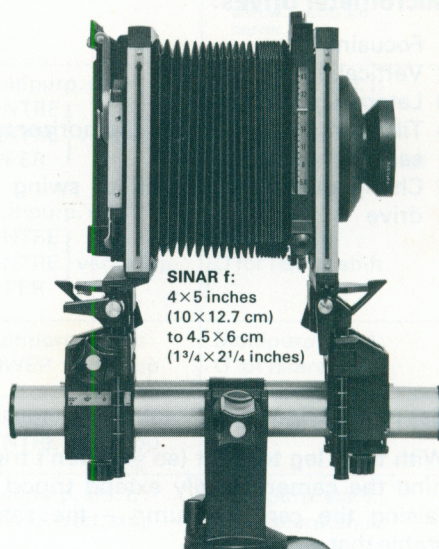
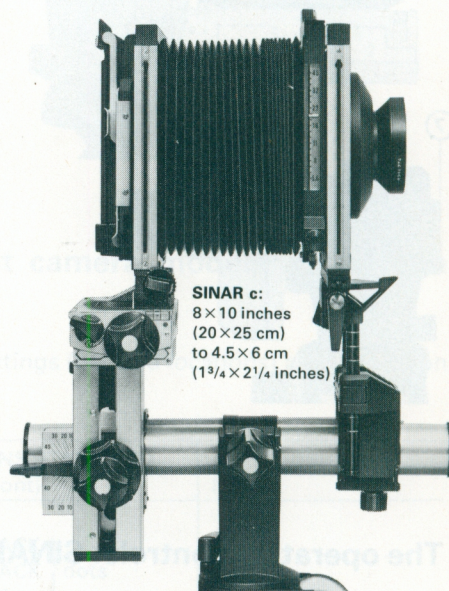
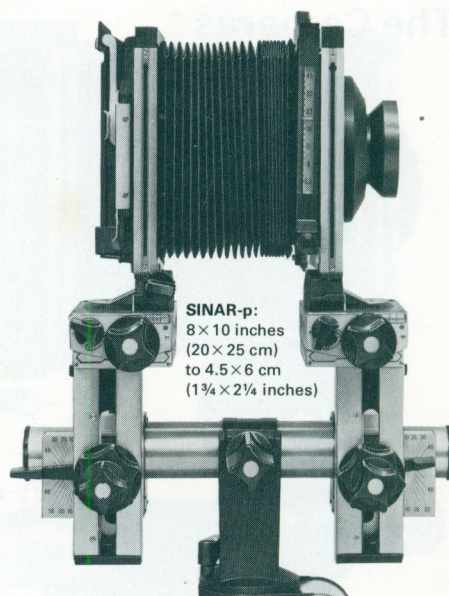


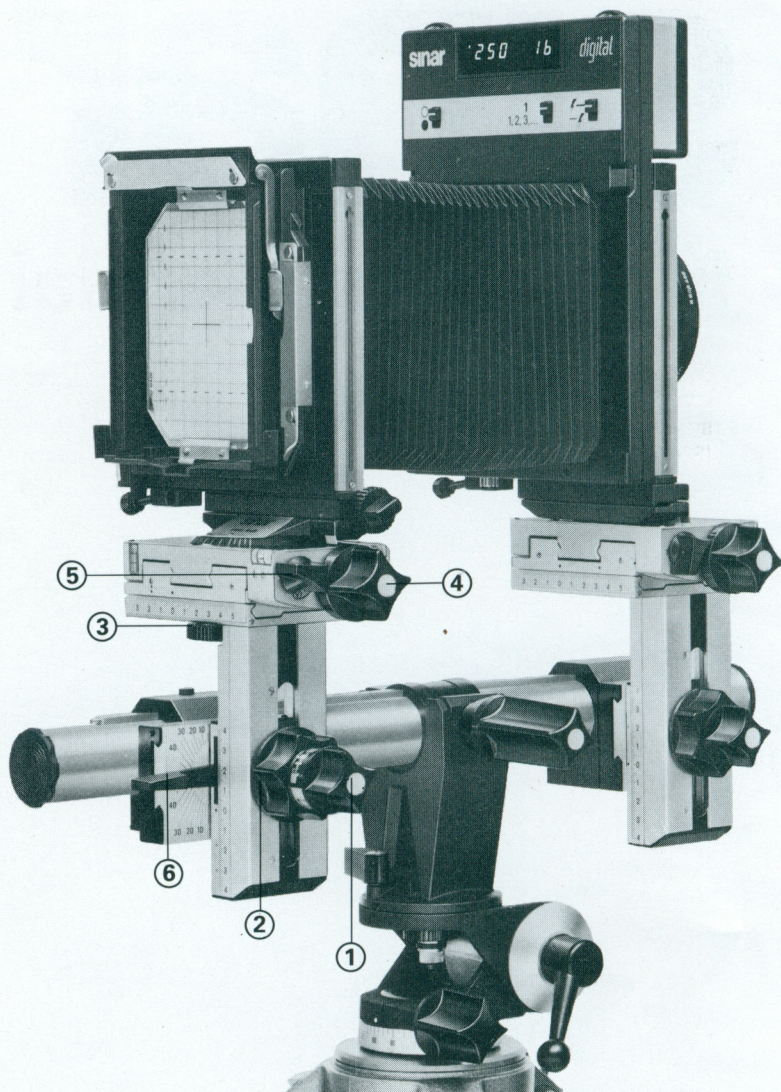
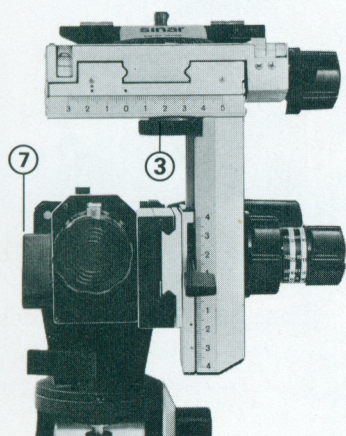
sinar

Instruction Manual



SINAR LTD. SCHAFFHAUSEN
CH-8245 Feuerthalen, Switzerland
Telephone: (053) 5 45 27/4 89 21
Telex: CH 76740
Telefax/3 (053) 5 78 33

The Cameras



The operating controls: SINAR p and c

Micrometer drives:

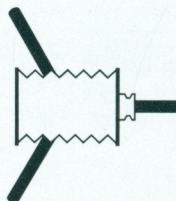
- 1 Focusing
- 2 Vertical displacement
- 3 Lateral displacement
- 4 Tilts and swings around the horizontal and vertical axes
- 5 Changeover lever for tilt or swing micrometer drive

Locking lever for:

- 6 Coarse tilt about horizontal axis. Use for vertical alignment of standards when camera tilts up or down, also for coarse tilt to permit full use of fine tilt (4) for sharpness distribution control.
- 7 Coarse focusing

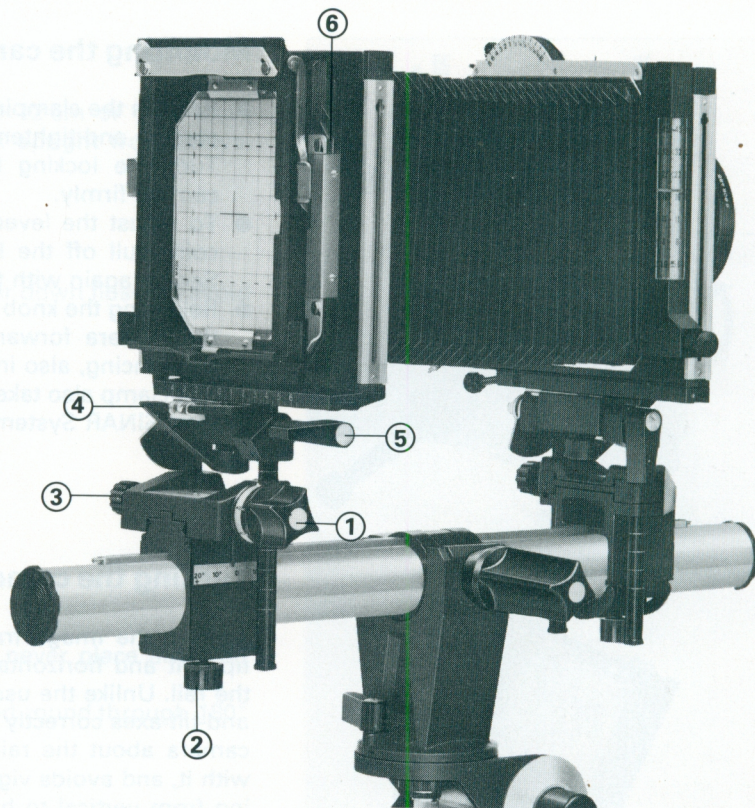
Set up the tripod right

With third leg to front (so you don't trip over it behind the camera). Fully extend tripod legs before raising the centre column – the setup is more stable that way.



Operating controls SINAR f

- 1 Fine focusing drive with depth of field scale and angle scale.
- 2 Locking screw of coarse displacement.
- 3 Locking screw of vertical displacement.
Rise and fall with three engagement stops. See also under «Multi-purpose standards» below.
- 4 Clamping lever for vertical axis swings and cross-front shift. (Slightly release for swings, release further for cross-front shift).
- 5 Clamping lever for horizontal axis tilt.
- 6 Image plane location mark.



Location of optical axis (zero setting) for different camera models and image formats

Switching formats involves relocation of the optical axis. The zero settings (centred locations) are marked on the standards as listed in the table below.

CAMERA	NOMINAL FORMAT inch (cm)	IMAGE STANDARD (Back)	LENS STANDARD (Front)	Notes
SINAR p with normal or special standard bearer	4×5 (9×12) 5×7 (13×18) 8×10 (18×24)	BLACK } dots GREEN } RED }	BLACK } dots BLACK } RED* }	* BLACK dot for lateral shift w. special std. bearer
SINAR c with normal standard bearer	4×5 (9×12) 5×7 (13×18) 8×10 (18×24)	BLACK } dots GREEN } RED }	Multipurp. std. I: CENTRE } CENTRE } vert. stop. UPPER }	Multipurp. std. I: O for lateral shift O for lateral shift WHITE dot for lateral (at 32 mm)
with special standard bearer	4×5 (9×12) 5×7 (13×18) 8×10 (18×24)	BLACK } dots GREEN } RED }	Multipurp. std. I: CENTRE } CENTRE } vert. stop UPPER }	} O for lateral shift
SINAR f	4×5 (9×12)	Multipurp. std. II: LOWER vert. stop	Multipurp. std. I: LOWER vert. stop	Multipurp. std. I: O for lateral shift
SINAR s1	8×10 (18×24)	Fixed (single stop)	Multipurp. std. III: CENTRE vert. stop	
SINAR s2	8×10 (18×24)	Fixed (single stop)	Multipurp. std. I: LOWER vert. stop	Multipurp. std. I: O for lateral shift

Mounting the camera

- Release the clamping lever A (move it against arrow). Fit the camera and tighten the tripod screw finger tight. Turn the locking lever in arrow direction to secure the camera firmly.
- To adjust the lever lock, unscrew the centre screw with a coin, pull off the lever and refit in the position required. Secure again with the screw.
- Releasing the knob B six to seven turns allows movement of the camera forward and back or about the base rail for rebalancing, also instant fitting and removal. Rail clamp also takes the universal camera holder No. 519.11 (See SINAR System Handbook, page 72).

Turning the camera

To turn the image frame for intermediate positions between upright and horizontal views, rotate the whole camera about the rail. Unlike the use of a rotating back, this keeps all swing-and-tilt axes correctly **aligned** with the image axes. Turning the camera about the rail in this way also carries the lens hood with it, and avoids vignetting in the image corners. (For changing from vertical to horizontal shots however switch the back round through 90°.)

The spirit levels

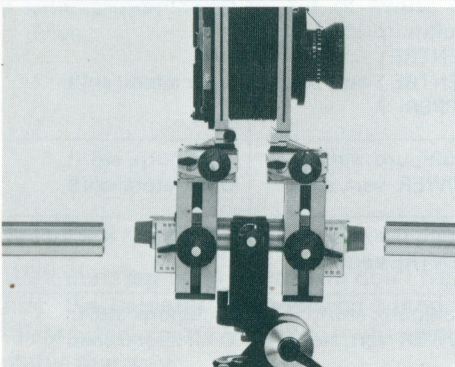
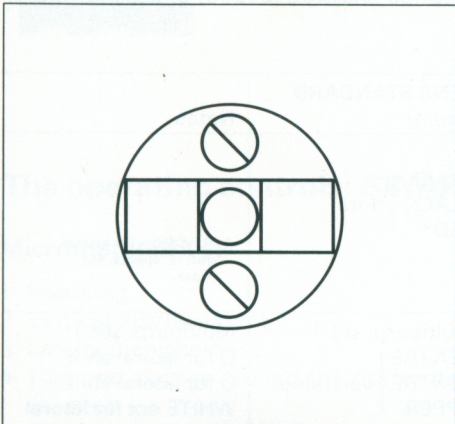
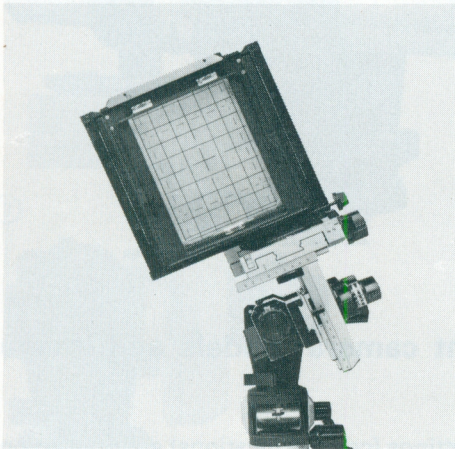
To read the spirit levels accurately, centre the eye above them. This involves viewing with one eye; the rear line of the reference mark must appear exactly behind the front line.

Realigning the spirit levels:

If in time these should go out of adjustment you can easily reset them by fully releasing one screw and slacking off the other. Carefully realign the spirit level and retighten the screws.

The base rail

The 30 cm (12 inch) base rail No. 422.11 with screw caps at both ends is part of the basic camera. It is a standard component of all SINAR cameras. Extension rails screw to either end to make up any required length.

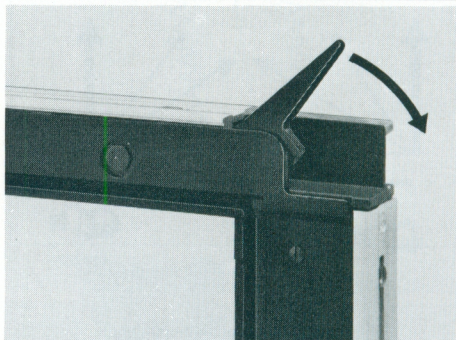
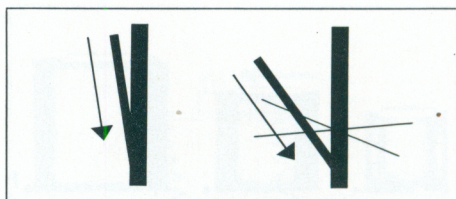


Changing components

When switching camera backs (from 9×12 cm or 4×5 inch), bellows, lens board etc. always push in **upright** from above, then lock.

The locking lever signal

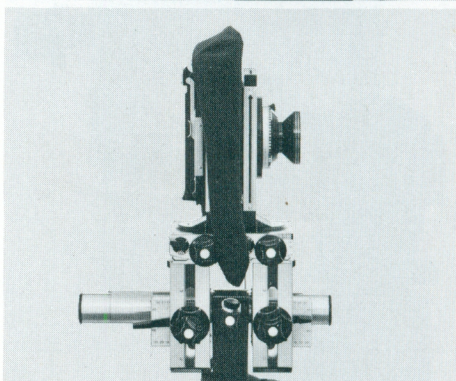
Fully close the locking strips with the lever down flush, to avoid light leaks.



The folding bellows

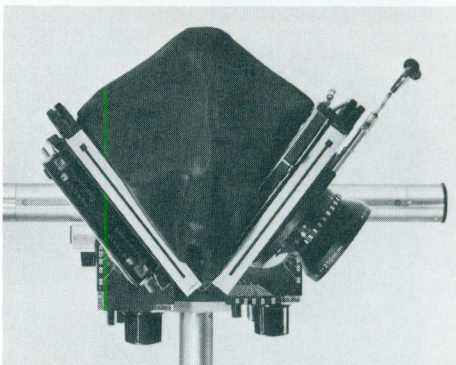
The folding bellows should not sag. So never place anything on them.

From time to time fit the bellows switched round through 180° about their axis.



The wide-angle bellows

With short camera extensions always take care to pull the wide-angle bellows fully out from between the camera standards. Otherwise you may not be able to push the latter fully together, thus obstructing infinity focusing.



Extreme tilts at short extensions

Special effects sometimes call for extreme tilts with short focus lenses. These are obtained by swinging the standards about the vertical axis V.

Depending on the location of the subject, the camera may have to be turned round through 90° on the rail clamp.

The bellows lens hood

See SINAR System Handbook, page 58/99.

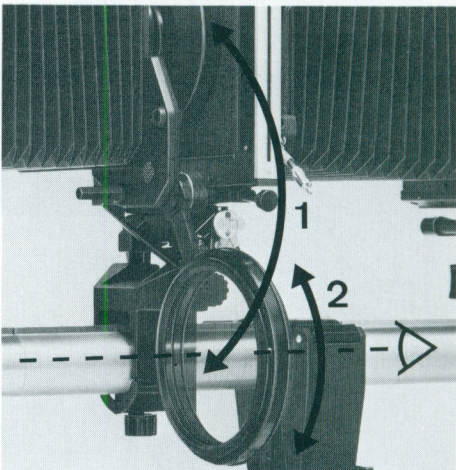
Filter holder and lens hood

These are attached to the filter holder rod as shown. By swinging out the filter holder through 180° to stop (1) you can directly adjust and check the effect (2) of the polarising filter; then swing the filter holder fully back in front of the lens.

! For correct end positions, the red dots must match on the coupling frame and on the filter holder.

Filters

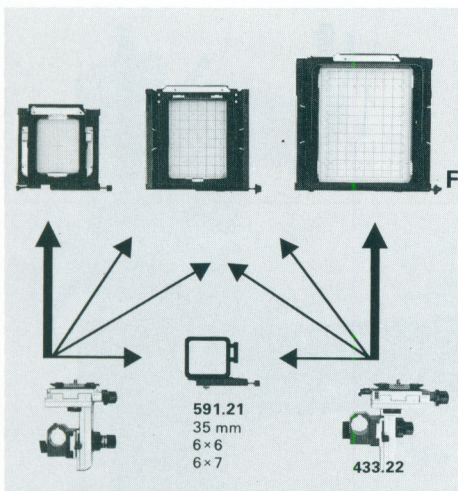
See SINAR System Handbook, pages 74–75.



Changing the camera format SINAR p and c

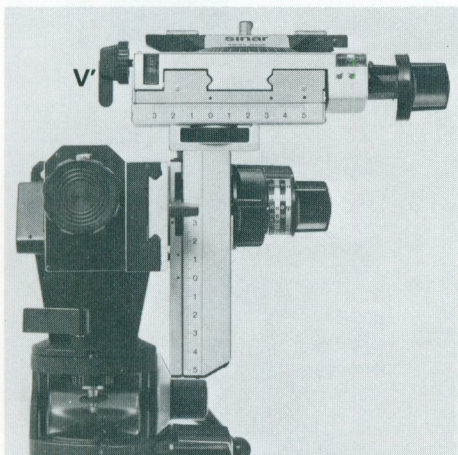
Detach the bellows from the lens standard. Release the format frame by turning the knob F anti-clockwise. When changing the format, recentre the optical axis on the rear standard bearer. This is colour coded* and carries click stops.

* Black = 4 × 5 inch/ 9 × 12 cm format frame
 Green = 5 × 7 inch/13 × 18 cm format frame
 Red = 8 × 10 inch/18 × 24 cm format frame
 See also table on page 3.



The special standard bearer SINAR p and c

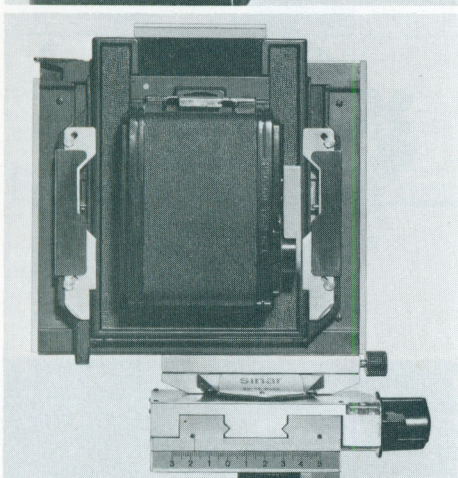
The special standard bearer has an additional locking knob V' to lock the swing about the vertical axis (for instance when setting up the camera vertically in conjunction with large format frames). Release this locking knob before adjusting camera movements, otherwise the micrometer drive turns without effect.



The 4 × 5 inch / 9 × 12 cm back

Remove the ground glass screen frame by pressing down the two lateral spring latches and pushing the frame upwards. The lateral locking strips on the film holder frame, which are now accessible, help to secure the different film holder types, especially roll film, film pack holders, etc.

When using the Polaroid film pack No. 405 for horizontal shots, unscrew the lateral cover strip on the format frame and fit instead a replacement strip No. 431.21.691.



The latch

on the ground glass screen frame secures focusing accessories, such as the bellows with or without binocular magnifier, or the binocular reflex magnifier.

Fresnel lenses, ground glass screens, masks

See SINAR System Handbook, page 60.

Automatic film holder/shutter coupling

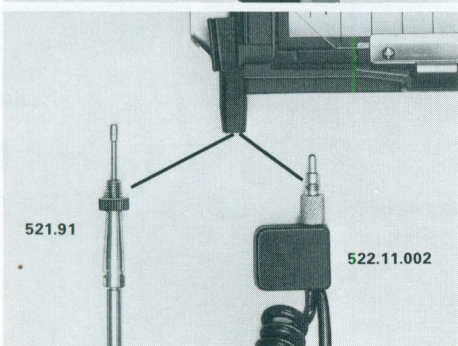
The SINAR backs carry a coupling socket for automatic shutter operation via a cable linkage between the camera back and the SINAR shutters.

Mechanical SINAR shutter:

Once the bayonet connector No. 521.91 is adjusted, screw it tight on the back and leave it there. That permits rapid switching of the automatic cable without readjustment.

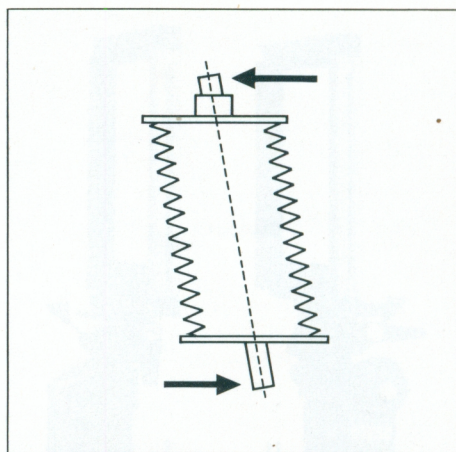
Electronic shutter:

The automatic cable needs no adjustment – just screw it in fully.



Lateral displacement when using the automatic film holder coupling SINAR f:

When the automatic cable is fitted with the film holder upright and you want to shift the back to the right, carry out this adjustment by moving the lens standard to the left (and not by moving the back to the right). Alternatively, use the indirect parallel displacement (arrow).



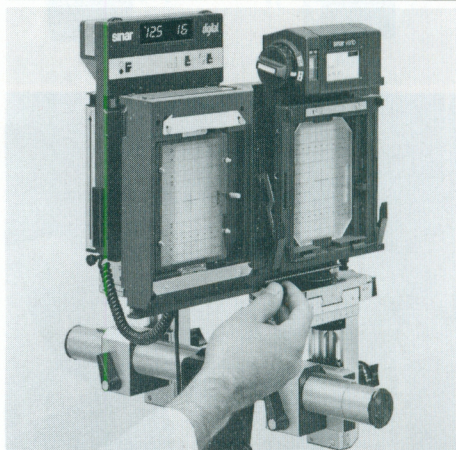
The Rapid Adaptor

Can be used with lenses from 90 mm up on the SINAR p and c. On the SINAR f reverse the camera back (image standard) through 180° as shown. Can be used with lenses from 135 mm up.

For further details see separate instructions.

The depth of field scale

See summary instructions enclosed with every camera. See also page 80 of the SINAR System Handbook.



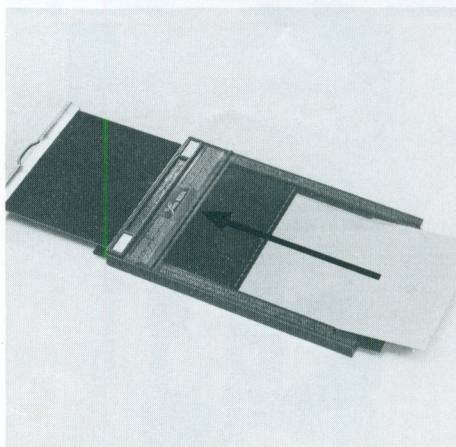
Double sheet film holders

These are easy to load. However, please note:

- Always push sheet films fully into the bottom to avoid loss of sharpness and light leaks.
- To ensure optimum film flatness store the films in a **dry** place. Considerable temperature changes have to be avoided.
- After withdrawing the film holder slide, gently tap the focusing screen to release any stresses in the film.

Other film holders

See SINAR System Handbook, pages 65–69.



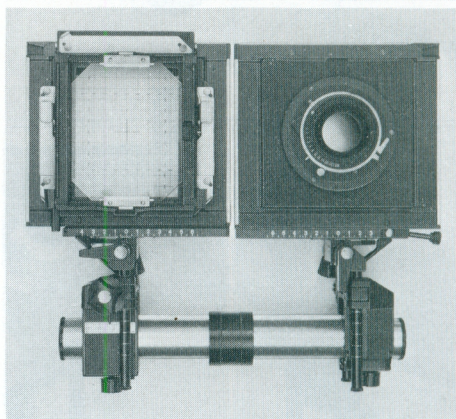
Transport

SINAR f

SINAR f camera models (from Serial No. 19761 on) fold up as shown in the illustration. Preferably leave the rail clamp on the tripod. The camera then fits in any popular executive-style briefcase of suitable size.

SINAR p or c

Before stowing the camera in case 475.26 or 475.42, the 2 camera standards have to be moved together until the two red points on the center piece of the basic rail unit 422.11 are visible. In this position the camera fits easily into case 475.26 also with behind-lens shutter 521.31 or into case 475.42 with shutter 522.11 and/or lens up to 240 mm focal length.



The multi-purpose standards: SINAR p, c and f

The multi-purpose standard I

This is the lens standard of the convertible camera as described on pages 25–26 of the SINAR System Handbook and also serves as a multi-purpose standard to extend the scope as shown on page 58.

The multi-purpose standard II

This also serves as the rear or image standard of the SINAR f (vertical position set to lowest engagement stop). It has a fine focusing drive, depth of field scale and tilt angle scale but no opening collar. With its fine focusing drive this standard can also serve as an object stage for close-ups and macrophotography. (See also SINAR System Handbook, page 58.)

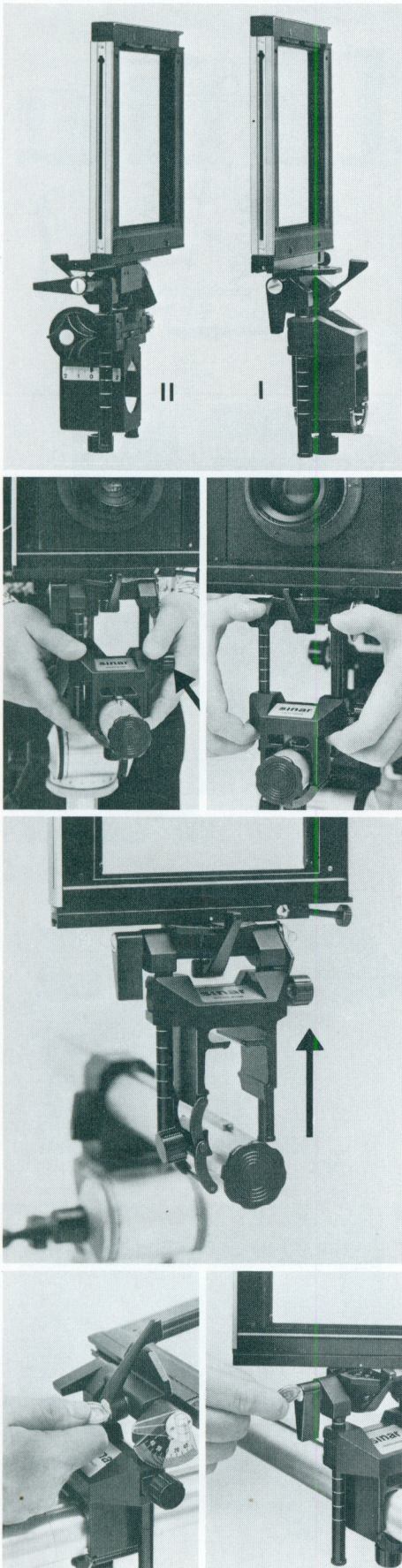
Depending on the camera combination used, adjust the **vertical or lateral shift** to the appropriate engagement stop or marking to centre the optical axis. See table on page 3.

Raising the standard: Slack off the clamping screw and push up the columns with the fingertips as shown in the first illustration left.

Lowering the standard: See second illustration left.

With the coarse adjustment clamping screw fully unscrewed you can open the hinged collar of the multi-purpose standard I to change the standard without dismantling the camera.

To adjust the tightening force of the clamping levers on the multi-purpose standards unscrew the screw with a coin, pull off the lever and refit on the shaft in the required position.



Better focusing yields better pictures

The best camera, the best lens, optimum resolving power and utmost film quality still depend entirely on focusing precision.

Better focusing

See SINAR System Handbook, pages 60–62.

The camera position

See SINAR System Handbook, page 38.

Setting up the camera

Before starting to use any settings, set all movements to their **zero position or engagement stops**. (Φ indicates the film plane location on the SINAR p and c).

SINAR p and c: Set the changeover levers for the swings and tilts to the **same** position on **both** standards (i.e. both at V or both at H).

Direct parallel displacement*

For short extensions; use wide angle bellows if necessary.

- Set up the camera in its basic position as shown.
- Centre the image with the rise and fall or lateral shifts.

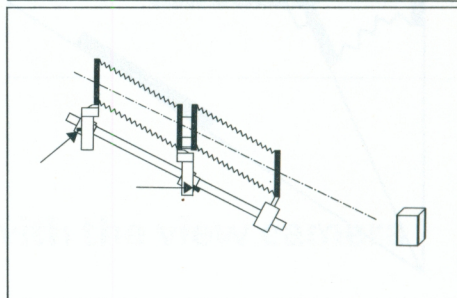
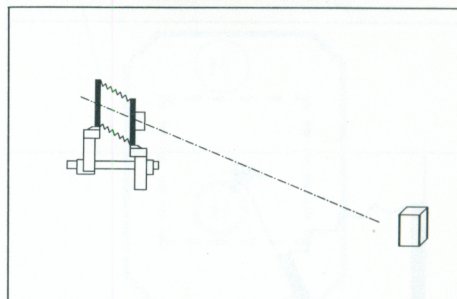
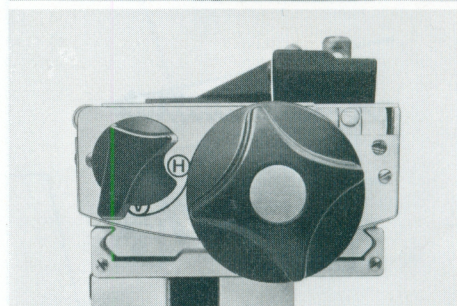
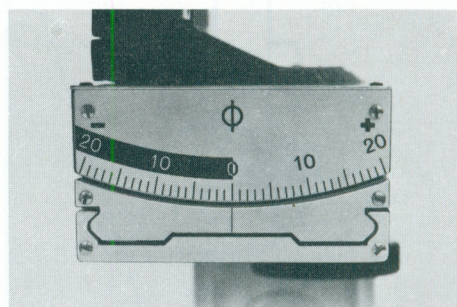
Indirect parallel displacement*

For long extensions, bellows hood and for large shifts.

- Point the camera at the subject as shown.
- Bring the standards back to vertical with the **coarse tilt** (arrows).

* Verticals are reproduced parallel when the image standard (film plane) is parallel to the object. (Lens standard adjustments do not affect perspective, only sharpness distribution).

Parallel displacements	See SINAR System Handbook, pages 81–83
The swings and tilts	See SINAR System Handbook, page 89
Perspective control	See SINAR System Handbook, page 90
Control of sharpness distribution	See SINAR System Handbook, page 95



Creative and corrective sharpness distribution control

See SINAR System Handbook, pages 90 and 91.

Sharpness distribution control with the SINAR p and c by two-point setting

(Always adjust this **before** stopping down the lens.)

With the image standard

(camera back) – modifies plane of maximum sharpness **and** perspective:

- Set the standard vertical with the coarse tilt adjustment. Slack off lever 3.
- Set the H/V changeover lever for the micrometer tilt on both standards to H (or to V for swings about the vertical axis).

- 1 Sharply focus a suitable **first** image point* on the horizontal axis **H** with the fine focusing drive **1** (or a point on the vertical axis **V** for a swing about the vertical axis).
- 2 Turn the micrometer tilt drive **2** to focus a **second** more or less opposite image point within the shaded area sharply on the ground glass screen. That is all.

With the lens standard

modifies only the plane of maximum sharpness, but **not** perspective:

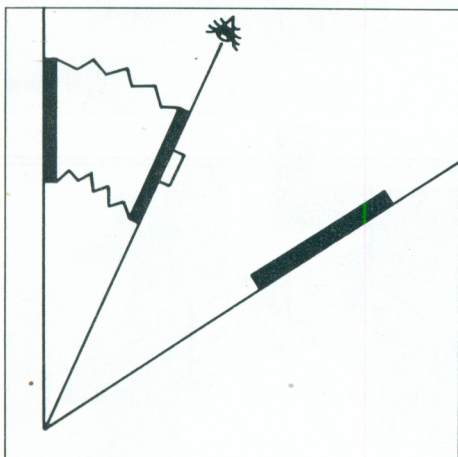
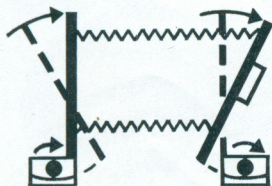
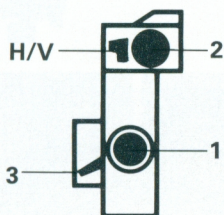
- Adjust the sharpness distribution as above **first** by tilting the **image** standard (camera back). Read off the tilt angle on the scale. (Direct tilting with the lens is not suitable as for optical reasons the overall plane of sharpness always shifts.)
- Then **transfer** the tilt angle read off the scale to the lens standard as follows:
 - a) Transfer the tilt angle obtained to the lens standard in either positive or negative scale direction by turning tilt knob 2.
 - b) Reset image standard to zero position by turning tilt knob 2 (engagement stop).
 - c) Refocus with the focusing knob 1 for maximum overall sharpness. Adjust the **image standard** as described above to eliminate final residual deviations.

* For off-axis image points repeat the focusing sequence 1–2 to eliminate the deviation.

Lens tilts with close-ups

With close-ups (subject distances below about 5 times the focal length) **any** lens adjustment introduces **further** problems by modifying both the subject distance **and** the lens/image distance.

Here it is better to use the rear or image standard for sharpness distribution control. If you still want to tilt the lens standard, adjust the lens tilt first by visual sighting as shown so that planes of the subject, lens standard and image plane meet in a common axis. Then carry out final adjustments on the image standard.



Sharpness distribution control with the SINAR f by two-point setting

(Always adjust this **before** stopping down the lens.)

Measuring the tilt angle

- Set the angle scale exactly to **zero** – see diagram – with the fine focusing drive of the image (rear) standard.
- 1 Use the **coarse** adjustment to focus a suitable **first** image point sharply on the horizontal axis **H**. Do **not** move the fine focusing drive. (Or use the vertical **V** axis for swings about the vertical axis).
- 2 Turn the **fine** focusing drive to focus sharply on a suitable **second** image point on the opposite axis at **H'** (or **V'**) as shown in the diagram.
- **Read off the tilt** in degrees and the tilt **direction** (+ or –) on the angle scale* (example in diagram: +12°).

Set this **value** (12° in the example) and **direction** (+) on the standard** to be tilted, using the corresponding tilt scales as shown in the diagrams.

- Refocus for maximum overall sharpness.

For off-axis image points or with an inclined camera repeat the focusing sequence 1–2 (H–H' or V–V') to eliminate this deviation.

* If the range of the angle scale is insufficient, set up an approximate preliminary tilt of the camera back for convergence of the image, lens and subject planes.

** Tilting the rear or **image** standard modifies both the plane of maximum sharpness **and** perspective.
Tilting the lens standard modifies the plane of maximum sharpness but **not** perspective.

Focusing off-axis image points

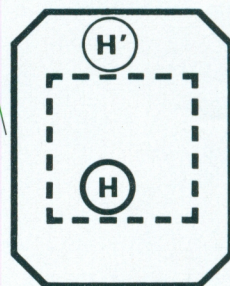
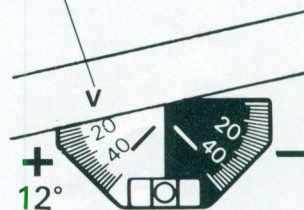
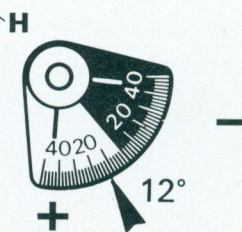
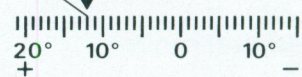
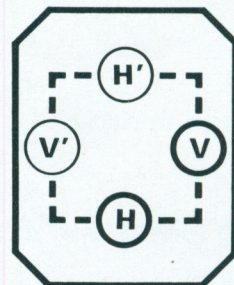
See SINAR System Handbook, page 95.

Combined sharpness control and stopping down

See SINAR System Handbook, page 96.

View camera lenses

See SINAR System Handbook, pages 32–46.



Closer shooting concentration – even with the view camera

See SINAR System Handbook, pages 47–54, 139.

Maintenance

Cleaning the camera

The slide bearings of the SINAR p are all provided with self-lubricating plastic bearings. These require no oiling or other lubrication. Contamination by dust, sand etc. increases the rate of wear. It is therefore advisable to clean the slide bearings from time to time with a brush and a suitable cleaning fluid (kerosene etc.).

Resetting the drives

Through wear, excessive loads or dirt the drives may need readjustment. This can be carried out by your local SINAR agency or by SINAR LTD. SCHAFFHAUSEN.

Cleaning lenses and mirrors

Lenses, glass filters and the surface coated SINAR mirrors should only be cleaned with agents specially recommended for lens cleaning. Kodak Lens Cleaner and lens cleaning tissues are suitable.

Limited warranty

The supplier warrants new equipment for 12 months from the date of the invoice. This warranty covers the use of correct and fault-free materials and perfect operation. The supplier undertakes to rectify immediately and at his own expense any damage and faults arising on the SINAR or its accessories during the warranty period through shortcomings with respect to the above specifications. No further or consequential claims can be entertained. The warranty becomes invalid if alterations or repairs are carried out by the customer or other parties without the written agreement by SINAR LTD. SCHAFFHAUSEN.

Instruction manuals

Separate instruction manuals are available for the following SINAR cameras and accessories:

SINAR handy
SINAR/COPAL shutter
SINAR Digital shutter
SINAR Rapid adaptor
SINARSIX
SINAR Module 1 and 2
SINAR Metering backs
SINAR Roll film holders
PROFI-select TTL
SINAR Camera cases

sinar®

SINAR LTD. SCHAFFHAUSEN
CH-8245 Feuerthalen, Switzerland

Telephone: (053) 5 45 27/4 89 21

Telex: CH 76740

Telefax/3 (053) 5 78 33

® Registered trademark.

Copyright, including all translations, by SINAR LTD. SCHAFFHAUSEN
Printed in Switzerland