OUTLINE OF REPAIR

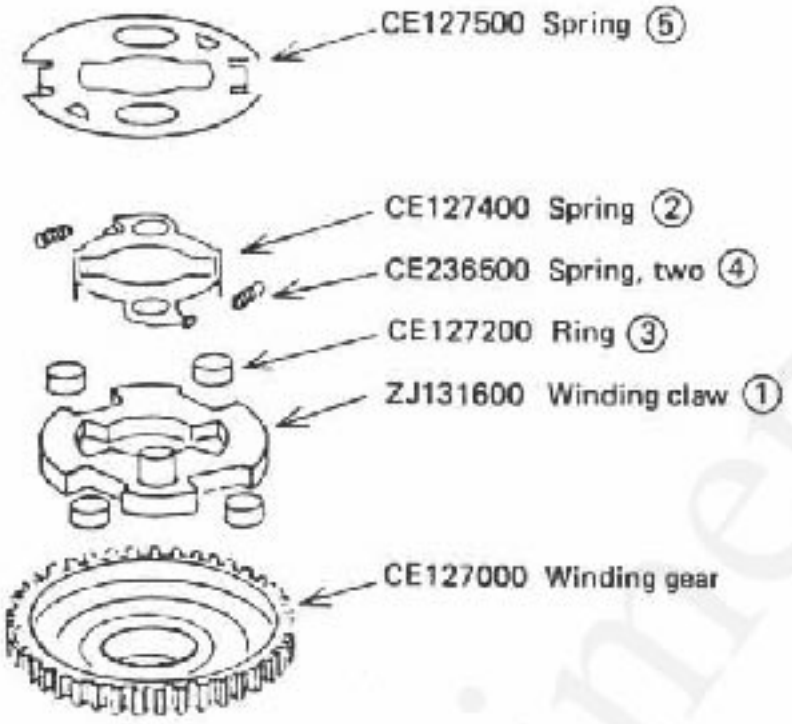
D. OUTLINE OF REPAIR

CONTENTS

I. WINDER MECHANISM

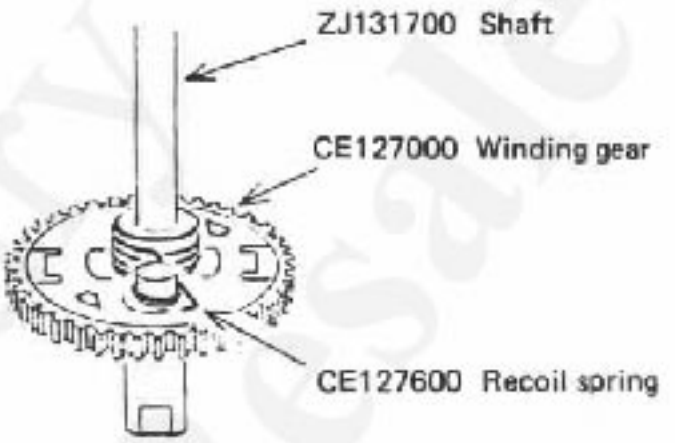
1. CE1270 winding gear re-assembly

1-1. Combine winding gear (CE127000) and ring (CE127200) together by fitting the reference-numbered parts ① through ⑤, sequentially and in ascending order, to the winding gear.

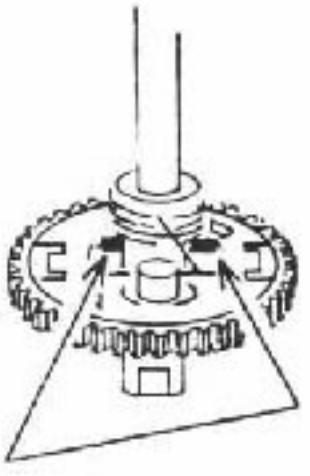


NOTE:
Assembly of ① , ② , ③ and ④.

1-2. Insert winding shaft (ZJ131700) into the winding gear assembled as above, and mount spring (CE127600), hitching its free end onto the stud, as shown, to produce a proper biasing force.

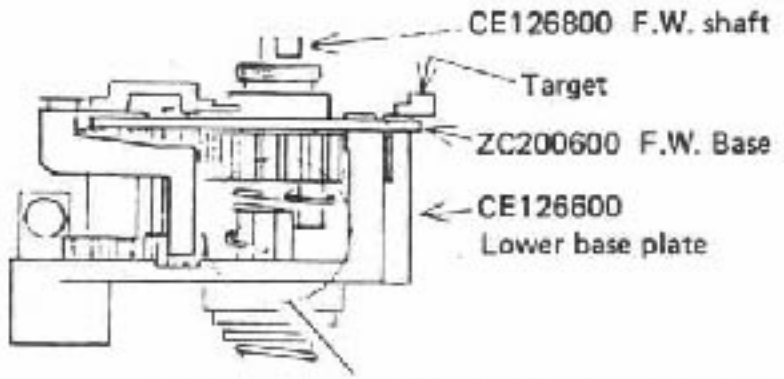


NOTE:
So that the winding gear will not break apart when hitching the return spring, hold down the roll spring and set the spring as shown.



NOTE:
Equalize the amounts of protrusions, right and left, and push in the winding shaft.

1-3. Insert F.W. shaft sub-assembly (CE126800) into lower base plate (CE126600), put on F.W. base (ZC200600), and fasten down the base with screws.

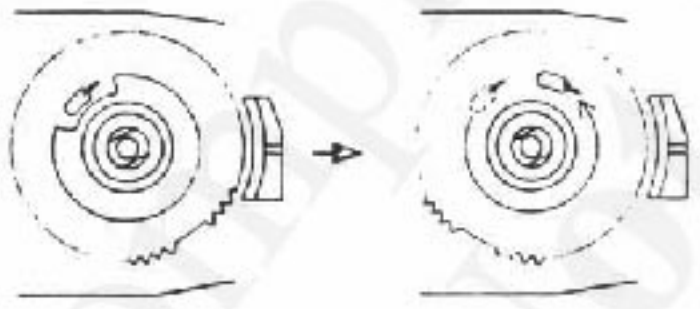


Returning spring (CA886100) is shown here as hitched onto the protrusion.

NOTE:
There are two protrusions. Be sure to hook the spring onto the one shown.

1-4. Referring to the above sketch, hitch spring (CE127600) onto the protrusion of lower base plate (CE126600).

1-5. Put on film counter spring (CE128800) and film counter LC (CE128700), and tension the counter spring.

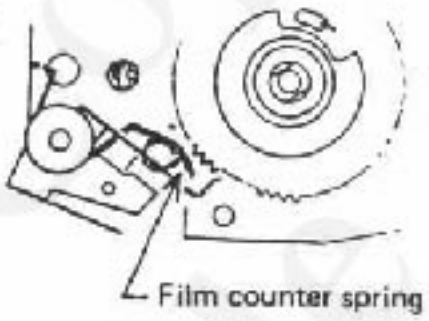


Hitch film counter spring onto the notch formed of film counter LC.

Turn the counter LC about one rotation to override the stopper and set it beyond the stopper.

1-6. Push film counter stopper (CE128900) into the groove of washer (CE126700), guiding the stopper through the recess formed of film counter LC (CE128700).

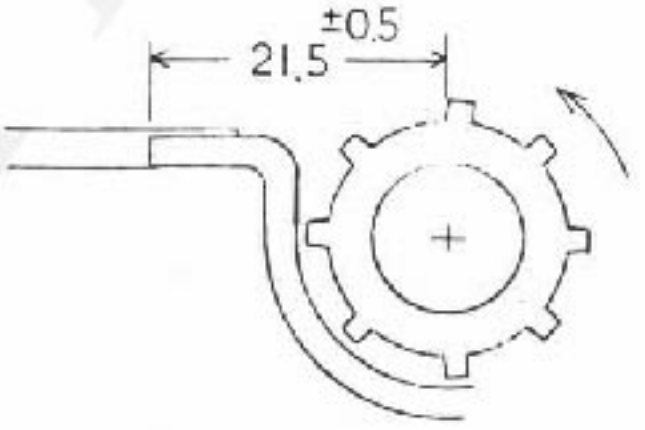
1-7. Put on film counter spring 1 (CE128600).



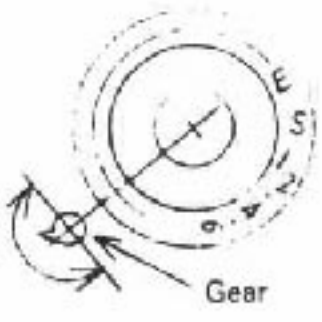
2. Sprocket positioning

Positioning adjustment is to be made by displacing gear No. 2 (CA883400) in place. To do so, gear No. 1 (CA881600) must be removed.

NOTE:
Check the dimensions while urging the gear toward mask side.



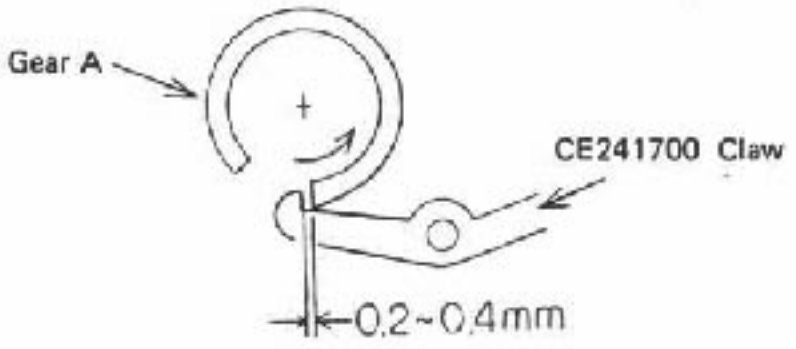
NOTE:
Locate the gear as shown here.



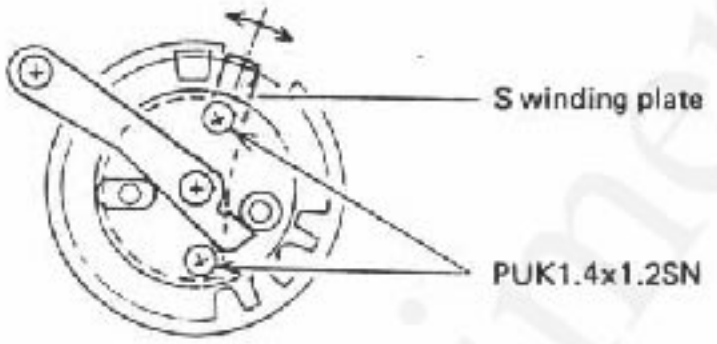
Position the gear so that its protrusion will come within the range indicated by arrows.

3. **Adjusting marginal clearance on Gear A**

Gently wind up to see if the clearance, indicated in the sketch, occurs after the leading claw (CE241700) has passed over the end of gear A; if not, make the following adjustment to produce the indicated amount of clearance.



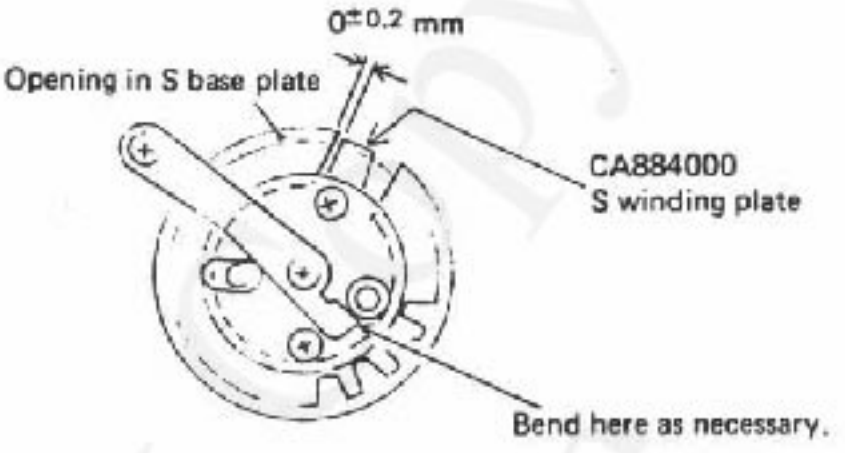
To adjust, reposition S winding plate (CA-884000) in the following manner:



Loosen two screws (PUK 1.4 x 1.2 SN), and angularly displace S winding plate to produce a clearance of anywhere between 0.2 and 0.4 mm.

NOTE:
After completing the adjustment, lock with ALON ALPHA.
To be locked are:
Two PUK1.4x1.2SN and slot (indicated by an arrow).

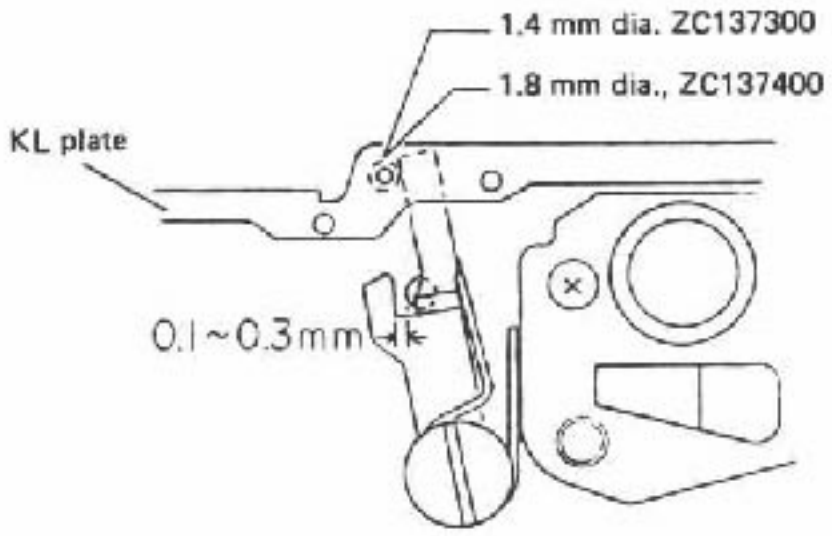
4. **Positional adjustment of 4-gear (ZC102700)**



The clearance of S winding plate (CA884000) relative to the hole edge of S base plate should be 0±0.2 mm; if not, bend the 4-gear stopper.

NOTE:
After making this adjustment, make sure the bent portion will not rub the high spots of 4-tooth gear.

5. **Adjustment of bulb plate (CA946400) and KL plate pin**



5-1. Obtain the clearance (0.1 ~ 0.3 mm) by using a KL plate (ZC137300 or ZC137400) whose pin is of the right size for keeping the clearance between 0.1 and 0.3 mm.

5-2. If the above adjustment is not possible, replace plate CA968800.

CA946400

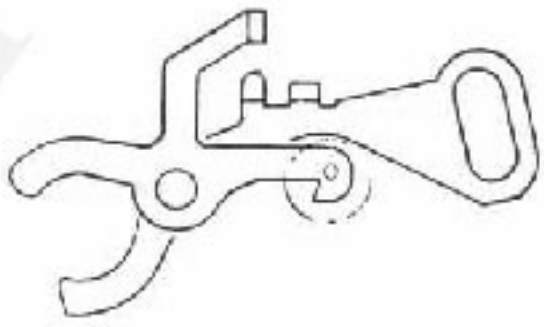
CA968600

6. **First curtain adjustment**

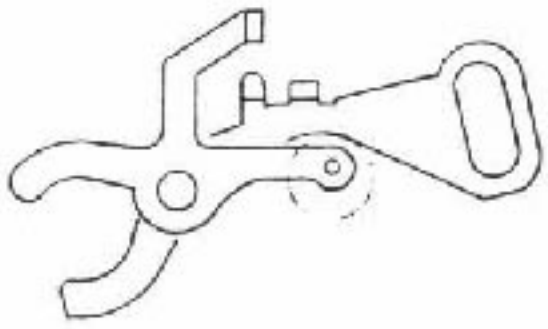
This brake is not provided with an eccentrically shaped means for adjusting the braking force, but its A pinch (ZC201800) is of such a shape that no contact occurs between the protrusion of gear A and S base plate.

1) Check to be sure that, after shutter releasing, a clearance occurs at the indicated location.

2) Brake replacement
There is no interchangeability between the first curtain brake of OM-10 and those of other models. See the difference in the two sketches:



A pinch for OM-10
(ZC201800)

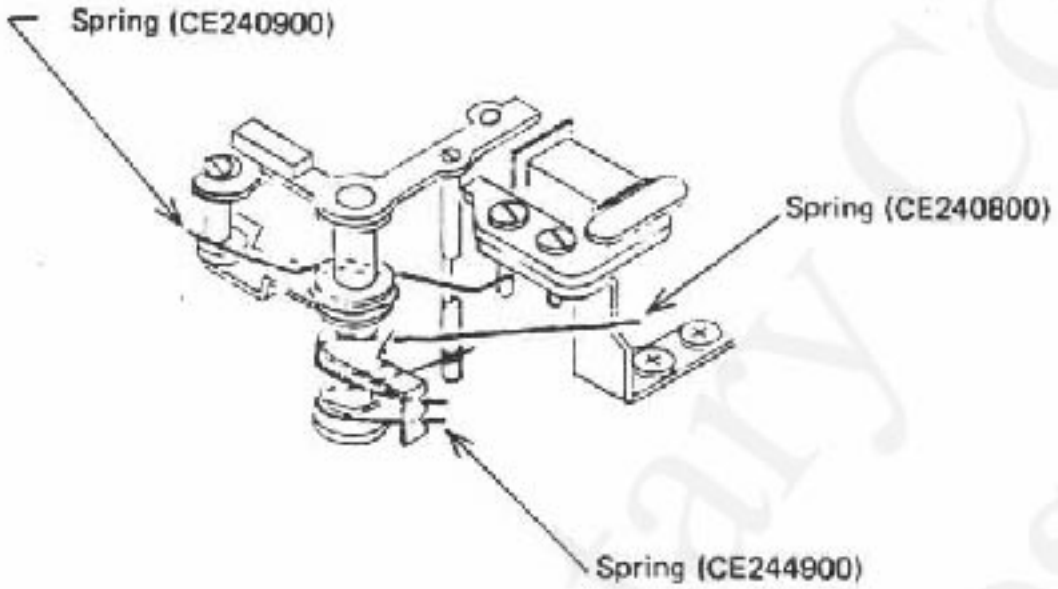


A pinch for OM-1 and OM-2

II. ADJUSTMENTS RELATED TO S BASE PLATE (ZJ132300)

1. How to hitch springs

Hitch the three spring as illustrated.



2. Positional adjustment of gear BM (CE240200) and R claw

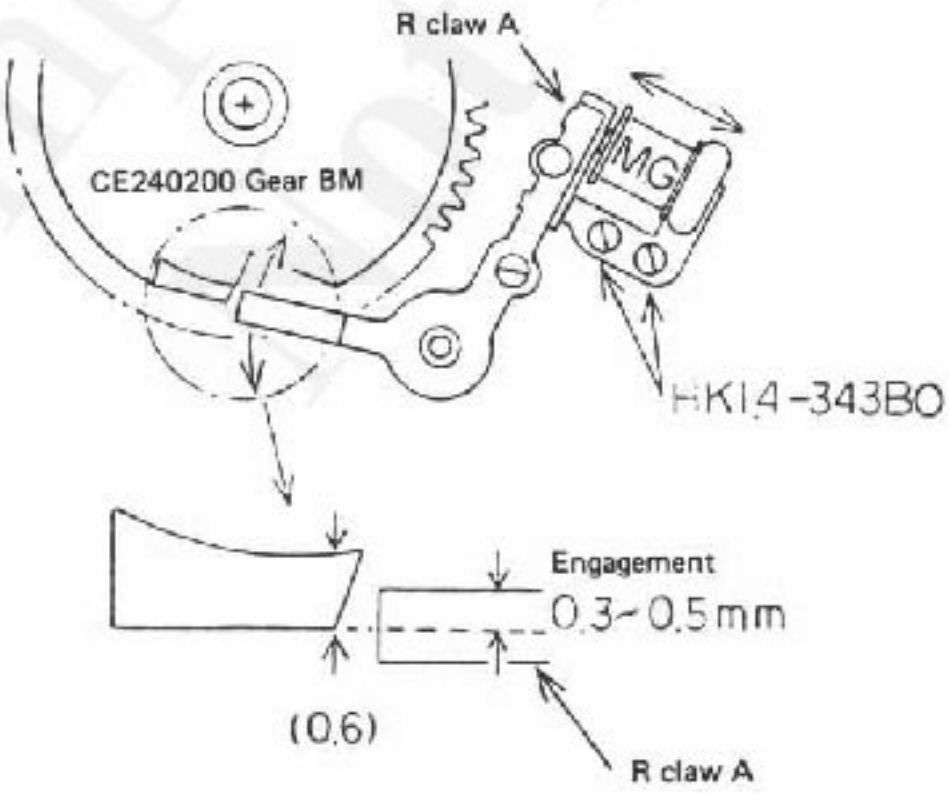
2-1. Adjusting the amount of claw engagement

The prescribed amount of engagement is from 0.3 to 0.5 mm, as shown. To obtain this much engagement of the claw with gear BM (CE240200), displace the magnet.

Loosening the magnet securing screws (HK 1.4 - 343 BO) permits the magnet to be moved.

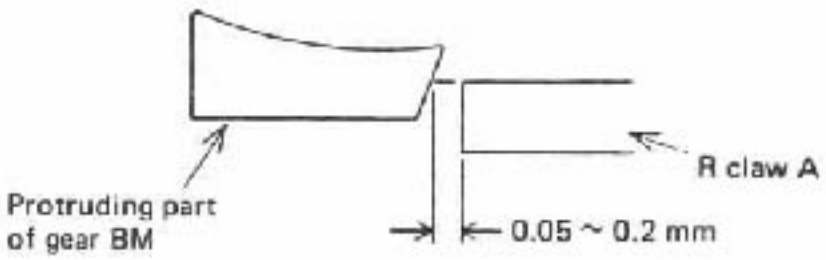
NOTE:

After repositioning the magnet in place, be sure that the magnet and upper plate (CE-081100) are nearly parallel to each other, and that the contact is made under spring force.



2-2. Clearance adjustment

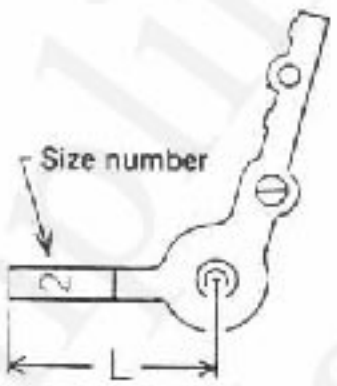
R claw A is available in five sizes listed below. Use the one that will provide the prescribed clearance (0.05 ~ 0.2 mm).



R claw A1	(ZC202200)	L = 7.8
R claw A2	(ZC202300)	L = 8.1
R claw A3	(ZC202400)	L = 8.4
R claw A4	(ZC202500)	L = 7.95
R claw A5	(ZC206000)	L = 8.25

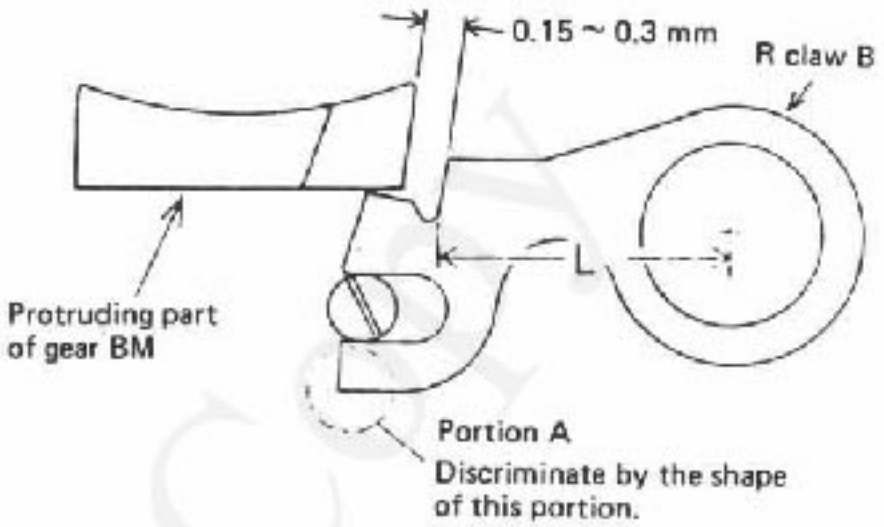
NOTE:

- Check this clearance upon winding up.
- Trailing R claw A is constructed as shown below. It is combined with trailing R claw B. Selection must be made by taking R claw B into account.
- L dimension and size number.



3. Positional adjustment of gear BM and R claw B

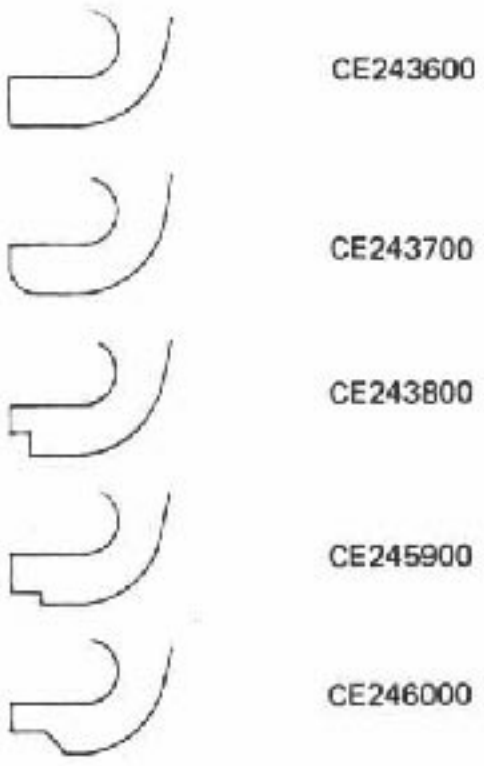
R claw B is available in five sizes listed below. Use the one that will provide the prescribed clearance (0.15 ~ 0.3 mm) between the protruding part of gear BM and R claw B.



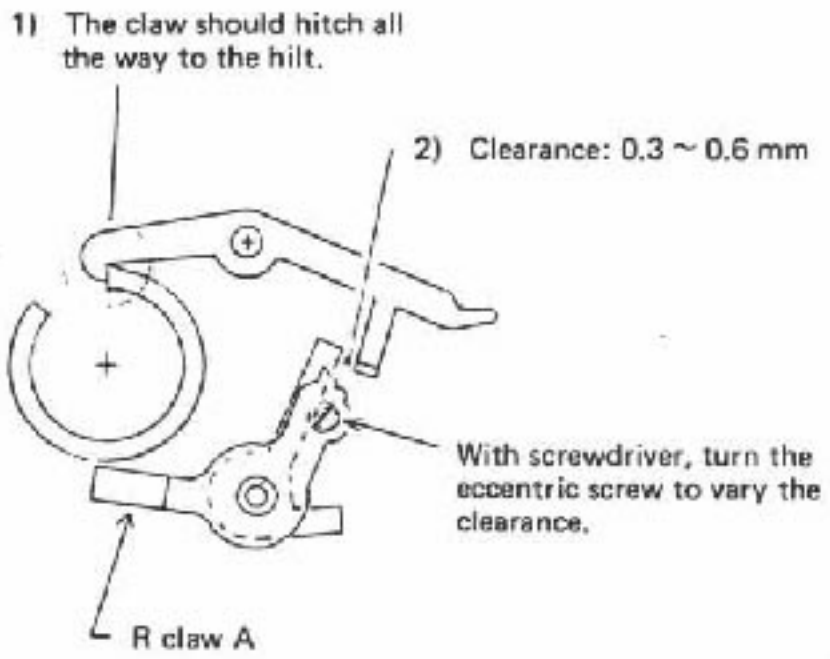
R claw A1 and R claw B1 (CE243600) L = 6.65
R claw A2 and R claw B2 (CE243700) L = 6.95
R claw A3 and R claw B3 (CE243800) L = 7.25
R claw A4 and R claw B4 (CE245900) L = 6.8
R claw A5 and R claw B5 (CE246000) L = 7.1

The two are punched. Consider the balance between the two in replacing the claw.

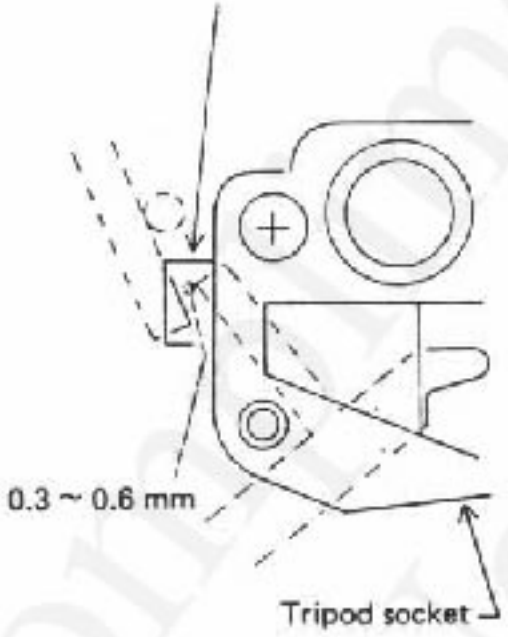
NOTE:
To check the clearance, wind up and remove R claw A from gear BM.
The portion A of is shaped as follows:



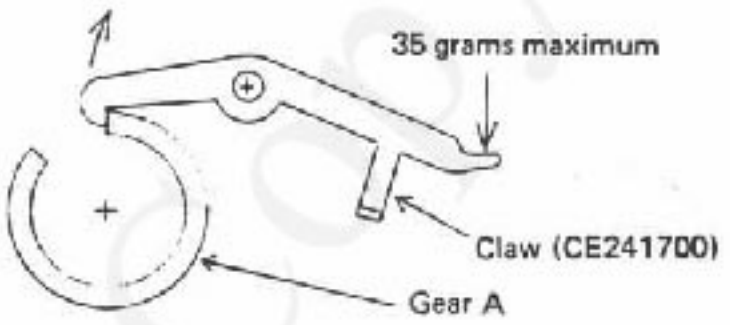
4. Adjustment of clearance between claw (CE-241700) and plate (CE244400)



NOTE:
Check the clearance by observing through the side hole of tripod socket (CE051400).

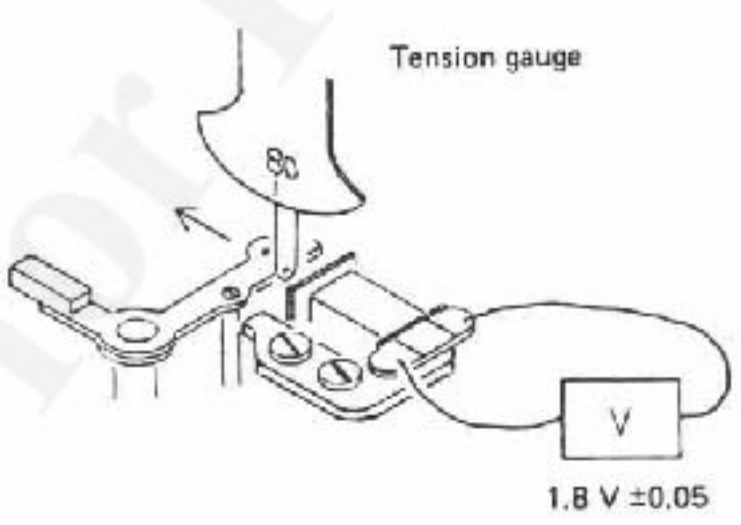


5. Checking the releasing force required of claw (CE241700)



NOTE:
Check to be sure that no greater force than 35 grams is needed to disengage the claw from gear A.
Be sure, also, that leading pawl disengages too easily.
Use a tension gauge to measure this force.

6. Testing the electromagnet for attractive force and continuity

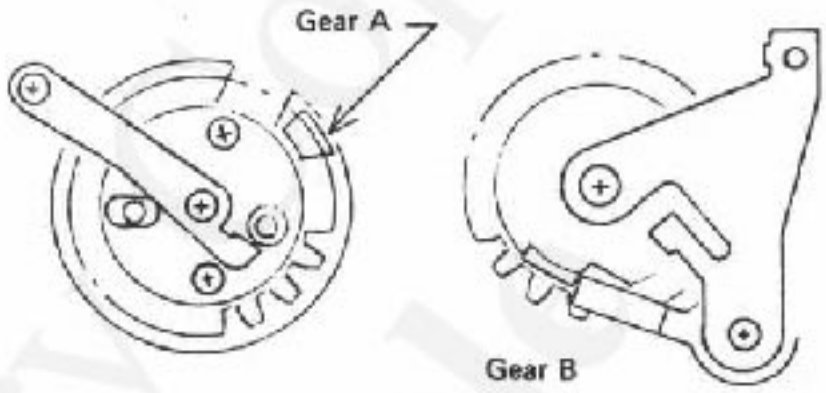


NOTE:
From a regulated-voltage power source, apply 1.8 ±0.05 volts to the electromagnet. In this condition, the electromagnet should develop a force of at least 80 grams, as measured with a tension gauge.
To check the circuit continuity through the coil, measure its ohmic resistance with a circuit tester. The coil is in sound condition if the tester shows 600 ohms or thereabout on its 100X range.

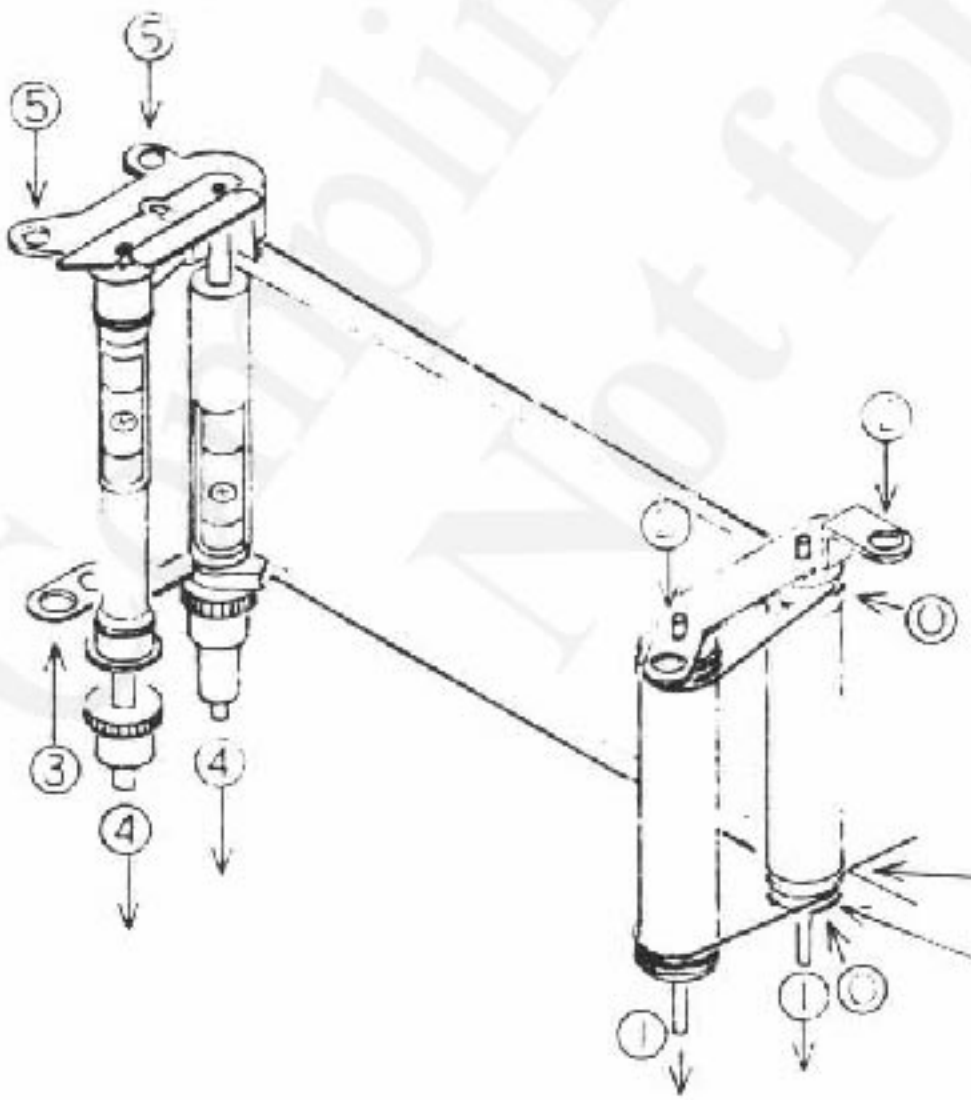
1. Shutter curtain replacement

1-1. Assuming that the existing curtains are in faulty condition and are to be replaced, it may occur that the tension nut (CA853100) will not come off. In such a case, raise the nut by prising it with a screwdriver and break the curtain shaft to permit removal of the curtains.

1-2. Positions of gear A and gear B



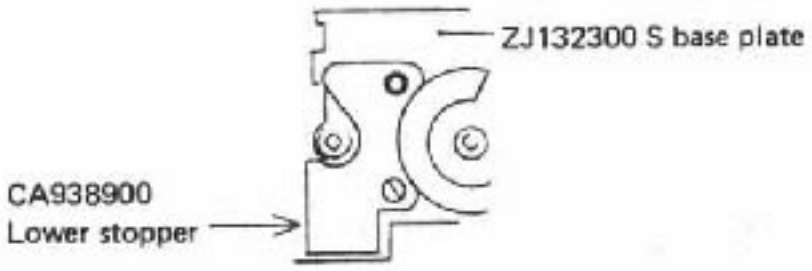
1-3. Install the replacement curtains in the following order:
The parts to be set in the camera body are given reference numbers in this sketch according to the sequential order of installation: part ① goes in first, for example. After installing the curtains, be sure to apply BELL LOCK to each screw.



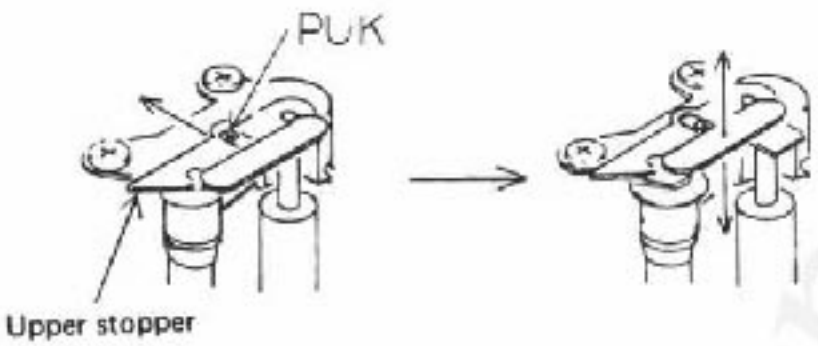
NOTE:
Apply a small amount of COSMOLUBRIC to the indicated portions.

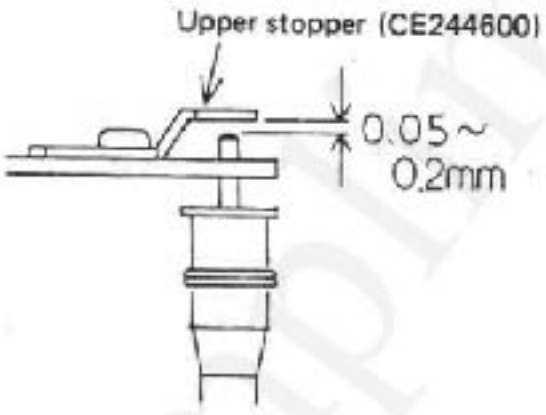
No distinction between top and bottom is made here.

1-4. Install lower stopper (CA938900), as shown.

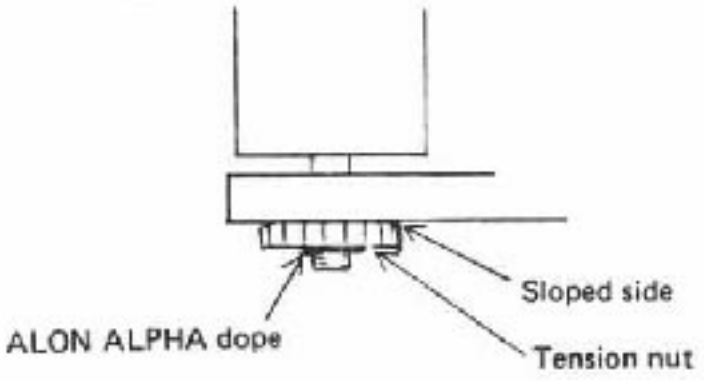


1-5. Displace upper stopper (CE244600), as shown, to eliminate the rattle, if any, of the curtain shaft.

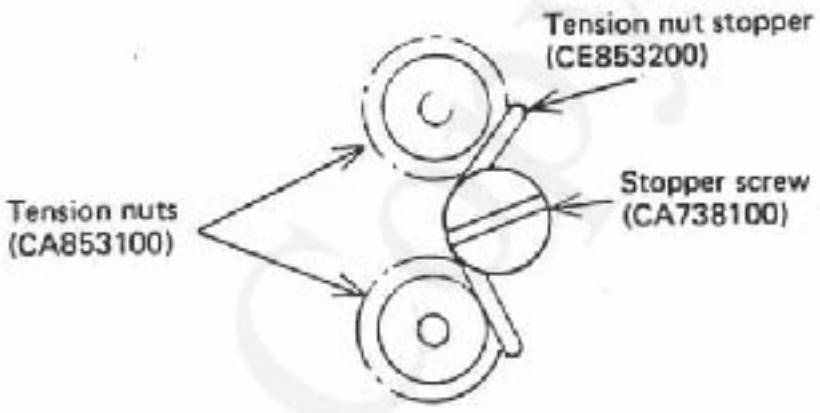




1-6. Fit the tension nut. After tightening this nut, lock it by applying ALON ALPHA 202. (There are two tension nuts to tighten. Be sure to apply ALON ALPHA in a dot amount.)

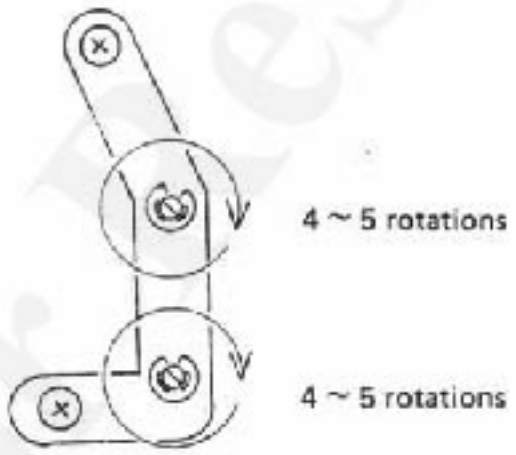


1-7. Install tension nut stopper (CA853200) and stopper screw (CA738100), as shown.

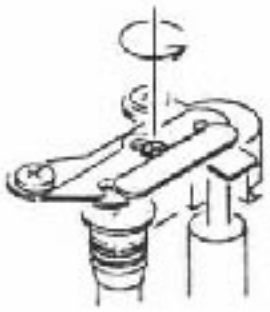


1-8. Tentatively position the curtains in the following sequence of steps:

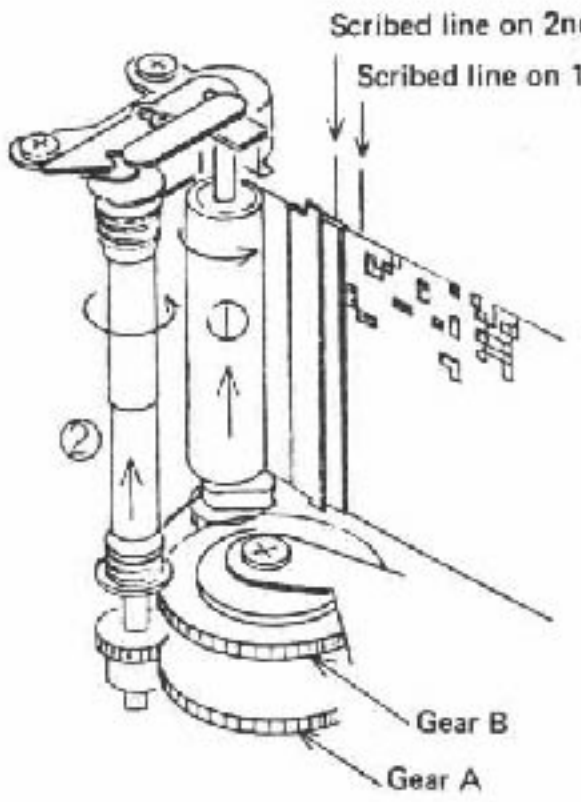
1) Tension first curtain and second curtain by making 4 to 5 rotations: this is tentative tensioning.



2) Loosen PUK screw holding down upper stopper (CE244600).

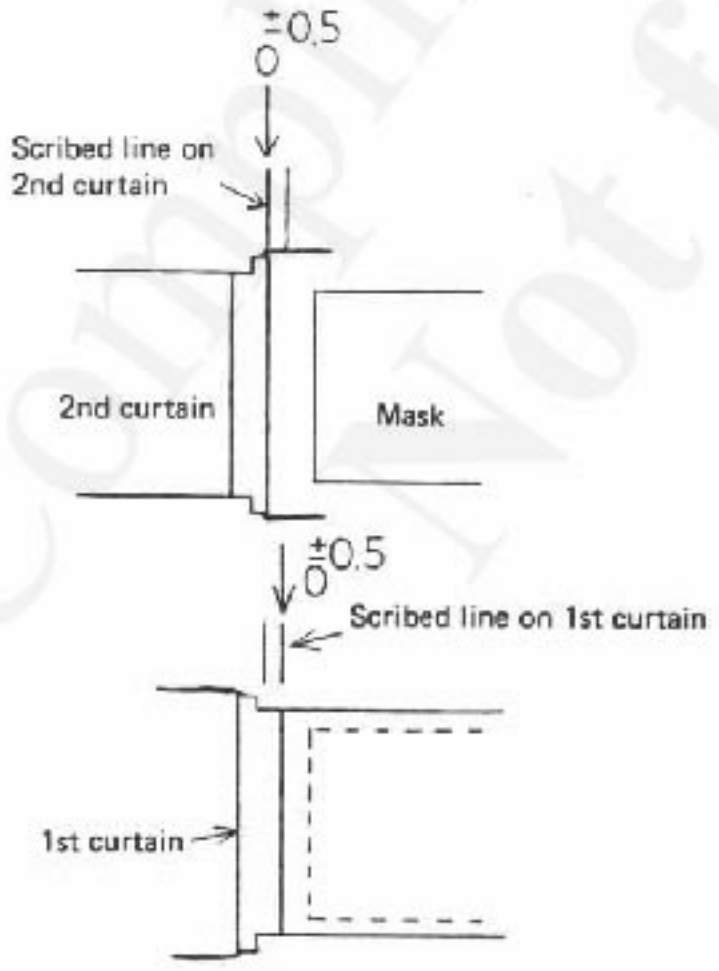


3) Disengage curtain shaft B (CE242300) from gear B, and adjust 2nd curtain: this is for coarse positional adjustment. Next, similarly adjust curtain shaft A and gear A.



Each tooth of the shaft corresponds to a 1.4-mm displacement.

NOTE:
Coarse positioning of curtains is illustrated in the sketches below:



4) Tighten PUK screw to secure upper stopper (CE244600).

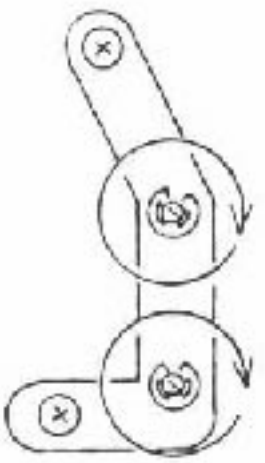
1-9. The curtains have been roughly positioned. The next step is to position them accurately (fine adjustment), in the following manner:

1) Reduce the tension to naught (zero) by turning back, as shown.

4 ~ 5 rotations . . . . . .
Turn back until 1st curtain becomes slackened.

4 ~ 5 rotations . . . . . .
Turn back until the curtain string (CA8531) slackens.

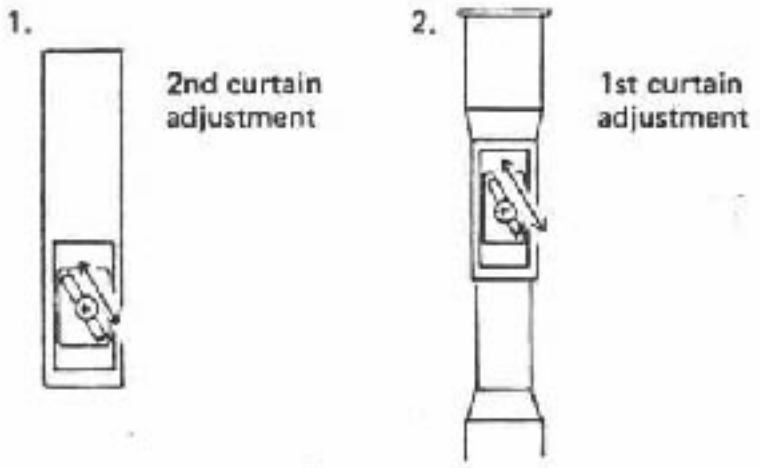
2) Tension both curtains by turning exactly 5 and 7 rotations, as shown.



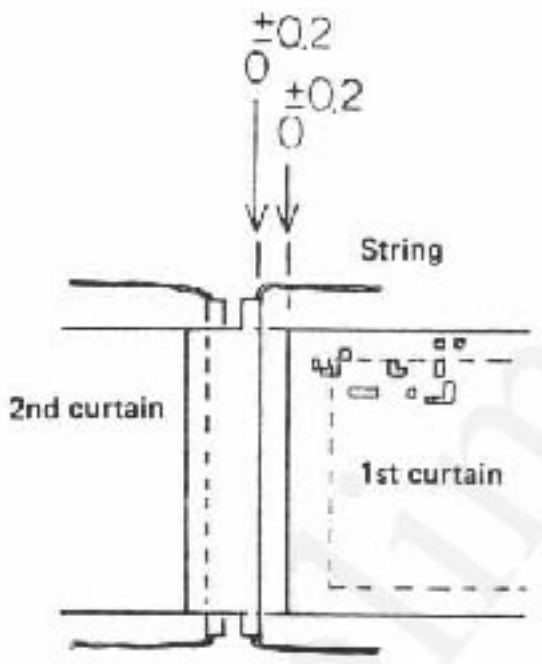
5 rotations
(1st curtain)

7 rotations
(2nd curtain)

3) Position the curtains accurately (fine adjustment).



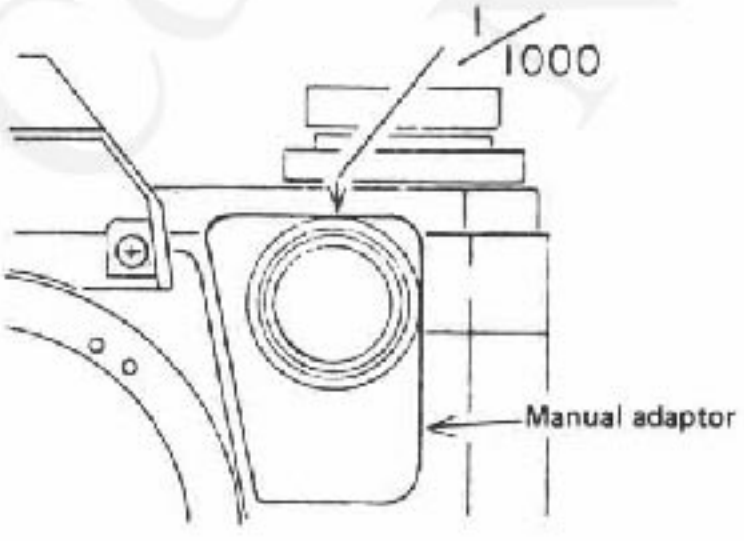
NOTE:
Refer to the scribed lines.



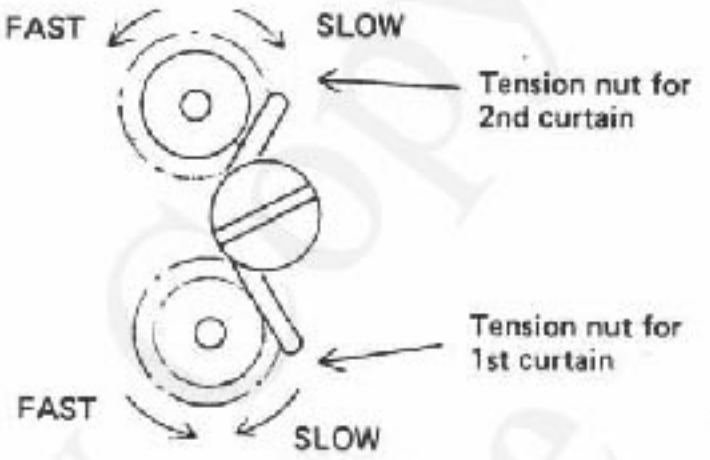
2. Manual timing adjustment

2-1. Curtain speed adjustment

1) Fit the manual adaptor, and set the speed at 1/1000 sec.



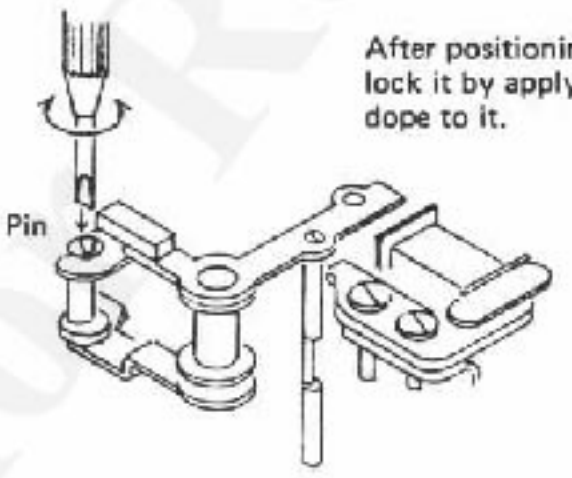
2) Turn tension nuts to set the respective speeds to the values stated on the right.



NOTE:
2nd curtain speed: 12.0 ±0.1 milliseconds
1st curtain speed: 12.0 ±0.1 milliseconds

2-2. Timing adjustment

1) Turn the pin to set the timed duration to MANUAL 1/1000 second.



NOTE:
If disturbed curtain speed is complained of the camera brought in, adjust the speed in the foregoing manner.

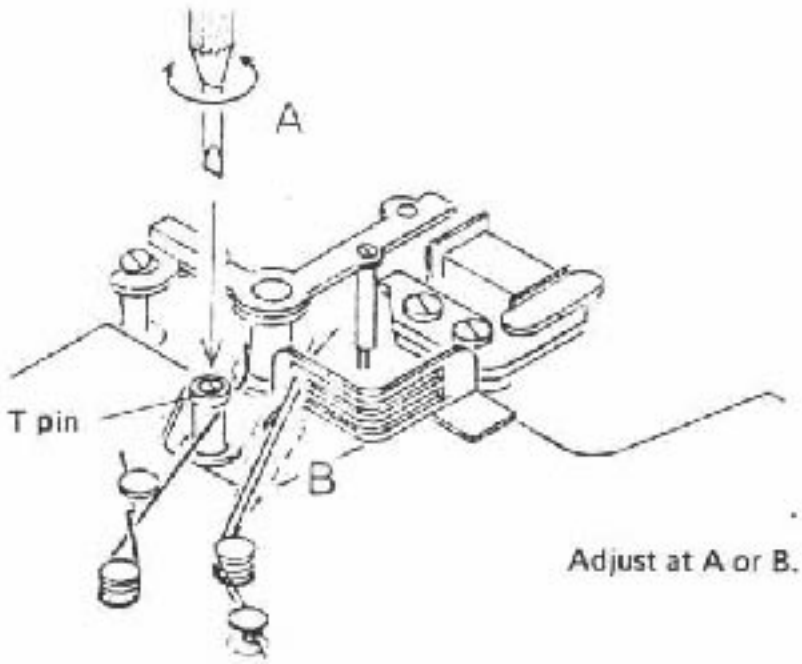
If adjustment by the pin is not successful, replace the trailing pawl assembly. (Refer to page D-6 and D-7.)

Adjust to anywhere between 0.5 and 2 mS.

2) Check AUTO MINI time.
Adjust by means of the pin, as before, distinct from 1/1000-second adjustment.

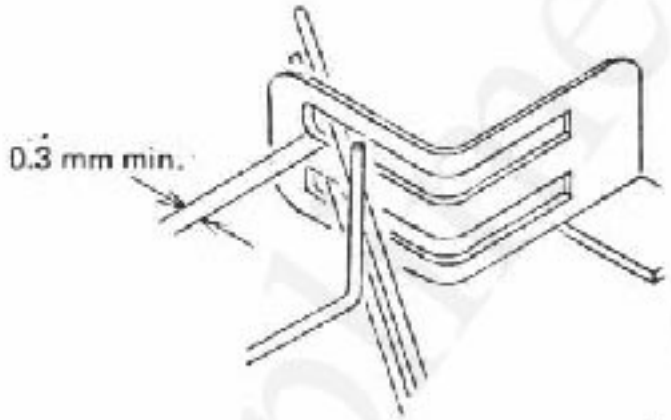
NOTE:
Be sure that AUTO mini time (center exposure time) is between 0.3 and 2 mS.

3) Turn T pin to adjust for 1/500 second. (If this pin will not rotate, bend the trigger piece.)



Adjust at A or B.

NOTE:
Adjust to anywhere between 1.17 ~ 3.27mS.



Of this two, refer to the narrow one.

4) Check the 1/1000-second adjustment again and if necessary, repeat the steps 1) through 3), above.

5) Check each timing to be sure that the shutter speed is within the specified range:

Timing	Speed
1/1000 second	0.5 ~ 2 milliseconds
1/500 second	1.17 ~ 3.27 milliseconds
1/8 second	74.8 ~ 209 milliseconds
X timing	15 ~ 30 milliseconds
Mini timing (Check on AUTO.)	0.3 ~ 2.0 milliseconds

2-3. Manual timing adjustment where front casting is not attached

1) Wiring

a. Connect the body and red lead wire to voltage source 3 V (+).

b. Connect black lead wire to voltage source 0 V (−).

c. Insert manual adaptor.

d. Connect orange lead wire to 3 V (+), as shown.

NOTE:

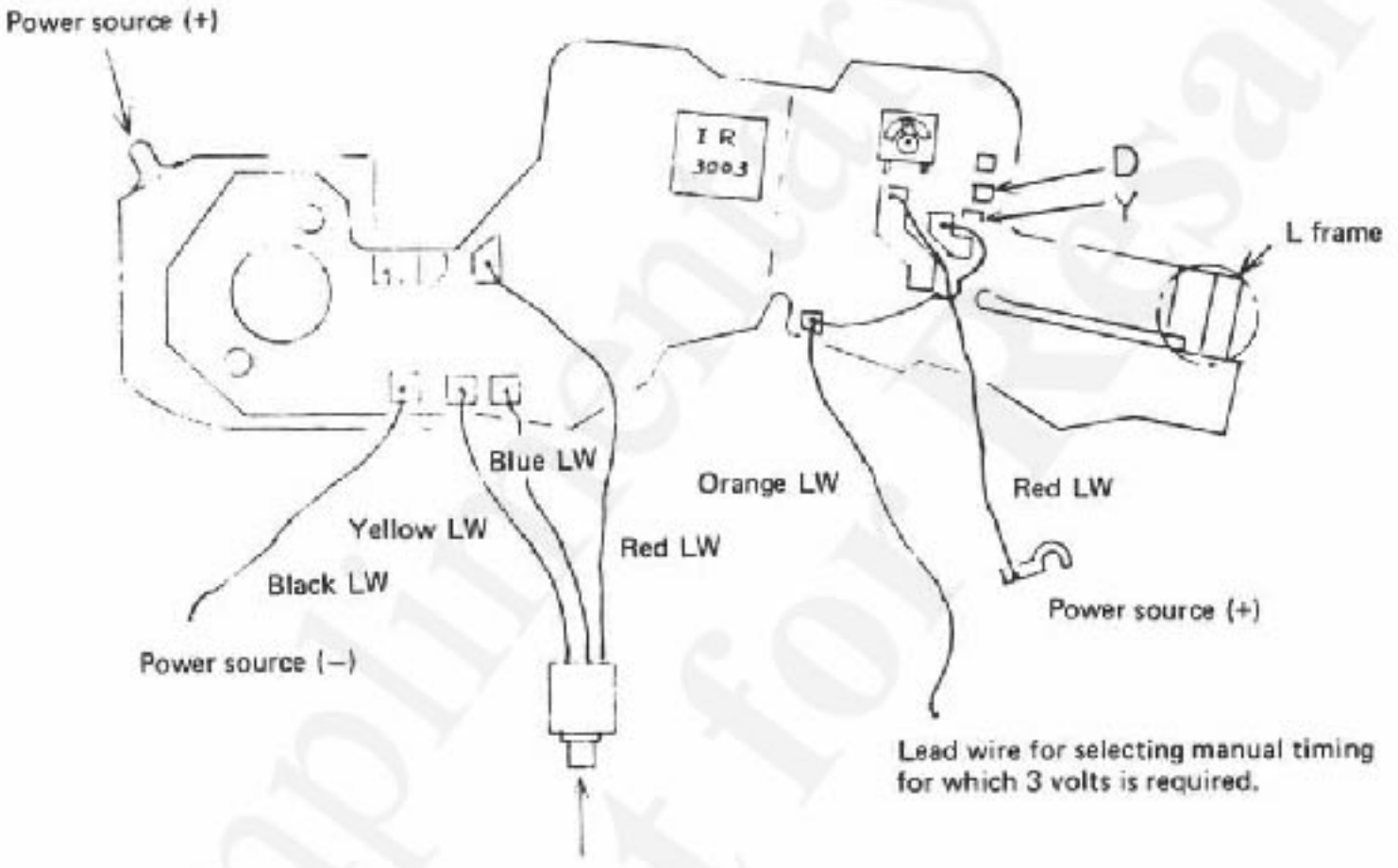
In the case of AUTO timing.

a. Same as in MANUAL.

b. Same as in MANUAL.

c. Manual adaptor pulled out.

d. Orange lead wire disconnected from (+).



2) Carry out adjustment for each timing in a manner already explained for the case in which the front casting is attached.

3) In making this adjustment, take these precautions:

a. Do not allow lead wires and terminals to touch one another or come in contact with the shutter tester.

b. Handle L frame carefully: this frame is easy to injure.

c. Note that the shutter will be left open if the power source voltage is too low.

4) MINI time checking and adjustment

Referring to the diagram above, disconnect orange LW from 3 V; insert 6.8-kilohm resistor (ASA100) between Y and D; and check to see if adjustment is necessary.

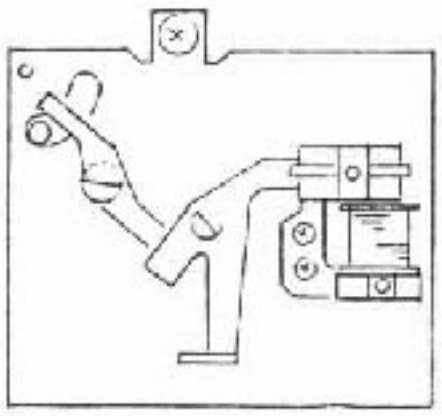
NOTE:

Refer to page D-20, 1-15, and solder at A on the board.

This permits omission of soldering orange LW and 6.8-kilohm resistor.

1. Side plate R (ZC205100)

1-1. If side plate R (ZC205100) is in faulty condition, replace the plate and what are on it. This is because the permanent magnet does not lend itself to easy adjustment: when malcondition is noted in this section, it is better to replace the whole as a set.



1-2. Check to be sure that —

1) Winding-up motion will lock the mirror if the battery is absent.

2) The electromagnet will exhibit about 380 ohms when tested for continuity through its coil by using a tester on 10X ohmic range.

(Internal resistance of the magnet.)

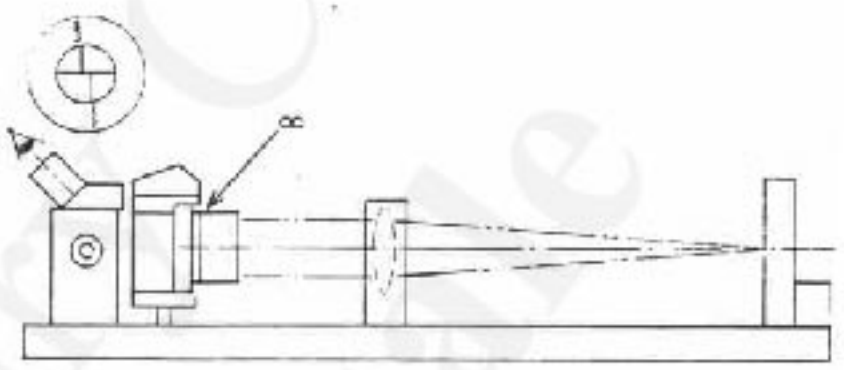
3) The mirror will get unlocked (released) when 2 volts is applied to the blue lead wire (—) of RY101 and to the die-cast body.

NOTE:
While measuring, do not turn the regulated source voltage on and off.

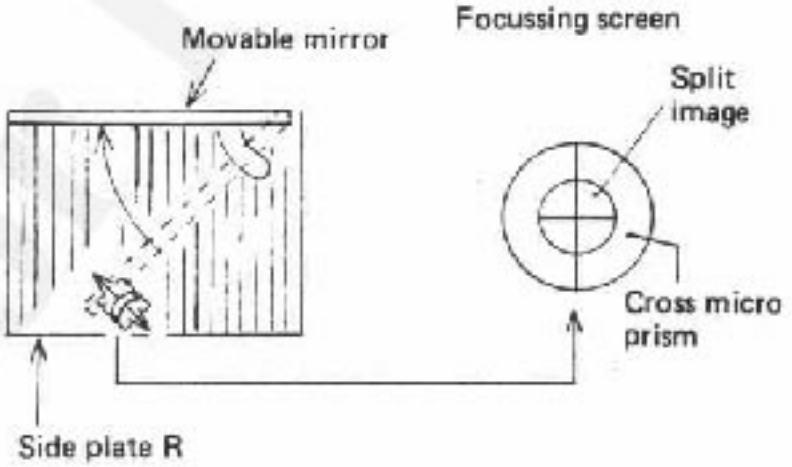
2. Finder Focussing

2-1. Normal finder focus adjustment

2-1-1. Attach the focussing lens (adjusting tool) to the camera, mount the camera on the collimator, and measure focussing error.



2-1-2. Adjust the 45° position of movable mirror to line up the split images straight in the finder.



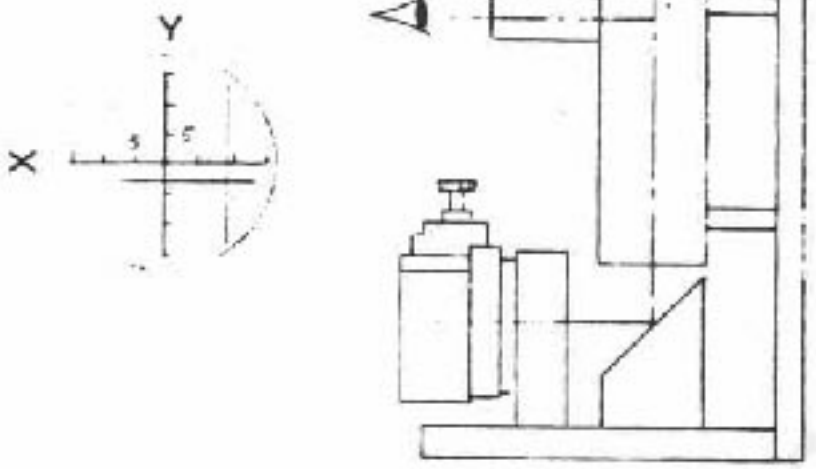
Use the collimator as explained in 2-1-1 to make this adjustment.

NOTE:
Displace the 45° position and if blur on one side exceeds ±30′ in Y direction, replace washer.

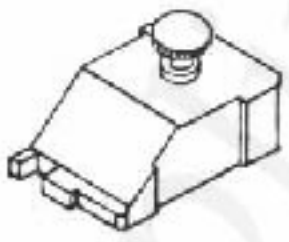
Displacing the focus position by 0.01mm shifts one-side blur by 1.2′.

2-2. Finder focussing adjustment involving CE-253700 F washer adjustment.

2-2-1. Remove CE253700 F washer. Put on test mirror to locate the 45° position. (This is to be effected for Y direction only.)

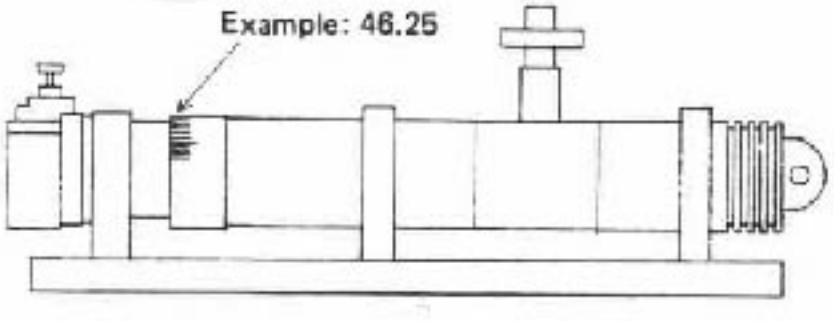


NOTE:
Approximately within ±5'.
(No need to adjust for X direction.)

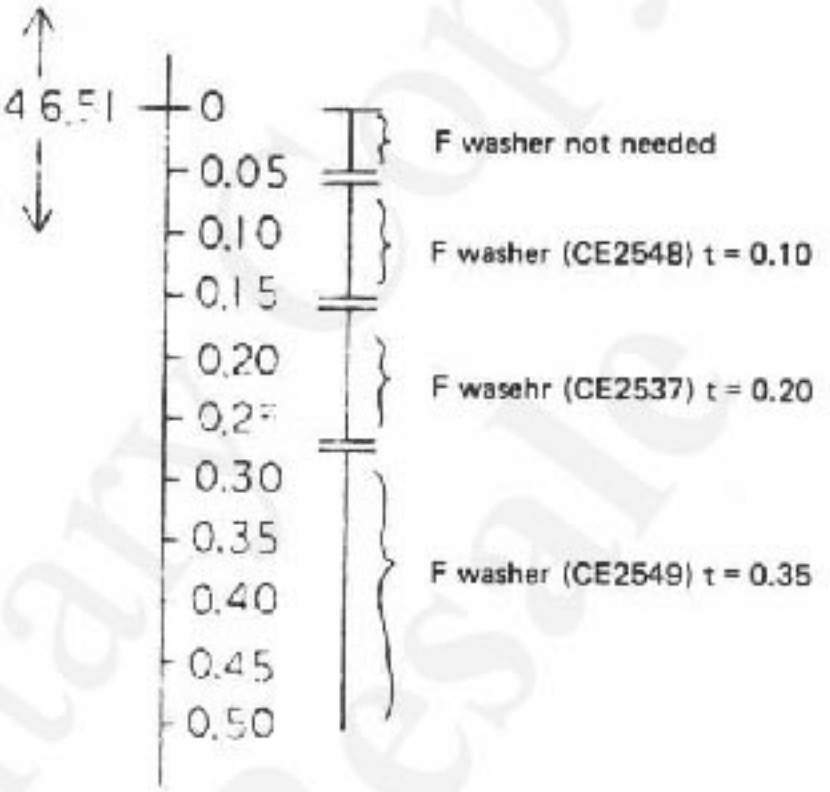


Test mirror

2-2-2. Mount the camera on the photoelectric collimator, put on the test mirror, and measure the focus position.



2-2-3. Select the washer by referring the measurements taken in 2-2-2. to the table below.
Example: t = 0.20



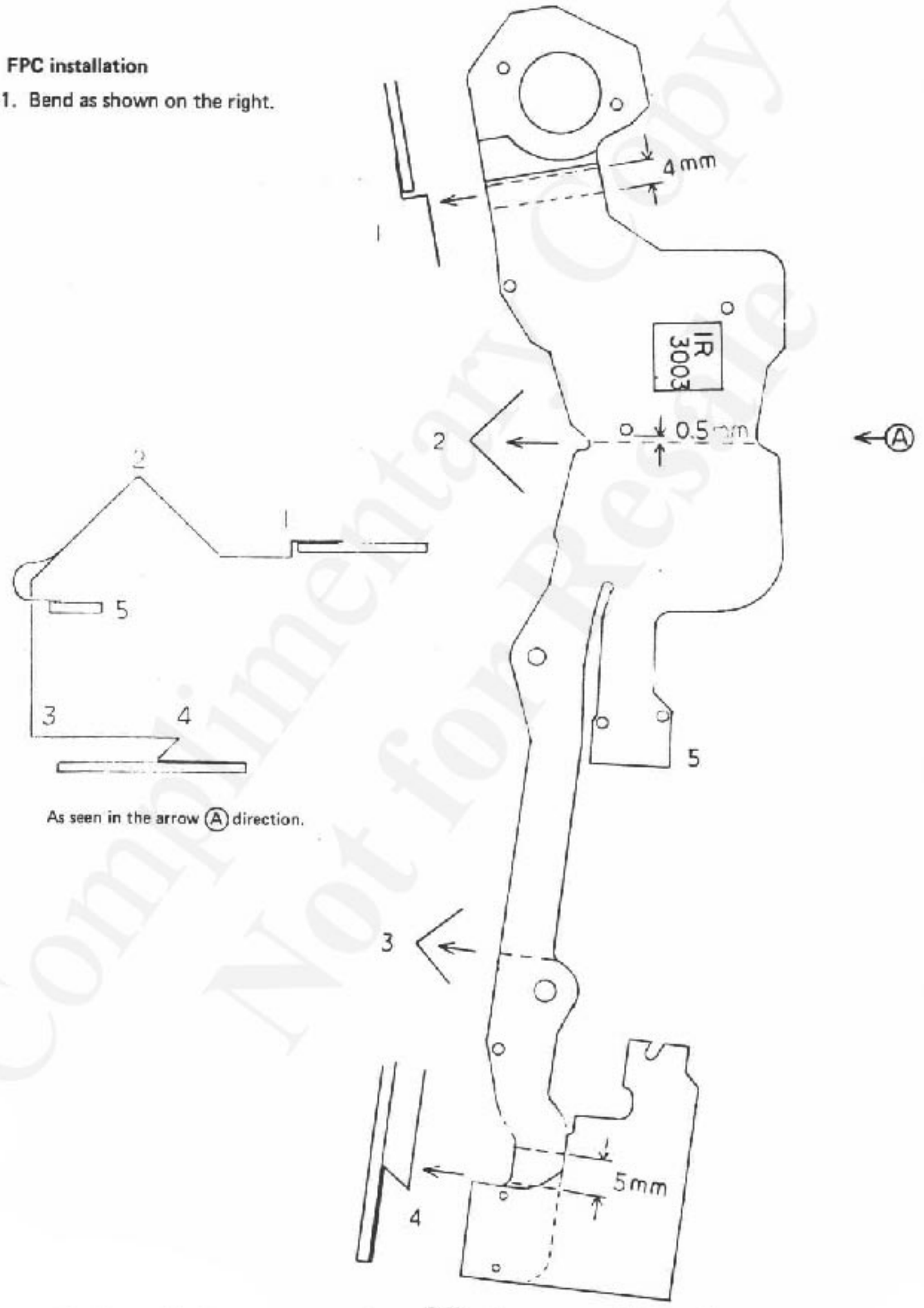
NOTE:
If t = 0.50 or larger, check on one-side blur after adjusting the focus.
The blur must be within ±30'.

2-2-4. Install F washer, focussing screen, F mask (ZC2081), P frame (CE2534), penta prism, P cover (CE2547) and P retainer (CE 2533).

2-2-5. Determine the focus by normal finder focus adjustment. Refer to 2-1.

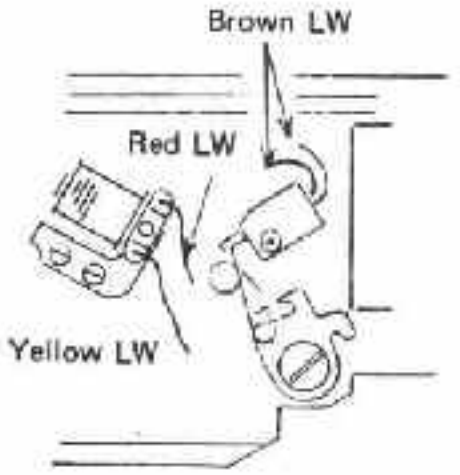
1. FPC installation

1-1. Bend as shown on the right.

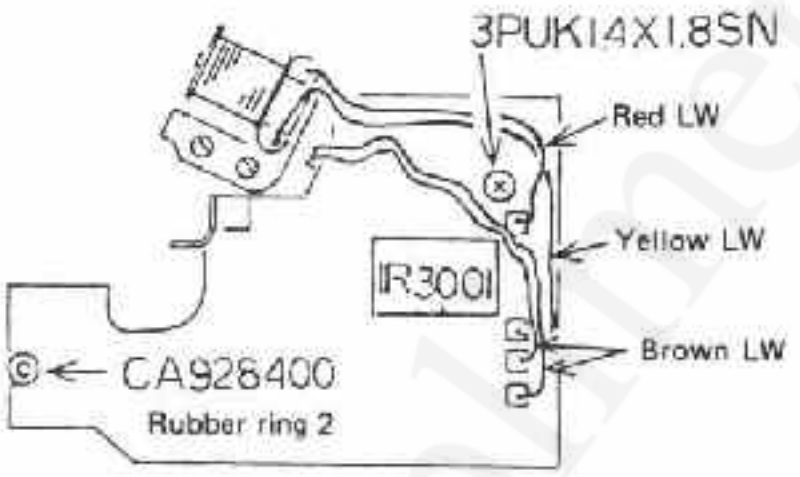


As seen in the arrow (A) direction.

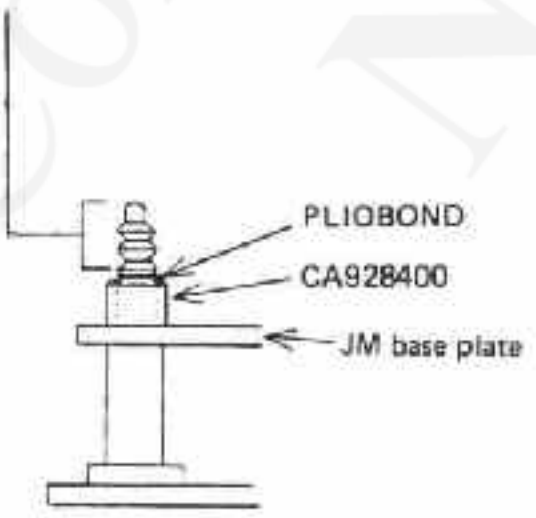
1-2. Connect lead wires (see the sketch) by soldering.



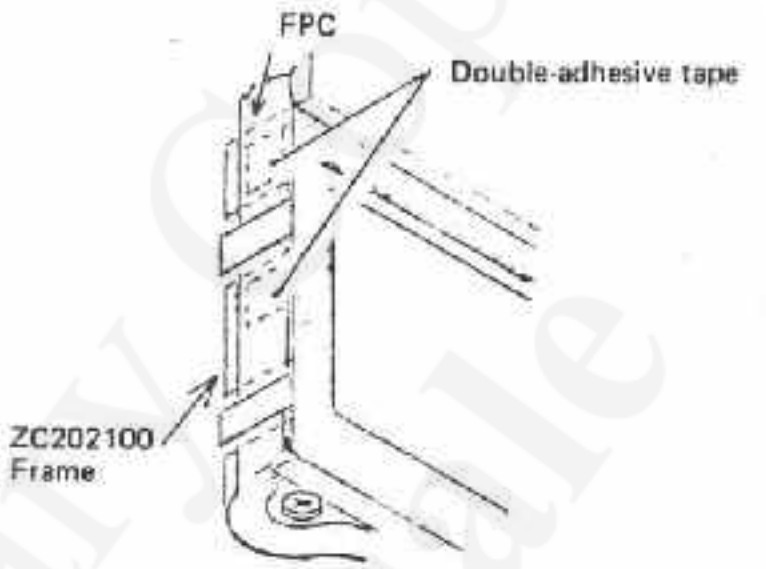
1-3. a. Route the lead wires neatly.
b. Secure JM board by tightening the screw (3PUK1.4x1.8SN) and rubber ring 2 (CA928400).



NOTE:
Do not use a bonding dope or electrical continuity to cover plate (ZC208400) will deteriorate.

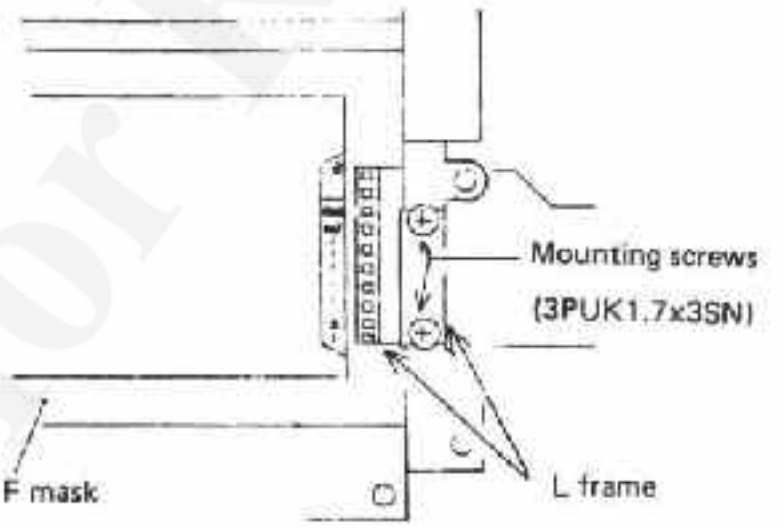


1-4. a. Stick pieces of double-adhesive tape to frame (ZC202100).
b. Insert FPC into frame (ZC202100) in an inserting manner.
c. Stick FPC to the adhesive tape.

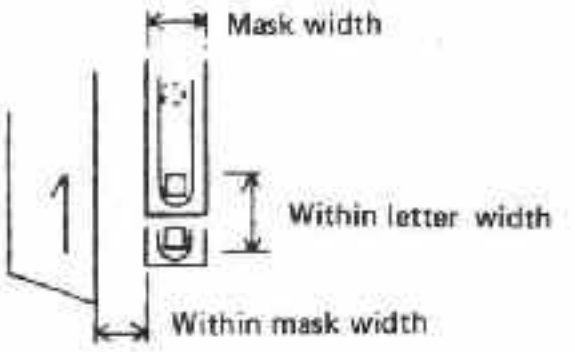


1-5. Fit front casting to die-cast body.

1-6. Position L frame in place and secure it.
Positioning of L frame will be easier when the prism has been removed.



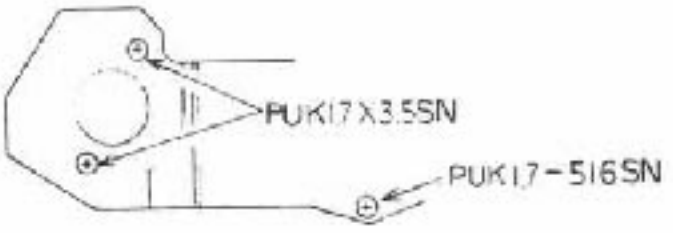
NOTE:
When positioning L frame, be sure to:—
a. True it up.
b. Observe these limits:



- Corner radius portion of the screen comes on B mount side.
- Bring F mask toward right-hand front.

1-7. Install the prism.

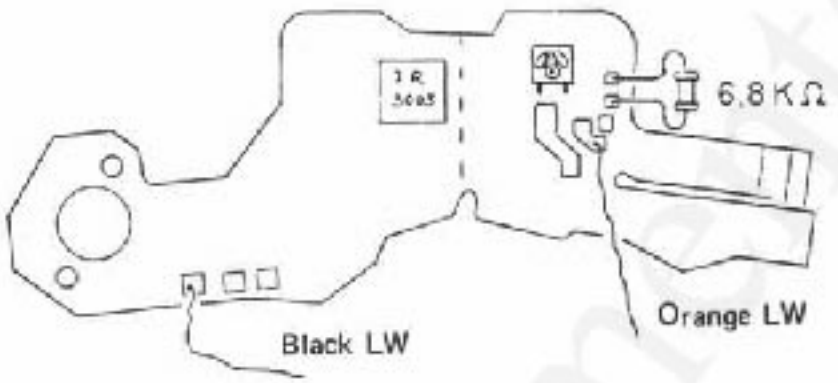
1-8. Rest FPC on R shaft bearing, and secure it with two screws (PUK1.7x3.5SN).



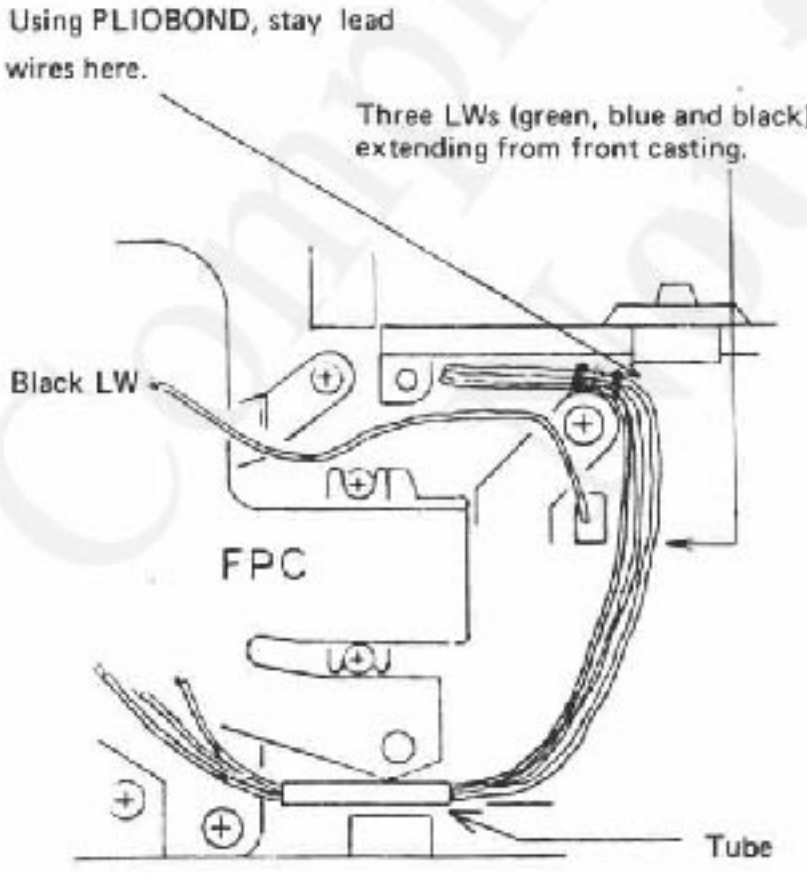
NOTE:
Be sure that FPC is properly formed.

1-9. Fasten down FPC by tightening PUK1.7-516SN screw.

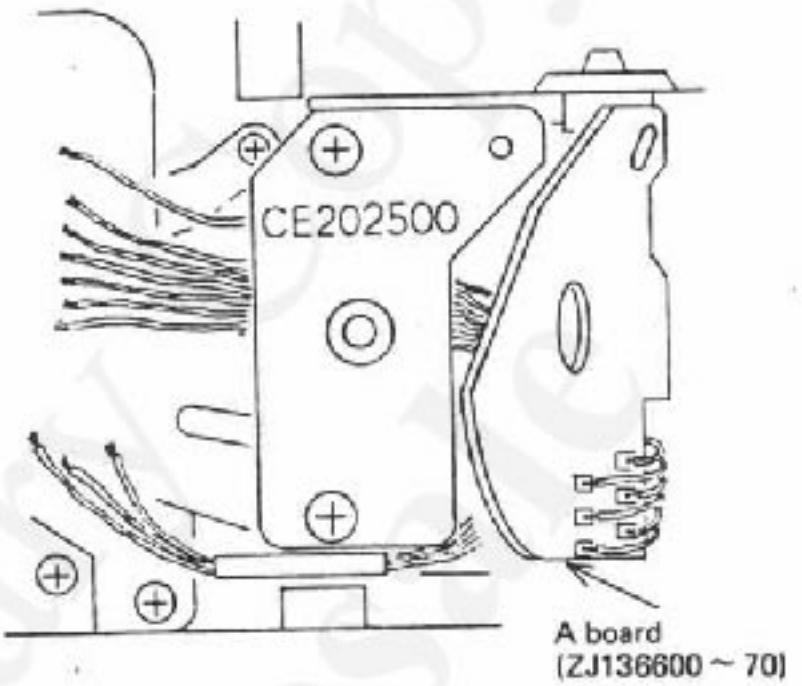
1-10. Disconnect the two lead wires and 6.8-kilohm resistor.



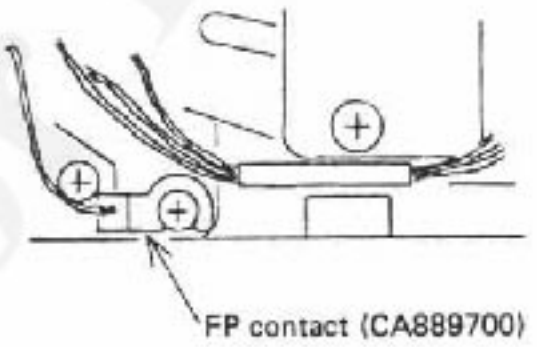
1-11. Route the lead wires neatly.



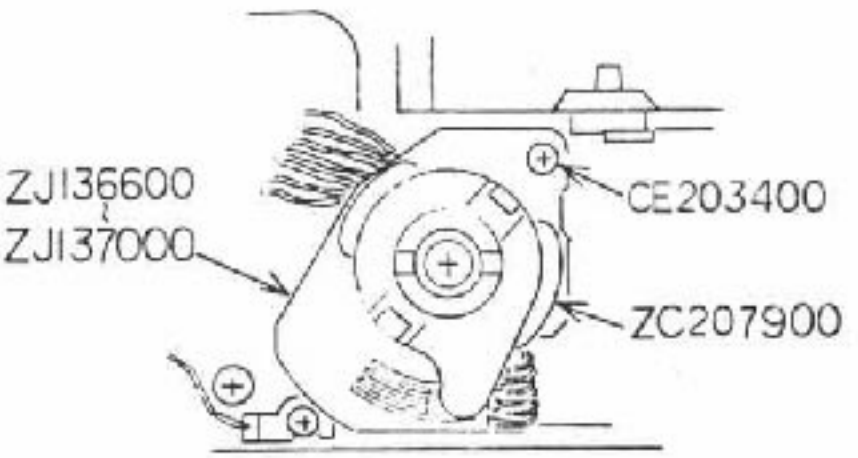
1-12. Install A board washer (CE202500).
Route A board lead wires through under the washer, making sure that these wires do not cross over one another.



1-13. Install FP contact.
Be sure that FP contact does not protrude from the body.

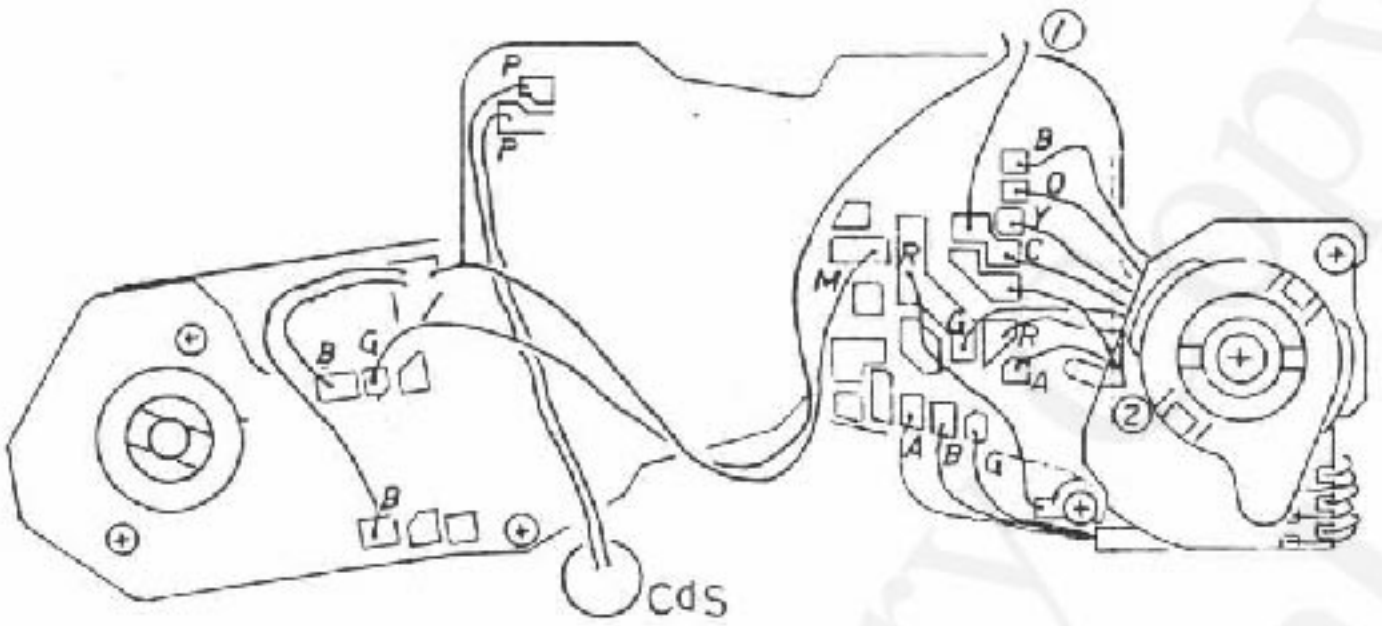


1-14. Install A boards (ZJ136600 ~ ZJ137000) and A holder (ZC207900).



NOTE:
Clean A board with DYFRON S3E before mounting it on A holder (ZC207900).

1-15. Solder lead wires.



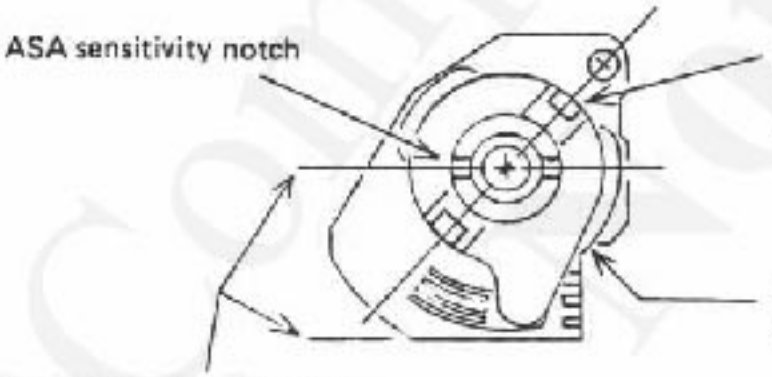
Refer to Page D-22 for lead wires ① and ②.

NOTE:
Letter symbols stand for lead wire colors:

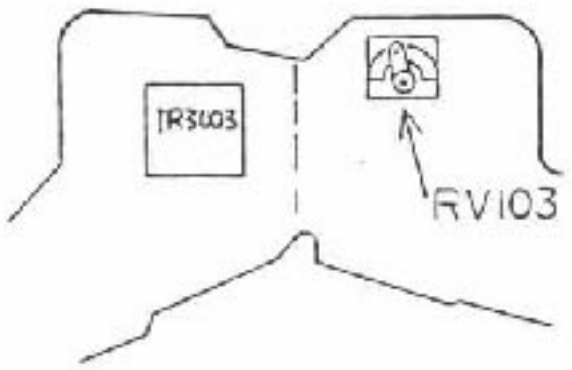
A for blue LW
B for black LW
C for brown LW
G for green LW
M for purple LW
O for orange LW
P for pink LW
R for red LW

2. EE adjustment

2-1. Set the camera for AUTO and ASA 100.



2-2. Install temporary upper plate.
2-3. Install jig lens.
2-4. Be sure that DC 3 volts is available from the camera power source.
2-5. Check EE level with EE tester, and, as necessary adjust the level to the reference value by changing the setting of RV103.



Upper portion of penta prism

Criteria for adjustment

BV11 F5.6 ASA100 ±0.04 EV

- Measure five times, and be sure that 5 readings are within the above limits.
- Try to obtain zero readings.

Tentative
(In the absence of BV11, use BV12, set to +0.1 ±0.04 EV, and check the whole for balance.)

2-6. Vary the brightness under the conditions of ASA 100 and F5.6, and check the EE at each level of BV against the following reference values:

ASA 100	F5.6	BV 4	+0.2 EV −1.5 EV
ASA 100	F5.6	BV 8	+0.65 EV −0.9 EV
ASA 100	F5.6	BV14	+1.2 EV −0.15 EV
ASA 100	F5.6	BV15	+1.2 EV −0.15 EV
		(BV 6	+0.4 EV) −1.2 EV)
		(BV10	+0.75 EV) −0.7 EV)
		(BV12	+0.9 EV) −0.5 EV)
		(BV15	+1.2 EV) −0.15 EV)

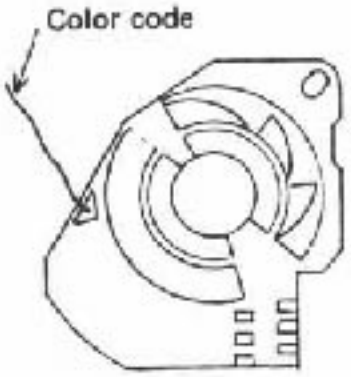
2-7. Check the accuracy of ASA sensitivity.
Be sure that actual measurements on ASA 100 F5.6 BV8 do not differ from the standard value by more than what are shown below:

ASA	400	F5.6	BV8	−0.35 ~ +0.65 EV
ASA	800	F5.6	BV8	−0.75 ~ +1.25 EV
ASA	1600	F5.6	BV8	1) A distinct offset of at least 0.3 EV relative the actually measured value of ASA800 is required. 2) There should be no shuter jumping, sticking open, M locking, or any other erratic action.

NOTE:
When turning the ASA dial, hold down the temporary upper plate, so that the dial will not slide away from the set position.

3. Selective use of A board and F board

3-1. For A board, resistance values are in ranks, 1 through 5, identified by the colors of lead wires, as follows:



A board

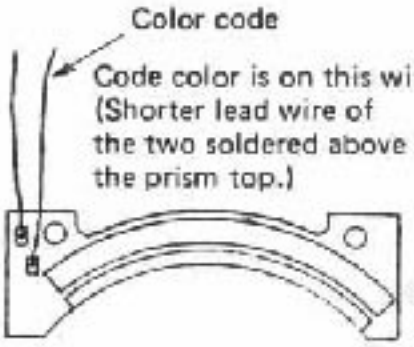
Rank	Set number	Color
1	ZJ136600	Orange
2	ZJ136700	Blue
3	ZJ136800	Red
4	ZJ136900	Green
5	ZJ137000	Black

(In camera of earlier production, colors are painted on the board and purple code color is used.)

NOTE: Rank and resistance

Rank	Resistance (KΩ)
1	2.86 ~ 3.06
2	3.06 ~ 3.26
3	3.26 ~ 3.46
4	3.46 ~ 3.66
5	3.66 ~ 3.86

3-2. Resistance values are similarly in for F board, as follows:



F board

Rank	Set number	Color
1	ZJ136100	Orange
2	ZJ136200	Blue
3	ZJ136300	Red
4	ZJ136400	Green
5	ZJ136500	Black

(In cameras of earlier production, color code is WHITE, which is painted.)

NOTE: Rank and resistance

Rank	Resistance (KΩ)
1	3.66 ~ 3.92
2	3.92 ~ 4.18
3	4.18 ~ 4.43
4	4.43 ~ 4.69
5	4.69 ~ 4.96

3-3. Combination of A board and F board

A BOARD		
Rank	Set number	Color
1	ZJ136600	Orange
2	ZJ136700	Blue
3	ZJ136800	Red
4	ZJ136900	Green
5	ZJ137000	Black

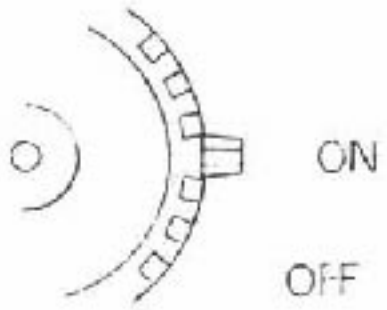
F BOARD		
Rank	Set number	Color
1	ZJ136100	Orange
2	ZJ136200	Blue
3	ZJ136300	Red
4	ZJ136400	Green
5	ZJ136500	Black

- Five combinations are indicated by solid lines drawn between the two tables, below. If necessary, however, different combinations may be formed as shown by dot lines. No other combinations are permitted.
- Wrong combinations will deteriorate the follow-up action of the indicating LED for each combination of brightness, ASA, aperture and S.S.

4. Finder indication matching

4-1. Preparation for matching

1) Remove top cover, so that the variable resistor can be adjusted.



2) Put in a new battery, and turn on power on-off switch.

3) Set the ASA dial to 100.

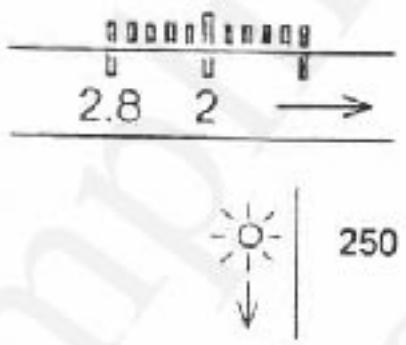
4) Install the matching jig lens.

4-2. F board aperture step matching
(Matching of F board resistance to IC102.)

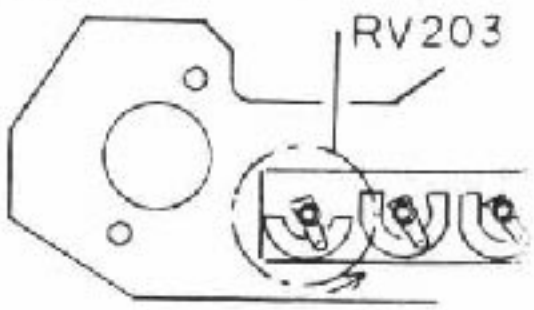
1) Set the brightness chamber to BV 11.

2) Starting from F2, squeeze the aperture slowly until the lighted finder LED shifts by one step.

(In this adjustment, the LED lighting position is permitted to be anywhere between 60 and 1000.)



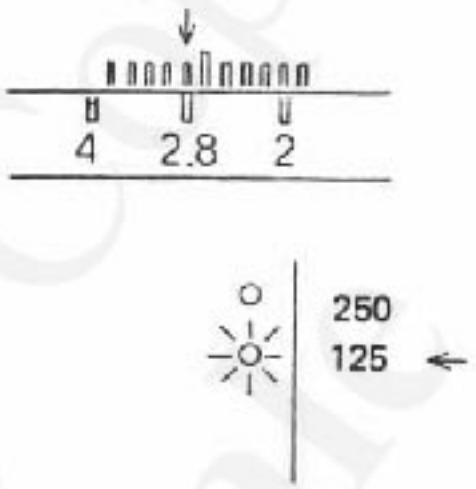
NOTE:
If the lighting position (which is shown at 250 on the above) is 1000 or higher, turn RV203 to bring the position down to and below 1000.



With whole matching work completed, LED for 125 lights up at BV10 and F2.8.

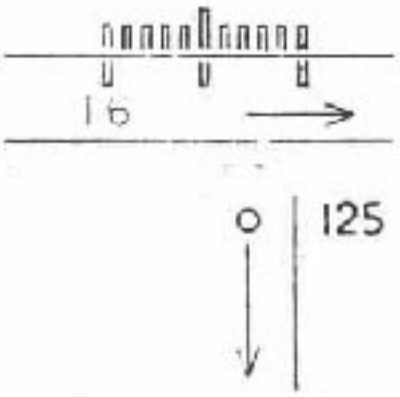
3) a. Just when the lighted LED has so shifted, read the aperture setting on the scale in reference to 0.1.

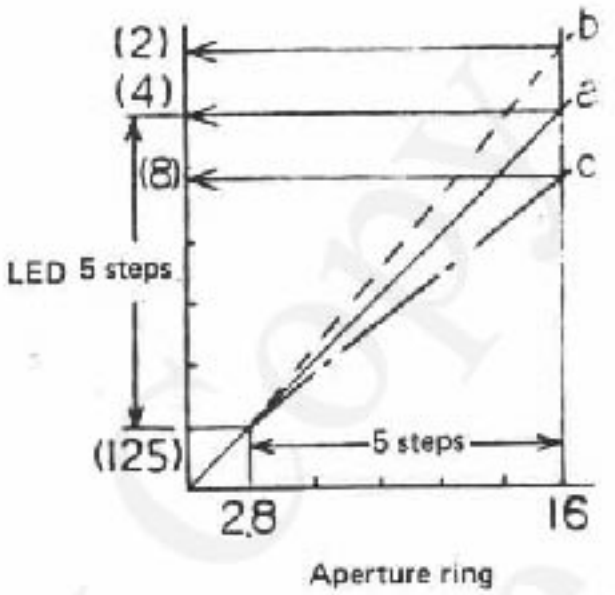
b. Memorize the position of the lighted LED. (In this example, the LED is 125.)



NOTE:
When checking the number of steps, one-step change will not occur with LED even if the aperture ring is turned from F1.4 to F2. (This is because of the principle involved in TTL number.)

4) Turn the aperture ring to shift the lighted LED shifts five times from the position noted in 3).



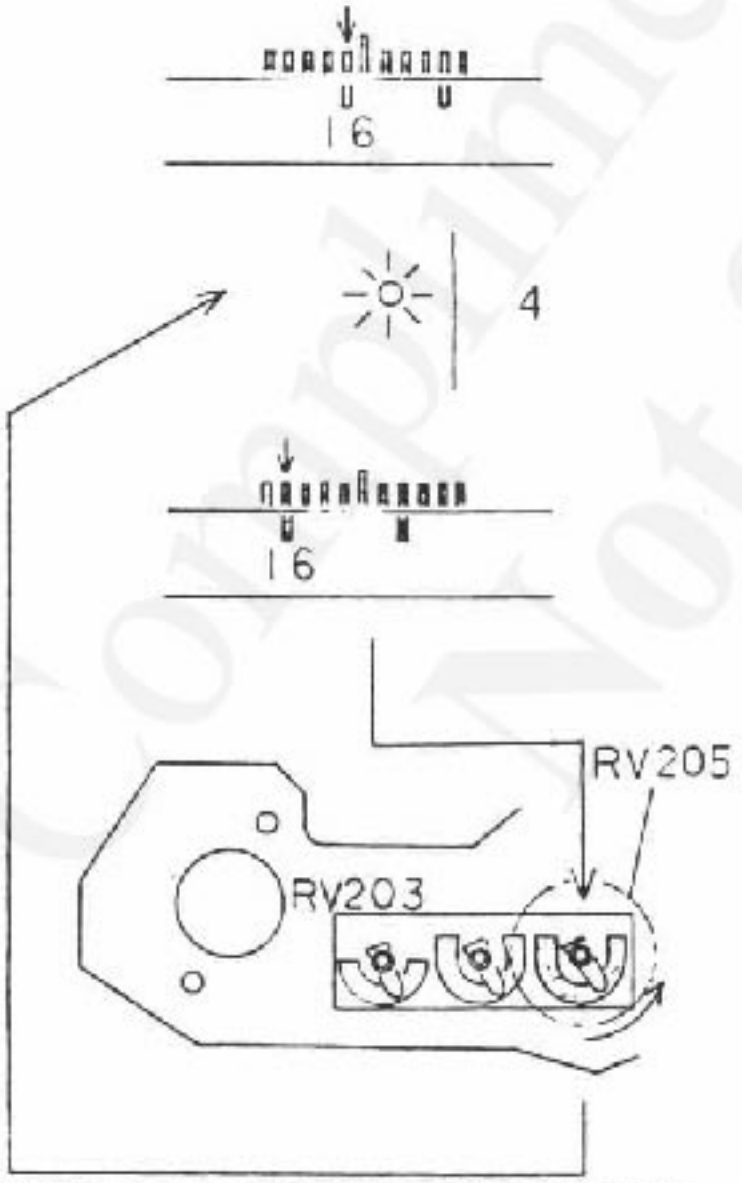


5) a. Upon making the 5-step change, read the F16 position on the scale.

Matching is satisfactory if the position of F16 comes to the same graduated mark as 3).

Read on reference to 0.1 aperture setting.

b. If F16 happens to be in the position indicated in this example, turn RV205 in the arrow direction.



This adjustment is to be made with ±0.1 aperture.

a = matching OK
b = matching no good
c = matching no good

NOTE:

With whole matching work completed, LED for 4 lights up at BV10 and F16.

6) Turn the aperture ring from F2.8 to F16 one more to check and see if the adjustment is satisfactory or not; if not, repeat the steps 2) through 5).

NOTE:
Limit error, if any, to within ±0.1 of aperture.

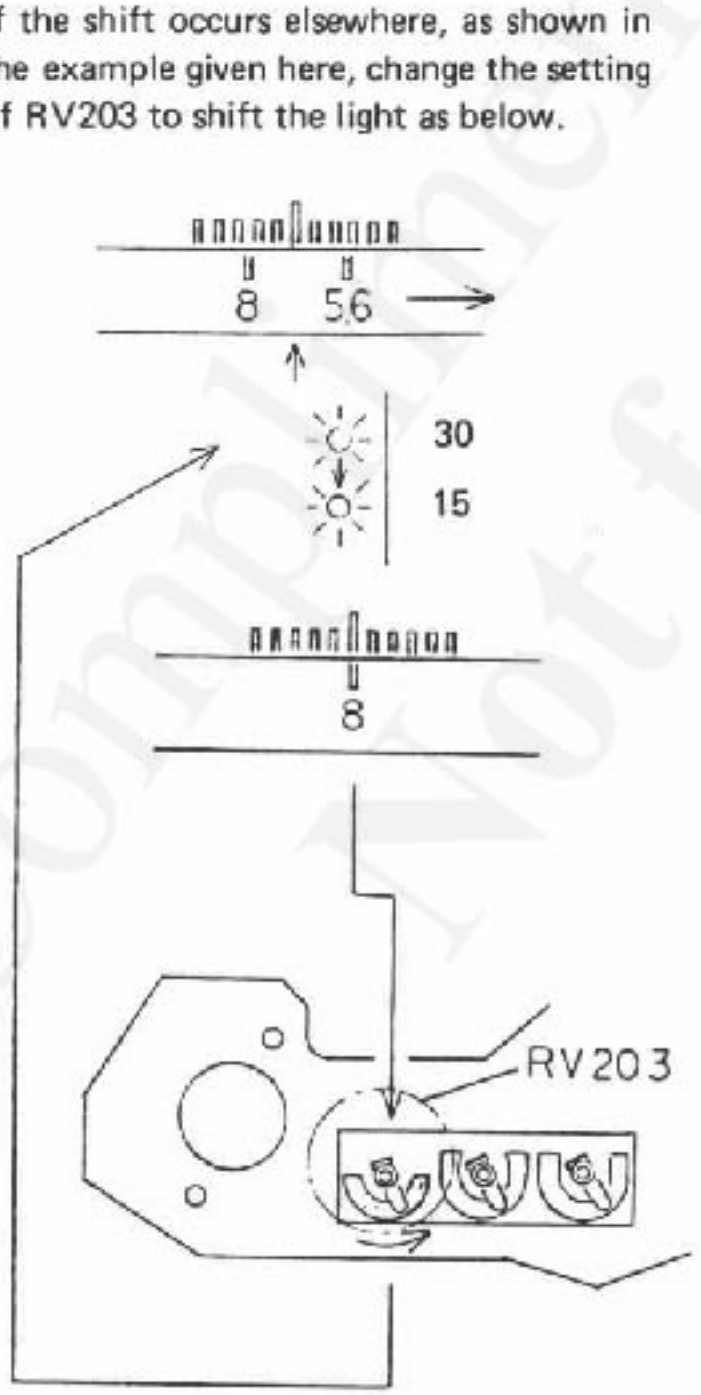
4-3. Matching lead lighting level

1) Set the brightness chamber to BV 10.

2) a. Squeeze from F5.6 to F8. See if the light shifts from 30 to 15 just when the aperture setting comes to the halfway point between 8 and 5.6; if so, the matching is satisfactory.

NOTE:
Read in reference to 0.1 aperture setting.
LED for 15 should slight up at F8.

b. If the shift occurs elsewhere, as shown in the example given here, change the setting of RV203 to shift the light as below.



NOTE:
Make this adjustment with (±0.1 of aperture.

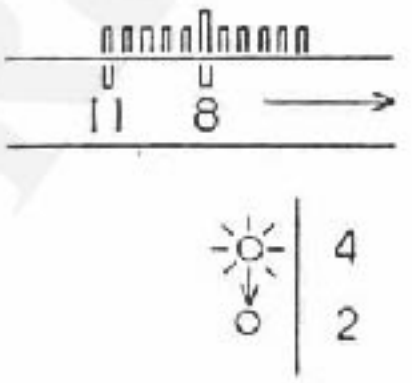
REFERENCE:
After RV203 has been adjusted, there is no need to make a re-adjustment in regard to the offset that will necessarily occur in the lighting position mentioned in 4-2.
Notwithstanding the offset, proceed to 4-4.

(Even when lighting position is deviated, no change will occur in the number of aperture steps or of lighting steps.)

4-4. CdS gamma adjustment

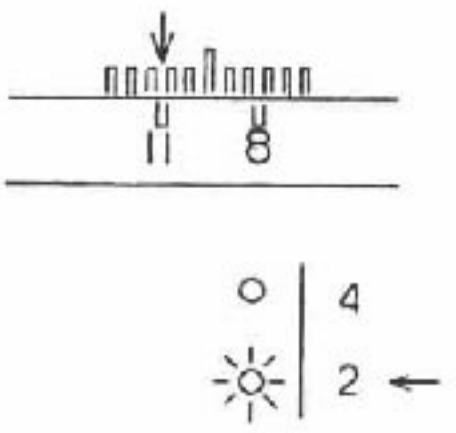
1) Set brightness to BV 8.

2) Start turning the aperture ring at F8 and keep on turning until the LED light in the finder shifts by one step.



3) Read the position of F8 on the scale just when the shift occurs, and memorize this reading.

Read in reference to 0.1 aperture setting.



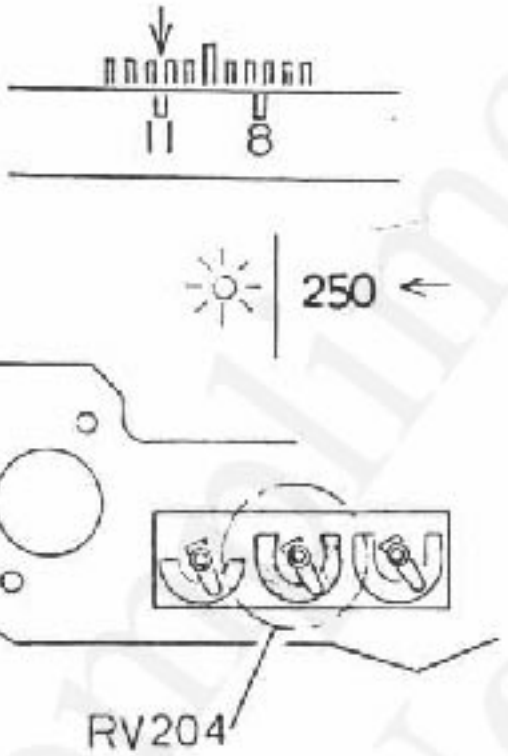
With whole matching work completed, LED switches over from 4 to 2 at a point intermediate between F8 and F11 when brightness (BV) is 8.
(LED for 2 should light up at F11.)

4) Set brightness to BV 15.

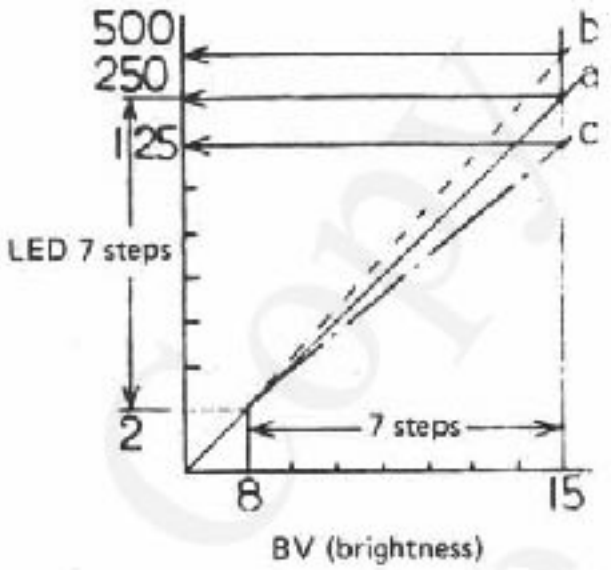
With BV15, switch-over should take place, as above, from 500 to 250.
(LED for 250 should light up at F11.)

5) a. Matching is satisfactory if the switch-over from 500 to 250 occurs at the same position that's shown in 3).
   b. Turn RV 204 clockwise if the shift occurs too early become coming to the said position.

If stroke is not enough, turn clockwise.
Adjust within ± 0.1 of aperture.



If LED will not switch over at a halfway point between F8 and F11, even with the gamma adjustment completed, it means that the lighting level is off the correct level. In such a case, adjust the level once again according to 4-3.



a = matching OK
b = matching no good
c = matching no good

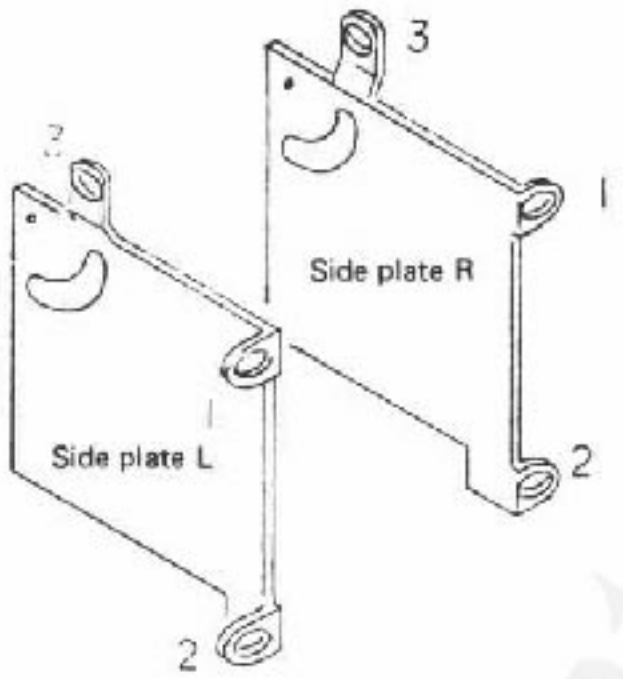
4-5. Confirm the step number of F board and also lighting level. If any deviation is noted, re-adjust from the deviated point down to 4-4.

NOTE:
Matching completed.

VI. OTHERS

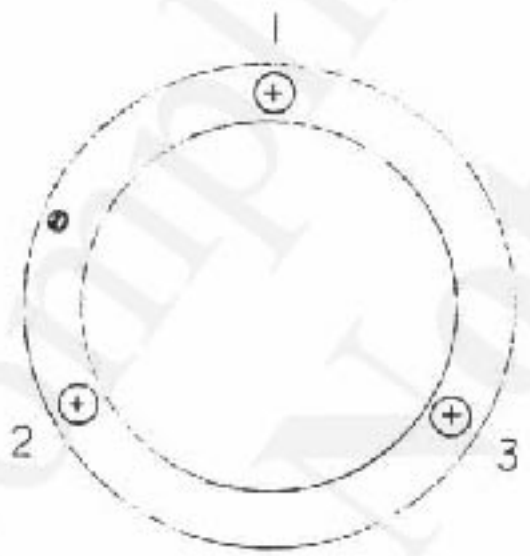
1. Sequence of tightening parts

1-1. Side plates L and R.



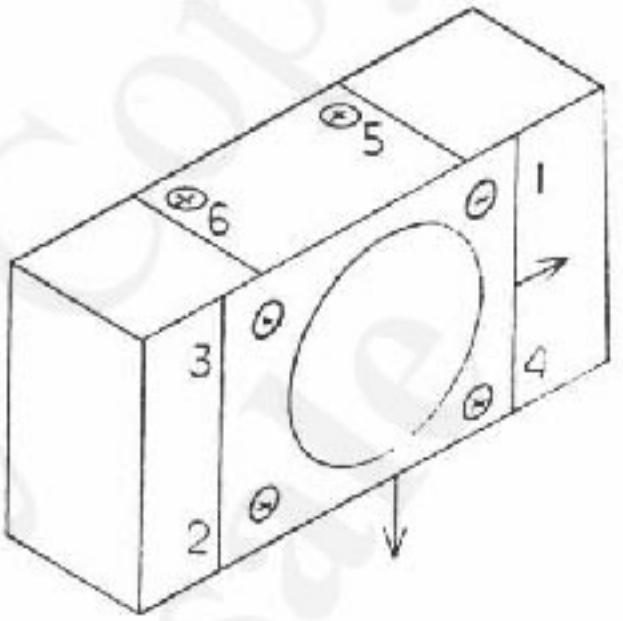
NOTE:
Tightening force: at least 20 kg-mm

1-2. Mount



NOTE:
Tightening force: at least 20 kg-mm

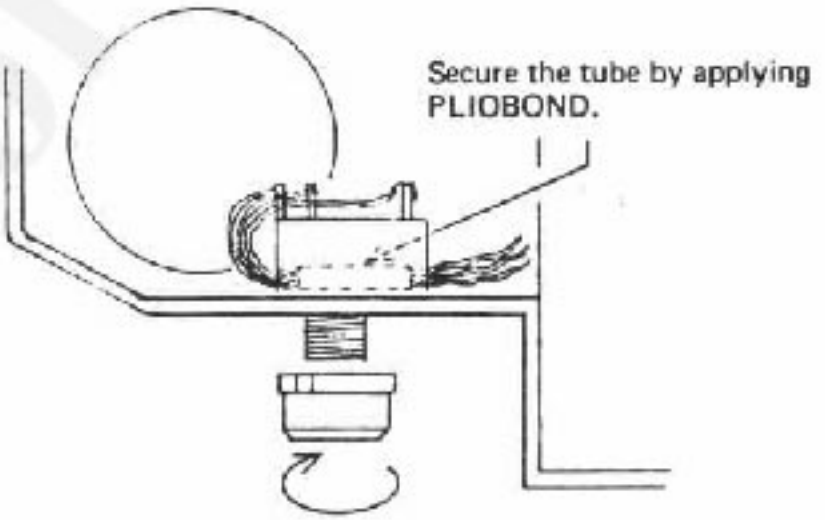
1-3. Front casting and die-cast body



NOTE:
Tightening force: at least 15 ~ 20 kg-m

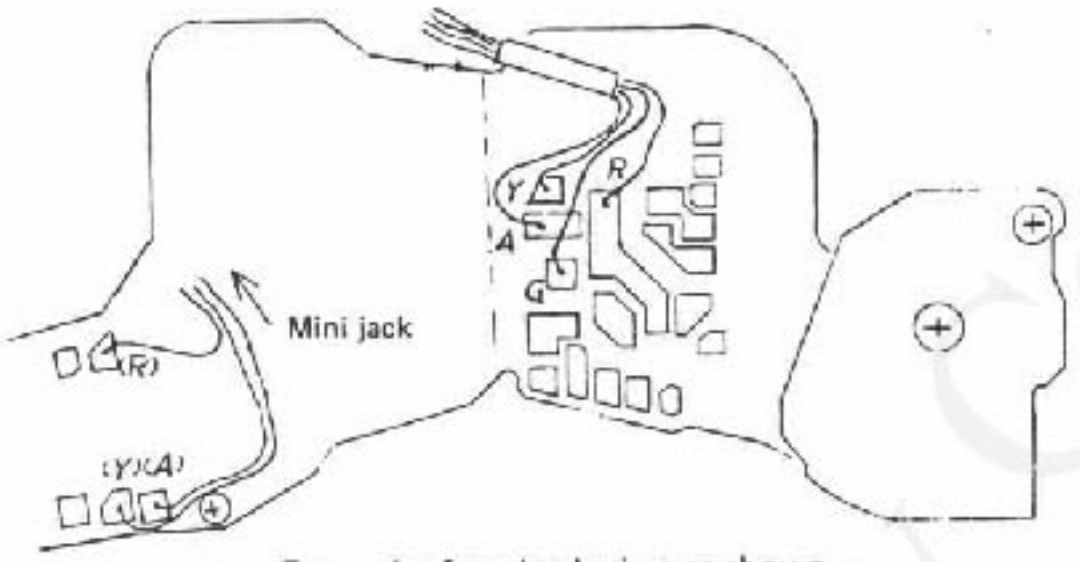
2. Installing top cover

2-1. Install mini jack (ZJ132600).



NOTE:
Overtightening could strip screw threads. Be careful when installing the mini jack.

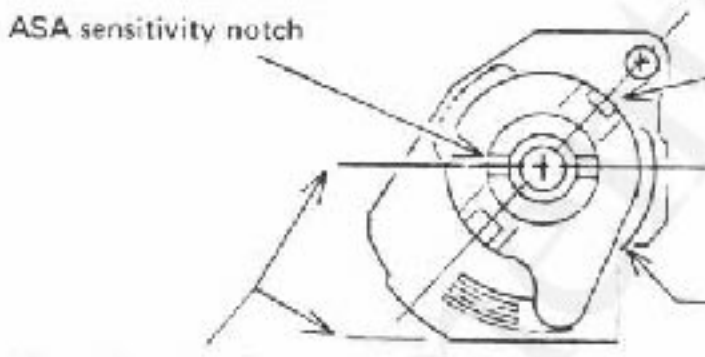
2-2. Solder lead wires (four) to upper plate.



A — Blue
G — Green
R — Red
Y — Yellow

Form the four lead wires as shown.

2-3. Set A holder to ASA 100.

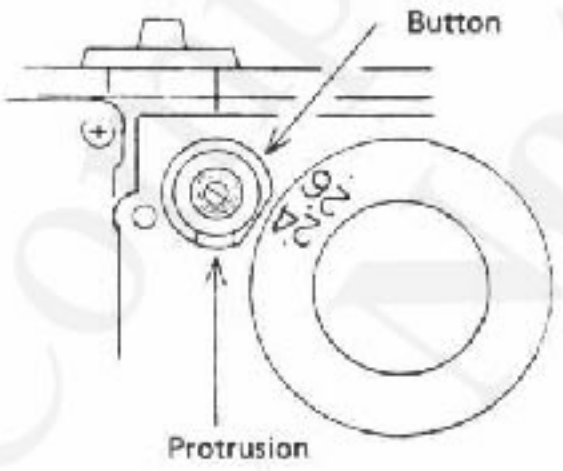


Mode notch

In this position, the mode is AUTO.

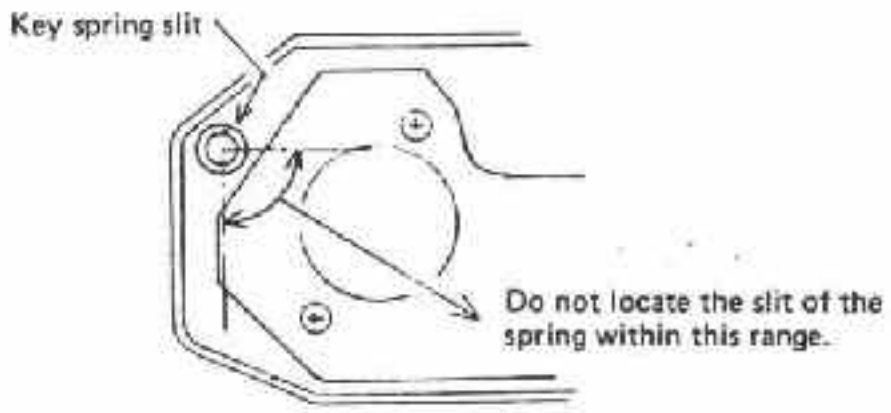
For ASA sensitivity setting, the broad side comes on the right.

2-4. Fit button (ZC207300) to button shaft (CA908400).



Locate the protrusion of release button at the position indicated by the arrow.

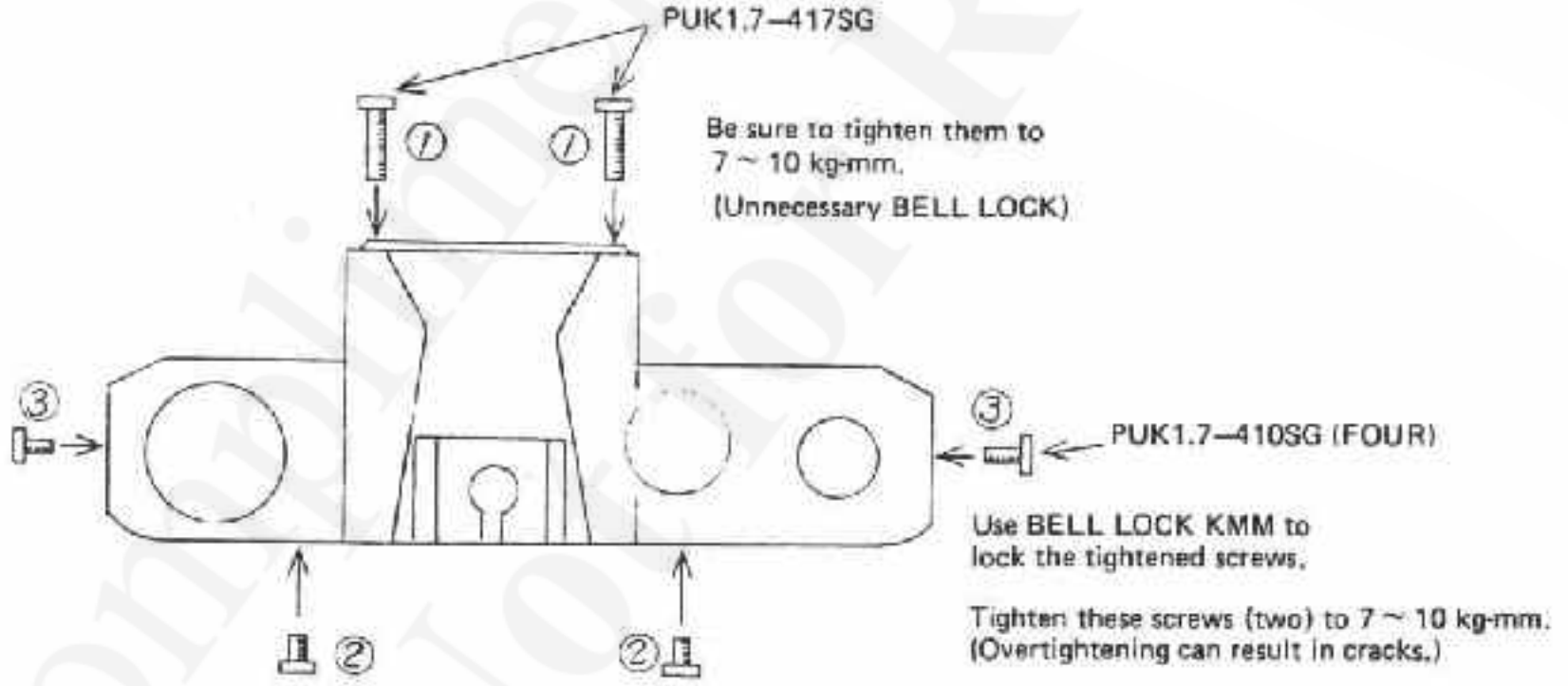
2-5. Set key spring (CA872200) in place, as shown.



NOTE:
Be sure that hook spring does not touch FPC board.

2-6. Put on top cover (ZC200200), brining it in from B mount side.

2-7. Secure the top cover with screws. Tighten them from ① to ③.



3. FPC board matching

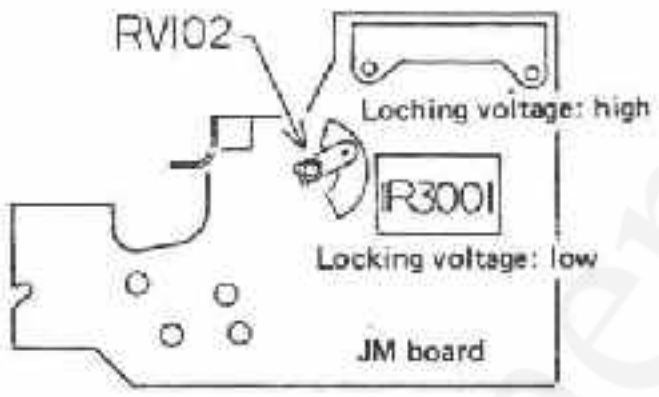
3-1. Preparation for matching.

1) Check and match the board in installed condition.
2) Remove the battery and, instead, make necessary connections to apply power from a constant voltage source.

NOTE:
The source voltage should be variable.

3-2. Locking voltage adjustment

1) Set RV102 as shown.



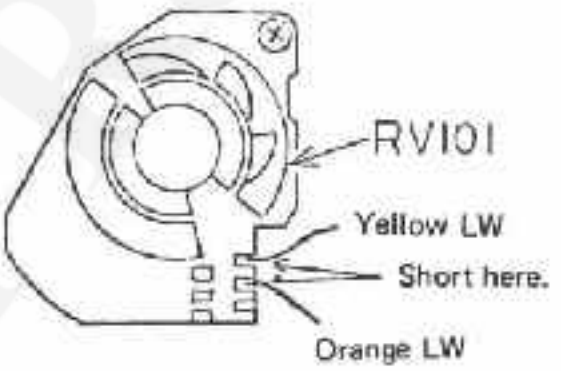
Set RV102 on high locking voltage side.

2) Set the camera input voltage at 2.05 volts.
3) Lock the mirror by releasing.
4) Turn RV102 slowly (see above) until the mirror becomes unlocked.
   Use a non-conductor tool.
5) Change the input voltage to 2.00 volts to see if the mirror gets locked as it should.

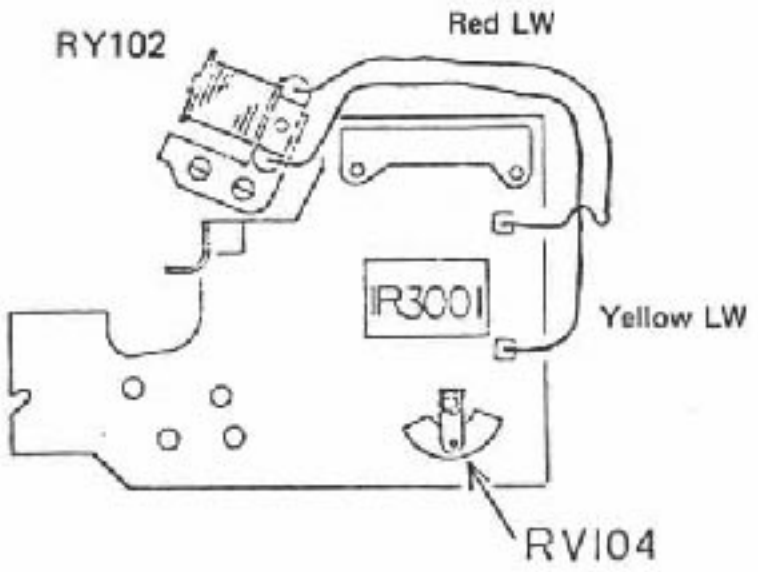
3-3. Offset adjustment

1) Set the camera input voltage at 3.1 volts.
2) Short the two black lead wires extending from main switch.

3) Turn on trigger switch.
4) Short the two ends of AUTO ASA resistor (RV101).



5) Turn RV104 until the voltage on RY102 changes from 3 V to 0 V or from 0 V to 3 V, and hold it there.



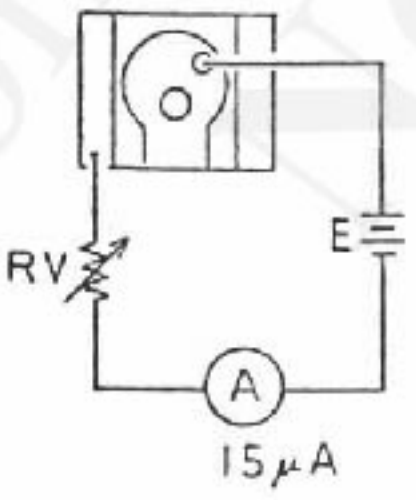
NOTE:
Accuracy is required of this adjustment because high ASA setting results in S locking.

This adjustment is not easy. If it is too difficult to make, then RV104 may be set in the following manner in lieu of the adjustment:
With lever (SW105) in SELF position, turn RV104 to the position past which the 2-Hz sound starts or stops.

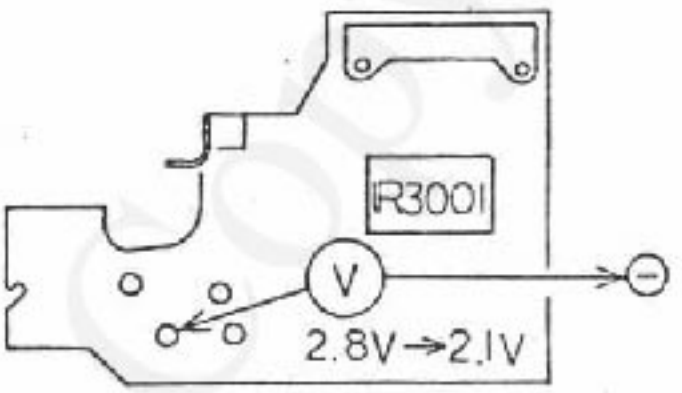
2-Hz sounding . . . . . RV102 OFF
No sounding . . . . . RY102 ON

3-4. Checking auto selection of strobo X timing

1) Form a test circuit, as shown, using an RV for regulating the current.



2) Be sure that, with 15 μA, the voltage should shift from 2.8 V to 2.1 V.

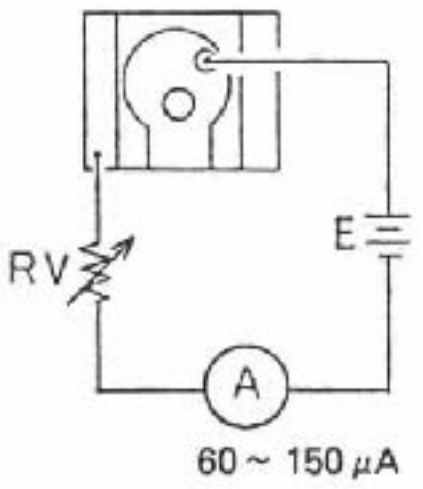


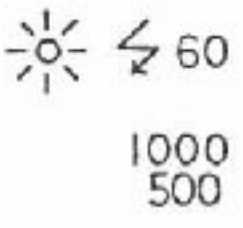
2.8 V . . . . . AUTO reference voltage
2.1 V . . . . . MANUAL reference voltage

NOTE:
15 μA is prescribed as the maximum current for inducing this voltage change.

3-5. Checking the LED for indicating strobo charging.

a. Form a test circuit, as shown. (The circuit is the same as that of (4) above.)
b. Be sure that the LED, shown, lights up in the finder with a current of anywhere between 60 and 150 μA.



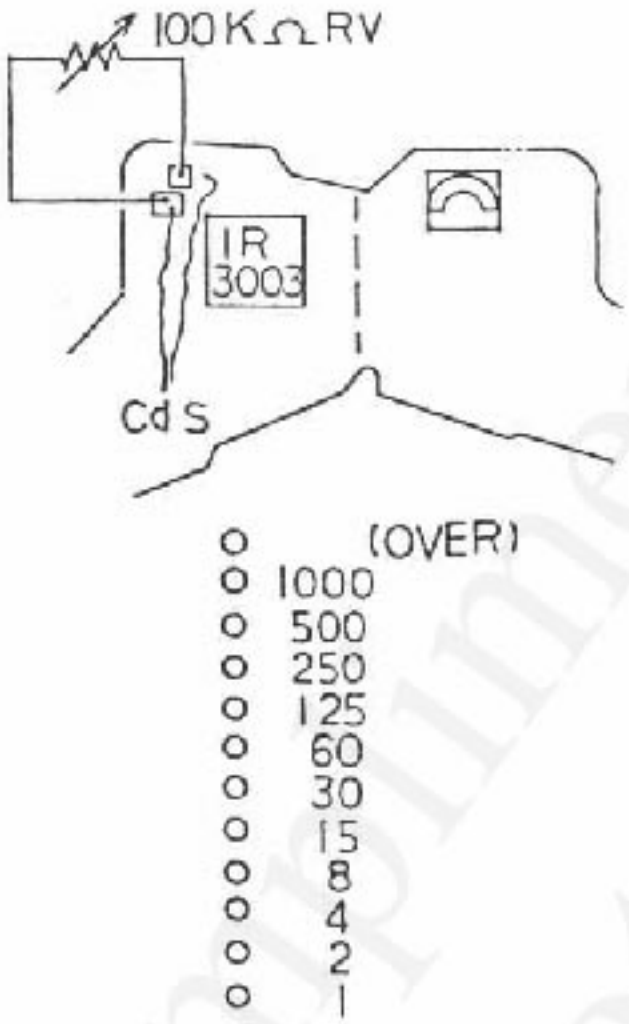


3-6. Checking LEDs for lighting action

a. Disconnect one of the CdS lead wires, and reconnect the wire with a 100 KΩ variable resistor inserted, as shown.

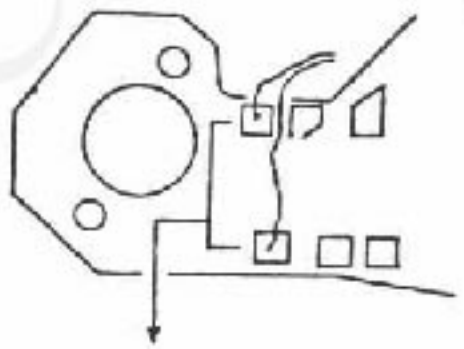
b. Turn the variable resistor gradually to see the LEDs light up sequentially, starting with OVER.
The LEDs are satisfactory if they lights up in the above-mentioned manner.

c. If sequential lighting ceases at a halfway point, ASA resistor (RV201) or F resistor (RV202) should be re-adjusted.



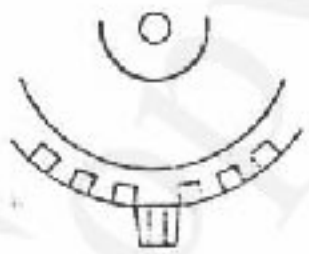
3-7. Self-timing action checking and adjustment

1) a. Remove the jumper used in step 3-3 -2).



Remove the jumper.

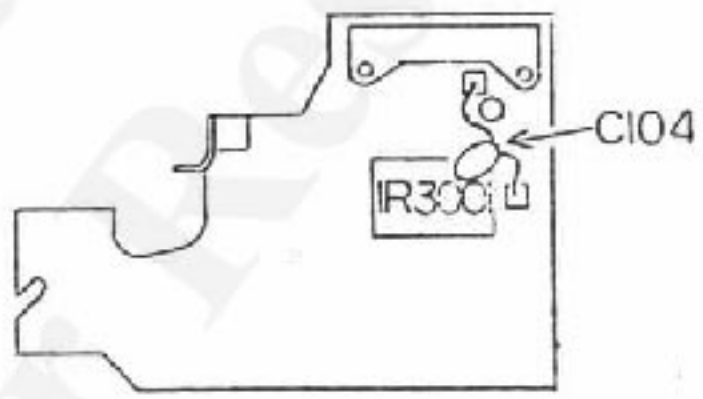
b. Move power on-off switch to SELF TIMER.



(SELF TIMER).

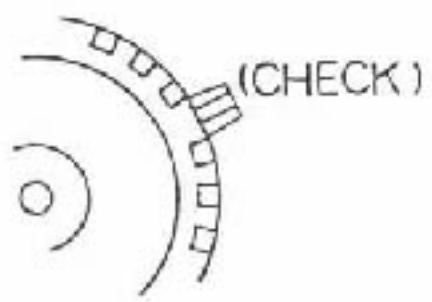
2) Release to turn on main switch. Check to be sure that the combination magnet becomes energized in 9 to 15 seconds of the turning on of main switch to run the shutter.

3) The duration of this delay is to be adjusted by means of C104.



3-8. Battery checking and adjustment

1) Move power on-off switch to CHECK side.



2) Lower the camera input voltage from 3 volts. Be sure the buzz ceases at about 2.07 volts of falling voltage.

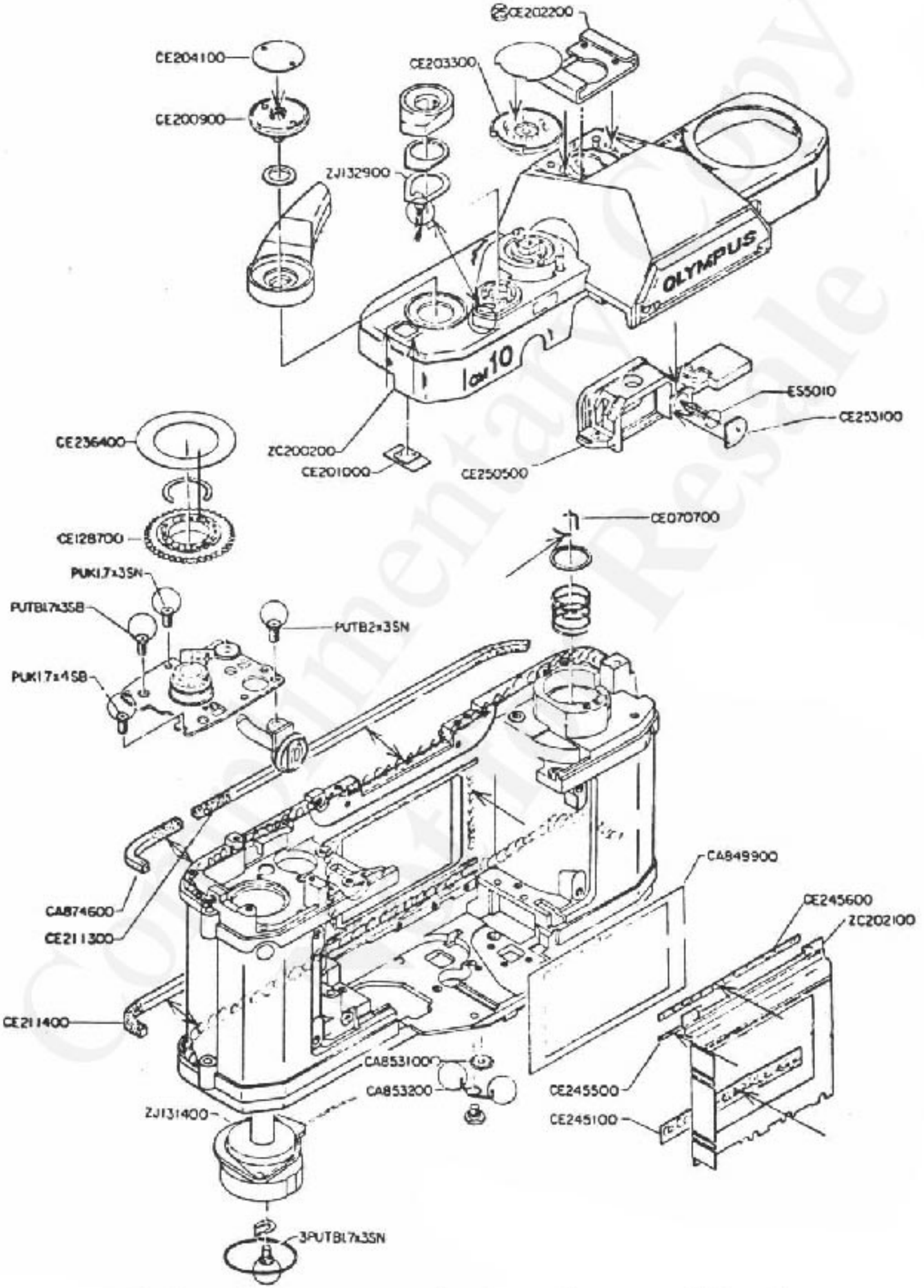
3) Adjust the buzzer with RV102 (also used for lock voltage adjustment), taking the lock voltage into account.

PARTS WHERE OIL, GREASE, ETC. SHALL BE USED

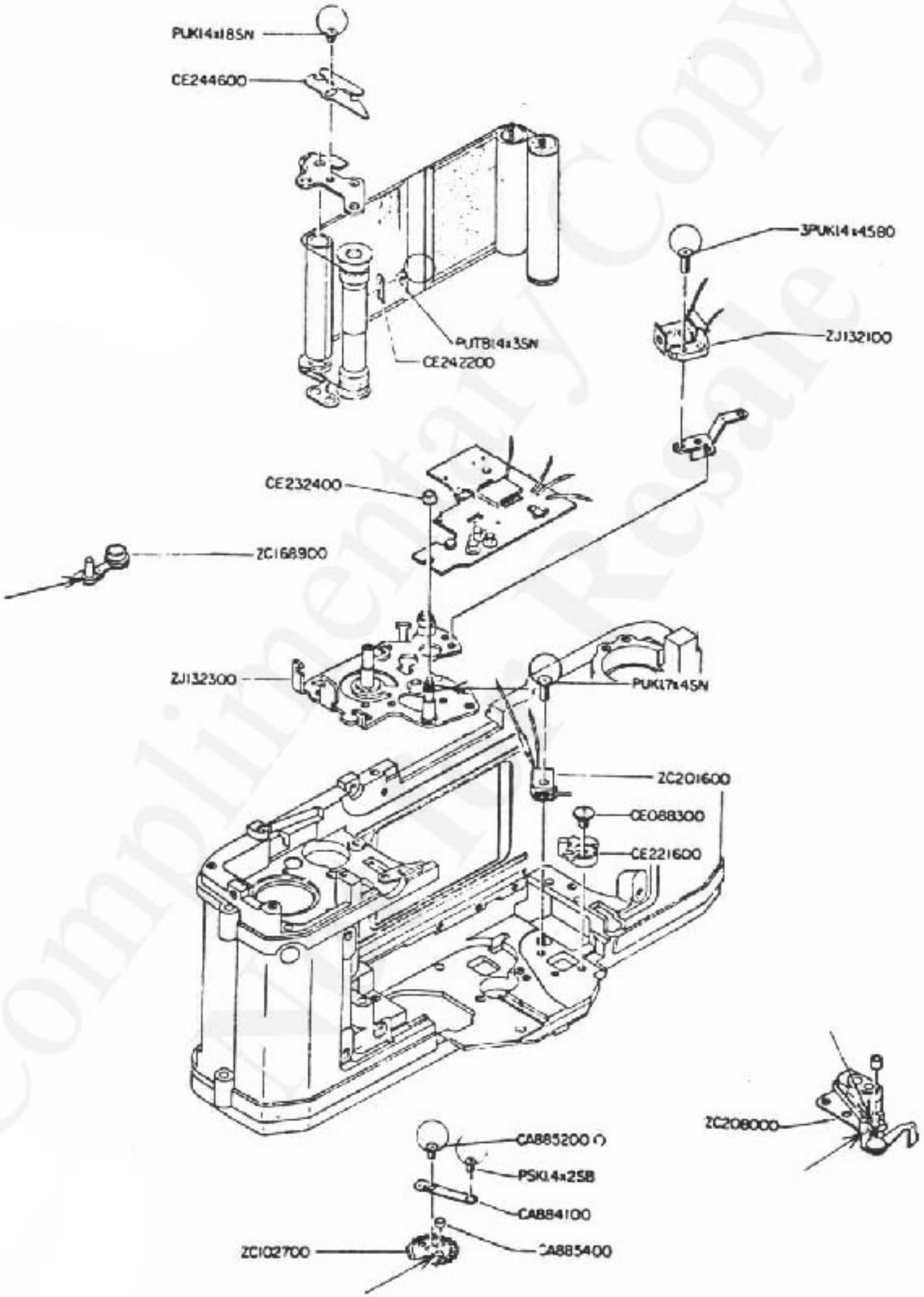
E. PARTS WHERE OIL, GREASE, ETC. SHALL BE USED

CONTENTS

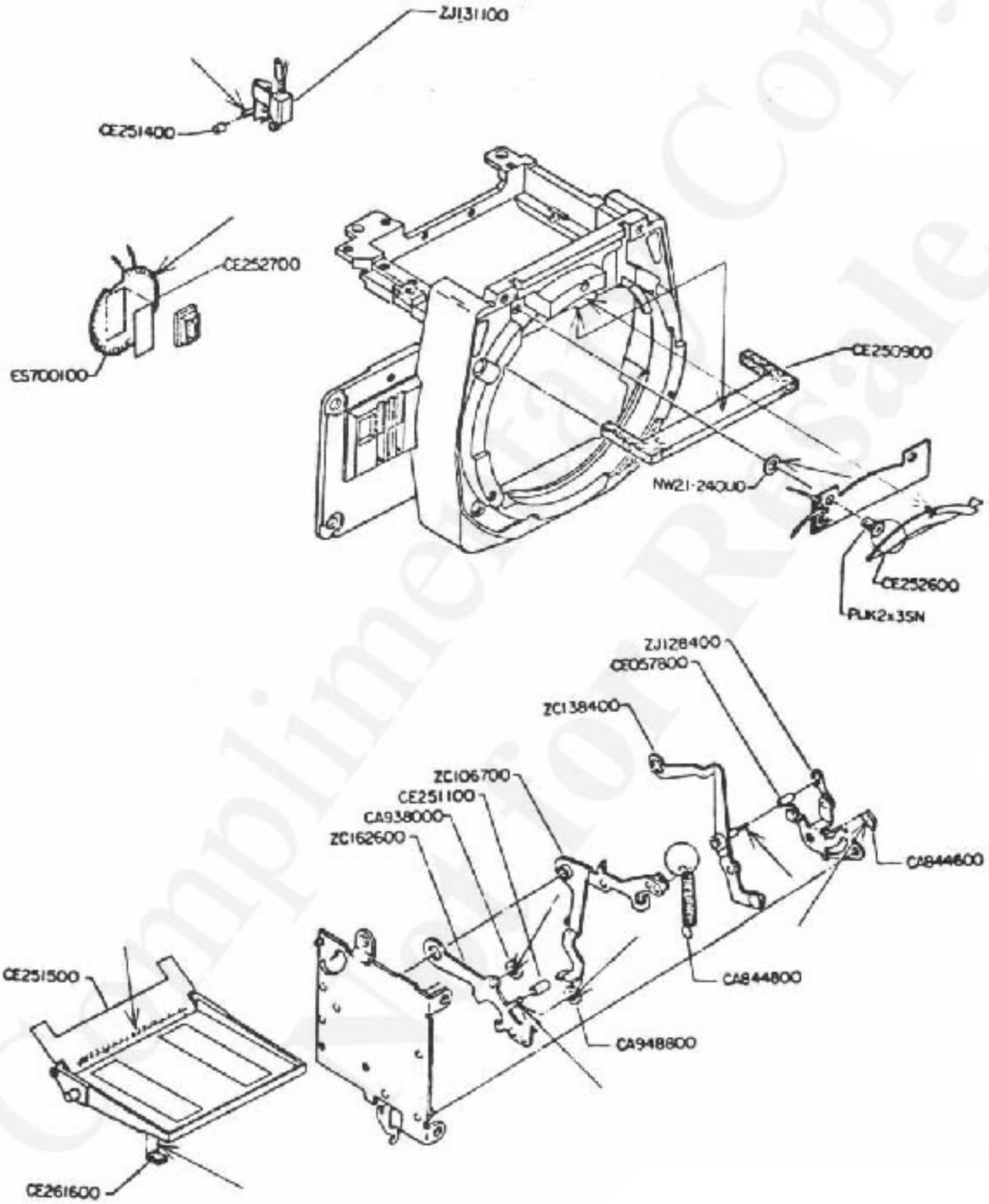
PLIOBOND (Cement)



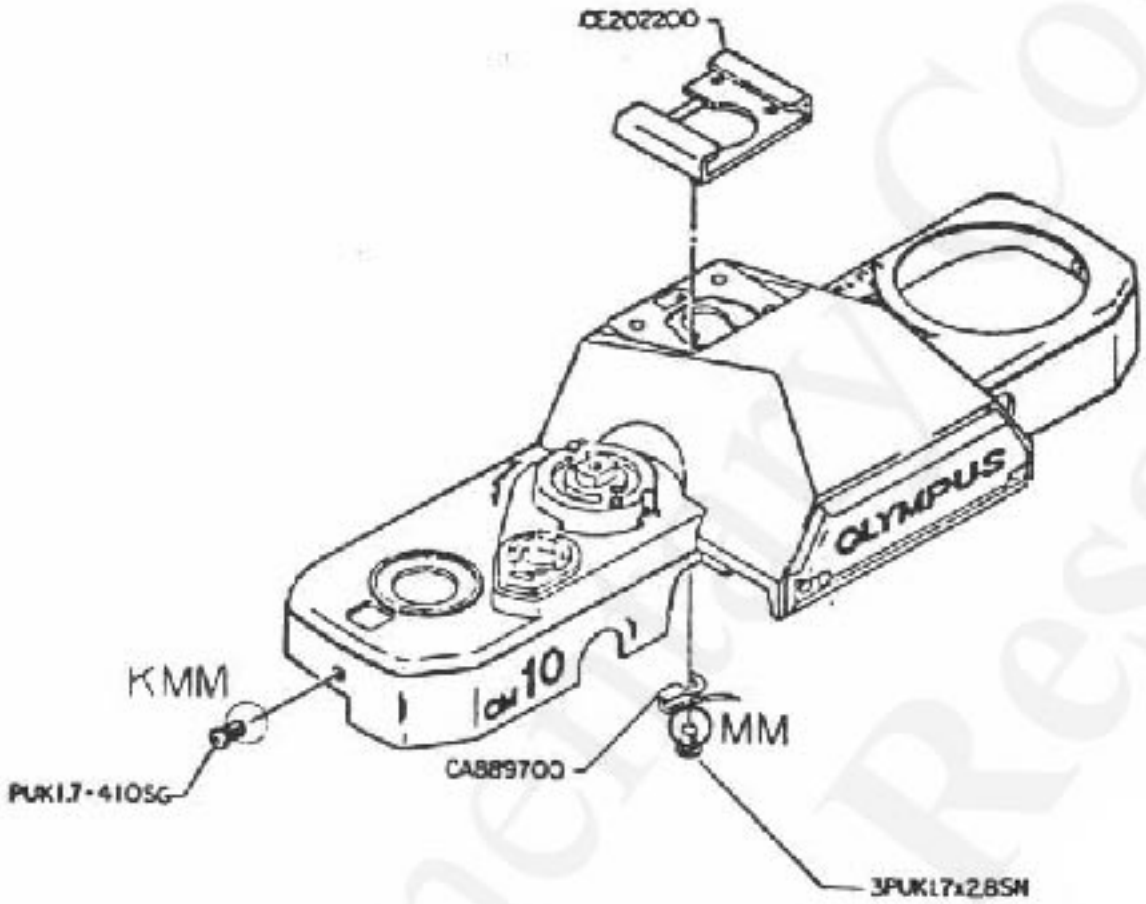
PLIOBOND (Cement)

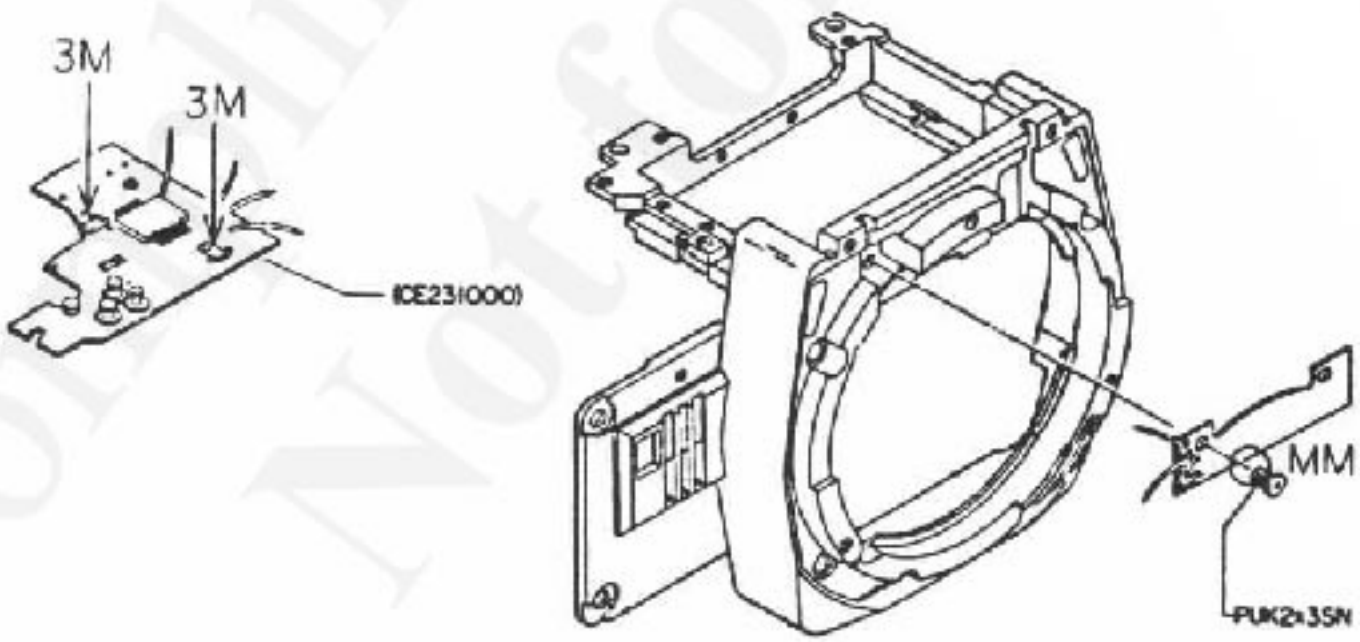


PLIOBOND (Cement)

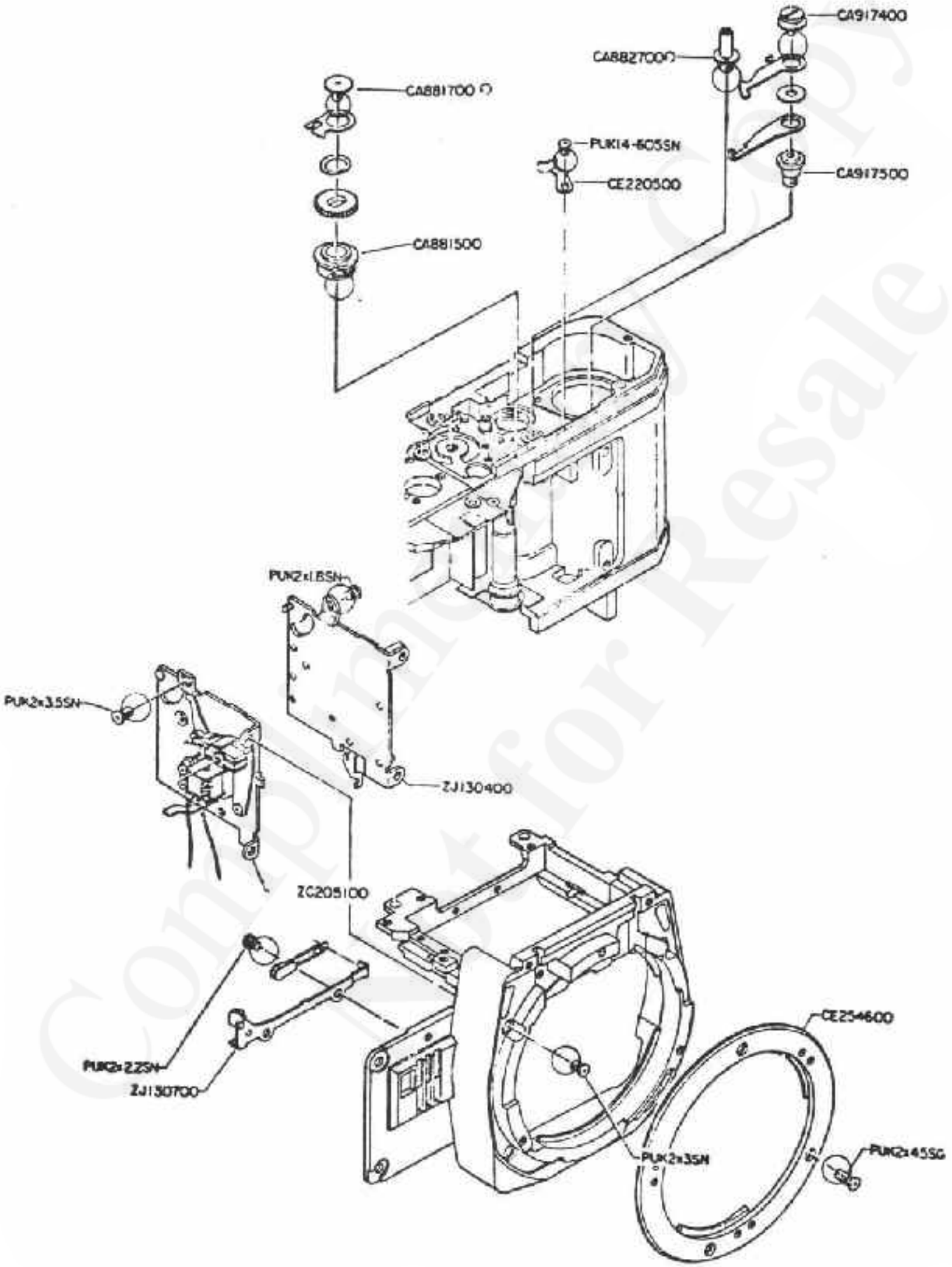


BELL LOCK MM (Cement)
BELL LOCK 3M (Cement)
BELL LOCK KMM (Cement)

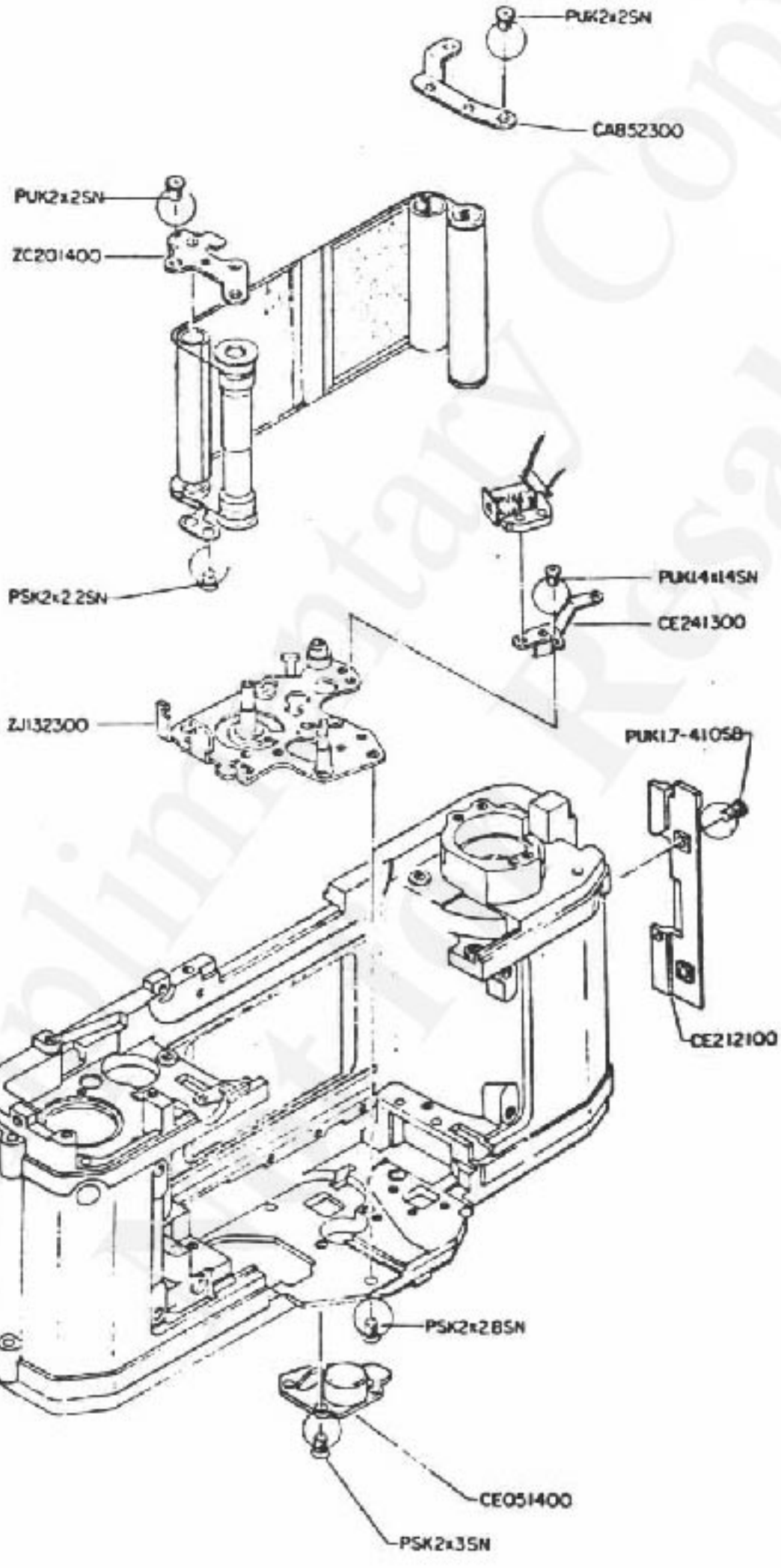




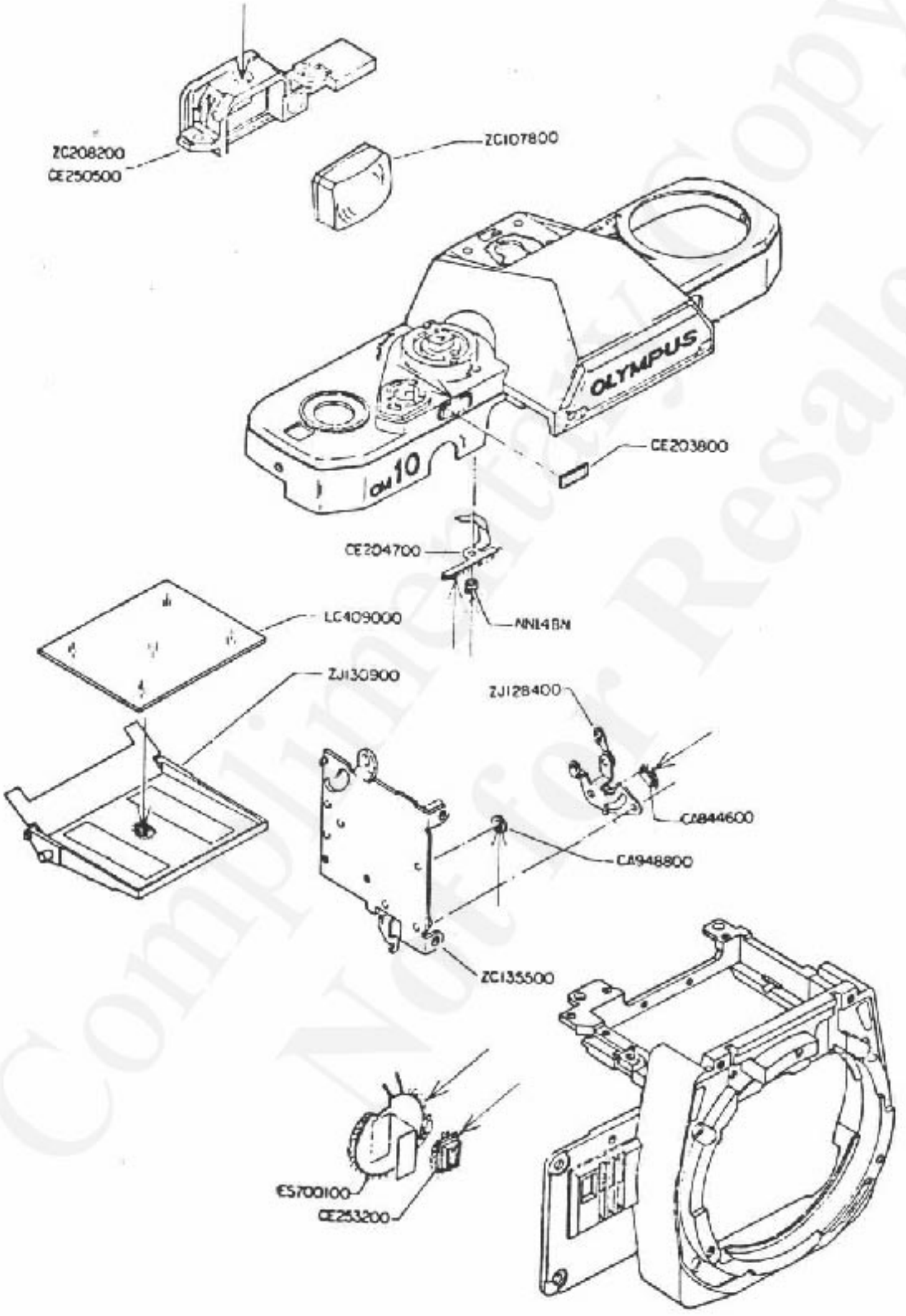
BELL LOCK SM (Cement)



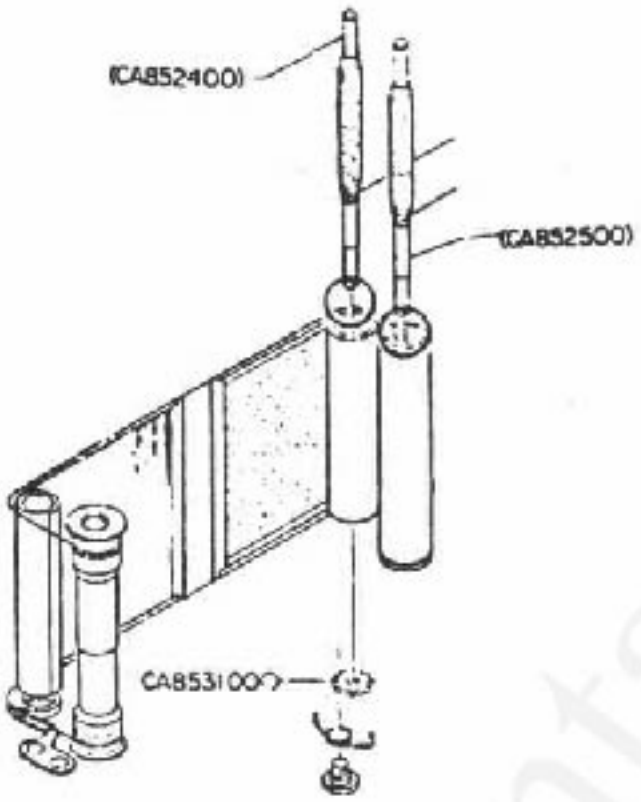
BELL LOCK SM (Cement)

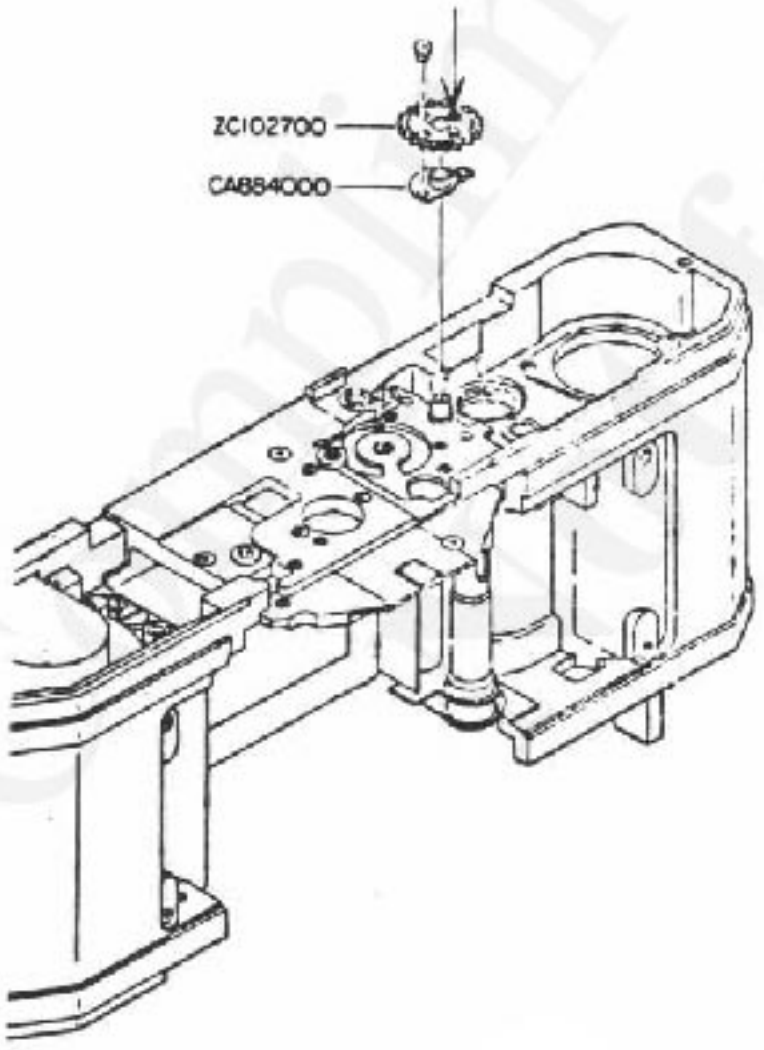


ARALDITE (Cement)

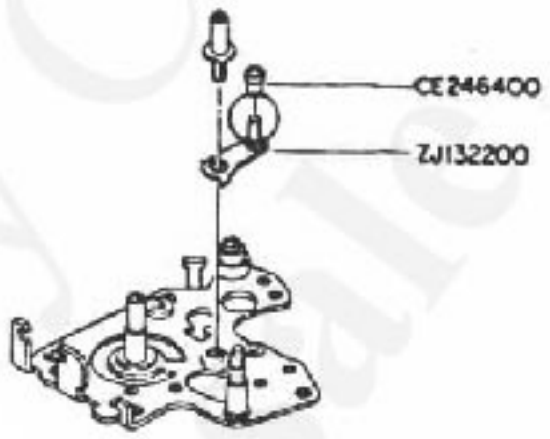


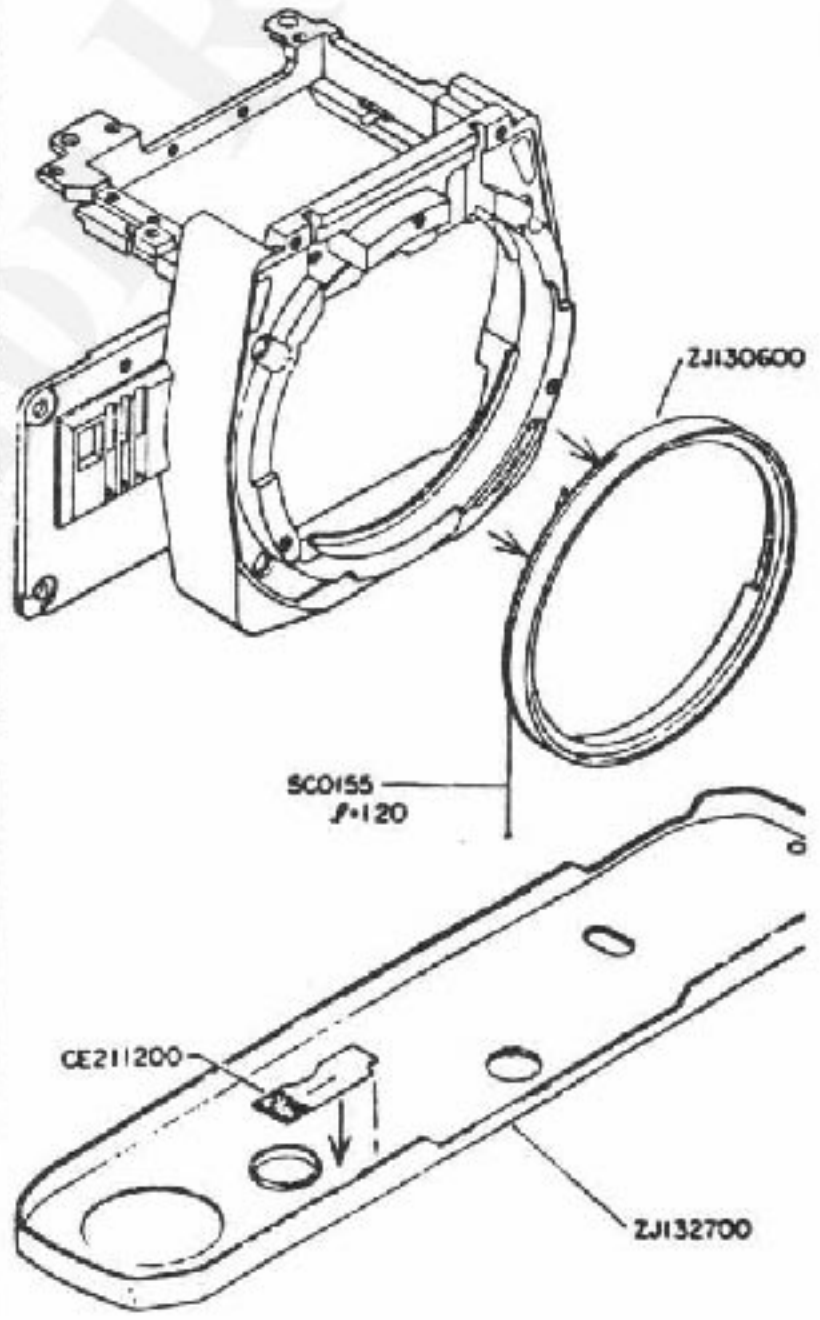
ALON ALPHA (Cement)





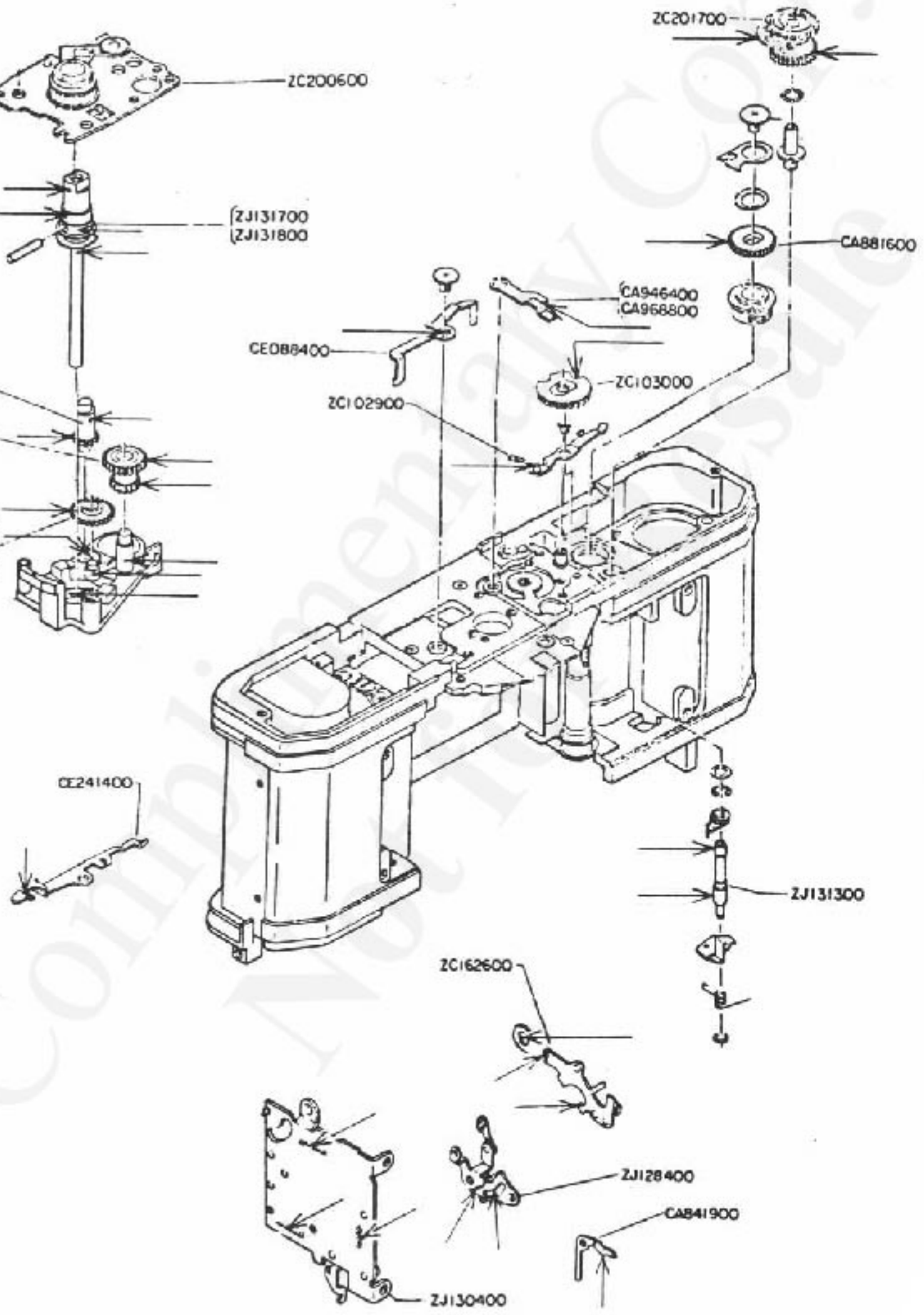
CEMEDINE 3000 (Cement)



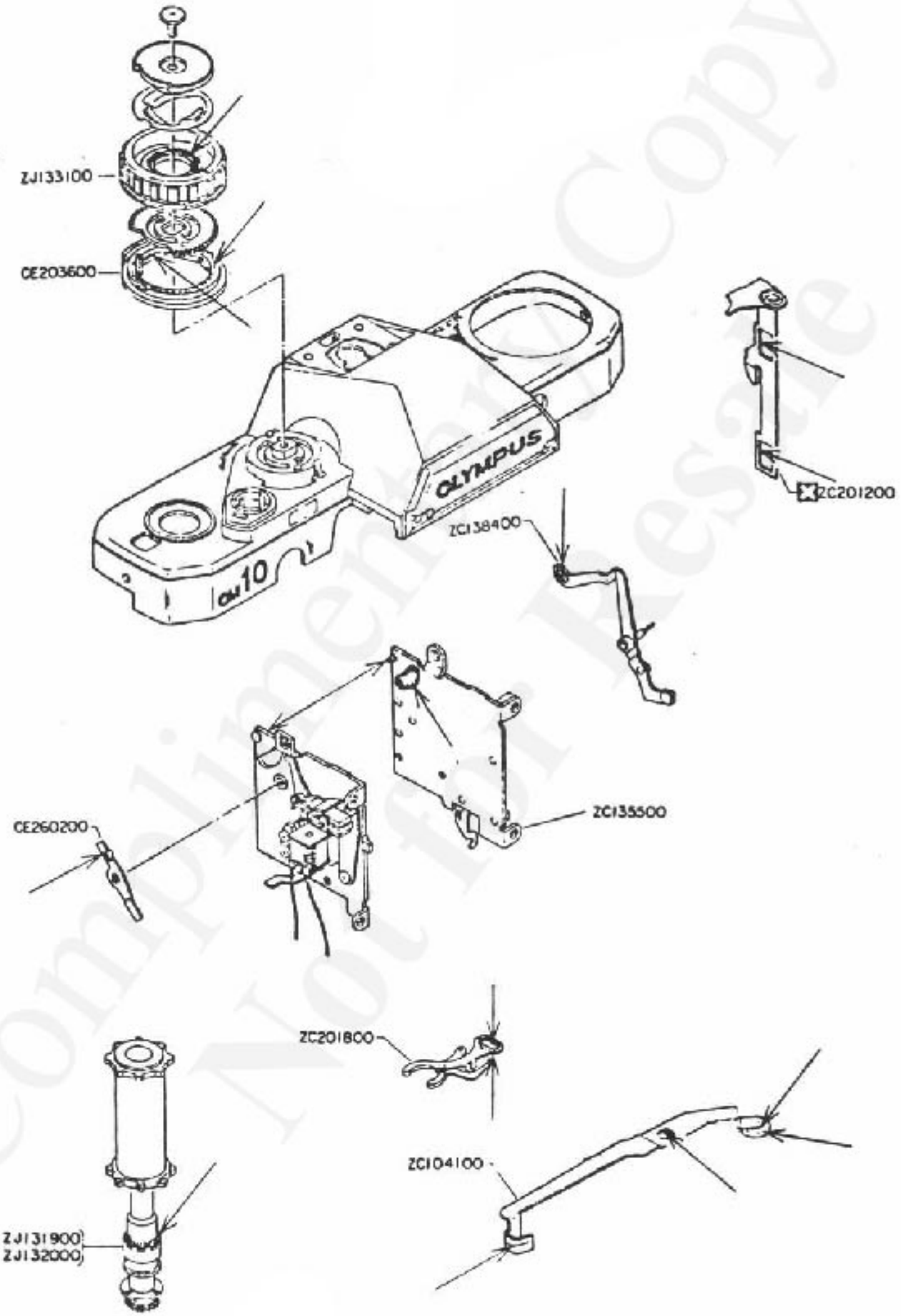


020P MOLYKOTE GREASE

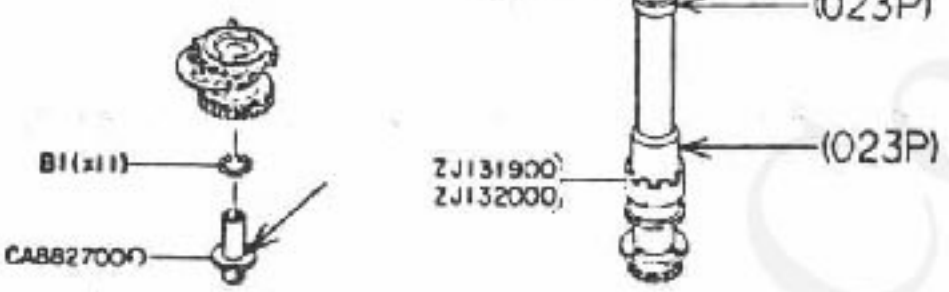
(017P 50% / 023P 50% + Molykote powder)



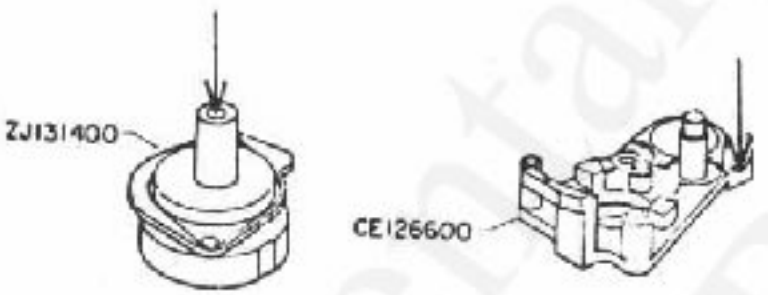
ED16 GREASE



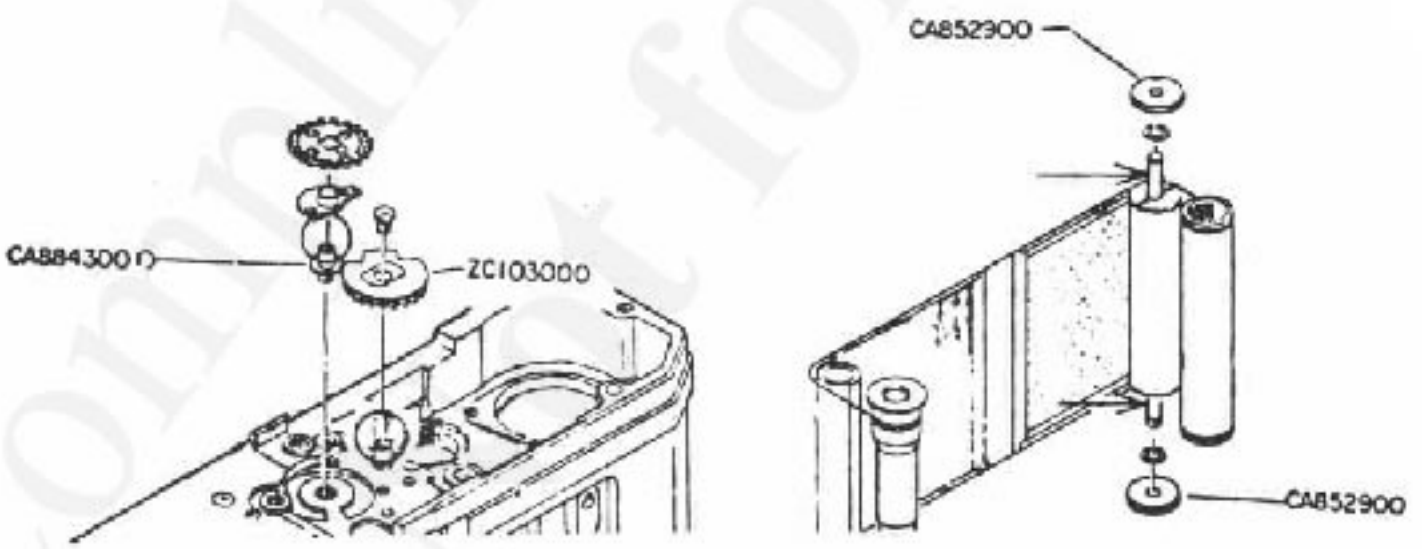
EP GREASE (EP)
PHOTOLUBE 023P (023P)



G50 GREASE

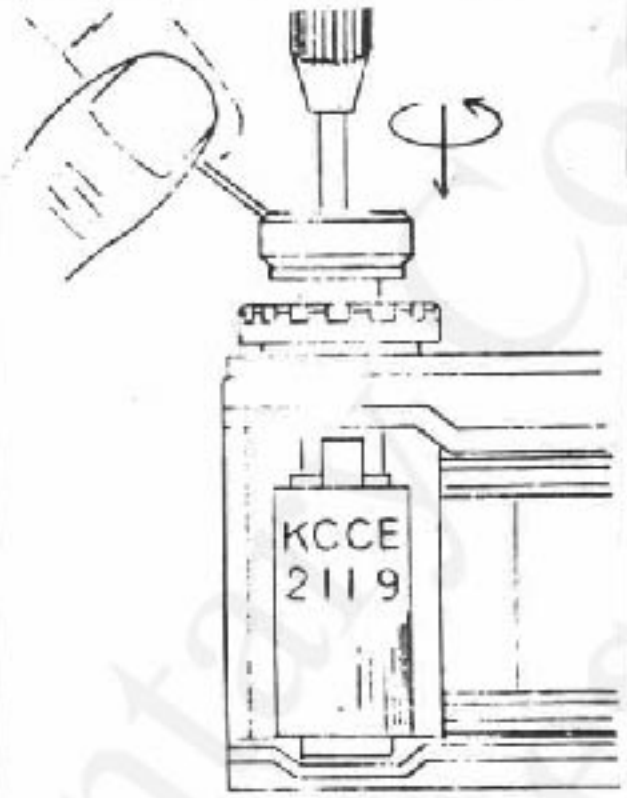
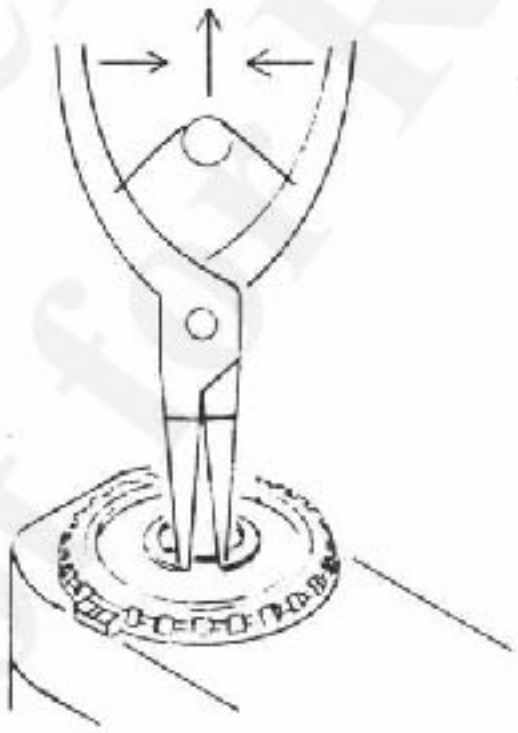
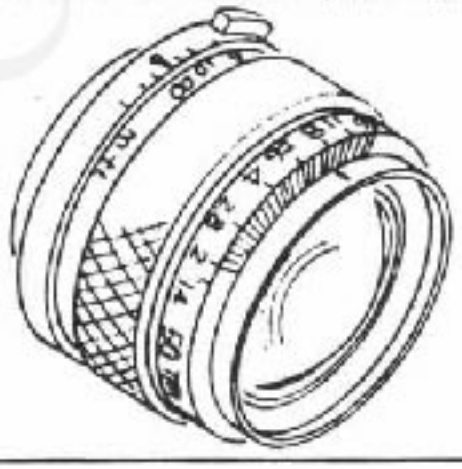


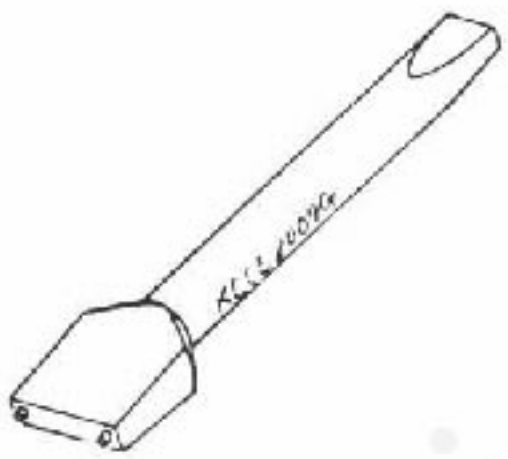
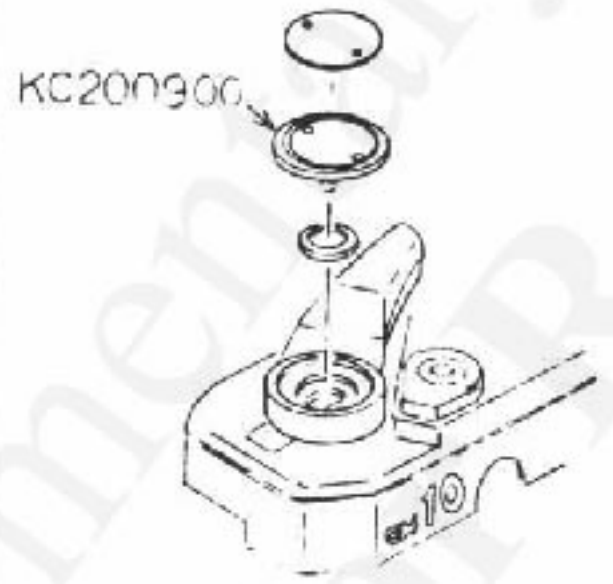
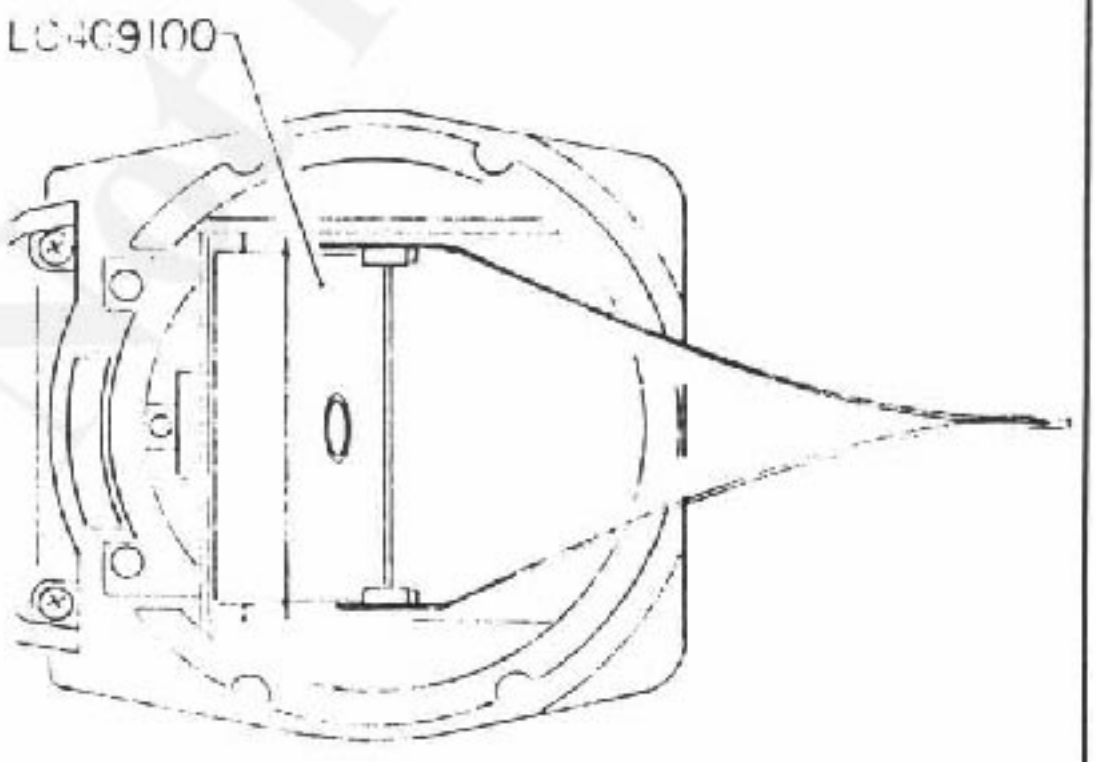
COSMORUBLIC 270A



SPECIAL TOOLS

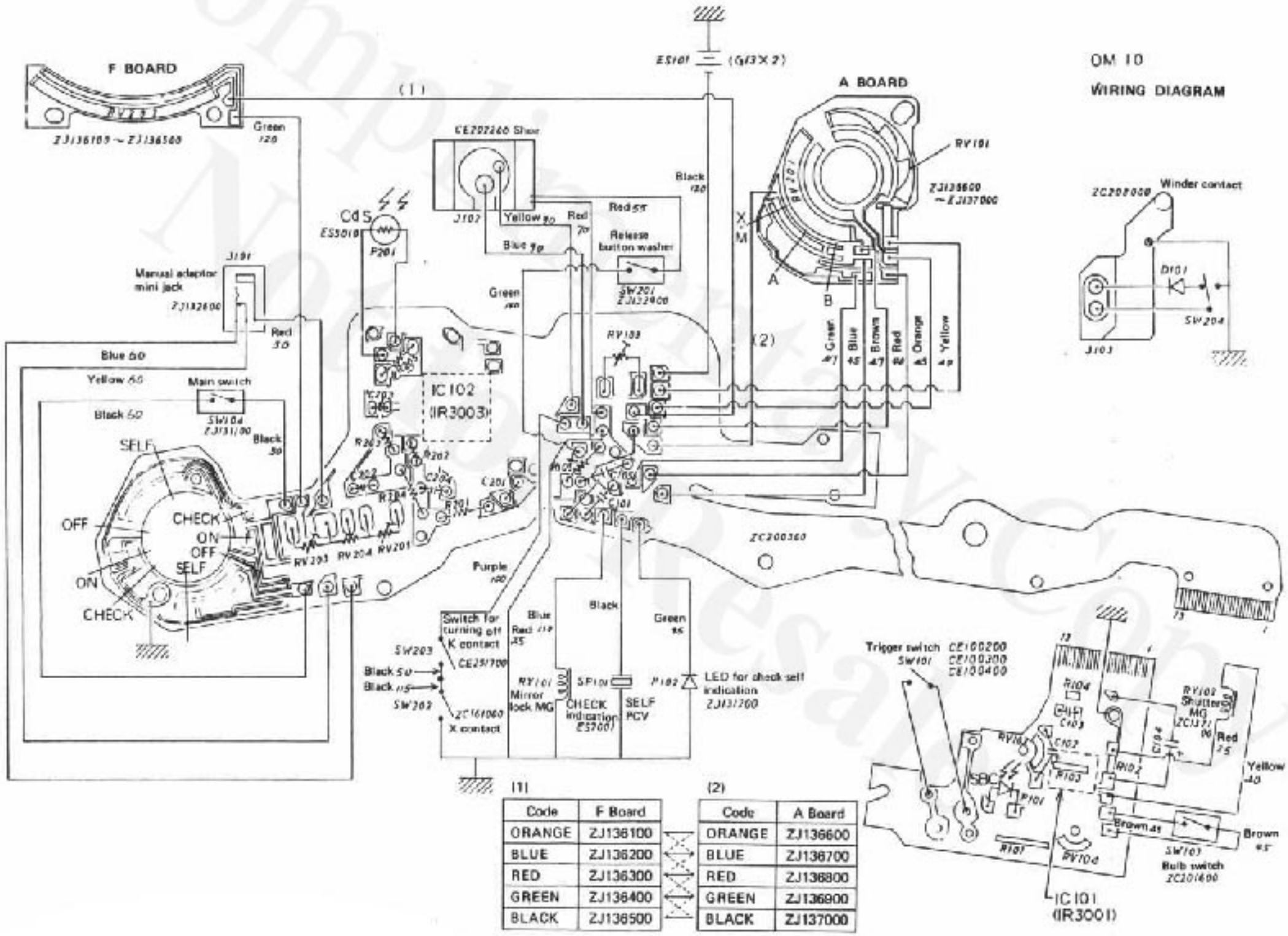
F. SPECIAL TOOLS

Tool No. & Name	Place Used & Usage	Remarks
KCCE2119 R. SHAFT HOLDER 		To be newly manufactured.
OT0065 STOP RING NIPPER 		New Tool
FINDER JIG LENS (OM-10) 	For use Finder indication matching. How to use is explained in REPAIR DATA.	To be newly manufactured.

Tool No. & Name	Place Used & Usage	Remarks
KCCE2024 DRIVER 		To be newly manufactured.
KCCE2009 DRIVER 		To be newly manufactured.
KCLC4091 SCREEN TWEEZERS 		To be newly manufactured. For the method of use, refer to the disassembly procedure.

OM 10

WIRING DIAGRAM



(1)

Code	F Board
ORANGE	ZJ136100
BLUE	ZJ136200
RED	ZJ136300
GREEN	ZJ136400
BLACK	ZJ136500

(2)

Code	A Board
ORANGE	ZJ136600
BLUE	ZJ136700
RED	ZJ136800
GREEN	ZJ136900
BLACK	ZJ137000