

**H A S S E L B L A D<sup>®</sup>**

**Instruction Manual**

 **500C/M**

  **500EL/M**

  **SWC/M**

*People who buy their first Hasselblad seldom do so on the spur of the moment. Their decisions are usually preceded by careful study of the camera at one or more demonstrations. But a Hasselblad is literally packed with features to which no brief demonstration can do justice. So read this Instruction Manual carefully.*

*Previous owners of Hasselblad may choose only to leaf through the Manual. Not advisable, we feel. The Manual should be read from cover to cover. Even experienced photographers could miss a piece of information of potential importance. Our cameras are also modified from time to time. The Instruction Manual now covers the Hasselblad 500C/M, 500EL/M, and SWC/M cameras. All the basic concepts, such as film loading, attaching and detaching film magazines, lenses, viewfinders, focusing screens, etc. are described under the "Hasselblad 500C/M" heading. Features pertinent to the 500EL/M and SWC/M will be found under those headings. Hasselblad cameras are renown for their quality and precision, but, like any other precision instrument, they demand skill and know-how to yield the best results. So let us once again recommend a careful reading of this Instruction Manual. It will be worth the effort.*

## HOW TO PREPARE YOUR 500C/M AND 500EL/M FOR OPERATION

### Front protective cover

Unscrew the protective cover (with bayonet mount) in the direction of the arrow.

Fig 1



### Attaching the lens

First make sure that the camera is advanced and not in the pre-released mode.

Make sure the lens mechanism is cocked. The slot (A) on the head of the cocking shaft should point to the adjacent red index dot (B). See also p. 11 for the procedure of cocking a released, detached lens.

Align the red delta at the rear of the lens with the red dot (O) on the camera lens mount. Rotate the lens **clockwise** until it stops and locks into place with a **click**.

Fig 2

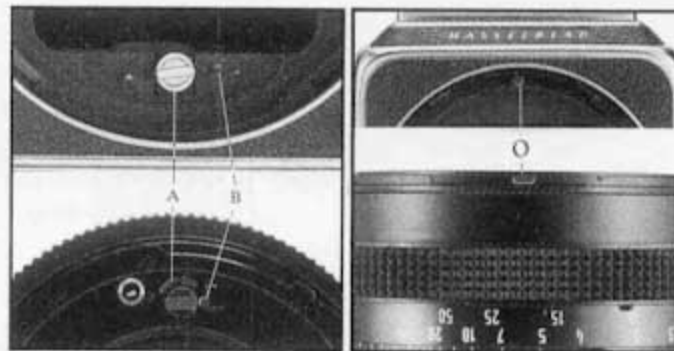


Fig 3

Fig 4



### Rear protective cover

Press the catch in the direction of the arrow and tip the cover backwards. Lift it off the lower magazine support catches.



### Attaching a magazine

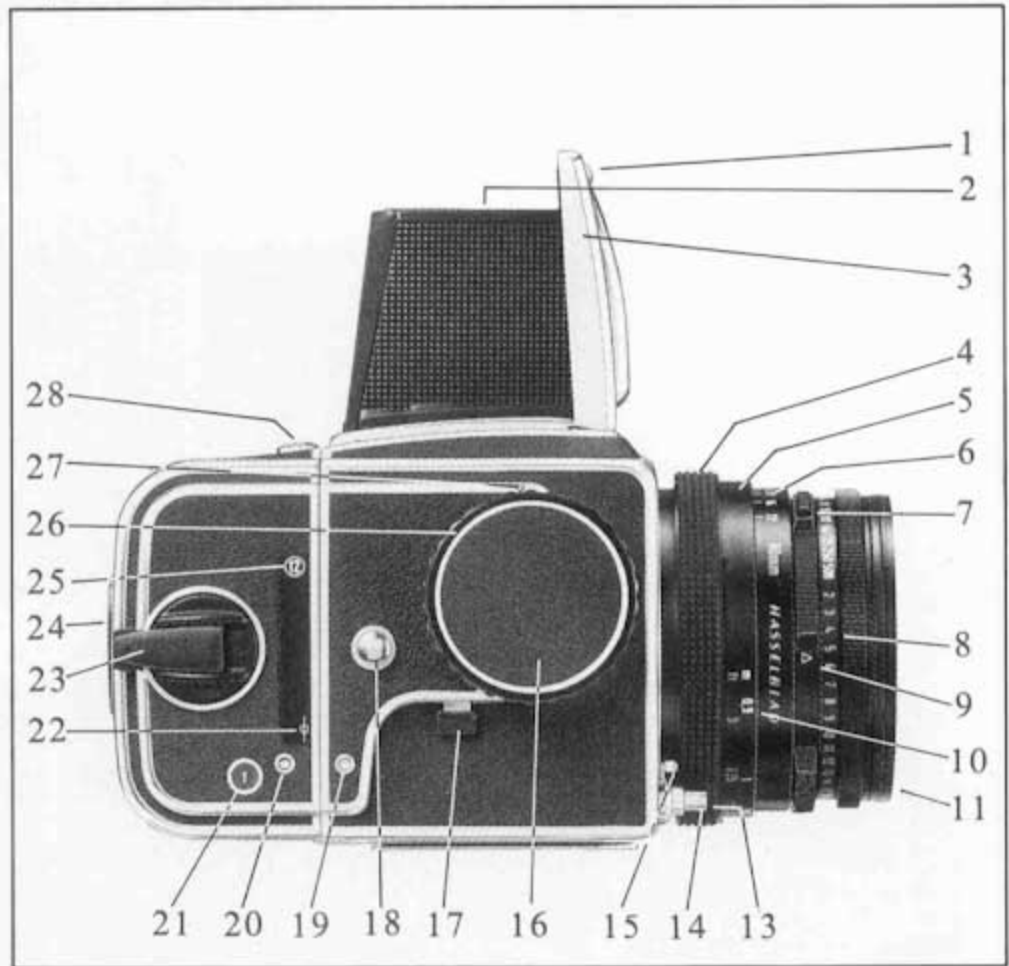
Hook the magazine onto the camera's lower magazine support catches (40) and make sure the attachment is secure. Then pivot the upper part of the magazine against the upper catches while sliding the magazine release catch (28) to the right. Release the catch and *make sure the magazine is locked in place by sliding the catch to the left.*

Fig 5

500C/M



Fig 6

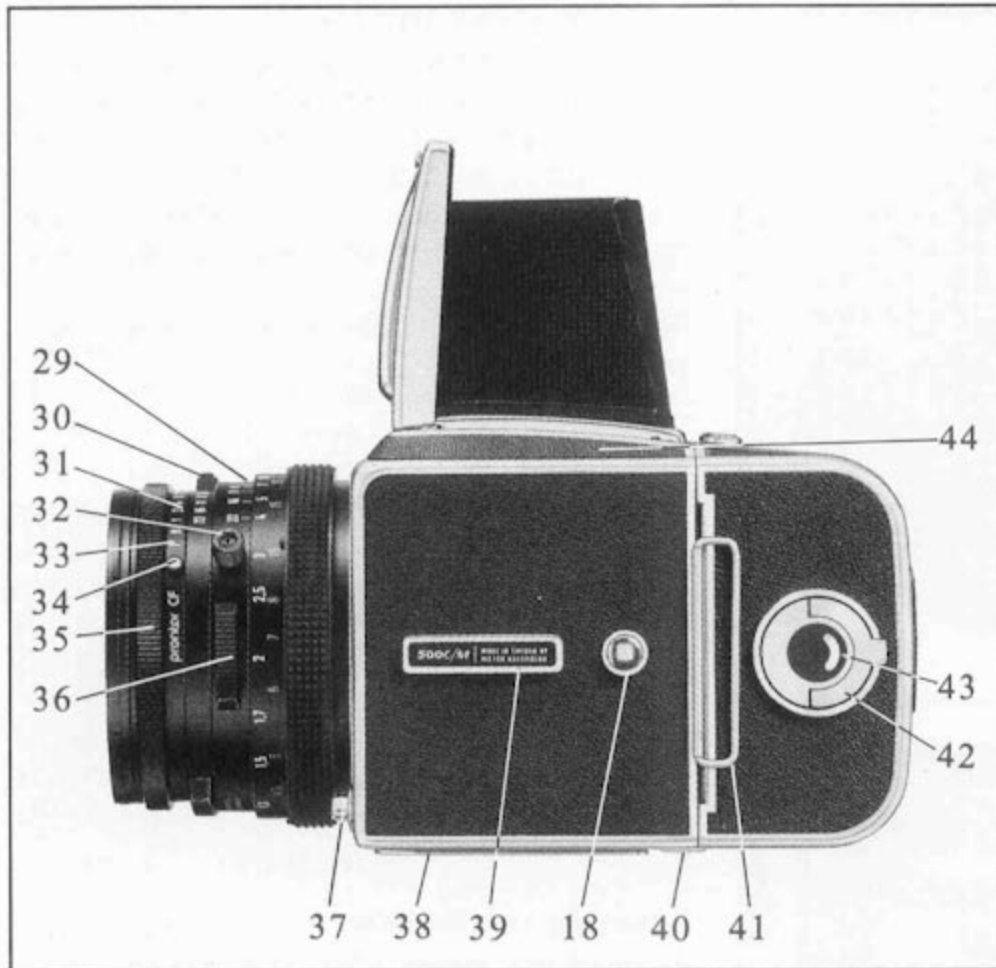


1. Catch for focusing hood and fine-focusing magnifier
2. Fine-focusing magnifier
3. Focusing hood
4. Focusing ring
5. Central index
6. Depth-of-field scale
7. Button for cross-coupling of shutter speed and aperture rings
8. Exposure value scale
9. Exposure value index
10. Distance scale (feet and meters)
11. External and internal accessory mounts
13. Threaded cable release socket
14. Shutter release
15. Time exposure lock
16. Knob for film advance and shutter cocking

17. Pre-release button
18. Strap lug (one on each side)
19. Shutter status indicator
20. Film advance indicator
21. Frame counter
22. Film plane indicator

23. Folding film winding crank
24. Film reminder
25. Magazine designation
26. Knob release catch
27. Knob positioning index
28. Magazine release catch

Fig 7



- |   |   |                                |
|---|---|--------------------------------|
| 29. Index for infrared compensation     | 34. Detent button for F setting         | 39. Accessory rail             |
| 30. Aperture ring with aperture scale   | 35. Shutter speed ring                  | 40. Magazine support catches   |
| 31. Shutter speed scale                 | 36. Depth-of-field preview tab          | 41. Magazine slide             |
| 32. PC flash terminal                   | 37. Lens lock release button            | 42. Roll holder key            |
| 33. F setting (used only with 2000FC/M) | 38. Tripod plate and 3/8" tripod socket | 43. Film consumption indicator |
|   |   | 44. Focusing screen            |

Fig 8



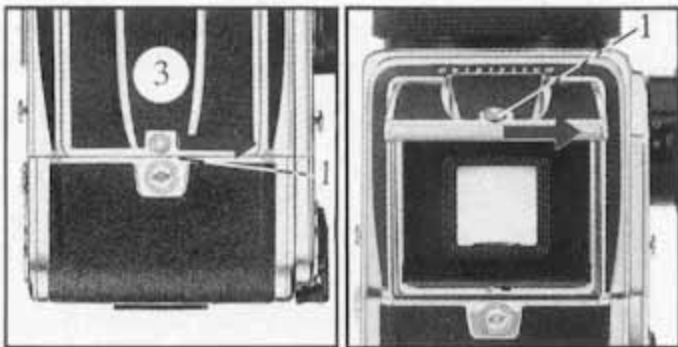
### LEFT-HAND GRIP (Fig. 8)

Fig. 8 shows the best way to hold a Hasselblad 500C/M when taking pictures. Hold the camera cradled in your *left* hand with your *left* index finger on the release button. This leaves your right hand free to carry out other operations, such as film winding, focusing, etc.

Always make it a habit to use the left-hand grip.

### FOCUSING HOOD (Figs. 9—10)

The focusing hood (3) automatically opens when the catch (1) is slid to the right. For critical checks on image sharpness, use the fine-focus magnifier which pops up when the catch (1) is again slid to the right. Flip the magnifier down until it clicks into place before closing the focusing hood. Then fold the hood's side leaves down over the focusing screen, followed by the rear leaf and finally the front leaf.



Figs 9—10

### Changing viewfinders:

1. Remove the film magazine (see p. 15).
2. Slide the viewfinder back out of the grooves.
3. Slide the new viewfinder into the grooves and press it firmly forward.
4. Replace the film magazine.

### CF LENSES

The 80mm f/2.8 Planar is the standard Hasselblad lens. Lenses developed for the 500C/M and 500EL/M are referred to as CF and C lenses (for C lenses, see p. 35).

CF lenses can also be used on the 2000FC and 2000FC/M and can then operate with their



built-in leaf shutter or with that shutter disconnected (exposure is made with the camera's focal plane shutter).

The CF lenses feature built-in Prontor CF leaf shutters with an automatic diaphragm, exposure value scale and X synchronization. These lenses attach to the camera via a bayonet mount.

### Diaphragm (Fig. 11)

CF lenses have an automatic diaphragm that stops down to the working aperture immediately prior to exposure.

Depth-of-field preview:

Press down on the top part of the depth-of-field preview tab (36). Use your left thumb. The lens will then stop down to the preset working aperture.

Upward pressure on the tab will reopen the diaphragm to the maximum aperture.

(After film advance, the diaphragm is always reopened to the maximum aperture unless the tab is depressed.)

### Shutter speeds (Fig. 12)

Shutter speeds are set on the shutter speed ring (35) opposite the index (5). The shutter speed ring has two scales, an F setting and a green detent button. The white scale shows the shutter speeds and the orange scale the exposure values.

The green F setting is only used when the lens is attached to a 2000FC or a 2000FC/M camera (the F setting disconnects the optic's built-in leaf shutter. See the Instruction Manual for the 2000FC/M.) The F setting can be made only after depressing the green detent button (34).

Fig 11



Fig 12



Shutter speeds: 1 to 1/500 s and B.  
At the B setting, the shutter remains open as long as the shutter release is depressed.  
Always use a cable release for long exposures.

**NOTE** Some films may display a loss of speed in very long exposures (reciprocity failure). Any exposure compensation necessary here is usually specified by the film manufacturer.



#### Warning signal

There is a red marking on the shutter speed scale opposite the 1, 1/2, and 1/4 s. This is to warn against possible exposure errors. The auxiliary shutter remains open as long as pressure is maintained on the shutter release. If the pressure is relaxed too soon, the auxiliary shutter will terminate the exposure prematurely. So make a habit of maintaining pressure on the shutter release until the leaf shutter has opened and closed fully.

#### Exposure values (Fig. 13)

The aperture and shutter speed combination set opposite the central index (5) determines the exposure. Every combination of shutter speed/aperture has an equivalent exposure value (8).

Fig 14

The shutter speed ring (35) and the aperture ring (30) can be cross-coupled by pressing the cross-coupling button (7). When this button is depressed, the shutter speed/aperture combination can be changed without altering the exposure value (EV).

Should you, for example, wish to change from  $f/8$  to  $f/11$ , the shutter speed ring will automatically switch to the corresponding shutter speed when the shutter speed and aperture rings are cross-coupled.

### Focusing (Figs. 14—15)

The lens is focused with the focusing ring (4). The ring is turned until the subject is as sharp as possible on the focusing screen. “Rock” the ring back and forth around the point of apparent sharp focus a few times for maximum focusing accuracy.

The distance between the subject and the film plane is read off on the distance scale (10) opposite the central index (5). The distance in meters is shown in white numerals, and the distance in feet is in orange numerals.

Objects on the near or far side of the set distance can be sharp within certain limits. The limits for this field of sharp focus, i.e. depth of field, vary with the  $f$ /stop.

A small  $f$ /stop yields wide depth of field.

A large  $f$ /stop yields shallow depth of field.

The depth of field available at any given  $f$ /stop can be read off on the depth-of-field scale (6) on both sides of the central index (5). In the example shown here (Fig. 15), the lens is set at 7 m. Depth of field at  $f/11$  will then range from 4 m to 20 m. (Also see “Depth-of-field Preview” on p. 7.)



Fig 15

Fig 16

### FLASH PHOTOGRAPHY (Fig. 16)

The 500C/M, 500EL/M, and SWC/M can be used for synchronized electronic and expendable flash at all shutter speeds from 1 to 1/500 s. Flash synchronization is made via the built-in leaf shutter's PC flash terminal (32). This terminal has a friction lock to keep the synch cord's PC contact more securely in place.

### X synchronization

The shutter is fully synchronized for electronic flash (X) at all speeds (1 to 1/500 s). X synchronization triggers the shutter without delay to accommodate the brief duration of the light output from electronic flash units. Expendable flash is also possible with shutter speeds of 1/30 s or slower.

### Infrared photography (Figs. 17—18)

Infrared (IR) rays (wavelengths longer than 800 nanometers) are refracted to a focal plane somewhat behind the focal plane of the visible light images formed on the focusing screen. To compensate for this discrepancy, proceed as follows:

Focus as usual on the focusing screen. Then rotate the focusing ring (4) until the distance set is opposite the red IR index (29).

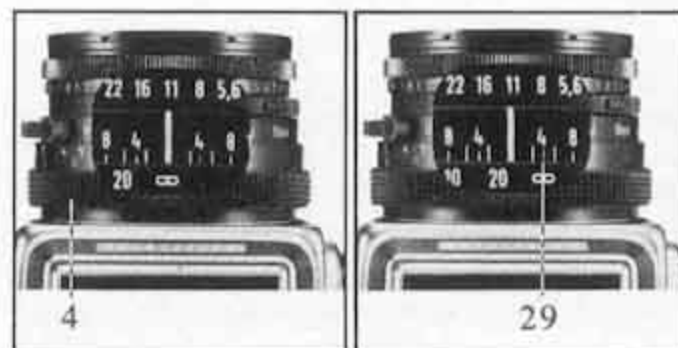
**Example:** In Fig. 17 the lens is set at infinity for normal photography.

In Fig. 18 the setting distance has been adjusted for IR photography by setting the infinity symbol opposite the IR index (29). Infrared (IR) is the designation for wavelengths longer than 800 nm.

### CHANGING LENSES (Figs. 19—20)

#### Lens removal

Make sure the camera is cocked (white signal in the film advance indicator window 20) and



Figs 17—18

Fig 19



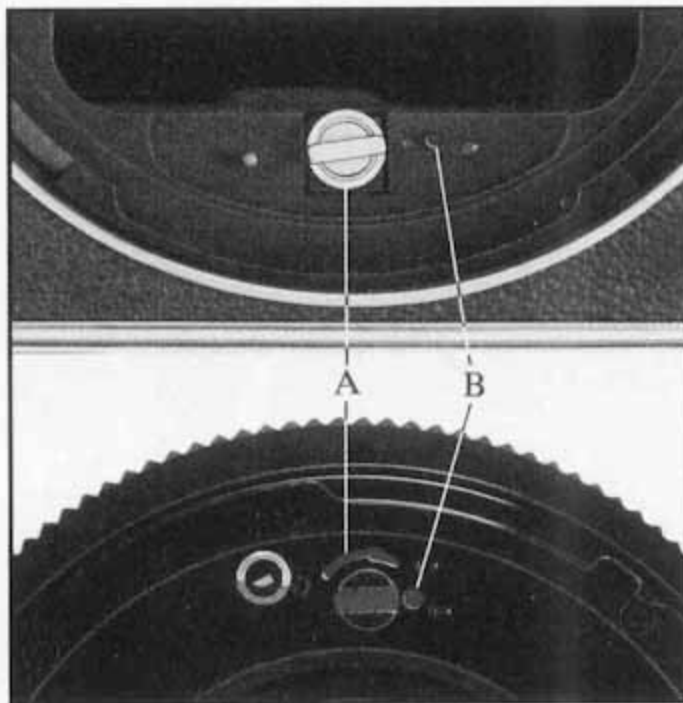
not pre-released. (“Pre-release”, p. 13.) Press the button (37) with your left index finger. Twist the lens *counter-clockwise* one tenth of a turn and remove it.

*NOTE. The 500EL/M must not be set at RS or AS when lenses are changed.*

### Lens attachment

Ensure that the camera is cocked and not pre-released. Make also sure the lens is cocked. The slot (A) on the cocking shaft should point to the red index dot (B). (See “Shutter cocking” below for cocking untensioned, detached lenses.)

Carefully insert the lens into the camera’s lens mount with the red marking on the lens barrel aligned with the red marking on the camera body. Twist the lens *clockwise* until it clicks into place.



### Shutter cocking

When the lens is attached to the camera, the shutter mechanism is automatically cocked each time the film is advanced. If the lens has been off the camera and the shutter inadvertently released, the shutter mechanism must be cocked before the lens is attached to the camera’s lens mount.

The shutter in a detached, untensioned lens is cocked with a coin inserted into the slot (A) on the cocking shaft. Rotate the shaft *clockwise* slightly more than one turn until it stops. (Do *not* use a screwdriver or any other sharp object which could slip and damage the rear lens element.) When the lens is cocked, the slot (A) on the shaft will point to the red index dot (B). See Fig. 20.

Fig 20

Figs 21—22

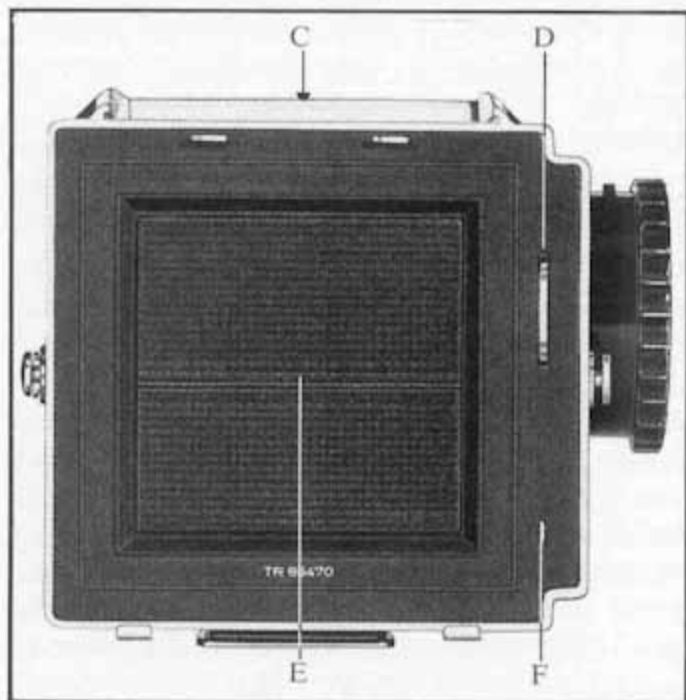
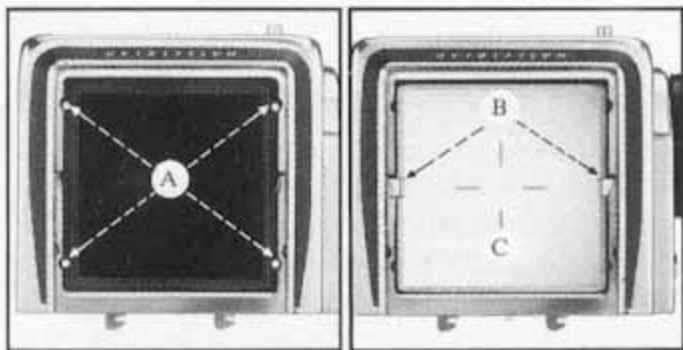


Fig 23

## CAMERA BODY (Figs. 21—23)

### Focusing screen

The focusing screen (C, Figs. 21—22) has 4 inscribed lines to facilitate horizontal and vertical alignment. Masks can be placed on top of the focusing screen when formats other than  $2\frac{1}{4} \times 2\frac{1}{4}$  are used.

### Changing the focusing screen

Remove the magazine and focusing hood. Slide the screen retaining catches (B) into the retracted position. Cup your hand over the focusing screen and turn the camera upside down. The focusing screen should then drop into your hand. If it fails to do so, remove the camera lens and gently tap the underside of the screen from inside the camera body. *Note.* The mirror must be in the down position. Insert the new focusing screen into the camera body. Make sure it rests firmly on all four screen supports (A). The retaining catches (B) automatically lock the screen in place as soon as a viewfinder is attached.

### Camera body rear plate (Fig. 23)

The auxiliary shutter (E), which consists of two vertically moving blinds, can be seen through the rear opening of the camera body. The gear wheel (D) transfers the force applied to the film advance knob or crank to the magazine mechanism.

The pin (F) actuates the film advance indicator and automatically blocks the shutter release after the last frame is exposed.

Make sure (D) and (F) are kept clean and free from dirt and dust.

### Exposure (Fig. 24)

Exposure takes place when the shutter release (14) is depressed.

Fig 24



As a general rule for all exposure with the time exposure lock 15 at the O setting, the shutter release must be kept depressed until the between-the-lens shutter has opened and closed fully. This is especially important at shutter speeds from 1 s to 1/15 s.

If pressure on the release is relaxed too soon, the auxiliary shutter will terminate the exposure prematurely.

The cable release is screwed into the threaded socket in the shutter release.

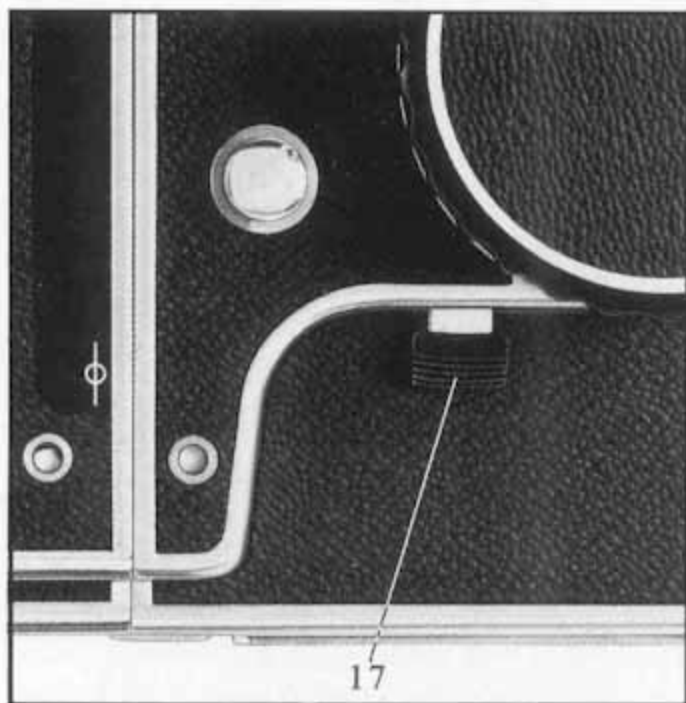
### Time exposure lock

The time exposure lock (15) has two settings: O (= disengaged) and T (= depressed shutter release locks in the depressed position until the lock is returned to the O setting).

The T setting can thus be used for time exposure when the shutter is set at B.

Film cannot be advanced until the lock is reset to O.

The setting cannot be used in operation with a cable release.



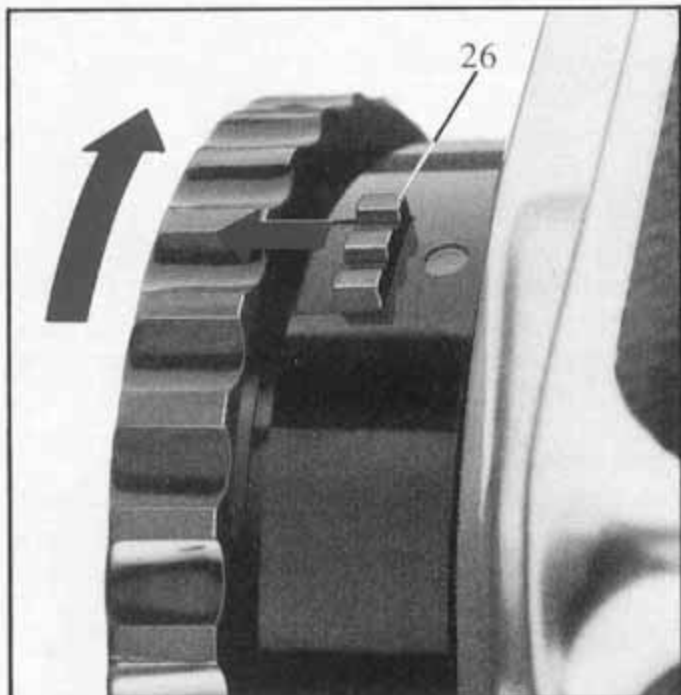
### Pre-release (Fig. 25)

To reduce the low level of camera-induced shake to a minimum, the camera can be pre-released by pressing the pre-release button (17). This is what happens when the pre-release button is pressed: the mirror flops up, the lens stops down to the preset working aperture, the auxiliary shutter opens, and the shutter closes (but remains cocked).

When the shutter release is pressed, only the operation of the between-the-lens shutter remains. Since the image on the focusing screen disappears in a pre-released camera, a sports viewfinder is a good way to keep track of moving subjects.

Fig 25

Fig 26



## KNOB FOR FILM ADVANCE AND SHUTTER COCKING (Figs. 26—27)

An interchangeable knob for film advance and shutter cocking is standard equipment with each new camera. This knob can be replaced with a crank or a knob with a built-in exposure meter.

The knob has two functions:

- To advance the film.
- To set up the camera for a new exposure by actuating the mechanism which flips down the mirror, reopens the diaphragm, and cocks the shutter. Knob operation also actuates the film advance and shutter status indicator signals (see also p. 18).

**Note** The *shutter release* may refuse to budge for one of the following reasons:

- The last film frame has been exposed. This automatically blocks the shutter release. There will then be no number in the frame counter.
- The magazine slide has not been withdrawn.

The *knob may refuse to budge* for one of the following reasons:

- The time exposure lock is set at T.
- The auxiliary shutter was tripped with the release button but the shutter release was not subsequently pressed to trigger the leaf shutter (see p. 13).

### Changing the knob

It is best to change the knob with the camera tensioned.

Knob removal: Push the spring-loaded release catch (26) away from the camera while bayoneting off the knob counter-clockwise.



Fig 28



Knob attachment: Align the red circle on the knob with the red delta on the camera (see the picture) and bayonet the knob clockwise onto the mount.

## FILM MAGAZINES

### Changing the magazines (Figs. 28—29)

Make sure the indicator windows (19 and 20) are displaying white signals whenever magazines are changed. Insert the magazine slide (41). Slide the magazine release catch (28) to the right and swing down the magazine on the two lower support catches (40). The magazine slide protects the film from fogging if the magazine is detached from the camera. The magazine is attached to the camera as follows:

Hook the magazine onto the lower magazine support catches (40) and make sure the connection is secure. Then swing the top of the magazine up against the upper catches (A) while simultaneously pushing the magazine release catch (28) to the left. Release the catch and *then push it to the left to make sure the magazine is securely locked in place*. Remove the magazine slide.

**NOTE** A magazine can only be detached when the magazine slide is inserted. *No exposure can be made until the magazine slide is withdrawn from the attached magazine.*

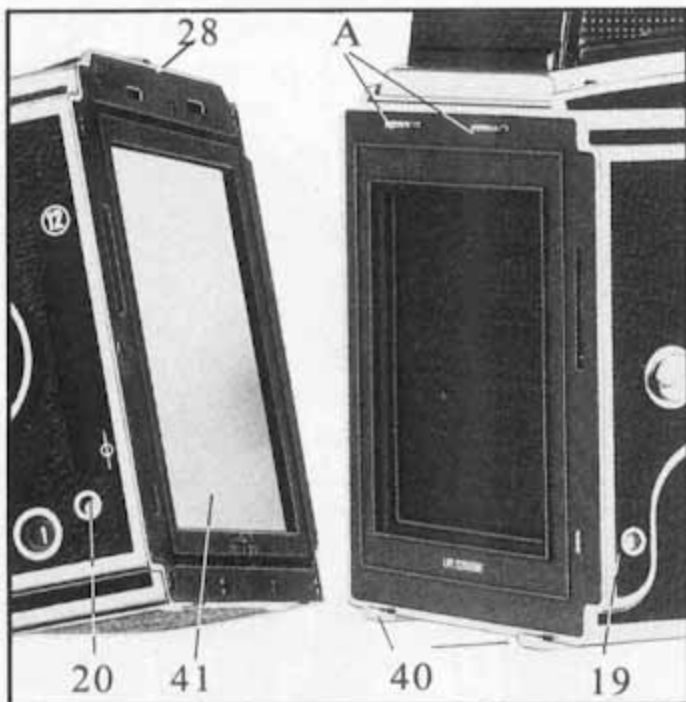


Fig 29

### Loading the magazine

The magazine can be loaded on or off the camera. When the magazine is loaded off the camera, the magazine slide (41) must be inserted with the curl of its handle retainer facing the roll holder key (42).

Fig 30



Fig 31



Fig 32

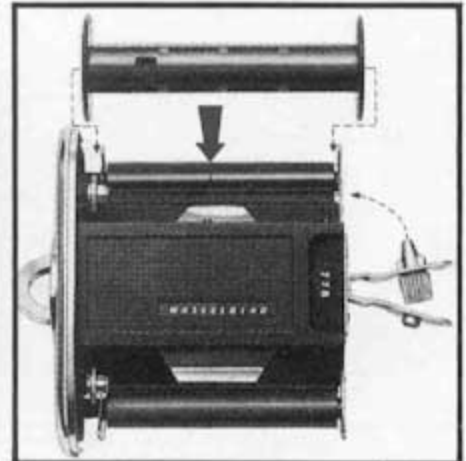


Fig 33



Fig 34

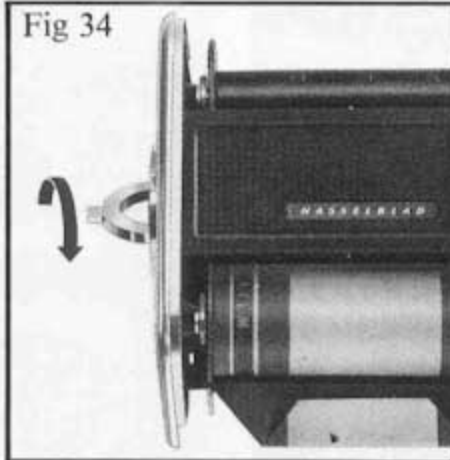


Fig 35

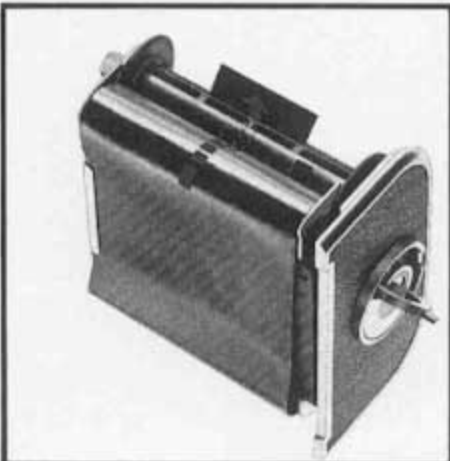


Fig 36

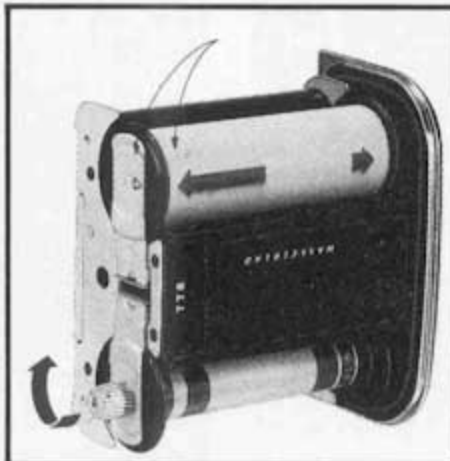


Fig 37

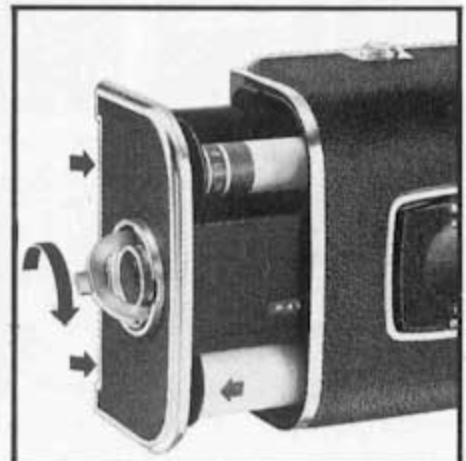


Fig 38

**Fig. 30.** Fold out the roll holder key.

**Fig. 31.** Turn the key counter-clockwise. Withdraw the roll holder completely.

**Fig. 32.** Flip both spool clips. Insert an empty take-up spool on the take-up side (with the knob clip) and flip down the clip. Twirl the spool to ensure that it is correctly seated.

**Fig. 33.** Insert a roll of film as shown in the illustration and flip down the clip. *Make sure the narrow, glued paper strip securing the paper backing is removed completely.*

**Fig. 34.** Turn the roll holder key on the side of the magazine *clockwise* so the film clamp (A, Fig. 35) opens.

**Fig. 35.** Pull out 3 to 3 1/2 inches of paper backing from the roll of film and guide it under the film clamp (A).

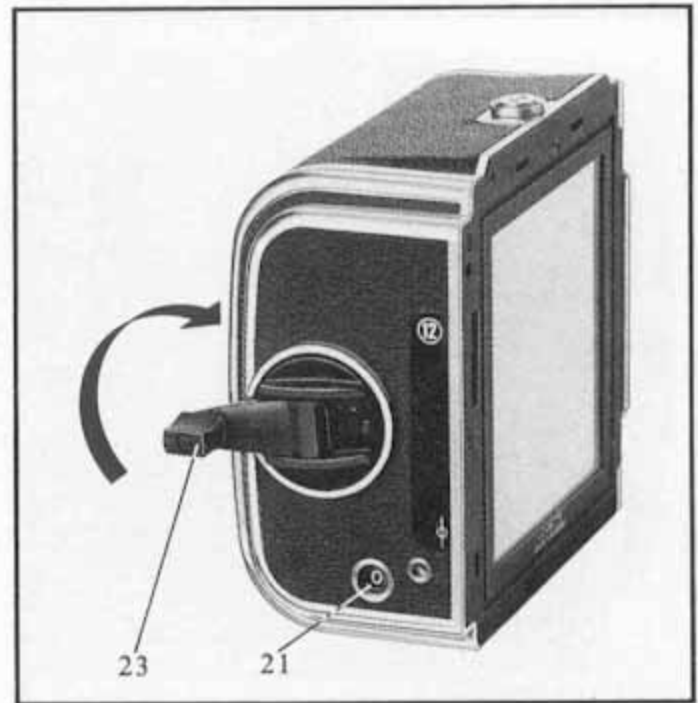
**Fig. 36.** Insert the tongue of the paper backing into a slit in the take-up spool.

**Fig. 37.** Turn the knurled knob *clockwise* until the arrow on the paper backing is opposite the delta on the spool clip. Then turn the roll holder key *counter-clockwise*.

**Fig. 38.** Slide the roll holder key into the magazine, jiggling it a little if it does not immediately click into place, and lock it by turning the key *clockwise*.

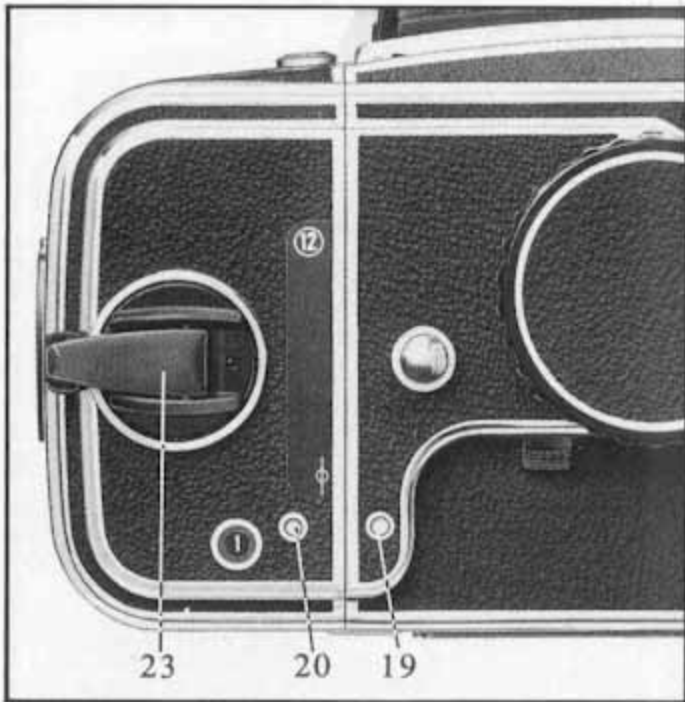
**Fig. 39.** Make sure the magazine slide is inserted (or that the magazine is attached to the camera). Fold out the film winding crank (23) and turn it clockwise until it stops (about 10 turns). Refold the crank. The number '1' will be displayed in the frame counter (21). The magazine is now loaded and ready for use.

Fig 39



**Note.** The magazine can only be removed from the camera when the magazine slide is inserted. No exposure can be made when the magazine slide is inserted with the magazine on the camera.

Fig 40



### Indicator signals (Figs. 40—41)

Indicator signals (19 and 20) in the camera body and film magazine are actuated by film advance. The following signal combinations may be displayed in the indicator windows:

- A Both windows white = Camera ready for exposure.
- B Both windows red = Film not advanced and shutter not cocked. Advance the film. This operation automatically cocks the shutter.
- C Magazine window red and camera body window white = Magazine was attached to a tensioned camera with the exposed frame unadvanced. Remove the magazine, trigger the camera, replace the magazine, and advance the film.
- D Magazine window white and camera body window red = A magazine with exposed film frame advanced was attached to a triggered camera. Remove the magazine and tension the camera with the knob.

**GOLDEN RULE:** Make sure the signals in both windows display the same color when you attach a magazine to the camera.

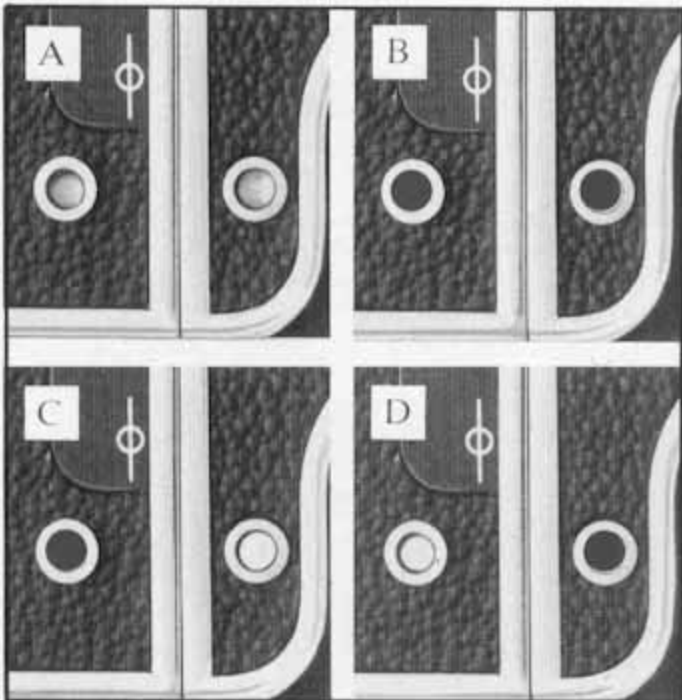


Fig 41

Fig 42

### After the final exposure

The camera's release mechanism is automatically blocked when the final frame has been exposed. Fold out the magazine's film winding crank and wind the remaining film onto the take-up spool.

### Miscellaneous (Figs. 42—43)

The magazine's film winding crank (23) is blocked only at frame '1'. So a partially exposed roll of film can be wound onto the take-up spool at any time.

The frame counter is automatically reset whenever the roll holder key is removed.

The center of the roll holder key (42) features a film consumption indicator (43) which is blank when the magazine has a full load on the supply spool. But the indicator gradually turns red as the film is exposed and advanced onto the take-up spool. A completely red indicator shows that the final frame has been exposed or that there is no film left in the magazine.

The film reminder (24) can be set at the ASA or DIN speed of the film used. You set this speed by flipping down the hinged clip and turning the serrated ring. There is a space behind the clip for a film box end.

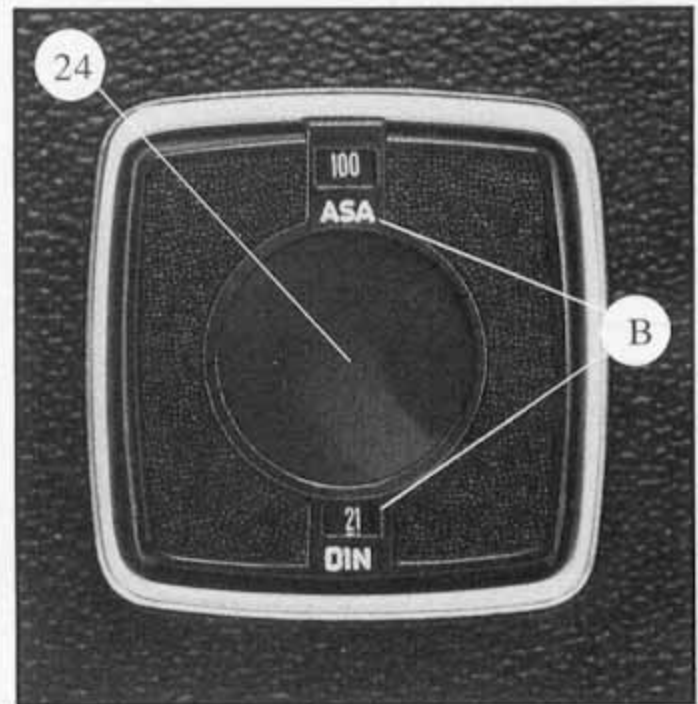
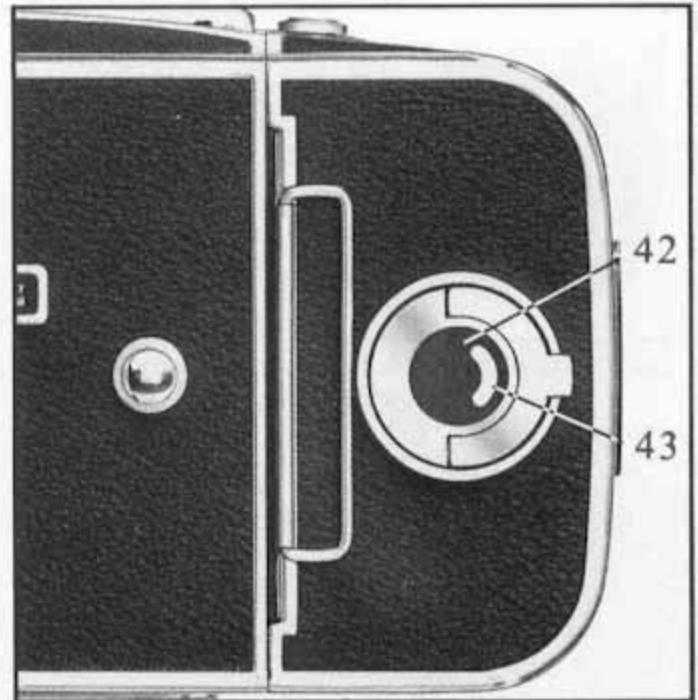
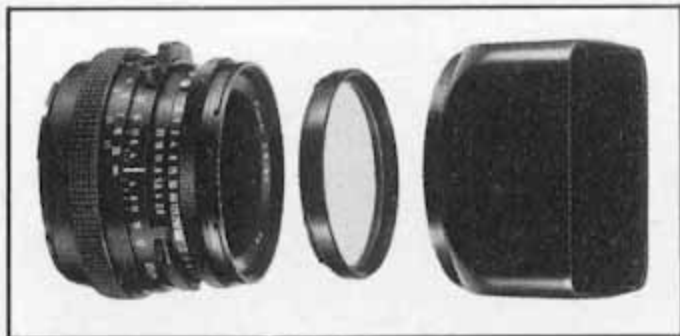


Fig 43

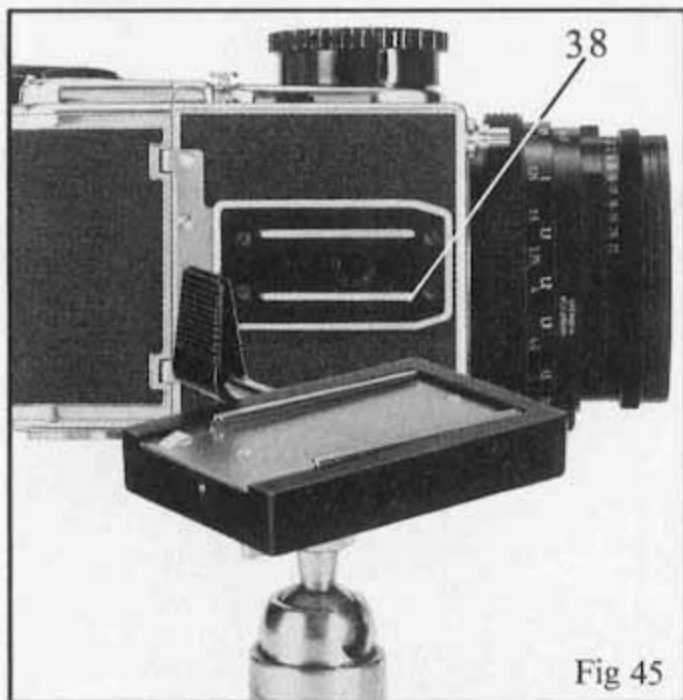
Fig 44



## ACCESSORIES

### Lens bayonet mounts

Hasselblad lenses with a 60mm Ø accessory mount have an internal bayonet mount for filters and Proxars and an external bayonet mount for lens shades and ringlight.



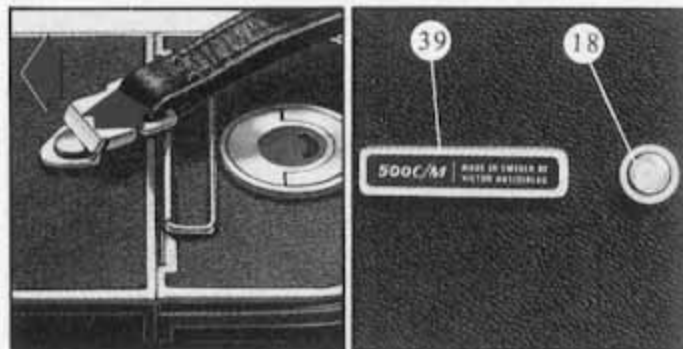
### Tripod attachment (Fig. 45)

There is a tripod plate (38) on the base of the Hasselblad 500C/M and 500EL/M. It has a 1/4" and a 3/8" tripod socket.

## STRAP LUGS

### Strap attachment (Fig. 46)

Place the main body of the strap clip onto one of the camera's strap lugs (18). Press down on the tip of the clip and pull back so the strap lug slips into the opening at the tip of the clip. Repeat this procedure on the other side of the camera.



### Strap removal

Lift the clip locking plate and slide the clip forward. The clip will then slide off the strap lug.

### Accessory rail (Fig. 47)

The accessory rail (39) is used as the seat for e.g. the sports viewfinder, spirit level, or adjustable flash.

Figs 46—47