HASSELBLAD

503 CW

INSTRUCTION MANUAL

Hasselblad 503CW – *the "workhorse" motorized*

Well – we have to admit that the headline is not altogether true. However, for the first time, you have the opportunity to motorize it yourself by simply purchasing and attaching the only true original Hasselblad Winder CW.

The Hasselblad 503CW (W for winder) continues the Hasselblad tradition of well-known and appreciated features that have carried the Hasselblad name beyond the ends of the earth and into space: reliability and absolute fidelity.

Although looking as it always has, it offers a number of new features. One is the GMS (Gliding Mirror System) which with its large mirror provides a full viewfinder image with all Hasselblad C and CF lenses. The image is further enhanced by the new improved focusing screen "Acute-Matte D" for more even illumination as well as easier and more accurate focusing.

Originally featuring the 6 x 6 cm (2¼ x 2¼ in) format the 503CW also accepts format masks for 6 x 4.5 cm and 6 x 3 cm (panoramic) formats.

A special feature of the Hasselblad Winder CW is the SAI (Self Adjusting Interface) function which senses the camera's status, ensuring mechanical reliability. Just detach the winding crank and hook the winder on for the additional features of fast sequence photography and various choices of remote control.

With your Hasselblad 503CW you have opened the door to the Hasselblad System, that, in addition to the items already mentioned, also features interchangeability of 15 different lenses, 1.4x and 2x teleconverters, magazines for different image formats and films including Polaroid films, viewfinders with or without exposure metering properties, a number of focusing screens and a variety of accessories to fit your special requirements.

The complete range of accessories affords almost limitless flexibility and potential for superior photography in any application. The realization of this potential is only dependant upon your skill, care and judgement as a photographer.

LENSES

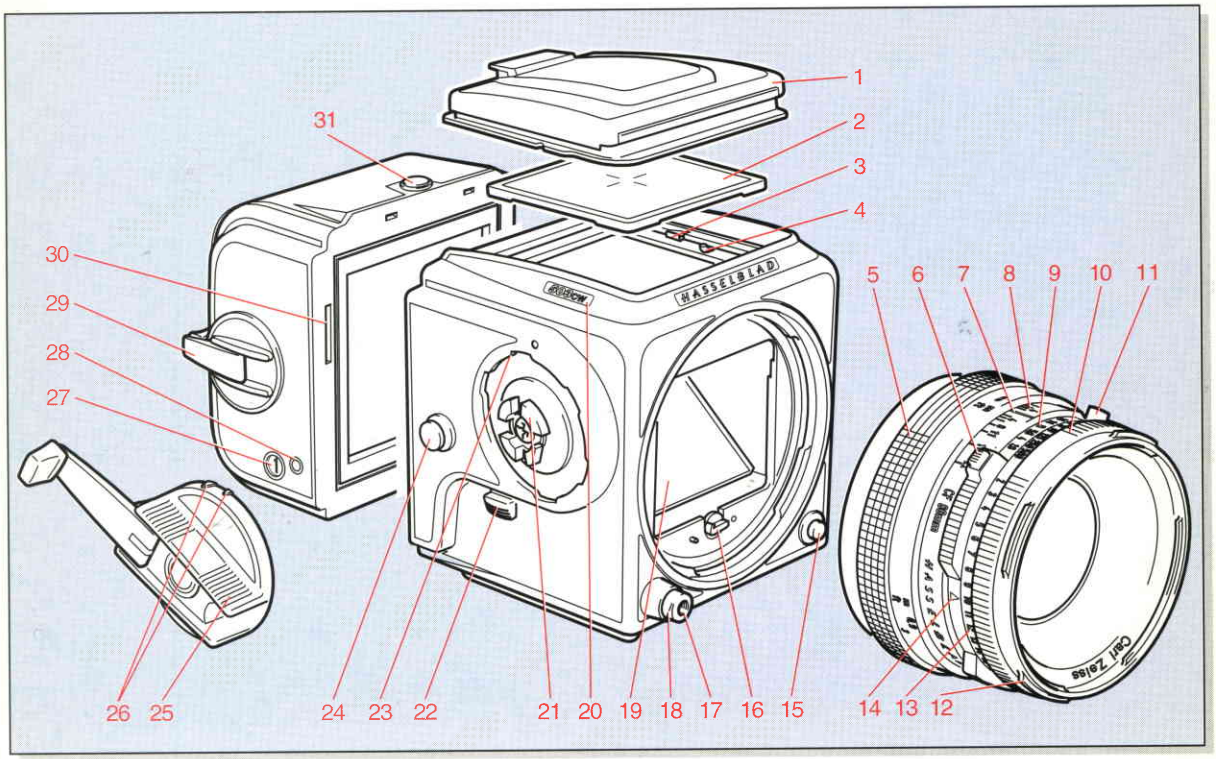
Since the early 1950's Hasselblad lenses have been manufactured by Carl Zeiss in Germany. The Hasselblad 503CW uses C and CF lenses made by Carl Zeiss.

With the exception of F and FE-type lenses, all Hasselblad lenses manufactured since 1957 can be used with the 503W. FE-type lenses can only be used with the Hasselblad focal plane shutter cameras.

This instruction manual describes in detail how to operate your 503W. Please read it carefully. The knowledge gained from it will give you full access to the Hasselblad potential. Exploiting the potential is left to your imagination!

Congratulations on a very wise choice!

503CW, Parts & Components



1. Focusing hood
2. Focusing screen: Acute-Matte D* screen
3. Screen retaining clip
4. Flash function indicator
5. Focusing ring and scale
6. Shutter speed and aperture interlock button
7. Central lens index
8. Depth-of-field scale
9. Aperture ring and scale
10. Shutter speed selector ring
11. PC flash terminal
12. External and internal lens accessory mount
13. Exposure value scale
14. Exposure value index
15. Lens release button
16. Drive shaft
17. Threaded cable release socket
18. Shutter release button
19. Viewfinder mirror
20. Name plate
21. Winding crank and Winder coupling
22. Pre-release button
23. Winder bayonet mount
24. Strap lug
25. Winding crank
26. Winding crank index
27. Frame counter
28. Magazine status indicator
29. Film winding crank
30. Magazine driving gear
31. Magazine catch with magazine type designation

(continued)

Technical Specifications and Equipment 503CW

Camera type:	Single lens reflex camera with 6 x 6 cm (2 1/4 x 2 1/4 in) max. film size. Interchangeable lenses, film magazines, viewfinders, and focusing screens.
Design:	Mechanical, with an aluminum alloy camera body shell cast in one piece.
Viewfinders:	Folding focusing hood interchangeable with reflex viewfinder, prism viewfinders with or without built-in light meter, or magnifying hood.
Film advance:	Manual advance or motor driven with Winder CW. Simultaneous shutter winding. Winder CW winding time: 1.05 sec, approx. 0.8 frames/sec in continuous mode.
Flash control:	TTL/OTF-metering. ISO 16-1000 with flash adaptors SCA390 or SCA590 for connection with flash units from the SCA 300 or SCA 500 systems resp. Metering area within 40 mm diameter in the centre of the image area.
Tripod coupling:	1/4 in. and 3/8 in. socket threads and base plate for quick coupling attachment.
External dimensions:	Camera body only - see page (vi). Camera body with Planar CF 80 mm lens, film magazine A12 and focusing hood: 180mm L x 114mm W x 110mm H (7 x 4 1/2 x 4 1/8 in).
Weight:	Camera body only: 0.6 kg (1.3 lb). Camera body with Planar CF 80 mm lens and A12 film magazine: 1.5 kg (3.3 lb).
Focusing screen:	Hasselblad Acute-Matte D* focusing screen

The camera body (chrome model, cat. no.10243; black model cat. no.10246) comes with focusing hood, focusing screen, winding crank, standard strap, and front and rear protective covers.

For comprehensive information on accessories please refer to the Hasselblad Product Catalogue.

Hasselblad reserve the right to make changes in the published specifications without prior notice.

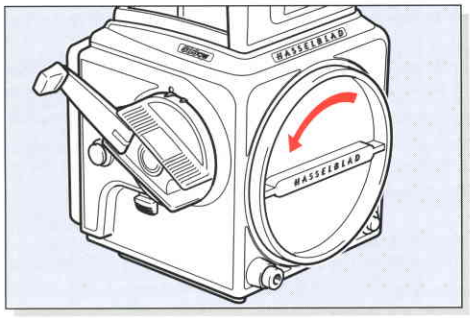
Acute-Matte D* designed by MINOLTA

Contents

Getting Started

This section describes how to prepare your camera for use as well as the basic operations. Follow the instructions step-by-step to avoid damaging the equipment.

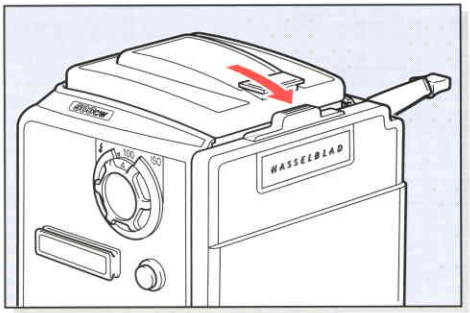
Check that the winding crank on the right hand side of the camera is locked thus ensuring that the camera is fully wound. If the crank is not locked, rotate it clockwise until it does lock, thereby winding the camera.



Front Protective Cover

Turn the cover (bayonet fitting) in the direction of the arrow and lift it out. Do not remove it until you are ready to attach a lens.

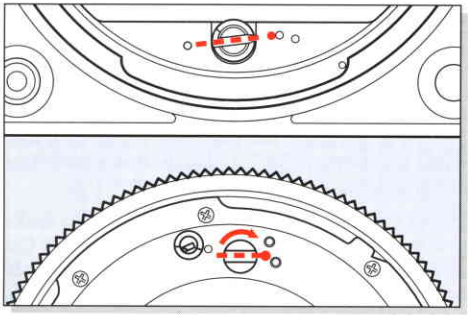
! *The front protective cover can only be removed when the camera is fully wound.*



Rear Protective Cover

Depress the catch, tilt the cover backwards, and lift it off. Do not remove it though until you are ready to attach a magazine.

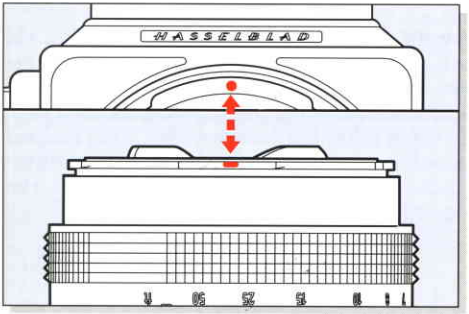
Always replace the cover to protect the auxiliary shutter when storing the camera body without a magazine attached.



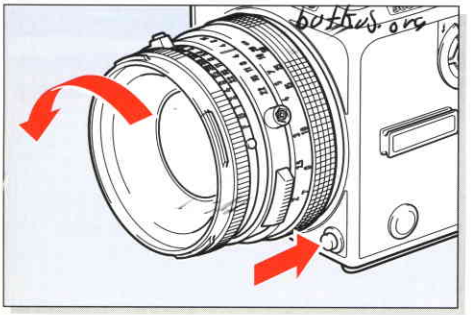
Attaching the Lens

Make sure that both camera and lens are fully wound. The adjacent illustration shows the correct relationship between the drive shaft, the lens drive coupling and their indexes.

If the lens is not wound, you can insert a coin in the coupling slot and rotate it clockwise until it locks (about 4/5 of a turn)



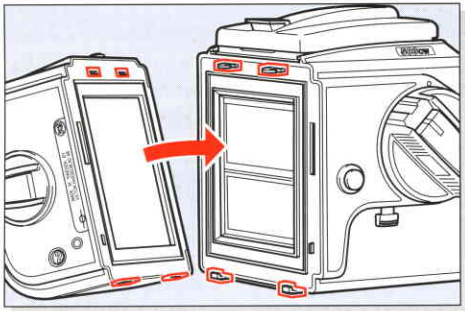
When you have aligned the red index on the lens with the one on the camera as shown in the illustration, the lens will drop easily into the bayonet fitting. You can then rotate it clockwise until it stops with a faint click as the lens catch locks it in place.

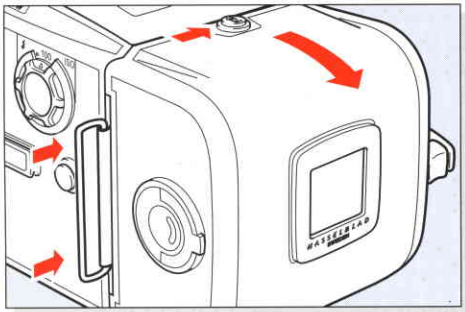


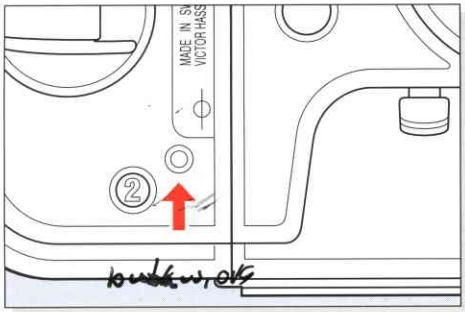
Removing the Lens

Depress the lens release button and rotate the lens counter-clockwise until it stops and lift it out of the mount.

You can only remove the lens when the camera is fully wound and not in the pre-released mode (see page 18).







Attaching the Magazine

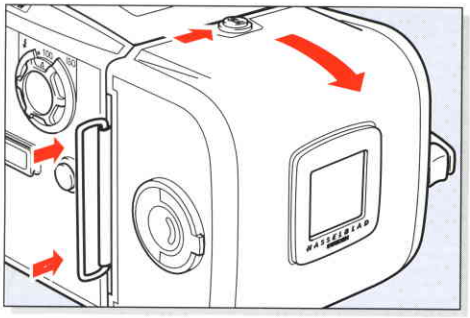
Ensure that the magazine slide is fully inserted with the hinge towards the front of the camera (see detail on page 9) and that the magazine status indicator is white. If the indicator is red then follow the instructions on the page 5. It is also advisable to have the camera fully wound.

Rest the magazine on the magazine supports making sure that the lugs are properly engaged in the recesses. Carefully swing the magazine towards the camera body and check that the camera's upper support hooks fit into the slots in the magazine.

Push the magazine gently but firmly against the hooks while sliding the magazine catch to the right. Release the button when the magazine has made contact with the camera body, and then push the button to the left to ensure that it has reached the locked position. Remove the slide to positively lock the magazine to the camera body. The camera is now ready to use.

Removing the Magazine

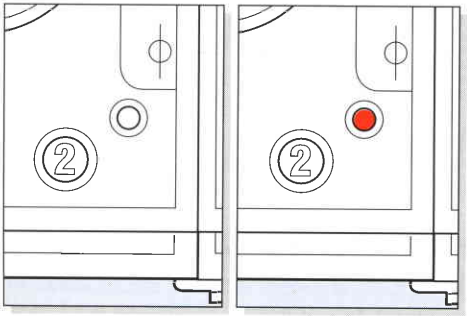
Just as when attaching the magazine, it is advisable to have the camera fully wound and the magazine indicator displaying white.



Insert the magazine slide fully with the hinge towards the front of the camera (see detail on page 9). Slide the magazine catch to the right, swing the magazine back and lift it off the lower supports.

The magazine cannot be removed without first inserting the magazine slide.

Note also that the camera cannot be operated when a magazine, with slide inserted, is attached to the camera.



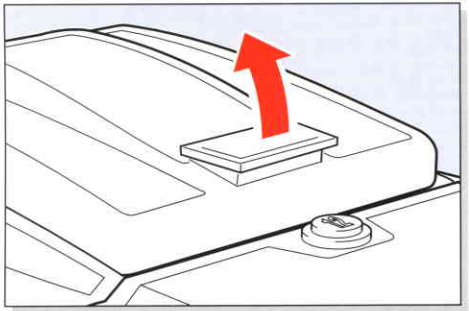
The Magazine Status Indicator

The status indicator on the right hand side of the magazine shows **WHITE** when the magazine is ready to operate and **RED** when the film has not been advanced after an exposure. If the status indicator shows red, release the camera first before attaching the magazine. Then, winding the camera again will automatically advance the film by one frame.

See page 9 for a general explanation of these magazine features.

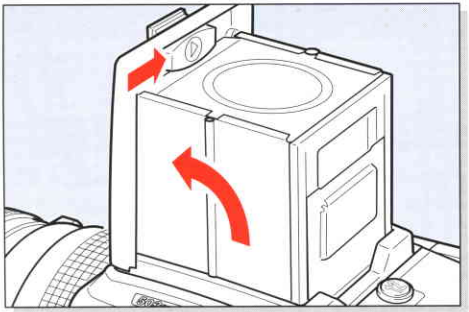
Do not attach a magazine showing white to a camera that is not rewound! Wind the camera first or you will lose a frame.

Do not attach a magazine showing red to a fully wound camera! This could result in a double exposure.



Opening the Focusing Hood

Lift the lid by firmly gripping the tab on its rear edge, and swing it up to a vertical position. The hood unfolds automatically and locks in the open position.

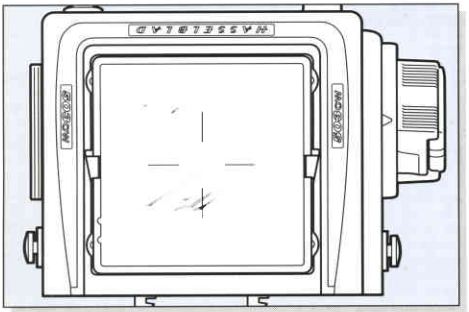


The Built-in Magnifier

The magnifier flips up into the viewing position when the oval button inside the lid is moved to the right, as in the illustration.

To fold the magnifier down simply press it back down towards the lid until it locks into place.

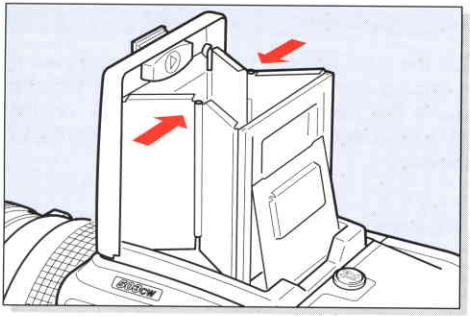
It can easily be exchanged to suit individual eyesight (see page 21).



Focusing Screen and Viewfinder Image

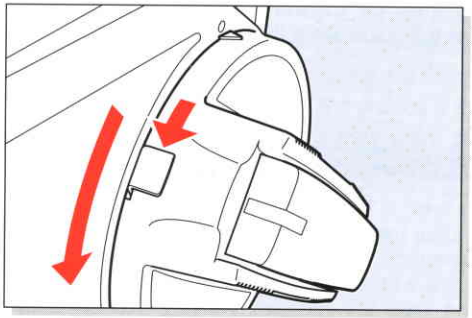
The 503CW is fitted with the Acute-Matte D focusing screen featuring unrivalled brightness and the highest resolution among the Hasselblad focusing screens. The centre of the screen is indicated by a hairline cross.

The screen can easily be exchanged for others specially designed for various applications (see page 22).



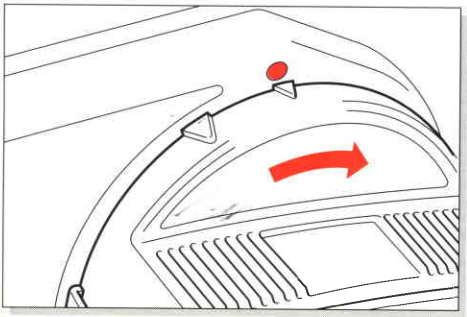
Closing the Focusing Hood

Fold away the magnifier by pressing it back down towards the lid until it locks into place. 'Pinch' in the side plates at the hinge points and then push the lid lightly backwards. The hood then automatically folds back down.



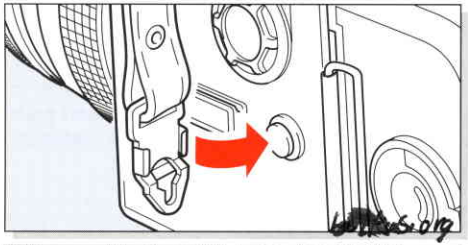
Removing the Winding Crank

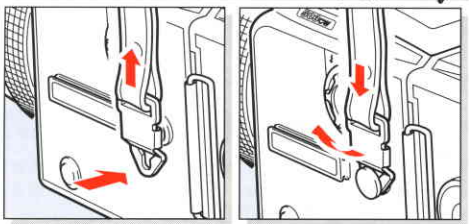
Push the catch lever downwards while rotating the crank counter-clockwise. Then pull the crank straight out from the shaft.



Attaching the Winding Crank

Attach the crank to the shaft, aligning the smaller triangular index mark against the red dot just above the mount. Keep the crank pushed against the camera while turning it clockwise until the larger triangular mark is aligned with the red dot.



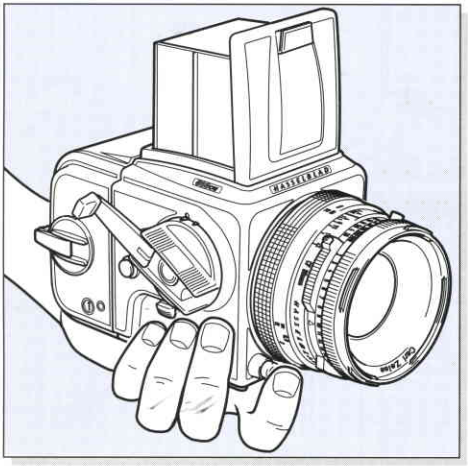


Strap Attachment

Place the main body of the strap clip over one of the camera's strap lugs. Press the tip of the clip towards the camera while pulling back on the strap so that the clip slides over the lug and locks into position.

Removing the Strap

Lift the clip locking plate high enough to be able pass over the camera lug. Slide the clip in the direction away from the strap until it is free.



Left Hand Grip

Without a Winder CW attached, may find that holding the camera in your left hand is the most convenient grip; operating the exposure release button with your index finger. Your right hand is then free for focusing, setting the exposure, rewinding, and changing the lens or magazine.

Exposure Release

Before you can take a photograph, you must remove the magazine slide. The magazine will then be locked on the camera body, and the camera release button will be unlocked.

After exposure, the viewfinder remains dark until you have rewound the camera by one full turn of the crank, which also advances the film.

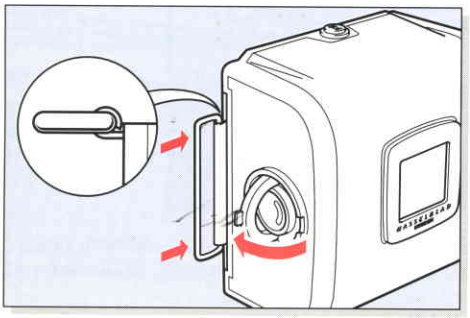
Magazine Operation

Hasselblad film magazines provide the opportunity to vary format, length and type of film used. They can be quickly and easily switched mid-film without the loss of a single frame.

Operation of the magazines is not difficult but pay particular attention to the section on loading. Go through the procedure one step at a time and practice a little until you feel confident. Note especially which way round the spool of film is placed and the positioning of the backing paper under the clamp bar.

The film is automatically advanced frame-by-frame in the magazine by the camera winding mechanism and consequently only when attached to the camera body. Therefore when separated, the magazine and camera body could become unmatched. This can be determined by checking the magazine status indicator (see page 5) or by the winding crank status (see page 2).

Try to adopt a routine that suits you regarding winding and removal as well as checking on the status of each item. This will ensure that the camera/lens/magazine combination status is always fully operative.



Loading the Magazine

The magazine can be loaded on, or off the camera.

If it is to be loaded off the camera, then the magazine slide must be inserted first.

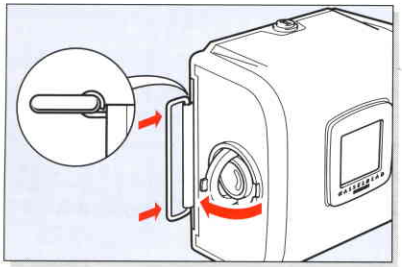
In either case, when inserting the slide ensure that its flat side is towards the rear (see detail in illustration) as this facilitates the removal of the film holder.

Step-by-step Film Loading

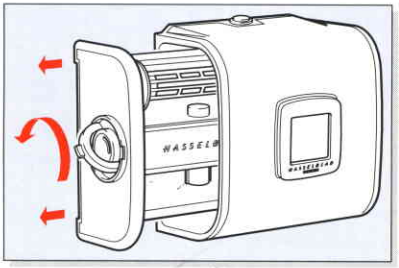
Follow the procedure below in the correct order.

CW = *clockwise*

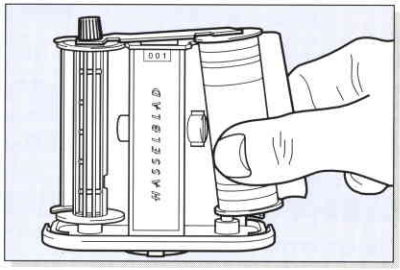
C-CW = *counter-clockwise*



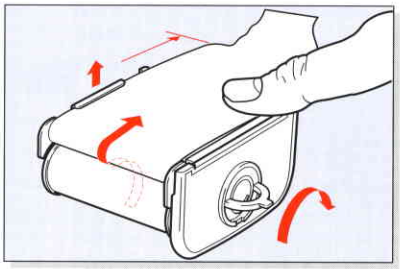
1) Fold out the film holder key.



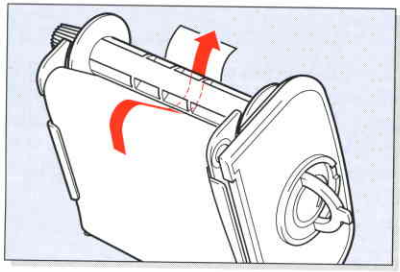
2) Turn the key **C-CW** and withdraw the film holder (magazine insert).



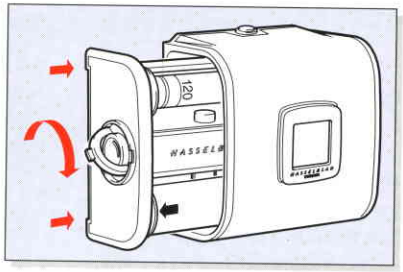
3) Place an empty take-up spool under the grooved knob of the spool clamp bar. Insert a roll of film under the other end of the bar, turned the same way as in the illustration. Be sure to remove all of the paper band surrounding a new roll of film.



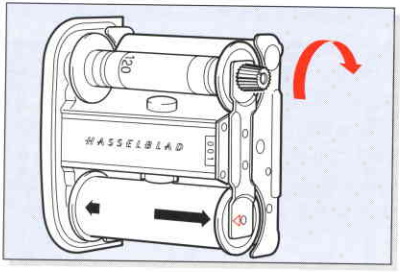
4) Turn the film holder key **CW** to open the film clamp. Pull 8 -10 cm (3 - 4 in.) of paper backing off the film roll and slide the edge under the clamp.



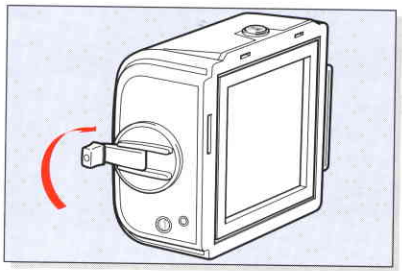
5) Insert the tongue of the backing paper into the slot in the take-up spool.



7) Turn the film holder key **C-CW** and insert the film holder into the magazine. Ensure that it is correctly positioned. Turn the film holder key cw to lock the film holder in the magazine and then fold the key back into place.

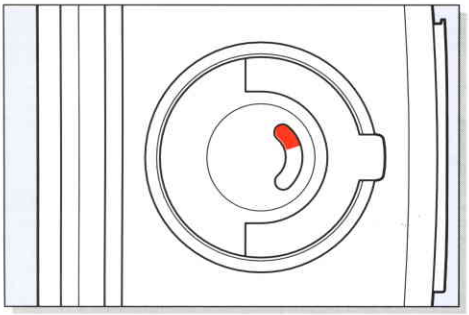


6) Turn the grooved knob **CW** until the arrow on the paper backing is aligned opposite the triangular index on the spool clamp bar, but no further.



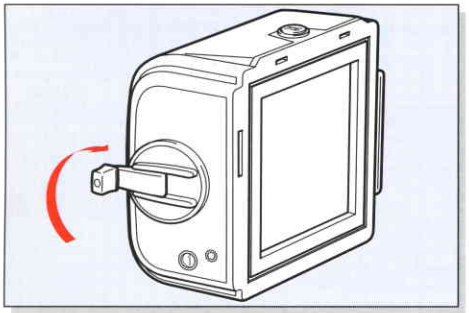
8) Fold out the film crank and rotate it **CW** about ten turns until it stops. Then turn it **C-CW** and fold it in. The figure (1) will now be displayed in the automatic frame-counter window indicating that the magazine is loaded and ready for use.

The magazine's film winding crank is only blocked at frame 1. A partially exposed film may be wound off at any frame after that.



Magazine Load Status

In the centre of the film holder key there is a crescent-shaped indicator window that shows white when the magazine is freshly loaded. It gradually changes to red as the film is wound through. An all red indicator shows that either the film is used up or that the magazine is empty.



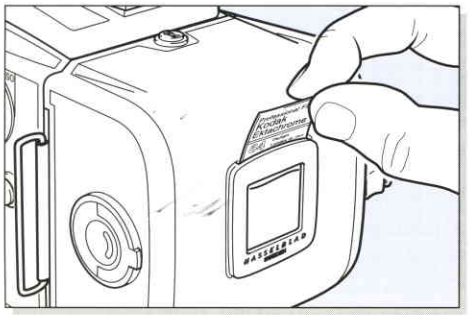
Removing Film from the Magazine

When the last frame has been exposed and wound on, the magazine blocks the camera for further release.

Wind off the film by folding out the film winding crank, and rotate it clockwise until you can feel the film leaving the supply spool.

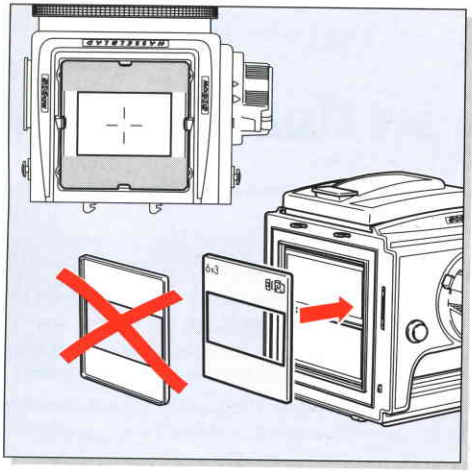
You can now withdraw the film holder from the magazine and remove the exposed film.

The frame counter is automatically reset when the film holder is withdrawn from the magazine.



Film Tab Holder

The end tab of the film pack can be inserted in the holder on the back of the magazine as a reminder of the kind of film that has been loaded into the magazine.



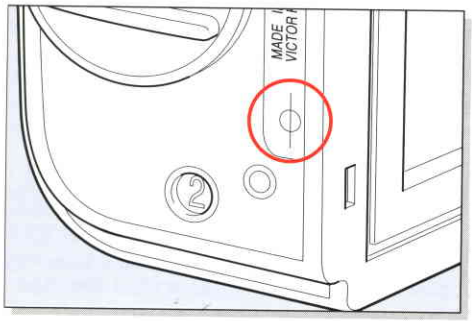
Installing Format Masks

The body's rear plate has an accurately machined mount that accepts the 6 x 4.5 and 6 x 3 panoramic format masks.

To install a mask, push it in place in the mount. The masks can be used horizontally or vertically.

Each format mask has a corresponding viewfinder mask which is placed over the focusing screen.

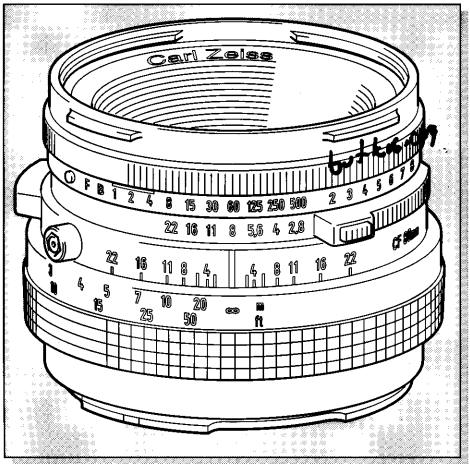
> *Do not forget to install the corresponding viewfinder mask and align according to format mask orientation.*



Film Plane Index

The film plane index on the right hand side of the magazine body indicates the position of the film plane to facilitate accurate determination of the film-to-subject distance. This can be particularly important in close-up photography.

Lens and Shutter Functions



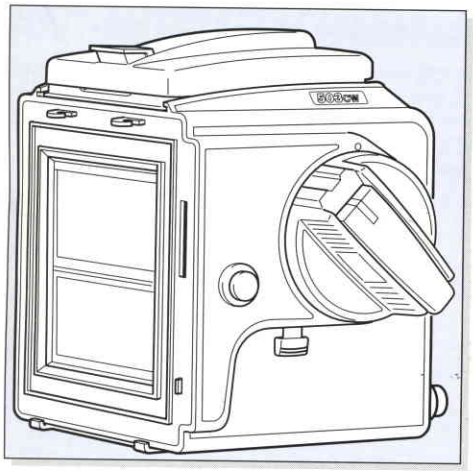
Shutter Speed and Aperture

The shutter speed selector ring is the ring located closest to the front of the lens. To set the speed, turn the ring until the desired marked shutter speed position aligns with the central lens index.

The white scale shows the shutter speeds, and the orange scale the exposure values (EV).

The green 'F' setting is used only when the lens is attached to a Hasselblad camera in the 200 or 2000 series with a focal plane shutter. The operation of the diaphragm is not affected. The 'F' setting can only be engaged/disengaged when the green lever is pressed. If the F setting is used with the 503CW, exposure errors will occur since the shutter remains open.

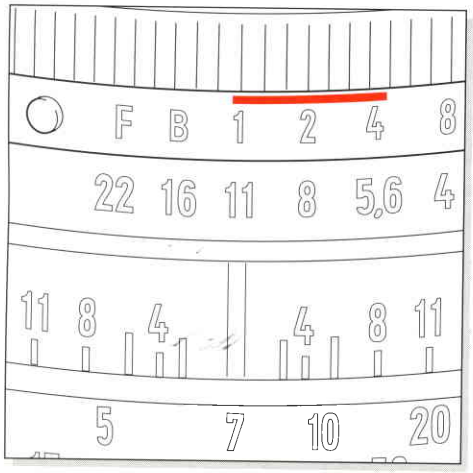
The aperture setting ring is the second closest ring to the front of the lens. The aperture value is also set against the central lens index. CF lenses have an automatic diaphragm that stops down to the preset working aperture at the start of the exposure sequence.



Exposure

As a general rule for all shutter speed settings except B, you should keep the release button depressed until the lens shutter has opened and closed fully. This is especially important at shutter speeds from 1s to 1/15s, as the auxiliary shutter remains open only when the button is kept depressed (see also 'Warning Mark' below).

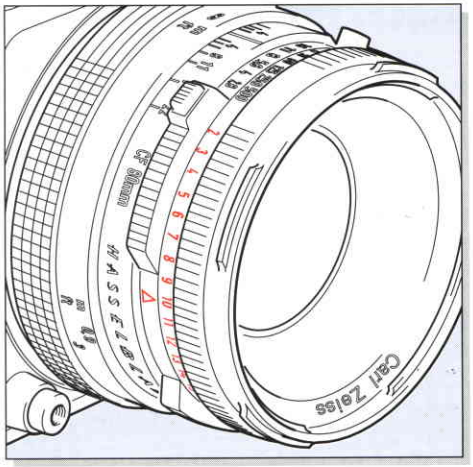
You can see the auxiliary shutter, consisting of two blinds, covering the rear opening of the camera body. It protects the film from unwanted exposure as the lens' shutter normally is open for focusing.



Warning Mark

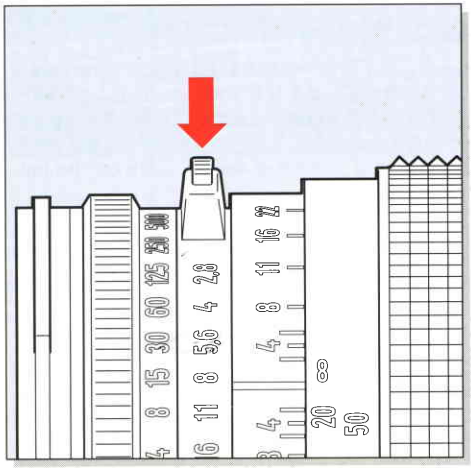
You will find a red mark on the shutter speed scale above the 1, 1/2, and 1/4s settings. This is to warn you of possible exposure errors as detailed above. The auxiliary shutter will terminate the exposure prematurely if you relax the pressure on the button too soon.

Listen to the buzzing sound of the delay escapement in the lens' shutter and maintain the pressure on the release button until the sound stops.



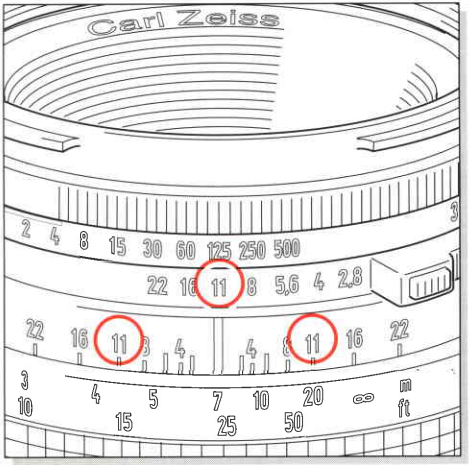
Exposure Values

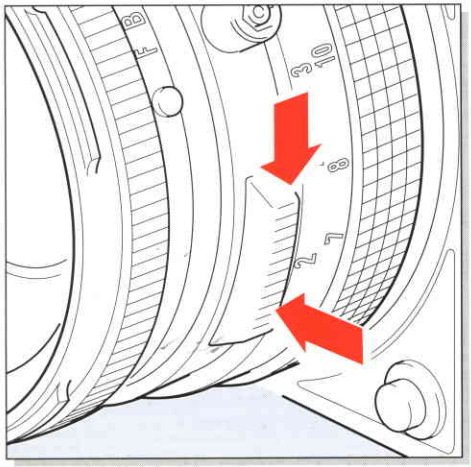
The aperture and shutter speed combination set opposite the central lens index determines the exposure. Every combination of shutter speed/aperture has an equivalent exposure value (EV) which you can read and set against the red EV index on the right hand side of the lens.



Interlocked Shutter Speed / Aperture

If you want to change the shutter speed or aperture while still keeping the same shutter speed/aperture combination (EV), you can interlock the speed and aperture setting rings by holding down the interlock button which is on the right of the aperture scale. When interlocked, the rings move together, increasing or decreasing the aperture to compensate for a decrease or increase of speed respectively.





Focusing and Depth of Field

The focusing ring is closest to the camera body. It has a knurled rubber grip and engraved distance scales in feet (orange) and metres (white). Focus the lens by rotating the focusing ring until you obtain a sharp image of the subject in the viewfinder.

The distance between the subject and the film plane is read off the focusing ring's distance scale opposite the central lens index.

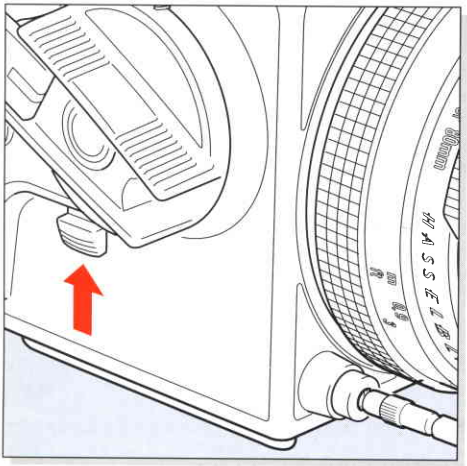
Objects closer or further away than the selected distance will be sharp, within certain limits. The limits of this field of sharp focus, i.e. depth of field, vary with the aperture.

The depth of field available at any given f/stop can be read off the depth-of-field scale on both sides of the central index. As an example, the rings in the illustration indicate how to read the depth of field scale at an aperture of *f*11.

Depth-of-Field Preview

Depth-of-field can be visually checked on the focusing screen. The diaphragm can be stopped down to the preset aperture from its normally wide open position simply by pushing the depth-of-field preview lever downwards until it locks.

To reopen the diaphragm, depress the lower part of the lever.



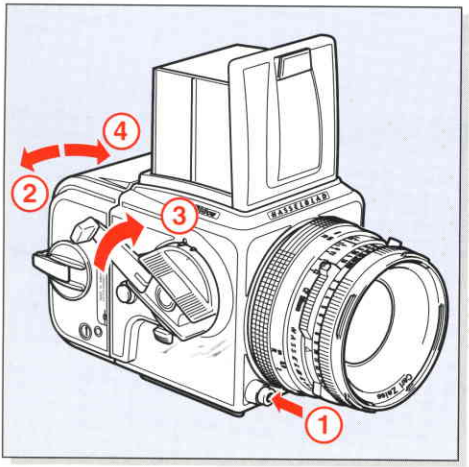
Pre-release and Cable Release

Considerable efforts have been made to reduce camera vibrations caused by moving parts in the exposure sequence. However, if you wish to avoid these vibrations completely, you can pre-release the mechanism by pushing the pre-release button upwards. This causes the following sequence:

1) the mirror folds up
2) the shutter closes and remains closed
3) the diaphragm closes to its preset aperture
4) the auxiliary shutter opens

When you subsequently press the release button, only the shutter then operates at the preset speed.

As shown in the illustration, you can also attach a cable release to further reduce vibrations.

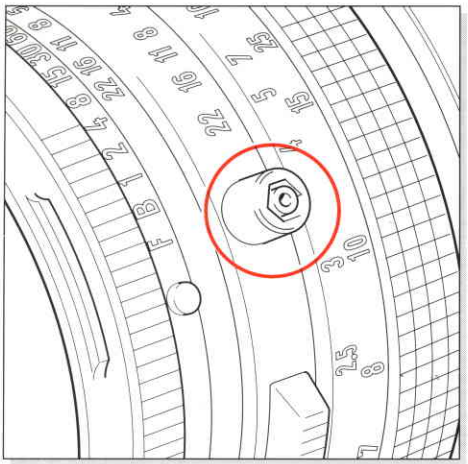


Double Exposure

As the camera has been designed to prevent accidental double exposure you will have to carry out the following procedure in order to make multiple exposures on the same frame:

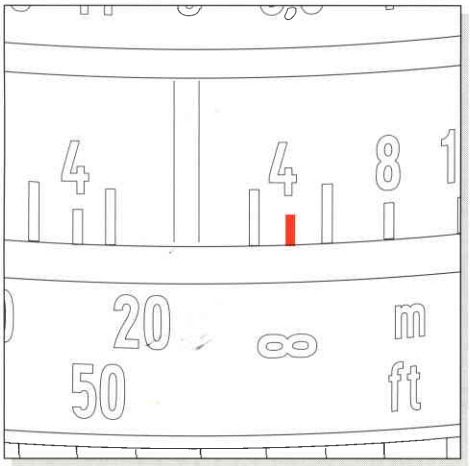
1) Depress the main release button and make the initial exposure.
2) Insert the magazine slide and remove the magazine.
3) Wind the camera with one full revolution of the winding crank.
4) Replace the magazine and remove the slide.

The unit is now ready to make a second exposure on the same frame. You can make additional exposures in the same manner.



Flash Synchronization

The Hasselblad 503CW uses lenses from the Hasselblad C and CF series. These lenses have built-in leaf shutters with speeds from 1s to 1/500s and B. Flash synchronization occurs at full shutter opening via the PC flash terminal. Suitable electronic flash units can be used at all shutter speeds from 1s -1/500s as well as B.



Infrared Photography

Infrared (IR) rays (wavelengths longer than 800 nm) form an image on a plane further away from the lens than the image plane for visible light. To compensate for this difference you have to align the chosen distance against the red IR index and not the normal central index. Proceed as follows:

1) Focus as usual on the focusing screen.
2) Note the distance on the focusing scale that is opposite the central index line.
3) Now rotate the focusing ring to set this distance opposite the red IR index line instead of the central index line.

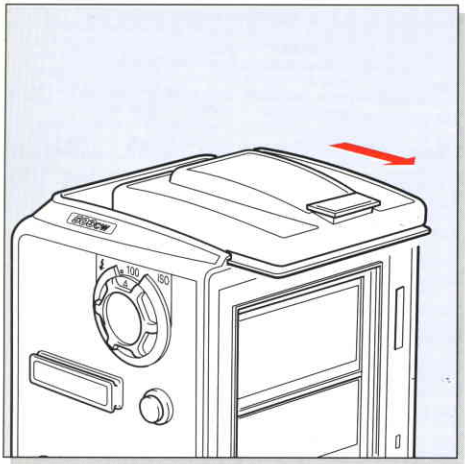
The Viewfinder System

The 503CW is supplied with a light, compact and foldable viewfinder, providing a through-the-lens laterally reversed image. It is easily interchangeable with alternative viewfinders including the prism finders, which produce a laterally corrected image.

The focusing hood on the standard viewfinder has a built-in 4.5x magnifier for accurate focusing and this can easily be changed to suit individual eyesight.

The 503CW is equipped with an Acute-Matte D focusing screen which produces an exceptionally bright and sharp image. While this covers most needs, the Hasselblad system offers a range of alternative screens for various specific applications.

Each item is easily and quickly interchangeable without the need for special tools or facilities.

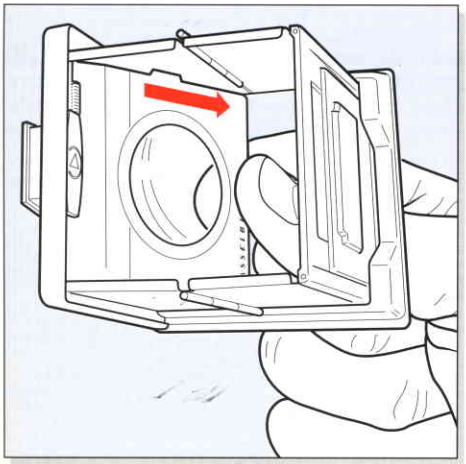


Changing the Focusing Hood or Viewfinder

To remove the focusing hood so as to attach any other viewfinder in the Hasselblad system, proceed as follows:

1) Detach the magazine.
2) Fold down the focusing hood to protect it from damage and remove it by sliding it to the rear in its guide slots.
3) Slide the replacement viewfinder into the slots and push it forward until it stops.

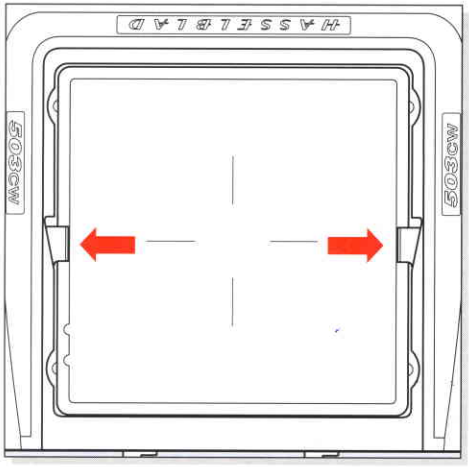
When fully inserted the viewfinder is retained in position by a spring-loaded catch until you have reattached the magazine.



Changing the Magnifier

Mounted lenses with dioptre correction from +3 to -4 are available, and are easily interchanged as follows:

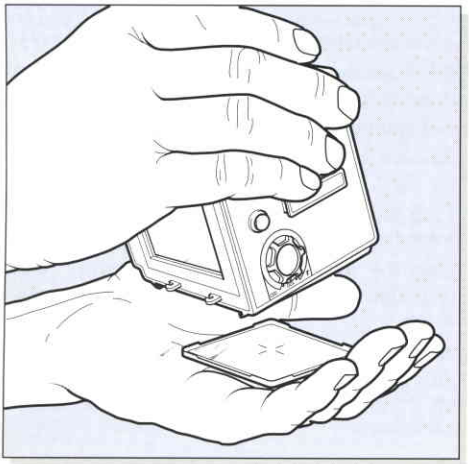
1) Remove the focusing hood from the camera and open it by lifting the lid.
2) Release the magnifier by pushing the catch to the right.
3) Push the magnifier halfway back down to its folded position.
4) Grip the lower edge of the magnifier plate (through the underside of the hood), and pull firmly.
5) Keep the plate holder halfway down and insert the replacement lens plate with the printed side up. Fold the hood down and replace on the camera.



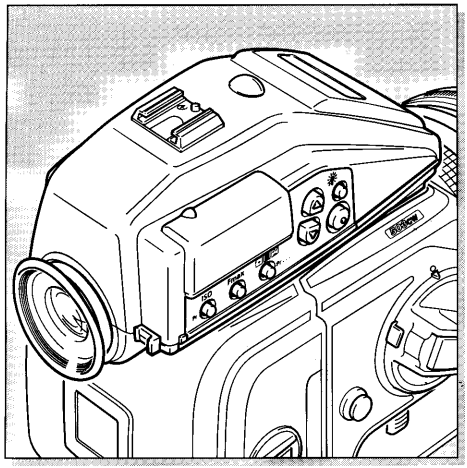
Changing the Focusing Screen

1) Detach the magazine and viewfinder.
2) Push the two screen clips to the side into their recesses.
3) Place your hand over the screen, and invert the camera. The screen will now drop into your hand.
4) Insert the replacement screen, ensuring that the smooth flat side is uppermost and the sharp-edged corners down. Ensure that all four corners of the screen are positively seated on their supports.

You need not return the screen latches. This is done automatically when the viewfinder is replaced.



Should the screen refuse to drop out by itself, ensure that the camera is fully wound, remove the lens and check that the mirror is in the down position. Put a finger through the lens mount and push gently on the screen from underneath, preferably with a soft cloth between the screen and the finger.



PME and PME3 /PME5 / PME51 Meter Prism Viewfinder Adjustments

The Hasselblad Meter Prism Viewfinders measure the light level on the focusing screen. They are calibrated at the factory to give an accurate reading with one particular type of screen. If that focusing screen is replaced with another type which gives a different light level under the same ambient conditions, the meter has to be adjusted to compensate for the difference.

The PME and PME3 / PME5 / PME51 meter viewfinders are basically the same design but are differently adjusted at the factory.

The two viewfinder types are distinguished by the lettering PME3, PME5 or PME51 respectively on the rear of the viewfinder body above the eyepiece. The PME has no such inscription.

On page 24 you will find instructions on how to adjust the PME and PME3/PME5/PME51 Meter Prism Viewfinders to compensate for the light level differences with the different focusing screens.

The PME 90 Meter Prism Viewfinder requires no adjustment when an Acute-Matte or Acute-Matte D focusing screen is fitted.

Please refer to your viewfinder's operating instructions for further information about other functions.

A. Acute-Matte D* focusing screen, combined with:

VIEWFINDER MODEL	ACTION REQUIRED TO OBTAIN A CORRECT EV VALUE
PME3 / PME5 / PME51	No action required.
PME	*REDUCE* the ASA/ISO setting to *half* the film speed value as indicated on the film package or *INCREASE* the MAX lens aperture setting *one full stop* or *REDUCE* the EV reading *one full stop* when setting it on the lens EV scale.

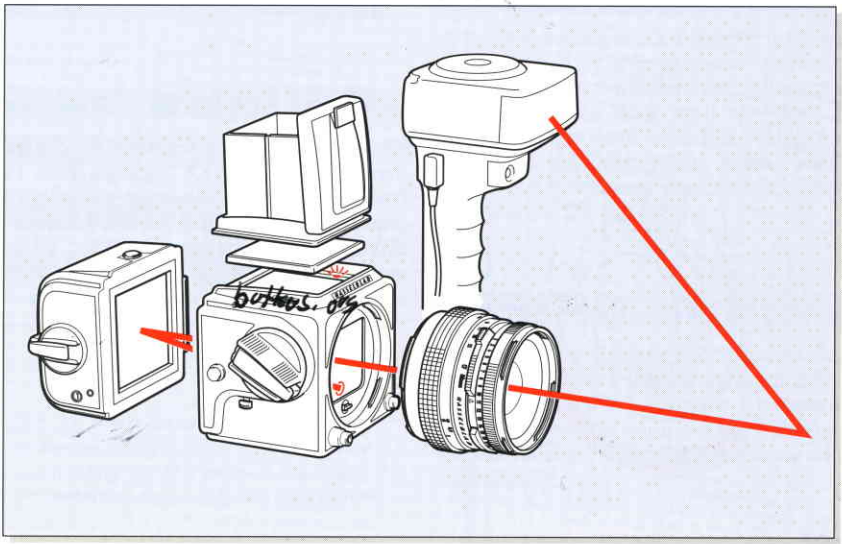
*Acute-Matte designed by MINOLTA.

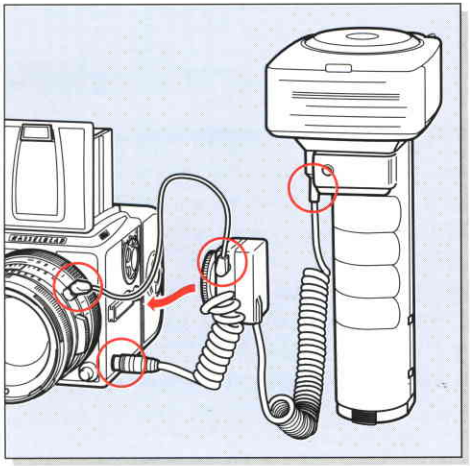
B. Ground-glass or older focusing screen of non Acute-Matte D type, combined with:

VIEWFINDER MODEL	ACTION REQUIRED TO OBTAIN A CORRECT EV VALUE
PME3 / PME5 / PME51	*INCREASE* the ASA/ISO setting to *twice* the film speed value as indicated on the film package or *REDUCE* the MAX lens aperture setting *one full stop* or *INCREASE* the EV reading *one full stop* when setting it on the lens EV scale.
PME	No action required.

Flash

Automatic flash control is provided by the camera's built-in flash sensor and electronics that measure the light reflected from the central portion of the film surface; a circle with a diameter of 40 mm. The metering system is connected to a selector for setting film speed. When a Hasselblad D-Flash 40 is attached - or a System SCA 300 or 500 dedicated flash unit is connected through the SCA390 or 590 flash adaptors - the system controls the flash unit and cuts off the flash when the exposure is correct. Under the left hand edge of the focusing screen an indicator light shows when the flash is ready to be operated and also confirms if the flash output was sufficient to give a correct exposure. The flash unit powers the camera's electronics and also the flash adaptor, when that is used.

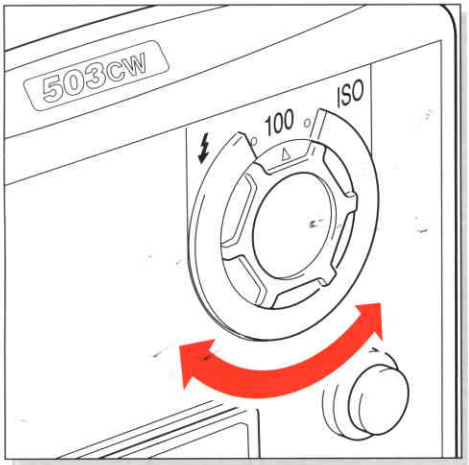




Attaching the Hasselblad Flash Adaptors SCA 390 and SCA 590

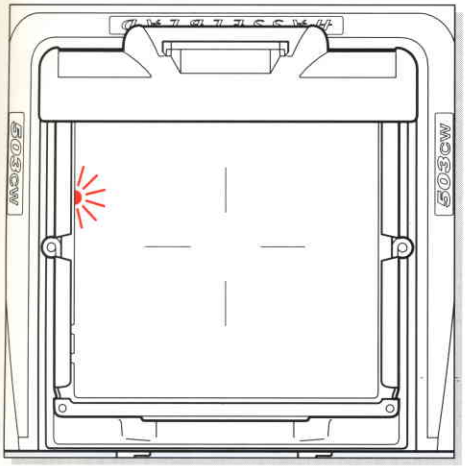
For hand-held flash units, either adaptor is attached as shown in the adjacent illustration:

- the 6-pole contact from the spiral cord is connected to the camera's side socket
- the sync cord is connected from the adaptor to the PC flash terminal of the lens
- the connecting cord is attached to the hand-held unit



Setting the Film Speed

The film speed is set via the ISO selector. This is divided into ISO/ASA settings from 16 - 1000 (the equivalent in DIN ratings can be found on page 27). Certain films require compensation for differences in reflection. In these instances, the compensation is made by changing the film speed selector setting. The amount of compensation has to be determined by experiment.



Viewfinder Indicator

Flash operation and flash battery-check are indicated by a red light, located under the left edge of the focusing screen. It is operative only when a dedicated flash is connected to the TTL socket. It indicates three separate states as described below.

Ready Signal

A steady red light indicates that the flash unit is charged and ready to be fired. Absence of any signal indicates the need for fresh batteries.

Confirmation Signal

A flashing red light occurring for just over a second immediately after exposure confirms that the light output was sufficient for a proper exposure. It then remains dark until the flash unit has recharged. The steady red light will then reappear indicating operative status again. The time of reappearance however may vary according to the condition of the batteries.

No Result Signal

Absence of the flashing confirmation signal after exposure indicates that the flash emitted was not sufficient for correct exposure. The aperture must then be opened more or the flash distance to the subject reduced. Changing to a faster film is also a possibility.

ISO/ASA	16	.	25	.	40
DIN	13	14	15	16	17
. 64	.	100	.	.	200
18 19	20	21	22	23	24
250 .	400	.	.	800	.
25 26	27	28	29	30	31

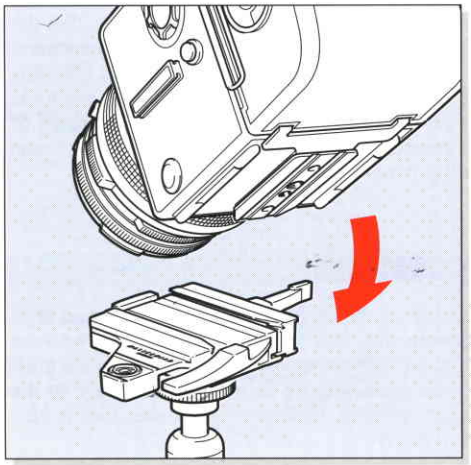
Please refer to your flash unit's operating instructions for more information about other functions when using the D-Flash 40, automatic flash light metering that conforms to System SCA flash photography with flash sensors, or with non-automatic flash units.

Accessories

All accessories included in the present Hasselblad Product Catalog can be used on the 503CW (when not specifically noted otherwise), except the FE-type lenses and most discontinued older accessories.

The charts on pages 30–31 show the wide range of accessories available within the Hasselblad System.

Please refer to the Hasselblad Product Catalog for complete information.



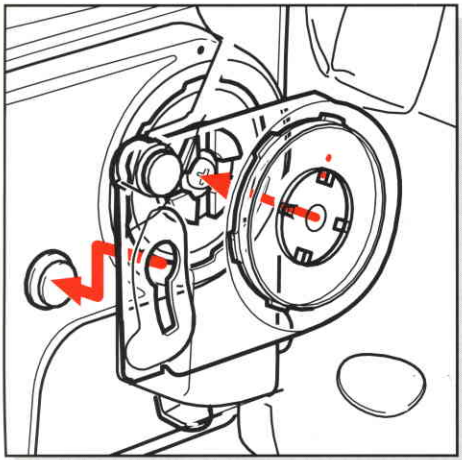
Accessory Mounts

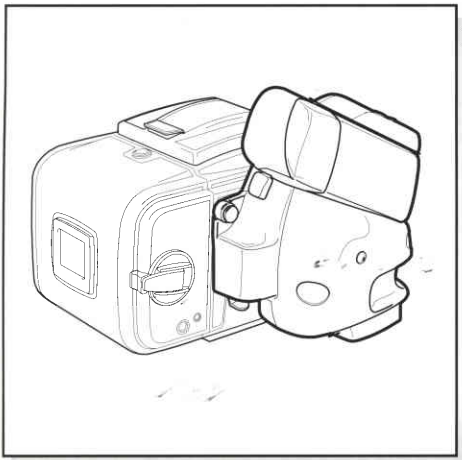
The coupling plate on the bottom of the camera body has both a 1/4 in. and a 3/8 in. tripod thread. It also fits the useful and reliable Hasselblad Tripod Quick-Coupling S.

The front of the lenses have external and internal bayonet mounts for filters, close-up lenses and lens shades.

Other close-up accessories can be attached between the lens and the camera body.

On the left hand side is the accessory rail for the spirit level and the adjustable flash shoe.





The Winder CW

The Winder CW is a compact and ergonomically designed motorized unit providing not only a motor drive facility but also a comfortable and robust grip. Continuous exposure (0.8 frames/sec) and multiple exposure modes are also featured.

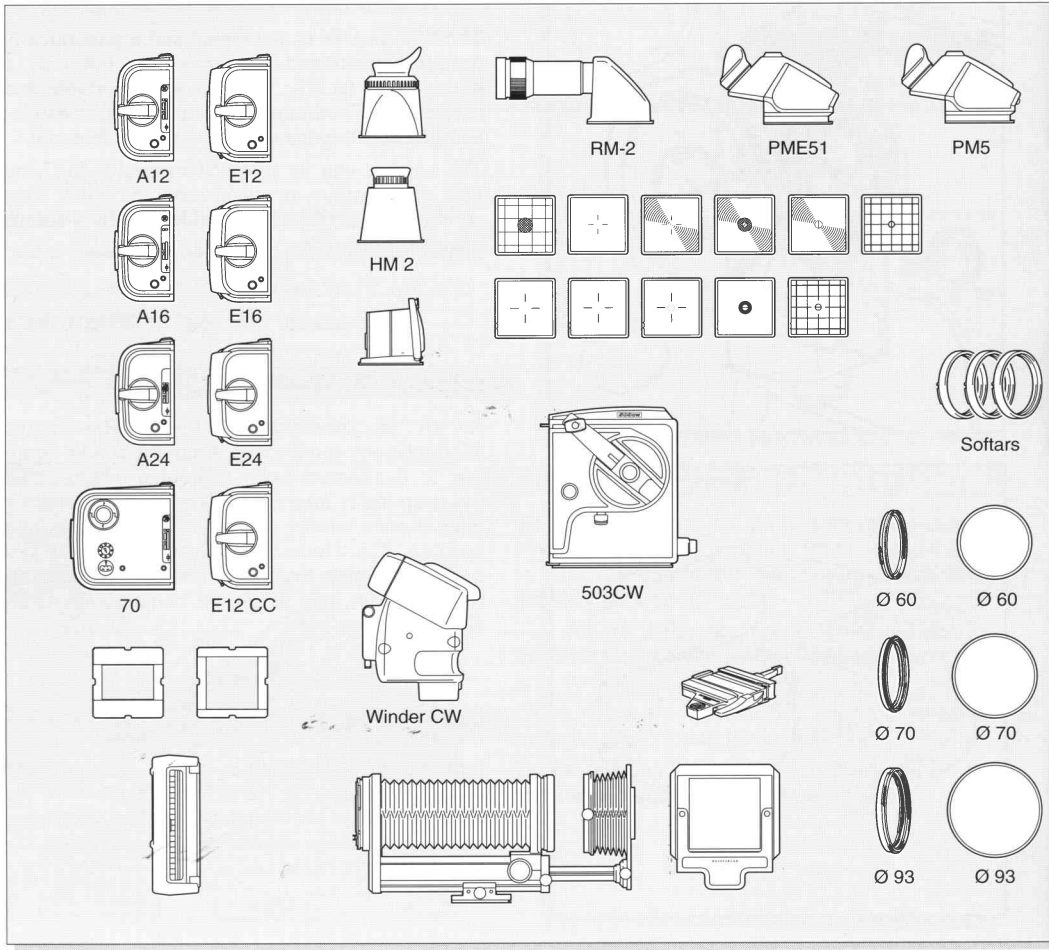
The camera can be released manually for hand held photography, or when mounted either by a simple electric remote control lead or by a unique infrared transmitter.

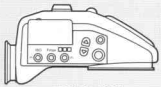
Attaching the Winder CW

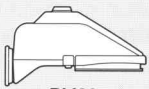
Remove the camera strap if attached. Remove the winding crank and the lens. Align the winder coupling to the camera body coupling, ensuring that the strap lug is inserted in the winder's mounting plate. Rotate winder clockwise until it snaps into position. The winder immediately senses the status of the camera body (this reaction can be faintly heard) and then winds the camera automatically if necessary.

Removing the Winder CW

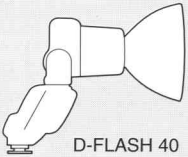
Remove the lens. While firmly gripping the winder, depress the detaching lever with the thumb. Rotate the winder counter clockwise, keeping the lever depressed, and withdraw the unit from the camera body.

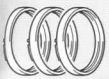


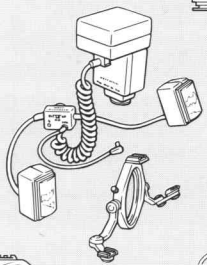

PME90


PM90

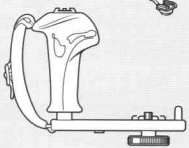

8 16 32 56

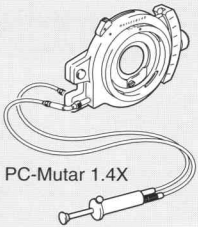

D-FLASH 40


Proxars



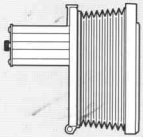

Ø 60

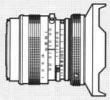



PC-Mutar 1.4X


Ø 70


Ø 93


Proshade 6093T


CF30


CF40


CF50


CF60


CF80

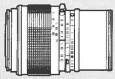

CF100

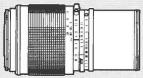

CF105


CF120

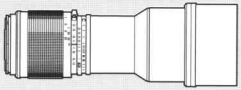

CF135

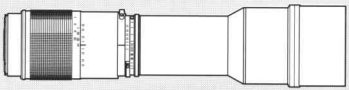

CF150


CF180


CF250

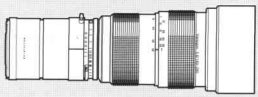

CF250Sa


CF350


CF500


Converter 1.4XE


Converter 2XE

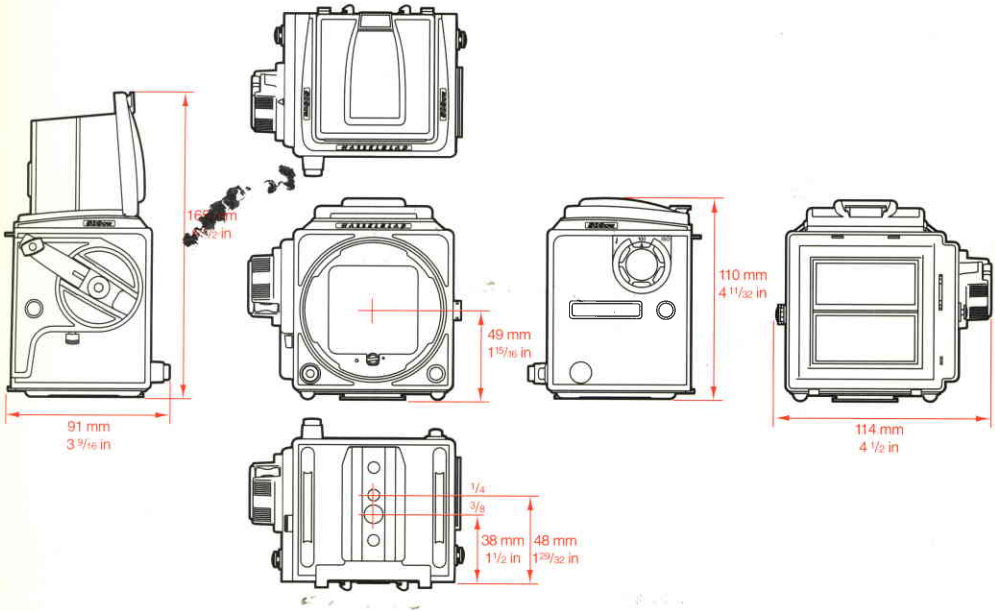

Variogon
CF 140-280

Troubleshooting

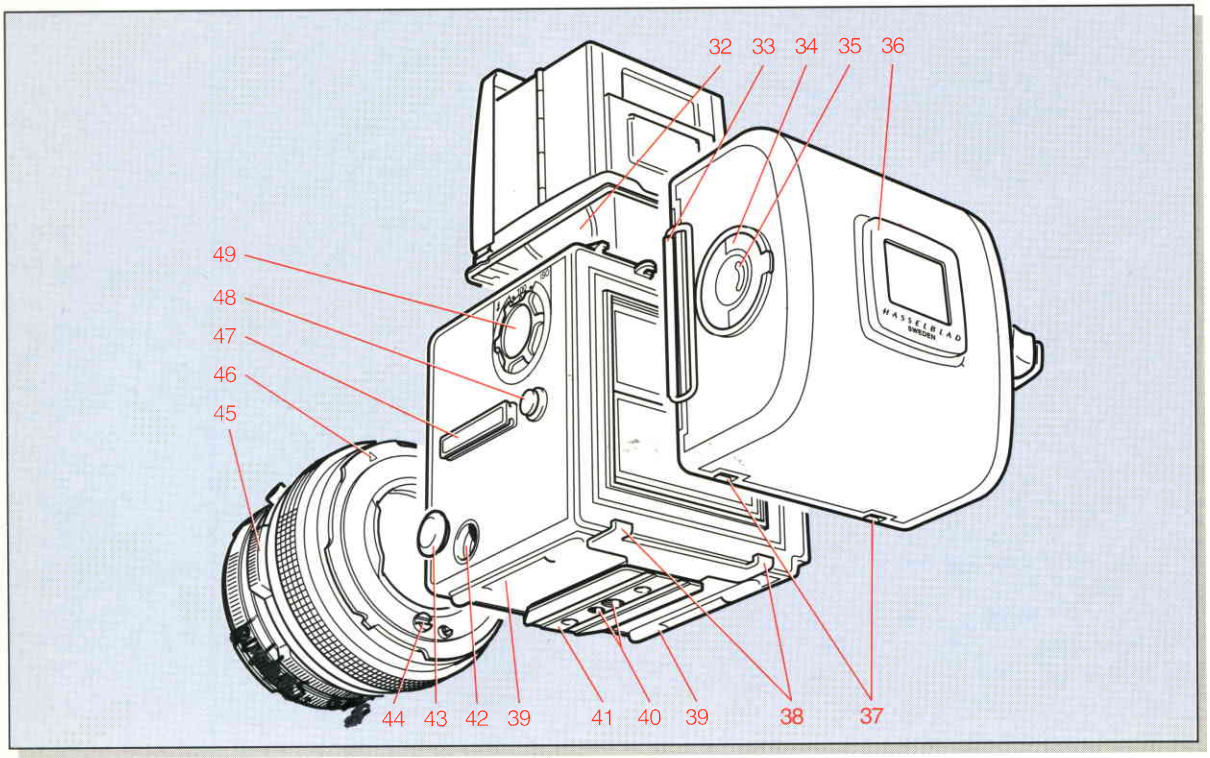
Your camera is built to give long and trouble-free service, especially when you follow the maintenance and care advice on page (iv). If however you encounter any operating difficulties because you are not familiar with the Hasselblad camera system, the following table may help to resolve them.

PROBLEM	POSSIBLE CAUSE	REMEDY
You cannot operate the exposure release button	The magazine slide is still in place	Remove the magazine slide completely
	The film is finished	Load a new film
	The camera is not rewound	Wind the camera
There is no image on the focusing screen	The camera is in the pre-released or released position	Complete the camera release and rewind the camera
	The lens cap is still in place	Remove the lens cap
You cannot remove the front protective cover	The camera is in the pre-released or released position	Complete the camera release and rewind the camera
You cannot attach the lens	The lens is in the released position	Wind the lens
	The camera body is in the pre-released or released position	Complete the camera release and rewind the camera
You cannot remove the lens	The camera body is in the pre-released or released position	Complete the camera release and rewind the camera
You cannot remove the magazine	The magazine slide is not fully inserted	Push the magazine slide until it positively stops

Camera Body Dimensions



503CW, Parts & Components



32. Focusing hood magnifier
33. Magazine slide
34. Film holder key
35. Film load indicator
36. Film tab holder
37. Magazine support slots
38. Magazine supports
39. Camera supports
40. Tripod thread 1/4" & 3/8"
41. Quick-coupling plate
42. Dedicated flash connector
43. Connector cover
44. Lens coupling shaft
45. Depth-of-field preview knob
46. Lens locating index
47. Accessory rail
48. Strap lug
49. Film speed selector

*Acute-Matte designed by MINOLTA

In the text, the positions of components are described in relation to the camera as you see it when taking a photograph, i.e. the lens is at the front, the viewfinder on the top, and the winding crank is on the right hand side.

Camera Care, Service and Guarantee

CAMERA CARE

Your Hasselblad camera is designed to withstand the rigours of professional use in most environments. In order to avoid the possibility of damage however, the camera should be protected from the following.

Extremes of temperature. High temperatures can have an adverse effect on both the film and the camera. For this reason you should not keep your camera in places where it will get hot, such as in direct sunlight or on a shelf above a radiator. Frequent rapid and severe temperature changes can cause problems such as the corrosion of electrical contacts, and should therefore be avoided.

Dust and grit. You should take care to prevent dirt of any kind from getting into your camera. When taking photographs in coastal areas for example, the camera should be protected from sand and salt water spray.

You can blow away any dust on the lens glass, magnifier or focusing screen, or wipe it off gently with a soft cloth if necessary. Smears on the lens glass should be removed with a high quality lens cleaning solution on a tissue. Be careful not to scratch the lens or touch any of the glass surfaces with your fingers. The surface of the mirror is coated and can be blown clean but should not be wiped.

Impact. Your camera can be damaged by severe physical shocks. While you will obviously try not to drop it, you should also take care not to leave it where it can fall or be knocked to the ground, or roll about, as on the back seat of a car for example.

SERVICE

Faultless camera performance is essential to the professional photographer. It is therefore advisable to check that your camera is functioning correctly before an important assignment. You should also return your camera to a Hasselblad service centre for occasional checking and preventive maintenance. If your camera is used constantly and intensively, periodic check-ups every six months are recommended at one of the "Hasselblad Authorized Service Centres". They have the expert staff and specialized equipment necessary to ensure that your camera remains in perfect working order.

GUARANTEE

Provided that you bought your camera from an authorized Hasselblad outlet, it is covered by an international guarantee for one year. The guarantee document and a registration card are supplied with the camera. Keep the guarantee document carefully, but fill in the registration card and return it to your Hasselblad distributor.