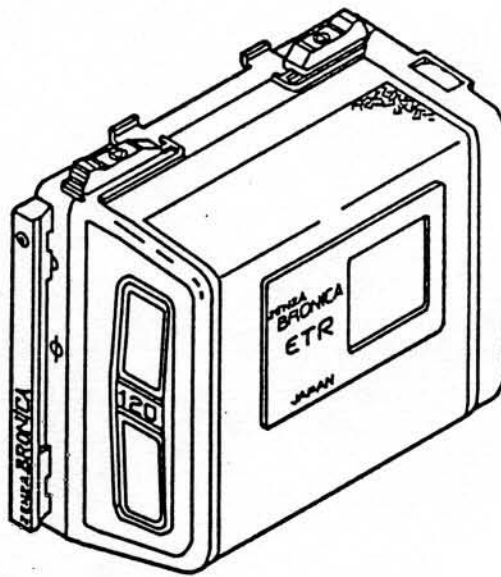


# ETR Si

FILM BACK-EI

## REPAIR MANUAL

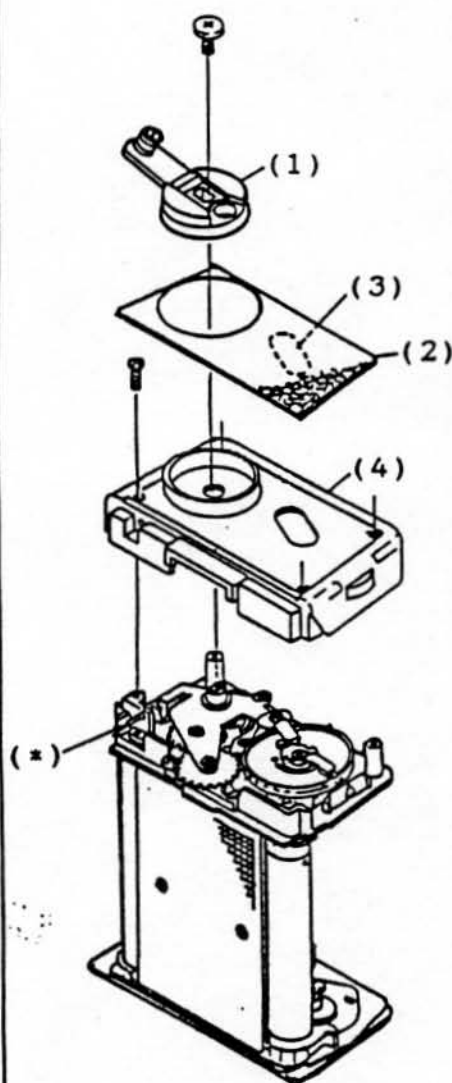


BRONICA CO., LTD.

Back Repair

|  |      |
|--|------|
| M. right side cover removal  | P- 1 |
| Counter and winding base<br>plate removal  | P- 2 |
| Lever and counter gear (B),<br>(C) removal   | P- 3 |
| Right light tight frame and<br>counter roller (A), (B) and<br>back winding gear (C)<br>removal | P- 4 |
| M. left side cover and<br>spool holder lock removal  | P- 5 |
| Winding will not stop or<br>release after winding stop<br>(overlapping frames)                 | P- 7 |
| The film will not advance<br>to the 15th frame   | P- 8 |
| The rear cover will not<br>close<br>The rear cover will not<br>open                            | P- 9 |
| Light leaks  | P-10 |

[Figure 1]



## Explanation

M. right side cover removal

1. Remove the winding crank (1).

Screw: special panhead M1.7x3.5-B  
(95023562) (left-hand threads)  
x 1 screw

2. Peel off the leatherette (2) (with M. right side cover plate (3)) and remove the right side cover (4).

Screws: self-tapping panhead type 1  
M1.7x3.5-B (95873357) x 4  
screws

--- [Figure 1].

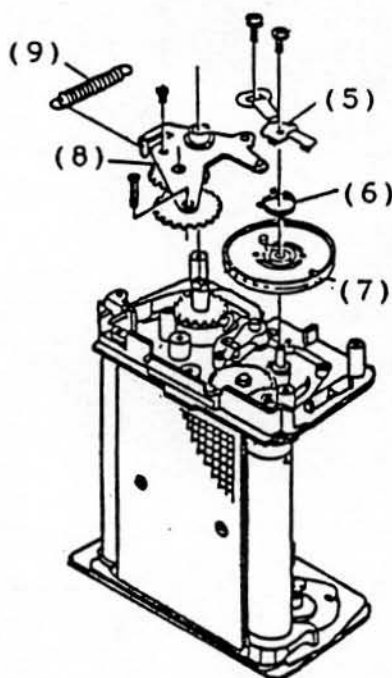
## \* Reassembly notes

- o Check the counter and F window for dirt before reassembling.
- o When positioning the M. right side cover, be careful concerning the end of the F. release lever indicated with an asterisk (\*).

Sketch

Explanation

[Figure 2]

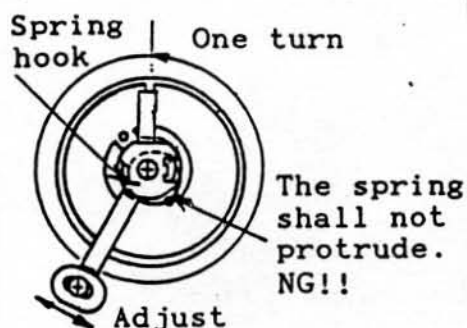


Counter and winding base plate removal

1. Remove the counter stopper (5).  
Screws: special panhead M1.7x2.5-B (0116230) x 2 screws
2. Remove counter gear SP (6) and the 120 or 220 dividing plate set (7).
3. Remove the spring (9) and then remove the winding base plate (8).

Screws: self-tapping panhead type 3 M2.0x8.0-B (95885807) x 2 screws  
self-tapping type 1 M2.0x 4.0-B (95875407) x 1 screw  
--- [Figure 2]

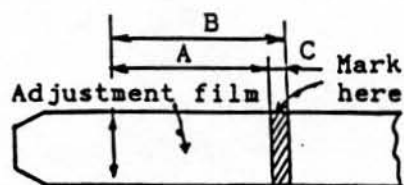
[Figure 3]



\* Reassembly notes

- o Reassembling the counter stopper (5)
  - a. Hook the spring (6) at (5) and lightly tighten the two special panhead screws.
  - b. Rotate (7) one turn counterclockwise and lightly tighten the special panhead screw. (Be careful when installing the spring; otherwise, the counter will not return.)  
--- [Figure 3]
  - c. Load the back with film, mount the back on the camera and adjust the start position with (5).
  - d. Tighten the special panhead screw and lock with Plio-Bond.

[Figure 4]



Start mark S position mark

For 120 A216mm B232mm  
For 220 A226mm B242mm

o Ok if within range C.



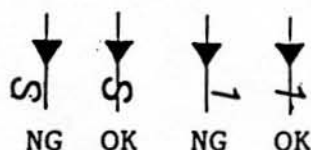
Start position adjustment

- 1) Load the back with film and mount it on a camera with no lens.
- 2) Advance the film to the first frame.

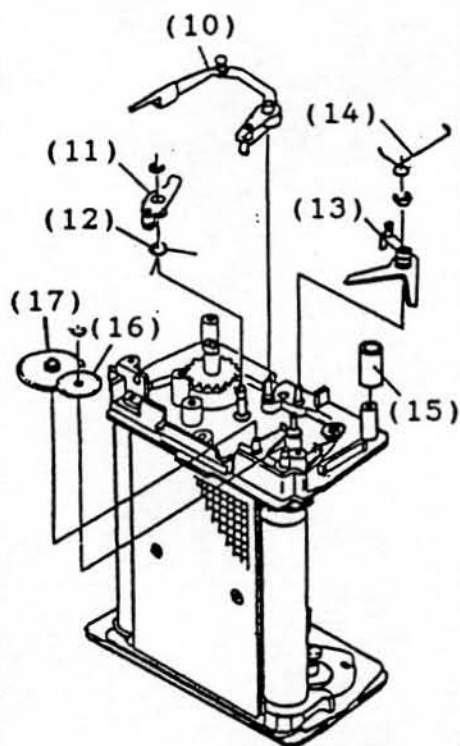
# Sketch

# Explanation

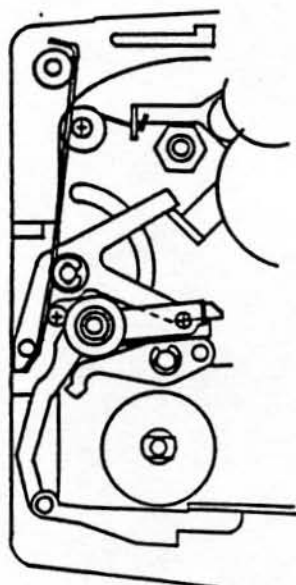
[Figure 5]



[Figure 6]



[Figure 7]



- 3) Align the counter mark ▼ with the center of the numeral "1" and lock with Plio-Bond.
- 4) Press the release button and observe the film S mark from the front of the body. [Figure 4]  
(When the mark is not in the correct position, adjust by shifting the counter slot.) [Figure 3]
- 5) The character "S" shall be at the counter mark ▼ when the rear cover is opened and the counter resets. Also check if the index mark is aligned from frame 1 to 15. [Figure 5]

## Lever and counter gear (B), (C) removal

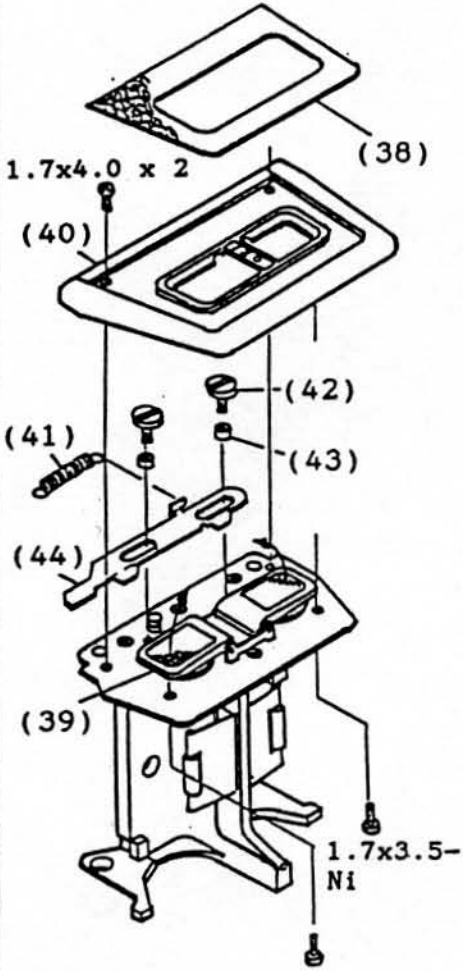
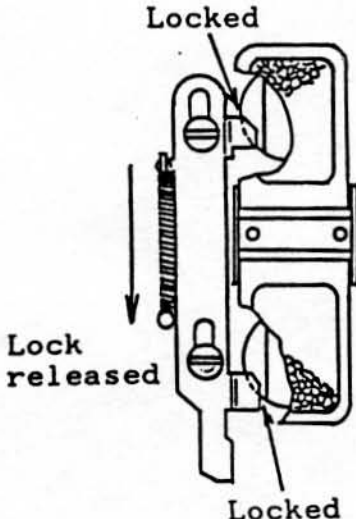
1. Remove the F. release lever (10).
2. Remove the winding stopper claw (11).  
E-ring: E-20 (95501154)  
Remove the winding stopper claw spring (12).
3. Remove the counter release lever (13).  
E-ring: E-17 (95501744)  
Remove the counter release lever SP (14).  
Remove the collar (15).
4. Remove counter gears (B) (16) and (C) (17).  
E-ring: E-10 (95502124) --- [Figure 6]

## \* Reassembly notes

- o When reassembling by reversing the above procedure, be careful concerning the lever positions. --- [Figure 7]

| Sketch                              | Explanation  |
|-------------------------------------|--|
| <p>[Figure 8]</p> <p>[Figure 9]</p> | <p><u>Right light tight frame and counter roller (A), (B) and back winding gear (C) removal</u></p> <ol style="list-style-type: none"> <li>Loosen the counter roller A (18) screws. two panhead type 1 M1.7x3.5-B (95813357)</li> </ol> <p>For 120 film: when the counter roller A axle (19) is removed, the counter gear F (20) (left-hand threads) can be removed.</p> <p>For 220 film: when the counter roller axle (21) is removed, the SP retainer nut (24) (left-hand threads), counter roller SP (23), counter gear A (22) and counter roller A (18) can be removed.</p> <ol style="list-style-type: none"> <li>When the right light tight frame (25) is removed, the following parts can be removed: <ul style="list-style-type: none"> <li>Screws: self-tapping panhead type 1 M1.7x4.0-B (95873407) x 3 screws</li> <li>self-tapping panhead type 1 M1.7x6.0-B (95873607) x 1 screw</li> <li>Counter roller B axle (26)</li> <li>Counter roller B (27)</li> <li>Collar (28) x 2</li> </ul> </li> <li>Remove the back winding gear (C) (29) (left-hand threads). Remove the screw in the spool shaft upper (30) (left-hand threads) and remove the spool claw (31) and 24 Sφ 1.6mm diameter steel balls (32). Remove the winding spool axle holder (33), spring (34), spool clutch axle (35), winding stopper gear (36) and spool claw holder (37).</li> </ol> <p style="text-align: right;">--- [Figure 8]</p> |
| <p>[Figure 9]</p>                   | <p>★ Reassembly notes</p> <ul style="list-style-type: none"> <li>Reassembly only after making sure that the roller axle is not warped.</li> <li>There shall be no loose screws.</li> </ul>   |



| Sketch   | Explanation   |
|--|---|
| <p>[Figure 10]</p>   | <p>o After the back winding gear (C) (29) is reinstalled, the spool claw (31) shall only rotate clockwise when pushed with the fingers.</p> <p style="text-align: right;">--- [Figure 9]</p> <p><u>M. left side cover and spool holder lock removal</u></p> <ol style="list-style-type: none"> <li>1. Peel off the leatherette (38), remove the screws, spread the spool holder (39) by pressing up on the back and remove the M. left side cover (40) [120] or [220].</li> </ol> <p>Screws: panhead type 1 M1.7x4.0-B (95813407) x 2 screws<br/>self-tapping panhead type 1 M1.7x3.5-Ni (95873355) x 1 screw<br/>self-tapping panhead type 1 M1.7x3.5-B (95873357) x 1 screw</p> <ol style="list-style-type: none"> <li>2. Remove the spring (41), remove the two guide screw B (42) and remove the two guide collar B (43) and spool holder lock (44).</li> </ol> <p style="text-align: right;">--- [Figure 10]</p> |
| <p>[Figure 11]</p>  | <p>* Reassembly notes</p> <p>o After reassembling the spool holder lock (44) and sliding it upward, the spool holder (39) should not move upward when pushed from the back. Also, (44) shall return properly.</p> <p style="text-align: right;">--- [Figure 11]</p> <p>o After reassembling the M. left side cover (40) [120] or [220], the spool holder (39) shall be moved only by the force of the flat spring without slipping.</p>   |

| Sketch | Explanation  |
|--------|--|
|        | <p data-bbox="743 153 1495 285">Note: The only difference between the M. left side cover (40) [120] and [220] is the film indicator plate adhered with the Plio-Bond.</p> <div data-bbox="843 333 1016 634"></div> <p data-bbox="1047 499 1502 530">[220] Film indicator plate</p> |

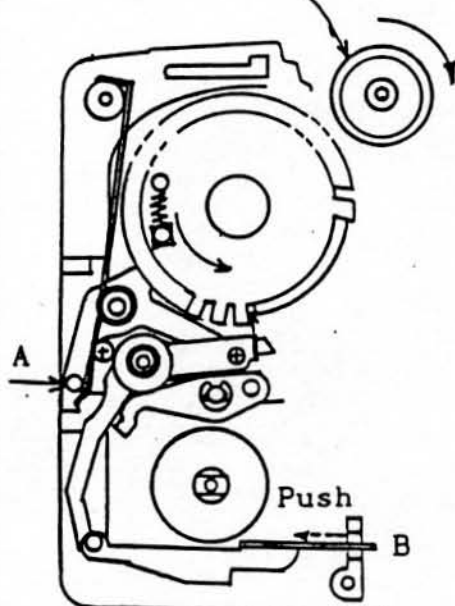


## Sketch

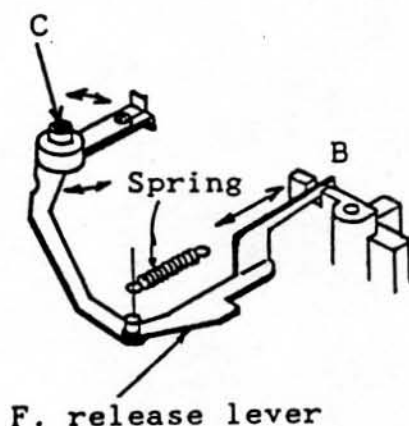
## Explanation

[Figure 12]

Counter roller A



[Figure 13]



F. release lever

Winding will not stop.

Will not release after winding stops (overlapping frames).

Normal: The dividing claw drops into the slit in the dividing plate and stops when the counter roller A is rotated clockwise while pushing A.

The dividing claw drops into the next slit and stops each time B is pushed.

--- [Figure 12]

Does the dividing plate operate properly?

NO

Disengaged spring, dirt, foreign matter.

Yes

Is the dividing claw bent?

NO

Replace the dividing plate and F. release lever.

Yes

Does the F. release lever operate properly?

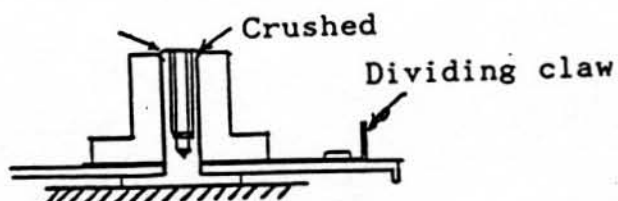
NO

Repair or replace.

- o When the spring is removed, the F. release lever shall return smoothly each time that B is pushed while pushing A in [Figure 12].

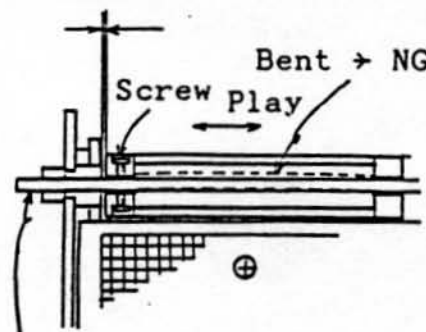
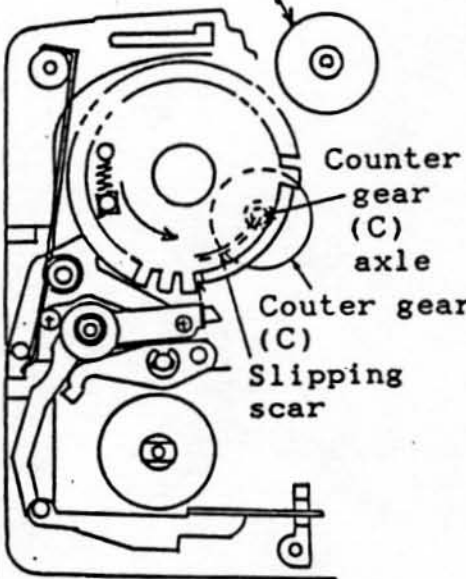
--- [Figure 13]

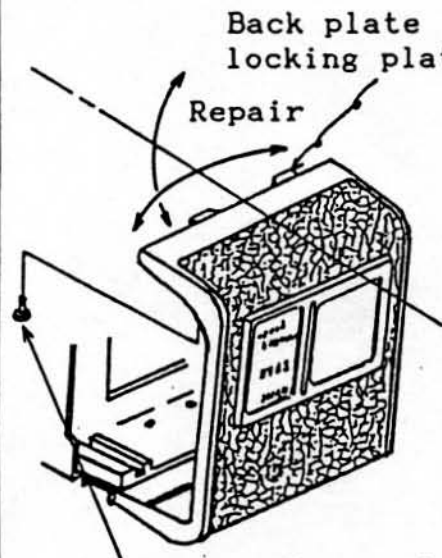
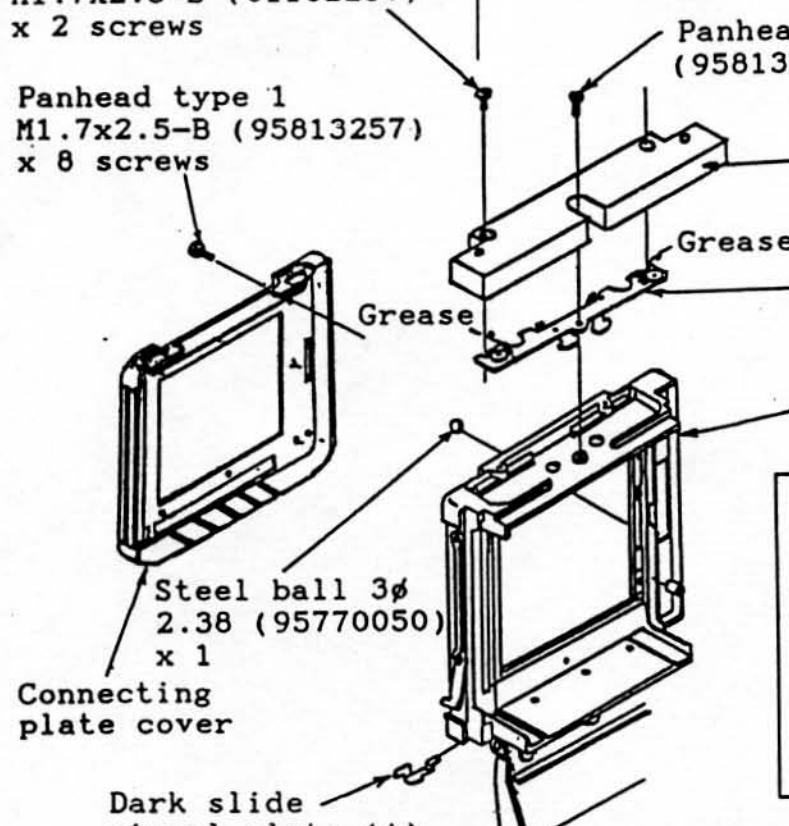
- o Movement becomes bad when the axle in C is crushed.

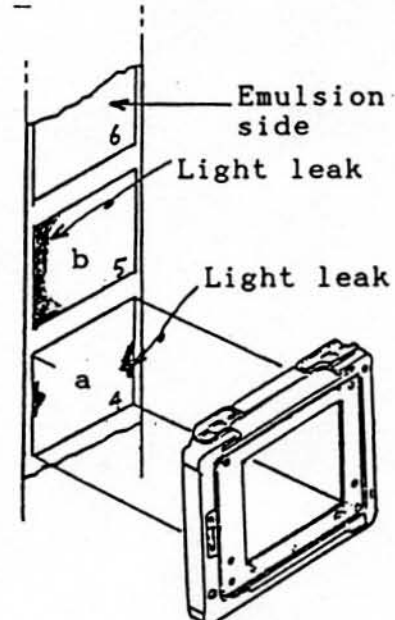
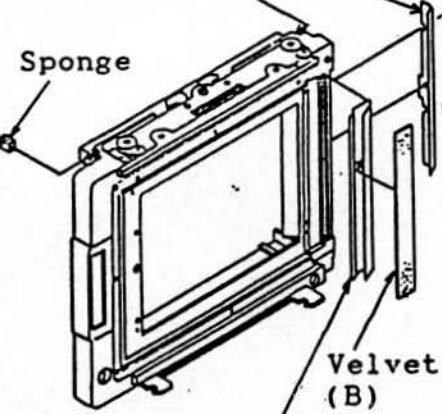
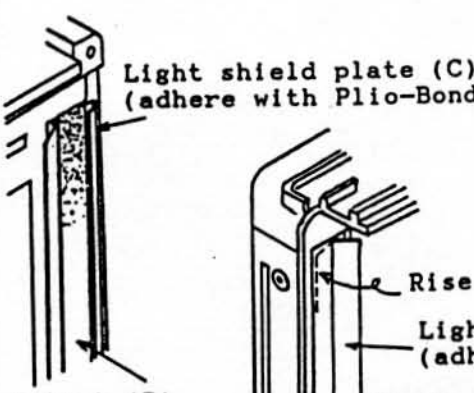
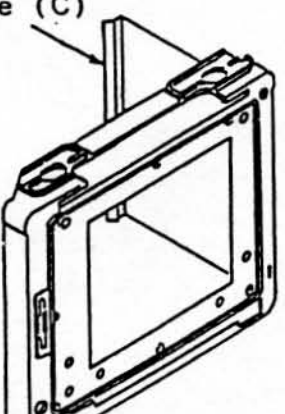


Also make sure that the end of part B of the F. release lever is not bent.



| Sketch   | Explanation  |
|--|--|
| <p>[Figure 14]</p> <p>Adjust the gap to about 0.1mm and tighten the screw.</p>  <p>Roller axle</p>  | <p>The film will not advance to the 15th frame</p> <p>Is the start position accurate? <span style="float: right;">NO → Check and readjust.</span></p> <p style="text-align: center;">↓ Yes</p> <p>Does the axle counter roller rotate smoothly? <span style="float: right;">NO → The roller axle bent and no play in the counter roller.</span></p> <p style="text-align: center;">↓ Yes</p> <p>Is there foreign matter caught in the gear? <span style="float: right;">NO → Clean the gear.</span></p> <p style="text-align: center;">↓ Yes</p> |
| <p>[Figure 15]</p> <p>Counter roller A</p>  <p>Counter gear (C) axle</p> <p>Counter gear (C)</p> <p>Slipping scar</p> <p>Contact here</p> | <p>Is the counter gear (C) axle contacting the back side of the dividing plate? <span style="float: right;">→ File off part of the (C) axle.</span></p> <p style="text-align: right;">[Figure 15]</p>  |

| Sketch   | Explanation  |
|--|--|
| <p>[Figure 16]</p>  <p>Back plate locking plate</p> <p>Repair</p> <p>Panhead type 1<br/>M2.0x3.0-B (95815307)<br/>x 2 screws</p>  | <p>The rear cover will not close.</p> <p>Check if the rear cover touch against the inner frame. <span style="float: right;">NO → Twist the rear cover to correct it.</span></p> <p style="text-align: center;">↓ Yes</p> <p>Check if the rear cover locking plate touch against the connecting plate. <span style="float: right;">NO → Spread the rear cover to correct it. Locking plate screws loosened.</span></p> <p style="text-align: right;">[Figure 16]</p> <p>The rear cover will not open.</p> <p>Check if the rear cover opener lever works smoothly. <span style="float: right;">NO → The rear cover is spread excessively. Locking plate screw loosened.</span></p> <p>Out of grease. (Liqui-Moly LM-83)<br/>Replace the rear cover opener lever.<br/>(Use the locating jig - 02920500AJ)</p> <p style="text-align: right;">[Figure 17]</p> |
| <p>[Figure 17]</p> <p>Special panhead<br/>M1.7x2.5-B (01162230)<br/>x 2 screws</p> <p>Panhead type 1<br/>M1.7x2.5-B (95813257)<br/>x 8 screws</p>  <p>Steel ball 3ø<br/>2.38 (95770050)<br/>x 1</p> <p>Connecting plate cover</p> <p>Dark slide<br/>signal plate (A)</p> | <p>Panhead type 1 M1.7x3.5-B<br/>(95813357) x 1 screw</p> <p>02920500AJ</p> <p>Grease</p> <p>Rear cover opener lever<br/>(coat the two slots<br/>with Liqui-Moly LM-83)</p> <p>Connecting plate</p> <p>Note: When repairing and fitting the rear cover, make sure that there is no gap larger than 0.3mm in the connecting plate cover and rear cover (to prevent light leaks).</p>  |

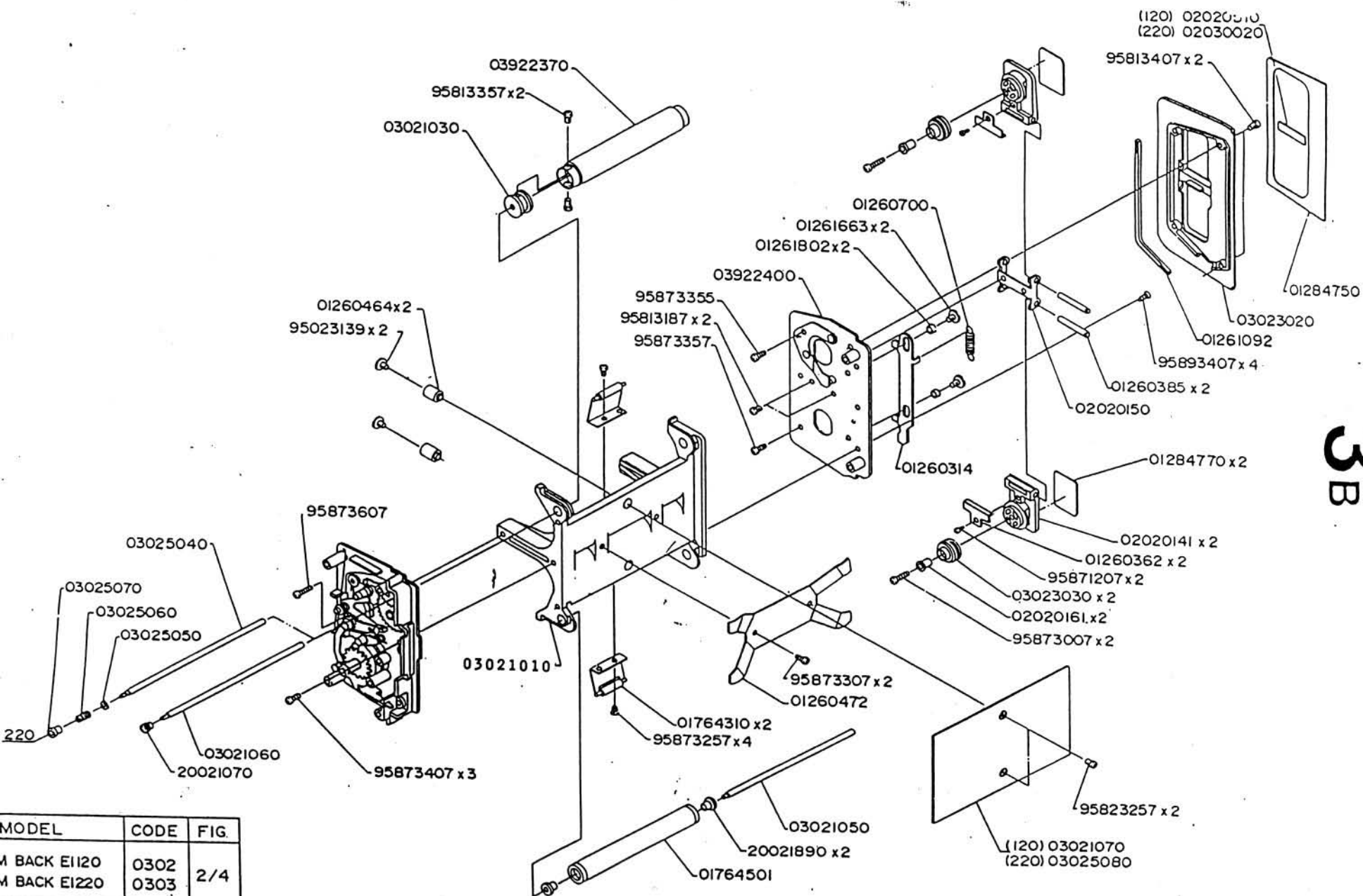
| Sketch   | Explanation   |
|--|---|
| <p>[Figure 18]</p>    | <p><b>Light leaks</b></p> <ul style="list-style-type: none"> <li>o Check where the light is entering.</li> <li>o Align the emulsion side of the film with the surface of the connecting plate cover.</li> </ul> <p>--- [Figure 18]</p> <p><b>Case a</b></p> <p>Is the sponge missing? <span style="float: right;">NO</span></p> <p style="text-align: right;">Replace</p> <p style="text-align: center;">↓ Yes</p> <p>Is there a gap in the rear cover? <span style="float: right;">NO</span></p> <p style="text-align: right;">Refer to page 9.</p> <p><b>Case b</b></p> <p>Are all of the light tight plate correctly adhered? <span style="float: right;">→</span></p> <p style="text-align: right;">Replace or re-adhere.</p> <p style="text-align: right;">[Figure 19]<br/>[Figure 20]</p> |
| <p>[Figure 19]</p>   |  <p>Light shield plate (C)<br/>(adhere with Plio-Bond)</p> <p>Velvet (B)<br/>(adhere)</p> <p>Rise NG!</p> <p>Light shield plate (B)<br/>(adhere with Plio-Bond)</p> <p>There shall be no excess Plio-Bond which can catch on the dark slide.</p> <p>Bend if the angle is too small.</p> <p>[Adhesion diagram]</p>  |
| <p>[Figure 20]</p>  | <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>o When adhering the light tight plate, press and stroke with a bamboo spatula. Adhere firmly without running of excess Plio-Bond. — Dry for 24 hours</li> <li>o Adhere the light tight plate with Plio-Bond, cover it with the dark slide stopper and fasten with screws.</li> </ul> <p>Screws: flat head type 3 M1.4x2.0-B (95841207) x 2 screws</p>   |

**TAMRON**  
225 SCHMITT BLVD  
FARMINGDALE, NY  
(516) 694-8700



| MODEL         | CODE | FIG. |
|---------------|------|------|
| .M BACK EI120 | 0302 | 1/4  |
| .M BACK EI220 | 0303 |      |



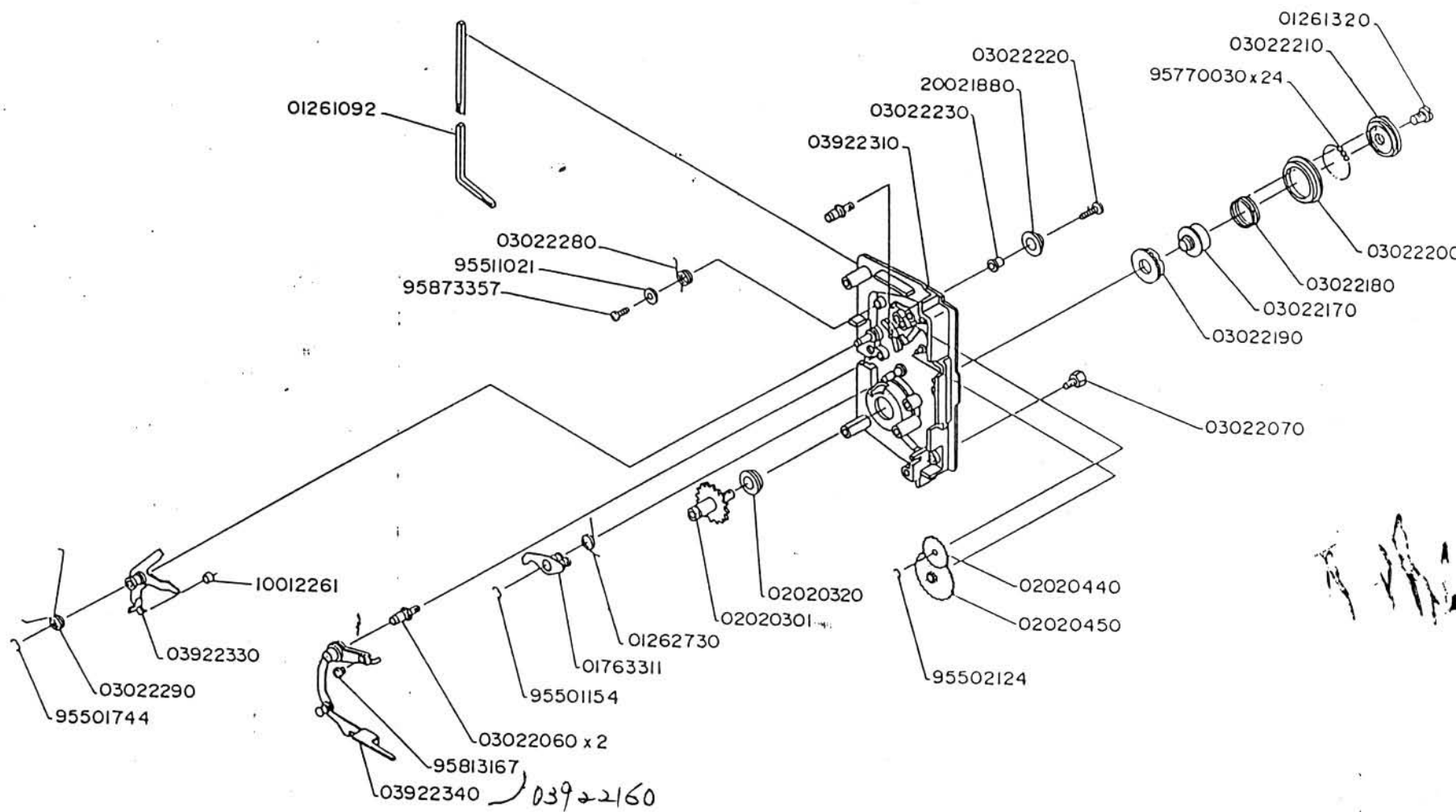


3B

| MODEL        | CODE | FIG. |
|--------------|------|------|
| M BACK EI120 | 0302 | 2/4  |
| M BACK EI220 | 0303 |      |

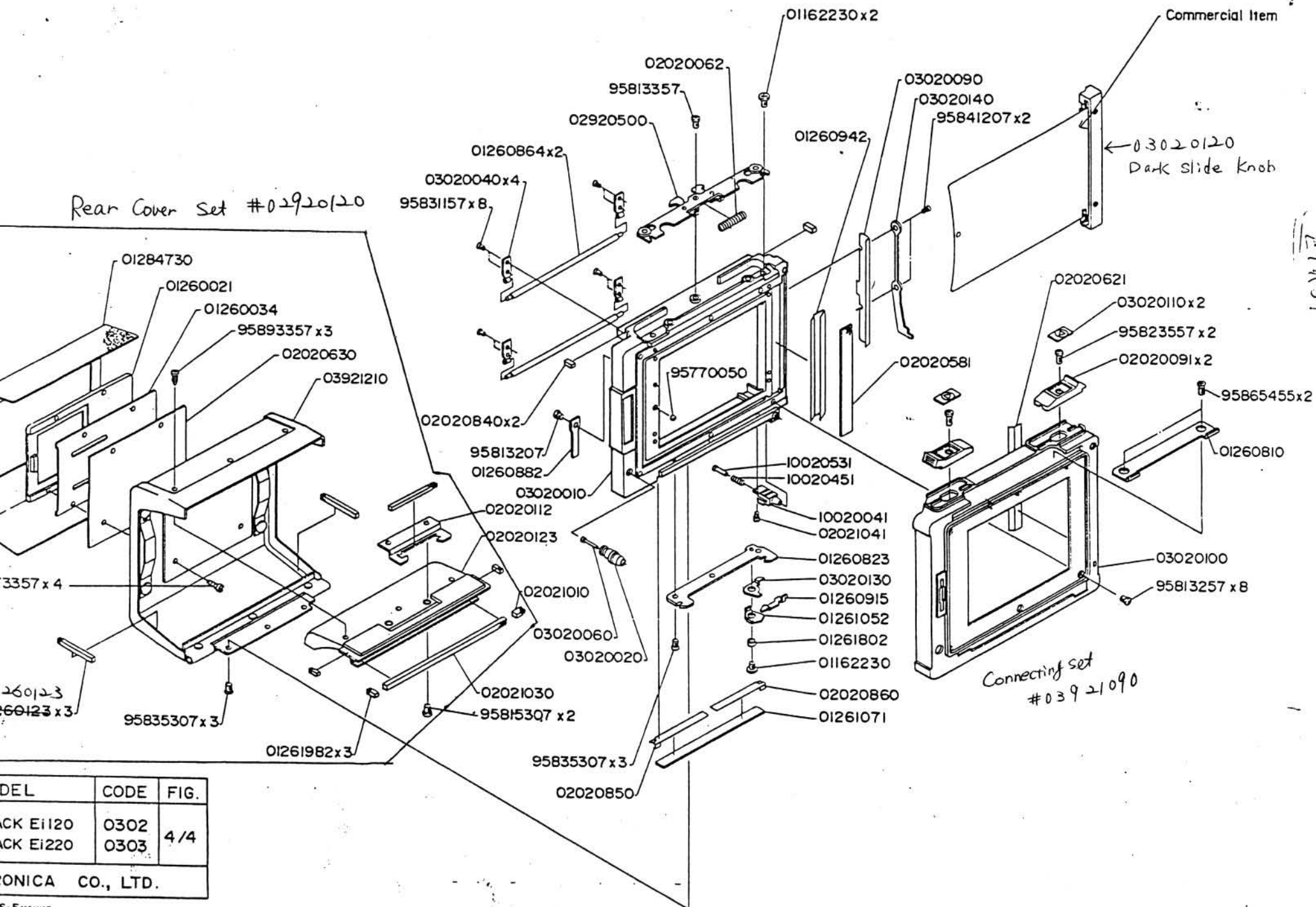
BRONICA CO., LTD.





| MODEL           | CODE | FIG. |
|-----------------|------|------|
| FILM BACK EI120 | 0302 | 3/4  |
| FILM BACK EI220 | 0303 |      |

Rear Cover Set #02920120



| DEL             | CODE | FIG. |
|-----------------|------|------|
| BACK Ei120      | 0302 | 4/4  |
| BACK Ei220      | 0303 |      |
| ONICA CO., LTD. |      |      |
| S. Furuya       |      |      |