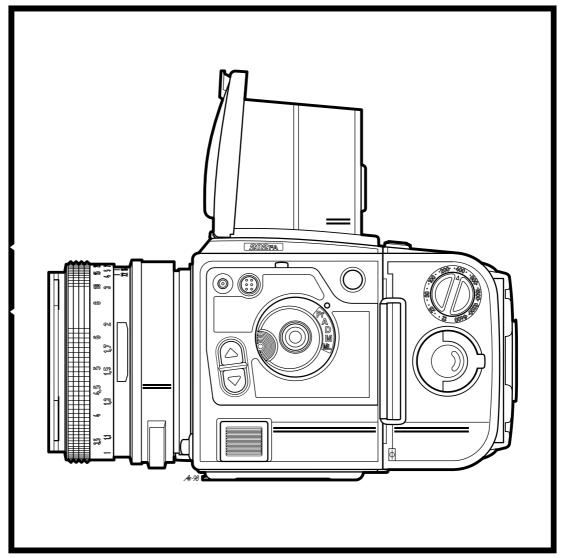
# HASSELBLAD

#### **Service Manual**

# **202**FA **201**F



April 1998

#### Victor Hasselblad AB Göteborg Sweden

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#### Camera body 202FA - 201F

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03/94	New Service Manual - 201F
07/94	Spare part No. for the speed ring - 201F
03/95	New tool - Support 904020
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07/95	Spare part No. for the curtain set - 201F
11/95	Redesigned electronic circuit - 201F
14/95	Mirror and focusing screen adjustment - 200 series cameras
18/95	Revised documentation - 201F
24/95	Incorrect spare part number - 201F
28/95	New tool - Adapter 904759
03/96	Driving arm failed to latch - 201F
12/96	Tripod foot adapter/kits
04/97	Light seal foil modified - 200 series cameras
09/98	Introduction of the Hasselblad 202FA
13/99	Modified parts - 200 series cameras
01/00	New CD-ROM - Version 1.2
14/00	Discontinued parts - 200 series cameras
01/01	Modified magazine hook - 202FA
04/01	New CD-ROM - Version 2.0

Revision 3 January 2001

Design: Medium format single reflex camera with built-in TTL selective

> meter electronically connected to FE lenses and E magazines. Interchangeable lenses, film magazines, viewfinders and

focusing screens.

**Shutter:** Electronically controlled mechanical focal plane shutter with

release solenoid system. Horizontally running textile curtains.

Shutter speed range 90 s - 1/1000 s and B.

In manual mode up to 34 minutes. Flash synchronization up to 1/90 s.

**Lens mount:** Hasselblad bayonet mount for FE, F, CF and CFE lenses.

Contacts for data-bus communication with the FE lenses.

Viewfinder: Focusing hood with 4 x magnifier, interchangeable with

magnifying hood and prism viewfinders with or without

exposure meter. Acute-Matte D focusing screen

interchangeable with other Hasselblad focusing screens.

**Display:** LCD display with all relevant exposure and operational data.

Switch-controlled low light illumination.

Winding & Manual single turn winding crank. Simultaneous shutter film advance:

cocking and film advance. The crank is interchangeable with

the Hasselblad Winder F for a frame rate of up to 1.3 fps.

TTL metering at full aperture with FE lenses. High sensitivity **Exposure meter:** 

> silicon photocell. Selective meter area approximately 20% of the image area. Metering range EV 0.5 to EV 21.5 at ISO

100/21° and f 2.8.

Exposure adjustment  $\pm$  5 stops in 1/3-stop increments.

**Operating modes:** Aperture priority automatic exposure using A or D-mode.

Manual exposure using M or ML-mode.

Programming using PR-mode. Electronic shutter speed lock.

**Film speed range:** ISO 12/12° - 6400/39°, selected with film speed dial on E and

CC magazines or set in programming mode.

**Flash control:** Center weighted TTL/OTF flash exposure meter. Full

dedicated flash control with inhibited flash triggering at shutter

speeds faster than 1/90 s.

Flash control film speed range ISO 25 - 1000.

**Self timer:** Default delay 10 s. Programmable delay in 12 steps from

2 s to 60 s.

**Battery:** 6 volt, type PX28 Lithium.

**Tripod mount:** Quick coupling plate with 1/4" and 3/8" socket thread.

**External dimensions:** 

(Camera body)

Width 117, height 110 and lenght 91 mm.

**Weight:** 750 g.

**Design:** Medium format single reflex camera with built-in flash

exposure control.

Full image size mirror. Film size 6 x 6 cm (2 1/4 x 2 1/4 inch).

Interchangeable lenses, film magazines, viewfinders and

focusing screens.

**Shutter:** Electronically controlled mechanical focal plane shutter with

release solenoid system. Horizontally running textile curtains. Shutter speed range 1s - 1/1000s and B. Fully mechanical C

setting for lenses with built-in leaf shutters.

Flash synchronization at all speeds from B to  $1/90 \ s.$ 

**Lens mount:** Hasselblad bayonet for FE, F, CF and C lenses.

**Viewfinder:** Focusing hood with 4.5 x magnifier, interchangeable with

magnifying hood and prism viewfinders with or without exposure meter. Acute-Matte focusing screen interchangeable with other Hasselblad focusing screens. Illuminated flash

indicator and battery check.

Winding & Manual single turn winding crank. Simultaneous shutter

cocking and film advance. The crank is interchangeable with

the Hasselblad Winder F for a frame rate of up to 1.3 fps.

**Flash control:** Center weighted TTL/OTF flash exposure meter. Full

dedicated flash control with inhibited flash triggering at shutter

speeds faster than 1/90 s.

Flash control film speed range ISO 16 - 1000.

**Self timer:** Default delay 10 s, optional delay 2 s selected with selftimer

button. Flashing selftimer indication light.

**Battery:** 6 volt, type PX28 Lithium.

**Tripod mount:** Quick coupling plate with 1/4" and 3/8" socket thread.

**External dimensions:** Width 117, height 110 and lenght 91 mm.

(Camera body)

film advance:

**Weight:** 750 g.

**Focal length:**  $71.4 \text{ mm} \pm 0.03 \text{ mm}$ 

Front key angle: Cocked position 8° - 9° 3 Ncm

Overtravel 12° - 14° 14 Ncm

Pre-tension of spring Front gear: 3 turns (released position)

Magnets: Minimum hold 2 Ncm

Accelerating stretch **Shutter:** 6.5 - 8.1 mm

Slot 0.2 - 1.0 mm

Travel times 9.6 - 9.9 ms at 1/1000 s (0 ± 0.11 ms)

Speeds 1 sec - 1/60 ± 0.1 EV Speeds 1/90 - 1/1000  $\pm 0.3 EV$ 

**Light meter:** All settings ± 0.3 EV

Flash meter: All settings  $\pm 0.3 EV$ 

Delay 0 - 0.20 ms Flash sync:

**Current consumption:** On max 10 mA at 5.6 V

Off max 20 uA at 5.6 V

#### **PPS** = **Pressure** point switch

Makes when the release button is pressed to the pressure point. Activates the camera. A pre-locked light value is unlocked when the button is released.

#### LRS = Late release switch

Makes when the release button is fully pressed. Starts together with PPS an exposure.

#### **HPS** = **Home position switch**

Makes when the camera is fully cocked. Indicates together with FSS that the camera is tensioned. If HPS is open, the camera can not be activated.

#### FSS = First curtain sync switch

Will be switched off when the first curtain is released. Indicates together with HPS that the camera is tensioned. If FSS is open, the camera can not be activated.

#### **SSS** = Second curtain sync switch

Will be switched off when the second curtain is released. Must be closed when the camera is tensioned otherwise the exposure will fail.

#### FKS = Front key switch

Makes when the camera is tensioned. Is switched off when the mirror goes up and at that time also prevents new light values to be stored. If FKS is not switched off the selftimer does not work.

#### MRS = Mirror release switch

Makes when the mirror release button is fully pressed. When the button is pressed once more, the selftimer starts. In B-mode the second curtain will be released when MRS is switched off.

#### ELS = Exposure lock switch

Activates the camera when pressed. When released, a light value is stored.

#### AS+ = Adjustment switch +

Exposure compensation, manual shutter speed setting etc.

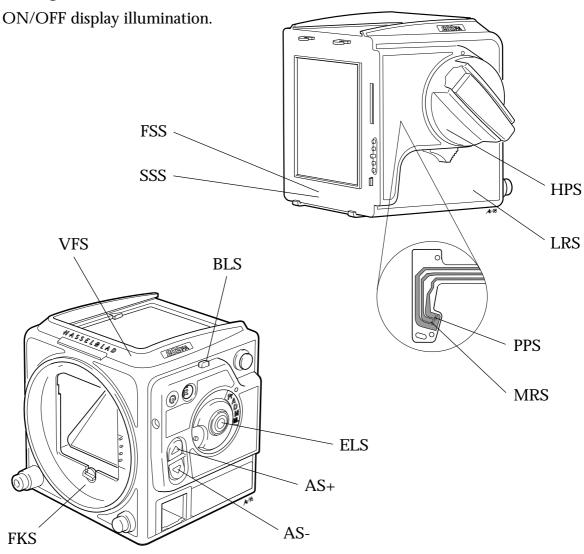
#### AS- = Adjustment switch -

Exposure compensation manual shutter speed setting etc.

#### VFS = View finder switch

Is switched off when a prism finder is mounted on to the camera and at the same time mirror turns the display.

#### BLS = Back light switch



**Focal length:**  $71.4 \text{ mm} \pm 0.03 \text{ mm}$ 

Front key angle Cocked position 8° - 9° 3 Ncm Overtravel 12° - 14° 14 Ncm

Pre-tension of spring Front gear: 2.5 turns (released position)

**Magnets:** Minimum hold 2 Ncm

**Shutter:** Accelerating stretch 6.5 - 8.1 mm 0.2 - 1.0 mm

Slot

Travel times 9.6 - 9.9 ms at 1/1000 s (0  $\pm$  0.11 ms)

Speeds 1 sec - 1/60  $\pm 0.1 EV$ Speeds 1/90 - 1/1000  $\pm 0.3 EV$ 

Flash meter: All settings ± 0.3 EV

Flash sync: Delay 0 - 0.20 ms

**Current consumption:** max 10 mA at 5.6 V On

max 20 uA at 5.6 V (drain) Off

(up to camera serial No. 16EI10639)

**LRS** = **Late release switch** Makes when the release button is fully pressed.

Starts together with PRS an exposure.

**PRS** = **Pre-release switch** Makes when the mirror release button is pressed.

When the mirror release button is pressed once more, the selftimer starts. In B-mode the second curtain will be released when PRS is switched off.

**HPS** = **Home position switch** Makes when the camera is fully cocked. Indicates

together with FSS that the camera is cocked. If HPS is open, the camera can not be released.

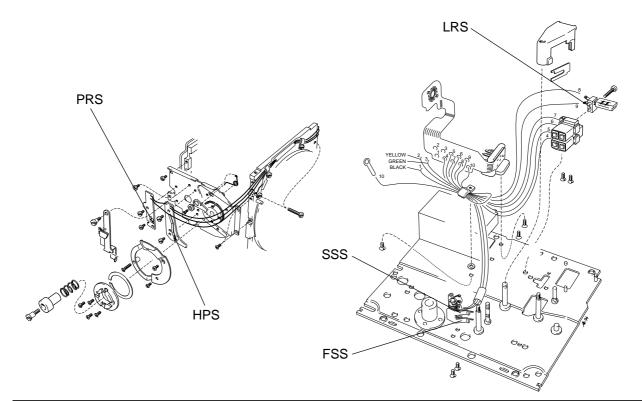
**FSS** = **First curtain sync switch** Will be switched off when the first curtain is

released. Indicates together with HPS that the camera is cocked. If FSS is open, the camera can

not be released.

**SSS = Second curtain sync switch** Will be switched off when the second curtain is

released.



(from camera serial No. 16EI10640)

**PPS = Pressure point switch** Makes when the release button is pressed to the

pressure point. Activates the camera. In B-mode the second curtain will be released when PPS is

switched off.

**LRS** = **Late release switch** Makes when the release button is fully pressed.

Starts together with PRS an exposure.

**PRS** = **Pre-release switch** Makes when the mirror release button is pressed.

When the mirror release button is pressed once more, the selftimer starts. In B-mode the second curtain will be released when PRS is switched off

**HPS** = **Home position switch** Makes when the camera is fully cocked. Indicates

together with FSS that the camera is cocked. If

HPS is open, the camera can not be released.

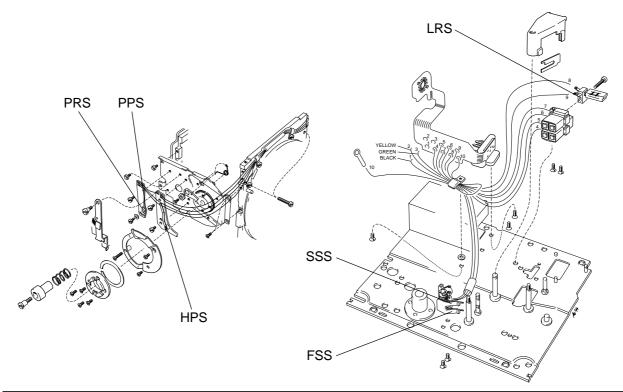
**FSS** = **First curtain sync switch** Will be switched off when the first curtain is released. Indicates together with HPS that the

camera is cocked. If FSS is open, the camera can

not be released.

**SSS** = **Second curtain sync switch** Will be switched off when the second curtain is

released.



### Camera body 202FA

CAUTION! When handling the circuit boards a grounded bench mat and a wrist strap must be used to prevent ESD damage.

Carry out the following checks/adjustments when a camera body is reassembled after a repair.

Note! Point 1 - 7 without camera shell.

- 1. The camera body focal length is checked by using the gauge V-2229 together with the ruler and indicator clock. The focal length is  $71.40 \text{ mm} \pm 0.03 \text{ mm}$ . Adjustment slots on the chassis and the bottom mechanism plate.
- 2.\* Secure the camera in the gauge V-2229 by the adapter 904759. Check the 45° mirror angle with the sighting tube. The image seen, should be symmetrical. Adjust, if necessary, the four supports in the mirror box by using the tools 901046 (front supports) and 904018 (rear supports).
- 3.\* Check the flatness of the screen. Use the screen adapter V-4705 and the ruler with the indicator clock. The same measurement should be obtained at all four corners. Adjust, if necessary, by the four screws (Pos No. 26, page 14:1).
- 4.\* After the screen is correctly levelled the height must also be checked. Use the collimator V-4151, the screen adapter V-4705 and the microscope V-2236. The image seen in the microscope should be the red line central between the two green lines. Recheck the flatness.
- 5. Use the tool 902658 or V-2075/2151 for checking of the front key angle. Adjust if necessary. Cocked position 8° 9° 3 Ncm. Overtravel 12° 14° 14 Ncm.
- 6. Temporarily fit the control panel to the camera body and secure it with a piece of tape. Use the nut driver 903755 or 903474.
- 7. Connect the camera body to the Service Test System and go through all checks in the given order according to the 202 menu. Note! Pos. 7:1 to 7:6 can be checked without sensor head and light source.
- 7:1 CAMERA STATUS: Make sure all switches are working properly.

Note! If the contact flex has been removed at any time, the timing between the pre-release switch (PRS) and the mirror must be checked.

Mount the test shell, 905002, with four screws. Fit the exposure gauge V-2354 in the release button and slowly rotate the micrometer clockwise and observe when the mirror is released.

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At the same time (not before) the PRS should change from "open" to "closed" on the screen. A slight delay is acceptable. This corresponds to 1.5 divisions on the scale. Adjust, if necessary, by altering the position of the rear section of the contact flex containing the PRS.

Untighten the two screws (Pos. No. 12, page 9:1) and carefully change the position of the flex in the direction required. Tighten the screws and recheck.

- 7:2 PANEL: Check the control panel functions.
- 7:3 DISPLAY: Check the display indications.

  Note! The sync cable must be connected to the TTL connector.
- 7:4 CURRENT: Check the consumption (max. 10 mA at 5.6 volt) and the drain (max. 20 uA at 5.6 volt).
- 7:5 LENS: Check the communication between a lens and the camera body. (F-stops)
- 7:6 MAGAZINE: Check the communication between a magazine and the camera body.
- 7:7 SHUTTER: Start by adjusting the travel times. Use 1/1000 sec. and adjust the spring housing until both curtains have a speed between 9.6 9.9 ms. (0 ± 0.11 ms). At this point, also make a final adjustment of the braking mechanism if necessary. The brake is checked as follows: Release the camera. Rotate the 2nd shutter gear (Pos No. 18, page 16:1) and count the number of times the catch (Pos No. 4, page 17) and the brake plate (Pos No. 3, page 17) engage. (Min. 4 times). For an adjustment use the nut driver 903755 or 903474. (See page 3:4). Check/adjust the speed 1/1000 sec. Use the "shutter speed" potentiometer for
  - Check/adjust the speed 1/1000 sec. Use the "shutter speed" potentiometer for an adjustment. (See page 3:4). Max. deviation  $\pm$  0.3 EV.
- 7:8 LIGHT METER: Check/adjust the light meter. Use the "light meter" potentiometer for an adjustment. (See page 3:4). Max deviation  $\pm$  0.3 EV. Do not use any other light output except EV 15, since the camera is not mounted in the shell.
- 7:9 FLASH SYNC: Check/adjust the flash sync. The delay is adjusted to 0 0.20 ms by altering the position of the first sync contact. (See page 3:4).
- 7:10 FLASH METERING: Check/adjust the flash meter. Use the "flash meter" potentiometer for an adjustment. (See page 3:4). Max. deviation  $\pm$  0.3 EV. Use ISO setting 100 and light output EV 15.
- 8. Remove the control panel. Make sure the four centering screws (Pos. No. 7 and 10, page 10:1) are screwed in and put the camera body in to the shell. Do not forget the pre-release button.

### Camera body 202FA

- 9. After aligning the rear plate/shell tighten the two rear screws (Pos No. 32, page 5:1) and adjust, if necessary, the horizontal relationship between the front ring and the shell by the screws (Pos No. 7, page 10:1) which are accessible through the shell.
- 10. Adjust the vertical relationship between the front ring and the shell by the screws (Pos No. 10, page 10:1) which are accessible through the shell and then tighten the two front screws (Pos No. 34, page 5:1).
- 11. Check the upper edge alignment of rear plate and shell. Adjust, if necessary, by the two screws (Pos No. 1, page 8:1) which are accessible through the shell.

  Note! The rear edge of the shell must not protrude over the rear plate at any point.
- 12. Remount the control panel, the winding crank mechanism, the tripod foot and the inner cover. (The inner cover by using the tool 901061).
- 13.\* When the camera body is fully reassembled, recheck the focal length, the 45° mirror angle and the screen position.
- 14. Connect the camera body to the Service Test System once again and go through <u>all</u> checks once more. Minor adjustments are sometimes necessary to make.

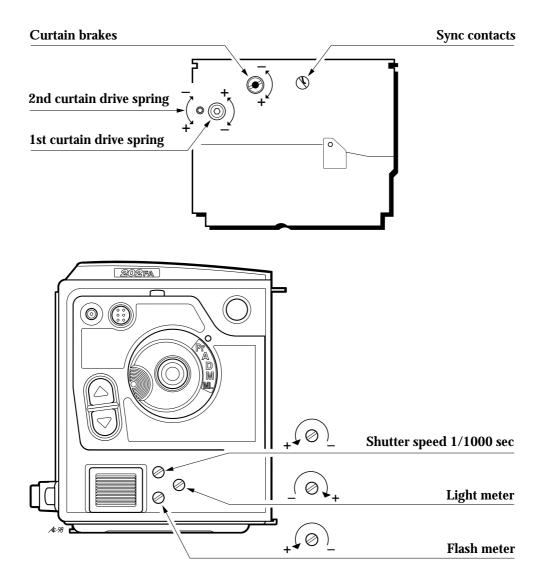
  At this stage, it is also possible to use different light outputs when checking the light and flash meter since the camera body is mounted in to the shell.
  - \* The 200 series cameras are built slightly different from the 500 series cameras concerning the focusing screen adjustment. Due to the use of high precision test equipment at the assembly line, deviations from perfect 45° mirror angle is compensated for when adjusting the focusing screen position. Doing so we assure minimum focusing differences over the full image format between the images on the focusing screen and on the film.

The result of the factory screen adjustment is, that the screen position may not be totally horizontal when tested in the gauge V-2229. This is still quite in order.

When servicing the 200 series cameras we recommend not to change the mirror angle, provided it is in tolerance when checked with the sighting tube in gauge V-2229. Deviations from perfect 45° angle has already been accompanied by non-horizontal focusing screen position.

However, if the mirror angle is out of tolerance, adjustment has to be made using the current procedures.

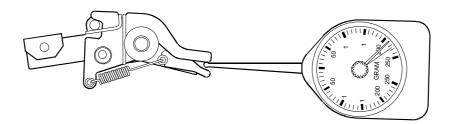
(Service Info No. 14/1995)



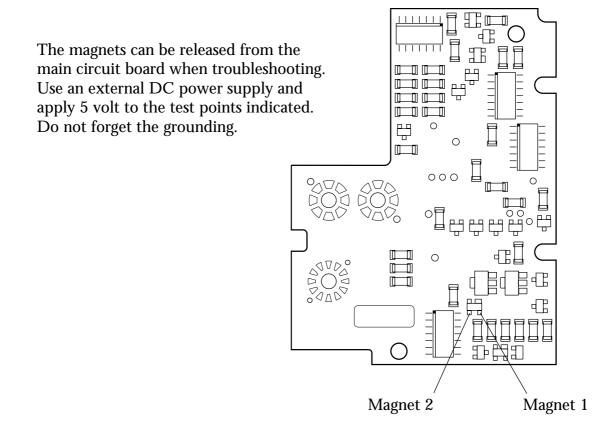
#### Magnet hold capability

The magnet hold capability can be checked according to the diagram below. A suitable scale, like the ZZ88, should be used. When measuring, it must indicate minimum 2 NCM (200 gram) before each latching lever is released.

If indicating less then 2 NCM, the magnets should be cleaned and then rechecked. If still less then 2 NCM after cleaning the Bottom mechanism plate, compl. (Part No. 111028) must be changed. Magnets and latching levers are not available as spare parts due to sensitive calibration procedures.



VHAB Tool No. = ZZ88, Scale



### Camera body 201F

CAUTION! When handling the circuit boards a grounded bench mat and a wrist strap must be used to prevent ESD damage.

Carry out the following checks/adjustments when a camera body is reassembled after a repair.

Note! Point 1 - 5 without camera shell.

- 1. To avoid damage to the coaxial and the ribbon cable, temporarily fit the control panel to the camera body with a piece of tape.
- 2. The camera body's focal length is checked and adjusted by using the tool V-2229. The focal length is  $71.40 \text{ mm} \pm 0.03 \text{ mm}$ .
- 3.\* Check the mirror 45° angle using above tool in combination with the sighting tube. Adjust the four supports in the mirror box by using the tools 901046 (front supports) and 904018 (rear supports).
- 4. Use the tool 902658 or V-2075/2151 for checking of the front key angle. Adjust if necessary. Cocked position 8° 9° 3 Ncm. Overtravel 12° 14° 14 Ncm.
- 5. Connect the camera body to the Service Test System and go through all checks in the given order according to the 201F menu. Note! Point 5:1 to 5:5 can be checked without sensor head and light source.
- 5:1 CAMERA STATUS: Make sure all switches are working properly with the speed ring in C-position.

Note! If the self timer board has been removed at any time, the timing between the pre-release switch (PRS) and the mirror must be checked.

#### Make sure that the speed ring is set to shutter speed mode.

Mount the test shell, 905002, with four screws. Fit the exposure gauge V-2354 in the release button and slowly rotate the micrometer clockwise and observe when the mirror is released. At the same time (not before) the PRS should change from "open" to "closed" on the screen. A slight delay is acceptable. This corresponds to 1.5 divisions on the scale.

Adjust, if necessary, by altering the position of the self timer board (Pos No. 42, page 9:2). Untighten the two screws (Pos. No. 40, page 9:2) and carefully change the position of the board in the direction required. Tighten the screws and recheck.

- 5:2 SPEED RING: Make sure all speed ring settings are indicated correctly.
- 5:3 TIMER INDICATOR: Check that the self timer LED is lightlying up.

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### Camera body 201F

- 5:4 VIEWFINDER SIGNAL: Check that the viewfinder LED is flashing. Note! The sync cable must be connected to the TTL connector.
- 5:5 CURRENT: Check the consumption (max. 10 mA at 5.6 volt) and the drain (max. 20 uA at 5.6 volt).
- 5:6 SHUTTER: Start by adjusting the travel times. Use 1/1000 sec. and adjust the spring housing until both curtains have a speed between 9.6 9.9 ms.  $(0 \pm 0.11$  ms). At this point, also make a final adjustment of the braking mechanism if necessary. The brake is checked as follows: Release the camera. Rotate the 2nd shutter gear (Pos No. 25, page 16:2) and count the number of times the catch (Pos No. 4, page 17) and the brake plate (Pos No. 3, page 17) engage. (Min. 4 times). For an adjustment use the nut driver 903755 or 903474. (See page 3:9). Check/adjust the speed 1/1000 sec. Use the "shutter speed" potentiometer for an adjustment. (See page 3:9). Max. deviation  $\pm 0.3$  EV.
- 5:7 FLASH SYNC: Check/adjust the flash sync. The delay is adjusted to 0 0.20 ms by altering the position of the first sync contact. (See page 3:9).
- 5:8 FLASH METERING: Check/adjust the flash meter. Use the "flash meter" potentiometer for adjustment. (See page 3:9). Max. deviation  $\pm$  0.3 EV. Use the setting ISO 100 and light output EV 15.
- 5:9 C-POSITION: Check/adjust the C-position. It is adjusted by extending or shortening the release arm 103389. (See page 3:9).
- 6. Make sure the four centering screws (Pos No. 14 and 17, page 10:2) are screwed in and then put the camera body in to the shell. Note! The control panel must go in first and then carefully follow with the camera body without damaging the coaxial and ribbon cable. Do not forget the pre-release button.
- 7. After aligning the rear plate/shell tighten the two rear screws (Pos No. 32, page 5:2) and adjust, if necessary, the horizontal relationship between the speed ring and the shell by the screws (Pos No. 14, page 10:2) which are accessible through the shell.
- 8. Adjust the vertical relationship between the speed ring and the shell by the screws (Pos No. 17, page 10:2) which are accessible through the shell and then tighten the two front screws (Pos No. 34, page 5:2).
- 9. Check the upper edge alignment of rear plate and shell. Adjust, if necessary, by the two screws (Pos No. 47, page 9:2) which are accessible through the shell.

  Note! The rear edge of the shell must not protrude over the rear plate at any point.
- 10. Attach the control panel incl. the speed ring locking pin, winding crank mechanism, slide, speed ring grip and inner cover.

#### Camera body 201F

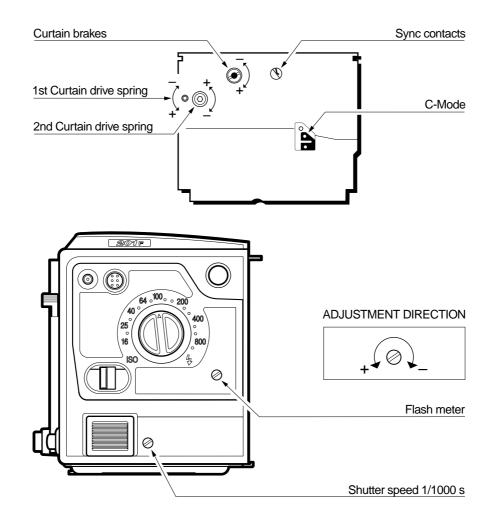
- 11.\* Recheck the focal lenght and the 45° mirror angle.
- 12.\* Check the flatness of the screen. Use the screen adapter V-4705 and the gauge V-2229 incl. ruler and indicator clock. The same measurement should be obtained at all four corners.
  - Adjust, if necessary, by the four screws (Pos No. 30, page 14:2).
- 13.\* After the screen is correctly levelled the height must also be checked. Use the collimator V-4151 and the microscope V-2236.
- 15. Finally go through <u>all</u> checks once more. Minor adjustments are sometimes necessary to make. At this stage, it is also possible to use different light outputs when checking the flash meter since the camera body is mounted in the shell.
  - \* The 200 series cameras are built slightly different from the 500 series cameras concerning the focusing screen adjustment. Due to the use of high precision test equipment at the assembly line, deviations from perfect 45° mirror angle is compensated for when adjusting the focusing screen position. Doing so we assure minimum focusing differences over the full image format between the images on the focusing screen and on the film.

The result of the factory screen adjustment is, that the screen position may not be totally horizontal when tested in the gauge V-2229. This is still quite in order.

When servicing the 200 series cameras we recommend not to change the mirror angle, provided it is in tolerance when checked with the sighting tube in gauge V-2229. Deviations from perfect 45° angle has already been accompanied by non-horizontal focusing screen position.

However, if the mirror angle is out of tolerance, adjustment has to be made using the current procedures.

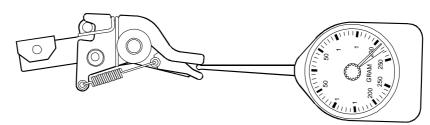
(Service Info No. 14/1995)



#### Magnet hold capability

The magnet hold capability can be checked according to the diagram below. A suitable scale, like the ZZ88, should be used. When measuring, it must indicate minimum 2 NCM (200 gram) before each latching lever is released.

If indicating less then 2 NCM, the magnets should be cleaned and then rechecked. If still less then 2 NCM after cleaning the Bottom mechanism plate, compl. (Part No. 105028) must be changed. Magnets and latching levers are not available as spare parts due to sensitive calibration procedures.



VHAB Tool No. = ZZ88, Scale

# Camera body 202FA - 201F

Tool No.	Description	Used for
V-2211	Pin driver	Fitting the locating pin in the front plate and the front gear bracket
V-2229	Focal length gauge	Adjustment of the focal length, the mirror 45° angle and the focusing screen
V-2236	Microscope	Focusing screen adjustment
V-2354	Exposure gauge	Adjustment of the timing between the pre-release switch (PRS) and the mirror
V-4151/52	Focusing tester	Focusing screen adjustment
V-4705	Focusing screen adapter	Focusing screen adjustment
901 044	Centering pin	Positioning the front gear bracket
901 045	Centering pin	Positioning the front gear bracket
901 046	Bender	Adjustment of the mirror 45° angle
901 061	Mounting tool	Mounting the inner cover
902 658	Key angle gauge	Adjustment of the front key angle
903 282	Key	Securing a nut on the bottom plate
903 570	Shutter gear holder	Securing the shutter gears when fitting the curtains

# Camera body 202FA - 201F

Tool No.	Description	Used for
903 630	Bender	Adjustment of the late release switch
903 755	Nut driver	Fitting the control panel and the contact flex to the main circuit board
903 940	Key	Cocking the curtains before the intermediate gear is fitted
904 018	Bender	Adjustment of the mirror 45° angle and the auxiliary mirror position
904 020	Supporting tool	Protecting the control panel and the main circuit board when working on the right hand side of the camera
904 759	Adapter	To be used in combination with focal length gauge V-2229
905 002	Test shell	Adjustment of the timing between the pre-release switch (PRS) and the mirror
970 600	Service Test System	See page 4:3
905 138	Light box	See page 4:3 (optional)
ZZ89	Driver	To tighten the special type allen screw holding the chassis and the front plate together

### Camera body 202FA - 201F

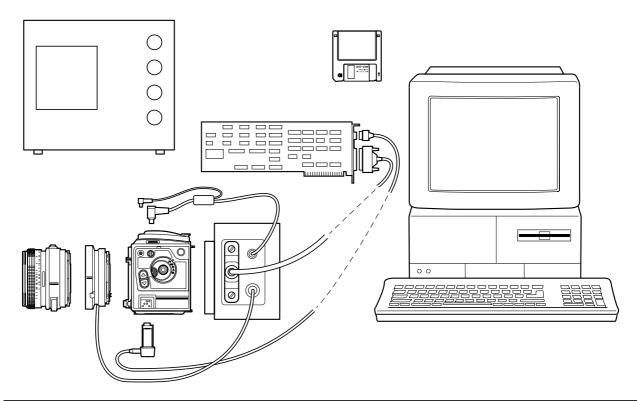
The PC based Service Test System has been developed for testing the 200 series cameras in Hasselblad authorized service centres. In addition it can be used for testing some functions on the 500 and 2000 series cameras and in the PME viewfinder.

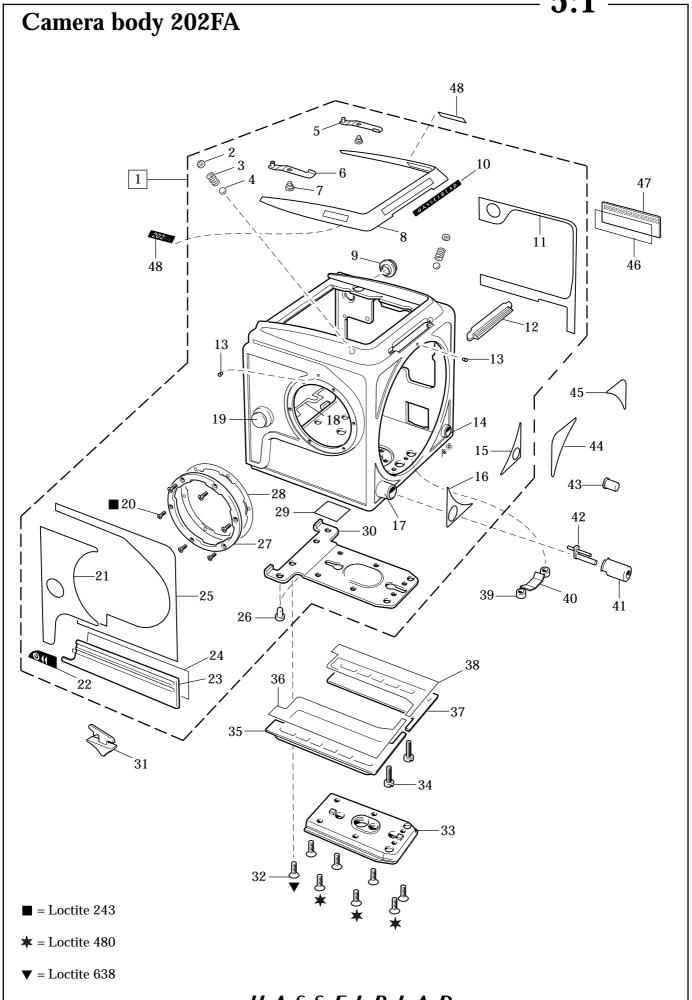
#### The Service Test System contains the following:

970 663	Diskette (3.5") containing the software
970 630	PC-board (full length ISA)
970 610	Sensor
663 83	Protective cover for Sensor
970 711	Extension tube
970 649	Battery compartment cable
970 648	Sensor cable
55034/23	Sync cable
	Instruction manual

#### Additional components required are the following:

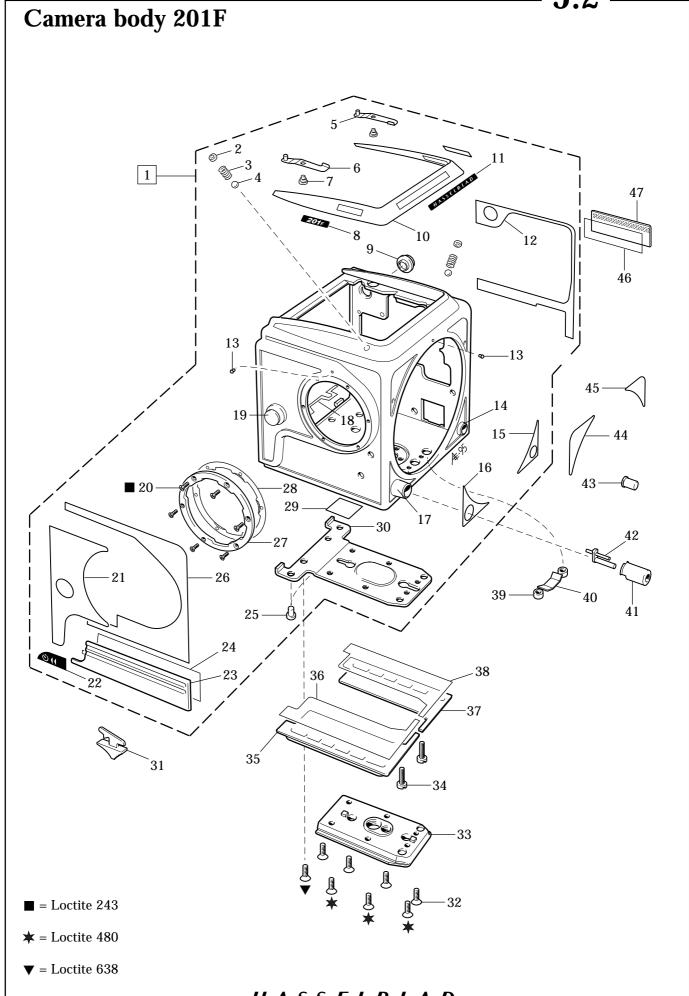
Light box with LV15 capability - for instance Hasselblad 905 138 PC - IBM compatible Planar FE80 mm lens Planar CF80 mm lens





### HASSELBLAD Camera body 202FA

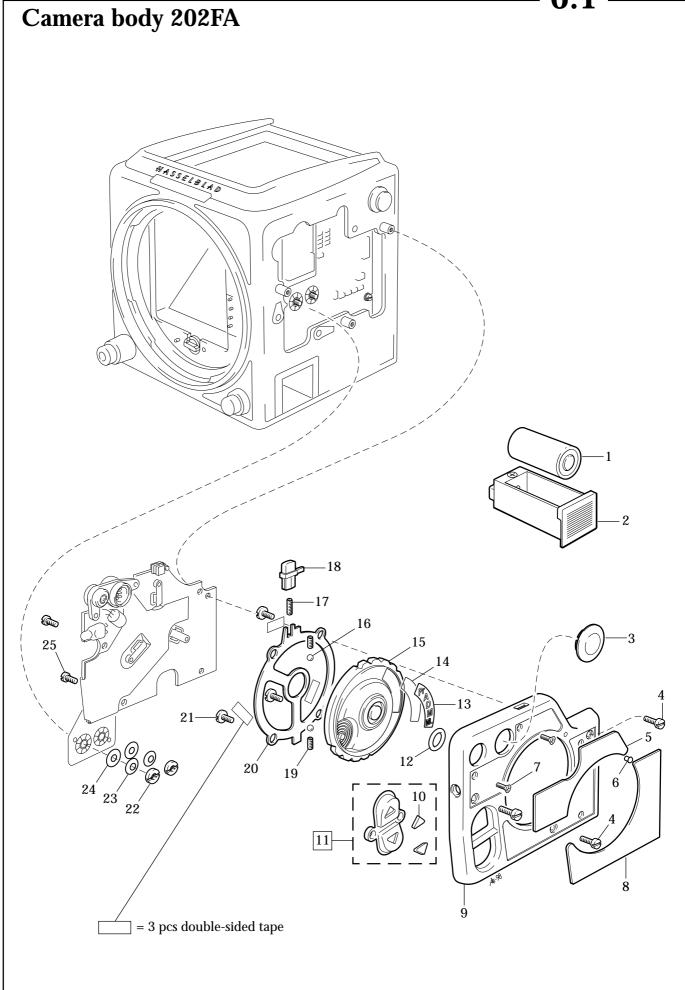
Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	105 025	Shell, complete (chrome)	Part No. 105026 (black)
2	2	12 978	Plate	
3	2	815 604	Spring	
4	2	809 120	Steel ball	
5	1	13 907	Holder, left	
6 7 8 9 10	1 2 1 1	13 906 835 001 105 475 13 466 13 190-1	Holder, right Pin Leather Strap button Name plate	
11	1	105 511	Leather	
12	1	105 365	Display window	
13	2	103 536	Index	
14	1	105 498	Bushing	
15	1	103 510	Leather	
16	1	103 509	Leather	
17	1	105 357	Bushing	
18	1	103 413	Spacer	
19	1	105 935	Strap button	
20	6	829 304	Screw	
21 22 23 24 25	1 1 1 1	105 509 105 432 107 390 105 874 105 862	Leather Plate Grip Tape Leather	
26	2	831 502	Rivet	
27	1	103 387	Bayonet	
28	1	103 388	Spring	
29	1	22 514	Reflection protector	
30	1	40 387	Support plate	
31	1	103 419	Pre-release	
32	8	829 760	Screw	
33	1	30 763	Tripod foot	
34	2	820 781	Screw	
35	1	30 762	Support, right	
36	1	105 872	Tape	
37	1	30 760	Support, left	
38	1	105 870	Tape	
39	2	810 620	Spacer	
40	1	103 424	Spring	
41 42 43 44 45	1 1 1 1	105 437 105 953 13 139 103 507 103 508	Release button Buffer Lens release button Leather Leather	
46	1	105 876	Tape	
47	1	105 956	Grip	
48	2	111 453	Name plate	



### HASSELBLAD Camera body 201F

Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 2 2 2 1	108 025 108 026 12 978 815 604 809 120 13 907	Shell, compl. Shell, compl. Plate Spring Steel ball Holder, left	Chrome Black
6	1	13 906	Holder, right	
7	2	835 001	Pin	
8	2	108 416	Name plate	
9	1	105 935	Strap button	
10	1	105 926	Leather	
11	1	13 190-01	Name plate	
12	1	105 511	Leather	
13	2	103 536	Index	
14	1	105 498	Bushing	
15	1	103 510	Leather	
16	1	103 509	Leather	
17	1	105 357	Bushing	
18	1	103 413	Spacer	
19	1	13 466	Strap button	
20	6	829 304	Screw	
21	1	105 509	Leather	
22	1	105 432	Plate	
23	1	107 390	Grip	
24	1	105 874	Tape	
25	2	831 502	Rivet	
26 27 28 29 30	1 1 1 1	105 862 103 387 103 388 22 514 40 387	Leather Bayonet Bayonet spring Reflection protector Support plate	
31	1	103 419	Pre-release	
32	8	829 760	Screw	
33	1	30 763	Tripod foot	
34	2	820 781	Screw	
35	1	30 762	Support, right	
36	1	105 872	Tape	
37	1	30 760	Support, left	
38	1	105 870	Tape	
39	2	810 620	Spacer	
40	1	103 424	Spring	
41 42 43 44 45	1 1 1 1	105 437 105 953 13 139 103 507 103 508	Release button Buffer Lens release button Leather Leather	
46 47	1	105 876 107 391	Tape Grip	

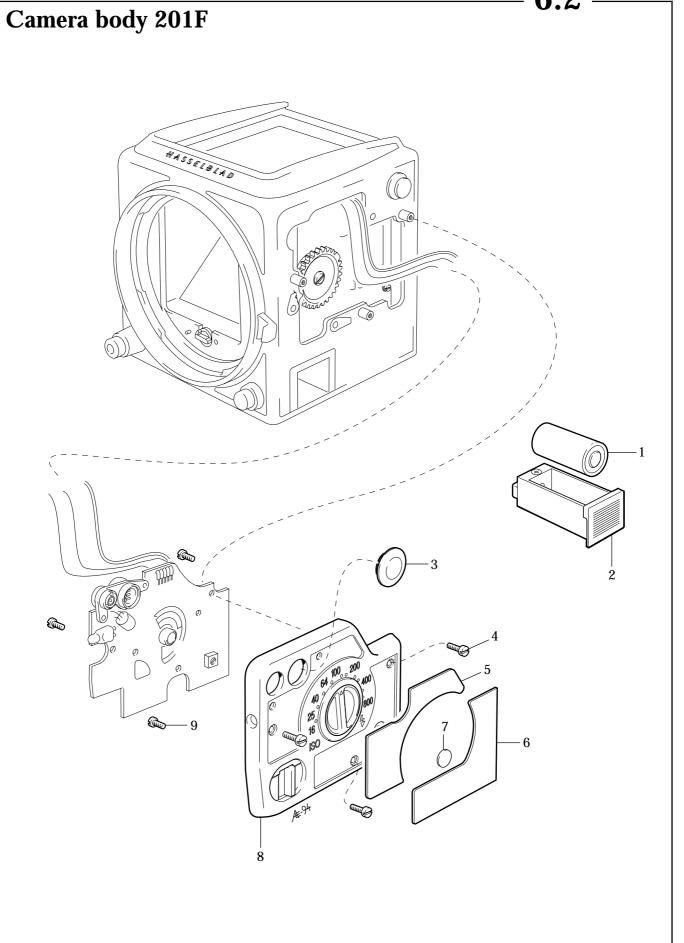




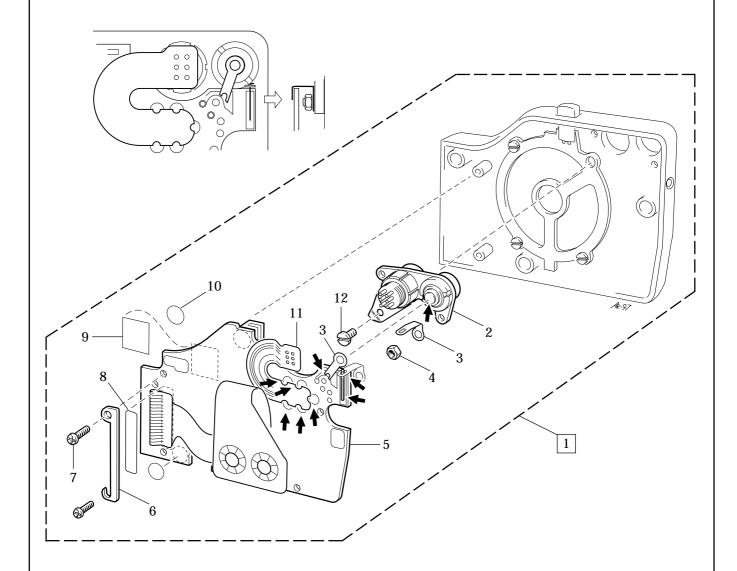
### HASSELBLAD Camera body 202FA

Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 1 3 1	103 043 22 470 820 645 105 513 103 536	Battery Battery compartment Socket cap Screw Leather Index	6 volt, type PX28 Lithium
7 8 9 10	1 2 1 1 2	829 335 105 512 105 304 105 536	Screw Leather Cover Indicator	
11 12 13 14 15	1 1 1 1 1	105 127 105 522 111 456 107 464 105 119	Adjustment button Ring Mode sign Tape Mode selector	
16 17 18 19 20	2 1 1 2 1	809 020 815 510 105 369 815 507 105 374	Steel ball Spring Display button Spring Plate	
21 22 23 24 25	3 2 2 2 2	105 520 105 765 105 833 810 639 105 521	Screw Nut Spring washer Washer Screw	





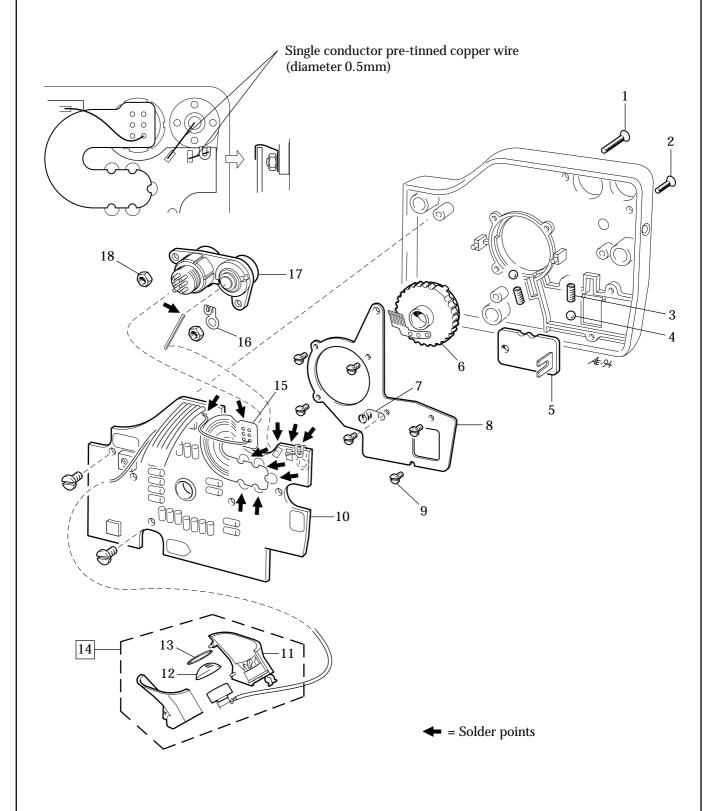
Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5 6 7 8 9 9	1 1 1 3 1 1 1 1 3 3	103 043 22 470 820 645 108 411 108 410 105 500 108 304 105 516	Battery compartment Socket cap Screw Leather Cover Shell Screw	6 volt, type PX28 Lithium
1	I			



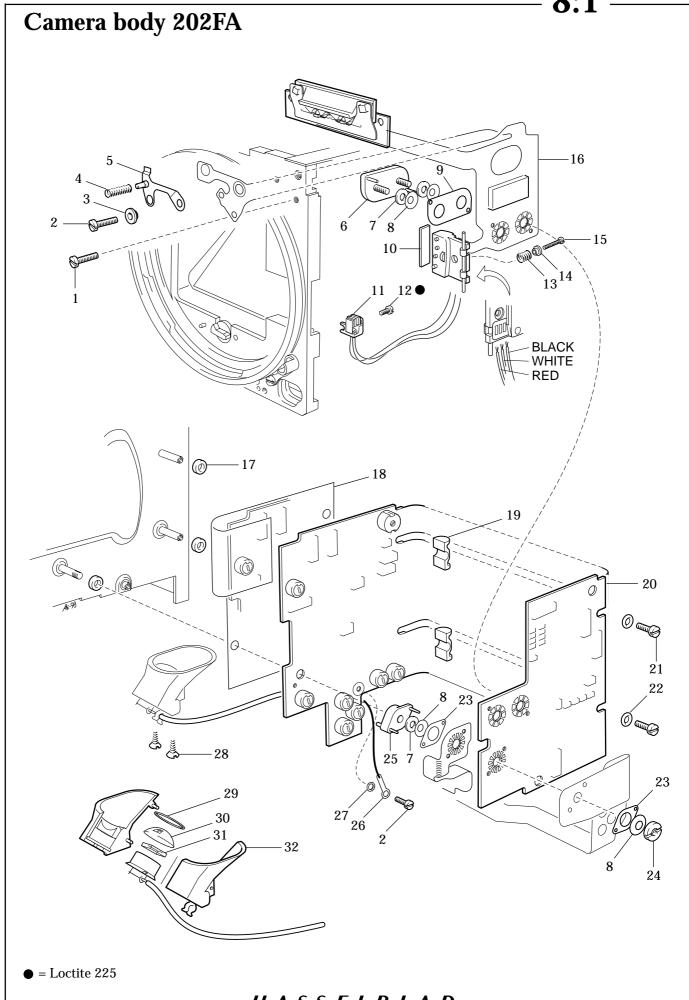
**←** = Solder points

### HASSELBLAD Camera body 202FA

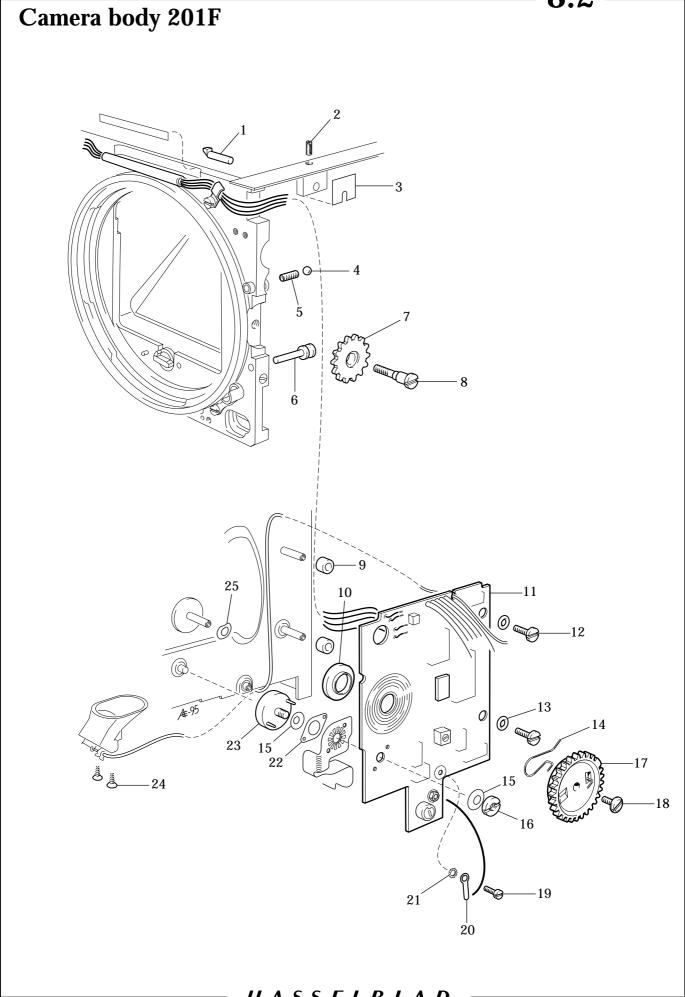
Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5 6 7 8 9 10 11 12	1 1 2 1 1 2 1 1 1	105 021 107 394 105 861 828 301 105 524 105 918 105 622 107 405 105 896 105 916 105 866 105 520	Control panel Sync terminal Soldering tag Nut Circuit board Holder Screw Insulation tape Insulation plate Insulation plate SCA flex Screw	Plain



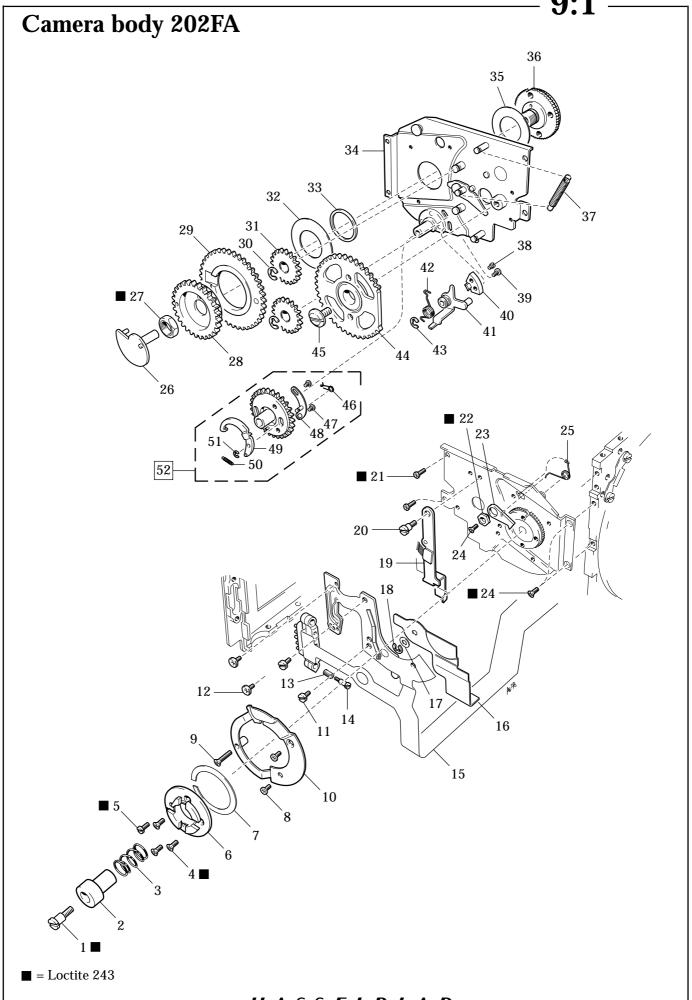
Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 2 2 1	829 150 823 345 815 604 809 020 108 343	Screw Screw Spring Steel ball Catch	
6 7 8 9 10	1 1 1 6 1	308 107 108 401 108 344 105 516 108 887	Dial Spring Plate Screw Panel circuit board	
11 12 13 14 15	1 1 1 1 1	105 306 105 403 105 772 108 047 105 866	Housing Lens Ring Photo-diod, compl. SCA-flex	
16 17 18	1 1 2	105 858 108 048 828 301	Soldering tag Sync terminal Nut	



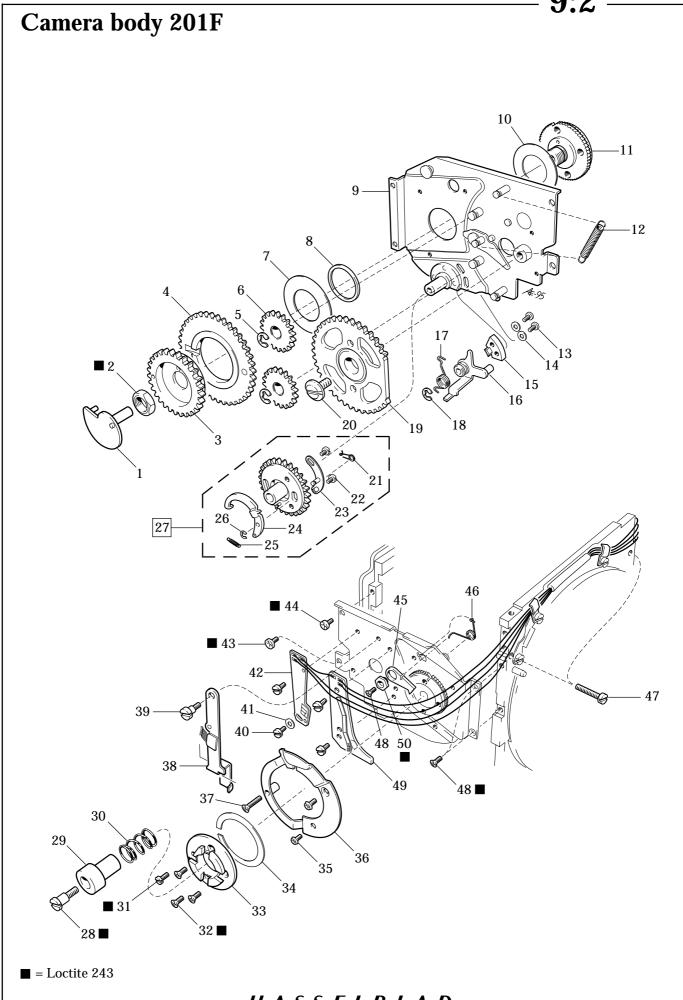
Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	2 2 1 1 1	820 490 820 439 105 430 815 614 107 449	Screw Screw Bushing Spring Display contact	
6 7 8 9 10	1 3 4 1 1	105 154 105 834 105 833 105 931 107 906	Support Washer Spring washer Washer Reflection protector	
11 12 13 14 15	1 1 1 1 1	107 444 820 430 815 862 105 430 820 480	Front key switch Screw Spring Bushing Screw	
16 17 18 19 20	1 3 1 2 1	111 047 810 634 105 883 105 842 111 103	Display flex Spacer Insulation foil Spacer Main circuit board	
21 22 23 24 25	2 2 2 1 1	821 615 107 421 105 932 105 765 105 625	Screw O-ring Washer Nut Support	
26 27 28 29 30	1 1 2 1 1	105 861 810 407 826 008 105 772 105 403	Soldering tag Locking washer Screw Ring Lens	
31 32	1	105 431 105 306	Filter Housing	



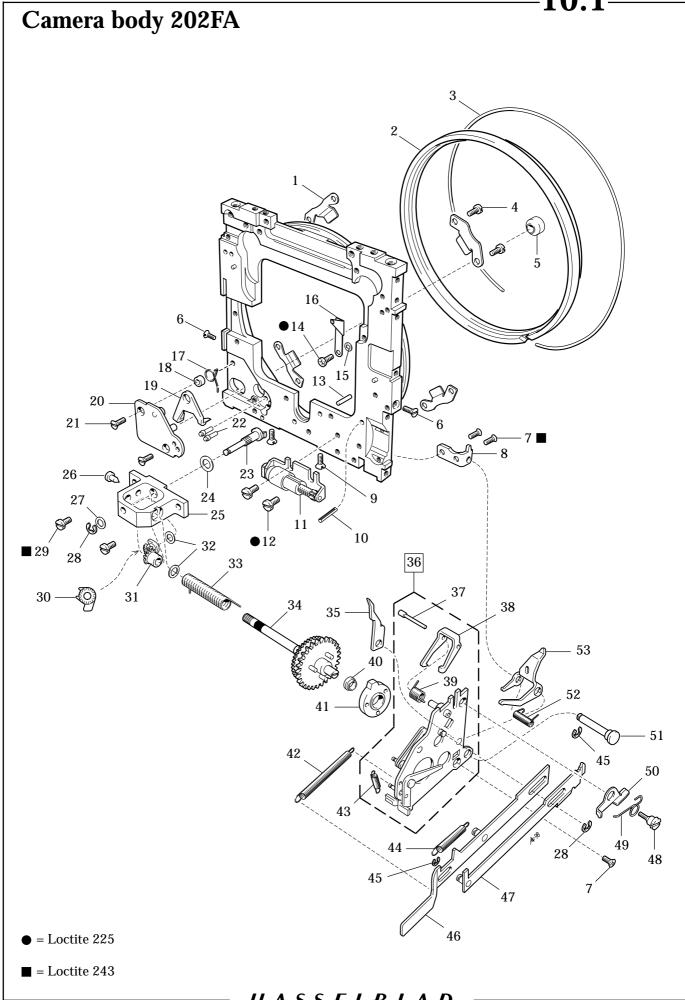
Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 467	Light pipe	
2	1	825 420	Screw	
3	1	108 426	Insulator	
4	1	809 025	Steel ball	
5	1	815 514	Spring	
6	1	108 402	Locking pin	
7	1	103 465	Gear	
8	1	103 426	Screw	
9	2	810 645	Spacer	
10	$\tilde{1}$			
10	1	108 403	Spacer	
11	1	108 886	Side circuit board	Modified from S/N 16EI10640
12	2	821 615	Screw	
13	$\tilde{2}$	810 645	O-ring	
14	$\tilde{1}$	108 420	Spring	
15	2	105 420	Spring washer	
13	۵	105 655	Spring washer	
16	1	105 765	Nut	
17	1	108 045	Gear	
18	1	821 401	Screw	
19	1	820 439	Screw	
20				
20	1	105 861	Soldering tag	
21	1	810 407	Locking washer	
22	1	105 932	Washer	
23	1	108 110	Support	
24	2	826 008	Screw	
25	$\begin{bmatrix} z \\ 1 \end{bmatrix}$			
23	1	108 412	Spring washer	



Pos No.	Pcs	Spare Part No.	Description	Remark
1.0.		1 411 110.		
1	1	822 606	Screw	
2	1	105 669	Double exposure button	
3	1	815 807	Spring	
4	3	829 640	Screw	
5	1	821 664	Screw	
6	1	105 766	Coupling	
7	1	105 750	Insulation foil	
8 9	2 1	830 620 829 150	Screw Screw	
10	1	105 769	Cover plate	
11	2	820 325	Screw	
12	2	830 020	Screw	
13	1	815 511	Spring	
14	1	105 412	Screw	
15	1	111 057	Contact flex	
16	1	105 360	Cover plate	
17	1	810 601	Washer	Alternatively none or 1 pc 810601 - 603, 607, 609
18	1	817 119	Clip	810001 - 003, 007, 009
19	1	105 105	Release arm	
20	1	822 436	Screw	
21	2	830 235	Screw	
22	1	103 472	Eccentric	
23	1	103 471	Catch	
24	3	829 435	Screw	
25	1	816 717	Spring	
26	1	105 670	Cam	
27	1	828 901	Nut	
28	1	103 482	Gear	
29	1	103 231	Gear	
30	2	817 119	Clip	
31	2	103 228	Gear	
32	1	810 940	Teflon washer, 0.15mm	
33	1	103 498	Ring	
34	1	105 053	Transport mechanism plate	
35	1	810 948	Teflon washer, 0.12mm	
36	1	105 677	Winding knob centre	
37	1	814 859	Spring	
38	1	822 331	Screw	
39	1	830 025	Screw	
40	1	103 473	Disengagement tooth	
41	1	105 110	Arm	
42	1	816 763	Spring	
43	1	817 115	Clip	
44 45	1 1	103 136 821 730	Gear Screw	
46		816 512		
46	1 2	810 512	Spring Screw	
48	1	103 247	Support	
49	1	103 247	Catch	
50	1	814 312	Spring	
51	1	817 112	Clip	
52	1	105 108	Gear, complete	
		105 039	Transport mechanism plate	Complete
Revision		100 000	Transport meenansm place	April 1998

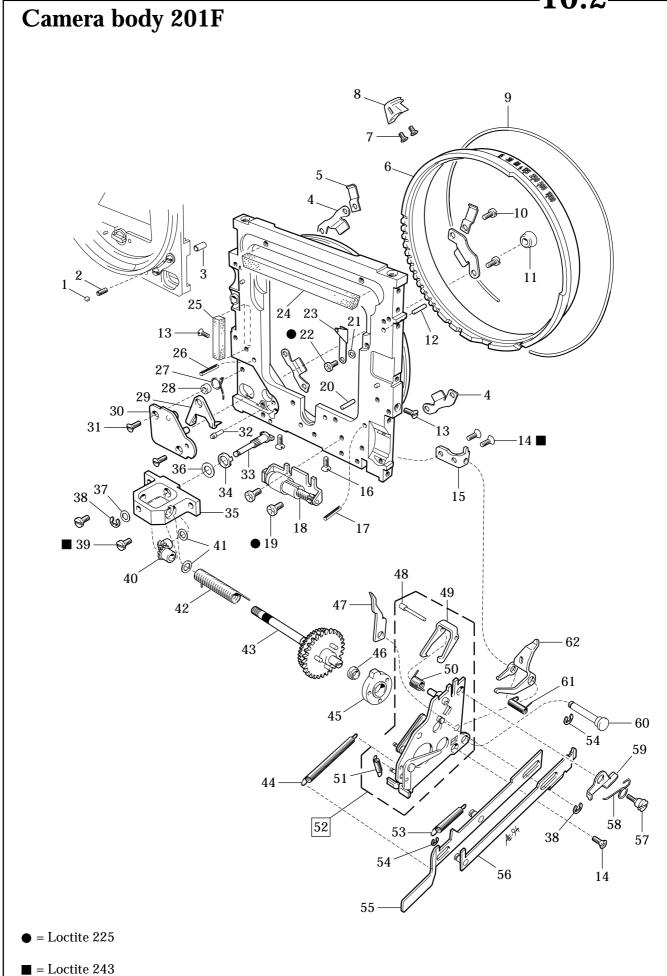


Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	105 670	Cam	
2	1	828 901	Nut	
3	1	103 482	Gear	
4	1	103 231	Gear	
5	2	817 119	Clip	
6	2	103228	Gear	105 048 below S/N 16EI10640
7	1	810 940	Teflon washer, 0.15mm	
8	1	103 498	Ring	
9	1	105 053	Mechanism plate	
10	1	810 948	Teflon washer, 0.12mm	
11	1	105 677	Winding knob centre	
12	1	814 859	Spring	
13	2	830 225	Screw	
14	2	810 315	Washer	
15	1	103 473	Disengagement tooth	
16 17 18 19 20	1 1 1 1	105 110 816 763 817 115 103 136 821 730	Arm Spring Clip Gear Screw	
21	1	816 512	Spring	
22	2	830 216	Screw	
23	1	103 247	Support	
24	1	103 620	Catch	
25	1	814 312	Spring	
26 27 28 29 30	1 1 1 1	817 112 105 108 822 606 105 669 815 807	Clip Gear, compl. Screw Double exposure button Spring	
31	1	821 664	Screw	
32	3	829 640	Screw	
33	1	105 766	Coupling	
34	1	105 750	Insulation foil	
35	2	830 620	Screw	
36	1	105 769	Cover plate	105 106 below S/N 16EI10640
37	1	829 150	Screw	
38	1	105 105	Release arm	
39	1	822 436	Screw	
40	4	820 325	Screw	
41 42 43 44 45	1 1 1 1	810 405 108 911 830 225 830 235 103 471	Washer Self timer board Screw Screw Catch	
46	1	816 717	Spring	
47	2	820 490	Screw	
48	3	829 435	Screw	
49	1	108 900	Home position board	
50	1	103 472	Eccentric	
		105 039	Mechanism plate, compl.	105 027 below S/N 16EI10640



Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	4 1 1 8 1	105 944 111 328 103 438 820 425 103 773	Bayonet flange Front ring Teflon tube Screw Teflon button	
6 7 8 9	2 3 1 2	823 435 829 435 107 408 823 635 811 101	Screw Screw Bracket Screw Pin	
11 12 13 14 15	1 2 1 1	103 045 820 440 812 202 830 225 810 405	Centrifugal brake Screw Pin Screw Washer	
16 17 18 19 20	1 1 1 1 1	107 430 816 858 810 409 103 440 105 107	Mirror catch Spring Spacer Lens catch Cover plate	
21 22 23 24 25	2 2 1 1	823 440 836 107 107 367 810 702 103 352	Screw Pin Key Washer Bracket	
26 27 28 29 30	1 1 2 2 1	105 525 810 506 817 115 820 435 105 120	Stop Washer Clip Screw Bevel gear	For adjustment 810507
31 32 33 34 35	1 2 1 1	103 556 810 702 816 860 103 124 105 745	Bevel gear Washer Spring Gear B-stop	For adjustment 810703 - 706
36 37 38 39 40	1 1 1 1	105 817 831 120 103 355 816 756 103 442	Release mechanism Pin Front key catch Spring Bearing	
41 42 43 44 45	1 1 1 1 2	103 441 814 609 814 505 814 807 817 112	Stop Spring Spring Spring Clip	
46 47 48 49 50	1 1 1 1	105 946 103 117 822 430 105 836 105 835	Release lever, rear Release lever, front Screw Spring Exposure catch	
51 52 53	1 1 1	107 407 816 716 105 947 111 045	Shaft Spring Release bridge Front bayonet plate, complete	Incl. display flex, Part No. 111023

Revision 1 January 2001



HASSELBLAD

### HASSELBLAD

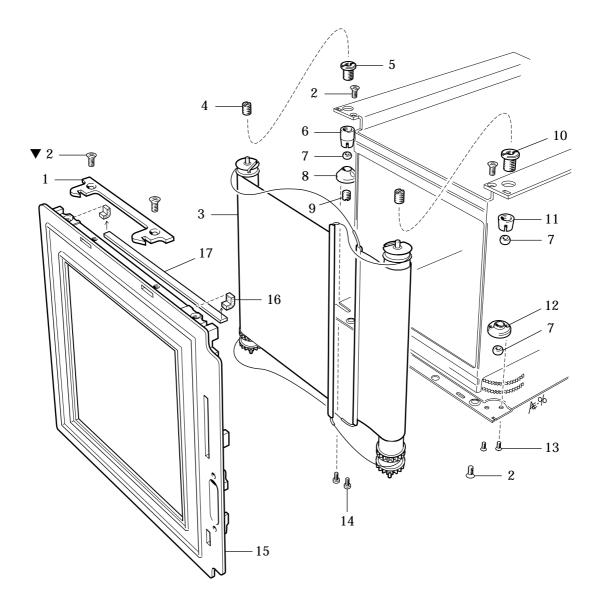
### Camera body 201F

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	809 020	Steel ball	
2	1	815 507	Spring	
3	1	105 499	Steel ball retainer	
4	4	105 944	Bayonet flange	
5	2	12 453	Cable holder	
6 7 8 9	1 2 1 1 8	108 322 826 002 103 414 103 438 820 425	Speed ring Screw Grip Teflon tube Screw	
11	1	103 773	Teflon button	
12	1	812 312	Pin	
13	2	823 435	Screw	
14	3	829 435	Screw	
15	1	107 408	Bracket	
16	2	823 635	Screw	
17	1	811 101	Pin	
18	1	103 045	Centrifugal brake	
19	2	830 235	Screw	
20	1	812 202	Pin	
21 22 23 24 25	1 1 1 1	810 405 830 225 107 430 103 443 108 424	Washer Screw Mirror catch Foam plastic strip Foam plastic strip	
26 27 28 29 30	1 1 1 1	811 103 816 858 810 409 103 440 105 107	Pin Spring Spacer Lens catch Cover plate	
31 32 33 34 35	2 1 1 1	823 440 836 107 107 367 13 371 103 352	Screw Pin Front key Ring Bracket	
36	1	810 702	Washer	
37	1	810 506	Washer	
38	2	817 115	Clip	
39	2	820 435	Screw	
40	2	103 556	Bevel gear	
41	2	810 702	Washer	For adjustment 810 703, -04, -05
42	1	816 860	Spring	
43	1	103 124	Gear	
44	1	814 609	Spring	
45	1	103 441	Stop	
46	1	103 442	Bearing	
47	1	105 745	B-stop	
48	1	831 120	Pin	
49	1	103 355	Front key catch	
50	1	816 756	Spring	
51	1	814 505	Spring	
52	1	105 817	Release mechanism	
53	1	814 807	Spring	

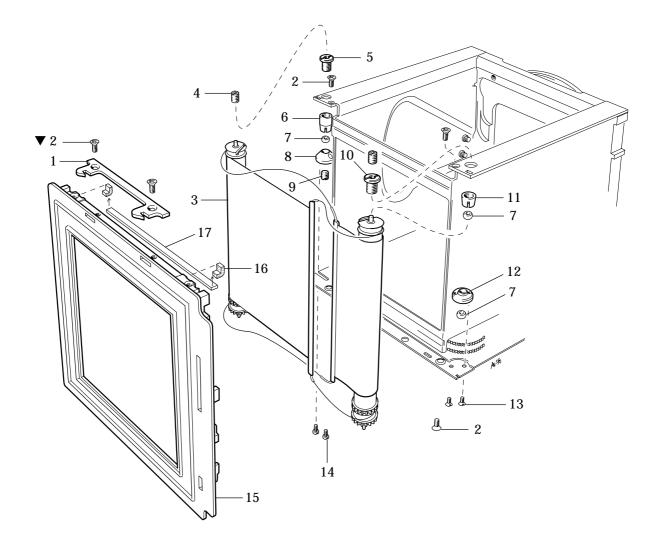
Revision 1 January 2001

Pos No.	Pcs	Spare Part No.	Description	Remark
54 55 56 57 58 59 60 61 62	2 1 1 1 1 1 1 1	817 112 105 946 103 117 822 430 105 836 105 835 107 407 816 716 105 924	Clip Release lever, rear Release lever, front Screw Spring Exposure catch Shaft Spring Release bridge	
		108 023	Front bayonet plate	Complete

Revision 1 January 2001

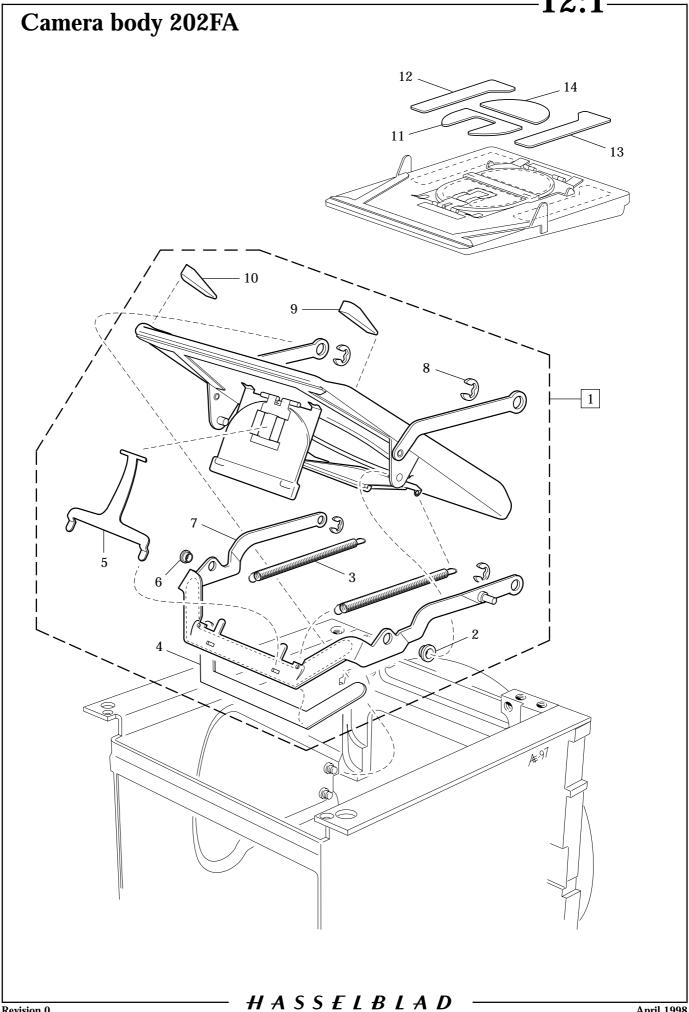


Pos Pcs No.	Spare Part No.	Description	Remark
1	22 423 829 535 107 359 103 854 103 887 103 080 103 839 103 858 105 933 103 079 103 081 829 316 830 620 105 301 105 943 103 735	Magazine hook Screw Curtain set Screw Nut Holder Bearing Holder Screw Nut Holder Holder Screw Screw Screw Rear plate Light seal Light seal	Please state serial No.
16     2       17     1	105 943 103 735		

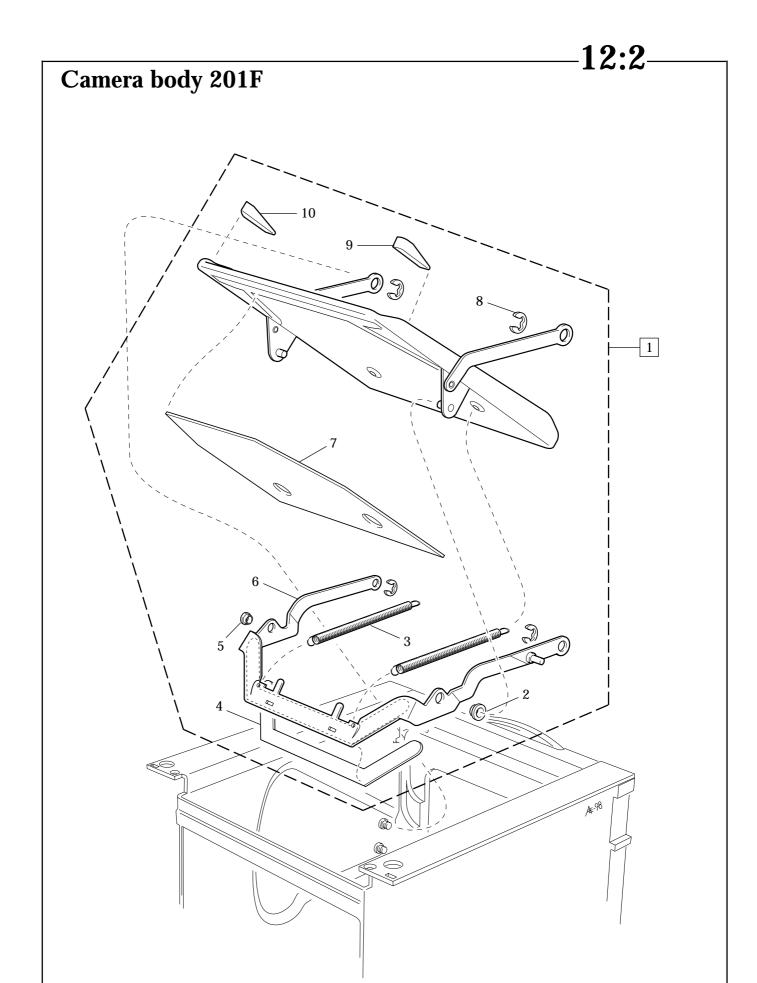


Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 6 1 2 1	22 423 829 535 107 359 103 854 103 837	Magazine hook Screw Curtain set Screw Nut	
6 7 8 9 10	1 3 1 1	103 080 103 839 103 858 105 933 103 838	Holder Bearing Holder Screw Nut	
11 12 13 14 15	1 2 2 1	103 079 103 081 829 316 830 620 108 301	Holder Holder Screw Screw Rear plate	Please state serial No.
16 17	2	105 943 103 735	Light seal Light seal	

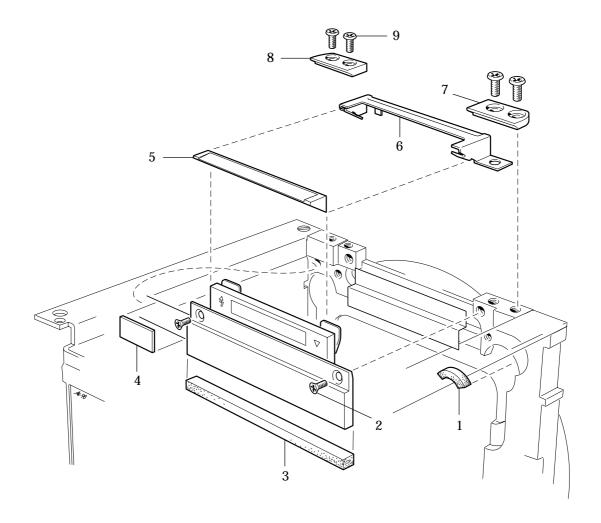




Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 2 1	107 044 108 409 814 319 108 904 105 438	Mirror assembly Bushing Spring Reflection protector T-spring	
6 7 8 9 10	1 1 4 1 1	105 889 105 128 817 115 105 929 105 930	Bushing Mirror yoke Clip Back stop, right Back stop, left	
11 12 13 14	1 1 1 1	107 903 107 904 107 901 107 902	Reflection protector Reflection protector, right Reflection protector, left Reflection protector	

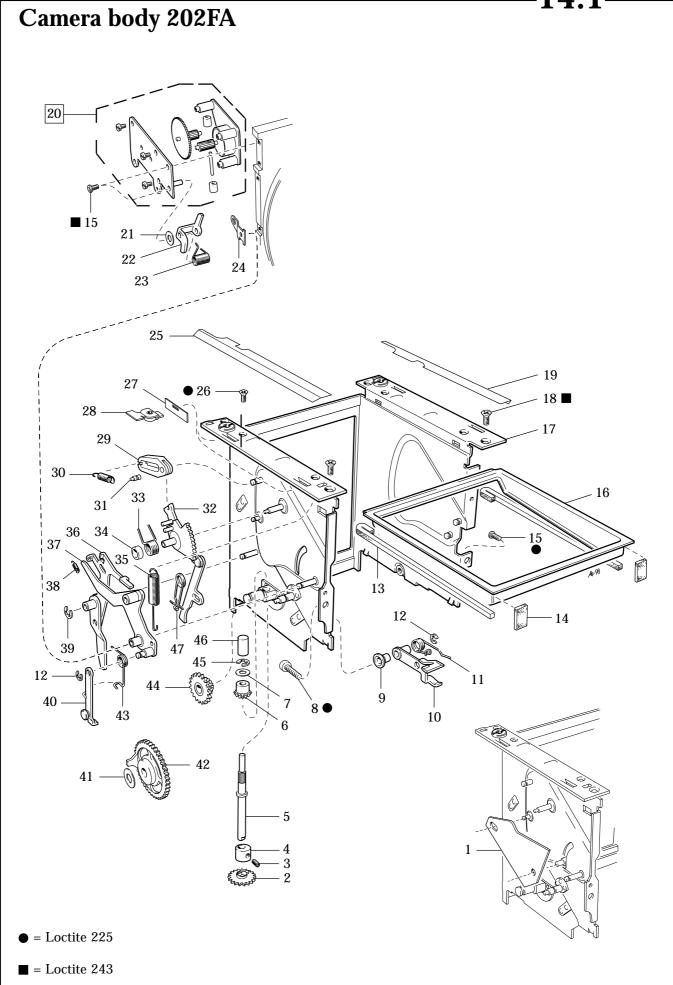


Pos No.	Pcs	Spare Part No.	Description	Remark
Pos No.  1 2 3 4 5 6 7 8 9 10	Pcs  1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Spare Part No.  108 044 108 409 814 319 108 904 105 889 105 128 108 903 817 115 105 929 105 930	Mirror assembly, compl. Bushing Spring Reflection protector Bushing Mirror yoke Reflection protector Clip Back stop, right Back stop, left	Remark

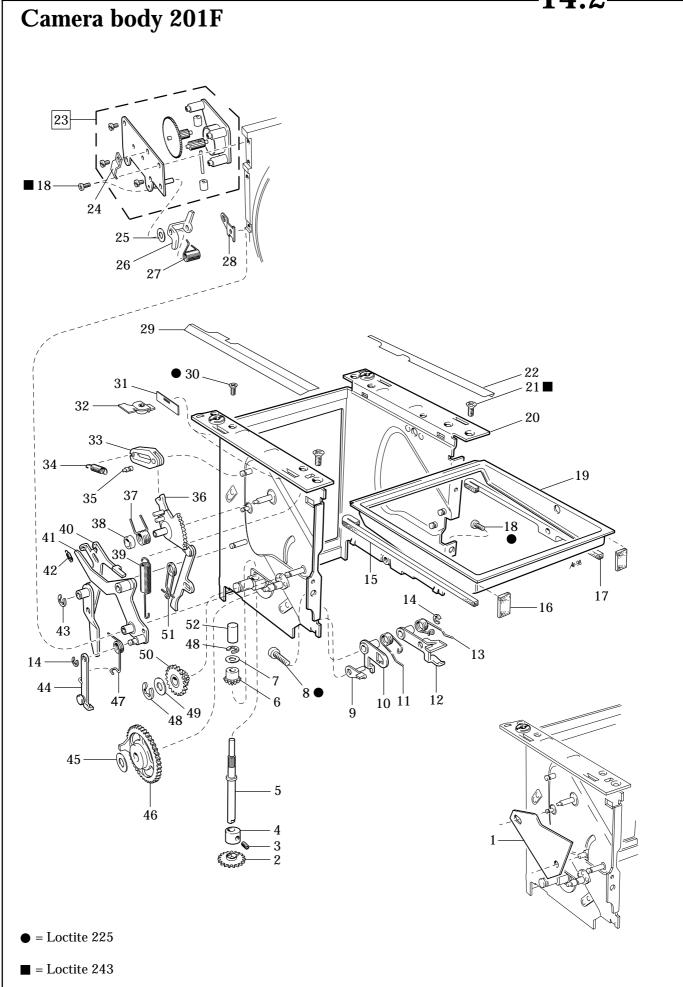


Pos No.	Pcs	Spare Part No.	Description	Remark
1 2	1 2	105 941	Light seal	
2 3 4 5	2 1 1 1	829 435 105 459 105 940 105 358	Light seal Screw Light seal Light seal Display prism	
6 7 8 9	1 1 1 4	105 350 105 458 105 474 830 235	Prism holder Holder, right Holder, left Screw	



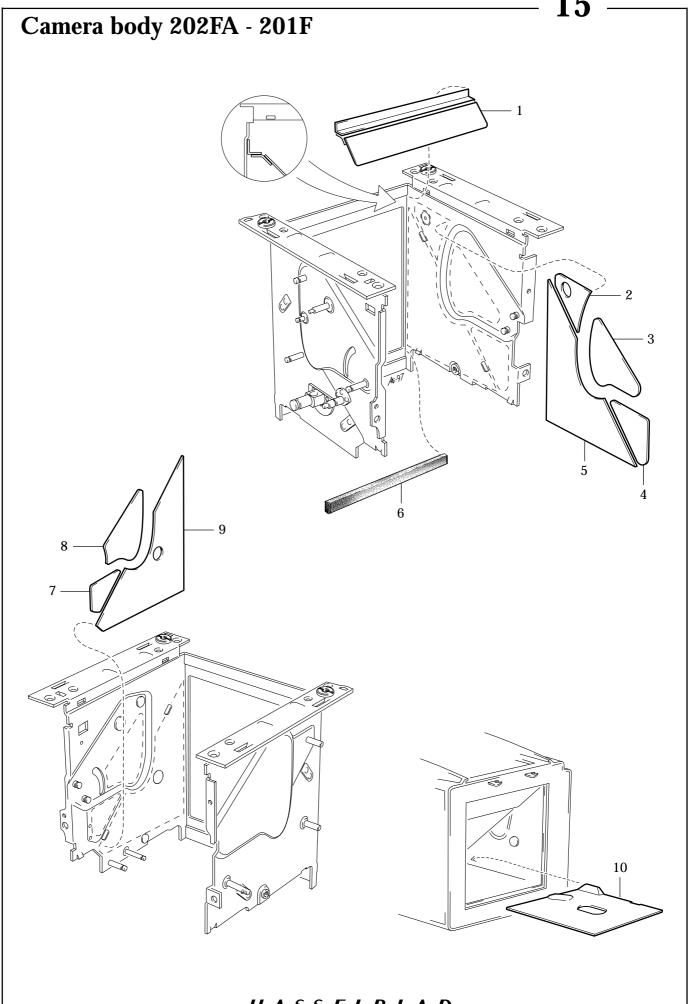


Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 1 1	107 399 103 404 825 660 107 416 105 923	Light seal Gear Screw Eccentric Drive shaft	
6 7 8 9 10	1 1 1 1	103 556 810 618 821 407 103 853 105 741	Bevel gear Washer Screw Spacer Release lever	
11 12 13 14 15	1 2 2 2 3	816 755 817 112 103 453 105 942 830 235	Spring Clip Light seal Light seal Screw	
16 17 18 19 20	1 1 2 1	105 130 105 022 829 535 103 583 107 372	Screen frame Chassis Screw Foil, left Brake	
21 22 23 24 25	1 1 1 1	810 315 107 365 816 816 103 545 103 576	Washer Lever Spring Support Foil, right	
26 27 28 29 30	4 4 4 1	829 330 103 578 103 118 103 401 814 714	Screw Foil Screen support Flip-flop Spring	
31 32 33 34 35	1 1 1 1	103 407 105 887 816 760 810 619 814 901	Pivot Actuating lever Spring Spacer Spring	
36 37 38 39 40	1 1 1 1	105 707 105 756 814 501 817 115 105 757	Release lever Driving arm Spring Clip B-arm	
41 42 43 44 45	1 1 1 1	810 210 105 109 816 514 105 863 817 119	Washer Gear Spring Gear Clip	
46 47	1	103 495 816 613	Rubber stop Spring	



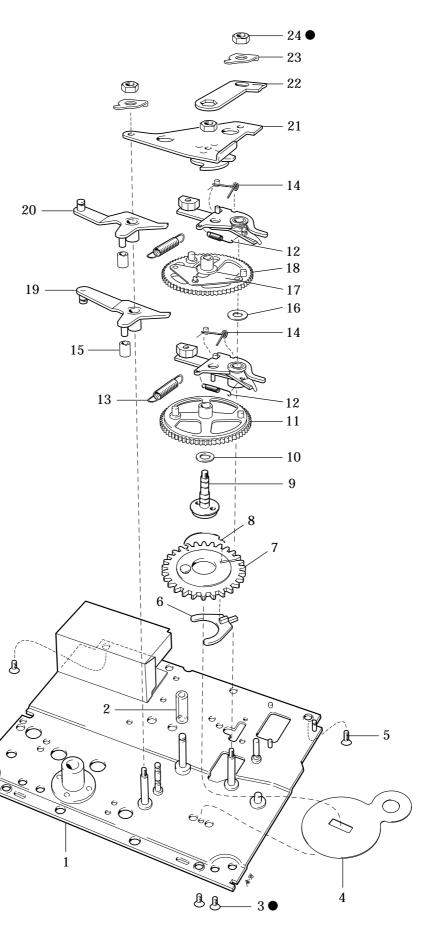
Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	107 399	Light seal	
2	1	103 404	Gear	
3	1	825 660	Screw	
4	1	107 416	Eccentric	
5	1	105 923	Drive shaft	
6	1	103 556	Bevel gear	
7	1	810 618	Washer	
8	1	821 407	Screw	
9	1 1	103 200 103 199	Arm Release lever	
	1			
11	1	816 754	Spring	
12	1	105 741	Release lever	
13	1	816 755	Spring	
14 15	2 1	817 112 103 453	Clip Light seal	
16	2	105 942	Light seal	
17	1	108 347	Light seal	
18	3	830 235	Screw	
19 20	1	108 101	Screen frame Chassis	
	1	108 022	Chassis	
21	2	829 535	Screw	
22	1	103 583	Foil, left	
23	1	107 372	Brake	
24 25	1	12 453	Cable holder Washer	
23	1	810 315	vvasner	
26	1	107 365	Lever	
27	1	816 816	Spring	
28	1	103 545	Support	
29	1	103 576	Foil, right	
30	4	829 330	Screw	
31	4	103 578	Foil	
32	4	103 118	Screen support	
33	1	103 401	Flip-flop	
34	1	814 714	Spring	
35	1	103 407	Pivot	
36	1	105 887	Actuating lever	
37	1	816 760	Spring	
38	1	810 619	Spacer	
39	1	814 901	Spring	
40	1	105 707	Release lever	
41	1	105 756	Driving arm	
42	1	814 320	Spring	
43	1	817 115	Clip	
44	1	105 757	B-arm	
45	1	810 210	Washer	
46	1	105 109	Gear	
47	1	816 514	Spring	
48	2	817 119	Clip	E
49 50	1	810 601	Washer Gear	For adjustment 810 603, -07, -09
	1	105 863		
51	1	816 613	Spring	
52	1	103 495	Rubber stop	
L	Ļ			 April 1998





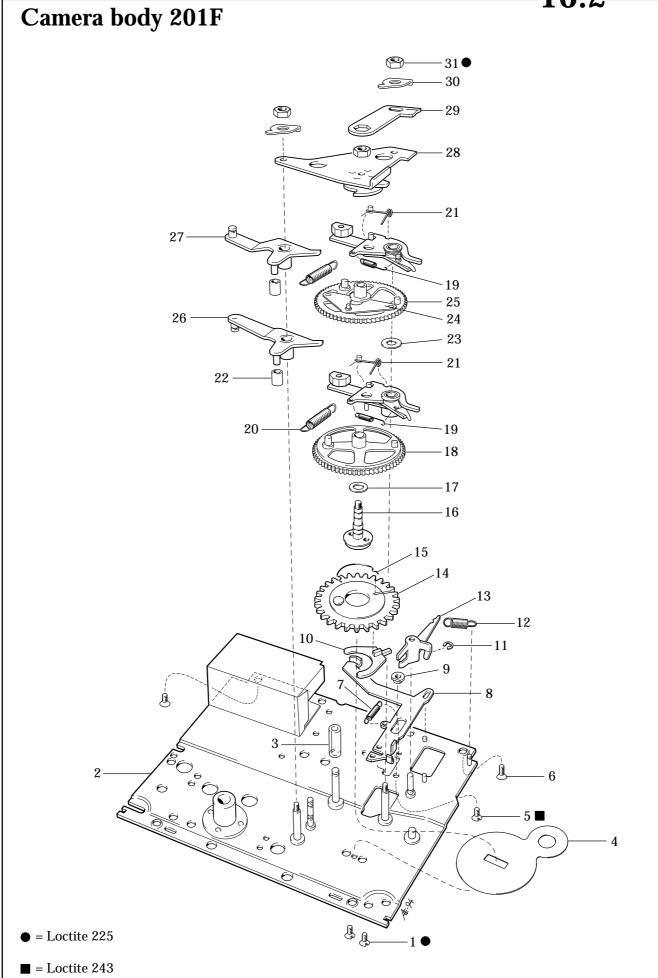
## *H A S S E L B L A D*Camera body 202FA - 201F

Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 1 1	105 133 105 531 108 801 108 802 103 696	Light seal foil Reflection protector, left Reflection protector, left Reflection protector, left Reflection protector, left	
6 7 8 9 10	1 1 1 1 1	103 453 108 804 108 803 103 698 105 125	Light seal Reflection protector, right Reflection protector, right Reflection protector, right Inner cover	



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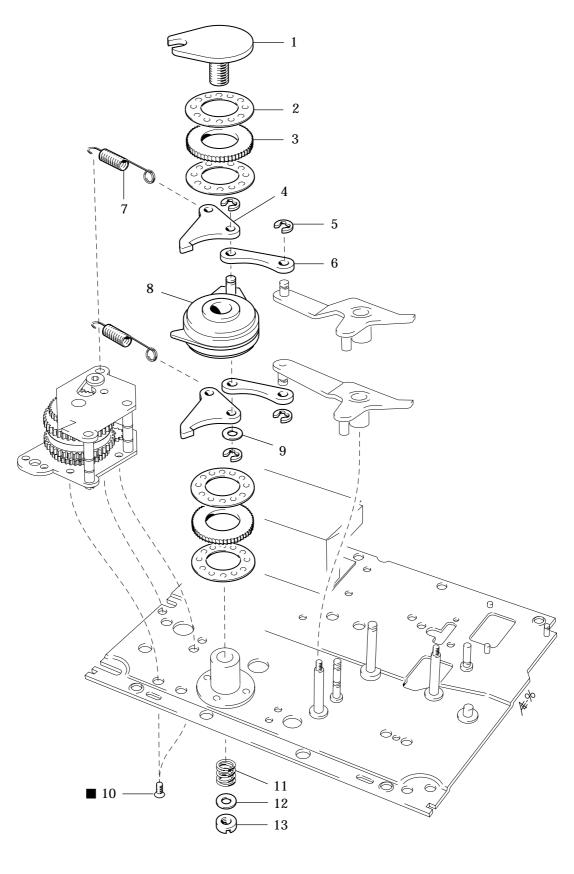
Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 2 1 2	105 049 810 557 829 316 103 687 829 535	Mechanism plate Sleeve Screw Foil Screw	
6 7 8 9 10	1 1 1 1	103 445 103 132 103 446 103 850 810 618	Catch Cocking gear Spring Shaft Washer	
11 12 13 14 15	1 2 2 2 2	103 126 814 313 814 710 107 447 810 317	Shutter gear, 1st Spring Spring Spring Shrink sleeve	
16 17 18 19 20	1 1 1 1	810 525 105 920 105 706 105 702 105 703	Washer Guiding plate Shutter gear, 2nd Stop lever, 1st Stop lever, 2nd	Alternatively none
21 22 23 24	1 1 2 3	105 705 103 851 103 849 828 402	Bridge Support Locking plate Nut	
		111 028	Bottom mechanism plate	Complete



Revision 0 HASSELBLAD

Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	2 1 1 1 1 2	823 320 105 049 810 557 103 687 823 425 829 535	Screw Mechanism plate Sleeve Foil Screw Screw	
7 8 9 10	1 1 1 1	814 312 103 389 105 742 103 445	Spring Release arm Bushing Catch	
11 12 13 14 15	1 1 1 1	817 112 814 608 103 390 103 132 103 446	Clip Spring Release arm Cocking gear Spring	
16 17 18 19 20	1 1 1 2 2	103 850 810 618 103 126 814 313 814 710	Shaft Washer Shutter gear, 1st Spring Spring	
21 22 23 24 25	2 2 1 1 1	107 447 810 554 810 525 105 920 105 706	Spring Shrink sleeve Washer Guiding plate Shutter gear, 2nd	Alternatively none
26 27 28 29 30 31	1 1 1 2 3	105 702 105 703 105 705 103 851 103 849 828 402	Stop lever, 1st Stop lever, 2nd Bridge Support Locking plate Nut	
		105 028	Bottom mechanism plate	Complete

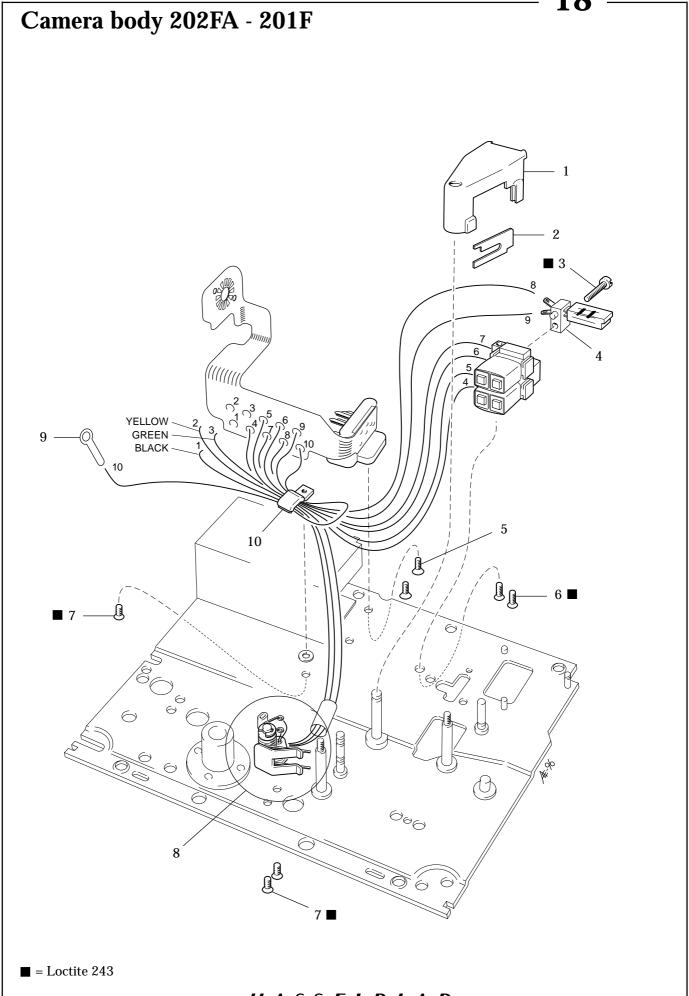
### Camera body 202FA - 201F



**■** = Loctite 243

# *H A S S E L B L A D*Camera body 202FA - 201F

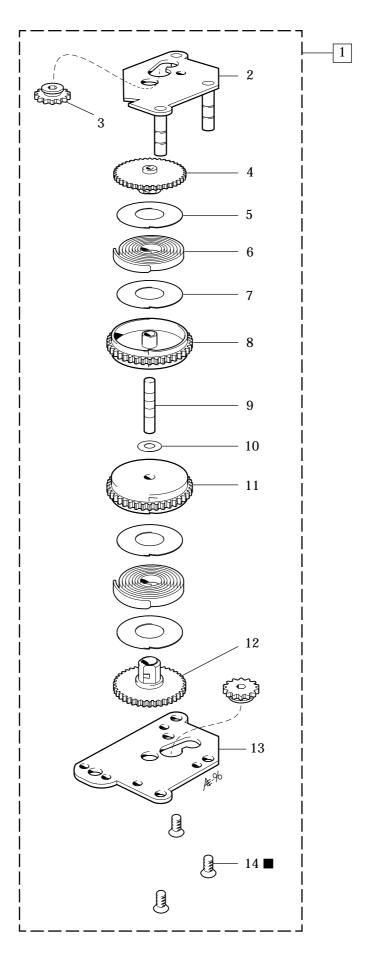
Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 4 2 2 4	107 354 105 743 105 686 107 356 817 112	Holder Brake disc Brake plate Catch Clip	
6 7 8 9 10	2 2 1 1 3	105 694 814 526 105 952 810 315 829 425	Link Spring Support Washer Screw	Alternatively none
11 12 13	1 1 1	815 908 810 703 105 690	Spring Washer Nut	



# *H A S S E L B L A D*Camera body 202FA - 201F

Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5	1 1 1 1 2	105 307 105 683 830 260 105 748 829 335	Cover Cover Screw Late release switch Screw	
6 7 8 9 10	2 2 1 1 1	826 002 829 425 107 362 105 861 105 904	Screw Screw Sync switch assembly Soldering tag Cable holder	

### Camera body 202FA - 201F

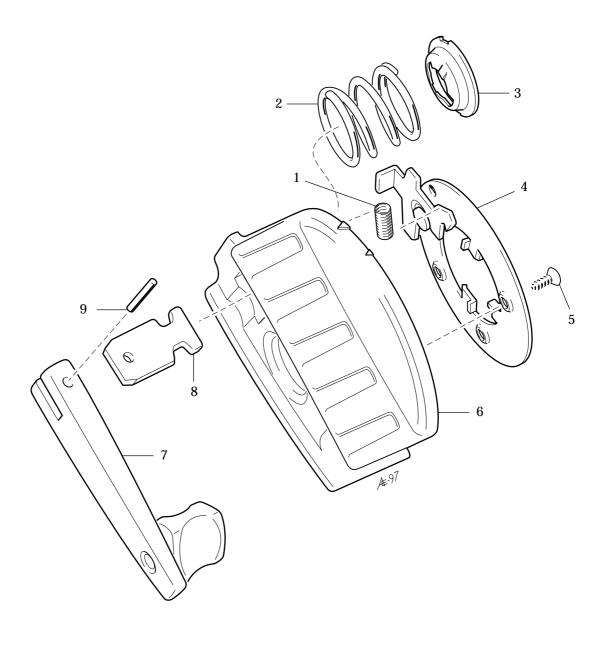


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## *H A S S E L B L A D*Camera body 202FA - 201F

Pos No.	Pcs	Spare Part No.	Description	Remark
Pos No.  1 2 3 4 5 6 7 8 9 10 11 12 13 14	Pcs  1	Spare Part No.  107 345 105 676 103 585 107 347 810 839 105 675 105 711 105 708 105 673 810 550 105 709 107 348 105 339 829 425	Spring housing, complete Base plate Locking gear Spring centre, 1st Washer Spring Washer Drive gear, 1st Shaft Washer Drive gear, 2nd Spring centre, 2nd Cover plate Screw	Remark
Revision				April 1998

## Camera body 202FA (201F - from serial No. 16ET10334)

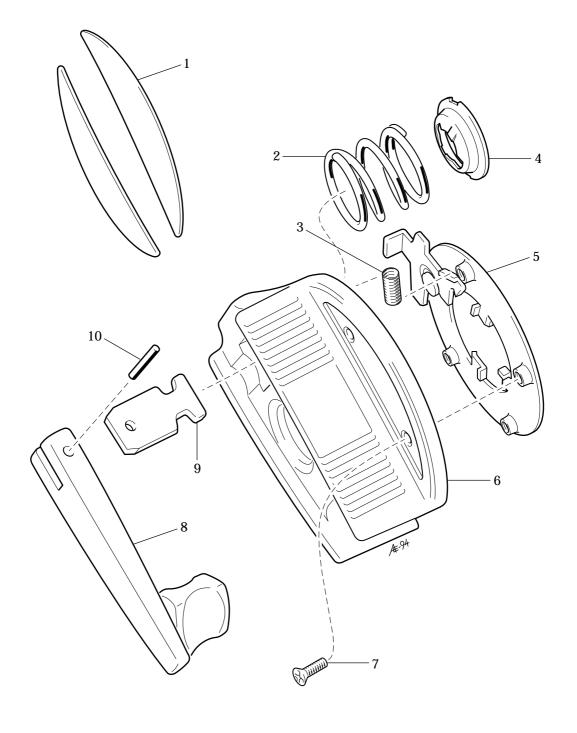


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### Camera body 202FA (201F - from serial No. 16ET10334)

Pos No.	Pcs	Spare Part No.	Description	Remark
1 2 3 4 5 6 7 8 9	1 1 1 1 3 1 1 1 1	Part No.  815 707 815 904 103 516 412 105 826 401 412 323 412 104 103 514 812 301	Spring Spring Washer Crank bayonet Screw Crank support Crank arm Slide Pin	IVEIII AI K

## Camera body 201F (up to serial No. 16ET10333)



### Camera body 201F (up to serial No. 16ET10333)

Pos No.	Pcs	Spare Part No.	Description	Remark
Pos No.  1 2 3 4 5 6 7 8 9 10	Pcs  2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Spare Part No.  103 517 815 904 815 707 103 516 103 113 107 409 829 540 103 151 103 514 812 301	Leather Spring Spring Washer Crank bayonet Crank support Screw Crank arm Slide Pin	Remark

#### Electronics complete - Part No. 108 024

