


single lens reflex camera **1000 F**






INSTRUCTION BOOK



Allow us to congratulate you on your choice of a Hasselblad Camera. In the following instruction-pages, we show you its refinements and possibilities. It is our wish that you get – in pleasure and results – the most from your Hasselblad Camera.

The starting point in creating the Hasselblad camera was a visionary idea: To construct a camera capable of meeting the demands of the expert professional and the enthusiastic amateur alike – a camera so flexible and so versatile, that it could deal with a great variety of photographic subjects – in short, a camera designed to do so many things that only this *ONE CAMERA* need be carried.

THE RESULT WAS *the Hasselblad camera*



It offers you

a negative large enough to produce sharp enlargements of considerable size, yet small enough to be relatively inexpensive;

a reflex system capable of producing a clear ground-glass image – single lensed, to insure accurate composition and to eliminate problems of parallax;

an accurate climate-proof shutter with an adequate range of slow speeds and high speeds – fast enough to stop any action;

easily interchangeable lenses, firmly mounted, to obtain special effects or to deal with special situations;

internally synchronized systems for flash and speedlight photography;

AND

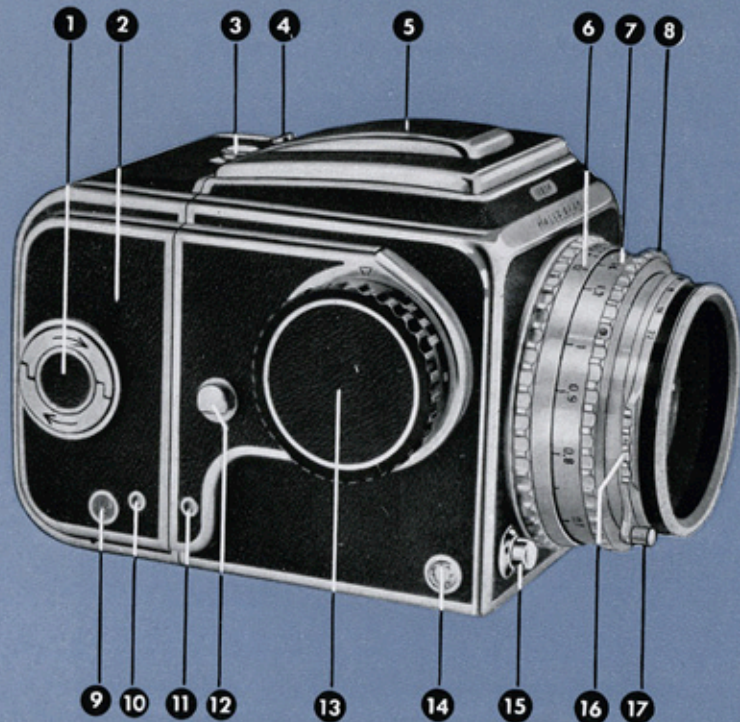
more than anything else, it offers you the possibility to shift rapidly from one film or emulsion to another.

Thanks to its ingenious construction and precision craftsmanship, the Hasselblad camera is now the camera for professionals, scientists, naturalists and the distinctive amateur.

Only the Hasselblad, leader in the $2\frac{1}{4}'' \times 2\frac{1}{4}''$ single lens reflex field, offers the flexibility of interchangeable roll film magazines.

In a moment you can change from color film to black and white film, or to other types of emulsions for special effects.



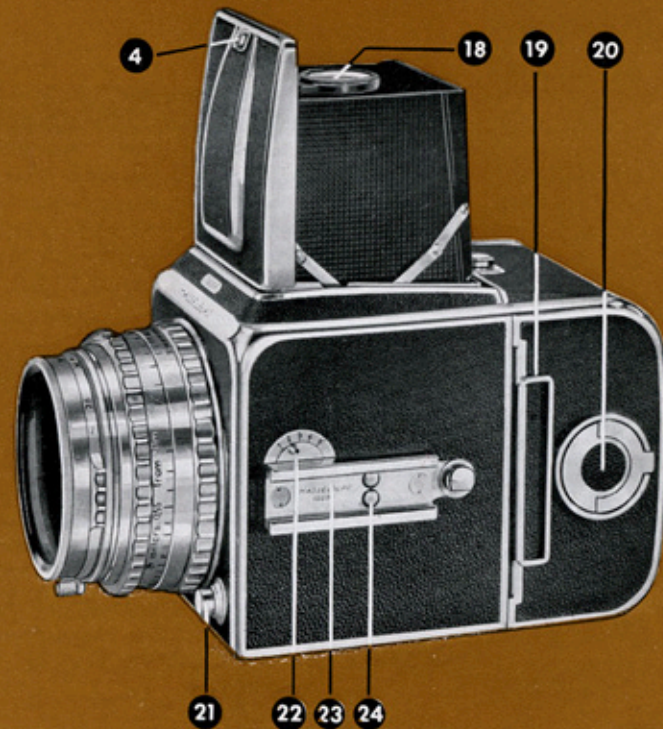


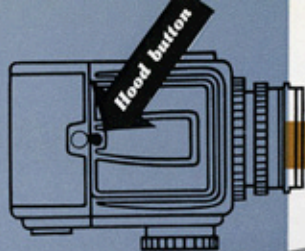
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There are two buttons on top of the camera. The front, or smaller one, operates the focusing hood. (The back, or larger one, releases the magazine).

To open the hood, press the smaller button to the right. To close the hood, fold down the side panels one after the other, then the back panel, then the hood cover until it clicks.

When the hood is open, the magnifier is raised by pushing the same button, again to the right. Always fold down the magnifier into its "closed" position before closing the focusing hood. To avoid fingerprints be careful not to touch the glass surface.

The ground glass hood and magnifier

Opening the hood will expose the ground glass with a clear parallax-free image. When the hood button is pressed again to the right the magnifier will spring up, ready for the most critical focusing. To clean the ground glass surface, first remove the roll film magazine (see page 20).

Then push the hood towards the back of the camera, and it will slide off easily. The magnifier is easily cleaned by pulling it gently out of its grooved socket. If desired an optician can replace the magnifier lens with one ground to your eye-glass prescription.

Why the image is so bright and clear

There are two good reasons why the image you see is so bright that it permits critical focusing under almost any light condition. First, the ground glass itself is so fine that it is practically grainless. Second, under the ground glass is that wonderful light-gathering Ektalite Field lens that increases overall brightness by 250% and brightens the corners by more than 1000 %.

As a result, composing your picture is a

great deal easier – since you need not move your head from side to side in an effort to see the corners – and focusing is speeded up tremendously. Under poor conditions of light, you'll appreciate these advantages. You can be sure that you're getting all possible light through your faster (2.8) lens where you'll need it most – on the ground glass. Lack of these features have, in the past, restricted the use of the single lens reflex.



Cocking the shutter

Turn the large winding knob clockwise until it stops. When this is done, several things will have happened: the mirror is lowered into viewing position, film is advanced to the next exposure, and both film and shutter signals are actuated. (*White* in these windows means that both are ready for exposure; *red* that film is exposed and that the shutter has been released).

Shutter winding knob
Shutter setting
Automatic film transport

Shutter release signal

Exposed film signal



Practise making a complete turn of the knob in one movement. Hold the camera with the left hand, with the lens pointing downwards; then as you turn the knob with your right hand, turn the camera, with your left hand, in the opposite direction.

Shutter setting

Shutter speeds are selected by pulling the large winding knob out and turning it clockwise to the speed desired. This can be done either before or after the shutter has been cocked. There are ten shutter speeds (from 1 second to 1/1000), in addition to "B".

Film advance

After loading the magazine, the film is automatically advanced by winding the shutter.

The Signals

The film signal and shutter signal on the right side of the camera show: *white* when the film is advanced and the shutter is cocked; *red* when the film is exposed and the shutter is released.

Remember

Always cock the shutter immediately after exposure!

Then you will be ready for the next exposure. The mirror will be down and you are ready for view-finding and focusing.

The shutter, like any other fine precision mechanism, can be damaged by rough handling. Be careful with it. Constructed not of cloth, but of selected Swedish stainless steel 6/10,000ths of an inch in thickness, it offers advantages no other camera has. No wonder U. S. Camera called it "a miracle of workmanship".

When you do not intend to use the camera for some time we advise you to release the shutter.

Pre-selection of aperture

An ingenious trigger arrangement permits pre-setting the stop at which you want to shoot, focusing at full aperture, and then stopping down without taking your eyes from the subject. Just slide the trigger all the way to the left. With your right hand turn the aperture ring to the stop you want.

Focusing

Focus now by turning the focusing ring as you watch the ground glass. The diaphragm will remain wide open.



Trigger

Pre-selection of aperture

Focusing ring



Stopping down

As soon as you've composed the picture to your liking, slide the trigger to the right and up until it stops. The lens will now be stopped down to the stop you had selected. Then press the shutter release button. You can always be sure you've stopped down, if the red rectangle on the thin ring is opposite the red dot on the diaphragm scale.

Focusing scale

The distance between the subject and the *film plane* is indicated in feet and meters. For infra-red film, the extremely small red dot between 2.8 and 5.6 on the depth of field scale shows the amount of focus that must be shifted.

Using the depth of field scale

This scale, engraved on the lens mount, enables you to be sure that everything in the picture will be in focus and sharp. This is how you do it: focus on the nearest object in the picture and note its distance from the camera. Then focus on the furthest object and note that distance. With these two points in mind, revolve the focusing ring until both of them lie between the same stop on either side of the red triangle that shows the point of focus. If the two points lie outside the stop that you had planned to use, you'll have to stop down further, reducing shutter speed to compensate. The lens, therefore, is focused on that "imaginary point" which gives you all the depth of field you want.

Practise

holding

the camera

this way



Grasp it firmly in your *left* hand, pulling down slightly on the neck strap to prevent camera movement. Your *left* forefinger should be on the shutter release button, ready for action. Pressure on the release button is towards the body – downward jerking of the camera is avoided.



*Use your right thumb and *middle* finger to revolve the focusing ring. Your right *fore*-finger should be kept on the trigger so that you can stop down quickly (see pages 14 and 15).

Reopen the diaphragm immediately after every exposure.



Sports viewfinder

For quick action-shots use the handy sports viewfinder. Hold the camera as shown. Excellent for snaps of children, sports, etc. (For further details see page 29).

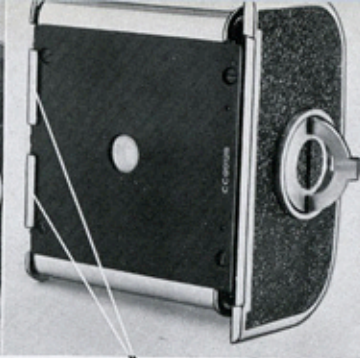


Carrying the camera

Notice how the Hasselblad hangs from the neck-strap! Not only does the camera have better balance for ease in carrying, but the lens points down out of harm's way.



Roll holder lock opened

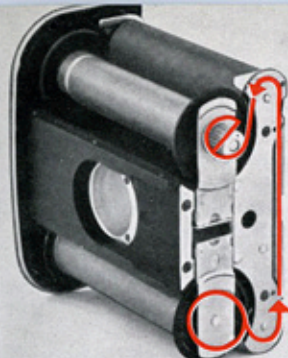


Roll holder partly pulled out

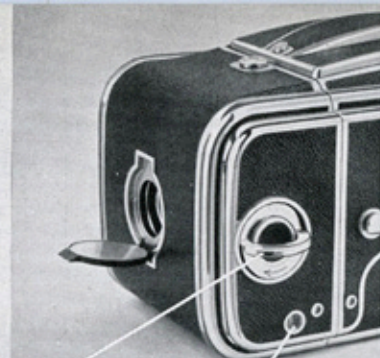


Clamps

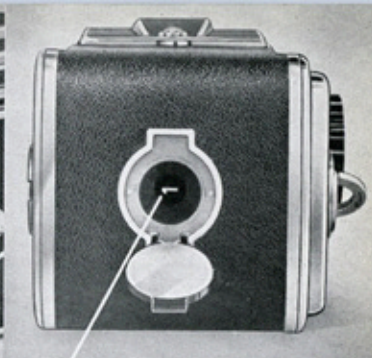
How to fit the paper under the clamps



How to thread the film



Loading key



Exposure counter

Film window opened

Loading the film magazine

The magazine slide has to be inserted and pulled out at right angles to the magazine. The curled end of the magazine slide should always point towards the camera body.

To release the roll-holder turn lock counter-clockwise.

Pull out the roll-holder and turn the lock back clockwise to open up the clamps.

Open up the arms so that the film roll and the empty spool can be inserted.

Fit the empty spool to the arm with the knurled knob and the film roll to the other.

Now keep the thumb on the film roll and pull the film paper out about 4 in. The black side of the paper should be towards you.

Be sure to push the paper under the clamps. Turn the roll-holder lock counter-clockwise and the paper is locked in this position.

Fasten the paper tongue into the empty spool and turn the knurled knob so the paper lies flat.

The loaded roll-holder can now be inserted in the magazine. Turn lock clockwise and then the holder will be locked and the paper released.

Open the window at the rear of the magazine and wind the film with the loading key until figure "1" appears.

Now turn the loading key counter-clockwise until stop when figure "1" will appear in the film counter window.

The film indicator reminds you of the film speed (ASA and DIN). By turning the centre

part all types of film are figuratively marked as: black and white, "sun" for daylight, "lamp" for tungsten "+" for positive and "-" for negative color film.

After the 12th picture the exposure button is automatically locked. Cock the shutter with the winding knob and the signals in camera and magazine will be on "white". Now wind up the film with the loading key.

Be sure that film and shutter signal windows are of the same color before attaching the magazine.

Changing magazines



Remember! Wind the shutter after every exposure. Be sure that film and shutter signal windows are the same color before attaching the magazine.

Press the lock button to the right and lift with your right hand when you want to detach the film magazine.

Attaching

To attach the magazine correctly, hook it on the lower tabs of the camera, push the button to the right, swing the magazine forward to the camera body and press the button to the left.

The slide

This is your safeguard against fogged film. Treat it carefully and free of dust. It is part of a foolproof system; when the slide is in you cannot fire the shutter (there are no missed shots with the Hasselblad), when the slide is out you cannot detach the magazine. Always insert the slide at right angles to the body of the camera to avoid light leakage.

Intentional double exposures

Designed to prevent accidental double exposure, the Hasselblad does permit them *when you want to*. Simply remove the magazine, cock the shutter again, and re-expose on the same film frame.

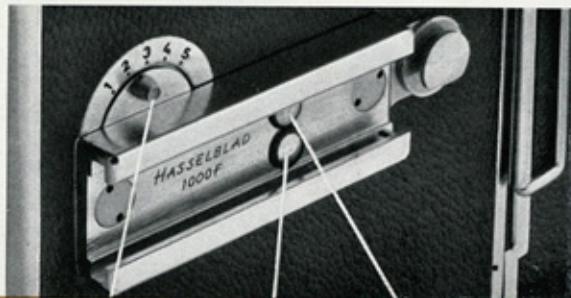
Changing lenses

To *remove* a lens, grasp the milled collar at its base with your right hand. Press the lens lock release, turn the lens $\frac{1}{3}$ of a full turn counter-clockwise as far as it will go. Now lift the lens out.

To *insert* a lens, be sure the red dot at the base of the lens mount is opposite the red dot on the camera. Turn the lens $\frac{1}{3}$ of a full turn clockwise until the lock clicks. The lens will then be secure and, what is more, properly set for its focal length.

- Lens lock release
- Red dot on the lens
- Red dot on the camera





Synchronizer adjustment

Connection for flash-bulbs

Connection for strobe

FLASH-BULBS	EXPOSURE TIMES			
	1/25	1/50	1/100	1/250—1/1000
American types:				
No. 6, No. 26	—	3	4	5
No. 31, No. 2 A	5	5	5	5
European types:				
PF 24, S 2	—	3	4	5
PF 45	5	5	5	5

Nos. 6, 26, PF24 and S2 should not be used at 1/25. Note that "1" and "2" are out of use.

An attachment for "Flash" and "Strobe" lights is inserted in the bracket shown. Be sure the attachment is pushed in all the way — till it "clicks" — otherwise there will be no contact. Focal plane flash-bulbs should be used. Set the pointer for the synchronizer adjustment according to the table.

If the negatives should be less exposed on the side with the two small notches, move the pointer towards the next higher number. And vice versa.

For strobe, no adjustment is necessary. However, you must shoot at speeds (1/25 or slower) when the shutter is fully opened.

(Bulbs, class F, can be used with the "Strobe" contact, shutter at 1/25 or longer time. The unusual type of "Delayed" strobe equipment can be used with the "Flash" contact.)

When using contact type A, be sure that your flash gun is insulated from the camera.



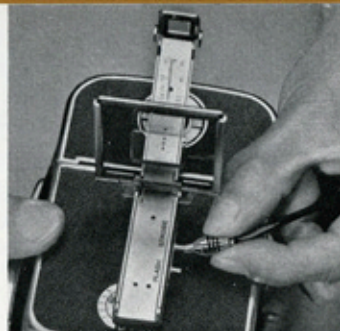
Type A = American contact ◁ TWO TYPES AVAILABLE ▷ Type D = German contact (PC)

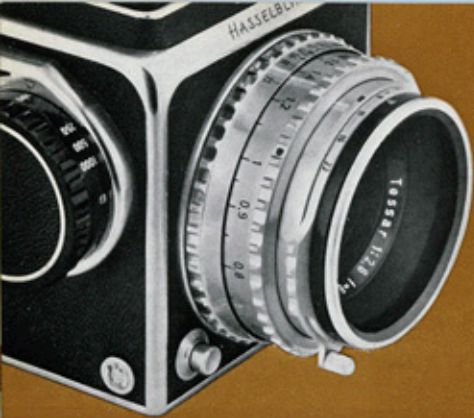
This is the flash shoe with its "Flash" and "Strobe" contacts. Both A and D types available.

Be sure to use the proper contact for the type of light you are working with. There are two separate circuits.



This is the sports "viewfinder", described more fully on page 29. "Flash" and "Strobe" contacts are built into the base of the finder and eliminate the need of the standard flash attachment. Both A and D types available.





80mm standard lens

This is the coated Carl Zeiss Tessar f/2.8 lens with pre-selector for the Hasselblad. This lens focuses down to 20" (50 cm) from the film plane – at which position, the picture is $\frac{1}{4}$ actual size. Sunshade is built in.



135mm lens

This is a 135mm long-focus coated Carl Zeiss Sonnar f/3.5 lens with pre-selector. This lens gives an image two-thirds as large again as the standard lens. Sunshade is used with this lens. This lens focuses down to 40" (1 meter) from the film plane.

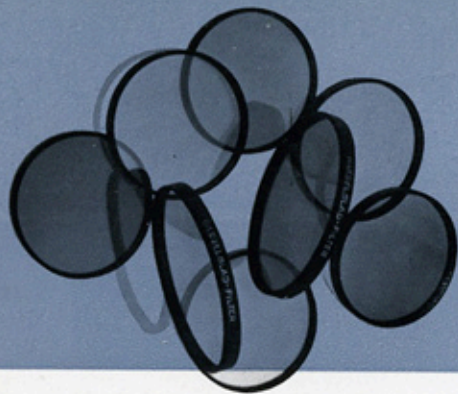


250mm lens

This is the "Big Bertha" for the Hasselblad: the coated Carl Zeiss Sonnar 250mm (10") f/5.6 lens. Primarily intended for naturalists and sport-photographers, it is finished in black to avoid unwanted reflections. Portrait-photographers will find the increased focal length an advantage too, for the larger image allows working at a greater distance to avoid distortion. This lens focuses down to 8 feet from the film plane.

Equipped with leather carrying case for additional protection and ease in carrying.

Filters



The HASSELBLAD original filters include correction-, contrast- as well as Haze- and Polarizer filters of homogeneous glass. The filters are mounted in a black-enamelled aluminium holder, matt-finished to absorb extraneous light. The same filters can be used for the 60, 80, 135 and 5.6/250 mm lenses.

Color	Indication code	Uses:
Yellow	Y -1,5 -50	Landscapes, snow, cloudy skies.
Yellow-green	YG-2 -50	Color effects, distance shots, green lighter.
Green	G -3 -50	Multicolored subjects, portraits.
Orange	O -4 -50	Sky contrast, absorbs ultraviolet.
Red	R -6 -50	Dark sky in e.g. architectural pictures.
Haze	HZ-0 -50	Precludes ultraviolet dominance e.g. in color pictures.
Polarizer	POLA-0-50	Eliminates reflections, corrects skylight.



Cable release for time exposures

This 6-inches special Hasselblad cable release, apart from its use as a standard cable release, has a special locking device for long time exposures. For this latter purpose, first set the camera winding knob on "B". After screwing the cable release into the camera, depress the red pin on the side of the cable release, then press the button on the end - and the shutter is now opened. To complete the exposure, press the button on the side of the cable release. The extremely flexible wire wrapping of this fine cable release is protected against kinking by a strong and clear plastic cover.

Standard cable release

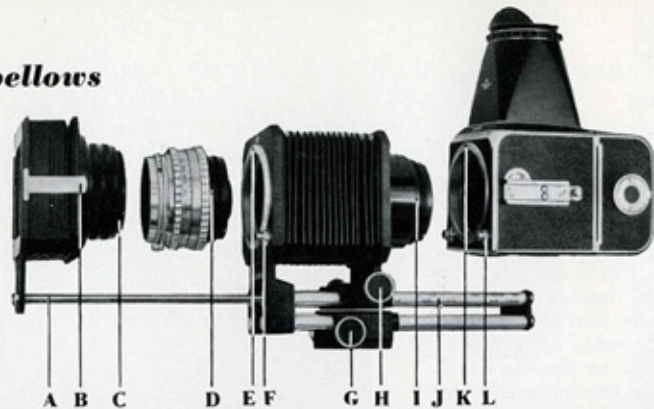
A fine precision-made cable release, measuring 10 inches in length and covered with fine nylon. Designed to give years of service.

Magnifying hood

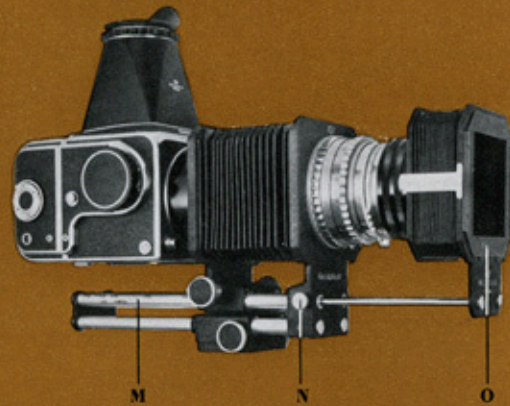
The Magnifying Hood is provided with an easily turnable soft rubber eye-piece and a coated magnifier allowing $2\frac{1}{2}$ power critical focusing. The magnifier is adjustable for individual eyesight. The magnifying hood permits accurate focusing even in intense light. It covers the whole picture area. Possible dioptré change ± 3.5 ; $f = 80$ mm.



Extension bellows



- 1 To facilitate packing, the bellows are delivered with the sunshade (A) against the camera side of the bellows (rear). When in use the sunshade is to be attached to the front side.
- 2 Remove the lens from the camera body.
- 3 Set the red point on the camera (K) against the red point (I) on the bellows. Turn the camera a quarter-turn clockwise so that it locks in the correct position.
- 4 Attach the lens to the bellows (red point E to red point D) in the same way.
- 5 Unscrew the filter ring from the lens and screw in the sunshade (C).
- 6 Set the range, and thus also the scale, with wheel (G) and focus with wheel (H). The extension bellows are locked in the desired position by turning the setting wheels the other way.
- 7 To calculate increase in exposure caused by the extension, scales are provided for each focal length (M & J). The scales denote the increase in units of exposure increase, i. e.



- one notch = double exposure time, two notches = quadruple exposure time, etc.
- 8 When focusing, the camera is moved in relation to the lens, which remains at the same distance from the subject. The sunshade can be extended to give the desired screening by loosening the screw (E). It is then locked with the same screw.
 - 9 The sunshade can also be used as a holder when copying, for example, color diapositives. In this case it is inserted in the frame holder (O) and exposure made with a color-corrected strobe or other light source. Concerning the filters, see the instructions given with the film.
 - 10 The diagram gives the information necessary for successful close-up work. It is applicable for all approved Hasselblad lenses.
 - 11 The unit is dismantled in the same way as when lens-changing, i. e. press the buttons (F) and (L) and turn the camera and the lens a quarter-turn counter-clockwise. The units will then disengage easily.

Close-up photography

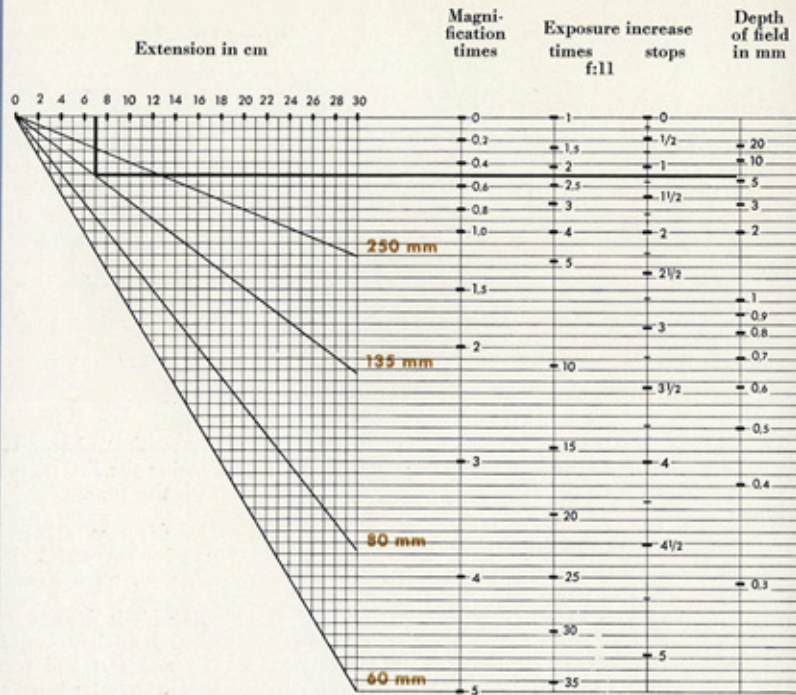
The data given in the table are for lenses set to infinity.

Extension tubes.
No. 20 = 2 cm.
No. 40 = 4 cm.

The extension of the bellows can be read off in centimetres on the scale.

Application.

The example given applies to a 135-mm. lens and a 7-cm. extension. Follow the thick, vertical line from "7-cm" down to the line against 135 mm. and then to the right. This will indicate the following values: magnification 0.5, increase in exposure time either 2.25 times or 1.1 stops, at f:11 and a depth of field of approx. 7 mm.

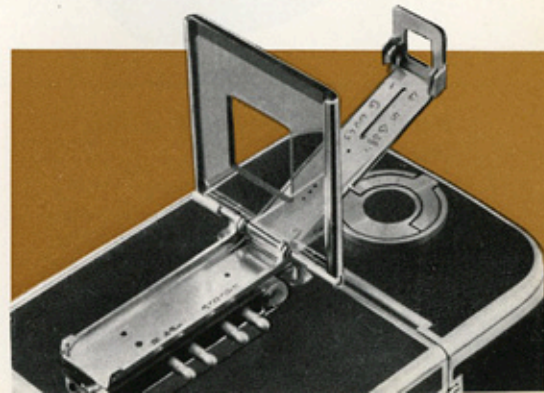


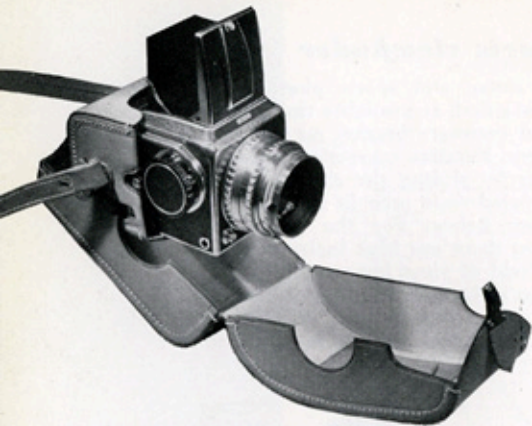
Extension tubes

Available in two sizes: No. 20 and No. 40. Can be used separately or combined, for close-up photography, where greatly increased image size, up to actual size, is desired. Supplied with image scale tables for 80mm and 135mm lenses, shown on the next page.

Sports viewfinder

For action and sports photography, a frame "viewfinder" is available that fits into the universal accessory bracket on the left side of the camera. Parallax correction is provided for all lenses by sliding the aperture-sight along the graduated scale seen in the upper right of the picture below. For the 135mm and 250mm lenses, there are blue lucite masks that reduce the field of view, but permit you to follow the action right up to the instant of exposure. Flash and strobe contacts are built into the finder's base. (Two types available, see page 23).





**Swedish eveready case,
No. 101**

Rich natural leather with attractive saddle stitching. Designed for fast action. Openings for film counter, and for film and shutter indicators. Has compartment for safety slide in cover.



**Swedish combination case,
small, No. 302**

Typical Swedish workmanship. Made of selected cowhide with genuine suède lining. Convenient small size, yet with space for camera, extra magazine, three filters, cable release, extra slide and two rolls of film.



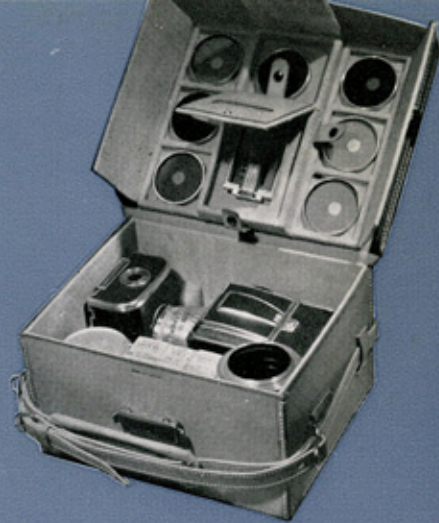
With the compliments of:

You can personalize your Hasselblad by having your name engraved on the plate facing the film window. This plate is removable for engraving – no need to part with your Hasselblad while this is being done. The plate is easily removed by putting an acute curved tool underneath by the hinge. Then undraw the plate.



American combination case

A fitted accessory case made of solid saddle leather. Holds camera, extra magazine, 135mm lens, eight original filters, contact shoe, extra slide, cable release and two rolls of film.



Swedish combination case, large, No. 301

A suède-lined, fitted case that is the ultimate in hand-crafted Swedish leather work. Holds camera, extra magazine, 135mm lens, extension tubes, remote control, sports viewfinder, six original filters, polarizing filter, meter and extra film.

Your HASSELBLAD is produced in Göteborg, Sweden by

VICTOR HASSELBLAD AKTIEBOLAG

This is to inform you that your HASSELBLAD camera is guaranteed for one year after the date you have sent us the enclosed Registration Card against defective materials or workmanship if returned prepaid to our distributor.