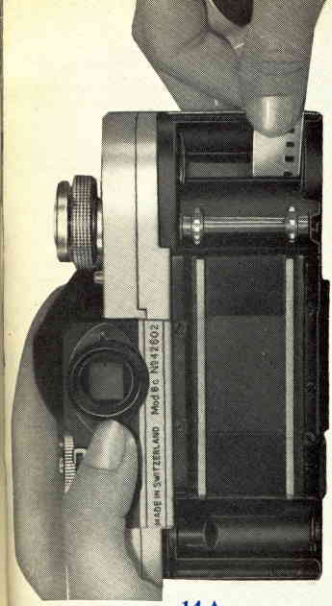


Fig. 13

Important : If it is difficult to pull the film out of its cartridge, the lips are probably too tight. Open them carefully with a flat blade of a pocket knife (not on the emulsion side of the film), to secure an easier film transport.
Engage the fork of the rewind knob in the recess at the top of the cartridge. Turn the take-up spool by hand, until one layer of film is wound around it (fig. 14B). Make sure that the perforations engage the teeth of the sprockets properly. Although not necessary it is safer to advance the film so far that the perforations on both sides engage. Close the camera (fig. 14C). Now turn the rapid wind lever, thus advancing the film and cocking the shutter and release the shutter by operating the shutter release knob. Repeat this operation a second time.

Important : Make sure that the center of the rewind knob turns counter clockwise, when you operate the rapid wind lever. Otherwise the camera is not properly loaded.
Once your camera is loaded, proceed as follows : Depress the counter release button (Q, fig. 6), which sets the frame counter to 0. Set the ASA rating on your exposure meter (fig. 7, page 5).



14 A

14 B

14 C

Fig. 14

A Push film end below spring clip.
B Turn take-up spool by hand
C Replace camera back

Fig. 15

Important : If you feel a stronger resistance, the film has reached its end and should no longer be advanced. In forcing it you might damage the perforations or tear the film from its cartridge, so that it can no longer be rewound.

Depress the rewind release knob (D, fig. 13, page 8) firmly (fig. 16) until it snaps in, which disengages the sprockets for rewinding. Pull the rewind knob (E) with parallelogram out and sideways and turn it clockwise. Once the resistance ceases

FILM INDICATOR

Turn the index mark of the film indicator (fig. 15) to the type of film in the camera:

◩ = Black and white film

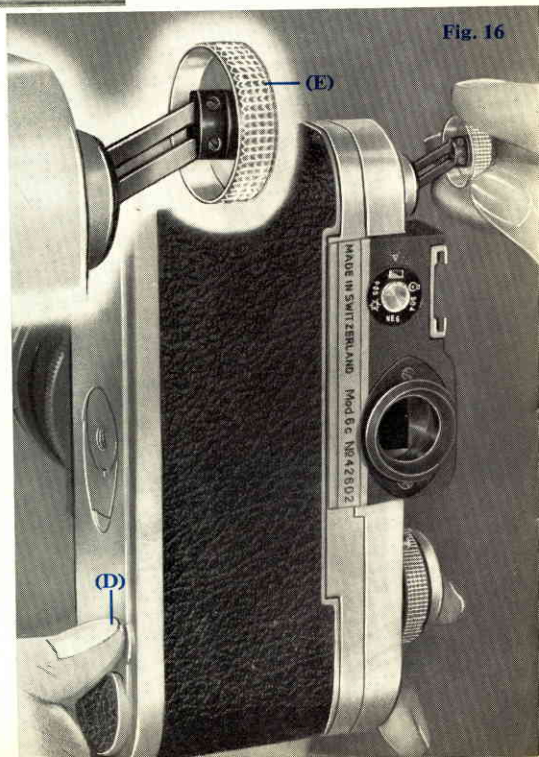
☼ Color reversal daylight film

Color reversal indoor film

NEG = Color negative film.

Unloading :
Once the frame counter indicates that the last but one frame (19 or 35) has been reached, *operate the rapid wind lever with caution*. According to the loading of the film, you may get one or two frames more or less than 20 or 36 exposures.

Fig. 16



completely, the film is rewound into its cartridge and you can remove it for developing.
If you load the camera again, the rewind release knob (D) will snap out automatically.
Important: Make sure not to depress this knob (D), except for rewinding the film. If this has been done by mistake, advance the film by one frame (with the lens covered), so as to avoid possible double exposure.

D. LENSES FOR THE ALPA 6c

(See also page 24)

ALPA offers you the only complete set of 10 lenses with automatic diaphragm from 24 mm up to 180 mm. Other lenses range up to 5000 mm focal length !

a) STANDARD 50 MM LENSES: You have your choice between Kern Switar f/1.8 APOCHROMAT and Kern Macro-Switar f/1.8 APOCHROMAT, both equipped with automatic diaphragm.

Fig. 17 and 18: Switar 50 mm f/1.8 APOCHROMAT

The helical mount with 6 mm extension (ring SS) allows close focusing down to 17" from the front of the lens mount. The distance scale is calibrated from infinity to 3 feet. Closer distances are calibrated in fractions engraved in red, indicating the reproduction ratio image/subject. The last figure 1/9 indicates that the image will be 1/9 of the actual size, so that a 9 × enlargement will reproduce it in life size. At this distance the ground glass image appears about 4.5 × larger than the subject, because of the 3 built-in magnifying glasses.
The diaphragm is set with the upper ring (BL). All apertures have click stops (in fig. 17 and 18 the diaphragm is set at f/4). The lower ring (AA) has a red triangle as index mark. If turned all the way to its left (fig. 17), it engages the automatic mechanism, i.e. the diaphragm remains open for viewing and closes to the preset stop only when pressing the release knob (P) for taking the exposure.
If turned to its extreme right, so that the red triangle coincides with the black index (fig. 18), the automatic mechanism is disconnected and the diaphragm remains closed at the set stop. If the red triangle is somewhere between the extreme left and right positions, it will remain *partly* open for viewing and close to the preset stop, when the release knob (P) is depressed.

Fig. 17

Fig. 18

Fig. 19: Macro-Switar 50 mm f/1.8 APOCHROMAT

The Macro-Switar f/1.8 has a helical mount with an 18 mm extension (ring SS) for distance setting, which permits close-ups down to a reproduction ratio image/subject of 1/3 of the actual size, which corresponds to a distance of 7 inches from the front of the lens mount. The white figures indicate the distances in feet and inches, measured from the back of the camera. The red figures indicate the image/subject ratio. The last figure 1/3 indicates that the image will be 1/3 of the actual size. At this distance the groundglass image appears about 1.3 × larger than the subject, because of the 3 magnifying glasses. The green figures give the exposure factors (see page 15).
The diaphragm is set with the upper ring (BL). All apertures have click stops (in fig. 19 the diaphragm is set at f/4).
The knurled knob (DD) allows engaging and disengaging of the automatic mechanism. Arrow in horizontal position (parallel to optical axis) = automatic diaphragm. Arrow in vertical position = automatic diaphragm disconnected.

Fig. 19 shows the Visifocus automatic depth-of-field indicator (V), giving the zone of depth in bright colored orange dots according to the chosen f/stop.

b) AUTOMATIC WIDE ANGLE AND TELEPHOTO LENSES.

Fig. 19

The lenses are listed according to their manufacturers :

ANGÉNIEUX :

Retrofocus 24 mm f/3.5 with automatic diaphragm
Retrofocus 28 mm f/3.5 with automatic diaphragm
Alfitar 90 mm f/2.5 with automatic diaphragm
Alitar 180 mm f/4.5 with automatic diaphragm

Fig. 20 and 21: *ANGÉNIEUX LENSES*

The distance is set with the helical mount (SS), while the diaphragm is set with the dial (BB) on top of the lensmount. All apertures have click-stops. The automatic diaphragm can be disengaged by the lever (DD) underneath the lens.

Fig. 22

SCHNEIDER :

Curtagon 35 mm f/2.8 with automatic diaphragm
Tele-Xenar 135 mm f/3.5 with automatic diaphragm,
both equipped with automatic depth-of-field indicator.

Fig. 22 : Curtagon 35 mm f/2.8

The distance is set with the focusing ring (SS), the aperture with the diaphragm ring (BL). The automatic diaphragm can be disengaged with the small ring (RR) around the release knob, which can be turned by depressing the switch (N). In position (1) white line to white dot the automatic diaphragm is engaged, in position (2) white line to red dot

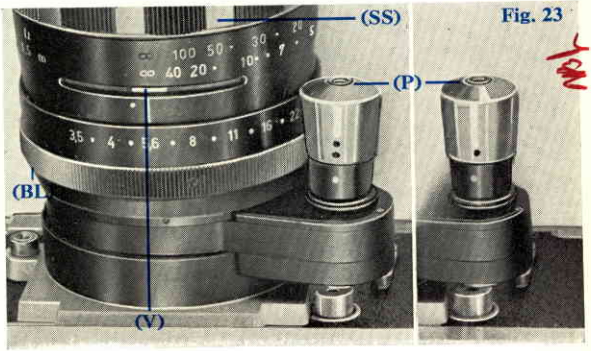


Fig. 23

it is disengaged. Fig. 22 also shows the automatic depth-of-field indicator (V), a white zone within the red zone.

automatic *non automatic*
setting of diaphragm

Fig. 23 : Tele-Xenar 135 mm f/3.5

The distance is set with the focusing ring (SS), the aperture with the diaphragm ring (BL). The automatic diaphragm can be disconnected by turning the release knob (P). If three dots are in line, the diaphragm operates automatically, with two dots in line it is disengaged. The automatic depth-of-field indicator (V) also shows a white zone within the red zone.

KINOPTIK :
100 mm f/2 APOCHROMAT with automatic diaphragm
150 mm f/2.8 APOCHROMAT with automatic diaphragm.

Fig. 24: 100 mm f/2 and 150 mm f/2.8 APOCHROMATS

The distance is set with the focusing ring (SS), the aperture with the diaphragm ring (BL). The automatic diaphragm can be disconnected by turning the disc (PP). If opposite the two dots, it means that it is engaged, opposite the one dot it is disengaged.

Fig. 24 (PP)

c) LENSES WITHOUT AUTOMATIC DIAPHRAGM

All other lenses have the normal helical mount for distance setting and a second ring to set the f/stop, so that no further instructions are necessary. (See also lens chart, page 24).

Depth-of-Field Indicators : Macro-Switar, Curtagon and Tele-Xenar are equipped with *automatic* depth-of-field indicators, as shown above. Most other ALPA lenses have the usual depth-of-field scale engraved on their mounts, and it is easy to determine the depth-of-field by reading the distance range between the two identical f/numbers. Best possible sharpness will always be achieved in the plane, on which the lens is focused. Sharpness decreases in front and behind this plane, yet within the depth-of-field zone it is still acceptable.

Infra-red Pictures : No lenses (not even APOCHROMATS) are corrected for the wave lengths in infra-red photography. Whenever exposures are made with a dark red filter and infra-red film, it is imperative to make a correction in the setting of the lens after focusing. All ALPA lenses have a small red index mark which indicates the necessary supplementary extension of the focusing mount for infra-red exposures. It is recommended to make first a test film with infra-red film and filter, for achieving the best possible correction. Furthermore, the smallest possible aperture should be used, as photographic lenses are not corrected in the other aberrations for the infra-red part of the spectrum.

Relation between distance and reproduction ratio image/subject :

Formula : Divide the distance by the focal length, deduct 1 and you get the denominator of the fraction for the reproduction ratio image/subject.

Problem : Distance : 1000 mm (3 feet). Focal length : 50 mm. Reproduction ratio ?

Solution : 1000/50 = 20 minus 1 = = *19, the ratio is 1/19*, i.e. the picture will be 1/19 of the actual life size.

In reverse you can also determine with the same formula, which distance has to be used to reach a given reproduction ratio. Add 1 to the denominator of the fraction for the ratio and multiply with the focal length of the lens.

Problem : Reproduction ratio : 1/9, focal length : 50 mm. Distance ?

Solution : 9 plus 1 = 10 × 50 = *500 mm* (20 inches).

Aperture, Shutter Speed and Exposure Factor : The diaphragm f/stops of the lenses are calculated for infinity setting. If the lens mount is extended for pictures at closer distances with a corresponding loss of light, a correction becomes necessary. At a reproduction ratio image/subject of 1 : 10 the exposure factor is 1.2. This means that at this distance you have to exposure 1.2 longer or open your diaphragm 1/5 of a lens stop more for compensation of the light loss. At 1 : 1 you have to use a shutter speed, which is 4 × longer or open your aperture 2 lens stops more than your exposure meter indicates.

ALPA lenses which permit close-up photography without further accessories indicate the exposure factors in green color on the lens mounts. For instance the Macro-Switar shows the factor 1.8 × at its closest focusing distance of 7 inches, for a reproduction ratio of 1/3.

E. HOW TO HOLD YOUR ALPA 6c

Make it a habit of holding your ALPA correctly right from the start. As some photographers view with their right and others with their left eye, there is no absolute prescription for the best way. Fig. 25 and 26 show a sound grip of the ALPA 6c *with* everready case, for both vertical and horizontal shots. Please note that the thumb rests on the back of the camera to compensate for the pressure of the release knob and to assure smoothest possible release. Fig. 27 and 28 show how to hold the ALPA 6c *without* everready case, again for vertical and horizontal picture taking.

Important : Do not jerk the camera, but squeeze the release knob as gently as possible.

Fig. 25
How to hold the ALPA 6c with case, for vertical and...

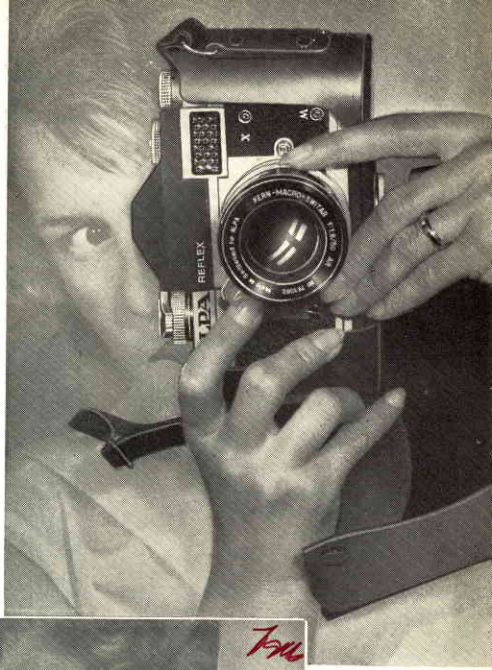


Fig. 26
...horizontal shots

Fig. 27
How to hold the ALPA 6c without case, for vertical and...

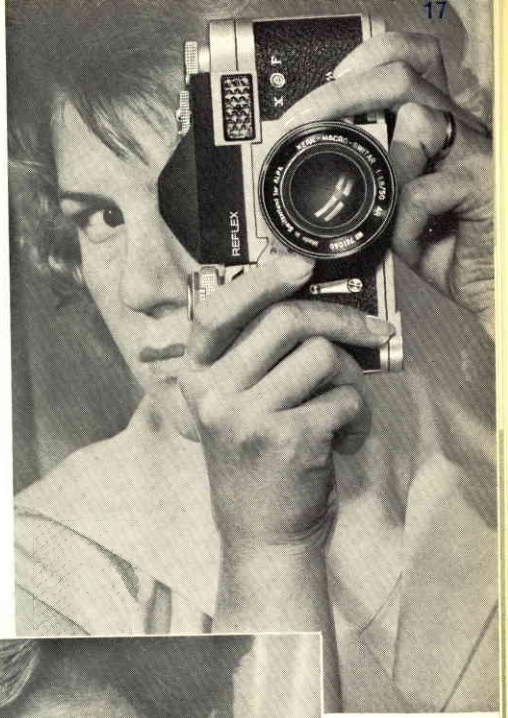


Fig. 28
...horizontal shots

F. ALPA ACCESSORIES

a) ALPA filters: Precisionground of finest optical glass dyed in the mass, ALPA filters are of highest quality, plane parallel and coated on both surfaces. Inspected with the same painstaking care as the lenses they guarantee unimpaired image sharpness. The trade mark ALPA and the number of the filter are marked on the glass.
Most ALPA filters simply snap into the lens mount. Additional filters or the lens cap can be snapped on top of them. A gentle pull combined with a slight turn removes the filters again. A few special tints not yet available in optical glass are substituted by lacquered gelatine foils. Empty ALPA filter mounts for mounting other filter tints are also available.

b) Supplementary close-up lenses. (Fig. 29) Supplied with + 1 diopter only they are available in mount A for the Switar, Xenar 75 mm and the Makro-Kilar 90 mm and in mount B for the Macro-Switar, Curtagon 35 mm and Alfitar 90 mm lenses. Whenever a supplementary close-up lens is used, the diaphragm must be stopped down a little more.
When using both a supplementary close-up lens and a filter at the same

Fig. 29

▲
Fig. 31
Shows the lenshood omxana snapped on the Switar 50 mm f/1.8 lens, in both positions for use and for storage.

◄
Fig. 30
Shows 4 sizes of ALPA lens hoods, of which the omxabe is used for most lenses.

time, the close-up lens should be mounted first, then the filter.

c) ALPA lens hoods : Snapped on the outside of the lens mounts they are independent of the filters and can be removed again by a pressure on the loop of the flat spring. Most of the lens hoods can be reversed and slipped over the lens when not in use, so that they fit into the ALPA everready or the lens case. From the wide angle lenses only the Curtagon requires a lens hood. A lens hood for the 24 and 28 mm lenses would be enormous, yet practically useless. Accordingly, the inside of their lens-mounts, behind the large front element, has been constructed in such a way, that it functions as a built-in lens hood (Fig. 30, 31).

d) ALPA lens caps : The front cap snaps into the front of the lens (or on top of a filter) with a slight pressure. A gentle pull combined with a slight turn removes it again. Only a few special lenses come with the cap as supplied by the lens manufacturer. The rear cap fits the bayonet mount of all ALPA lenses and attaches with a slight turn of 1/6. Fig. 32 shows the 90 mm Alfitar lens with both front and rear caps.

Fig. 32

e) ALPA Tuban extension Tubes : Fig. 33 shows the complete set, consisting of the following components : The 2 intermediate rings Tuban A (outside bayonet, inside thread) and Tuban B (inside thread and outside bayonet) and the actual Tuban extension tubes 4 (48 mm), 3 (24 mm), 2 (12 mm) and 1 (6 mm). Tuban A and B together have a total extension of 6 mm. The normal use is shown in fig. 34, with tuban A and B between camera body and lens, while the actual extension tubes fit between the rings A and B according to the required extension. Fig. 35 indicates how the tubes are used *without* tuban A and B rings, if a lens with detachable extension mount is used, as the ALPA Xenar 75 mm f/3.5.

Fig. 33

Fig. 34

Fig. 35

f) Microscopic adapter: A simple clamping ring adapts the ALPA to any microscope for Photomicrography. (See separate leaflet.)

g) Bellows attachment: ALPA offers also a bellows attachment and sliding support for close-up photography, described in a special leaflet.

h) Cable Releases: In order to avoid any vibration of the ALPA mounted on a tripod and for longer exposures, the use of a cable release is recommended, which screws into the release knob. The simple cable release should be used at a right angle to prevent the direct pressure of the release from shaking the camera. An angle cable release is also available. The locking screw permits time exposures (shutter set on B).
The twin-cable release becomes indispensable, whenever lenses with automatic diaphragm are used with extension tubes or bellows. Fig. 36 shows the angular (1) cable attached to the release knob on the lens, while the other cable (2) operates the release knob on the camera. The pressure of the twin-cable release may have to be regulated, so that the diaphragm stops down completely *before* the shutter is operated (hexagon nuts).

i) Camera Tilt "USAN" Cradle: Equipped with 3 tripod sockets the tilt cradle (available for 3/8″ or 1/4″ ASA thread) gives the ALPA a firm grip and can be attached to a tripod in various positions, conveniently and quickly (fig. 36). A ball- and -socket head allows additional tilting. Specialists even claim that picture taking is made easier with the handheld camera, if the ALPA is embedded in this cradle.

k) Camera Neckstrap: For use of the ALPA 6c without everready case a braidedle ather neck strap is recommended, which comes with safety locks and intermediate rings, attachable to the camera's recessed eyelets. The neck strap is available in both natural colored or black leather.

l) Correction lenses for Reflex Viewing: Most wearers of glasses can focus perfectly on the groundglass or with the split-image rangefinder of the ALPA 6c. Only certain people who should wear glasses but don't, especially far sighted people, may have difficulties in accommodating their eyes. For this purpose there is a "montur" adapter which attaches to the eyepiece of the reflex system and can be supplied with correction lenses of + 1, + 2, + 3 and + 4 diopters. Other correction lenses can be built into the empty mount by a local optician.

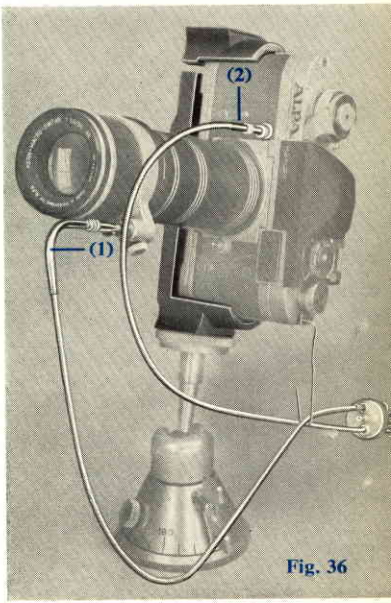


Fig. 36

Fig. 37

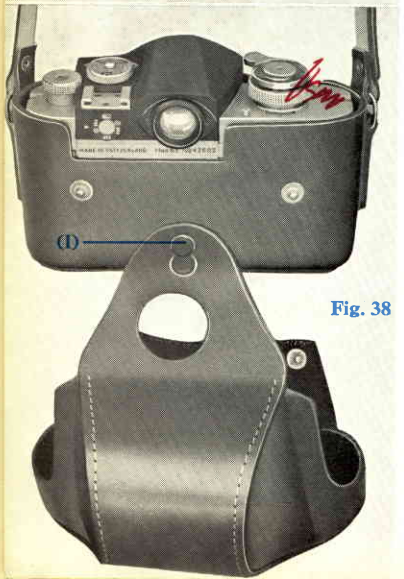


Fig. 38

m) Everready Case (fig. 37 and 38): Made of genuine washable leather the case for the ALPA 6c is of an unusually elegant and streamlined design. It consists of the snugly fitting main part and the detachable front part (fig. 38, 1). The case holds the ALPA 6c with either of the 2 standard 50 mm lenses (Switar and Macro-Switar) or with the Curtagon 35 mm, the Makro-Kilar 40 mm or the Xenar 75 mm lens.

n) ALPA Gadget Bags: There are two types of gadget bags available: The larger "omdark" case for 1 camera with up to 5 (or 2 cameras with up to 3) interchangeable lenses and accessories.
The smaller "titdark" case for 1 camera with up to 3 interchangeable lenses and accessories.
Special leaflets illustrating these gadget bags are available on request.

o) Lens Cases: Practical leather carrying cases with shoulder strap are available for all interchangeable ALPA lenses. Special pads fill out any empty space, so that the lenses fit into these cases with or without cap, filter and lens hood and are not banged around (see listing on last page).

ALPA Macrostat Copy and Close-up Stand: This lightweight and rapidly collapsible stand for both indoor and outdoor use can be easily transported in an ordinary briefcase. For more information please ask for the 48-page booklet Macro- and Micro-Photography with the ALPA ($ —.95).

G. GENERAL NOTES

The extreme ruggedness of the ALPA has been proved over and over again during numerous expeditions and under the most trying climatic conditions. Please remember though that it is a precision instrument, which should always be treated with care and appreciation, so as to maintain its continuous efficiency and reliability. The same goes for the interchangeable ALPA lenses and accessories. Please follow the suggestions below :

1) Protect your ALPA from shock, fall and vibrations. When driving a motor cycle, carry it around your shoulder and do not fasten it to the cycle.

2) Release the shutter before storing the camera for a longer period of time.

3) Protect your camera from dust, sand and humidity. When transferred to a warm room on cold days the exterior and interior glass and metal components will be covered with condensation. Be patient and do not wipe off the condensation, but wait until the camera has warmed up and it disappears by itself. In hot and humid tropical climates the camera should be stored in a tightly closed container, together with some silicagel.

4) Clean film track and pressure plate from time to time. Use a soft brush or possibly a good rag which is not fluffy, never cotton wool. After thorough cleaning treat the pressure plate lightly with a trace of paraffin oil.

5) Do not lubricate the mechanism ! The shutter needs no oil, even when operated ten thousands of times.

6) Don't try to dismantle the camera yourself, not even if you think you know the source of disturbance. Special tools are required for dismantling. The factory or their agent's guarantee will become void, if the camera has been tampered with by any unauthorized party.

7) The ALPA 6c camera can be used for underwater photography with a special underwater housing (see special brochure). If a camera has been dropped into salt water by accident, please give the following "first aid service" : Rinse it with fresh water several times and finally with distilled water. If the camera is not rinsed and the salt water dries out, the crystallizing salt will damage most parts (even the chrome parts), which will have to be replaced. If the camera has been cleaned or if it was dropped into fresh water, dry it as fast as possible without heat, preferably with a stream of cold air. Once dried, the camera must be immediately mailed to the factory or their agent, for servicing.

8) If a camera is lost or stolen, please report the **serial numbers of both the camera body and the lens** directly to the factory, their agent or your franchised ALPA dealer. It is indispensable to have these numbers, for checking on a stolen camera in stores, pawnshops or when sent in for repairs.

9) If you use cartridges refilled with bulk film (or also regular cartridges) make always sure that their lips are clean, dustfree and not too tight, so that the film pulls out easily. Soiled and dusty cartridges cause scratches on the film. Check also that no loose velvet threads get caught in the film window, which causes black streaks on your pictures.

Table of Interchangeable ALPA Lenses, lenshoods, filters and cases

	focal length mm	*f/stop*	*lenshood*	*filter*	*case*
Retrofocus	24	3.5	none	filtrado	redark
Retrofocus	28	3.5	none	filtrado	redark
Curtagon	35	2.8	curtabe	filtrabe	normdark w/o lenshood redark with lenshood
Makro-Kilar	40	2.8	built-in	ecrana	xetdark
Switar	50	1.8	omxana	filtrana	normdark
Macro-Switar	50	1.8	omxabe	filtrabe	normdark
Xenar	75	3.5	omxana	filtrana	xetdark
Alfitar	90	2.5	omxabe	filtrabe	redark w/o lenshood muldark with lenshood
Makro-Kilar	90	2.8	built-in	filtrana	cendark
Apochromat	100	2	parsol	filtrado	muldark
Tele-Xenar	135	3.5	omxabe	filtrabe	muldark
Apochromat	150	2.8	parsol	filtrado	kindark
Alitar	180	4.5	omxabe	filtrabe	aldark
Tele-Xenar	360	5.5	parante	xfiltran	texdark

Color Rendition: The Switar and Macro-Switar 50 mm f/1.8 APOCHROMATS are known for their warm color rendition. Other lenses render colder colors in comparison and may therefore be critized to be not fully color corrected.

To match the color rendition of the various lenses, in particular with the standard Switar and Macro-Switar lenses, the use of the following filters is suggested:

40 = colorless hazefilter
610 = pale pink hazefilter
615 = pink hazefilter

Retrofocus	Curtagon	Makro-Kilar	**Switar & Macro-Switar**	Xenar	Alfitar	Apochromat	Tele-Xenar	Apochromat	Alitar	Tele-Xenar
24 & 28	35	40 & 90	**50**	75	90	100	135	150	180	360
Filter numbers										
none	40	none	**none**	40	40	40	40	40	610	40
40	610	40	**40**	610	610	610	610	610	615	610
610	615	610	**610**	615	615	615	615	615	615	615

It is indispensable to limit the comparison of color rendition to identical parts of the subject, which appear in both pictures.

Synchronization of the different flashbulbs

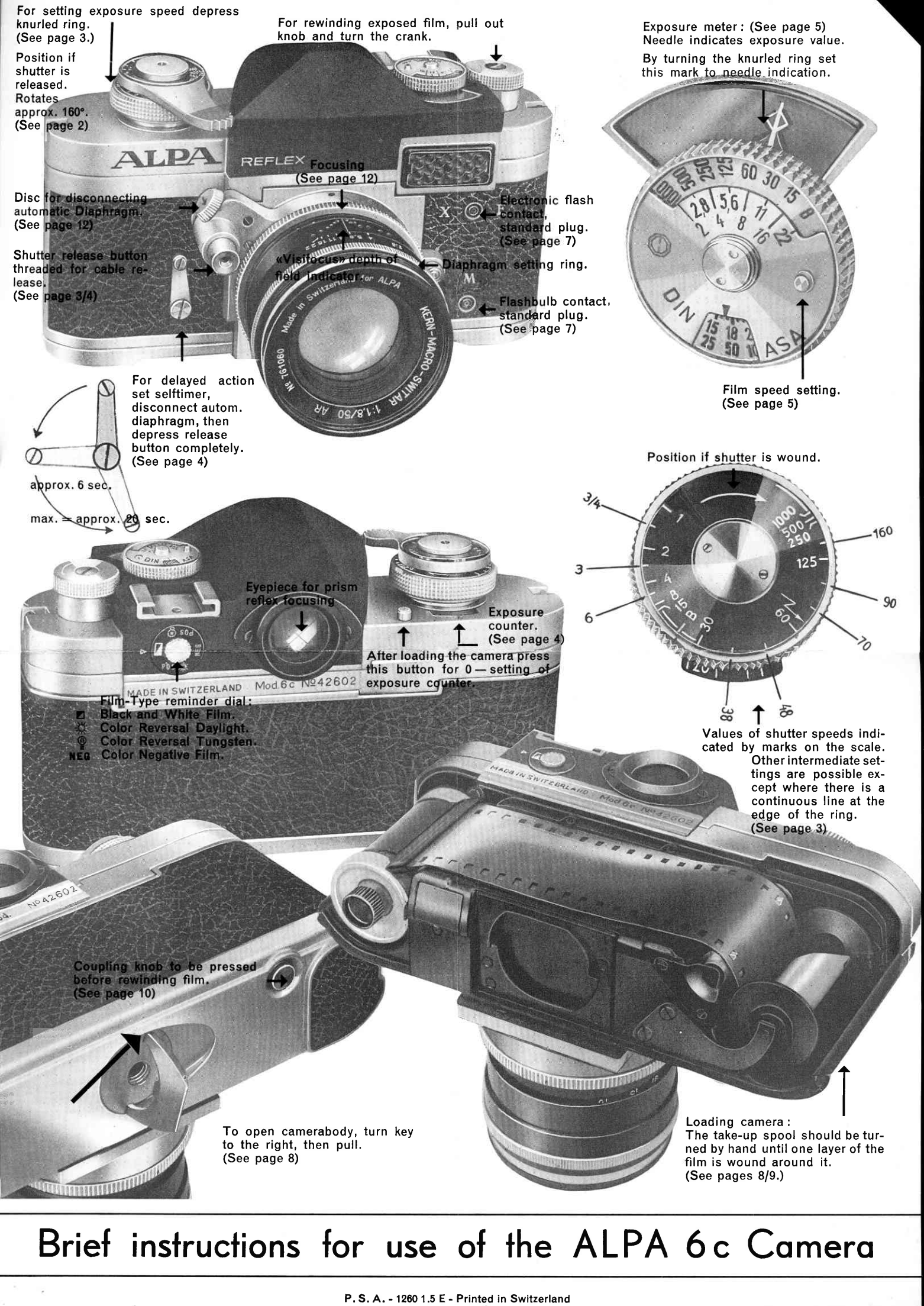
Shutter setting	Flashbulbs TYPE:													
	Philips			**Osram**	**Sylvania**					**General Electric/Westinghouse**				
	PF 1 PF 5 PF 38 PF 60	PF 100	PF 24 PF 45 *	XM 1 XM 5	M 2 SF	3	**Bantam 8** Press 25 Press 40 O 2	FP 26 *	2A *	PH/M2 PH/SM	AG/1 PH/50	PH/8 PH/5 PH/11 PH/22	PH/6 *	PH/31 *
1/15 sec.	X	X		X		X	X				X	X		
1/15 - 1/1000									M					
1/30		M			X	M				X	M			
1/30 - 1/1000			M					M						M
1/60 - 1/1000													M	

* For all flashbulbs with a long peak, it is unnecessary to use slower shutter speed than indicated above.

Note:

The blue flashbulbs for color film synchronize identically as the ones for black and white film.
If the flashbulbs are used with the X-contact, do not operate the release button before winding the camera, as the flashbulbs would fire for nothing.

PF is the abbreviation for flashbulbs made by Philips, while **FP** means bulbs for focal plane shutters.



Brief instructions for use of the ALPA 6c Camera

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