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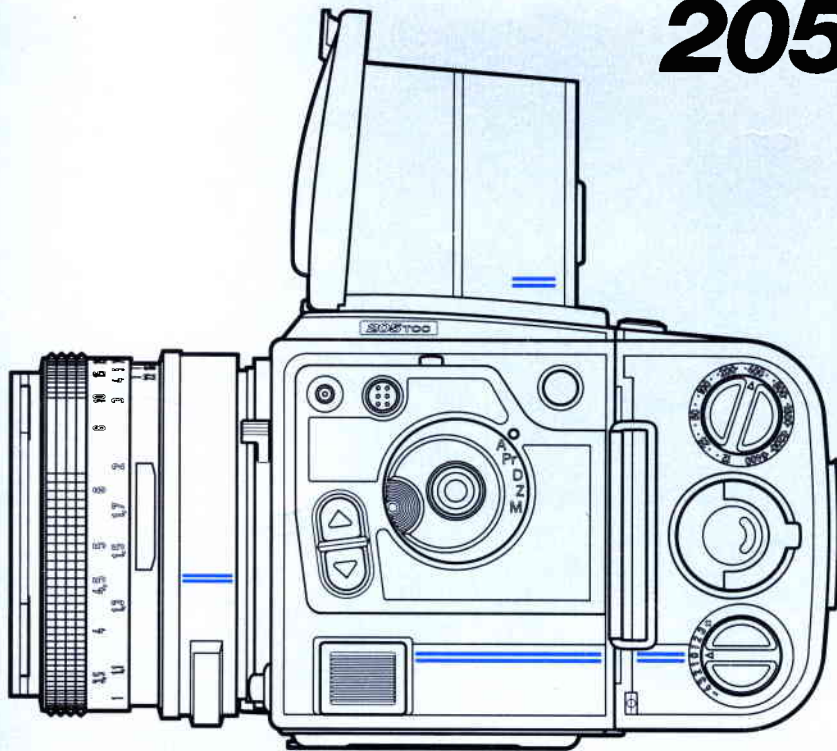
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H A S S E L B L A D[®]

205 TCC



INSTRUCTION MANUAL

Hasselblad 205TCC Instruction Manual

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			Warranty
			Provided you purchased the equipment from an authorized Hasselblad dealer or distributor it is covered by an international warranty for one year from the date of delivery. Read more about the warranty on page 82!

HASSELBLAD 205TCC Tone and Contrast Control

With the Hasselblad 205TCC in your hand you have a tool with a full range of new features. TCC stands for Tone and Contrast Control, a feature that by itself vastly increases your possibilities to control the entire photographic process far beyond what you could do with the previous models. The camera, however, also permits you to use most of the accessories you already have. And it is still you and not the camera that controls your work!

The meticulously shielded and highly accurate spotmeter provides the metering system with the most precise readings in fast action shots or carefully contemplated artistic creations. For the first time you can select the "zone-mode" and let the processor in the camera adjust the exposure for the planned contrast-compensating development correction. Through the viewfinder display it provides you with information on zones, contrast differences, shutter speeds and aperture settings. And still it is the photographer that controls the image.

The 205TCC has four different modes of operating the metering system, easily selected with the mode selector dial on the control panel. And in addition it also has a programming mode where you can insert e.g. the dynamic range of the film to obtain a warning signal when your exposure values are off limits. With a TCC film magazine attached the camera processor automatically gets the film sensitivity information set on the magazine, but if you are using an ordinary film magazine that is not adapted for the 205TCC you can insert the film speed data yourself into the memory of the system. You also can set the selftimer delay within wide limits.

Your flash pictures are made easier and more accurate with the 205TCC combined with a dedicated flash unit, such as the Hasselblad Profash 4504. The sophisticated metering system in the 205TCC meters the light off the film and controls the flash duration for precise exposures also when the flash is combined with ambient light.

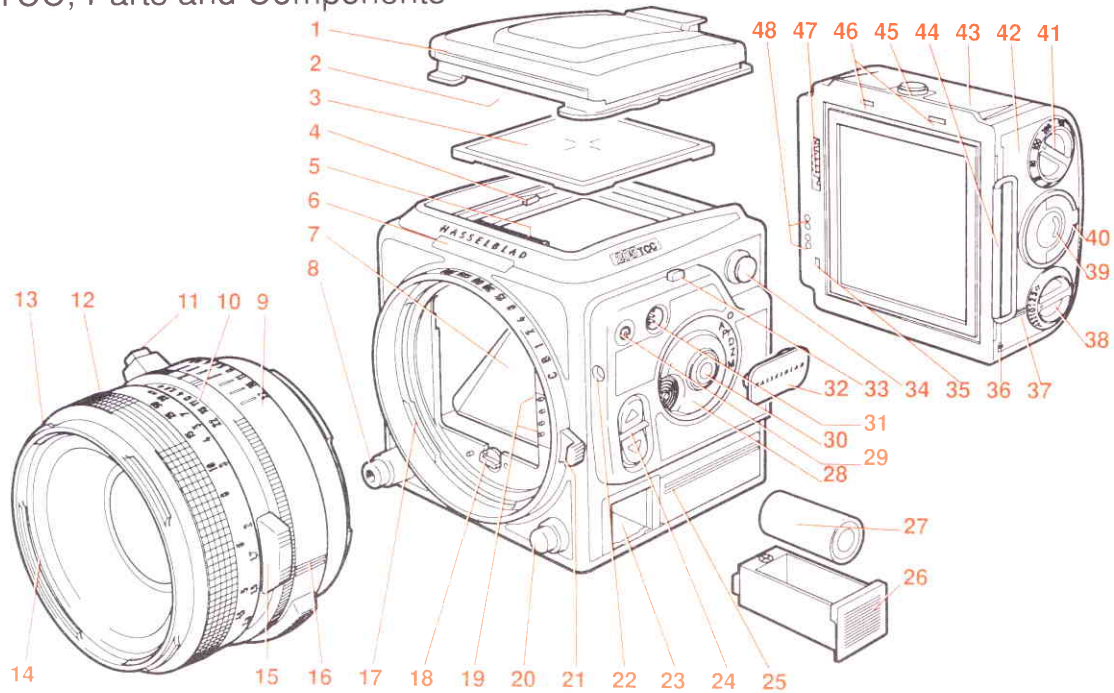
Of course you cannot have all this "for free". It takes a sophisticated and powerful electronic setup to keep track of all this information. The 205TCC is provided with a digital system with active members in lenses and magazines, communicating with the "brain", the central processor, through a data bus. Digital operation and databus communication give an unsurpassed functional reliability.

In spite of all its advanced design the 205TCC is still a part of the Hasselblad System and represents a pacesetting system expansion. With the spotmeter built into the camera body you can change viewfinders and focusing screens and you can also use most of your present accessories, some however with minor limitations in the TCC functions.

You will recognize the TCC system by the double blue lines appearing on the left hand side of the TCC camera body and all the TCC accessories.

Read this Instruction Manual carefully and follow the step-by-step instructions to get the most out of this fabulous camera and to avoid unnecessary mistakes.

205TCC, Parts and Components



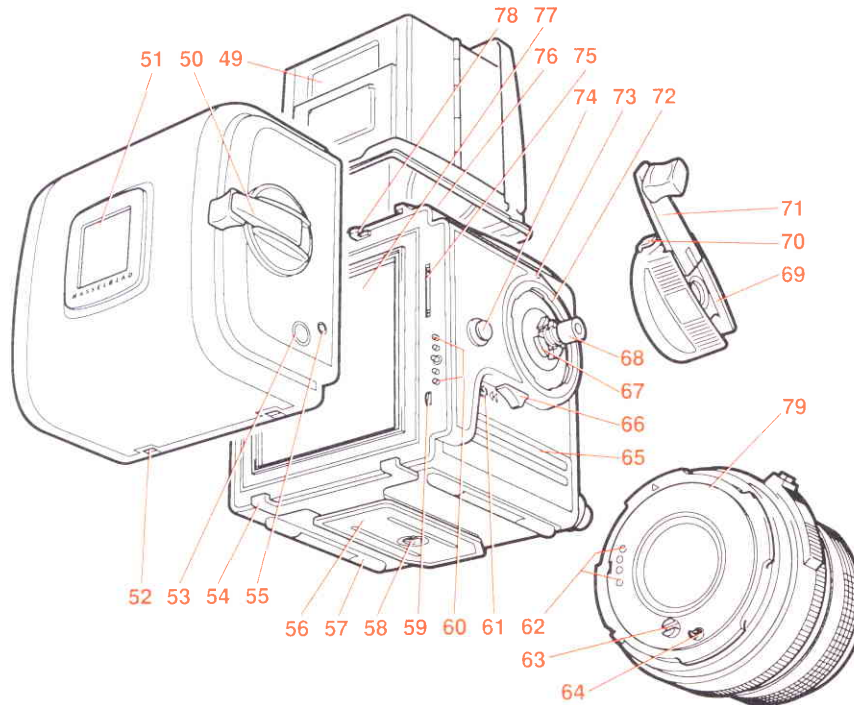
- 1 Focusing hood cover
- 2 TCC recess
- 3 Acute-Matte* focusing screen
- 4 Focusing screen catch
- 5 Liquid crystal display (LCD)
- 6 Display illumination window
- 7 Viewfinder mirror
- 8 Shutter release button
- 10 Depth-of-field scale
- 11 Interlock button (not on TCC)
- 12 Focusing ring
- 13 Lens front bayonet, exterior
- 14 Lens front bayonet, interior
- 15 Depth-of-field preview knob
- 16 System mark
- 17 Lens mount

- 18 Drive shaft
- 19 TCC-connection bracket
- 20 Lens catch and Shutter speed ring lock
- 21 Shutter speed ring
- 22 Selftimer indicator
- 23 Battery compartment
- 24 Adjustment button
- 25 Grip cushion with System mark
- 26 Battery cassette
- 27 Battery
- 28 Mode selector dial
- 29 PC socket
- 30 Automatic exposure lock, AE-lock
- 31 Dedicated flash connector
- 32 Flash connector socket cover

- 33 Display illumination button
- 34 Strap lug
- 35 Indicator trigger slot
- 36 Film plane indicator
- 37 System mark
- 38 Film contrast dial
- 39 Film load indicator
- 40 Film holder key
- 41 Film speed dial
- 42 Film holder
- 43 Film magazine
- 44 Magazine slide
- 45 Film magazine catch
- 46 Magazine hook slot
- 47 Magazine gear
- 48 System connectors

*Acute-Matte designed by MINOLTA

205TCC, Parts and Components

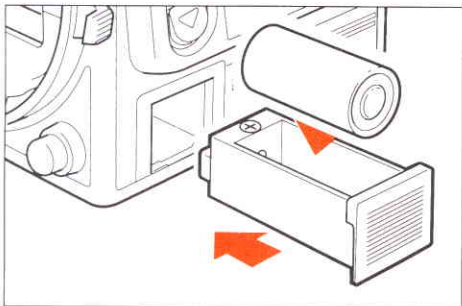


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 50 Film winding crank
 51 Film tab holder
 52 Magazine support slot
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 69 Crank hub

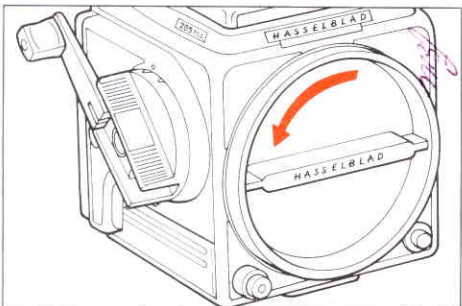
70 Winding crank catch
 71 Winding crank
 72 Winder bayonet mount
 73 Winding crank index
 74 Strap lug
 75 Magazine driving gear
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 77 Shutter curtain
 78 Magazine hooks
 79 Lens bayonet plate

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



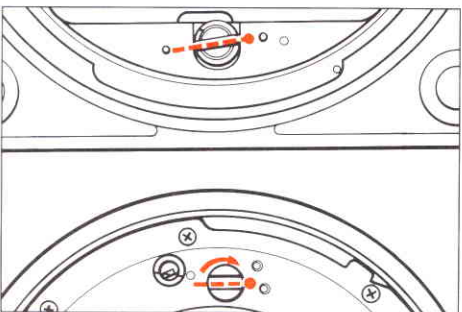
Getting Started

This section describes how you prepare your Hasselblad 205TCC for use. You will find comprehensive information how to operate the camera in the section starting on page 18. Follow the instructions step by step to avoid jamming or damaging the camera. Always keep the rear protective cover on to protect the shutter curtain when the magazine is detached!



Battery

The battery compartment and cassette is located in the lower forward corner on the left hand side of the camera body. Pull out the cassette and install the battery - 6V type PX28 (UCAR 537) - according to the marking on the cassette. Push the cassette all the way back into the compartment.



Cocking the Camera

Cock the camera after installing the battery. Fold out the winding crank on the right hand side, press the button in the center of the crank and rotate it clockwise one turn until it locks (Cf. page 20, Double exposure).

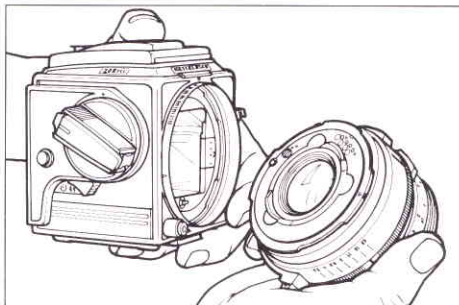
Front Protective Cover

the front protective cover is attached to a bayonet mount. Rotate it as indicated by the arrow in the illustration and lift it out of the mount.

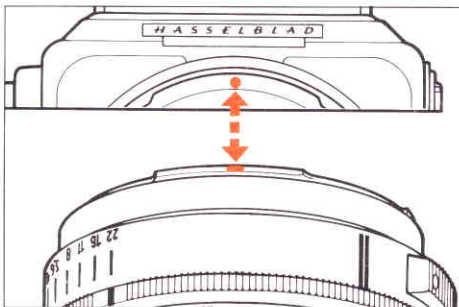
Attaching the Lens

Remove the lens' rear protective cover by rotating it clockwise and lifting it off the lens.

Check that both the camera and the lens are cocked. The lower illustration on page 6 shows the proper position of the drive shaft against the index marks for the camera drive shaft (top) and the lens drive shaft (bottom). You will find that holding the camera body in your left hand and the lens in your right hand as shown in the illustration is the easiest way to attach the lens.

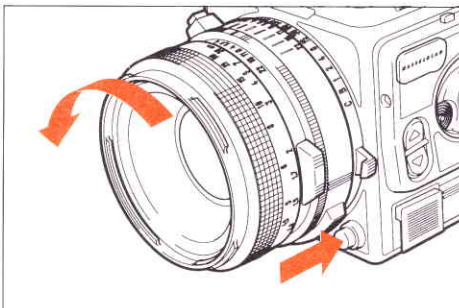


When you have aligned the red index on the lens with that on the camera body as shown in the illustration, the lens will fit easily into the bayonet mount. You can then rotate it clockwise until it stops with a faint click as the lens locks in place.

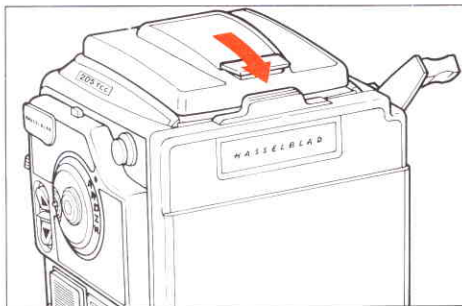


Removing the Lens

Depress the lens catch button, rotate the lens counter-clockwise and lift it out of the bayonet mount.



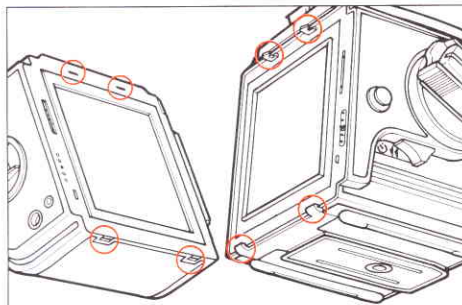
NOTE: You can only attach and remove the lens when the camera is cocked (fully wound) and not in pre-released mode (see page 20).



Rear Protective Cover

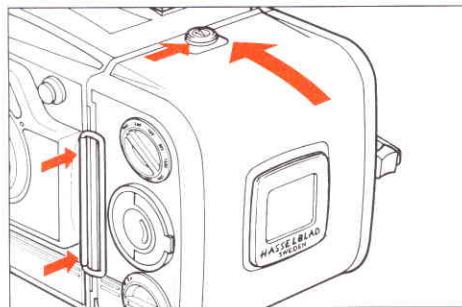
Depress the catch, tilt the cover backwards and lift it off.

Always keep the rear protective cover on to protect the shutter curtain when the magazine is detached!



Attaching the Magazine

Ensure that the magazine slide is fully inserted and that the magazine status indicator is white. If the indicator is red, then follow the instructions on page 9. Rest the magazine on the magazine supports with the support lugs properly engaging the recesses in the magazine bottom. Carefully swing the magazine towards the camera body, checking that the magazine hooks fit into the slots in the magazine. Push the magazine gently but firmly against the hooks while sliding the magazine catch to the right.



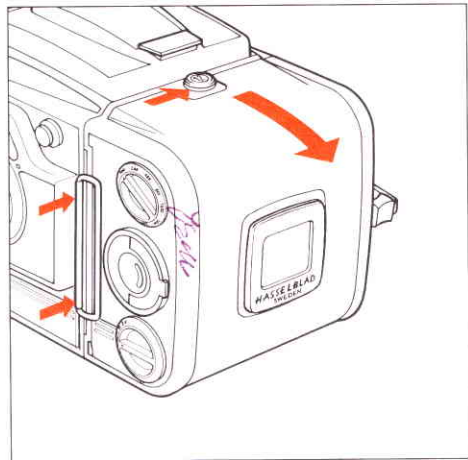
Release the button when the magazine makes contact with the camera body and then push the button to the left to ensure that it has reached the locked position. Remove the slide to positively lock the magazine to the camera body.

Removing the Magazine

It is advisable to have the camera fully wound and the magazine status indicator showing white. If the indicator shows red, then follow the instructions below.

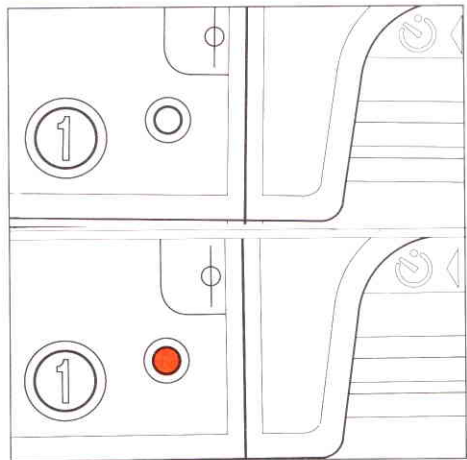
Insert the magazine slide fully and with the hinge towards the front of the camera. Slide the magazine catch to the right, tilt the magazine back and lift it off the supports.

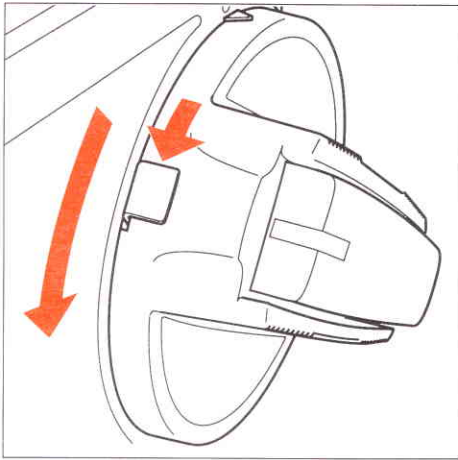
NOTE: The magazine cannot be removed without inserting the magazine slide. The slide protects the film from fogging. Note also that the camera cannot be operated when a magazine with the slide inserted is attached to the camera.



The Magazine Status Indicator

The status indicator on the right hand side of the magazine shows whether the magazine is ready to operate (white) or not, i.e. the film has not been advanced (red). Do not attach a magazine showing white to a camera that is not recocked! Wind it first, otherwise you will lose one frame. Do not attach a magazine showing red to a fully wound camera! That could result in an unintentional double exposure since the frame in position in the magazine is probably already exposed. If the status indicator shows red, release the camera (page 17) before attaching the magazine. Then, when you wind the camera, the film will be advanced one frame.



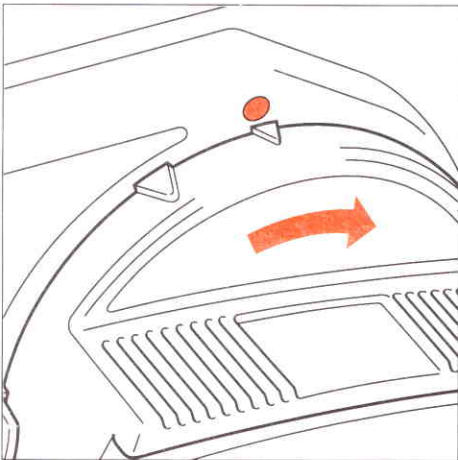


The Winding Crank

One full revolution of the winding crank winds the camera and lens mechanisms and transports the film to the next frame. Underneath the crank are the drive shaft and the bayonet mount for the Hasselblad Winder (pages 73, 74), which can be attached after removing the crank. It is recommended that the camera is fully wound when the crank is removed or replaced.

Removing the Winding Crank

To remove the crank push the catch lever on the rear of the crank hub downwards while rotating the crank counter-clockwise. Then pull it straight out from the shaft.

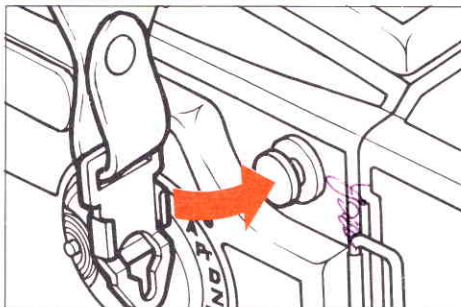


Attaching the Winding Crank

On the side of the crank hub are two triangular index marks, a larger one and a smaller one. Attach the crank to the shaft with the smaller mark aligned with the red dot located immediately above the mount. While pushing the crank against the camera body rotate it clockwise until the larger mark is aligned with the red dot.

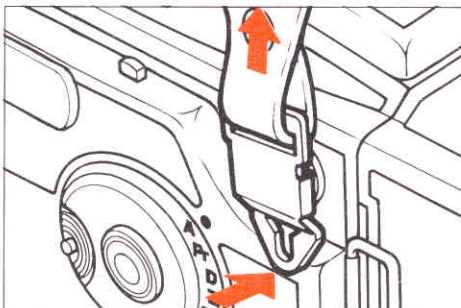
Strap and Strap Lugs

The 205TCC is delivered with a medium wide shoulder strap, packed separately. You will find other types of straps in the Hasselblad Product Catalog. All straps are provided with special clips for easy attaching and removing of the strap.



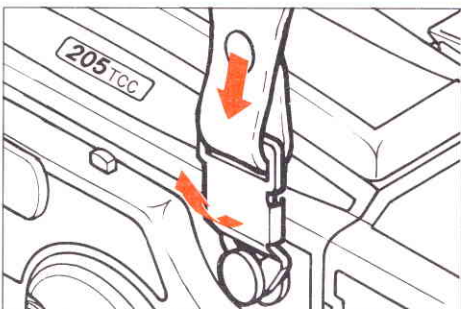
Attaching the Strap

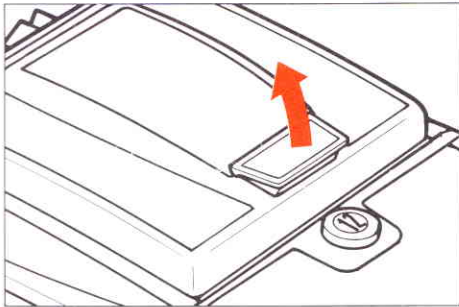
Place the main body of the strap clip over the strap lug on the camera (see figure). Press the tip of the clip towards the camera while pulling the strap to slide the clip over the lug to the locked position.



Removing the strap

Lift the locking plate of the clip high enough to pass over the top of the lug. Push the clip in the direction opposite to the strap to slide it off the lug.

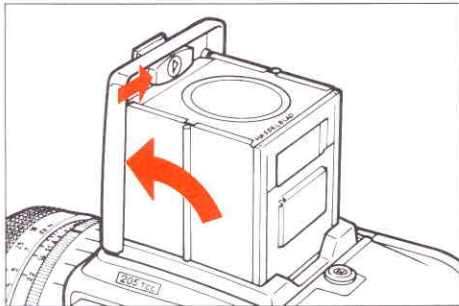




Focusing Hood and Magnifier

Opening the Focusing Hood

Lift the lid with a firm grip on the tab at its rear edge and swing it up to a vertical position. The hood unfolds automatically and locks in open position.

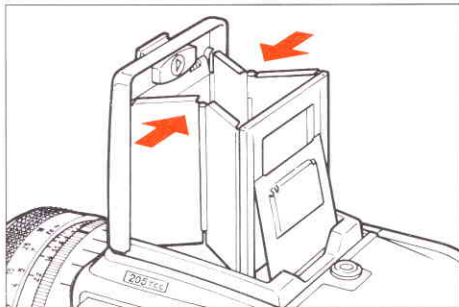


The Built-in Magnifier

Use the built-in 4x magnifier to enlarge the viewfinder image, e.g. for more accurate focusing. To unfold it, push the oval catch inside the lid to the right, as indicated in the illustration.

To fold the magnifier down, simply push it back towards the lid until it locks.

The magnifier can easily be exchanged for one with a suitable correction lens to match your individual eyesight (see page 26).

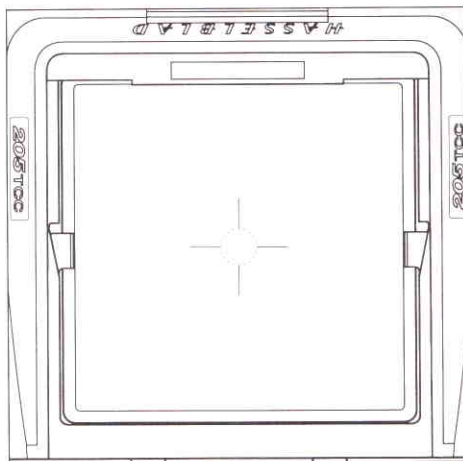


Closing the Focusing Hood

"Pinch" the side plates at the hinge points and fold the hood back down.

Viewfinder Image and Display Focusing Screen

The Hasselblad 205TCC is equipped with the Acute-Matte* focusing screen featuring the highest brightness and resolution among the Hasselblad focusing screens. The center of the screen is indicated by a hairline cross and a circle of dots indicating the metering area covered by the built-in spotmeter. The circle has a 6 mm diameter. See page 27 how to change the focusing screen.



The Exposure Meter

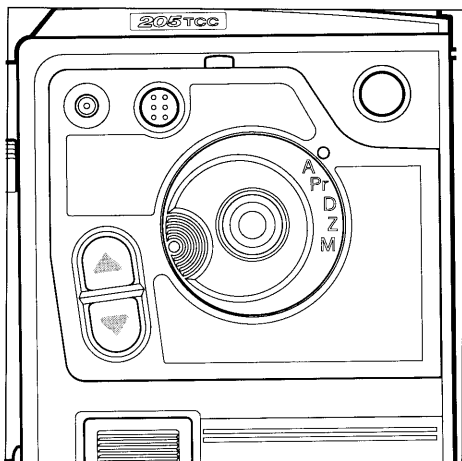
The exposure meter is a spotmeter, meticulously shielded to avoid all influence of stray light. The metering area corresponds to an image angle from 1° to 7° depending on the lens used. The metering range for a film speed of ISO 100/21° extends from EV -1 to EV 20, corresponding to 8s at f/2 to 1/2000s at f/22.

The Display

Located above the upper edge of the viewfinder image is the display, which is the information center of the camera. You find a comprehensive description of the display and its symbols on pages 18-19.



*Acute-Matte designed by MINOLTA



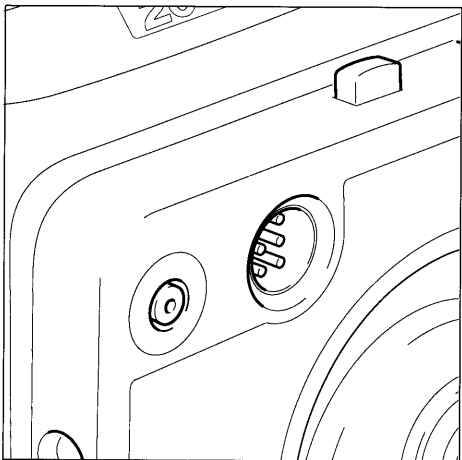
The Control Panel

The control panel occupies most of the left hand side of the camera body. It includes all the controls for the various functions of the 205TCC, such as:

- The Flash Connectors
- The Display Illumination Switch
- The Mode Selector Dial
- The Adjustment Buttons

Flash Connectors

The flash connectors are located underneath the protective cover in the upper forward corner of the control panel. The smaller one is a standard PC-socket and the larger one is a 6-pin connector for dedicated flash units.



The PC-socket

Non-dedicated flash units and certain adapters should be connected to this socket.

The Dedicated Flash Connector

A dedicated flash unit connected to this 6-pin outlet directly or through a suitable adapter will be fully controlled by the camera processor.

You find detailed information on flash photography on pages 56-68.

The Display Illumination

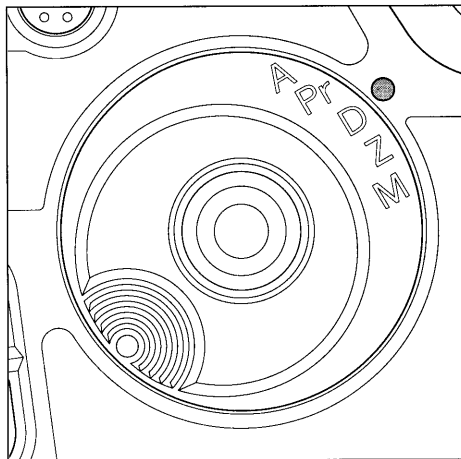
Pressing the button above the flash connectors turns the display illumination on or off. The switch has a toggle function.

The Mode Selector Dial

With the mode selector dial you can select any of the five operating modes **A**, **Pr**, **D**, **Z** or **M** available in the 205TCC. A, D, Z and M are used for photography and Pr for programming of certain functions.

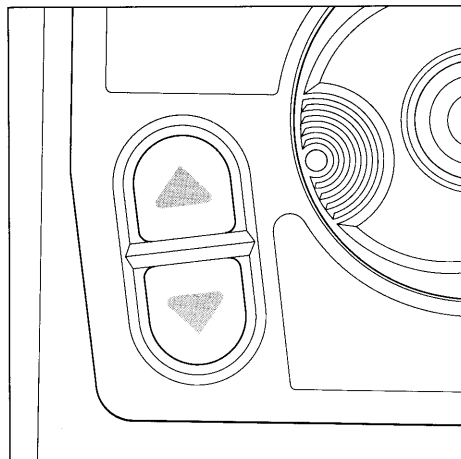
The Automatic Exposure (AE) Lock

In the center of the mode selector dial is a push-button, marked with a red circle. It operates the AE-lock and some other functions, depending on the setting of the mode selector dial. You can also use it to start the electronic operating system in the camera.



The Adjustment Buttons

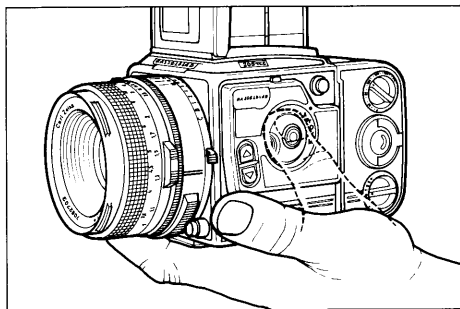
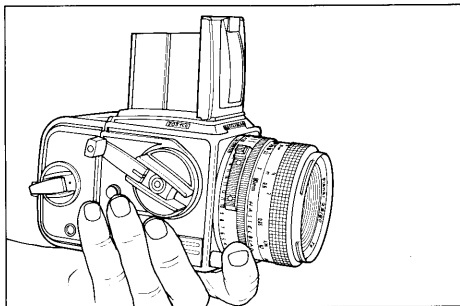
These keys also have multiple functions depending on the setting of the mode selector dial.



All the functions of the mode selector dial, the AE-lock and the adjustment buttons are described in detail on the pages 28-29.

Left Hand Grip

Holding the 205TCC in your left hand with your index finger on the release button, as shown in the upper illustration below, is the most convenient grip. You can reach the AE-lock and the adjustment keys with your left thumb (lower illustration below) and your right hand is free for focusing, aperture setting, operating the crank or for the changing of lens or magazine.



Activating the camera and the metering system

Before you operate the 205TCC you have to cock the shutter (if it is released) and switch on the metering system. To be able to release it you also have to remove the magazine slide.

The fully wound 205TCC can be started in two different ways:

1. By depressing the exposure button half-way in, i.e. to the "pressure point".
2. By depressing the AE-lock button.

Activation as per 1. above can only be performed when the magazine slide is removed.

Activation as per 2. is not possible if the AE-lock has been kept depressed for more than 16 seconds.

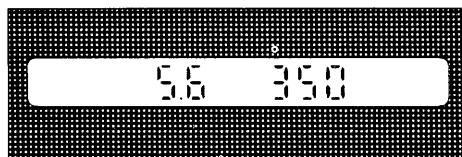
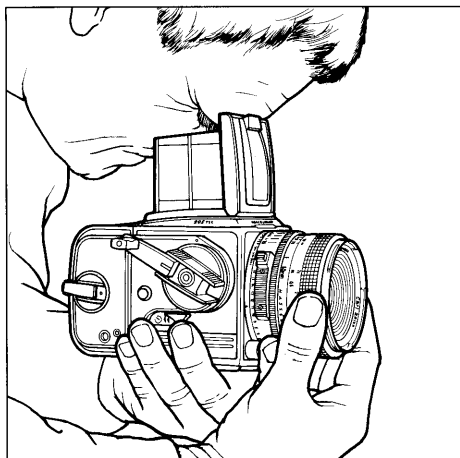
Keep the magazine slide inserted when you wish to avoid increased battery power consumption caused by unintentional activation of the metering system.

The electronic system and the viewfinder display turn off automatically 16 seconds after the last key or button operation, but all relevant data are stored in the memory.

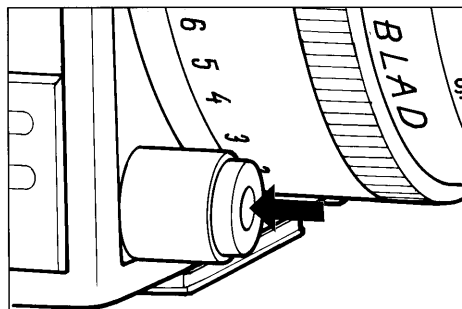
Focusing, Exposure Release and Viewfinder Display

Turn the focusing ring (page 31) until the image of the subject appears sharp in the viewfinder. Depress the exposure button to the pressure point.

If the mode selector dial is set in **A**, **D** or **Z** position the display now shows – besides a few other symbols described in the following section of this manual – the preselected aperture and the shutter speed calculated by the camera. With the mode selector set at **M** the display shows the letter M, the pre-selected aperture and shutter speed set on the shutter speed ring.



You can now press the release button all the way to make the exposure. After releasing the button you can rotate the winding crank one full turn until it locks to rewind the camera and advance the film one frame.



Operating details



Viewfinder Display & Symbols

The display is shown in the illustrations the way it is built into the camera body. When you use a prism viewfinder the display appears reversed, but the microprocessor adjusts all the indications to make them fully readable.



Flash Ready Signal

The flash symbol is illuminated green when a dedicated flash is connected, turned on and ready to be fired (pages 56, 88).



Manual Mode

The mode selector dial is set at **M** (page 52).



Selftimer Function

Flashes when the selftimer is activated. Appears also by programming the length of the selftimer delay in **Pr** mode (page 43).



Differential Mode

The mode selector dial is set at **D** (page 47).



Plus/Minus Sign

Appears together with a correction or deviation value when the mode selector dial is set at **A**, **D** or **M**.



Zone Mode

The mode selector dial is set at **Z** (page 49).



Figures

Eight 7-segment figures indicate corrections, deviations, zones, EV, shutter speed and aperture in operation modes **A**, **D**, **Z** and **M** as well as programming functions in **Pr** mode and certain warnings in various modes of operation.



Fraction Indication

One, two or three dashes to the right of the figure indicate 1/4, 1/2 and 3/4 step higher value than indicated by the figure.



Film Speed

Indicates film speed set on TCC-magazine dial or inserted manually in **Pr** mode (pages 43, 45). **S** in ISO is also used to indicate **seconds** at very slow shutter speeds (0,7s to 16s).



Battery Check

Appears when battery capacity is low (page 54).



Magazine Check

Indicates that the magazine on the camera is not TCC-adapted.



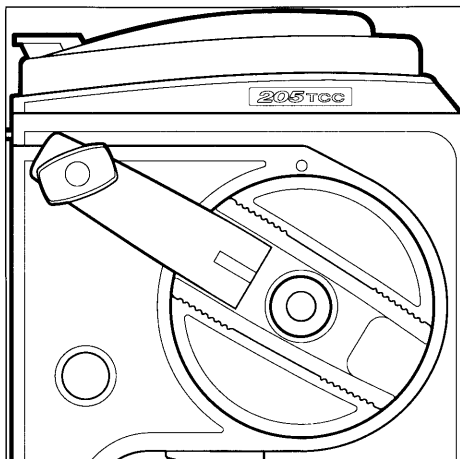
Automatic Mode

Indicates that the mode selector dial is set at **A** (page 39).



Warning Symbol

Flashes red together with one or more of the other symbols to indicate various problems (page 54).

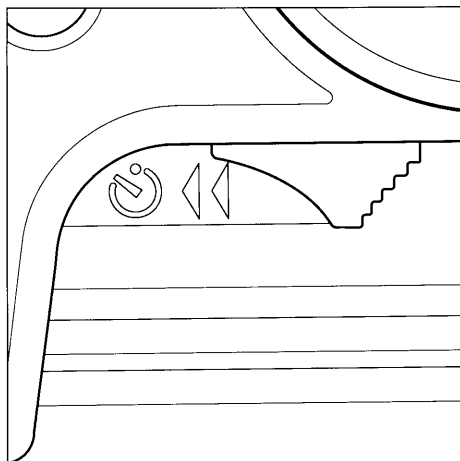


The Right Hand Side

On the right hand side of the camera body are the winding crank, described on page 9, and the pre-release and selftimer lever.

Double Exposure

You can make double (or multiple) exposures by rewinding the camera without advancing the film. This is possible by depressing the double exposure button in the center of the crank hub and simultaneously turning the crank slightly clock-wise. Then you can release the button and complete the winding until the crank locks.



Mirror and Mechanism Pre-release

By pre-releasing certain camera functions and lifting up the mirror you can avoid camera vibrations, reduce the sound level and shorten the time delay. This is done by pressing the pre-release lever **once**. To reset the mechanism and lower the mirror again you simply perform the operation for a double exposure as described above. Since the mirror is lifted the light metering is interrupted and locked on the latest recorded value.

The Selftimer

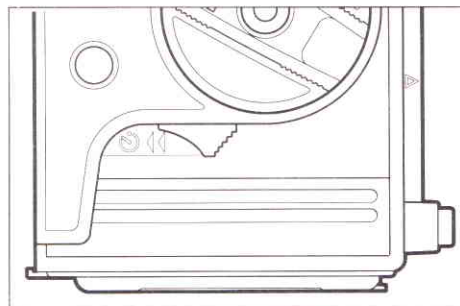
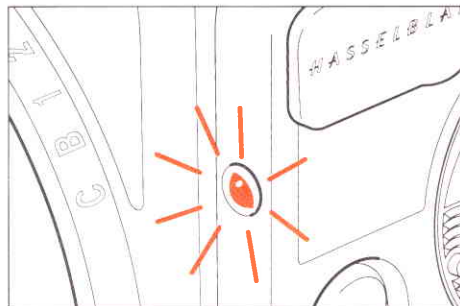
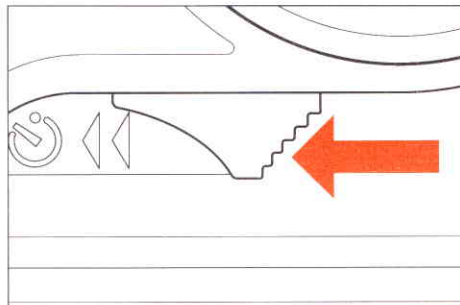
Pressing the pre-release lever a **second** time starts the selftimer function. This is indicated by the selftimer symbol in the viewfinder display and by a flashing red light on the camera body to the left of the lens mount.

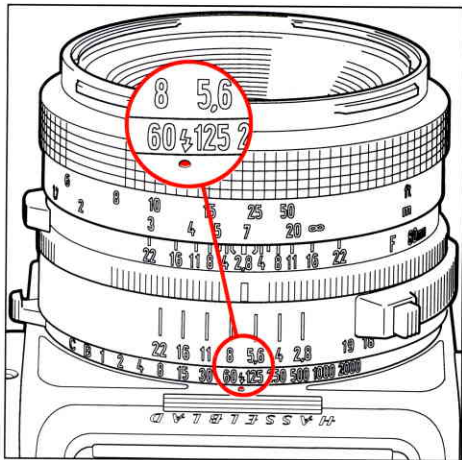
The standard delay in the selftimer is 10 s but it can be set in intervals between 2 s and 60 s in the **Pr** mode (pages 43, 45). At the beginning the light flashes twice per second, but when two seconds remain of the delay time it increases to four times per second and changes to a continuous light the last half second. You can interrupt the selftimer function at any time by pressing the pre-release lever again or by a "blind" rewind as for double exposure.

The selftimer function is inoperative when the shutter speed ring is set in positions **B** or **C** (pages 22, 23).

The Grip Cushion

A rubber cushion along the lower edge of the right hand side provides a safe and comfortable grip.



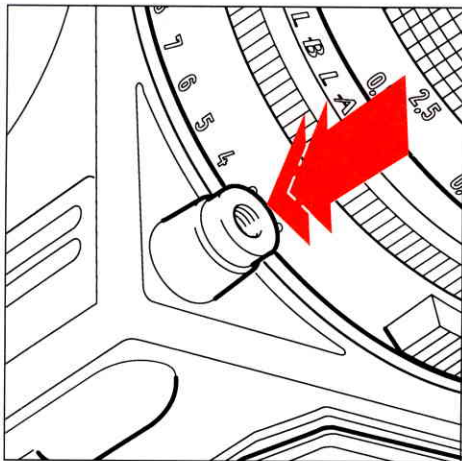


The Front

The Shutter Speed Ring

The shutter speed ring for the focal plane shutter in the 205TCC has speed markings from 1 s to 1/2000 s as well as B and C. Between the markings are intermediate half speed click stop settings. One of these settings - 1/90 s, marked with a flash symbol - is the fastest shutter speed for flash synchronisation with the focal plane shutter (pages 56, 86). In all modes of operation except **M** the microprocessor automatically calculates and sets the shutter speed within the range 16 s to 1/2000 s, irrespective of the ring setting. If you require a shutter speed slower than 16 s (or 1 s in M mode) you have to set the speed ring at **B** (page 23) and measure the exposure time yourself. The setting marked **C** is used together with CF and C lenses only.

NOTE: When the mode selector dial is set at **M** (page 52) the display indicates the accurate shutter speed for the intermediate settings.



Exposure Release Button

In the lower right hand corner of the front, within comfortable reach of the left hand grip, is the exposure release button. The button has three different functions:

- A. When depressed to the "pressure point":
 1. Activating the camera.
 2. Changing the display to indicate aperture and shutter speed.

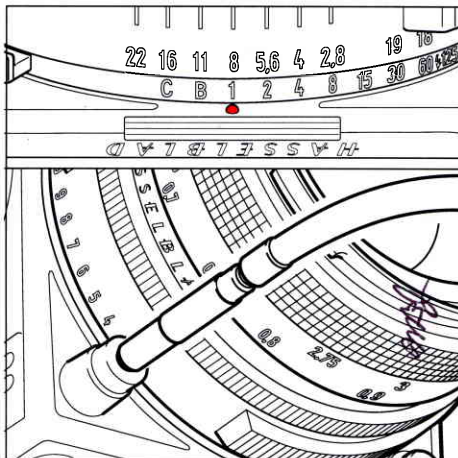
B. When depressed all the way in:

3. Release to make the exposure with set or calculated values.

The exposure button is locked when the magazine slide is in the magazine.

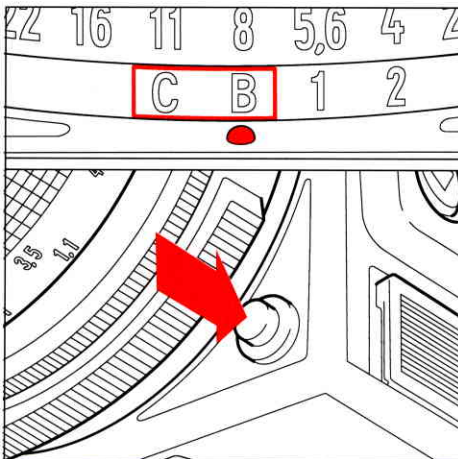
Cable Release

When using shutter speeds slower than 1/30 s you are recommended to put the camera on a tripod and use a cable release, attached to the threaded mount in the center of the exposure release button. The cable release and the exposure button have identical functions.



Lens Catch & Shutter Speed Ring Lock

In the lower left hand corner of the front is the lens catch button. To remove the lens you have to keep the button depressed while rotating the lens clockwise as seen from behind. The button also operates the lock for the shutter speed ring settings B and C. You have to keep it depressed when moving the ring to either of these settings.



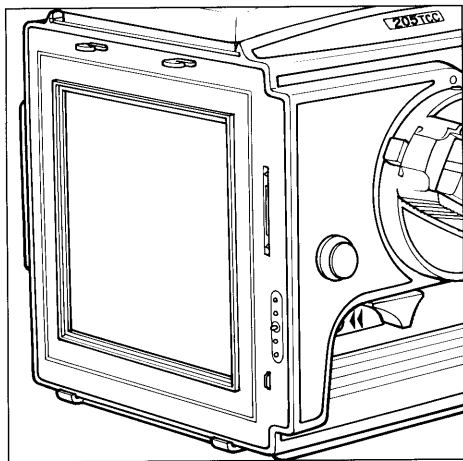
The Rear of the Camera and the Focal Plane Shutter

Avoid leaving the rear of the camera and the shutter curtains unprotected! Always attach the rear protective cover when the magazine is removed!

The opening in the rear of the camera is normally covered by the shutter curtain. The 205TCC has a mechanically powered but electronically controlled focal plane shutter with two textile curtains running from left to right across the opening. The running time for the curtains is 1/90 s. In all modes except Manual Mode (pages 39-53) the shutter speeds are calculated by the metering system which controls the shutter. The shutter speeds are adjusted with 1/12 EV-

step increments but for practical reasons only shutter speeds for 1/2 EV-steps are indicated in the viewfinder display.

Caution: Whether the shutter is cocked or released, one shutter curtain is always exposed in the opening. When the rear of the camera is not covered by a magazine or a protective cover care should be taken when handling the camera. The curtain is sensitive to damage. Refrain from touching the curtains!

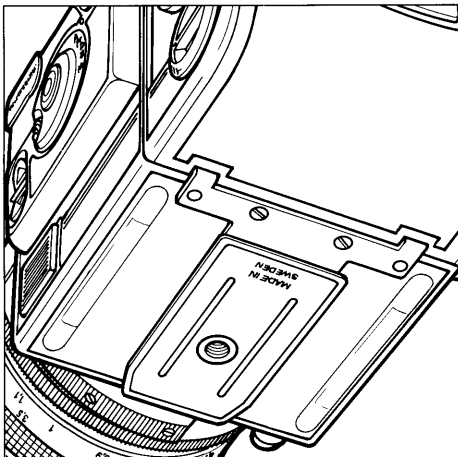


To the right of the opening are the magazine driving gear and the magazine status indicator trigger (page 9). There are also the contact pins for the data bus connection between the magazine and the central processor in the camera body. The contact pins are sensitive to contamination and should not be touched.

At the bottom edge of the back are the magazine supports and close to the top are the magazine hooks – both together serving to lock the magazine on the camera body (page 8).

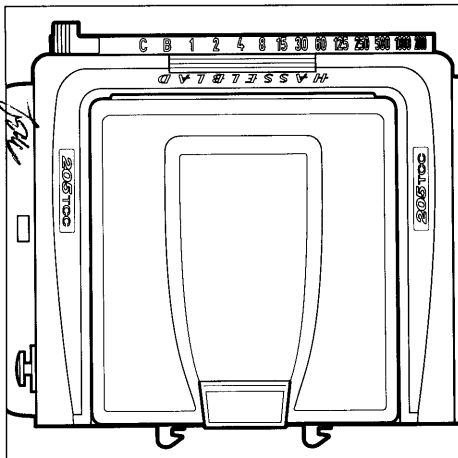
The Bottom

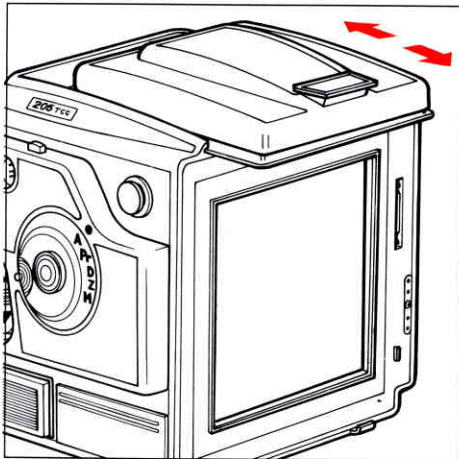
At the bottom of the camera are the quick coupling plate, the tripod thread and two ridges, supporting the camera when placed on a flat surface. The quick coupling plate fits the Hasselblad accessories, such as the tripod quick coupling and the flash bracket. The tripod thread is 1/4" and fits also to the retaining screws of the flash rail and the flash bracket.



The Top

The entire top of the camera is covered by the viewing components (page 28). The camera body is supplied with the collapsible focusing hood, which also serves as a protective cover for the focusing screen. In front of the HASSELBLAD sign there is a window for the daylight illumination of the view-finder display screen.





The Viewfinder System

Changing the Focusing Hood or Viewfinder

To remove the focusing hood for using any other viewfinder within the TCC system detach the magazine (or the protective cover). Also fold down the focusing hood to protect it from being damaged.

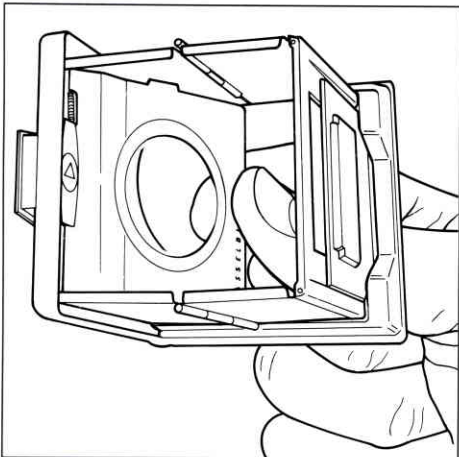
Remove the hood by sliding it to the rear in its guide slots. Slide the replacement viewfinder into the slots and push it forward until it stops. When fully inserted the viewfinder is retained in position by a spring-loaded ball latch until you have reattached the magazine or the protective cover.

Changing the Magnifier

The standard magnifier lens plate can be changed for a plate with a correction lens to compensate for individual eyesight. The standard magnifier marked -1 provides a comfortable viewing of the focusing screen and the display for most users. Correction lenses are available with powers ranging from $+3$ to -4 diopters.

Change the magnifier as follows:

1. Remove the focusing hood from the camera body and open it by lifting the lid.
2. Release the magnifier by pushing the catch to the left. Push the magnifier halfway down and pull out the lens plate.
3. Keep the plate holder halfway down and insert the replacement lens plate with the printed side up. Fold the hood and put it back on the camera.



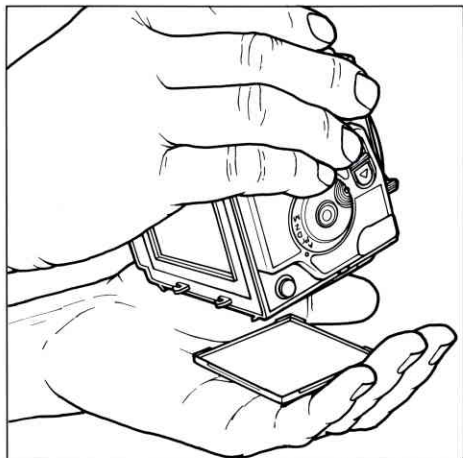
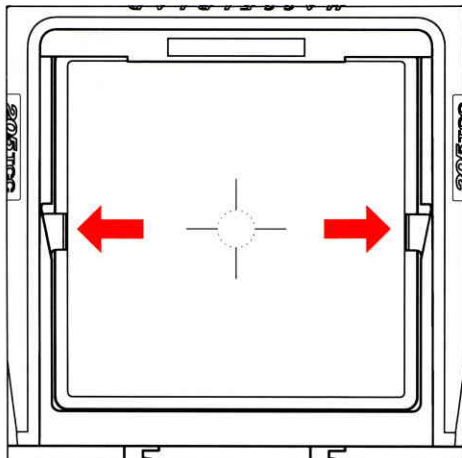
Changing the Focusing Screen

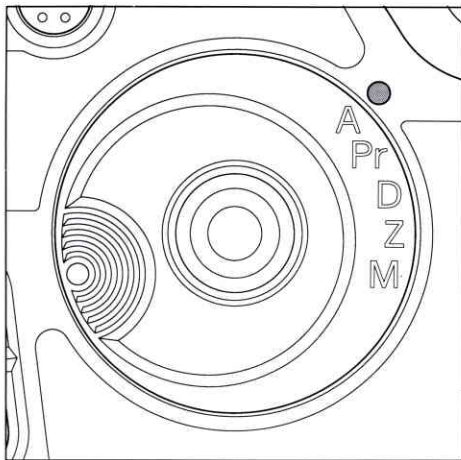
Your 205TCC is equipped with the exceptionally bright and sharp Acute-Matte focusing screen. The center area inside the dotted circle indicates the area metered by the built-in spotmeter (page 38).

If you wish to replace the focusing screen with any of the other focusing screens in the Hasselblad System simply follow the procedure below:

1. Detach the magazine and the viewfinder.
2. Push the two screen latches to the side into their recesses.
3. Place your hand over the screen and invert the camera. The screen will now drop into your hand.
4. Insert the replacement screen with the smooth side up and the sharp-edged corners down. Ensure that all four corners of the screen are positively seated on their supports. You need not return the screen latches. This is done automatically when the viewfinder is replaced.

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





The Left Hand Side

The Mode Selector Dial

The mode selector dial is in the center of the control panel at the left hand side. To select any of the operating modes of the 205TCC simply turn the dial until the symbol for that particular mode is aligned with the red index mark. The different operating modes are:

- A:** Automatic Mode
- Pr:** Programming Mode
- D:** Differential Mode
- Z:** Zone Mode
- M:** Manual Mode

The functions of these modes are described in detail on pages 38-53.

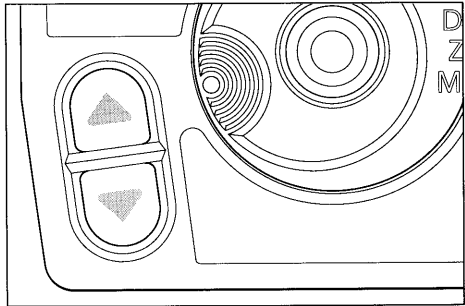


The Automatic Exposure (AE) Lock

The AE-lock is the push-button in the center of the mode selector dial, marked with a red ring. It has different functions, depending on the mode of operations as described later. It can also be used to activate the camera's metering system (page 16) except after the AE-lock has been depressed for more than 16 seconds, e.g. if the camera has been laying on the left hand side. In that case the camera can only be activated for normal use by depressing the exposure release button.

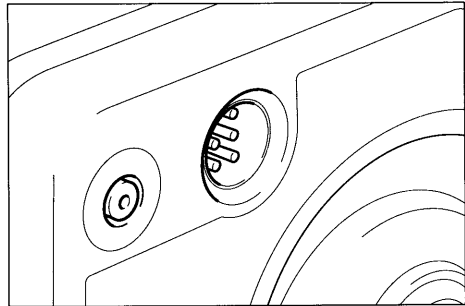
The Adjustment Buttons

Similar to the AE-lock the adjustment buttons also have different functions depending on the selected mode. A single push on the upper button increases and on the lower button decreases the value to be adjusted. If you keep the button depressed for more than 0.7s the value starts to change at a rate of three steps per second until the button is released.



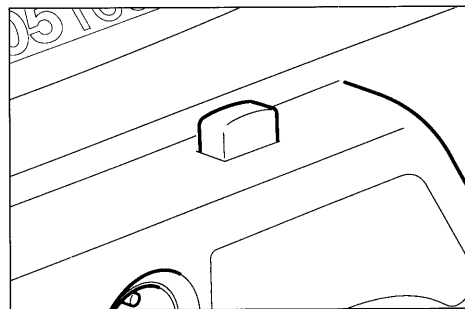
The Flash Connectors

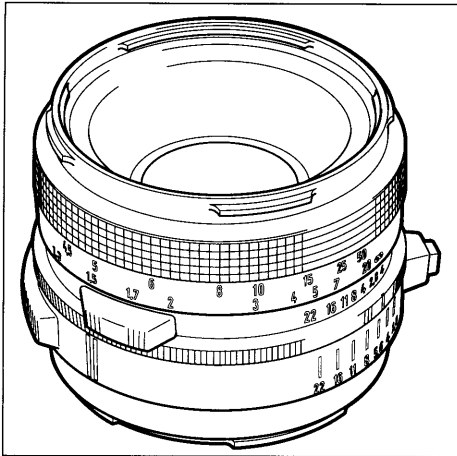
The larger six-pin TTL-connector provides automatic control of dedicated flash units. The Hasselblad Proflash 4504 can be connected directly to the 205TCC but other dedicated flash units may require a suitable adapter, such as the Hasselblad SCA-adapter 390 or 590, between the unit and the camera. The smaller connector is a common PC-socket for any kind of flash unit. You can find further instructions on flash photography with the 205TCC on pages 56 and 86.



Display Illumination

In low light levels depressing the switch button on the upper edge of the control panel switches on the illumination of the viewfinder display. The button has a toggle function.



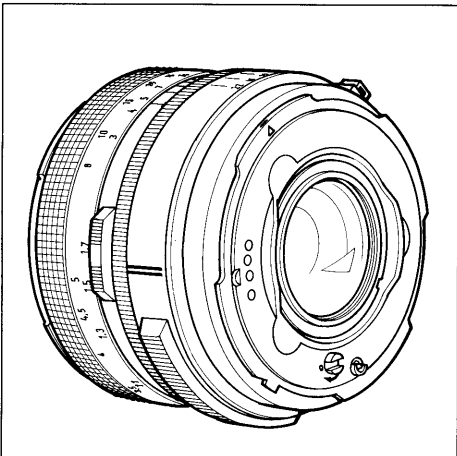


Lenses

The Hasselblad lenses made since 1957 can be separated in two major groups, each with two sub-groups:

1. Lenses with a built-in leaf shutter:
 - C lenses
 - CF lenses
2. Lenses without shutter:
 - F lenses
 - F/TCC lenses

All these lenses can be used on the 205TCC, but only the F/TCC lenses will give you access to the full range of exclusive and sophisticated features of the 205TCC.



F/TCC Lenses

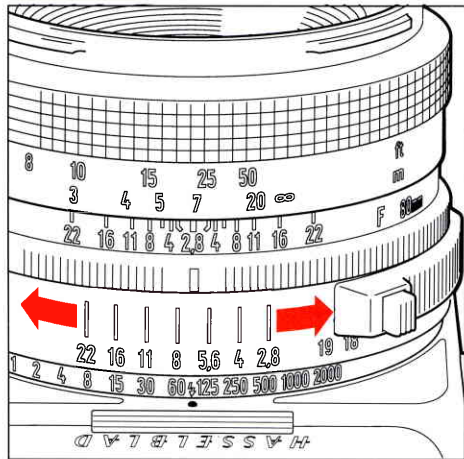
The Hasselblad F/TCC lenses which have no built-in shutter can easily be identified by their system sign: the blue twin lines on the left hand side of the aperture ring. Another sign, visible only when the lens is detached from the camera body, are the four databus contact pins in the bayonet plate at the rear of the lens. They are used for the data transmission between the lens electronics and the electronic system in the camera body. The contact surfaces of these pins are sensitive to contamination and should not be touched with your fingers. Attach the protective cover after removing the lens from the camera and never set the lens down on the unprotected bayonet plate!

F/TCC Lens Functions

Setting the Aperture

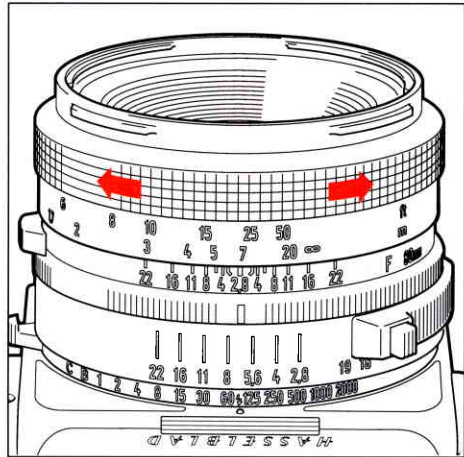
The aperture ring is the closest one to the shutter speed ring on the camera body. Use it to pre-set the selected f-stop. The full f-stops marked on the ring have click stops, but there are also click stops for each intermediate half f-stop. The set aperture value can be read against the heavy index line on the grooved ring in front of the aperture ring. It will also show on the viewfinder display when you depress the exposure button halfway in, i.e. to the pressure point.

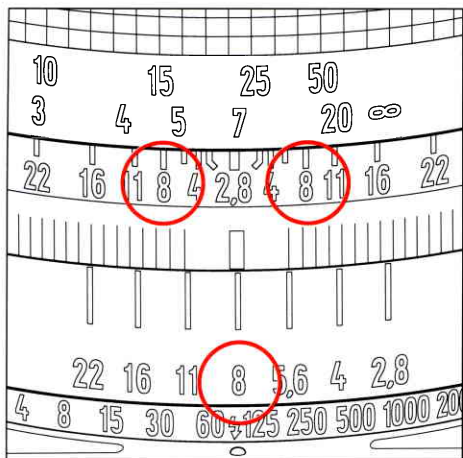
The aperture ring has two grooved grips for handling convenience. One of these grips has a push-button which has no function on the 205TCC.



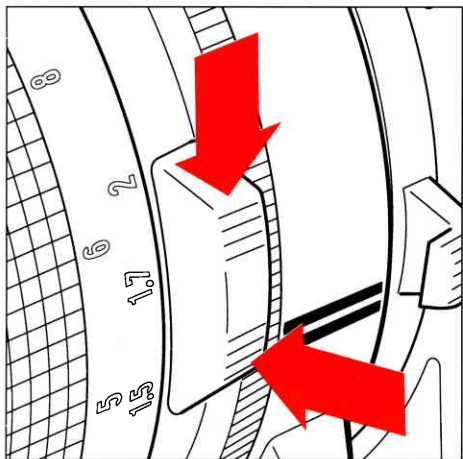
Focusing and Depth-of-field

The focusing ring is the rotating ring with a knurled rubber grip closest to the front of the lens. It has two scales for the focusing distance - the white meter scale and the orange inch/foot scale. Rotate the focusing ring until the image of your subject appears absolutely sharp on the focusing screen.





The depth-of-field scale repeats the aperture values on both sides of the heavier index line between ring with the index line and the focusing ring. When the image is focused on the screen you can read the focusing distance opposite the index line in the depth-of-field scale. The depth-of-field limits can be read opposite the left and right values corresponding to the pre-set aperture value. The illustration depicts the depth-of-field for the pre-set aperture value of 8.



Depth-of-field Preview

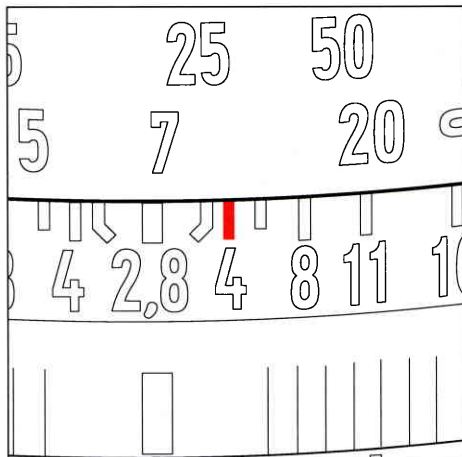
The lens is normally set at the largest aperture to provide the brightest possible view-finder image with the shallowest depth-of-field. You can stop down the lens diaphragm to the pre-set aperture by pushing down the depth-of-field preview knob until it locks. To re-open it depress the lower end of the knob.

Infrared (IR) Photography

Infrared light with wavelengths beyond 800 nm are refracted by the lens to an image plane further away from the lens than the image plane for visible light. When photographing with IR light you have to compensate for this difference by setting the focusing distance at the red IR index to the right of the common index line.

Follow this procedure:

1. Focus as usual on the focusing screen.
2. Mark or memorize the distance on the focusing scale opposite the common index line.
3. Rotate the focusing ring to set this distance opposite the IR index.

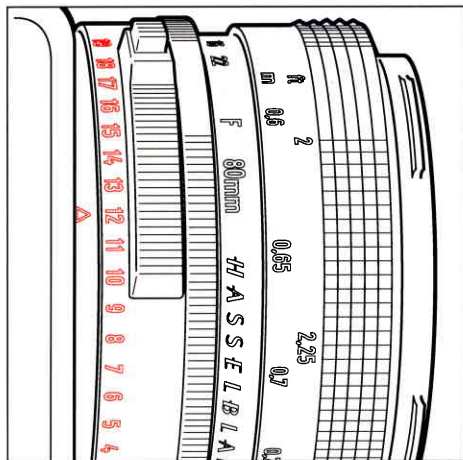


Exposure Value (EV)

The orange scale on the right hand side indicates the exposure value for the set aperture/shutter speed combination. You read the value opposite the orange triangular index on the shutter speed ring. The scale has no particular function on 205TCC. Do not confuse the exposure value with the light value stored in the metering system when you depress and release the AE-lock (page 28).

Other Hasselblad Lenses

How to use other Hasselblad lenses on your 205TCC is described on pages 69-70 and in Appendix A.



Magazine Operation

Loading the Magazine

You can load the magazine with film on or off the camera. Off the camera you have to ensure that the magazine slide is inserted with its flat side towards the rear.

Follow the procedure below to load a film:

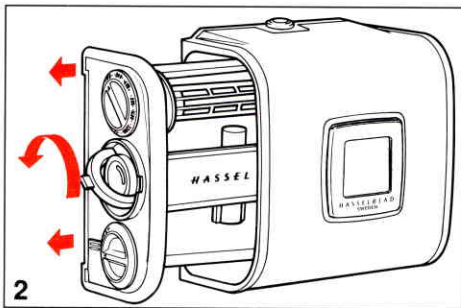
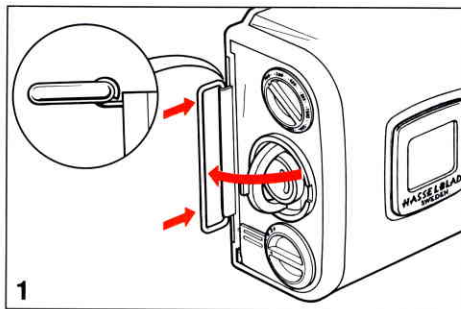
cw=clockwise; **ccw**=counter-clockwise

1. Fold out the film holder key.
2. Turn the key **ccw** and withdraw the film holder.
3. Place an empty take-up spool under the grooved knob of the spool clamp bar. Insert a roll of film under the other end of the bar, turned as in the picture. Remove all of the paper band surrounding the roll!
4. Turn the film holder key **cw** to open the film clamp. Pull 8-10 cm (3-4 in.) of paper backing off the film roll. Slide the side edge under the clamp.
5. Insert the tongue of the backing paper into the slot in the take-up spool.

6. Turn the grooved knob **cw** to align the arrow on the paper with the triangular index on the bar, but no further.

7. Turn the film holder key **ccw**. Insert the film holder into the magazine. Ensure that it is correctly positioned. Turn the film holder key **cw** to lock the film holder in the magazine.

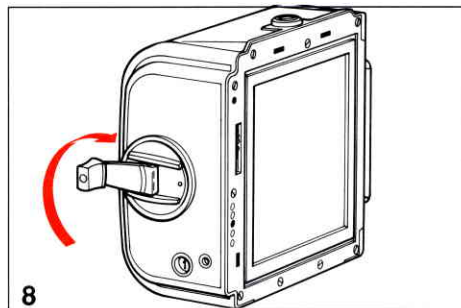
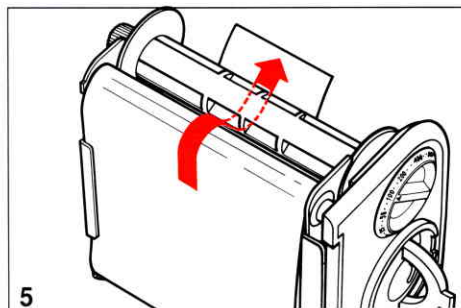
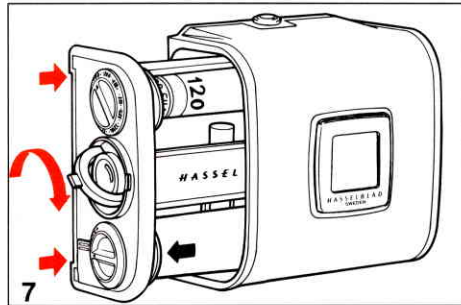
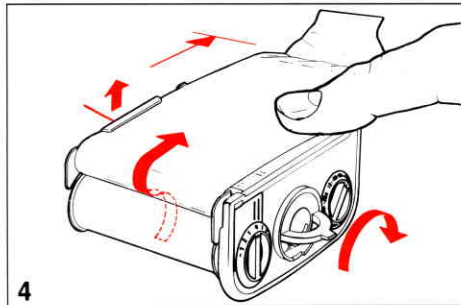
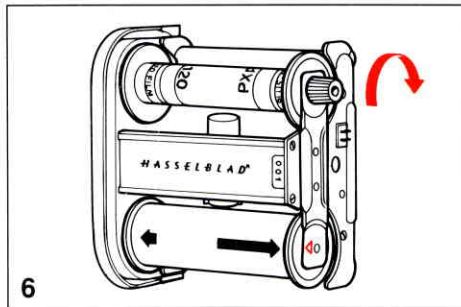
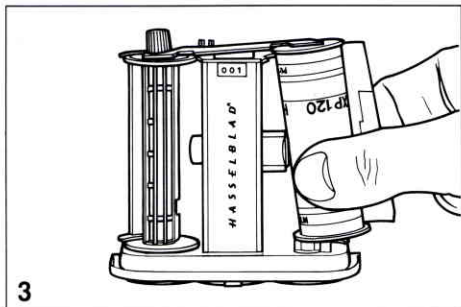
8. Fold out the film winding crank. Rotate it **cw** about ten turns until it stops. Turn it **ccw** and fold it in.

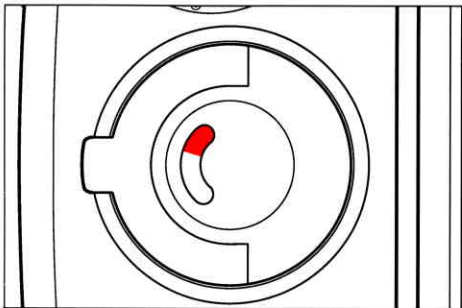


Number 1 will now be displayed in the frame counter window indicating that the loaded magazine is ready for use.

The film winding crank is blocked at frame 1 only. It can be used to wind up a partially exposed film at any frame after that.

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





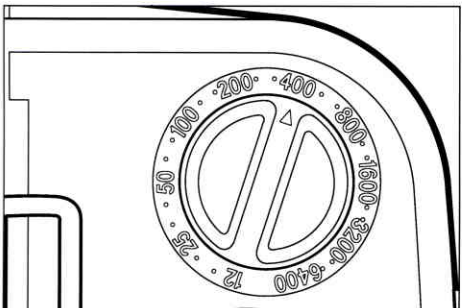
Magazine Load Status

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



Film Tab Holder

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

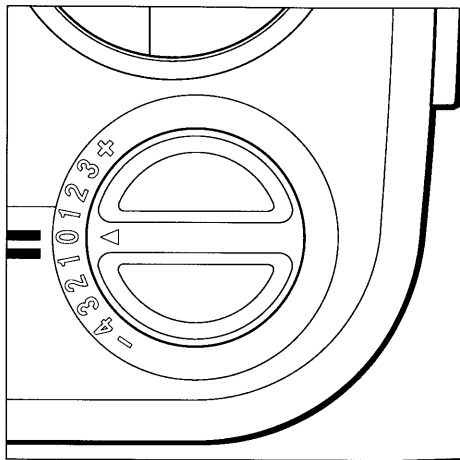


Film Speed Dial

On the left hand side of the magazine above and below the film holder key are two dials. The upper one is the film speed dial. The speed set on this dial is automatically transferred to the metering system in the camera body and displayed in the viewfinder in the **Pr** mode (page 43). The range of the film speed dial extends from ISO 12 to ISO 6400 with 1/3 and 2/3 intermediate settings.

Film Contrast Dial

The dial below the film holder key is the film contrast dial which can be used in the zone mode only (Z, page 49). The dial has eight settings from -4 through 0 to +3 corresponding to the contrast control development N - 4 through N + 3. It informs the metering system how you are going to develop the film in the magazine when you intend to control the contrast by increased or reduced development.

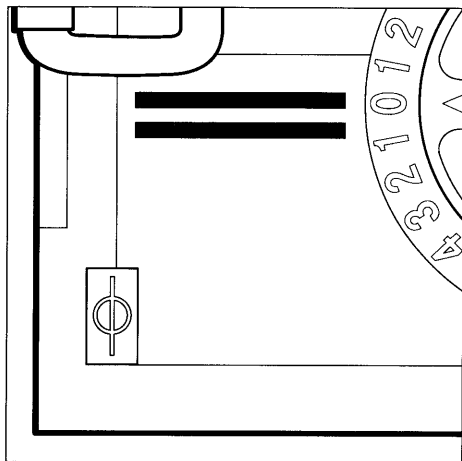


Film Plane Index

In front of the film contrast dial, close to the magazine front and moulded into the rubber grip cushion is the film plane index. It can be used to measure the subject-to-film distance in close-up photography.

Removing the Film

After the last frame has been exposed and the film advanced, the magazine blocks the camera against further release. To remove the exposed film fold out the film winding crank and rotate it clockwise until you can feel that the film is leaving the supply spool. Withdraw the film holder from the magazine and remove the film.

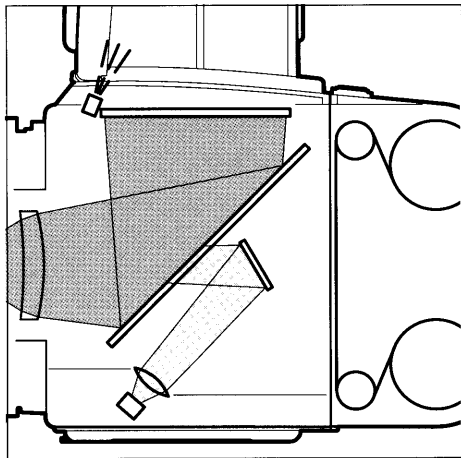


205TCC Metering System and Operating Modes

Pages 28 and 29 described in short how you can select the various operating modes of the 205TCC. The description included, also in short, the function of the different controls on the control panel and how to use them. The following section describes in detail the metering system and the different operating modes.

The Metering System

The different methods to start the camera and activate the metering system are described on page 16. The system turns off automatically 16 seconds after the last button operation.



The spotmeter is the most important feature in the metering system. The metering spot is indicated by a circle of dots in the center of the focusing screen. The circle has a diameter of 6 mm which is approximately 1% of the total image area. The corresponding angle of view depends on the focal length of the lens you are using. With the Planar F 80mm it is roughly 4°; with Distagon F 50mm just below 7° and with Tele-Tessar F 350mm as small as 1°. See the chart on page 92 for the accurate metering angles for all focal lengths.

The spotmeter is very sensitive and accurate. It measures the light reflected from the subject within the metering spot and nothing else. Due to its highly efficient shielding it does not react upon light outside the spot. Thus even minor displacements of the metering spot may give unexpected changes in exposure values.

NOTE: Like every other reflection exposure meter the spotmeter is adjusted to give an exposure value that in the end produces an 18% grey tone no matter if the metered subject is black, grey, white or any color. If the metered area is brighter or darker than this 18% grey the metering result has to be adjusted manually up or down to obtain the picture result.

The value that is stored in the metering system is the **light value**. This means that the shutter speed calculated by the system is adjusted automatically if the pre-set

aperture or film speed are changed. The working shutter speed is adjusted in 1/12 EV-steps, i.e. much more accurate than the half speed steps that for practical reasons are used on the viewfinder display.

Other concepts used in this manual are **continuous metering** and **continuous indication**. This means that the system continuously meters the light from the part of the subject which at that very moment is covered by the metering spot and also continuously updates the value displayed in the viewfinder.

Flashing numbers or symbols in the viewfinder indicate that a warning function has been triggered. See pages 54 and 55 about warnings!

NOTE: Pre-releasing the camera (page 20) in any of the operating modes always locks the light value that is present at the moment of lifting the mirror.

In the illustrations changing indications are noted with grey symbols and flashing indications by rays around the symbol

Operating Modes

The different operating modes are described in the order they appear on the Mode Selector Dial.

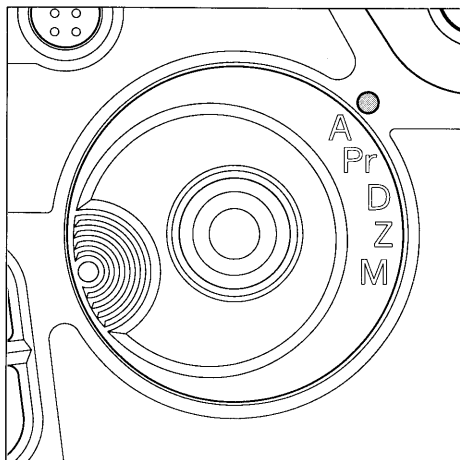
A Automatic Mode

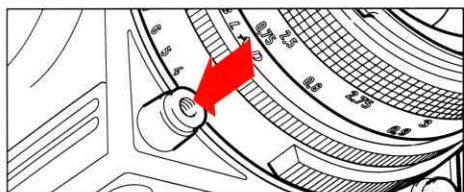
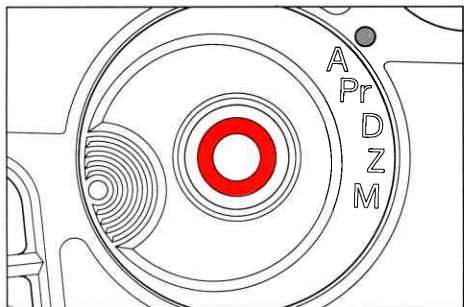
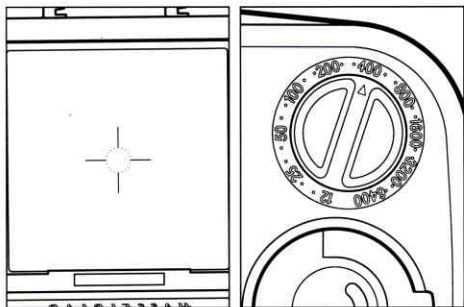
Function:

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 for the next single exposure only.
Adjustment of the continuous or stored light value ± 5 EV-steps in 1/4 step increments.





How to Use the "A" Mode

The spotmeter in the 205TCC is very sensitive and reacts to the smallest change in the light level within the metering spot (pages 13 and 38). The very efficient shield makes it insensitive to light out-side the spot. The spot must be located in the proper subject area and the changing readings in the viewfinder display carefully observed before storing the values or releasing the exposure.

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 enter and store the film speed (page 45).
2. Pre-set the desired aperture.
3. Set the Mode Selector Dial at **A** and aim the camera to locate the metering spot in a selected subject area.
4. Start the metering system by depressing the exposure release button (page 22) to the "pressure point". The display shows the pre-set aperture and the shutter speed (calculated from that aperture, pre-set ISO value and metered light level), continuously changing the speed as the metering spot is moved to brighter or darker subject areas, and an "A" for Automatic Mode. When you release the button the display shows 0 instead of the aperture number to indicate that the calculated shutter speed keeps the exposure at a "normal" level. If the display goes out the system is re-activated by depres-

sing the exposure button halfway again. Depressing the exposure button fully at this stage releases an exposure based on the subject area where the metering spot was located at that very moment.

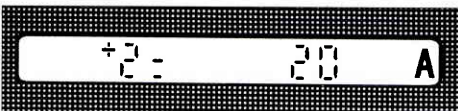
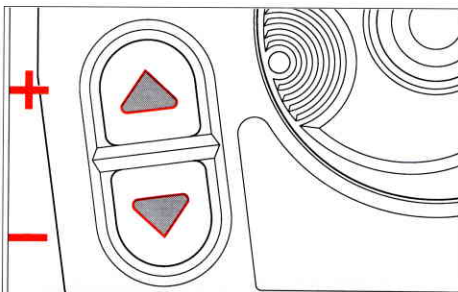
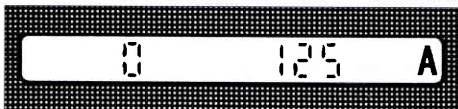
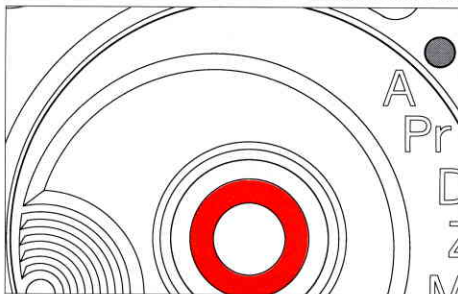
NOTE: The system can also be started by depressing the AE-lock button. It then shows the same display as when the exposure button has been released. Depressing the AE-lock button erases all previously stored exposure information.

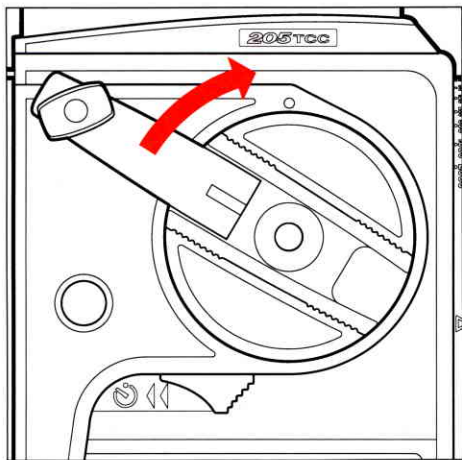
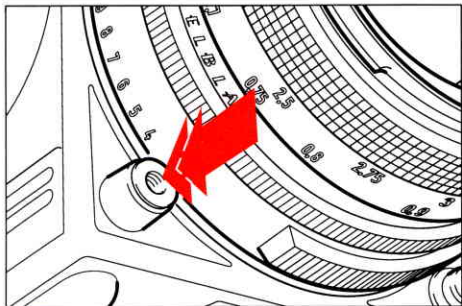
5. Depress and release the AE-lock button to **lock and store** the exposure of a selected subject area. The display shows the stored shutter speed and 0 for "no adjustment". If the aperture or ISO setting is changed the shutter speed adjusts automatically.

NOTE: Depressing and releasing the exposure button as in p.4 above unlocks the metering system and starts continuous metering.

6. Use the adjustment buttons (page 29) to adjust the stored exposure if necessary. The display shows the + or – amount of adjustment in 1/4 EV-step increments (page 19). The adjusted shutter speed is shown with 1/2 speed-step increments although the shutter speed is actually adjusted in 1/4 steps.

NOTE: "+" adjustment **decreases** and "-" adjustment **increases** the shutter speed.





Any adjustment made with the adjustment buttons remains stored after exposure release until next time the AE-lock button is depressed.

7. Depress the exposure button fully to make an exposure according to the stored (and corrected) values. The exposure data remain on the display and the metering system is deactivated until the camera is rewound.

NOTE: If the light value have been locked and stored with the AE-lock and the metering spot moved to a different subject area at the moment of exposure, the display will show the correct shutter speed for that particular area after the exposure.

8. Rewind the camera to cock the shutter, advance the film for the next frame and reset the metering system to continuous metering with the previous adjustments maintained.

Pr Programming Mode

The **Pr** mode is not an exposure mode but a setting to program certain values different from the **standard settings**, which are built into the camera. The standard settings are always set when you activate the system after the battery has been removed or if no other values are stored from previous operations. Any change made in the Pr mode is effective until changed again or until the battery is removed.

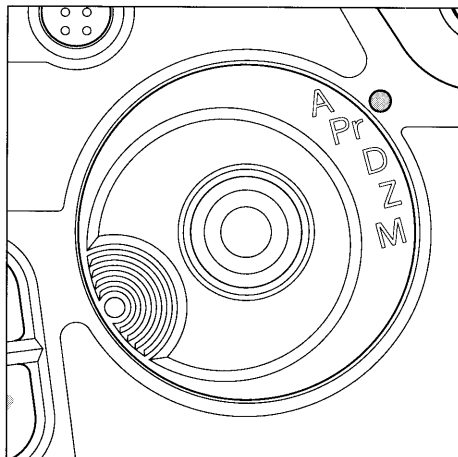
The Pr mode is not intended for photographing. If you make an exposure with the camera in Pr mode, the camera automatically shifts to **A** mode and then immediately back to Pr mode after the exposure.

Functions:

Pr1. To set the warning for the film dynamic's limits in Differential Mode (page 47) from 0 to + 9 and - 9 EV resp. The standard setting is **± 9 EV**.

Pr2. To set the selftimer delay in the range from 2 seconds to 60 seconds. The available values are: 2, 4, 6, 8, 10, 12, 14, 16, 20, 30, 40, 50, 60 seconds. The standard setting is **10** seconds.

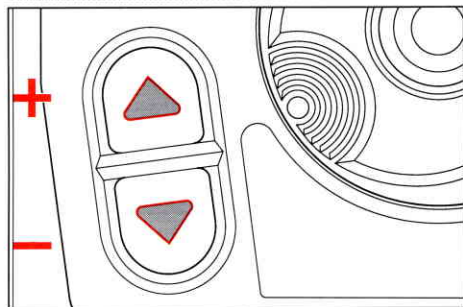
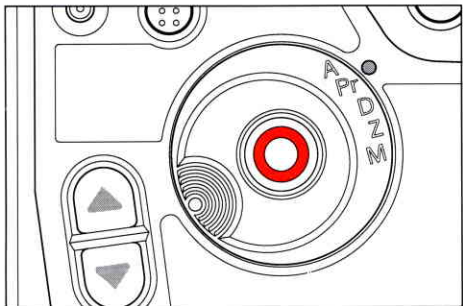
Pr3. To set the film speed when you are using non-TCC film magazines. Speed values can be set from 12/12° ISO to 6400/39° ISO in 1/3 EV step (1° ISO) increments. The standard setting is **100/21°** ISO.



How to use the "Pr" Mode

The Programing **Pr** Mode can be selected whenever the circumstances require a change of the standard values for selftimer delay, film speed or warning limits for the film contrast range. The changed values

are effective as soon as they are inserted. By repeatedly pressing the AE-lock button you can shift through the Pr-functions in the sequence **Pr1-->Pr2-->Pr3-->Pr1-->** etc.

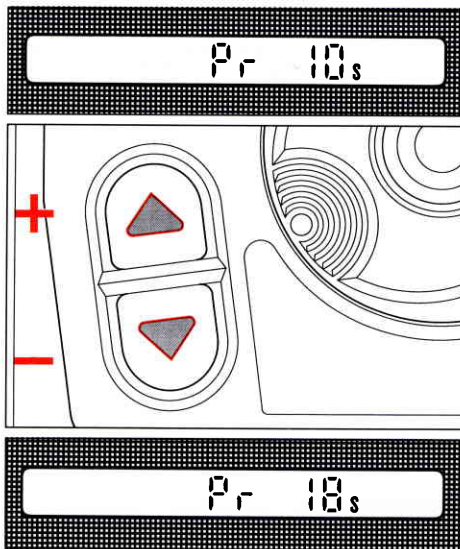


Setting the Contrast Range Warning Limits (Pr1 function)

1. Set the Mode Selector Dial in the **Pr** position.
2. Depress the AE-lock button to start the camera and then repeatedly if required to select the Pr1 function.
3. Press the adjustment buttons to change the warning limits. Pressing the upper button increases the "+" value and pressing the lower button increases the "-" value. After either value has reached 9 it resets to zero.
4. Reset the Mode Selector Dial to the desired exposure mode or press the AE-lock button to switch to next Pr-function.

Setting the Selftimer Delay (Pr2 function)

1. Set the Mode Selector Dial in the **Pr** position.
2. Depress the AE-lock button to start the camera and then repeatedly if required to select the Pr2 function.
3. Press the adjustment buttons to change the selftimer delay. The upper button increases the delay and the lower button decreases it with the predetermined steps (Pr2, page 44).
4. Reset the Mode Selector Dial to the desired exposure mode or press the AE-lock button to switch to next Pr-function.

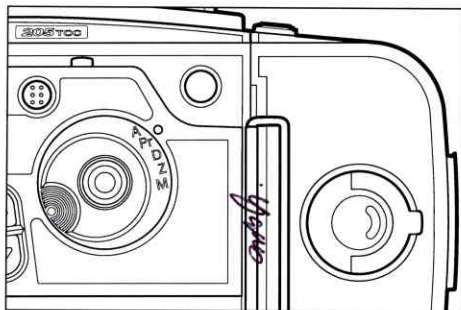


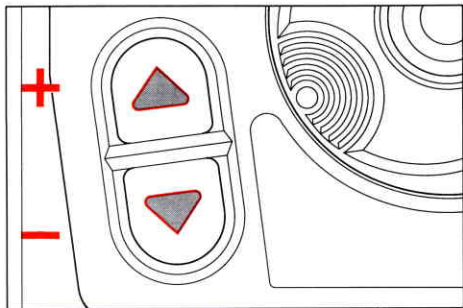
Setting the Film Speed (Pr3 function)

Setting the film speed in Pr mode is possible only when a non-TCC magazine is used. This is indicated on the display by the symbol "Pr" before the film speed value. With a TCC-magazine the film speed is set on the magazine dial (page 36), the Pr3 function is inactive and the display shows the magazine dial setting only.

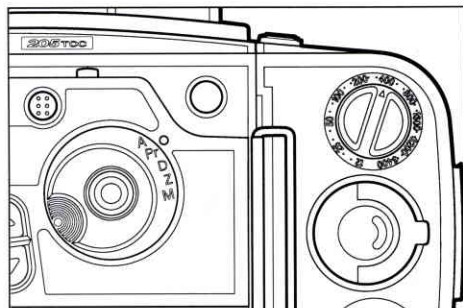
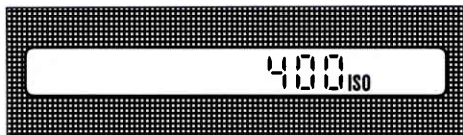
1. Set the Mode Selector Dial in the **Pr** position.

(cont'd)





2. Depress the AE-lock button to start the camera and then repeatedly if required to select the Pr3 function.
3. Press the adjustment buttons to change the film speed value. The upper button increases and the lower decreases the value in steps of 1/3 EV.
4. Reset the Mode Selector Dial to the desired exposure mode or press the AE-lock button to switch to next Pr-function.



NOTE: A film speed value manually inserted in the Pr3 function is stored until changed again by the same procedure (or until the battery is removed). If a TCC-magazine is attached the film speed set on the magazine dial overrides the stored value. When the TCC-magazine is detached the stored value is automatically recalled. Thus it is easy to shift between TCC-magazines and a non-TCC-magazine with films of different speeds (e.g. Polaroid films).