

# WILSONWERKS ARCHIVES

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*HASSELBLAD*



INSTRUCTION BOOK  
**500C**

You've just unpacked your new Hasselblad 500 C. Please accept our congratulations on the pleasure you will derive from making your first exposure. Your camera will serve for years as a faithful friend if you treat it properly right from the start. Read these instructions carefully with the camera before you. Discovering the host of finesses inherent in your Hasselblad will prove both instructive and fascinating. On page 5 you will find a brief synopsis of the most important functions of your camera. Use it to acquire a quick grasp of the more important features and procedures. This quick run-through should be followed by a more leisurely, detailed study of the host of sophisticated features your camera provides. Your new 500C requires careful and knowledgeable handling; your reward will be unsurpassed results.

### Interchangeable backs

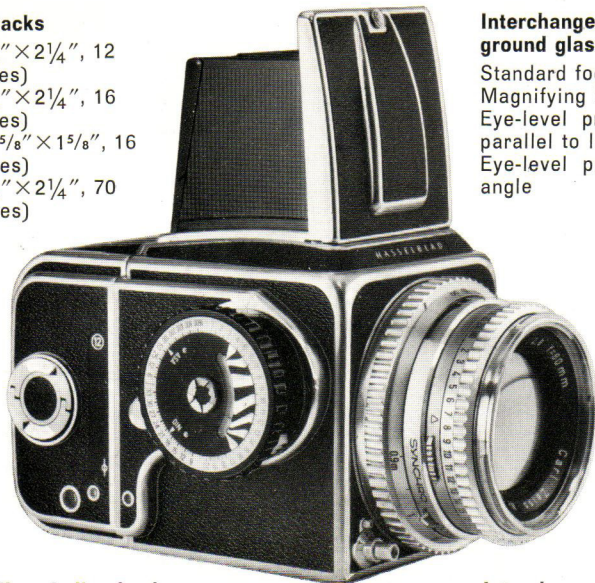
Magazine 12 ( $2\frac{1}{4}'' \times 2\frac{1}{4}''$ , 12 negatives)

Magazine 16 ( $1\frac{3}{4}'' \times 2\frac{1}{4}''$ , 16 negatives)

Magazine 16 S ( $1\frac{5}{8}'' \times 1\frac{5}{8}''$ , 16 negatives)

Magazine 70 ( $2\frac{1}{4}'' \times 2\frac{1}{4}''$ , 70 negatives)

Cut film adapter



### Interchangeable finders used with ground glass screen

Standard focusing hood

Magnifying hood

Eye-level prism finder, line of sight parallel to lens axis

Eye-level prism finder,  $45^\circ$  sighting angle

### Interchangeable film winding knobs

Standard knob

Rapid winding crank

Knob with exposure meter

### Interchangeable lenses and associated equipment

Six lenses with individual between-lens shutters

Extension tubes

Bellows extension

Microscope adapter

Linear mirror unit

**The Hasselblad system**

Fig. 1

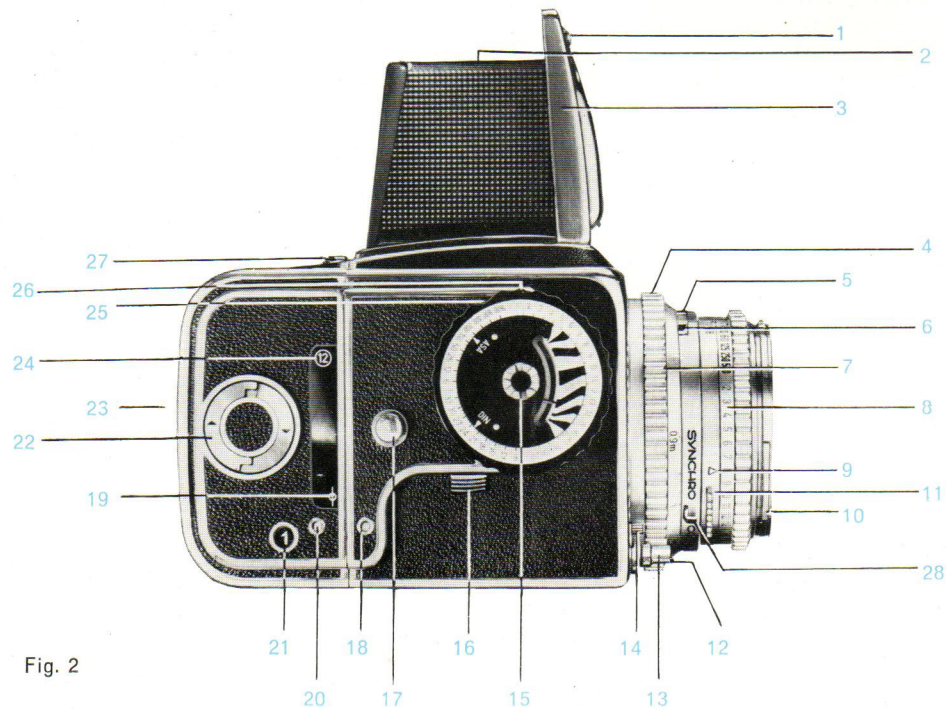


Fig. 2

- 1 Catch for focusing hood and magnifier
- 2 Fine-focusing magnifier
- 3 Interchangeable focusing hood
- 4 Focusing ring
- 5 Central index for setting shutter speed, diaphragm and distance
- 6 Movable depth-of-field indicators
- 7 Distance scale
- 8 Exposure value scale
- 9 Exposure value index
- 10 External and internal bayonet fittings for filter, sunshade, etc.
- 11 Exposure value catch
- 12 Cable release socket
- 13 Release button
- 14 Time catch
- 15 Interchangeable knob for film transport and shutter cocking
- 16 Quick-release button
- 17 Carrying strap button
- 18 Shutter release signal
- 19 Film plane marking
- 20 Film signal
- 21 Exposure counter
- 22 Loading key for film
- 23 Film window for visual film check
- 24 Magazine identification
- 25 Catch for changing knobs
- 26 Knob index
- 27 Magazine catch
- 28 Diaphragm catch for checking depth of field on the ground glass screen

**A quick "recap" before proceeding further**

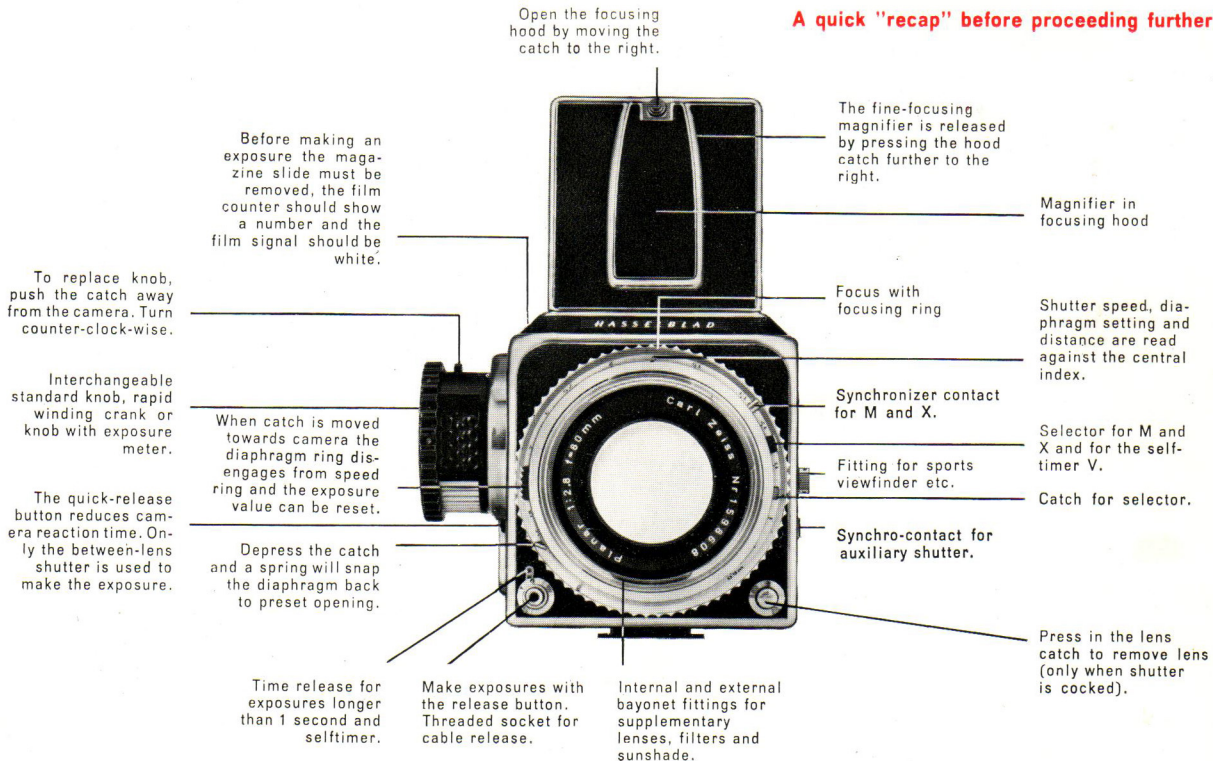


Fig. 3

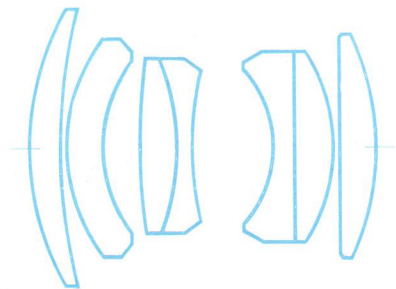


Fig. 4



## Lens and shutter

The standard lens supplied with the Hasselblad 500 C camera is a Carl Zeiss Planar f/2.8 with an 80 mm focal length and a  $52^\circ$  angle-of-view. This modern lens is highly corrective and has excellent resolving power over the entire field. It comprises 7 lens elements. Each lens used with the Hasselblad 500 C has a Synchrono-Compur between-lens shutter with exposure value, automatic diaphragm and depth-of-field indicators. Together, each lens and between-lens shutter form an interchangeable unit which functions automatically via direct contact with the film-advance mechanism. Other 500 C lenses—the Distagon f/5.6/50 mm, the S-Planar f/5.6/120 mm, the Sonnar f/4/150 mm, the Sonnar f/5.6/250 mm and the Tele-Tessar f/8/500 mm—all feature individual between-lens shutters and are coupled to the camera just as easily as the standard lens. The focal lengths of these additional lenses are chosen to cover virtually every phase of photography from wide angle to telephoto. The Planar and Sonnar lenses are of equal diameter and consequently have the same bayonet fittings for filters and sunshade. The Distagon has the same diameter as the Biogon used on the Hasselblad Super Wide. A sunshade is supplied with the Tele-Tessar lens and a special series of filters is available for it.



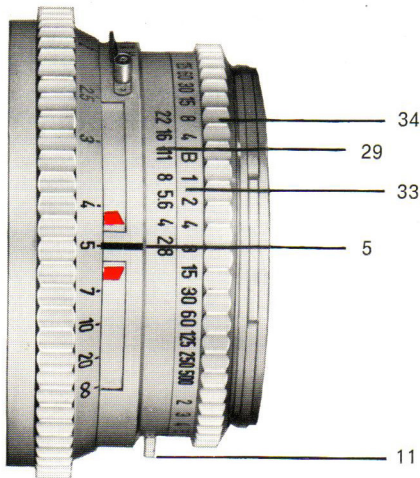


Fig. 5

### Shutter speeds

Shutter speeds are arranged in geometrical progression running from 1 second to 1/500 of a second and B. The scale (33) graduations are equidistant and include: B, 1, 2, 4, 8, 15, 30, 60, 125, 250 and 500. For B exposures made when using the EVS setting, the speed scale is continued with the following series of green, engraved numbers: 2, 4, 8, 15, 30, 60 and 125 seconde. Shutter speeds are set with the speed setting ring (34); they are set against the black central index (5).

### Diaphragm

The standard lens diaphragm scale includes f/2.8, f/4, f/5.6, f/8, f/11 and f/22 stops. The diaphragm ring (29) is released from the speed setting ring (34) by moving catch (11) towards the camera body after which aperture is set against the black central index (5).

Shutter speeds and aperture can be set in direct relation to each other since the scale graduations are immediately adjacent and are read against the same index (5). This feature enables you to view the combined aperture and shutter-speed settings at a glance.

EVS		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
APERTURE	2.8	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500						
	4	4	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500					
	5.6	8	4	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500				
	8	15	8	4	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500			
	11	30	15	8	4	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500		
	16	60	30	15	8	4	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500	
	22	125	60	30	15	8	4	2	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500

Fig. 6

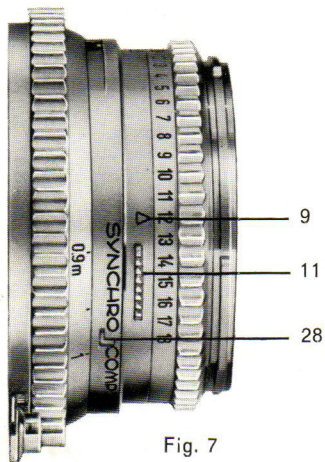


Fig. 7

### Diaphragm control

All focusing is done at maximum diaphragm opening, but it is possible to check the effect of the actual aperture to be used when making the exposure. Press catch (28) upwards. Spring action snaps the diaphragm to the pre-set aperture. The diaphragm is returned to the exposure factor combination by turning to full opening or by advancing the film after exposure is made.

### Exposure value system

You will have noticed by now that the speed scale and the diaphragm scale are provided with identically-spaced, equidistant graduations. Thus the factors of aperture and speed can be combined to form a single aperture speed factor. The purpose of this feature is to enable you to obtain identical exposure with all combinations of settings for a given exposure factor. This aperture/speed factor is expressed in exposure values ranging from 2 to 18, and these figures are engraved in red. The light intensity for each exposure value is twice that of the next lower exposure value.

### Setting

Push the exposure value catch (11) backwards to release the ring on which the red EVS numbers are engraved. If you turn the right-hand side of the camera upward you'll be able to see both the exposure meter and the EVS scale. The meter reading can then be transferred directly to the corresponding EVS number opposite index (9). The exposure value (EVS number) provides a series of aperture/speed combinations, all of which provide identical exposures.

### Example:

Seven alternative aperture/speed settings can be used with an exposure value of 12. Thus the entire range of apertures on the diaphragm scale can be

used, and shutter speeds will vary between 1/500 —1/8. Scales (29) and (33) will then be set at the combinations shown in red on the table. (Fig. 6, page 7).

Times longer than one second are shown to the left of the diagonal red line on the same table. Thus the exposure values can also be used for exposures up to 125 seconds at f/22. These speeds are engraved in green on the speed scale.

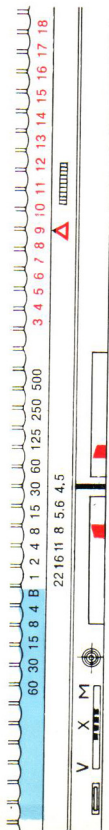
### Setting to half units

The EVS scale can be set very accurately even down to half units. This is of particular importance in allowing for the increase in shutter times when using color filters or when taking color photographs in general. The narrow exposure latitude of certain color films necessitates extremely accurate exposures; an error as small as a single EVS number can have a serious effect on both the exposure and the color balance.

### Long exposure times

With EVS values of 8 and below, the possibilities of using instantaneous shutter speeds are limited. The table shows aperture/speed combinations for exposures of more than 1 second at EVS values of 2—8. The green figures indicate the correct exposure times for the relevant apertures when the shutter is set to B.

Fig. 8



These corrections are given in the table below:

exp. time as per exposure meter	correction factor
1-3 secs.	1.0
3-6 secs.	1.3
6-10 secs.	1.6
10-18 secs.	2.0
18-31 secs.	2.5
31-60 secs.	3.0
60-130 secs.	4.0

One EVS number = factor 2.0. The figures are those for Eastman Kodak Ektachrome film.

EVS	2	3	4	5	6	7	8
f 22	125	60	30	15	8	4	2
16	60	30	15	8	4	2	
11	30	15	8	4	2		
8	15	8	4	2			
5.6	8	4	2				
4	4	2					
2.8	2						

INSTANTANEOUS SPEEDS

Fig. 9

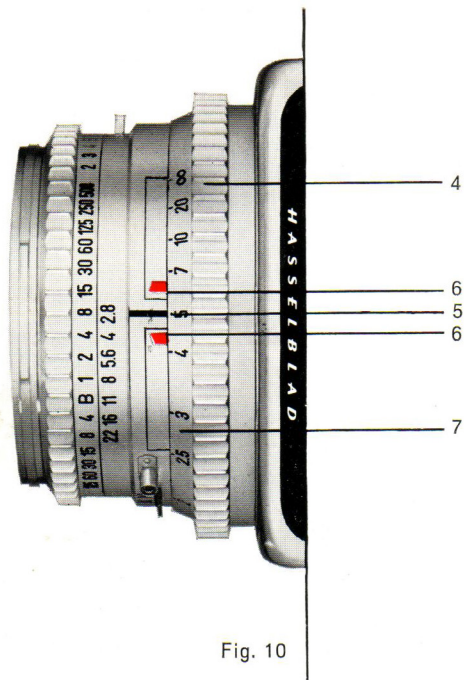


Fig. 10

### Focusing and depth of field

The focusing ring (4) is adjustable to distances between 3 feet and infinity. The distance scale is engraved on the ring and corresponds directly with the central index and the movable depth-of-field indicators. After the picture on the ground glass screen has been brought into focus, the distance of the film plane from the subject will equal the distance-scale value opposite the central index (5).

### Some useful tips on focusing

- A. For moving close-up subjects it is sometimes advisable to set the camera for a fixed distance, and focus by following the movements of the subject with the camera.
- B. For sports photography and other situations where the depth-of-field is closely defined you can often obtain better results by setting the depth-of-field indicators to the desired position in advance.
- C. When a definite field frame or picture area is desired, as in close-up photography for instance, it is often advisable to measure the camera-subject distance directly and then set the camera using tables.

### Automatic depth-of-field indicators

Thanks to the movable depth-of-field indicators (6) it is appreciably easier to focus the camera. Moreover, since it is possible to read off the depth of field corresponding to the exposure combination right on the distance scale (7), you avoid the roundabout diaphragm-scale method.

The movable depth-of-field indicators show the exact field of focus and, at the same time, the distance from camera to subject can be read opposite the central index (5). The depth-of-field indicators consist of two parallel movable pointers. The position of these pointers relative to the distance scale is reset when the aperture is reset. As you know, every change of shutter speed results in a corresponding change in the aperture since these two factors are automatically connected. Changes in the EVS setting due to changed lighting conditions also affect the aperture. Finally, the diaphragm can be disconnected from the exposure value setting which will also affect the position of the depth-of-field indicators. However, when the distance setting is changed, the pointers remain in the same position. The picture shows how the largest aperture (f/2.8) results in the smallest depth of field. This is equal to the distance between the two pointers. The smallest aperture (f/22) gives the maximum depth of field. A practical method of localizing a predetermined depth of field is to focus first on the nearest part of the object and read off the corresponding value

on the distance scale. The same procedure is then applied to the part of the object farthest away. By setting the depth-of-field indicators to these two points you will have immediately made a setting that previously seemed extremely complicated. By taking full advantage of the automatic depth-of-field indicators you will develop faster, more reliable photographic techniques.

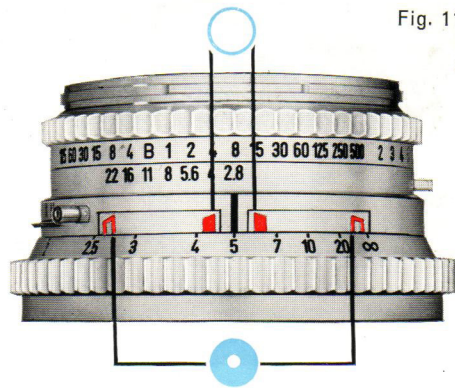


Fig. 11

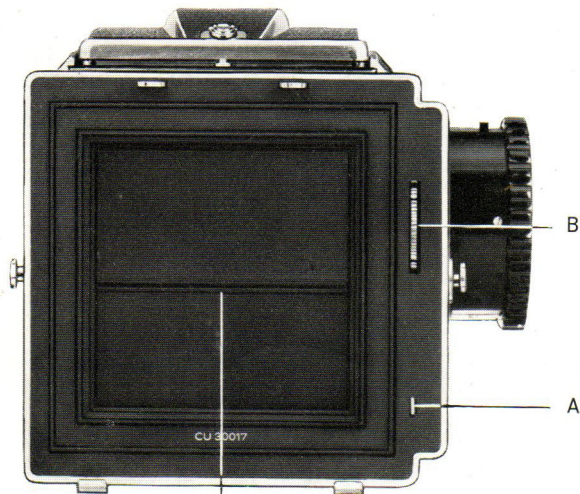


Fig. 12

Auxiliary shutter

### Attaching the back

The rear of the camera and the front of the magazine are precisely matched. Light traps prevent the intrusion of extraneous light. Power is transmitted from the winder to the film-advance shaft

via gear wheel B. The double exposure check and the film signal are actuated by pin A. See to it that dirt and dust do not collect at A and B thus impairing camera operation.

### The auxiliary shutter

The advantage of being able to use interchangeable lenses with individual between-lens shutters in a single-lens reflex camera is achieved by using an auxiliary shutter. This is fitted to the rear wall of the camera housing and consists of two movable blades. The auxiliary shutter is opened by the release button and remains open as long as the button is depressed. It can be synchronized by connecting it to the synchro-contact for auxiliary shutter (37).

The auxiliary shutter is closed to prevent light from striking the film when the mirror is in the lower position for focusing on the ground glass screen. Since the shutter must be cocked and the mirror lowered to change lenses, the auxiliary shutter also closes during this operation to prevent light from striking the film.

The auxiliary shutter can also be operated manually and used for making exposures with lenses not equipped with between-lens shutters. This feature is useful for microphotography and photomicrography with the bellows extension and for photomicrography.

## Exposure

Film is exposed by pressing the release button (13). A standard type cable release can be screwed into socket (12). **Rule for all exposures made with the time catch (14) in position O: keep the button depressed until the between-lens shutter completes the exposure. This is especially important for times between 1 second and 1/15 of a second. If you release the button too soon the auxiliary shutter will interrupt the exposure.**

## Shake-free exposures

One cause of unsatisfactory pictures is fuzziness caused by camera shake. Pressing the release button smoothly and firmly reduces the risk of camera shake. If you expect the unexpected, always select the shortest possible exposure time. Cable releases can be used advantageously for longer exposures.

## Time catch

The release button can be combined with the time catch (14).

Set the time catch in position T when the self timer V (see page 14) is engaged. The T catch can also be used for longer exposures when the shutter is set at B. When the time catch is used in position T it serves to lock the release button which is held in the depressed position until the catch is returned to the O position. The time catch does not operate when in the O position.

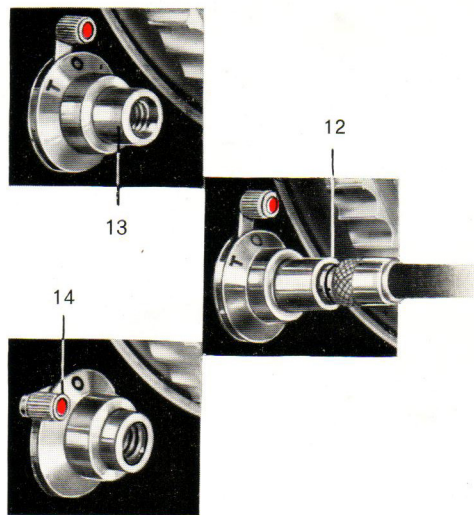


Fig. 13

Film cannot be advanced until the time catch is returned to the O position.

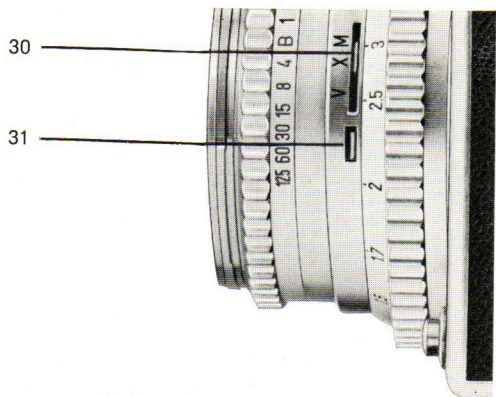


Fig. 14

### Self-timer

The green selector (31) engages the self-timer which, when in position V, operates at all shutter speeds except B. However, before the selector can be moved to V, the catch (32) must be moved forward. On exposure, the time catch (14) is set to T. The self-timer provides an 8—10 second delay after setting. The lever then returns to position X. The shutter is then X-synchronized and the camera can be used with both electronic flash and self-timer.

### Rapid exposures

This implies reducing to a minimum the time between the instant of release and exposure. By pressing in the quick-release button (16) you open the auxiliary shutter and raise the mirror. The picture on the ground glass disappears and, simultaneously, the diaphragm blades move to the predetermined position. The quick-release button need not be held down until exposure has taken place. When the exposure is finally made by pressing the release button, only the between-lens shutter operates. A sports viewfinder should be used, and the depth of field should be set in advance using the depth-of-field indicators.

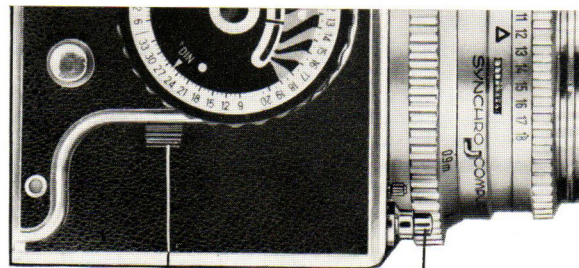


Fig. 15

16

13



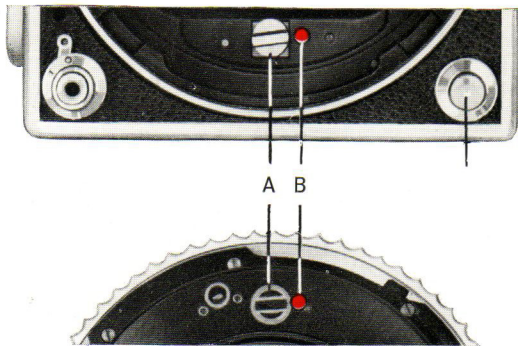


Fig. 16

### Shutter setting

The shutter is cocked when the cocking shaft is turned as the film transport knob is wound. The groove in the shaft (A) points to the red index (B) when the shutter is cocked. If the shutter was released while the lens was removed from the camera, it must be re-cocked before the lens can be inserted. The simplest way of cocking the shutter is to insert a coin into the groove on the cocking shaft and turn clockwise.

### Changing lenses

The lens on your camera is replaceable and is attached by a bayonet fitting. Four retaining lugs are provided on the fitting but there is only one starting point. The lens cannot be removed unless the shutter is cocked. When the lens catch is depressed the lens can be removed by turning it 1/5 of a revolution, counter-clockwise. Hold the entire lens mount in the right hand to ensure a firm. The lens is correctly positioned for attaching to the camera body when the red dot (O) is directly opposite the corresponding red dot (O) on the camera. Turn the mount clockwise until you hear the lens catch click into position.



Fig. 17

## Synchronization

The camera is fully synchronized for both M and X settings. The synchronizer contact (30) is of the coaxial type. The cord from the flash gun to the synchro-contact is secured to the cable fastening with a special cable hook. Changeover between M and X is accomplished by the green selector (31) after moving catch (32) forward. The diagram below illustrates what is meant by M and X synchronization.

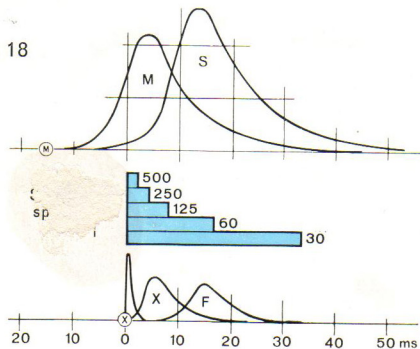
### X synchronization

This is used to fire the flash when the shutter is fully open. It is used for electronic flash at all shutter speeds.

### M synchronization

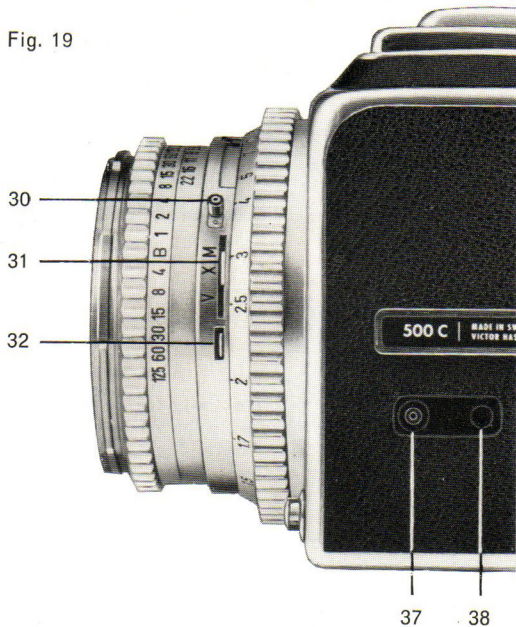
This delays the exposure until the flash has reached its peak intensity.

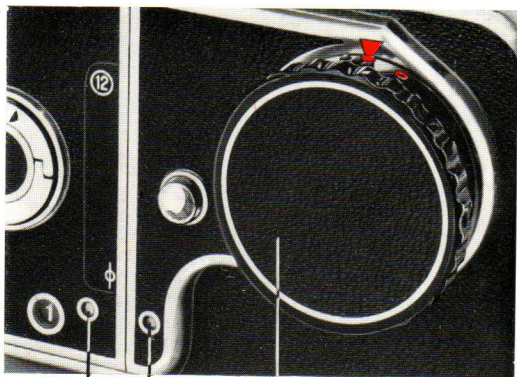
Fig. 18



It is used with class M and S flash bulbs at all shutter speeds. When M synchronization is used the shutter speed is usually shorter than the flash time of the bulb. This factor must be borne in mind when using fast shutter speeds.

Fig. 19





Shutter winding knob  
Automatic film transport

Shutter release signal

Exposed film signal

Fig. 20

### Film transport and shutter setting

The film transport knob has two functions: to advance the next frame into the exposure position and to prepare the camera for exposure. At the same time as the new film frame advances, the mirror is lowered and the shutter is cocked. The shutter is cocked when the film transport knob is turned one full revolution, clockwise. While the shutter is being cocked the shutter release signal (18) and the film signal (20) are actuated. The circles in the diagram below illustrate the various combinations which can occur, after changing a magazine for example.

If at any time you are unable to turn the film transport knob it may be because:

- the time catch is at T and the release button has not returned to its original position. See page 13, Fig. 13.
- you opened the auxiliary shutter and raised the mirror by pressing the quick-release button and then did not complete the exposure by releasing the between-lens shutter. See page 14, Fig. 15.

#### Safety signals:

1. Both the film signal and the shutter release signal are white. This means that the new frame has been brought forward and the camera is set for exposure.
2. Both signals are red. The exposed frame has not been advanced and the shutter is not cocked. Advance the film.
3. The film signal is red and the shutter release signal is white. The magazine has been attached to a cocked camera with the last exposed frame not advanced. If you complete the exposure by pressing the release button you will get a double exposure. (This may, of course, be taken advantage of intentionally.) To avoid a double exposure, remove the magazine and press the release button, thus "exposing" the camera.
4. The film signal is white and the shutter release signal is red. The magazine has been attached to the camera with a new frame in position, but with the shutter uncocked. Remove magazine and cock shutter.

Rule: When attaching a magazine to the camera make certain that the signals both show the same color, i.e., red or white.



Fig. 21

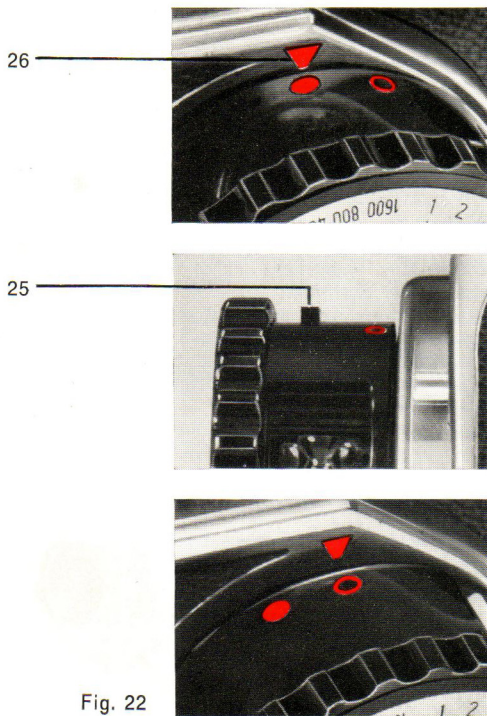


Fig. 22

### Changing the winding knob

The camera is supplied with an interchangeable film transport knob. When attached, the red dot on the knob must be directly opposite the triangular index (26). When changing the knob, push the catch (25) away from the camera body, and at the same time turn the knob counter-clockwise until it is released. When attaching the knob, place the red circle opposite the red triangular index and turn the knob clockwise, automatically securing the winding knob in position. It is important that you learn this procedure thoroughly since the winding knob with built-in exposure meter is often used for detailed metering. The exposure meter is supplied as an accessory. Changing is easiest when the shutter is cocked.

### Rapid winding

The movement shown in Fig. 23 is recommended as the fastest and most convenient way of advancing the film and cocking the shutter. This two-way action reduces the necessary time by half, enabling you to advance the film smoothly and evenly without changing your grip. The rapid winding crank is recommended for more convenient, high-speed film transport.

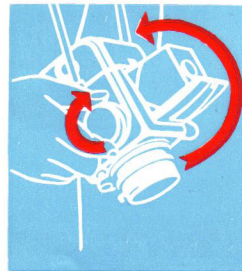


Fig. 23

### Interchangeable backs

One of the major advantages of the Hasselblad camera is that you can change magazines in the middle of a roll of film. For this reason it is especially important to learn the necessary procedure at an early stage.

Hold the camera in your left hand with the lens pointing away from you. Press the magazine catch (27) to the right with the thumb of the right hand, releasing the magazine and enabling you to lift it from the locking hooks (40).

The magazine slide (42) must be in place before the magazine can be changed. The magazine slide actuates the catch which prevents you from removing the magazine until the film is protected from light. When the slide is removed you can operate the camera, but the magazine cannot be removed. When it is in position you cannot make an exposure or wind the film, but the magazine can be removed. It is important that the slide be inserted at right angles to the camera body and that the bent section holding the handle faces the front. This facilitates loading.

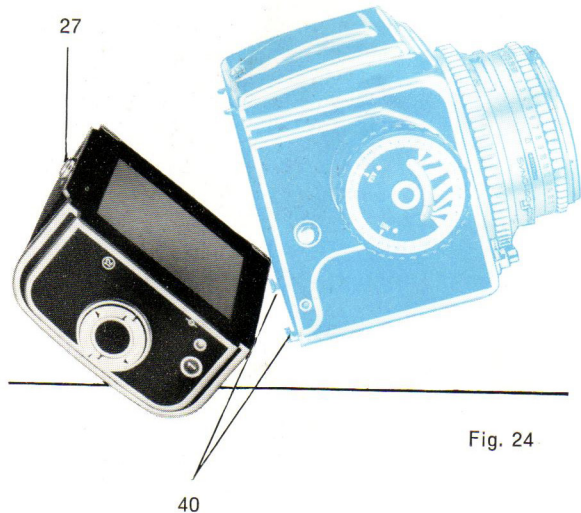


Fig. 24

Before attaching the magazine to the camera body make sure that the film signal and shutter release signal are correct. Remember that they must both show the same color.

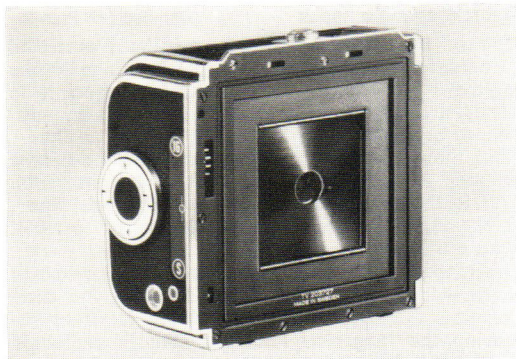
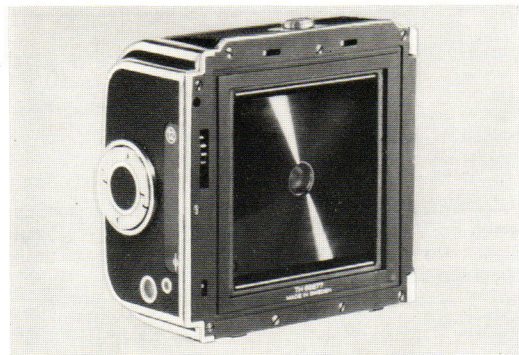
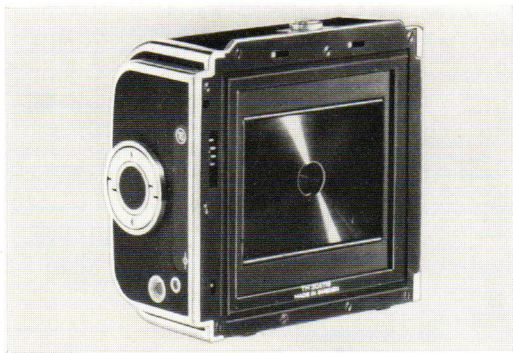


Fig. 25

### Negative sizes

The following magazines are available for the Hasselblad 500 C:

**Magazine 12** for 12 negatives,  $2\frac{1}{4}'' \times 2\frac{1}{4}''$ ; **16** for 16 negatives,  $1\frac{3}{4}'' \times 2\frac{1}{4}''$ ; **16 S** for 16 negatives,  $1\frac{5}{8}'' \times 1\frac{5}{8}''$ .  $1\frac{5}{8}'' \times 1\frac{5}{8}''$  negatives can be mounted as  $2'' \times 2''$  superslides for projection in 35 mm machines. **Magazine 70** provides approx. 70 negatives on 70 mm perforated film supplied for loading in special cassettes.

Magazines are identified by the numbers (24) printed on the same plate that carries the film plane marking (19).

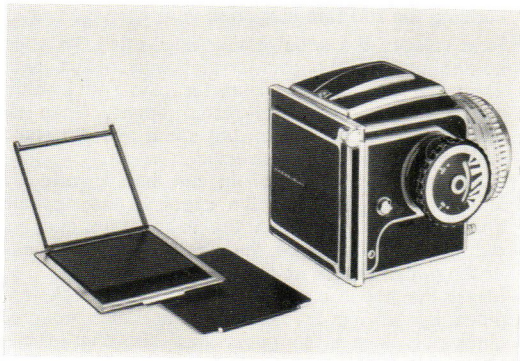


Fig. 26

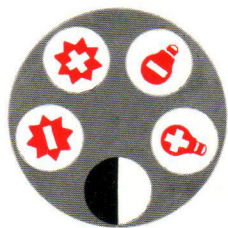
### Cut film adapter

The cut film adapter enables you to make use of the wide selection of specialized negative materials available on cut film and plates. The cut film adapter takes a single holder and is fitted with all the devices necessary for precision photography. Size, 6×6 cm (2¼"×2¼").



### Film type indicator

When working with several magazines you must make absolutely sure to note the type and speed of the film after loading the magazine. Do this on the film type indicator on the back of the magazine.

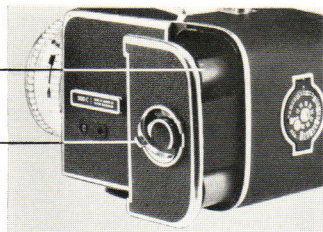


It is graduated in ASA 6—1600 and DIN 12—33. Set the exposure meter to the required film speed. The type of film is indicated by symbols designating black-white, color, daylight, artificial light, positive, negative.

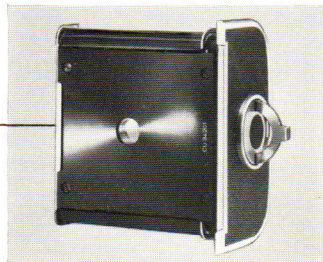
Fig. 27

Spool holder  
partly pulled out

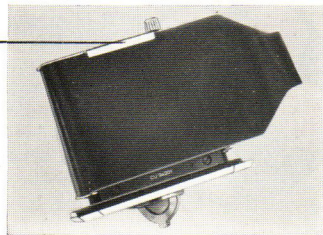
Spool holder  
catch opened



Clamp



How to fit the paper  
under the clamp



### Loading the roll film magazine

First release the spool holder by turning the spool holder catch (41) counter-clockwise. Next withdraw the spool holder. Then turn the spool holder clockwise until the film clamp opens. Open the spool-holder arms so that the spool and the empty (take-up) spool can be inserted.

Place the take-up spool in the holder with the knurled knob, and the film spool in the opposite one. Hold the thumb on the rolled film and pull out about 4 inches of the paper. The black side of the paper should be towards you.

Insert the paper under the film clamp. Lock it in place by turning the spool holder catch counter-clockwise. Insert the paper flap into the take-up spool. Tighten the paper with the knurled knob.

Place the loaded spool holder in the magazine. Release the paper and lock the spool holder by turning the spool holder catch clockwise.

Open the film window. Turn the winding knob until the figure 1 appears in the window. **Now set the exposure counter by turning the film winding knob counter-clockwise as far as it will go.** The figure 1 will then appear in the exposure-counter window. After the last frame has been exposed the exposure stop comes into action automatically. Wind the exposed frame forward and the film signal and shutter release signals will show a white field. The film is then wound onto the take-up spool by means of the loading key (22).

When changing magazines, always make certain

Fig. 28



that the same color appears in the film signal window and the shutter release signal window. See page 17.

### Tips on using the roll film back

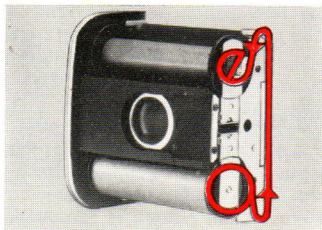
There is no need to remove the magazine from the camera when loading the roll film magazine. On the contrary, you should avoid changing the magazine unnecessarily. Immediately after attaching the magazine, remove the slide and place it in the special holder in the ever-ready case. If the slide is left in the magazine you run the risk of losing valuable seconds when swinging into action. If you plan to take a large number of pictures the best method is to load several magazines with

the same type of film and thus save considerable time.

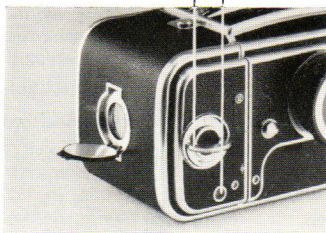
Make a habit of setting the film type indicator to the speed of the film in the magazine as soon as you have loaded the magazine. Don't forget to indicate the type of film. If you are using several magazines you must do this to avoid mix-ups.

Make a habit of winding back to set the exposure counter to 1 after transporting the film; check the number in the film window. The metal plate showing the position of the film plane and the type of magazine can be used for making pencil notes concerning exposure and development data. The pencil marks can be removed with a soft eraser or a damp cloth.

How to thread the film



Loading key Exposure counter



Film window opened

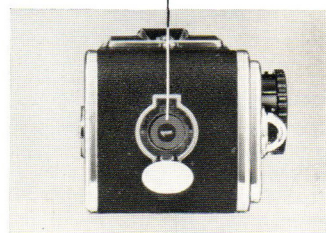


Fig. 29

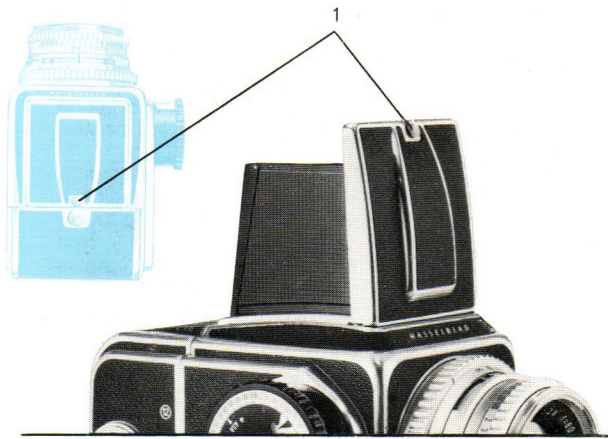


Fig. 30

### Focusing hood and ground glass screen

Open the focusing hood by pressing the catch (1) to the right. The fine-focusing magnifier is released by pressing the catch still further to the right. To close the hood, fold the sides over the ground glass screen, then the back, and finally the front.

Note: before closing the hood, the magnifier must be returned to the closed position. Do not touch the surface of the magnifier unnecessarily, since fingerprints and smears greatly reduce brilliance when focusing.

### Fine-focusing magnifier

When the focusing hood is opened you will see a bright image of the picture. This is completely free from parallax, i.e., exactly the same picture will be recorded on the film when the exposure is made. The fine-focusing magnifier should be used frequently to check the accuracy of focus.

### Ground glass screen

The ground glass screen on Hasselblad cameras is practically free from grain—a feature that greatly facilitates focusing even in very poor light. The brilliance of the image is enhanced considerably by the Fresnel lens which provides faithful light rendition over the entire surface of the ground glass screen.

### Removing the focusing hood

To remove the focusing hood, first remove the film magazine, then push the focusing hood backwards in its grooves. The ground glass can be easily cleaned when the focusing hood is removed.

### Other finders used with ground glass screen

Accessories used with the ground glass screen instead of the focusing hood include a magnifying hood, which completely shuts out disturbing extraneous light, and two eye-level prism finders. One prism finder has its line of sight parallel to the lens axis; the other has a  $45^\circ$  sighting angle (see Fig.31). Both provide a right-way-round image. The magnifying hood and prism finders are mounted in the same way as the focusing hood.



Fig. 31

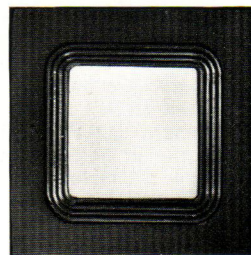
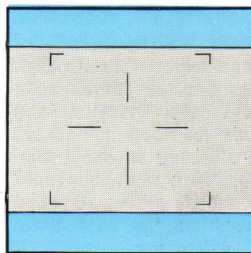


Fig. 32

### Markings on the ground glass screen

The ground glass screen is marked with a cross showing the horizontal and vertical planes. When using roll film magazines 16 and 16 S, a special mask is placed over the ground glass screen and held in place by the focusing hood or magnifying hood which are positioned on top of it. The mask is of transparent plastic and is provided with markings for the various picture areas. A checked mask is also available for architectural photography, etc.

### Tripod fastening devices

On the bottom of the camera will be found the usual American and European tripod threads and, in addition, a metal base plate which serves as a quick-attachment shoe (36). This is inserted in a tripod quick coupling which is supplied as an accessory. The coupling is attached to the tripod pan head or ball and socket. With this accessory the camera can be quickly freed and re-attached in its pre-set position. In addition, the base plate provides a stable support when the camera is placed on a flat surface.



Fig. 33

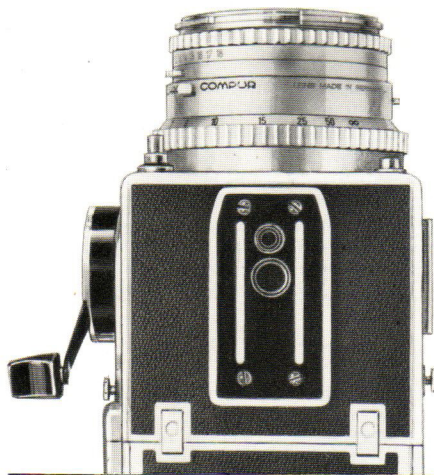


Fig. 34

### Strap lock

Place the strap over the carrying strap button and press the front part against the camera body. To remove the lock strap, lift the engraved plate and slide the lock diagonally upwards.

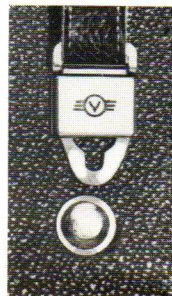


Fig. 35

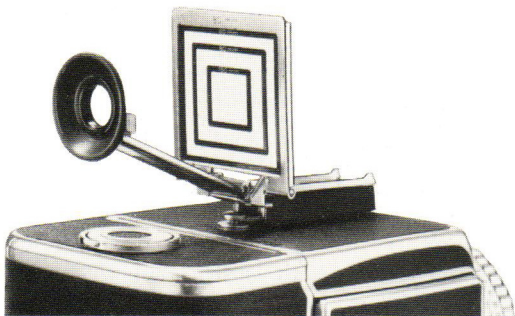


Fig. 36

### Sports viewfinder

The sports viewfinder is attached to the fitting for accessory items (39). To remove the sports viewfinder lift the part of its base plate closest to the carrying strap button and push the viewfinder forward.

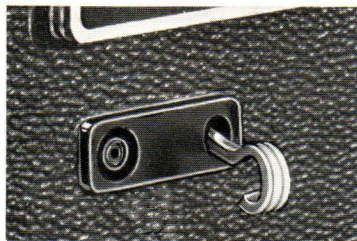


Fig. 37

### Cable hook

To keep the synchronization cord in position insert the cable hook in hole next to auxiliary shutter synchro-contact.

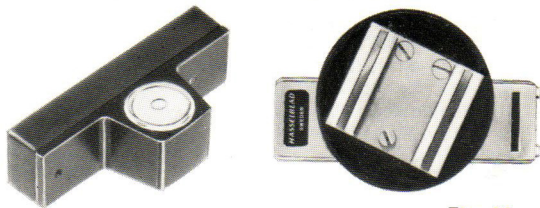


Fig. 38

### Spirit level, adjustable flash shoe

Attach and remove like the sports viewfinder.

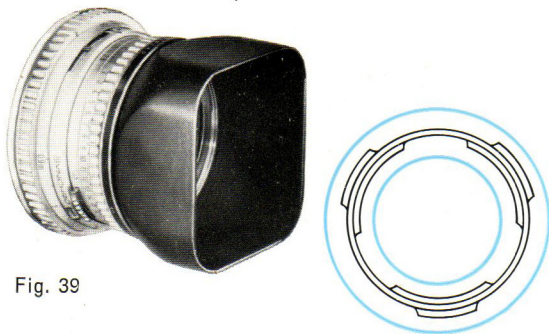


Fig. 39

### Filters and sunshade

The lens mount is provided with external and internal bayonet fittings (10) for rapid attachment of filters and sunshade. The internal bayonet fitting is used for color filters, polarization filters and supplementary lenses. The external bayonet fitting is for a sunshade or ringlight. The bayonet fittings have three lugs.

### Color filters

Bayonet fittings for lenses with focal lengths of 80, 120, 150 and 250 mm are identical. Conventional screw-in filter rings and filters are used

with the 50 mm lens. The size designation for bayonet-fitting filters is **50**; for the 50 mm lens the size designation is **63**; and for the Tele Tessar it is **86**. Filters should be attached with the identification code at the right-hand side of the camera where it is conveniently visible for correcting the exposure value obtained from the light meter. Genuine Hasselblad filters are made of solid glass and include correction, contrast and haze filters. They are mounted in black anodized aluminum rings. The identification code indicates color, filter factor and diameter.

Example:

the yellow filter is designated 50 1.5×Y—0.5. 50 means 50 mm filter diameter. 1.5, the filter factor, means that the exposure should be 1.5 times as long. Y means yellow. 0.5 means a reduction of half an exposure value.

The prolonged exposure can either be compensated for directly on the exposure meter reading or by correcting the exposure value (an exposure 1.5 times as long is thus equivalent to an exposure value which is a half step lower: —0.5).

#### Yellow

For landscapes, snow, cloudy skies.  
Yellow and red—lighter.  
Blue—darker.

#### Yellow-green

Cloud effects, distance shots.  
Foliage and grass rendered lighter.

- 29 Diaphragm scale on diaphragm ring
- 30 Synchronizer contact for M and X.
- 31 Lever for synchronization and self-timer
- 32 Catch for M X V
- 33 Speed scale
- 34 Setting ring for speed diaphragm and exposure value
- 35 Lens catch
- 36 Quick-attachment shoe for tripod
- 37 Synchro-contact for auxiliary shutter
- 38 Cable hook
- 39 Fitting for accessory items
- 40 Locking hooks
- 41 Spool holder catch
- 42 Magazine slide

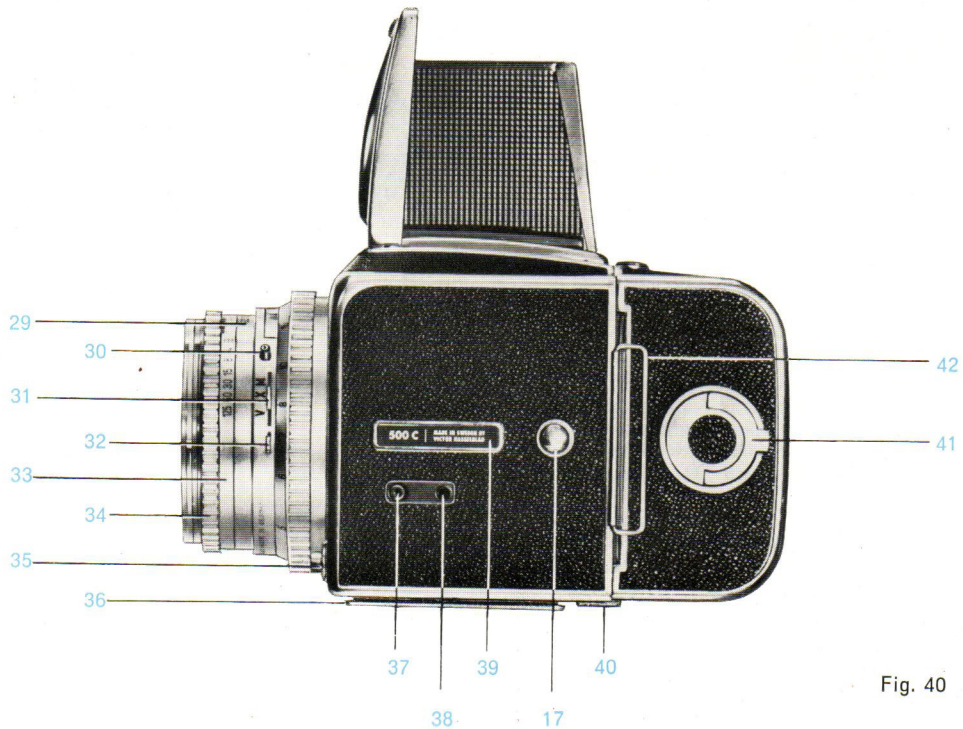


Fig. 40



**Green**

Multicolored subjects in daylight.  
Portraits in daylight or artificial light.

**Orange**

Sky contrasts, stresses textures and color variations outdoors.  
Absorbs part of ultraviolet light in long distance shots.

**Red**

More effective than orange filters.  
(Filter factors for pan film.)

**Grey**

Reduces light strength. Used for close-up shots with electronic flash or other subjects exposed to excessive light.



Fig. 41

**Polarization filters**

The Hasselblad polarization filter 50 2×Pola—1 is used to absorb reflections (not metal surfaces). The filter passes a maximum amount of light in one plane only. By rotating the filter with the knurled outer ring the angle presented to entering light can be changed.

The polarization filter can also be used to darken a blue sky; on color film this effect is similar to the effect of a yellow filter on ordinary black-white film.

**Light balance filters**

Eight light balance filters are available for color photography. Two of these are conversion filters: one for using artificial light film in daylight and one for using daylight film in artificial light.

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