HASSELBLAD

205TCC Instruction Manual

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HASSELBLAD 205TCC

Your flash pictures are made easier and more accurate with the Hasselblad 205TCC combined with a dedicated flash unit, such as the Hasselblad Flash EL-404. These light-distributing systems in the 205TCC meters the light off the film and controls the flash duration for precise exposure in both the flash and combined light. Of course you cannot have all this "for free," it takes a sophisticated and powerful electronic system to keep track of all this information. The Hasselblad 205TCC is equipped with a digital system with active members in lenses and magazines, communications with the "brain," the central processor, through a dedicated Digital operation and digital flash control, all programmed for reliability. In spite of all its advanced design the Hasselblad 205TCC System represents a perfecting system expansion. With this new system you get the best of both worlds: you can choose viewfinder and flash systems that you can adapt to your camera and your own needs. With all new accessories, some however with minor alterations are in the 205TCC family. You will recognize the TCC system by the double-lens that appear on the handle手里 of the camera body and all the TCC accessories.

Read this Instruction Manual carefully and follow the illustrations and directions given to get the most out of the Hasselblad camera and to avoid unnecessary mistakes.

205TCC, Parts and Components

**Notes:** 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 — 6 V type PX28 (UCAR 527) — 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. Pull out the winding crank on the right hand side, press the button on the center of the crank and rotate it clockwise until it locks (C, page 20, Double exposure).

Front Protective Cover

The front protective cover is attached to the bayonet mount. Rotate it an eighth turn counterclockwise, then pull 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 the 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 bent click as the lens bolts 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 lenses when the camera is cocked (fully wound) and not in pre-released mode (see page 20).

Rear Protective Cover

Depress the catch, lift 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. Reset the magazine on the magazine supports with the support lugs properly engaging the notches in the magazine bottom. Carefully engage 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 until 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.

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 cranking. 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.

Replacing 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.

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, lift 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. if the film has not been advanced (red). Do not attach a magazine showing white to a camera that is not recoiled. 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.

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). Push 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 in a vertical position. The hood unclips automatically and locks in open position.

The Built-In Magnifier
Use the built-in magnifier to enlarge the viewfinder image, e.g., for more accurate focusing. To undo, pull the lever on the right of the hood, as indicated in the illustration.

To fold the magnifier down, simply push it back towards the lid until it locks. The magnifier can be exchanged for a one-sided correction lens to match your individual eyeglasses (see page 26).

Closing the Focusing Hood
Pinch the side plates at the hinge points and slide the hood back down.

Viewfinder Image and Display
Focusing Screen
The Hasselblad 205TCC is equipped with the Acute-Mate focusing screen featuring the highest brightness and resolution among the Hasselblad focusing screens. The center of the screen is indiglo black with a halftone cross and a circle of spokeds indicating the metering area covered by the built-in spot-meter.

The circle has a 4 mm diameter. See page 21 to change the focusing screen.

The Exposure Meter
The exposure meter is a spotmeter, meticulously aligned to avoid all influence of stray light. The metering area corresponds to an image angle of 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 f/11 to f/1/2000s at f/22.

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

*Auto Meter designed by MINOLTA

The Mode Selector Dial
With the mode selector dial you can select any of the five operating modes: A, P, G, Z or Manual. In the 205TCC, A, P, G and Z are used for photography and P1 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 pages 28-29.

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 the manual - the preselected aperture and the shutter speed calculated by the camera. With the mode selector set at M the display shows the latter 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 stops to rewind the camera and advance the film unit frame.

Left Hand Grip
Holding the 205TCC in your left hand with your index finger on the release button, as shown in the upper figure, is the most convenient grip. You can reach the AE-lock and the adjustment lens with your left thumb (lower illustration below) and your right hand is free to focusing, aperture setting, operating the shutter or to 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 from the camera.

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

1. By depressing the exposure button halfway, 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 slides in.

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.
Operating details

Viewfinder Display & Symbols

The display in the illustrations shows the way it is built into the camera body. When you use a pinhole viewfinder the display appears reversed, but the microprocessor adjusts 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 55, 56).

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 52).

Difference 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).

The Right Hand Side

Double Exposure
You can make double (or multiple) exposures by winding the camera without advancing the film. This is done by pressing the double exposure button in the center of the crank knob and simultaneously turning the crank slightly clockwise. 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 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 read the mechanism and bow 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 Front

The Shutter Speed Ring
The shutter speed ring for the focal plane shutter in the 2010G has speed markings from 1/2 to 1/2000 s as well as B and C. Between the markings are intermediate half speed click stop settings. One of these settings - 1/30 s, marked with a flash symbol - is the fastest shutter speed for flash synchronization with the focal plane shutter (pages 55, 56). 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 8 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 A and D on B only. NOTE: When the mode selector dial is set at M (page 52) the display indicates the actual shutter speed for the intermediate settings.

Exposure Release Button
In the lower right corner of the front, within the protective reach of the left hand grip, is the exposure release button. The button has three different functions:
1. Activating the camera
2. Changing the display to indicate aperture and shutter speed.

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

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 turning 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.

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.

ISO Speed
Indicates film speed set on TCC-magazine dial or inserted manually in Pr mode (pages 43, 45). B in ISO is also used to indicate second sets at very slow shutter speeds (0,7 to 165). Battery Check
Appears when battery capacity is low (page 54).

Automatic Mode
Indicates that the camera is not TCC-adapted.

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

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 thread mount in the center of the exposure release button. The cable release and the exposure button have identical functions.

Cable Release
When using shutter speeds faster than 1/30 s you are recommended to put the camera on a tripod and use a cable release, attached to the thread mount in the center of the exposure release button. The cable release and the exposure button have identical functions.
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 205CC has a mechanically powered but electronically controlled focal plane shutter with two inside curtains running from left to right across the opening. The running time for the curtains is 1/1000 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 1/2 EV steps. When the magazine driving gear and the magazine status indicator trigger (page 8) 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.

To the right of the opening are the magazine support rods and 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 flat 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 29) 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 viewfinder 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 the camera from being damaged. If the focusing hood is removed, it may be damaged or lost. Remove the hood by sliding it to the rear in its guide exit. Slide the replacement viewfinder into the exit and put it backward until it stops. When fully inserted the viewfinder is retained in position by a spring-loaded ball catch which in turn prevents 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 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 pulling the catch to the left. Pull the magnifier half way down and put 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.

The Bottom & The Top

Changing the Focusing Screen

Your 205CC is equipped with the exceptionally bright and sharp Auto-Matte focusing screen. The center area inside the dotted circle indicates the area selected by the built-in meter (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 notches. 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-angled camera down. Ensure that all four corners of the screen are positively secured by 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 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 on the lower button decreases the value to be adjusted. If you keep the button depressed for more than 0.7 s the value starts to change at a rate of three steps per second until the button is released.

The Flash Connectors

The larger 4-pin TTL-connector provides automatic control of dedicated flash units, the Hasselblad Profoto 404 can be connected directly to the 205CC. If other dedicated flash units may require a suitable adapter, such as the Hasselblad SCA-adap- ter 360 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 205CC 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.

The Viewfinder System

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 205CC 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 P: Programmed Mode D: Differential Mode Z: Zone Mode M: Manual Mode

The Automatic Exposure (AE) Lock

The AE lock is the push button in the center of the mode selector dial, marked with a red dot. It has different functions, depending on the mode of operations as described above. 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.
Lenses

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

1. Lenses with a built-in leaf shutter:
   - CF lenses
   - F lenses

2. Lenses without shutter:
   - F/TCC lenses

All these lenses can be used on the 203TCC, but only the F/TCC lenses will give you access to the full range of exposure and sophisticated features of the 203TCC.

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 duralumin contact pins in the bayonett 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 bayonett plate.

The depth-of-field scale repeats the aperture values on both sides of the heavy 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 index 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 viewfinder image. Turn the focusing ring to stop down the lens depth-of-field to the pre-set aperture by pushing the depth-of-field preview button until it locks. To re-open it depresses the lower end of the knob.

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 stop. The set aperture value can be read against the heavy index line on the ground ring in front of the aperture ring. It will also show on the viewfinder display when you depress the exposure button halfway in 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 203TCC.

Infrared (IR) Photography

Infrared light with wavelengths beyond 800 nm is 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 double 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 the 203TCC.

Do not confuse the exposure value with the light value stored in the metering system when you depress and release the AE-lock (page 78).

Other Hasselblad Lenses

How to use other Hasselblad lenses on your 203TCC 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 is inserted with its flat side towards the rear.

Follow the procedure below to load a film:
1. Pull out the film holder key.
2. Turn the key clockwise and withdraw the film holder.
3. Place an empty take-up spool under the grooved knob of the speed clamp bar.
4. 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.
5. Turn the film holder key to open the film clamp. Pull 8-10 cm (3.4 in.) of paper backing off the roll. Slide the edge of the clamp.
6. Insert the tongue of the backing paper into the slot in the take-up spool.
7. Turn the grooved knob so that the arrow on the paper with the triangular index is on the bar, but not further.
8. Turn the film holder key to lock the film holder in the magazine.
9. Pull out the film winding crank. Repeat it about ten times until it stops. Turn it clockwise 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 locked at frame 1 only. It can be used to wind up a partially exposed film at any frame, for example at frame 10. 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 while the magazine is nearly loaded. If it gradually changes in size as you wind the film through, all red indicator means that the film is used up or that the magazine is empty.

Film Tab Holder

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

Flash Dial

On the left hand side of the magazine above and below the film holder key are two buttons. The upper one is the flash 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 film speed. The range of the flash speed dial extends from ISO 12 to ISO 6400, with 1/3 and 1/2 step shutter settings.

Film Controled Dial

The dial below the film holder key is the film contrast dial which can be used in the zone meter only (page 42). The dial has eight settings, from 1 through 8. It adjusts the metering system to the contrast conditions as you wind the magazine until you learn to control the contrast by incorporated or removed development.

Film Plane Index

(Note) The film plane index, from the magazine front and molded into the bottom of the camera, can be used to measure the subject-to-film distance in close-up photography.

Film Shutter

After the last frame has been exposed and winded back, the magazine tilts the camera against further release. To remove the exposed film, hold out the top holding crutch and rotate it clockwise until you can feel the film leave the shutter speed. Then pull the top of the magazine to remove the film.

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 speed for step induced 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 1/2 EV-steps e 1/4 step increments.

B Manual Mode

Function:

Manual exposure, manual selection of the shutter speed.

Operating Modes

Automatic Mode 41

Operating Modes, Automatic Mode 39

How to Use the "X" Button

The button in the 205C is very sensitive and reacts to the slightest change in the light level within the metering spot (pages 13 and 36). The very efficient shaft makes it uncomfortable to light this side of the spot. The meter area is located on the proper subject and in the viewfinder display carefully observed so it can be stored.

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 meter 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 the subject meter 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 indicated from the pre-set ISO value and measured light level.

5. Adjust the shutter speed by using the exposure button, as it moves in 1/2 step increments (page 19). The average shutter speed is shown at 1/2 step resolution, although the shutter speed is actually adjusted in 1/4 steps.

6. Use the adjustment button (page 20) to adjust the stored exposure aperture.

Depressing the exposure button as in 4 above unlocks the metering system and starts continuous metering.

7. Depressing the AE lock button (page 47) will activate the exposure button on the selected subject.

8. The AE lock button to lock and store the exposure of a selected subject area. The displayed shutter speed and the pre-set ISO value and measured light level, continue to change as the metering spot is moved to brighter or darker subject levels, and an "A" for Automatic Mode, when you release the button the display shows 0 instead of the aperture number. The display indicates that the camera has been pre-set and may be used immediately. The display shows the setting as 0 in 1/2 step increments (page 19). The adjustable shutter speed is 1/2 step increments although the shutter speed is actually adjusted in 1/4 steps.

9. "A", "A-", "A+" adjustment increases the shutter speed, while "A-" adjustment decreases the shutter speed.
Any adjustment made with the adjustment buttons remains stored after exposure. Release the AE-lock button 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 has 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 the shutter, advance the film for the next frame and reset the metering system to continuous metering with the previous adjustments maintained.

**Operating Modes, Automatic Mode**

How to use the "Pr" Mode
The Programmed Pr Mode can be selected whenever the circumstances require a change of the standard values for self-timer 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→Pr4→ etc.

**Operating Modes, Programing Mode**

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.

**Operating Modes, Programing Mode**

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.
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.

**Operating Modes, Programing Mode**

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.

**Operating Modes, Programing Mode**

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 the contrast range of a subject. By blocking the light values on one subject area and moving the metering spot to another 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).
2. With a standard magazine use the Pr mode to insert and store the film speed (page 45).
3. Pre-set the desired aperture.

**Operating Modes, Differential Mode**
How to Use the "Z" Mode

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

Suggested procedure:
1. Set the film speed and, if applicable, the contrast correction factor with the respective dial on the TCC meter (page 17). Use a standard non-TCC meter for this purpose.
2. Start 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. The metering system by depressing the AE-lock button. The viewfinder display shows the "Z" and the correct shutter speed calculated from the set film speed and aperture and metered light level, continuously changes the shutter speed as the metering spot is moved to brighter or darker subject areas. The figure "Z" 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 falls with an accuracy of 1/4 zone-step.
6. Use the adjustment buttons to adjust the displayed zone 5 location of the intensified metered subject area up or down to the desired zone. The shutter speed display changes accordingly but shows half zone steps only.
7. Depress the exposure release button to trigger the exposure metering device and set the exposure to the new aperture setting, but the exposure remains unchanged. The metering system can also be triggered 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.

NOTE: The metering system can also be inhibited by depressing the AE-lock button as well. In that case the display starts showing the difference as per p.a. above.

Z Zone Mode
In this section you will only get the instructions on how to operate the 25STC in the Zone Mode. You will find more comprehensive instructions and hints about applying the Zone Mode in the section "The Hasselblad Zone System" which is also supplied together with the 25STC.

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

Functions:
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 planed negative development is set.
Adjustment of the stored light value between zone 0 and zone 10 with 1/4 zone-step increments.

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 actually used in the camera (CPU).

How to Use the "M" Mode

The Mode M 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 acquired 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-meter or using the Pr mode with a non-TCC meter.
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 impermissible in the M mode. To change the exposure values, e.g. to adjust the exposure to 0.5 differences, for a certain subject area, change the aperture or the shutter setting (or both) until the difference indication on the display reads within 0.5 EV.
7. Depress the exposure release button for an exposure with the set value independent of the meter readings.
8. Rewind the camera to cock the shutter and advance the film to 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 showing the difference as per p.a. above.
Warning Functions

When the metered subject area falls outside the zone range, the Zone symbol and the zone value figure 0 or 10 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 1/500 s or 1/1000 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 "L.O." or "H." resp. appears in the left hand part of the display. If no other light value is entered the warning triangle flashes.

Flash Photography Warnings

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

3. Select and pre-set the aperture for the desired 1/90 or 1/300. Pre-set the shutter speed at 1/90 s or faster.

NOTE: Shutter speed at 1/90 s or slow allows more time for the film and lens to recoil before the next exposure.

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 or slower shutter speed is set at 1/90 or faster if the speed is set at 1/90 or faster if it is slower. With the Mode Selector Dial set at A or M the corresponding symbol is shown. Other symbols are not.

5. Depress the exposure release button fully to release the exposure and trigger the flash. The control circuitry in the camera cuts the flash when the exposure is completed.

The flash was slowed enough to provide a correct exposure. If the flash is too bright the flash symbol turns off and the display shows the correct exposure. If the flash is too slow the flash symbol turns off and the display shows the slow shutter speed. If the flash is too bright or too slow the display shows the slow shutter speed. If the flash is too bright or too slow the display shows the slow shutter speed. If the flash is too bright or too slow the display shows the slow shutter speed. If the flash is too bright or too slow the display shows the slow shutter speed.

WARNINGs (page 54)

The sign "LO.FLASH" or "H.FLASH" appears in the display when the flash is too bright, e.g. if the flash-to-subject distance is too short, the camera aperture is too large, the film speed is too low, or any combination of these. The remotes are to move the flash away from the subject (use a lens with larger local length), reduce the speed of the camera, change the film speed or use a different film.

The sign "LO.FLASH" appears in the display when the flash-to-subject distance is too small, e.g. if the flash-to-subject distance is too small, the film speed is too slow, the remotes are to move the flash away from the subject (use a lens with larger local length), reduce the speed of the camera, change the film speed or use a different film.

If two or more of the suggested remedies are required the camera aperture is the slowest possible, the flash-to-subject distance is the smallest possible, and the film speed is the fastest possible. It is recommended to use a different film. 

The warnings appear for two seconds after the flash exposure.

6. Depress the shutter release button fully to release the exposure and start the camera.

The flash will fire again when the camera is ready for the next exposure.
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 flash unit.
- Automatic shutter speed shift to 1/50 s when the pre-set shutter speed is faster or when the flash unit is charged.

Suggested procedure:
1. Attach and connect the flash according to the Flash Manual. With the Hasselblad Proflash 400A connect the TTL-cable between the dedicated flash socket on the camera body (page 61) and the flash unit.
2. Set the flash unit to Automatic or Automatic 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 1/50 s if it was set at a faster speed. Shutter speed slower than 1/50 s do not change.
3. Depress the exposure release button to the pressure point to start the camera. The display indicates the aperture setting and the shutter speed. 1/50 s if the shutter speed is set at a faster speed or the set speed if it is slower than 1/100 s. The Mode Selector Dial set at A or M, the exposure is 1/50 s if the flash unit is charged and ready to flash. Shutter speed slower than 1/50 s do not change.
4. Depress the exposure release button to the pressure point to start the camera. The display indicates the aperture setting and the shutter speed. 1/50 s if the shutter speed is set at a faster speed or the set speed if it is slower than 1/100 s. The Mode Selector Dial set at A or M the exposure is 1/50 s if the flash unit is charged and ready to flash. Shutter speed slower than 1/50 s do not change.
5. Depress the exposure release button to the pressure point to start the camera. The display indicates the aperture setting and the shutter speed. 1/50 s if the shutter speed is set at a faster speed or the set speed if it is slower than 1/100 s. The Mode Selector Dial set at A or M the exposure is 1/50 s if the flash unit is charged and ready to flash. Shutter speed slower than 1/50 s do not change.
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 1/50 s when the pre-set shutter speed is faster or when the flash unit is charged.

Suggested procedure:
1. Attach and connect the flash according to the Flash Manual. With the Hasselblad Proflash 400A connect the TTL-cable between the dedicated flash socket on the camera body (page 61) and the flash unit.
2. Set the flash unit to Manual or Manuall 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 1/50 s if it was set at a faster speed. Shutter speed slower than 1/50 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. 1/50 s if the shutter speed is set at a faster speed or the set speed if it is slower than 1/100 s. The Mode Selector Dial set at A or M the exposure is 1/50 s if the flash unit is charged and ready to flash. Shutter speed slower than 1/50 s do not change.
6. Depress the exposure release button fully to release the exposure and trigger the flash. In Manual mode the flash symbol turns off while the flash unit is recharging and lights up again when it is fully recharged.
**WARNINGs (page 54):**

- The sign "N-FLASH" appears on the display when the flash was too bright, or if the flash-to-subject distance is shorter than estimated or the subject brighter than normal. The remedy is to reduce the intensity.
- The sign "LO FLASH" appears when the flash is 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 take advantage of the sophisticated TTL/OTF flash metering and control system in the 205/2CC and the viewfinder information supplied by the 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!

Suggestion:

- Use the "Shutter Speed Warning" function to verify the shutter speed in A, D, and Z modes.
- Set the shutter speed ring at 1/0 s (the flash symbol). The red warning triangle and the shutter speed display will flash whenever the calculated shutter speed is slower than 1/00 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 to 1/0 s (the flash symbol).
4. Use the camera as described in any of the operating modes, observing the shutter speed warning signal in the mode A, D, and Z.

**205/2CC with other Hasselblad Lenses**

You can use the Hasselblad F-, CF- and C-lenses (lenses without the blue double-line) on your 205/2CC without fear of damaging camera internals. The F-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 the section you find information on the F-lenses and how to use them on your 205/2CC.

How to use the CF- and C-lenses is described in Appendix A, page 63.

**F-Lenses**

The F-lenses are optically, mechanically and operationally identical with the corresponding FITC/lenses but are not equipped with their internal electronics and external identifications. The instructions for the FITC/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 (--).

**Flash photography with F-lenses**

The overall similarity between the FITC- 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 FITC- 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 FITC/lenses in all flash and camera modes of operation (pages 60-63).

**Non-dedicated Flash Unit**

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

**Accessories**

All accessories originally designed for the 205/2CC 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 205/2CC 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 205/2CC.

**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 connecting, 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 Prothax 405x dedicated flash unit. Other dedicated flash units can be connected through flash adapters, such as the Hasselblad SCA 390 and SCA 580.

**Other Accessories**

Three 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 discontinue 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 viewfinders, the grip 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 group of accessories in the Hasselblad System. Refer to the Hasselblad Product Catalog for complete information on the entire Hasselblad System.

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**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.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>POSSIBLE CAUSE</th>
<th>REMEDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>The camera can not be activated in any way.</td>
<td>The battery is removed or completely exhausted, the battery is reversed, the camera was not rewound after the last exposure.</td>
<td>Install or replace the battery, insert the battery according to the instructions on the battery box, wind the camera with one full turn of the winding crank.</td>
</tr>
<tr>
<td>The camera cannot be activated by depressing the AE lock.</td>
<td>The exposure release button cannot be depressed, the camera was not rewound after the last exposure, the AE lock has been depressed for more than 16 seconds.</td>
<td>Activate the exposure release button, press the camera with one full turn of the winding crank.</td>
</tr>
<tr>
<td>The exposure release button cannot be depressed.</td>
<td>The exposure release button is in the magazine, the AE lock has been depressed for more than 16 seconds, the camera was not rewound after the last exposure.</td>
<td>Remove the magazine slide completely, depress the exposure release button, press the camera with one full turn of the winding crank.</td>
</tr>
<tr>
<td>The flash symbol does not light up when a dedicated flash unit is connected.</td>
<td>The flash unit is not compatible with the camera, the flash unit is not connected, the connection between flash unit and camera is defective.</td>
<td>Check the connections according to the flash unit's manual, replace the TTL sync cord.</td>
</tr>
<tr>
<td>The camera is pre-released.</td>
<td>The camera has a C lens, or a CF lens, or C weighting attached and was not rewound after the last exposure.</td>
<td>Release and rewind the camera with one full turn of the winding crank.</td>
</tr>
<tr>
<td>The camera is not released.</td>
<td>The camera body is pre-released or rewound.</td>
<td>Release the camera with one full turn of the winding crank.</td>
</tr>
<tr>
<td>The magazine slide is not completely indexed.</td>
<td>The magazine slide is not indexed.</td>
<td>Index the magazine slide in the camera.</td>
</tr>
<tr>
<td>The lens front cover is on.</td>
<td>The lens front cover is on.</td>
<td>Remove the lens front cover.</td>
</tr>
</tbody>
</table>
## Faulty and Error Indications on the Viewfinder Display

**Problem**
The display seems to be reversed.

**Possible Cause**
The monitor is not properly installed.

**Remedy**
Push the viewfinder lens towards until it stops.

## Aperture Indication is "-1.2"?

**Possible Cause**
- Defective contact between lens and camera body.
- Defective contact between magazine and camera body.

**Remedy**
- Detach the lens. Clean all four contact surfaces on the lens seat and on the camera body with a lint-free cloth or soda. DO NOT touch the contact surfaces with your fingers!
- Detach the magazine. Clean all contact points on the magazine and on the camera body with a lint-free cloth or soda. DO NOT touch the contact surfaces with your fingers!
- Electronic eyepiece.
- Bring the camera to an authorized Hasselblad Service Center.
- Bring the camera to the display 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 overcome by selecting Pr mode and entering the film speed manually (page 44-45).

## Exposure Functions

**Aperture Priority Automatic Exposure, Automatic Flash control and Manual Control**

**Programmed Mode**
- ISO 125/12 to ISO 640/39, selected with film speed dial on TCC magazines or entered in programming mode.

**Flash Center**
- Center weighted TTL/OTF flash exposure meter. Full dedicated flash control with automatic shutter raised to 1/500 at faster speed settings, Imbibi flash triggering in at shutter speed settings faster than 1/500 with non-dedicated flash units.

**Set/Timer**
- Default delay 10 s. Delay programmable in 12 steps from 2 s to 60 s.

**Battery**
- 6V, type PX28, UCAR 537, 45-13 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 Flanar F 2.8/80 TCC and magazine A 12 TCC 178 L, 118 W x 108 H mm.
- Weight: 3/1615 g with focusing hood, lens Flanar F 2.8/80 TCC, A12 TCC magazine and battery. Body alone: 745 g.

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

## Camera Care, Service and Guarantee

**Camera Care**
Your Hasselblad camera is designed to withstand the rigors of professional use in most environments. In order to avoid the possibility of damage, however, the camera should be kept in a place where it is not exposed to direct sunlight or an air current. In tropical environments, fungus growth can be controlled by keeping the equipment in an area with circulatory air, low humidity and low temperature. In areas where this is not possible, the camera should be stored with a desiccant.

**Extremes of Temperature**

High temperatures and humidity can affect the performance of the camera. The camera should be protected from direct sunlight and high temperature. The camera should not be exposed to direct sunlight or high temperatures for prolonged periods.

**Dust and Grime**

Prevent dust by keeping the camera clean. When cleaning the camera, use a soft brush or a soft cloth. Do not use liquid cleaning solvents or other chemicals that may damage the camera.

**Service**

**Faultless camera performance is essential to the professional photographer. Therefore, it is advisable to check your camera periodically. If your camera is functioning correctly, the Hasselblad Service Center is the only place to receive your camera. If your camera is used constantly and intensively, you will need to contact the Hasselblad Service Center every six months.**

**Guarantee**

Provided that you purchased your camera from an authorized Hasselblad dealer, it is covered by a one-year guarantee.

**Note:** When using the TCC/TCC with a CF- or C-lenses, do not use the lens shutter at 1/500 s.

## Technical Specifications and Equipment, 205TCC

### Camera Design

**Medium format single lens reflex camera with built-in TTL spotmeter electronically controlled TCC lenses and TCC magazines, interchangeable back, film magazines, viewfinders and focusing screens.**

**Shutter**

Electronically controlled mechanical focal plane shutter with release selector system. Horizontally running textile curtains. Shutter speed range B, 1/16 - 1/500, 0.3. Full mechanical C setting for built-in focal plane shutter. Flash synchronization from B to 1/60.

**Lens Mount**

Hasselblad bayonet mount for TCC, F, C and CF lenses. Contacts for digital communication with the TCC lenses.

**Viewfinder**

Focusing hood with 4 x magnifier, interchangeable with magnifying lens. shutter release and viewfinder. TCC viewfinders only acceptable. Acute-Matte focusing screen interchangeable with other Hasselblad housing screens. Illuminated flash and warning symbols.

**Operation Display**

LCD display in viewfinder with all relevant exposure and additional tools 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 wind for up to 1.3 frames/second.

**Exposure Meter**

TTL metering at full aperture with TCC lenses. High sensitivity silicon protocol. Spotmeter area approximately 1% of the image area, angle view from approximately 1/2", depending on lens focal length. Metering range EV -1 to EV 20 at ISO 100/12 and 2.8. Active time 18 s after release of activating button.

---

**Camera Body Dimensions**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 x 54 x 150</td>
<td>Hasselblad reserve to change the specifications without prior notice.</td>
</tr>
</tbody>
</table>

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

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**Appendix A**

### Hasselblad 205TCC with CF- and C-lenses

The CF- and the C-lenses differ from the F7/TCC and F-lenses through their built-in last shutter with shutter speeds from 1 to 1/500 s. 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, it is important to realize that the shutter speeds are limited to 1/500 s.

### CF-lens design and functions

The setting rings and scales on the CF-lenses are arranged differently from those on the F-lenses. Coupling from the camera body and towards 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 speeds scale, EV scale (orange) and F/stop button (green).

---

**Appendix A: CF-lenses 83**
EV Interlock Button
Depressing the EV in the viewfinder button interlocks the shutter speed and aperture rings to make it possible to change the aperture setting while retaining the EV value.

Depth-of-field Preview Knob
The Depth-of-field Preview knob location and function is described in the FTCC 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 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).

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 view the lens shutter,

NOTE: Setting the camera's shutter speed ring at C turns off the ENT camera metering system. The viewfinder display shows only the aperture and f/stop for the shutter speed when the exposure or pre-release button is depressed. The AE-lock button is insensitive.

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

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 32, 33) 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 before the viewfinder screen dark until the camera is rewound.

Suggested procedure:
1. Check if the lens' shutter speed ring is not set at F.
2. Wound the lens catch button depressed while turning the camera's shutter speed ring till align the C at the end of the scale with the red marks.
3. Release the lens catch button to lock the shutter speed ring in the C setting.

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/OY system is still working to control the dedicated flash unit directly – as with the Hasselblad Flash 4004 – or through an external 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 "R FLASH" and "Lo FLASH" warning indications may appear in the viewfinder when the exposure button is released.

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 test or by the 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 Dedicated Flash
(Camera shutter speed set at C)
Suggested procedure:
1. Attach the flash to the camera if desired.
2. Connect the sync 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 adjust the film to the next frame.

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

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 sync cord to the PC-socket on the CF-lens, not to the PC-socket in the camera body.
3. Set the flash unit in the desired mode and switch it on.
4. Select the 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. Frame 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 89).

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).

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.

<table>
<thead>
<tr>
<th>Lens type</th>
<th>Lens F</th>
<th>Lens with PC-Meter 1:1x</th>
<th>Lens with Meter 2x</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dragon CF 38</td>
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<tr>
<td>Dragon CF 45</td>
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<td>Dragon CF 50</td>
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<td>Dragon CF 56</td>
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<td>Snake CF 65</td>
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<td>Penta CF 100</td>
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<tr>
<td>UV Sonnar CF 155</td>
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<tr>
<td>Macro Planar CF 120</td>
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<tr>
<td>Macro Planar CF 130</td>
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<tr>
<td>Sonnar CF 150</td>
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<tr>
<td>Sonnar CF 180</td>
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<tr>
<td>Sonnar CF 250</td>
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</tbody>
</table>

*The Macro-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 ITTFQT metering as the flash is charged and ready to flash (page 69). The system is then shut off and the ITTFQT 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 fillers 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 1/10th 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 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 1/90 s also when the shutter speed is set at a faster setting. Slower speeds, however, are obtained by setting the ring at the desired shutter 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 "safety" light on the flash, not in the viewfinder.

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