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[back to my "Orphancameras" manuals /flash and light meter site](#)

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The large manuals are split only for easy download size.

D Differential Mode

Functions:

Automatic exposure with aperture priority, pre-selected film speed and calculated shutter speed.

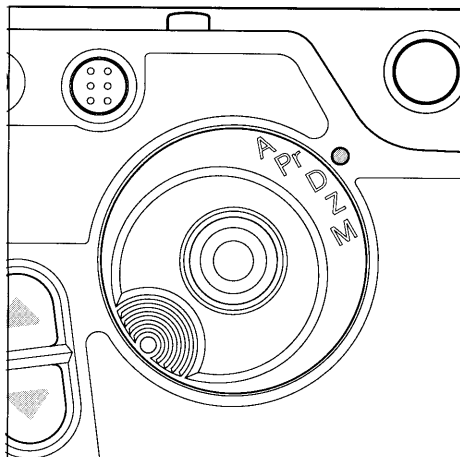
Features:

Continuous metering of the light value.

Locking and storing of the light value in a selected moment.

Continuous indication of the difference between the stored and the presently metered light value.

Adjustment of the stored light value ± 5 EV-steps in 1/4 EV-step increments.



How to Use the "D" Mode

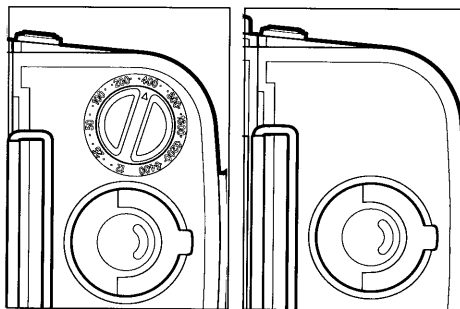
The Differential **D** Mode is very convenient when you want to find out the contrast range of a subject. By locking the exposure values on one subject area and then moving the metering spot about the subject, the display continuously shows the contrast difference between the initial area and the present location of the spot.

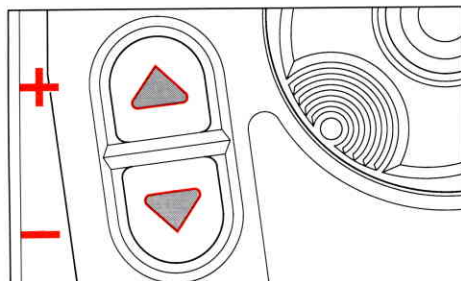
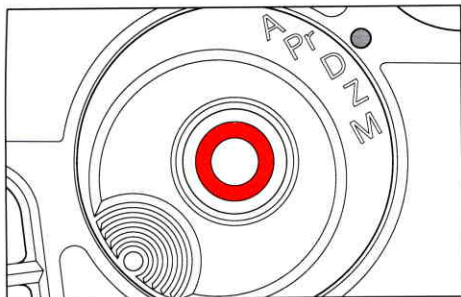
Suggested procedure:

1. Pre-set the film speed. With a TCC-magazine set the film speed dial (page 36). With a standard magazine use the **Pr** mode to insert and store the film speed (page 45).

2. Pre-set the desired aperture.

(cont'd)





3. Set the Mode Selector Dial at **D** and aim the camera to place the metering spot in a selected subject area.
4. Depress the AE-lock button to start the metering system. The viewfinder display shows the symbol "DIFF", the figure "0" and the shutter speed (calculated from the pre-set aperture, the ISO setting and the metered light level) continuously changing the speed as the metering spot is moved to brighter or darker subject areas.
5. Release the AE-lock button to lock the exposure value and the shutter speed on a selected "reference" subject area considered to have the desired "normal" brightness. As the metering spot is moved to other subject areas the display continuously shows the brightness difference in + or - EV between the reference area and the present location of the spot with an accuracy of 1/4 EV-step.
6. Use the adjustment buttons to adjust the exposure up or down to the desired level with 1/4 EV increments. You can depress the exposure release button to the pressure point to display the pre-set aperture and change it if required. The shutter speed then adjusts automatically to the new aperture setting, but the exposure remains unchanged.
7. Depress the exposure release button fully to make an exposure.
8. Rewind the camera to cock the shutter and advance the film to the next frame with the previous exposure values and adjustments maintained.

NOTE: The metering system can also be started by depressing the exposure release button. It then recalls the latest stored exposure value including any adjustment.

The settings can be erased and the system unlocked only by depressing the AE-lock button or by removing the battery.

Z Zone Mode

In this section you will only get the instructions on how to operate the 205TCC in the Zone Mode. You will find more comprehensive instructions and hints about applying the Zone Mode in the booklet "The Hasselblad Zone System" which is also supplied together with the 205TCC.

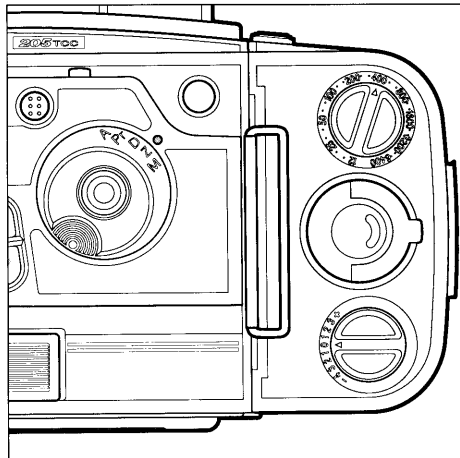
In the following the word "zone" always applies to zones in the final print or slide.

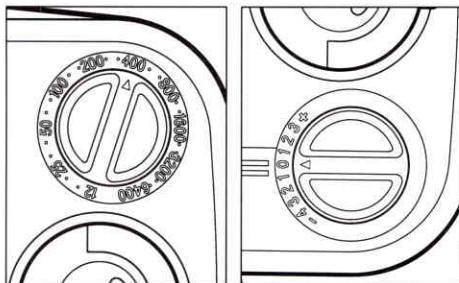
Functions:

Automatic exposure with aperture priority, pre-selected film speed and calculated shutter speed.

Features:

Continuous metering of the light value.
Locking and storing of the light value at a selected moment.
Continuous zone indication for the different parts of the subject.
Automatic compensation of the exposure and the zone display indication when planned film development corrections are made.
Adjustment of the stored light value between zone 0 and zone 10 with 1/4 zone-step increments.





How to Use the "Z" Mode

The Zone Z Mode is in many aspects similar to the D mode but has a different way of displaying the contrast differences. With a TCC-magazine it also provides the means to correct for contrast compensation in the film development. This feature is not available with a standard non-TCC magazine.

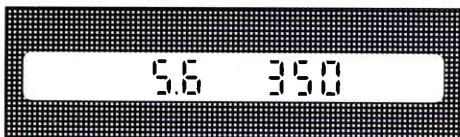
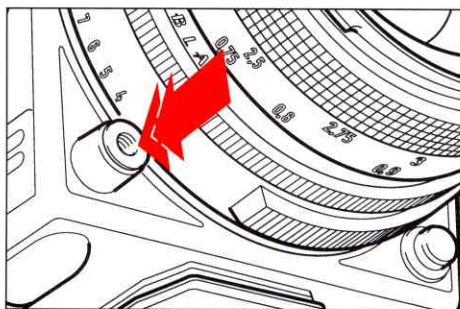
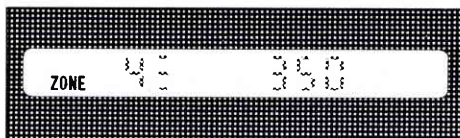
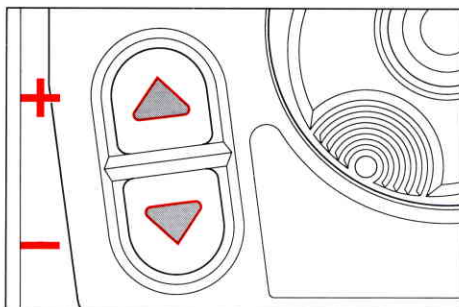
Suggested procedure:

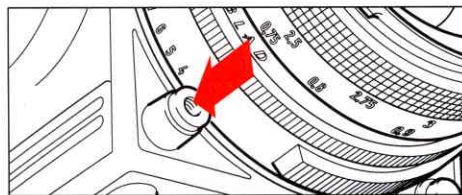
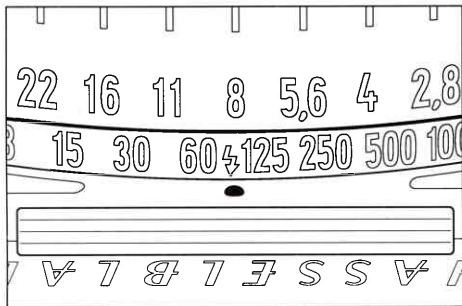
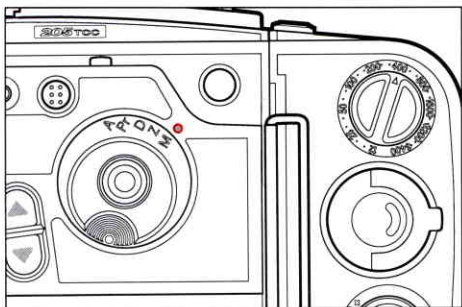
1. Pre-set the film speed and, if applicable, the contrast correction factor with the respective dials on the TCC-magazine (page 37). With a standard non-TCC magazine use the Pr mode to store the film speed only (page 45).
2. Pre-set the desired aperture.
3. Set the Mode Selector Dial at Z and aim the camera to locate the metering spot in a selected subject area.
4. Start the metering system by depressing the AE-lock button. The viewfinder display shows the symbol "ZONE", the figure "5" and the correct shutter speed, calculated from the pre-set film speed and aperture and the metered light level, continuously changing the shutter speed as the metering spot is moved to brighter or darker subject areas. The figure "5" indicates that the system is placing the presently metered subject area on zone 5.
5. Release the AE-lock button when the metering spot is located in a subject area to be placed on zone 5. As the metering spot is moved to other parts of the subject

the display continuously shows on which zone the presently metered area will fall with an accuracy of 1/4 zone-step.

6. Use the adjustment buttons to adjust the stored zone 5 location of the initially metered subject area up or down to the desired zone. The shutter speed display changes accordingly but shows half steps only.
7. Depress the exposure release button to the pressure point to display the pre-set aperture and change it if required. The shutter speed adjusts automatically to the new aperture setting, but the exposure remains unchanged.
8. Depress the exposure release button fully to make an exposure.
9. Rewind the camera to cock the shutter and advance the film for the next frame. The exposure values and adjustments remain unchanged until next time you depress the AE-lock button or the adjustment buttons or remove the battery.

NOTE: The metering system can also be started by depressing the exposure release button. It then recalls the latest stored exposure value including any adjustment. The settings can be erased and the system unlocked only by depressing the AE-lock button or by removing the battery.





M Manual Mode

Functions:

Manual pre-setting of aperture as well as shutter speed.

Features:

Completely manually controlled exposure.
 Continuous metering of the light value.
 Continuous indication of the difference in EV between the pre-set exposure and the exposure calculated by the camera's CPU.

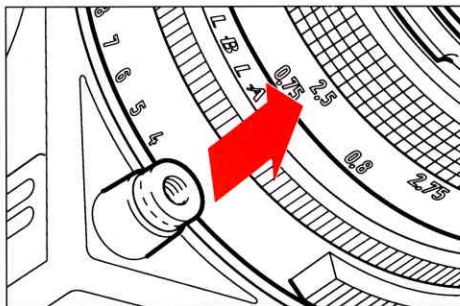
How to Use the "M" Mode

The **M** Mode is completely manual. The metering system is working, but it does not change the shutter speed (the aperture is always pre-set manually). The display indicates the "normal" exposure for the metered area, but the executed exposure will be according to the settings you have made.

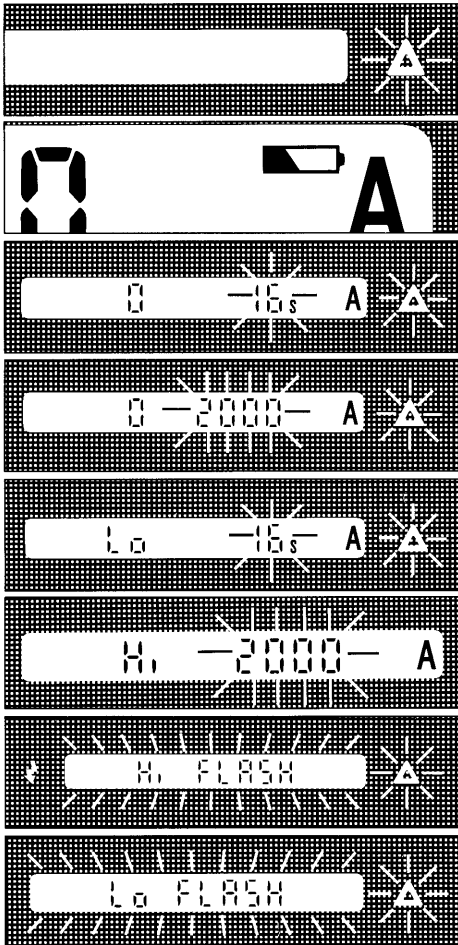
Suggested procedure:

1. Pre-set the film speed with the film speed dial on the TCC-magazine or using the Pr mode with a non-TCC magazine.
 (This point may be omitted but is required for a correct indication on the viewfinder display).
2. Set the aperture and the shutter speed manually.
3. Set the Mode Selector Dial at **M**.
4. Depress the exposure release button to the pressure point. The metering system starts and the viewfinder display shows the symbol "M" for Manual Mode and the pre-set aperture and shutter speed.

5. Release the exposure button. Instead of the aperture value the display starts showing the difference in EV-steps between the set exposure and the "normal" exposure for the present area with an accuracy of 1/4 EV-step, continuously changing the indication as the metering spot is moved about on the subject.
6. The adjustment buttons are inoperative in the "M" mode. To change the exposure values, e.g. to adjust the exposure to 0 difference for a certain subject area, change the aperture or the shutter setting (or both) until the difference indication on the display reads within $0 \pm 1/2$.
7. Depress the exposure release button for an exposure with the set values, independent of the meter readings.
8. Rewind the camera to cock the shutter and advance the film for the next frame. All settings remain until you change them manually.



NOTE: The metering system could be started by depressing the AE-lock button as well. In that case the display starts by showing the difference as per p.4 above.



Warning Functions

Whenever the camera settings could result in an exposure error the red warning triangle flashes.

Permanent Warnings

The permanent warning functions are built into the system and cannot be changed or disabled.

Battery Capacity Warning

When the battery voltage drops below a certain point, the battery symbol is displayed whenever the system is working.

Shutter Speed Warning

When the calculated shutter speed is slower than 16 s or faster than 1/2000 s the shutter speed indication and the red warning triangle start flashing.

Light Meter Range Warning

When the light value falls below or above the range of the light meter the indication "Lo" or "Hi" resp. appears in the left hand part of the display. If no other light value is stored the warning triangle flashes.

Flash Photography Warnings

In dedicated flash photography the indication "Hi FLASH" or "Lo FLASH" is displayed together with the flashing warning triangle and display backlighting if the flash was too bright or if it was insufficient. This warning is on for 2 seconds after the exposure.

Zone Warning

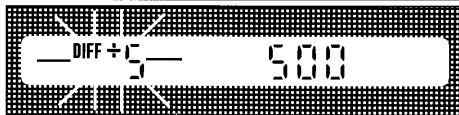
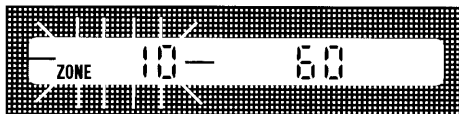
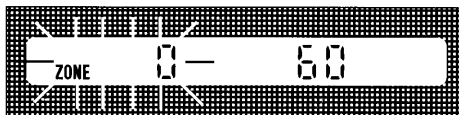
When the metered subject area falls outside the zone range, the ZONE symbol and the zone value figure 0 or 10 flashes.

Optional Warnings

The optional warning functions can be set, changed or disabled by you.

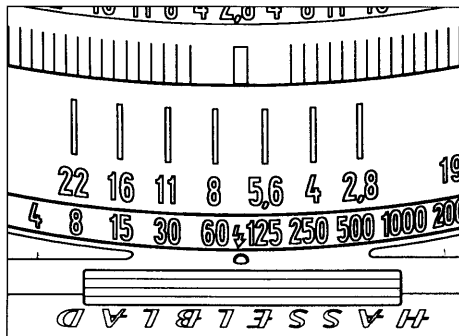
Film Dynamic Range Warnings

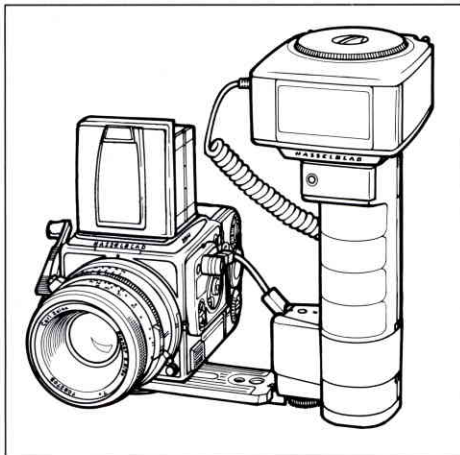
When the difference between the light value for the metered subject part and the light value stored in the system exceeds the limits you have chosen for the contrast range of the film you are using (page 43, p.1) the difference indication and the DIFF symbol on the display is flashing.



Optional Shutter Speed Warning

When the shutter speed calculated by the system is slower than the shutter speed set on the shutter speed ring (page 22) the shutter speed indication on the display and the red warning triangle start flashing. This warning can be used e.g. to indicate that the calculated shutter speed is too slow for hand-held photography or to indicate shutter speeds of 1/90 s or slower (page 68). The warning can be shut off for **all** shutter speeds (up to 16 s) by setting the shutter speed ring at 1 s.





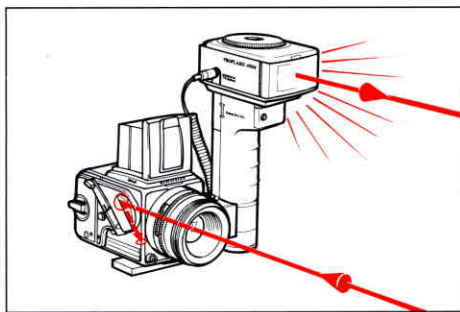
Flash Photography

Dedicated Flash Unit

The automatic flash function in your 205TCC may be looked upon as a sixth mode of operation. When a dedicated flash unit, such as the Hasselblad Proflash 4504, or another unit complying with the european SCA-standards is connected to the dedicated flash socket (page 14) – directly or through a suitable adapter – and switched on, your 205TCC automatically shifts to "Flash Mode" when the flash unit is fully charged and ready to flash. The shift occurs regardless of the Mode Selector Dial setting and is indicated in the viewfinder by illumination of the green flash symbol (page 18). Your 205TCC controls the flash duration by TTL/OTF metering (TTL=Through The Lens; OTF=Off The Film), i.e. metering the light reflected off the film and terminating the flash when the exposure is correct.



There is of course also the possibility to connect the flash unit to the PC socket, but then you no longer have the advantage of letting the camera system control the flash and the exposure.



NOTE: The spot-meter metering system is **not** working when the camera has shifted to the flash mode, indicated by the illuminated green flash symbol in the viewfinder.

Dedicated flash used as fill-in flash, see APPENDIX C, page 93

How to Use the Dedicated Flash

A. Flash set at TTL Mode

For the operation of the flash unit see the flash unit Instruction Manual.

Functions:

Fully automatic exposure control through TTL/OTF metering.

Exposure with pre-set aperture and shutter speeds slower than 1/90 s.

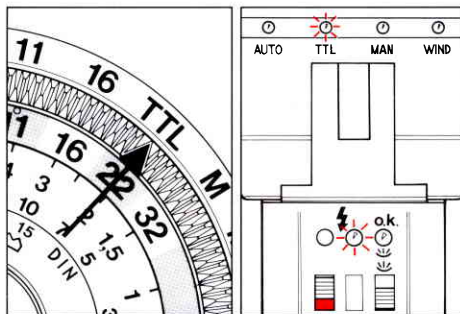
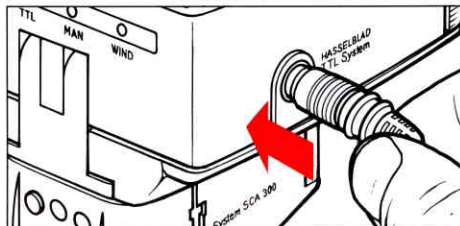
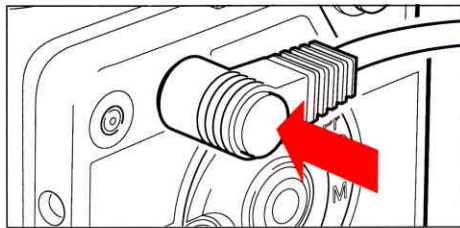
Automatic shutter speed shift to 1/90 s when the pre-set shutter speed is faster.

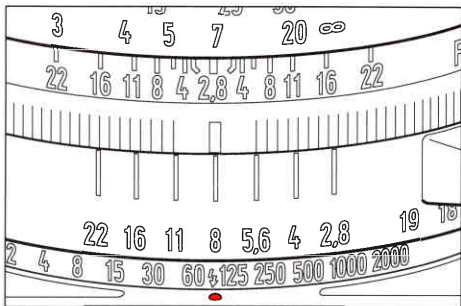
Viewfinder indication when the flash unit is charged and ready to flash.

Viewfinder warning at over- and under-exposure.

Suggested procedure:

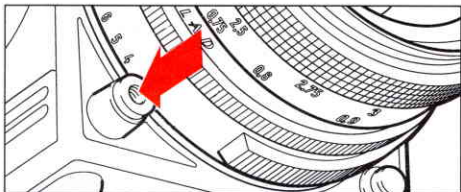
1. Attach and connect the flash according to the Flash Manual. With the Hasselblad Proflash 4504 connect the Hasselblad TTL-cable between the dedicated flash socket in the camera body (page 29) and the TTL socket in the flash unit. The PC connector is inoperative but can be "parked" in the PC-socket.
2. Set the flash unit at TTL or corresponding mode and switch it on. When the flash unit is charged and ready to flash, the green flash symbol (page 18) lights up in the viewfinder.



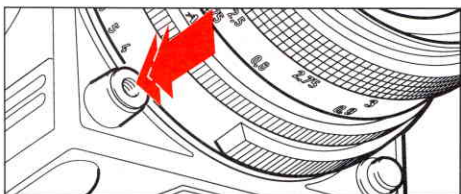


3. Select and pre-set the aperture for the desired depth-of-field. Pre-set the shutter speed at 1/90 s or faster.

NOTE: Shutter speeds set slower than 1/90 s are operative and may in result in a mixed-light exposure when the flash and the camera are used in TTL mode.



4. Depress the exposure release button to the pressure point to start the camera. The display indicates the aperture setting and the shutter speed; 1/90 s if the shutter speed is set at 1/90 or faster or the set speed if it is slower. With the Mode Selector Dial set at **A** or **M** the corresponding symbol is also shown but other symbols are not.



5. Depress the exposure release button fully to make the exposure and trigger the flash. The control circuits in the camera cut the flash when the exposure is correct. If the flash was powerful enough to produce a correct exposure but did not use up all the power the flash symbol stays on and the display continues to show aperture and shutter speed. Did it use up most of the power the flash symbol turns off while the flash unit is recharging and lights up again when it is

fully recharged. In the meantime the camera shifts to the mode set on the Mode Selector Dial and the display indications change accordingly.



WARNINGS (page 54):

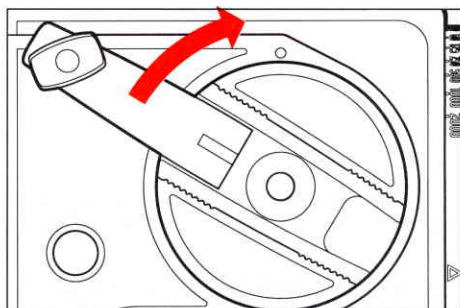
The sign "**Hi FLASH**" appears on the display when the flash was **too bright**, e.g. if the flash-to-subject distance is short, the camera aperture large, the film fast or any combination of these. The remedies are to move the flash away from the subject (use a lens with longer focal length), reduce the aperture, change to a slower film.

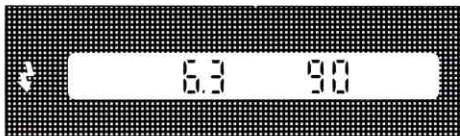
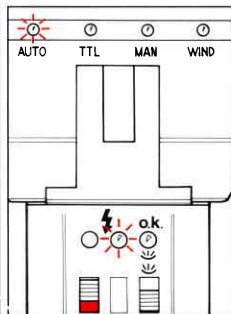
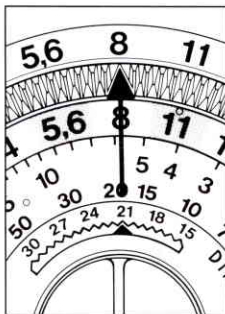
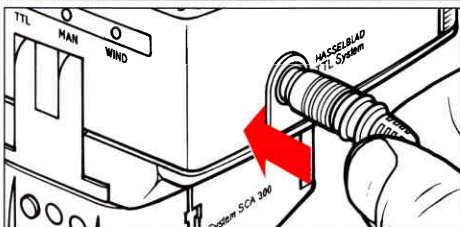
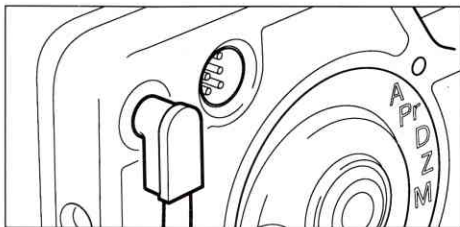
The sign "**Lo FLASH**" appears when the flash was **insufficient** to give a correct exposure, e.g. if the flash-to-subject distance is too long, the aperture is too small, the film too slow. The remedies are shorter flash-to-subject distance, larger aperture or faster film.

In both cases the suggested remedies could be combined in any desired way. These warnings appear for two seconds after the flash exposure.



6. Rewind the camera to cock the shutter and advance the film to the next frame.





B. Flash set at Automatic Mode

The flash unit should be set for its own built-in automatic control (see the flash unit instructions)

Functions:

Automatic exposure control through the built-in system in the flash unit.

Exposure with pre-set aperture and shutter speed.

Automatic shutter speed shift to 1/90 s when the pre-set shutter speed is faster.

Viewfinder indication when the flash unit is charged and ready to flash.

Viewfinder warning at over- and under-exposure.

Suggested procedure:

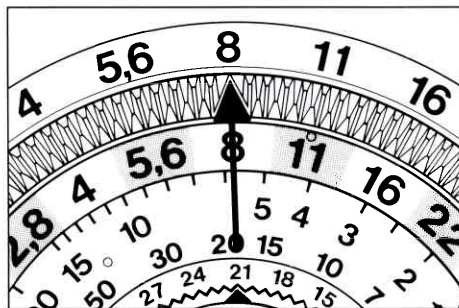
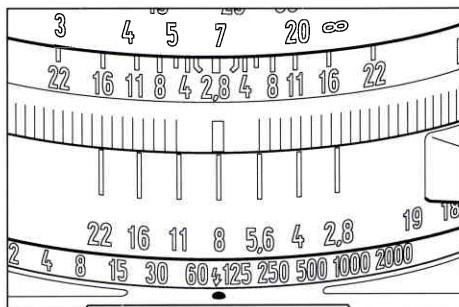
1. Attach and connect the flash according to the Flash Manual. With the Hasselblad Proflash 4504 connect the TTL-cable between the dedicated flash socket in the camera body (page 29) and the TTL socket in the flash unit. The PC connector is inoperative but can be "parked" in the PC-socket.

2. Set the flash unit to Automatic or corresponding mode and switch it on. When the flash unit is charged and ready to flash, the green flash symbol (page 18) lights up in the viewfinder and the shutter speed is automatically changed to 1/90 s if it was set at a faster speed. Shutter speed slower than 1/90 s do not change.

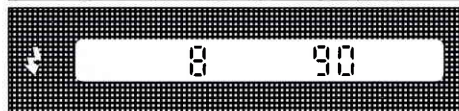
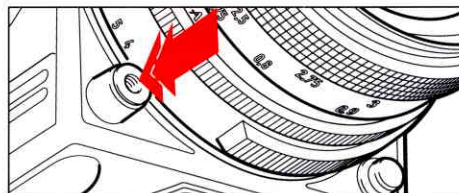
3. Select and pre-set the lens aperture for the desired depth-of-field and set the flash dial at the corresponding aperture value

or

set the flash-to-subject distance on the flash dial, read the corresponding aperture value on that dial and pre-set the camera aperture at the same value.



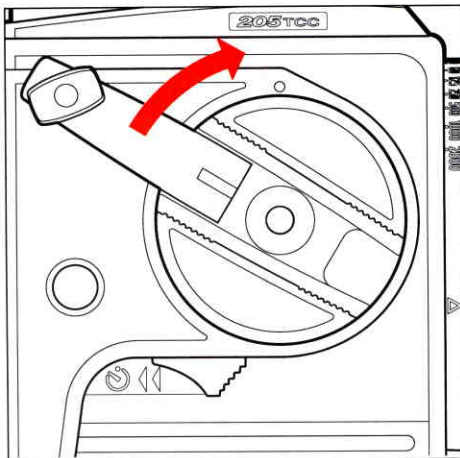
4. Depress the exposure release button to the pressure point to start the camera. The display indicates the aperture setting and the shutter speed; 1/90 s if the shutter speed is set at a faster speed or the set speed if it is slower than 1/90 s. Is the Mode Selector Dial set at **A** or **M** these symbols are also shown but other symbols are not.



exposure, e.g. if the flash-to-subject distance is too long, the aperture is too small, the film too slow. The remedies are shorter flash-to-subject distance, larger aperture, faster film.

In both cases the suggested remedies could be combined in any desired way. These warnings appear for two seconds after the flash exposure.

6. Rewind the camera to cock the shutter and advance the film to the next frame.



C. Flash set at Manual Mode

The flash unit should be set for manual control (see the flash unit instructions).

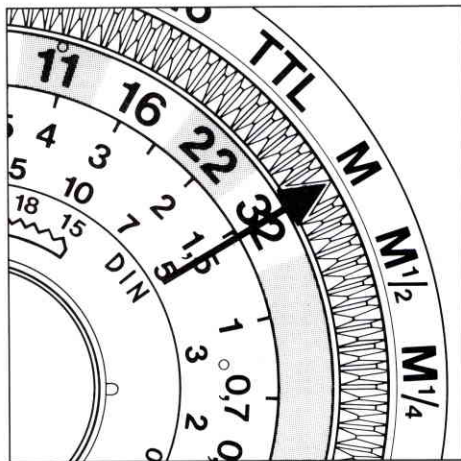
Functions:

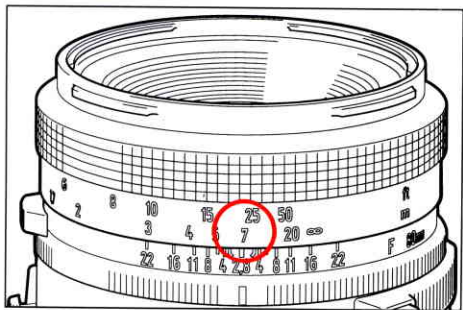
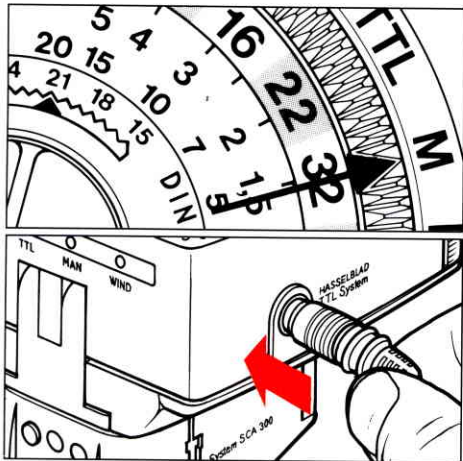
Exposure with pre-set aperture and shutter speed.

Automatic shutter speed shift to 1/90 s when the pre-set shutter speed is faster.

Viewfinder indication when the flash unit is charged and ready to flash.

Viewfinder warning at over- and under-exposure.

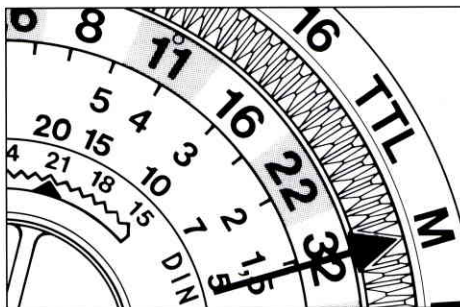




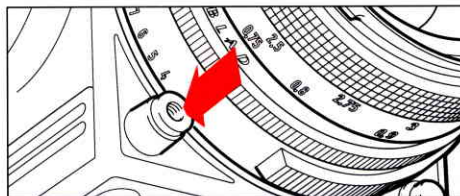
Suggested procedure:

1. Attach and connect the flash according to the Flash Manual. With the Hasselblad Proflash 4504 connect the TTL-cable between the dedicated flash socket on the camera body (page 29) and the TTL socket on the flash unit.
The PC connector is inoperative but can be "parked" in the PC-socket.
2. Set the flash unit to Manual or corresponding mode and switch it on. When the flash unit is charged and ready to flash, the green flash symbol (page 18) lights up in the viewfinder and the shutter speed is automatically changed to 1/90 s if it was set at a faster speed. Shutter speed slower than 1/90 s do not change.
3. Estimate the flash-to-subject distance or measure it by focusing the lens and reading the distance from the focusing scale.

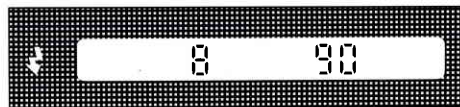
4. Determine the aperture setting using the aperture calculator of the flash unit or using the Guide Number (see the flash unit manual).

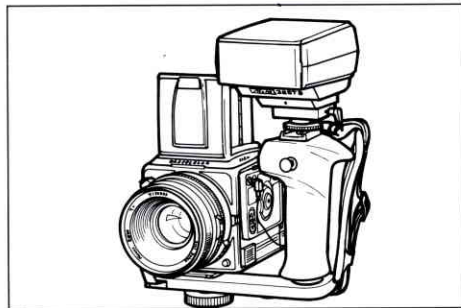
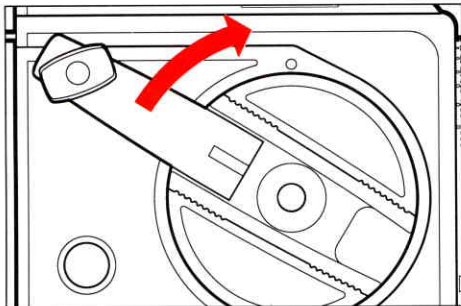


5. Depress the exposure release button to the pressure point to start the camera. The display indicates the aperture setting and the shutter speed; 1/90 s if the shutter speed is set at a faster speed or the set speed if it is slower than 1/90 s. Is the Mode Selector Dial set at **A** or **M** these symbols are also shown but other symbols are not.



6. Depress the exposure release button fully to release the exposure and trigger the flash. In Manual mode the flash normally uses full power. The flash symbol turns off while the flash unit is recharging and lights up again when it is fully recharged. In the meantime the camera shifts to the mode set on the Mode Selector Dial and the display indications change accordingly.





WARNINGS (page 54):

The sign "**Hi FLASH**" appears on the display when the flash was **too bright**, e.g. if the flash-to-subject distance is shorter than estimated or the subject brighter than normal. The remedy is to reduce the aperture.

The sign "**Lo FLASH**" appears when the flash was **insufficient** to give a correct exposure, e.g. if the flash-to-subject distance is longer than estimated or the subject darker than normal. The remedy is to use a larger aperture.

6. Rewind the camera to cock the shutter and advance the film to the next frame.

Non-dedicated Flash Units

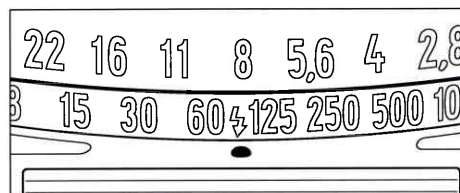
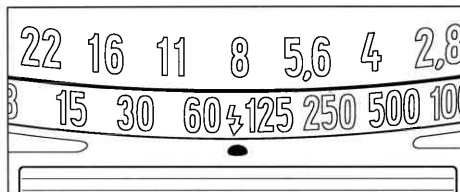
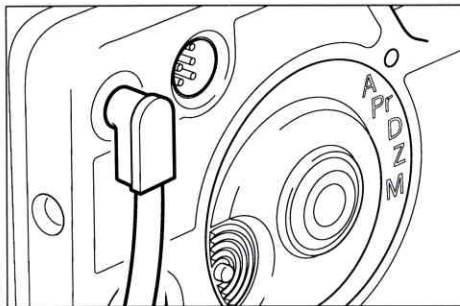
With a non-dedicated flash unit you can not take advantage of the sophisticated TTL/OTF flash metering and control system in the 205TCC and the viewfinder information supplied by this system. You then have to rely on the control system of the flash itself or your own aperture calculations. Always refer to the Flash Instruction Manual for flash settings and Guide Number!

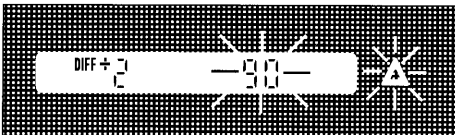
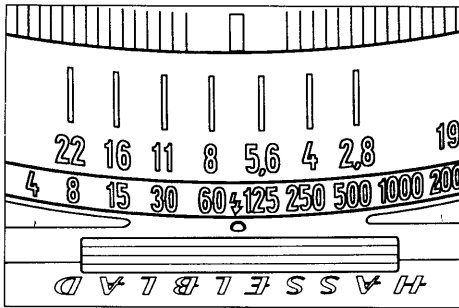
The non-dedicated flash unit should be connected to the PC-socket next to the SCA socket on the left hand side of the camera body by a conventional synchronization cord usually supplied with the flash unit.

The metering system and the viewfinder display in the camera will work normally in all operating modes as if no flash was connected, i.e. the flash symbol in the viewfinder will **not** light up when the flash is ready.

NOTE: The fastest shutter speed for full flash synchronization is 1/90 s corresponding to the flash symbol on the shutter speed ring. At faster speeds the PC-terminal is disconnected and the flash will not fire. Use this setting and the camera's **M** mode to ensure that the flash will fire.

Since the metering system automatically calculates and sets the correct shutter speed in the modes **A**, **D** and **Z** you must monitor the viewfinder display closely to check that the shutter speed is 1/90 s or slower before making the exposure. Change the pre-set aperture or use the adjustment buttons to change the shutter speed if necessary.





Suggestion:

Use the "Shutter Speed Warning" function to verify the shutter speed in **A**, **D** and **Z** modes:

Set the shutter speed ring at 1/90 s (the flash symbol). The red warning triangle and the shutter speed display will start flashing whenever the calculated shutter speed is **slower** than 1/90 s and the flash will fire properly.

How to use a Non-dedicated Flash Unit

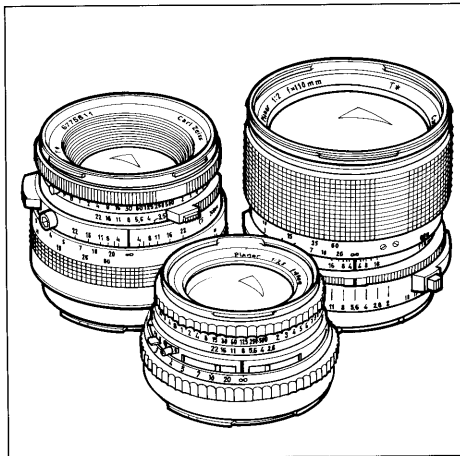
Suggested procedure:

1. Connect the flash to the PC-socket on the camera body and switch it on.
2. Pre-set the desired aperture.
3. Set the shutter speed at 1/90 s (the flash symbol).
4. Use the camera as described in any desired operating mode, observing the shutter speed warning signal in the modes **A**, **D** and **Z**.

205TCC with other Hasselblad Lenses

You can use the Hasselblad F-, CF- and C-lenses (lenses without the blue double-line) on your 205TCC without fear of damaging camera or lens. Since these lenses do not have the electronics required by the TCC system, you will not have the full benefit of the TCC advantages and automation. In this section you find information on the F-lenses and how to use them on your 205TCC.

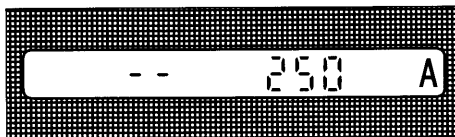
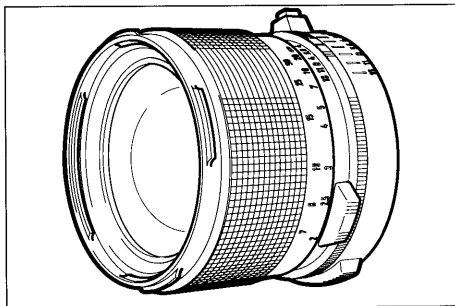
How to use the CF- and C-lenses is described in Appendix A, page 83.

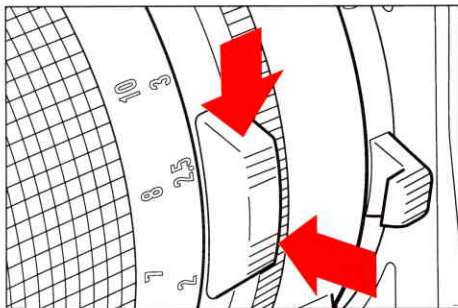
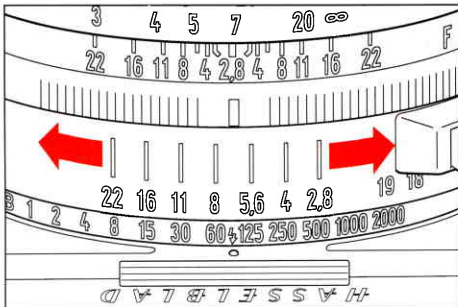
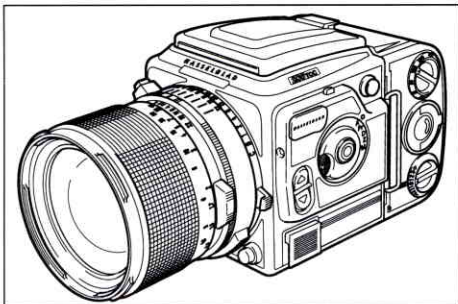


F-Lenses

The F-lenses are optically, mechanically and operationally identical with the corresponding F/TCC lenses but are not equipped with their internal electronics and external identifications. The instructions for the F/TCC lenses are generally applicable also to the F lenses (page 31).

NOTE: With an F-lens on the camera the aperture value does not appear in the viewfinder display when the exposure or pre-release button is depressed. Instead the display shows two dashes (—).





How to use the 205TCC with an F-lens

Like all Hasselblad lenses the F-lenses are normally opened up to the largest aperture in viewing position but can be stopped down manually to the pre-set aperture. Since no information on the pre-set aperture is transferred to the metering system in the camera body the shutter speed calculated by the system relates to the actual lens aperture. To get a correctly calculated shutter speed you have to stop down the lens to the pre-set aperture before you make the exposure. With the extra-ordinary brightness of the Acute-Matte focusing screen there are usually no difficulties to focus with a stopped-down lens.

Suggested procedure:

1. Pre-set the film speed as previously described.
2. Pre-set the desired aperture value.
3. Set the Mode Selector Dial at the desired mode of operation.
4. Stop down the lens by pushing the pre-view knob down until it locks (page 32).
5. Follow the instructions for the selected mode of operation.

Flash photography with F-lenses

The overall similarity between the F/TCC- and F-lenses makes the flash photography procedures almost identical. The only difference is that the aperture value does not appear on the viewfinder display.

Dedicated Flash Unit

The TTL/OTF flash control system makes no difference between the F/TCC- and F-lenses as it always operates when the lens is stopped down during the exposure.

How to use the Dedicated Flash

The procedures are identical to those described for the F/TCC-lenses in all flash and camera modes of operation (pages 56-63).

Non-dedicated Flash Unit

The information and procedure described for the use of a non-dedicated flash unit together with a F/TCC-lens (page 66) is in all parts applicable with an F-lens.

Accessories

All accessories originally designed for the 205TCC are marked with the blue twin lines. The mark is always located on that side which is to the left when the accessory is attached to the camera to make it easily identified.

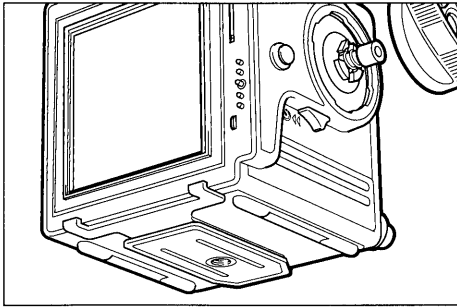
Other accessories are so called "general accessories". These accessories do not have the blue twin lines but can still be used on the 205TCC without restrictions.

A third group of accessories can be used but will cause certain limitations to the TCC functions.

Finally there is a fourth group of accessories that cannot in any way be used on the 205TCC.

Accessory Mounts

The quick coupling plate on the bottom of the camera body (pages 25 and 72) fits to the handy and reliable Hasselblad tripod quick coupling and to the flash gun bracket. On the front of the lenses are external and internal bayonet mounts for filters, close-up lenses and lens shades. The viewfinder mount on top of the camera body accepts



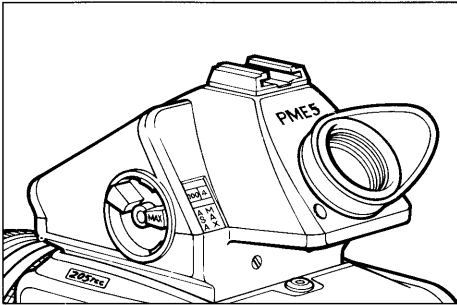
various focusing screens and viewfinders. Underneath the winding crank is a bayonet mount for the Hasselblad Winder.

Major TCC Accessories

A selection of the most important TCC accessories is described below. For a complete review of the Hasselblad system refer to the Hasselblad Product Catalog.

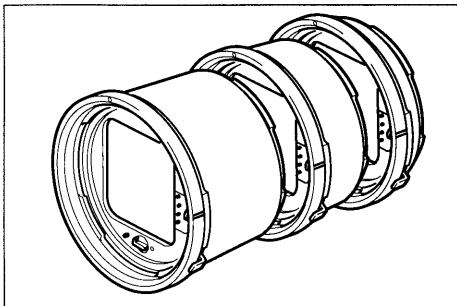
Winder

The TCC Winder replaces the winding crank and motorizes the 205TCC for a maximum frame rate of 1,3 fps.



Viewfinders

Besides the focusing hood which is delivered with the camera body you have a choice of a magnifying hood and prism viewfinders with and without exposure meters.

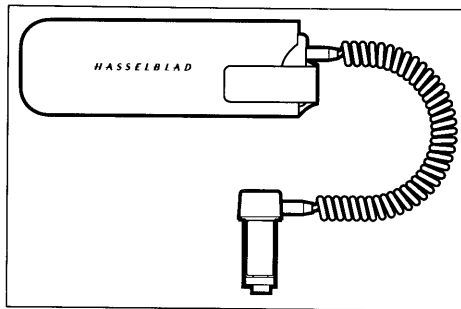


Extension Tubes

For close-up and macro photography the TCC extension tubes have all connections, both mechanical and electronic, between camera body and lens.

External Battery Cassette

The external battery cassette connector replaces the original battery cassette in the battery compartment. It provides additional power and the extension cord allows you to keep the batteries warm in your pocket when you are using the 205TCC in cold conditions.



General Accessories

The range of general Hasselblad accessories that can be used on the 205TCC without affecting the TCC functions includes different focusing screens, lens shades and filter adapters. There is also the Hasselblad Winder and the Hasselblad Proflash 4504 dedicated flash unit. Other dedicated flash units can be connected through flash adapters, such as the Hasselblad SCA 390 and SCA 590.

Other Accessories

These accessories can be used but will result in certain limitations to the TCC system. The F and CF lenses belong to this group as do the common film magazines, the common extension tubes and bellows etc. Also some of the discontinued accessories such as the C lenses belong here. Finally there is a group of accessories which

cannot be used on your 205TCC, such as the other viewfinders, the grips and accessories designed to be attached to the accessory rail on the other Hasselblad reflex models.

The Hasselblad System Chart

Overleaf you will find the accessory chart that indicates the different groups of accessories in the Hasselblad System. Refer to the Hasselblad Product Catalog for complete information on the entire Hasselblad System.

Hasselblad System Chart

TCC and Accessories
Most TCC accessories fit on the other Hasselblad SLR models

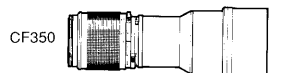
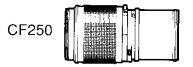
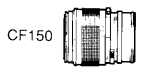
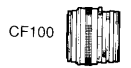
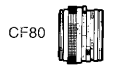
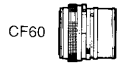
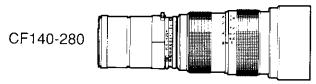
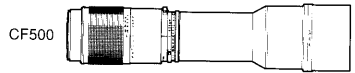
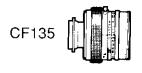
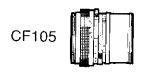
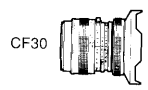
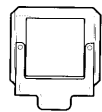
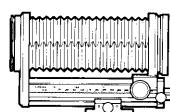
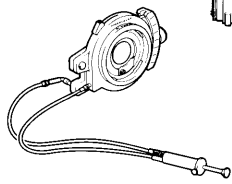
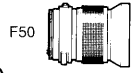
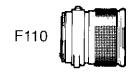
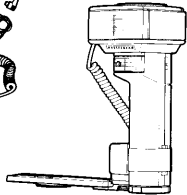
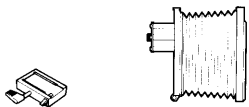
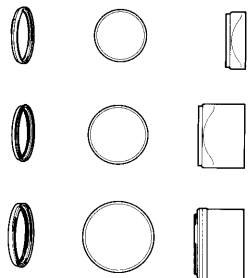
General Accessories

Can be used on the 205TCC without changing the TCC operation

Other Accessories

Cause limitations to the TCC operation when used on the 205TCC

A 12 A 16 A 24 70



Troubleshooting

Your Hasselblad 205TCC is built for long and trouble-free service, especially when you follow the advices on maintenance and care (page 94). Should you encounter any operational difficulties the troubleshooting chart below may help you to resolve them.

PROBLEM	POSSIBLE CAUSE	REMEDY
The camera can not be activated in any way.	The battery is removed or completely exhausted. The battery is reversed. The camera was not rewound after the last exposure.	Install or replace the battery. Insert the battery according to the labelling on the battery cassette. Wind the camera with one full turn of the winding crank.
The camera cannot be activated by depressing the AE lock.	The AE lock has been depressed for more than 16 seconds.	Activate the camera by depressing the exposure release button.
The exposure release button cannot be depressed.	The camera was not rewound after the last exposure. The magazine slide is in the magazine. The roll of film is finished (frame counter at end).	Rewind the camera with one full turn of the winding crank. Remove the magazine slide completely. Insert a new film or change to a fully loaded magazine (or w/o film remove and re-insert film holder).
The viewfinder image is dark but the display is bright.	The lens front cover is on.	Remove the lens front cover.

PROBLEM	POSSIBLE CAUSE	REMEDY
The viewfinder image is dark but the display is bright.	<p>The camera is pre-released.</p> <p>The camera has a C lens or a CF lens in C setting attached and was not rewound after the last exposure.</p>	<p>Complete the camera release or depress the double exposure button and wind the camera with one full turn of the winding crank.</p> <p>Rewind the camera with one full turn of the winding crank.</p>
The lens cannot be attached.	<p>The lens is released.</p> <p>The camera body is pre-released or released.</p>	<p>Cock the lens.</p> <p>Release and/or rewind the camera with one full turn of the winding crank.</p>
The lens cannot be detached.	The camera is pre-released or released.	Release and/or rewind the camera with one full turn of the winding crank.
The magazine cannot be detached.	The magazine slide is not completely inserted.	Push the magazine slide in until it positively stops.
The flash symbol does not light up when a dedicated flash unit is connected.	<p>The flash unit is not switched on or is not fully charged and ready to be fired.</p> <p>The connection between flash unit and camera is defective.</p>	<p>Switch on the flash unit and/or wait until it is fully charged.</p> <p>Check the connections according to the flash unit's manual.</p> <p>Replace the TTL sync cord.</p>

Faulty and Error Indications on the Viewfinder Display (All parts are TCC marked)

PROBLEM	POSSIBLE CAUSE	REMEDY
The display signs appear reversed.	The viewfinder is not properly installed.	Push the viewfinder firmly forwards until it stops.
Aperture indication is "--"	Defective contact between lens and camera body.	Detach the lens. Clean all four contact surfaces on the lens and on the camera body with a lintfree cloth or suede. DO NOT touch the contact surfaces with your fingers!
The magazine symbol appears when a TCC magazine is attached.	Defective contact between magazine and camera body.	Detach the magazine. Clean all four contact surfaces on the magazine and on the camera body with a lintfree cloth or suede. DO NOT touch the contact surfaces with your fingers!
The display indicates "Err 1", "Err 2" or "Err 12 4", possibly together with A or M .	Electronic system error.	Bring the camera to an authorized Hasselblad Service Center. Explain the appearance of the display to the service technician.

NOTE: If there is a contact failure between the lens and the camera body you can still use your equipment according to the instruction for the F lens (page 69-70). Contact failure between the magazine and the camera body could be overrun by selecting **Pr** mode and entering the film speed manually (page 44-45).

Technical Specifications and Equipment, 205TCC

Camera Design: Medium format single lens reflex camera with built-in TTL spotmeter electronically connected to TCC lenses and TCC magazines. Interchangeable lenses, film magazines, viewfinders and focusing screens.

Shutter: Electronically controlled mechanical focal plane shutter with release solenoid system. Horizontally running textile curtains. Shutter speed range B, 16s - 1/2000s. Fully mechanical C setting for built-in leaf shutter lenses. Flash synchronization from B up to 1/90s.

Lens Mount: Hasselblad bayonet mount for TCC, F, CF and C lenses. Contacts for databus communication with the TCC lenses.

Viewfinder: Focusing hood with 4 x magnifier, interchangeable with magnifying hood and prism viewfinders with and without exposure meter. TCC viewfinders only acceptable. Acute-Matte focusing screen interchangeable with other Hasselblad focusing screens. Illuminated flash and warning symbols.

Operation Display: LCD display in viewfinder with all relevant exposure and operational data and switch-controlled low light illumination.

Camera Winding & Film Advance: Manual single turn winding crank. Simultaneous shutter cocking and film advance. The crank is interchangeable with the Hasselblad motor winder for up to 1.3 frames/second.

Exposure Meter: TTL metering at full aperture with TCC lenses. High sensitivity silicon photocell. Spotmeter area approximately 1% of the image area, angle of view from approximately 1°-7° depending on lens focal length. Metering range EV -1 to EV 20 at ISO 100/21° and f/2,8. Active time 16 s after release of activating button.

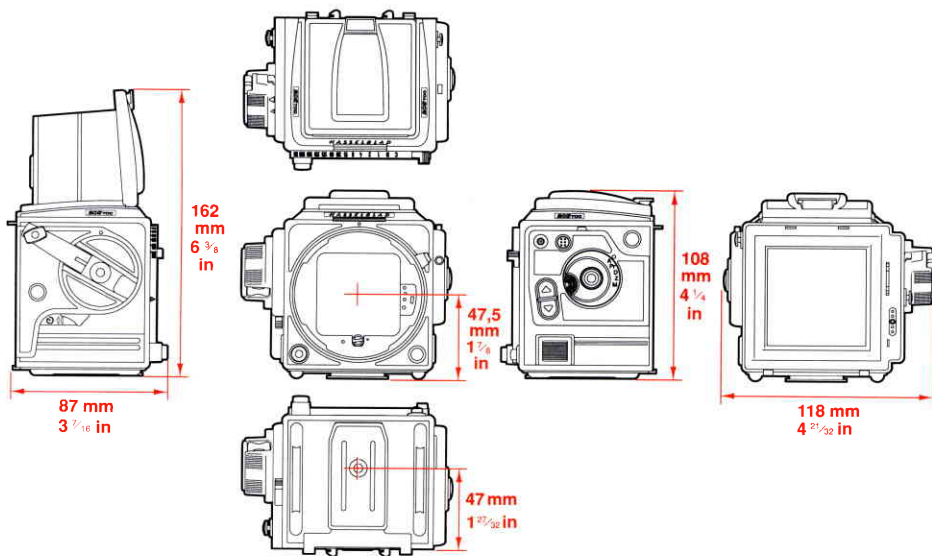
[more>](#)

Exposure Functions:	Aperture priority automatic exposure, automatic flash control and full manual control. Exposure compensation ± 5 EV with 1/4 EV increments. AE-lock.
Operating Modes:	Automatic Mode, Differential Mode, Zone Mode, Manual Mode and Programming Mode.
Film Speed Range:	ISO 12/12° to ISO 6400/39°, selected with film speed dial on TCC magazines or entered in programming mode.
Flash Control:	Center weighted TTL/OTF flash exposure meter. Full dedicated flash control with automatic shutter speed reset to 1/90 s at faster speed settings. Inhibited flash triggering in at shutter speed settings faster than 1/90 s with non-dedicated flash units.
Selftimer:	Default delay 10 s. Delay programmable in 12 steps from 2 s to 60 s.
Battery:	6V, type PX28, UCAR 537, 4G-13 or equivalent lithium type.
Tripod Mount:	Quick coupling plate and 1/4" socket thread.
External Dimensions:	Camera body only — see page 81. With focusing hood, lens Planar F 2,8/80 TCC and magazine A 12 TCC 178L x 118W x 108H mm (7 x 4 5/8 x 4 1/4 in.)
Weight:	1615 g with focusing hood, lens Planar F 2,8/80 TCC, A12TCC magazine and battery. Body alone: 745 g.

The camera body (chrome finish P/N 10405, black finish P/N 10413), comes with focusing hood, focusing screen, winding crank, shoulder strap, front and rear protective covers.

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

Camera Body Dimensions



Hasselblad reserve the right to change the specifications without prior notice.

Hasselblad 205TCC is covered by several Swedish and foreign patents.

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. Do not keep your camera in places where it may get hot, such as in direct sunlight or above a radiator. In tropical environments fungus growth can be prevented by keeping your equipment in an area with circulating air. Frequent rapid and severe temperature changes may cause problems such as corrosion of electrical contacts, and should be avoided. When used in extremely cold temperatures, cameras and especially lenses should be protected as much as possible.

Dust and grit. 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 dust on the lens glass, magnifier or focusing screen, or wipe it off gently with a soft cloth. Smears on the lens glass should be removed with a high quality lens cleaning solution on a soft, clean 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 should be blown clean but not be

wiped. Lens cleaning solvents or other chemicals should not be used on the focusing screen.

Impact. Your camera can be damaged by severe physical shocks. You should take care not to leave it where it can fall or be knocked to the ground, or roll about.

Service

Faultless camera performance is essential to the professional photographer. Therefore it is advisable to check that your camera is functioning correctly before an important assignment. You should also return your camera to a Hasselblad Service Center for periodical checking and preventive maintenance. If your camera is used constantly and intensively, exposing hundreds of rolls of film per week, check-ups every six months are recommended. Hasselblad Service Centers have the expert staff and specialized equipment necessary to ensure that your camera remains in perfect working order.

Guarantee

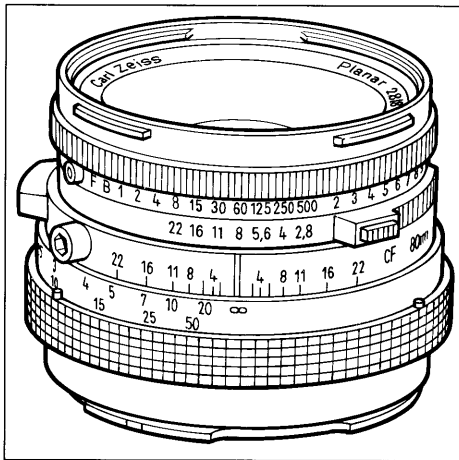
Provided that you bought your camera from an authorised Hasselblad outlet, it is covered by an international guarantee for one year. The guarantee document and a registration card are supplied with the camera. Keep the guarantee document carefully, but fill in the registration card and return it to your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

APPENDIX A

Hasselblad 205TCC with CF- and C-lenses

The CF- and the older C-lenses differ from the F/TCC- and F-lenses through their built-in leaf shutter with shutter speeds from 1 to 1/500s and B. Both types have full flash synchronization on all shutter speeds. The CF-lenses also have an additional shutter setting F to let the lens be used together with the focal plane shutter and the instant return mirror.

NOTE: When using the 205TCC with a CF- or C-lens in cold conditions do not use the lens shutter at 1/500 s.



CF-lenses

With a CF-lens on your 205TCC you can choose to use the focal plane shutter with all its advantages and full automation or to disengage the focal plane shutter and benefit from the advantages of lens' built-in leaf shutter with full flash synchronization on all shutter speeds.

CF-lens design and functions

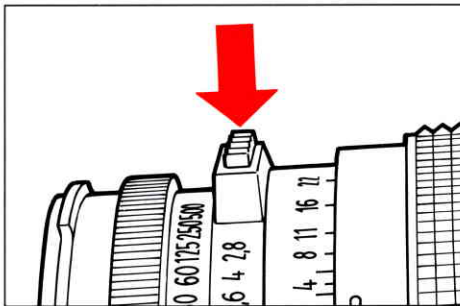
The setting rings and scales on the CF-lenses are arranged differently from those on the F-lenses. Counted from the camera body and forwards the rings are:

Focusing ring with focusing distance scale in feet (orange) and meters (white).

Common index line and depth-of-field scale.

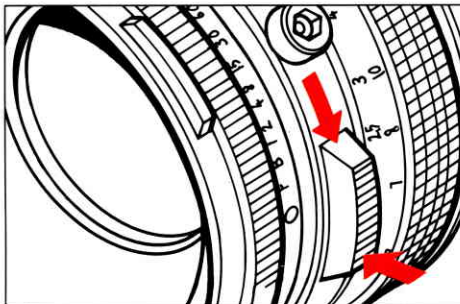
Aperture ring with aperture scale and EV index (orange).

Shutter speed ring with shutter speed scale, EV scale (orange) and F lock button (green).



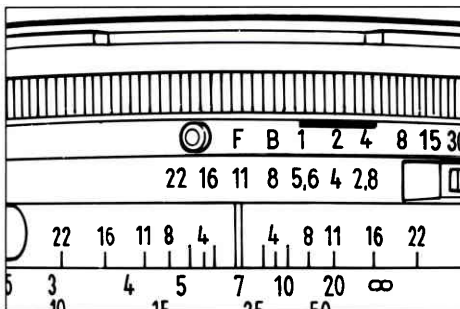
EV Interlock Button

Depressing the EV interlock button interlocks the shutter speed and aperture rings to make it possible to change the speed/aperture setting while retaining the EV value.



Depth-of-field Preview Knob

The Depth-of-field Preview knob location and operation is identical to the F/TCC- and F-lenses (page 32).



F-setting

Depress the small green F-lock button to the left of the green F on the shutter speed ring. Keep it depressed while turning the ring to align the F with the index line. Release the button to lock the ring in the F position.

The F setting locks the shutter wide open without interfering with the aperture function.

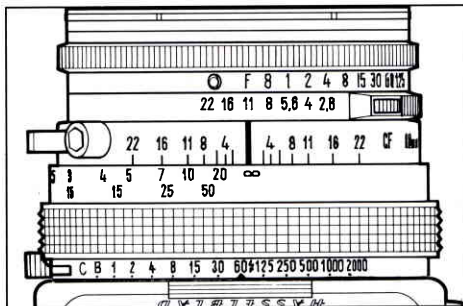
With this setting the lens works exactly as an F-lens (page 69).

How to use the CF-lens

A. Lens in F mode (leaf shutter open)

Suggested procedure:

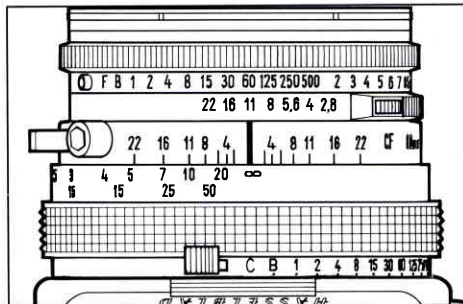
1. Turn the shutter speed ring to the F setting.
2. Operate the camera as described for the F-lens



B. Lens in C mode (leaf shutter working)

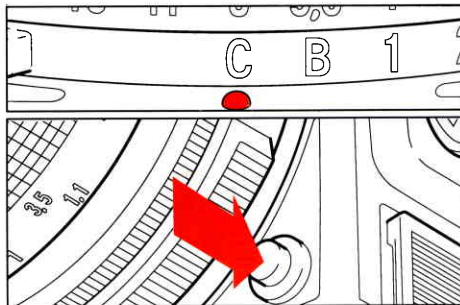
When using the built-in leaf shutter in the CF-lens the focal plane shutter in the camera body must be disengaged. By setting the camera's shutter speed ring in the C position (page 22, 23) the focal plane shutter is turned into an auxiliary shutter, only used to protect the film from inadvertent exposure.

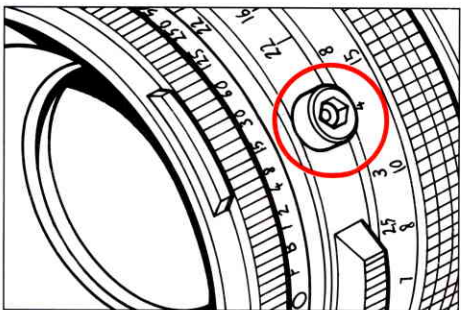
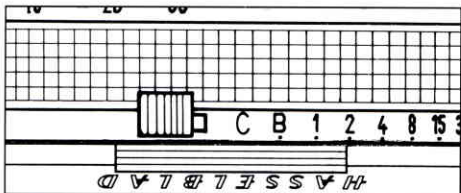
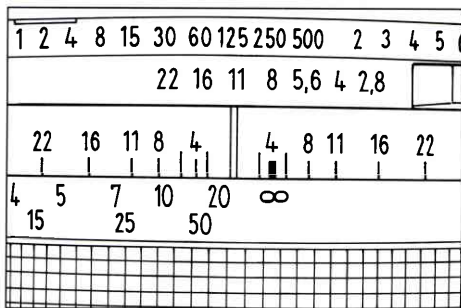
NOTE: The leaf shutter remains closed leaving the viewfinder screen dark until the camera is rewound.



Suggested procedure:

1. Check that the lens's shutter speed ring is **not** set at F.
2. Keep the lens catch button depressed while turning the camera's shutter speed ring to align the **C** at the end of the scale with the red index mark.
3. Release the lens catch button to lock the shutter speed ring in the **C** setting.





4. Pre-set the desired aperture and shutter speed on the **lens scales**.
5. Press the exposure button to make an exposure with the pre-set values.
6. Rewind the camera to get the viewfinder image back, advance the film to the next frame and to cock the lens shutter.

NOTE: Setting the camera's shutter speed ring at **C** turns off the entire TCC metering system. The viewfinder display shows only (—) for the aperture and (—□—) for the shutter speed when the exposure or pre-release button is depressed. The AE-lock button is inoperative.

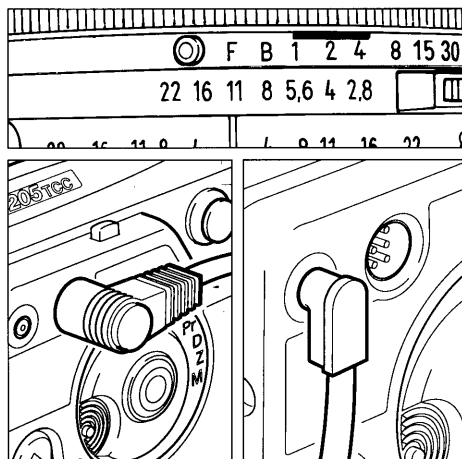
Flash photography with CF-lens

The CF-lenses have a built-in X-type flash synchronization at all shutter speeds. Flash connection is the PC socket located on **the left hand side of the lens**, close to the depth-of-field scale.

Lens in F mode

Dedicated and non-dedicated Flash Units

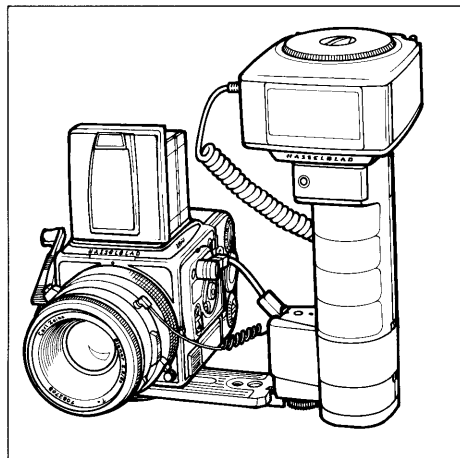
The procedures are identical to the corresponding procedures for the F-lens (page 71).

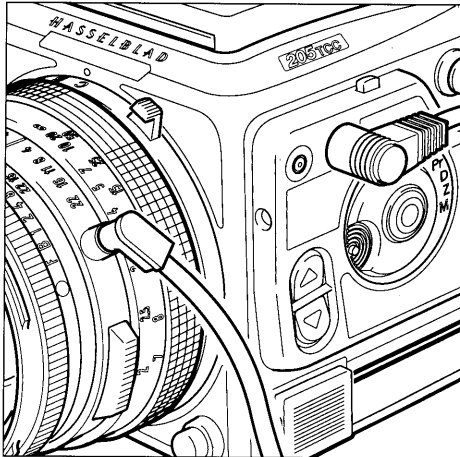


Lens in C mode

Dedicated Flash Unit

Although the TCC metering system is turned off in C mode the TTL/OTF system is still working to control the dedicated flash unit directly – as with the Hasselblad Proflash 4504 – or through an suitable adapter. However, since the focal plane shutter is not working as a shutter the triggering of the flash must come from the shutter in the CF-lens. The green "ready" flash symbol works and the "Hi FLASH" and "Lo FLASH" warning indications may appear in the viewfinder when the exposure button is released.





How to use the Dedicated Flash (Camera shutter speed set at C)

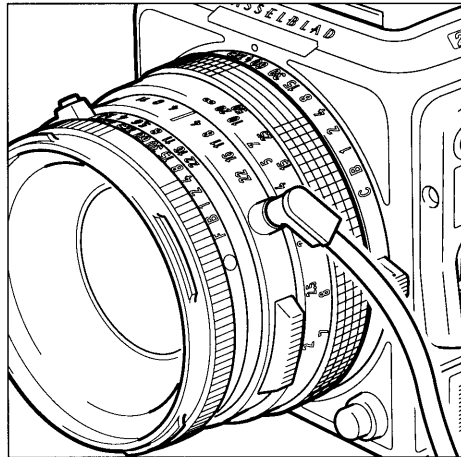
Suggested procedure:

1. Attach the flash to the camera if desired.
2. Connect the TTL-cord according to the flash instruction.
3. Connect the PC-connector to the PC-socket on the CF-lens, **not** to the PC-socket in the camera body.
4. Set the flash unit in the desired mode of operation and switch it on. The green flash symbol in the viewfinder lights up when the flash is ready to fire.
5. Select shutter speed and pre-set aperture on the lens.
6. Press and release the exposure button to make an exposure, observing the viewfinder display for warning indications.
7. Rewind the camera to get the viewfinder image back, cock the shutter and advance the film to the next frame.

NOTE: When used at full power some electronic flash units have a flash duration longer than 1/500 s. To take advantage of the full flash power in such cases and to avoid "Lo FLASH" warning and under-exposure you are recommended to use shutter speeds of 1/125 s or slower.

Non-dedicated Flash Units

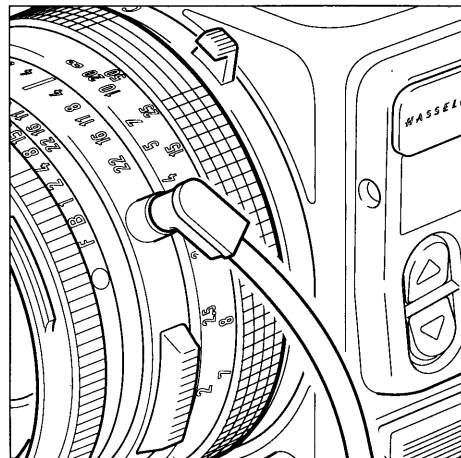
The non-dedicated flash unit should be connected to the PC-socket on the lens only. The exposure is controlled either by the flash itself or by aperture value settings calculated from the guide number of the flash (see the flash manual). There will be no indications or warnings in the viewfinder.

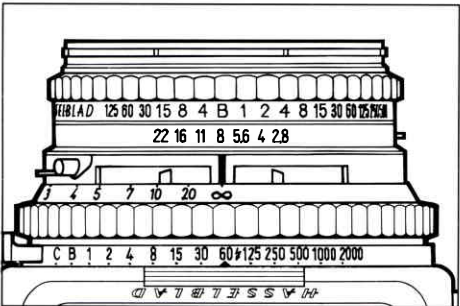
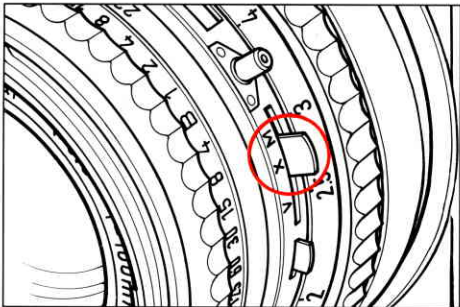
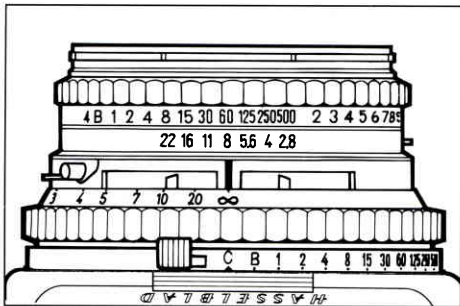


How to use the Non-dedicated Flash Unit (Camera shutter speed set at C).

Suggested procedure:

1. Attach the flash to the camera if desired.
2. Connect the synch cord to the PC-socket on the CF-lens, **not** to the PC-socket in the camera body.
3. Set the flash unit at the desired mode and switch it on.
4. Select and pre-set aperture and shutter speed (preferably 1/125 s or slower).
5. Press the exposure button to make an exposure.
6. Rewind the camera to get the viewfinder image back, cock the shutter and advance the film to the next frame.





C-lenses

The older C-lenses (production terminated in 1982) look different but are in most respects identical to the CF-lenses. There are, however, four major differences:

1. There is no F-setting on the shutter.
2. The shutter speed and aperture rings are normally interlocked.
3. There are two different flash synchronization modes.
4. There is a built-in mechanical selftimer.

How to use the C-lens

Avoid using the focal plane shutter together with a C-lens. If it cannot be avoided follow the procedure below:

1. Set the lens shutter at **B**.
2. Pre-set the desired aperture.
3. Set the camera shutter at the desired shutter speed.
4. Press the exposure button to make an exposure.
5. Rewind the camera to get the viewfinder image back, cock the shutter and advance the film to the next frame.

Lens in C mode

The procedure is identical with the CF-lens procedure (page 85).

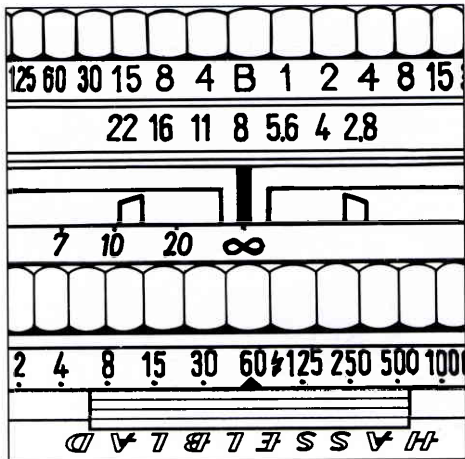
Flash photography with the C-lens

Using the camera's focal plane shutter

With the lens shutter set at B the lens can be used as an F-lens.

Dedicated and Non-dedicated Flash Units

Follow the corresponding procedures for the F-lens (page 71).

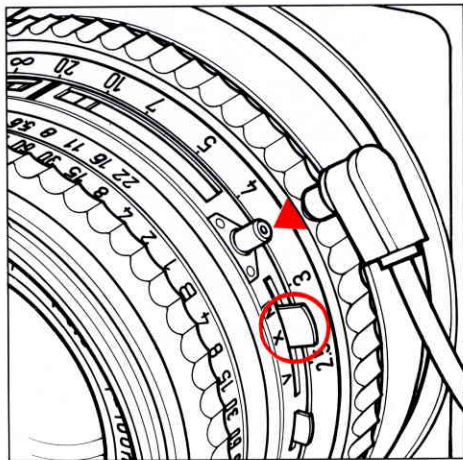


Using the C-lens leaf shutter

Make sure that the flash mode selector is set at X.

Dedicated and Non-dedicated Flash Units

Follow the corresponding procedures for the CF-lens (page 87).



APPENDIX B Spotmeter Metering Angle for all Hasselblad Lenses

Values in degrees with lens focused at infinity and without close-up accessories.

— indicates that the combination is not applicable.

Lens type			Lens alone	Lens with PC-Mutar 1,4x	Lens with Mutar 2x
CF	F	F/TCC			
Distagon CF 30			11,4	—	5,7
Distagon CF 40			8,6	6,1	4,3
Distagon CF 50	Distagon F 50	Distagon F 50 TCC	6,9	4,9	3,4
Distagon CF 60				5,7	4,1
Planar CF 80		Planar F 80 TCC	4,3	3,1	2,1
Planar CF 100			3,4	2,5	1,7
UV-Sonnar CF 105			3,3	—	—
	Planar F 110				
		Planar F 110 TCC	3,1	—	1,6
Makro-Planar CF 120			2,9	—	1,4
Makro-Planar CF 135*			2,6	—	—
Sonnar CF 150	Sonnar F 150	Sonnar F 150 TCC	2,3	—	1,2
Sonnar CF 180				1,9	—
Sonnar CF 250	Tele-Tessar F 250	Tele-Tessar F 250 TCC	1,4	—	0,7
Tele-Tessar CF 350	Tele-Tessar F 350	Tele-Tessar F 350 TCC	1	—	0,5
Tele-Apotessar CF 500			0,7	—	0,3
Variogon CF 140-280			2,4-1,2	—	—

*The Makro-Planar CF 135 mm lens can only be used together with the extension bellows or the variable extension tube for close-up work.

APPENDIX C Hasselblad 205TCC with Dedicated Fill-in Flash

When a dedicated flash is connected to the TTL-socket, the 205TCC automatically shifts to "Flash Mode" with TTL/OTF metering as the flash is charged and ready to flash (page 56). The spotmeter system is then shut off and the TTL/OTF system controls the exposure. If you wish to use the dedicated flash as a fill-in flash in TTL mode you need both metering systems to get a correct exposure. The method below can be used regardless of attached filters or close-up accessories.

1. Shut off the flash to shift to the spotmeter system.
2. Meter the selected subject area with the spotmeter.
3. Change the pre-set aperture until the display shows a shutter speed not faster than 1/90 s.
4. In A, D or Z mode set the shutter speed ring at the displayed speed. In M mode change the pre-set aperture and/or the shutter speed until the display shows 0 deviation.
5. Switch on the flash to return to the "Flash Mode" when the flash indicator lights up.
6. Press the exposure button normally to make an exposure.

NOTE: In "Flash Mode" the shutter speed is never faster than 1/90s also when the shutter speed is set at a faster setting. Slower speeds, however, are obtained by setting the ring at the desired slower speed.

Alternative method

A dedicated or non-dedicated computer flash connected to the PC-socket does not shut off the spotmeter system and gives no indications on the viewfinder display. Use the camera as if no flash is connected but set the ISO setting on the flash higher than the film used if you wish to reduce the flash effect. Observe the "ready"-light on the flash, not in the viewfinder.