

ARRIFLEX

ARRI

ARRIFLEX 35 III C

INSTRUCTION MANUAL

January 1986

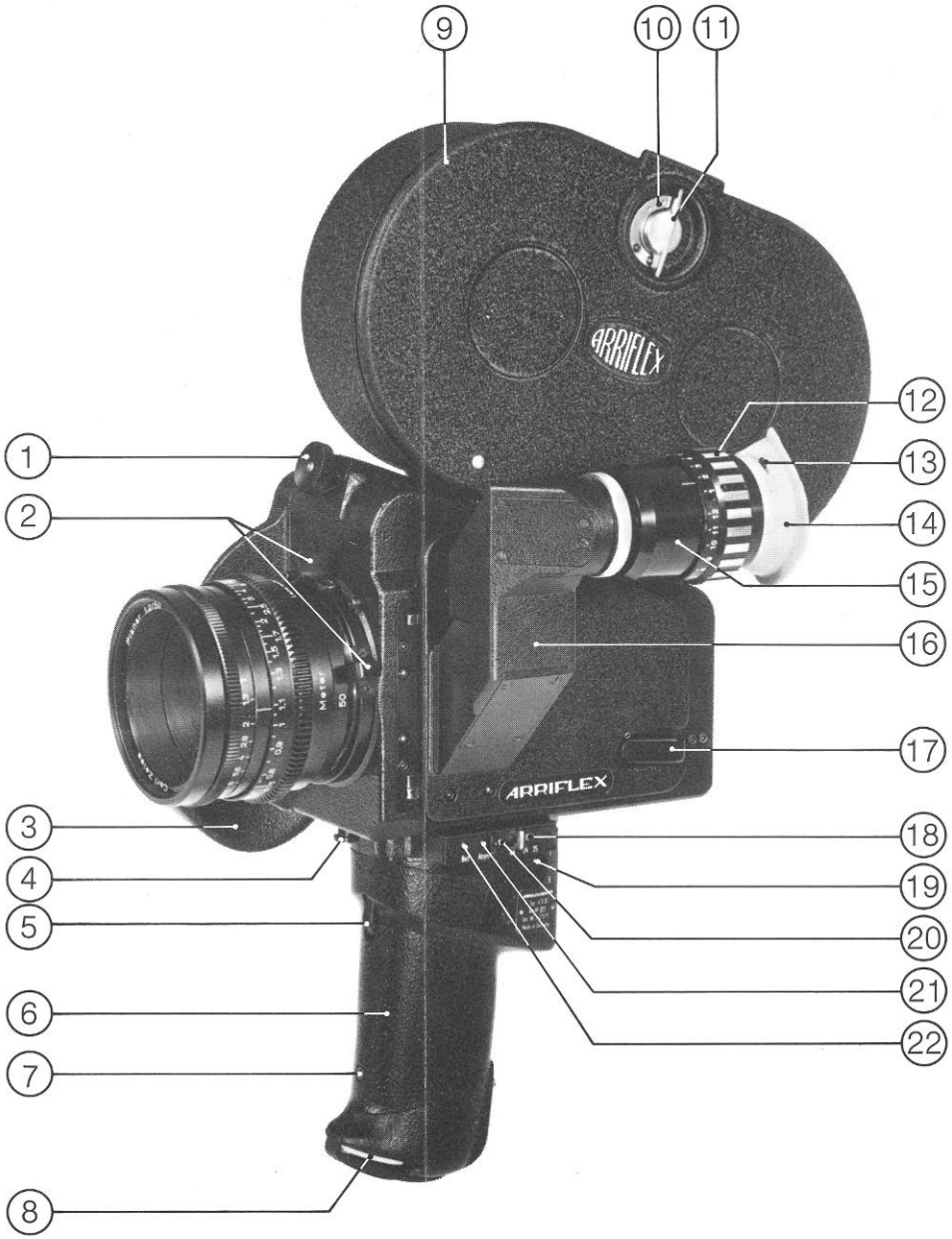


Illustration guide

1 Magazine lock button
2 Bayonet ring locking switch
3 Hand grip, right
4 Tripod screw with collar
5 Push button ON/OFF for short takes
6 Motor jacket, removeable
7 Hex socket screw M 3 (Hex socket screw drive SW 2.5 necessary)
8 Knurled wheel for variable frame speed settings
9 60m magazine
10 Safety spring
11 Locking switch
12 Diopter compensation for viewfinder eyepiece
13 Lever for eyecup shutter blades
14 Anatomical eyecup
15 Viewfinder eyepiece
16 Camera door with offset viewfinder
17 Camera door lock
18 Frame speed switch over
19 Switch for forward or reverse travel
20 ON/OFF switch for longer takes
21 Out-of-sync lamp (red)
22 Battery control lamp (green)

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Working with the taking lenses

With the ARRIFLEX 35 III C all the new 35mm Zeiss/ ARRIFLEX lenses with 54mm dia. PL mount can be used as well as all lenses with 41mm dia. standard or steel bayonet mount. The latter lenses can only be used when fitted with an ARRIFLEX PL adapter. A support must be used with heavy zoom or telephoto lenses as uneven pressure on the lens carrier can lead to a change in the flange focal distance.

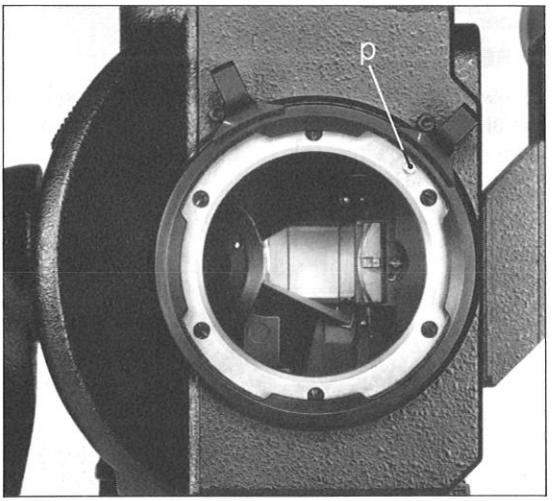
CARE

To avoid damage to the camera's mirror shutter, the slightly flattened lens guard must be removed from the following 1st series Zeiss lenses with 41mm dia. ARRIFLEX mount

Distagon 25mm f1.2
Distagon 35mm f1.2
Planar 50mm f1.3

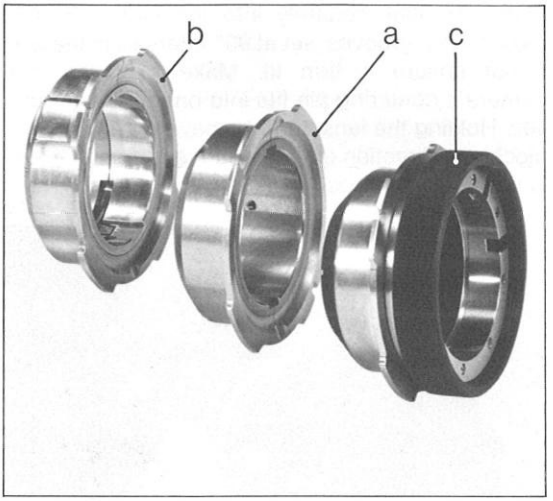
PL lens mount

The PL lens mount (PL = positive locking) has a diameter measuring 54mm. The bayonet positive locking feature ensures that even heavy lenses are held securely. A centering pin (p) in the contact surface prevents the lens being turned unintentionally. The PL mount is made of chrome nickel steel which is resistant to wear and corrosion.



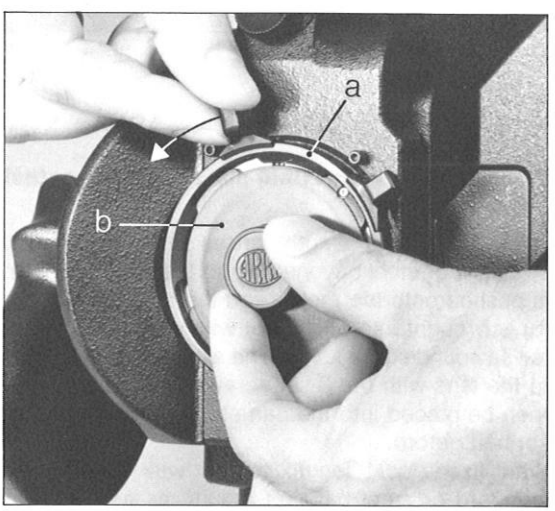
PL adapter

Two different adapters are available for use with fixed focal length lenses. One of the adapters has a bayonet lock (b) which can be quickly removed from the lens, the other is permanently screwed to lens (a). A collar ring adapter is available for using zoom lenses with 41mm dia. steel bayonet mount in the camera's PL mount. This collar ring adapter replaces the 41mm dia. mount; no readjustment is necessary.

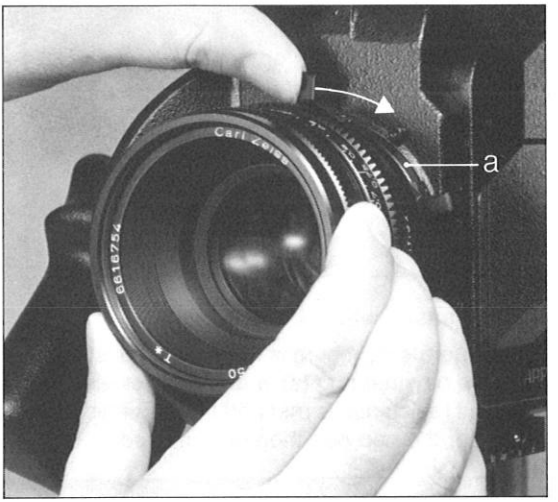


Fitting lenses with PL mount

The camera's PL mount is fitted with a dust cap (b). Turn the bayonet ring (a) in an anticlockwise direction until resistance is met and the locking device is released; the cap can then be removed.



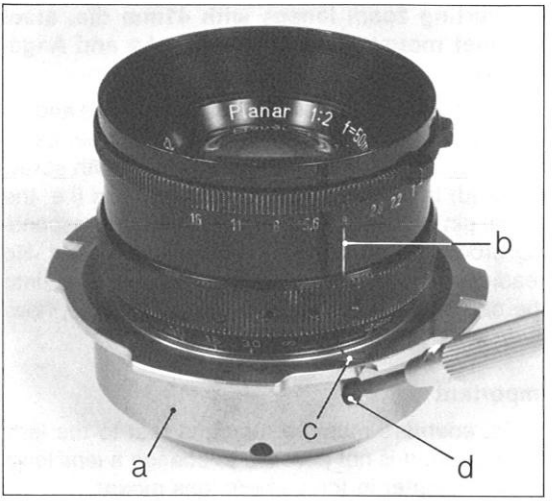
Place the lens squarely into the camera's lens mount. Four grooves, set at 90° intervals in the lens throat ensure a firm fit. Make sure that the camera's centering pin fits into one of these grooves. Holding the lens, turn the bayonet ring (a) in a clockwise direction until resistance is met. The lens is now locked in position.



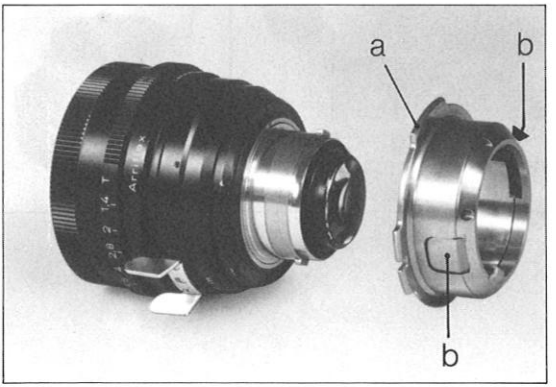
Fitting lenses with 41mm dia. standard or steel bayonet mount

With fixed focal length lenses with 41mm dia. standard or steel bayonet mount the PL adapter (a) is pushed onto the mount and the lens index mark (b) is brought into alignment with one of the adapter's two index marks (c). The adapter is then fixed to the lens with the 3 set screws and the lens can then be placed into the camera lens mount as described before.

With fixed focal length lenses with 41mm dia. standard or steel bayonet mount, as well as with



older fixed focal length lenses where the front elements rotate when focussing (e.g. Cooke Speed Panchro) the PL universal adapter (a) is simply pushed over the mount and locked by turning in a clockwise direction. A pin in the adapter aligns the lens to the index mark. To change the lens, press both of the release catches (b) and turn the adapter in an anticlockwise direction. The lens is placed into the camera lens mount as described before.

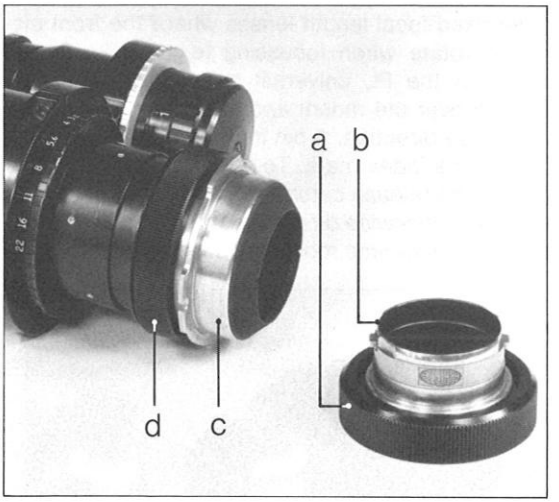


Converting zoom lenses with 41mm dia. steel bayonet mount to PL mount (Cooke and Angénieux)

The zoom lens screw collar (a) is unscrewed and removed completely with the 41mm dia. steel bayonet mount (b). The PL zoom adapter (c) with screw collar (d) is placed in the correct position (i.e. the dowel pin on the lens must fit into the corresponding groove in the adapter) and then tightened. No readjustment ist necessary. The lens is placed into the camera lens mount as described before, however, a lens support must be used.

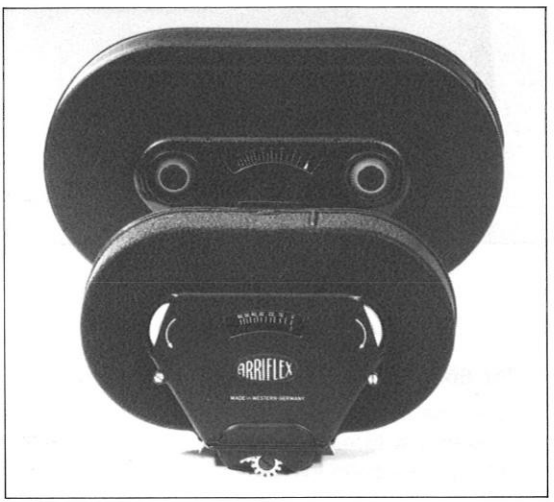
Important

All PL adapters must be attached first to the lens being used. It is not possible to change a lens leaving the adapter in the camera lens mount.



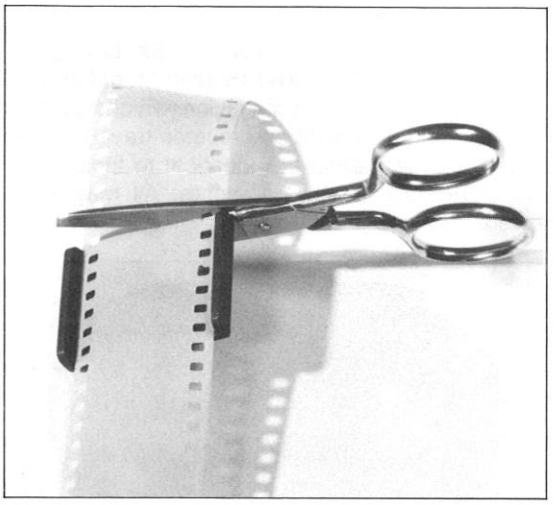
The magazines

Magazines for use with the ARRIFLEX 35 III C are available for 60m/200ft and 150m/400ft of film on a plastic bobby. The 150m magazine (which has been constructed for forward and reverse travel) as well as the 60m magazine are identical to those used with ARRIFLEX 35 II C cameras. All magazines have a film loop protector.



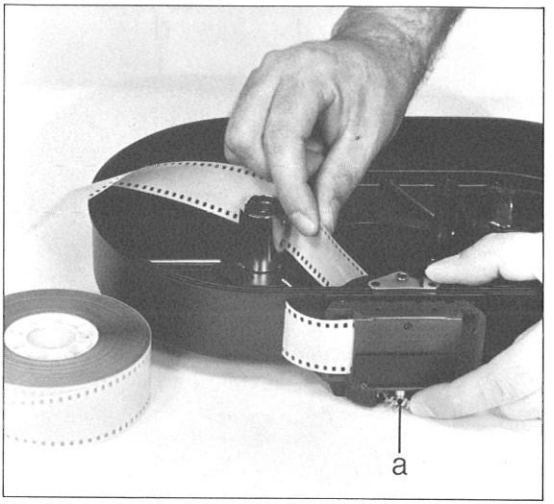
Threading the film

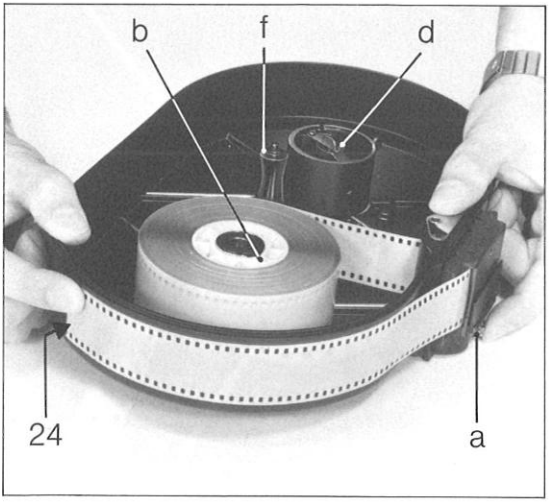
Use a piece of exposed film to practise threading the film before all the steps can be carried out in a darkroom or with a changing bag. Cut the film at a right angle through the middle of the perforation holes so that the magazine throat sprockets easily engage with the film's perforation holes. A film gauge simplifies cutting the film in a darkroom.

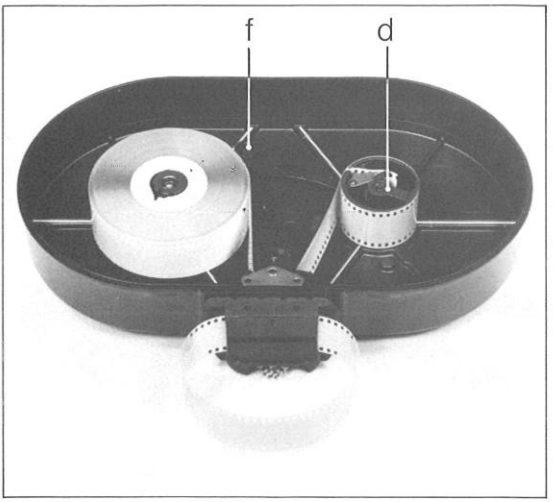


a) The 60m/200ft and 150m/400ft magazines

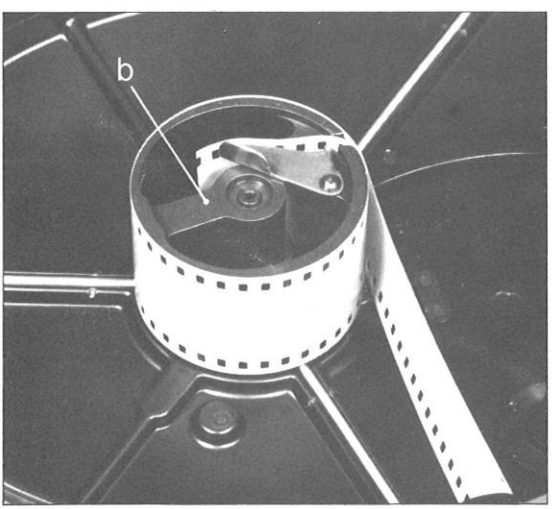
To open the magazine, press the safety catch (10) simultaneously turning the lock handle (11) in an anticlockwise direction to position A/O. The magazine lid can now be lifted off. Lay the roll of film (with the emulsion side facing inwards) beside the magazine and feed the film from the inside of the magazine into the left slot. Do not twist the film. Turning the gear wheel (a) carefully push the film until both perforation holes are engaged by the sprocket at the same time. Continue turning the gear wheel until the film end appears out of the magazine throat.
Now place the roll of film on the feed shaft. Take care that the drive key of the feed shaft is seated into the notch (b) on the plastic core. The raw stock counter arm (f) is swung onto the film roll.The film is then transported on until it reaches the loop marking (24); the film must lie flush with the magazine and the emulsion side must face inwards. The correct film loop has 54 perforations.


a


b
f
d
24
a

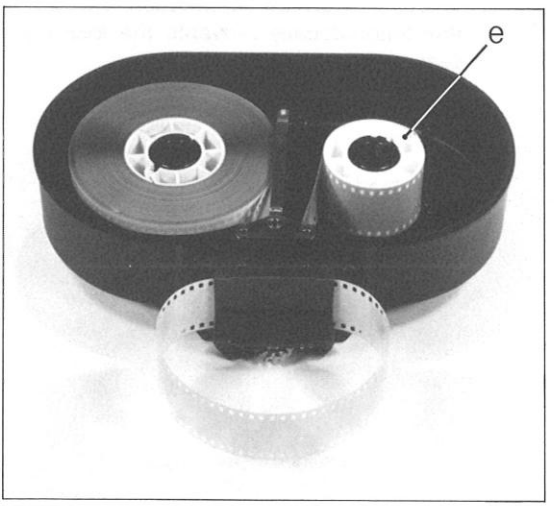


Without altering the length of the film, push the end of it into the right hand film channel. The emulsion side now faces outwards. Continue turning the sprocket to transport the film into the inside of the

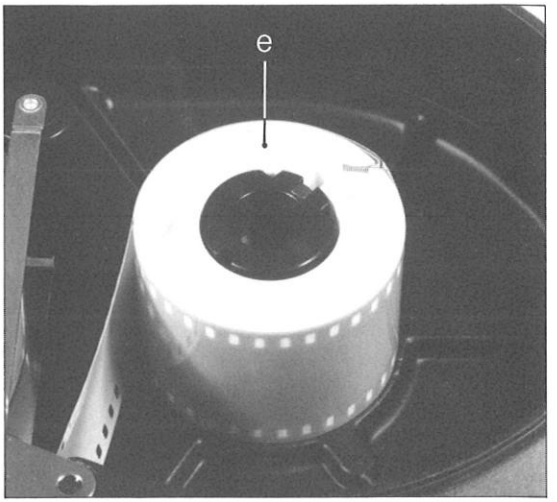


magazine, carefully clamp the film leader in the expandable film core (d) and wind it on one turn. Take care that the film sits at a right angle to the shaft to ensure trouble-free winding and to prevent the film roll from rubbing against the magazine lid.

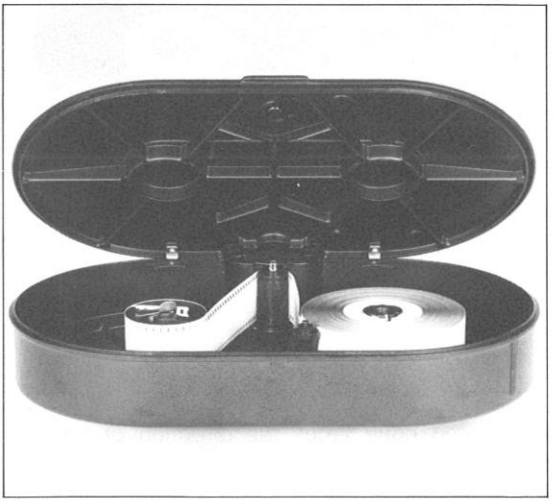
With the 60m magazine the film leader is held in a plastic core (e). The slot in the plastic core for securing the film leader must be so positioned that



its pointed edge faces the direction of rotation. Crease the film leader, hook the crease in the slot and wind the film tightly onto the core.

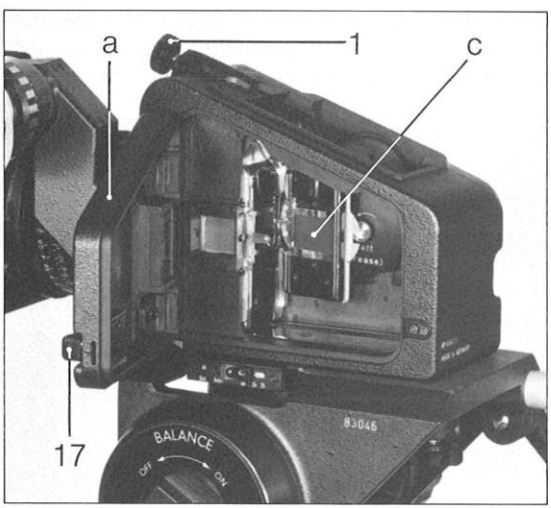


Replace the magazine lid and lock by turning the magazine lock in a clockwise direction. The safety spring now automatically prevents the lock from being released unintentionally.



Mounting the loaded magazine on the camera

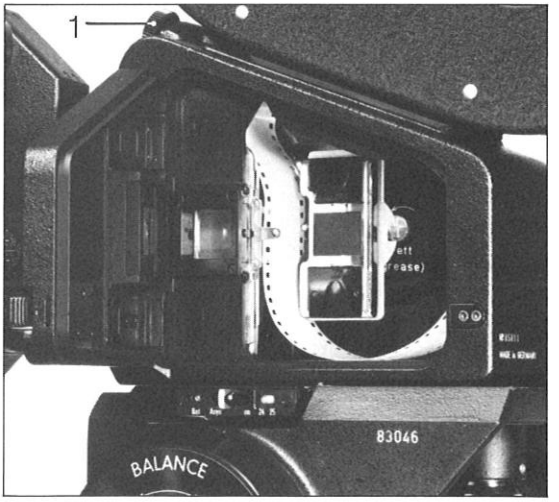
The following procedure applies to all magazines. First release the camera door lock (a) by pushing the lock (17) towards the lens and open the door as far as possible. Remove the magazine opening cover (k) by turning the magazine lock button (1) to the left and by pulling it up. Turn the manual control knurled wheel (28) until the claw pin clears the film plane. The film pressure gate (c) can now also be swung back as far as possible.



Now remove the magazine loop protector and place the rear part of the magazine throat into the camera dovetail guide. Lead the film loop (do not bend or crease the film) through the magazine opening. Push the magazine down so that it locks in the magazine opening. The magazine drive gear

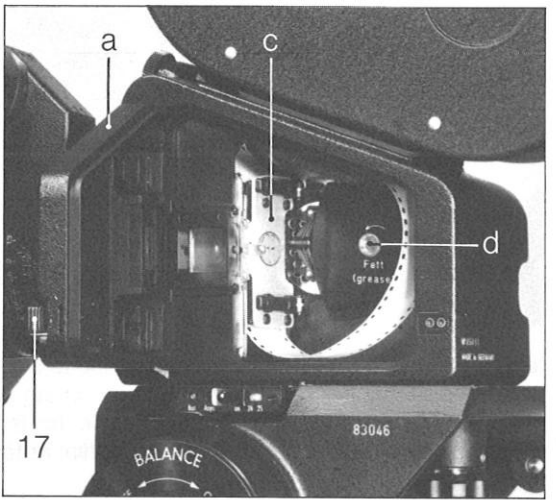
meshes automatically. If necessary, turn the knurled knob (28) to establish precise gear meshing. Turn the magazine lock button (1) to the right pressing it down. The magazine is now secured to the camera.

Shift the film on the film plane so that the film loop covers the given marking as much as possible (between the magazine throat and the upper claw position are 15 perforation holes). By slightly turning the



knurled disc (d) in an anticlockwise direction (direction of arrow), lower the transport claw pin into the nearest perforation hole and firmly hold the film in this position in relation to the marking. Close the

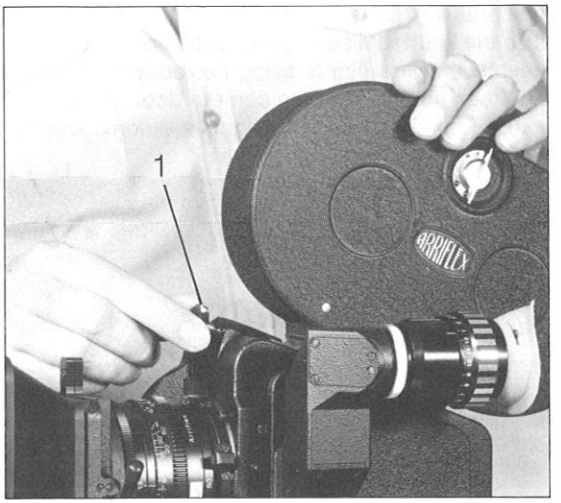
film pressure plate (c) and press it shut. Once again turn the knurled disc in the direction of the arrow to ensure that the film is being correctly transported and then lightly press the camera door (a) so that it locks. The door lock (17) engages automatically.



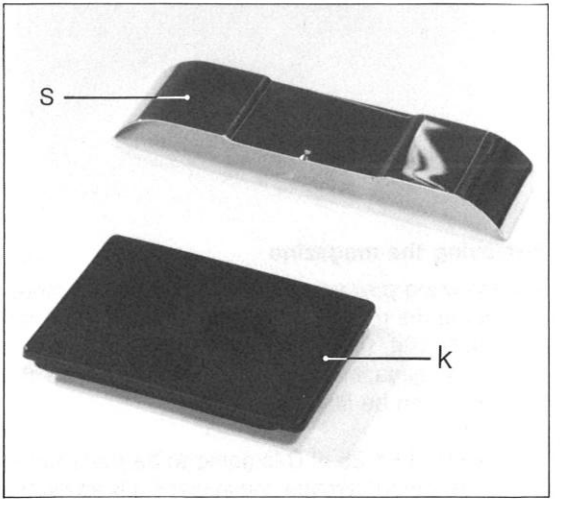
Removing the magazine

The following procedure applies for all magazines. By turning the magazine locking knob (1) to the left and pulling it, the wedge breech lock in the camera's magazine opening is released and the magazine can be lifted off.

If the ARRIFLEX 35 III C is going to be transported or stored without a magazine in place it is advisable

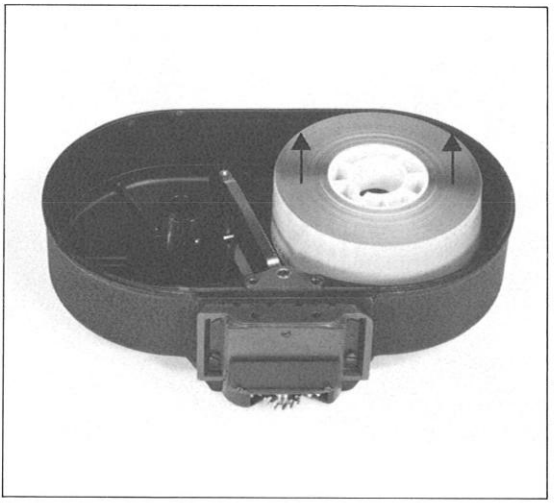


to fit a magazine cover (k) over the opening to prevent dirt entering the camera. To transport or store empty or loaded magazines the loop protector (s) should be fitted to prevent damage to the film or to the magazine throat.



Removing exposed film

With all magazines the exposed film must either be removed using a changing bag or in a dark room. With the 60m and 150m single compartment magazines remove the lid as described under "threading the film". By pressing the clamp lock the expandable film core reduces, releasing the film leader. The roll of film can now be lifted off the core. Hold the roll of film underneath to prevent it sagging in the middle. Put the roll on a flat surface and place a



plastic core in position to stabilize the roll. If a plastic core has been used instead of an expandable film core remove the film roll with the core in place (60m magazines).

CARE

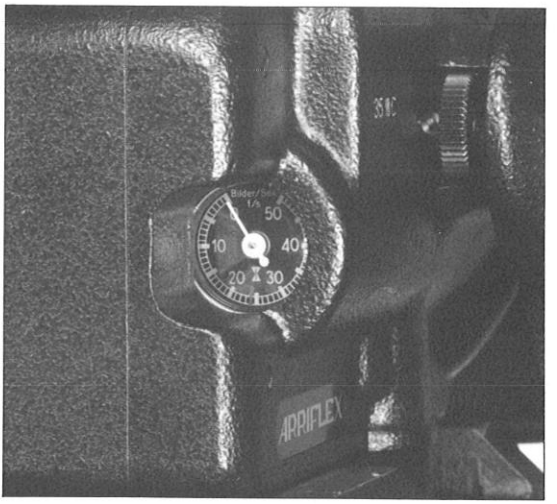
The plastic film core will sit loosely in the roll of film, but this is sufficient to stabilize it. On no account attempt to tighten the roll of film to make it sit more firmly — the exposed film will be scratched.

The counter for raw stock (25)

To be able to check the amount of raw stock available in the magazine (e.g. when the magazine is loaded with a roll smaller than the maximum capacity of the magazine) there is a mechanical, analog display fitted the magazine. The reading is given from the raw stock counter arm which presses against the roll of film (see "threading the film"). The scale is engraved in meters or feet.



The frame speed display (29)



Using the frame speed selector switch (18) the ARRIFLEX 35 III C can run quartz controlled with a frame speed of 24 or 25fps. The camera also has a tachometer for setting and reading steplessly adjustable frame speeds of 5 to 50fps (see also:''setting the frame speed'').

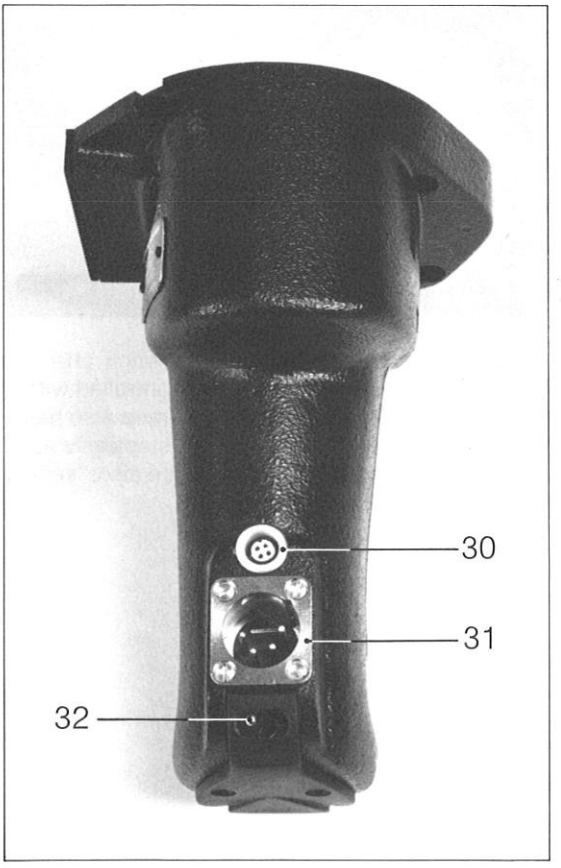
The controls

The 35 III C motor hand grip with built in motor has the following operating functions:

(31) The 4 pin flanged connector for the camera's power supply

(30) The 4 pin flanged connector for the electrical accessory being used e.g. pan handle switch, EXB etc.

(32) The mode selector switch with which the camera can be switched from quartz to variable frame speeds and vice versa, even whilst



the camera is running

(8) The knurled wheel for variable frame speeds

(19) The switch for forward and reverse travel **(only to be used when the camera is not running)**

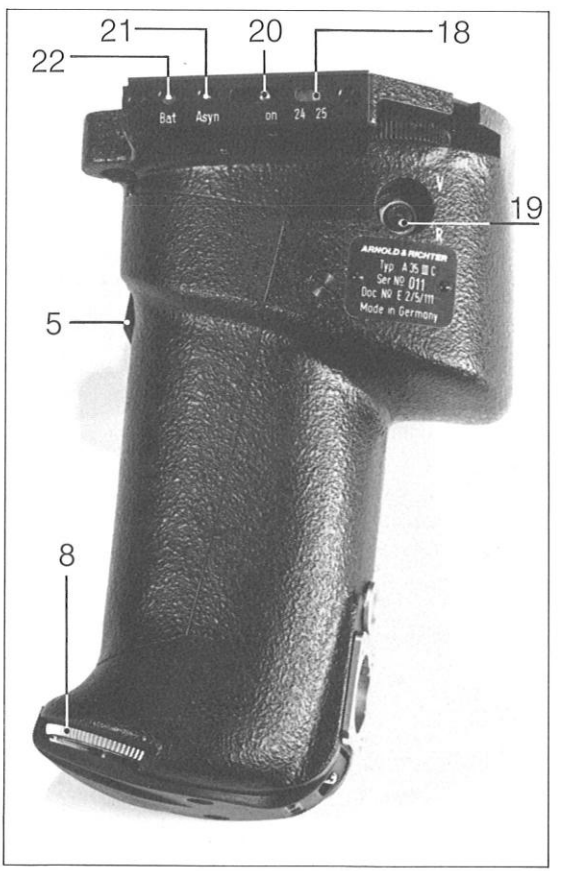
(22) The battery control lamp (green)

(21) The out-of-sync lamp (red)

(5) On/off push button for short takes

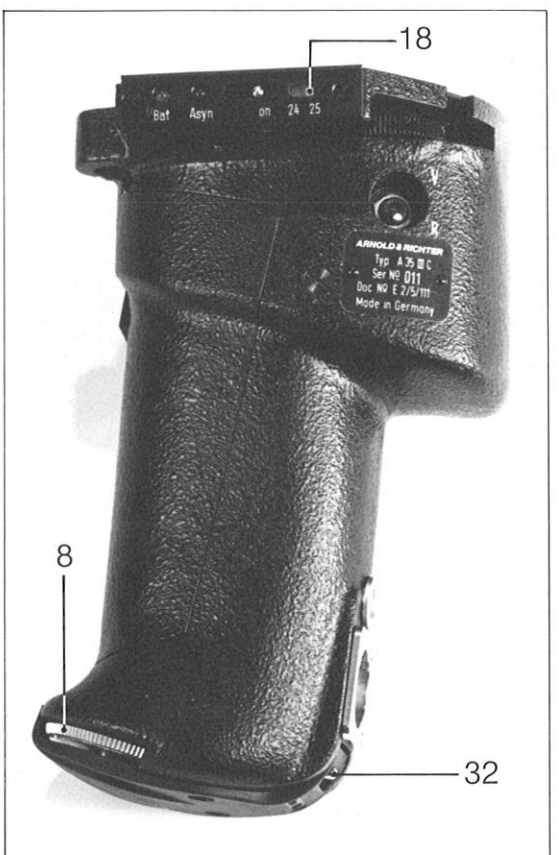
(20) On/off switch for longer takes

(18) The frame speed selector switch for quartz speeds, 24 or 25fps



Setting the frame speed

The selector switch (32) can be set for variable frame speeds of 5-50fps or for quartz operation, 24 or 25fps. This switch can be activated even when the camera is running. Variable frame speeds are obtained by turning the knurled wheel (8). For switching from 24 to 25fps and back, use a ball point pen or similar to move the slider switch (18) to the desired position. (See also: "The frame speed display").

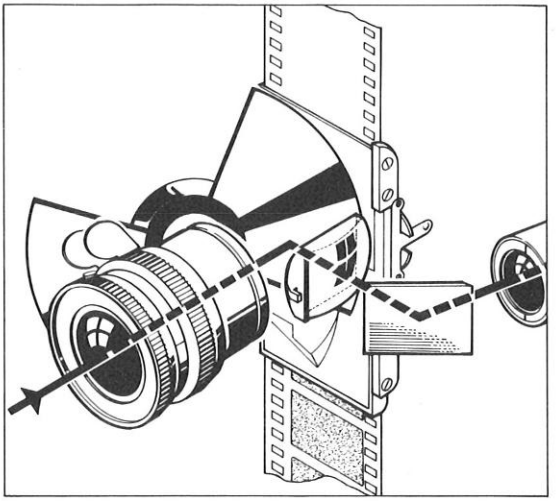


Controlling the electrical functions

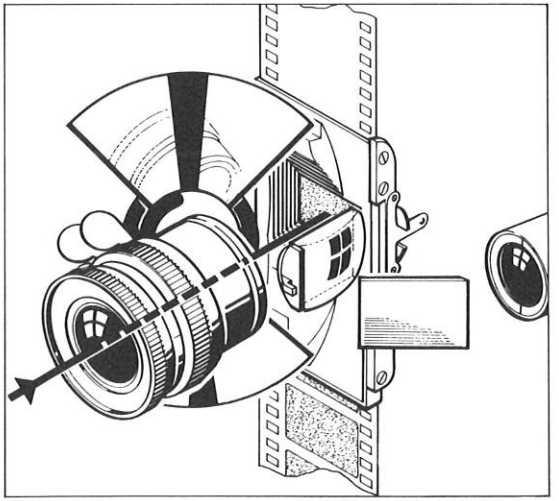
Connect the camera to the power supply (see also: "The power supply and motors"). Place the camera ON/OFF switch (20) to "on" or press the button (5). Until the selected frame speed is reached the red out-of-sync lamp (21) will remain lit. The green battery control lamp (22) will remain lit during the whole time the camera is running to indicate that there is sufficient battery capacity. Variable frame speeds are selected with the knurled wheel (8) and can be read from the frame speed display (29) (tachometer).
When the camera is switched off the red out-of-sync lamp remains lit until the camera has stopped running. The green battery control lamp goes out straight away.

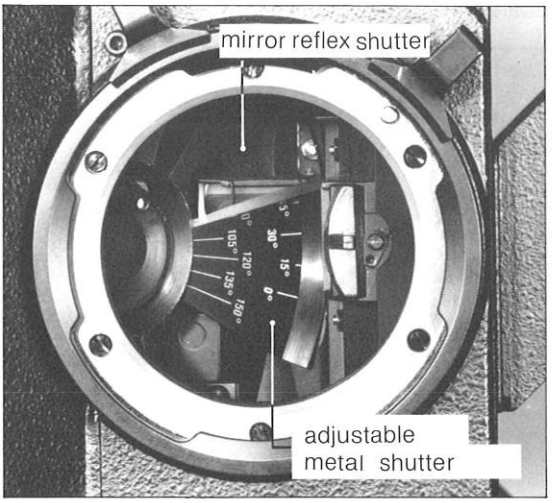
The mirror reflex viewfinder system

The ARRIFLEX 35 III C has a double blade 165° rotary mirror shutter which sends the rays entering through the lens onto the film and the ground glass alternately in a relationship of 1 : 1. The ground glass image is enlarged 6.5 times by the eyepiece and this image, regardless of whether the camera is running or not, is bright, upright, without mirror effect, free of parallax, and has the same sharpness and format as the film image.



Above is a diagram of the path of the rays when the film is being transported, below when the film is being exposed.

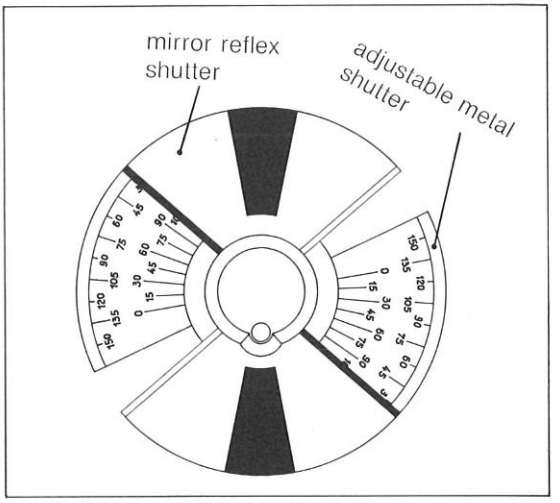




The opening of the mirror shutter can be set between 0° and 165° in steps of 15°. The engraved degree markings can be seen through the open PL mount. To alter the setting: turn the knurled knob (26) in the direction of the arrow as far as it will go and then press it in. Keeping the knurled knob pressed in, turn the knurled wheel (28) to the left or right until it slots into the desired setting. When the knurled knob (26) is released it snaps back to its original position.

Under no circumstances should the knurled knob (26) be pressed in when the camera is running and neither should the camera be switched on when the knob is pressed in.

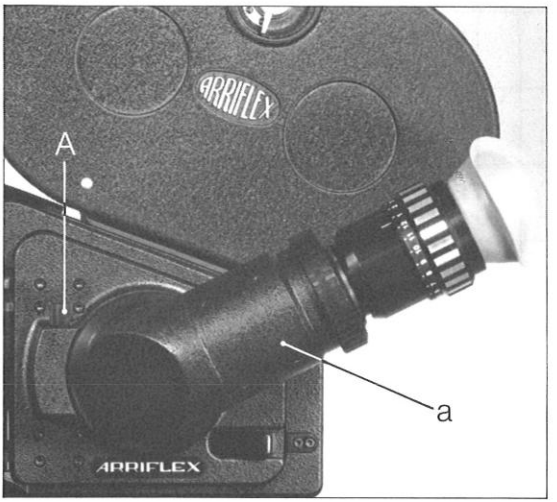
Ensure that the variable blade has locked into a setting to prevent a change of setting whilst the camera is running. According to the colour of the edge of the mirror reflex shutter segment the shutter opening can be read off in the inner or outer scale.



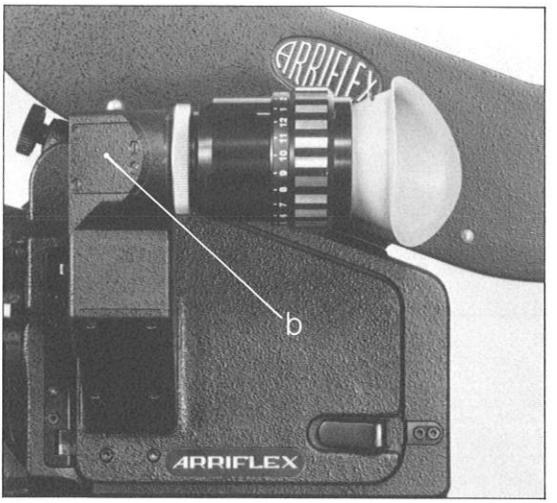
Exposure times in seconds at various shutter openings and frame speeds/secs.

Frames per second		4	8	12	16	20	24	28	32	36	40	44	48
Shutter opening in degrees													
	165°	1/9	1/17	1/26	1/35	1/44	1/52	1/61	1/70	1/78	1/87	1/96	1/105
	150°	1/10	1/19	1/29	1/38	1/48	1/58	1/67	1/77	1/86	1/96	1/106	1/115
	135°	1/11	1/21	1/32	1/43	1/53	1/64	1/75	1/85	1/96	1/107	1/117	1/128
	120°	1/12	1/24	1/36	1/48	1/60	1/72	1/84	1/96	1/108	1/120	1/132	1/144
	105°	1/14	1/27	1/41	1/55	1/69	1/82	1/96	1/110	1/123	1/137	1/151	1/165
	90°	1/16	1/32	1/48	1/64	1/80	1/96	1/112	1/128	1/144	1/160	1/176	1/192
	75°	1/19	1/38	1/58	1/77	1/96	1/115	1/134	1/154	1/173	1/192	1/211	1/230
	60°	1/24	1/48	1/72	1/96	1/120	1/144	1/168	1/192	1/216	1/240	1/264	1/288
	45°	1/32	1/64	1/96	1/128	1/160	1/192	1/224	1/256	1/288	1/320	1/352	1/384
	30°	1/48	1/96	1/144	1/192	1/240	1/288	1/332	1/384	1/432	1/480	1/528	1/576
	15°	1/96	1/192	1/288	1/384	1/480	1/576	1/664	1/768	1/864	1/960	1/1056	1/1152

Interchangeable camera doors

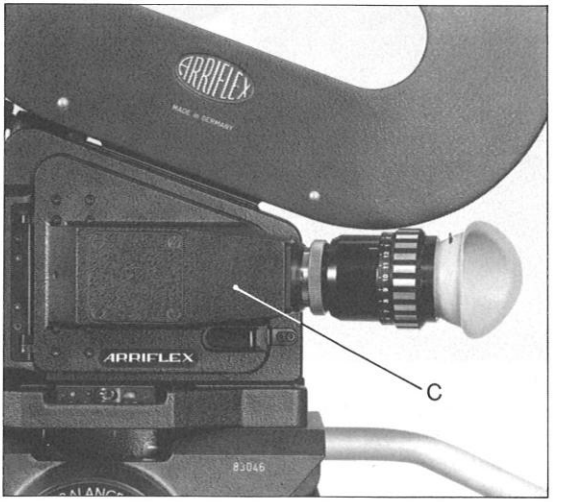


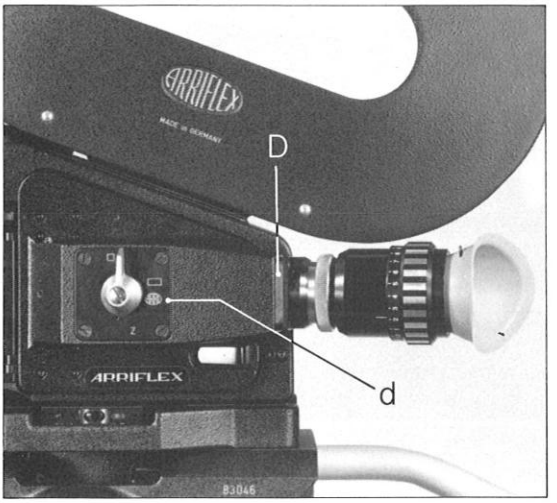
The ARRIFLEX 35 III C can be fitted with different camera doors. The **pivoting viewfinder** (a) for all production applications, can be steplessly adjusted through a 210° arc. With the friction setting (A) the torque can be set as desired.

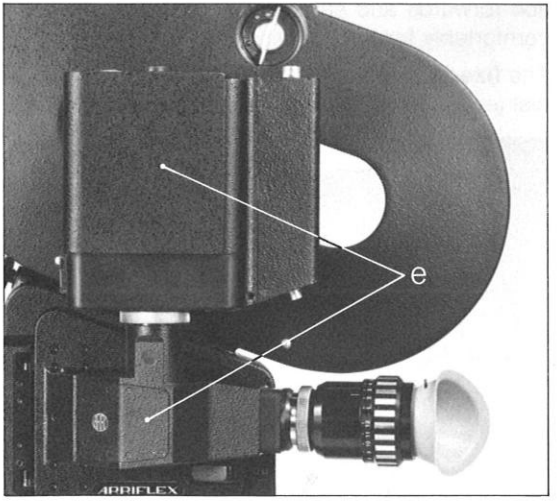


The **offset viewfinder** (b) moves the viewing position forwards and enables the camera to be held comfortably for hand filming.

The **fixed viewfinder** (c) is ready fitted for video assist (e) and for viewfinder anamorphic elements (d).

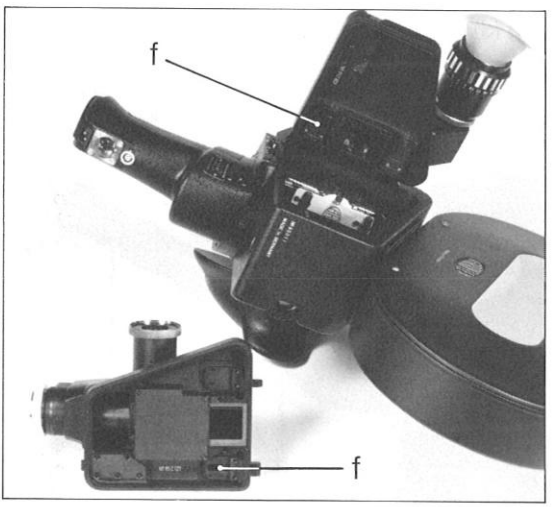






A **wide angle eyepiece** is also available for use with all of the camera doors.
The different viewfinder systems can be applied by simply exchanging the camera doors.

To change the viewfinder, push the door lock (17) towards the lens and open the camera door. Pull the spring loaded hinge bolt (f) outwards, pull the camera door upwards and remove. Pull the spring loaded hinge bolt (f) outwards and hang the new camera door in position. Carefully close the camera door and make sure that it has fully locked into the hinge.

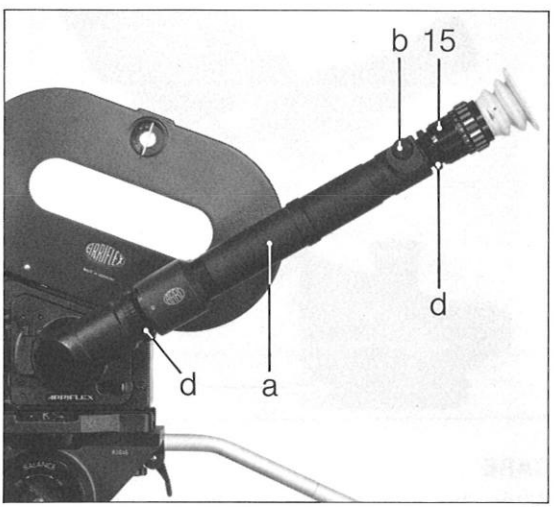


CARE

When the fixed viewfinder with anamorphic element is used the spacer ring (D) must be fitted.

The viewfinder extension

The viewfinder extension (a) should be used when shooting from a tripod. The swing in contrast filter (b) offers an extra advantage. To mount, unscrew viewfinder eyepiece (15), fit the extension in its place and then screw the viewfinder eyepiece onto the extension. When fitting, ensure that the extension and the eyepiece supporting pins engage in their counterpart grooves. Tighten the screw collar ring (d).

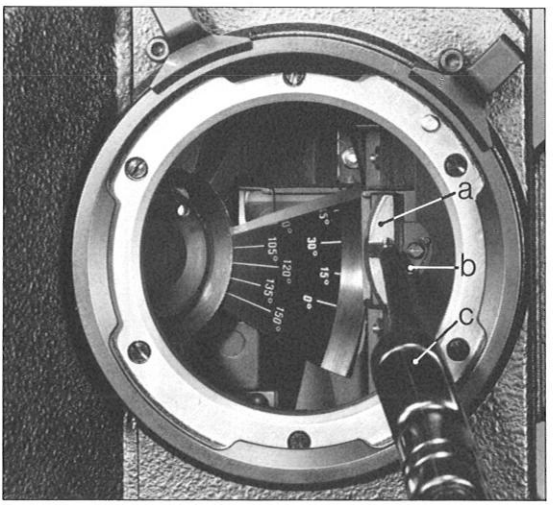


CARE

Double threads! If the screw collar ring cannot be easily tightened, turn the eyepiece or the extension through 180° and try again.

Changing the ground glass

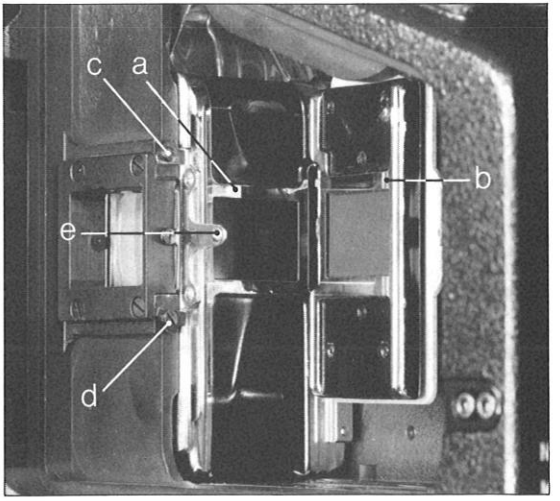
Ground glasses (a) with different format markings for film and television are available for use with the ARRIFLEX 35 III C. Before changing the ground glass remove the lens and turn the knurled wheel (28) to clear the mirror shutter from the lens mount area. Push the spring plate (b) to the side and using a special clamp (c) grasp the hook situated on the



frame of the ground glass and pull the ground glass out of its holder. Before fitting the new ground glass, ensure that no dirt is on the frame otherwise focussing of the lens might be impaired. Using the special clamp grasp the new ground glass and push into position. To secure, swing the spring plate back into its original position.

Changing the film gate

To change the film gate (a) unlock the camera door (16) and the film pressure gate (b) and open as far as possible (see ''mounting the loaded magazine on the camera''). Clear the mirror shutter from the film gate area by turning the knurled wheel (28). When changing the film gate the transport claw pin must clear the film plane area otherwise the film gate might be damaged.
Loosen both of the film gate fitting plate screws (c, d) and pull the plates back. Grip the film gate at its lock (e), lift the front side slightly and carefully remove. **Take care that the claw stays back in its centre position and does not protrude through the slot in the film gate.**
To refit, proceed in the reverse order.

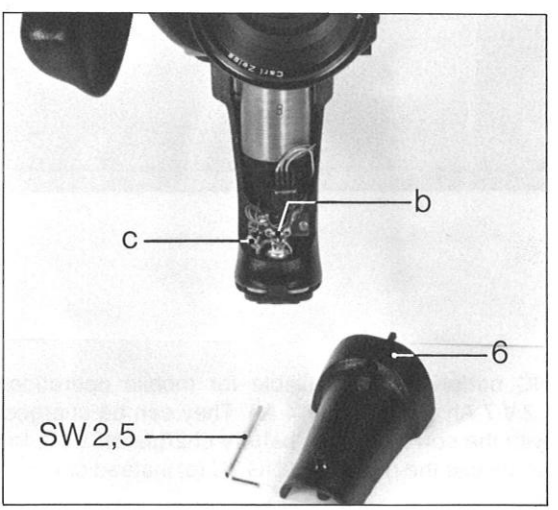


Care

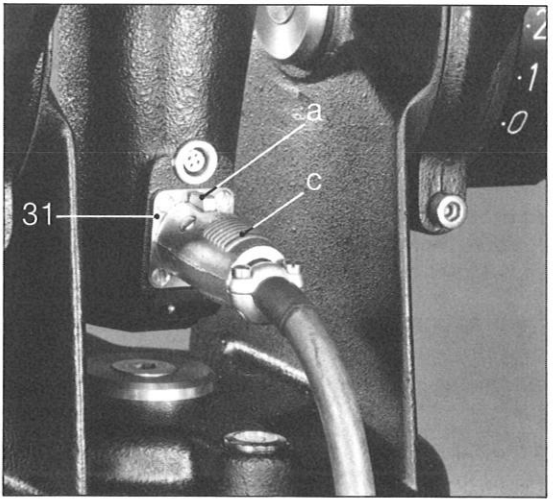
Before positioning the new film gate ensure that the flange surfaces are clean otherwise the flange focal distance of the camera cannot be guaranteed.

Changing the fuse

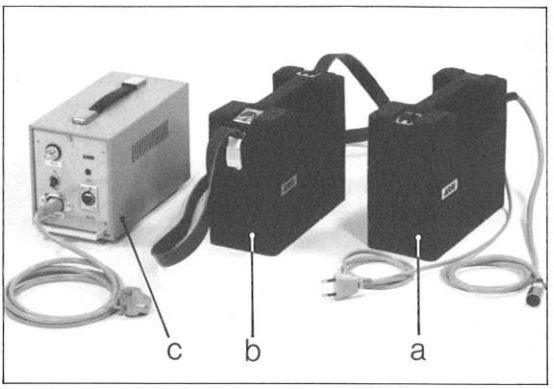
To change the fuse, unscrew the jacket (6) using hex socket screw drive (SW2.5). Remove the fuse (b) with tweezers and place the spare fuse (c) in its position. Replace the jacket and obtain a new spare fuse. Motor protection: picofuse 10 A.



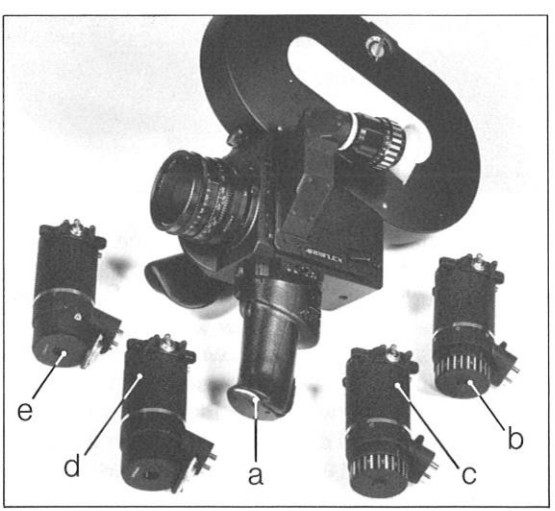
Connect the camera to the battery using the battery cable KCU or the coiled power cable KCU-Sp. When inserting the 4 pin connecting plug (c) in the socket (31) the locking lever (a) must point upwards — i.e. the guide rib of the plug must slide exactly into the groove of the socket. Check mechanical locking.



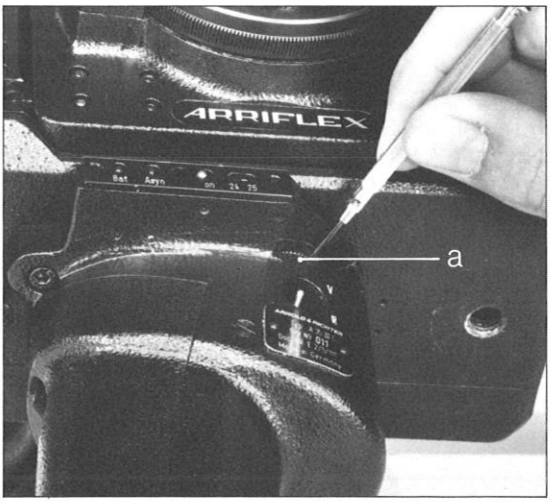
NC batteries are available for mobile operation: 12 V 7 Ah (b) and 12 V 4 Ah. They can be charged with the corresponding battery charger NCL (a). Indoors use the mains unit NG 7U (c) instead of a battery.



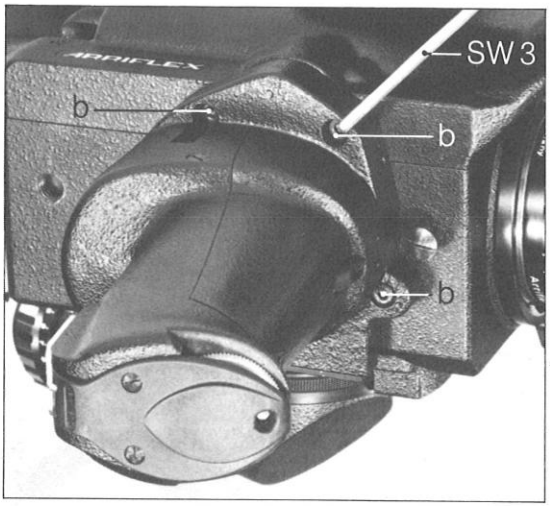
a) The ARRIFLEX 35 III C is delivered with the motor hand grip A 35 III CM. It has a push button release for shorter periods of filming, an ON/OFF switch for longer periods of filming and can be switched over for forward and reverse travel, for quartz operation 24 or 25fps as well as for variable frame speed sett-



ings of 5-50fps. 2 LED lamps indicate out-of-sync run and that the battery has sufficient power. A fuse protects the motor from over loading. (See also: "the controls").



To attach the motor to the camera place the motor hand grip (upper part) into the camera base counterpart ensuring that both gear wheels engage. The spring loaded assembly screw with knurled wheel (a) serves as a guide. Turn this wheel slightly and fasten; tighten the 3 hex socket screws (b) using a hex socket screw drive (SW 3). Place a punch in the bore at the external diameter and tighten the knurled wheel. Carry out a control check as described in "controlling the electrical functions".



The below listed ARRIFLEX 35 II C hand grips can also be used. They are fitted to the camera in the same way as the A 35 III CM motor hand grip, however, with four cheese head screws. These hand grips have the following functions:

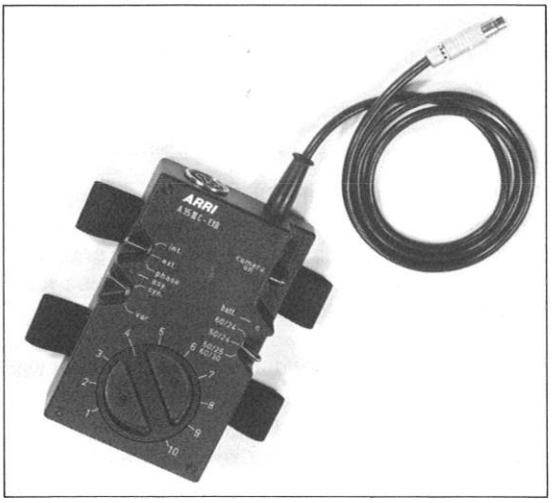
b) 16 V variable speed motor 20 – 30fps, with ON/OFF switch, suitable for reverse travel

c) 24 V variable speed motor 10 – 31fps, with ON/OFF switch, suitable for reverse travel

d) 16 V governor controlled motor 24fps, with ON/OFF switch

e) 16 V governor controlled motor 25fps, with ON/OFF switch

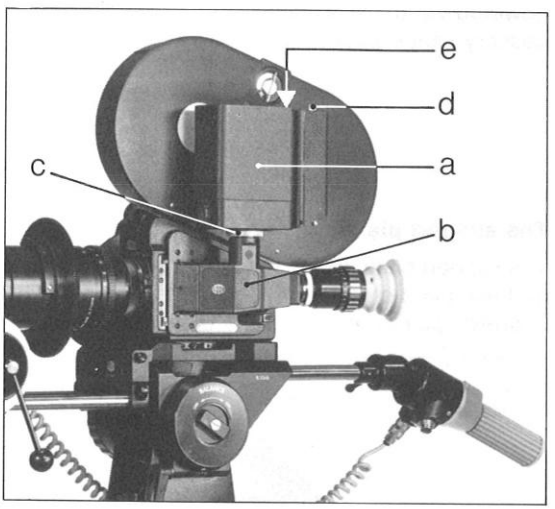
The external control unit EXB is placed onto the tripod pan handle using a holder and it is connected electrically to the camera with a cable which is plugged into the 4 pin flange socket (30) on the motor hand grip A 35 III CM. The camera can be



switched on and off with this unit — the camera release (20) must be in position "off". The external control unit can also be used to switch from quartz to variable frame speeds, and back, as well as for selecting variable frame speeds from 5-50fps.
Synchronizing with an external control frequency (e.g. mains or video) as well as phase shifting when filming from monitors is also possible.

Video assist

On request the ARRIFLEX 35 III C can be supplied with a video assist. The camera is fitted with a camera door with fixed finder and built-in optical unit. The video camera with video power supply can easily be attached to and removed from this unit; it



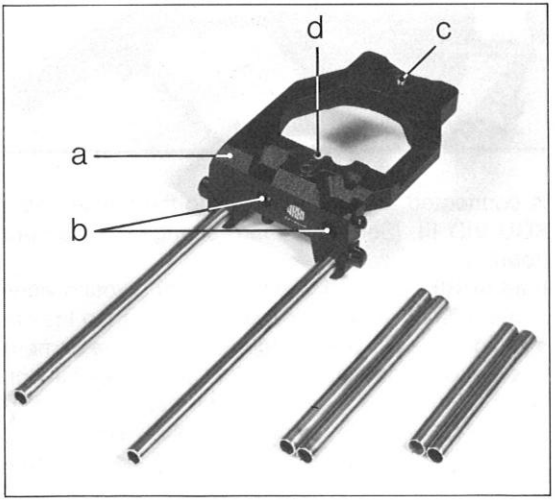
is connected to the battery using the power cable KCU VID III. (See also: "Interchangeable camera doors").
If an ARRIFLEX 35 III C with offset or pivoting viewfinder is to be adapted for video assist, then the camera door needs only to be replaced. If the camera has a fixed finder without optical unit an optical unit can be fitted; however, this work can only be carried out in the factory or an authorised ARRI service centre. The viewfinder system must also be adjusted.

To fit, place the video camera (a) onto the optical unit's (b) flange, engage the guide pin and fasten with the collar ring (c). To power the ARRIFLEX 35 III C as well as the video camera, the battery cable KCU VID 35 III must be used. A BNC standard plug (d), located at the rear of the video assist, enables one or more monitors to be connected.

The video assist can be switched on and off independent of the 35 III C camera (e). If a servo zoom drive is going to be used at the same time as a video assist, then the video camera should be powered via an extra cable K-VID from the 4 pin accessory flange socket.

The support plate

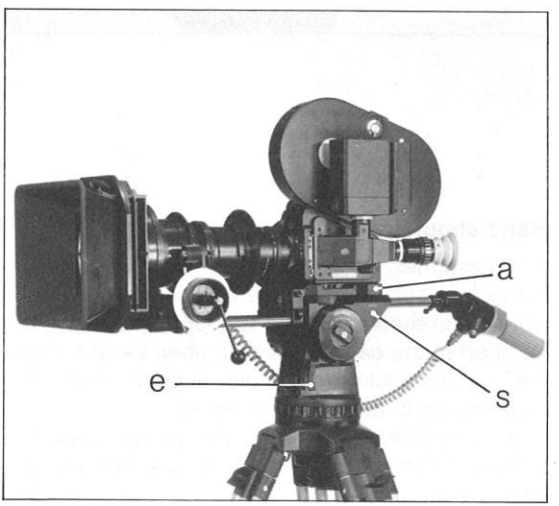
The support plate is comprised of the base plate (a) and five pairs of different length support rods. The shortest pair is fitted into the upper boreholes (b)



(e.g. for the light-weight follow focus unit), the remaining four pairs are placed in the lower boreholes (e.g. lens support, universal follow focus unit, matte boxes as well as servo zoom drive etc.).
In the technical information sheet "The lens accessories for the ARRIFLEX 35 II C and the ARRIFLEX 35 III C with the support plate" one can see which lens accessories are needed, and in which order they must be placed on the support rods.

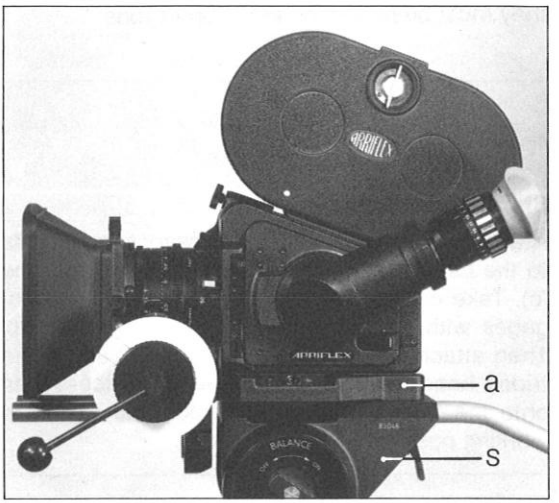
Shooting from a tripod

Attach the support with the necessary support rods to the camera's tripod thread using special screw (c). Take care that the camera's tripod screw engages with the support plate's fixing groove (d). Then attach the camera with support plate to the tripod head (s). Place the necessary accessories onto the front of the support rods and fix in the working position.



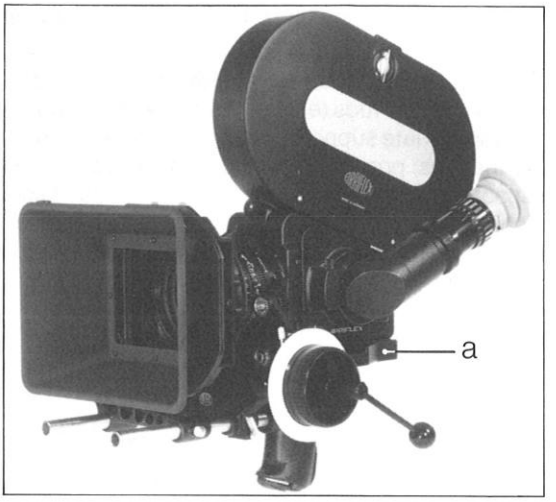
Care

The camera outfit cannot be shifted on the tripod head to change balance of weight. If tele or zoom lenses with accessories are being used, the camera is extremely nose heavy; for this reason the head's tilt adjustment screw (e) should only be released when the pan handle is held securely.



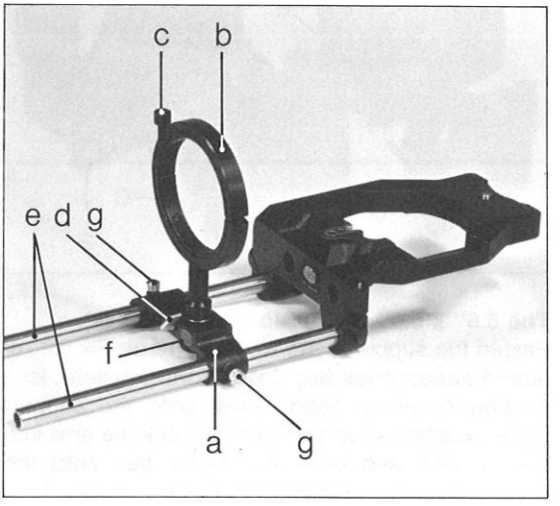
Hand shooting

If accessories such as the 4" x 4" production matte box and follow focus are going to be used when hand shooting, then the support plate (a) must be fitted to the camera as described before. Place the correspondingly marked support rods and accessories in position and secure.
If required different camera doors can be used. The battery is carried by the camera operator using a shoulder belt.



The lens support

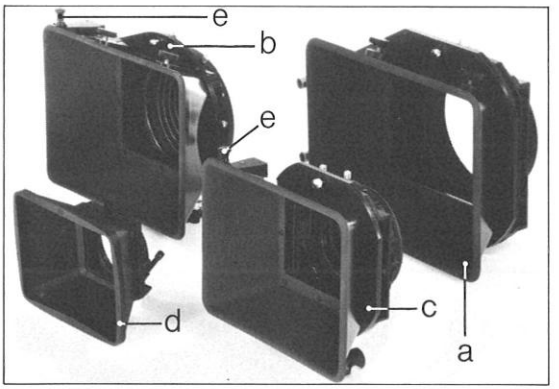
The lens support is comprised of a support guide (a) and a hinged support ring (b); when the exact position of the lens has been determined, the support



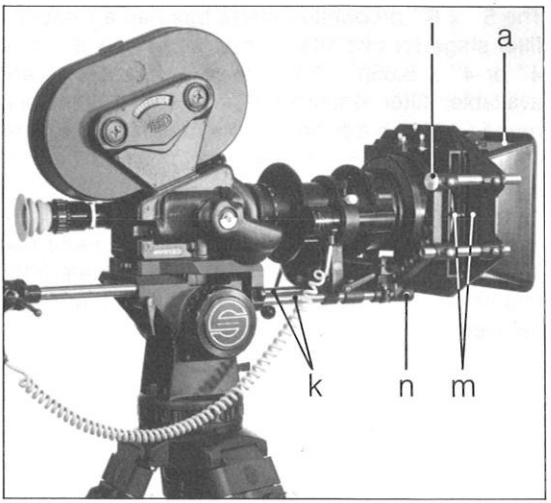
ring is clamped in this position with the clamp screw (c).

To mount, push the support guide onto the support plate's support rods (e) and lock the lens (fitted with the appropriate support ring) into the camera. Holding the lens, position the support guide so that the support ring's spacing rod lies above the guide. Tighten knurled screw (f). Finally tighten knurled screw (g) and fasten clamp lever (d).

The matte boxes



The 6.6" x 6.6" production matte box (a)
Fasten the support plate to the camera. Fix the required accessories (e.g. follow focus system, lens support or servo zoom drive) onto the support plate's support rods and secure. Lock the lens into the camera and push the matte box onto the support rods (k). Determine the best position of the

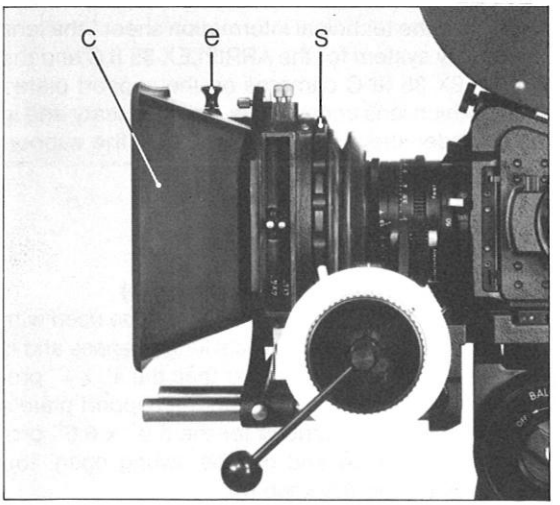


matte box by moving it and adjusting the eccentric (l) using the short support rod's upper knurled knob on the matte box side. Ensure that when the lens is fully extended the front ring of the lens does not touch any filters (m) that might be used. Then fasten clamp screw (n).
Refer also the technical information sheet "the lens accessory system for the ARRIFLEX 35 II C and the ARRIFLEX 35 III C cameras on the support plate" to see which lens accessories are necessary and in which order they must be placed on the support rods.

The 5" x 6" production matte box (b)
The 5" x 6" production matte box can be used with zoom as well as with fixed focal length lenses and is only slightly larger and heavier than the 4" x 4" production matte box. It is fitted to the support plate's support rods (as described for the 6.6" x 6.6" production matte box) and can be swung open, forwards, by pulling the knob (e).

The 5'' x 6'' production matte box has a rotatable filter stage for two filter frames sized 5'' x 6'', 4'' x 4'' or 4'' x 5.650''. The following accessories are available: filter rings for 6'' dia. or 138mm dia. round filters; an additional, rotatable filter stage for filters sized 5'' x 6'', 4'' x 4'' or 4'' x 5.650''; a light shade sleeve.
To mount, first fasten the necessary lens accessories on the support rods, then push the matte box onto the rods and fasten. Take care that the front ring of the lens will not touch any filters that might be used.

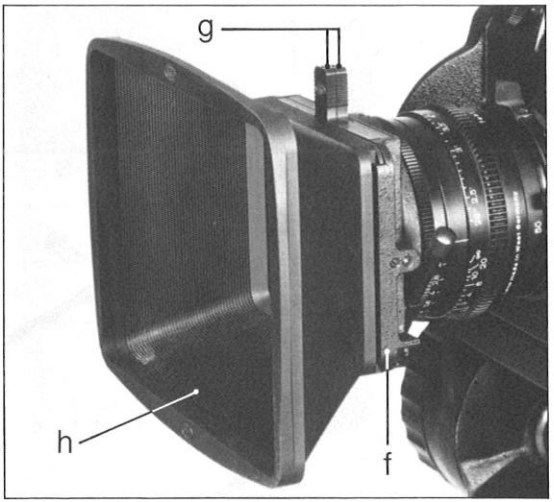
The 4'' x 4'' production matte box (c)
The 4'' x 4'' production matte box is used with fixed focal length lenses. If round filters are needed, they can be fitted in the filter ring (s) with a screw ring.



The matte box is fitted onto the support rods in the same way as the 6.6'' x 6.6'' production matte box and can be swung open by pulling the knob (e). Refer also to the technical information sheet ''the lens accessory system for the ARRIFLEX 35 II C and the ARRIFLEX 35 III C on the support plate''.

The light-weight matte box

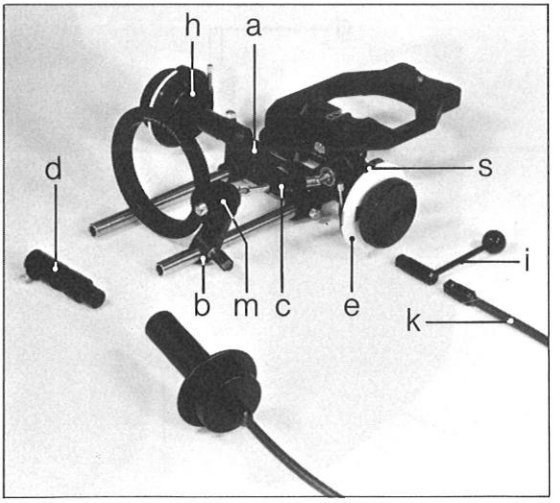
The light-weight matte box is comprised of the filter holder (f), the two 3'' x 3'' filter frames (g) and the rectangular shade (h). The filter holder is clamped onto the front side of the lens; older lenses require an adapter ring for a close fit. When fixed focal length lenses with rotatable front ring for diaphragm adjustment are used, an additional matte box holder is required. Place the short support rods in the support plate's upper boreholes and fasten. Secure support plate to the camera and push the matte box holder on until the light protector ring lies flush with the diaphragm ring of the lens. The filter



holder (f) is then fastened and the rectangular shade (h) is pushed on until the locking lever engages. The choice of accessories, as well as how to fit the light-weight matte box to different lenses is shown in the technical information sheet "the light-weight matte box".

Universal follow focus system I

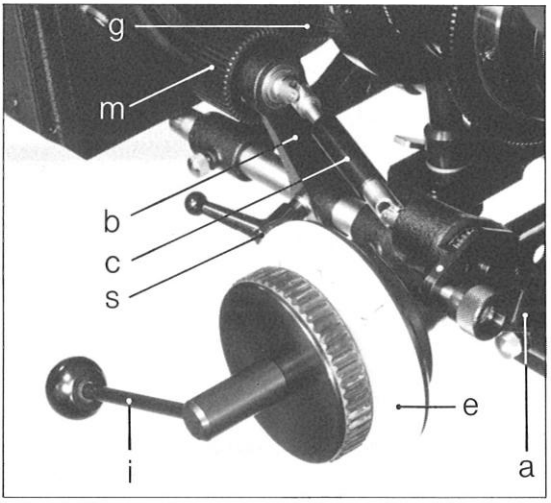
The follow focus system (a) is fitted to the support plate's support rods. A separate lens drive is available for fixed focal length lenses. To drive zoom lenses a spring-loaded drive shaft (c), a clamp holder (b) and a separate gear ring for Cooke zoom lenses or for Angénieux zoom lenses (m) are necessary. The focussing disc (s) can be turned through 360° and fixed in any position required. The index disc (e) can be exchanged.



Accessories: for operation from the right hand side, the right hand focussing knob (h), and when necessary, the extension (d) can be attached. The focus lever (i) and the flexible shaft (k) can be fitted into the focussing knob on the left or the right hand side.

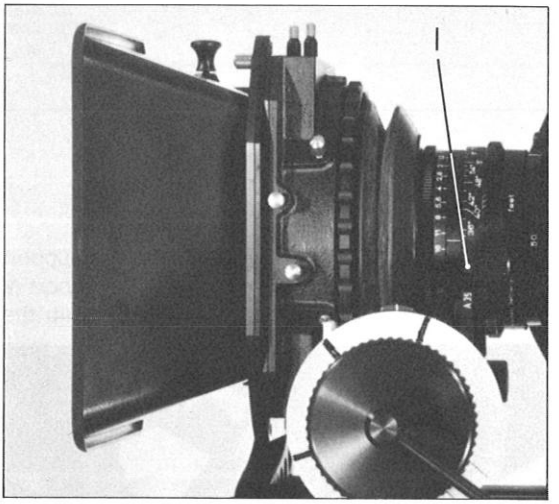
Use with zoom lenses

Push the follow focus system (a) onto the support rods, lock the lens into the camera and support it. Place the clamp holder (b) with gear (m) onto the

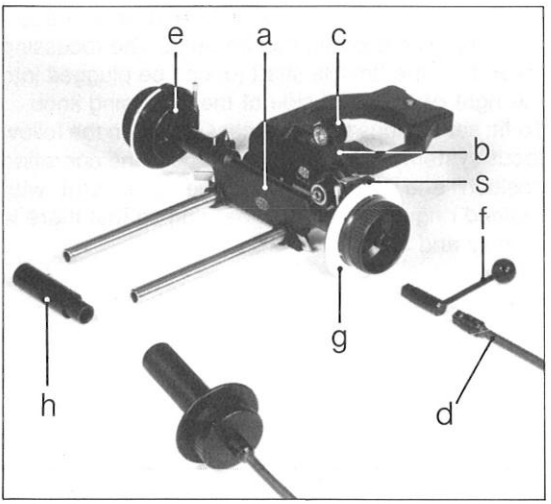


left hand support rod (looking in the taking direction) and swing onto the lens gear ring (g) so that there is no play (if necessary, set the lens focussing ring to ∞). Fasten the clamp, position the drive shaft (c) and clamp the follow focus system.

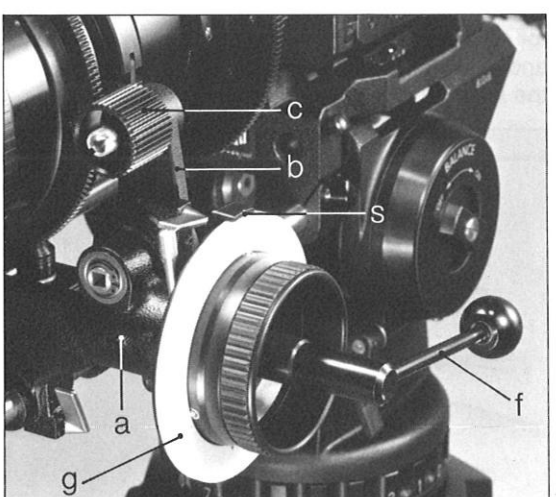
Use with fixed focal length lenses
Place the follow focus system (a) in an operating position and clamp. Swing the lens drive (l) onto the lens gear ring so that there is no play and then clamp; (if necessary set the lens focus setting to ∞ beforehand).



Universal follow focus system II
This follow focus system is fastened to the support plate's support rods. The gear (c) necessary to drive the lens, is fitted to the swing arm (b). The gear can be fitted to both sides of the swing arm which can be swung up or down onto the lens gear ring according to the situation. The focussing index (s) can be turned through 360° and clamped as re-



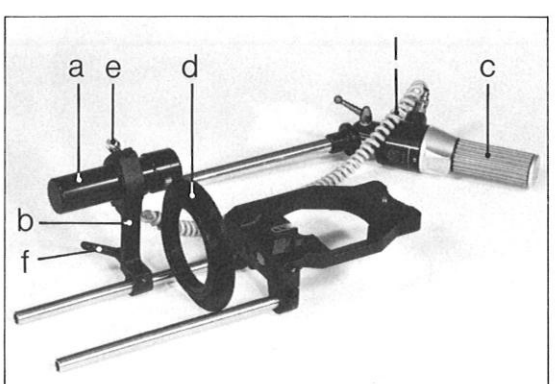
quired. The marking discs (g) can be marked with a wax crayon or with a waterproof felt tipped pen. Spirits can be used to clean the discs.
Accessories: for operation from the right hand side,



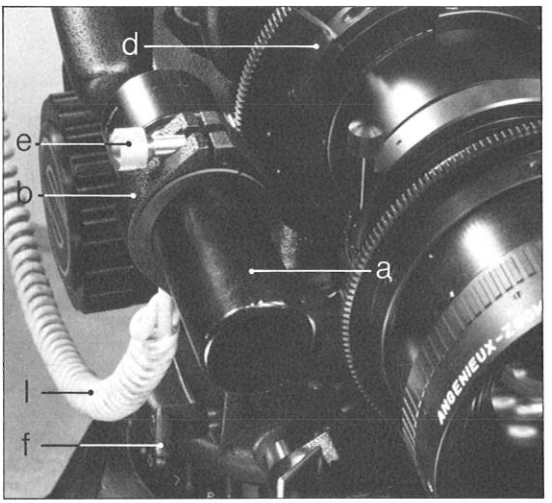
the right hand focussing knob (e) and, when necessary, the extension (h) can be fitted. The focussing lever (f) or the flexible shaft (d) can be plugged into the right or left hand side of the focussing knob.
To fit: set the lens to ∞ if necessary, push the follow focus system onto the support rods in the operating position and clamp. Swing the gear arm with toothed ring onto the lens gear ring so that there is no play and fasten.

Servo zoom drive

The servo zoom drive is comprised of the drive motor (a), the motor holder (b), the zoom hand grip (c) and the drive toothed ring (d) which is mounted on the lens.



To mount, place the camera with support plate onto the tripod and fasten (see "the support plate"). Push the drive motor (a) into the holder (b); place



the holder (with drive motor) onto the right hand support rod of the support plate (seen in the taking direction) so that the head of the motor with pinion is facing the camera.

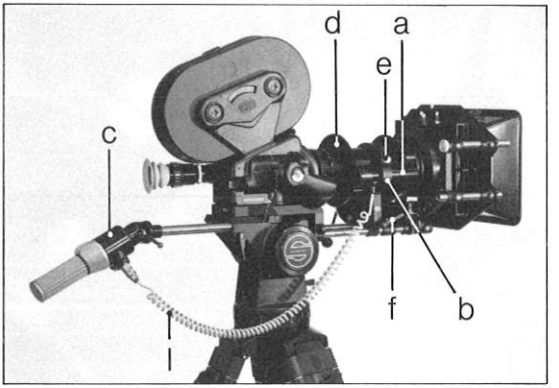
Now place the lens support guide on the support plate's support rods. Lock the lens (with gear ring attached) into the camera and connect with the lens support guide.

Engage the drive pinion with gear ring of the lens (d) by swinging and pushing the motor holder (b) on the support rod and also by turning the motor (a) in its holder.

Then secure knurled screw (e) and lever (f).

Fit the zoom hand grip (c) with integral pan handle into the tripod head pan handle holder — some hol-

ders need a reducing jacket — and establish the electrical connection between the zoom motor and the zoom handgrip with the control cable (l).



A 2-way power cable (m) is used to supply the zoom motor as well as the camera with electrical power.

Maintenance

In the film guide channel formed by the aperture gate and pressure gate, the film is pressed against the aperture gate. This area must be kept clean, especially when the film material tends to leave emulsion deposits. Loose dust builds up an emulsion deposit on the film gate which can lead to scratches on the film, as well as changing the gliding qualities of the surface; this in turn may impair frame steadiness.
To clean, if necessary remove the film gate (see "exchanging the film gate"). The open film pressure gate as well as the aperture plate should be freed from emulsion deposits using a PVC rod — recommended is the ARRI plastic film track cleaning rod. **Under no circumstances whatsoever should hard objects be used.** From time to time — especially after a film jam — the inside of the camera as well as the magazine throat should be cleaned out with a brush.

For servicing, contact an authorised ARRI service centre. If a problem should occur with the camera refer also to the technical information notes included in this manual.

Technical Data

Film width:	35mm
Lens mount:	54mm dia. PL (positive locking); for lenses with 41mm dia. mount adapters are available
Flange focal distance:	52 – 0.02/0.03mm
Shutter opening:	variable 0 – 165°, locking in 15° steps
Viewfinder system:	with double blade rotary mirror shutter which sends alternately the image received from the lens to the film or the ground glass. Regardless of whether the camera is running or not, unimpeded viewfinder image (ground glass image magnified 6.5 times), free of parallax, upright, without mirror effect, same sharpness and format as the film image with interchangeable camera doors: a) pivoting viewfinder b) offset viewfinder c) fixed viewfinder d) fixed viewfinder with optical unit for video assist e) fixed viewfinder with anamorphic element
Frame speed:	When using the motor hand grip A 35 III CM quartz controlled 24/25fps variable 5 – 50fps

Frame speed display:		tachometer
Film counter:		analog raw stock display, mechanical, on the magazine
Out-of-sync display:		on the motor hand grip (red) LED
Voltage control display:		on the motor hand grip (green) LED
Magazines:		60m/200ft, 150m/400ft forward/reverse; single compartment magazines
Camera drive:	1.	Motor hand grip 12 V, quartz controlled, 24/25fps. Operation selector switch: quartz, variable 5 – 50fps, forward and reverse travel
	2.	16 V variable speed motor 20 – 30fps, with on/off switch, suitable for reverse travel
	3.	24 V variable speed motor 10 – 31 fps, with on/off switch, suitable for reverse travel
	4.	16 V governor controlled motor 24fps, with on/off switch
	5.	16 V governor controlled motor 25fps, with on/off switch
Reverse travel:		only with 150m/400ft VR (forward/reverse) magazine
Battery:		NC 12 V/7 Ah; NC 12 V/4 Ah

Temperature:	-25°C to +50°C (-13°F to +122°F)
Weight of the camera:	with 60m magazine, without film, without lens, with motor hand grip: 5.3kg/11.68lbs with150m VR magazine, without film, without lens, with motor hand grip: 6.1kg/13.45lbs
Measurements without lens:	with 60m magazine L 291mm 11.46'' B 250mm 9.84'' H 405mm 15.94'' with 150m magazine L 325mm 12.80'' B 250mm 9.84'' H 464mm 18.27''

ARRIFLEX 35 III C

Supplementary technical information to the instruction manual; an aid for remedying problems which might occur.

When requesting service, always state the problem and quote the problem number

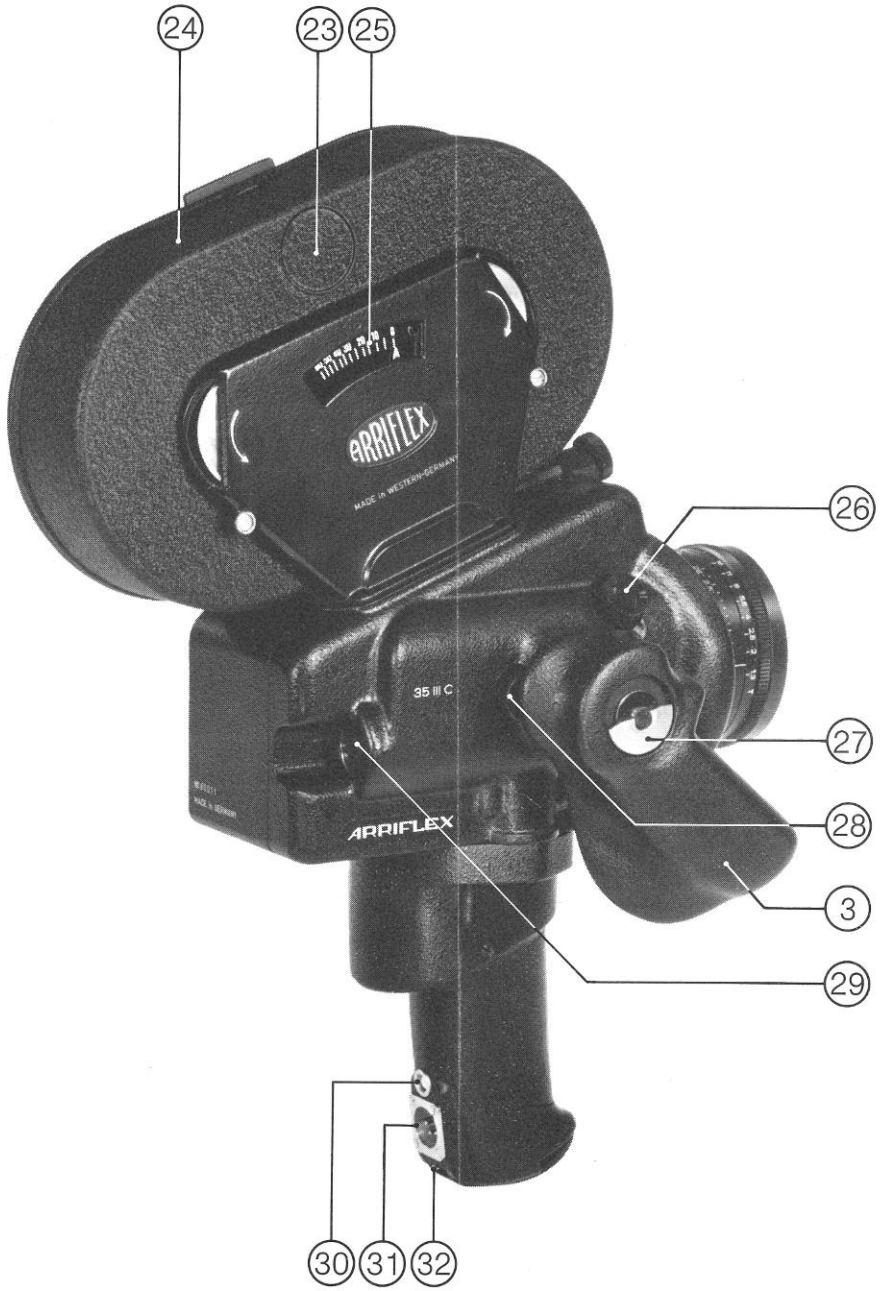
No.	Problem	Cause	Remedy
	Scratches on the emulsion side of the negative		
1	In the picture area going back over several pictures	Dirty or damaged cross bars on film gate	Clean the film gate, if damaged, replace
2	Outside the picture area	Dirty or damaged are: the vertical edges of the film gate; the guide tracks in the magazine throat (see also no. 5)	Carefully clean the film gate, guide rails, magazine throat; if damaged, replace
	Scratches on the glossy side of the negative		
3	In the picture area	Dirty or damaged cross bars on film channel pressure plate (see also no. 5)	Clean cross bars; replace pressure plate if damaged
4	Outside the picture area	Dirty or damaged are: the vertical edge of the film channel; the guide tracks in the magazine throat (see also no. 5)	Carefully clean the vertical edges and the magazine throat; if necessary replace damaged pressure plate or guide tracks.
5	**Scratches generally**	Strong tendency to emulsion deposits; dust deposits on raw stock from perforating process; extreme temperatures; scratched raw stock	Complain to manufacturer, use different raw stock
6	**Unsteady image — vertical**	Heavy emulsion depositing in the film gate area; damaged film perforation; very poor gliding ability of the raw stock; film material with positive perforations; raw stock not standard size; film movement incorrectly adjusted	Clean film gate area; if film perforations damaged only use raw stock with negative perforations; have the film movement adjustment examined
7	**Unsteady image — horizontal**	Heavy emulsion depositing in the film gate area; insufficient side pressure on the film, film edge not cut straight	Clean film gate area; correct film gate side pressure, 2 pressure springs, each measured in the middle of the pressure bar: 70 – 90g pressure

No.	Problem	Cause	Remedy
8	Mechanical exposures from perforation holes	Mechanical stress of the perforation holes (see also no. 9)	Pressure exposures do not affect the steadiness of the image
9	Mechanically damaged perforation holes	Damage from the tip of the transportation pin during the transport phase caused by poor gliding conditions in the film gate	Reduce power demand during transport phase, i.e. improve gliding ratio in the film gate area, e.g. by avoiding build up of emulsion deposits (see also 15/16)
10	Film jam inside camera	Film jam in upper loop area — film fed from magazine is not transported by the film transport system; when the film perforation holes are badly damaged the film often tears	A result of severe damage to perforation holes. See no. 9
11	Film jam inside the magazine	Film jam on the take up side, film fed from the camera is not wound on	Increase the take-up friction control with setting gauge. Fasten the film leader more securely to the bobby
12	**Echo images**	During the exposure, when the mirror shutter is open partially, the film has been slightly moved	The claw pin tip must not move the film as it moves in otherwise readjustment of the claw system is necessary
13	**Lack of sharpness in a corner**	During partially opened shutter the film was moved slightly	See no. 12
14	**Picture is out of focus**	The lens flange focal distance is out of adjustment; lens setting incorrect; defective lens	When changing the film gate ensure that the contact edges are absolutely clean. Control lens and lens flange focal distance

No.	Problem	Cause	Remedy
	General film transport problems Film jam, damaged perforation holes, poor picture steadiness		
15	Extreme cold	Selected frame speed is not attained because power requirement is greater and battery power is diminished; damage to film due to greatly reduced strength factor and brittleness of raw stock, especially below —15°C; the film can also tear, gliding conditions are also changed	Camera, battery, and above all the especially susceptible film, together with the magazine, must be protected from extreme cold, e.g. by protecting with a fur covering etc.; when a cold camera is brought into a warm room condensation builds up. This can be prevented by first storing the camera at approx 0°C/32°F
16	Extreme heat	The raw stock's mechanical properties change drastically at temperatures above 30°C. The emulsion carrier becomes soft and deformed. The film's coefficient of friction is unfavourable and tends to form heavy emulsion depositing	The camera, and especially the film, should be protected against extreme heat, e.g. by shading, white covering
17	**Camera fails to run even though the camera main switch is "ON"** The green voltage control lamp does not light up	The battery is not sufficiently charged or is defective (Battery voltage is below 9.5...10V)	Charge the battery, change if necessary
18	**Camera does not reach the selected frame speed.** Green LED lights up	Operator error (see instruction manual), camera is using too much power	Check the instruction manual, turn the manual control knurled wheel to check easy of run of camera. If the camera runs with difficulty run at 25fps for some minutes. Check the magazine friction with special gauge, loosen if necessary
19	**Electro static discharge**	Visible traces on the film, film material humidity is too low.	Acclimatise the raw stock for approx. 24 hours; if the air humidity is low load and expose the film as soon as possible after removing it from the pack

No.	Problem	Cause	Remedy
20	**Camera does not run even though camera release is in position "on"**	The electronic governor is defective	Contact authorised ARRI service centre
21	**The red out-of-sync lamp does not light up**	The motor's fuse (10 A) has blown (see also instruction manual)	Change fuse, if it blows again contact ARRi service centre
22	**Camera does not run quartz constant at 24 or 25fps**	Mode selector switch is in position "variable"	Place mode selector switch to "constant"
23	**The camera does not reach the selected frame speed of 50fps**	The battery is not charged sufficiently or the battery cable is defective.	Check that the battery is charged; change battery cable if necessary
		Especially at low temperatures: camera and magazine are sluggish	Check the battery under load, measure the voltage at the camera when running. Check ease of run of camera with and without magazine. If sluggish run due to cold, see no. 15

23 Number field
24 Loop marking
25 Counter for raw stock
26 Knurled knob for shutter adjustment
27 Lock for hand grip
28 Manual control knob for rotating the camera mechanism
29 Tachometer (frame speed)
30 4 pin accessory flange socket
31 4 pin flange socket for powering camera
32 Selector switch



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