

SERVICE MANUAL

REPAIR MANUAL

for

MAMIYA C220 Professional

(mFC)



MAMIYA CAMERA CO., LTD.
TOKYO JAPAN

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I. DISASSEMBLING AND REASSEMBLING

This chapter deals with troubles which may be encountered when disassembling and reassembling the camera while relying on the exploded views.

1. Mirror

- (1) Disassembly. Refer to exploded view, page 2 .
- (2) Reassembly

Insert the mirror FC4051 into the brackets of the camera body mFC4011 while tilted away from above the camera body (in the arrow direction), holding the mirror tight against the mirror spring aFC4053. Then adjust the mirror angle at 45 degrees against the film plane of the camera body, by turning the mirror angle adjusting screw PB1.7x2.5B. Apply D.B. Bond to the brackets and the mirror angle adjusting screw of the camera body to secure them.

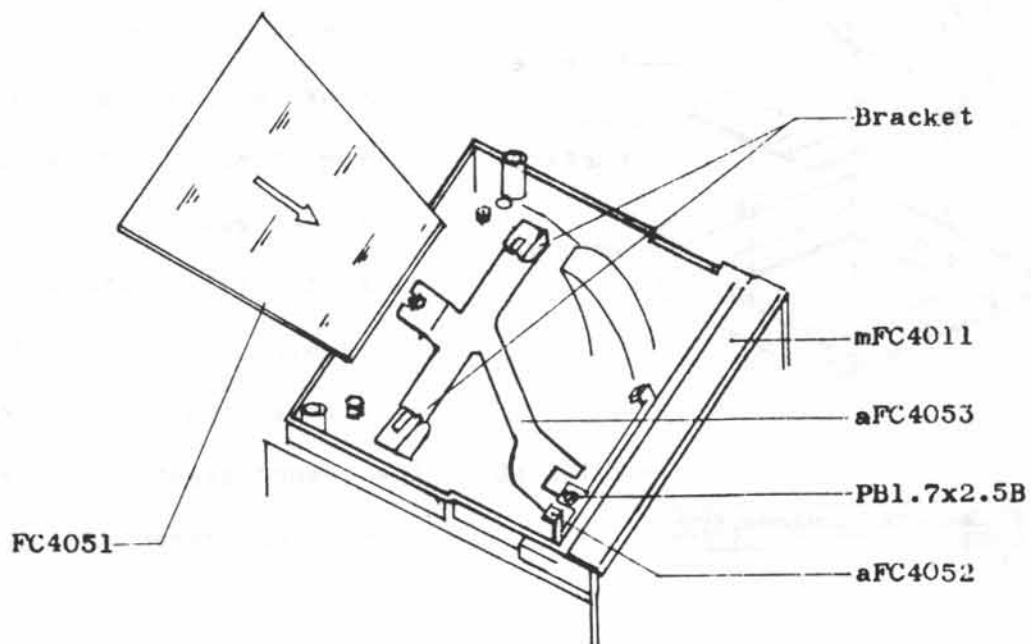


Fig. 1

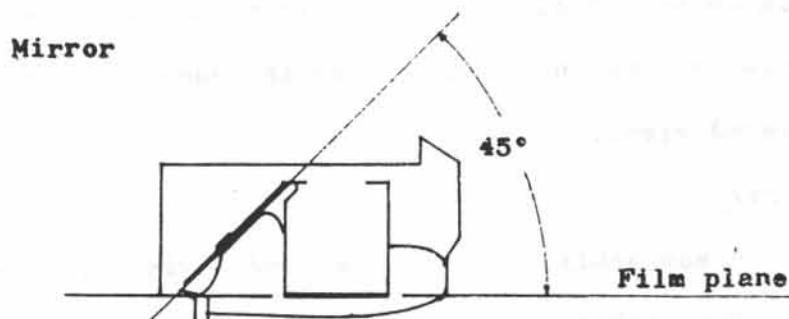
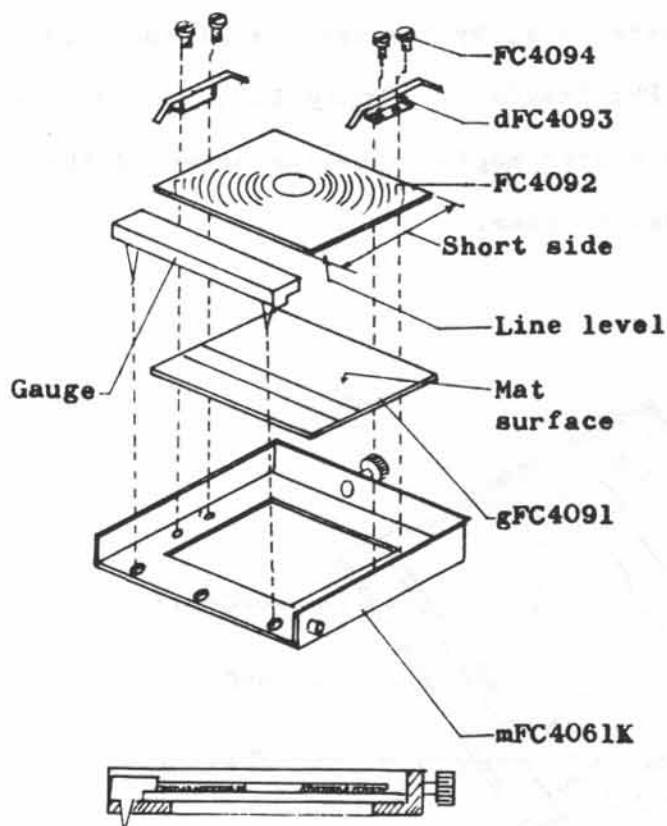


Fig. 2

2. Focusing Screen Frame

(1) Disassembly. Refer to exploded view, page 6 .

(2) Reassembly



Reassemble all parts in the order shown in the exploded view on the left. When all parts are assembled as shown in the bottom, secure it with screws FC4094 together with the ground glass spring plate dF4093, using the exclusive gauge for this purpose. After tightening the screws, apply D.B. Bond to all four corners of the fresnel lens and the ground glass focusing screen, and cement in place.

Fig. 3

3. Side Panel

3.1 Right panel mFC4611

(1) Disassembly

Take off the disk mFC4117 by inserting a sharp-edged instrument into it, then loosen the two screws 4B1.7x2 and take off the knob mFC4116. Peel off the leatherette mFC4716 from the right panel mFC4611; then, by unscrewing five screws PD2x3B and screw PD2x5, the right panel can be removed.

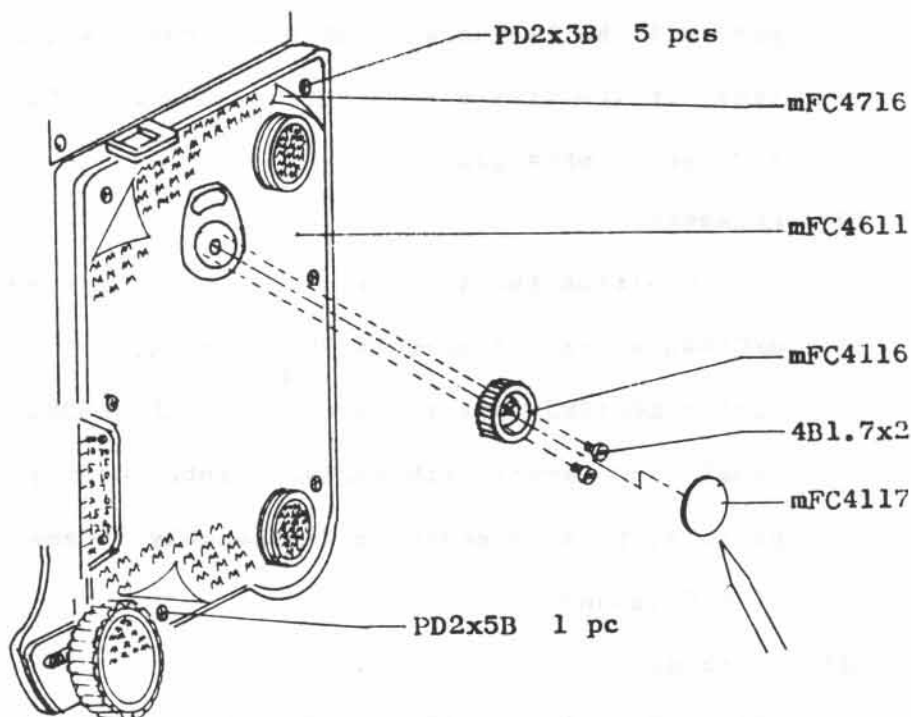


Fig. 4

(2) Reassembly

Reassemble all parts in the reverse order of disassembly. Secure the two screws 4B1.7x2 by tightening them and applying D.B. Bond. Cement the disk and leatherette with Pliobond.

3.2 Left panel mFC4621

(1) Disassembly

Remove the screw 3Ds2x3Cr, and take off the knob cover mFC4319. Take off the spring pFC5115, open the back cover, put the universal pin face tightener into the two holes of the ratchet wheel pFC5111 while inserting the spanner T-mFC-1 into the nut gFC4368, and turn the universal pin face tightener counterclockwise. With this action, the ratchet wheel can be taken out, and the film winding knob mFC4321K2 removed. Then peel off the leatherette mFC4717 from the left panel mFC4621K2, take out the five screws PD2x3 and screw PD2x5, and remove the left panel mFC4621K2.

(2) Reassembly

Position the left panel so that the window by the knob mFC4645 shows the mark "SINGLE" in it, let the groove of the button mFC4683 meet the projection mFC4682K2, attach the left panel, and secure with screws. Subsequently, assemble all parts in reverse order to disassembly. Cement the leatherette with Pliobond.

(3) Checking

(3).1 Move the button mFC4683 back and forth to verify change over of the indication from 120 to 220 (and vice versa), confirming that change over can be observed from the window.

(3).2 Turn the knob mFC4645, confirming that the shutter operates correctly according to the "SINGLE" and "MULTI" marks in the window.

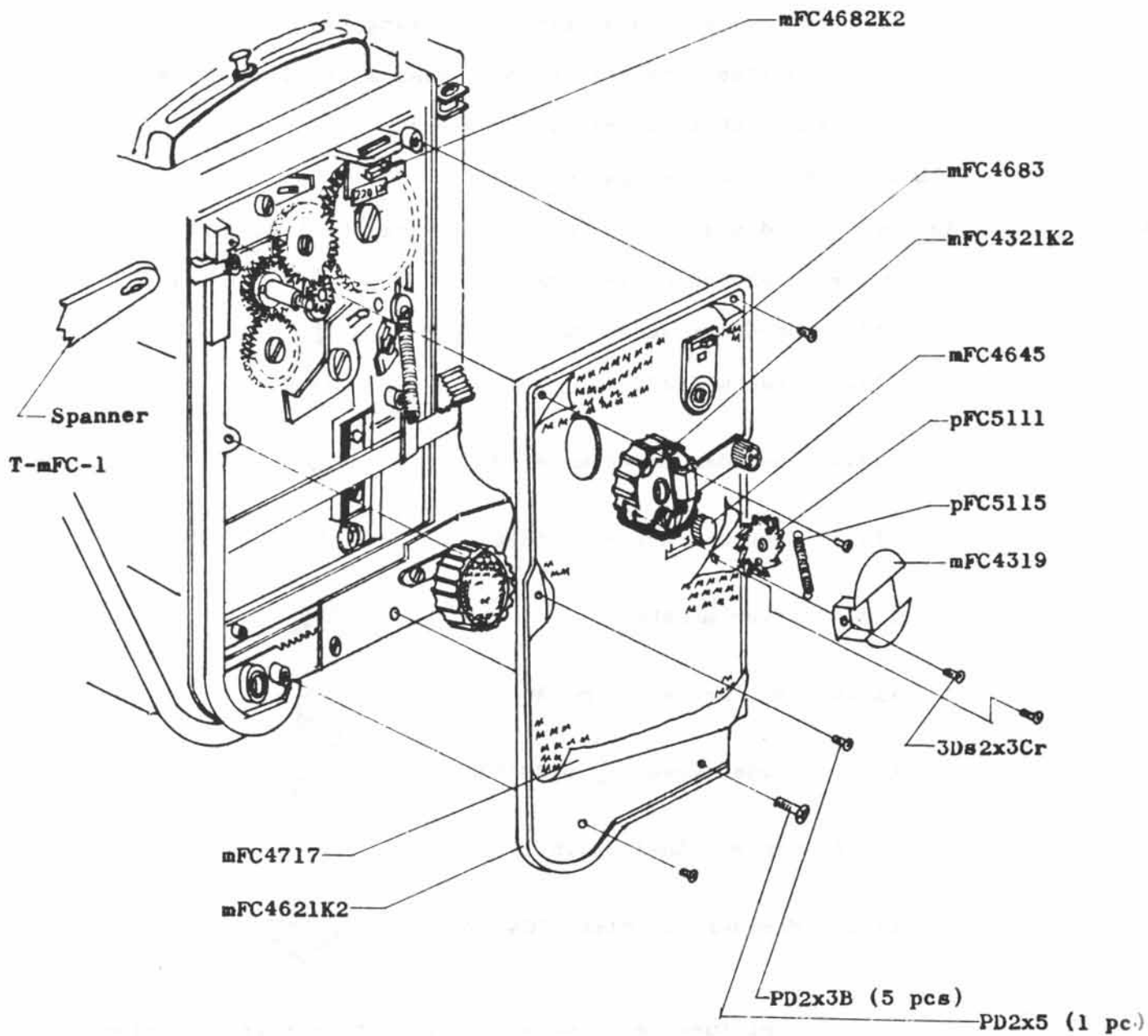


Fig. 5

- (3).3 Turn the film winding knob to verify that the spool nut moves accordingly, confirming that the ratchet functions properly (should make a clicking noise when the knob is turned in reverse).

4. Film Advance, Exposure Counter

- (1) Order of disassembly. (After removing the left panel)

Refer to exploded view, page 3.

- (1).1 Shoulder screw dWP1794
- (1).2 Gear mFC4372
- (1).3 Shoulder screw mFC4689
- (1).4 Shoulder screw mFC4686
- (1).5 Lever mFC4685
- (1).6 Shoulder screw mFC4684
- (1).7 Slider assembly mFC4682K2
- (1).8 Screw 2.5Bsl.4x2.5
- (1).9 Exposure counter mFC4352



The picture below shows the condition after all nine parts listed above are removed.

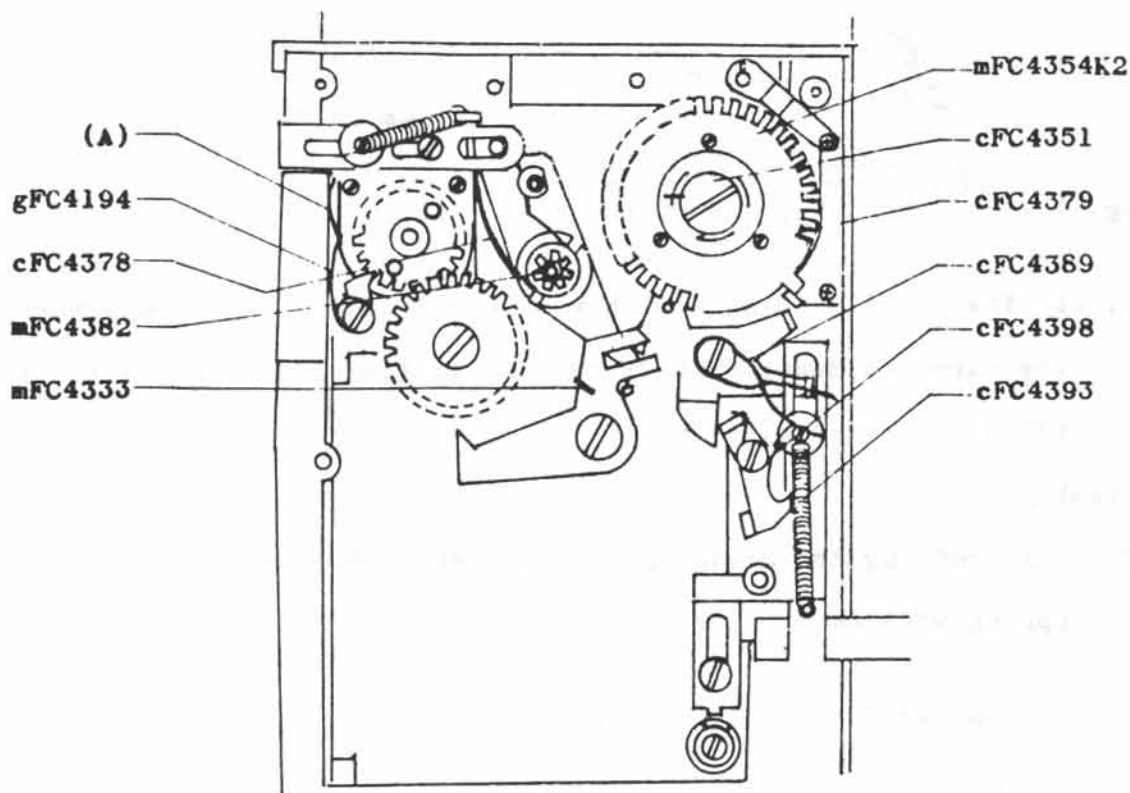


Fig. 6

Refer to Fig. 6 for hanging each spring.

Since the spring for pawl gFC4194 may slip off, (A) is cemented with D.B. Bond.

(1).10 Since the shaft friction wheel mFC4382 is bonded with HI-LOCK, together with the friction milled wheel hFC4381 and the gear hFC4383, the shaft friction wheel hFC4382 cannot be disassembled. When the wheel must be removed, nip hFC4381 with a nipper, break the shaft friction wheel, and pull out the shaft friction wheel hFC4382 together with the gear hFC4383.

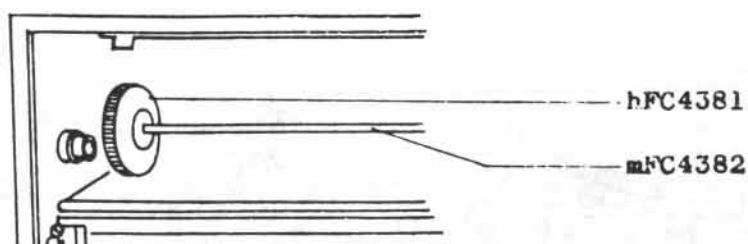


Fig. 7 (Body Back Upper Portion)

(1).11 The dividing disk assembly mFC4354K2 can be taken off when the exposure counter shaft cFC4351 is loosened. Do not loosen cFC4379. (See Fig. 6)

(2) Assembly

(2).1 Assembling the dividing disk assembly mFC4354K2 and the spring mFC4359



Fig. 8

Insert the spring mFC4359 into the groove of the camera body as shown above. While keeping the dividing disk assembly above the groove, pull out the edge of the spring with a pincette from the center hole. Insert the spring into the groove of the dividing disk as shown in the picture (above center). After applying bonding agent to the tip of the exposure counter shaft cFC4351, rotate the dividing disk counterclockwise once to position the whole assembly as shown in the picture (above right), then secure it tightly with screws.

(2).2 Assembly of the shaft friction wheel mFC4382. (See exploded views, pages 3 and 4)

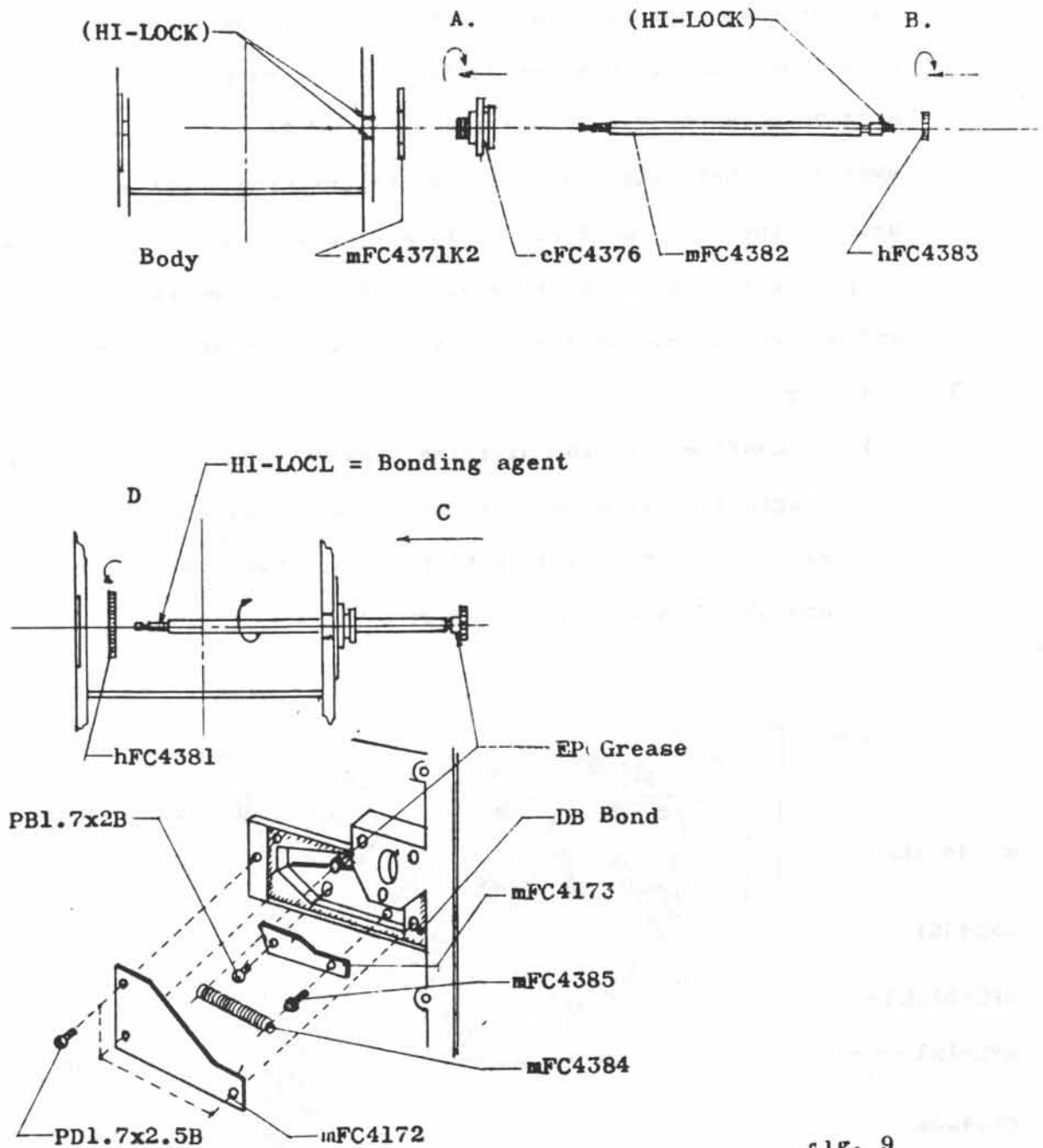


Fig. 9

Apply HI-LOCK bonding agent to the places pointed out in the above pictures, and assemble the shaft friction wheel in the order of A, B, C, and D. Use a pin-faced screwdriver to tighten the flanged screw cFC4376, and when the friction milled wheel hFC4381 is assembled, use pincers for the friction wheel shaft, making sure that both of them are sufficiently secure. After securing mFC4173 with PBl.7 x 2B and the screw mFC4385, hook the spring mFC4384 on both the tip of the shaft friction wheel and the head of the screw mFC4385, apply EP grease, apply some D.B.Bond to places indicated in the above pictures to prevent light leaks, and secure the hollow-cover mFC4172 tightly with screws.

(3) Checking

(3).1 Confirm that the dividing disk mFC4354K2 returns to its original position when the disk is turned counterclockwise with a finger (until it touches or almost touches the stopper) and the finger is suddenly removed.

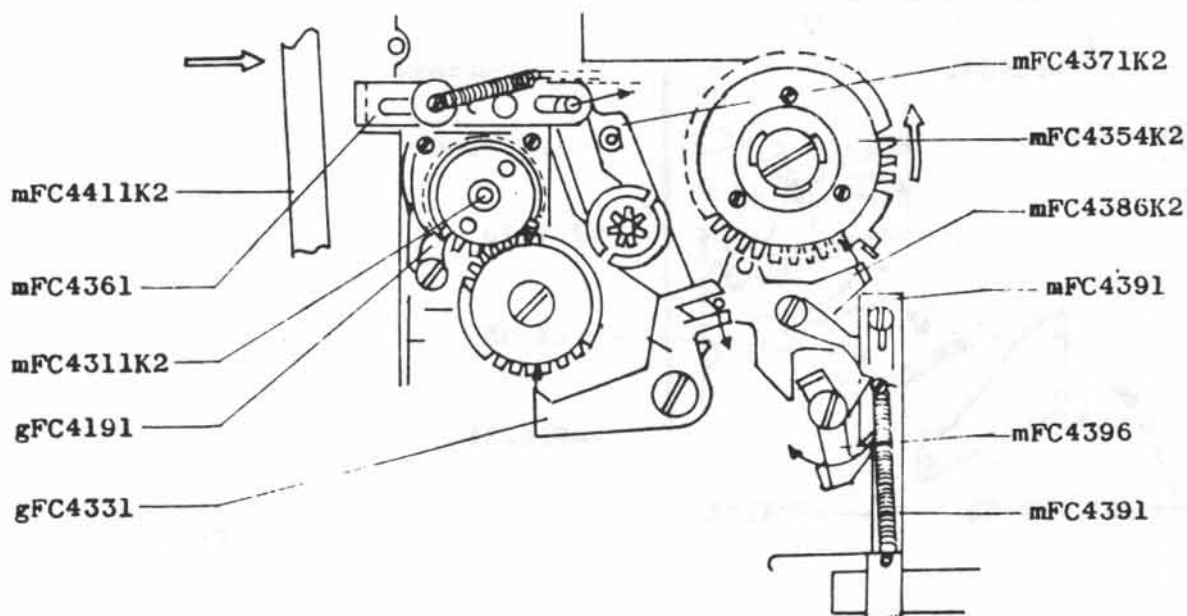


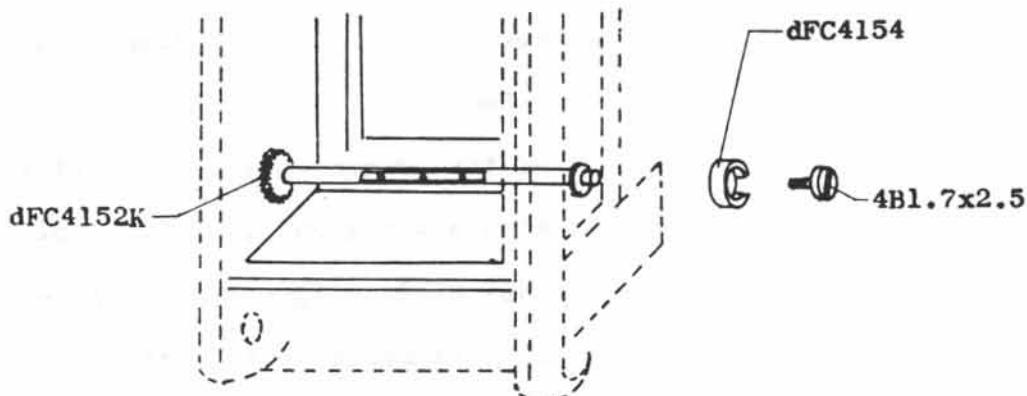
Fig. 10

- (3).2 Are all the screws tight?
- (3).3 Does the pawl gFC4191 operate well when the film winding gear assembly mFC4311K2 is turned counterclockwise?
- (3).4 Do the lever counter reset mFC4361, the lever counter reset assembly mFC4371K2, the pawl gFC4331, the wind stop lever assembly mFC4386K2, and the latch mFC4396 all operate properly when the back cover mFC4411K2 is closed (when it is pressed in the arrow direction shown)? Does the bent place of the wind stop lever assembly mFC4386K2 meet the cut-off point of the dividing disk when the dividing disk mFC4354K2 is turned counterclockwise? At the same time; does the tip of the pawl gFC4331 jump into the gear, and will the tip of the latch mFC4396 slip out from the lever counter reset assembly mFC4391, and does it go back to its original position (see Fig. 10) when the back cover is opened?

5. Light-tight Flap, Lever Assembly (Refer to exploded view, pages 3 and 4.)

(1) Disassembly

Remove the light-tight flap FC4155K2 from the back of the camera body.



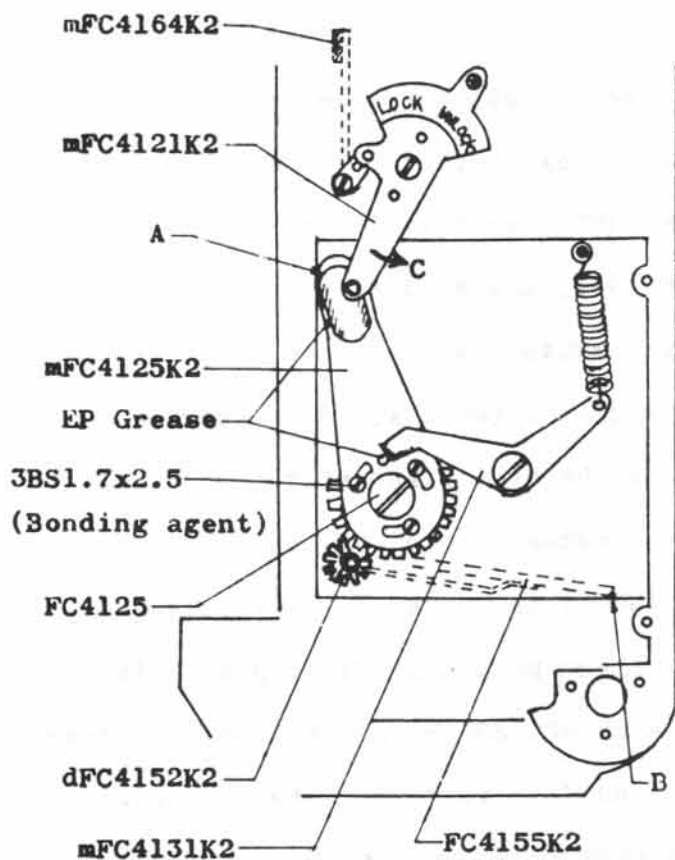


Fig. 11

By loosening the screw 4B1.7x2.5 shown above and pulling out the gear shaft assembly dFC4152K from the opposite side, the light-tight flap can be removed.

(2) Assembly and adjustment

The related position of the dFC4152K and the cut slit of the safety collar dFC4154 is shown in Fig. 11, above. Apply bonding agent to the tip of the screw 4B1.7x2.5, and secure the safety collar to the dFC4152K with the screw.

Then attach the light-tight flap assembly and secure it with a screw. Be careful of the related position of the flap assembly and the lever assembly FC4152K2 (see Fig. 11, below). Keep the play at "A" from 0 to 0.5mm. Let "B" touch the wall of the camera body by adjusting with a screw 3BS1.7x2.5. Apply some bonding agent to the screw. At this stage, the relative

position of the red warning signal mFC4164K2 must be as shown in the picture.

(3) Checking

(3).1. When the condition is like the picture at the bottom of Fig. 11, the cut slit of the safety collar dFC4154K on the other side faces upward.

(3).2. Confirm that the light-tight flap closes for certain when the lock lever mFC4121K2 is turned in the direction of the arrow mark (C). Check this by pushing it from the camera front with your finger.

6. Front Panel Rack Plate (Refer to exploded view, page 5)

(1) Disassembly

Remove the ten screws aFC4567 on the front. Since D.B.Bond is attached between the small bellows assembly aFC4564K and the front panel mFC4511 to prevent leaks of straying light, add lacquer thinner or methyl ethyl keton between them when they cannot be separated. Then remove the stopper aFC4653 and pull out the front panel from the camera body.

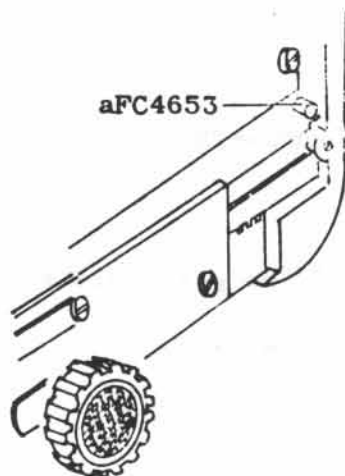


Fig. 12

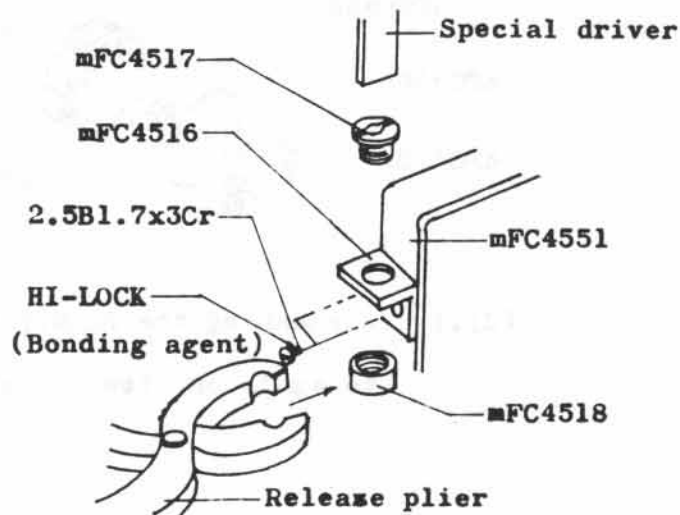
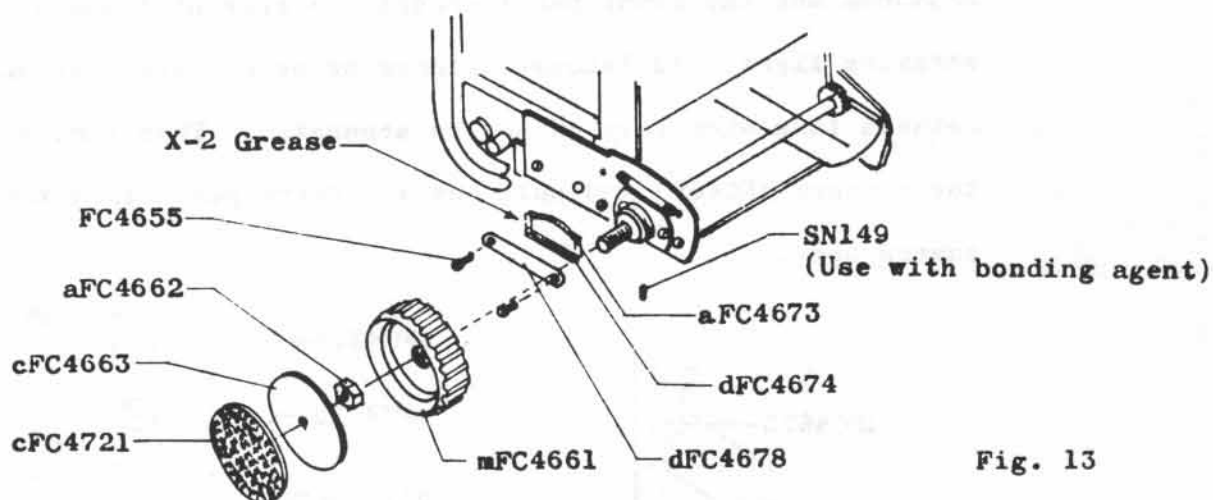


Fig. 13

Since the bracket mFC4516 is fixed with the screw 2.5Bl.7x3Cr, to which HI-LOCK is applied; make holes on the top two screws with a .1.4 ϕ drill before disassembling. For other information on disassembling this front panel and the (rack) plate, refer to Fig. 13 or to the exploded view on page 5.

(2) Assembly

After disassembling the focusing knobs on both sides of the front panel, as shown in Fig. 13, insert them from the front, and continue assembling in the opposite manner of disassembly. After screwing in the nut aFC4662, add Pliobond. Reapply the leatherette cFC4721 with Pliobond.



(2).1. Exchanging the rack plate and the guide plate. (Refer to exploded views, pages 3, 4, and 5.)

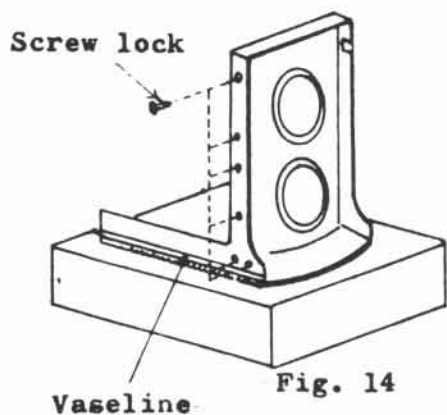


Fig. 14

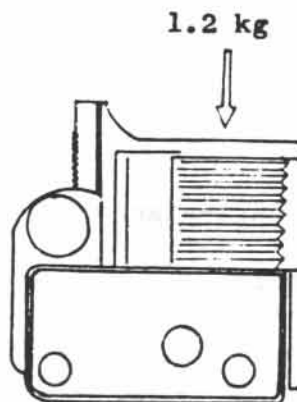


Fig. 15

First, combine the rack plates mFC4651 and mFC4652 and the guide plates mFC4671 and mFC4672, rubbing them against each other and adding some vaseline. Use bonding agent to assemble the frame mFC4551 and the rack plates with the screw. Place the guide plate on the base as shown in Fig. 14 and determine the plane angle of the rack plate assembly. After assembling the guide plate onto the camera body, adjust the torque of the focusing knobs by the screws SN149 (see Fig. 13).

When a weight of less than 1.2kg is placed on the center of the front panel, the front panel should not start moving by itself. (Fig. 15)

II. ADJUSTMENTS

1. Adjusting the Focus (Refer to exploded view, page 2)

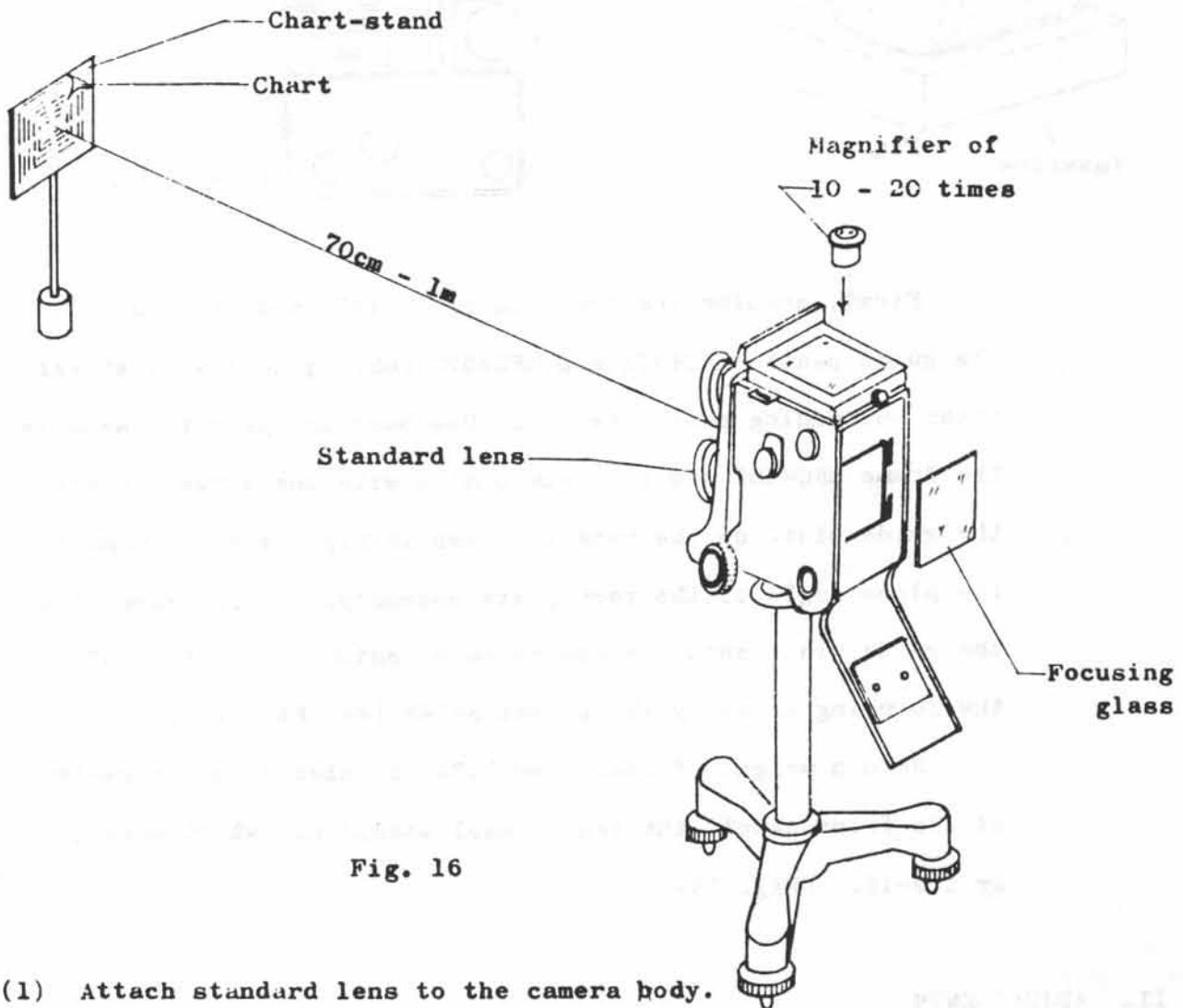


Fig. 16

- (1) Attach standard lens to the camera body.

(Standard lens: one whose lens back of the taking lens and the viewing lens is well adjusted)

- (2) Set the camera as shown in Fig. 16, and focus the plane chart on the ground glass focusing screen. The chart can be a stereo chart.
- (3) Then, without moving the focusing knob, attach a focusing screen on the film rail of the camera body, making sure that

the chart is also well focused on the film plane.

- (4) When the chart is not focused on the focusing screen at the film plane, move the focusing knob until an image clearly focused on the focusing screen at the film plane is seen, then add the washer FC4067 and the washer 4W2x0.1 until a clearly focused image is visible on the ground glass focusing screen. (See Fig. 16.A)

Tighten the screws aFC4066.

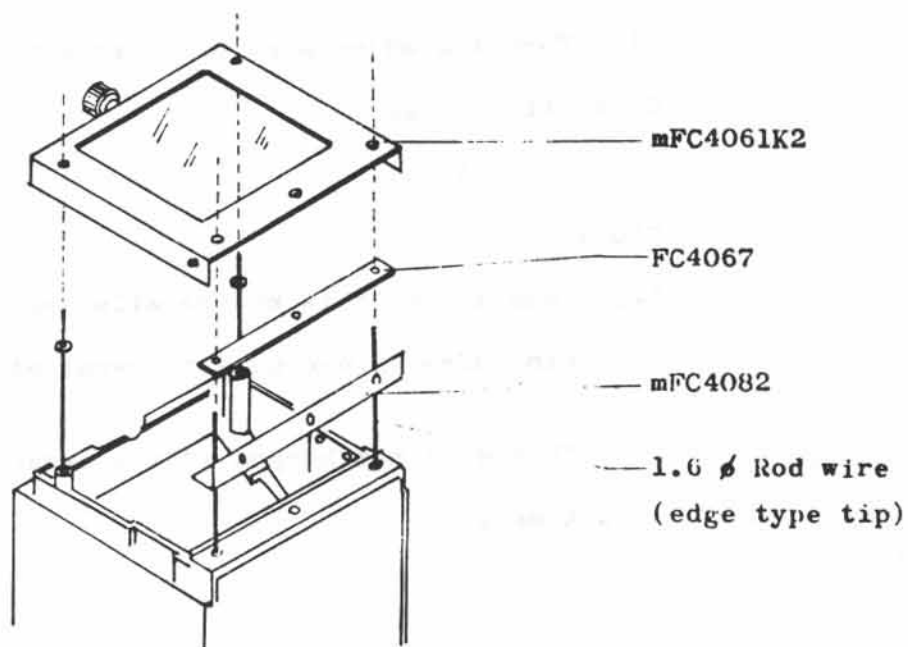


Fig. 16.A

NOTE: Before adding washers for adjustment, prepare four 1.6 ϕ rod wires. Insert the wires into the camera body as shown in Fig. 16.A, then add the washers. With this method, the ground glass focusing screen can be assembled without dropping the washers.

III. TROUBLE-SHOOTING...CAUSES AND REPAIR METHODS

1. Focusing

Cause

- (1) Focusing adjustment is imperfect.

Corrective action:

Refer to II.1.

Cause

- (2) Lens assembly is not parallel against the film plane.
(Includes erroneous attachment of lens to the body.)

This will not happen if the camera is used under normal conditions.

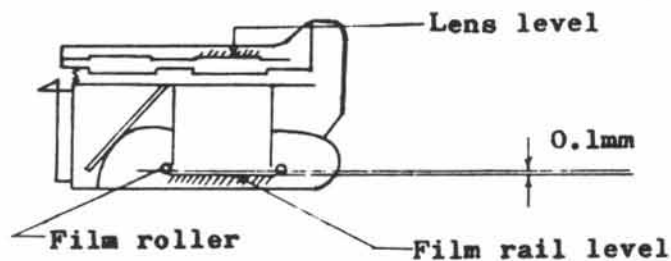


Fig. 17

Corrective action:

- (2).1. Check for erroneous play between camera body and the rack plate mechanism.
- o Check the play of each screw.
 - o Check for breakage or dropped off brake spring aFC4673.
- (Refer to exploded view, page 4.)
- (2).2. Check if the film roller is projecting over the film plane. The film roller must be about 0.1mm lower than the film plane. If the film roller is bent, repair the roller or replace it with another one.
- (2).3. Check if the clamp bracket mFC4531 is completely sustaining the lens. (Refer to exploded view, page 5) Also check if the lens base plate is curved. In the latter case, repair the curve or replace the parts.

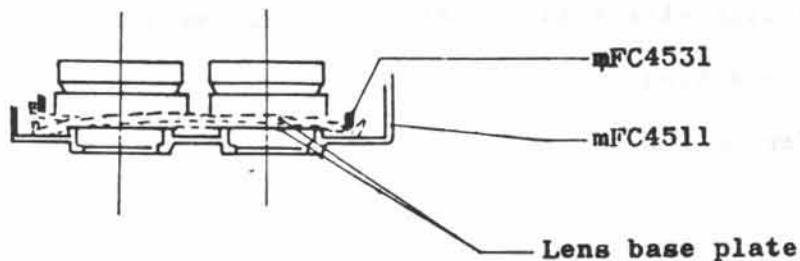


Fig. 18

Cause

- (3) Lens itself is wrong.

Corrective action:

Check if the front lens assembly is loosened, check the back of the lens, and check the resolution power of the lens.

2. Light Leaks

Cause

- (1) What about shading between front panel and small bellows?
(Refer to exploded view, page 5.)

Corrective action:

Insert a light-tight strip aFC4724 between the two and add D.B.Bond to it (when the camera is disassembled for cleaning).

Cause

- (2) Is the light-tight strip positioned on the back cover as required, or does the back cover close completely?

Corrective action:

Check and take proper action.

Cause

- (3) The light-tight flap FC4155K2 is not well adjusted.

Corrective action:

Refer to I.5.

Cause

- (4) When small bellows has a hole, or when some parts are not in place, etc.

3. Operation of Shutter Release Button

(Refer to Fig. 6 of I.4)

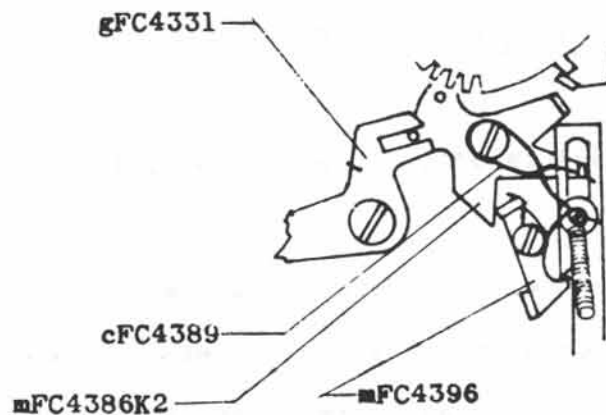


Fig. 19

Cause

- (1) The spring cFC4389 is off (in this case, the wind stop does not work).

Or the spring is not strong enough to force the wind stop lever to jump into the dividing disk completely.

Corrective action:

Reset or replace the spring.

Cause

- (2) Parts gFC4331, mFC4386K2, or mFC4396 do not function properly.

Corrective action:

Check and take proper action.

Cause

- (3) The wind stop lever is off the mFC4396, and the latch does not work.

Corrective action:

Repair or replace the parts.

4. Advancing and/or Resetting Exposure Counter

Cause

- (1) The spring mFC4384 is off. (See Fig. 9 of I.4, (2).2)

Corrective action:

Open the back cover and push the shaft friction wheel;
if the exposure counter resets, no special action is necessary.
If the exposure counter does not reset, take action by
referring to I.4, (2).2.

Cause

- (2) Exposure counter in back cover opening does not reset.

Corrective action:

Remove the left panel mFC4621K2, and repair the counter
reset lever mFC4361. At the same time, adjust play of the
back cover so that the lever functions properly. If the counter
reset lever does not return when the back cover is opened,
the exposure counter will not be reset.

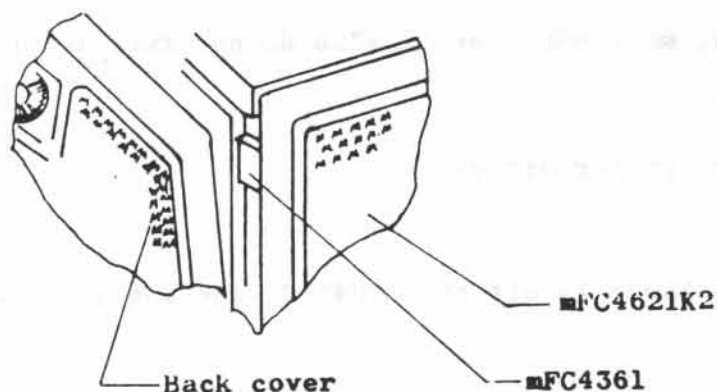


Fig. 20

Cause

- (3) The spring mFC4359 is off. (Fig. 8 of I.4, (2).1)

Corrective action:

If the exposure counter does not reset when the back cover is opened, refer to I.4, (2).1, taking proper action.

5. Wind Stop Does Not Function

Cause

(1) Same as III.3.(1). (2)

Corrective action:

Check and take proper action.

Cause

(2) Same as III.4.(2)

Corrective action:

Check and take proper action.

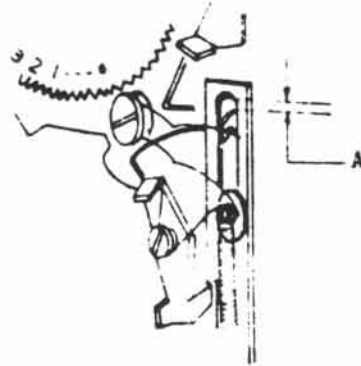


Fig. 21

Cause

(3) The pawl gFC4331 does not meet the gear properly. (Refer to Fig. 10)

Corrective action:

Sharpen the edge of "A" with a file.



6. Wind Stop Released Before Shutter

Since this model is so designed, this cannot be repaired. However, if adjustment is desired it can be done by adjusting the space at "A".

SERVICE MANUAL

EXPLODED VIEWS

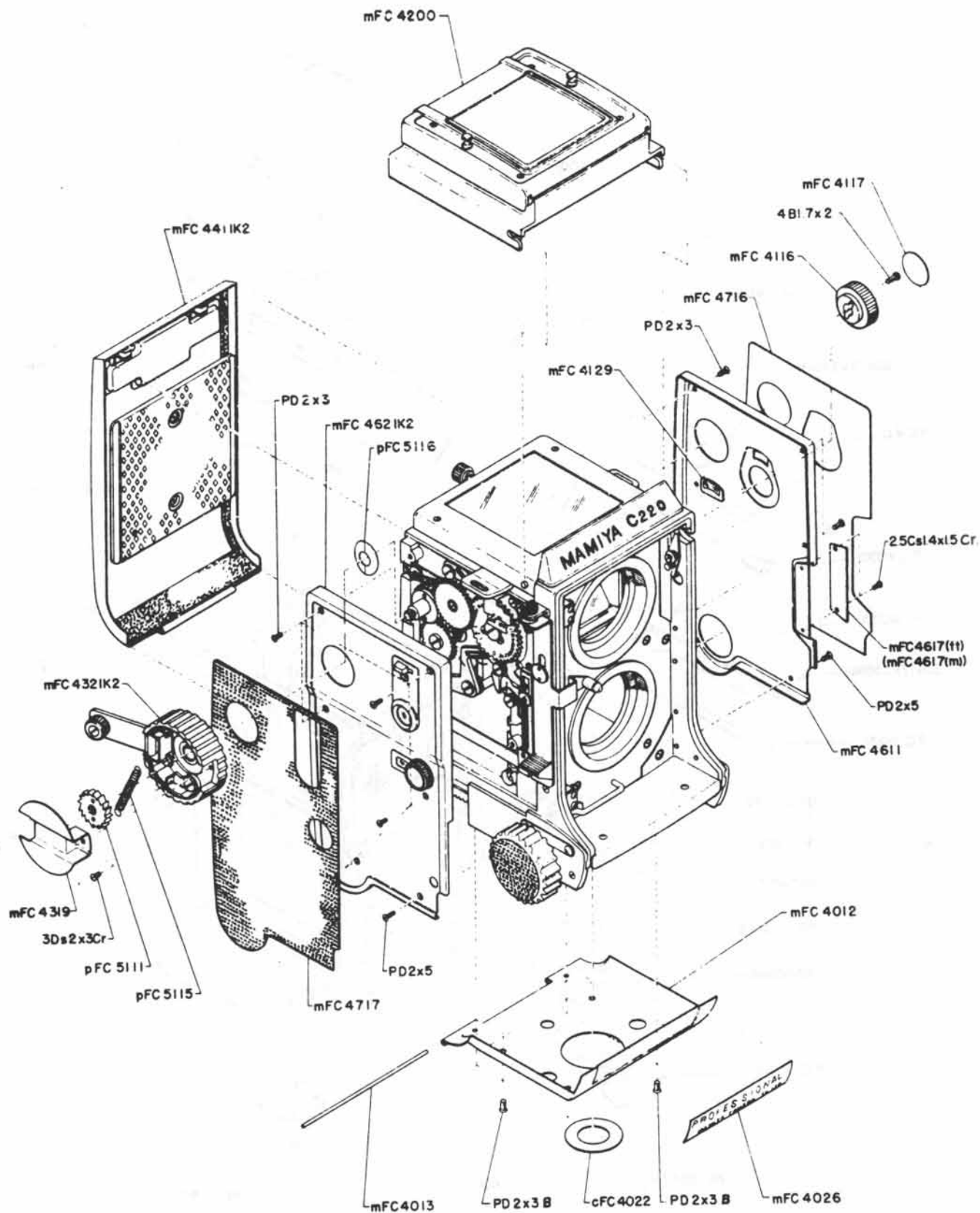
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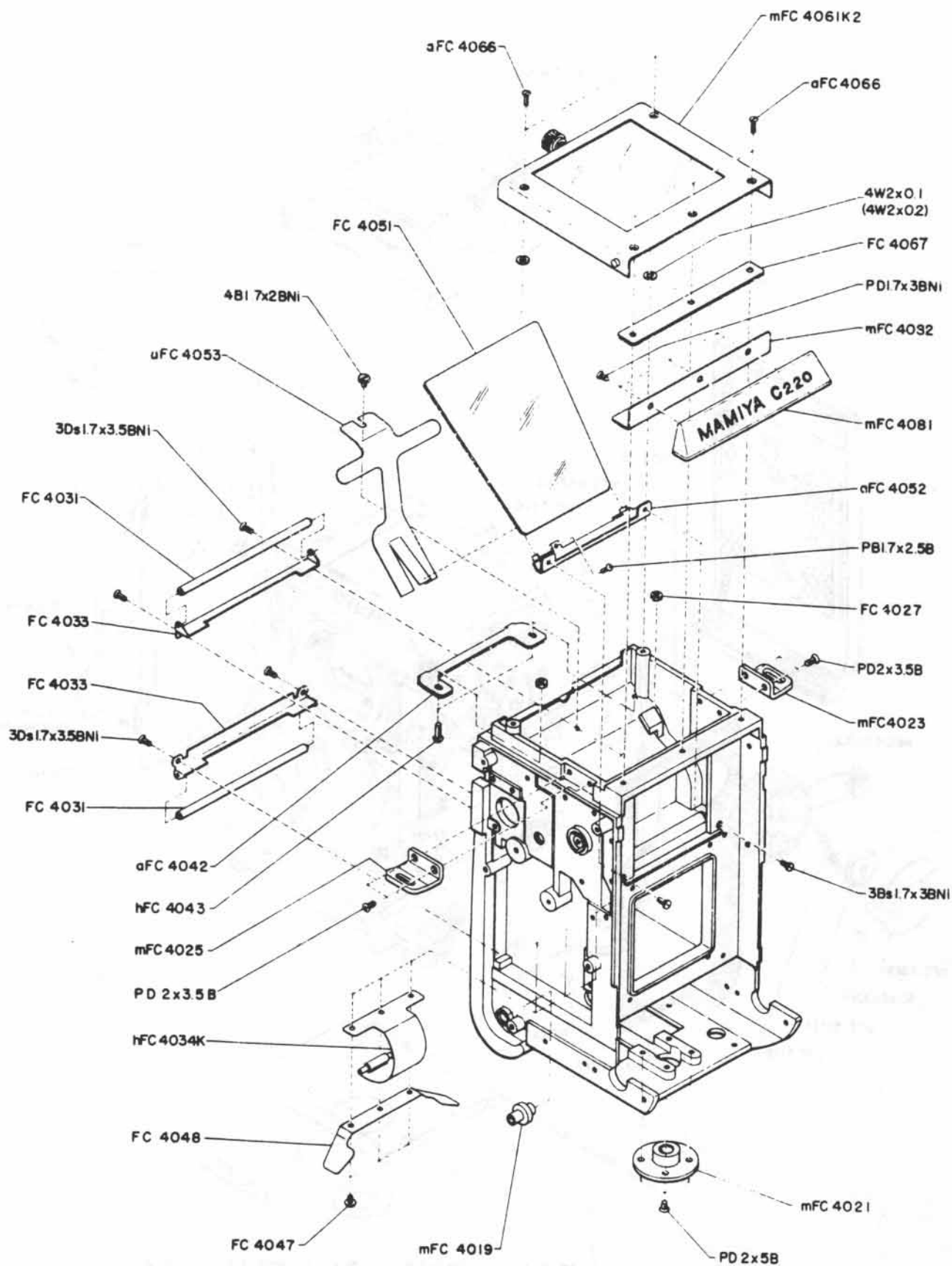
MAMIYA C220 Professional

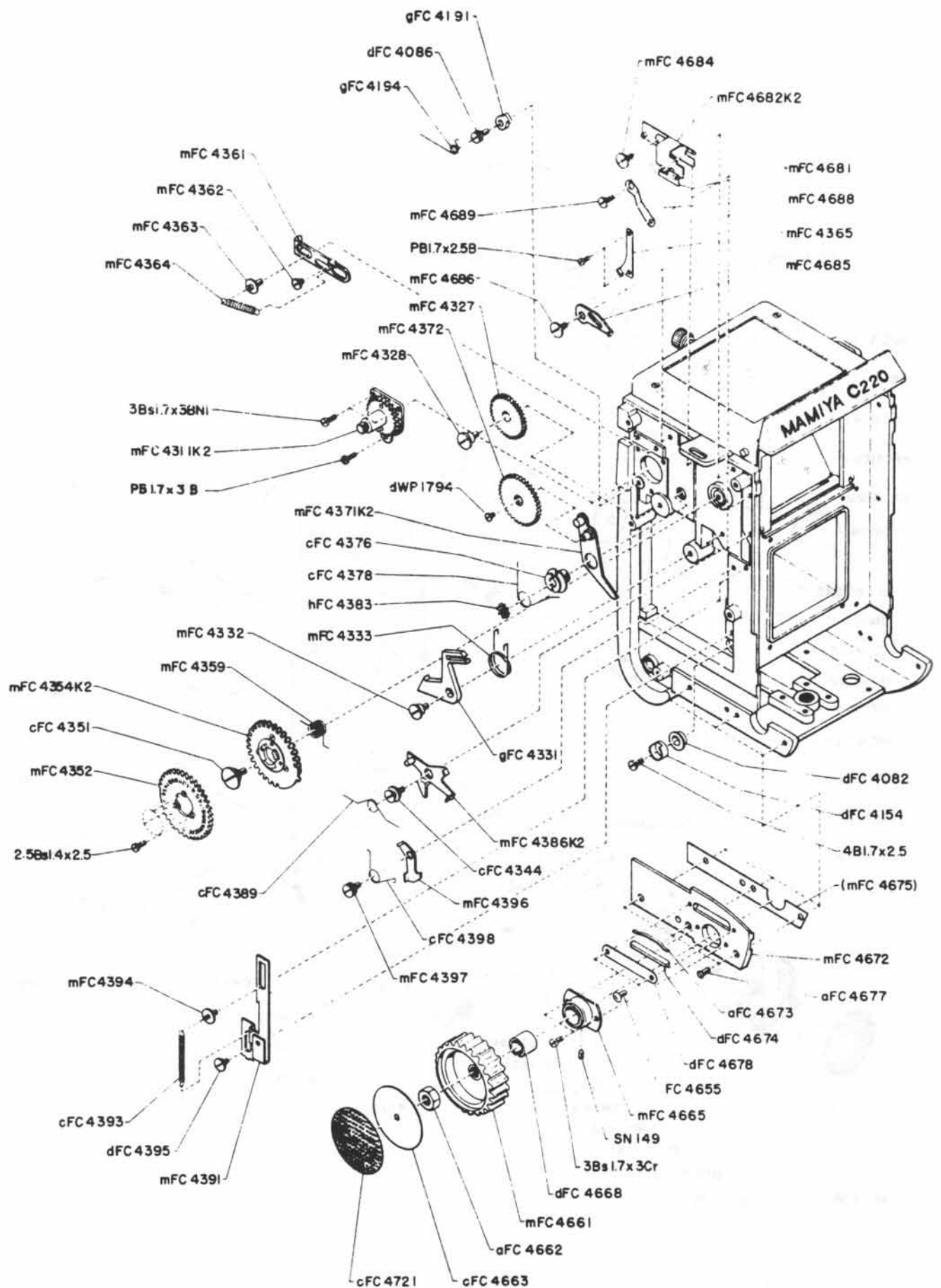
(mFC)

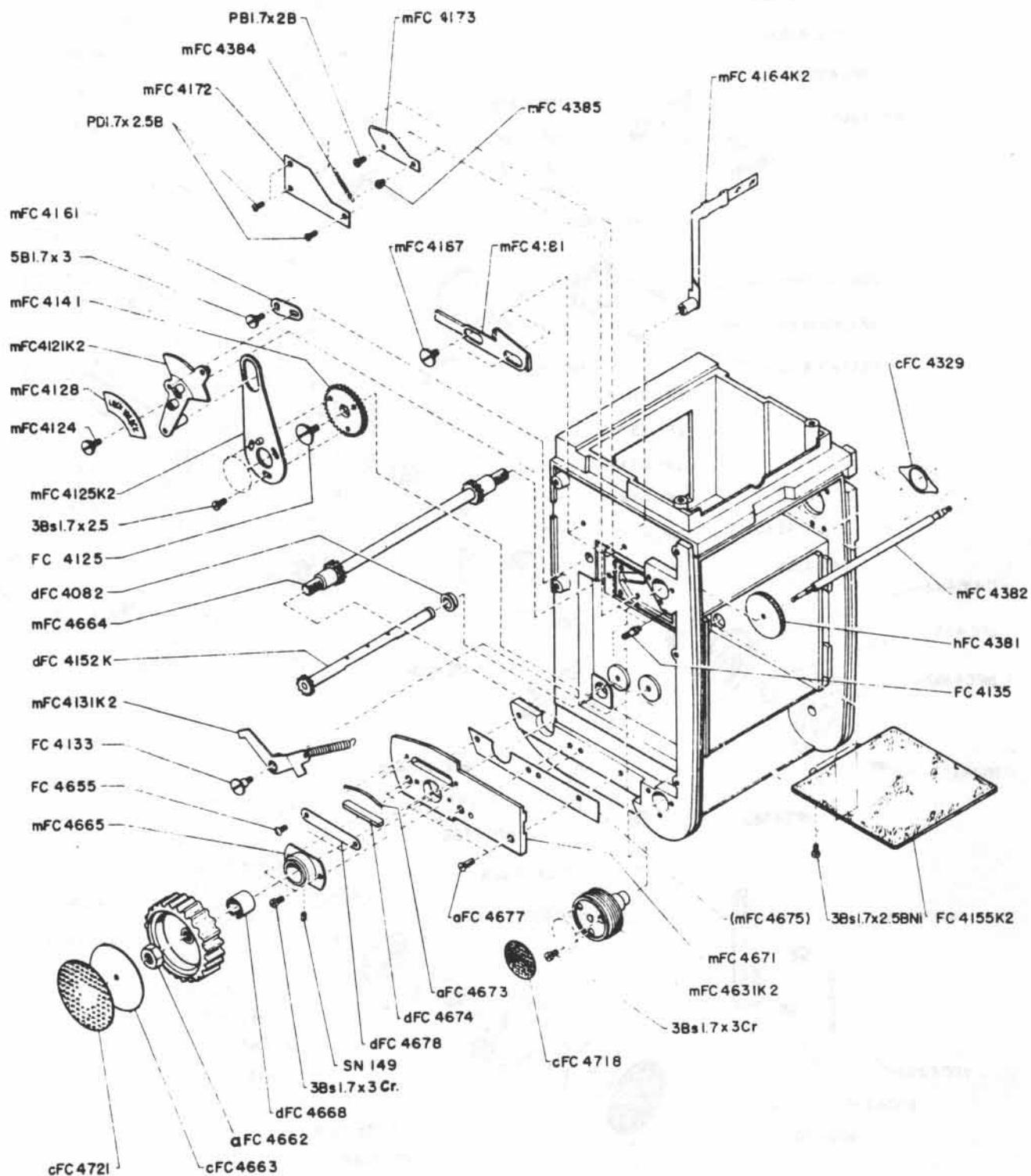


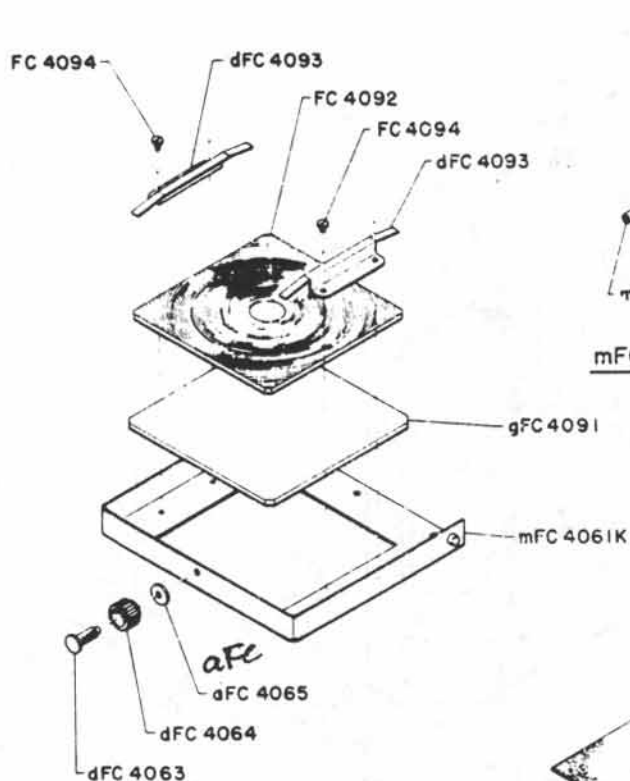
MAMIYA CAMERA CO., LTD.
TOKYO JAPAN



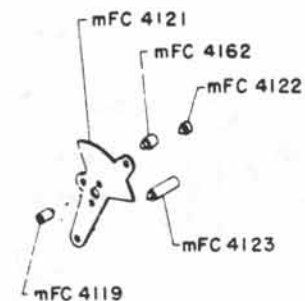




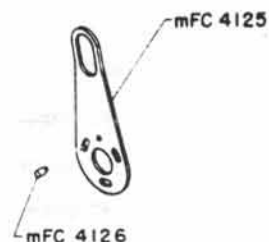




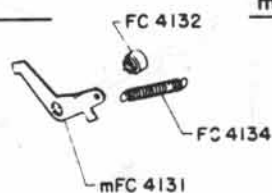
mFC 406IK2



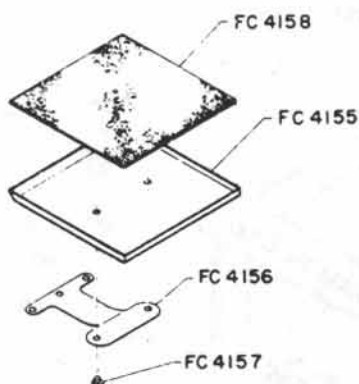
mFC 412IK2



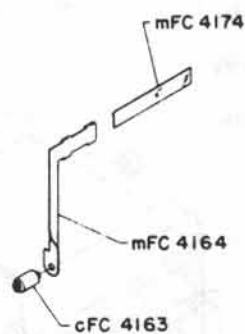
mFC 4125K2



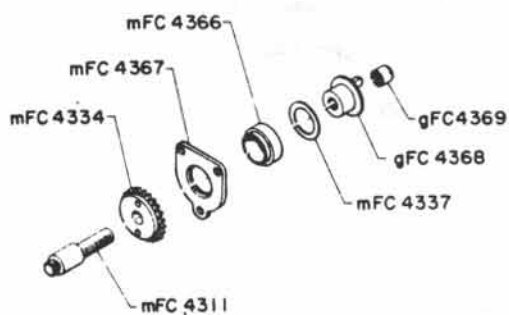
mFC 413IK2



mFC 4155K2



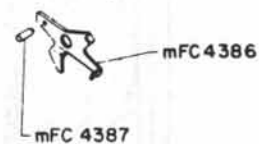
mFC 4164K2



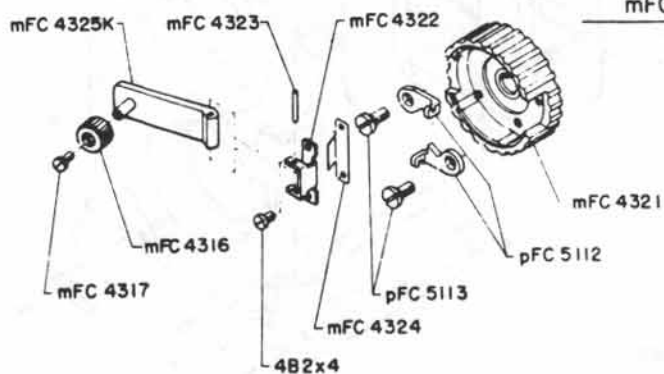
mFC 431IK2



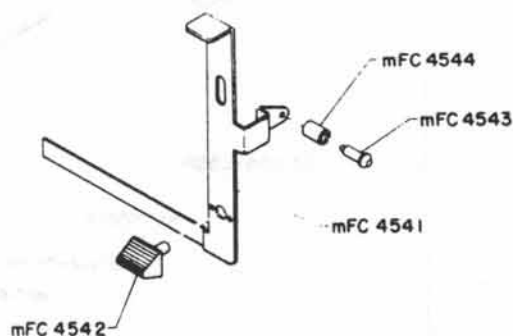
mFC 437IK2



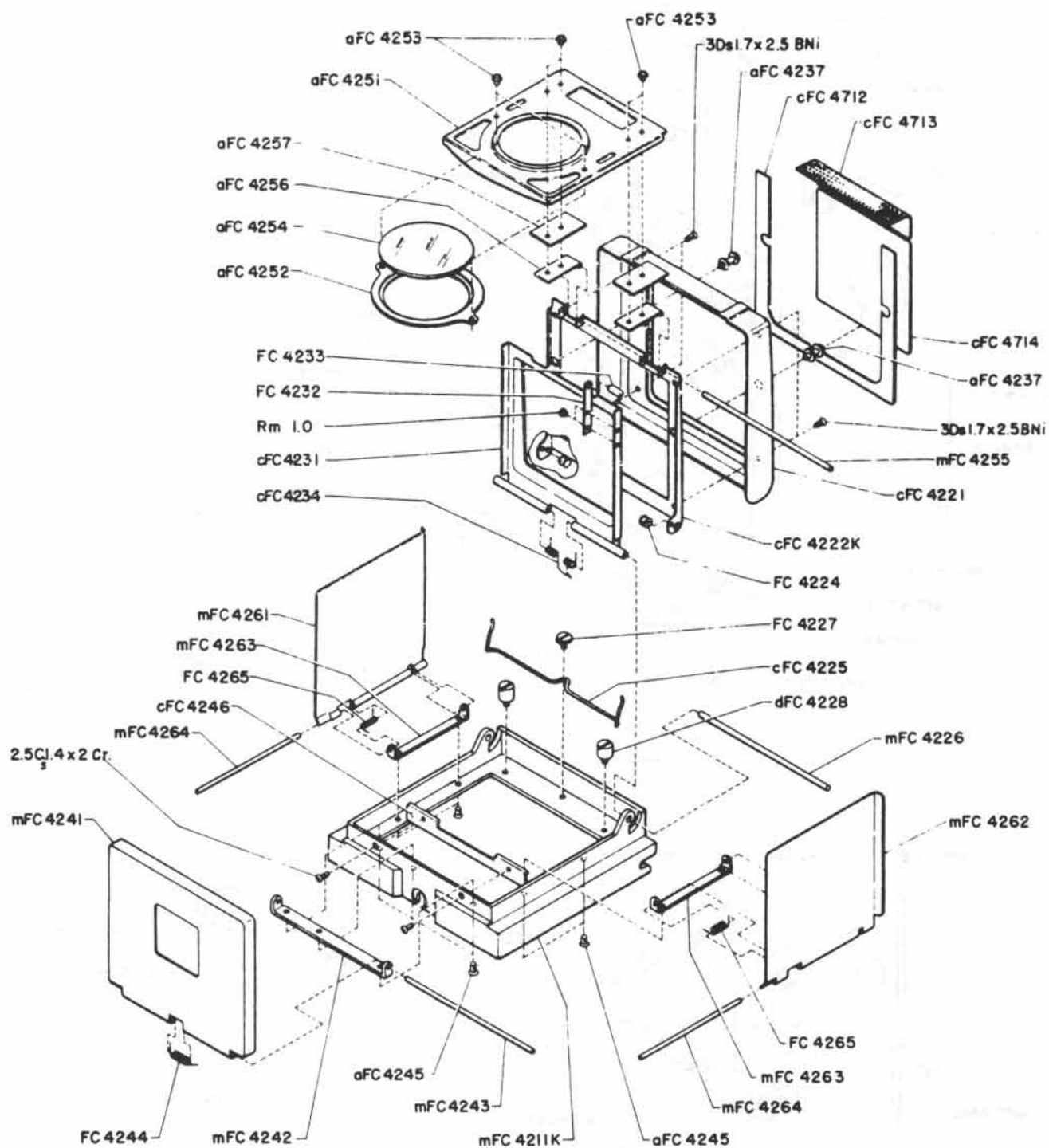
mFC 4386K2



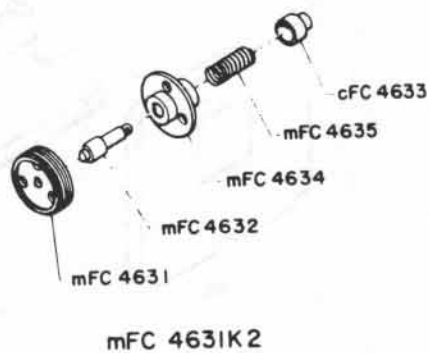
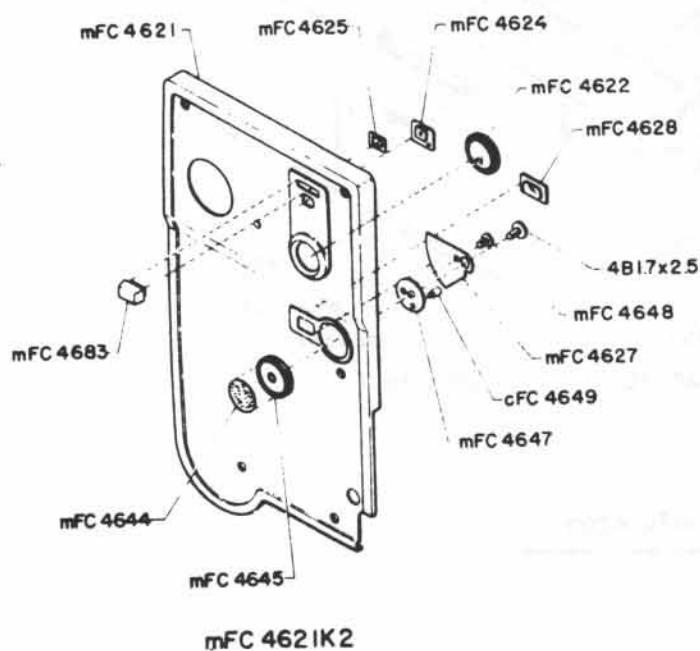
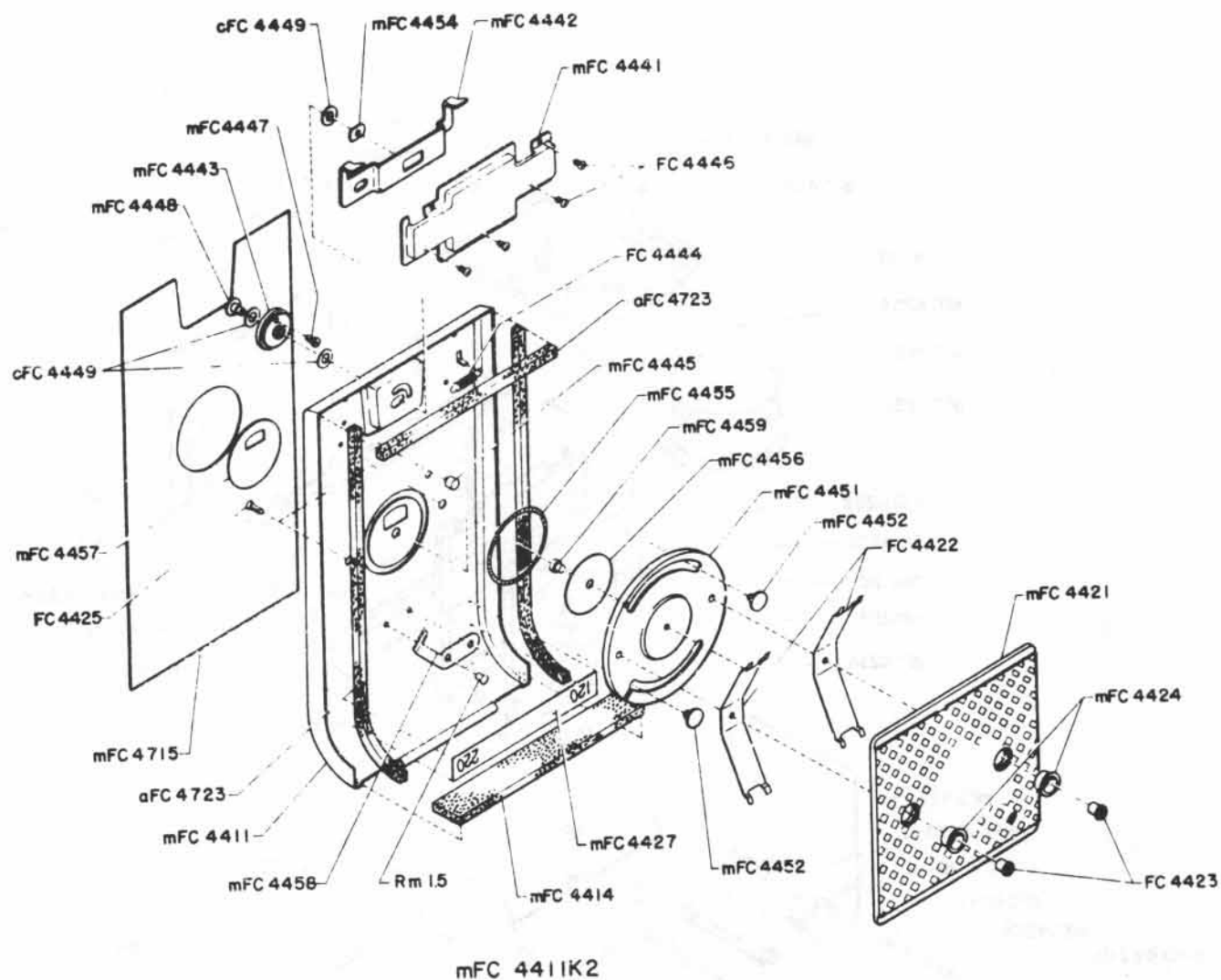
mFC 432IK2



mFC 454IK2



mFC 4200



PARTS LIST

METHOD OF REQUESTING SPARE PARTS FOR REPAIR USE

When ordering spare parts for repair purposes, mark the request in the following manner after referring to our parts lists.

Spare parts are divided as follows:

Not considered usable for repairing x
Can be supplied o
Not available individually but supplied as
subassembled parts x*
Can be supplied either as individual parts or
as subassemblies o*

NOTE:

When ordering spare parts, always type the complete code and numbers in the Parts No. column of the appropriate parts lists.

EXAMPLE:

(Model and nomenclature of camera)

Parts No.	Description	Quantity
mFC 4012	Bottom cover	5
mFC 4125K2	Lever assembly	5
hFC 4381	Friction milled wheel	5
pFC 5116-2-4	Washer	20
3Bs 1.7 x 2.5 BNi	Screw	20
PB 1.7 x 2.5 B	Screw	20

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
mFC 4011		Camera body	1	x	4	
mFC 4012		Bottom cover	1	o		
mFC 4013		Hinge shaft	1	o		
PD2x3BN1		Screw for mFC 4012	6	o	1	
mFC 4019		Film spool holder	1	o	2	
mFC 4021		Tripod socket	1	o	2	
cFC 4022		Leatherette for Tripod socket	1	o	1	
mFC 4023		Right strap loop	1	o	2	
PD2x3.5B		Screw for mFC 4023 & 4025	4	o	2	
mFC 4025		Left strap loop	1	o	2	
mFC 4026		Name plate	1	o	1	
PD2x5B		Screw for mFC 4021	4	o	2	
FC 4031		Film roller	2	o	2	
FC 4033		Bracket for film roller	2	o	2	
<u>hFC 4034K</u>		T-spring assy.	1	o	2	
hFC 4034		T-spring	1	x*		
hFC 4035		T-spring roller	1	x*		
3Ds 1.7x3.5BN1		Screw for FC 4032 & 4033	4	o	2	
aFC 4042		Catch plate	1	o	2	
hFC 4043		Screw	2	o	2	

Parts No.	Common Parts No.	Description	Pcs.	Term of Ref. sale page	Remarks
FC 4027	mFC 4044	Nut	2	o 2	
FC 4047		Screw	3	o 2	
FC 4048		Leaf spring	1	o 2	
FC 4051		Mirror	1	o 2	
aFC 4052		Bracket for mirror	1	o 2	
aFC 4053		Spring for clamp mirror	1	o 2	
4B 1.7x2 BNi		Screw for aFC 4053	1	o 2	
3Bs 1.7x3 BNi		Screw for aFC 4052	2	o 2	
PB 1.7x2.5B		Screw for aFC 4052	1	o 2	
<u>mFC 4061K2</u>		Frame, focusing screen	1	o 2.6	
- mFC 4061 K		Frame, focusing screen	1	o 6	
- FC 4062		Pin	2	x	
- dFC 4063		Screw	1	o 6	
- dFC 4064		Nut	1	o 6	
- aFC 4065		Washer	1	o 6	
aFC 4066		Screw	5	o 2	
mFC 4081		Name plate	1	o 2	
mFC 4082		Bracket	1	o 2	
PD 1.7x3 BNi		Screw for mFC 4082	3	o 2	
FC 4067	0.1 0.2 0.5	Washer	0 to 2	o 2	
4W2x0.1		Washer	0 to 2	o 2	
4W2x0.2		Washer	0 to 2	o 2	
4W2x0.5		Washer	0 to 2	o	
- gFC 4091		Ground glass	1	o* 6	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
- FC 4092		Fresnel lens	1	o*	6	
- dFC 4093		Ground glass spring plate	2	o*	6	
- FC 4094		Screw	4	o*	6	
mFC 4116		Knob	1	o	1	
mFC 4117		Disk	1	o	1	
- mFC 4119		Boss	2	o*	6	
4B 1.7x2		Screw for mFC 4116	2	o	1	
<u>mFC 4121K2</u>		Lock lever assy.	1	o	4.6	
- mFC 4121		Lock lever	1	o*	6	
- mFC 4122		Lock pin	1	o*	6	
- mFC 4123		Pin	1	o*	6	
- mFC 4162		Pin	1	o*	6	
mFC 4124		Shoulder screw	1	o	4	
<u>mFC 4125K2</u>		Lever assy.	1	o	4.6	
- mFC 4125		Lever	1	o*	6	
- mFC 4126		Pin	1	o*	6	
3Bs 1.7x2.5		Screw for mFC 4125K2	3	o	4	
mFC 4128		Label, "lock, unlock"	1	o	4	
mFC 4129		Window glass	1	o	1	
<u>mFC 4131K2</u>		Control lever, lock and unlock assembly	1	o	4.6	
- mFC 4131		Control lever	1	o*	6	
- FC 4132		Hub	1	o*	6	
FC 4133		Shoulder screw	1	o	4	
- FC 4134		Spring	1	o*	6	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
FC 4135		Shoulder screw, anchor	1	o	4	
mFC 4141		Idle gear	1	o	4	
FC 4125	mFC 4142	Shoulder screw	1	o	4	
FC 4151		Gear	1	X		
<u>dFC 4152K</u>		Gear shaft assy.	1	o	4	
dFC 4082	mFC 4153	Sleeve bearing	2	o	3&4	
dFC 4154		Safety collar	1	o	3	
<u>FC 4155K2</u>		Light-tight flap assy.	1	o	4.6	
FC 4155		Light-tight flap	1	o*	6	
FC 4156		Spring arm	1	o*	6	
FC 4157		Rivet	2	o*	6	
FC 4158		Velveteen	1	o*	6	
4B 1.7x2.5		Screw for dFC 4154	1	o	3	
3Bs 1.7x2.5BN1		Screw for FC 4155K2	3	o	4	
mFC 4161		Idle lever	1	o	4	
(mFC 4162)		Pin	1	o*	6	mFC 4121K2
cFC 4163		Hub	1	o*	6	
<u>mFC 4164K2</u>		Red warning signal	1	o	4.6	
mFC 4164		Signal arm	1	o*	6	
mFC 4174		Red signal	1	o*	6	
5B 1.7x3		Screw for mFC 4164K2	1	o	4	
mFC 4172		Hollow cover	1	o	4	
mFC 4173		Guid plate	1	o	4	
(mFC 4174)		Red signal	1	o*	6	mFC 4164K2
PD 1.7x2.5B		Screw for mFC 4172	3	o	4	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
PB 1.7x2B		Screw for mFC 4173	1	o	4	
mFC 4181		unlock lever	1	o	4	
mFC 4187		Shoulder screw	2	o	4	
gFC 4191		Pawl	1	o	3	
dFC 4086	mFC 4192	Shoulder screw	1	o	3	
gFC 4194		Spring for pawl complete	1	o	3	
<u>mFC 4200</u>		Focusing hood	1	o	1. 7	
<u>mFC 4211K</u>		Frame assy.	1	o*	7	
-mFC 4211		Frame	1	x*		
-mFC 4212		Bearing	2	x*		
-cFC 4221		Finder frame	1	o*	7	
<u>cFC 4222K</u>		Finder frame assy.	1	o*	7	
-cFC 4222		Finder frame	1	x*		
-FC 4223		Bearing	2	x*		
-FC 4224		Spring anchor	2	o*	7	
-cFC 4225		Spring	1	o*	7	
-mFC 4226		Shaft	1	o*	7	
-FC 4227		Shoulder screw	1	o*	7	
-dFC 4228		Screw	2	o*	7	
-3Ds 1.7x2.5BNi		Screw for cFC 4221	4	o*	7	
-cFC 4231		Finder flap	1	o*	7	
-FC 4232		Arm plate	1	o*	7	
-FC 4233		Pin	1	o*	7	
-cFC 4234		Spring	1	o*	7	
-aFC 4237		Pin	2	o*	7	
-Rm 1.0		Rivet for FC 4232	2	o*	7	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
- mFC 4241		Rear plate	1	o*	7	
- mFC 4242		Bracket	1	o*	7	
- mFC 4243		Shaft	1	o*	7	
- FC 4244		Spring	1	o*	7	
- aFC 4245		Screw	7	o*	7	
- cFC 4246		Stopper plate	1	o*	7	
- 2.5Csl.4x2Cr		Screw for cFC 4246	2	o*	7	
- aFC 4251		Plate	1	o*	7	
- aFC 4252		Retainer	1	o*	7	
- aFC 4253		Rivet	6	o*	7	
- aFC 4254		Magnifying glass	1	o*	7	
- mFC 4255		Shaft	1	o*	7	
- aFC 4256		Spring plate	2	o*	7	
- aFC 4257		Plate	2	o*	7	
- mFC 4261		Right plate	1	o*	7	
- mFC 4262		Left plate	1	o*	7	
- mFC 4263		Bracket	2	o*	7	
- mFC 4264		Shaft	2	o*	7	
- FC 4265		Spring	2	o*	7	
- <u>mFC 4311K2</u>		Film winding gear assy.	1	o	3.6	
- mFC 4311		Winding shaft	1	o*	6	
- mFC 4334		Winding gear	1	o*	6	
- mFC 4337		Washer	0 to 1	o*	6	
- mFC 4366		Bearing	1	o*	6	
- mFC 4367		Plate	1	o*	6	

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Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
-gFC 4368		Coupler for spool	1	o*	6	
-gFC 4369		Nut	1	o*	6	
-pFC 5112	mFC 4312	Ratchet pawl	2	o*	6	
-pFC 5113	mFC 4313	Shoulder screw	2	o*	6	
-pFC 5111	mFC 4314	Ratchet wheel	1	o	1	
-pFC 5115	mFC 4315	Spring	1	o	1	
-mFC 4316		Knob	1	o*	6	
-mFC 4317		Shoulder screw	1	o*	6	
-dWP 1794	mFC 4318	Shoulder screw	1	o	3	
-mFC 4319		Knob cover	1	o	1	
-3Ds2x3Cr		Screw for mFC 4319	1	o	1	
-mFC 4321K2		Film winding knob assy.	1	o	1.6	
-mFC 4321		Film winding knob	1	o*	6	
-mFC 4322		Bracket	1	o*	6	
-mFC 4323		Shaft	1	o*	6	
-mFC 4324		Spring	1	o*	6	
-mFC 4325K		Winding lever assy.	1	o*	6	
-mFC 4325		Winding lever	1	x*		
-mFC 4326		Boss	1	x*		
-mFC 4327		Idle gear	1	o	3	
-mFC 4328		Shoulder screw	1	o	3	
-cFC 4329		Pointer	1	o	4	
-4B2x4		Screw for mFC 4322	2	o*	6	
-gFC 4331		Pawl	1	o	3	
-mFC 4332		Shoulder screw	1	o	3	
-mFC 4333		Spring	1	o	3	

Partz No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
(mFC 4334)		Winding gear	1	o*	6	mFC 4311K2
pFC 5116-1	mFC 4335	Washer	1	o	1	
pFC 5116-2-4	mFC 4335	Washer	0 to 3	o		
(mFC 4337)		Washer	0 to 2	o*	6	mFC 4311K2
cFC 4351		Shoulder screw	1	o	3	
mFC 4352		Counter	1	o	3	
mFC 4353		Counter base	1	x*		
<u>mFC 4354K2</u>		Dividing disk assy.	1	o	3	
hFC 4354		Dividing disk	1	x*		
hFC 4355		Auxiliary dividing disk	1	x*		
cFC 4356		Pin	1	x*		
cFC 4357		Pin	1	x*		
hFC 4358		Spring	1	x*		
mFC 4359		Spring	1	o	3	
FC 4379		Screw	3	x*		
mFC 4361		Lever, counter reset	1	o	3	
mFC 4362		Shoulder screw	1	o	3	
cFC 4363		Flanged screw, anchor	1	o	3	
mFC 4364		Spring	1	o	3	
mFC 4365		Stopper	1	o	3	
(mFC 4366)		Bearing	1	o*	6	mFC 4311K2
(mFC 4367)		Plate	1	o*	6	mFC 4311K2
(gFC 4368)		Coupler for spool	1	o*	6	mFC 4311K2
(gFC 4369)		Nut	1	o*	6	mFC 4311K2
3Bs 1.7x3BN1		Screw for mFC 4311K2	2	o	3	

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Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
<u>mFC 4371K2</u>		Lever, counter reset assy.	1	o	3.6	
-mFC 4371		Lever, counter reset	1	o*	6	
mFC 4372		Gear	1	o	3	
-mFC 4373		Hub	1	o*	6	
PD 1.7x3		Screw for mFC 4311K2	1	o	3	
-mFC 4375		Boss	1	o*	6	
cFC 4376		Flanged screw	1	o	3	
2.5Bx1.4x2.5		Screw for mFC 4352	3	o	3	
cFC 4378		Spring	1	o	3	
(cFC 4379)		Screw	3	x*		mFC 4354K2
PB1.7x2.5B		Screw for mFC 4365	2	o	3	
hFC 4381		Friction milled wheel	1	o	4	
mFC 4382		Shaft, friction wheel	1	o	4	
hFC 4383		Gear	1	o	3	
mFC 4384		Spring	1	o	4	
mFC 4385		Flanged screw, anchor	1	o	4	
<u>mFC 4386K2</u>		Wind stop lever assy.	1	o	3.6	
-mFC 4386		Wind stop lever	1	o*	6	
-mFC 4387		Pin	1	o*	6	
cFC 4344	mFC 4388	Shoulder screw	1	o	3	
cFC 4389		Spring	1	o	3	
mFC 4391		Slider bar	1	o	3	
cFC 4393		Spring	1	o	3	
mFC 4394		Shoulder screw	1	o	3	
dFC 4395		Shoulder screw	1	o	3	
mFC 4396		Latch	1	o	3	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
mFC 4397		Shoulder screw	1	o	3	
cFC 4398		Spring	1	o	3	
mFC 4411K2		Back cover assy.	1	o	1.8	
-mFC 4411		Back cover	1	o*	3	
-mFC 4414		Light tight strip	1	o*	8	
-mFC 4421		Film pressure plate	1	o*	8	
-FC 4422		Leaf spring	2	o*	8	
-FC 4423		Nut	2	o*	8	
-mFC 4424		Boss	2	o*	8	
-FC 4425		Screw	2	o*	8	
-mFC 4427		Label, 120,220	1	o*	8	
-mFC 4441		Latch cover	1	o*	8	
-mFC 4442		Latch	1	o*	8	
-mFC 4443		Knob	1	o*	8	
FC 4444		Spring	1	o*	8	
mFC 4445		Anchor	1	o*	8	
FC 4446		Screw	4	o*	8	
-mFC 4447		Pin	1	o*	8	
-mFC 4448		Hub	1	o*	8	
-cFC 4449		Spring	0 to 1	o*	8	
-mFC 4451		Base plate	1	o*	8	
-mFC 4452		Shoulder rivet	2	o*	8	
-mFC 4454		Collar	1	o*	8	
-mFC 4455		Light tight strip	1	o*	8	
-mFC 4456		Disk, 120,220	1	o*	8	
-mFC 4457		Disk window	1	o*	8	

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Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
mFC 4458		Click	1	o*	8	
Rm 1.5		Rivet for mFC 4458	2	o*	8	
mFC 4459		Hub	1	o*	8	
mFC 4715		Leatherette	1	o*	8	
aFC 4723		Light tight strip	3	o*	8	
mFC 4511		Front panel	1	x	5	
mFC 4512		Plate, bottom cover	1	o	5	
2.5Dsl.7x2BNi		Screw for mFC 4512	3	o	5	
mFC 4514		Front cover	1	o	5	
3Csl.7x2Cr		Screw for mFC 4514	2	o	5	
mFC 4516		Bracket	1	o	5	
mFC 4517		Cable release socket	1	o	5	
mFC 4518		Nut	1	o	5	
2.5Bsl.7x3 Cr		Screw for mFC 4516	2	o	5	
mFC 4521K		Safety lever, lens catch	1	o	5	
mFC 4521		Safety lever	1	x*		
FC 4522		Anchor screw	1	x*		
aFC 4523		Shoulder screw	1	o	5	
FC 4524		Spring	1	o	5	
mFC 4531		Wire spring, lens catch	1	o	5	
cFC 4532		knob	1	o	5	
aFC 4533		Clamp	2	o	5	
aFC 4535		Screw	4	o	5	
cFC 4536 - 1		Washer	3	o	5	
mFC 4541K2		Slide assy.	1	o	5.6	
mFC 4541		Slide	1	o*	6	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
mFC 4542		Button	1	o°	6	
mFC 4543		Shaft-rivet	1	o°	6	
mFC 4544		Collar	1	o°	6	
cFC 4546		Screw	1	o	5	
cFC 4547		Screw	1	o	5	
cFC 4548		Spring	1	o	5	
cFC 4549		Shoulder screw anchor	1	o	5	
mFC 4551		Frame	1	o	5	
3Ds2x4Cr		Screw for mFC 4551	4	o	5	
<u>mFC 4561K</u>		Large bellows assy.	1	o	5	
mFC 4561		Large bellows	1	x°		
aFC 4562		Front frame	1	x°		
mFC 4563		Rear frame	1	x°		
<u>aFC 4564K</u>		Small bellows assy.	1	o	5	
aFC 4564		Small bellows	1	x°		
aFC 4565		Front frame	1	x°		
aFC 4566		Rear frame	1	x°		
aFC 4567		Screw	10	o	5	
2.5Ds1.4x2.5BNi		Screw for aFC 4564K	4	o	5	
2.5Bs1.4x2.5BNi		Screw for mFC 4561K	6	o	5	
mFC 4611		Right panel	1	o	1	
mFC 4617		Distance scale plate (ft)	1	o	1	
mFC 4617		Distance scale plate (m)	(1)	o	(1)	
PD 2x3B		Screw for mFC 4611 & 4621K2	10	o	1	
PD2x5B		Screw for mFC 4611 & 4621K2	2	o	1	

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Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
<u>mFC 4621K2</u>		Left panel assy.	1	o	1.8	
-mFC 4621		Left panel	1	o*	8	
-mFC 4622		Window for counter	1	o*	8	
-mFC 4624		Window for 120,220 film	1	o*	8	
-mFC 4625		Clamp	1	o*	8	
-mFC 4627		Plate	1	o*	8	
-mFC 4628		Window for 4627	1	o*	8	
-mFC 4644		Disk	1	o*	8	
-mFC 4645		Knob	1	o*	8	
-mFC 4647		Disk	1	o*	8	
-mFC 4648		Screw	1	o*	8	
-4B 1.7x2.5		Screw for mFC 4647	1	o*	8	
-cFC 4649		Pin for 4647	1	o*	8	
-mFC 4683		Button	1	o*	8	
<u>mFC 4631K2</u>		Knob assy.	2	o	4.8	
-mFC 4631		Knob	2	o*	8	
-mFC 4632		Shaft	2	x*	8	
-cFC 4633		Core for spool holder	2	o*	8	
-mFC 4634		Flange	2	o*	8	
-mFC 4635		Spring	2	o*	8	
2.5Cs 1.4x1.5 Cr		Screw for mFC 4617	2	o	1	
3Bs 1.7x3Cr		Screw	6	o	4	
mFC 4651		Right rack plate	1	o	5	
mFC 4652		Left rack plate	1	o	5	
aFC 4653		Stopper	2	o	5	
mFC 4654		Exposure factor scale	1	o	5	
FC 4655		Screw	2	o	5	
FC 4656		Screw	3	o	5	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
mFC 4657		Strip for rack plate	0 to 1	o	5	
mFC 4658		Distance scale plate (curve-line)	1	o	5	
3D 2x4Cr		Screw for mFC 4651 & 4652	8	o	5	
25Cs 1.4x2.5Cr		Screw for mFC 4654	1	o	5	
mFC 4661		Focusing knob	2	o	3	
aFC 4662		Nut	2	o	3.4	
cFC 4663		Disk	2	o	3.4	
mFC 4664		Pinion shaft	1	o	4	
mFC 4665		Pinion shaft bearing	2	o	3.4	
dFC 4668		Synthetic tube	2	o	3.4	
3Bs 1.7x3Cr		Screw for mFC 4665	4	o	3.4	
SN 149	hFC 4669	Screw	2	o	3.4	
mFC 4671		Guide plate for 4651	1	o	4	
mFC 4672		Guide plate for 4652	1	o	3	
aFC 4673		Brake spring	2	o	3.4	
dFC 4674		Brake bar	2	o	3.4	
mFC 4675		Strip for 4671, 4672	0 to 1	o	3.4	
aFC 4677		Screw	6	o	3.4	
dFC 4678		Hole cover	2	o	3.4	
FC 4655	aFC 4679	Screw	4	o	3.4	
mFC 4681		plate "220 120"	1	o	3	
mFC 4682K2		Slider assy.	1	o	3.8	
mFC 4682		Slider	1	o*	8	
(mFC 4683)		Button	1	o*	8	mFC4621K2
mFC 4684		Shoulder screw	1	o	3	

Parts No.	Common Parts No.	Description	Pcs.	Term of sale	Ref. page	Remarks
mFC 4685		Lever	1	o	3	
mFC 4686		Shoulder screw	1	o	3	
mFC 4687		Pin	1	o*	8	
mFC 4688		Click	1	o	3	
mFC 4689		Shoulder screw	1	o	3	
cFC 4712		Leatherette for hood	1	o	7	
cFC 4713		Leatherette for hood end	1	o	7	
cFC 4714		Leatherette for flap	1	o	7	
(mFC 4715)		Leatherette for back cover	1	o*	8	mFC 4411K2
mFC 4716		Leatherette for right panel	1	o	1	
mFC 4717		Leatherette for left panel	1	o	1	
cFC 4718		Leatherette for knob	2	o	4	
cFC 4721		Leatherette for focusing knob	2	o	3.4	
(aFC 4723)		Light tight strip	3	o*	8	mFC 4411K2
aFC 4724		Light tight strip	1	o	5	