

SERVICE MANUAL
CAMERA
AND
ACCESSORIES



PATHE *electronic*
«DUOLIGHT»

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This service manual provides technical data, operating, maintenance and service instructions, test procedures, illustrated parts, breakdowns, etc. for :

- PATHE ELECTRONIC “DUOLIGHT” 16 mm cameras
- PATHE ELECTRONIC “DUOLIGHT” DS8 cameras

designed and manufactured by PATHE MOVIE-SONICS — PARIS.

The service manual is available to franchised PATHE dealers and service stations.

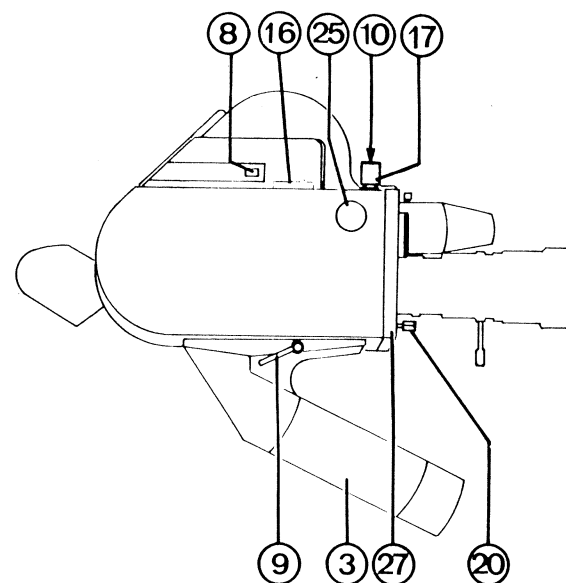
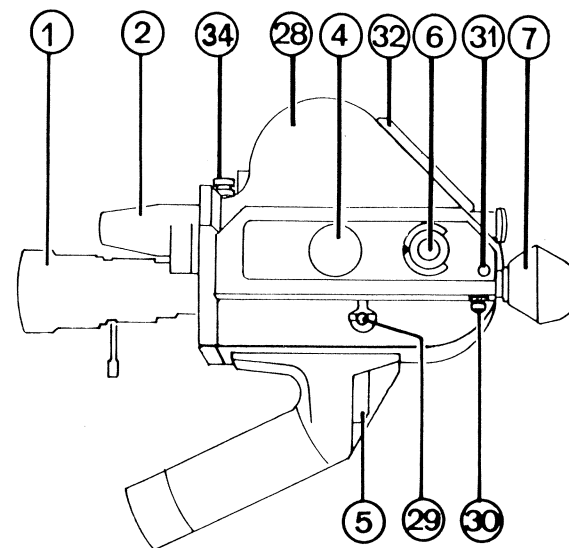
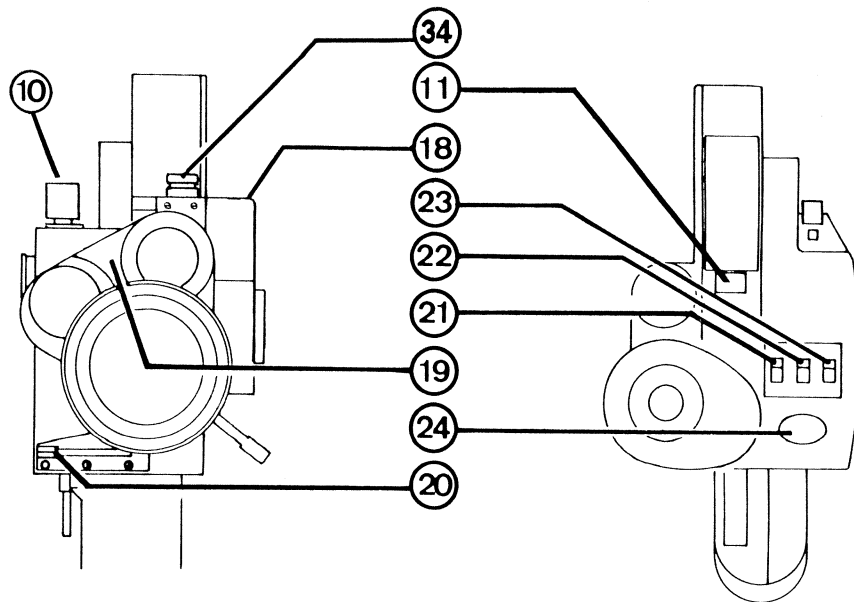
Any technical questions and any spare part orders must refer to this manual.



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| 1 Lens | 20 Variable shutter lever |
| 2 Diaphragm servo motor. | 21 Auto manual diaphragm selector. |
| 3 Handle grip (battery location). | 22 Sync signal selector |
| 4 Knob for opening the cover. | 23 Reverse running switch. |
| 5 Push release. | 24 Socket for external power and sync. signal. |
| 6 Frequency selector-cell calculator. | 25 One to one shaft. |
| 7 Rubber eyepiece and tube. | 27 Optical unit. |
| 8 Footage counter. | 28 Camera cover. |
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| 17 Filming selector dial. | 34 Turret lock nut. |
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MAIN FEATURES

FILM

- PATHE ELECTRONIC DS8 : Double Super 8 films, which are 16 mm films with perforation holes on both sides. The Double Super 8 film spool is reversed and the film passes twice through the camera. 100 ft. of Double Super 8 film become 200 ft. of Super 8 film after processing.
- PATHE ELECTRONIC 16 : All 16 mm films, with perforations on one or both sides.

FILMCAPACITY

- Camera body : 100 ft
- with external 400 ft magazine : 200 and 400 ft

LENSES

All "C" mount lenses, and all lenses with "C" mount adapters fit the PATHE ELECTRONIC cameras.

VIEWFINDER

Brilliant reflex viewing with pellicle glass, without any flicker while filming, light transmission 80 %, photo-metric absorption 1/10 of an f/stop.

SHUTTER

The rotating variable shutter has two openings. It is continuously variable up to complete closing. Maximum shutter opening is 180°.

POWER

Voltage : 12 Volt DC

Current : AT 24 F.p.s.

- DS8 : 850 mA
- DS8 with magazine : 1,2 A
- 16 mm : 900 mA
- 16 mm with magazine : 1,4 A

FRAME RATE

8.18.24.32.48.64.80 frames per seconde electronically governed. Each speed can be adjusted separately.

Note : The voltage power must be of 15 Volt DC to reach 80 f.p.s.

Caution : Never rundle the camera at high speeds without film.

LIGHT MEASURING

The light measuring circuit is provided with :

- 1 BTL behind-the-lens - CdS photo-electric cell
- 1 measuring bridge
- 1 cell calculator
- 1 "DUOLIGHT" system indicator with 2 red LED light-emitting diodes
- 2 electronic circuits.

"DUOLIGHT" EXPOSURE CONTROL

Exposure control can be automatic or manual. Over and under exposures are indicated in the viewer by the large and small red LED light-emitting diodes.

ACCESSIBLE SHAFT

The PATHE cameras are provided with an accessible "one to one" shaft.

SOUND SYNCHRONIZATION SIGNAL

The camera is provided with two sync. signal generators :

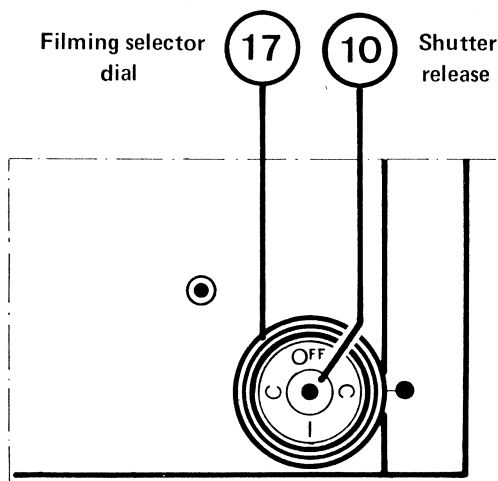
- 1 for "pilottone" signal - 24 f.p.s. - 60 cycles (or 25 f.p.s. - 50 cycles)
- 1 for flash contact etc. . . , 1 pulse per frame

PHYSICAL DIMENSIONS (without lens and handgrip)

	Length	Width	Height
- Camera body	23 cm - 9 "	9,5 cm - 3,8 "	17,5 cm - 6,9 "
- Camera and 400 ft magazine	35 cm - 13,8 "	9,5 cm - 3,8 "	37,0 cm - 14,6 "

WEIGHT (without lens and battery - with handgrip and film)

	Weight
- Camera	6,4 pounds 2,9 kgs
- Camera and 400 ft magazine :	10,4 pounds 4,7 kgs



DESCRIPTION OF CAMERA

CAMERA BODY

The body is of diecast hydrallium, lightweight, yet extremely solid. It includes the electric motor and electronic circuits, the mechanism, the sync. signal generators, the start and stop device, the counters, etc. It consists of :

- **Plate** with spool spindle, single sprocket, automatic threading device.
- **Optical unit** with three lens turret, servo-motor, optical reflex system, photo-electric cell, variable shutter, pressure pad-claw assembly
- **Cover** with viewfinder, photo-cell calculator, speed selector, electronic circuit for servo-motor.
- **Handgrip** with thumb release and detachable shoulder belt, which holds 0.5 A/H battery.
- **400 ft. Magazine**, as optional accessory.

MOTOR 12 Volt DC

The camera is driven by a brushless electric motor with integrated Hall-effect generator (Siemens model 1 AD 3000 OA). The motor is controlled by an electronic circuit, with rotating field generator, voltage comparator and speed governor.

FRAME RATE

The PATHE ELECTRONIC camera operates at a varying frame rate of 8.18 24.32.48.64 and 80 frames per second. Frame rates are selected by the dial on the cover of the camera (6). Each speed can be adjusted separately.

NOTE : For running at 80 f.p.s. the voltage power must be of 15-18 volt. It is better to activate the camera by means of a switch on the power cord as the release button (10) is in continuous running position.

FILMING SELECTION

The filming selector dial (17) has 4 positions which control the operation of the camera. To set this dial, depress it lightly and turn it to the desired position. Two positions are "C".

Rotate this selector only when the camera is not running.

- C** : Normal filming. Start by depressing the shutter release, stop by letting it go.
- I** : Single frame instantaneous exposure. The exposure time with the variable shutter wide open is 1/16 second at 8 fps and 1/24 second at all other speeds.
- C** : Normal filming. Start by depressing the shutter release, stop by letting it go.
- OFF** : Safety position. The shutter release is positively locked. Any possibility of accidental exposure is eliminated.

SHUTTER RELEASE

You release the shutter :

- by depressing release (5) with the thumb, or
- by depressing the camera release (10)

This shutter release can also be activated by cable or remote release. The pressure must be about 1800 gr. (4 lbs).

Depressing either shutter release (5 or 10) results in the following sequences :

- First position (light pressure)

Photo cell, circuit, exposure control circuit "DUOLIGHT" and (if switch 17 is on "Auto") servo motor are activated.

- Second position (all the way)

In addition electric motor drive of camera starts running.

It is necessary to hold the shutter release on the first position prior to filming, so as to get a correct exposure with either automatic "auto" or manual "man" operation.

HANDGRIP

This handgrip with built in thumb release provides exceptional convenience in filming. It holds the 0,5 A/H battery and is quickly detachable.

If the camera is used on a tripod, the handgrip must be removed. The power source is connected to the socket for external power (24).

HOW TO REMOVE THE HANDGRIP

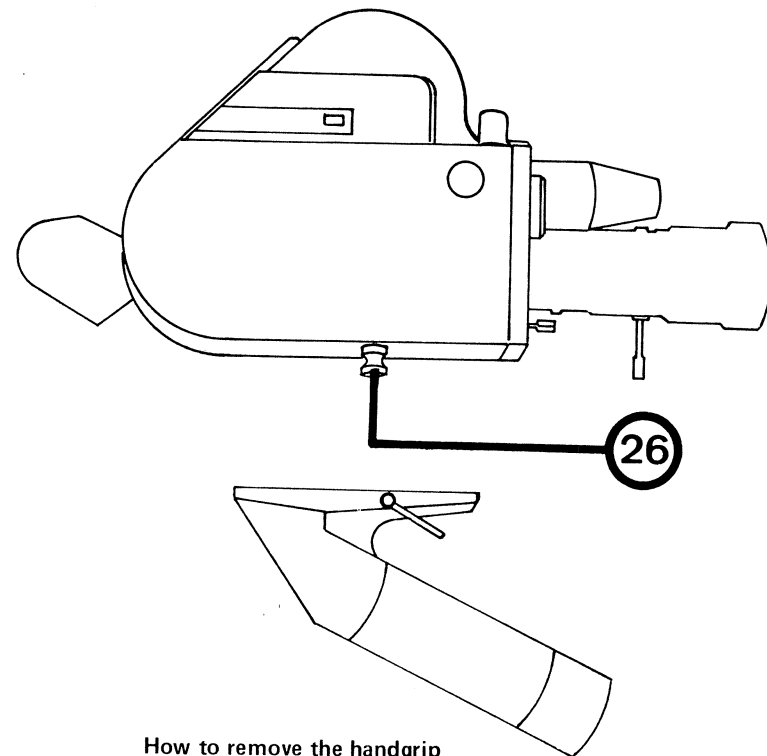
- Swing the locking lever forward (9)
- Pull the handle downwards
- Remove fixing knob (26) which frees the tripod socket. This knob can be screwed into the socket next to the thumb release of the handgrip to avoid its loss.

HOW TO ATTACH THE HANDGRIP

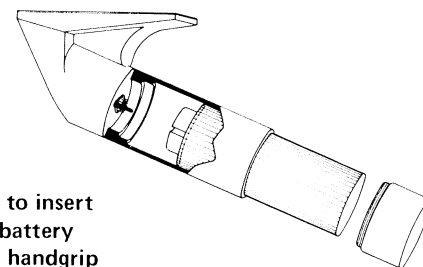
- The fixing knob (26) must be securely screwed into the tripod socket.
- Fit the handgrip over the fixing knob with the locking lever in front position.
- Bring the handgrip flat against the camera body and swing the lever backwards.
- Check that the handgrip is secured to the camera.

HOW TO INSERT THE BATTERY IN THE HANDGRIP

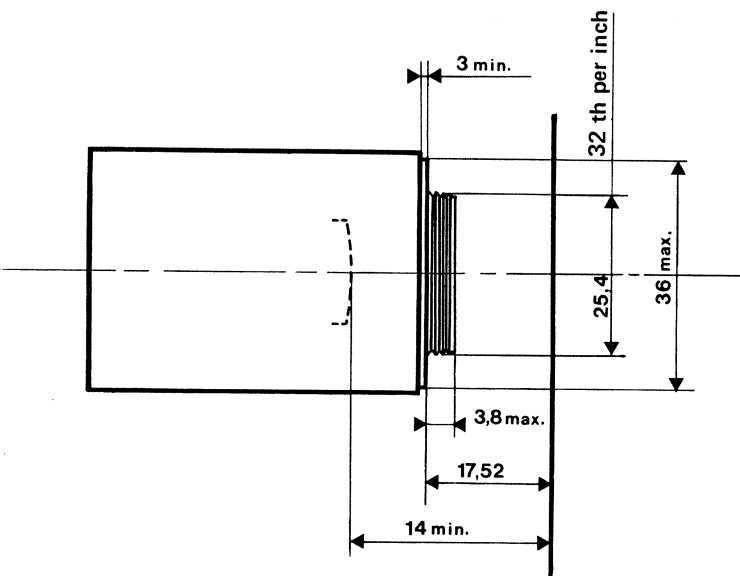
- Unscrew the bottom cap of the handgrip
- Insert the battery with the socket in the front position
- Twist the battery to give it the correct position and push it inside
- Replace the bottom cap of the handgrip.



How to remove the handgrip



How to insert the battery in the handgrip



LENSES

The PATHE ELECTRONIC camera has a triple turret, for 3 standard "C" mount lenses. The servo motor screws into the lens opening above the taking lens.

TURRET DATA

- 3 openings for standard "C" mount lenses
- back focus : mechanical 17,52 mm – 0,69 in.
optical 14 mm minimum – 0,55 in. minimum
- maximum diameter of lens base : 36 mm – 1,45 in.
- maximum height of lens base : 3 mm – 0,12 in.
- length of the thread : 3,8 mm maximum – 0,15 in. maximum
- diameter of the thread : 25,4 mm - 1" - 32 thd. per inch.

TURRET

The turret can be fitted with three lenses. Loosen the turret locking screw (18) and rotate the turret. Tighten the locking screw again in order to avoid any movement between the camera body and lens.

REMOVING THE ZOOM LENS

Remove the zooming lever.

Unscrew the zoom lens without touching the servo motor. However with the Angénieux 8 x 8 Macro zoom, it is necessary to unscrew slightly the servo motor assembly before unscrewing the zoom lens.

For the SOPELEM 17-85/f.3,8 zoom it is necessary to take off the servo motor by loosening the three screws (3-130), before unscrewing the zoom lens.

REMOVING THE SERVO MOTOR

Take off the lens.

Unscrew the servo motor assembly (motor with base) as per a standard lens.

MOUNTING THE LENS AND SERVO MOTOR

Screw in servo motor and/or lens following the reverse procedure.

Connect the iris gear with the servo motor gear. The two red marks must be in line.

CAUTION : The servo motor can be fitted only to one opening indicated by a red mark.
Do not rotate the turret if the servo motor is not engaged. The contact pins could break the pellicle glass.

VIEWING SYSTEM

The through-the-lens viewing system is flicker-free. The thin glass pellicle behind the lens is 45° inclined and deflects 20 % of the rays to the groundglass. The optical system offers a 20x magnification. A dioptric correction is possible by moving the eyepiece with the knob (31) after unlocking the screw (30). The photo-cell is located behind the glass pellicle. It can be activated by light coming through the viewfinder. It is therefore indispensable **to close** the protective cover with switch (29), when filming without viewing.

The groundglass has a crosshair reticle and TV safe action frame line.

EXPOSURE CONTROL IN VIEWING SYSTEM

Two red LED light-emitting diodes are located behind the holes above the frame, indicating exposure errors.

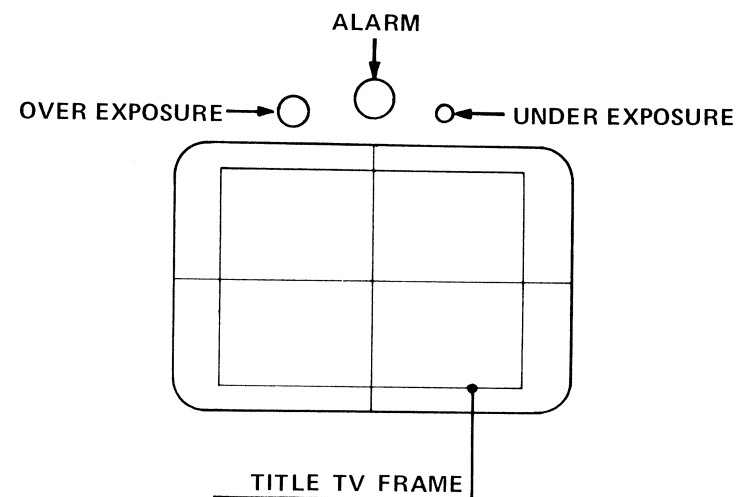
- On upper left side : Large ○ for over exposure
- On upper right side : Small ○ for under exposure.

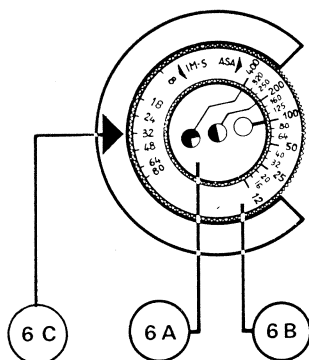
Both red LED are extinct when the exposure is correct.

ALARM SIGNAL FOR BATTERY

A red light signal in the center above the frame indicates that the battery needs to be recharged.

Note : Disregard this signal, if it only lights up briefly when starting the camera.





FREQUENCY SELECTOR – ASA RATING – VARIABLE SHUTTER

There are 2 dials on the cover of the camera, for setting shutter opening, frame rate and ASA film rating.

The inner dial shows the variable shutter openings :

- : full opening (180°)
- : three quarter opening (135°)
- : half opening (90°)
- : quarter opening (45°)

Turn this dial, so that the selected shutter opening is opposite the correct ASA film rating on the outer dial, from 12 to 400 ASA with intermediate settings.

Note : Disregard special filming conditions (filters, macro accessories, etc.) and use exact rating of the loaded film.

The outer dial is for speed selection. The selected speed must be opposite the fixed index mark.

SPEED ADJUSTMENT

Each speed can be adjusted separately by changing the applicable potentiometer, and using a stroboscopes.

The potentiometers are located in the cover of the camera on the p.c.b. located above the viewer :

- Clear the potentiometers, taking off the cover 4-46 (SEE 3-5)
- Uncover the one to one shaft by removing the cap 1-127
- Put a reference disc (black with one white mark) on this shaft
- Load film in the camera
- Light the reference disc with stroboscopes set at the desired frequency
- Put the frequency selector at the selected speed
- Apply voltage to camera and release
- Adjust the corresponding potentiometer
- After completing adjustment procedure, put all back in normal position.

LIGHT MEASURING – EXPOSURE CONTROL

The CdS photo-cell is located in the optical unit. Light passing through the lens and the pellicle glass is reflected to the photocell by the film or the shutter, whether the camera is running or not. Special treatment of the shutter surface assures light reflection analogous to the film emulsion, for correct exposure.

The photo-cell reacts to all light variations caused by subject, f/stop, filters, macro-accessories, etc.

The photo-cell is part of a 'Wheatstone bridge' controlled by the "DUOLIGHT" system. When the "auto-manual" switch (21) is on "Auto" position, the electronic circuit is connected to the bridge. Any light variation is amplified and the voltage operates the servo-motor which rotates the diaphragm to its correct position.

MANUAL OPERATION

The "Auto-manual" switch (21) is put on "Man" position. The operator looks through the viewer at the subject to be filmed. He depresses the release half the way. Immediately the "DUOLIGHT" system is activated. He turns the diaphragm ring, until both red LEDS are extinguished for correct exposure.

AUTOMATIC OPERATION

The "auto-manual" switch (21) is put on "Auto" position. The operator looks through the viewer at the subject to be filmed. As soon as he depresses the release half the way the servo motor is activated for the correct exposure. Both LEDS of the DUOLIGHT system are extinguished.

REVERSE

To rewind the film the reverse switch (23) must be held in the "AR" position. Be sure to cap the lens or fully close the variable shutter before operating the camera release (5 or 10). After stopping the camera, the reverse switch can be released and will automatically return to the "AV" forward position.

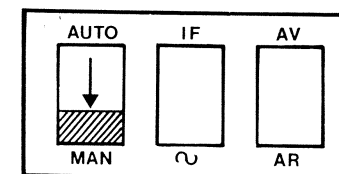


Fig 1

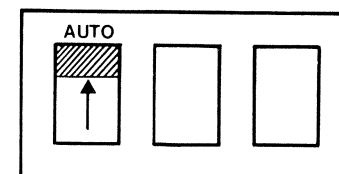


Fig 2

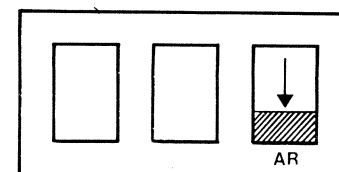


Fig 3

VARIABLE SHUTTER

CAUTION : The variable shutter has no influence on the viewing nor exposure control. A continuous sound signal is heard while the camera is running with the shutter completely closed.

The variable shutter can be used for changing exposure times or for fading.

For exposure times the dial (6) must be turned accordingly.

EXPOSURE TIME CHART FOR VARIABLE SHUTTER.

framing rate	8 fps				18 fps				24 fps				25 fps				32 fps				64 fps				80 fps			
shutter opening	4/4	3/4	1/2	1/4	4/4	3/4	1/2	1/4	4/4	3/4	1/2	1/4	4/4	3/4	1/2	1/4	4/4	3/4	1/2	1/4	4/4	3/4	1/2	1/4	4/4	3/4	1/2	1/4
theoretical exposure time	$\frac{1}{16}$	$\frac{1}{21}$	$\frac{1}{32}$	$\frac{1}{64}$	$\frac{1}{36}$	$\frac{1}{48}$	$\frac{1}{72}$	$\frac{1}{144}$	$\frac{1}{48}$	$\frac{1}{64}$	$\frac{1}{96}$	$\frac{1}{192}$	$\frac{1}{50}$	$\frac{1}{67}$	$\frac{1}{100}$	$\frac{1}{220}$	$\frac{1}{64}$	$\frac{1}{85}$	$\frac{1}{128}$	$\frac{1}{256}$	$\frac{1}{128}$	$\frac{1}{171}$	$\frac{1}{256}$	$\frac{1}{512}$	$\frac{1}{160}$	$\frac{1}{213}$	$\frac{1}{320}$	$\frac{1}{640}$

For fading the shutter lever (20) must be lowered and moved smoothly.

ONE TO ONE SHAFT

It is the only running part accessible from outside, after removing the cover (25).

- It accepts control devices such as the strobodisc but cannot drive any thing.
- It can be equipped with an external motor for driving the camera.

CAUTION : For this purpose

- Remove or disconnect the battery
- Turn selector (17) on C
- Put release (10) in "continuous" position
- The servo motor is no more activated
- Adjust the diaphragm manually.

SYNC. SIGNAL

The PATHE ELECTRONIC camera is equipped with two sound sync. signal generators.

- The “pilot-tone” signal – 60 Hz for 24 frames – is received from one Hall generator located side by side of a rotating magnet (5 rotations per 4 images). The sine wave is amplified to approximately 2 Volts R.M.S.
- The flash contact is received from one hermetically sealed switch driven by a rotating magnet. The contact is closed at the full opening of the shutter. The duration of the contact is about 4 ms, and the max. voltage allowed is 100 Volt 0,25 A.
- The switch (22) allows to select the sync. signal to be used \sim = “pilot-tone” 1 F = flash contact. This signal is connected to pins 2 and 3 of the socket (24).

POWER

The required voltage is 12 Volt D.C. Three batteries can be used.

- Handgrip battery : Saft 10 x VR 0,5 A (with separate charger)
- Battery 1,2 A/H : Saft 10 x VR 1,2 A (with built-in charger)
- Battery 4 A/H : Saft 10 x VR 4 A (with separate charger)

Any 12 Volt D.C. power can be connected to the camera through the socket (24) + to pin 1 – to pin 4.

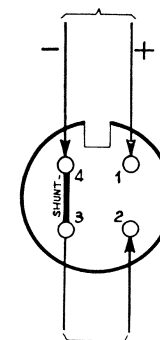
For 80 frames per second a 15-18 Volt power source is required.

CAUTION : If an AC/DC transformer-rectifier is used the filtered hum level must be under 1 mV ripple.

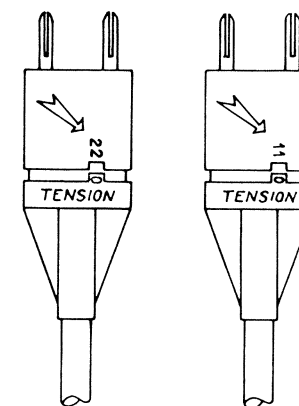
BATTERY CHARGER

The handgrip battery must be charged from 16 to 18 hours when it is completely run down. The battery will not deteriorate, if charged for a longer time. However it is better to charge it just before using it.

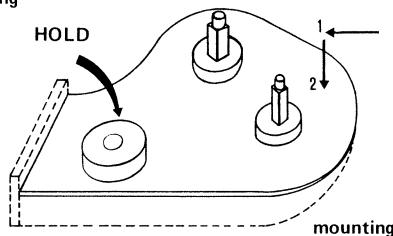
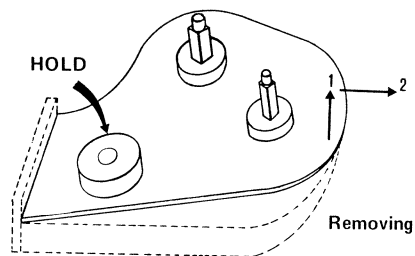
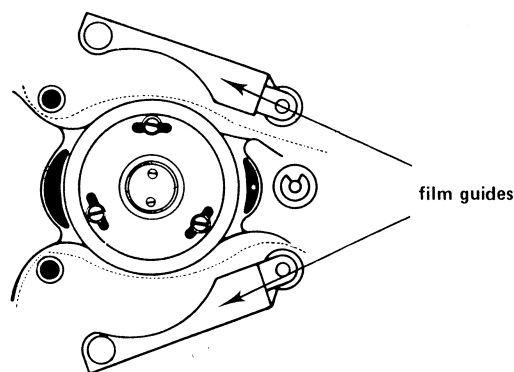
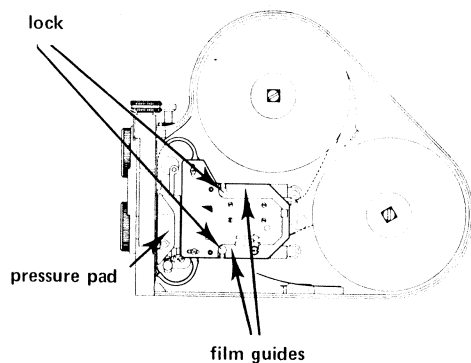
Socket for ext. power
and sync. signal
12 Volt D.C.



50 or 60 Hz
and flash contact



for main 220 Volt A.C. for main 110 Volt A.C.
plug of charger
useful for 110-220 Volt A.C. V



SERVICE INSTRUCTIONS

REMOVAL OF THE AUTOMATIC THREADING SYSTEM

- 1) Close loop former.
- 2) Lift lower and upper film guide locks and open both film guides.
- 3) Release the loop formers by depressing the red button.
- 4) With the thumb and index finger of the right hand, grasp the automatic threading mechanism above and below the film guides, and gently lift straight up.

REINSTALLING OF THE AUTOMATIC THREADING SYSTEM

To reinstall the automatic threading system simply reverse the above procedure, making sure that the guides on the threading mechanism fit into recesses in the camera mechanism plate.

CAUTION

Never hold the threading mechanism by the loop formers, as this could throw the automatic threading system out of adjustment.

REMOVAL OF THE PLATE (PL. 2)

- 1) Remove the handgrip (page 2-2).
- 2) Remove the automatic threading system (page 3-1).
- 3) Take off the cutter 1-113/114 by removing the screw 1-115.
- 4) Take off the film guide 2-110 by removing the screw 2-111.
- 5) Remove the fixing screws 2-109
- 6) Hold the sprocket and pull out the plate by lifting the back.

MOUNTING OF THE PLATE

- 1) Rotate the mechanism by hand up to the stop position. The stop pin of the shaft 1-62/65 is stopped by the pawl 1-38.
- 2) Rotate the sprocket in order to align the 2 red marks.
- 3) Close the pressure pad 3-100/101.
- 4) Put the plate in position by inserting the front under the pressure pad.
- 5) Mounting by reverse procedure.
- 6) Check the push switch 2-19. Connect the power to the camera and release. When the push switch is depressed the camera stops.

REMOVAL OF THE OPTICAL UNIT

- 1) Take off the lens and servo motor (page 2-3).
- 2) Rotate the turret to the position shown, to clear the lock plate screws.
- 3) Remove the lock plate 3-14.
- 4) Remove the four fixing screws (caution : the lower right one is sealed).
- 5) Release the wires from clamp 3-9.
- 6) Smoothly separate the optical unit from the camera body.

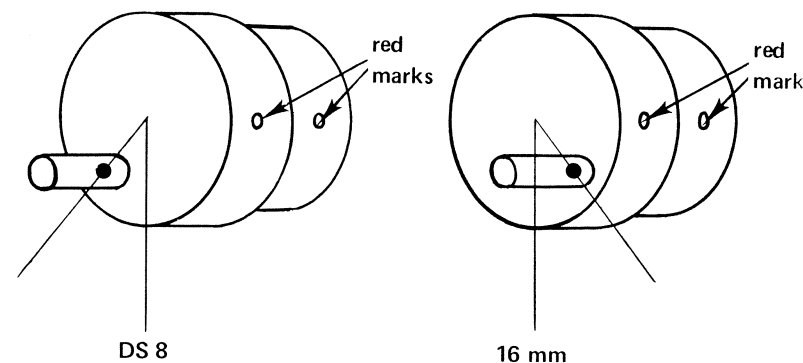
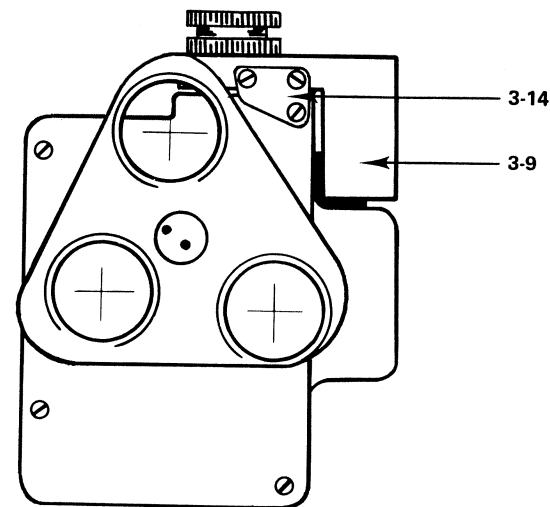
MOUNTING THE OPTICAL UNIT

Before mounting the shutter and claw must be positioned for exact synchronisation. The claw must move only when the shutter closes the aperture.

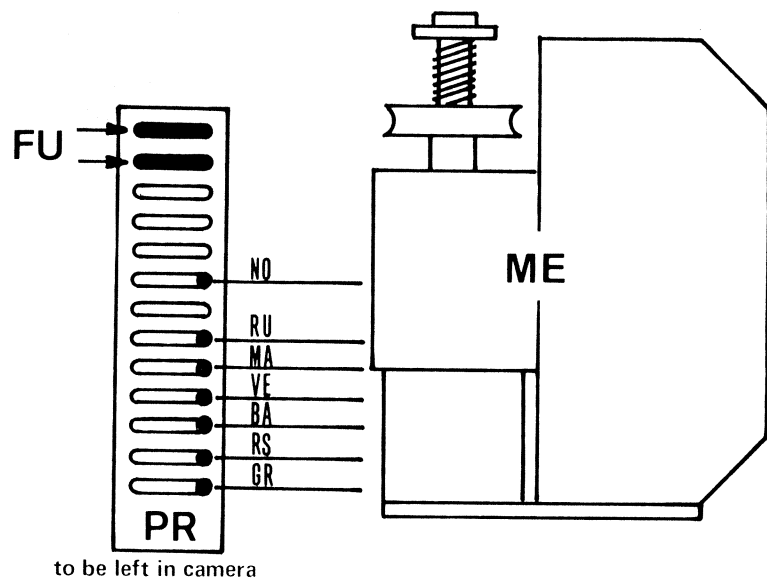
- 1) Rotate the mechanism up to the stop position.
- 2) Align the red mark on the shutter blade in the center of the aperture. Place a small piece of rubber on the shutter through the film aperture and close the pressure pad to avoid any movement of the shutter.
- 3) Rotate the excentric shaft 3-104/105 to align the red marks.
- 4) Reinstall per reverse procedure.

CAUTION

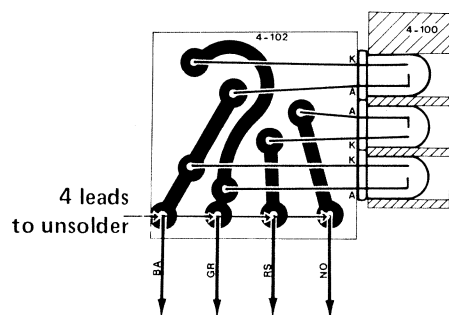
Do not forget to remove the rubber piece from the aperture, and check the synchronisation, between the shutter and the claw.



ECCENTRIC POSITION IN ACCORDANCE
WITH SHUTTER CLOSING



● to unsolder



REMOVAL OF THE MOTOR ASSEMBLY

The motor assembly includes

- The main motor
- The printed circuit board
- The associated leads

- 1) Remove the sign "PATHE ELECTRONIC" 1-119/120.
- 2) Remove the covering 1-118 from the camera body.
- 3) Remove the two screws 1-92.
- 4) Unsolder the seven leads issued from the P.C.B. (color : gray-pink-white-green-brown-red-black).
- 5) Pass the belt over the pulley and take off the motor and P.C.B. assembly.

Mounting is the reverse procedure.

REMOVAL OF THE ELECTRONIC CIRCUIT (in the cover)

- Take off the covers 4-46 — 4-97.
- Take off the plate 4-3 (removing four screws 4-4).
- Take off the connector 4-86.
- Unstick the engraved plate 4-95.
- Take off the screw 4-13 and knob 4-6.
- Unsolder the 8 leads from connector 4-86.
- Take off the four screw 4-67.
- Unsolder the 4 leads from LED circuit.
- Remove the electronic board.

See color code page 6-1.

"IMAGE" PAWL REPLACEMENT

The purpose of this pawl is to stop the mechanism after each frame, in the frame by frame operation. This pawl appears under n° 1-33.

- 1) Remove the optical unit (page 3-2).
- 2) Unscrew the screw 1-35.
- 3) Take off the spring 1-36 and turn it after unscrewing the screw 1-37.
- 4) Take off the shaft 1-34 and pawl 1-33.
- 5) Replace the pawl 1-33 and reinstall the shaft 1-34 the spring 1-36 and tighten the screw 1-37.
- 6) Position the pawl before tighten the screw 1-35. Turn the selector dial to I position. Depress the shutter release, rotate the mechanism by pulling the belt. Adjust the position of the pawl 1-33, by turning the excentric shaft 1-34, for stoping the stop pin of shaft 1-62/65.
- 7) Tighten the screw 1-35.

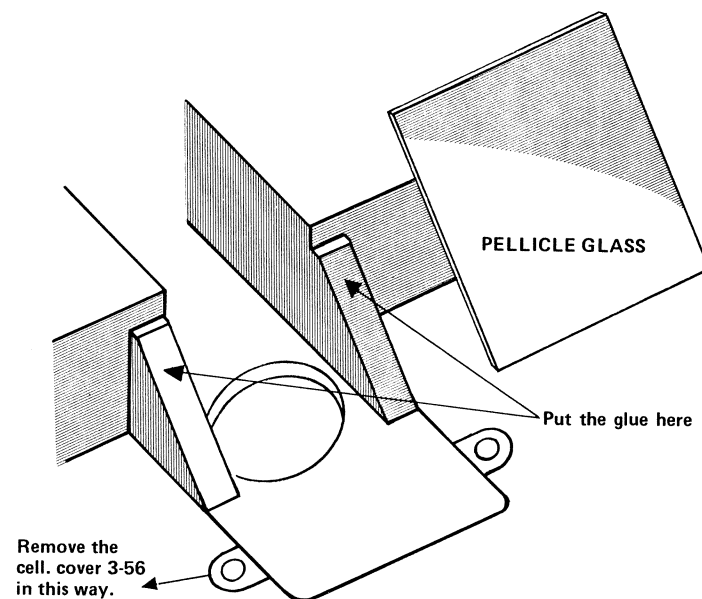
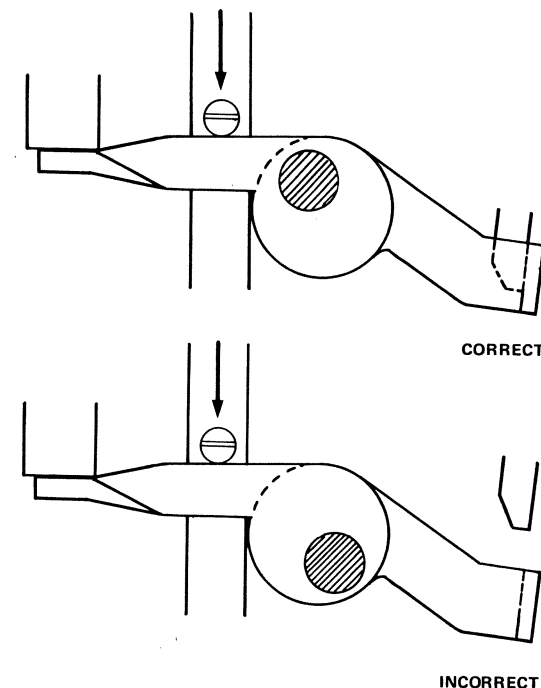
REPLACEMENT OF PELLICLE GLASS

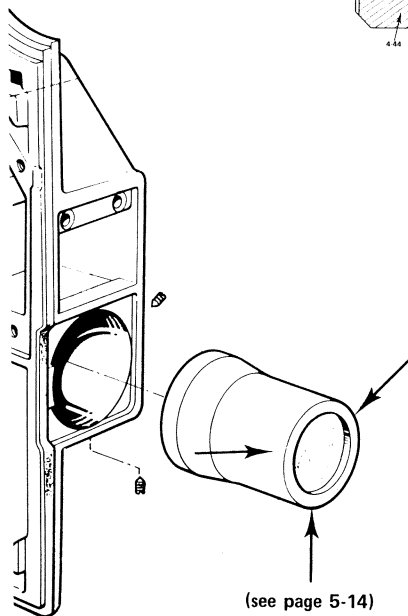
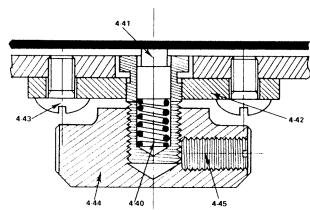
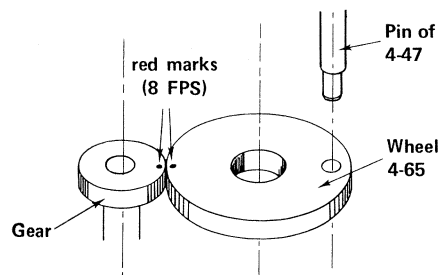
Care has to be taken during this procedure to avoid any dust on the parts.

- 1) Remove the lens and servo-motor (page 2-3).
- 2) Remove the plate (page 3-1).
- 3) Put the camera up on the turret.
- 4) Open the pressure pad, rotate the mechanism for opening the shutter.
- 5) Make some adjusting marks with a scribe, around the guideway 3-69/70 in order to reinstall in the exact position.
- 6) Take off the part 3-77 by removing the two screws.
- 7) Remove the 6 screws 3-75 and 2 screws 3-76.
- 8) Take off the guideway taking care of the position of any shims.
- 9) Take off the cell. cover 3-56.
- 10) Clean carefully the mount base of pellicle glass.
- 11) Put a small drop of glue (bostik 1313 or equivalent) on the top of the mount base (the end nearest of the shutter) and apply gently a new pellicle glass with its treated surface up. Press it moothly where is the glue. The glue must be very thin to avoid any misalignement of the viewer.
- 12) Reinstall the cell cover and assure the light tightness all around with some black bostik 292 or equivalent.
- 13) Reinstall the part per reverse procedure.
- 14) Pay care to adjust the synchronism between the shutter and claw (see page 3-2).

ON CAMERAS FITTED WITH REMOVABLE PELLICLE GLASS MOUNT (3-132)

- 1) Remove the lens (page 2-3).
- 2) Remove the two screws (3-134).
- 3) Partially thread into the two free holes, two screw (2 x 10) to serve as a removal tool. Turn these together to remove the pellicle glass mount. Pay care to the position of the turret. If necessary move it to clear the mount.
- 4) Replace the pellicle glass as per 10-11 above.
- 5) Reinstall the pellicle glass mount by reverse procedure.





REMOVAL OF THE CELL CALCULATOR

- 1) Take off the cover.
- 2) Remove the eyepiece knob 4-84.
- 3) Set the calculator dials on 25 ASA - shutter fully opened - 18 f.p.s.
- 4) Pull and turn the cover knob 4-6.
- 5) Take off the 3 screws 4-83 fixing the cover of the automatic exposure circuit.
- 6) Lift the half cover 4-46 smoothly without the insulator washer.

For remounting use the reverse procedure.

CAUTION

The pin of the knob 4-47 must engage in the hole of gear 4-65. If the gear 4-65 is removed, it must be reinstalled in position with the two red marks in line. In this position the speed knob must be on "8 f.p.s."

The screw 4-50 is used to adjust the friction of the speed knob.

REPLACEMENT OF THE LED – LIGHT EMITTING DIODES

- 1) Remove the cell calculator (see above).
- 2) Take off the screw 4-67 fixing the LED bracket 4-100.
- 3) Replace the defect LED. On LED the cathode (K) is the shortest lead. If the LED is reversed it does not light up.

REMOVAL OF THE EYEPIECE

- 1) Remove the cell calculator (see above).
- 2) Take off the fixing knob 4-44 by following procedure :
 - loosen the two screws 4-45.
 - take off the knob 4-44.
 - take off the two screws 4-43.

Remove the plate 4-42 taking care of the spring 4-40 and plunger 4-41.
The eyepiece is free.

ADJUSTEMENT OF THE CROSSHAIR

CAUTION

This adjustment is very critical. The relay lens is fixed by three screws situated at 120° - 4-30. The adjustment of centering of the crosshair is made by loosening one and tightening the two other screws. These three screws must be tighten when alignment is achieved.

The engraved crosshair is in the optical unit and cannot be moved.

CALIBRATION OF THE CELL CIRCUIT

For calibrating the cell circuit of the PATHE ELECTRONIC, a light source must be used which is formed by one or two lamps set behind a ground glass of "4 x 4".

An exposure meter as used in photography, placed against the glass must indicate 1/30 seconde, f.5,6 at 25 ASA. Adjust the lamps for reading this light level.

CONTROL OF THE CALIBRATION

- Put the cell calculator at :
 - 18 frames - shutter fully opened - 25 ASA.
- Place the camera just in front the lit ground-glass with power connected.
- Adjust the lens for having uniform light in the viewer.
- Put the switch (21) on "Manual".
- Depress the release half the way.

The two LED must be extinguished when the lens diaphragm is at f/4.
That is the correct calibration.

CALIBRATION

- **First adjustment**
- Place the camera as above.
- Put the cell calculator at 18 frames - shutter fully opened - 25 ASA.
- Take off the half cover 4-46 (pages 3-7) without changing the position of the cell calculator.
- Turn the R2 and R4 potentiometer completely counter clockwise.
- Set the diaphragm ring at f/4.
- Adjust R3 for getting the two LED extinguished.
- **Second adjustment**
- Replace the half cover 4-66 and place the cell calculator on 400 ASA.
- Take off the half cover 4-46 without changing the position of the cell calculator.
- Set the diaphragm ring at f/16.
- Adjust R4 for getting the two LED extinguished.

CHECKING THE CALIBRATION

Put the cell calculator and diaphragm ring as per first adjustment.

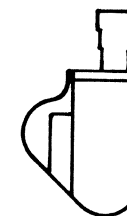
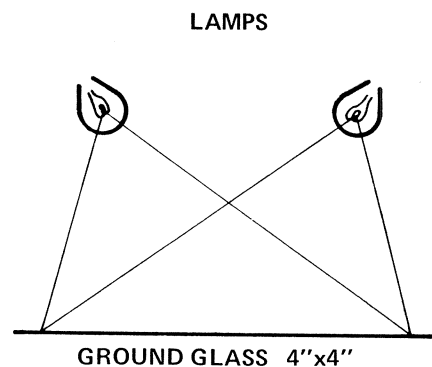
Adjust R2 for getting the two LED extinguished.

Put the cell calculator and diaphragm ring as per second adjustment.

Adjust R4 for getting the two LED extinguished.

If adjustment is not possible, rotate R3 a little and repeat the operation.

There is not adjustment for the servo motor.

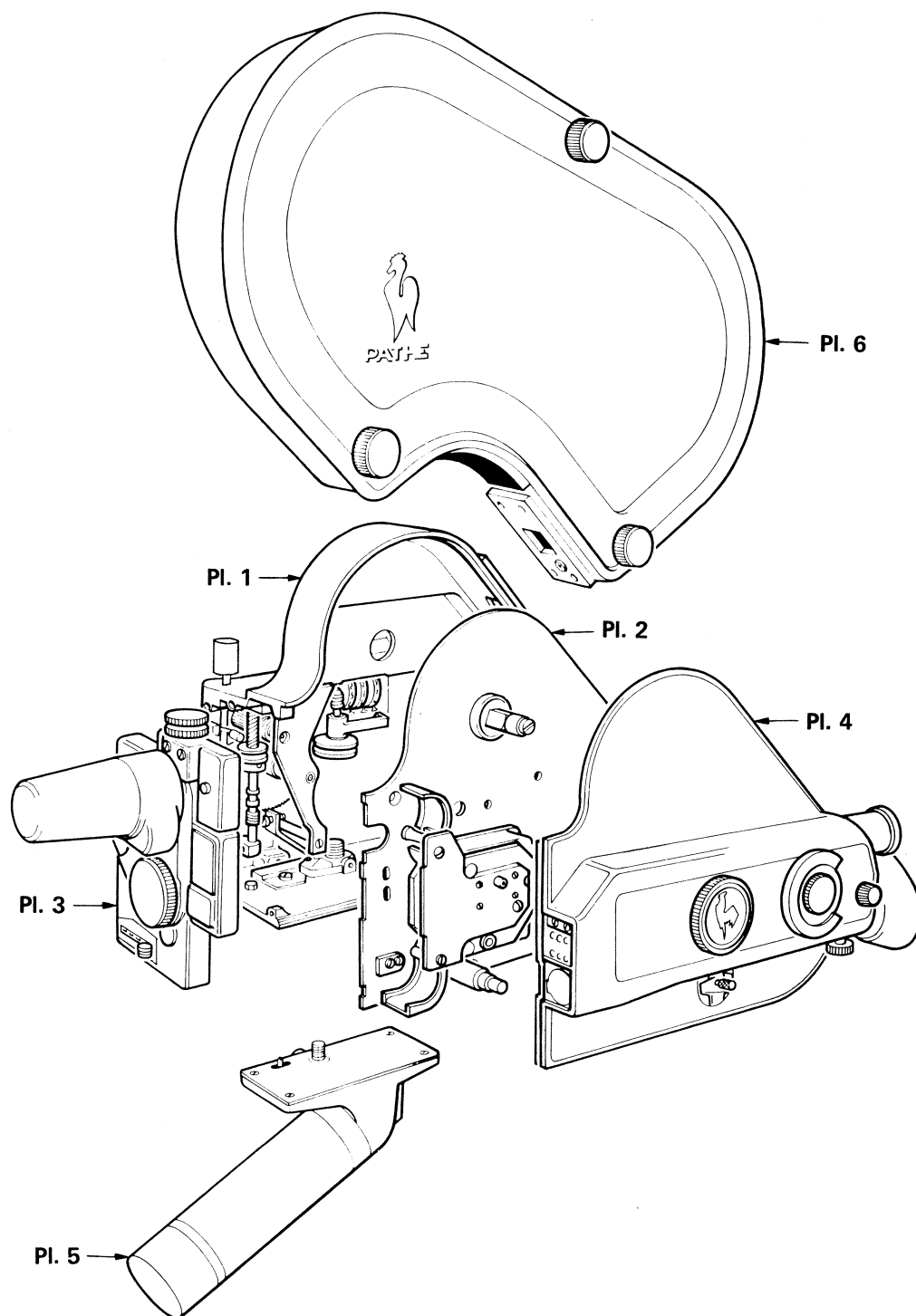


EXPOSURE METER
OR CAMERA

PROBLEMS	PROBABLE CAUSES	CORRECTIVE MEASURES
The camera does not start :	<p>Check the selector</p> <p>Check the power supply</p> <p>Check the contacts</p>	<p>The selector must be on "C"</p> <p>Check battery charge</p> <p>Clean the contacts of the handgrip of the cover of the optical unit</p>
The camera runs without cover but does not with cover :	<p>Check the speed selector</p> <p>Check the cover contacts</p>	<p>Set the speed selector just on one speed indicator</p> <p>Clean the contacts</p>
The camera does not start after a reverse run :	<p>Check the switch AV/AR</p>	<p>Make this switch work several times</p>
The camera runs with a mechanical noise :	<p>The variable shutter is closed</p> <p>The frame counter is desengaged</p>	<p>Check the position of shutter lever</p> <p>Press the reset button</p>
No image in viewfinder :	<p>The shutter switch is closed</p>	<p>Open the shutter switch</p>
The viewfinder seems to be out of center :	<p>Bad position of the cover</p>	<p>Check the cover position</p> <p>Replace the cover carefully on the camera body, before rotating the locking knor.</p>
The automatic exposure control does not operate :	<p>The switch auto/manual is on "man"</p> <p>The contacts are poor</p>	<p>Put the switch on "Auto". Clean contacts between cover and optical unit.</p>

PROBLEMS
CORRECTIVE MEASURES

PROBLEMS	PROBABLE CAUSES	CORRECTIVE MEASURES
<p>The camera does not start after beeing out of operation for a long time :</p> <p>The camera does not stop :</p> <p>The footage counter does not return to 0 :</p> <p>The camera stops during automatic threading :</p>	The film is curved	Start the camera in reverse for disengaging the loop, then start forward again.
	The release is in "continuous" position	Turn the shutter release clockwise.
	The counter does not work properly	Push once or twice on the push switch 2-19 on the plate
	<p>Note : This push switch allows running the camera without cover for threading</p>	
	The end of film is not cut	Cut the film end with the cutter on the camera. Always cut after the reference, placing the pin in a perfo hole.
	The pressure pad is not closed	Check the pressure pad lock
	<p>Note : To take the film out, open the loop formers and run the camera in reverse To check the automatic threading use only unexposed film.</p> <hr/>	



The purpose of the illustrated parts breakdown is to assist the supply, maintenance, and overhaul personnel in the identification, requisitioning, and stocking of replaceable parts.

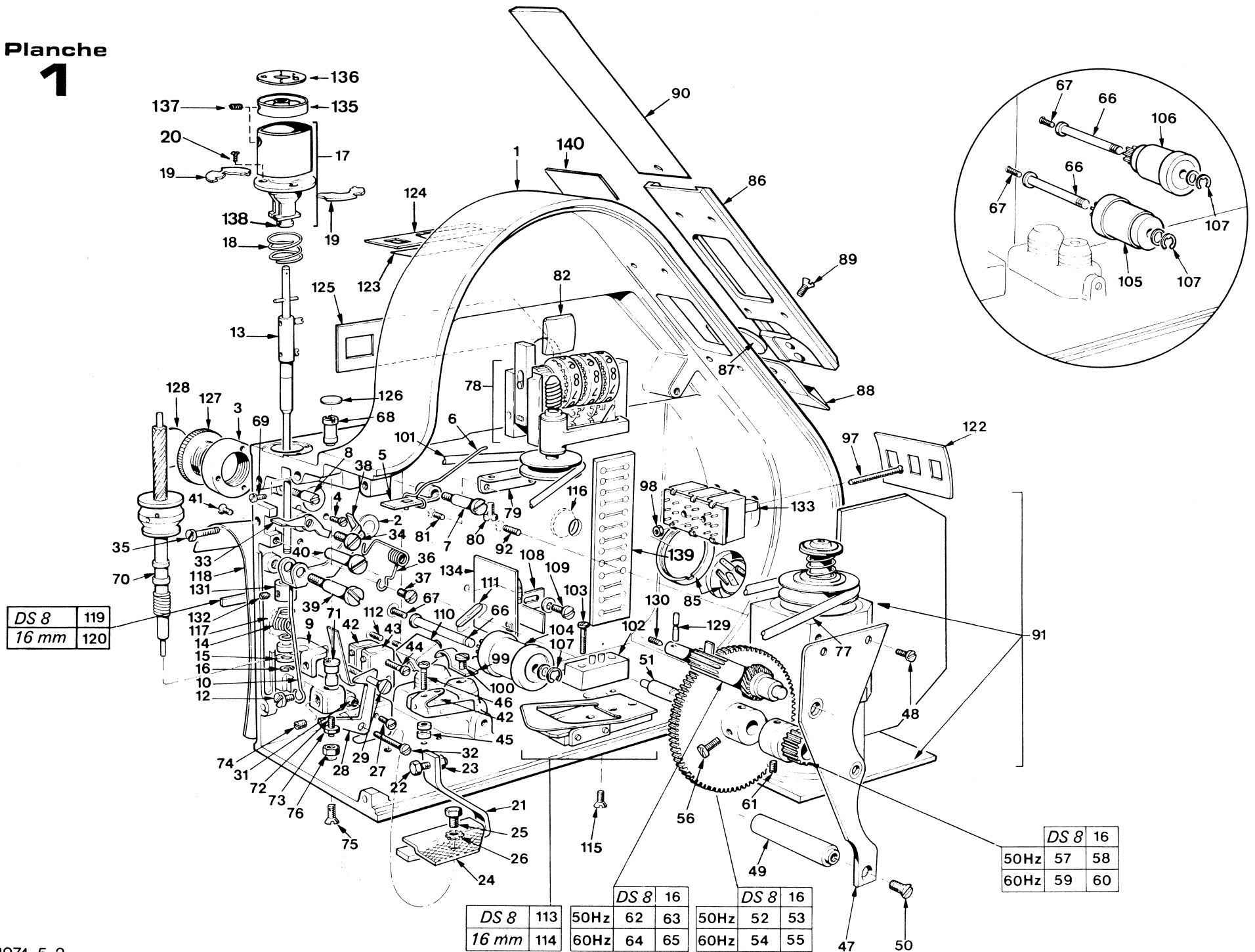
For ordering take care to mention the identification number, the reference number, and name of the part.

For example : 3-55 96.294 Pellicle glass.

ILLUSTRATED PARTS BREAKDOWN

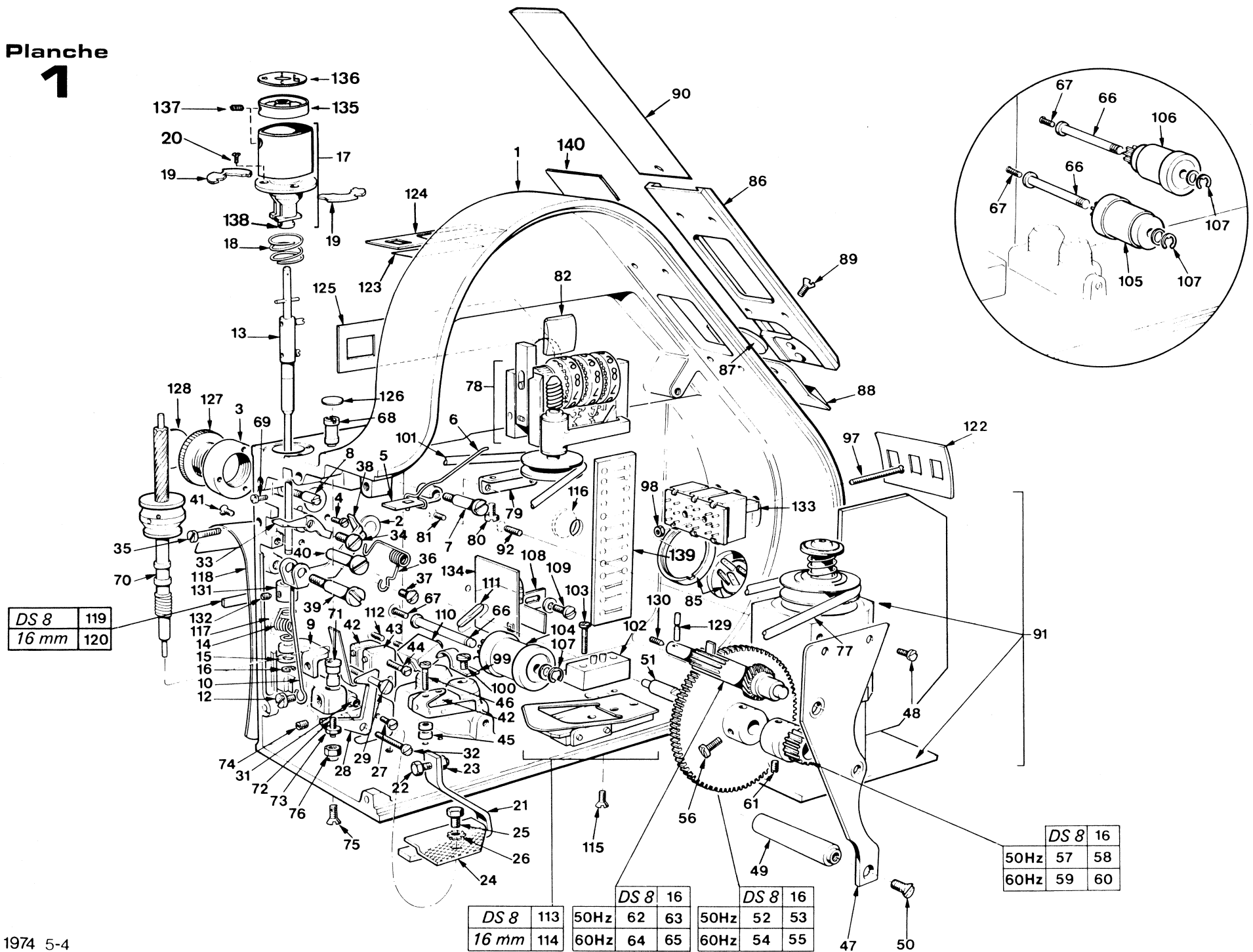
- PI. 1 — BODY
- PI. 2 — PLATE
- PI. 3 — OPTICAL UNIT
- PI. 4 — COVER
- PI. 5 — HANDGRIP
- PI. 6 — 400 ft MAGAZINE

Planche 1



BODY PL. 1

			QTY				QTY
1-1	SA 98 327	Body	1	1-42	98 252	Switch (lever action)	2
1-2	98 211	Bearing H3	1	1-43	98 253	Microcontact à poussoir	1
1-3	98260	Collar 17 mm	1	1-44		Screw TC 2 x 12 (on 1-42 and 1-43)	2
1-4	SR	Screwf 1,5 x 4 (on 1-3)	3	1-45	98 529	Brace washer	2
1-5	96 057	"B" pawl	1	1-46		Screw TCB 2 x 14 (on 1-42)	2
1-6	96 055	"B" pawl spring	1	1-47	SA 98 330	Plate H2 - H3	1
1-7	96 058	"B" pawl shaft	1	1-48		Screw TCB 1,5 x 4 (on 1-47)	2
1-8	96 567	"B" pawl stop	1	1-49	98 259	Plate mount rod	1
1-9	96 547	Release rod bracket	1	1-50		Screw TF 2,5 x 5 (on 1-47 and 1-49)	2
1-10	96 564	Stop pawl spring	1	1-51	98 265	H2 gearing	1
1-12	96 575	Screw TCBL 2,5 x 6 (on 1-10)	1	1-52	96 109	Wheel H2 (DS8 - 50 Hz)	1
1-13	SA 98 488	Release rod	1	1-53	96 109	Wheel H2 (16 - 50 Hz)	1
1-14	96 550	Release spring	1	1-54	98 348	Wheel H2 (DS8 - 60 Hz)	1
1-15	96 027	Washer 2,6 x 5 x 0,3 (on 1-13)	1	1-55	98 348	Wheel H2 (16 - 60 Hz)	1
1-16	—	Clips (on 1-13)	1	1-56		Screw TCB 3 x 5 (on 1-52/1-55)	2
1-17	SA 98 594	Release button	1	1-57	98 335	Gear H2 (DS8 - 50 Hz)	1
1-18	96 050	Release button spring	1	1-58	98 336	Gear H2 (16 - 50 Hz)	1
1-19	96 051	Half-ring	2	1-59	98 335	Gear H2 (DS8 - 60 Hz)	1
1-20		Screw FB 1,5 x 4 (on 1-17)	3	1-60	98 336	Gear H2 (16 - 60 Hz)	1
1-21	97 610	Lower release push-lever	1	1-61		Screw 3 x 4 (on 1-57/1-60)	2
1-22		Screw H3 x 10 (on 1-21)	1	1-62	SA 97 563	H3 gearing (DS8 - 50 Hz)	1
1-23		Nut H3 (on 1-21)	1	1-63	SA 97 558	H3 gearing (16 - 50 Hz)	1
1-24	97 612	Slide	1	1-64	SA 98 510	H3 gearing (DS8 - 60 Hz)	1
1-25		Screw H3 x 4 (on 1-24)	1	1-65	SA 98 511	H3 gearing (16 - 60 Hz)	1
1-26		Brake washer 3	1	1-66	98 340	Rotating magnet spindle	1
1-27		Screw TC 2 x 3 (stop 1-24)	1	1-67		Screw TF 2 x 4 (on 1-66)	2
1-28	97 611	Lower release lever	1	1-68	97 550	Vertical shaft upper bearing	1
1-29		Screw F. 2,5 x 20 (on 1-28)	1	1-69	96 638	Screw (on upper bearing)	1
1-31	97 613	Lower release lever shaft	1	1-70	SA 98 353	Vertical shaft	1
1-32		Screw TCBL 2,5 x 12 (on 1-31 and 1-28)	1	1-71	97 044	Vertical shaft lower bearing	1
1-33	96 059	Image pawl	1	1-72	96 086	Vertical shaft pivot	1
1-34	96 060	Image pawl shaft	1	1-73		Nut H2	1
1-35		Screw TC 2 x 9 (on 1-34)	1	1-74		Screw ST 2,5 x 4 (on 1-71)	1
1-36	96 062	Image pawl spring	1	1-75		Screw TF 3 x 6 (on 1-1)	
1-37		Screw TMB 2 x 3 (on 1-36)	1	1-76		Nut H3 (on 1-75)	1
1-38	96 546	Stop pawl	1	1-77	98 217	Motor belt	1
1-39	96 064	Stop pawl shaft	1	1-78	98 242	Image counter	1
1-40	98 453	Stop pin	1	1-79	98 216	Counter bracket	1
1-41		Screw TF 2,5 x 5	1	1-80		Screw TCB 2,5 x 3 (on 1-78)	



1-81		Screw TF 2 x 4 (on 1-79)	2	1-113	SA 97 471	Cutter DS8	1
1-82	42 017	Counter lens	1	1-114	SA 97 739	Cutter 16 mm	1
1-85	98 229	Connector receptacle	1	1-115		Screw TF 3 x 6 (on 1-113 — 1-114)	1
1-86	98 319	Dovetail base for magazine	1	1-116	97 105	Small black ring	2
1-87	98 324	Connector for magazine	1	1-117	98 460	Large black ring	1
1-88	SA 98 483	Magazine lock	1	1-118	98 302	Camera peel	1
1-89		Screw TF 2,5 x 5 (on 1-86 — 1-88)	5	1-119	98 243	Pathe Electronic DS8 sign.	1
1-90	98 320	Dovetail base cover	1	1-120	98 286	Pathe Electronic 16 sign.	1
1-91	SA 98 278-0	Motor and P.C.B.	1	1-122	98 285	Switch plate	1
1-92		Screw TF 2,5 x 4 (on 1-91)	2	1-123	98 266	Red transparent plate	2
1-97		Screw TCB 1,5 x 20 (on 1-133)	2	1-124	98 245	Frame counter window	1
1-98		Nut Hu 1,5 (on 1-97)	2	1-125	98 244	Foot counter window	1
1-99	MFOM.5Q	Cosse à souder	1	1-126	97 135	Black ring	1
1-100		Screw TCB 2 x 3 (on 1-91)	1	1-127	SA 98 461	One to one shaft cap	1
1-101	98 228	Counter belt	1	1-128	97 413	Gold plate	1
1-102	SA 98 332	Connector	1	1-129	97 402	Pin H3 (on 1-62/1-65)	1
1-103		Screw TCB 2 x 10 (on 1-102)	2	1-130		Screw 2 x 2 (on 1-129)	1
1-104	SA 98 393	Rotating magnet 1 F and 50 Hz (for 50 Hz camera)	1	1-131	96 560	Stop collar on release rod	1
1-105	SA 98 447	Rotating magnet 1 F (for 60 Hz camera)	1	1-132		Screw 3 x 2,5 (on 1-131)	2
1-106	SA 98 446	Rotating magnet 60 Hz (for 60 Hz camera)	1	1-133	SA 98 542	Switch assembly	1
1-107		Clip (on 104/106)	1	1-134	SA 98 520	Pilotone amplifier	1
1-108	98 347	Pilotone amplifier bracket	1	1-135	98 586	Push release	1
1-109		Screw TCB 2,5 x 3 (on 1-108)	1	1-136	97 703	Engraved plate	1
1-110	98 346	I.L.S. bracket	1	1-137		Screw 2 x 5	1
1-111	98 351	I.L.S. (switch 1 F)	1	1-138	96 577	Tube	1
1-112		Screw TF 2 x 6 (on 1-110)	1	1-139	98 568	Connecting board	1
				1-140	98 569	Felt magazine base	1

Planche 2

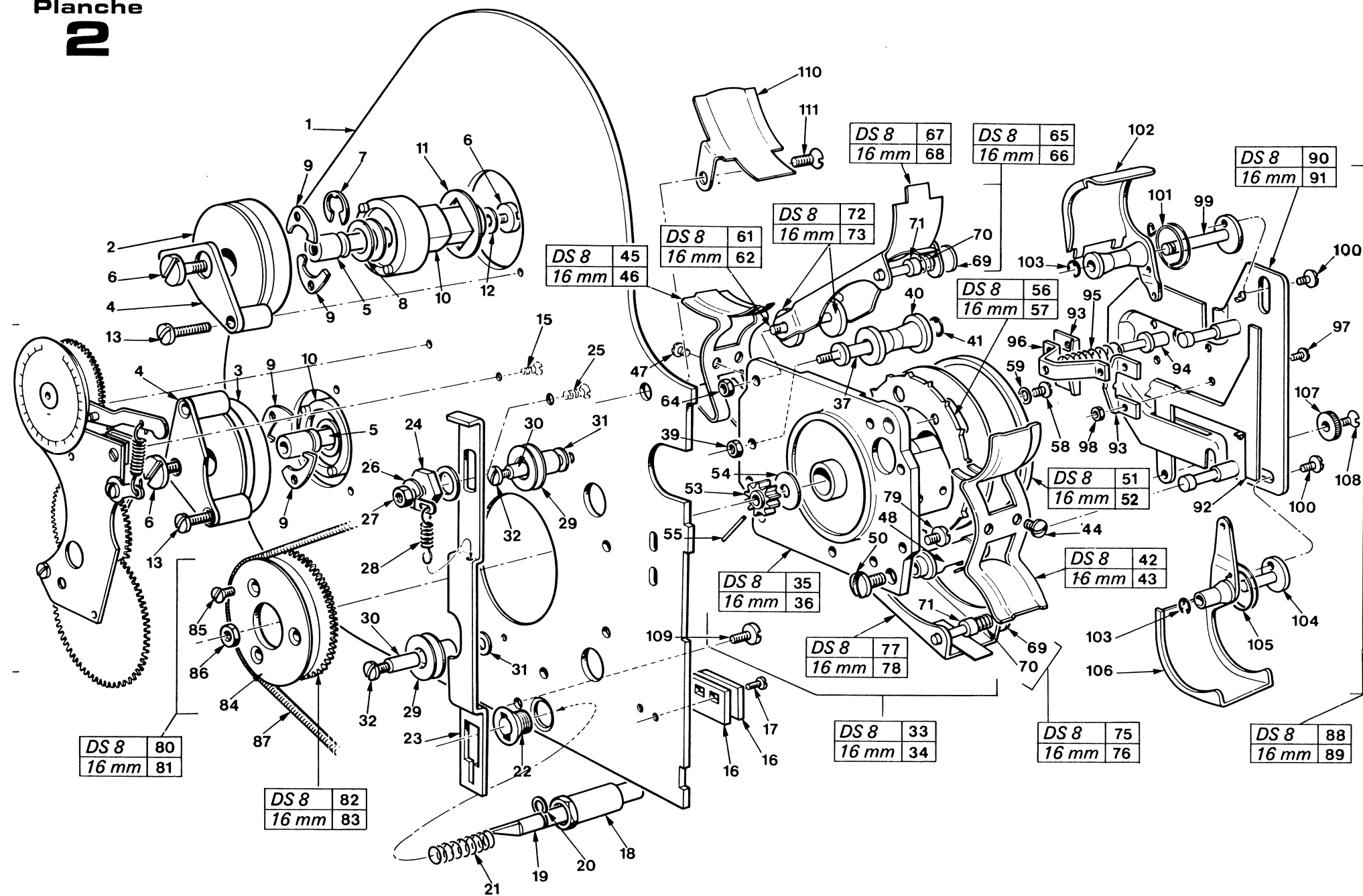
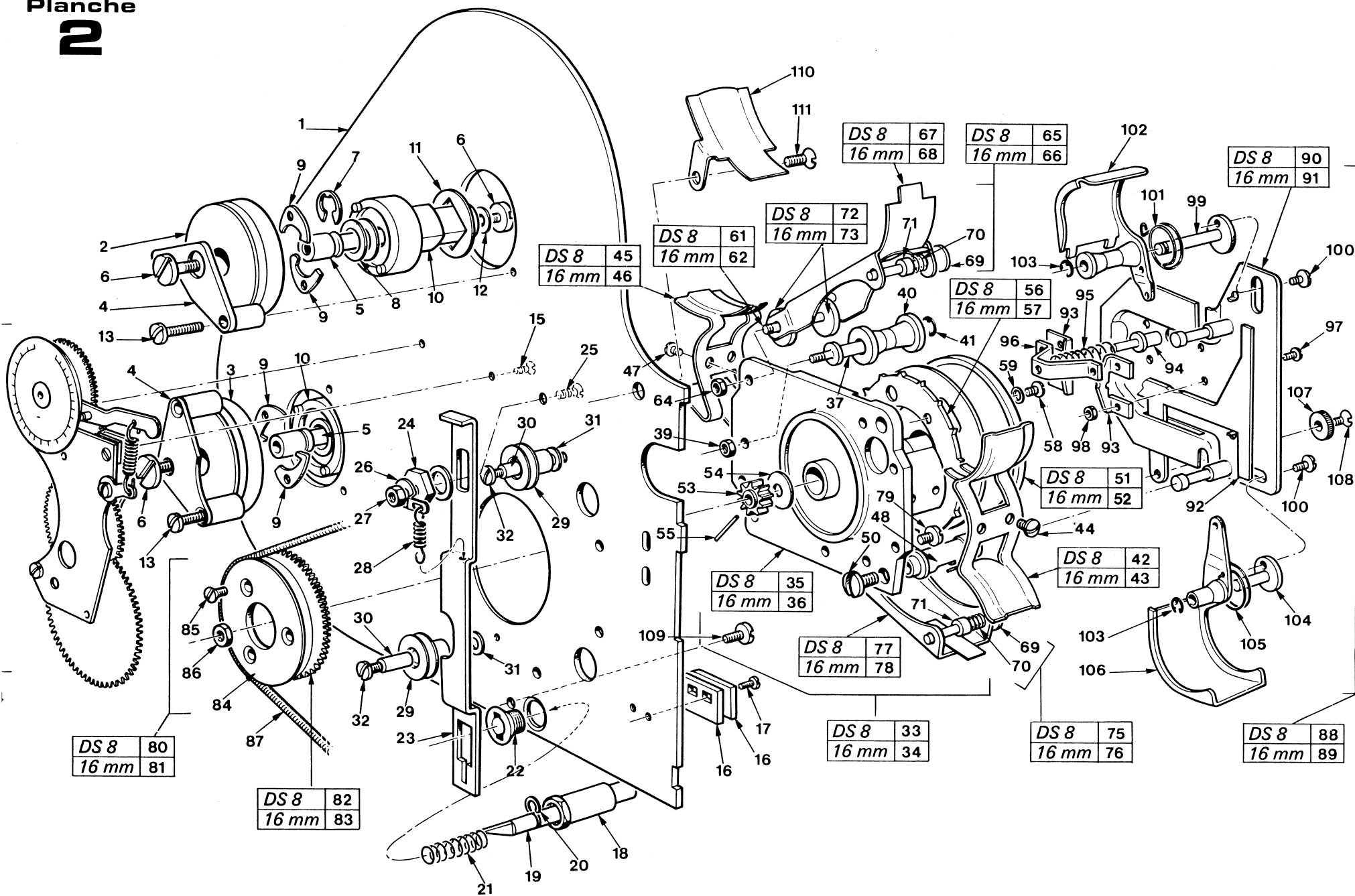


PLATE PL. 2

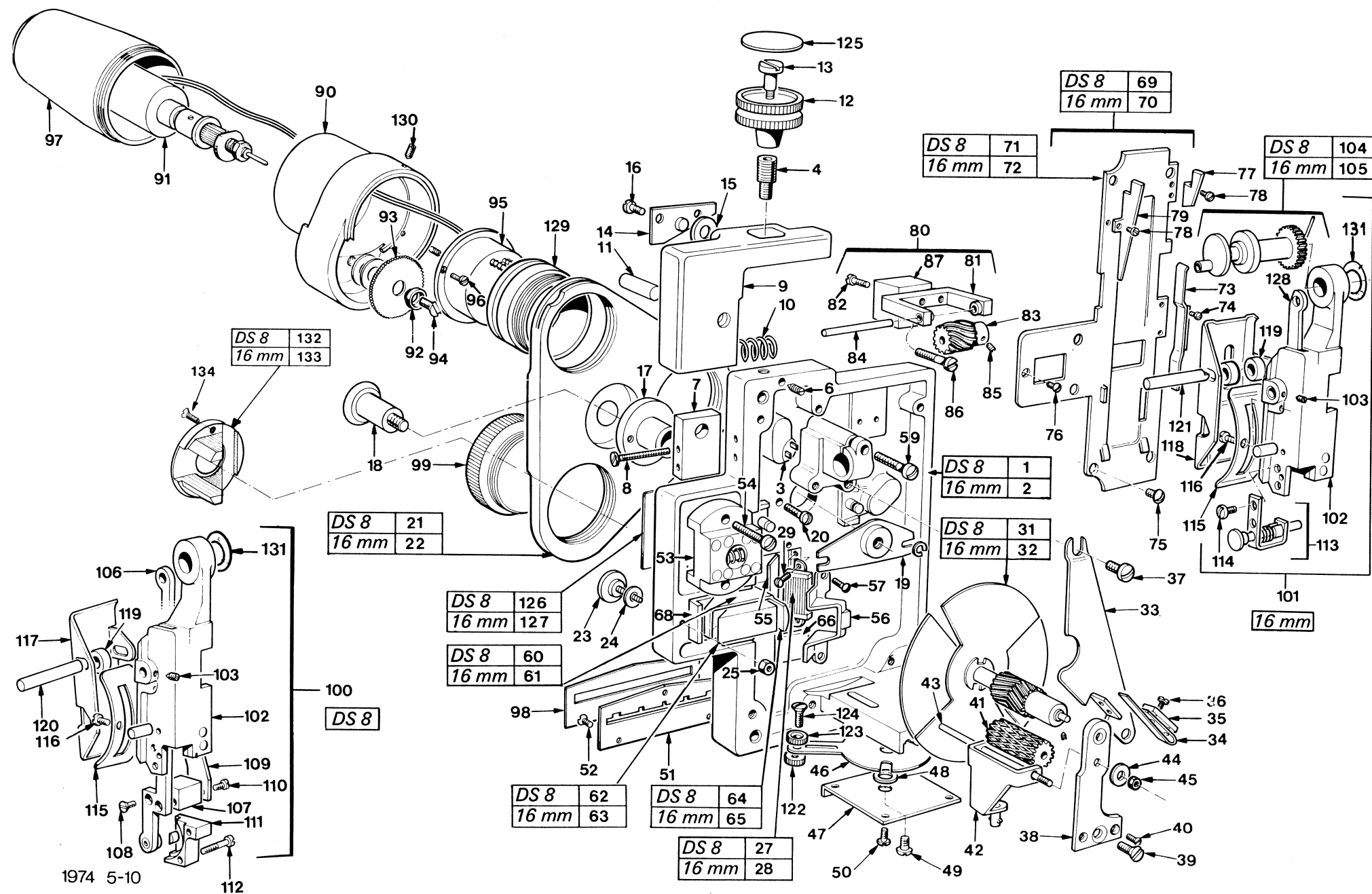
			QTY				QTY
2-1	97 906	Plate	1	2-42	97 543	DS8 Loop guide (front)	1
2-2	SA 97 902	Pulley-upper spindle	1	2-43	97 153	16 mm loop guide (front)	1
2-3	SA 97 903	Pulley-lower spindle	1	2-44	96 069	Screw TB 2 x 3 (on 2-42 - 2-43)	2
2-4	SA 97 900	Spool plate	2	2-45	97 544	DS8 loop guide (back)	1
2-5	96 024	Spool spindle	2	2-46	97 154	16 mm loop guide (back)	1
2-6	96 025	Screw (on 2-5)	4	2-47	96 069	Screw TB 2 x 3 (on 2-45 - 2-46)	2
2-7		Clip (on 2-5)	2	2-48	97 159	Automatic threading mount	2
2-8		Washer 10 x 2.5 x 0.2 (on 2.5)	4	2-50		Screw TCRL 2.5 x 4 (on 2-48)	2
2-9	96 037	Pawl (2 on 2.2 - 2 on 2.3)	4	2-51	SA 97 515	DS8 sprocket	1
2-10	96 266	Spool hub	2	2-52	SA 98 544	16 mm sprocket	1
2-11	97 141	Washer (on 2.10)	2	2-53	97 502	Counter gear	1
2-12	97 815	Washer	2	2-54	97 798	Washer 2.6 x 8 x 0.2	1
2-13		Screw TCBL 2 x 11 (on 2-4)	4	2-55	96 049	Pin (on 2-53)	1
2-14	SA 97 262	Metric counter	1	2-56	97 386	DS8 sprocket ring	1
2-15		Screw TCB 1.5 x 4 on 2-14	3	2-57	97 174	16 mm sprocket ring	1
2-16	97 195	Lock plate	2	2-58		Screw TCBL 1.6 x 3 (on 2-56 - 2-57)	3
2-17		Screw TCB 2 x 5 (on 2-16)	2	2-59	97 794	Washer 1.7 x 5 x 0.3 (on 2-58)	3
2-18	97 216	Push hub	1		97 683		
2-19	97 220	Push	1	2-61	+ 97 685	DS8 film guide spindle	2
2-20	2 910	Clip (on 2-19)	1	2-62	97 167	16 mm film guide spindle	2
2-21	97 218	Push spring	1	2-64		Nut Hm 2,5 (on 2-61 - 2-62)	2
2-22	97 217	Screw (on 2-18)	1	2-65	SA 97 804	DS8 upper film guide assembly	1
2-23	97 215	Counter action slide	1	2-66	SA 97 771	16 mm upper film guide assembly	1
2-24	97 226	Brace	1	2-67	97 682	DS8 upper film guide	1
2-25		Screw TF 2.5 x 6 (on 2-24)	2	2-68	97 175	16 mm upper film guide	1
2-26	97 820	Eyelet	1	2-69	97 193	Lock spindle	2
2-27		Nut Hm 2.5 (on 2-25)	1	2-70	96 453	Lock spring	2
2-28	42 385	Slide spring	1	2-71	96 454	Stop collar	2
2-29	97 910	Roller	2	2-72	97 684	DS8 guide roller (on 2-61)	4
2-30	97 911	Roller spindle	2	2-73	97 168	16 mm guide roller (on 2-62)	4
2-31		Washer 2.1 x 5 x 0.3 (on 2-32)	4	2-75	SA 97 805	DS8 lower film guide assembly	1
2-32		Screw TCB 2 x 8.5 (on 2-30)	2	2-76	SA 97 772	16 mm lower film guide assembly	1
2-33	SA 97 708	DS8 sprocket assembly	1	2-77	97 843	DS8 lower film guide	1
2-34	SA 97 929	16 mm sprocket assembly	1	2-78	97 175	16 mm lower film guide	1
2-35	97 508	DS8 sprocket plate	1	2-79		Screw TCRL 2.5 x 4 (on 2-33 - 2-34)	4
2-36	97 170	16 mm sprocket plate	1	2-80	SA 98 530	DS8 wheel and pulley assembly	1
2-37	97 144	Guide roller spindle	1	2-81	SA 98 531	16 mm wheel and pulley assembly	1
2-39		Nut Hm 2.5 (on 2.37)	1	2-82	97 907	DS8 wheel	1
2-40	97 145	Guide roller	1	2-83	98 405	16 mm wheel	1
2-41		Clip 2.5 (on 2-27)	1	2-84	97 909	Pulley	1

Planche 2



2-85		Screw TF 2 x 3 (on 2-84)	3	2-99	97 155	Upper loop former spindle	1
2-86		Nut H 2.5 (on 2-51 - 2-52)	1	2-100	96 069	Screw	2
2-87	96 133	Spring belt	1	2-101	98 083	Upper loop former sping	1
2-88	SA 97 169	DS8 automatic threading assembly	1	2-102	SA 97 142	Upper loop former assembly	1
2-89	SA 98 085	16 mm automatic threading assembly	1	2-103		Clip 1.5 (on 2-84)	2
2-90	SA 97 687	DS8 automatic threading plate	1	2-104	97 156	Lower loup former spindle	1
2-91	SA 98 082	16 mm automatic threading plate	1	2-105	98 084	Lower loop former spindle	1
2-92	98 085	Loop former bolt	1	2-106	SA 97 143	Lower loop former assembly	1
2-93	97 139	Slide bracket	2	2-107	96 596	Knurled knob	1
2-94	97 158	Action push	1	2-108		Screw FB 2 x 2.5 (on 2-92)	1
2-95	97 166	Push spring	1	2-109		Screw TMB 3 x 6 (on 2-1)	2
2-96	97 169	Push mount	1	2-110	96 366	Upper film slide	1
2-97	97 140	Screw FB 1.5 x 4 (on 2-93 - 2-96)	4	2-111	96 903	Screw TMB 3 x 6 (on 2-1 - 2-110)	1
2-98		Nut HB 1.5 (on 2-99)	4				

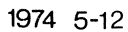
Planche 3



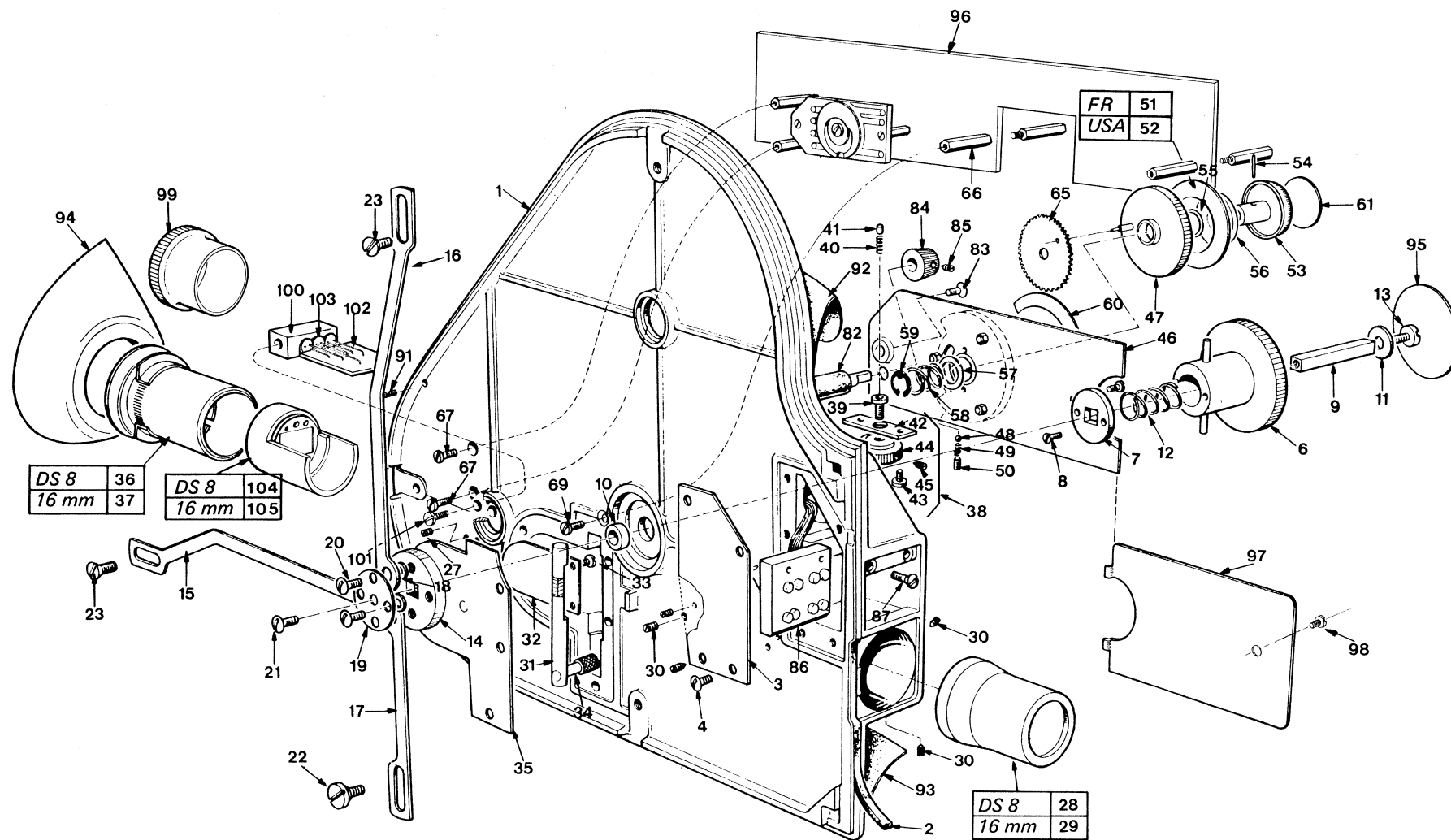
OPTICAL UNIT PL 3

			QTY				QTY
3-1	98 309	DS8 optical unit	1	3-45		Nut H 1,5 (on 3-44)	1
3-2	98 308	16 mm optical unit	1	3-46	96 290	Variable shutter lever	1
3-3	SA 98 484	Pin assembly	1	3-47	96 291	Variable shutter plate	1
3-4	97 411	Turret lock screw	1	3-48		Washer 5,4 x 10 x 0,2 (sur 3-49)	1
3-6		Screw 2,5 x 3 (on 3.4)	1	3-49	96 060	Screw TB 2 x 3 (on 3-46/47)	1
3-7	97 415	Support yoke	1	3-50	96 159	Screw TBP 1,5 x 3 (on 3/47)	4
3-8		Screw 2,5 x 8 (on 3.7)	2	3-51	97 458	Lever plate	1
3-9	97 414	Turret lock support	1	3-52		Screw 1,5 x 3 (on 3-51)	3
3-10	97 421	Lock support spring	1	3-53	SA 98 331	Electric connector	1
3-11	97 416	Lock support spindle	1	3-54		Screw TCB 2 x 8 (on 3-53)	2
3-12	97 459	Turret lock knob	1	3-55	96 294	Pellicle glass	1
3-13	97 409	Stop screw	1	3-56	97 368	Pellicle cover	1
3-14	SA 97 420	Plate	1	3-57	96 159	Screw TBP 1,5 x 3 (on 3-56)	2
3-15	97 419	Washer	1	3-59		Screw TCB 2,5 x 8	1
3-16	96 069	Screw TBP 2 x 3 (fixe 3-14)	2	3-60	97 565	DS8 prism cover	1
3-17	97 425	Turret Hub	1	3-61	97 018	16 mm prism cover	1
3-18	97 426	Turret axle	1	3-62	97 564	DS8 prism	1
3-19	SA 97 428	Turret nut assembly	1	3-63	97 694 T	16 mm prism	1
3-20		Screw TCB 2 x 5 (on 3.17)	2	3-64	97 869	DS8 Condenser lens	1
3-21	97 536	DS8 Turret	1	3-65	97 869	16 mm condenser lens	1
3-22	97 408	16 mm Turret	1	3-66	96 301	Cork wedge	4
3-23	97 615	Screw	1	3-67	97 240	Metal wedge	1
3-24	97 616	Washers	AS Rgd.	3-68	96 300	Back cork wedge	1
3-25		Nut H 2,5 (on 3-23)	1	3-69	SA 97 766	DS8 aperture plate assembly	1
3-28	SA 97 756	Photo cell assembly	1	3-70	SA 97 768	16 mm aperture plate assembly	1
3-29	96 159	Screw TBP 1,5 x 3	2	3-71	97 538	DS8 aperture plate	1
3-31	SA 97 715	DS8 shutter assembly	1	3-72	97 359	16 mm aperture plate	1
3-32	SA 97 714	16 mm shutter assembly	1	3-73	97 435	Lateral guide	1
3-33	96 402	Sliding gear plate	1	3-74		Screw TC 1,2 x 2 (on 3-73)	2
3-34	96 517	Shutter signal spring	1	3-75	96 069	Screw TBP 2 x 3 (on 3-69/70)	6
3-35	96 518	Fixing plate	1	3-76	96 159	Screw TBP 1,5 x 3 (on 3-69/70)	2
3-36	96 159	Screw TCB 1,5 x 2 (on 3.34/35)	2	3-77	97 867	Inner film guide	1
3-37		Screw TMB 3 x 5 (on 3-33)	2	3-78		Screw arcap 1,2 x 2 TR (on 3-77/79)	3
3-38	SA 97 539	Shutter Mount Plate	1	3-79	97 868	Inner film guide	1
3-39		Screw TMB 2,5 x 6 (on 3-38)	1	3-80	SA 97 774	Intermediate gear assembly (DS8 only)	1
3-40		Pin 1,5 x 4 (on 3-38)	2	3-81	SA 97 523	Gear bracket	1
3-41	SA 97 539	Sliding gear assembly	1	3-82		Screw TC 2 x 8 (on 3-81)	2
3-42	SA 97 545	Sliding gear fork	1	3-83	97 500	12 Teeth gear	1
3-43	97 507	Sliding gear shaft	1	3-84	97 519	Gear spindle	1
3-44	96 403	Washer 1,5 x 5 x 0,3 (on 3-43)	1	3-85		Screw 2 x 2 (on 3-83)	1

3



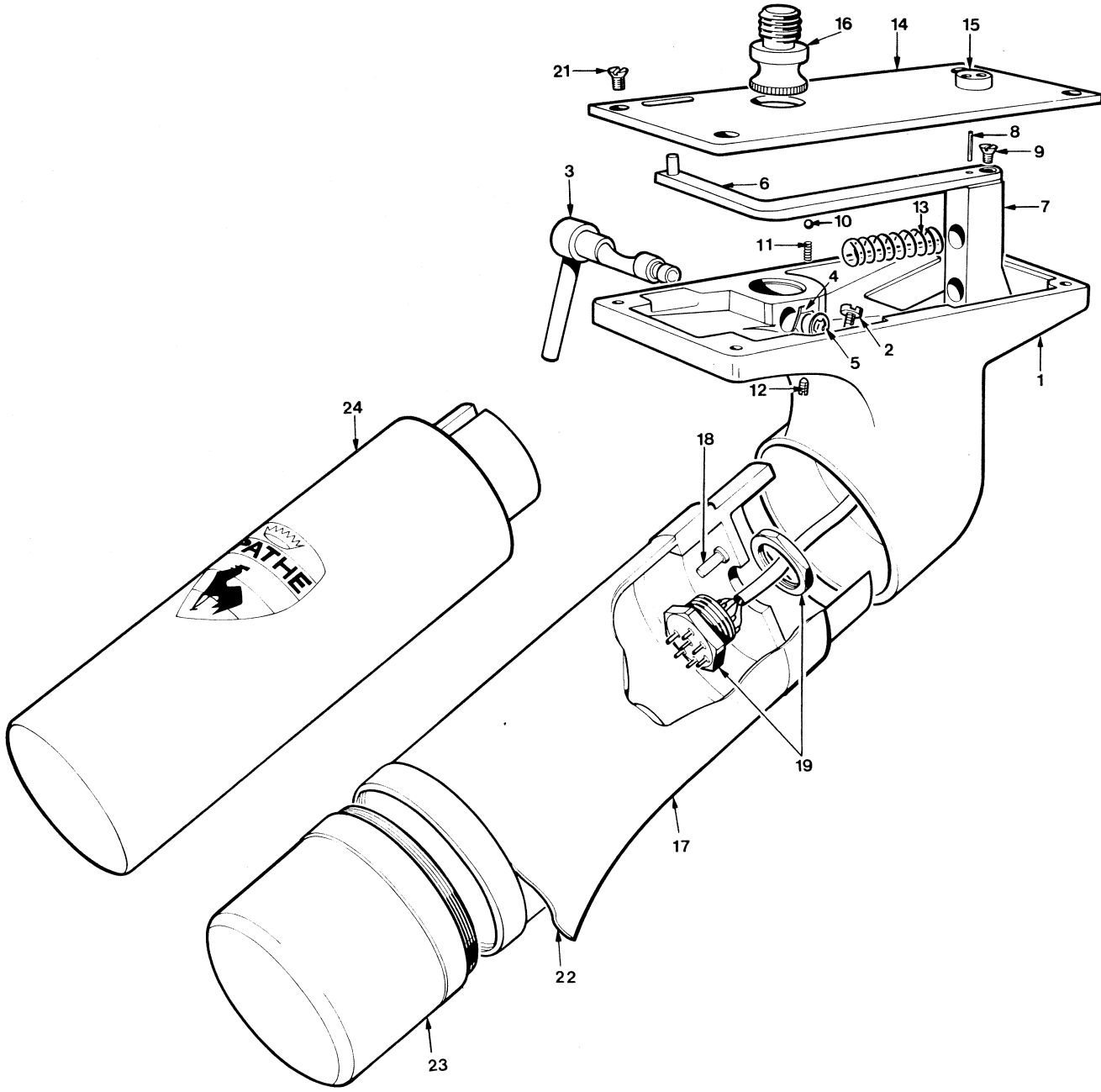
3-86		Screw TC 2 x 8 (on 3-81)	2	3-112		Screw TCB 1,6 x 7 (on 3-111)	2
3-87	97 522	Gear bracket support	1	3-113	SA 97 787	Pressure pad lock assembly	1
3-90	98 282	Servo motor mount	1	3-114	96 069	Screw TBP 2 x 3 (on 3-113)	2
3-91	SA 98 545	Servo motor assembly	1	3-115	96 771	Pressure pad spring	1
3-92	98 233	Intermediate gear	1	3-116	97 792	Screw TCB 1,5 x 2	2
3-93	98 203	Intermediate wheel	1	3-117	97 528	DS8 pressure pad	1
3-94		Screw TF 2,5 x 6	1	3-118	97 452	16 mm pressure pad	1
3-95	SA 98 495	Contact mount assembly	1	3-119	96 748	DS8 pressure pad brace	1
3-96		Screw TF 1,5 x 4 (on 3-95)	2	3-119		16 mm pressure pad brace	2
3-97	98 209	Motor cover	1	3-120	97 557	DS8 pressure pad spindle	1
3-98	97 699	Variable shutter lever plate	1	3-121	96 280	16 mm pressure pad spindle	1
3-99	97 019	Turret cap	2	3-122	96 597	Shutter lever knob	1
3-100	SA 97 707	DS8 pressure pad claw assembly	1	3-123	96 596	Shutter lever knob	1
3-101	SA 97 246	16 mm pressure pad claw assembly	1	3-124		Screw TFB 2 x 4 (on 3-122/123)	1
3-102	SA 97 245	Pressure mount	1	3-125	97 413	Ring	1
3-103		Screw ST 2 x 2 (on 3-120/121)	1	3-128	96 745	16 mm claw	1
3-104	SA 97 546	DS8 eccentric shaft	1	3-129	98 208	Servo motor base	1
3-105	SA 96 744	16 mm eccentric shaft	1	3-130		Screw 2,5 x 3 (on 3-90)	3
3-106	SA 97 552	DS8 claw arm	1	3-131		Washer 6 x 10 x 0,2	1
3-107	97 556	DS8 claw support	1	3-132	98 583	DS8 pellicle glass removable mount	1
3-108		Screw TF 1,6 x 4 (on 3-107)	2	3-133	98 583	16 mm pellicle glass removable mount	1
3-109	97 555	DS8 claw	1	3-134		Screw T.F. 1,5 x 4	2
3-110		Screw TCBL 1,6 x 3 (on 3-109)	1	3-135	98 588	DS8 engraved plate	
3-111	97 553	DS8 claw cam.	1	3-136	98 587	16 mm engraved plate	



COVER PL – 4

			QTY				QTY
4-1	98 275	Cover	1	4-47	SA 98 334	Speed knob assembly	1
4-2	96 231	Cover light seal	1	4-48		Ball 2	1
4-3	97 472	Plate	1	4-49	42 195	Spring	1
4-4	96 067	Screw TMB 2,5 x 3,5 (on 4-3)	4	4-50		Screw ST 2,5 x 2 (on 5-46)	1
4-6	97 128	Locking knob	1	4-51	98 416	Engraved plate (with 25 fps)	1
4-7	96 990	Washer	1	4-52	98 412	Engraved plate (with 24 fps)	1
4-8		Screw TCB 2 x 5 (on 4-7)	2	4-53	97 342	Calculator inner knob	1
4-9	96 988	Locking knob axle	1	4-54		Pin 1,5 x 7	1
4-10	97 650	Collar	1	4-55	97 832	Spring washer 8,5 x 15 x 0.1	1
4-11	96 995	Washer	1	4-56	97 341	Leather washer	1
4-12	96 991	Spring	1	4-57	97 828	Spring washer 7.2 x 9 x 0.2	1
4-13	96 025	Screw (on 4-9)	1	4-58	97 345	Spring	1
4-14	96 989	Bolt plate	1	4-59		Clip truarc	1
4-15	96 241	Bolt (back)	1	4-60	98 287	Speed index	1
4-16	96 242	Upper Bolt	1	4-61	98 288	Shutter opening engraved plate	1
4-17	96 243	Lower bolt	1	4-65	SA 98 350	Wheel	1
4-18	96 244	Brace	4	4-66	98 299	Brace	4
4-19	97 262	Bolt washer	1	4-67		Screw TCB 1.5 x 3 (on 4-66)	4
4-20	96 067	Screw TB 2,5 x 3 (on 4-14)	4	4-68	98 300	Nut	2
4-21	97 561	Screw TBL 2,5 x 5 (on 4-19 – 4-9)	1	4-81		Screw TCB 2 x 5	2
4-22	96 246	Lower bolt guide	1	4-82	SA 98 428	Eyepiece shaft	1
4-23	96 414	Bolt guide	2	4-83		Screw TCBL 2 x 2,5 (on 4-46)	2
4-27		Screw 3 x 2,5 (on 4 104/105)	2	4-84	97 737	Eyepiece knob	1
4-28	97 596	DS8 Relay lens	1	4-85		Screw ST 2,5 x 3 (on 4-84)	1
4-29	97 469	16 mm Relay lens	1	4-86	SA 98 333	Electric connector	1
4-30		Screw 2,5 x 4 (on 4-28/29)	6	4-87		Screw TF 2 x 8 (on 4-86)	2
4-31	96 332	Viewer shutter spindle	1	4-91		Screw ST 2,5 x 4 (on 4-1)	1
4-32	96 335	Viewer shutter	1	4-92	98 247	Cover upper peel	1
4-33		Screw TR 2 x 2 (on 4-32)	2	4-93	98 248	Cover lower peel	1
4-34	96 333	Viewer shutter lever	1	4-94	97 844	Eyecup	1
4-35	SA 96 180	Viewer shutter plate	1	4-95	98 419	Engraved plate	1
4-36	SA 98 525	DS8 eyepiece assembly	1	4-96	SA 98 596	Printed circuit board	1
4-37	SA 98 526	16 mm eyepiece assembly	1	4-97	98 584	Half cover	1
4-38	SA 97 742	Eyepiece lock assembly	1	4-98		Screw TCBL 2 x 2,5 (on 4-97)	1
4-39	97 679	Tube	1	4-99	SA 98 59	Cap	1
4-40	97 681	Spring	1	4-100	98 574	Diodes Mount	1
4-41	97 680	Plunger	1	4-101		Screw TCB 2 x 4 (on 4-100)	1
4-42	97 003	Plate	1	4-102	98 595	Diode connecting board	1
4-43	96 069	Screw TMB 2 x 3 (on 4-42)	2	4-103	98 568	Light emitting diode (led)	3
4-44	97 738	Eyepiece lock Knob	1	4-104	SA 98 599	DS8 eyepiece assembly	1
4-45		Screw ST 2,5 x 5 (on 4-44)	2	4-105	SA 98 598	16 mm eyepiece assembly	1
4-46	SA 98 354	Cell calculator knob/cover assembly	1				

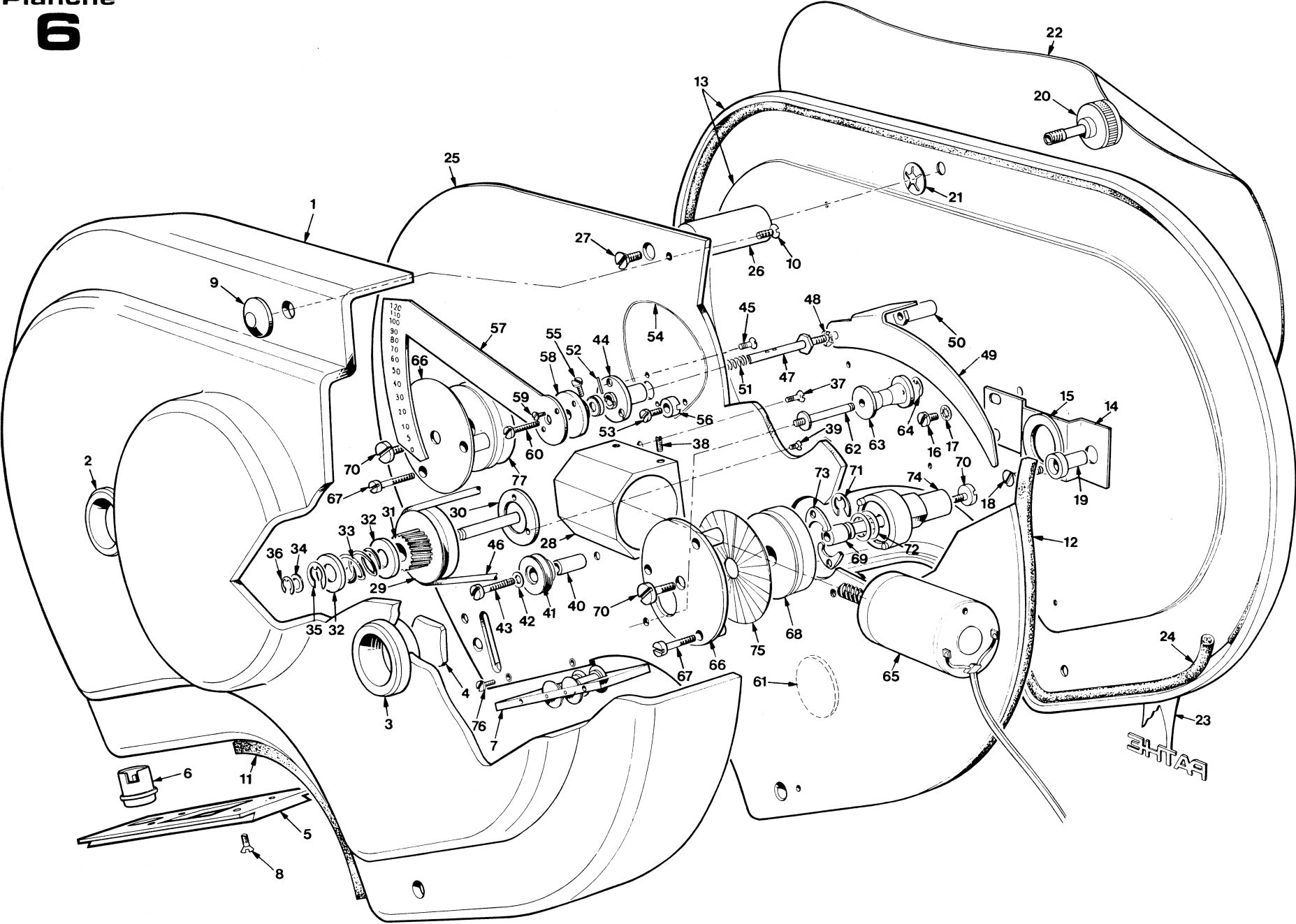
Planche
5



HANDGRIP PL – 5

			QTY				QTY
5-1	98 313	Handgrip base	1	5-13	98 249	Release spring	1
5-2		Screw TCB 3 x 8	1	5-14	98 225	Plate	1
5-3	SA 98 339	Eccentric	1	5-15	SA 98 484	Electric connector	1
5-4		Washer delta (ON 5-3)	1	5-16	98 221	Fixing knob	1
5-5		Clip (ON 5-3)	1	5-17	SA 98 546	Handle rod	1
5-6	SA 98 352	Release lever	1	5-18	98 224	Battery position pin	1
5-7	98 205	Thumb push	1	5-19	98 246	Electric connector	1
5-8		Pin 2 x 6 (ON 5-6)	1	5-21		Screw TF 2,5 x 4 (ON 5-4)	4
5-9		Screw TF 2 x 6 (ON 5-6)	1	5-22	98 301	Rod peel	1
5-10		Ball 2,5	1	5-23	98 214	Bottom cap	1
5-11	97 324	Spring	1	5-24	98 210	Hand grip battery	1
5-12		Screw 3 x 3 (ON 5-11)	1				

Planche
6



MAGAZINE PL – 6

			QTY				QTY
6-1	98 317	Magazine body	1	6-40	98 424	Belt roller HUB	1
6-2	98 381	Counter window	1	6-41	98 425	Belt roller	1
6-3	98 386	Rotating disc window	1	6-42		Washer 2,5 x 5 x 0,2 (ON 6.43)	ALD
6-4	6 118	Window lens	1	6-43		Screw CB 2,5 x 9 (ON 6.40/41)	1
6-5	98 373	Magazine slide	1	6-44	98 363	Screw CB 2,5 x 9 (ON	1
6-6	SA 98 467	Connector base	1	6-45		Screw TF 1,5 x 3 (ON 6.44)	3
6-7	SA 98 466	Roller plate	1	6-46	98 370	Driving belt	1
6-8		Screw TF 2,5 x 10 (ON 6,5)	4	6-47	98 362	Counter arm spindle	1
6-9	98 426	Nut	5	6-48		Washer 3 (ON 6.47)	1
6-10		Screw TF 2,5 x 4 (ON 6.25)	5	6-49	98 361	Counter ARM	1
6-11	98 380	Rubber stop		6-50	97 292	Counter arm release button	1
6-12	98 385	Light seal	1	6-51	97 166	Spring	1
6-13	SA 98 547	Magazine cover	1	6-52		Pin 1 x 6 (ON 6.47)	1
6-14	98 442	Spool lock	2	6-53		Screw CB 2,5 x 4 (ON 6.56)	1
6-15	98 449	Felt	2	6-54	98 366	Spring wire	1
6-16		Screw TCB 2,5 x 3	4	6-55	97 561	Screw TR 2,5 x 5 (6.58)	2
6-17		Washer 2,5 x 6 x 0,5 (ON 6.16)	4	6-56	98 427	Washer counter	1
6-18		Screw TF 2,5 x 8 (ON 6.14)	2	6-57	98 368	Engraved counter	1
6-19	98 444	Stop brace (ON 6.18)	2	6-58	98 367	Hub	1
6-20	93 382	Cover locking knob	3	6-59		Screw TCB 1,5 x 2 (ON 6.57)	2
6-21	98 478	Topax (ON 6.20)	3	6-60		Screw CB 2 x 10 (ON 6.58)	1
6-22	98 383	Cover peel	1	6-61	98 448	Felt washer	6
6-23	98 515	Cock sign	1	6-62	98 539	Roller spindle	1
6-24	98 385	Cover light seal	1	6-63	98 536	Roller	1
6-25	98 328	Main plate	1	6-64		Clip 3 (ON 6.63)	1
6-26	98 372	Mount brace	3	6-65	SA 98 548	Motor	1
6-27		Screw TF 2,5 x 5 (ON 6.26)	3	6-66	SA 98 471	Spool plate	2
6-28	SA 98 472	Motor bracket	1	6-67		Screw TCB 2 x 11 (ON 6.66)	6
6-29	SA 98 477	Main pulley and hub	1	6-68	SA 98 549	Feeding spool pulley	1
6-30	98 359	Main rulley spindle	1	6-69	96 024	Spool hub spindle	2
6-31	98 312	Driving wheel (ON 6.29)	1	6-70	96 025	Screw (ON 6.69)	4
6-32	98 537	Friction washer (6.29)	2	6-71	96 036	Clip (ON 6.69)	2
6-33	98 360	Spring (ON 6.29)	1	6-72		Washer 5,1 x 10 x 0,2 (ON 6.69)	4
6-34		Washer 4 x 6 x 0,2 (ON 6.30)	1	6-73	96 037	Pawl (20N 6.68 – 20N 6.77)	4
6-35		Clip (ON 6.29)	1	6-74	96 266	Spool hub	2
6-36		Clip (ON 6.30)	1	6-75	98 371	Rotating indicator	1
6-37		Screw TF 2,5 x 4 (ON 6.28)	2	6-76	97 561	Screw TR 2,5 x 5 (ON 6.7)	2
6-38		Screw 2,5 x 6 (ON 6.38)	2	6-77	SA 97 903	Take up spool pulley	1
6-39		Screw TF 2 x 5 (ON 6.30)	3				

- I N D E X -

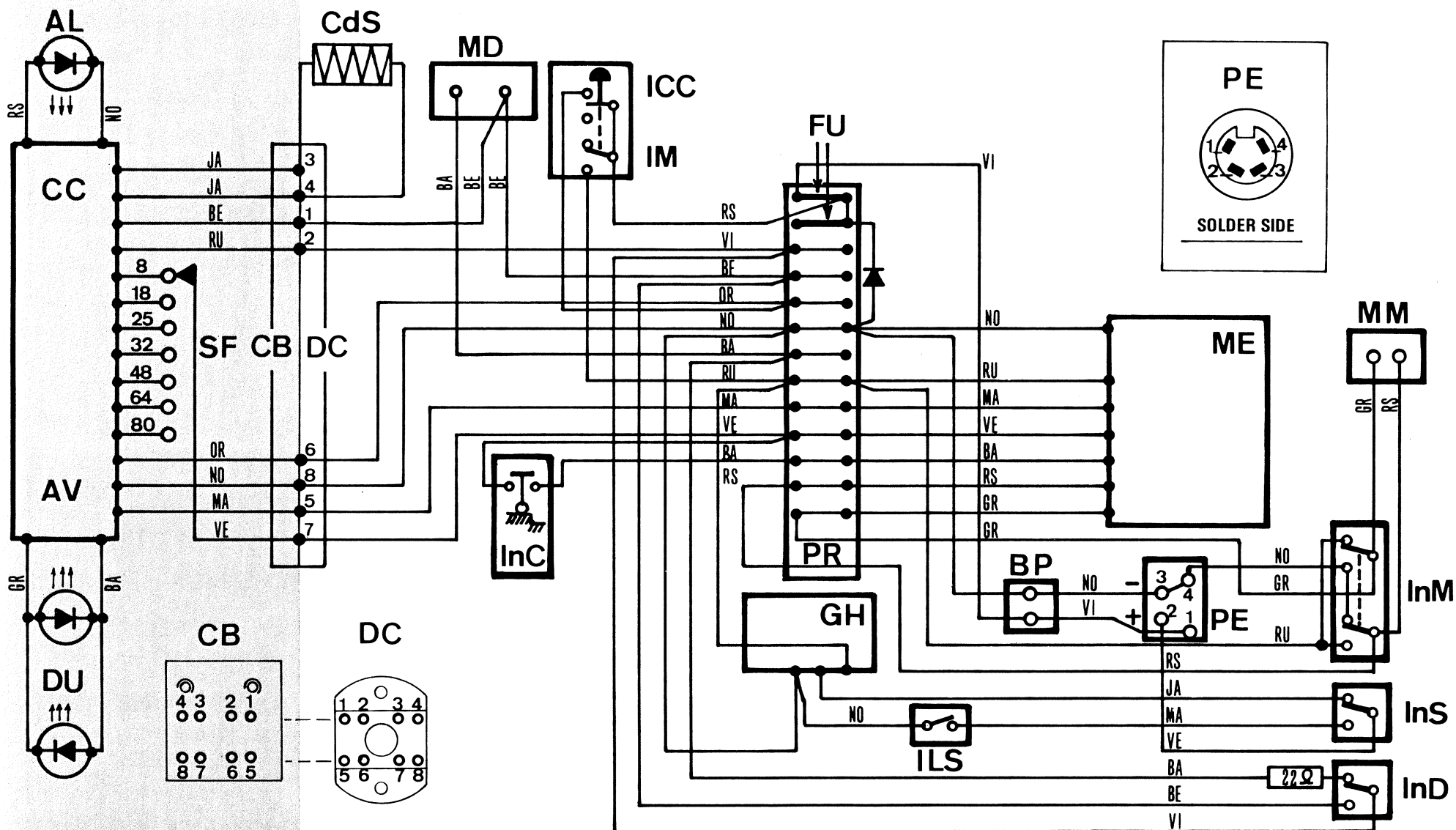
	Français	English	Deutsch
AL	Alarme	Alarm	Alarm
AV	Ajustables vitesses	Speed adjustment	Einstellbare Geschwindigkeit
BE	Batterie extérieure	External battery	Aussenbatterie
BP	Batterie de poignée	Handle battery	Handgriffbatterie
CB	Contacteur (couvercle)	Connector (cover)	Deckelkontakte
CC	Circuit cellule	Exposure meter circuit	Fotozellen Schaltung
CdS	Cellule	Photo electric. cell.	Fotozelle
DC	Contacteur (bloc optique)	Connector (optical unit)	Kontakte (optischer Block)
DU	Diode électroluminescente	Light emitting diode	Electro Licht Dioden
FU	Fusible	Fuse	Sicherung
GH	Générateur de hall	Hall generator	Hall Generator
ICC	Interrupteur circuit cellule	Exposure meter circuit switch	Belichtungsmesser schaltung
ILS	Interrupteur à lampe souple	Flash switch	Blitzlichtschalter
IM	Interrupteur moteur	Motor switch	Motorschalter
InC	Interrupteur de couvercle	Cover switch	Deckelschalter
InD	Inverseur auto/man	Exposure control selector	Umschalter autolman
InM	Inverseur de marche	Reverse/forwards selector	Umschalter Laufrichtung
InS	Inverseur signal synchro	Sync. signal selector	Umschalter Synchron Impuls
MD	Moteur diaphragme	Servo motor	Blenden motor
ME	Module électronique/moteur	Motor and electronic board	Electronic Bausteine Motor
MM	Moteur magasin	Magazine motor	Magazin Motor
PE	Prise pour alimentation extérieure	External power socket	Stecker für Aussenspeisung
PR	Plaquette de raccordement	Connecting board	Anschlussplakette
SF	Sélecteur de fréquence	Frequency selector (speed)	Frequenz Wähler

CODE DES COULEURS
COLOR CODE

BA	Blanc	White	Weiss
BE	Bleu	Blue	Blau
GR	Gris	Grey	Grau
JA	Jaune	Yellow	Gelb
MA	Marron	Brown	Braun
NO	Noir	Black	Schwarz
OR	Orange	Orange	Orangefarbe
RS	Rose	Pink	Rosenfarbe
RU	Rouge	Red	Rot
VE	Vert	Green	Grün

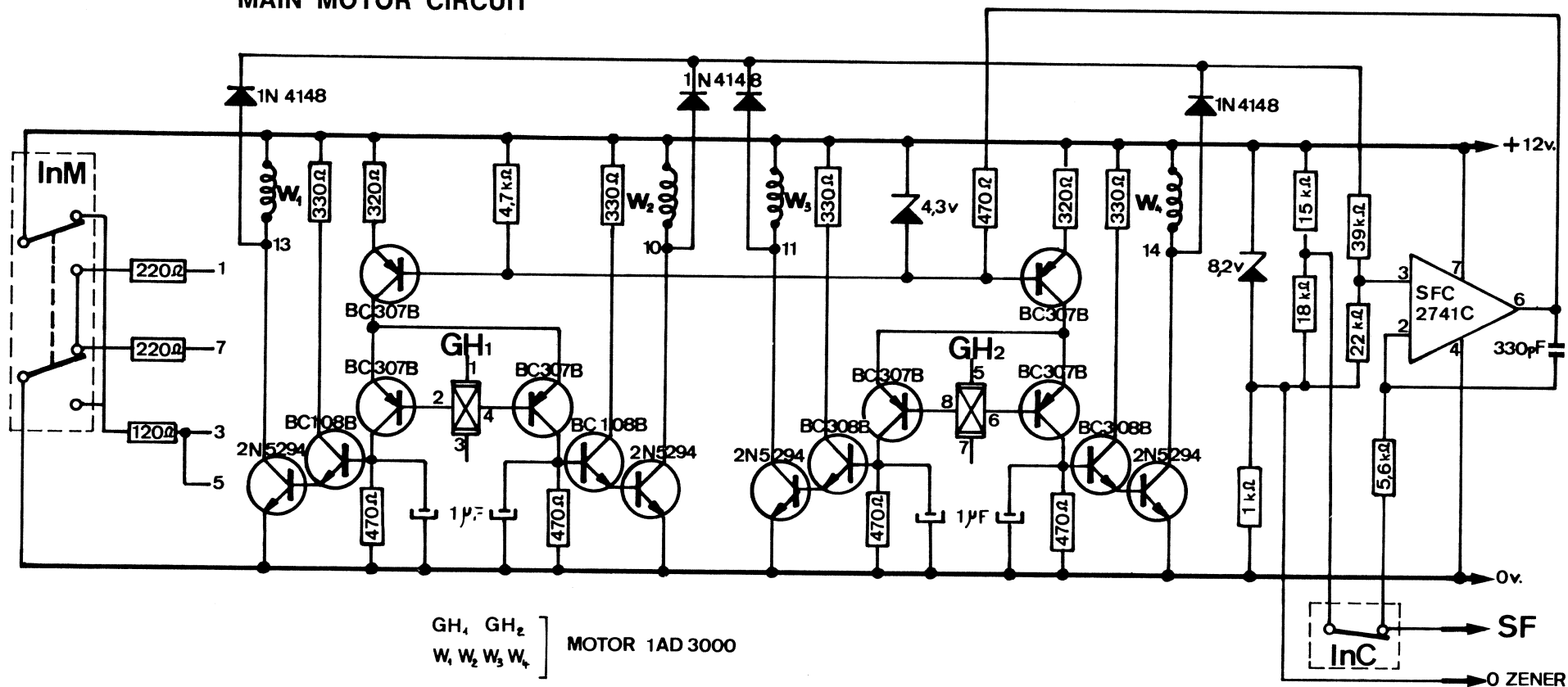
COVER

CAMERA BODY — OPTICAL UNIT

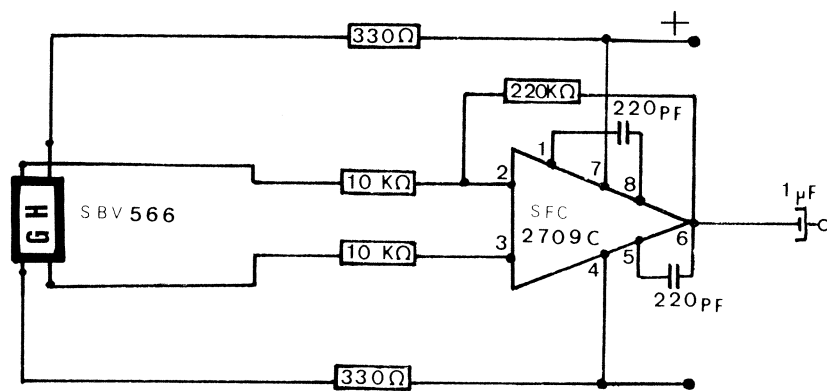


ELECTRIC DIAGRAM

MAIN MOTOR CIRCUIT



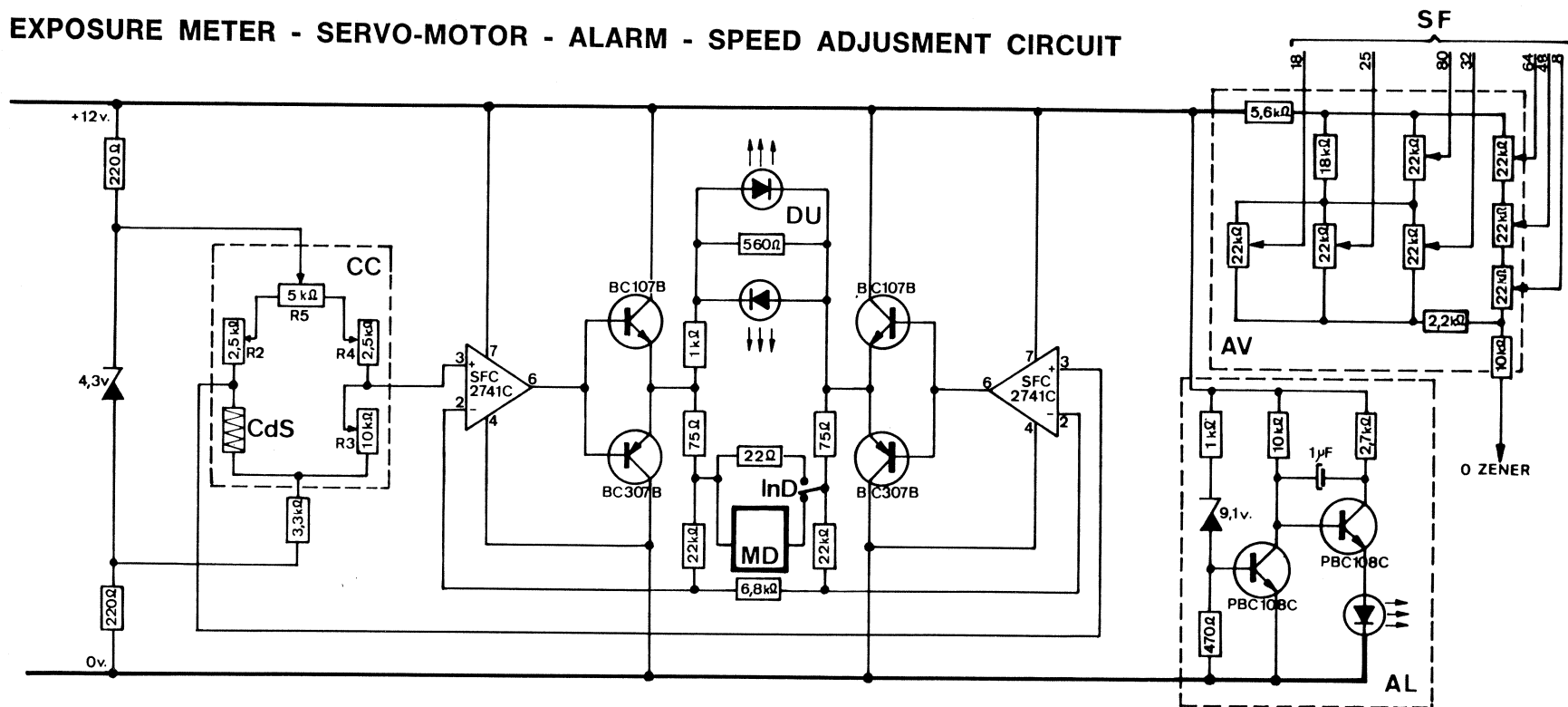
C 1-44 - PILOT TONE



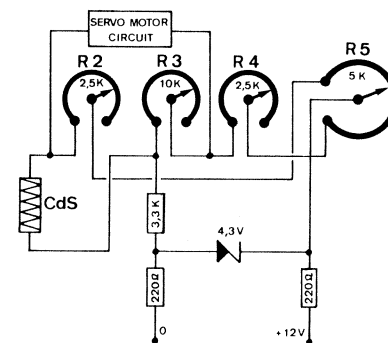
PATHE *electronic* «**DUOLIGHT**»

in the body

EXPOSURE METER - SERVO-MOTOR - ALARM - SPEED ADJUSTMENT CIRCUIT

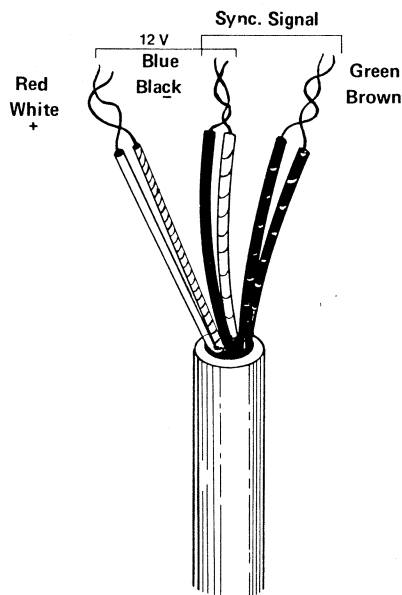


EXPOSURE METER CIRCUIT



ELECTRONIC CIRCUIT

in the cover



POWER CORD 8886.03

PATHE ACCESSORIES

0.5 A/H HANDGRIP BATTERY – 8886.06 :

This battery is cylindrical and has a female connector. It includes 10 cells soft V.R. 0.5A. It is easy to put it into the handgrip by turning it for correct position. It can also be used in the battery housing 8886.02 (see below). It is recommended to have several batteries for one camera.

CHARGER FOR HANDGRIP BATTERY – 8886.10 :

This charger with power cord is also cylindrical and accepts the battery inside. The charging time is from 16 to 18 hours.

BATTERY HOUSING – 8886.02 :

Holds the handgrip battery when the camera is used without handgrip. It has a similar design as the handle. A connecting cord is attached and a special connector is provided for the sync. signals. A cap and connecting plug are delivered with the housing.

POWER CORD – 8886.03 :

Elastic spiral cord extending from 0.8m (2'8") to 1.5m (5') with 6 wires. It is fitted with one plug to be connected to the camera.

4 A/H BATTERY – 8886.07 :

Includes 10 cell soft V.R. 4A in a leather case with power cord and connector for sync. signals. All is supplied in a larger leather carrying case, with shoulder belt.

CHARGER FOR 4 A/H BATTERY – 8886.11 :

Has a selector for 110 or 220 Volt AC, 60 or 50 hertz.

1,2 A/H BATTERY – 8886.13 :

This battery includes 10 cell, soft V.R. 1,2 A. It is provided with charger connector for sync. signal and leather case with shoulder belt. The charger is fitted with automatic selector 110-220 Volt.

1,2 A/H BATTERY CORD – 8886.04 :

This cord is provided with two plugs for connecting to the camera to the 1,2 A/H battery.

CAR ADAPTER – 8886.12 :

This cord is provided with plug for connecting to the camera and plug for connecting to a car cigar-lighter. Length = 5 m (15 ft).

CAUTION :

This cord can be used only on car lighter with insulated positive.

CARRYING BAG – 8263.58

For PATHE ELECTRONIC camera with zoom of moderate size (excluding 10 x 12), location for extra handle battery, charger and two spools, with carrying belt.

SUITCASE – 8263.60 :

For PATHE ELECTRONIC camera with smaller zoom lens, accessories, spools.

LARGE GADGET BAG – 8263.61 :

For PATHE ELECTRONIC camera with any zoom lens, 400 ft. magazine, two 400 ft. spools, battery, charger, matte-box, other accessories, etc... with shoulder belt.

MATTE BOX – 8990.80 :

Provided with support bracket for mounting camera with two extensible rods, extensible lenshood and filter holder (Kodak No. 2 mount).

400 FT MAGAZINE – 8997.64 :

Provided with integrated electric motor, and counter. It is fitted to the camera by a dovetail base with electric connector. This magazine accepts 200 or 400 ft. daylight loading spools. The film threading must be done after fitting the magazine to the camera.

400 FT FLANGE SPOOL – 8882.60 :

Allows loading the film spools in daylight. Just put the film into the spool in the darkroom.

SOUND BARNEYS – 8263.62 – 8263.63 :

These soft blimps reduce the noise level by approximately 7 db.

ANAMORPHIC ATTACHMENT 8884.34 :

This lens attachment is mounted on the rods of the matte box, just in front of the camera lens (fix focus or zoom). Specify with order, if this attachment is to be used with the 16mm or DS8 camera.

CAUTION :

The anamorphic lens cannot be fitted to lenses shorter than 25mm for 16mm, or 15mm for DS8, or lenses with a front diameter larger than 35mm.

MICROSCOPE ATTACHMENT 8261.50 :

This attachment is screwed into a C-mount opening of the turret. Its 90° angle allows using the camera in horizontal position.

ANGLE CABLE RELEASE 8230.78 :

Length 20'' (50cm), screws into the shutter release.

EXTENSION TUBES 8364.05 :

This set includes four tubes, with a total length of 65mm, for macro-cinematography.

SHOULDER BELT 8263.64 :

For carrying the camera. This accessory is supplied with each camera.

MANUAL LOAD COVER 8300.06 :

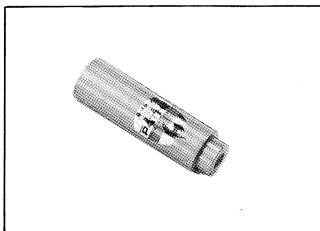
Replaces the automatic threading mechanism, for manual loading.

SHOULDER SUPPORT 8261.37 :

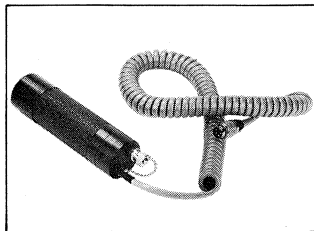
Fitted to the handgrip it assures a better stability of the camera while filming.

REFERENCES FOR ELECTRIC CONNECTORS AND PLUGS

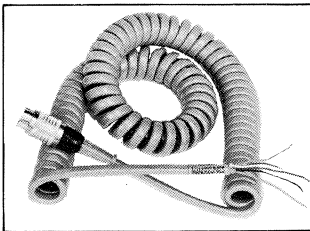
- | | |
|---------------------|---|
| — on camera body | female plug (4 pins) tuchel T 3303 |
| — on power cord | male plug (4 pins) tuchel T 3300/1 |
| — on batteries | corresponding female plug (2 pins) radiall R 51000 605550 series BR 2 |
| — for sync. signals | male plug (2 pins) radiall R 51120 605005 series BR 2 |



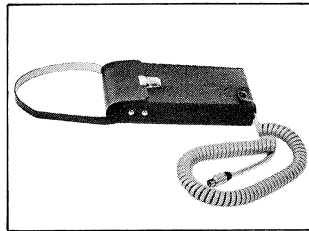
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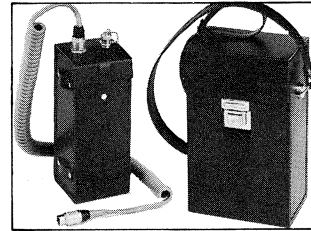
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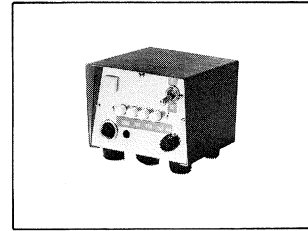
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8886.13



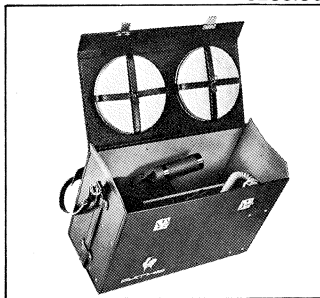
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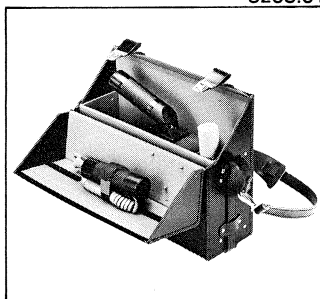
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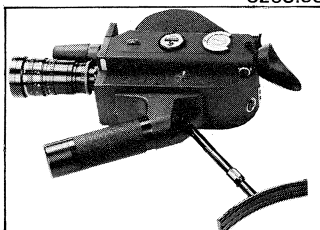
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8263.61

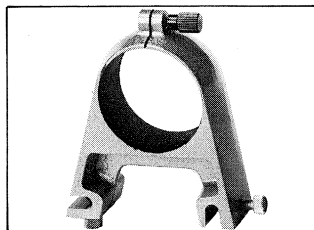


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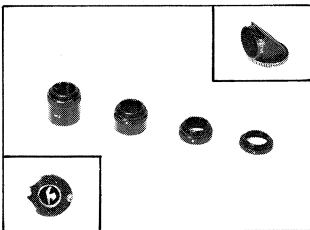


7-4

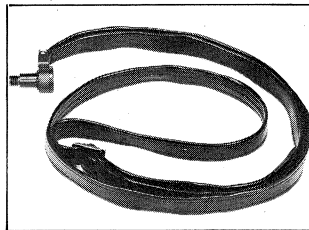
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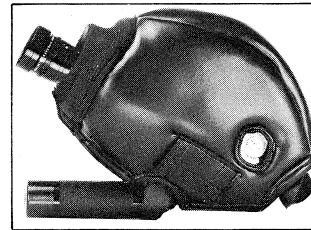
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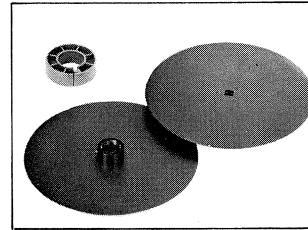
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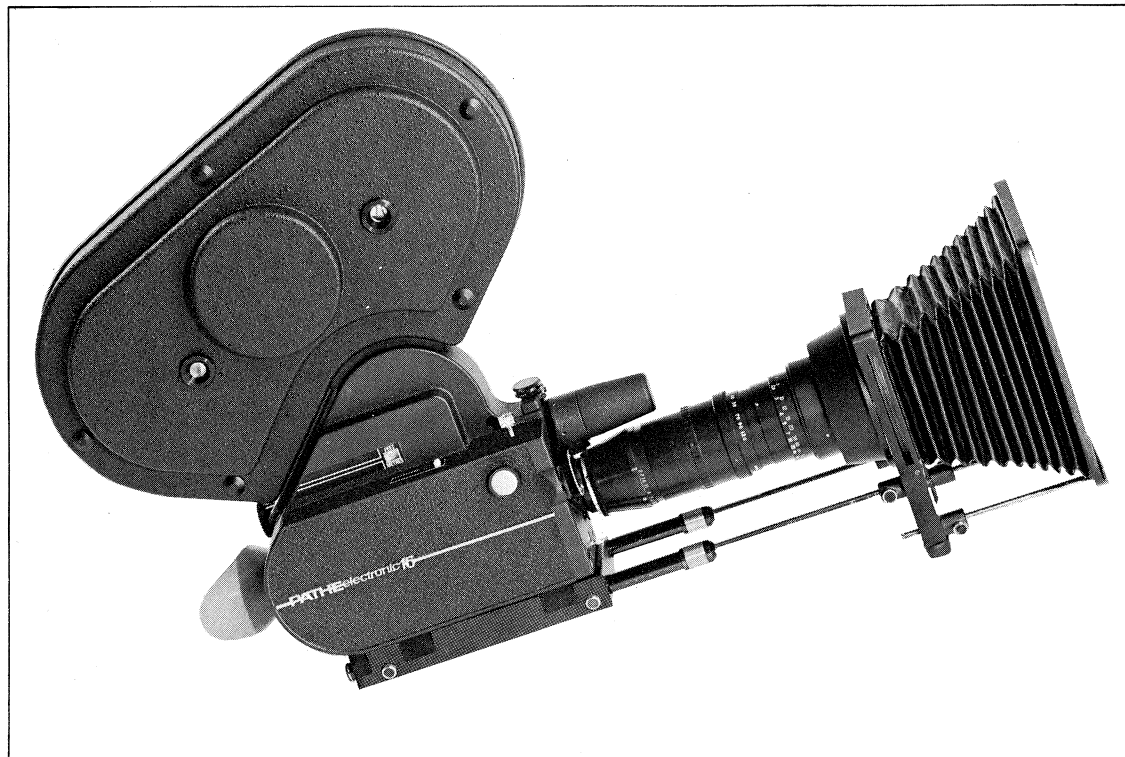
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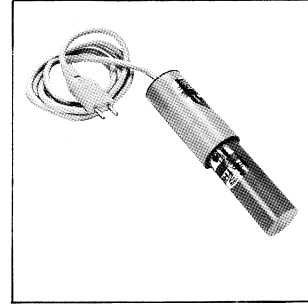
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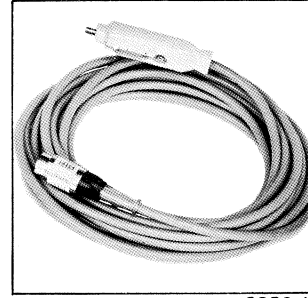
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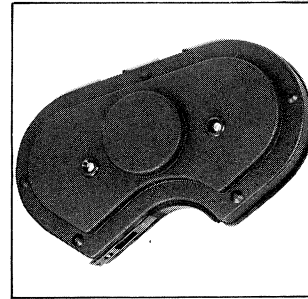
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8886.12



8886.17



8997.64