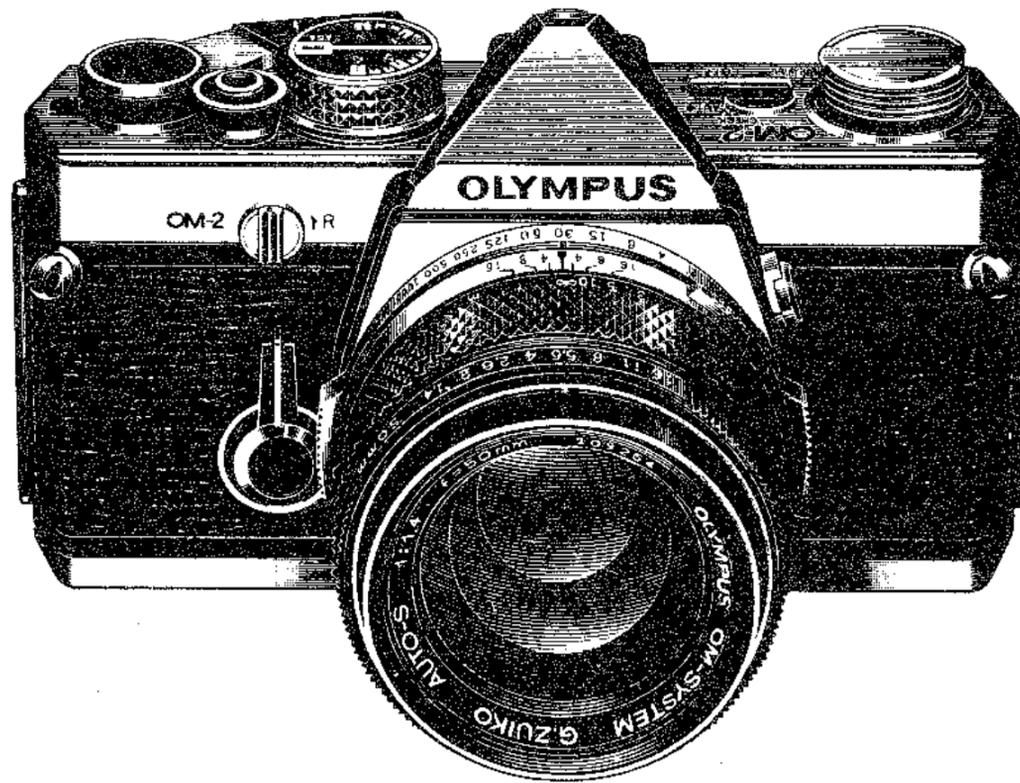


OLYMPUS
OM-2
OM-2N
REPAIR MANUAL

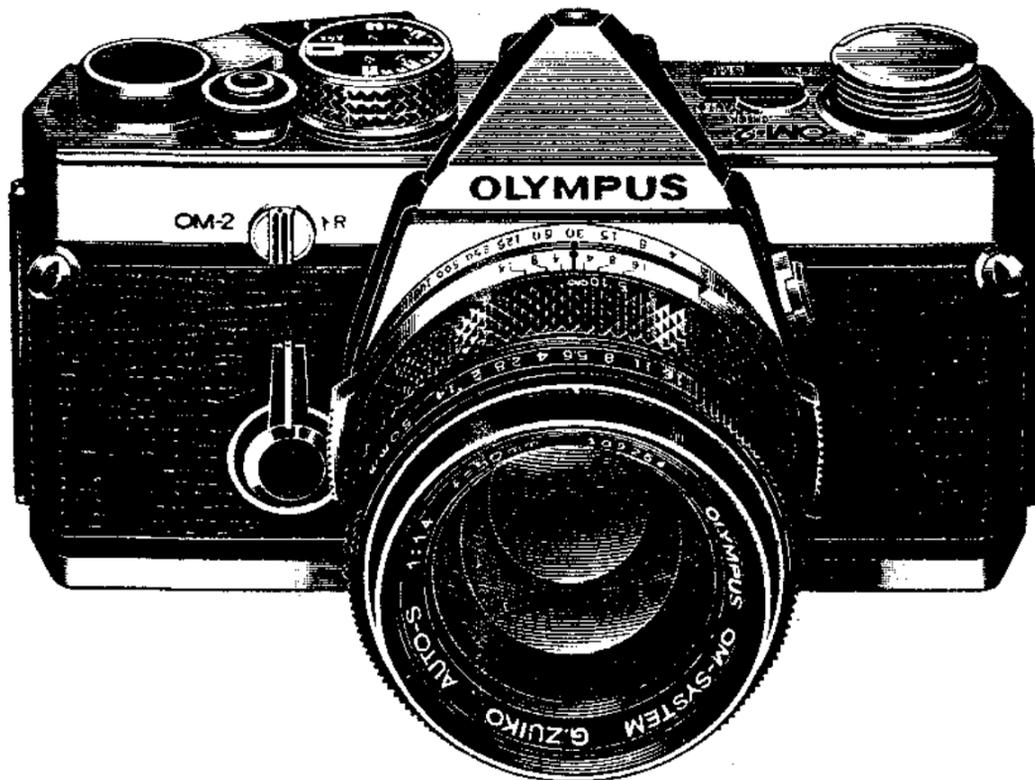


OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

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NOTE: Due to improvements and changes made throughout the production run ,some of the procedures in the text may not be specific to the model you are working on. Please refer to the improved part table at the rear of the current part list.

PRECAUTIONS FOR REPAIRS

The Model OM-2 is designed for very weak electricity in its electronic parts of the automatic exposure device so that it can measure and control an extremely low level of luminance (-5.5EV at ASA 100).

The electronic parts thus tend to be affected by static electricity or a voltage larger than that of the batteries used, and to suffer easily performance degradation or breakage due to the static electricity that a human body usually possesses. (The OM-2, however, is designed so as not cause such disadvantage in a completed state.)

Because of the above reason, if you should handle the OM-2 in the same way as with other cameras in repairs, the electric parts may be broken causing serious trouble that requires replacement of the shutter amplifier (M circuit board).

Take particularly the following cautions in repairs.

1. For the troubleshooting of the shutter amplifier and related mechanism, be sure to ground all materials that come into contact with the electronic parts including the human body, repair tools and work bench, and commence repair work after making sure the condition free from static electricity is achieved. (The ICs of MOS FET and IR024 are particularly delicate.)
2. For the soldering work, use a three-wire type soldering iron with the tip grounded.

3. The electronic parts are weak against heat. Thus, the soldering work must be made securely in a short time, 3 seconds for one place as a rule.
4. The shutter amplifier (M circuit board) requires very high insulation resistance on its every part, and must be kept free from dust, smudges, etc.
5. For the soldering of the shutter amplifier (M circuit board), use solder containing silver. If ordinary solder should be used, the silver in the circuit pattern may be absorbed by the solder causing unstuck soldering.
6. When a constant-voltage power supply is used in the shutter amplifier (M circuit board) repair work, do not turn on and off the main switch of the power supply leaving it connected to the M circuit board. Back electromotive force may break the electronic parts.
7. When a continuity test is made in the shutter amplifier (M circuit board) repair work, avoid to use the 3V tester for the case other than specified in the OUTLINE OF REPAIRS. The electronic parts may be broken.
8. For other cautions, see each item in the OUTLINE OF REPAIRS.

CORRECTION TO THE TEXT BY PAGE AND LOCATION

| Page | Column, Box & Line | Incorrect | Correct |
|--|--|---|--|
| 37 | Right C. 7th L. from bottom | without no friction | without friction |
| 59 | in Fig. | 2.5 teeth | 1.5 or 2.5 teeth |
| 61, 70 | 16 | CA9072 titled | CA9072 tilted |
| 74 | Right C. 2nd B. 3rd L. | by a 6V tester with | by a 3V tester with |
| 77 | Center C. bottom L. | 0.7mm or more | 0.4mm or more |
| 95 | 3rd L. from bottom bottom L. | instead of V in 6 Defective Normal | instead of ∇ in $\textcircled{6}$ Normal Defective |
| 104 | Center C. bottom L. | Approx. 8mV--12mV | Approx. 8mA--12mA |
| 108 | Right C 1st L. Right C. 9th L. | Disconnect the black (2 wires of . . . | Disconnect the blue (2 index lines of .. |
| 109 | Center C. in Fig. | R305 R304 | R306 R305 |
| 120 | Center C. Fig. | Cemedine 3000RS | Concave (die casting) |
| 121 | Left C. 3rd L. Center C. 1st L. Center C. Fig. | R306 R306 $\approx 2.4 \text{ K}\Omega$ | R305 R305 $\approx 68.3 \text{ K}\Omega$ |
| 122 | Left C. 2nd B. 6th L. | 2.5 teeth | 1.5 or 2.5 teeth |
| 15 76, 92, 94, 98, 99, 102, 103, 104, etc. | 3rd L. in Fig. | Off Set OFF set " | Offset " " |

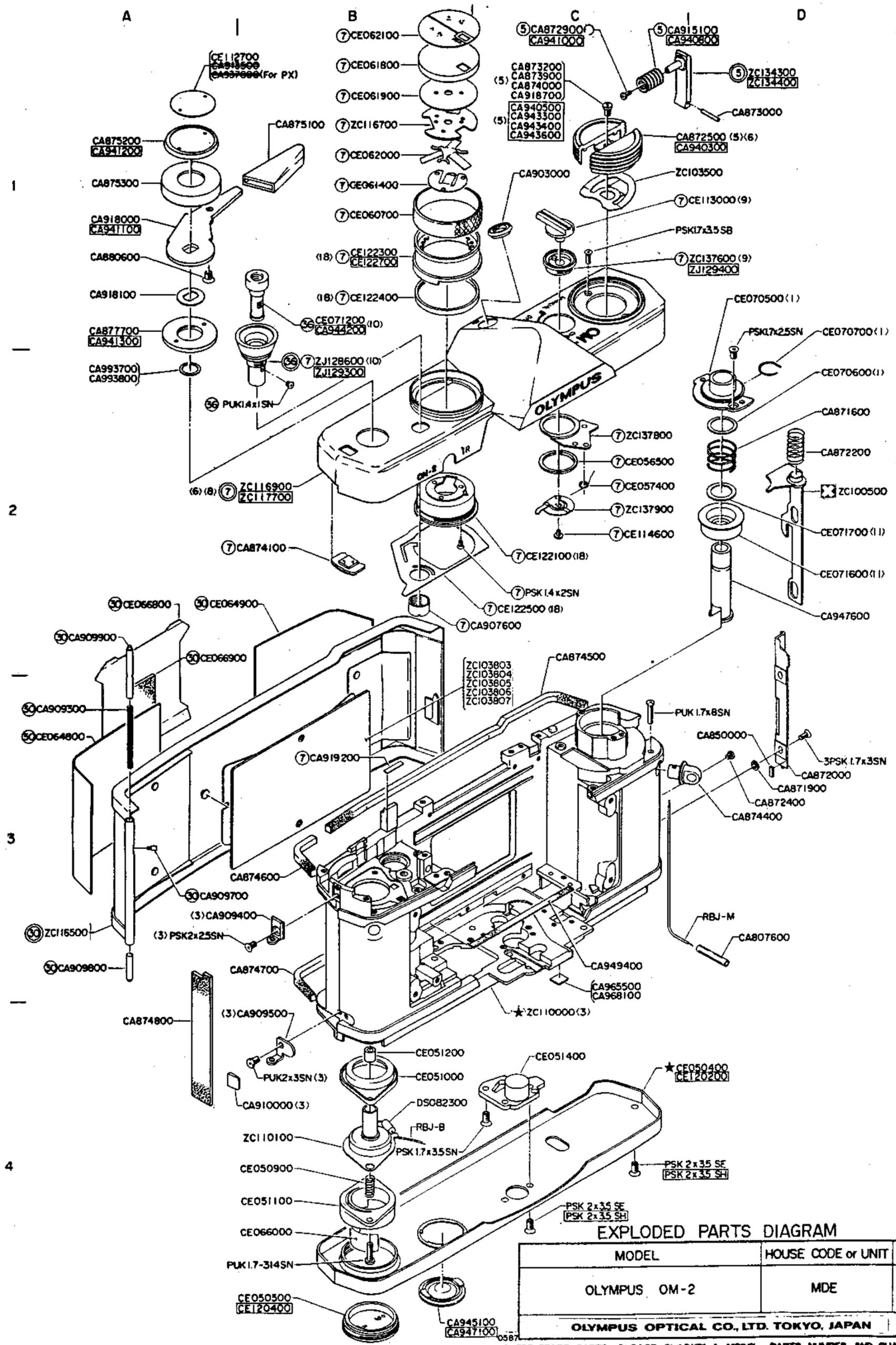


PARTS LIST & DRAWING

CURRENT VERSION

EXPLANATION OF MARKS

- ① Indicates parts that are supplied both as a single piece and as an assembled unit. In the latter case, the single part is incorporated in the assembled unit indicated with the mark ①.
Exception: Parts in the mark () are not supplied in single pieces.
(Parts that are supplied only in single pieces are not indicated with any mark. While parts that are supplied as an assembled unit are prefixed with "Z" or "U".)
-] Several types of parts for the same position are available, from which most suitable one is to be selected.
- * 3 Parts differ according to different models and types. This mark is used to indicate various combinations in a picture.
- ⤵ Left-handed screw. The mate screw hole is not marked particularly.
- ⊠ Indicates parts that should not be touched directly by bare hand because special surface treatment is applied. Wear fingerstalls or use tweezers.
- ★ Not supplied as a repair part.
- ▭ Used exclusively for black finish models.
- Indicates original parts. New, modified ones are not indicated with this mark. Both original and modified parts are supplied.
- == No more available parts due to design change or out of stock.
- ✕ A correction mark. Parts with this mark are not available.
- < 2 > Modified parts that are unable to show in the technical manual. The figure indicates reference page number.
- 2-A3 This notation is entered in the "Remarks" column of parts list and indicates parts position in the technical manual.
- 2-A3 → Parts position. The technical manual is divided into 16 equal sections. Each section can be identified by using A, B, C and D from left to right and 1, 2, 3 and 4 from top to bottom.
- Indicates page number in which the technical manual appears. However, 1/1 (page 1 of 1) is not indicated particularly.

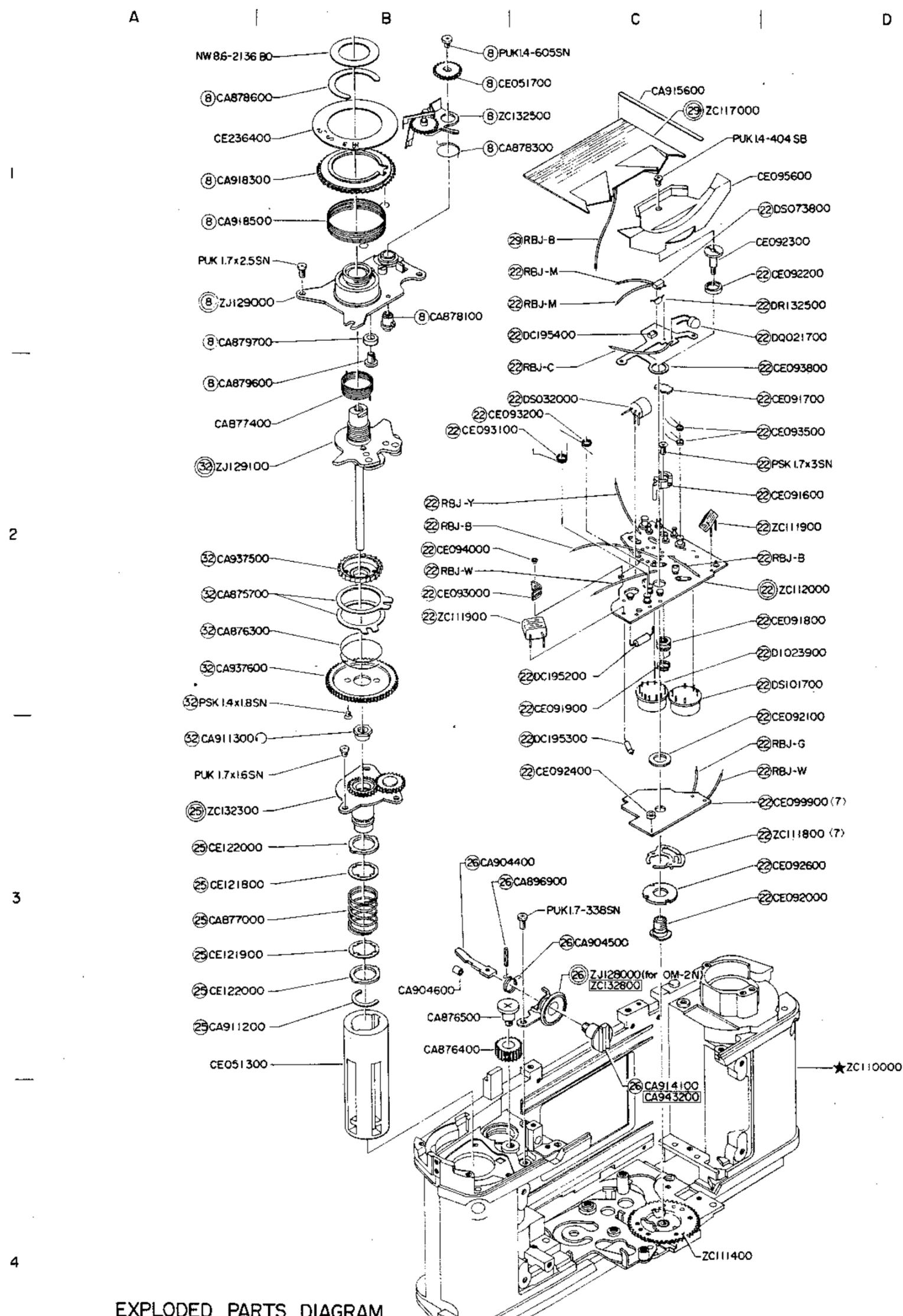


EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--------------|--------------------|------|
| OLYMPUS OM-2 | MDE | 1/8 |

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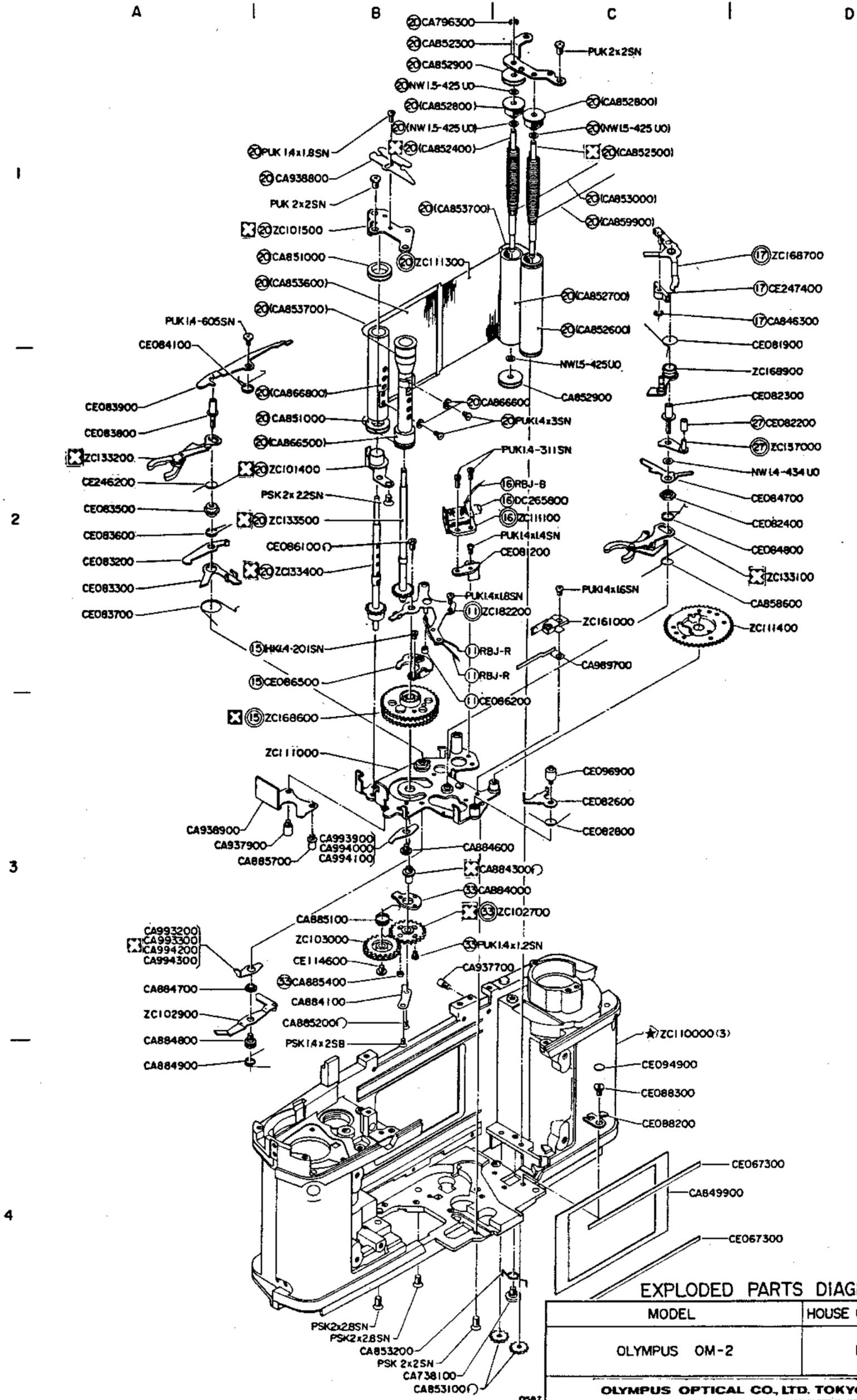
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 2/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--|--------------------|------|
| OLYMPUS OM-2 | MDE | 3/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

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I. FILM WINDING & SHUTTER RELEASE MECHANISMS

1. Winding binds

| Cause | Remedy | Checkup |
|--|-----------------------------|--|
| 1) Improper selection of CA8844 (spring lever) | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. (20 - I - D5) |
| 2) Adjustment of brake force improper | See the OM-1 Repair Manual. | |

2. Winding impossible

| Cause | Remedy | Checkup |
|---|---|--|
| 1) Parts (spring, screw, etc.) coming loose or fallen off | <p>a. Check parts relative to film winding.</p> <p>b. Check if any shutter part dropped off.</p> <p>c. Check springs and screws of front plate parts for loosening or falling off.</p> <p>Make necessary repairs.</p> | See the OM-1 Repair Manual. (20 - I - D6) |
| 2) CA9051 (ST. screw) stuck with CA9044 (K. inner plate) | See the OM-1 Repair Manual. | |
| 3) Defective CA8419 (lowering hook) | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. (20 - I - D6. 6C) |
| 4) Loosened CA9174 (L bearing) | See the OM-1 Repair Manual. | |

3. Shutter automatically released (curtain runs) immediately upon completion of winding.

| Cause | Remedy | Checkup |
|--|---|--|
| <p>1) Insufficient engagement between CE0836 (opening claw A) and Gear A</p> | <p>a. If insufficient in horizontal direction; replace either CE0836 or Gear A (whole assembly of CE0802; Gears A and B).</p>  <p>b. If insufficient in vertical direction;</p> <ul style="list-style-type: none"> ◦ Bend CE0836 opening claw to adjust. ◦ Adjust backlash of CE0836. ◦ Replace CE0836. ◦ Replace Gear A (whole assembly of CE0802; Gears A and B). | <p>Curtain should not run and next winding should be impossible until release button is depressed.</p> |
| <p>2) Improper engagement of CE0839 (M. Lever) and CE0852 (B. Lever)</p> | <p>See the OM-1 Repair Manual.</p> | <p>See the OM-1 Repair Manual.</p> |

4. Excessive or insufficient winding

| Cause | Remedy | Checkup |
|--|------------------------------------|---|
| <p>1) Improper adjustment of front eccentric</p> | <p>See the OM-1 Repair Manual.</p> | <p>Gently wind up and see if there is a 0.1 - 0.3mm clearance until CE0836 (opening claw) stops after it drops in Gear A.</p> |
| <p>2) Delayed release of CA8824 (lock lever)</p> | <p>See the OM-1 Repair Manual.</p> | <p>See the OM-1 Repair Manual.</p> |

5. Wind lock improper

| Cause | Remedy | Checkup |
|--|-----------------------------|-----------------------------|
| 1) Improper operation of related parts | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. |

6. Shutter can be released during or prior to winding

| Cause | Remedy | Checkup |
|--|-----------------------------|-----------------------------|
| 1) Improper operation of related parts | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. |

7. Ineffective detent

| Cause | Remedy | Checkup |
|--|-----------------------------|-----------------------------|
| 1) Improper operation or adjustment of CA8819 (K detent) | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. |

8. Winding not smooth

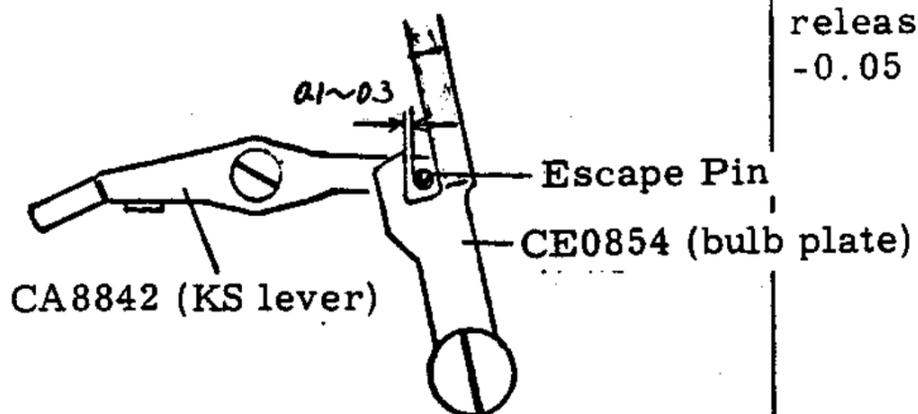
| Cause | Remedy | Checkup |
|---|--|--|
| 1) Engagement of CA8828 (2-gear) and CA8836 (3-gear) stuck together | Adjust at mounting position of CE0801 (S plate). | Winding shall be smooth without excess grating, squeak, etc. |
| 2) Delayed release of CA8586 (A lever spring) | See the OM-1 Repair Manual. | |
| 3) CE0851 (A fitting strip 2) stuck | Check related parts and repair. | |
| 4) Heavy charging force of CA8412 (M charge) | See the OM-1 Repair Manual. (20 - I - D10) | The charging force should be 430 - 500g. |

| Cause | Remedy | Checkup |
|-----------------------------------|---|---------|
| 5) Engaging of each gear unsmooth | See the OM-1 Repair Manual. (20 - I - D10) | |

9. Wind lever not return or binds

| Cause | Remedy | Checkup |
|--|---|--|
| 1) Top plate mounted off position | When CE0503 (Top-cover) is mounted off position, it will cause CA8753 (lever trimming) and CE0531 (button seat) to rub each other. The mounting position of CE0503 should be adjusted. | Wind lever should return surely no matter whether film is loaded or not. |
| 2) CA8774 (lever spring) and CA9185 (frame spring) worn out, broken or entangled | See the OM-1 Repair Manual. (20 - I - D11) | |
| 3) Loosened CA9113 (gear holder) | See the OM-1 Repair Manual. (20 - I - D11) | |

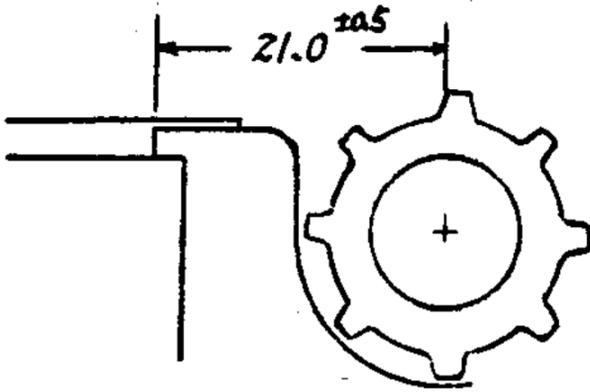
10. Shutter releasing position of button too deep or shallow.

| Cause | Remedy | Checkup |
|---|--|--|
| 1) Improper adjustment of CA9084 (button shaft) | With film wound condition, CA9084 or release screw should be adjusted so that clearance between CE0854 (bulb plate) and escape pin is 0.1 - 0.3.  | Taking the upper edge surface of CE0531 (button seat) as a reference, the shutter should be released within -0.05 ± 0.15 . |

11. Heavy release button

| Cause | Remedy | Checkup |
|------------------------------------|-----------------------------------|--|
| 1) Operation of release plate | Check and make necessary repairs. | Releasing force of button should be 240 ± 50 grs. |
| 2) Releasing force of lifting hook | | Releasing force of lifting hook should be 50grs or less. |
| 3) Operation of CE0853 (KL plate) | | |

12. Perforation position improper

| Cause | Remedy | Checkup |
|--|--|--|
| 1) Improper position of sprocket | See the OM-1 Repair Manual. (20 - I - D13) Note: CA8785 (claw gear) → CE0518 | See the OM-1 Repair Manual. |
| 2) Detent ineffective on the way of winding (See the OM-1 Repair Manual) |  | When sprocket is pressed toward mask in wound condition, the distance between edge of mask and sprocket tooth should be 21.0 ± 0.5 mm. |

13. Film counter plate not progress or return to "S"

| Cause | Remedy | Checkup |
|---|---|-----------------------------|
| 1) Improper positioning of CE0518 (claw gear) | See the OM-1 Repair Manual. Note: CA8784 (frame gear) → CE0517 CA8785 (claw gear) → CE0518 | See the OM-1 Repair Manual. |

| Cause | Remedy | Checkup |
|--|--|-----------------------------|
| 2) Improper positioning of CE0516 (FC returning lever) | See the OM-1 Repair Manual. Note: CA8775 → CA9186 CA8778 → CE0516 | |
| 3) Deformed CA8786 (C ring) | See the OM-1 Repair Manual. | |
| 4) Improper positioning of frame stopper | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. |
| 5) Adjustment of E pin | See the OM-1 Repair Manual. | |
| 6) Frame spring entangled | See the OM-1 Repair Manual. | |
| 7) Frame window of top plate and frame plate rubbed each other | See the OM-1 Repair Manual. | |

14. "S" mark out of position

| Cause | Remedy | Checkup |
|--|--|-----------------------------|
| 1) Adjustment of CA9184 (KS pin) | See the OM-1 Repair Manual. Note: CA8807 (KS pin) → CA9184 CA8798 (KS shaft) → CA8848 | See the OM-1 Repair Manual. |
| 2) Improper gluing position of frame plate | Correct the position. | |

15. Insufficient allowance after shutter release by self-timer

| Cause | Remedy | Checkup |
|-----------------------------------|-----------------------------|-----------------------------|
| 1) Adjustment of shutter matching | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. |

16. CA9072 (ST-lever) titled

| Cause | Remedy | Checkup |
|--|-----------------------------|-----------------------------|
| 1) S-stopper pin of self-timer not properly adjusted | See the OM-1 Repair Manual. | See the OM-1 Repair Manual. |

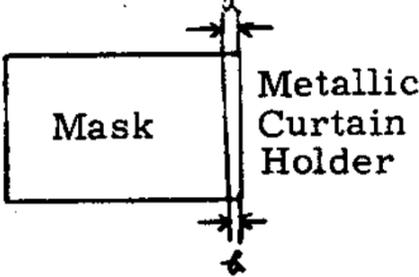
II. SHUTTER & MIRROR MECHANISMS

1. Curtain speed improper

| Cause | Remedy | Checkup |
|--|--|--|
| 1) Improper adjustment of CA8531 (tension nut) | See the OM-1 Repair Manual. Note: Never touch or smudge the curtain to prevent change in EE values. | The speed of both curtains should be 11.5 ± 0.1 ms. The speed of opening curtain is desirably faster. |

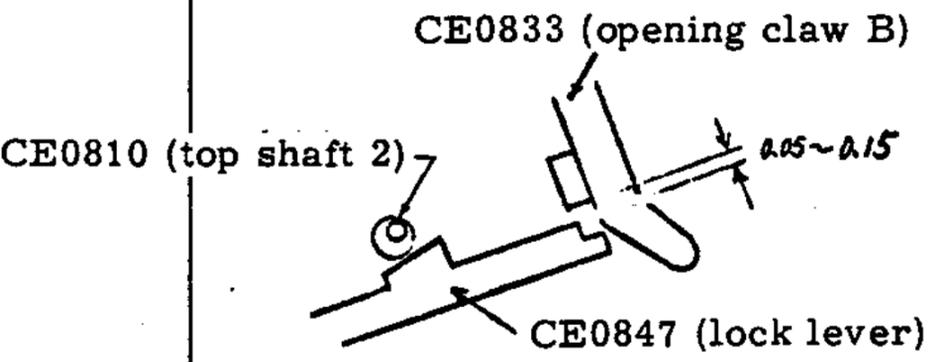
2. Opening curtain bounces

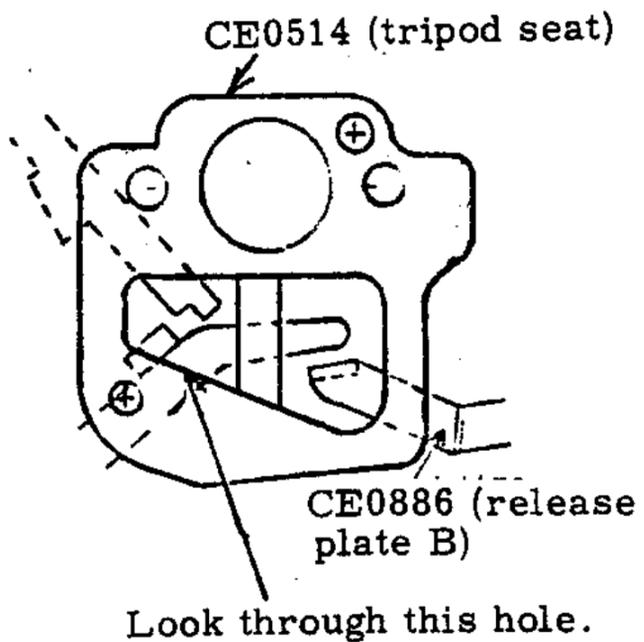
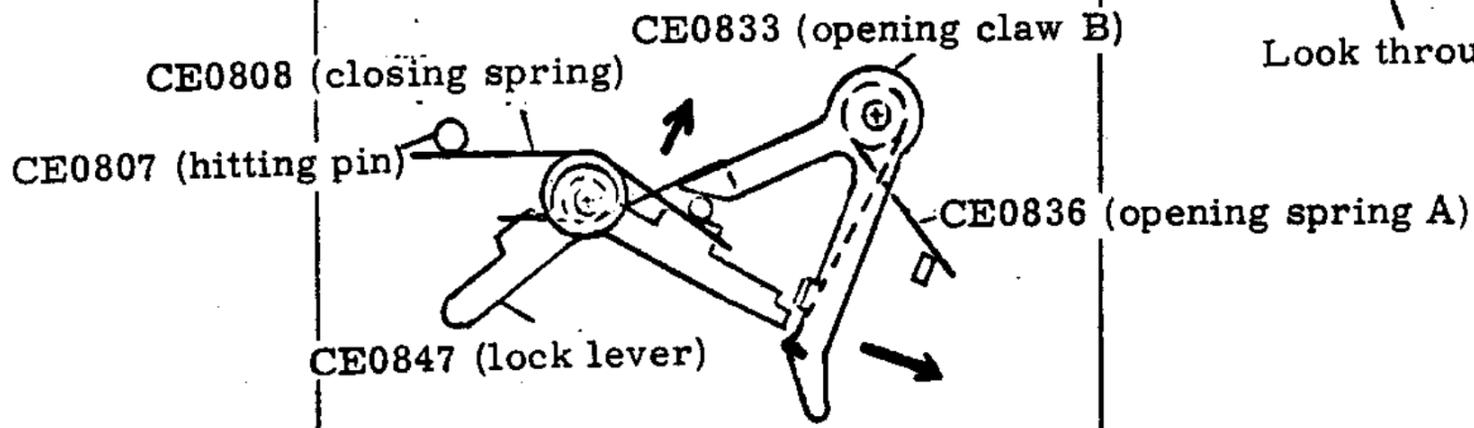
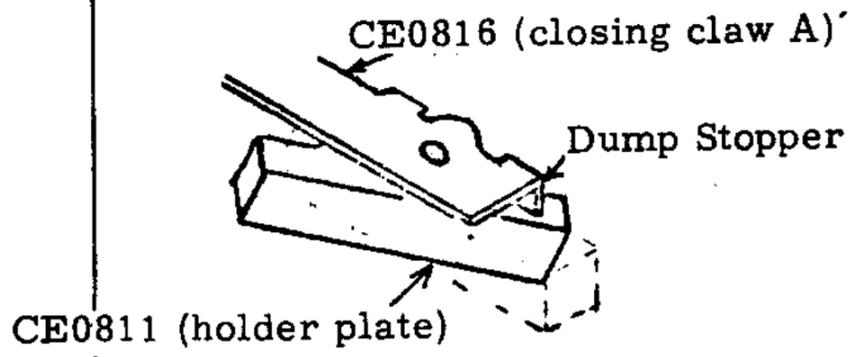
| Cause | Remedy | Checkup |
|--|---|--|
| 1) Adjustment of curtain position improper | See the OM-1 Repair Manual. Note: Do not touch or smudge the curtain. CA8519 (sylinder shaft A) → CA8661 CA8592 (opening claw) → CE0832 CA8520 (sylinder shaft B) → CA8662 CA8521 (bottom stopper) → CA9382 CA8522 (top stopper) → CA9388 | <p>Closing Curtain</p> <p>Opening Curtain</p> <p>Mask</p> <p>(+) (-)</p> |

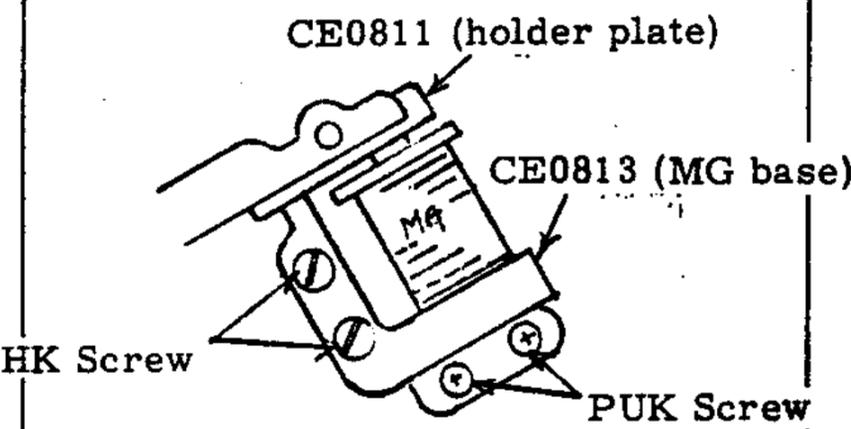
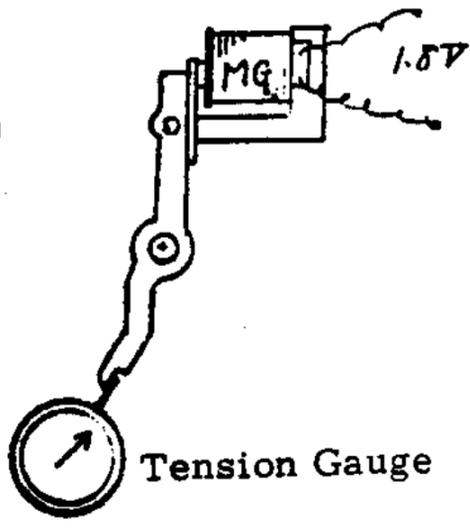
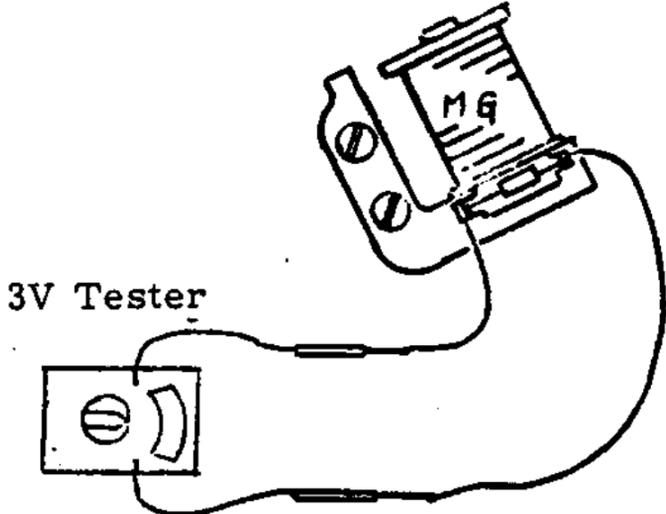
| Cause | Remedy | Checkup |
|--|--|---|
| | <p>Fine adjustment:</p> <p>Rotate CA8666 (locating seat) of cylinders A and B for fine adjustment of opening and closing curtain positions.</p> | <p>Inclination of curtain:</p> <p>The parallelism against camera mask should be 0.2 or less in the vertical direction.</p>  <p>Difference between a and b should be 0.2 or less.</p> <p>Overlapping of curtain holders:</p> <p>The overlapping of curtain holders should be 2.5mm or more at every position of the picture screen (the curtain holder width is 3mm.)</p> |
| <p>2) Opening curtain stops at improper position</p> | <p>See the OM-1 Repair Manual.</p> <p>Note:</p> <p>CA8538 (opening curtain) → CE0857 CA8519 (sylinder shaft A) → CA8661 CA8517 (sylinder stopper) → CA8666 (locating seat) CA8501 (S plate) → CE0801</p> | <p>3.7 ± 0.3 when the protrusion of gear A is struck against CE0801 (S plate).</p> <p>See the OM-1 Repair Manual.</p> |
| <p>3) Brake adjustment improper</p> | <p>See the OM-1 Repair Manual.</p> <p>Note:</p> <p>CA8501 (S plate) → CE0801</p> <p>A-eccentric should be turned clockwise.</p> <p>The part. with which a clearance of 0.05 - 0.2mm is not obtained, is acceptable if its metallic striking noise against CE0801 (S plate) is not heard.</p> | <p>See the OM-1 Repair Manual.</p> |

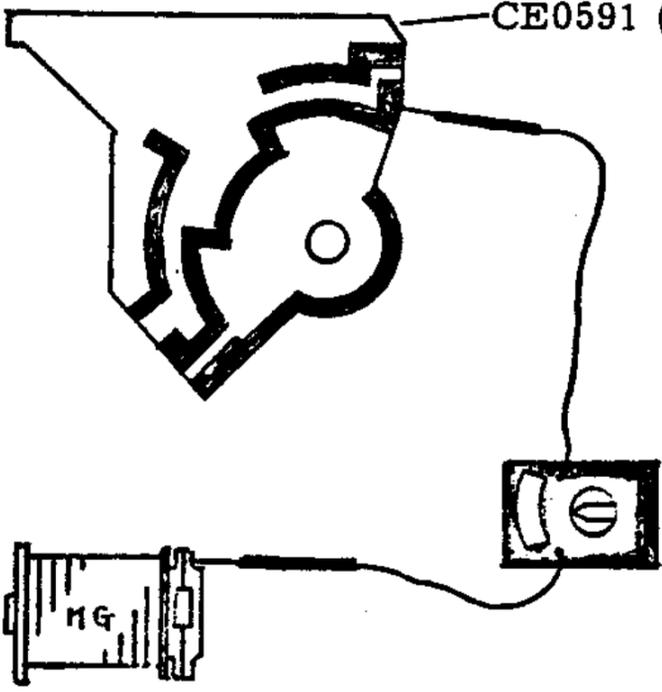
| Cause | Remedy | Checkup |
|---|---|---------|
| 4) Spring tension of CA8586 weak | See the OM-1 Repair Manual. Note: CA8501 (S plate) → CE0801 | |
| 5) A fitting strip 2 not operating properly | See the OM-1 Repair Manual. | |
| 6) Inaccuracy in surface finish of friction ring of CA8661 (sylinder shaft A) | See the OM-1 Repair Manual. | |

3. Shutter locked

| Cause | Remedy | Checkup |
|-------------------------------|---|---|
| 1) Defective power supply | a. Check battery voltage. b. Check shortcircuit between metallic dowel of CE0942 (switching board) and CA9483 (SW plate). c. Check shortcircuit between CE0507 (cell cover) and PUK1.7-5SN. | The lock voltage is $2.34 \pm 0.04V$ or less. |
| 2) Defective CE0801 (S plate) | a. Check if clearance between CE0847 (lock lever) and CE0833 (opening claw B)  | When CE0502 (front plate) is unremoved, remove CE0504 (bottom plate) and look through the hole of CE0514 (tripod seat). The use of loupe of 10 - 20 magnifications is recommendable. |

| Cause | Remedy | Checkup |
|-------|---|--|
| | <p>Set the shutter dial to any positions other than "B"; press closing claw A lightly to the MG and operate CE0833 (opening claw B) and confirm that the clearance is as above when CE0833 passes the tip of CE0847 (lock lever). This adjustment is to be done with CE0810 (top shaft 2). (CE0502 (front plate) should have been removed.)</p> |  |
| | <p>b. CE0836 (opening spring A) is weaker than CE0808 (closing spring)</p>  <p>Replace CE0836 (opening spring A).</p> | |
| | <p>c. CE0811 (holder plate) rides over the dump stopper of CE0816 (closing claw A).</p>  <p>Replace CE0811, which is fixed to CE0816 with E ring.</p> | <p>Take care not to hurt the attractive surface of CE0811. If not, attractive force will be decreased.</p> |

| Cause | Remedy | Checkup |
|---------------------------------|--|--|
| | <p>d. MG attractive force is too weak. (Improper MG position)</p>  <p>Adjust PUK and HK screws so that MG plate is made parallel at the center of CE0811 (holder plate).</p> | <p>Attractive force should be 60grs or greater at 1.8V.</p>  |
| | <p>e. Coil is broken</p>  | <p>Normal if coil is conductive when checking by a 6V tester with about 600Ω resistance. If nonconductive, replace MG.</p> |
| <p>3) Defective main switch</p> | <p>a. Check for brakage of each contact piece of main switch. b. Solder of main switch is removed. c. The main switch is contacted improperly.</p> | |

| Cause | Remedy | Checkup |
|--|--|---|
| |  <p>Remove CE0503 (top plate) and CE0955 (mat) with the mirror kept up. and check by a tester if there is conduction.</p> | <p>Normal if resistance is $\neq 0 \Omega$.</p> |
| <p>4) Defective lead wire</p> | <p>a. Check RBJ-B170 (black LW) between the battery compartment and CE0591 for shortcircuit.</p> <p>b. CE0507 (cell cover) and PUK1.7-5SN are shortcircuited.</p> <p>c. The black lead wire is jammed between the main body and CE0502 (front plate) on the upper side of the main switch.</p> | <p>Take out batteries, disconnect the black lead wire from SW circuit board and check for shortcircuit with the body by a tester.</p> <p>Normal if resistance is $\neq 10 \Omega$. and ∞ on the reverse side. when measuring with the (-) probe of the tester applied to the black LW and the (+) probe to the body.</p> |
| <p>5) Defective CE0914 (M circuit board)</p> | <p>a. Check for the ineffective soldering on FET and correct the soldering.</p> <p>b. Shortcircuit with IS001: As the metal case of IC is applied with negative potential, it is shortcircuited if contacted to IS001 body.</p> | |

| Cause | Remedy | Checkup |
|-------|--|---------|
| | <p>Adjustment of IC height:</p> <p>The clearance between CE0914 (M circuit board) and IC is to be made about 0.3mm. (0.3-clearance jig is available.)</p> <p>c. Shortcircuit between CE0913 (change plate 3) and soldered portion.</p> <p>d. Shutter lock at high ASA setting due to OFFset change. See the section for OFFset adjustment.</p> <p>Check above and make necessary repair.</p> | |

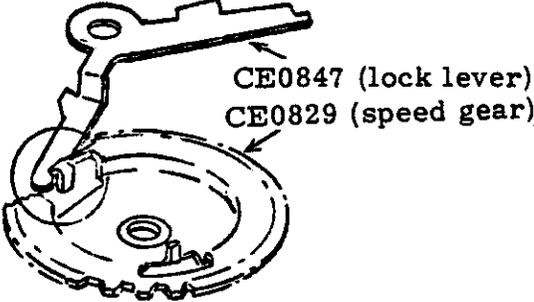
| | | |
|---|---|--|
| <p>6) Defective CE0645 (AR circuit board)</p> | <p>a. Shortcircuit between CE0636 (A-contact piece 1) and periphery of CE0644 (cam holder).</p> <p>b. Shortcircuit between the soldered portion of CE0637 (A-contact piece 2) and CE0643 (A cam).</p> <p>c. Shortcircuit between CE0637 and CE0644 (cam holder) due to the mounting of CE0503 (top plate).</p> <p>d. Shortcircuit between CE0645 (AR circuit board) and CE0501 (body).</p> <p>Check for above points and make necessary repair.</p> | |
|---|---|--|

4. Shutter not locked

| Cause | Remedy | Checkup |
|---|---|--|
| <p>1) Improper adjustment of CE0886 (release plate B)</p> | <p>a. The clearance between CE0833 (opening claw B) and CE0886 should be about 0.2mm when the shutter is charged. Adjust it by bending the tip of CE0886.</p> | <p>Look through the hole of CE0514 (tripod seat). See Section II - 3 - 2) a.</p> |

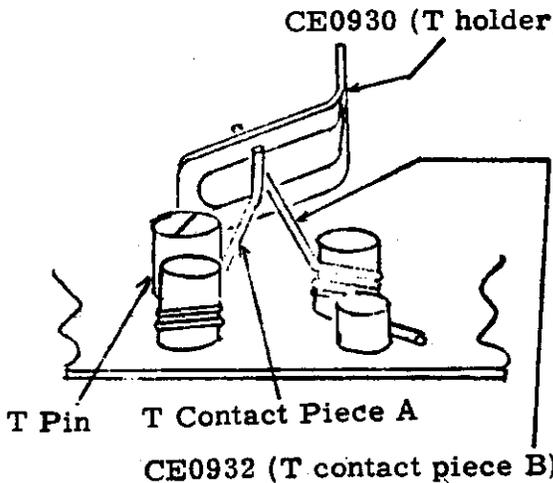
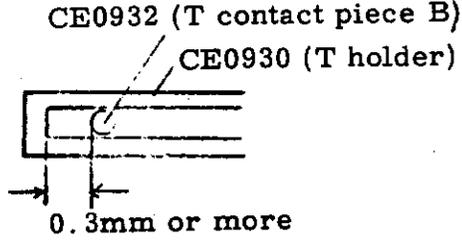
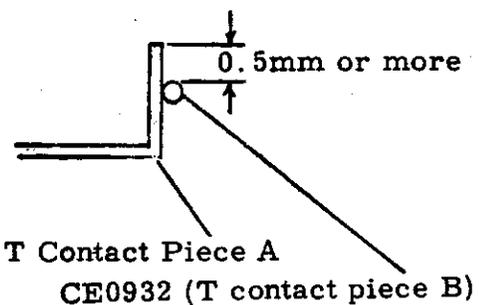
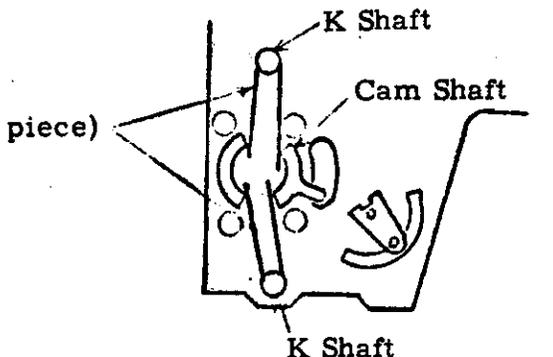
| Cause | Remedy | Checkup |
|-------|---|--|
| | <div> <p>CE0886 (release plate B)</p> <p>CE0833 (opening claw B)</p> <p>0.2</p> </div> <p>b. CE0886 should be disengaged from the hook of CE0885 (release plate B) smoothly when operating CE0885 in the film wound condition.</p> <p>c. There should be a clearance between CE0833 (opening claw B) and CE0847 (lock lever) when striking the CE0816 (closing claw A) against MG, except at "B".</p> <p>d. When CE0885 is disengaged by one step except at "B", CE0833 should be engaged by 0.3mm or more with a clearance at the notch of lock lever.</p> <div> <p>CE0810</p> <p>CE0833 (opening claw B)</p> <p>0.3mm or more</p> <p>Lock Lever</p> </div> <p>Adjust with CE0810 (top shaft 2).</p> <p>e. When CE0885 is disengaged by two steps. CE0833 should be locked by the notch of lock lever.</p> <div> <p>0.7mm or more</p> </div> | <p>See Section II-3-2)-a).</p> <p>See through the hole of CE0514 using a magnifier and confirm.</p> <p>See Section II-3-2)-a).</p> |

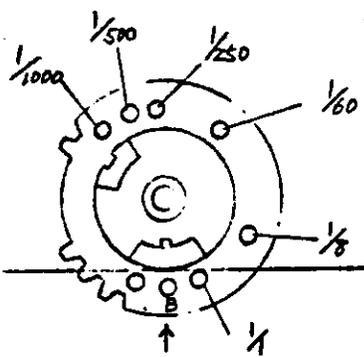
5. Shutter lock not released

| Cause | Remedy | Checkup |
|--|---|--|
| <p>1) Defective CE0829 (speed gear)</p> | <p>a. CE0847 (lock lever) does not engage with CE0829.</p>  <p>Adjust the bending of CE0847, or replace CE0829 when the backlash of CE0829 is excessive. (The replacement should be done after CE0914 (M circuit board) is removed.)</p> | <p>Even when CE0829 is slightly moved up and down, CE0847 should be engaged therewith by more than 2/3 of the plate thickness.</p> |
| <p>2) Defective CE0886 (release plate B)</p> | <p>a. Insufficient driving force due to defective operation of CE0886.</p> <p>b. Excessive force of CE0833 (opening claw B).</p> <p>Clean or replace the part.</p> | |

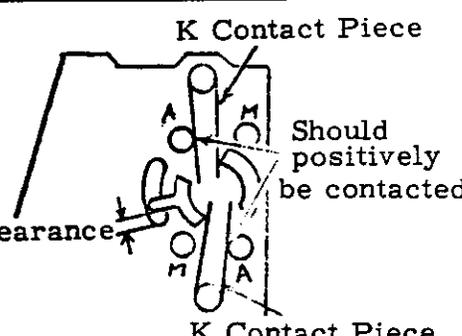
6. Shutter fully opened both at AUTO and MANUAL

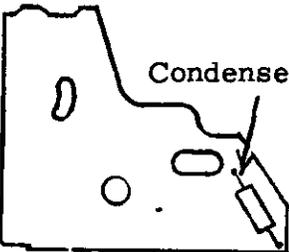
| Cause | Remedy | Checkup |
|----------------------------------|--|--|
| <p>1) Lead wire and relateds</p> | <p>a. Shortcircuit between purple lead wire and main body.</p> | <p>Normal if resistance between auto synch contact (CE0526) and main body is $\approx 10K\Omega$ when measured by a tester.</p> |

| Cause | Remedy | Checkup |
|--|---|--|
| <p>2) Trigger and relateds</p> | <p>a. CE0932 (T contact piece B) is being disengaged from CE0930 (T holder) and always turned on.</p>  <p>The above illustration shows the condition of CE0930 and T contact pieces A and B after winding the film.</p> <p>b. CE0931 (T holder) contacts CE0930 (T contact piece A).</p> <p>c. The T contact pieces A and B are not separated.</p> <p>Adjustment should be made as above.</p> |  <p>CE0932 (T contact piece B) CE0930 (T holder) 0.3mm or more</p> <p>The above illustration shows the position of CE0932 after winding.</p>  <p>T Contact Piece A CE0932 (T contact piece B) 0.5mm or more</p> <p>The above illustration shows the position of T contact pieces A, B after winding the film.</p> <p>After the opening curtain runs, the contacts should positively be turned off.</p> |
| <p>3) Defective CE0914 (M circuit board)</p> | <p>a. Improper soldering of FET (defective 1V line).</p> <p>b. Defective IS001 (OFFset displaced).</p> <p>c. Broken or disengaged CE0935 (K contact piece).</p>  <p>CE0935 (K contact piece)</p> <p>K Shaft Cam Shaft K Shaft</p> | |

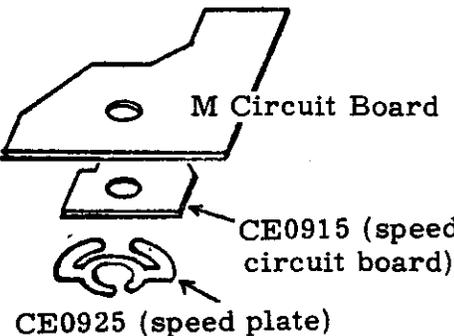
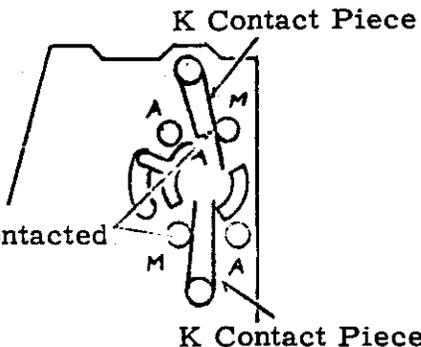
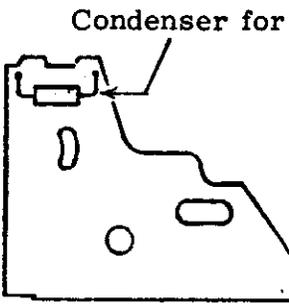
| Cause | Remedy | Checkup |
|-------|---|---------|
| | <p>d. Displaced position of CE0829 (speed gear).</p>  <p>When each hole comes to the front (arrowed location), corresponding shutter speed is set. The above illustration shows "B" setting.</p> | |
| | <p>e. Pattern to K-shaft is broken. See the illustration in c.</p> | |

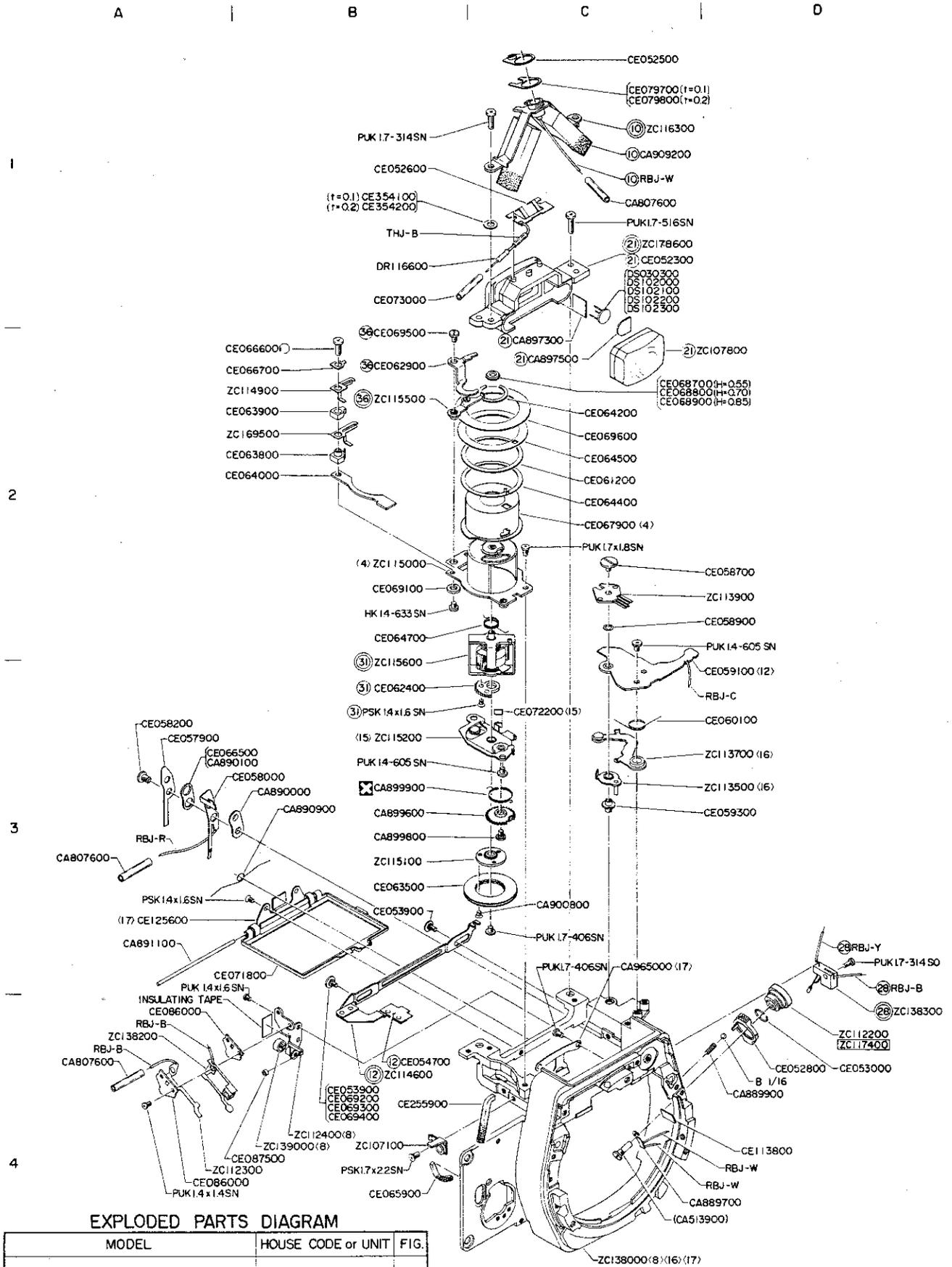
7. Shutter fully opened at AUTO

| Cause | Remedy | Checkup |
|--|---|---|
| <p>1) Broken wire or contact failure of ASA resistor</p> | <p>a. White LW (RBJ-W105) or yellow LW (RBJ-Y105) of CE0640 (circuit board A) is broken or poorly soldered.</p> <p>b. Broken pattern due to damaged CE0640.</p> <p>c. Contact failure of CE0636 and CE0637 (A contact pieces 1, 2).</p> | |
| <p>2) Contact failure of CE0935 (K contact piece)</p> | <p>a. Insufficient switching due to insufficient adjustment of CE0910 (charge plate 2).</p> <p>b. Soiled or dusty contacting surface.</p> <p>There should be a clearance of 0.5mm or less.</p> |  <p>K Contact Piece</p> <p>Should positively be contacted</p> <p>K Contact Piece</p> |

| Cause | Remedy | Checkup |
|---------------------------------|---|---|
| 3) Defective condenser for AUTO | a. The condenser for AUTO is disconnected or poorly soldered. b. Shortcircuit in the condenser for AUTO. |  |

8. Shutter fully opened at MANUAL

| Cause | Remedy | Checkup |
|--|---|---|
| 1) Defective CE0915 (speed circuit board) | a. White LW (RBJ-W20) or yellow LW (RBJ-Y30) of CE0915 is broken or poorly soldered. b. Contact failure of CE0925. c. Broken pattern of CE0915. |  |
| 2) Contact failure of CE0935 (K contact piece) | a. Soiled or dusty contacting surface. Should positively be contacted |  |
| 3) Defective condenser for MANUAL | a. The condenser is disconnected or poorly soldered. b. Shortcircuit in the condenser. |  |



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 6/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

0285

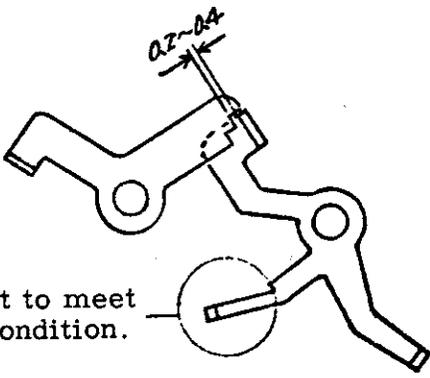
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

9. Shutter not released (mechanical fault)

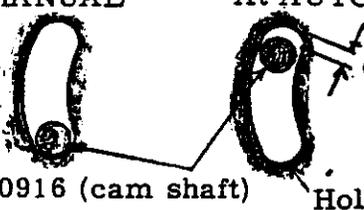
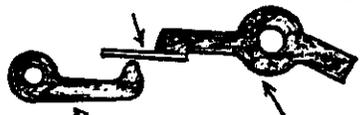
| Cause | Remedy | Checkup |
|--|--|---------|
| 1) Defective mirror movement | <p>a. There is no backlash in the left- and -right direction of CE0870 (M frame).</p> <p>Loosen the screw of side plate and adjust the position.</p> | |
| 2) Insufficient CE0886 (release plate B) force | <p>a. Disengaging force of CE0832 (opening claw A) excessive.</p> <p>b. CE0886 operates improperly.</p> | |
| 3) Insufficient CA8439 (S-release) force | <p>a. Tensile force of CA8447 (M spring) is insufficient.</p> <p>Replace it.</p> <p>b. CA8439 rubs against the body.</p> <p>Adjust the position.</p> | |
| 4) Excessive disengaging force of CE0885 (release plate A) | <p>a. Absence of lubricant at the hooking portion with CE0886 (release plate B)</p> <div> </div> <p>Apply Rocol Paste to CE0885 for about 1mm (B1).</p> <p>b. Tensile force of CE0891 (release spring A) is excessive.</p> <p>c. Surface finish accuracy of the hooking portion of CE0885 is insufficient.</p> | |

| Cause | Remedy | Checkup |
|-------|--------------------------------|--|
| | d. CE0885 operates improperly. | CE0885 should operate smoothly and return with the spring force. |

10. Defective shutter speed at AUTO

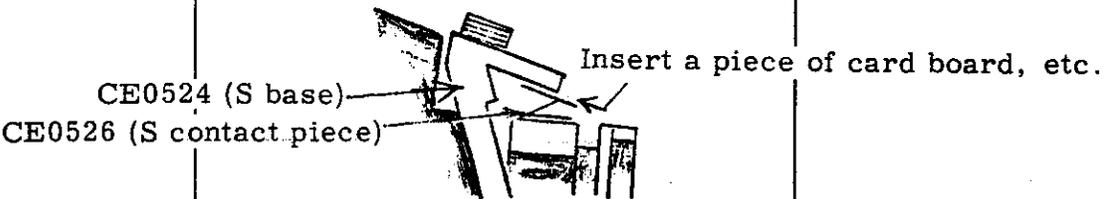
| Cause | Remedy | Checkup |
|--|--|--|
| 1) Defective CE0942 (switching board) | a. Poor soldering of CE0942. b. AUTO/MANUAL switching is defective. | |
| 2) Defective CE0914 (M circuit board) | a. CE0935 (K-contact piece) is disconnected. b. IC is defective. c. SBC is defective. d. Poor soldering on FET. | |
| 3) Defective CE0645 (AR circuit board) | a. CE0636 and CE0637 (A-contact piece 1, 2) are shortcircuited. b. Resistors of CE0645 is short-circuited with body. c. CE0630 (A lever 2) is submerged. | |
| 4) Defective CE0885/0886 (releasing plates) engagement | <p>a. Insufficient charge due to improper adjustment of CE0886.</p>  <p>Bend and adjust to meet the following condition.</p> <p>When the wind lever is advanced and CE0886 is set to the 1st step of CE0885, there should be 0.2 - 0.4 mm allowance.</p> | <p>When wound, CE0886 should surely hook on the 1st step of CE0885 with the allowance described at left.</p> <p>There should be allowance between CE0886 and the body.</p> |

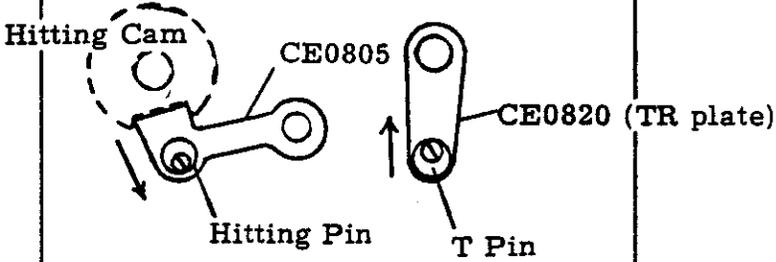
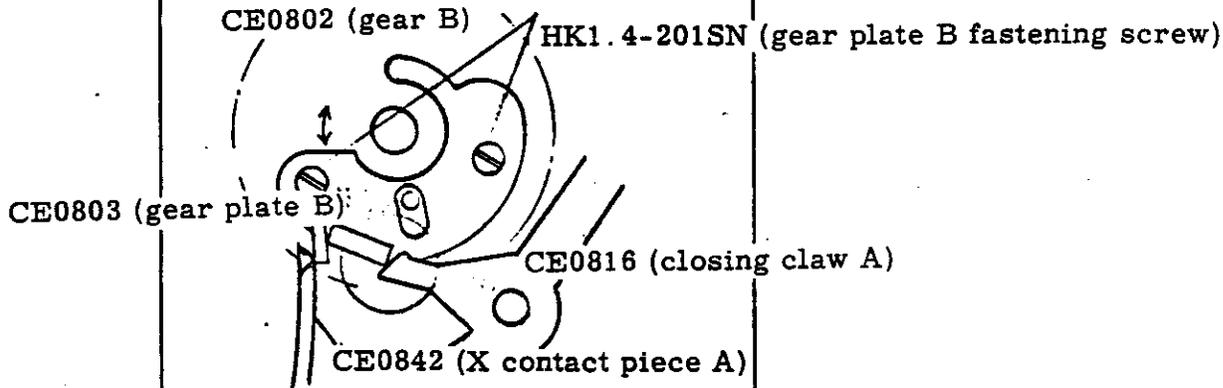
11. Defective shutter speed at MANUAL

| Cause | Remedy | Checkup |
|--|--|---|
| <p>1) Defective CE0910 (switching plate) of CE0942 (switching board)</p> | <p>a. Poor soldering of CE0942. Solder it sufficiently.</p> <p>b. CE0910 operates improperly.</p> <p>At MANUAL At AUTO</p>  <p>CE0916 (cam shaft) Hole of M Circuit Board</p> <p>Clearance should be 0.5mm or less.</p> <p>As seen from lower side.</p> <p>Bend and adjust CE0910 to have the above illustrated condition.</p> <p>Bending and adjusting portion</p>  <p>Switching plate 1 Switching plate 2</p> | |
| <p>2) Defective CE0885/0886 (release plates) engagement</p> | <p>a. CE0886 is charged insufficiently. See Section II-10-4).</p> | |
| <p>3) MG related parts</p> | <p>a. MG attractive force is too weak.</p> <p>The surface of CE0811 (attractive plate) is soiled or scratched. Clean or replace CE0811.</p> <p>Note: CE0811 and CE0813 are finished into a mirror surface to increase attractive force. The force lowers considerably if the surface is smudged or scratched.</p> | <p>The attractive force should be 60grs or more at 1.8V. See Section II-3-2)-d.</p> |

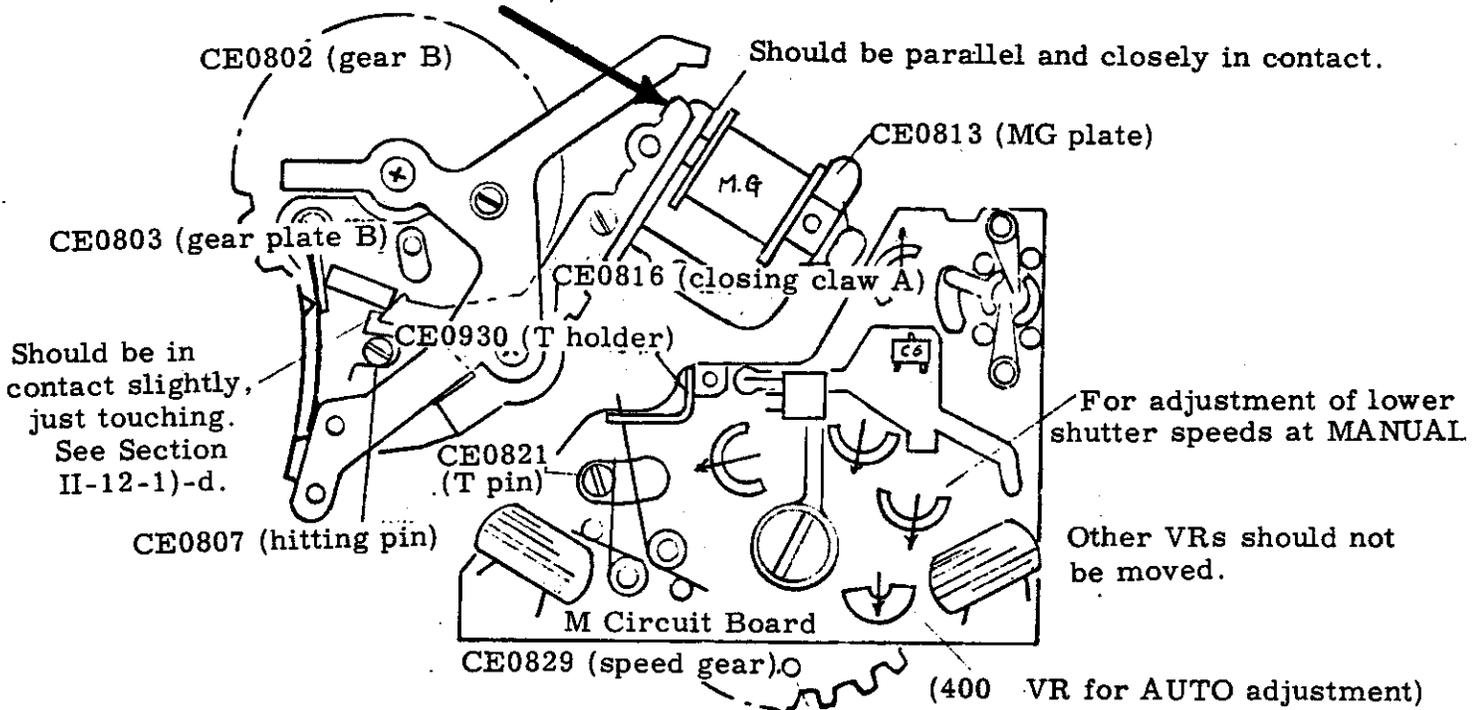
| Cause | Remedy | Checkup |
|------------------------------|--|---------|
| 4) Defective main switch | a. CE0871 and CE0872 (M contact piece 1, 2) are contacted improperly. See page 74. | |
| 5) Defective M circuit board | a. Poor soldering on FET. Correct soldering. b. CE0925 (speed plate) and CE0915 (shutter speed circuit board) are contacted improperly. Clean CE0915 or replace CE0925. c. Pattern to K shaft is broken. The soldered spot of white LW coming from CE0915. d. Shortcircuit between CE0913 (switching plate 3) and C101 (condenser for MANUAL). e. CE0935 (K contact piece) is detached. | |

12. Manual shutter speed adjustment

| Cause | Remedy | Checkup |
|-------------------------------|--|---|
| 1) Preparation for adjustment | a. Power supply voltage is $3.10 \pm 0.04V$. b. When CE0503 (top plate) is removed, insulate CE0524 (S base) from CE0526 (S-contact piece).  <p>CE0524 (S base) →</p> <p>CE0526 (S contact piece) →</p> <p>Insert a piece of card board, etc.</p> | Silver-oxide batteries may be used as the power supply. |

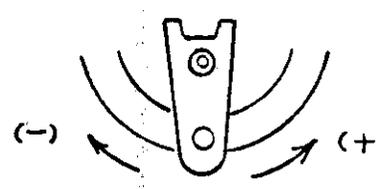
| Cause | Remedy | Checkup |
|-------|---|--|
| | <p>c. Adjust the eccentrics of the hitting pin of CE0805 and the T pin of CE0820 (TR plate).</p>  <p>Locate the screw head of eccentrics in the arrowed direction.</p> <p>d. Adjust the clearance between CE0803 (gear plate B) and CE0816 (closing claw A). Loosen CE0803 and fix it in such a degree that it is contacted to CE0816 by the pressure of CE0842 (X contact piece A).</p>  | <p>After winding, carefully return CE0816 (closing claw A) in the spring force effecting direction.</p> <p>Improper if 0816 moves even slightly when it is pressed against MG. Make re-adjustment.</p> <p>See next page.</p> |

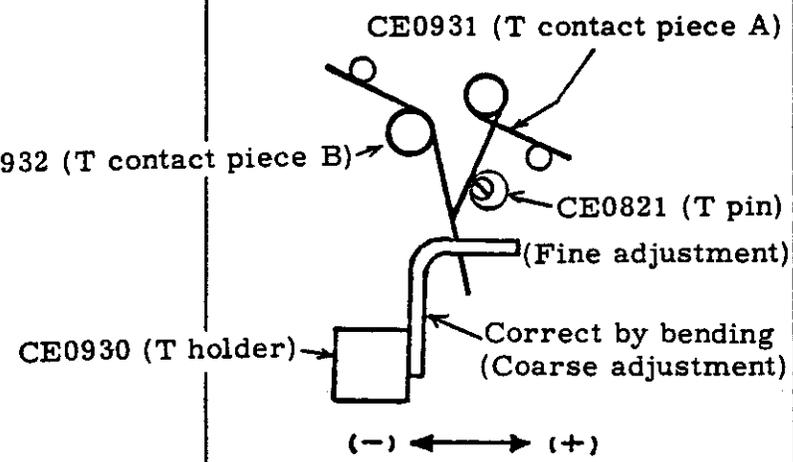
Should not move when pressed in the arrow direction after winding.
See Section II-12-1)-d.



CE0821 (T pin) and CE0930 (T holder) are for the adjustment of higher shutter speeds at MANUAL.

See Section II-6-3)-d for the position of each shutter speed hole.

| Cause | Remedy | Checkup |
|--|---|---|
| 2) Temporary setting of curtain speed | Set the shutter speed to 1/8 sec. (See Section II-6-3)-d if the shutter dial is not attached.) Turn CA8531 (tension nut) of cylinder shafts C & D to have the curtain speed described at right. See the OM-1 Repair Manual, 20-I-D18. | The curtain speed should be 11.5 ± 0.2 ms for both the opening and closing curtains. (The speed of opening curtain is recommendably faster.) |
| 3) Setting to 1/8 sec. (Adjustment for lower speeds) | Adjust to 125 ± 5 ms with the 30K Ω VR of CE0914 (M circuit board). <div style="text-align: center;">  </div> | 125 ± 5 ms |

| Cause | Remedy | Checkup |
|-------------------------------------|---|---|
| 4) Adjust- ment of 1/500 sec. | a. Verify the difference between each shutter speed of 1/500, 1/1000 and 1/250. | 2ms between 1/500 sec. and 1/250 sec. 1ms between 1/500 sec. and 1/1000 sec. Note: If the difference is less 2ms between 1/250 sec. and 1/500 sec.. it is acceptable if there is not 1ms difference between 1/500 sec. and 1/1000 sec. (Influence of mini shutter speed, 0.5 - 1.42ms at AUTO) |
| | b. Adjustment of curtain speed at 1/500 sec. Adjust as described at right with CA8531. | 11.5 ± 0.1ms The opening curtain should run faster than the closing curtain. The difference should be 0.15ms or less. |
| | c. Adjustment of 1/500 sec. shutter speed  | 1.96 ± 0.1ms (Adjust to 2 ± 0.5ms coarsely with CE0830 (T holder) and then make fine adjustment with CE0821 (T pin).) See Section II-6-2 for the locational relations between CE0832, CE0831 (T contact pieces A. B) and CE0830. Caution: CE0830 (T holder) is easy to become loose, and thus care should be taken when bending. |
| | d. Inspect 1/8 sec. if 1/8 sec. is out of 125 ± 5ms, re-adjust with the 30Kn VR and then adjust 1/500 sec. again. | |

| Cause | Remedy | Checkup |
|--|---|--|
| 5) Check of 1/1000 sec. | <p>a. If the difference is greater than 1/1000 between 1/500 sec. and 1/1000 sec.:</p> <p>Minimize the engagement and clearance between CE0816 (closing claw A) and CE0803 (gear plate B).</p> <p>Make the engaging extent to 0.4 - 0.5mm.</p> <p>b. When the difference is smaller than 1/1000 due to smaller mini shutter speed:</p> <p>Adjust with the hitting pin of CE0805.</p> <p>See Section II-12-1)-c.</p> <p>c. When the difference between 1/500 sec. and 1/1000 sec. is smaller than 1/1000:</p> | See Section II-12-1)-d. |
| 6) Adjustment of mini shutter speed | <p>Set to the AUTO mode and short-circuit yellow and white ASA lead wires by placing a 1KΩ resistor in-between.</p> <div> <p>The diagram shows a gear labeled 'CA8547 (gear A)' with a smaller gear or pin labeled 'CE0805' in contact with it. A 'Hitting Pin' is shown as a small cylindrical component with a flat end, positioned to strike the gear. Below the diagram, it is noted that 'The hitting pin is an eccentric.'</p> </div> <p>The hitting pin is an eccentric.</p> | <p>Should be within 0.5 - 1.42ms. (Make 0.8ms as a target.)</p> <p>Fluctuations are acceptable if they are within the shutter speed standards.</p> |
| 7) Check of 1/1000 sec. and 1/500 sec. | Measure 1/8 sec., high shutter speeds, curtain speeds and mini shutter speed for more than 5 times. | See Specification Standards on the next page. |

Specification Standards for Manual Shutter Speed

1. Shutter Curtain Speed

The curtain speed should be 11.5 ± 0.1 ms for both opening and closing curtains. The difference in the curtain speed at 1/1000 sec. should be $0^{+0.15}_{-0}$, and the opening curtain should be faster.

2. Exposure Time

| Shutter Speed | Unit | Guaranteed Quality | Standard |
|---------------|---------|--------------------|-----------------------|
| 1/1 | 1000 ms | 871 - 1148 ms | ± 0.2 EV |
| 1/2 | 500 " | 436 - 574 " | " |
| 1/4 | 250 " | 218 - 287 " | " |
| 1/8 | 125 " | 109 - 144 " | " |
| 1/15 | 62.5 " | 54.5 - 71.8 " | " |
| 1/30 | 31.2 " | 27.2 - 35.9 " | " |
| 1/60 | 15.6 " | 13.6 - 17.9 " | " |
| 1/125 | 7.81 " | 6.81 - 8.97 " | " |
| 1/250 | 3.91 " | 3.40 - 4.49 " | " |
| 1/500 | 1.95 " | 1.59 - 2.40 " | ± 0.3 EV |
| 1/1000 | 0.98 " | 0.77 - 1.43 " | $\pm 0.1 \pm 0.45$ EV |

3. Exposure Unevenness

- a. At 1/1000, the difference between MAX and MIN of the channels A, B and C should be 0.4EV or less (in the range).
- b. At 1/500, 0.3EV or less.
- c. At 1/250 - 1/1. 0.15EV or less.

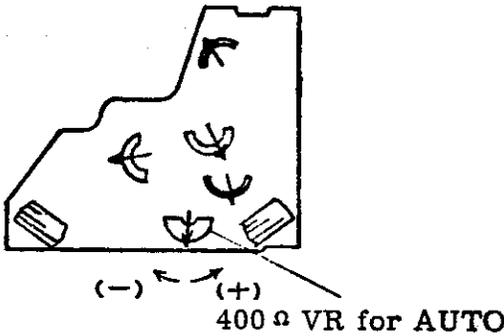
4. Fluctuations

- a. Should be 0.55EV or less in the 1/1000 range.
- b. Should be 0.3EV or less in the 1/500 - 1/1 range.

5. Mini Shutter Speed

- a. 0.5ms or faster for all channels A, B and C.
- b. Exposure time should be 0.5 - 1.42ms (for channel B).
- c. Exposure unevenness should be 0.6EV or less.

13. Automatic shutter speed adjustment

| Cause | Remedy | Checkup |
|---------------------------------------|---|--|
| <p>1) Preparation for adjustment</p> | <p>a. Manual shutter speed adjustment should have been completed.</p> <p>b. Power voltage should be $3.10 \pm 0.04V$.</p> <p>c. Mount an F5.6 jig lens.</p> <p>d. Install CE0955 (mat).</p> <p>e. When CE0503 (top plate) is removed, insulate the 2nd synch terminal.</p> | <p>Silver-oxide batteries may be used as the power supply.</p> <p>When using a constant voltage power supply, NEVER turn on and off the power switch, after the power supply is wired to the camera.</p> |
| <p>2) Adjustment at BV 11</p> | <p>Make the adjustment with the 400Ω VR of CE0914 (M circuit board) to $0 \pm 0.1EV$.</p>  <p>Do not move other VRs.</p> | <p>Within $0 \pm 0.1EV$</p> |
| <p>3) Adjustment at BVs 14 and 15</p> | | <p>BV 14: Within $0 \pm 0.2EV$ BV 15: Within $0 \pm 0.4EV$</p> |
| <p>4) Adjustment at BVs 8 and 4</p> | | <p>Within $0 \pm 0.3EV$</p> |

| Cause | Remedy | Checkup |
|-------|--------|---------|
|-------|--------|---------|

5) ASA conversion accuracy

Check at BV 8.

| ASA | 12 | 50 | 100 | 200 | 400 | 800 | 1600 |
|------------------|--------------------|--------|----------------|-------------------|--------|---------------------|----------|
| Accuracy (EV) | 0±0.25 | 0±0.25 | Refer- ence | 0±0.3 | 0±0.45 | +0.2±0.5 | +0.5±0.5 |
| Stage Difference | ↑ 0.7EV or greater | | | ↑↑ 0.5 or greater | | ↑↑ 0.3 or ↑ greater | |

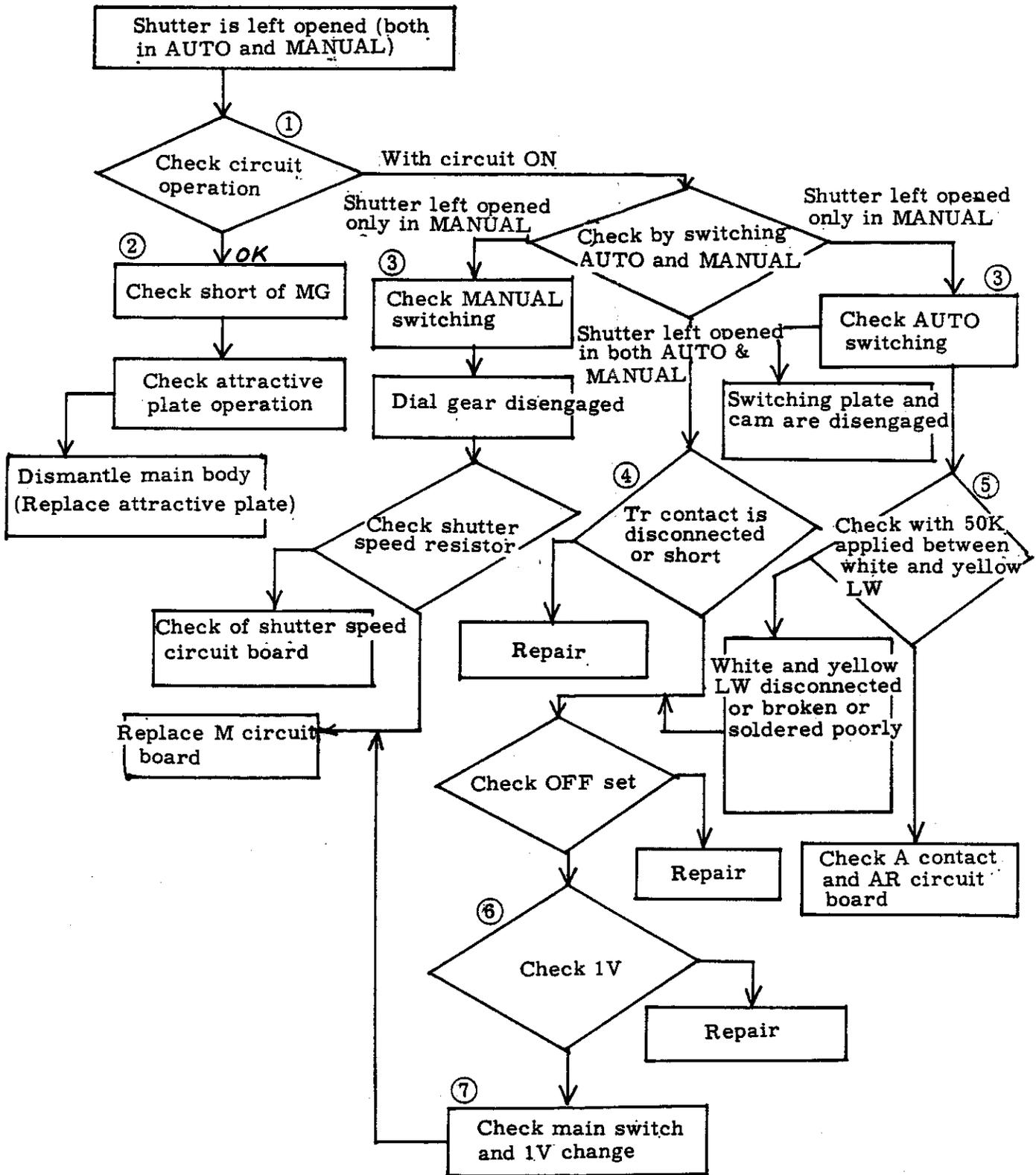
| | | |
|--|---|--|
| 6) Check of current consumption | Remove the battery compartment cover and place an ampere meter between the bottom plate and the battery. | The current should be 9mA or less at AUTO BV 4 and 13mA or less at Bulb (B). |
| 7) High luminance EV faulty at high ASA settings | <p>This is caused by displacement of OFF set of CE0914 (M circuit board). Readjust the OFF set.</p> <p>Then, conduct the manual shutter speed adjustment and subsequently auto shutter speed adjustment.</p> <ul style="list-style-type: none"> ◦ See Section of "Adjustment of CE0914 OFF Set". ◦ See Section of "Adjustment of Manual Shutter Speed". | |

14. Diagnostic chart for defective shutter (electronic parts)

Main possible causes and diagnostic procedures to locate defective parts are given in the following charts.

Interpretation of Chart and Cautions

- (1) When each diagnosis (check point) is normal, go downward: go to the lateral step (to right or to left) following the arrow mark if abnormal.
- (2) The number in ○ above the check point describes caution, method, adjustment, etc. below the chart.
- (3) For other procedures, see "OUTLINE OF REPAIRS".



① Checking of circuit operation

Checking by current consumption.

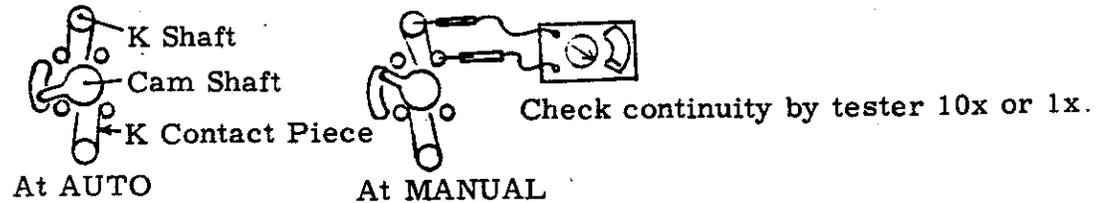
MG ON 8 - 9mA OFF 11 - 13mA

② Shorting part of MG

- o 10K Ω sensor and S base
- o MG coil end and body
- o Purple LW and body
- o Others

③ Check of accurate Auto/Manual switching

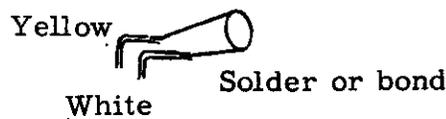
Check contact of K contact piece at S lever switching.



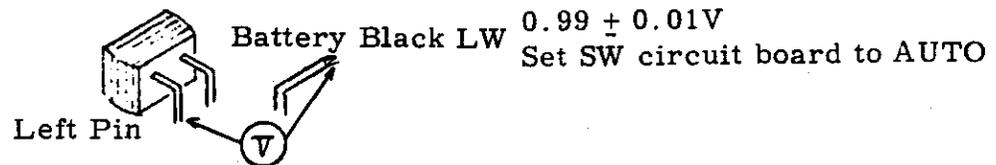
④ Tr. contact disconnected or short



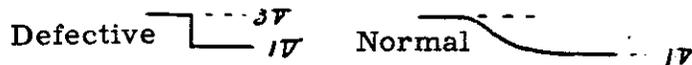
⑤ Disconnect white and yellow LW from circuit board A, and connect 50K resistor in-between.

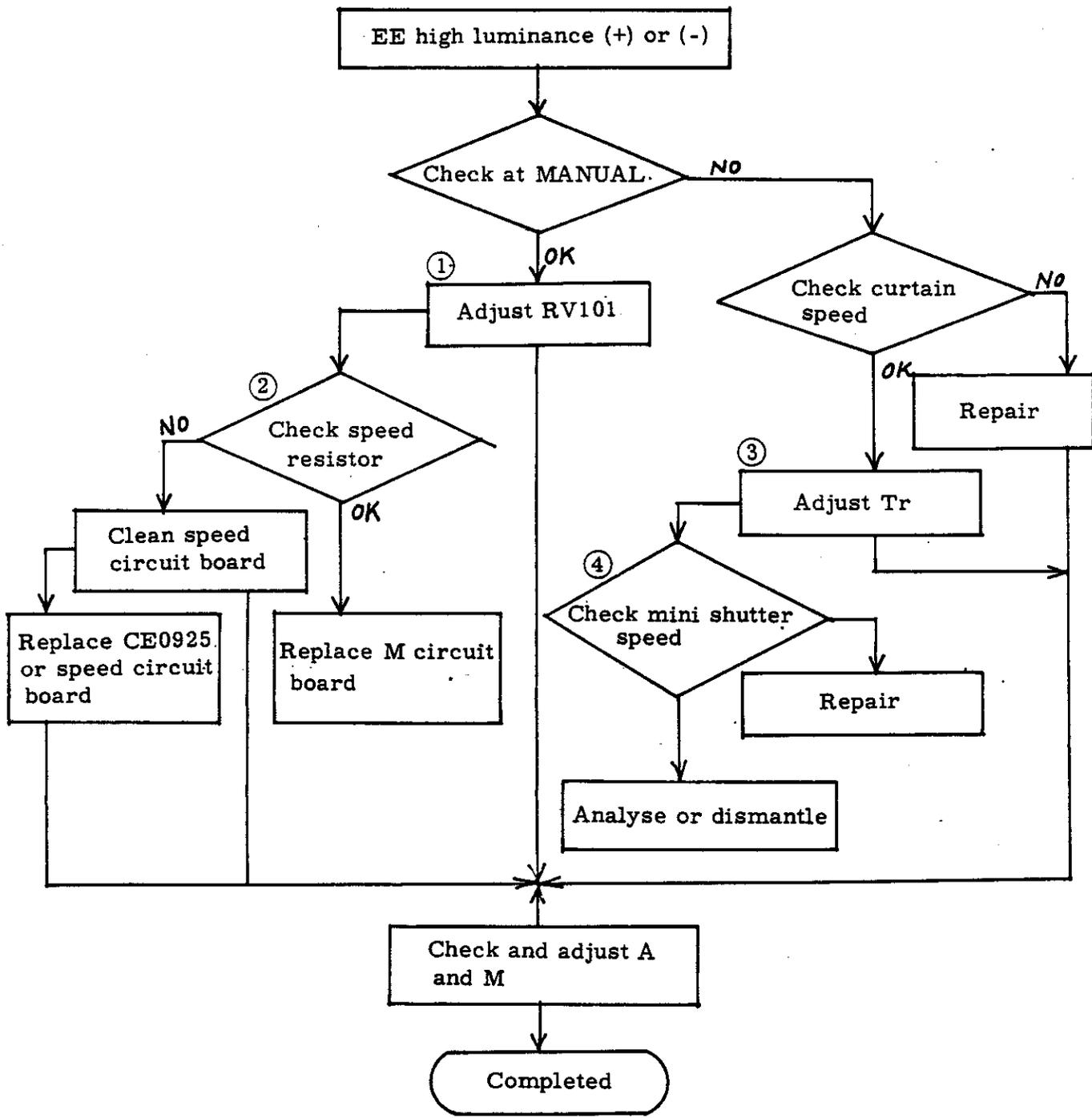


⑥ Check 1V

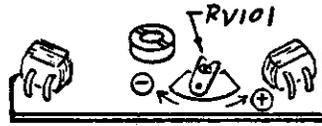


⑦ Connect a synchroscope instead of V in 6 and operate main switch to see 1V switching.





① Adjustment of RV101 (AUTO)



② Check of speed resistor

Set selector switch to AUTO, and measure between left pin (1V) of SBC and MANUAL pin.

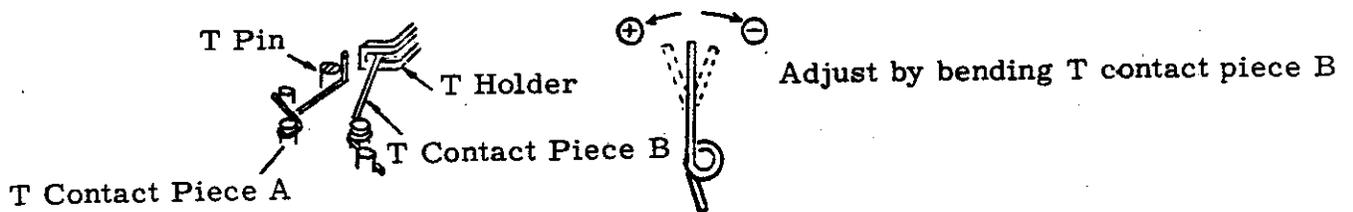
MANUAL Pin

Ohm Meter

Left Pin of SBC

| | | |
|--------|-------|-------------------|
| 1/1000 | ..... | 12 (K Ω) |
| 1/500 | ..... | 24 |
| 1/250 | ..... | 48 |
| 1/125 | ..... | 96 |
| 1/60 | ..... | 192 |
| 1/30 | ..... | 384 |
| 1/15 | ..... | 768 |
| 1/8 | ..... | 1.5 (M Ω) |
| 1/4 | ..... | 3 |
| 1/2 | ..... | 6 |
| 1/1 | ..... | 12 |

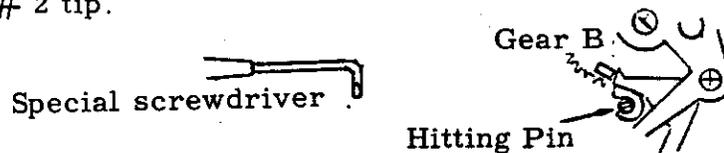
③ Tr adjustment

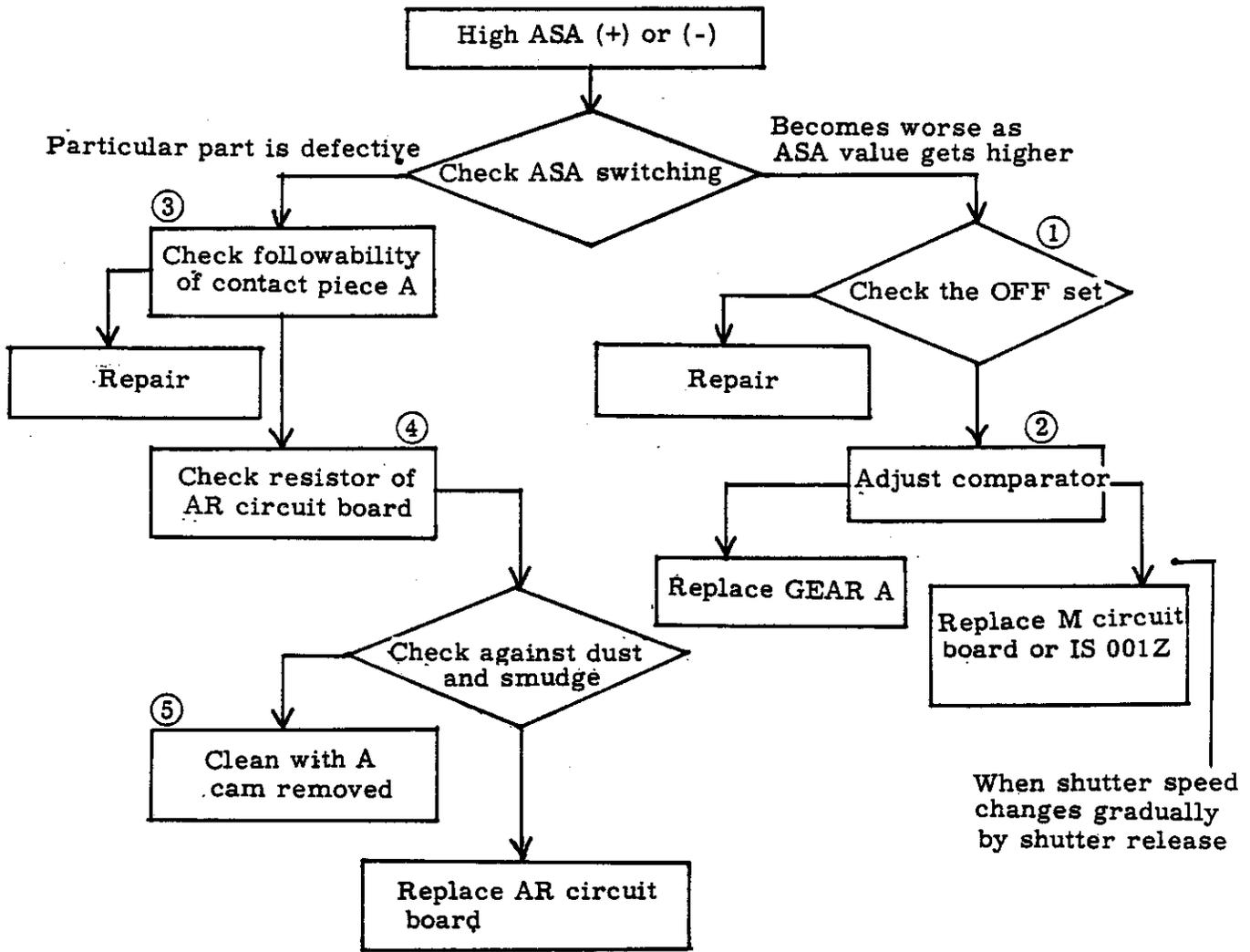


- o When fluctuation becomes excessive due to tampering with contact piece. replace and adjust it.
- o After adjustment by bending. there should be a clearance (at second step of opening claw) between T holder and T contact piece B.
- o When wound, T contact piece B should not hit T pin.

④ Adjustment of mini shutter speed

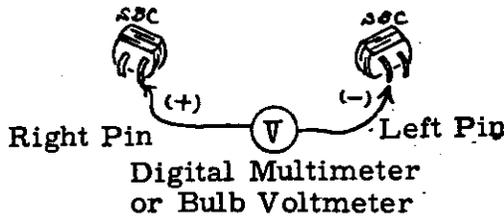
Adjust hitting pin with a special screwdriver.
Bend # 2 tip.





① Check of OFF set of preamplifier

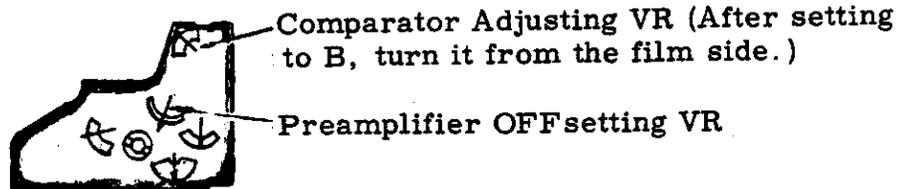
Tr is ON at AUTO



- o Should be $\pm 1.5\text{mV}$ or less.
- o Adjustment should be made to $\pm 0.5\text{mV}$ or less.
- o The power supply (-) should be connected with black LW. (Otherwise, load batteries after locking the shutter.)

Caution: For checking, matching board may not be used. But it should be used for adjustment.

② Adjustment of comparator

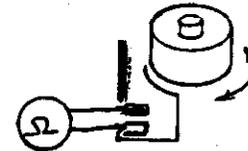


③ Check of contact piece A follow-ability

Contact piece A should be in contact with AR circuit board (by spring pressure) even when the contact piece A is moved slightly up and down.

④ Check of resistor of AR circuit board

Disconnect white and yellow LW, apply ohm meter and check while turning A cam.



Resistance Value ($\text{K}\Omega$)

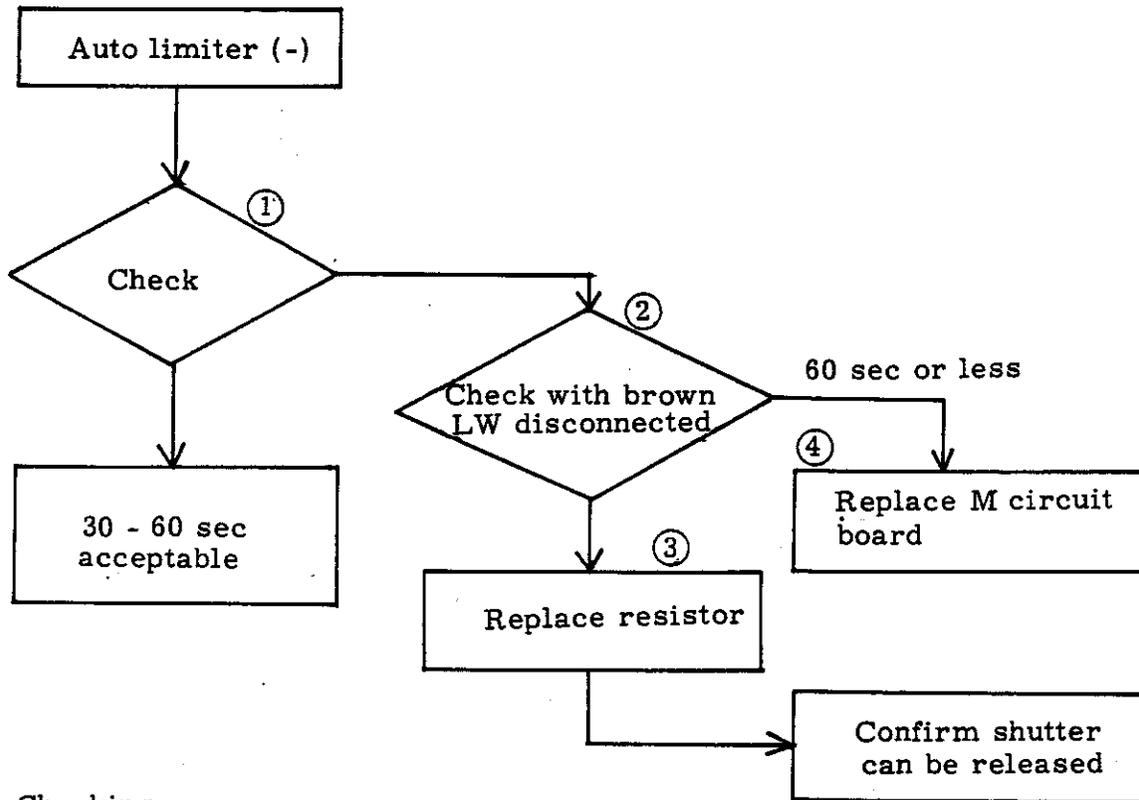
| | | | | | | | |
|-------------|------|------|------|------|------|------|------|
| ASA 1600 | 800 | 400 | 200 | 100 | 50 | 25 | 12 |
| 0.64 | 1.02 | 1.79 | 3.58 | 7.16 | 14.3 | 28.6 | 57.2 |

⑤ Removal of A cam

- a. Remove C ring. (Turn it clockwise about 30° .)
- b. Loosen A contact piece fastening screw (left-hand screw), and remove the contact piece from AR circuit board.
- c. Remove A cam.

Precautions for assembling

- a. A lever should be brought to bear on the side surface of the A cam. (Displace A lever outwardly, and mount A cam in position.)
- b. Tighten the screw taking care to the contacting state of A contact piece.



① Checking

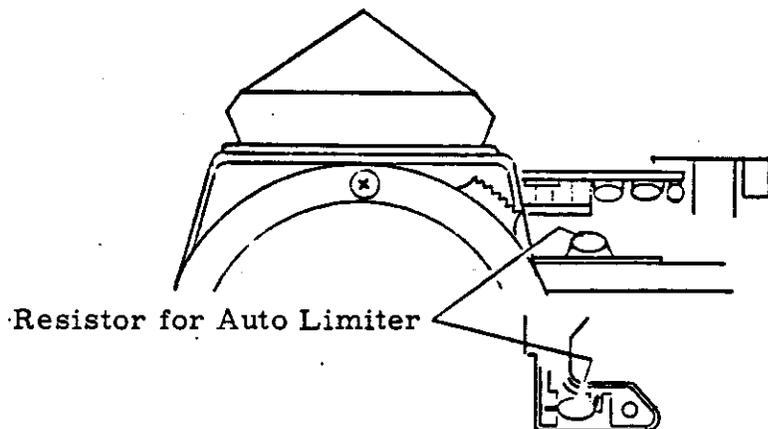
Mirror should flip down after 60 seconds or longer when shutter is released after dark condition of 3 minutes.

Acceptable if the mirror lowers after longer than 30 seconds and less than 60 seconds.

- o "Dark condition" means the state that the body cap is applied and the eyepiece frame is faced downward.

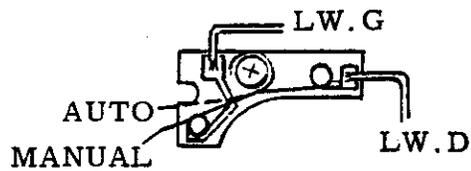
② Remove bottom plate, desolder brown LW and check ① .

③ Remove the resistor for auto limiter, and replace it by a 1M Ω resistor. (Use the soldering iron with a pointed tip.)



④ Protection against leakage current from M circuit board.

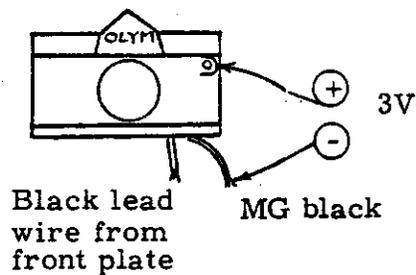
1. Operation of C spring



- There shall be a gap between C plate 2 and C spring at MANUAL.
- Contact resistance between dowel shall be less than 1Ω .

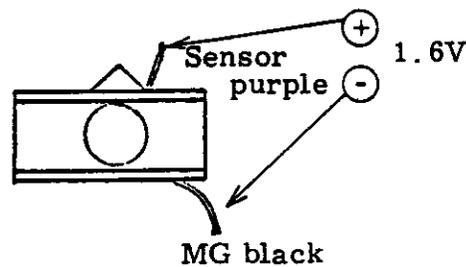
2. For the checking of speed resistance, refer to the page 97.

3.



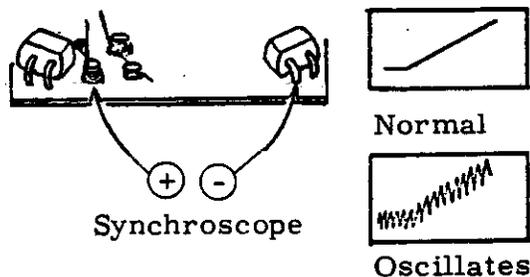
4. Check the movement and holding force of magnet.

Connect 1.6V directly to the magnet and check if the shutter fully opens. Connect the power supply after winding.

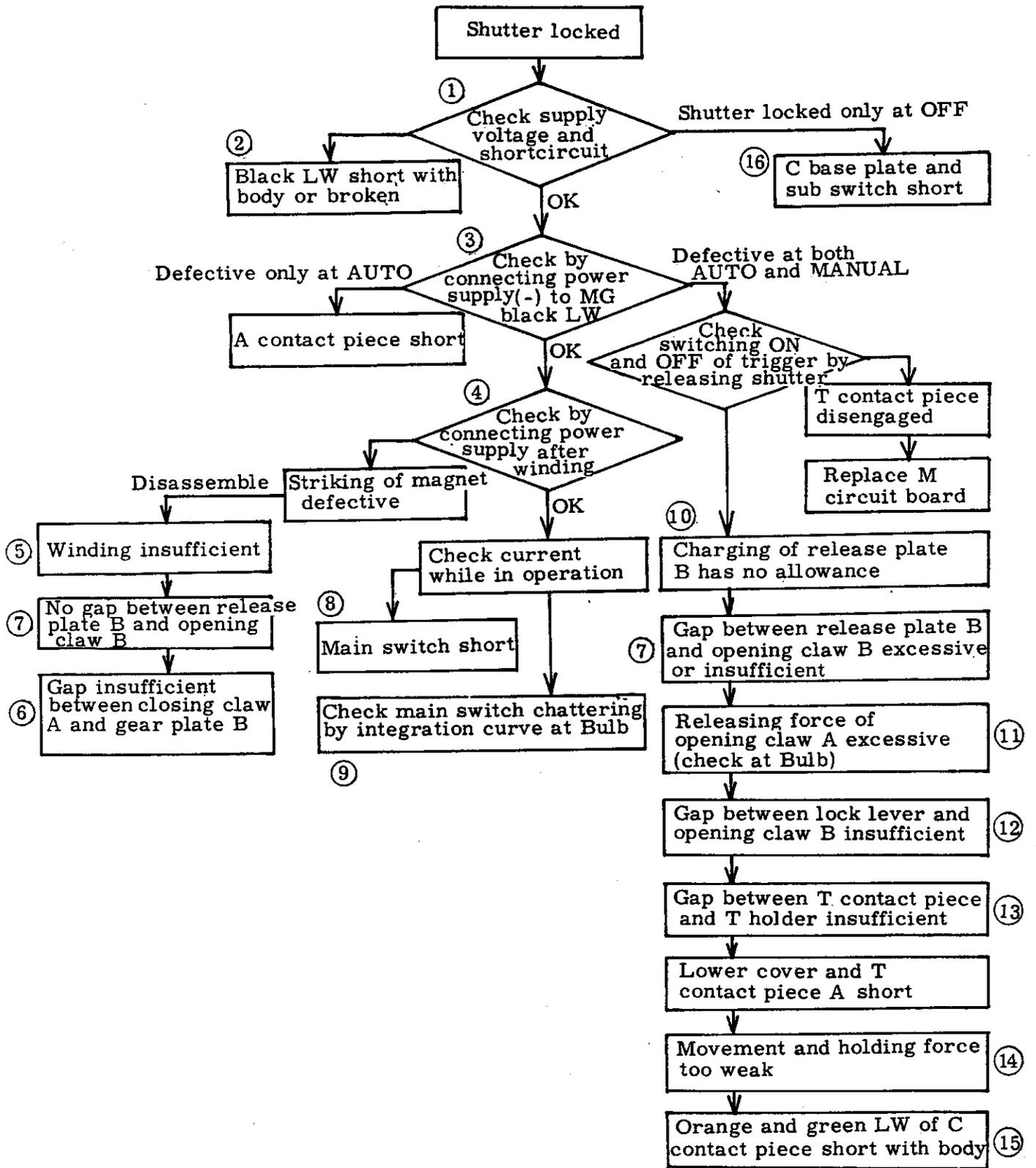


5. Check if M circuit board oscillates

Connect trigger pin and 1V to synchroscope and check wave form.

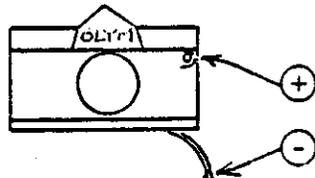


6. It may also cause skip at Bulb.



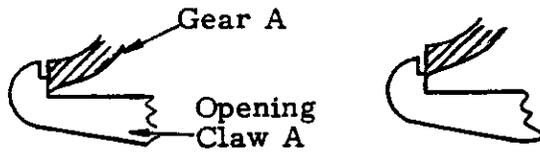
- ①. Ammeter needle deflects when main switch is turned ON.
Supply voltage shall be greater than 2.4V during operation.
- ②. Black lead wire is shortcircuited with diecast, or broken. LW is:
 - Jammed under the bottom plate.
 - Shortcircuited with the film guide screw.
 - Jammed with the S base.
 - Jammed with the prism holder.
 - Jammed when docking of front plate.
 - Shortcircuited with camera body due to the displacement of cell cover shaft.

③.



MG black lead wire

- ④. Connect the power supply after film winding.
- ⑤. Film winding is insufficient.

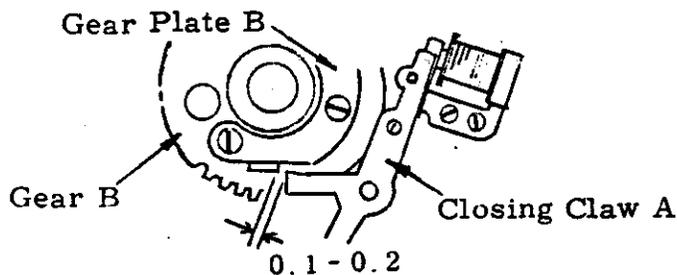


Correct

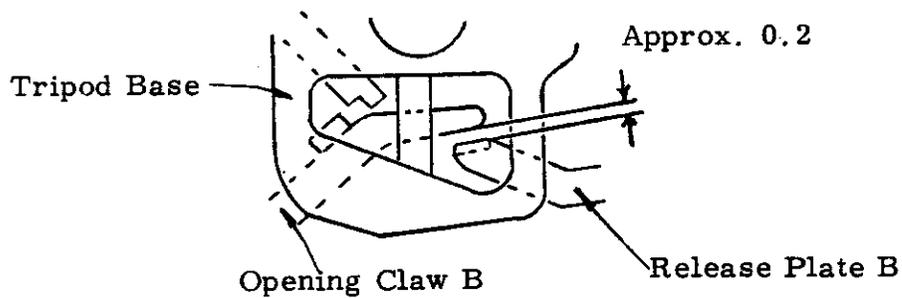
Incorrect adjustment

- When overcharged by 0.1 - 0.2, the gear A shall be completely hooked at the root of the second step of the opening claw A.

- ⑥. Closing claw A and gear plate B go too far (charge over).



- ⑦ Clearance between the release plate B and opening claw B.

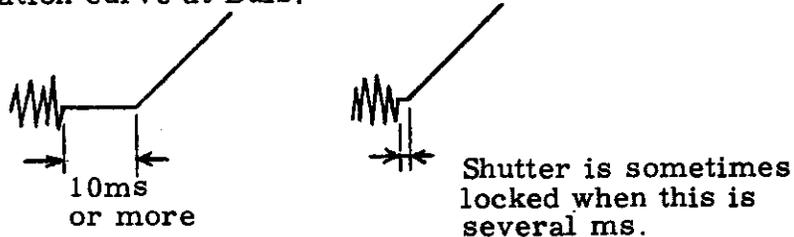


- ⑧ Main switch is shortcircuited.

- 1) Check by moving the mirror only. → Sub switch
- 2) If normal in the check above, check by moving the iris lever and mirror. → Main switch

- ⑨ Main switch is chattering.

Check the integration curve at Bulb.



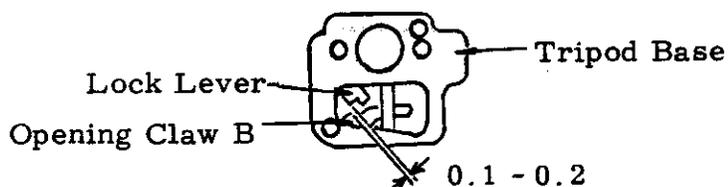
- Make the timing of the sub switch earlier.

- ⑩ When the shutter is charged with the release plate B overcharged by more than 0.2, there shall be a tolerance (against the release plate A).

- ⑪ Releasing force of opening claw A.

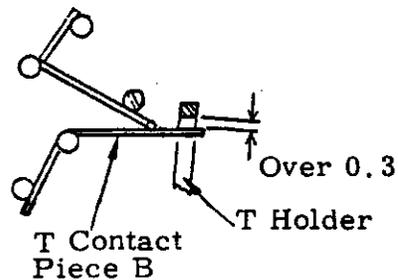
Shall be less than 60g at the tip of the opening claw B.
(Shutter release force is more than 65g).

- ⑫ When the release plate A is engaged at the third step, the clearance between the lock lever and opening claw B shall be 0.1 - 0.2.



⑬ Clearance between T holder and T contact piece B

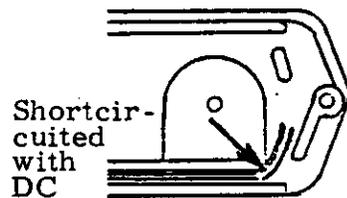
When the release plate A is engaged at the third step, the clearance shall be as illustrated.



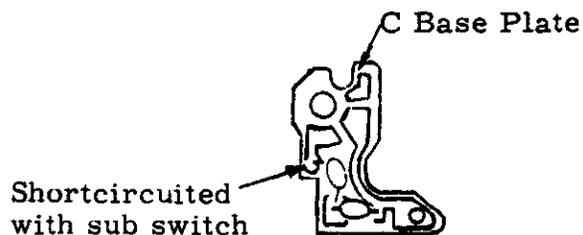
⑭ Movement and holding force

- When 1.6V is applied across the black lead wire of the magnet and the magnet circuit board and the shutter is released, the shutter shall be fully opened.
- Connect the power supply after the shutter is charged.

⑮ Lead wire of the C contact piece is shortcircuited with the body diecast.



⑯



Adjustment standards for 2-step hooking of opening claw A (CE0832)

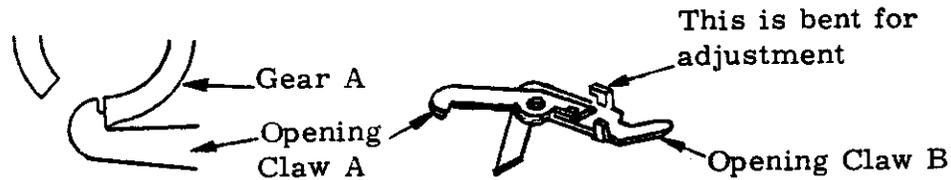
Early products used to have one step for hooking on the opening claw A. Currently, it has been modified to two steps as a provision against disorders at high shutter speeds. Adjustments of each part are made as follows.

(1) Engaging amount of opening claw A and gear A

After the shutter is charged, the gear A shall be engaged to the root of the opening claw A as shown.

Adjustment

Bend the lug of the opening claw B (CE0833).



(2) Clearance between closing claw A (CE0866) and gear plate B (CE0865)

When the shutter is being charged, the clearance between the closing claw A and gear plate B shall have 0.1 - 0.2 allowance. After the shutter has been charged, the clearance shall become zero and the engaging amount of the two parts shall be 0.3 - 0.5.

Adjustment

Allowance in charging . . . Loosen two flat screws, which are fixing the gear plate B, and adjust the position of the gear plate.

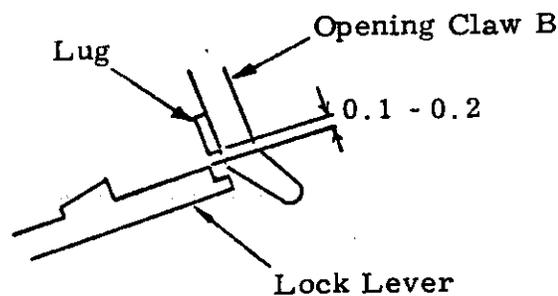
Engaging amount . . . Adjust by moving the magnet forward and rearward.

(3) Clearance between opening claw B and lock lever (CE0847)

When the closing claw A is brought to bear on the magnet and the opening claw B is operated, the opening claw B shall pass through with 0.2 - clearance against the lock lever.

Adjustment

- ① Adjust the position of the lock lever with the eccentric screw caulked to the closing claw A.
- ② If the above ① is unsuccessful, bend the lug of the closing claw B engaging with the lock lever.



(4) Clearance between release plate B and opening claw B

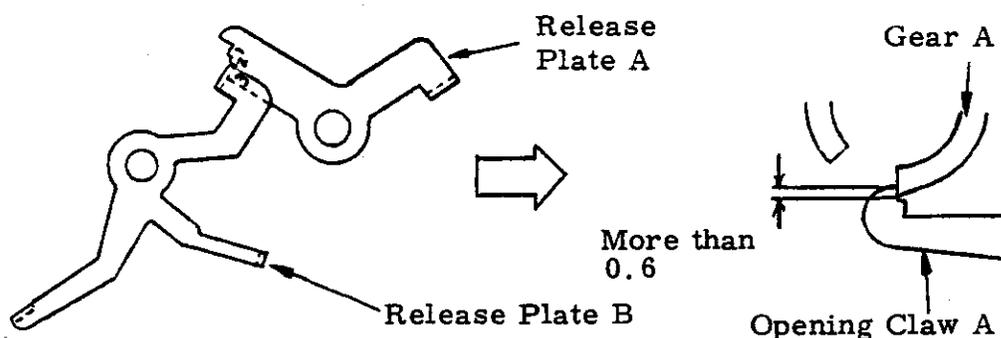
After the shutter is charged, there shall be about 0.2mm clearance between the release plate B and opening claw B.

Insufficient clearance → Shutter cannot be locked.

Excessive clearance → Disorders at high shutter speeds.

(5) Position of the opening claw A when the release plate A is being engaged at the third step.

When the release plate A is operated to accept the release plate B at its third step, the gear A shall be dropped onto the second step of the opening claw A and engaged therewith by more than 0.6.



Adjustment is made by the lug of the opening claw B or of release plate B.

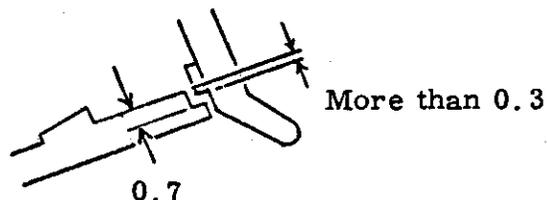
(6) Engaging amount of lock lever and opening claw B

When the magnet is turned OFF and the release plate A is engaged at the third step, the engaging amount of the lock lever and opening claw B shall be more than 0.3.

However, in this condition, they shall not be in contact yet.

Adjustment

- ① Bend the lug of the release plate B.
- ② Bend the lug of the opening claw B.



Since the width of the hook portion of the lock lever is 0.7, it is sufficient if engaged at the middle position of the hook.

(7) Condition at shutter lock

Engaging amount of the opening claw A and gear A shall be more than 0.5, and that of the lock lever and opening claw B shall be more than 0.4.

Caution

In procedures (5) - (7) above, the checking shall be made by slowly moving the release plate A.

When the release plate A is moved fast, the following conditions shall be satisfied.

(8) Engaging amount of the opening claw A and gear A

When the release plate A is engaged at the third step, the engaging amount of the opening claw A and gear A shall be more than 0.3.

(9) Engaging amount of the opening claw A and gear A when the shutter is locked

When the shutter is locked, the engaging amount shall be the same as in (8), at least 0.3.

(10) Clearance between the T contact piece (CE0932) and T holder (CE0930)

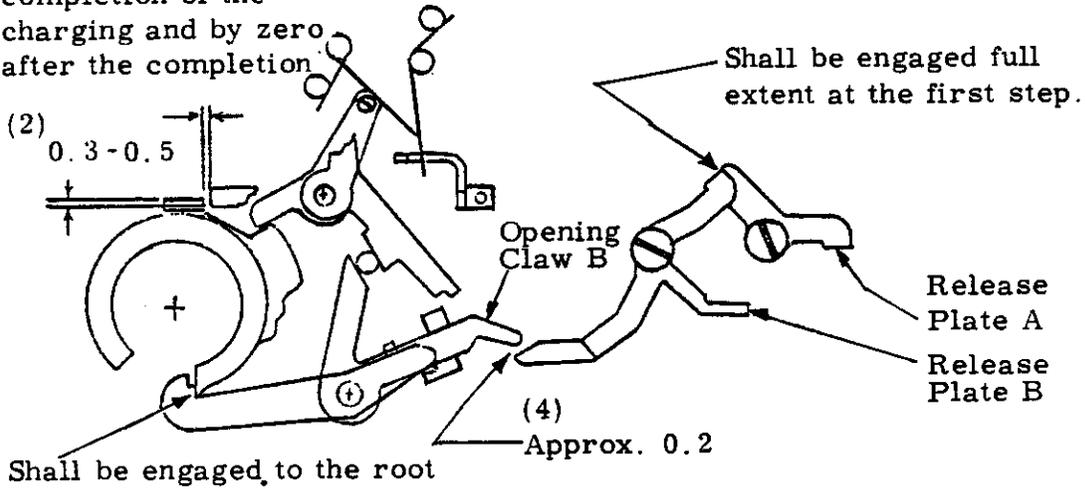
When the release plate A is engaged at the third step, the clearance between the T contact piece B and T holder shall be more than 0.3.

References

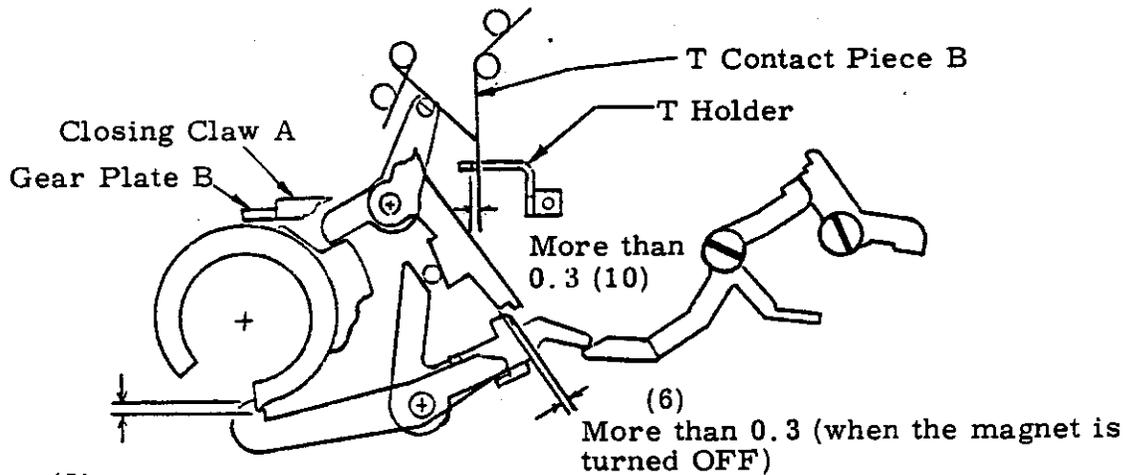
- ① Each check shall be made after the release plate B is engaged full extent at the first step.
- ② When the release plate A is engaged at the third step and the T contact pieces A and B are separated, the shutter will be locked.
- ③ When the clearance between the closing claw A and gear plate B is excessive, it will cause defective step difference.
- ④ When the release plate A is engaged at the third step, the opening curtain shall move slightly.

1. Conditions of each part when the shutter is charged

(2) Cross over by 0.1 - 0.2 just before the completion of the charging and by zero after the completion



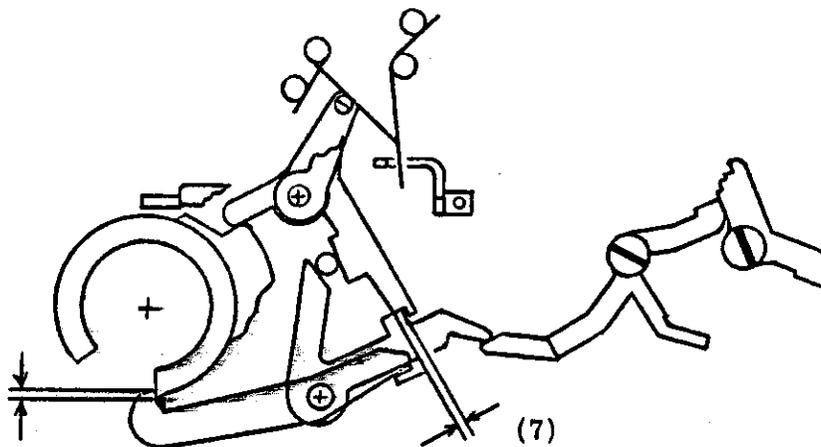
2. Conditions when the release plate A is engaged at the third step



(5) More than 0.6
(when the release plate A is moved slowly and engaged at the third step)

(8) More than 0.3
(when the release plate A is moved fast and engaged at the third step)

3. Conditions when the shutter is locked



(7)
More than 0.5
(when the release plate A is slowly moved)

(7)
More than 0.4

(9)
More than 0.3
(when the release plate A is moved fast)

OLD

<1>

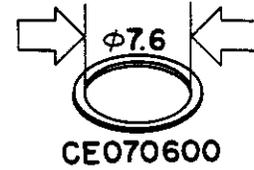
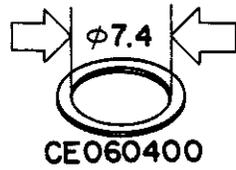
NEW

~~CE050500~~
~~CE121200~~ (黄銅Niメッキ)

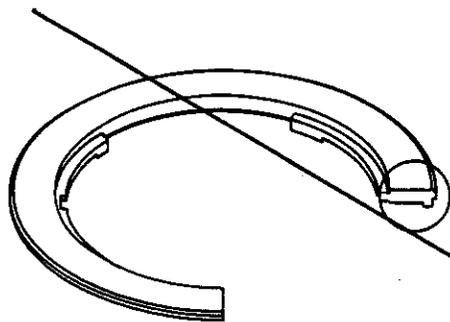
CE070500
(黒ポリカーボネート)

~~CA073600~~
(φ6.8)

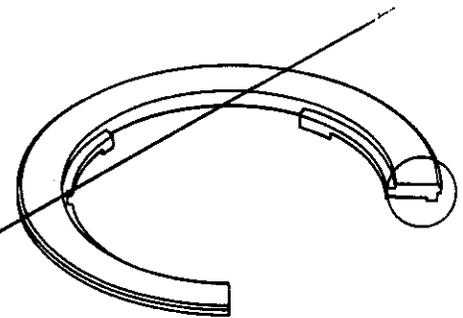
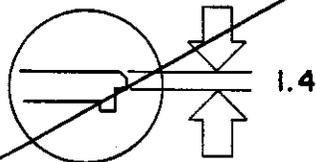
CE070700
(φ7.4)



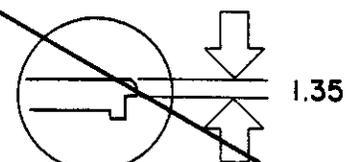
<2>

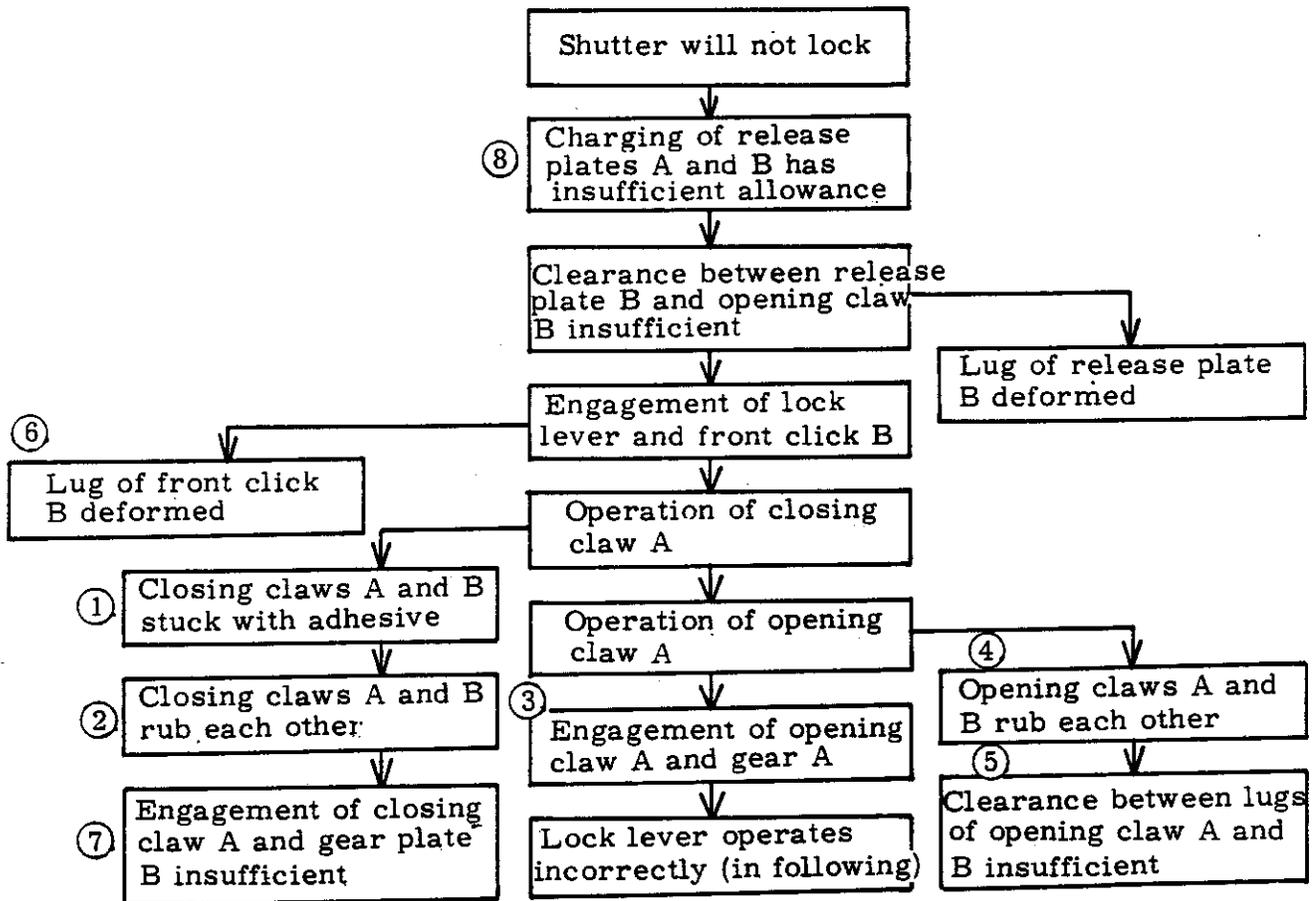


CA887700



CA949000





- ① Closing claws A and B are stuck with adhesive, or rub each other.

②

Closing Claw B



- Closing claws A and B shall move independently of each other.
- When they rub, insert a screwdriver between them and make a clearance therebetween.

- ③ When the shutter is locked, the gear A shall be dropped onto the second step of the opening claw A and engaged there by more than 0.3.

- ④ Opening claws A and B rub each other.

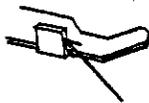
Same as in closing claw A and B in ① .

- ⑤ Clearance between the lugs of the opening claws A and B
Refer to ③ .

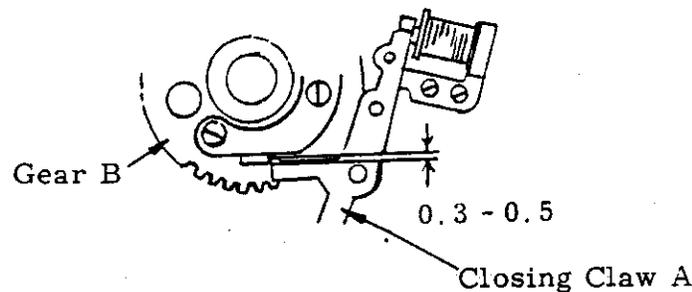


- ⑥ The lug of the opening claw B is deformed.

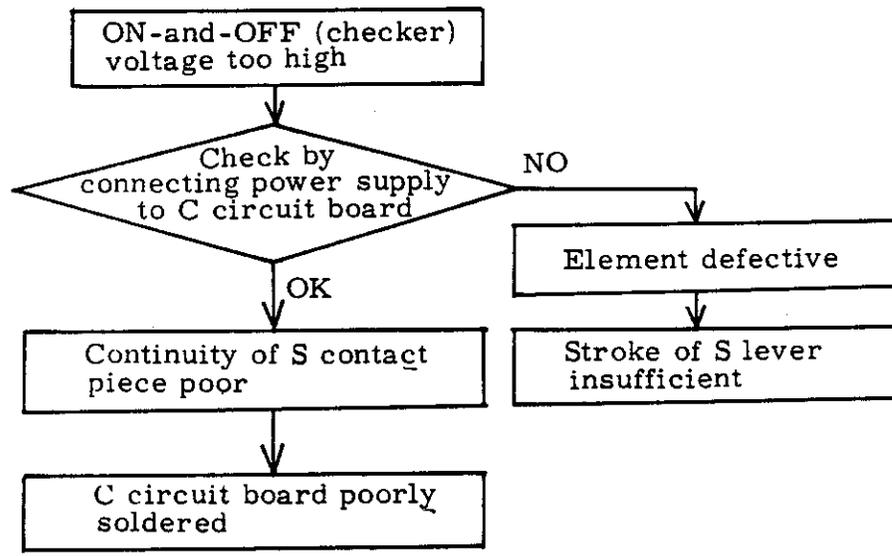
- If the lug is deformed, the lock lever slips and disengages.



⑦

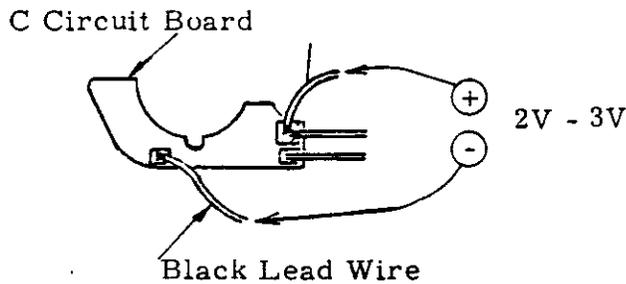


- ⑧ Charging of the release plates A and B shall have 0.2 - 0.4 allowance.



①

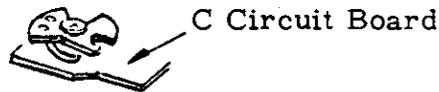
Brown Lead Wire



②

Check the resistance across the camera body and brown lead wire of the C circuit board.

- Defective if the resistance is greater than 1Ω .
- Polish the Nickel surface of the C circuit board.



③

Poor soldering

- Check if the condenser, resistor and thermistor are soldered completely.
- Check if the LED feet are positively soldered.

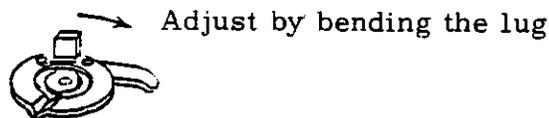
④

Defective element

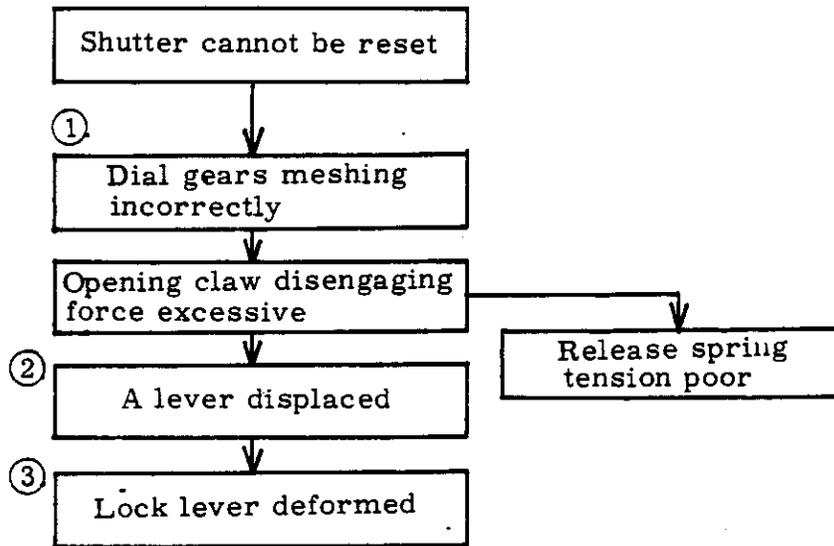
- Check the chip, resistor for breakage, etc.

⑤

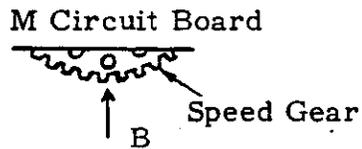
Adjustment of the S lever stroke



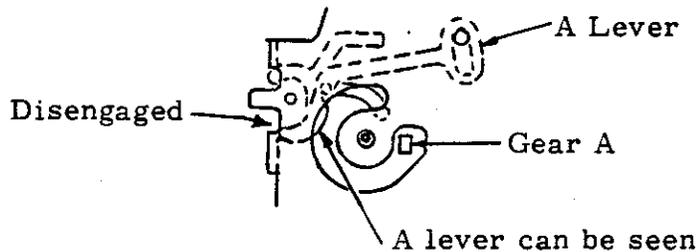
- After adjustment, be sure to check the switching of Auto, Manual and OFF.



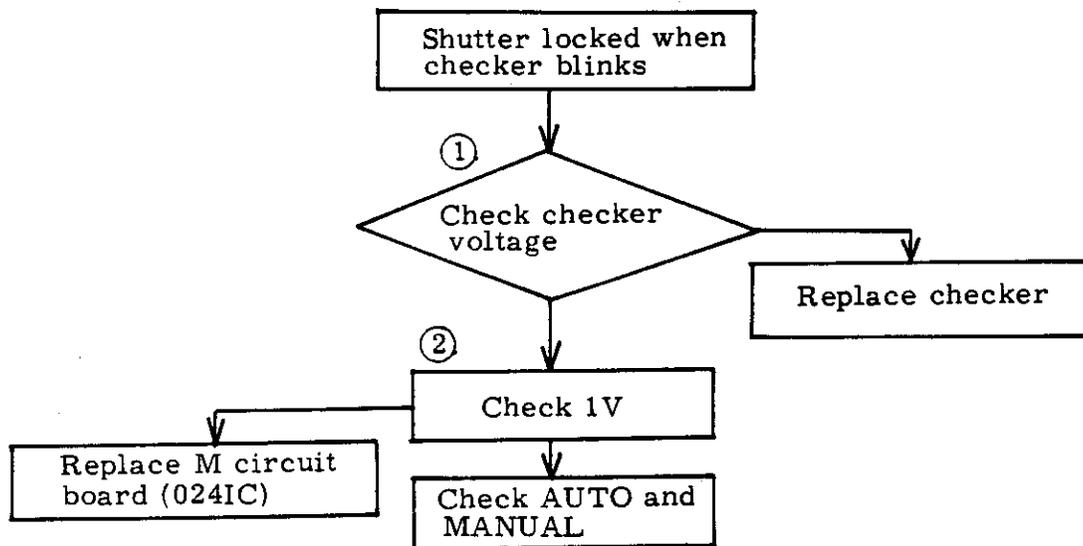
- ① Meshing of dial gears



- ② A lever is displaced.

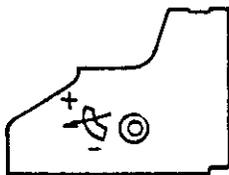


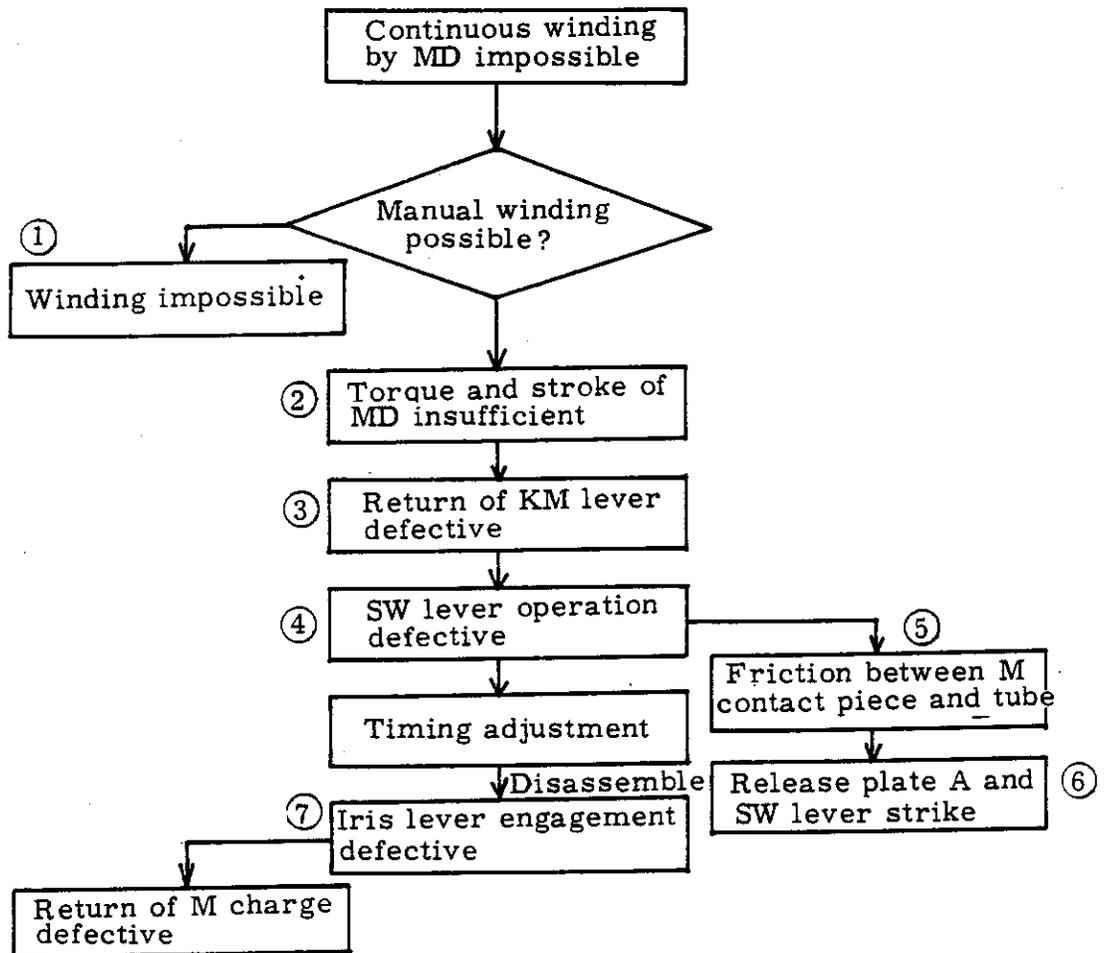
- Replace the A lever or reform the lug of S base plate.
- ③ Lock lever is deformed.
- Since the lock lever is deformed, the shutter lock cannot be released.
 - Sometimes, the lock lever does not operate because it strikes X or FX contact piece or set screw.



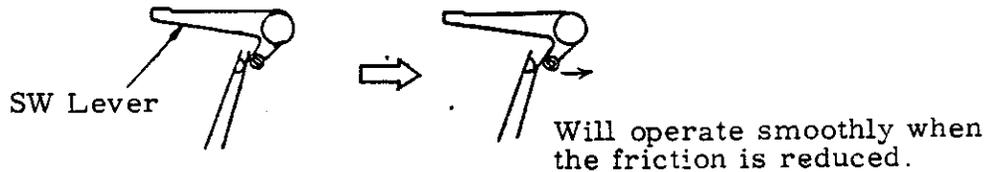
- ① Checker voltage
 At ON-and-OFF: $2.45 \pm 0.04V - 2.75 \pm 0.04V$
 At OFF: Less than $2.45 \pm 0.04V$

- ② 1V
 Shall be adjusted to the range of $0.99mV \pm 0.01$ (AUTO).
 (Shall be set so that the locking voltage becomes 2.40V or lower.)

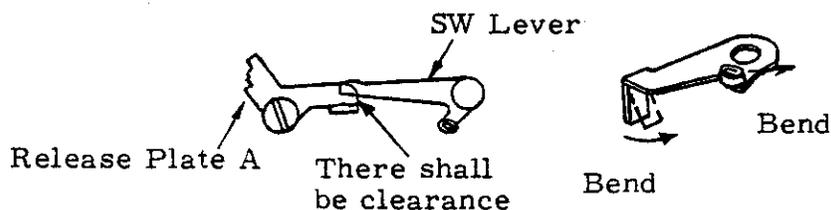




- ① Winding is impossible.
 - Winding stop lever, spring, etc. disengaged.
 - Gears 3 and 4 are meshing incorrectly.
 - Winding stop screw is loose.
- ② Torque and stroke of MD
 - MD torque shall be 1.9 ± 0.1 kg-cm
- ③ Return of KM lever is defective
 - KM lever shall return completely with the tension of KM spring when the camera is placed horizontally.
 - Clearance shall be made between the main body and KM lever.
- ④ SW lever operation is defective.
 - Examine the operation of SW lever with the bottom plate removed and MD operated.
- ⑤ M contact piece and tube make friction.



- ⑥ Release plate A and SW lever strike each other.



- ⑦ Iris lever engagement is defective.
 - Because of defective operation of M charge, the mirror moves up before the completion of film advance (particularly at fast film advance).
 - Iris lever often stops at the condition where the mirror moves up and each half of the opening and closing curtains can be seen.
 - Check side plate L and replace if broken.

III. CE0914 (M circuit board)

1. Precautions for repairing CE0914

1) As the ICs blow out by static electricity, be sure to ground the work desk, soldering iron, pincette, nipper, operator's body, etc. when the IC and FET are handled as a single body.

(The pins ③ and ⑤ of MOS FET are particularly weak and may be destroyed by static electricity of 100V. Generally, the human body is supposed to have static electricity of 1500 - 10000V.)

2) Use rubber fingerstalls.

(Use fingerstalls on the thumb, forefinger and middle finger of both hands.)

3) Be sure to use silver containing, sparkle solder (Senju Kinzoku Kogyo Co., S 256. 0.8φ) for soldering.

(Since the pattern of CE0914 contains silver, if an ordinary solder is used, the silver component may be absorbed into the solder in a long period and the solder may become unstuck.)

4) Use non-acid paste and clean it with DAIFLON S-3E.

(It is sold under the name of Du Pont "FREON-TE" in the overseas market. Chemical Formula $C_2CL_3F_3 + C_2H_2OH$. $C_2CL_3F_3$ 96%. C_2H_5OH 4%)

5) As electrical elements are weak against heat, avoid to heat them for long in soldering.

The standard time for soldering is 3 sec. for one spot.

6) Dust and smudges (particularly, on flux and paste) should be absent because it lowers insulation resistance. (Particularly, insulation resistance of $10^{12}\Omega$ or greater is necessary for lower luminance levels. When smudged, brush and clean with DAIFLON S3-E, and then check with the SZ (binocular stereo microscope). Check particularly the pins of SBC, trigger switch and auto-side contact piece of cam shaft, etc.)

7) When the constant voltage power supply is connected, never turn on and off the power switch. Turn the power switch after disconnecting the wire of CE0914 (M circuit board).

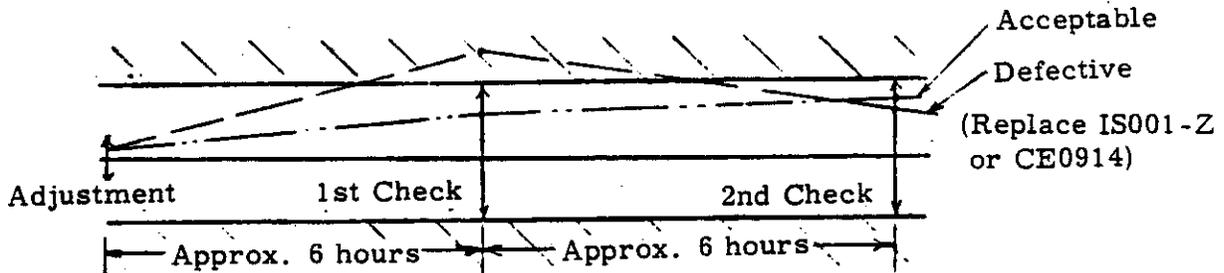
(Turning on and off of the power switch momentarily generates 60 - 70V.)

8) Confirm grounding of each component once a day or at the start of working hours by means of a tester.

(Acceptable if the tester needle deflects by the extent equivalent to the voltage of wall outlet AC between the grounding wire and the AC wall outlet.)

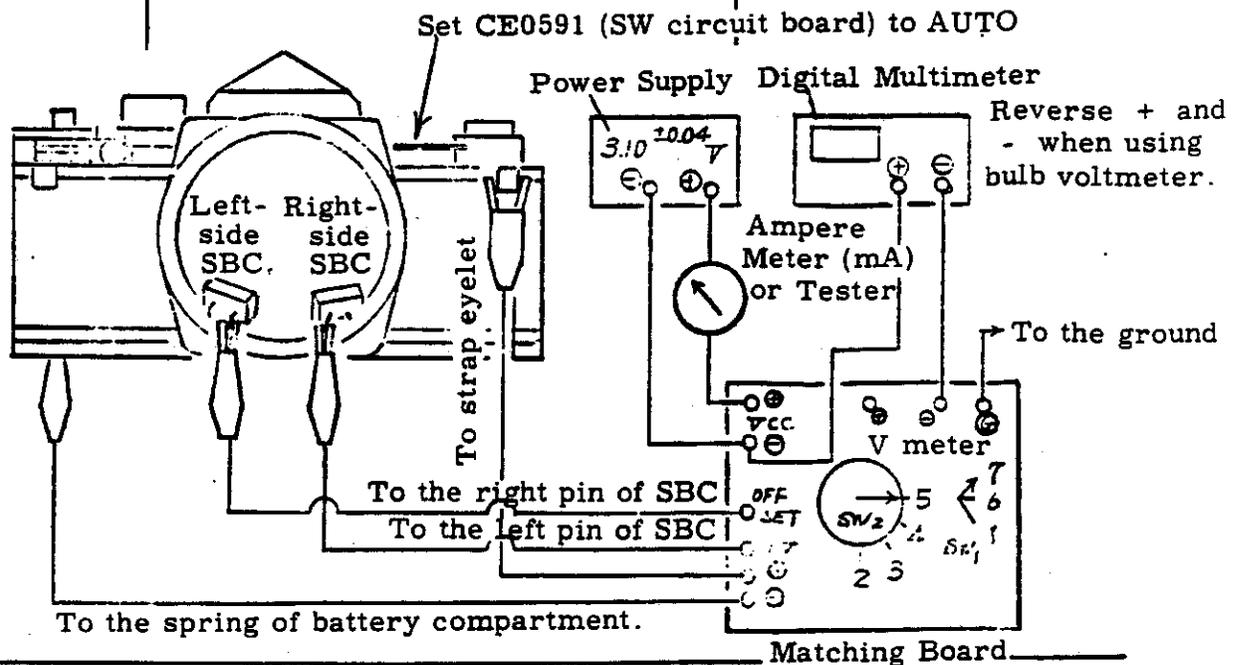
9) Take special care not to heat teflon over 450°C to prevent generation of toxic gas.

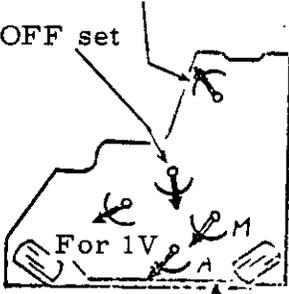
10) When the OFF set of the preamplifier is changed beyond 1.5mV. adjust it to $\pm 0.5\text{mV}$ or lower; thereafter repeat the OFF set checking two times at a 6-hour interval. The measured value at each checking should be within $\pm 1.5\text{mV}$. If adjustment is impossible. replace the IC of IS001-Z or CE0914.



- 11) The variable resistor should be locked using adhesive. after adjustment.
 - 12) Never fail to ground the pincette (tweezers) and the repairman's body when touching the trigger switch contact piece and SBC.
2. Adjustment of CE0914 (M circuit board)

| Items | Method | Remarks |
|----------------|--|---|
| 1) Preparation | <ol style="list-style-type: none"> a. Remove CE0951 (bottom cover). CE0955 (mat) and CE0503 (top plate). b. Release the shutter and lock it with the battery unloaded. (Main switch and trigger switch \rightarrow ON) c. Set CE0591 (SW circuit board) to AUTO. d. Set the power voltage to $3.10 \pm 0.04\text{V}$. e. Make the wiring as follow. | The powder switch should have been turned on before wiring and must not be turned off and on after the power supply is wired to camera. (If the switch is operated. high voltage is generated.) |

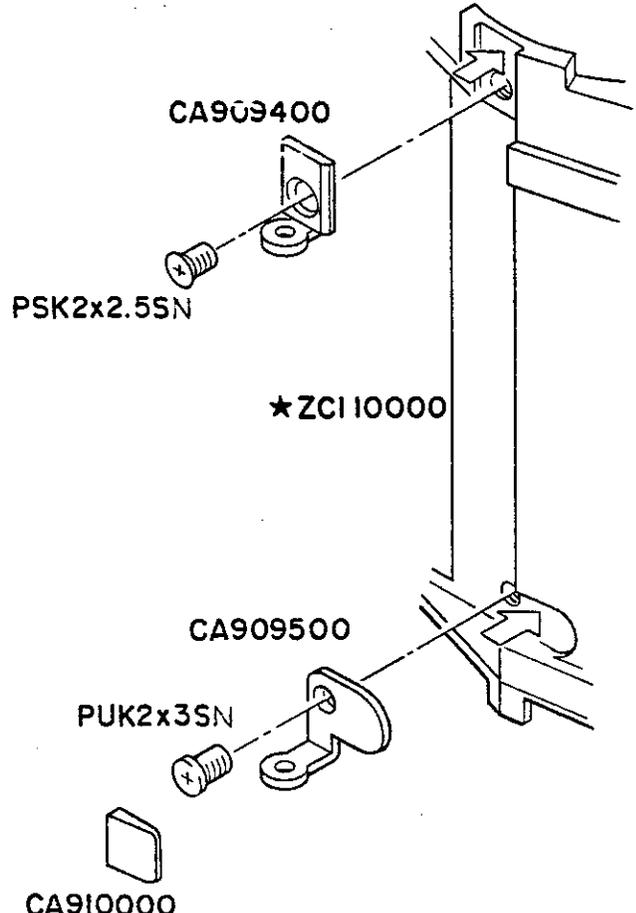
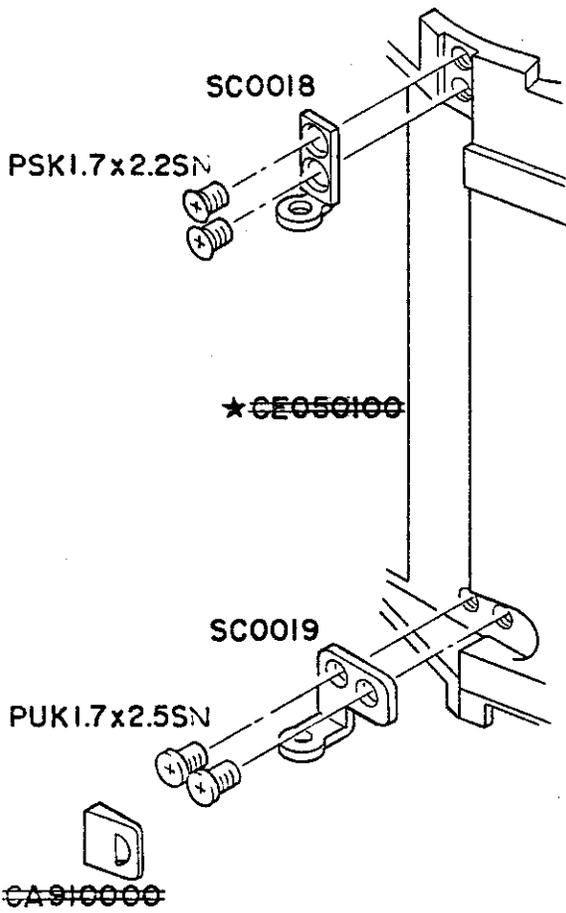


| Items | Method | Remarks |
|--|---|--|
| | <p>* When CE0502 (front plate) is removed.</p> <ol style="list-style-type: none"> 1. Connect the clip wired to the battery compartment to the black LW on the bottom. 2. Advance the wind lever and turn on the trigger switch. <p>** When CE0914 is to be adjusted as a single body.</p> <ol style="list-style-type: none"> 1. Connect the clip wired to the strap eyelet to CE0920 (sylinder) of CE0914. 2. Connect the clip wired to the battery compartment to the black LW. 3. Turn on the trigger switch. 4. Turn the cam shaft to AUTO side. See Section III-3-2). | <p>Note:</p> <ol style="list-style-type: none"> a. The wiring of SBCs should be as above. b. Ampere meter of 1 - 15mA is most recommendable, but a tester of DC50mA range is acceptable. |
| <p>2) 1V adjustment</p> | <ol style="list-style-type: none"> a. Set switches of the matching board to 5 and 7. respectively. b. ASA = 12 c. Adjust to $0.99 \pm 0.01V$ with the VR for 1V ($1.2K\Omega$). ($-0.99 \pm 0.01V$ at above wiring of the digital multimeter.) <p>*** The ASA rating is irrelevant when CE0502 (front plate) is removed and CE0914 is to be checked as a single body.</p> | <p>For comparator OFF set</p> <p>For preamplifier OFF set</p>  <p>Each VR is as above.</p> |
| <p>3) Elimination of static electricity from each part</p> | <p>(1) Connect (+) of the digital multimeter to (+) of the voltmeter. (When bulb voltmeter is in use, (+) of the bulb voltmeter to (+) of the voltmeter and (-) to (-). respectively.)</p> | |

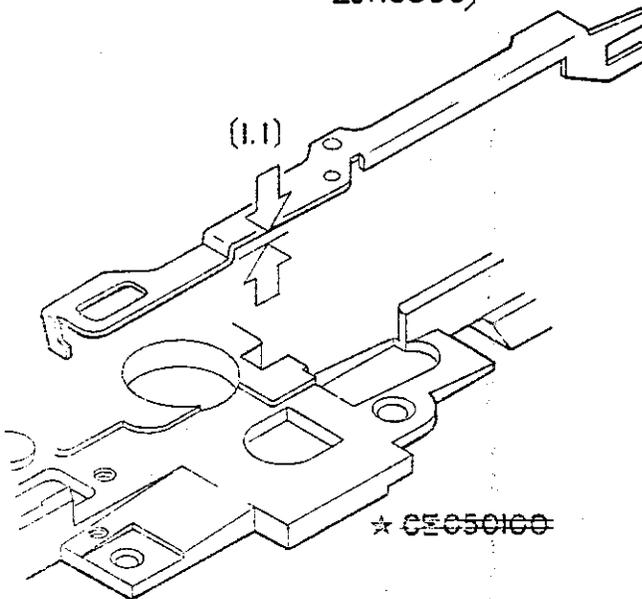
(3)

OLD

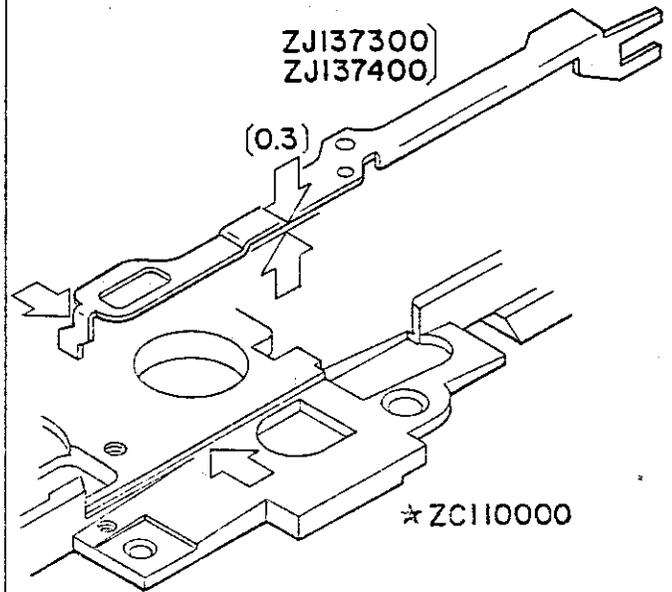
NEW



ZJ116700
ZJ116800



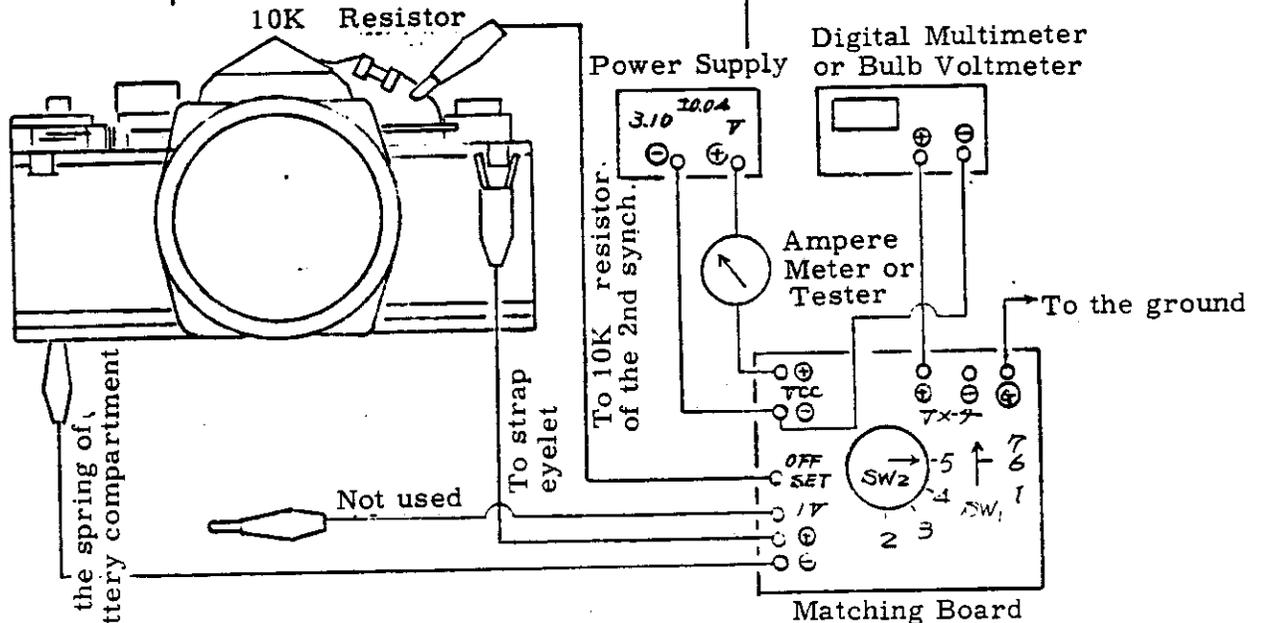
ZJ137300
ZJ137400



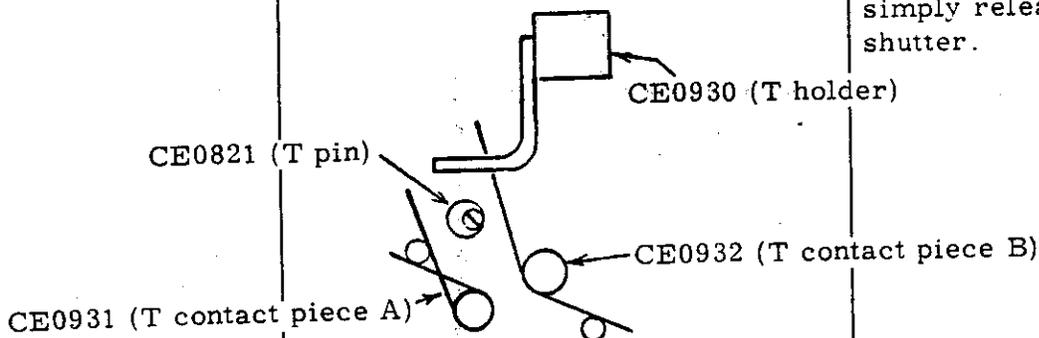
| Items | Method | Remarks |
|--|---|---|
| | <p>(2) Turn the Switch 1 in the sequence 7 → 6 → 1. Turn the Switch 2 in the sequence 5 → 4 → 3 → 2.</p> <p>(3) Turn the Switch 2 in the sequence 2 → 3 → 4 → 5. Turn the Switch 1 in the sequence 1 → 6 → 7.</p> | <p>Note:</p> <p>The SW circuit board should be surely set to AUTO upon the OFF set adjustment of preamplifier.</p> |
| <p>4) Off set adjustment of preamplifier</p> | <p>(1) The switches on the matching board are set to 5 and 7.</p> <p>(2) Adjust to $0 \pm 0.5\text{mV}$ or less with the OFF set VR ($2\text{K}\Omega$) for the preamplifier.</p> | <p>When the OFF set value is out of $\pm 1.5\text{mV}$, measure two times at every 6 hours: should be within $\pm 1.5\text{mV}$. See Section III-1-10).</p> |
| <p>5) Off set adjustment of comparator</p> | <p>(1) Disconnect the clip from the left pin of the right-side SBC.</p> <p>(2) Connect the left pin of the above SBC with the white LW of CE0640 (circuit board A) underneath the exposure meter by means of an LW with a clip at each end. (Take care not to shortcircuit the white LW.)</p> <p>(3) The switches on the matching board are set to 5 and 7.</p> <p>(4) Adjust to the current changing point using the OFF set VR for comparator ($10\text{K}\Omega$).</p> <p>Approx. $8\text{mV} \rightarrow 12\text{mV}$</p> | <p>** When the CE0914 is checked as a single body. $4.5\text{mA} \rightarrow 12\text{mA}$</p> <p>Adjustment is completed.</p> |

3. Operation check of CE0914 (M circuit board)

| Checking Items | Checking Procedure | Remarks |
|----------------|---|---|
| 1) Preparation | <p>(1) Before starting the operation check, confirm that CE0914 is properly adjusted. (See Section III-2 "Adjustment of CE0914".)</p> <p>(2) Release the shutter and lock it with the battery unloaded. (Main switch turns on.)</p> <p>(3) Set the power voltage to $3.10 \pm 0.04V$.</p> <p>(4) Make the wiring as illustrated below.</p> | <p>Note 1: The power switch should be previously turned on before wiring and must not be turned off and on once wired.</p> <p>Note 2: CE0951 (bottom cover), CE0950 (mat) and CE0503 (top plate) should be removed.</p> |

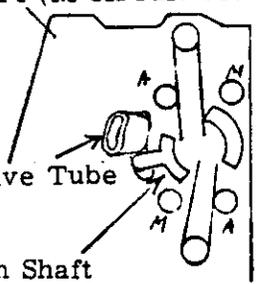


(5) Disengage CE0931 (T contact piece A) as shown below



* When CE0502 (front plate) is removed, simply release the shutter.

| Checking Items | Checking Procedure | Remarks |
|---------------------------------|--|--|
| | <p>* When CE0502 (front plate) is removed:</p> <ol style="list-style-type: none"> ① Connect the clip wired to the battery compartment shown in the preceding page to the black LW on the body bottom. ② Shortcircuit the white LW and yellow LW of CE0914 (M circuit board) by means of a resistor of about 50KΩ. <p>** When CE0914 is to be checked as a single body:</p> <ol style="list-style-type: none"> ① Shortcircuit (+) and (-) of the digital multimeter (or bulb voltmeter) by means of a resistor of about 500 - 1KΩ. ② Shortcircuit the white LW and yellow LW of CE0914 by means of a resistor of about 50KΩ. ③ Connect the clip wired to the 2nd synch shown in the preceding page to the purple LW of CE0914. ④ Connect the clip wired to the battery compartment to the black LW of CE0914. ⑤ Connect the clip wired to the strap eyelet to CE0920 (cylinder) of CE0914. | |
| 2) Check of automatic operation | <ol style="list-style-type: none"> (1) The switches on the matching board are set to 5 and 7. (2) Set the SW circuit board to AUTO. (3) The following conditions should be obtained when trigger switch is turned on and off. | <p>** When CE0914 is a single body.</p> <p>Insert a thermo-constrictive tube or similar material between CE0914 and cam shaft as shown below to set to AUTO.</p> |

| Checking Items | Checking Procedure | Remarks |
|----------------|--|---|
| | Tr SW ON: Digital multimeter (or bulb voltmeter) 2.8 - 2.9V Ampere Meter Approx. 8mA Tr SW OFF: Digital multimeter (or bulb voltmeter) 0V Ampere Meter Approx. 12mA | CE0914 (M circuit board)  |

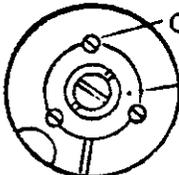
| | | |
|------------------------------|--|--|
| 3) Check of manual operation | (1) The switches on the matching board are set to 5 and 7. (2) Set the SW circuit board to MANUAL. (3) Make the same operation as (3) above. When same values as in AUTO are obtained, normal. | |
|------------------------------|--|--|

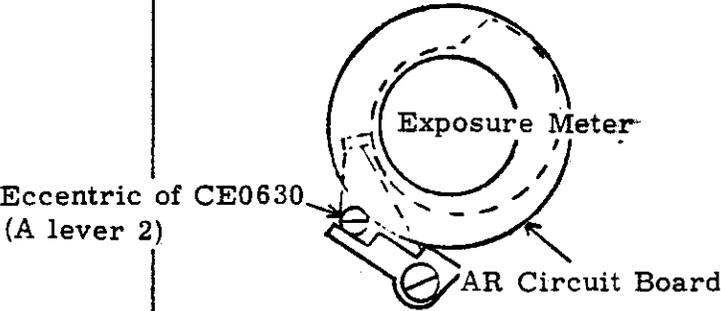
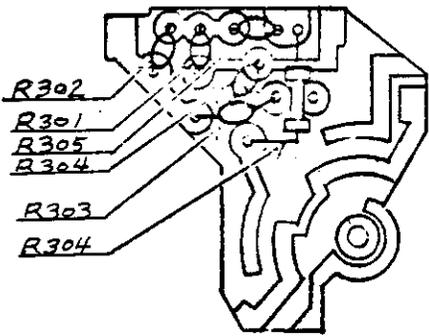
IV. EXPOSURE METER

1. Meter needle stuck

| Cause | Remedy | Checkup |
|--------------------------------------|---|--|
| 1) Disconnected CE0622 (teflon tube) | Teflon tube (CE0622) inserted into the needle holder may become detached. After taking out the fallen tube from inside the camera, insert a new tube into the needle holder without applying adhesive. Cautions: <ul style="list-style-type: none"> o Take care not to deform needle holder. o Do not use adhesive, because it is ineffective with teflon. | 1. One CE0622 should be provided on the lower luminance side. 2. The meter needle should not get stuck with the shutter dial set to 1/2 at AUTO, EV 8 (ASA100). Check by shifting the switch lever from OFF to AUTO and vice versa. |

2. Indication accuracy improper

| Cause | Remedy | Checkup |
|---|--|---------|
| <p>1) Zero point of meter off-positioned</p> <p>(Power voltage is $3.15 \pm 0.005V$)</p> | <p>If off-positioned when confirming in the manner described at right, adjust as follow.</p> <p>(1) Coarse adjustment</p> <p>a. Preparation for adjustment</p> <p>1 ASA = 100</p> <p>2 f/stop = 2.8</p> <p>3 Current = $121\mu A$</p> <p>4 Set the eccentric position of A lever to the center, and do not use it in the coarse adjustment.</p> <div style="text-align: center;">  <p>Exposure Meter</p> <p>Eccentric of A Lever</p> </div> <p>Slitting faces slightly upward</p> <p>5 There should be about 1mm clearance between CA8997 (spring gear) and CA8978 (lower boss).</p> <p>b. Adjustment</p> <p>Loosen three pulley screws fixing CA8981 (pulley holder) to adjust by slightly moving CA8981.</p> <p>o When zero point is to (+) side: Turn the pulley clockwise.</p> <p>o When zero point is off to (-) side: Turn the pulley counterclockwise.</p> <div style="text-align: center;">  <p>CA9008 (pulley screw)</p> <p>CA8981 (pulley holder)</p> </div> | |

| Cause | Remedy | Checkup |
|---|---|---|
| | <p>(2) Fine adjustment</p> <p>Set the camera as described at right, and adjust by moving the eccentric of CE0630 (A lever 2).</p>  <p>Eccentric of CE0630 (A lever 2)</p> <p>AR Circuit Board</p> | <p>① ASA = 100</p> <p>② Shutter speed = 1/2 sec.</p> <p>③ f/stop = F2.8 jig lens</p> <p>④ Set to MANUAL.</p> <p>o At BV 4:</p> <p>When CE0503 (top plate) removed: $-0.1 \pm 0.1EV$</p> <p>When CE0503 not removed: $0 \pm 0.1EV$</p> <p>Cautions:</p> <p>a. The lens should be closely in contact with diffusion plate.</p> <p>b. Extraneous light should not enter.</p> |
| <p>2) Defective at low luminance (BV 8)</p> | <p>Adjust by changing resistor R301 of CE0591 (SW circuit board).</p>  <p>R302</p> <p>R301</p> <p>R305</p> <p>R304</p> <p>R303</p> <p>R304</p> <p>After the adjustment, confirm BV 4 and adjust BV 11 and 16.</p> | <p>o Set the camera as follow.</p> <p>① ASA = 100</p> <p>② Shutter speed = 1/30 sec.</p> <p>③ f/stop = F2.8 jig lens</p> <p>④ Set to MANUAL.</p> <p>o At BV 8:</p> <p>CE0503 removed: $-0.1 \pm 0.1EV$</p> <p>CE0533 not removed: $0 \pm 0.1EV$</p> <p>Cautions:</p> <p>a. The lens should be closely in contact with diffusion plate.</p> <p>b. Extraneous light should not enter.</p> |

| Cause | Remedy | Checkup |
|---|--|--|
| <p>3) Defective at high luminance (BV 11)</p> | <p>Adjust by changing resistor R303 of CE0591. If the adjustment is impossible with R303 (at minus side), adjust to -0.1 - 0.2 with R301. Thereafter, check BV 8 and adjust to -0.1 ± 0.1EV with R304 to compensate for the above. After the adjustment, reconfirm BV 4 and make the adjustment at BV 16. See the above illustration for the position of each resistor.</p> | <p>o Set the camera as follow.</p> <ul style="list-style-type: none"> ① ASA = 100 ② Shutter speed = 1/60 sec. ③ f/stop = F5.6 (jig lens) ④ Set to MANUAL. <p>o At BV 11:</p> <p>CE0503 removed: -0.1 ± 0.1EV</p> <p>CE0503 not removed: 0 ± 0.1EV</p> <p>Cautions:</p> <ul style="list-style-type: none"> 1. The lens should be closely in contact with diffusion plate. 2. Extraneous light should not enter. |
| <p>4) Defective at high luminance (BV 16)</p> | <p>Adjust by changing resistor R304 of CE0591 (SW circuit board). See 2) of preceding page for the position of resistors.</p> | <p>o Set the camera as follow.</p> <ul style="list-style-type: none"> ① ASA = 100 ② Shutter speed = 1/500 sec. ③ f/stop = F 11 (jig lens) ④ Set to MANUAL. <p>o At BV 16:</p> <p>CE0503 removed: -0.1 ± 0.1EV</p> <p>CE0503 not removed: 0 ± 0.1EV</p> |

| Cause | Remedy | Checkup |
|-------------------|--|---------|
| 5) Meter matching | <p>(1) Preparation for matching (Constant voltage should be $3.15V \pm 0.005$.)</p> <p>① Jig lens, pentaprism and focusing screen should be attached.</p> <p>② Set the Manual.</p> <p>③ Take care not let light other than that from the luminance box into the CdS.</p> <p>④ Turn the shutter dial from 1/1000 side.</p> <p>⑤ Turn the f/stop of the jig lens from F16 side.</p> | |

Combination and Reference Value

| BV | ASA | S. S. | FNO | Matching Resistance | Reference (EV) |
|----|-----|-------|-----|----------------------------|----------------|
| 4 | 100 | 1/2 | 2.8 | (Eccentric of A Lever) | -0.1 |
| 8 | " | 1/30 | 2.8 | 301 30K Ω | -0.1 ± 0.1 |
| 11 | " | 1/60 | 5.6 | 303. 302 12K Ω | " |
| 16 | " | 1/500 | 11 | 304 27K Ω | " |

Reference Resistance

Note: The reference is -0.1EV with CE0503 removed. and is zero with CE0503 unremoved.

| | |
|--|--|
| <p>(2) Matching procedure</p> <p>① Adjust the meter needle zero position.</p> <p>Set to BV 4 and adjust with the eccentric of A lever.</p> <p>If adjustment by A lever 2 is ineffective. slightly move the position of CA8981 (pulley holder). See</p> | <p>See above table for combination of camera settings.</p> <p>-0.1EV when CE0503 is removed.</p> |
|--|--|

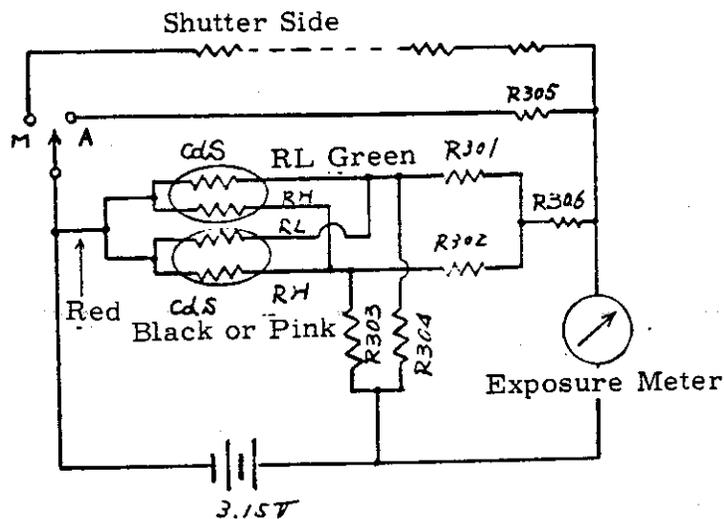
| Cause | Remedy | Checkup |
|---|--|---|
| (See Section IV-2-2)) | <p>② Adjustment at BV 8 Set the luminance to BV 8 and adjust by changing resistor R301 of CE0591 (SW circuit board).</p> <p>③ Re-confirm BV 4.</p> <p>④ Adjustment at BV 11: Set the luminance to BV 11, and adjust by changing resistor R303 of CE0591. When R303 adjustment is ineffective (at minus side), adjust to -0.1 - -0.2 with R301.</p> <p>⑤ Check at BV 8 Compensate the value added by the above adjustment with R304.</p> <p>⑥ Check at BV 4.</p> <p>⑦ Adjustment at BV 16: Set the luminance to BV 16, and adjust by changing resistor R302 of CE0591.</p> <p>⑧ Confirm at BV 16 - BV 4.</p> | <p>See the table in the previous page for combination of camera settings.</p> <p>-0.1±0.1EV with CE0503 removed.</p> <p>-0.1±0.1EV with CE0503 removed.</p> <p>-0.1±0.1EV with CE0503 removed.</p> <p>-0.1±0.1EV with CE0503 removed.</p> |
| 6) Defective resistance of CE0555 (circuit board B) | <p>Each resistance value should be within the range shown below. If the resistance value becomes out of the range, replace the whole set of CE0555.</p>  | <p>The resistance values should be as indicated in the table next page when confirmed with a tester (digital) after CE0546 (SL contact piece) is mounted. (Wire the yellow and blue LWS to the digital multimeter.)</p> |

| Cause | | Remedy | | Checkup |
|-------|--|--------|--|--|
| | | | | Insulation check: |
| | | | | a. Between yellow LW and die-casting of CE0502 (front plate). |
| | | | | b. Between blue LW and die-casting of CE0502 (other than at B) |
| | | | | c. Eyelet hole of CE0555 (circuit board B) and die-casting of CE0502 (other than at B). |
| | | | | d. Solder of CE0555 and the die-casting of CE0502 (other than at B). |
| | | | | Continuity check: |
| | | | | When the shutter dial is set to "B". blue LW and die-casting of CE0502 should be conductive. |
| | | | | Caution: |
| | | | | Make the test with CE0546 (SL contact piece) installed. |

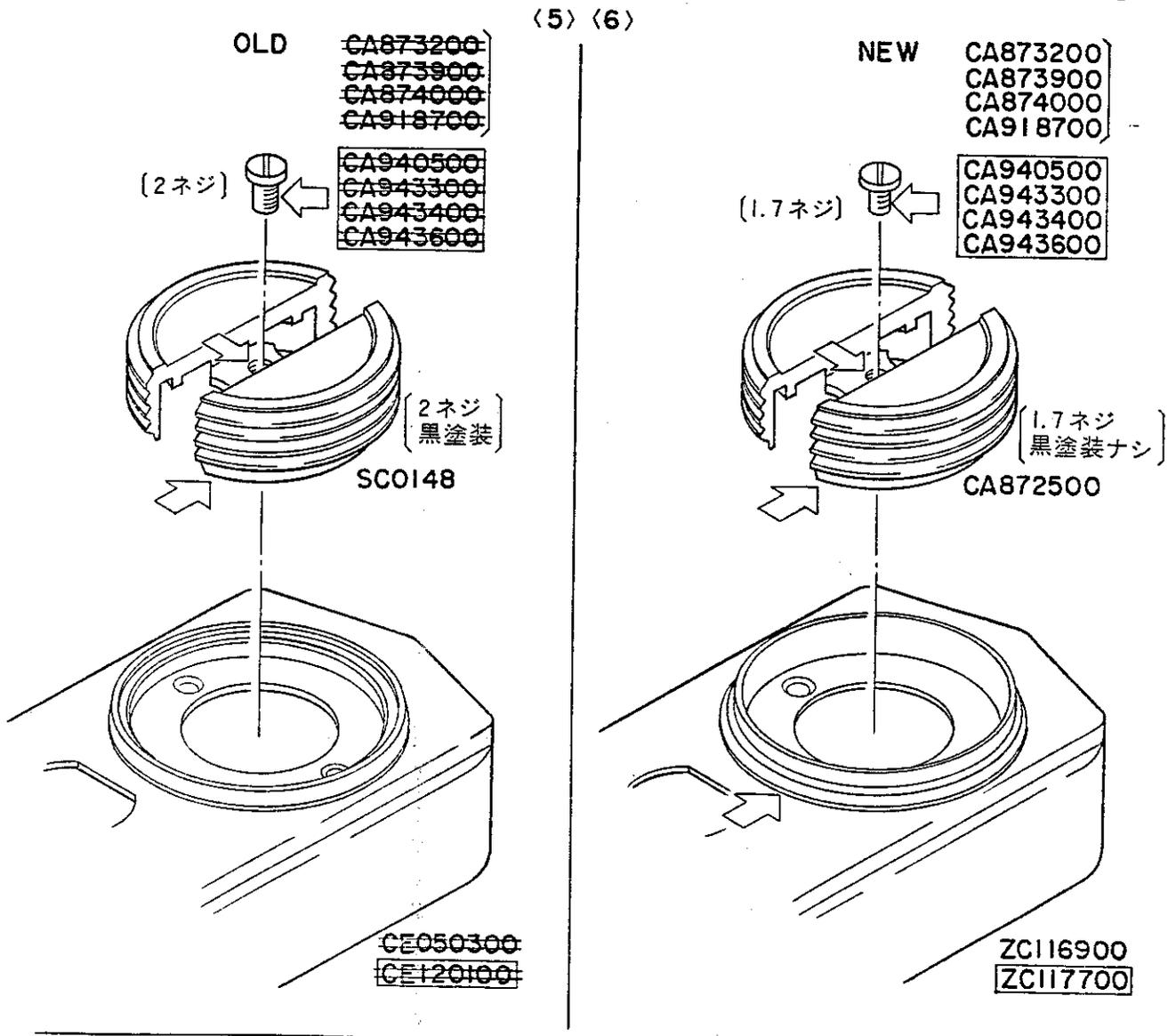
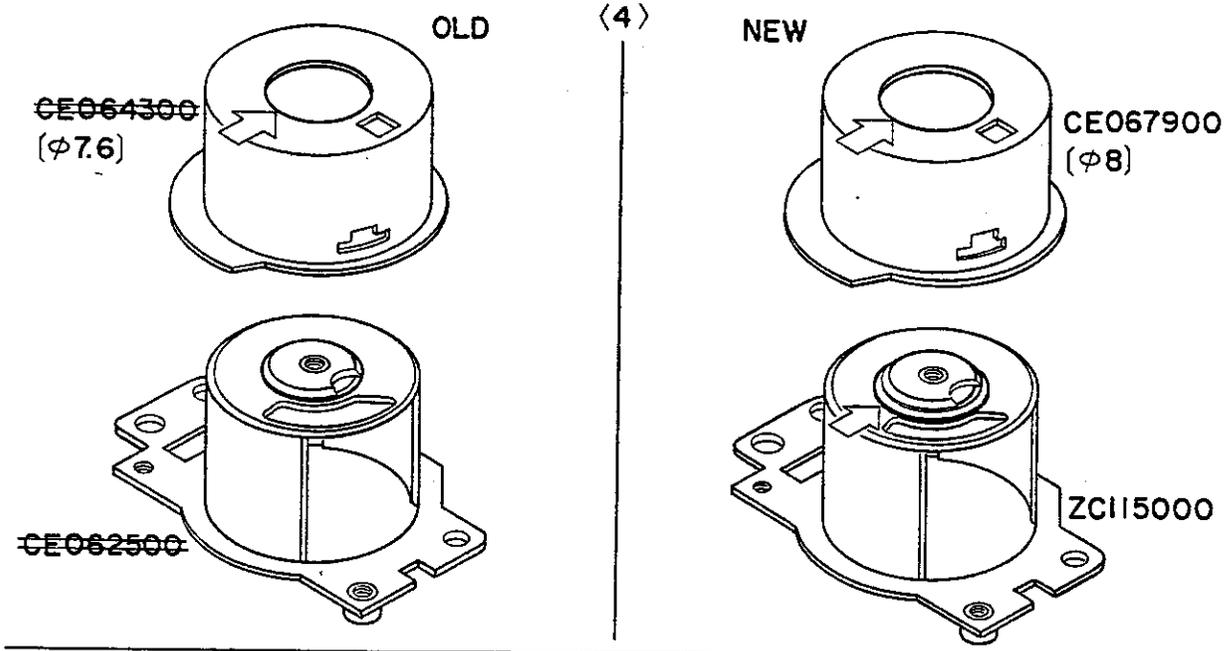
| S.S. | Resistance value | Tolerance Range |
|----------|------------------|------------------------|
| 1 1/1000 | ∞ | |
| 2 1/500 | 298 K Ω | 283 - 312.9 K Ω |
| 3 1/250 | 143 " | 138.8 - 150.1 " |
| 4 1/125 | 94.4 " | 78.9 - 99.1 " |
| 5 1/60 | 71.7 " | 68.1 - 75.3 " |
| 6 1/30 | 57.3 " | 54.4 - 60.17 " |
| 7 1/15 | 47.7 " | 45.3 - 50.0 " |
| 8 1/8 | 41.3 " | 39.2 - 43.4 " |
| 9 1/4 | 36.2 " | 34.4 - 38.0 " |
| 10 1/2 | 32.1 " | 30.5 - 33.7 " |
| 11 1/1 | 28.7 " | 27.26 - 30.14 " |
| 12 B | ∞ | |

Exposure Meter Circuit Diagram and Role of Each Resistor

1. Circuit Diagram



| MDS Revised | MDS |
|-------------|-----|
| R301 | R1 |
| R302 | R2 |
| R303 | R3 |
| R304 | R4 |



2. Role of Each Resistor

R301: For correction of low luminance side (EV 8) $\doteq 30K\Omega$

R302: For correction of low luminance side (EV 4 - 8) $\doteq 27K\Omega$

R303: For correction of high luminance side (EV 11) $\doteq 12K\Omega$

R304: For correction of high luminance side (EV 14 - 16) $\doteq 12K\Omega$

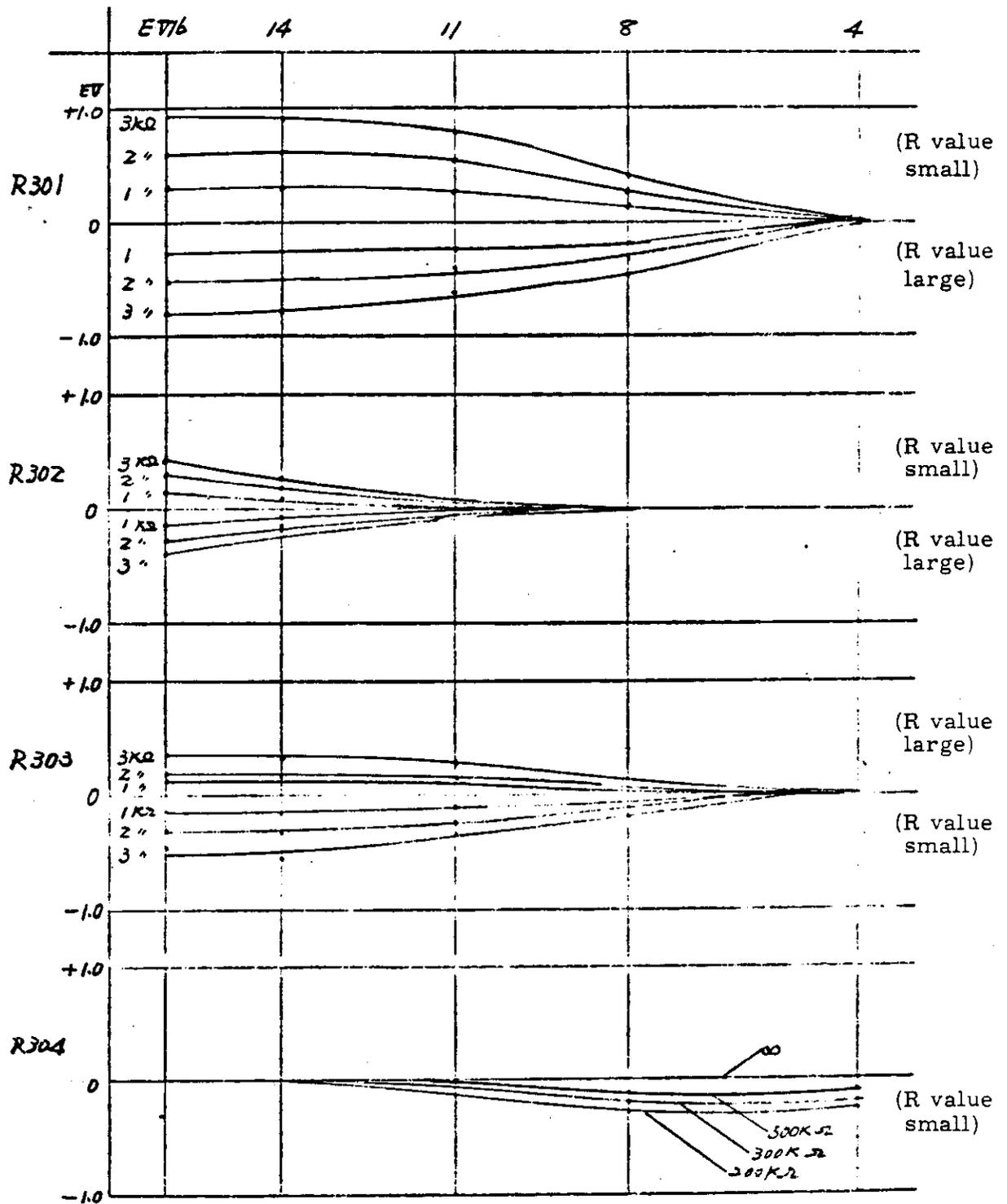
R305: Resistance value is same as at shutter speed of 1/60 sec (68.3K Ω)

R306: For correction of internal resistance of the meter movable section (2.4K Ω)

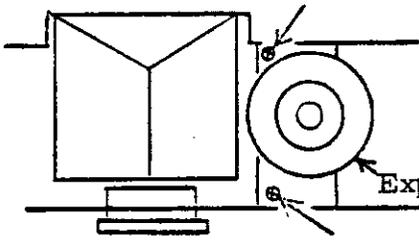
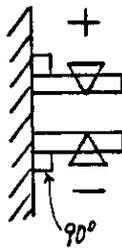
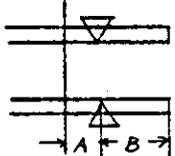
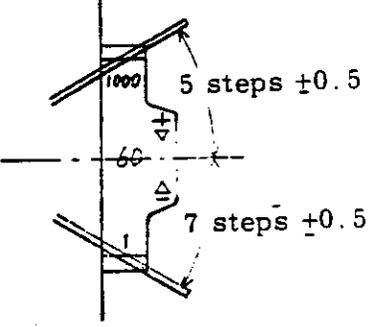
Comparison with MDS

| | | MDS Revised | MDS | |
|-----------------|---|----------------------------------|--------------------|-----|
| Coupling | Aperture Ring | Cord | Cord | |
| | Shutter Dial | Current (CE0555 circuit board B) | Cord | |
| Movable Section | Deflection Angle of BV 2  | $\theta = 55\mu A$ | $\theta = 15\mu A$ | |
| Check Point | ASA = 100 | BV | SD | FNO |
| | | 16 | 1/500 | 11 |
| | | 14 | 1/125 | 11 |
| | | 11 | 1/60 | 5.6 |
| | | 8 | 1/30 | 2.8 |
| | | 4 | 1/2 | 2.8 |

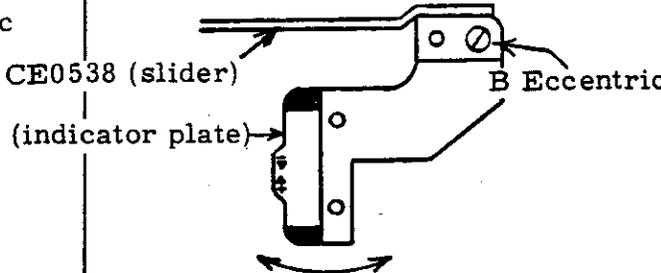
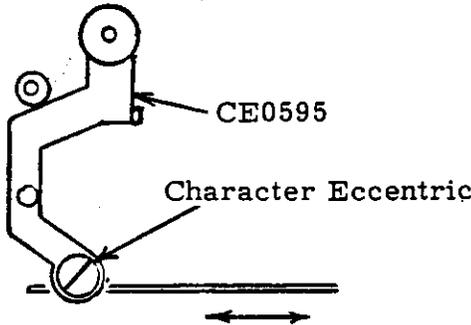
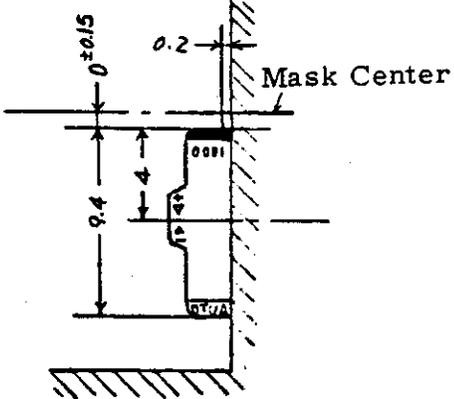
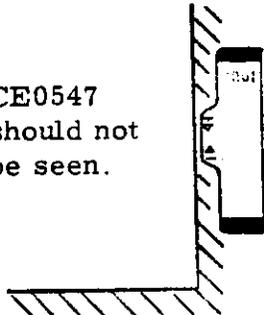
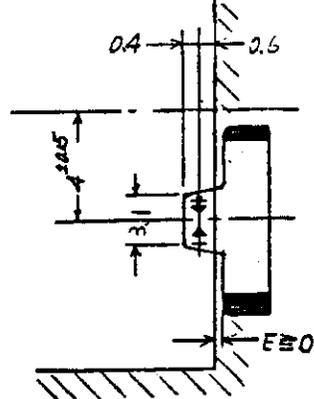
Matching Resistance and Change in Meter Deflection



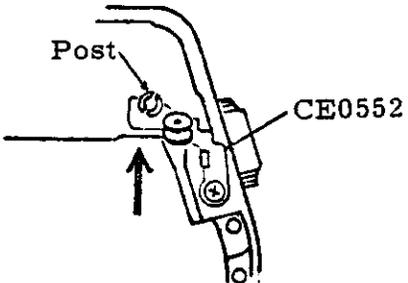
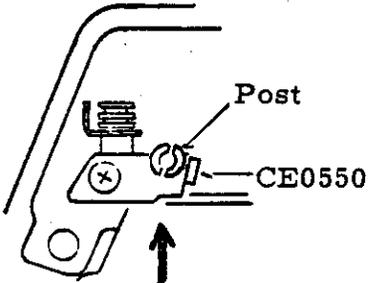
3. Improper position of meter needle

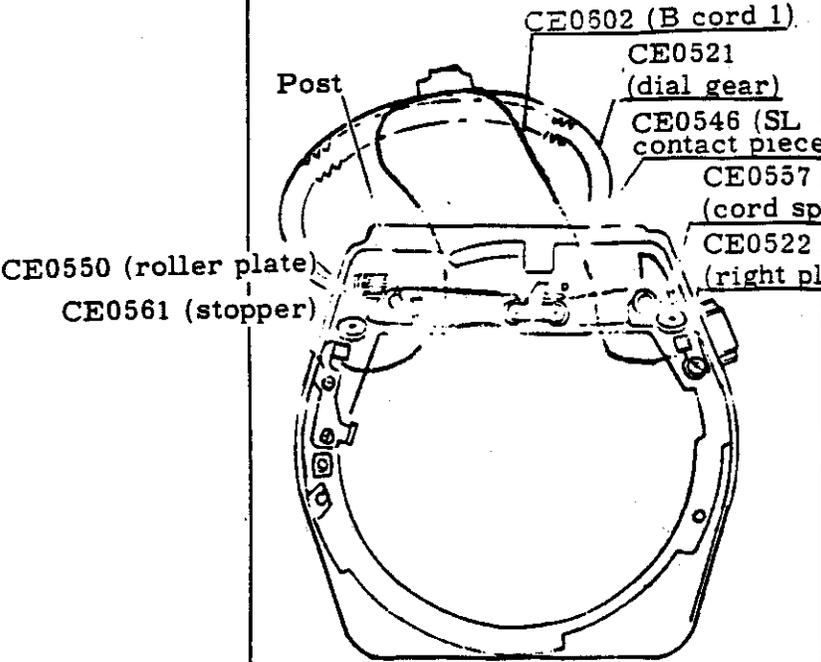
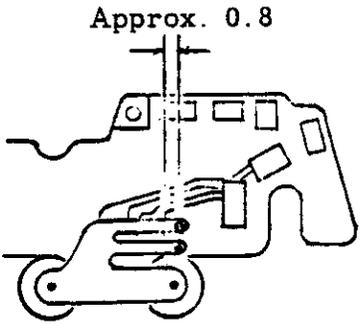
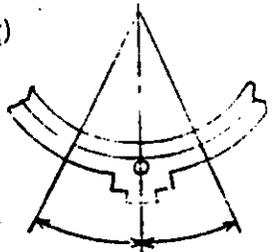
| Cause | Remedy | Checkup |
|---|---|--|
| <p>1) Tilted meter needle</p> | <p>Re-tighten two PUK1.7 x 2SO screws of the meter so that, at either one of the (+) or (-) side, the meter needle is rectangular to the side of the mask when an edge of the needle is aligned to the center of the triangle mark.</p>  |  <p>The angle should be 90° either on the (+) or (-) triangle center.</p> |
| <p>2) Length of meter needle</p> | <p>The length of meter needle should be as shown at right.</p> $B \doteq 2A$ <p>Re-tighten PUK1.7 x 2SO of the meter.</p> |  |
| <p>3) Working range of meter needle</p> | <p>The meter needle stop positions at AUTO should be within the range shown at right.</p> <p>Adjust by bending CE0641 (needle holder).</p> <p>Take care not to lose CE0622 (teflon tube)</p> |  |
| <p>4) Vertical displacement of meter needle</p> | <p>The meter needle must not contact CE0547 (viewfinder indication plate), prism, etc.</p> <p>Adjust by bending the meter needle or CE0547.</p> | |

4. Improper position of CE0547 (viewfinder indication plate)

| Cause | Remedy | Checkup |
|--|--|---|
| <p>1) Improper adjustment of B eccentric and character eccentric</p> | <p>After correcting the tilting with B eccentric of CE0538 (slider), adjust the position with character eccentric of CE0595 (character lever).</p>  <p>The B eccentric adjustment should be made with CE0502 (front plate) removed.</p> <p>Adjustment of character eccentric of CE0595 (character lever)</p>  <p>When adjustment only for character eccentric is to be made, remove CE0503 (top plate); the eccentric will be seen underneath CE0591 (SW circuit board).</p> <p>Caution: Use RIGROIN or DAIFLON S3-E for the cleaning of CE0547. Never use mixed solution. (It may be erase the characters.)</p> | <p>a. Tilting There should be no unsightly tilting.</p> <p>b. Position at AUTO</p>  <p>c. At OFF CE0547 should not be seen.</p>  <p>d. At MANUAL</p>  |

5. Improper changing of shutter speed

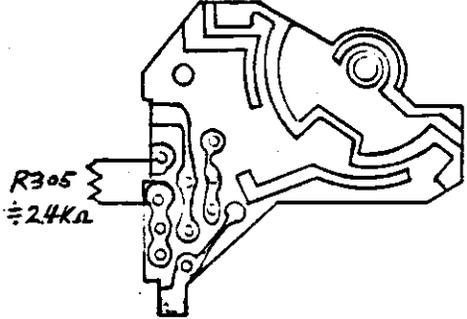
| Cause | Remedy | Checkup |
|--|--|---|
| <p>1) Improper position of CE0552 (right side plate)</p> | <p>After confirming that the roller operates normally, strike CE0552 against the post illustrated below and tighten it.</p>  <p>Strike in the arrow direction</p> | |
| <p>2) Improper position of CE0550 (roller plate)</p> | <p>After confirming that the roller operates normally, strike CE0550 against the post illustrated below and tighten it.</p>  <p>Strike in the arrow direction</p> | |
| <p>3) Poor insulation of CE0555 (circuit board B)</p> | <p>When CE0546 (SL contact piece) is attached, the insulation should be as follow.</p> <p>Between yellow LW and Main Body ... ∞ Ω</p> <p>Between blue LW and Main Body ... Conductive at "B" and ∞ at other shutter speeds.</p> <p>Between yellow LW and Blue LW ... Resistance value of each shutter speed is obtained.</p> <p>(This test should be done with the yellow and blue LWs disconnected from CE0591 SW circuit board).</p> | <p>When CE0546 (SL contact piece) is not attached, the insulation should be as follow.</p> <p>Between yellow LW and Main Body ... ∞ Ω</p> <p>Between blue LW and Main Body ... ∞ Ω</p> <p>Between blue LW and Yellow LW ... ∞ Ω</p> |

| Cause | Remedy | Checkup |
|---------------------------------------|---|---|
| <p>4) Defective CE0602 (B cord 1)</p> | <p>Replace on re-attach CE0602 in the following manner.</p> <ol style="list-style-type: none"> (1) Wind CE0602 (cord) around the edge of CE0550 (roller plate). turn the post and pass the cord through CE0546 (SL contact piece). (2) Thread CE0602 (cord) through the roller (two positions) of CE0561 (stopper) and then through the roller (two positions) of CE0522. (3) Thread through CE0546 and then through CE0557 (cord spring) and wind two times. (4) Engage the cord in CE0521 (dial gear) and place it on CE0502 (front plate) to decide the cord length. and then glue to the cord winding portion of CE0557 (cord spring). Then cut off surplus length. (5) Referring to the checkup method at above right. decide the position of CE0546 and glue the cord to CE0521 (dial gear).  <p>Gluing: Cemedine 3000RS</p> | <p>CE0546 (SL contact piece) should be in the position shown below when the shutter dial is set to 1/1000.</p> <p>Approx. 0.8</p>  <p>Gluing of the cord to CE0521 (dial gear): Drip 2 - 3 drops of Cemedine 3000RS into the gluing hole of CE0521.</p> <p>The gluing area should be more than 45° and less than 90° (20 - 30mm) as illustrated below.</p>  <p>≥25° or more 45° or less</p> |

6. Improper coupling of CE0522 (coupling ring)

| Cause | Remedy | Checkup |
|---------------------------------------|--|---|
| <p>1) Defective CE0603 (B cord 2)</p> | <p>If CE0522 (coupling ring) operates normally, check CE0603. When it is found defective, replace or adjust it in the following manner.</p> <p>(1) Thread the upper part of cord through the lower roller, and the lower part of cord through the upper roller, respectively, in the condition with CE0522 (coupling ring) placed on CE0502 (front plate).</p> <p>(2) Thread the upper length through the B spring unit and wind it round B spring plate (three winds clockwise with care not to cross) and glue there.</p> <p>(3) Glue the lower length to CE0635 (pulley M).</p> <div> </div> <div> <p>Wind three times clockwise with care not to cross</p> <p>Cemedine 3000RS</p> </div> | <div> </div> <p>Do not apply Cemedine here.</p> <p>When CE0522 (coupling ring) is struck against the stopper, the condition should be as shown at left.</p> |

7. Excessive indication difference between AUTO and MANUAL

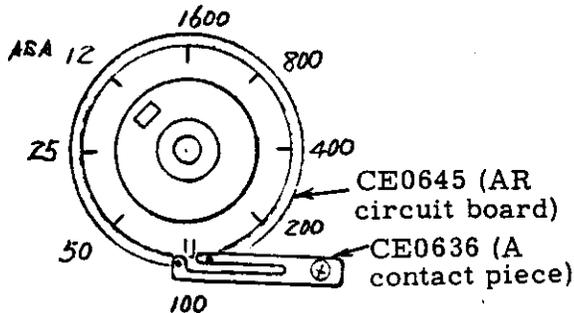
| Cause | Remedy | Checkup | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|--|--|-----|-------|---------------|-----|---|-----|------|-----|----|---|------|-----|----|---|-------|----|----|---|-------|----|
| <p>1) Improper adjustment of R306</p> | <p>Replace R306 to have the condition at right.</p>  | <p>Check Points at AUTO/MANUAL.</p> <table border="1"> <thead> <tr> <th>EV</th> <th>(ASA)</th> <th>Shutter Speed</th> <th>FNO</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>100</td> <td>1/30</td> <td>2.8</td> </tr> <tr> <td>11</td> <td>"</td> <td>1/60</td> <td>5.6</td> </tr> <tr> <td>14</td> <td>"</td> <td>1/125</td> <td>11</td> </tr> <tr> <td>16</td> <td>"</td> <td>1/500</td> <td>11</td> </tr> </tbody> </table> <p>o Standard ... $\pm 0.3EV$ for each check point.</p> <p>o Set to zero at MANUAL and switch to AUTO and see deviation from the center of each shutter speed value.</p> | EV | (ASA) | Shutter Speed | FNO | 8 | 100 | 1/30 | 2.8 | 11 | " | 1/60 | 5.6 | 14 | " | 1/125 | 11 | 16 | " | 1/500 | 11 |
| EV | (ASA) | Shutter Speed | FNO | | | | | | | | | | | | | | | | | | | |
| 8 | 100 | 1/30 | 2.8 | | | | | | | | | | | | | | | | | | | |
| 11 | " | 1/60 | 5.6 | | | | | | | | | | | | | | | | | | | |
| 14 | " | 1/125 | 11 | | | | | | | | | | | | | | | | | | | |
| 16 | " | 1/500 | 11 | | | | | | | | | | | | | | | | | | | |

8. Excessive difference in going and returning meter needle deflection owing to aperture ring.

| Cause | Remedy | Checkup |
|--|---|--|
| <p>1) Insufficient tension of CA8999 (gear spring)</p> | <p>When the tension of CA8999 is insufficient, it may cause excessive unbalance in the meter needle reciprocating movement and improper returning of cord.</p> <p>CA8999 should be tensioned by two winds, and replaced if tension is too weak.</p> <p>It is recommended to tension after tentatively tightening the gear shaft.</p> <p>Remove CE0502 (front plate), whole set of meter unit, and then whole set of CE0626 (bottom plate M unit), and thereafter make the repair.</p> | <p>CA8999 should operate effectively and surely.</p> |

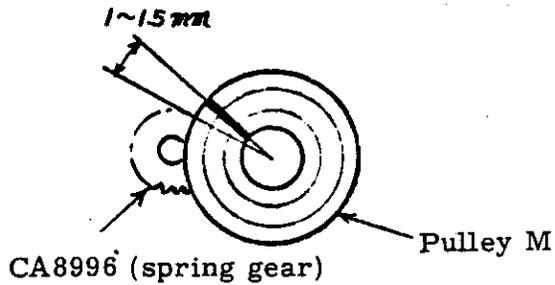
9. Others

1) Each ASA position of CE0645 (AR circuit board)



Each ASA setting is matched to CE0636 (A contact piece). The above illustration shows that CE0636 is matched to ASA 100.

2) Mounting of CE0635 (pulley M)



CE0635 (pulley M) should be set to 1 - 1.5mm with CA8996 (spring gear) as a reference.

3) Mounting of exposure meter

- a. ASA = 12
 - b. Eccentric of CE0630 (A lever 2) = Center
 - c. Engagement of M gear and CA8983 (P gear) = 2.5 teeth
 - d. Engagement of CE0633 (Q gear) and CA9000 (pulley gear) = 3.0 teeth
- Set CA8981 (pulley holder) as above. and tighten PUK1.7-406SO.
(See "ORDER OF DISASSEMBLY".)

4) Cleaning of CE0547 (viewfinder indication plate)

Use RIGROINE for cleaning. Never use mixed solution. (It can erase the characters.)



Viewfinder Indication Plate

5) Constant-voltage power supply:

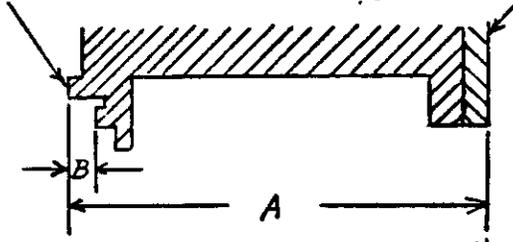
The reference voltage of the exposure meter differs from that of the shutter because of the following reasons.

- a. As the current consumption of the exposure meter is several 100 μ A, the battery can supply 3.15V without voltage drop.
- b. As the current of about 10mA is consumed when the shutter operates, the battery suffers the voltage drop and supplies 3.10V instead of 3.15V.

Owing to the above reasons, the power supply voltage should be set to 3.15V for the exposure meter and 3.10V for the shutter when the constant-voltage power supply is used.

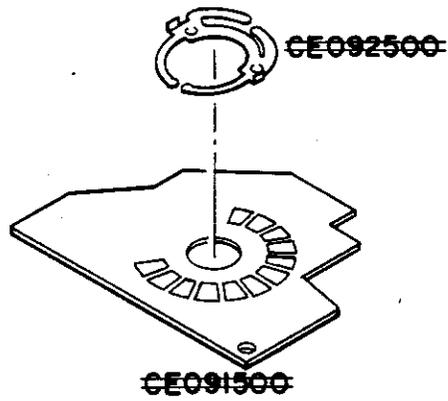
V. PERFORMANCES

1. Poor focusing

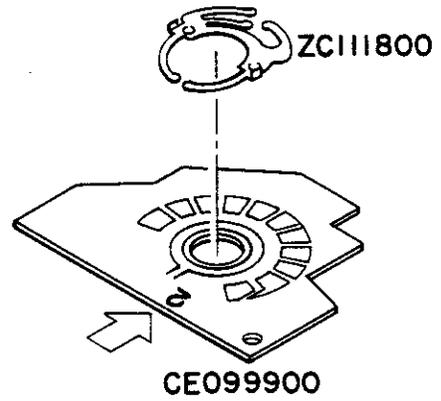
| Cause | Remedy | Checkup |
|---|---|---------|
| <p>1) Adjust- ment of flange back</p> | <p>The distance from CA8877 (bayonet mount) to film pressure plate surface should be:</p> $A = 46.2_{-0.02}^{+0}$ <p>The distance from pressure plate surface to film rail surface should be:</p> $B = 0.2_{-0.01}^{+0.02}$ <div style="text-align: center;"> <p>Pressure Plate Surface Bayonet Mount Surface</p>  </div> <p>Adjustment should be made with CA9106, CA9107 and CA9170 (spacer). (See the OM-1 Repair Manual.)</p> | |
| <p>2) Poor focusing in viewfinder</p> | <p>Select proper piece out of a - h series of CA9144 (front ring seat) and CE0535 (back ring seat), and adjust focusing. Apply pliobond on the side of the ring seat. (See the OM-1 Repair Manual 20-I-D43.)</p> | |

<7>

OLD

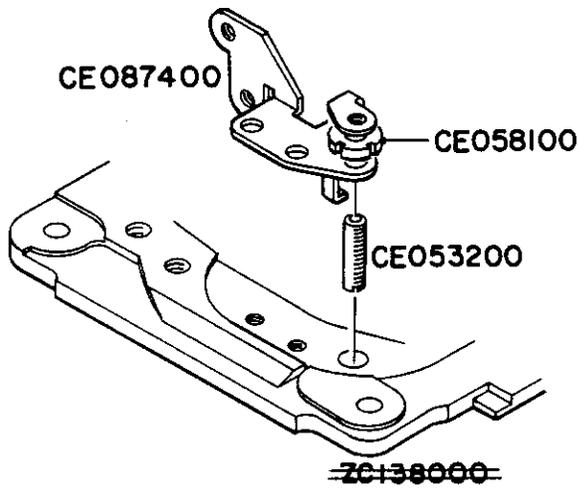


NEW

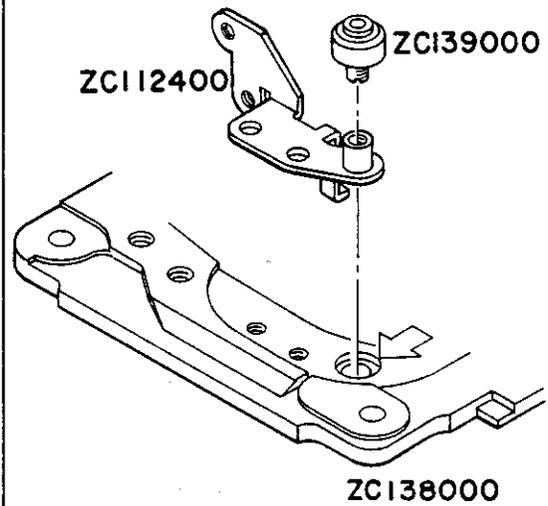


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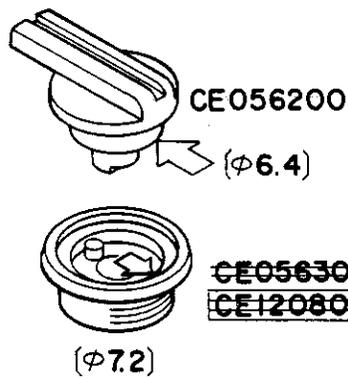


NEW

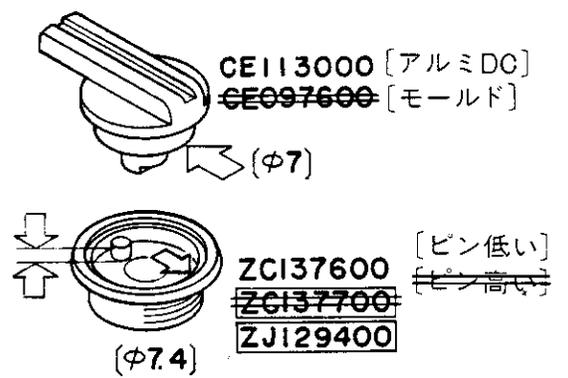


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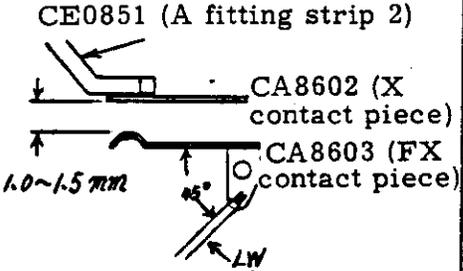
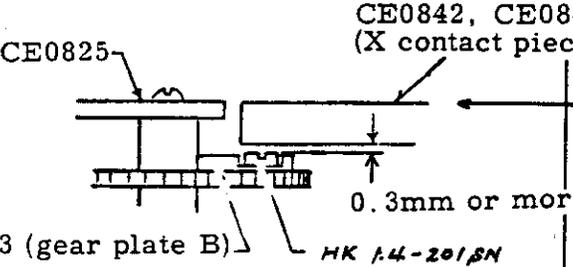
OLD

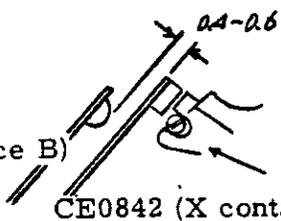


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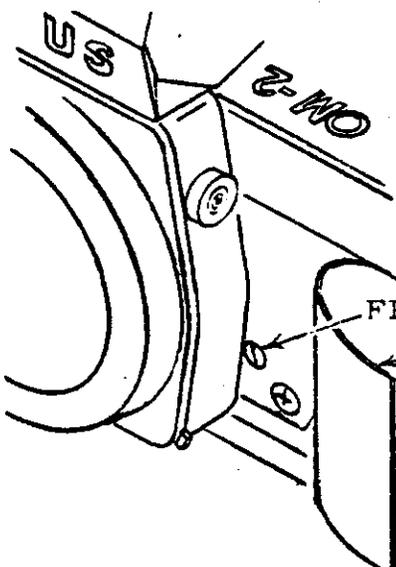


2. WX contacts not conductive

| Cause | Remedy | Checkup |
|--|---|--|
| <p>1) Conduction failure between CA8602 (X contact piece) and CA8603 (FX contact piece)</p> | <p>CA8602 and CA8603 should be as follow.</p> <p>a. CA8602 should be pushing CE0851 after winding. (If not, bend CA8602.)</p> <p>b. CA8602 should not project from the edge of A Lever 1 (CE0851 ASS'Y)</p> <p>c. The clearance between CA8602 and CA8603 should be within 1.0 - 1.5mm.</p>  <p>CE0851 (A fitting strip 2)</p> <p>CA8602 (X contact piece)</p> <p>CA8603 (FX contact piece)</p> <p>1.0~1.5mm</p> <p>LW</p> <p>Lead wire should be soldered at an angle of 45°</p> | <p>When tested with WX tester, CA8602 and CA8603 should be conductive at shutter speed 1/60 sec. or slower, and not conductive at 1/125 sec. or faster.</p> <p>CA8602 and CA8603 should become conductive after the opening curtain finished running.</p> <p>X contact piece A and B should be conductive before the closing curtain runs, and become non-conductive as soon as the closing curtain starts to run.</p> |
| <p>2) Conduction failure between CE0842 (X contact piece A) and CE0843 (X contact piece B)</p> | <p>CE0842 and CE0843 should be as follow.</p> <p>(1) CE0842 and CE0843 should have a clearance of 0.3mm between HK screw of CE0803 (gear plate B) before winding.</p>  <p>CE0842, CE0843 (X contact piece A, B)</p> <p>CE0825</p> <p>CE0803 (gear plate B)</p> <p>HK 1.4-201SN</p> <p>0.3mm or more</p> <p>(2) CE0842 and CE0843 should not project from CE0825 when winding is done.</p> | <p>Both CE0842 and CE0843 should not project from CE0825.</p> |

| Cause | Remedy | Checkup |
|---|--|---|
| <p>CE0843 (X contact piece B)</p> | <p>(3) CE0842 should be contacted to CE0817 (closing claw B) and have a clearance of 0.4 - 0.6 between the metallic dowel of CE0843 before winding.</p>  <p>Adjustment is to be made by retightening PUK1.4 x 1.6SO of CE0842 and CE0843 or by bending CE0842 and CE0843.</p> | |
| <p>3) Insufficient contact efficiency</p> | <p>If the contact efficiency is less than the value described at right when measured by an insulation efficiency gauge, clean each contact piece or replace it.</p> | <p>1/60 sec. at an interval of 1ms: 60% or higher 1/30 sec. at an interval of 2.5ms: 70% or higher</p> |
| <p>4) Check for insulation and continuity</p> | <p>Check in the following procedures.</p> <p>(1) Check for insulation of FP contact Check with the shutter speed set to 1/1.</p> <p>(2) Check for continuity of X contact It should be conductive with 3V when the shutter is released at 1/60 or slower.</p> <p>(3) Check for insulation of X contact Set the shutter speed to 1/1. wind the closing curtain midway after the opening curtain run. and check insulation.</p> <p>(4) Check for switching of X/FP contacts Keeping condition (3). set the supply voltage to 3V and switch from X to FP. and check continuity of FP contact.</p> | <p>(1) Should be 30MΩ or more at 500V when measured by insulation efficiency gauge.</p> <p>(2) X contact should be conductive at 3V.</p> <p>(3) Should be 30MΩ or more when measured by insulation efficiency gauge.</p> <p>(4) X contact should not be conductive and FP contact conductive at 3V.</p> |

3. Improper time lag of FP contact

| Cause | Remedy | Checkup |
|--|--|---------|
| <p>1) Improper adjustment of CE0532 (FP screw)</p> | <p>Peel off CA9102 (front leather L) around the reset button, and adjust by turning the FP screw with screw-driver No. 2.</p> <p>Clockwise turning: Becomes faster Counter-clockwise turning: Becomes slower</p>  <p>FP Screw CA9102 (front leather L)</p> <p>Caution: Take care not to tighten FP screw too deep. because it will be fallen into the inside of the camera body.</p> | |

VI. OTHERS

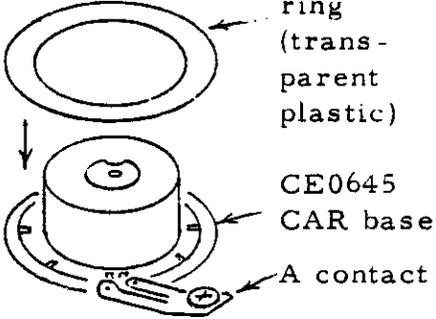
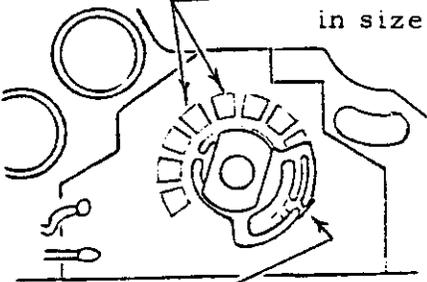
1. Improper battery checker indication

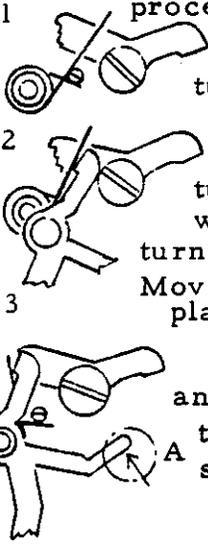
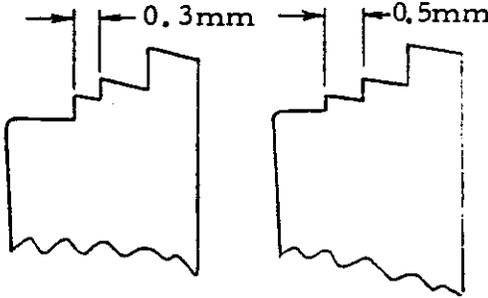
| Cause | Remedy | Checkup | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|---------------|-----------------|-------|------------|---------|---------------|---|---|--------|-----------|-------|---|---|-------|---|---|-----------|-----------------|-------|---|---|-------|---|---|---------------|-----------------|-------|---|---|-------|---|---|--|--|-------|---|---|--|--|-------|---|---|--|--|-------|---|---|--|--|
| <p>1) Improper matching of R202 (matching resistor)</p> | <p>After removing the whole set of CE0584 (circuit board C) from the body, remove R202 attached to CE0584 and wire it as illustrated below, and select a resistor with which the LED turns off at an voltage less than 2.4V.</p> | <p>Turn-off voltage: $2.45 \pm 0.04V$</p> <p>Blinking voltage: Difference with the turn-off voltage is 0.1V or more and 2.75V or less.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The part wired to the resistor box in the above drawing is R202, which is available in the following 11 types.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0"> <tr> <td style="text-align: center;">470 Ω</td> <td style="text-align: center;">$\pm 10\%$</td> <td style="text-align: center;">1/16W</td> <td style="text-align: center;">LED lights</td> <td style="text-align: center;">$2.75V$</td> </tr> <tr> <td style="text-align: center;">1.5K Ω</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td rowspan="2" style="text-align: center;">Blinks</td> <td rowspan="2" style="text-align: center;">Over 0.1V</td> </tr> <tr> <td style="text-align: center;">2.2 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> </tr> <tr> <td style="text-align: center;">2.7 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td rowspan="2" style="text-align: center;">Turns off</td> <td rowspan="2" style="text-align: center;">$2.45^{+0.04}V$</td> </tr> <tr> <td style="text-align: center;">3.3 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> </tr> <tr> <td style="text-align: center;">3.9 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td rowspan="2" style="text-align: center;">Shutter locks</td> <td rowspan="2" style="text-align: center;">$2.34^{+0.04}V$</td> </tr> <tr> <td style="text-align: center;">4.3 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> </tr> <tr> <td style="text-align: center;">4.7 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">5.1 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">5.6 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">6.2 "</td> <td style="text-align: center;">"</td> <td style="text-align: center;">"</td> <td></td> <td></td> </tr> </table> | | | 470 Ω | $\pm 10\%$ | 1/16W | LED lights | $2.75V$ | 1.5K Ω | " | " | Blinks | Over 0.1V | 2.2 " | " | " | 2.7 " | " | " | Turns off | $2.45^{+0.04}V$ | 3.3 " | " | " | 3.9 " | " | " | Shutter locks | $2.34^{+0.04}V$ | 4.3 " | " | " | 4.7 " | " | " | | | 5.1 " | " | " | | | 5.6 " | " | " | | | 6.2 " | " | " | | |
| 470 Ω | $\pm 10\%$ | 1/16W | LED lights | $2.75V$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.5K Ω | " | " | Blinks | Over 0.1V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.7 " | " | " | Turns off | $2.45^{+0.04}V$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.3 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.9 " | " | " | Shutter locks | $2.34^{+0.04}V$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.3 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.7 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.1 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.6 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2 " | " | " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

VII. SUPPLEMENT

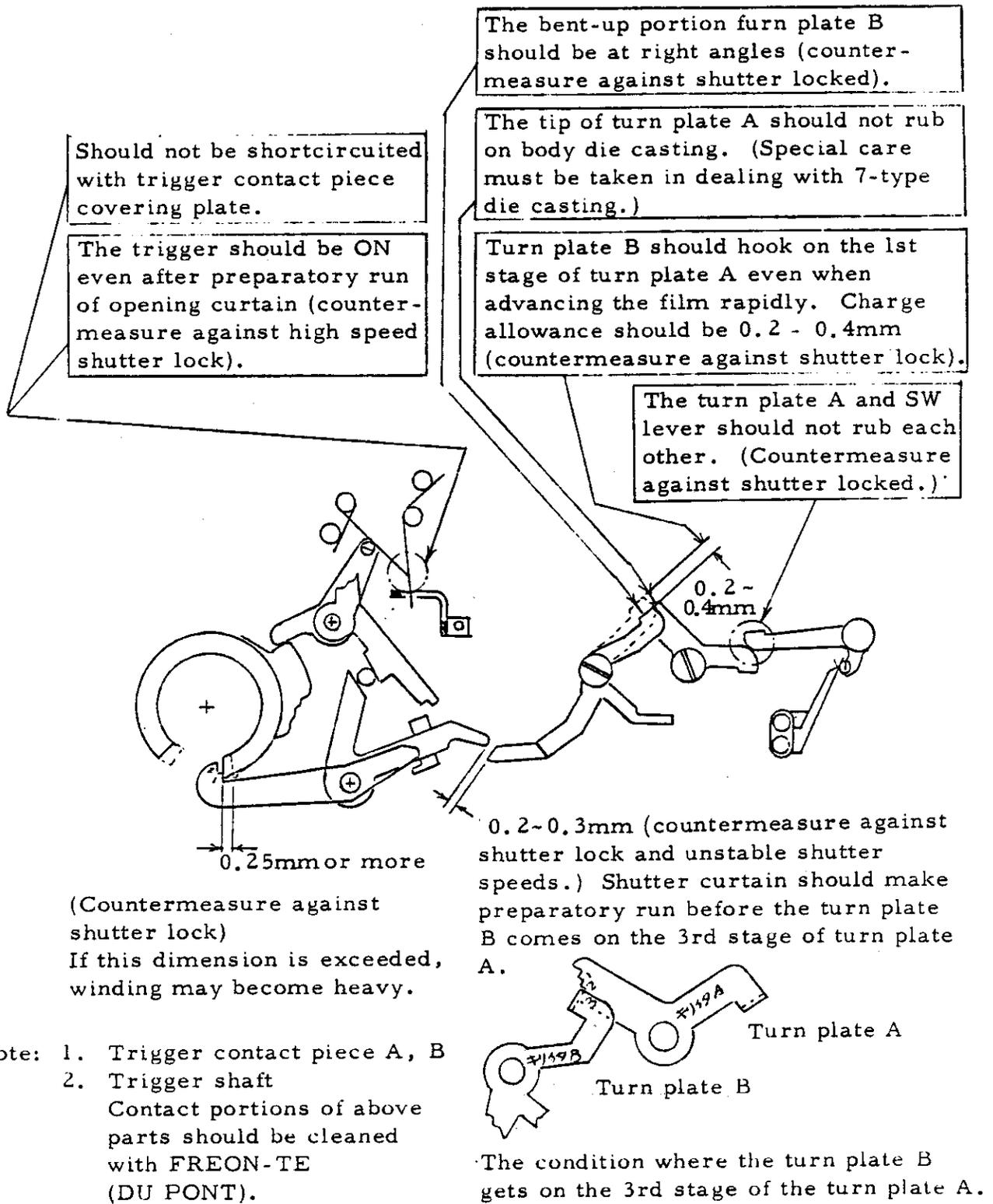
1. Counter measures to be taken against all the OM-2 which developed malfunction.

1-1 Measures requiring replacement or addition of parts

| Symptom | Defective parts | Remedy | Remarks |
|---|--|--|--|
| Shutter locked (mirror hung up and shutter curtain will not run.) | Short circuit between CE0636 (a contact 1) and CE0610 (lock spring) | Remove CE0503 (top cover) and apply CE0696 (insulating ring) on CE0645 (AR base plate). This is unnecessary if the insulating ring has already been incorporated with AR base plate. (in the product manufactured since July, 1977) |  |
| Shutter fully opened and will not close. | Poor contact of CE0915 (M circuit board) Poor contact of CE0999 (S circuit board) (old: CE0915) | Replace M circuit board assembly by modified one. (Note: M circuit board can be replaced without removing front casting.) In such a body that has two-point contact speed plate, replacing the M circuit board by the modified one may cause shortcircuit between three-point contact and speed gear. Thus, the speed gear must also be replaced by a teflon coated one. Parts No. CE0829 | Modified M circuit board Patterns of 1/125 and 1/60 are the same in size  |

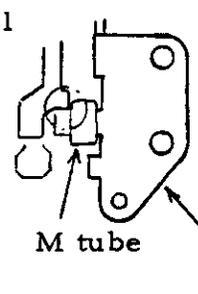
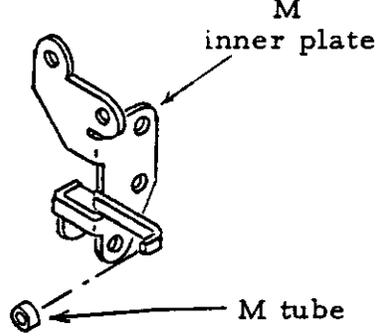
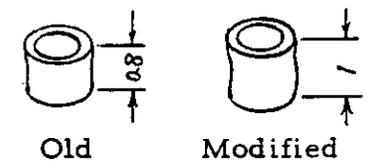
| Symptom | Defective parts | Remedy | Remarks |
|--|---|--|---|
| Shutter lock not released (Reset is impossible) | Insufficient force of CE0892 (turn spring B) Old spring wire diameter: 0.4mm New spring wire diameter: 0.45mm Apply MOLYCOAT | Replace the turn spring B by modified one. (Replacing procedure)  <p>1 Set the turn spring B</p> <p>2 Hook the turn plate B with the turn spring B.</p> <p>3 Move the turn plate B to the correct position and install there with screw.</p> | <ul style="list-style-type: none"> The turn spring B must be replaced in the manner given in the left column so as to minimize tension loss. After the turn spring B is replaced, push part A in the direction of arrow with tension gauge to check that it is hooked on the uppermost stage of the turn plate A with a force of 110g or greater. With the old die casting type (A type), spring receiver is low and tends to cause malfunction. To remedy, apply one NW1.7-334U0 underneath the turn plate B. |
| Unstable shutter speeds | Improper shape of CE0885 (turn plate A) | Replace turn plate A by modified one. | Shape of the tip of turn plate A.  <p>Old Modified</p> |

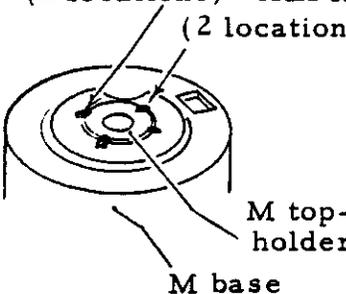
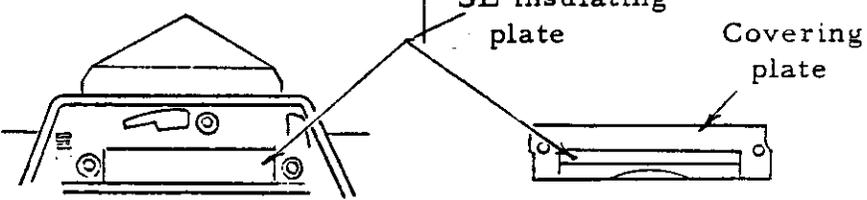
1-2 Check points (to be conducted on every camera that developed malfunction).



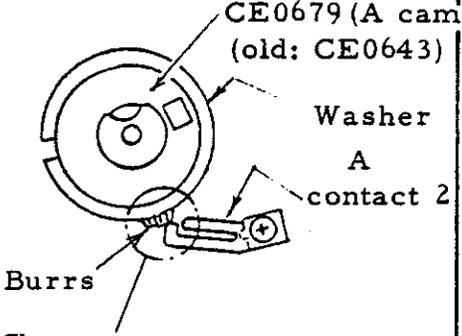
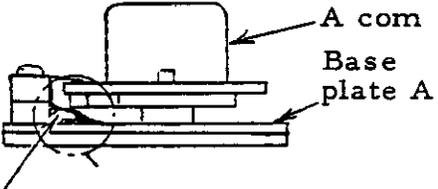
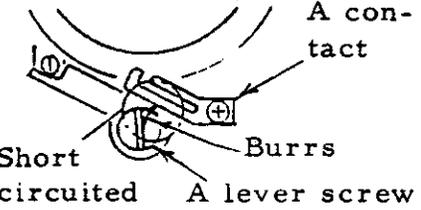
2. Measures to be taken against individual malfunction.

2-1 Measures requiring modification, addition and replacement of parts.

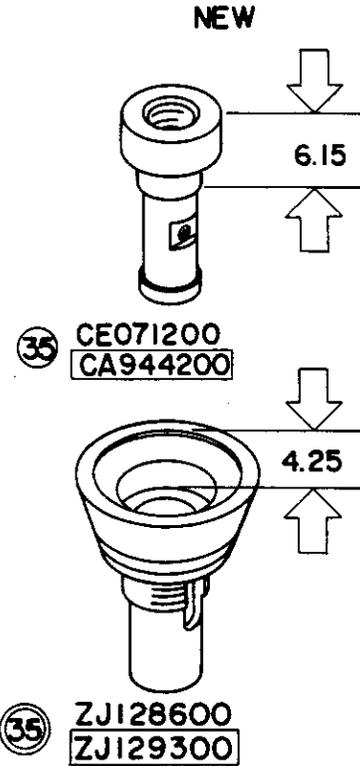
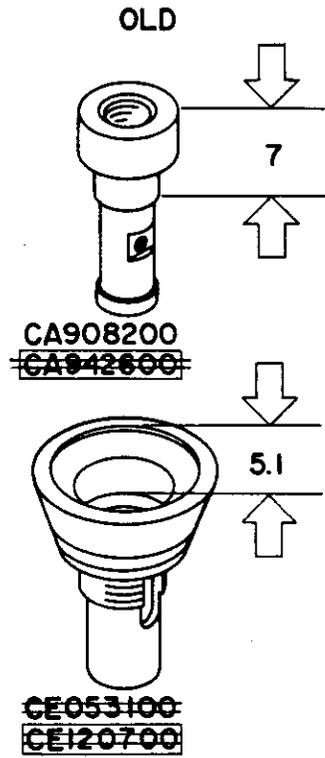
| Symptom | Defective parts | Remedy | Remarks |
|---|--|---|---|
| Shutter locked. Battery exhausted abnormally. | Worn-out CE0871 (M contact 1) and CE0872 (M contact 2) | Disconnect front casting assembly from die cast body assembly and replace M contact 1 and M contact 2 by modified ones. | Modified ones are of the same size but stronger in tension. |
| | Improper size of CE0875 (M tube) | <p>CE0983 (M inner plate) (old: CE0874) and CE0871 (M contact 1) are shortcircuited because M tube is too short.</p> <p>M contact 1</p>  <p>M tube M inner plate</p> <p>Disconnect front casting assembly from die cast body assembly and replace M tube by modified one.</p> |  <p>M inner plate</p> <p>M tube</p>  <p>M tube</p> <p>Old Modified</p> |

| Symptom | Defective parts | Remedy | Remarks |
|---|---|---|---|
| Meter needle jumped beyond the stopper. | Too much space between meter base and exposure meter | Bond M top-holder on to upper shaft mount of moving part of exposure meter to minimize vertical space. M top-holder is available in three types: PLIOBOND ALON (2 locations) ALPHA (2 locations)  | After mounting M top-holder, turn the connecting ring to confirm that the meter frame moves smoothly. M top-holder is available in the following three types.  $l = 0.25\text{mm}$ CE0687 M top-holder 1 $l = 0.4\text{mm}$ CE0688 M top-holder 2 $l = 0.55\text{mm}$ CE0689 M top-holder 3 |
| Meter needle does not move. | Short circuit between CE0546 (SL contact) and front die casting or CE0553 (covering plate) (add SL insulating plate.) | Bond CE 0663 (SL insulating plate) at two locations as illustrated below  | |

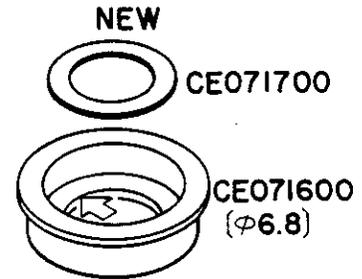
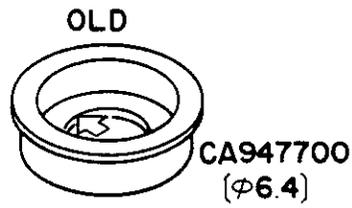
2-2 Check point

| Symptom | Defective parts | Remedy | Remarks |
|----------------|--|---|---|
| Shutter locked | Short circuited CE0637 (A contact 2) due to improper shape of CE0644 (washer) | Burr on the outer periphery of washer may cause short-circuit with A contact 2: replace | <p>Shutter must not be locked at various ASA settings.</p>  <p>Shortcircuited Shown with AR base plate removed.</p> |
| | Short circuit between CE0679 (A cam) (old: CE0643) and solder of CE0640 (base plate A) | Resolder | <p>Shutter must not be locked at ASA 400.</p>  <p>Solder Short circuited</p> |
| | Short circuit between HK1.4-633SN (A lever screw) and A contact | Remove burrs or replace screw. |  <p>Short circuited</p> |
| | Short circuit between OFF limiter resistor pin and CE0591 (SW circuit board) pattern | | Short circuit occurs in the new type SW base plate incorporating resistors of OFF limiter and AUTO limiter. |

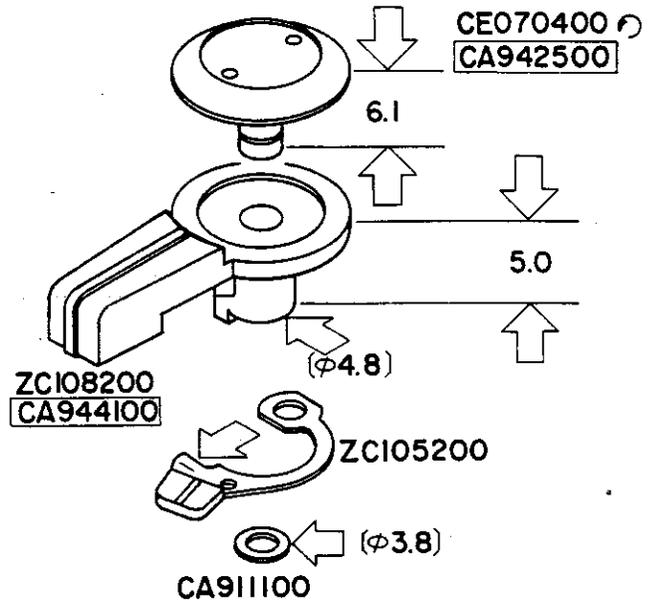
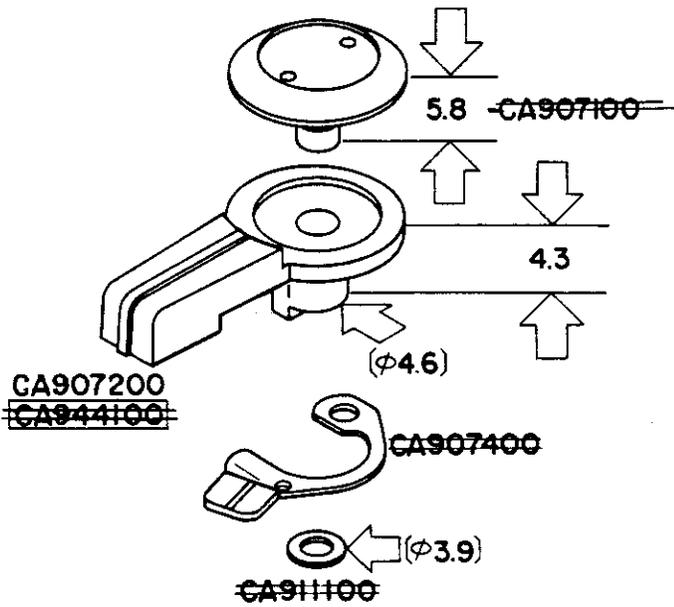
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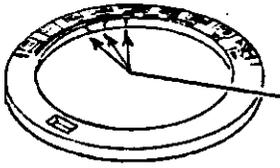
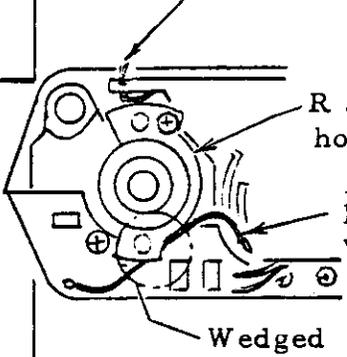


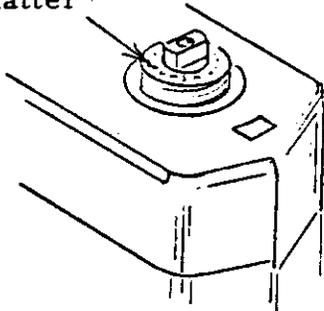
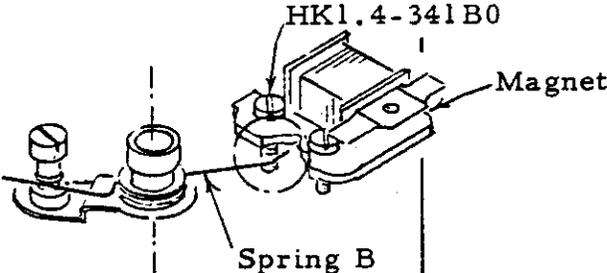
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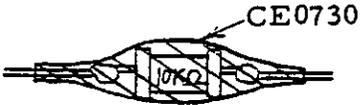
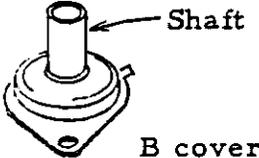
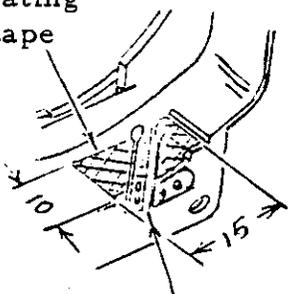


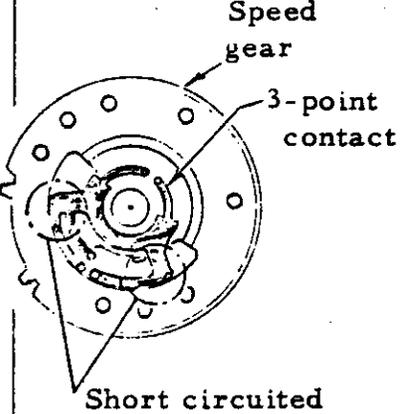
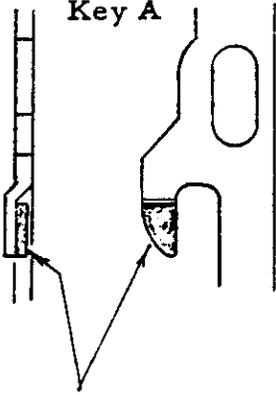
| Symp-tom | Defective parts | Remedy | Remarks |
|----------------------|--|--------|---|
| Shutter locked | CdS lead wire wedged and short circuited under CE0524 (S base) | | Short circuit may sometimes not occur at the time of repair but a few days after. |
| | AR base plate pattern extruded and short circuited with A cam | |  <p>Patterns extruded</p> <p>Viewed from back side of AR base plate.</p> |
| | Short circuit between brown lead wire and top cover | | Tip of brown lead wire (short circuited with top cover) |
| | Black lead wire wedged into CE0585 (R shaft holder) | |  <p>R shaft holder</p> <p>Black lead wire</p> <p>Wedged</p> |
| Shutter fully opened | AR base plate pattern peeled off | | |
| | Foreign matter on AR base plate | | |
| | A contact detached from AR base plate | | |
| | Poor contact of A contact | | Acceptable if shutter is not fully opened when it is released while moving up and down the A cam. |

| Symptom | Defective parts | Remedy | Remarks |
|-----------------------------------|--|--|--|
| Film advancing lever not returned | Chips, cuttings, etc. remained in the area indicated. | Clean before mounting the film advancing lever. Foreign matter  | |
| Shutter locked | CE0819 (Spring B) disengaged from HK1.4-341B0 (magnet screw) | Hook the spring B as illustrated below  | Bend the tip of spring B to secure engagement with magnet screw or replace it by modified one. |

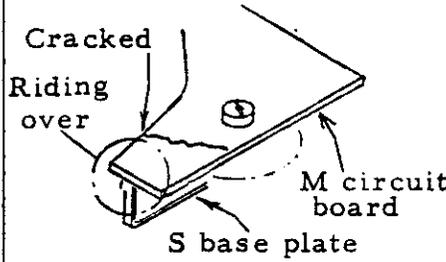
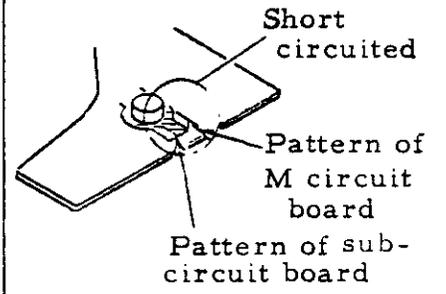
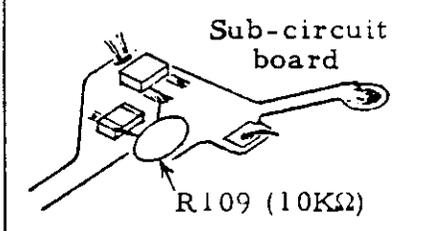
3. Measures to be taken to ensure safety when overhauling the camera

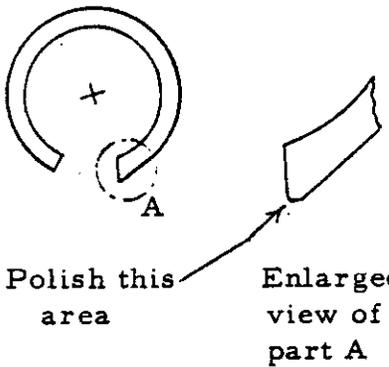
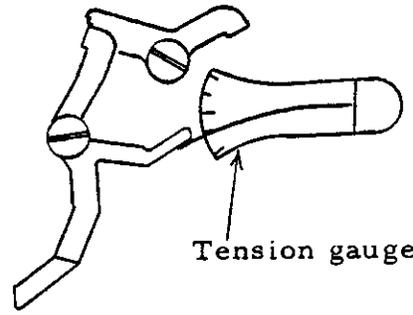
3-1 Measures requiring modification, addition and replacement of parts

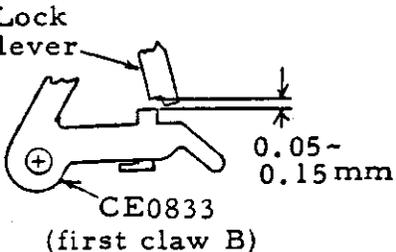
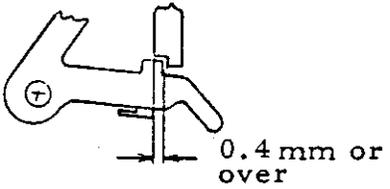
| Symptom | Defective parts | Remedy | Remarks |
|----------------|---|--|---------|
| Shutter locked | Short circuit between 10K Ω resistor of TTL terminal and top cover | Cover the whole 10K Ω resistor by means of CE0730 (thermo-constrictive tube), and heat it till it holds the resistor tight.  | |
| | Detached caulking of CE0507 (B cover) shaft | Replace B cover assembly modified one.  | |
| | Short circuit between CE0871.2 (M contacts) and front die casting | Apply insulating tape (or scotch tape) on the short circuited part. Insulating tape  Main switch | |

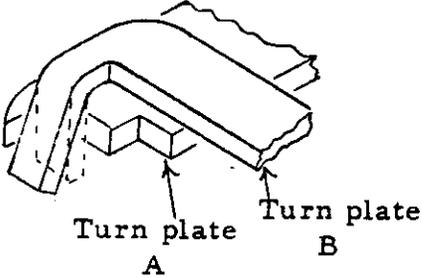
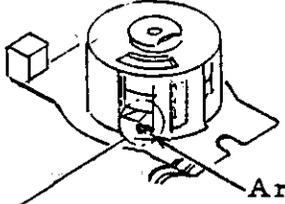
| Symptom | Defective Parts | Remedy | Remarks |
|--|---|---|--|
| | <p>Short circuit between CE0829 (speed gear) and CE0925 (3 point contact)</p> | <p>Replace speed gear by teflon-coated one, or file away short circuited portion.</p>  | |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Defective rear cover lock</p> | <p>Insufficient thickness of CA8717 (Key A)</p> | <p>Replace key A by modified one.</p> | <p>Modified key has following structure.</p>  <p>This member is added to increase thickness.</p> |

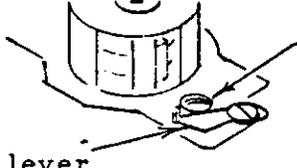
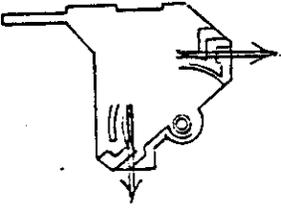
Notice and Tips for Troubleshooting

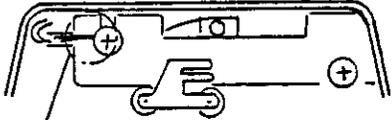
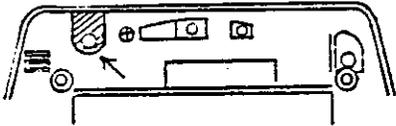
| Symp-tom | Cause | Remedy | Check up |
|----------------|--|---|--|
| Shutter locked | CE0527(T washer) dropped and entered into interior | The washer may have fallen into mechanism when removing the top cover. Bond the washer with PLIOBOND. | |
| | Defective function of CE0515 (KM lever) | KM lever must operate smoothly and securely. | Charge allowance of CE0886 (turn plate B): (0.2 ~ 0.4mm) Charge allowance of CA8412 (M charge): (0.8 ~ 1.2mm) |
| | Cracked CE0914 (M circuit board) | M circuit board may be broken if it gets on bent-up portion of CE0801 (S base plate). To avoid this, let the bent-up portion. |  <p>Cracked Riding over M circuit board S base plate</p> |
| | Short circuit between M circuit board pattern and solder of CE0938 (Sub-circuit board) | Sub-circuit board pattern may be extruding over the edge. To remedy: lift sub-circuit board |  <p>Short circuited Pattern of M circuit board Pattern of sub-circuit board</p> |
| | Poor conduction of R109 | Poor soldering or poor conduction inside resistor. Resolder or replace resistor. |  <p>Sub-circuit board R109 (10KΩ)</p> |

| Symp- tom | Cause | Remedy | Check up |
|---|---|---|--|
| Shutter locked | Vertical friction of CE0865 (gear plate B) and CE0866 (rear claw A) | | |
| | Broken wire of CE0813 (Magnet) | | |
| Shutter lock not released (Reset is impossible) | Displaced engagement of CE0829 (speed gear) | | Check by reference hole of speed gear. |
| | Defective function of CE0515 (KM lever) | <ul style="list-style-type: none"> . Friction with lead wire . Deformed lever | |
| | Insufficient fineness of A gear surface | <p>Polish part A using screwdriver No. 1 with its tip wrapped by sandpaper #3000-4000 (for three minutes).</p>  <p>Polish this area Enlarged view of part A</p> | <p>Surface fineness of gear A or first claw A is insufficient if shutter lock can not be released though they are hooked on the 2nd stage of CE0885 (turn plate A) with a force of 63g or greater.</p>  <p>Tension gauge</p> |
| Insufficient fineness of CE 0832 (first claw A) surface | Polish in the same manner as above. | | |

| Symptom | Cause | Remedy | Check up |
|-----------------------|---|--|---|
| Shutter does not lock | Shutter releases at 2nd step of CE0885 (turn plate A) | <ul style="list-style-type: none"> . Adjust clearance between CE0833 (first claw B) and CE0886 (turn plate B). . Adjust clearance between CE0832 (first claw A) and CE0833 (first claw B). | Acceptable if first curtain makes preparatory run. |
| | Delay in following movement of locking mechanism | If CE0829 (speed gear) and CE0847 (lock lever) rub each other, lock lever movement is delayed and shutter lock becomes ineffective. | Lock lever must not move when speed gear is operated. |
| | Excessive clearance between CE0833 (first claw B) and CE0847 (lock lever) | <p>Upon completion of winding, clearance indicated below should be present.</p>  <p>Lock lever CE0833 (first claw B)</p> <p>0.05-0.15 mm</p> <p>At 3rd step of CE0885 (turn plate A), hooking amount should be as indicated below.</p>  <p>0.4 mm or over</p> | (Confirmation of clearance must be made at all the positions except "B" with no battery.) |

| Symptom | Cause | Remedy | Check up |
|---|--|--|--|
| Shutter does not lock | Slip of CE0886 and CE0885 (turn plate A and B) | <p>If bent-up portion of turn plate B is not right angle, it does not hook on to each stage of turn plate A, making shutter lock ineffective. Replace it or correct the bent angle.</p>  <p>Turn plate A Turn plate B</p> <p>Angle indicated by broken lines is correct.</p> | |
| | Bind occurs in meter needle deflection | Rattling of CE0547 (indication plate) | Bend CE0538 (slider) and bring the tip to bear on die casting. Take care not to induce malfunction after adjustment. |
| Magnet and coil of exposure meter are in contact. | | Replace moving part of exposure meter. | Check by removing CE0679 (A cam) (old: CE0643) |
| Arm and balance ball rubbing each other. | | <p>Bend arm to correct.</p>  <p>Arm</p> <p>Should not be in contacted.</p> | Acceptable if meter needle does not bind when ASA is set to a high value and lens aperture near to maximum opening. |

| Symptom | Cause | Remedy | Check up |
|---|---|---|---|
| Bind occurs in meter needle deflection | Iron powder entered into moving part of exposure meter. | <p>Chips and cuttings of set screw of CE0626 (M lower plate) may enter when replacing moving part of exposure meter. Fill screw hole with PLIOBOND.</p>  <p>A lever</p> | Check by removing CE0679 (A cam). (old: CE0643) |
| | Meter needle unstable | Flux adhered to pattern of CE 0591 (SW circuit board) | <p>Clean the pattern with mixed solution (ether and alcohol).</p>  <p>Direction of cleaning</p> |
| Weak contact pressure of CE0588 (slide plate) | | Correct the shape or replace by modified one. | |
| Poor contact of CE0546 (SL contact) | | Replace by modified one. | Modified SL contact has thinner spring material. Acceptable if meter needle does not stagger when shutter speed is changed or "MANUAL". |
| Short circuit between solder, SW circuit board and top cover. | | If solder on front side of SW circuit board protrudes, it may cause short circuit with top cover. Cut off protrude solder. If short circuit still occurs, apply insulating tape on top cover. | |

| Symptom | Cause | Remedy | Check up |
|----------------------------|---|--|---|
| Meter needle unstable | Loose set screw of SW circuit board | | |
| | Short circuit between lead wire and set-screw of CE0555 (circuit board B) |  <p>Short circuited</p> | |
| | Poor soldering or broken lead wire of CdS, moving part of exposure meter and SW circuit board. | | |
| | Meter needle sometimes move at "B". (Meter needle must not move at "B" in the old type.) |  <p>Remove circuit board B and clean the area indicated by arrow.</p> | Meter needle must not move at "B". (It must be noted that circuit has been modified in the products since Nov., '76, permitting meter needle to move at "B".) |
| Meter needle does not move | Disconnected or wedged lead wire of CdS, CE0555 (circuit board B) and exposure meter moving part. | Even if lead wire is wedged, short circuit will not occur immediately at the time of repair. Thus, the lead wires must be arranged neatly while in assemblage. | |
| | Detached caulking of CE0507 (B cover) shaft | This may also cause shutter lock. Replace by modified one. | |
| | Poor conduction of CE0546 (SL contact) | Correct the shape of SL contact or replace it by modified one. | |
| | Short circuit between lead wire and pattern or set-screw of CE0591 (SW circuit board) | Check lead wire. | |

(12)

OLD

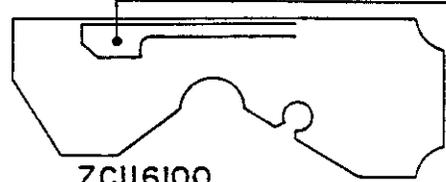
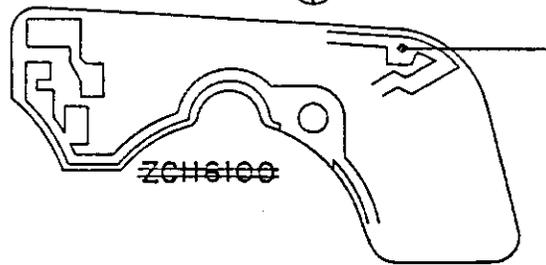
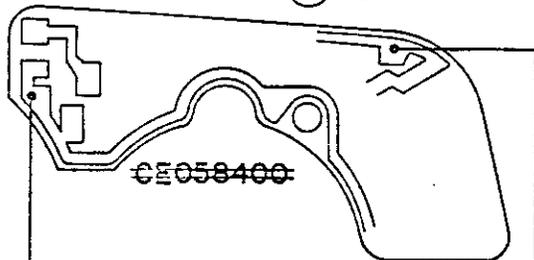
NEW

 PUK1.7x2.5SO

 PUK1.7x2.5SN

 CE057000

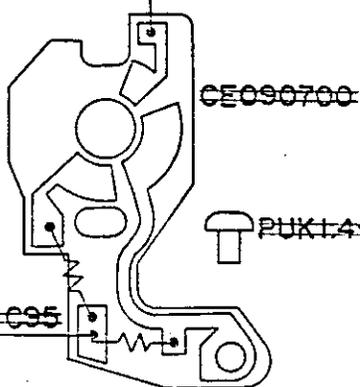
 CE099400



RBJ-C25



 CE057000



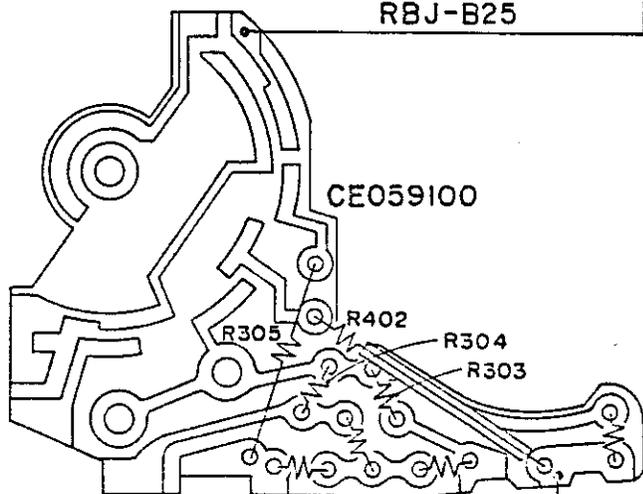
RBJ-B25

CE090700

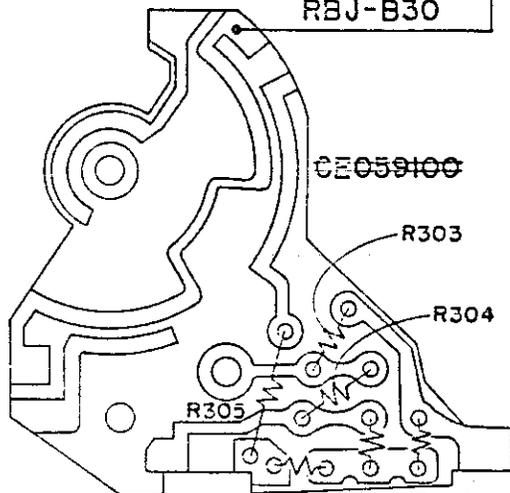
 PUK1.4-605SO

RBJ-C95

RBJ-B30



CE059100



CE059100

R303

R304

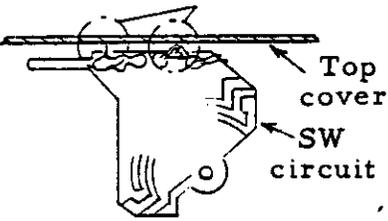
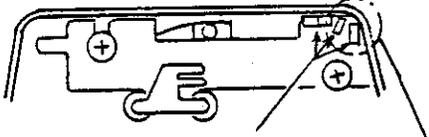
R305

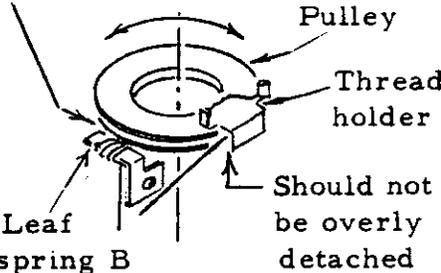
R306 R301 R302

R305 R402 R304 R303

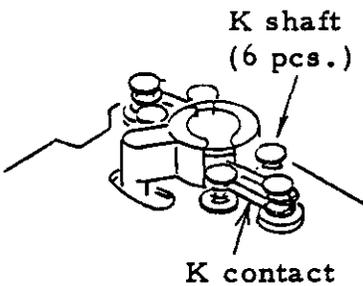
R306 R301 R302

RBJ-C100

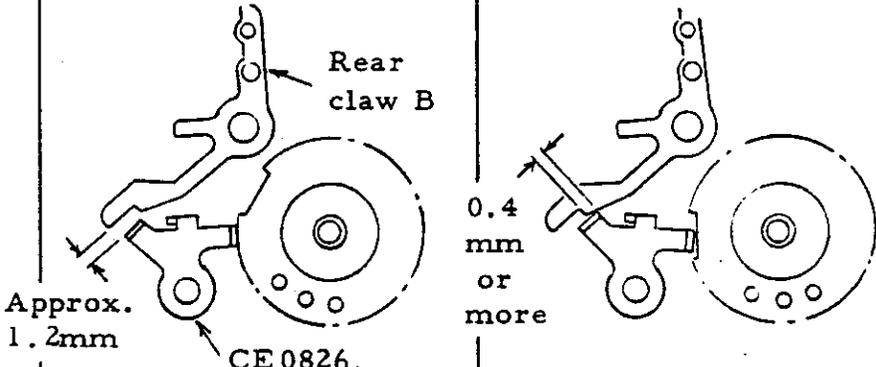
| Symptom | Cause | Remedy | Check up |
|------------------------------|---|---|---|
| Meter needle does not move | Short circuit between solder on resistor of SW circuit board and top cover | <p>Short circuited</p>  <p>Correct the shape of solder or apply insulating tape to top cover.</p> | |
| | Chip resistor of circuit board B contacted and short circuited with die casting (front casting) |  <p>Chip resistors Short circuited</p> | Some circuit board B of early production may cause such short circuit. |
| | Meter needle stuck | Clean the needle stopper or replace it by modified one. Needle stopper can be replaced together with CE 0626 (M lower plate) as an assembly. | <p>Needle stopper</p> <p>Old type: Teflon tube</p> <p>New type: Mylar sheet</p> |
| | Chips or cuttings of screw entered | | |
| Connecting ring not returned | Improper selection of CA8933 (returning roller) | Connecting ring may not be in contact with returning roller. Replace returning roller by the one with large diameter. | |
| | Deformed connecting ring | Connecting ring may be deformed into oval. Correct the shape or replace. | |
| | Sliding portion is adhered with adhesive or other foreign matter. | | |

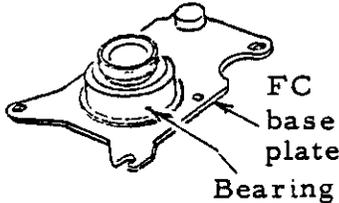
| Symptom | Cause | Remedy | Check up |
|------------------------------|---|--|---|
| Connecting ring not returned | Protrude ALON ALPHA on thread of CE0521 (dial gear) | | |
| | Thread displaced | Thread is liable to displace if CA8494 (lead spring B) is contacting with CE0635 (pulley). Floated thread holder of pulley also causes displacement of thread. | <p>Should not be contacting</p>  <p>Should not be overly detached</p> |
| Inaccurate meter indication | <p>Excessive deflection</p> <ol style="list-style-type: none"> 1. OFF center of CE0679(A cam) (old: CE0643) 2. Short circuited pattern of CE0591 (SW circuit board) 3. Loose setscrew of SW circuit board 4. Disconnected green lead wire of CdS 5. Deformed spring at the upper side of meter moving part | <p>Mount the top cover by pushing it toward the front side.</p> <p>Take care to solder droplets.</p> | <p>Check indication accuracy after repair.</p> |

| Symptom | Cause | Remedy | Check up |
|-----------------------------|---|--------|---|
| Inaccurate meter indication | <p>Insufficient deflection</p> <ol style="list-style-type: none"> 1. Disconnected red lead wire of CdS 2. Disconnected resistors R301- 305 3. Poor soldering of lead wire of CdS, exposure meter and circuit board 4. Deformed spring at the lower side of meter 5. Smudged or poor conduction of SW circuit board | | Check indication accuracy after repair. |
| | <p>Variation in exposure accuracy at each EV</p> <ol style="list-style-type: none"> 1. Improper matching (improper selection of resistors in achieving correct exposure) 2. Improper combination of paired CdSs | | |

| Symptom | Cause | Remedy | Check up |
|--|--|--|--|
| Shutter opened at some shutter speeds in MANUAL mode | <p>Deformed 3-point contact (CE0968) (old: CE0925)</p> <p>Insufficient contact pressure</p> <p>Excessive clearance between contacts</p> <p>Overlapped contacts of 3-point contact</p> <p>3-point contact detached from contact pattern</p> | Replace by the one with modified patterns or modified washer angle. | |
| Shutter fully opened | <p>Poor conduction of K shaft and K contact (CE0935)</p> <ol style="list-style-type: none"> 1. Smudged K shaft 2. Smudged K contact 3. Overlapped or bent K contact 4. Floated K shaft | <p>Clean with FREON-TE.</p>  <p>The diagram shows a mechanical assembly with two main components labeled: 'K shaft (6 pcs.)' and 'K contact'. The K shaft is a central vertical shaft with several small cylindrical parts (washers or spacers) mounted on it. The K contact is a larger, curved component that appears to be in contact with the shaft assembly. Arrows point from the text labels to the corresponding parts in the diagram.</p> | <p>Check at each shutter speed.</p> <p>Check in both AUTO and MANUAL modes.</p> <p>Check at each ASA setting.</p> <p>(Check by moving up and down the A cam.)</p> <p>Take care to breakage of circuit board (CE0914).</p> <p>Check SBC condenser lens for smudge and cloud. Check interlock of 3-point contact and speed gear.</p> |

| Symp- tom | Cause | Remedy | Check up |
|--|--|--|---|
| Shutter fully opened | <p>Others</p> <ol style="list-style-type: none"> 1. Defective function of CE0916 (cam shaft) 2. Defective function of CE0882 (M release) 3. Short circuit between purple lead wire and P stopper (CE0536) 4. Broken pattern of CE0640 (base plate A) 5. Defective interlock of CE0968 (speed plate) (old: CE0925) | <p>Defective engagement of speed gear (CE0829) and dial gear.</p> <p>Defective engagement of speed gear tab and 3-point contact.</p> | |
| Shutter remains open even when "B" is released | Cracked CE0999 (S circuit board) (old: CE0915) | If CE (stopper) is too high, it must also be replaced. | In case CE0999 is Cracked: when batteries are loaded for check, shutter remains open; and when batteries are unloaded, the shutter closes. Check to see if the shutter does not remain open by loading the batteries. |
| | Defective function of CE0880 (KL plate) | Check flatness of plate. Check thickness of KL plate. | Shutter remains open without battery. |
| | Release button not returned | If S release button bites with SR button shaft (CA9048), it can be corrected by adjusting the position of top cover. | Shutter remains open without battery. |

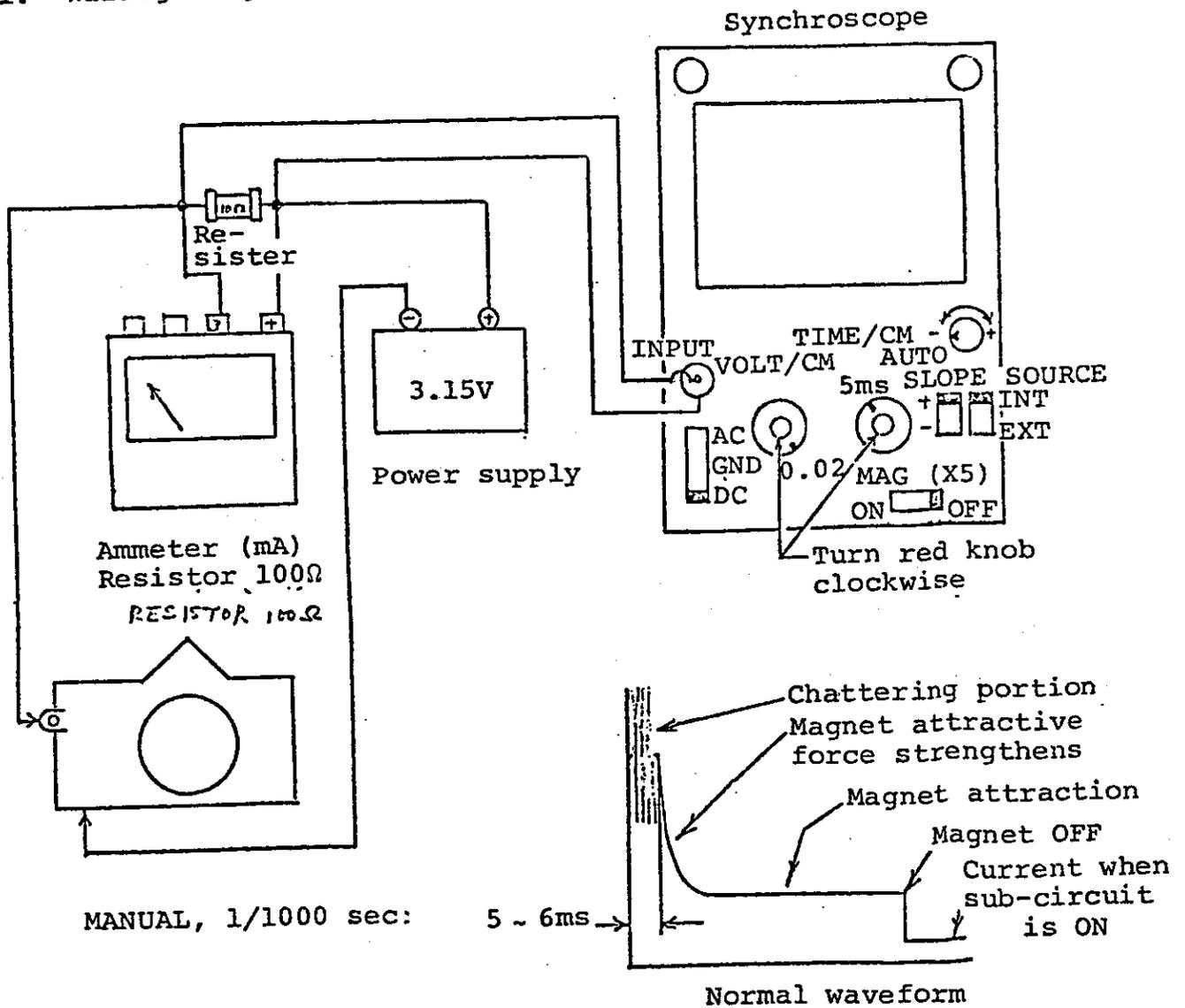
| Symptom | Cause | Remedy | Check up |
|--|--|---|--|
| Shutter remains open even when "B" is released | Excessive engagement of CE0865 (gear plate B) and rear claw B (the plate underneath rear claw A (CE0816)) | | Shutter remains open without battery. |
| | Improper adjustment of space between B lever (CE0826) and rear claw B | <p>When release button is pushed at any shutter speed other than "B", the following condition should result.</p>  <p>Approx. 1.2mm</p> <p>Rear claw B</p> <p>CE0826.</p> <p>0.4 mm or more</p> | When release button is pushed at "B", the following condition should result. |
| Shutter runs faster than the shutter speed set | Poor conduction of K shaft and K contact(CE0935) | Clean contacting area. | |
| | Defective KC 4702 (AUTO condenser) | | |
| | Defective KT 2204 (MANUAL condenser) | | |
| | Deformed K contact | | |
| | Floated contact of variable register for AUTO adjustment or smudged patterns | | |

| Symp- tom | Cause | Remedy | Check up |
|---|---|--|----------|
| Shutter runs faster than the shutter speed set | Defective AUTO/ MANUAL switch- ing | | |
| | Poor soldering of OFF limiter resistor | In new type SW circuit board, brown lead wire may be short circuited with top cover. Correct the shape of solder. | |
| | Short circuit between green lead wire and IC of CE0999 (S circuit board) (old: CE0915) | | |
| Release button not returned | Defective CE0880 (KL plate) | Check flatness and thickness of KL plate. Replace it by a new one. | |
| | Biting of CA9082 (S release button) with CA9084 (SR button shaft) | | |
| Film advancing lever not returned | Dislodged caulking of CA9186 (FC base plate) |  <p>FC base plate Bearing</p> | |
| | Bent CA9387 (FW shaft) | | |
| | CA8753 (FW lever decoration) and CE0531 (button cover) rub each other | | |

| Symp- tom | Cause | Remedy | Check up |
|-----------------------------|---|--|--|
| Check lever not returned | Excessive contact pressure of CE 0588 (slide plate) | | After repair, check if meter needle is stable. |
| | Defective function of slide contact | Apply NW1.4-228U0 under CE0591 (SW circuit board). | The operating force should be 150gr or less. |
| | Insufficient force of CE0574 (C spring) | Reform C spring. | The spring force should be 180gr or more. |

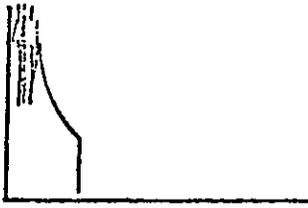
Test Using OM-2 Synchroscope

1. Wiring diagram

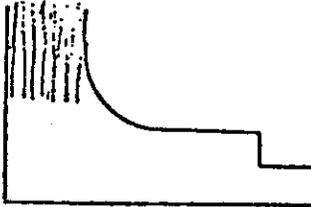


Note: This diagram indicates the circuit in which the change in current value is converted into the change in voltage by means of a 10-ohm resistor and observed on the synchroscope. Each waveform is to be considered as the change in current value.

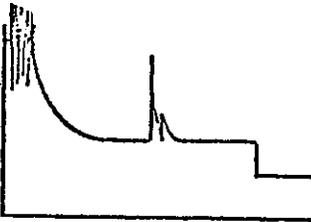
2. Examples of abnormal waveform



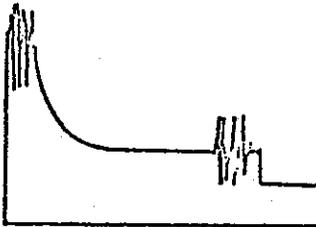
Main switch short circuited, Shutter locked.



Excessive chattering, Defective main switch, Shutter locked.

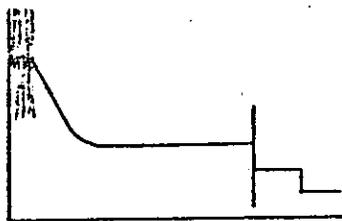


Cloated holder plate, Shutter locked.



Smudged trigger switch, Shutter locked, Shutter speeds unstable.

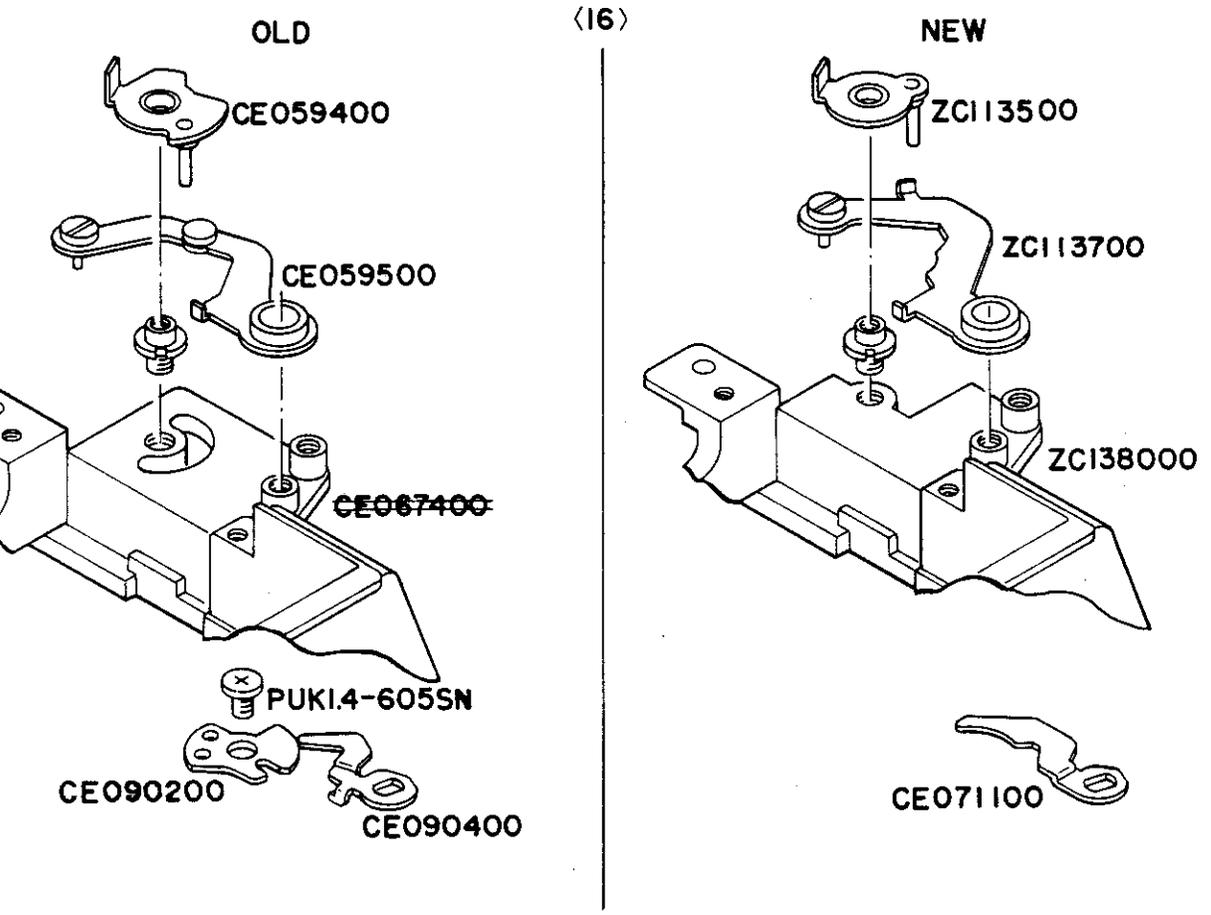
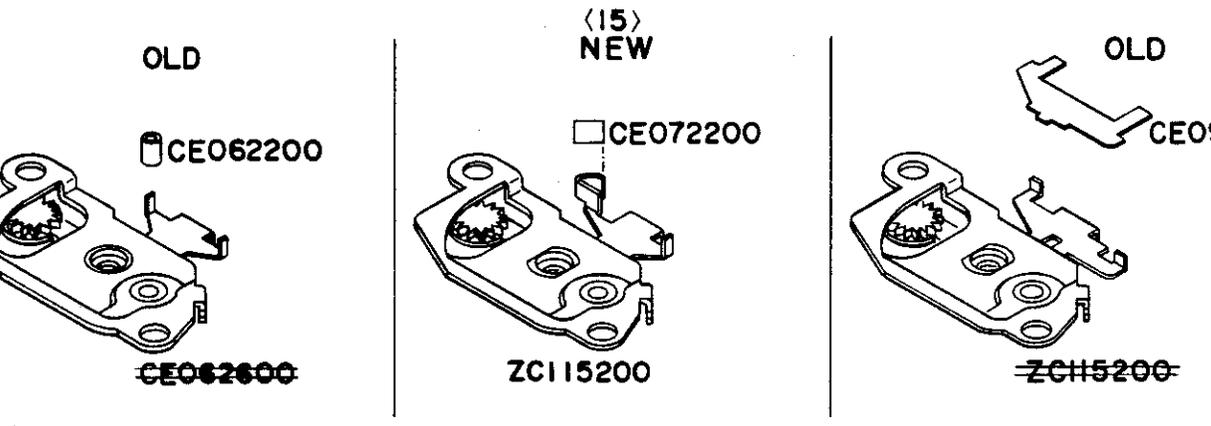
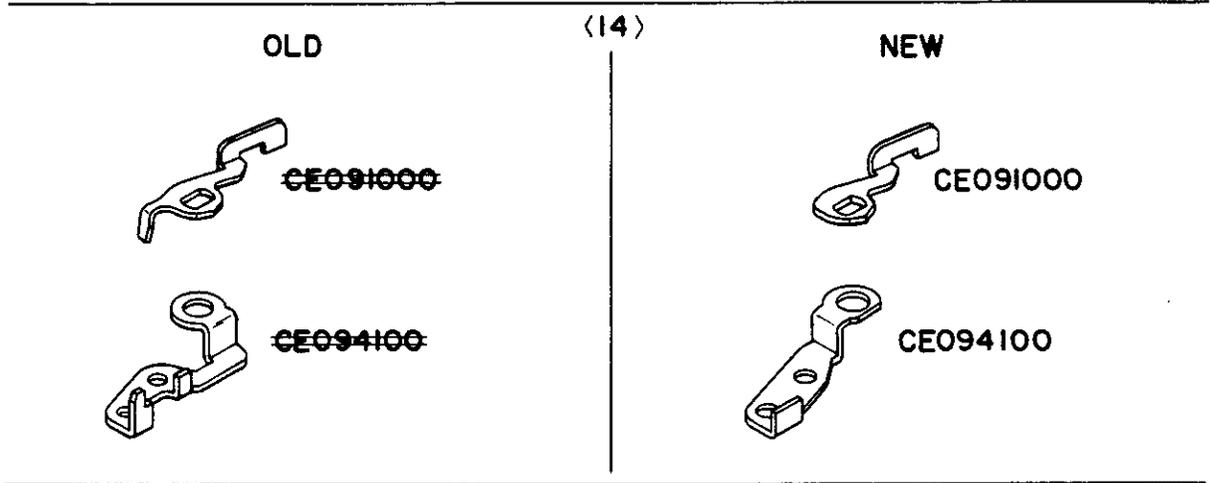
(Symptom)

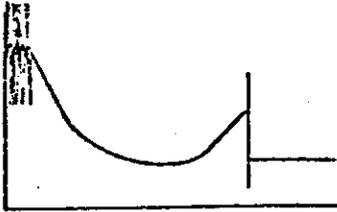


The diagram drawn on left shows waveforms which tend to be formed when a highly sensitive film is used in a bright surrounding with the lever set at AUTO or when the shutter is set at 1/1000 with the lever at MANUAL.
If the shutter does not open, the camera is not faulty.

(Cause)

If the shutter is left open when the waveform is similart to those shown above, adjust the voltage on the 1 V line to 0.98 V.



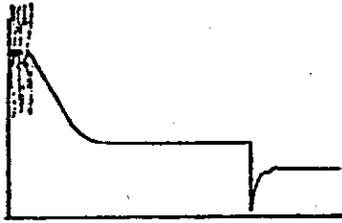


(Symptom)

Shutter locks from time to time.

(Cause)

Magnet is improperly positioned and fails to attract the contact piece.

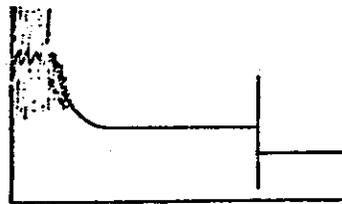


(Symptom)

The strobo-light emits a flash completely at TTL AUTO. The shutter delays when set in high speed range.

(Cause)

At TTL AUTO, the terminal and body are shorted.

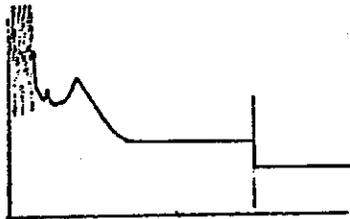


(Symptom)

Shutter lock occurs occasionally.

(Cause)

Main switch contact points do not contact completely. Replace main switch contact pieces.

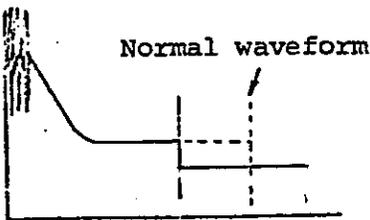


(Symptom)

When film is taken up slowly, the shutter locks occasionally.

(Cause)

CE0819 (rear spring B) comes off magnet screw.
CE0886 (turn plate B) pushes CE0833 (front claw B).

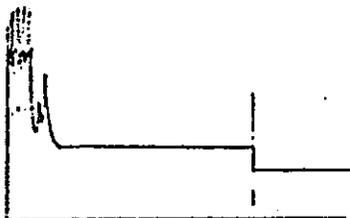


(Symptom)

Is there any effect on shutter speeds when set at manual.

(Cause)

CE0885 (turn plate A) and CE0886 (turn plate B) slip.
Air damper operates not smoothly.

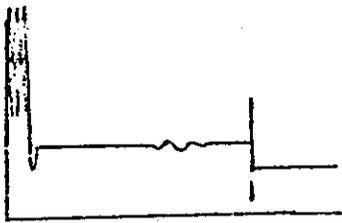


(Symptom)

Shutter lock occurs occasionally.

(Cause)

CE0886 (turn plate B) rides on top of CE0886 (turn plate A).

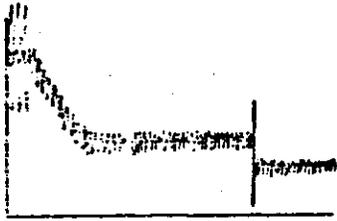


(Symptom)

Shutter lock occurs occasionally.

(Cause)

A gap between CE0885 and CE0833 is too large. CE0885 and CE0886 slip.

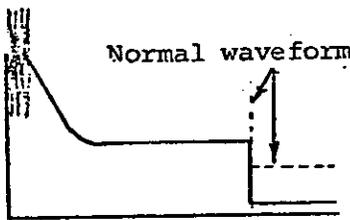


(Symptom)

Shutter lock occurs occasionally.

(Cause)

Main switch is dirty.

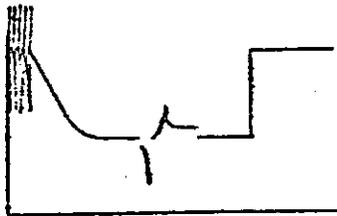


(Symptom)

Shutter is left open.

(Cause)

Emitter and collector of transistor (Q102) are shorted. Violet lead between transistor and 10-kΩ resistor forms short-circuit with the body.

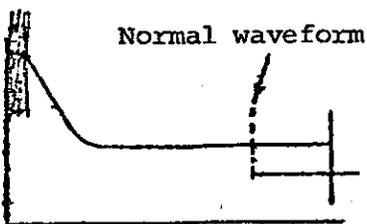


(Symptom)

At AUTO mode, when brightness is BV8 or below, the shutter operates at high speeds.

(Cause)

CE0640 (base A) is incompletely soldered to A contact.

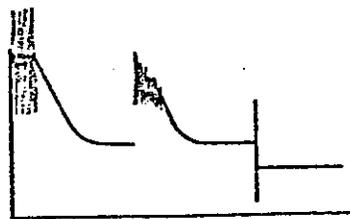


(Symptom)

The shutter operates correctly at MANUAL, but occasionally the waveform becomes as shown above.

(Cause)

Movable mirror does not move smoothly.

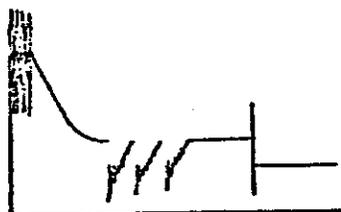


(Symptom)

Shutter lock occurs occasionally.

(Cause)

CA8448 (connecting lever spring) is broken and contacts the main switch.

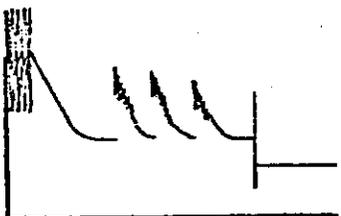


(Symptom)

Shutter lock occurs occasionally.

(Cause)

Soldered portion of the main switch separates, and when mirror moves up, the main switch is shorted with the diecast body.

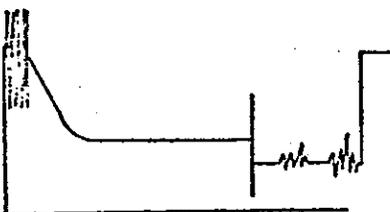


(Symptom)

Shutter lock occurs occasionally.

(Cause)

Main switch contact points are not in full contact. Sub-switch contact points are not in full contact.

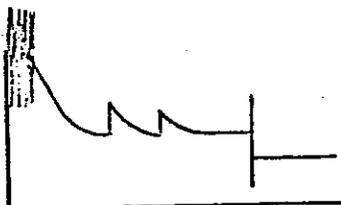


(Symptom)

Shutter lock occurs occasionally.

(Cause)

Sub-switch contact points are dirty. Sub-switch chattering is excessive.

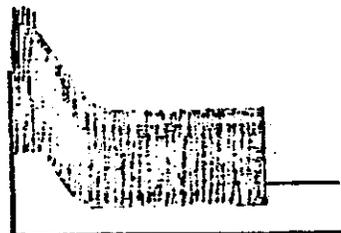


(Symptom)

Shutter lock occurs occasionally.

(Cause)

CE0811 (upper plate) does not fully contact after film is taken up, or it is dirty.

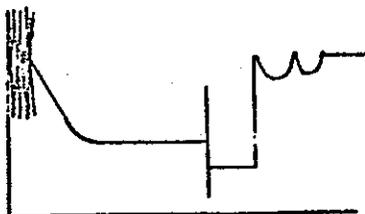


(Symptom)

Shutter lock occurs occasionally.

(Cause)

KS0008 (820PF) condenser is imperfectly soldered to circuit board.



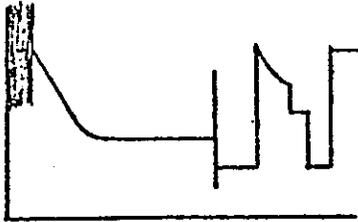
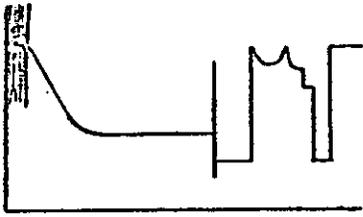
(Symptom)

At AUTO and MANUAL, the shutter opens occasionally.

(Cause)

AT OFF SET, malfunction occurs.

The waveform changes due to the same cause of trouble.





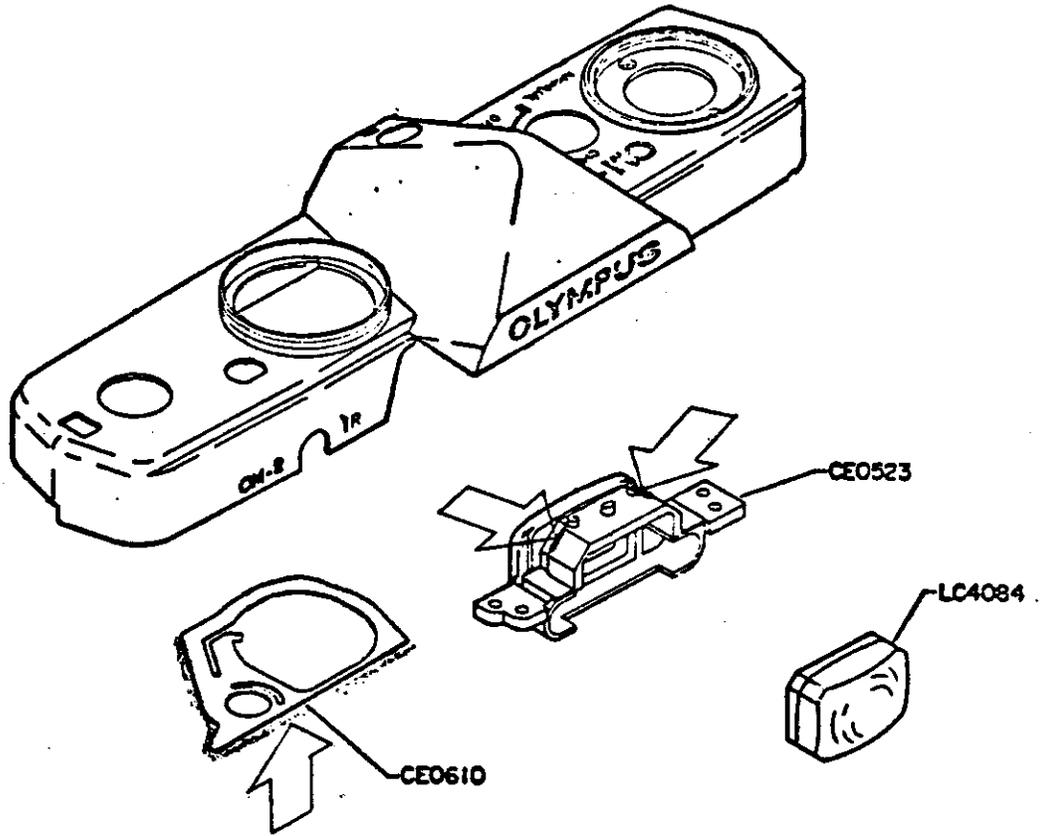
PARTS WHERE OIL, GREASE, ETC. SHALL BE USED

PARTS WHERE OIL, GREASE ETC. SHALL BE USED

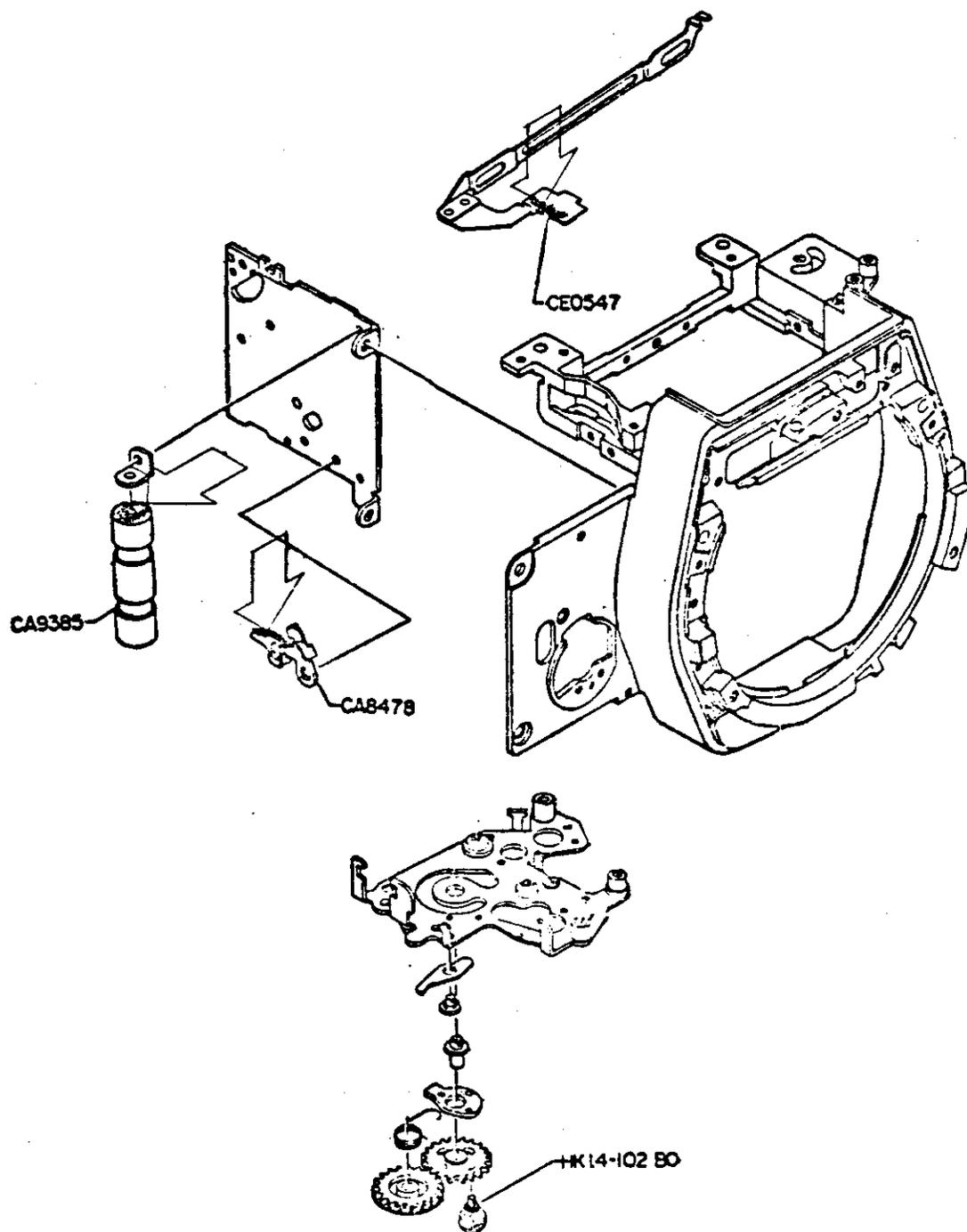
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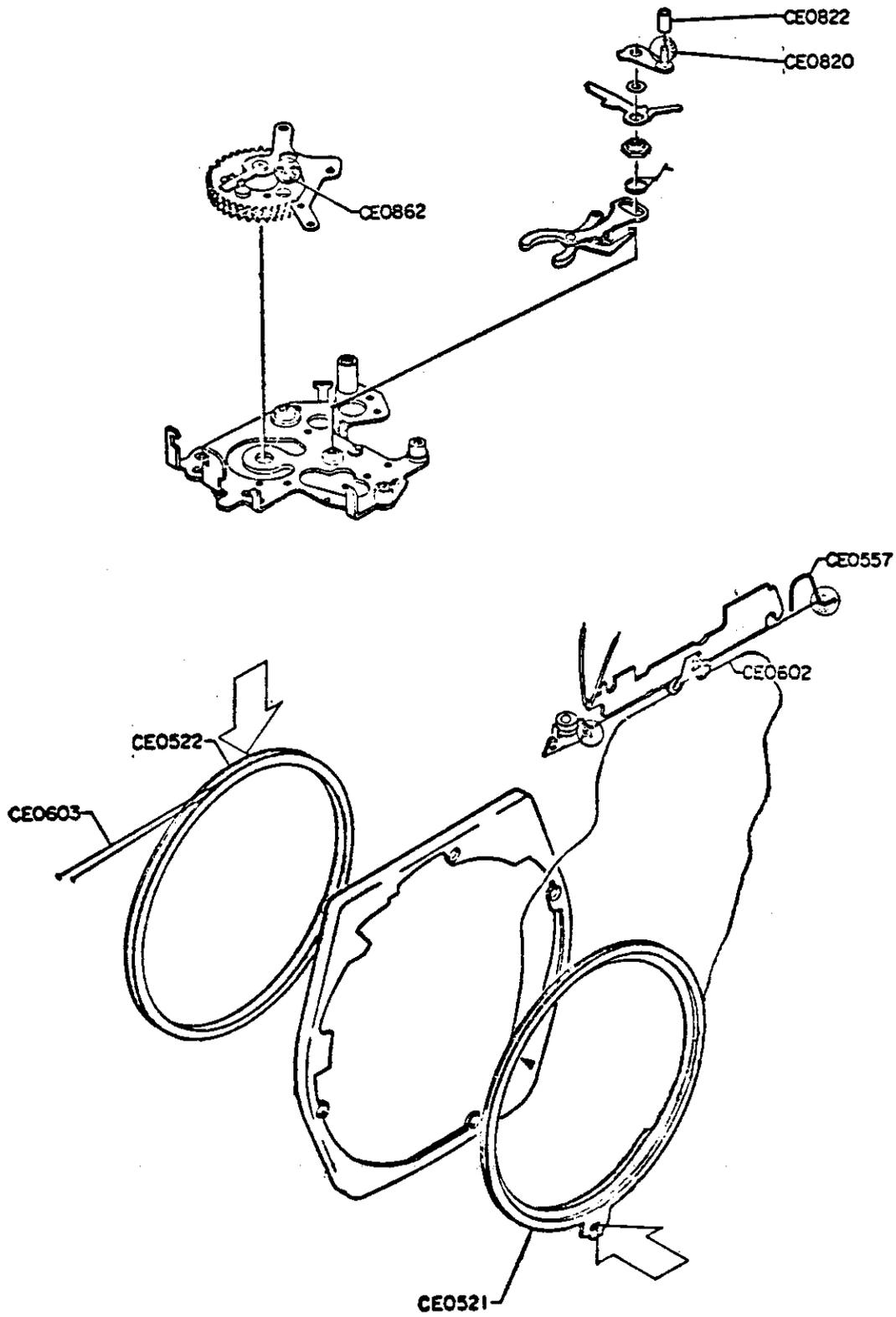
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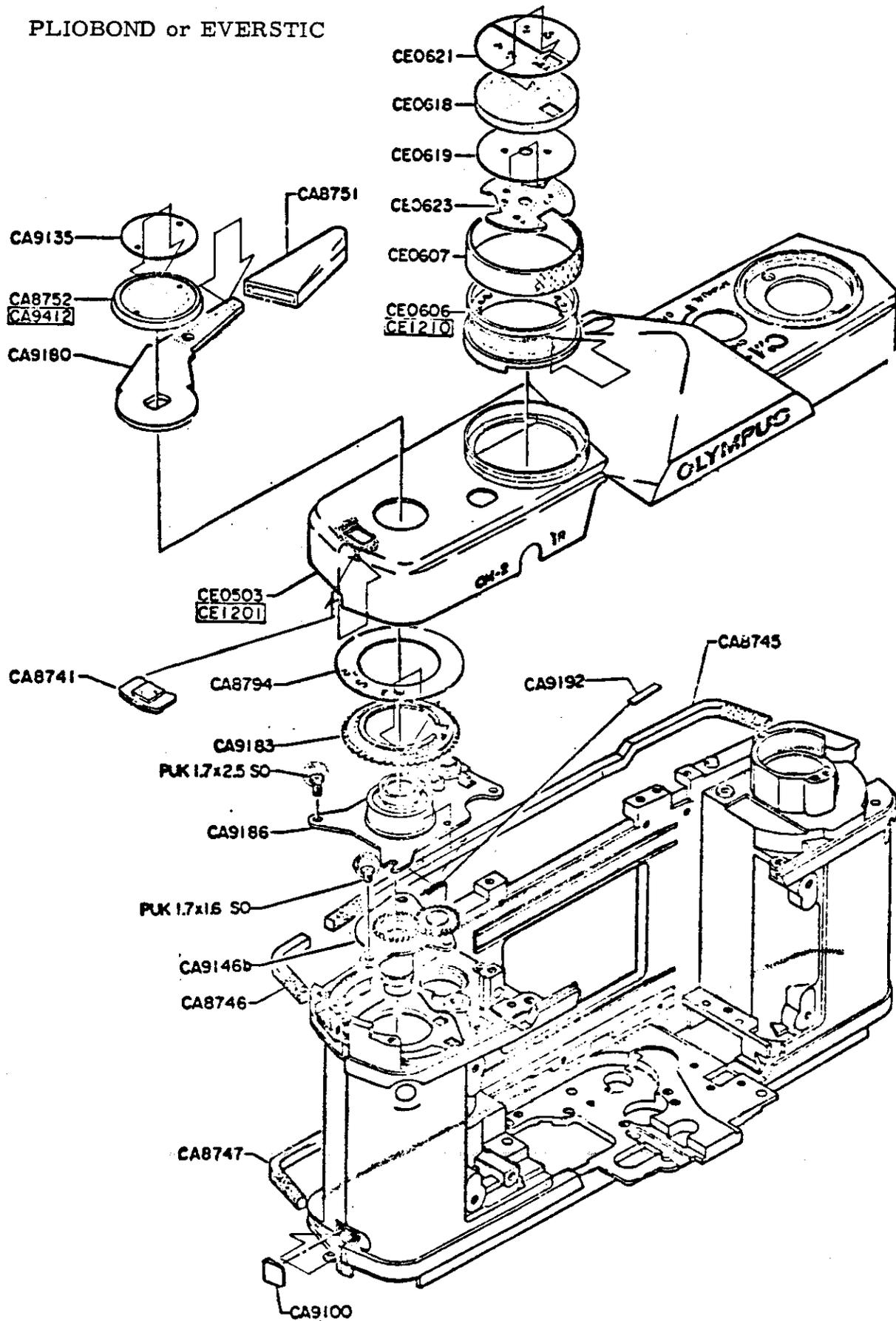
ALON ALPHA



CEMEDINE 3000RS



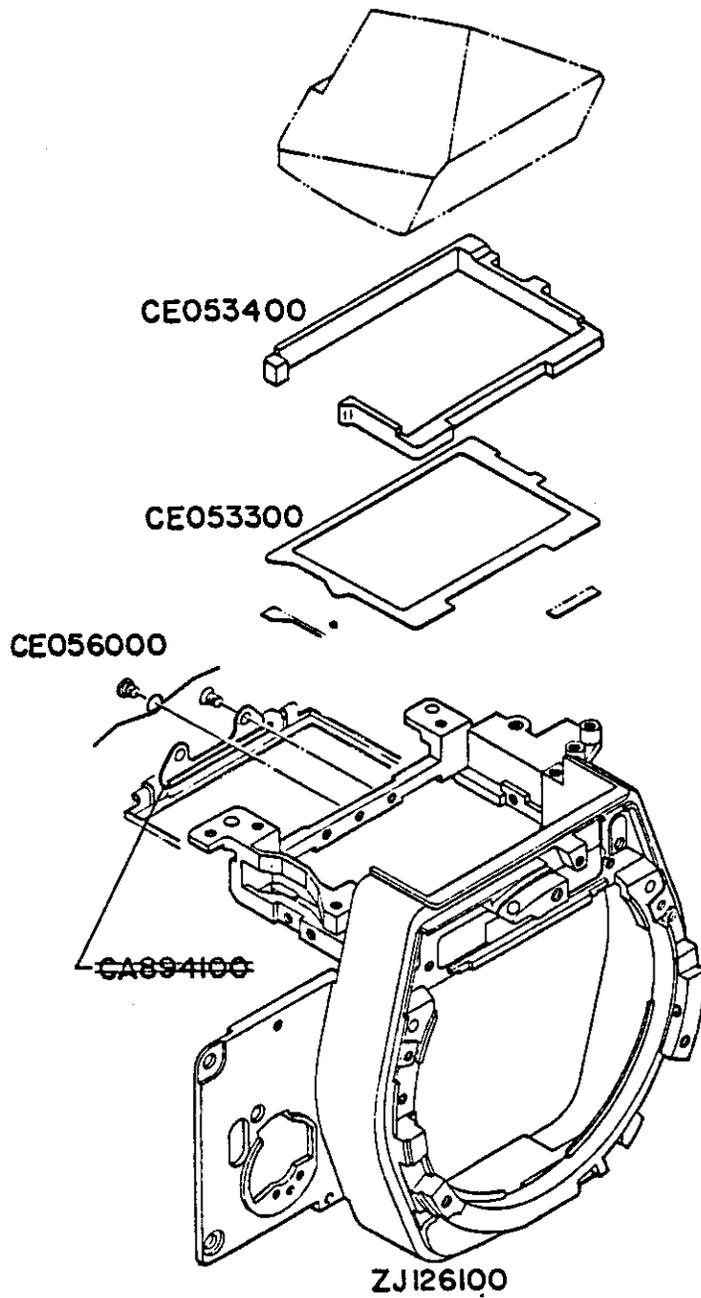
PLIOBOND or EVERSTIC



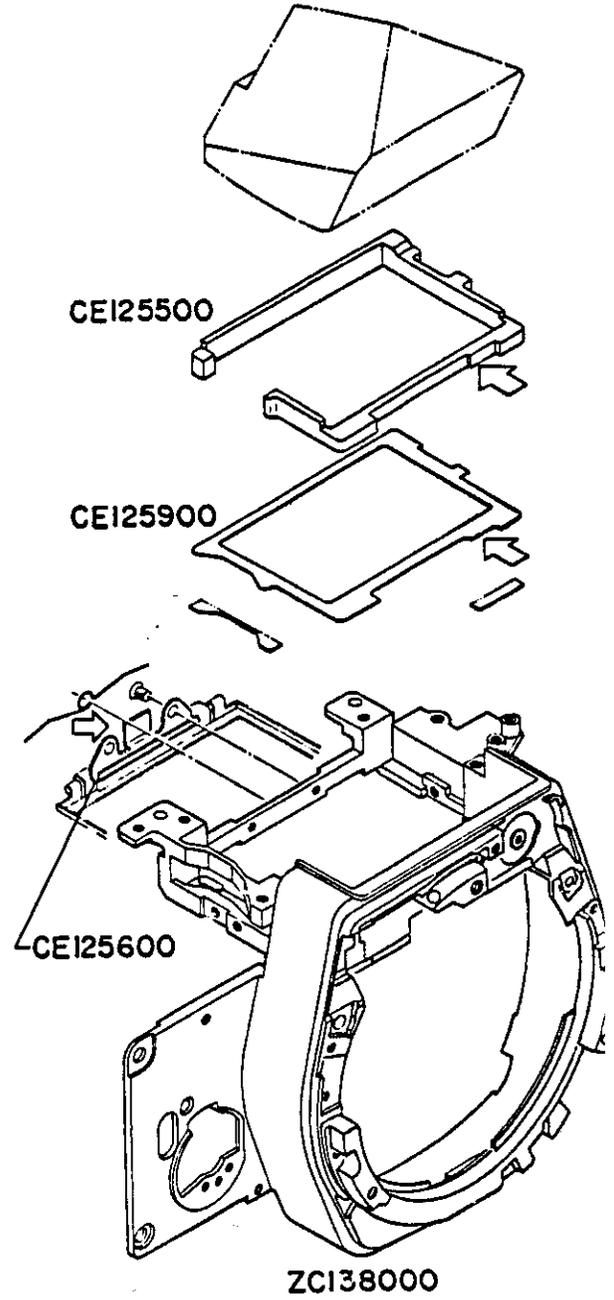
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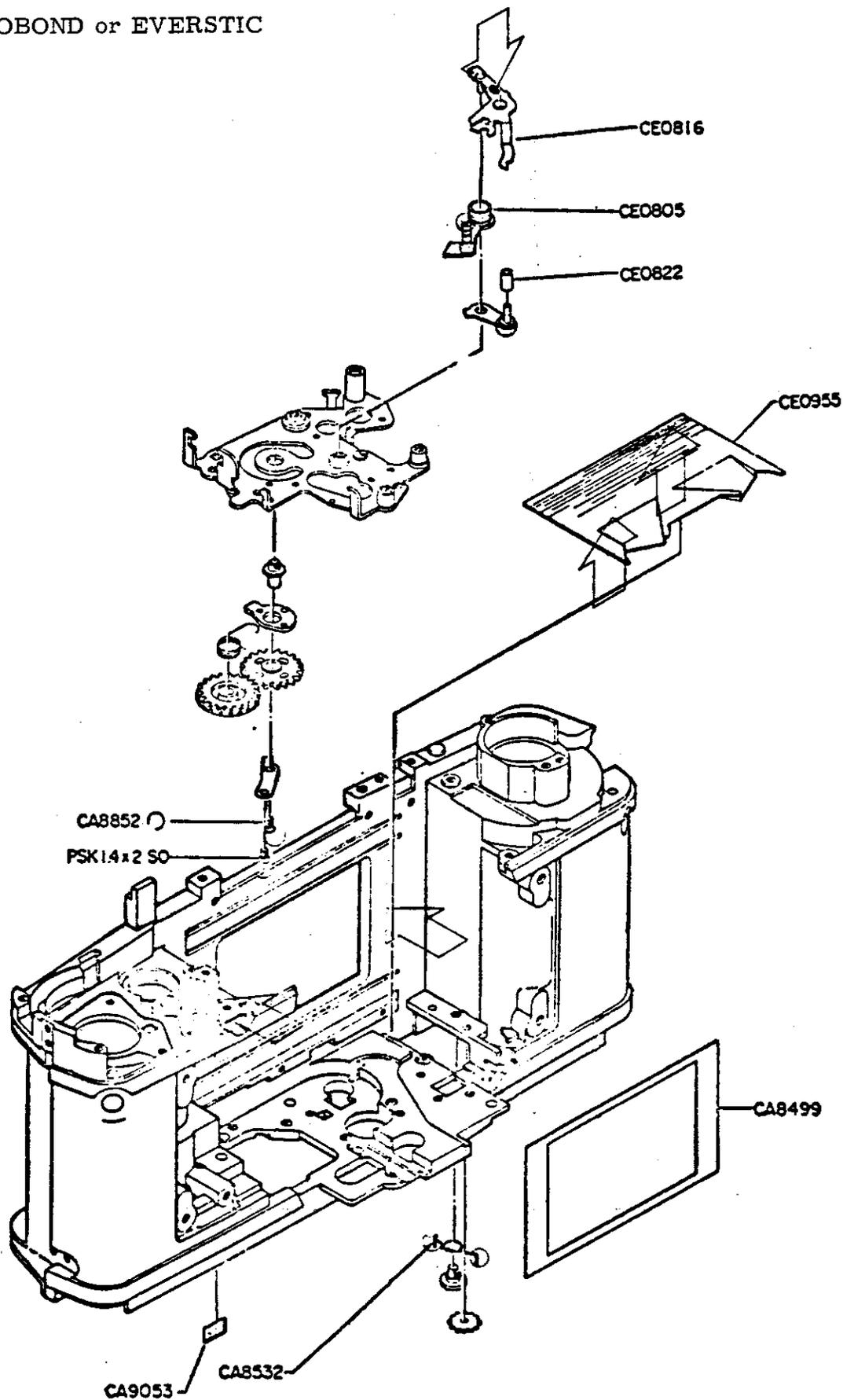


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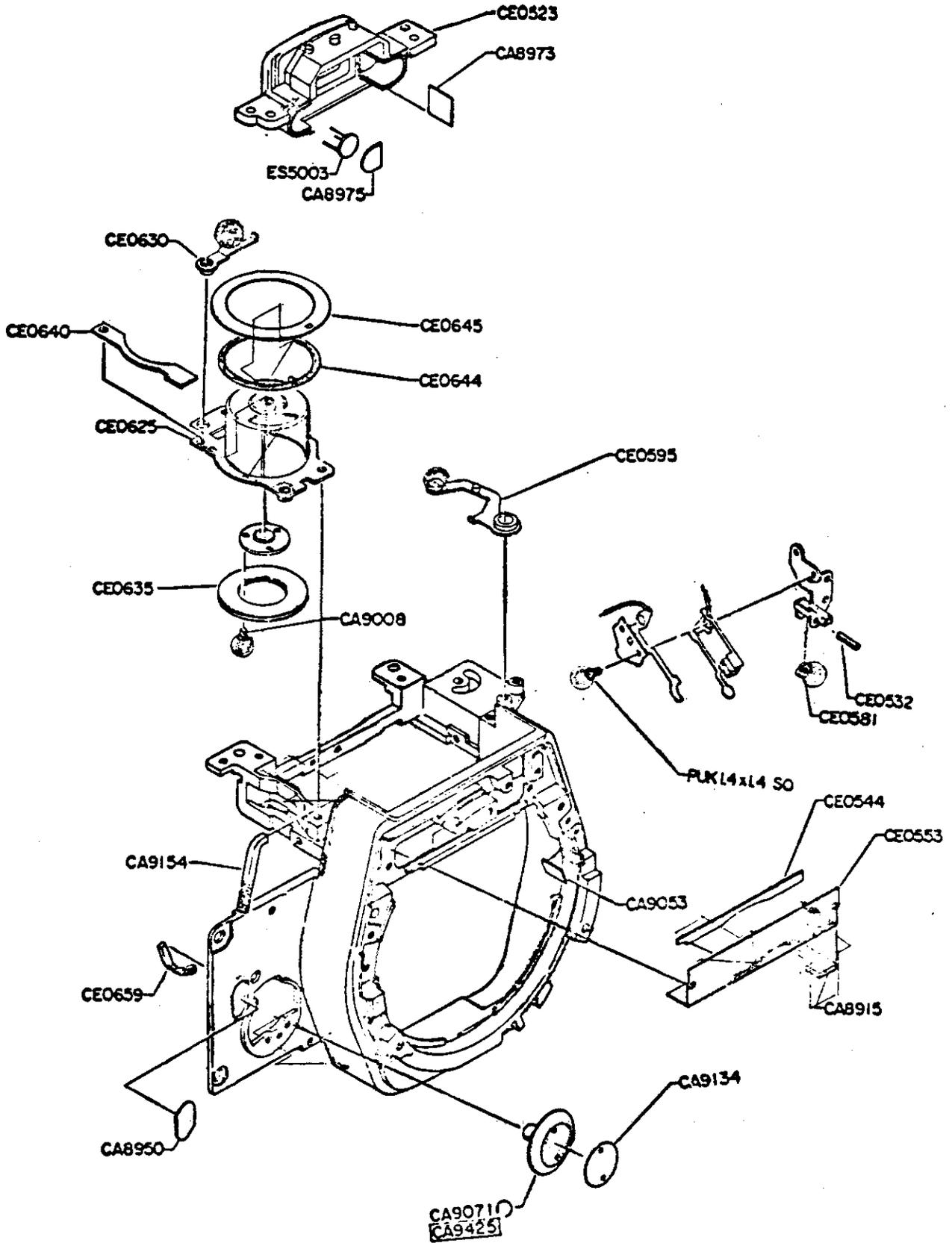


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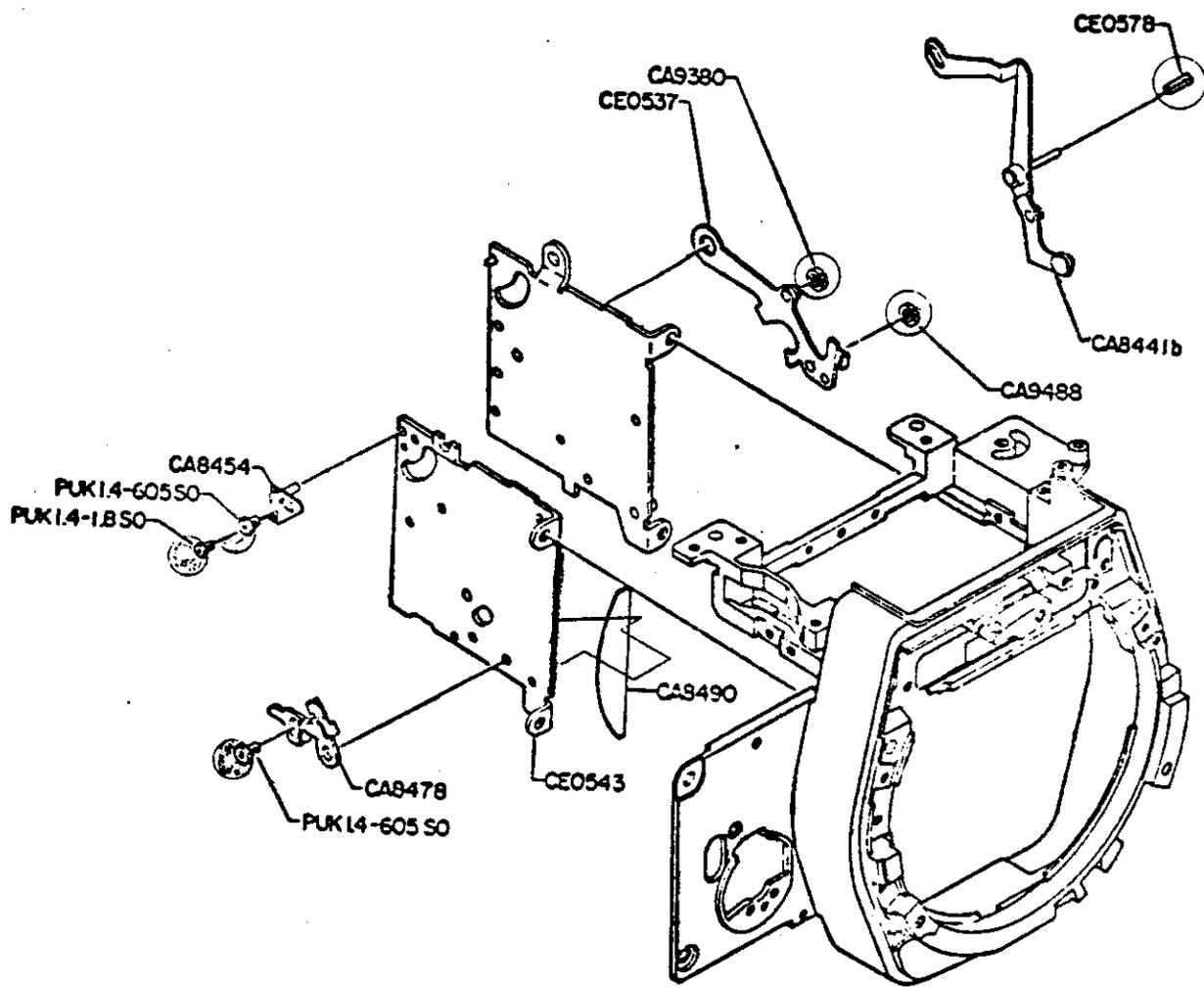
PLIOBOND or EVERSTIC



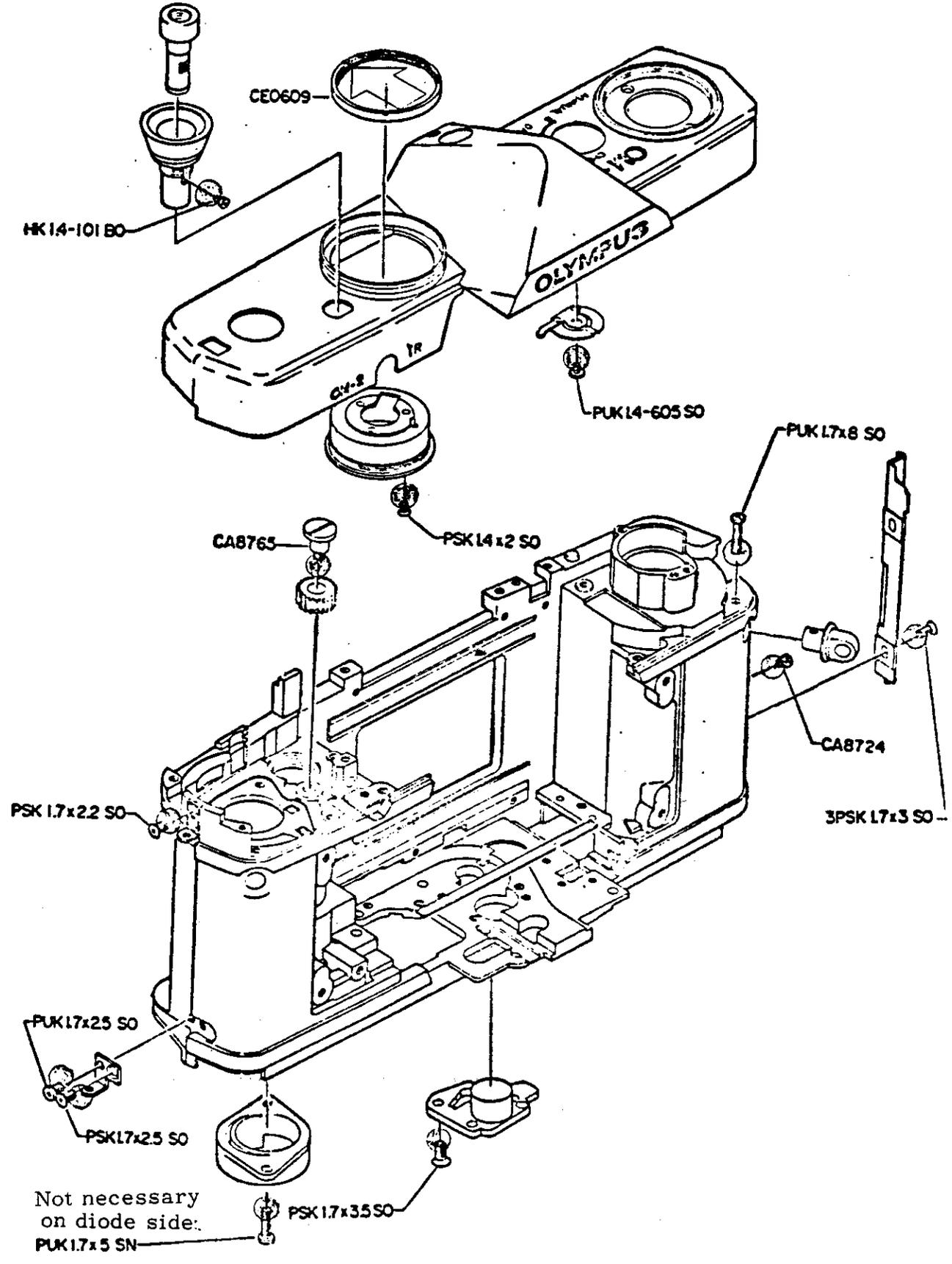
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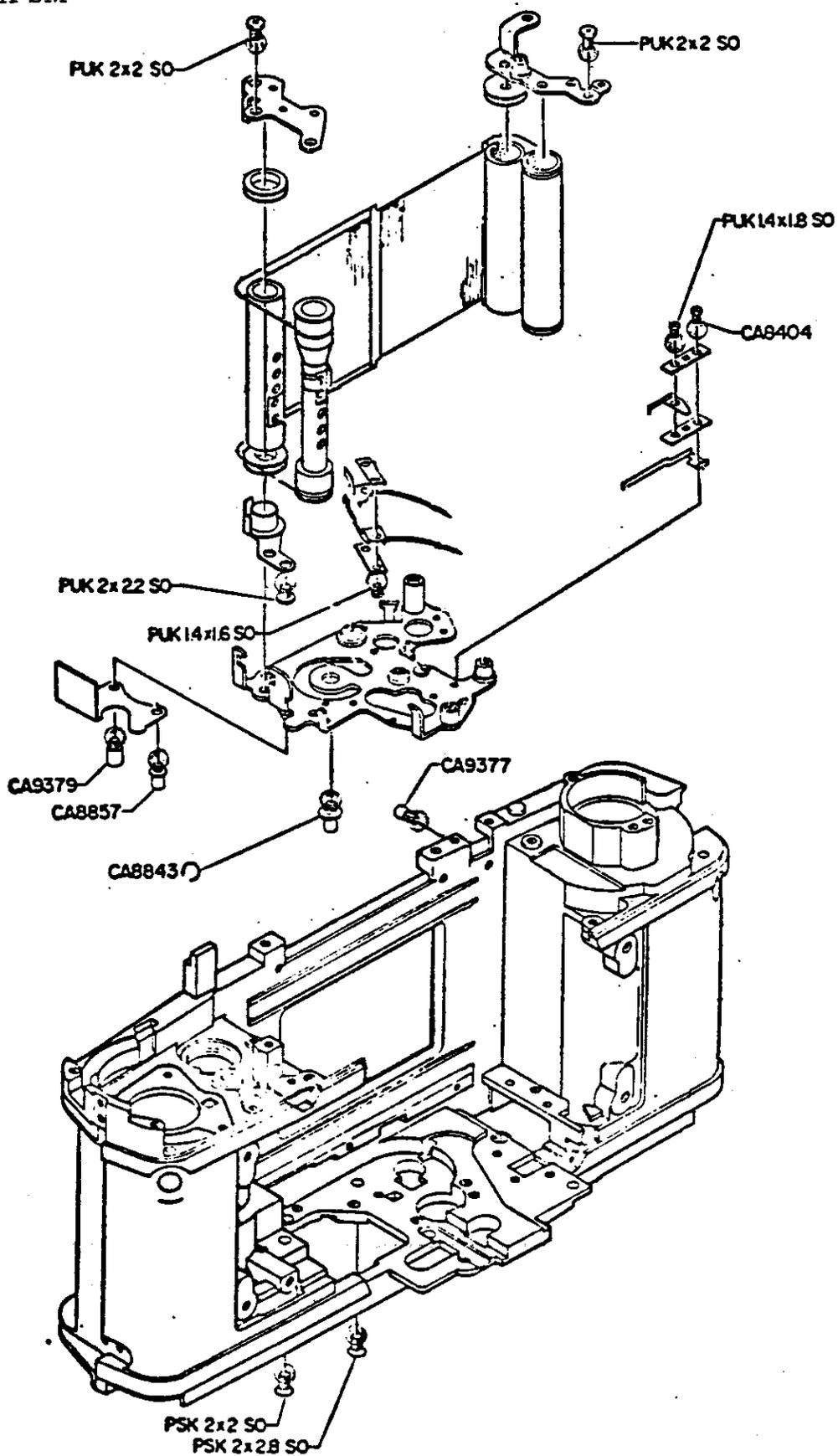
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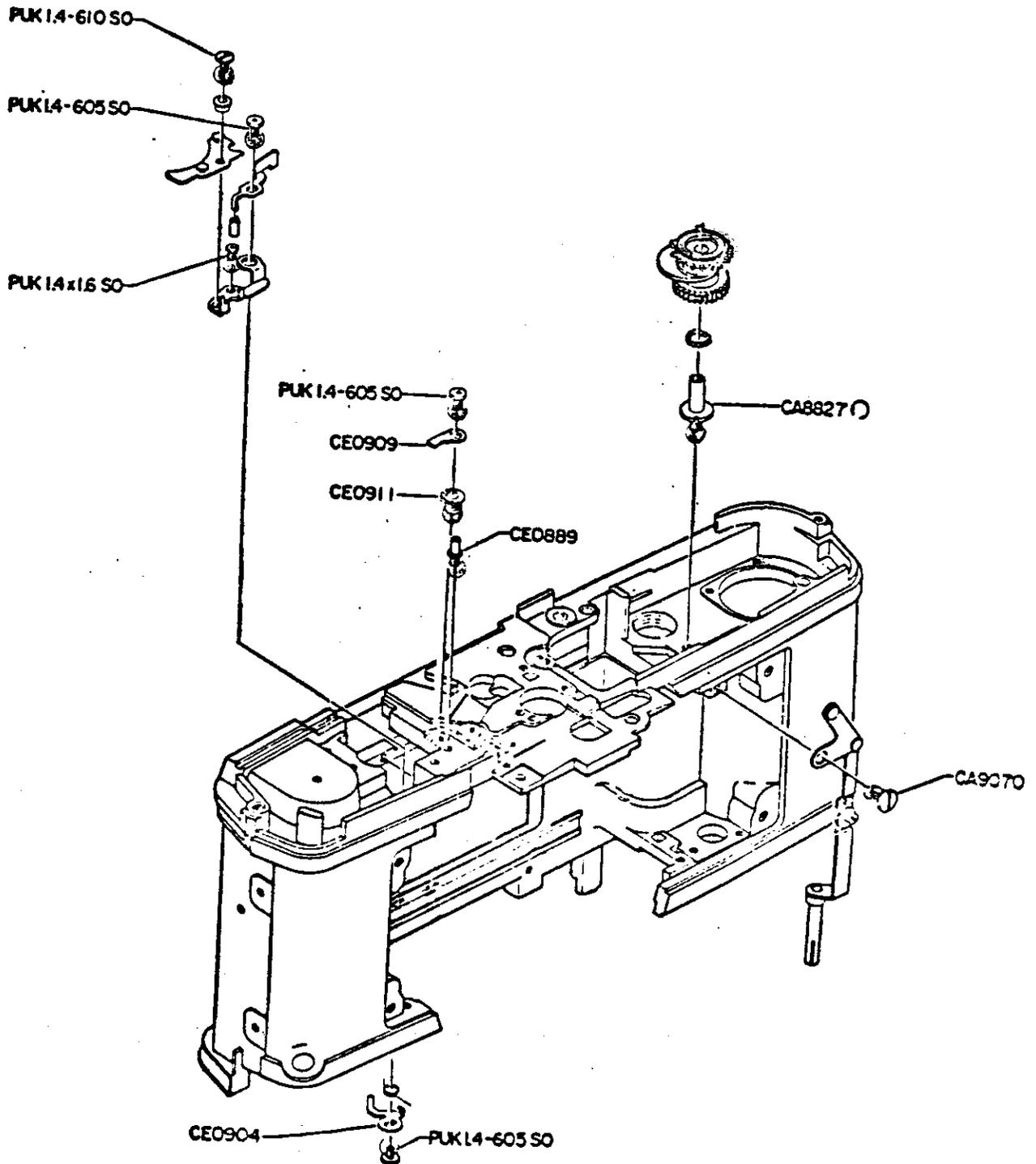
BELL LOCK SM



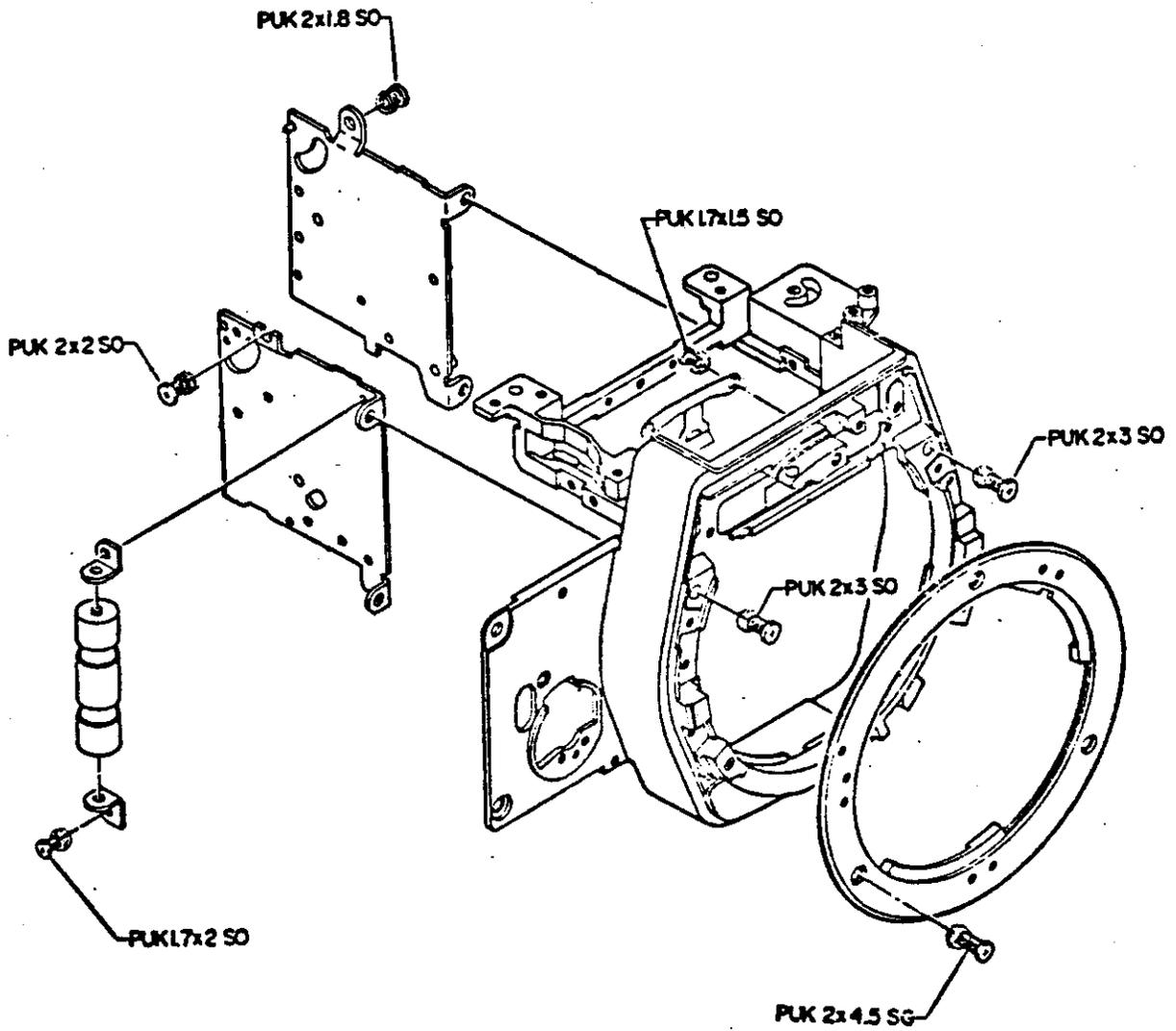
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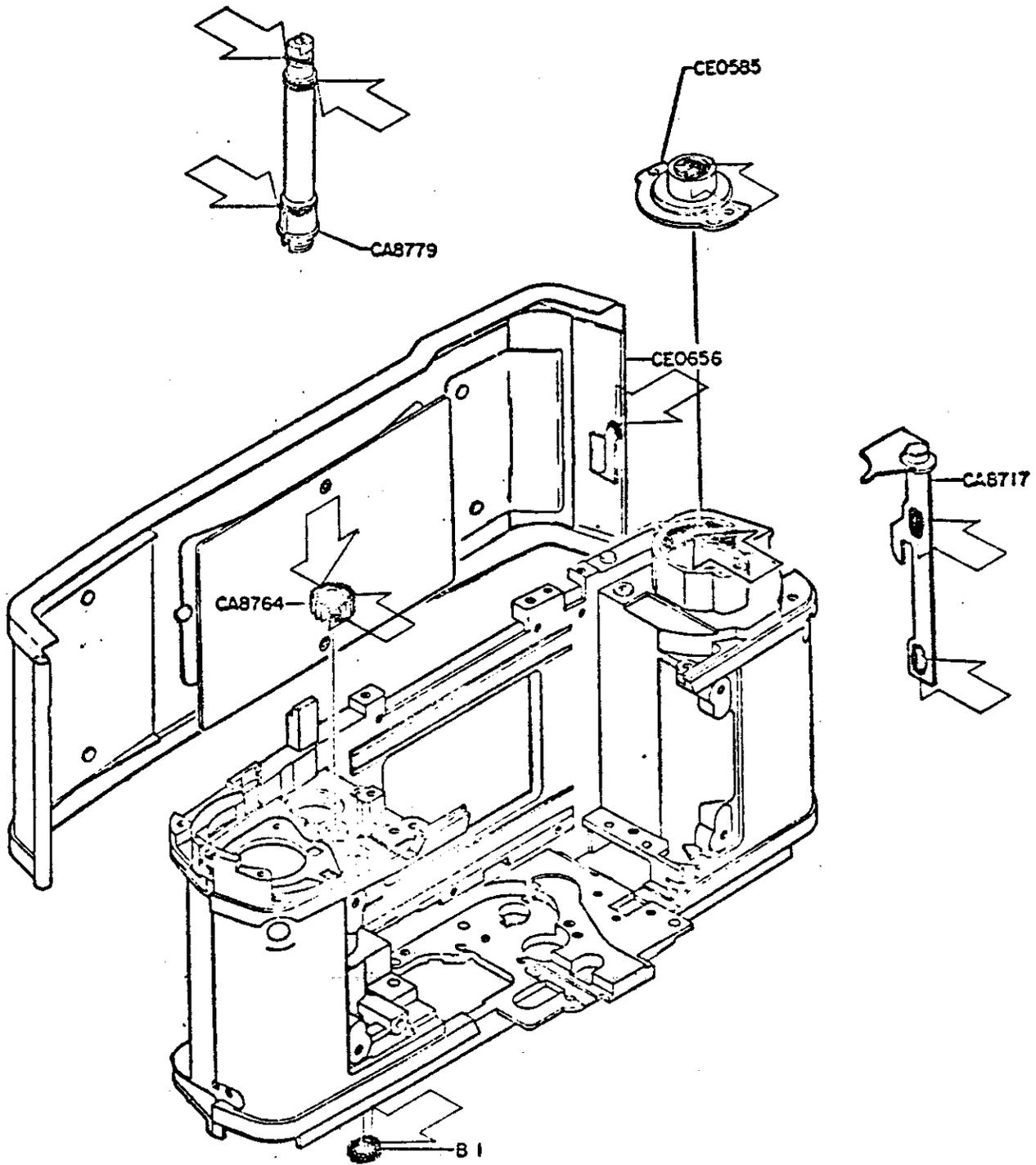
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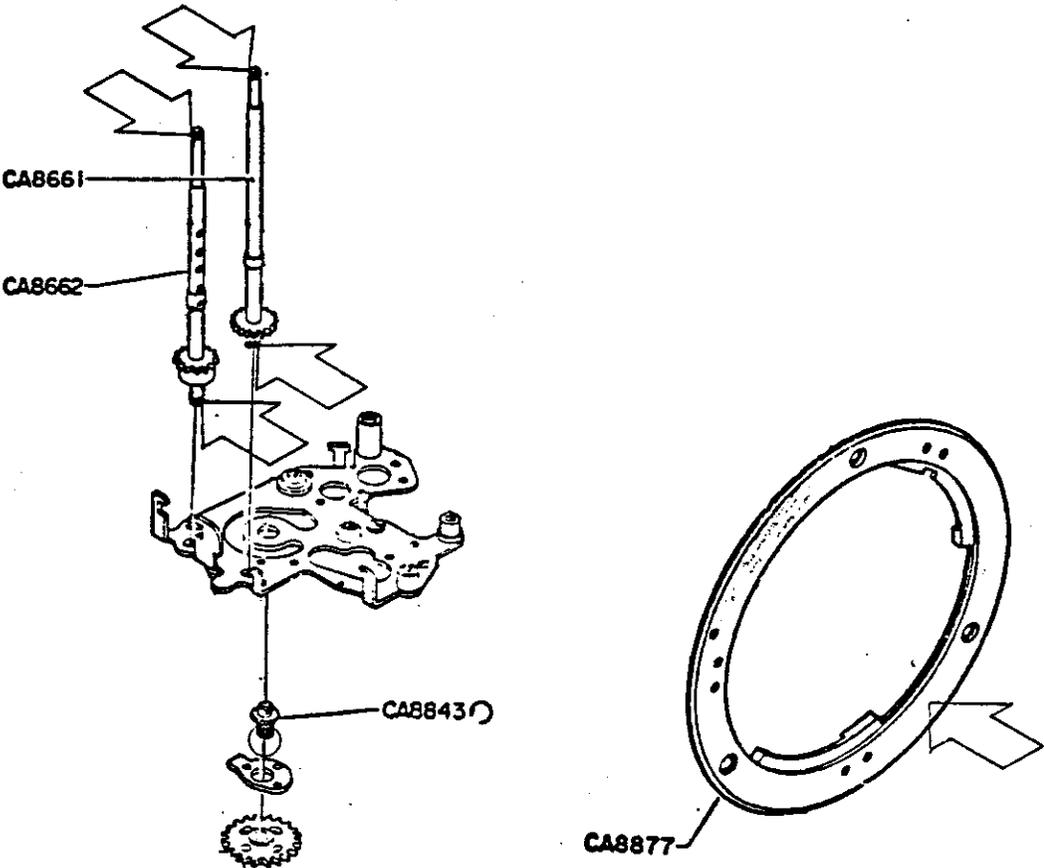


BELL LOCK SM



EP GREASE

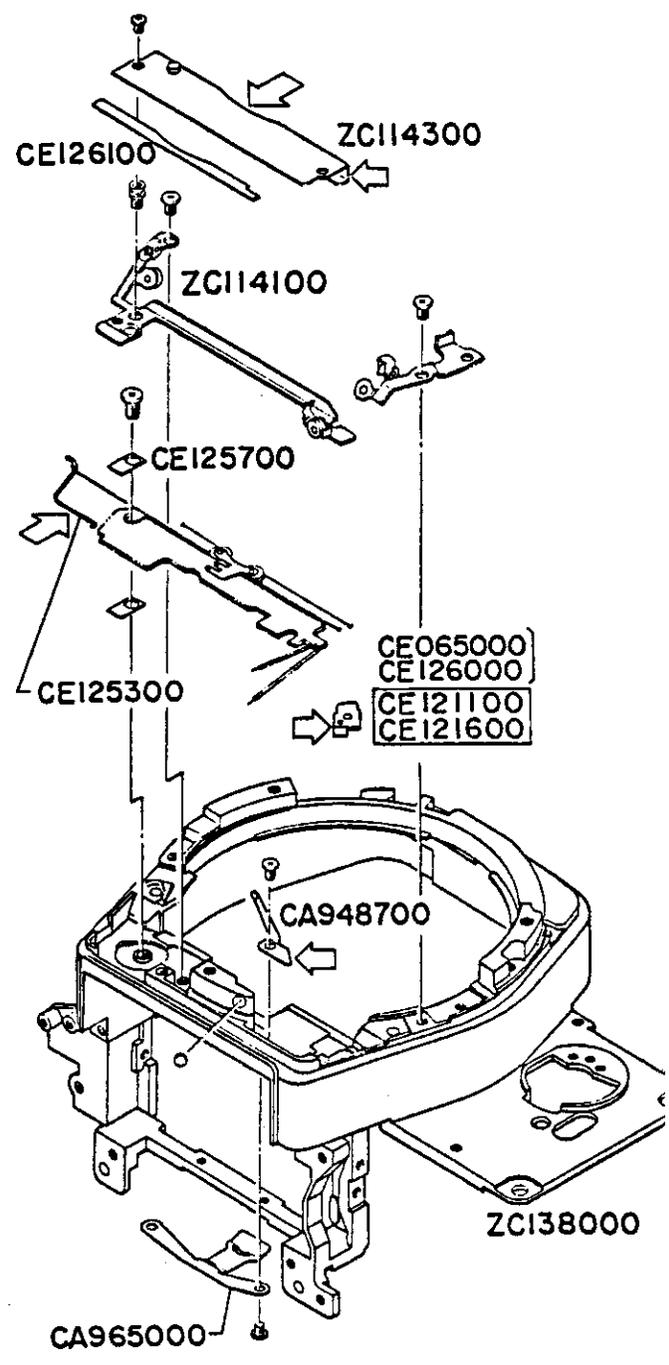
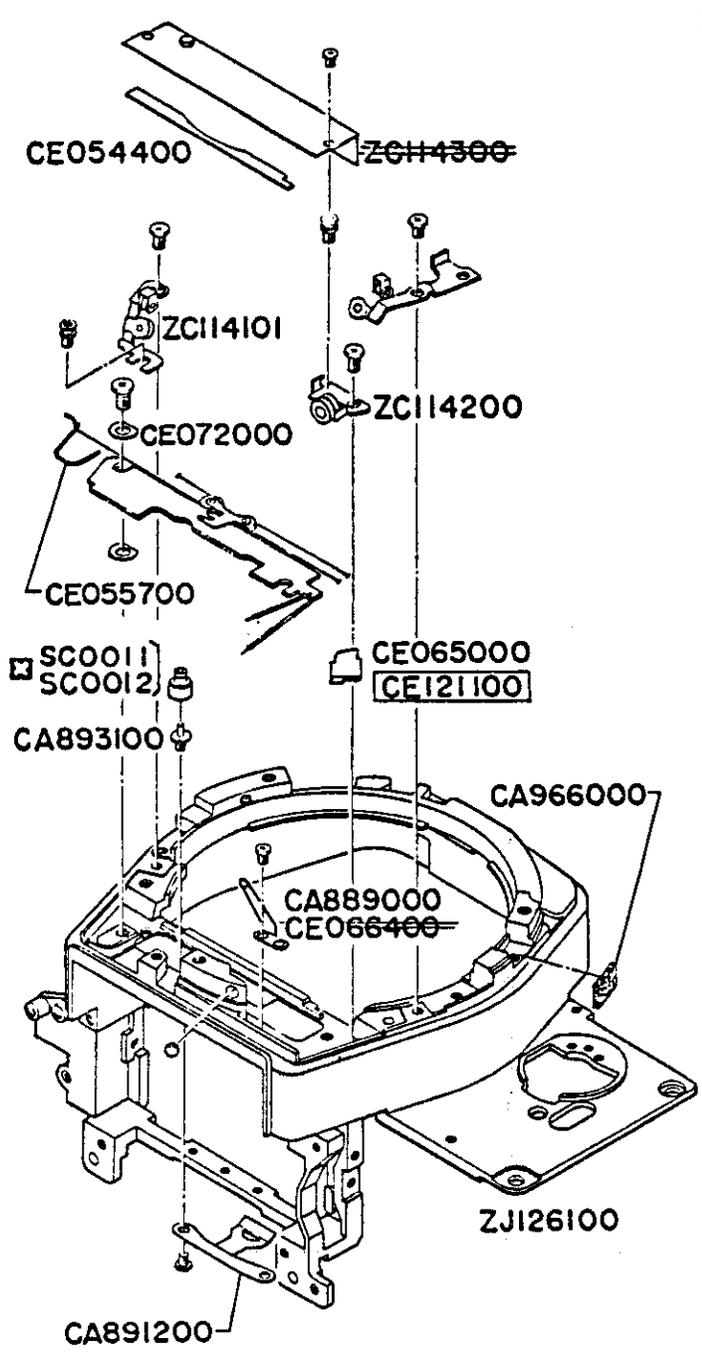




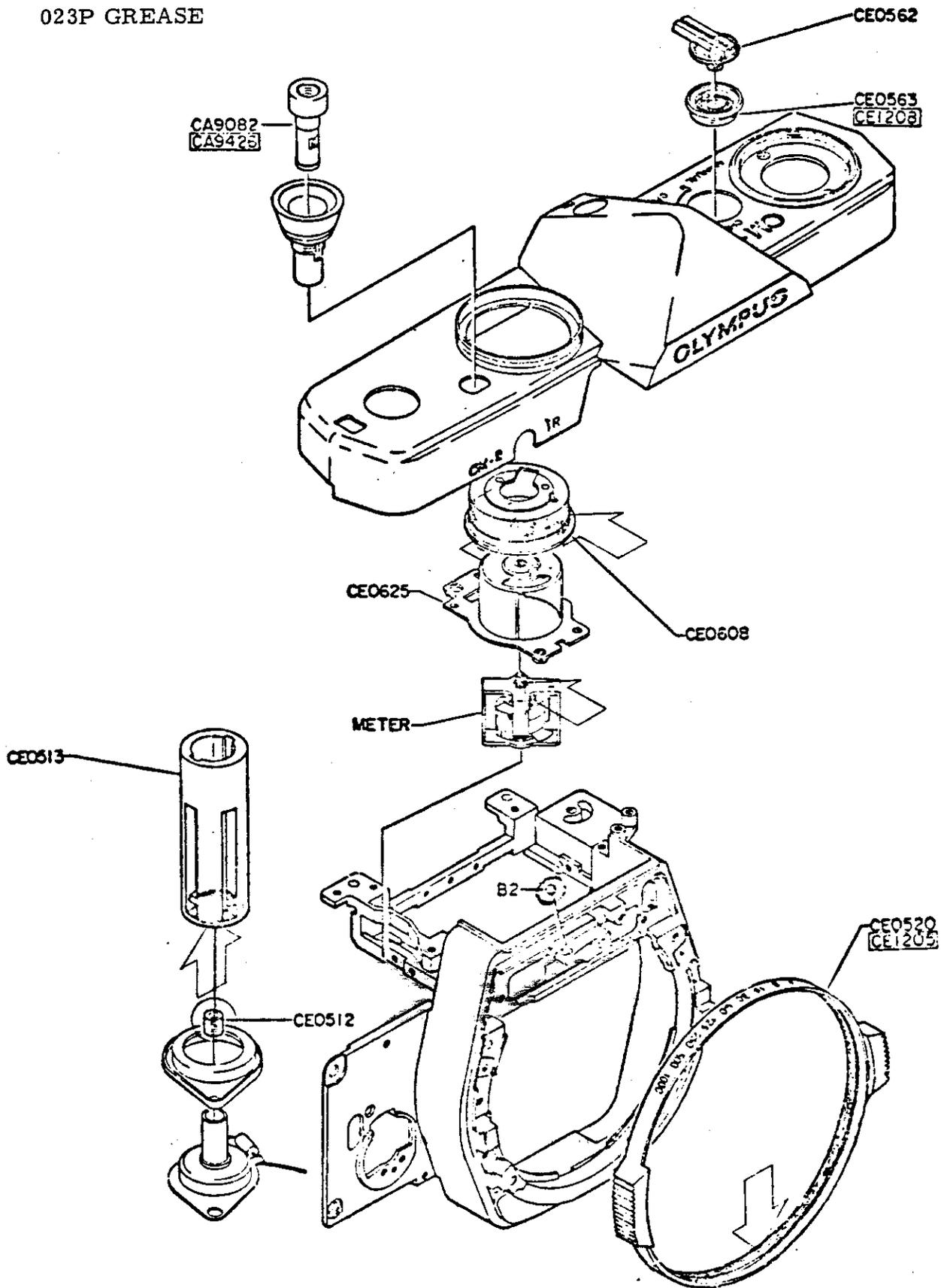
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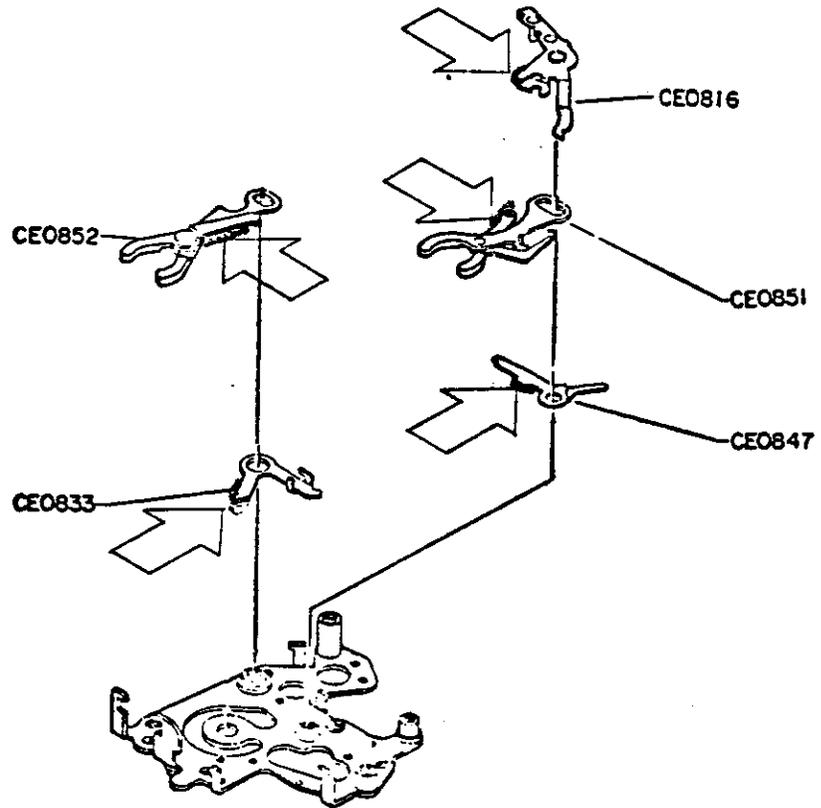
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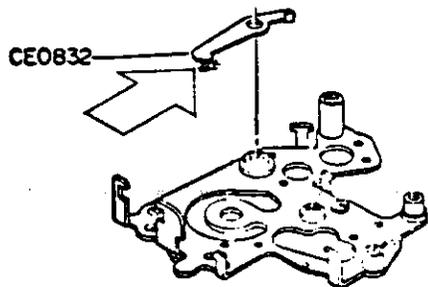
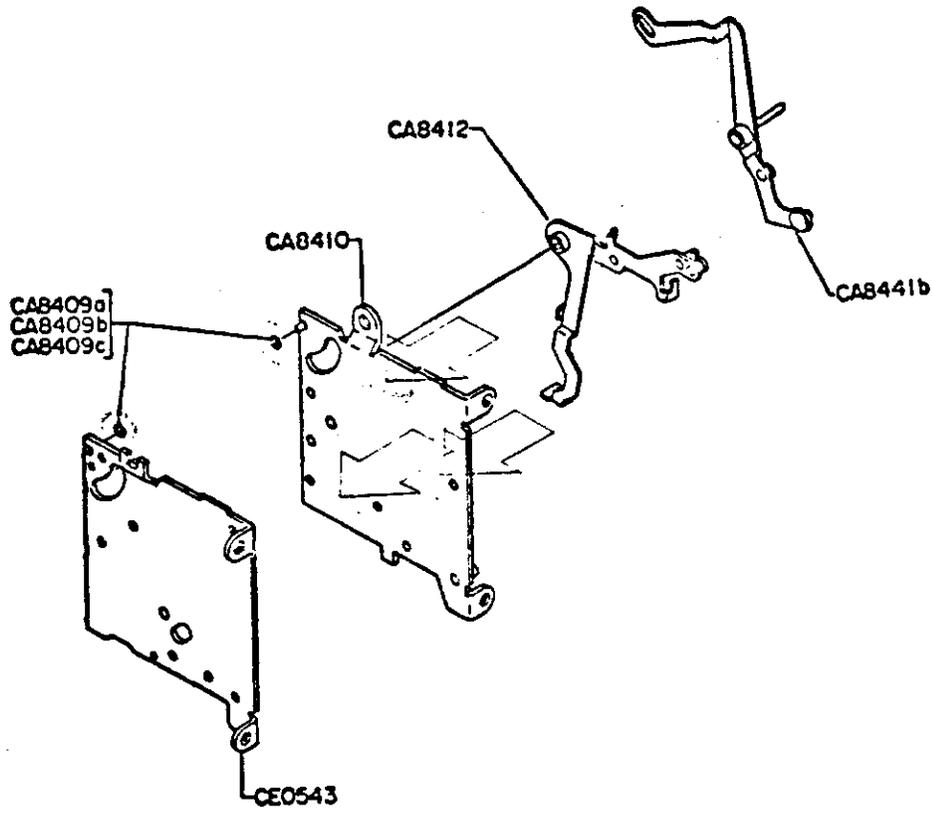
023P GREASE



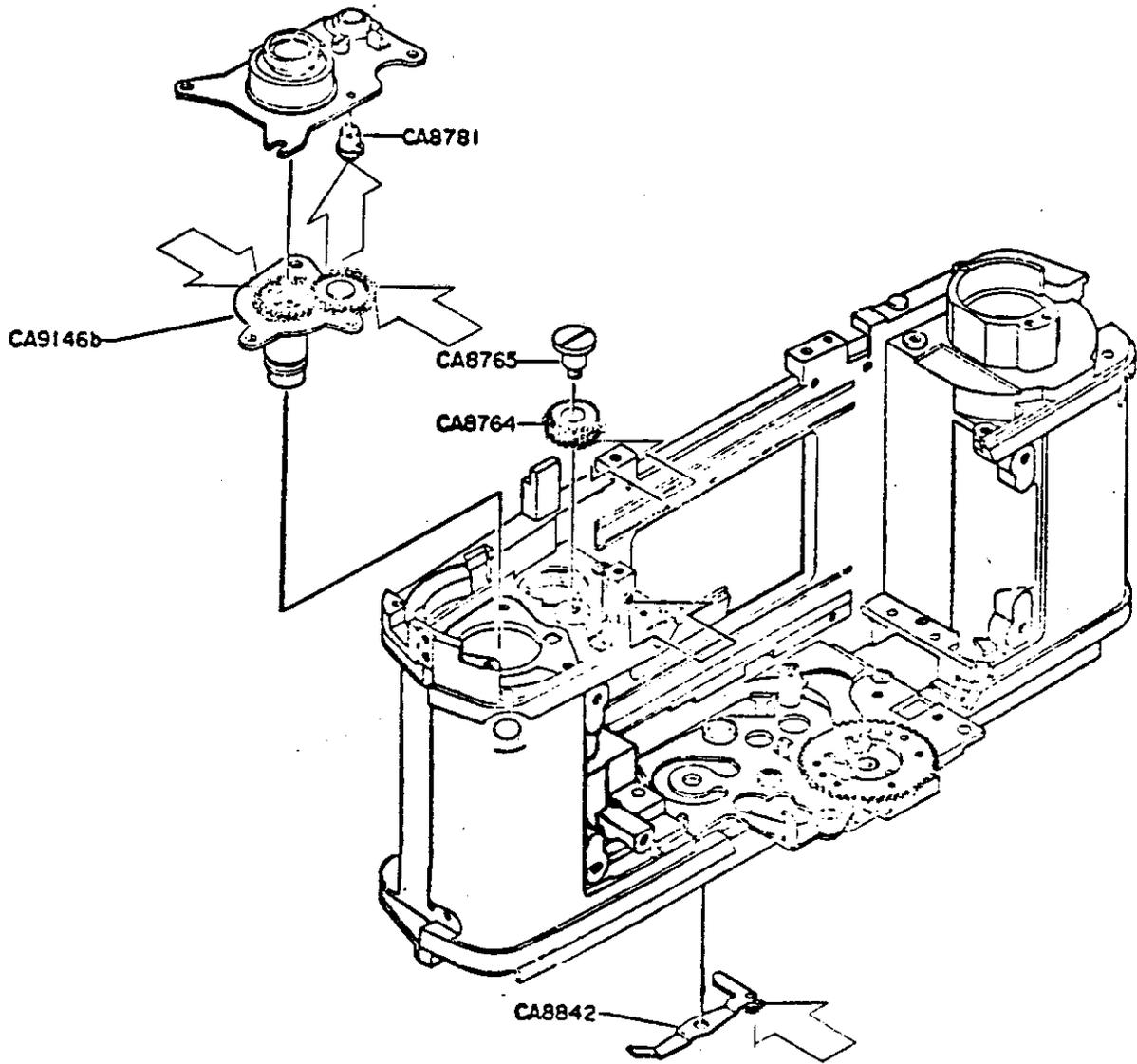
MOLYCOAT + COSMOLUBRIC



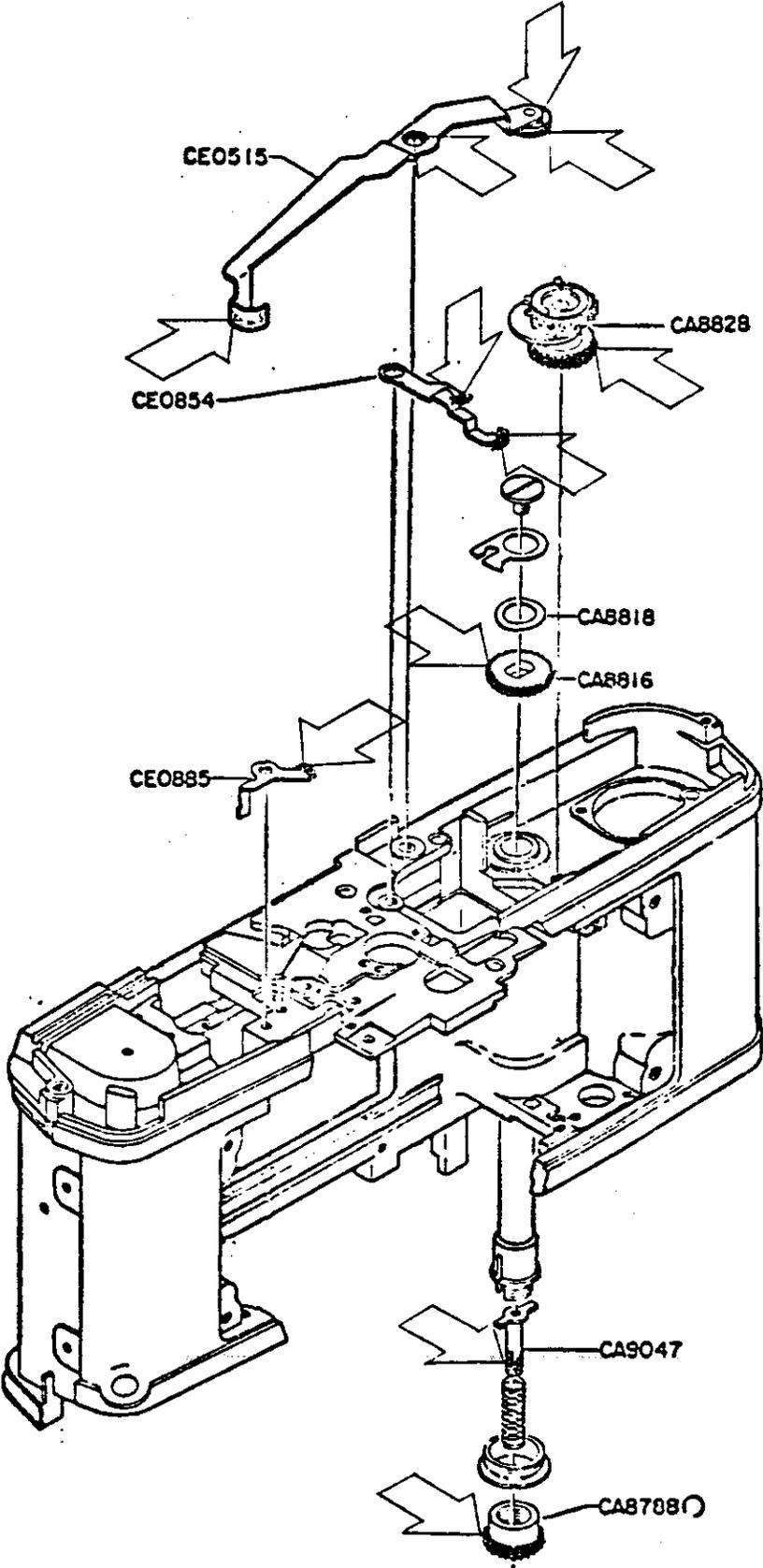
MOLYCOAT + 017P GREASE



ROCOL PASTE



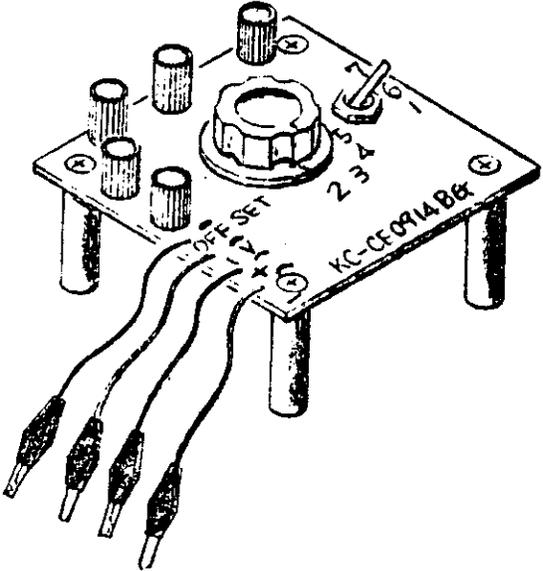
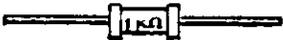
ROCOL PASTE

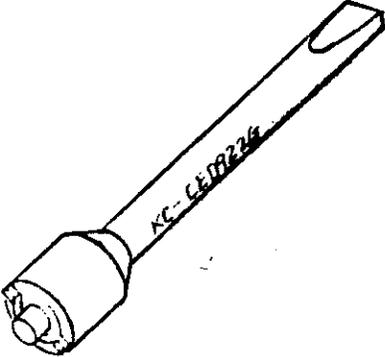
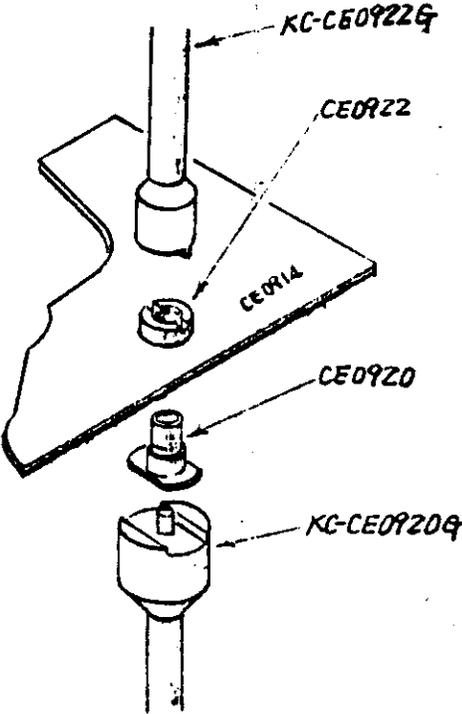
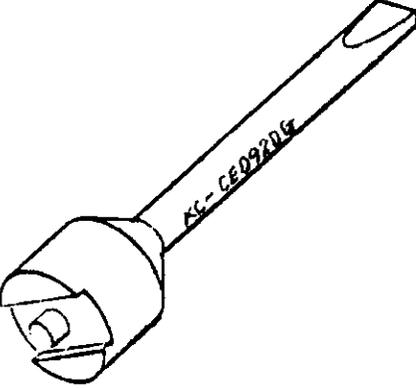
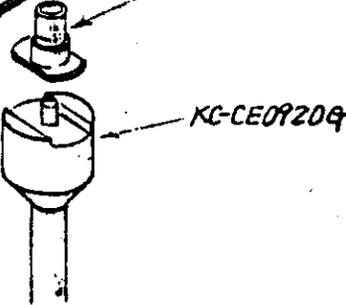
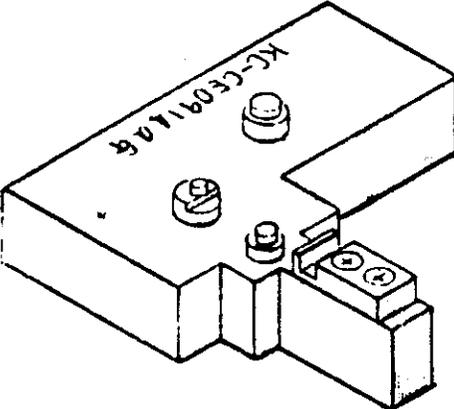




SPECIAL TOOLS

SPECIAL TOOLS

| Name | Place Used & Usage | Remarks |
|---|--|--|
| <p>KC-CE0914BG Matching Board</p>  | <p>Eliminates unnecessary electricity of IC upon matching and checking M circuit board.</p> <p>Usage See page 106.</p> | |
| <p>KC-CE0914CG Cord</p>  | <p>Used to connect the white LW (or circuit board A) to the left pin of SBC at the time of off set adjustment of the comparator of M circuit board.</p> <p>See page 104.</p> | |
| <p>KC-CE0914DG 51KΩ Cord</p>  | <p>Connects the yellow and white LWs when checking if the front casting (CE0502) is out of position or checking the operation of M circuit board by itself.</p> <p>See page 106.</p> | <p>This resistor is enough with 1 - 57KΩ because it is a substitution for AR circuit board (CE0645).</p> |
| <p>KC-CE0914EG 1KΩ Resistor</p>  | <p>To be connected to the (+) and (-) terminals of digital multimeter when making the operation check for M circuit board itself.</p> <p>See page 106.</p> | <p>This resistor is enough with 500 - 1KΩ because it is a substitution for MG.</p> |

| Name | Place Used & Usage | Remarks |
|--|--|---|
| <p>KC-CE0922D Driver</p>  | <p>Used in being mounted to the driver chuck Q-0008 3.0φ.</p>  | <ul style="list-style-type: none"> o To be newly manufactured. o Precautions on Usage <p>Since the driver (CE0922) is soldered, turn KC-CE0920G to remove CE0920 upon disassembling or assembling.</p> |
| <p>KC-CE0920G Driver</p>  |  | |
| <p>KC-CE0914aG M Circuit Board Adjusting Tool</p>  | <p>Used upon soldering IC (IR-024 and IS-0001Z) to M circuit board.</p> <p>Usage</p> <p>When this tool is mounted on the M circuit board after inserting each pin of IC into the M circuit board, it is automatically set at the optimum height of IC.</p> <p>Then, it is to be soldered as it were.</p> | <ul style="list-style-type: none"> o M circuit board and IC should be set with the space of about 0.3mm. o If the IC is mounted too high, it may cause short-circuit between the camera main body die-cast and IC. So, take sufficient care in mounting IC. |

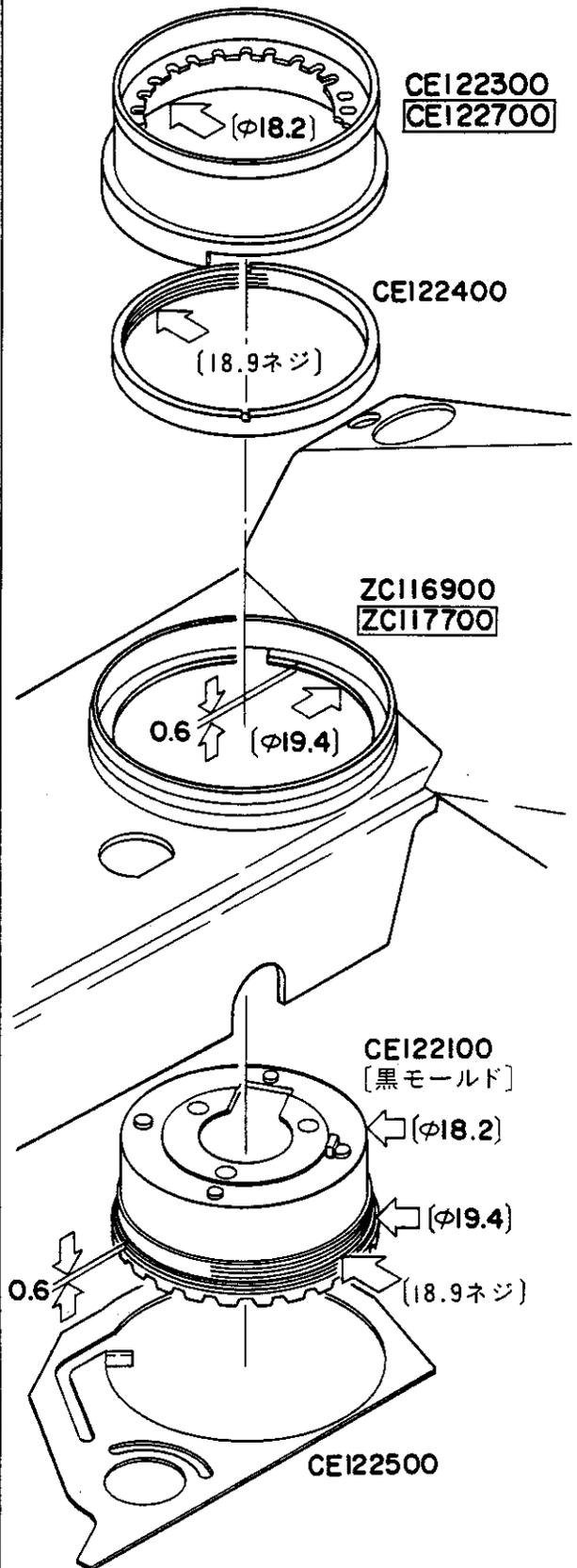
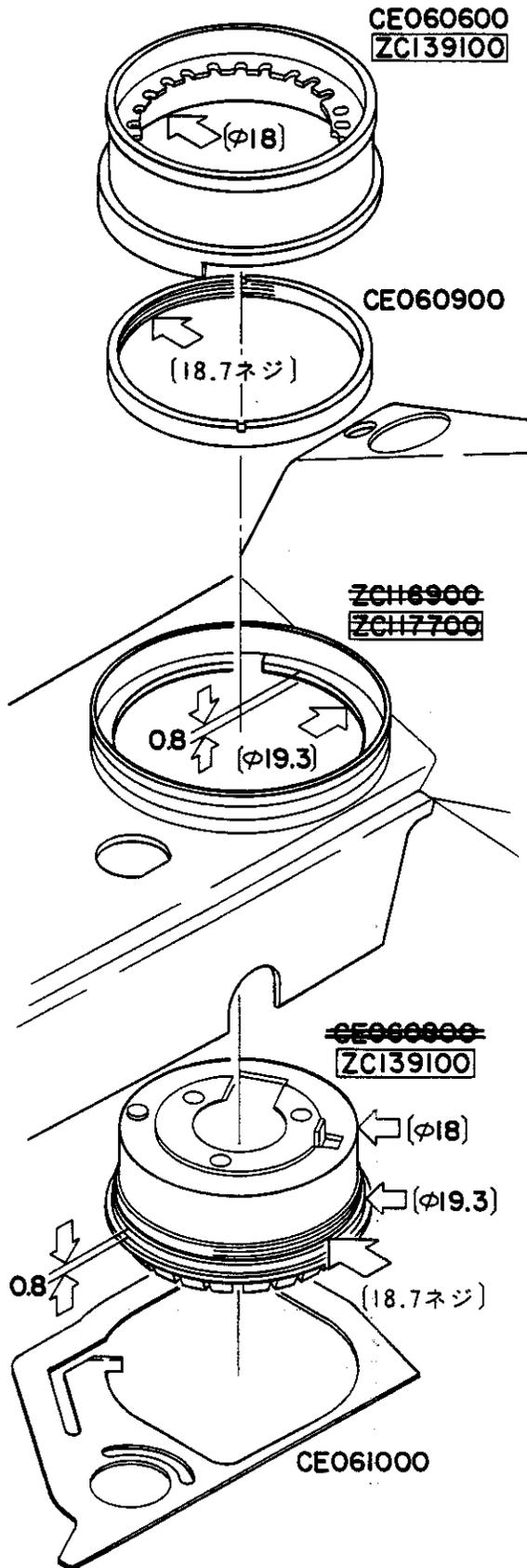


OTHERS

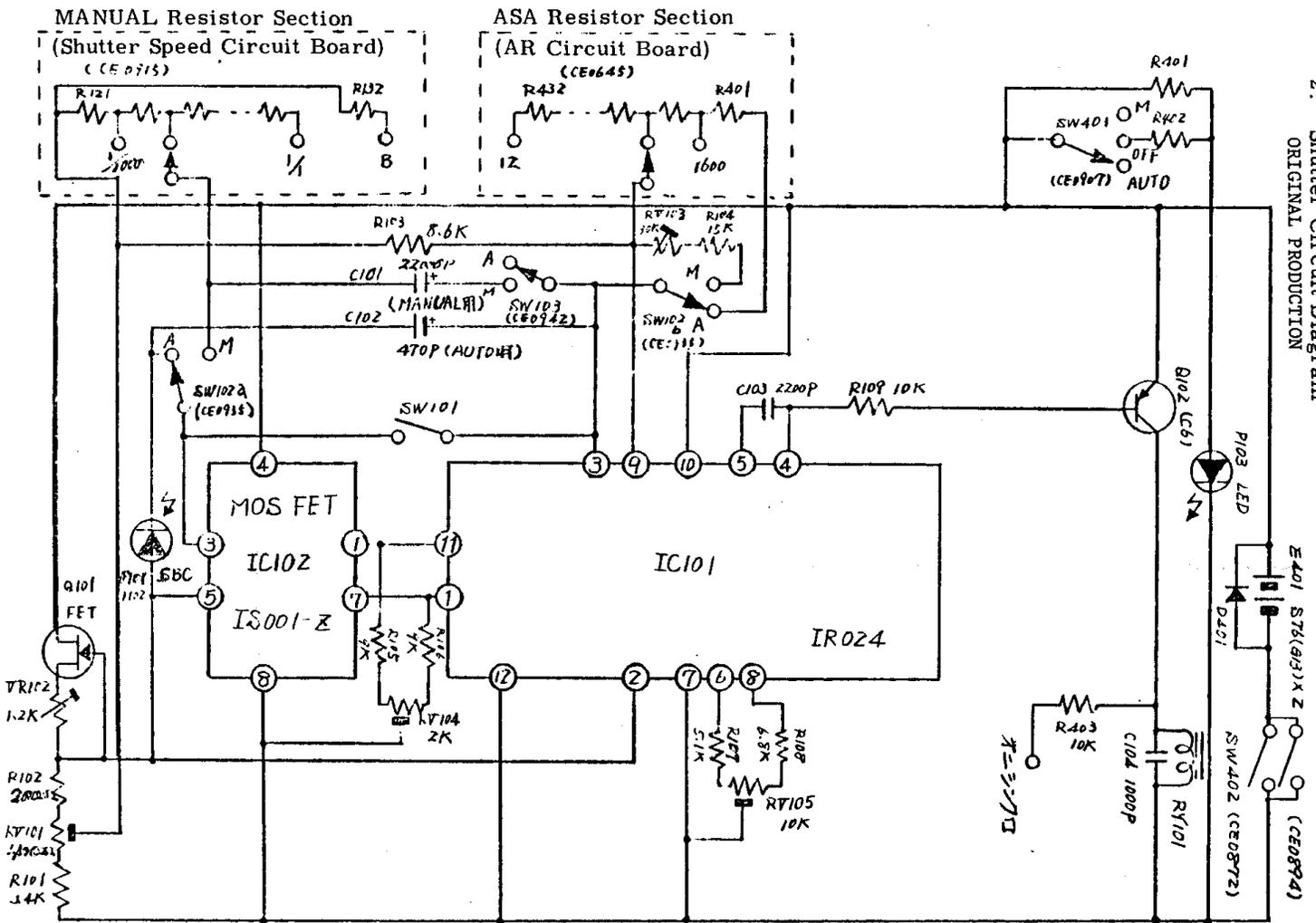
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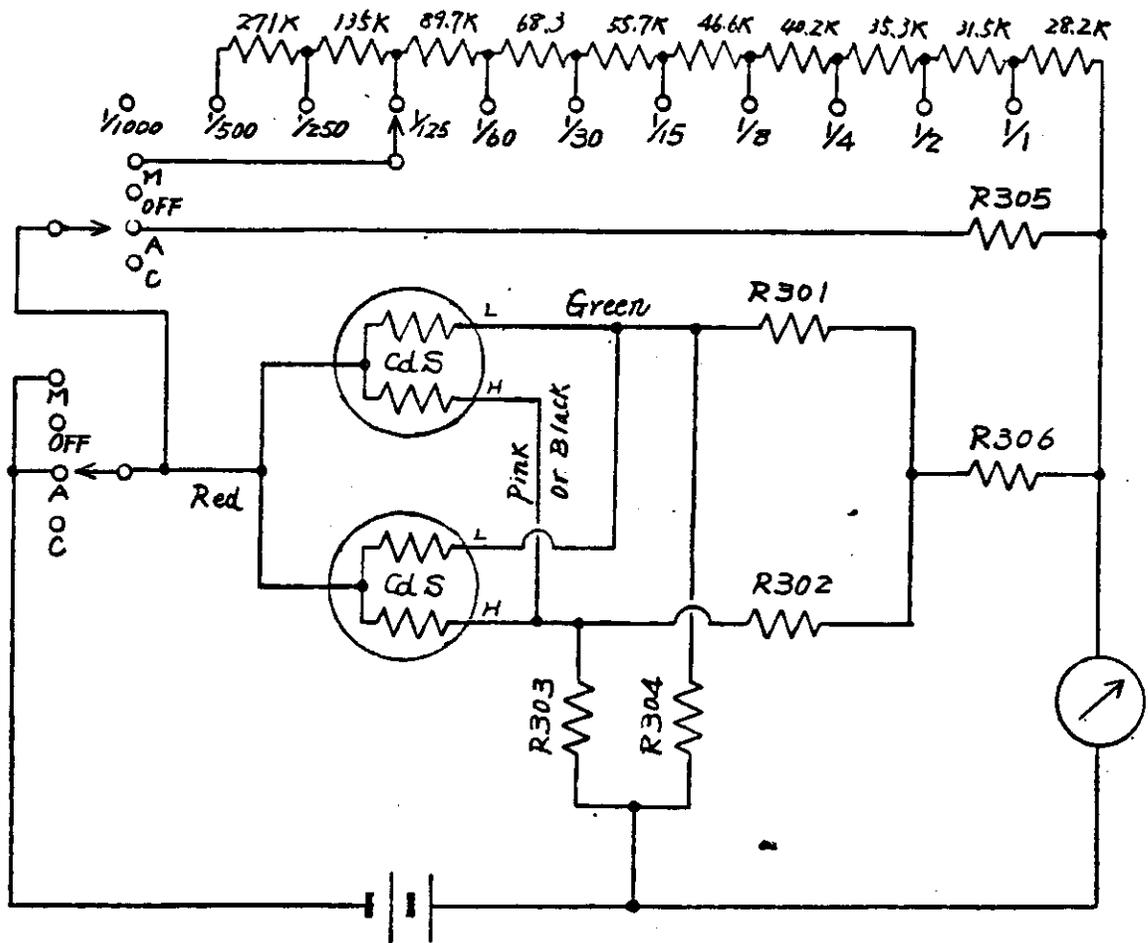


2. Shutter Circuit Diagram
ORIGINAL PRODUCTION

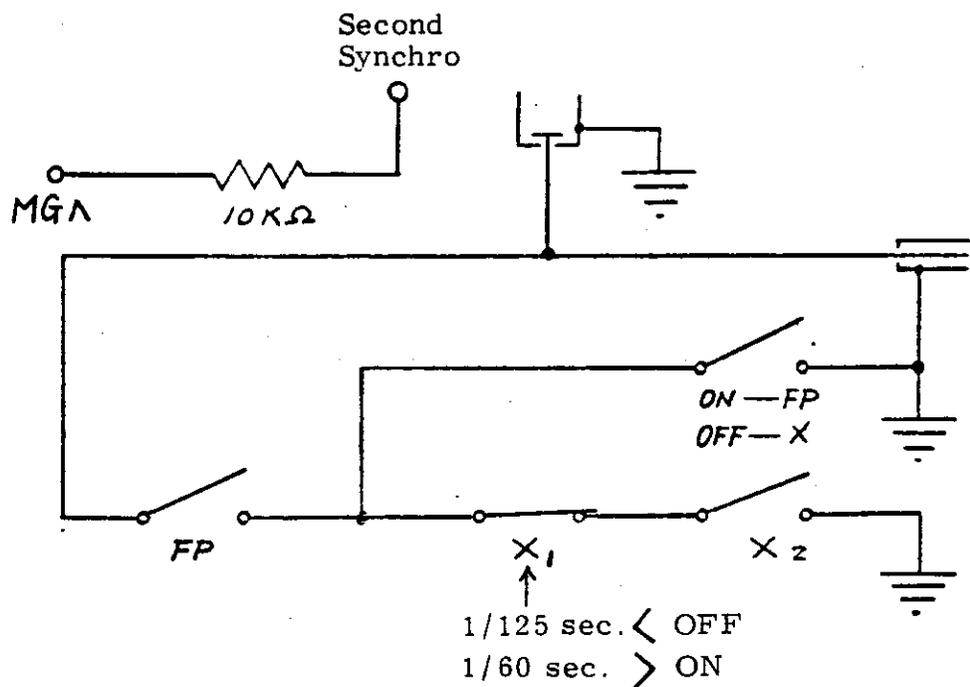


3. Meter Circuit Diagram

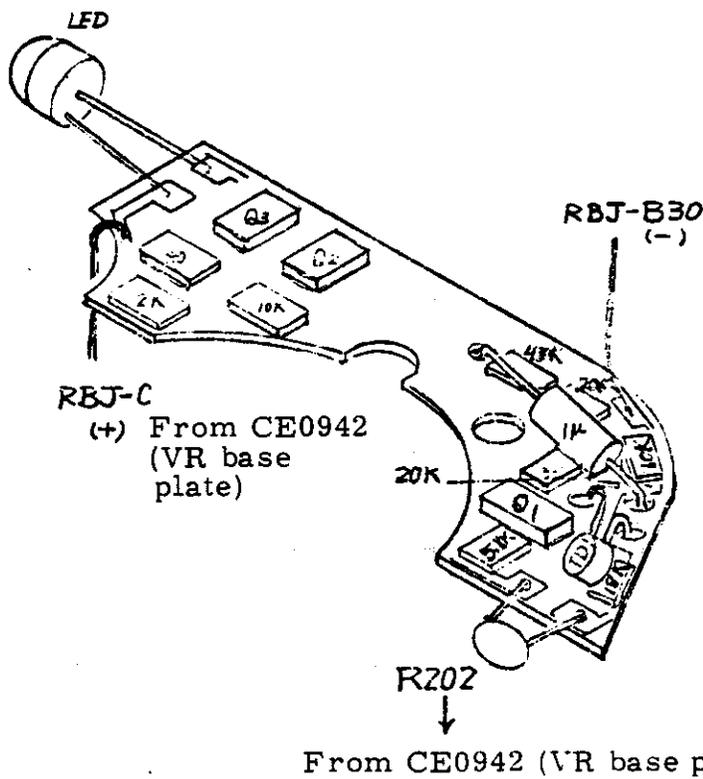
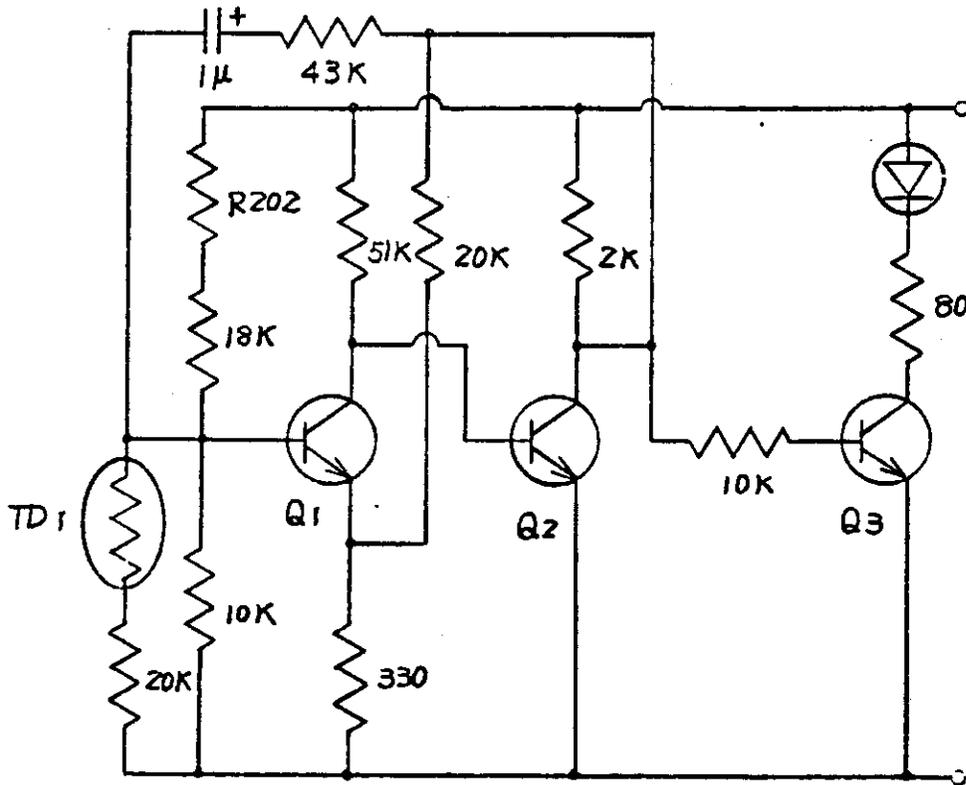
(CE0555 Base plate B)



4. Synchro Circuit Diagram

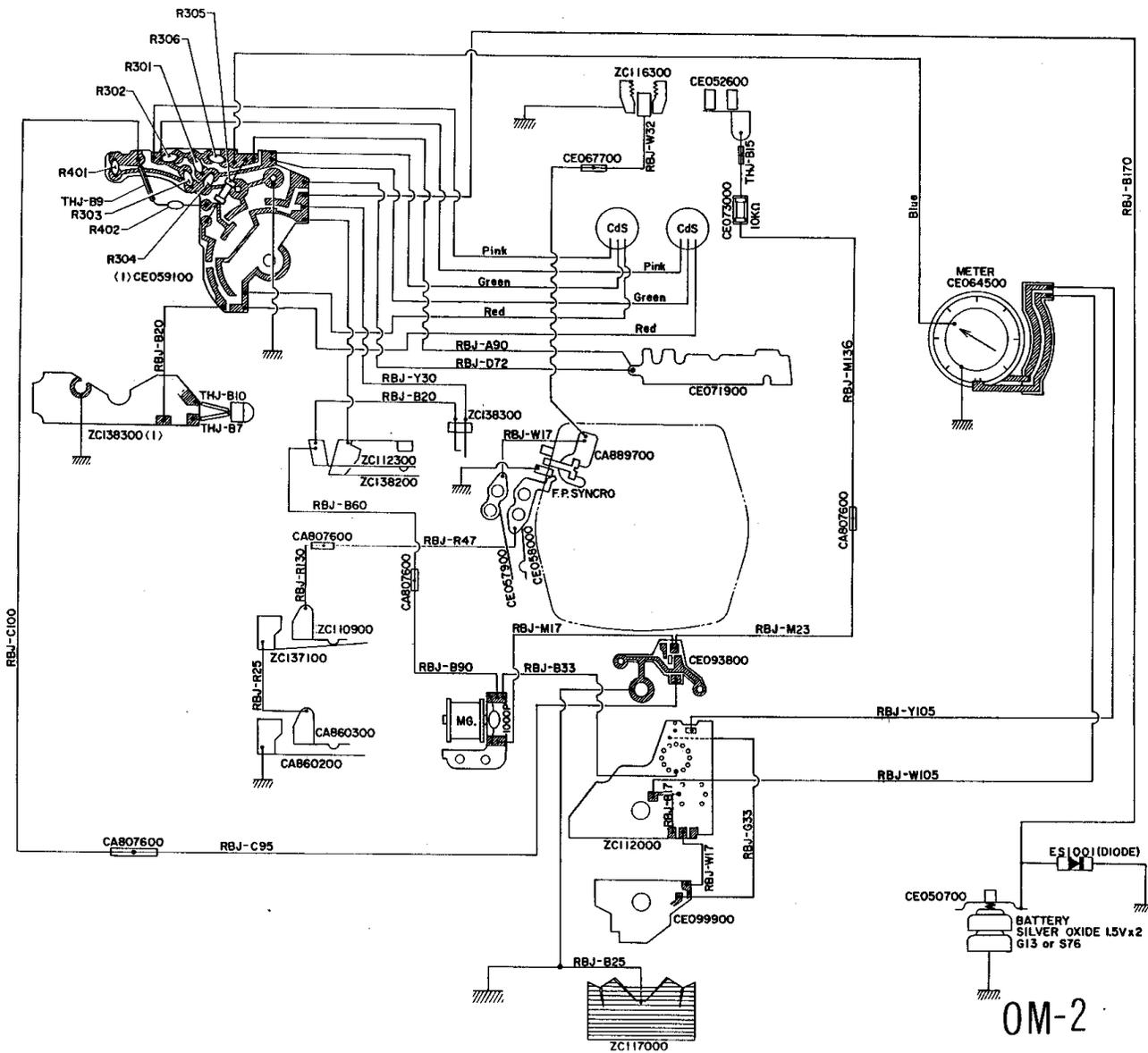


5. Battery Checker Circuit Diagram
ORIGINAL PRODUCTION



Q1 Q2 For oscillation
Q3 For controlling LED
TD1 Temperature compensation

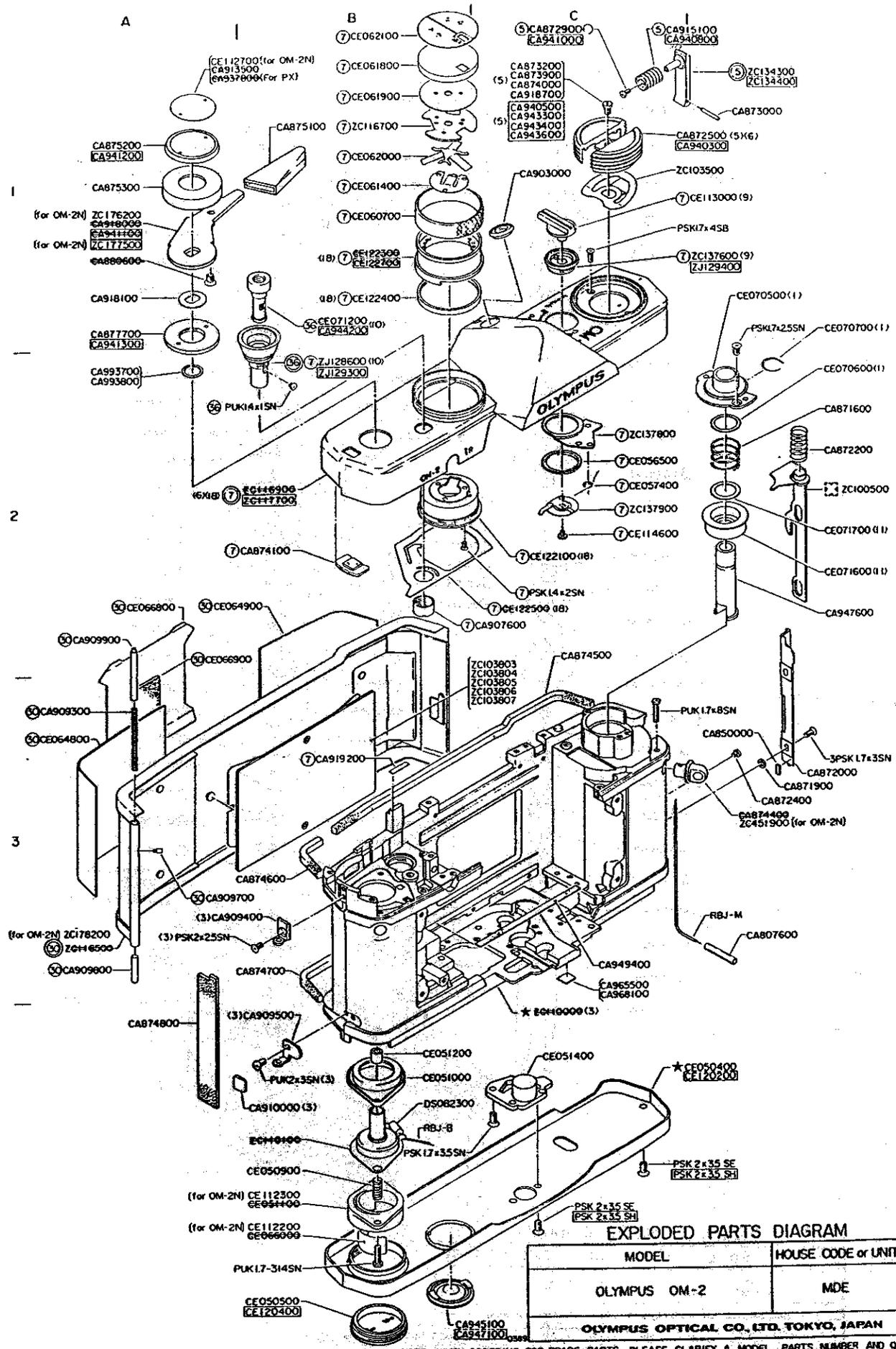
| | V1 | | V2 |
|-----|-----|-------------|-----|
| Q1 | OFF | Oscillation | ON |
| Q2 | ON | | OFF |
| Q3 | OFF | ON - OFF | ON |
| LED | OFF | ON - OFF | ON |



OM-2

PD
MASTER

MODIFICATION

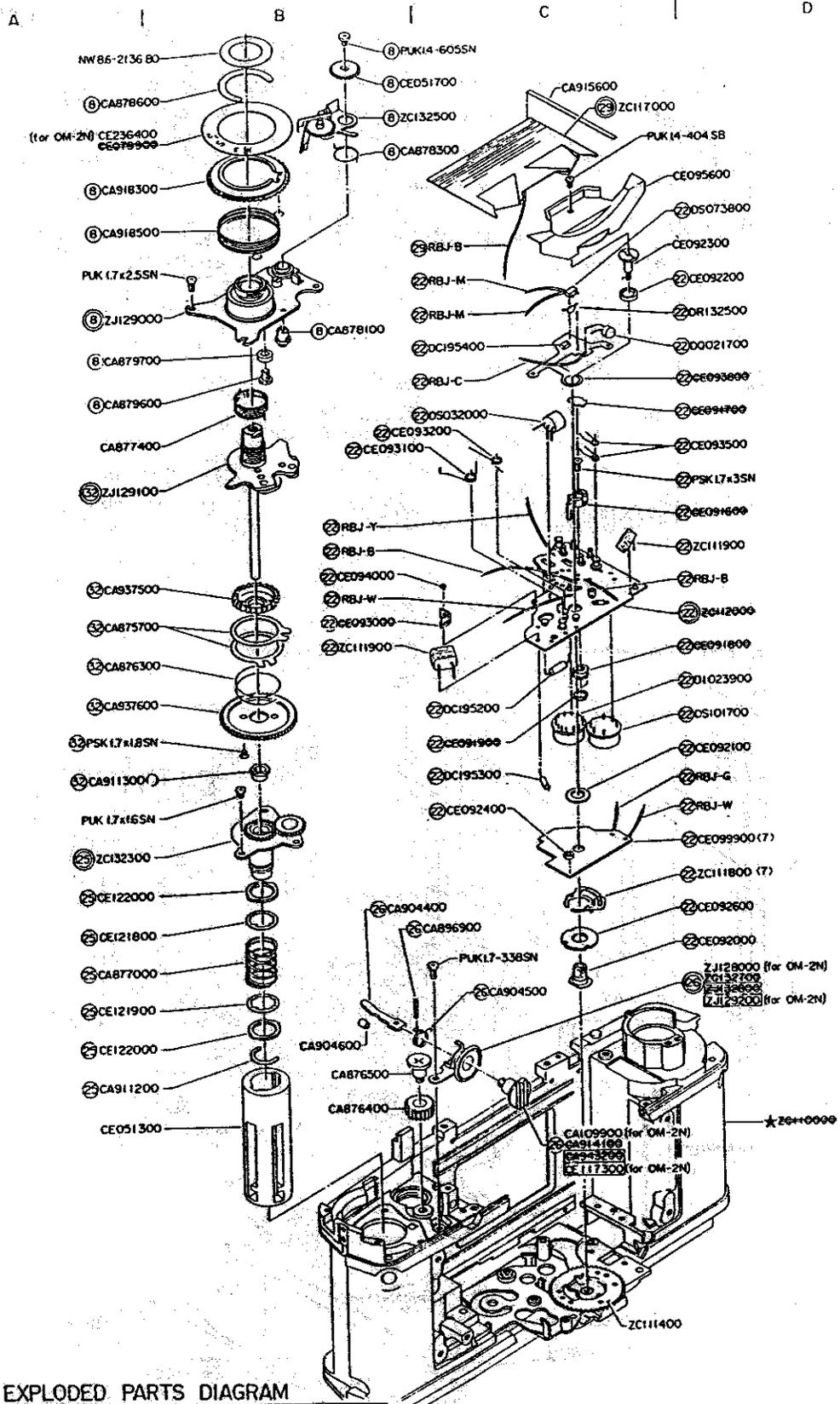


EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--------------|--------------------|------|
| OLYMPUS OM-2 | MDE | 1/8 |

OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

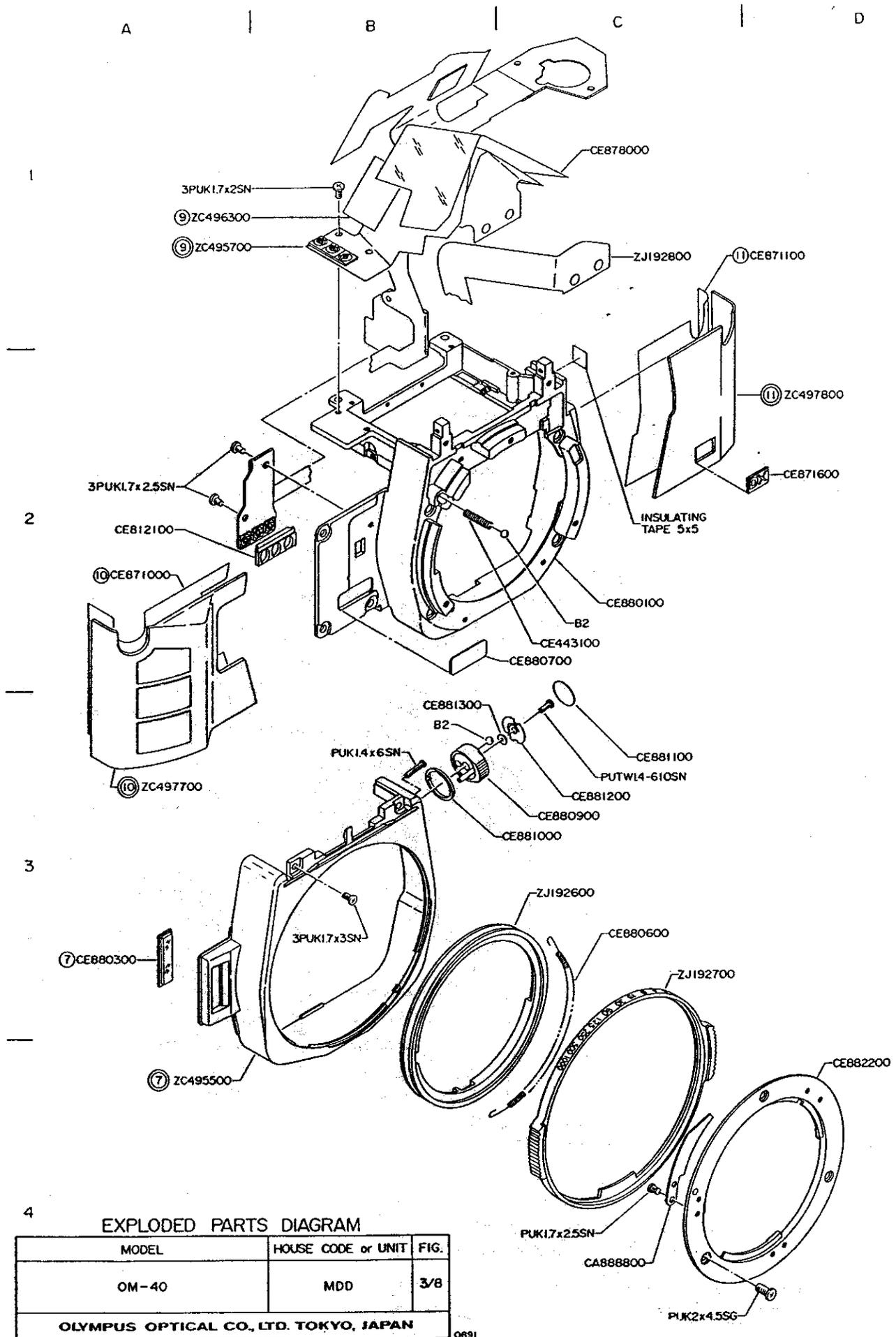
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--|--------------------|------|
| OLYMPUS OM-2 | MDE | 2/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

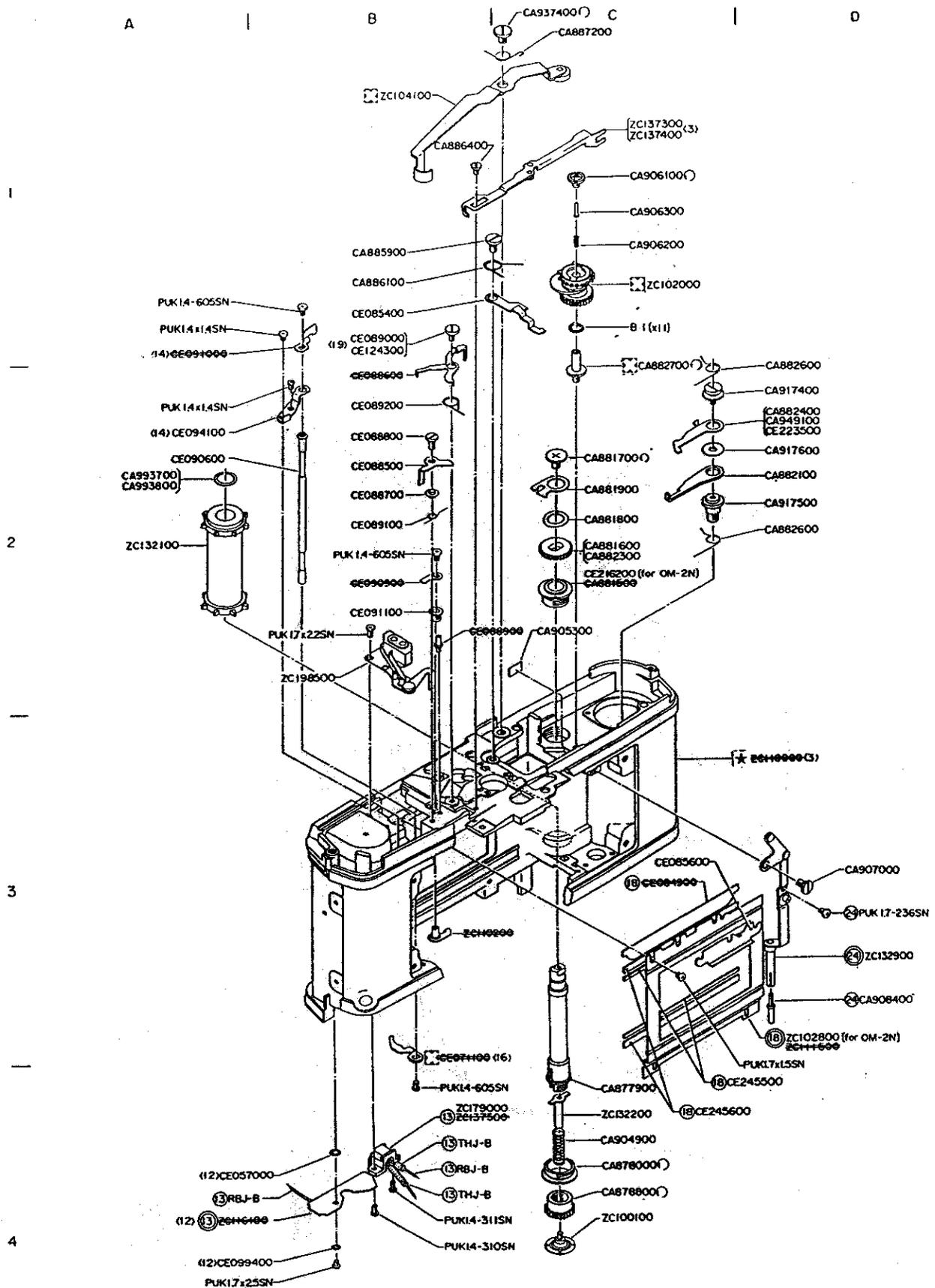
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



4

EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--|--------------------|------|
| OM-40 | MDD | 3/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

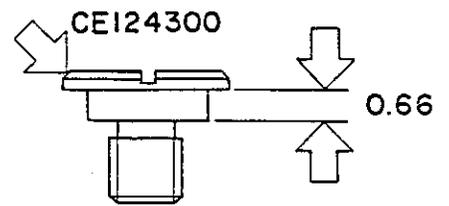
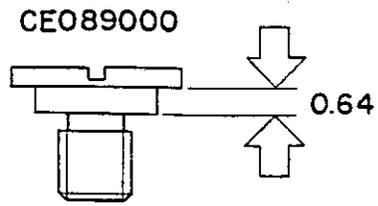


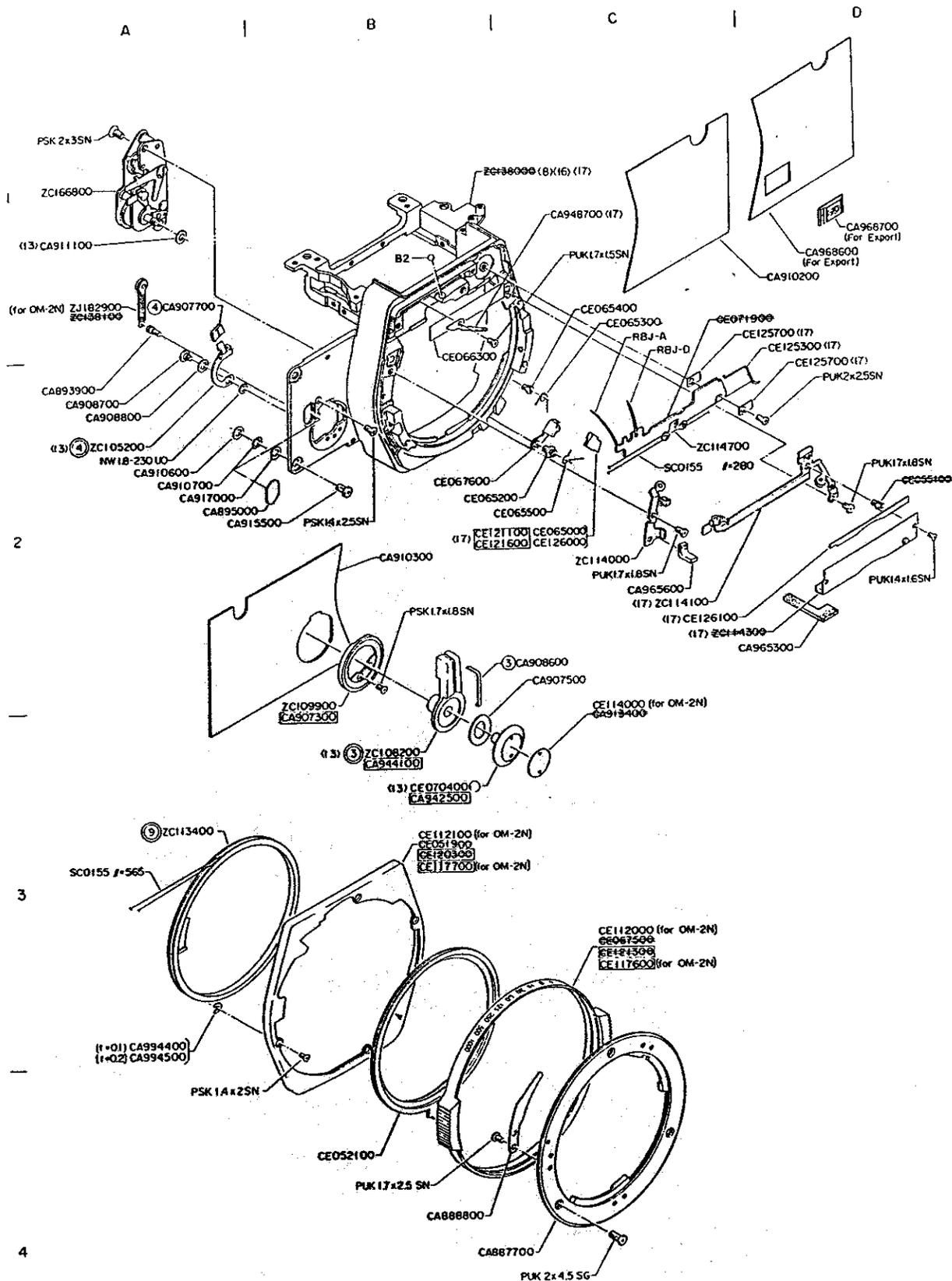
EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---------------------------------------|--------------------|------|
| OLYMPUS OM-2 | MDE | 4/8 |
| OLYMPUS OPTICAL CO. LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

<19>





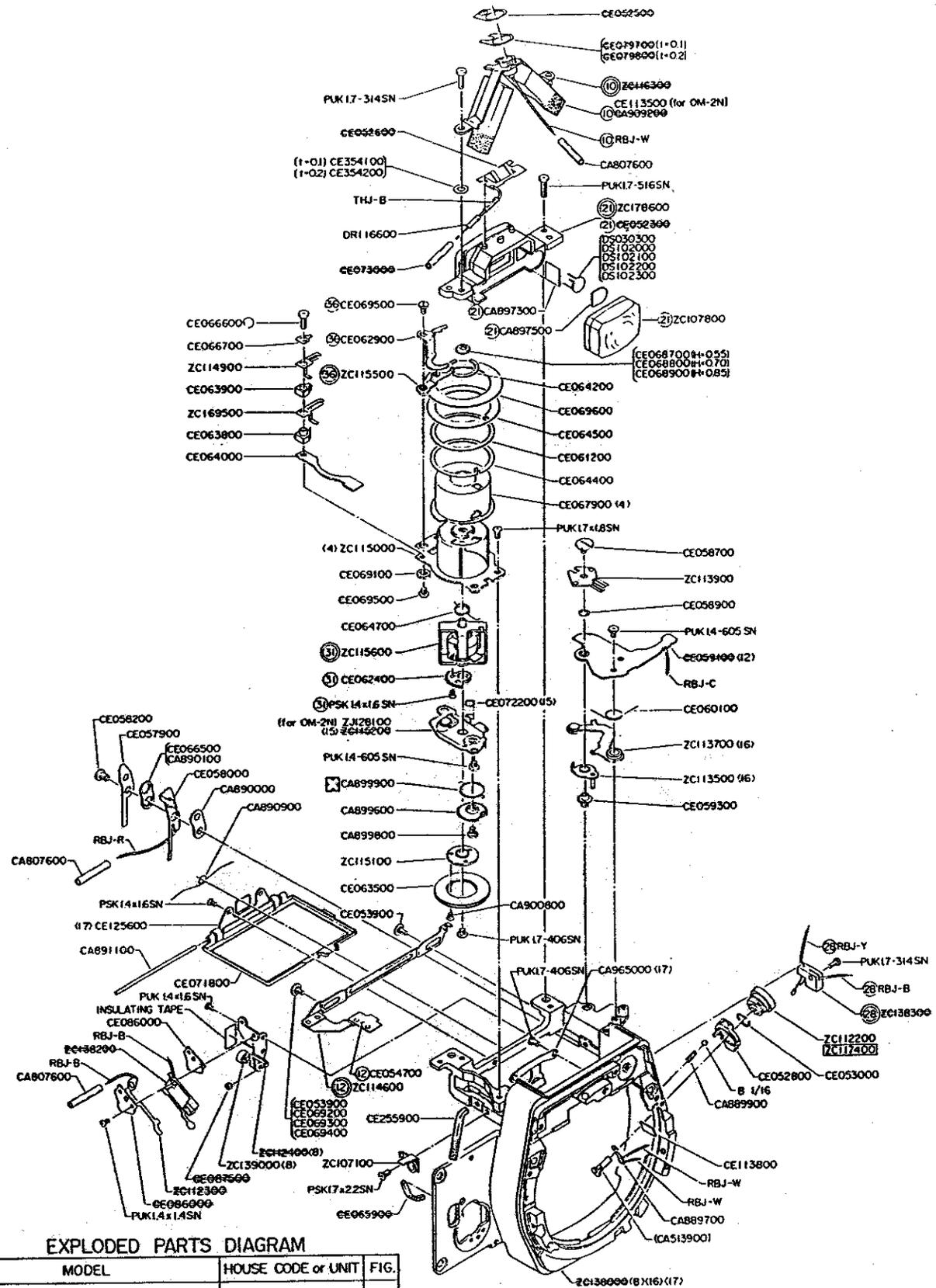
EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | S/B |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

A | B | C | D

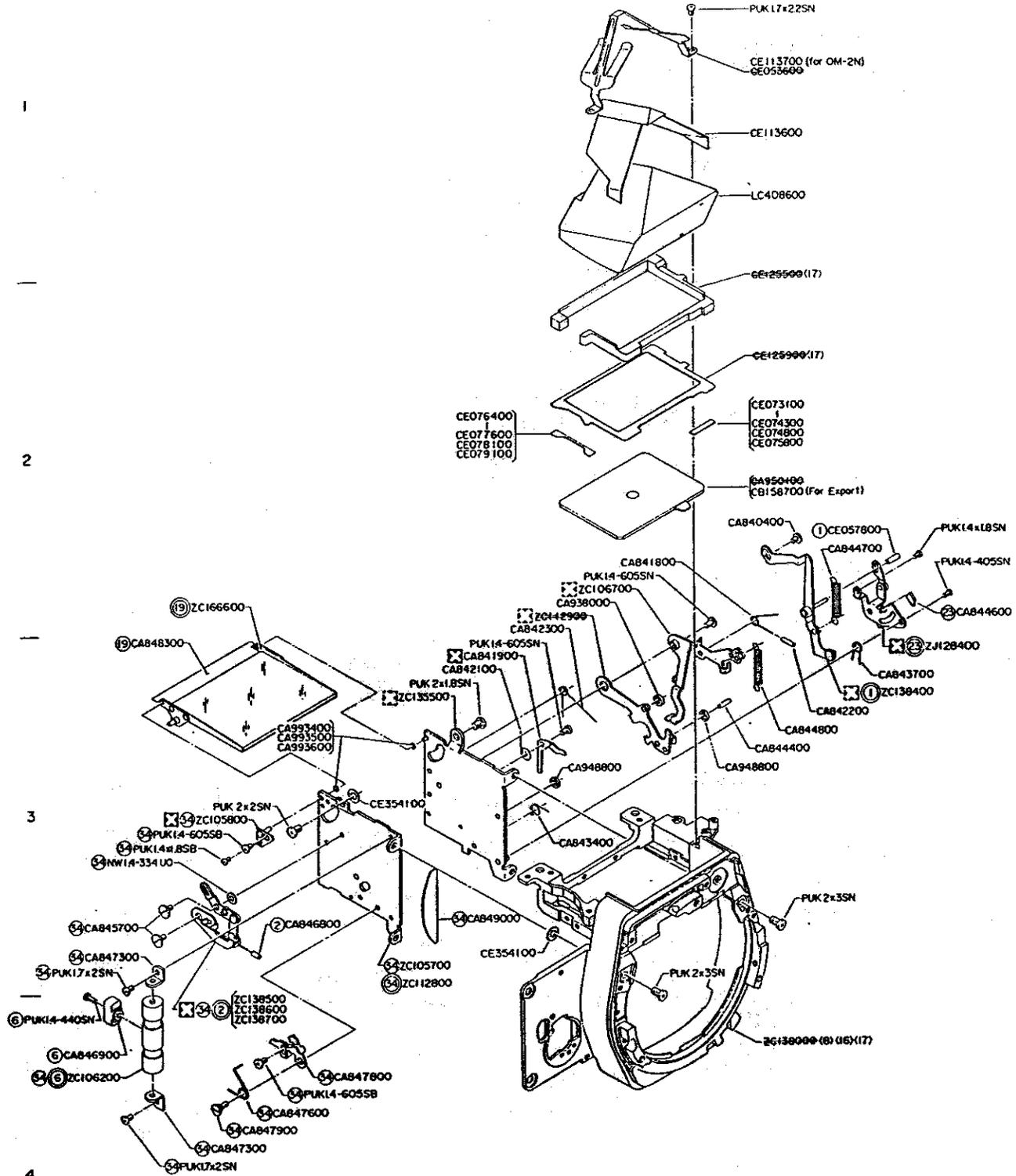
1
2
3
4



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--|--------------------|------|
| OLYMPUS OM-2 | MDE | 6/B |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

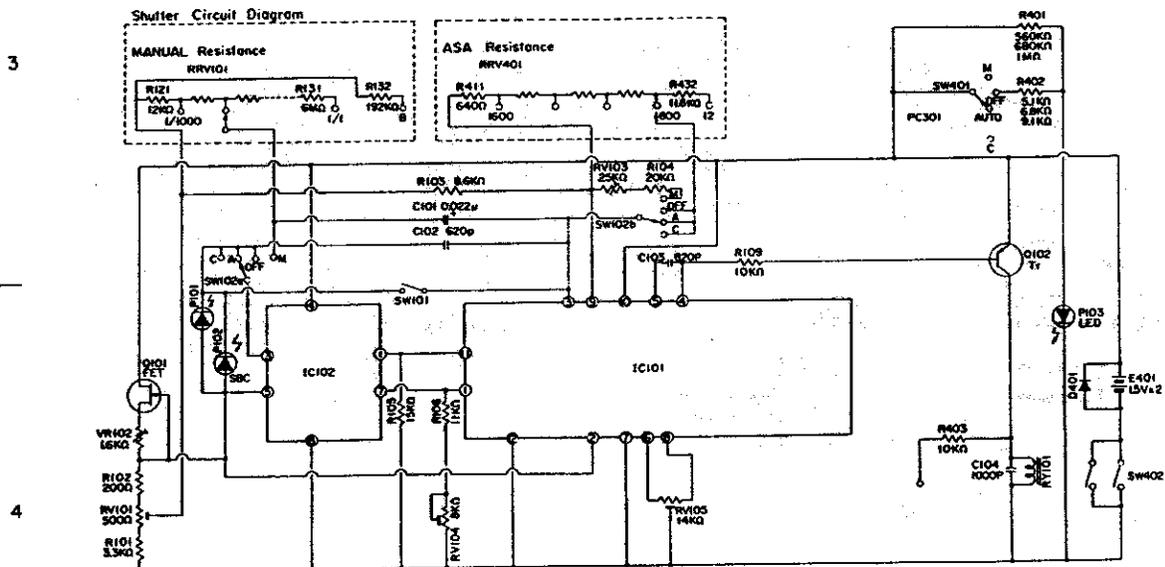
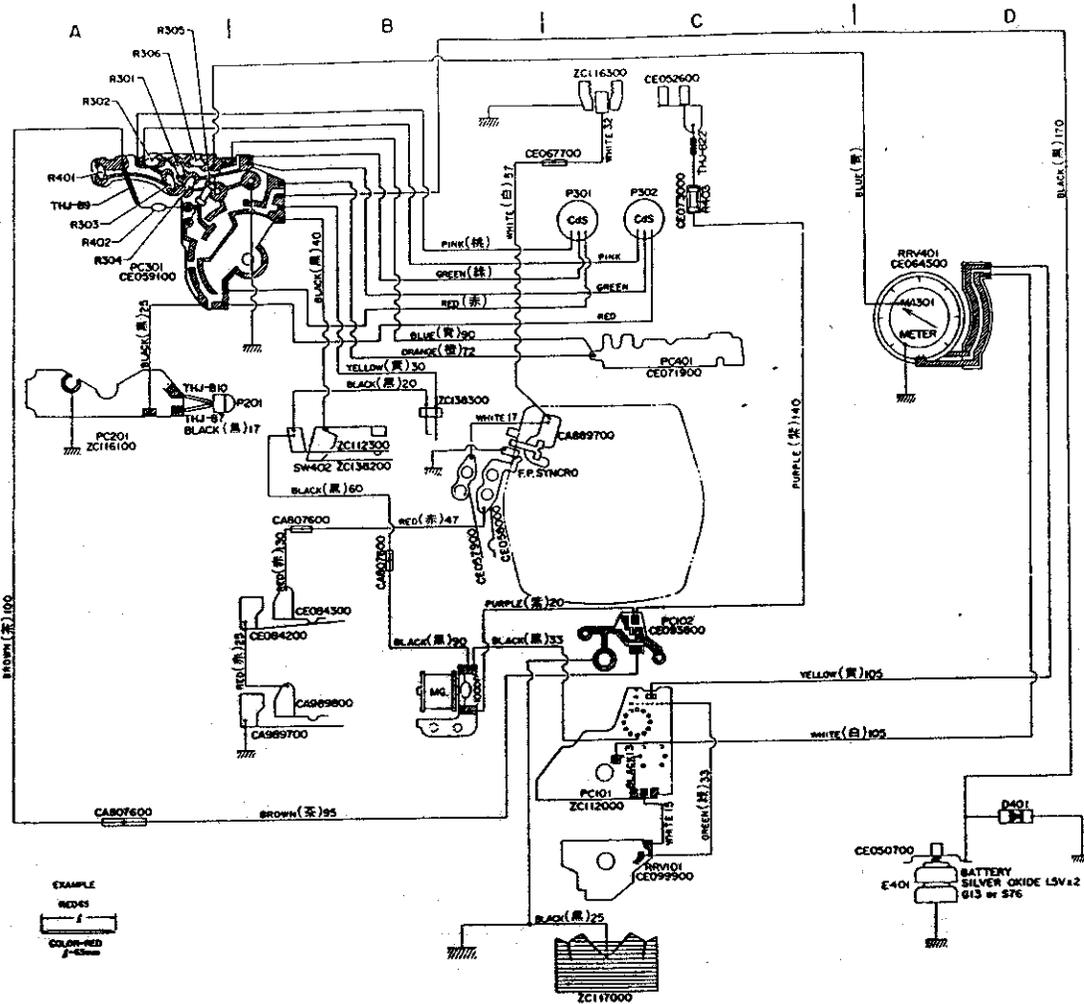
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--|--------------------|------|
| OLYMPUS OM-2 | MDE | 7/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|--------------|--------------------|------|
| OLYMPUS OM-2 | MDE | 8/8 |

OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

PARTS LIST

M D E

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|------------|----------------------|----------------|-----------|---------------------|--------------------|
| ZC115600 | EXPOSURE METER | 6-B2 | ZJ128000 | KN PLATE ASS'Y | SUBSTITUTED |
| ZC116700 | DISK ASS'Y | 1-B1 | ZJ128100 | LOWER PLATE M | SUBSTITUTED |
| ZC117000 | COVERING PLATE ASS'Y | 2-C1 | ZJ128400 | M BASE PLATE ASS'Y | 7-D2 |
| | | | ZJ128600 | BUTTON HOLDER ASS'Y | 1-B1 |
| ZC132100 | SPROCKET ASS'Y | 4-A2 | ZJ129000 | BASE PLATE ASS'Y | 2-B4 |
| ZC132200 | ST CLAW ASS'Y | 4-C4 | ZJ182900 | REAR COVER ASS'Y | SUBSTITUTED |
| ZC132300 | SPOOL SHAFT ASS'Y | 2-B3 | | | |
| ZC132500 | FC RETURNING LEVER | 2-C1 | DR172600 | RESISTOR | R301-2 24KΩ 1/16W |
| ZC132900 | RELEASE PLATE ASS'Y | 4-D3 | DR172700 | RESISTOR | R301-2 25KΩ 1/16W |
| ZC133100 | A PINCH ASS'Y | 3-D2 | DR172800 | RESISTOR | R301-2 26KΩ 1/16W |
| ZC133200 | B PINCH ASS'Y | 3-A2 | DR172900 | RESISTOR | R301-2 27KΩ 1/16W |
| ZC133400 | TUBE SHAFT B ASS'Y | 3-B2 | DR173000 | RESISTOR | R301-2 28KΩ 1/16W |
| ZC133500 | TUBE SHAFT A ASS'Y | 3-B2 | DR173100 | RESISTOR | R301-2 29KΩ 1/16W |
| ZC134300 | R LEVER ASS'Y | 1-D1 | DR173200 | RESISTOR | R301-2 30KΩ 1/16W |
| ZC135500 | SIDE PLATE L ASS'Y | 7-B3 | DR173300 | RESISTOR | R301-2 31KΩ 1/16W |
| ZC137000 | R LEVER ASS'Y | 3-D2 | DR173400 | RESISTOR | R301 32KΩ 1/16W |
| ZC137300 | KL PLATE 3 ASS'Y | φ 1.4 4-C1 | DR173500 | RESISTOR | R301 33KΩ 1/16W |
| ZC137400 | KL PLATE 3 ASS'Y | φ 1.8 4-C1 | DR173600 | RESISTOR | R301 34KΩ 1/16W |
| ZC137600 | SWITCH HOLDER ASS'Y | 1-C1 | DR173700 | RESISTOR | R301 35KΩ 1/16W |
| ZC137800 | C BASE ASS'Y | 1-C2 | DR173800 | RESISTOR | R301 36KΩ 1/16W |
| ZC137900 | K LEVER ASS'Y | 1-C2 | DR173900 | RESISTOR | R302 22KΩ 1/16W |
| ZC138400 | M LEVER ASS'Y | 7-D3 | DR174000 | RESISTOR | R302 23KΩ 1/16W |
| ZC138500 | LINK ASS'Y | SP φ 0.40 7-B3 | DR174100 | RESISTOR | R303-402 9KΩ 1/16W |
| ZC138600 | LINK ASS'Y | SP φ 0.45 7-B3 | DR132500 | RESISTOR | R303 10KΩ 1/16W |
| ZC138700 | LINK ASS'Y | SP φ 0.55 7-B3 | DR174200 | RESISTOR | R303 11KΩ 1/16W |
| ZC139000 | FP SCREW ASS'Y | 6-B4 | DR134100 | RESISTOR | R303 12KΩ 1/16W |
| | | | DR174400 | RESISTOR | R303 13KΩ 1/16W |
| ZC161000 | FX BASE ASS'Y | 3-C2 | DR174500 | RESISTOR | R303 14KΩ 1/16W |
| ZC166600 | MIRROR ASS'Y | 7-B2 | DR131500 | RESISTOR | R303 15KΩ 1/16W |
| ZC166800 | SELF TIMER | 5-A1 | DR174700 | RESISTOR | R303 16KΩ 1/16W |
| ZC168600 | GEAR A, B ASS'Y | 3-B2 | DR174800 | RESISTOR | R303 17KΩ 1/16W |
| ZC168700 | 2nd CLAW ASS'Y | 3-D1 | DR138000 | RESISTOR | R303 18KΩ 1/16W |
| ZC168900 | HOOK LEVER ASS'Y | 3-D2 | DR175000 | RESISTOR | R303 19KΩ 1/16W |
| ZC169500 | A CONTACT POINT 2 | 6-B2 | DR130100 | RESISTOR | R303 20KΩ 1/16W |
| ZC176200 | WINDING LEVER ASS'Y | SUBSTITUTED | DR175200 | RESISTOR | R303 100KΩ 1/16W |
| ZC178200 | REAR COVER ASS'Y | SUBSTITUTED | DR175300 | RESISTOR | R304 180KΩ 1/16W |
| ZC178600 | S FRAME ASS'Y | 6-C1 | DR175400 | RESISTOR | R304 270KΩ 1/16W |
| * ZC179000 | CL HOUSE ASS'Y | SUBSTITUTED | DR175500 | RESISTOR | R304 470KΩ 1/16W |
| ZC182200 | S PLATE U ASS'Y | 3-C2 | DR175600 | RESISTOR | R305 6.83KΩ 1/20W |
| ZC198500 | SW BASE PLATE ASS'Y | 4-B2 | DR175700 | RESISTOR | R306 2.4KΩ 1/16W |
| ZC451900 | STRAP EYELET ASS'Y | SUBSTITUTED | DR176000 | RESISTOR | R401 1MΩ 1/16W |
| | | | DR176100 | RESISTOR | R402 5.1KΩ 1/16W |
| | | | DR116600 | RESISTOR | R403 10KΩ 1/8W |

- :PARTS STILL AVAILABLE = :PARTS NO LONGER AVAILABLE

PARTS LIST

M D E

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|------------|--------------------|----------------|--------------|-----------------------|-------------------|
| = CE079900 | FILM COUNTER | → CE236400 | = ZC110000 | DIE-CAST BODY | NOT FOR SALE |
| = CE084700 | LOCK LEVR | 3-D2 | = ZC110100 | CELL COVER | 1-B4 |
| = CE084900 | LIGHT PROOF PLATE | 4-C3 | = ZC110200 | C PLATE 3 | 4-B3 |
| = CE086000 | STOPPER PLATE | 6-A4 | = ZC111000 | S BASE | 3-B3 |
| = CE087400 | M CENTER PLATE | <8> | = ZC111500 | S FRAME → ZC102800 | SUBSTITUTED |
| = CE087500 | M TUBE | 6-B4 | = ZC112000 | M CIRCUIT BOARD | 2-D2 |
| = CE088600 | TURN PLATE B | 4-B2 | = ZC112300 | M CONTACT POINT 2 | 6-A4 |
| = CE088900 | SPRING STOPPER | 4-B2 | = ZC112400 | M CENTER PLATE | 6-B4 |
| = CE090200 | C CAM | <16> | = ZC112900 | F LEVER | 7-C2 |
| = CE090400 | C LEVER | <16> | = ZC114101 | RAIL PLATE | <17> |
| = CE090700 | CIRCUIT BOARD C | <12> | = ZC114200 | ROLLER PLATE | <17> |
| = CE090900 | C PLATE 1 | 4-B2 | = ZC114300 | COVERING PLATE | 5-C2 |
| = CE091000 | C PLATE 2 | 4-A1<14> | = ZC115200 | LOWER PLATE M | → ZJ128100 |
| = CE091500 | S BASE PLATE | → CE099900<7> | = ZC116100 | CIRCUIT BOARD C | 4-A4 |
| = CE091600 | CAM SHAFT | 2-D2 | = ZC116300 | S BASE PLATE | 6-C1 |
| = CE091700 | CAM COVER | 2-D2 | = ZC116500 | REAR COVER | → ZC453600 |
| = CE091800 | CAM FASTENER | 2-D2 | = ZC116900 | TOP COVER | 1-B2 |
| = CE091900 | CAM SPRING 2 | 2-C2 | = ZC117700 | TOP COVER B | 1-B2 |
| = CE092500 | K CONTACT | → ZC111800<7> | = ZC132700 | KN PLATE → ZJ128000 | SUBSTITUTED |
| = CE093000 | T FASTENER | 2-B2 | = ZC132800 | KN PLATE B → ZJ129200 | SUBSTITUTE |
| = CE093800 | SUB CIRCUIT BOARD | 2-D1 | * = ZC137500 | CL HOUSE → ZC179000 | SUBSTITUTE |
| = CE096900 | BULB SCREW | 3-C3 | = ZC137700 | SWITCH HOLDER | → ZJ129400<9> |
| = CE097600 | S LEVER | → CE113000<9> | = ZC138000 | FRONT PLATE | 7-D4-5-C1-6-C4 |
| = CE099600 | INSULATOR | <15> | = ZC138100 | B SPRING → ZJ128900 | SUBSTITUTED |
| = CE120100 | TOP COVER B | <6> | = ZC138200 | M CONTACT POINT | 6-A4 |
| = CE120300 | FRONT COVER | → CE117700 | = ZC138300 | M2 SWITCH | 6-D4 |
| = CE120700 | BUTTON HOLDER B | → ZJ129300<10> | = ZC139100 | A DIAL | <18> |
| = CE120800 | SWITCH HOLDER B | → ZJ129400<9> | = ZJ116700 | KL PLATE a | <3> |
| = CE121200 | R SHAFT HOLDER | → CE070500<1> | = ZJ116800 | KL PLATE b | <3> |
| = CE121300 | SS DIAL → CE117600 | SUBSTITUTED | = ZJ126100 | FRONT PLATE | <17> |
| = CE122300 | A DIAL | 1-B1 | = DC195200 | CAPACITOR C101 | 0.022μF 35V |
| = CE122500 | LOCKING SPRING | 1-C2 | = DC195300 | CAPACITOR C102 | 620PF 50V |
| = CE122700 | A DIAL B | 1-B1 | = DQ021700 | LED | P103-201 GL-31AR8 |
| = CE125500 | PRISM HOLDER | 7-C2 | = DR175800 | RESISTOR R401 | 560KΩ 1/16W |
| = CE125900 | MASK | 7-C2 | = DR175900 | RESISTOR R401 | 680KΩ 1/16W |
| = SC0011 | REWINDING ROLLER | φ 3.5 <17> | = DR133700 | RESISTOR R402 | 6.8KΩ 1/16W |
| = SC0012 | REWINDING ROLLER | φ 3.6 <17> | | | |
| = SC0018 | HINGE PIN HOLDER U | <3> | | | |
| = SC0019 | HINGE PIN HOLDER L | <3> | | | |
| = SC0148 | R KNOB | → CA872500<5> | | | |

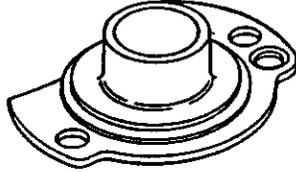
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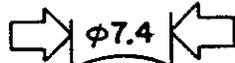
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NEW

~~CE058500~~ Brass
~~CE121200~~ (黄銅Niメッキ)

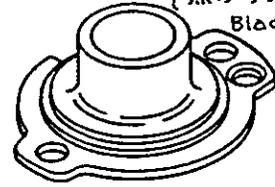


~~CA873600~~
(φ6.8)

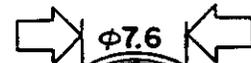


~~CE060400~~

CE070500
(黒ポリカーボネート)
Black Plastic

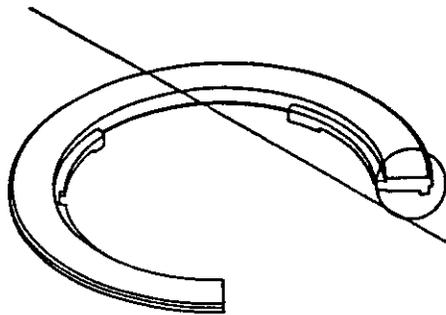


CE070700
(φ7.4)

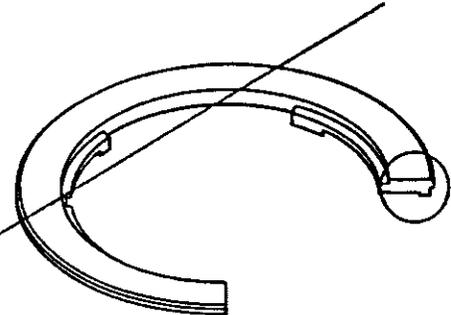
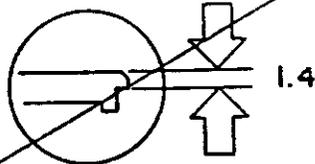


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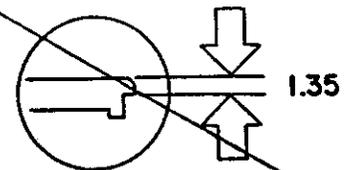
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CA887700



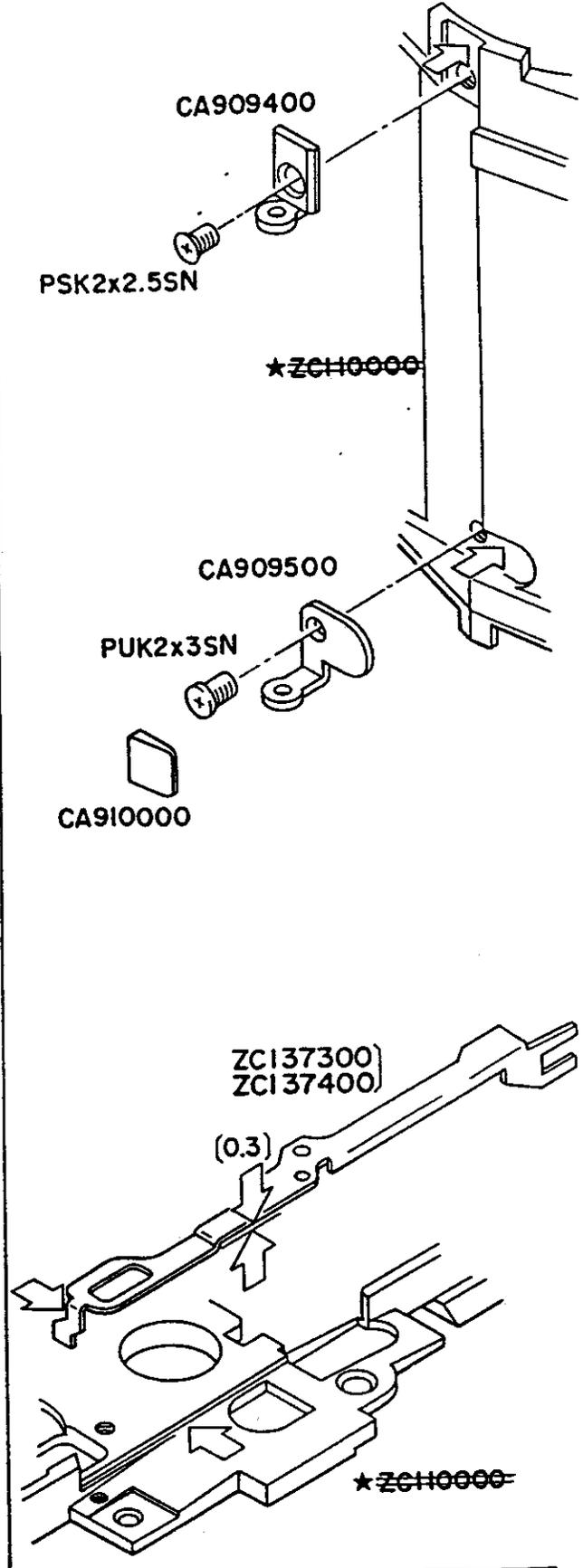
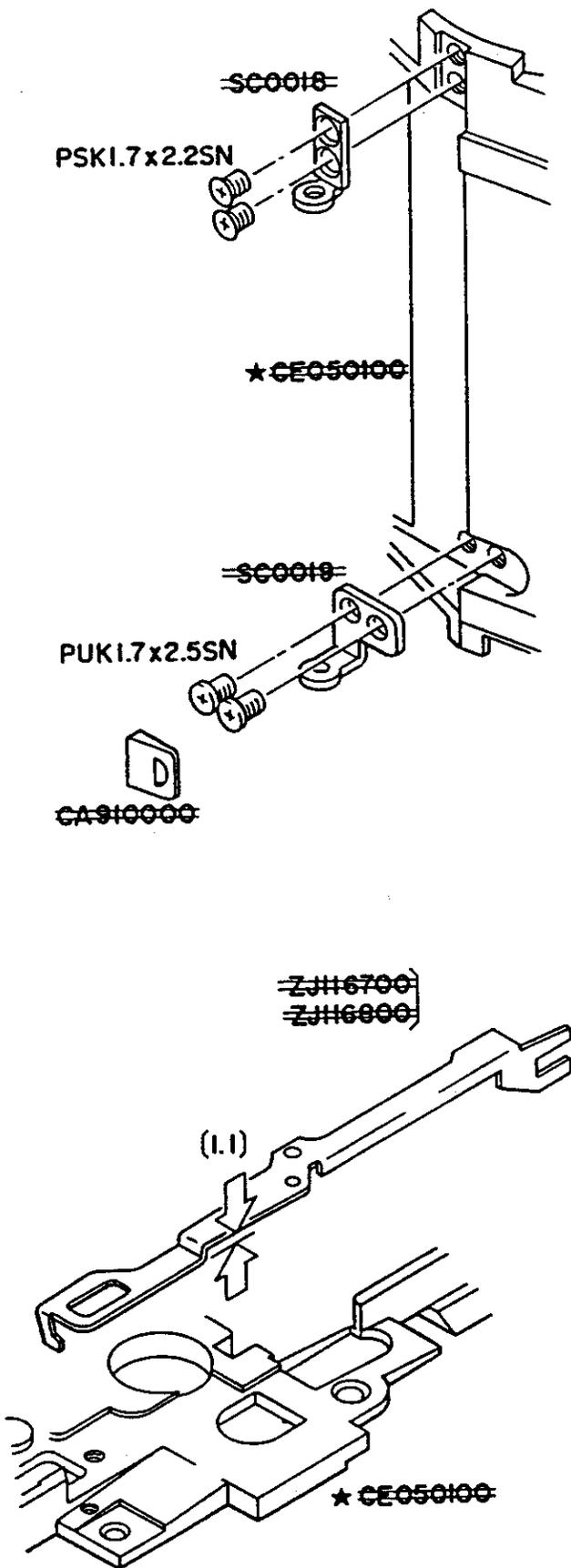
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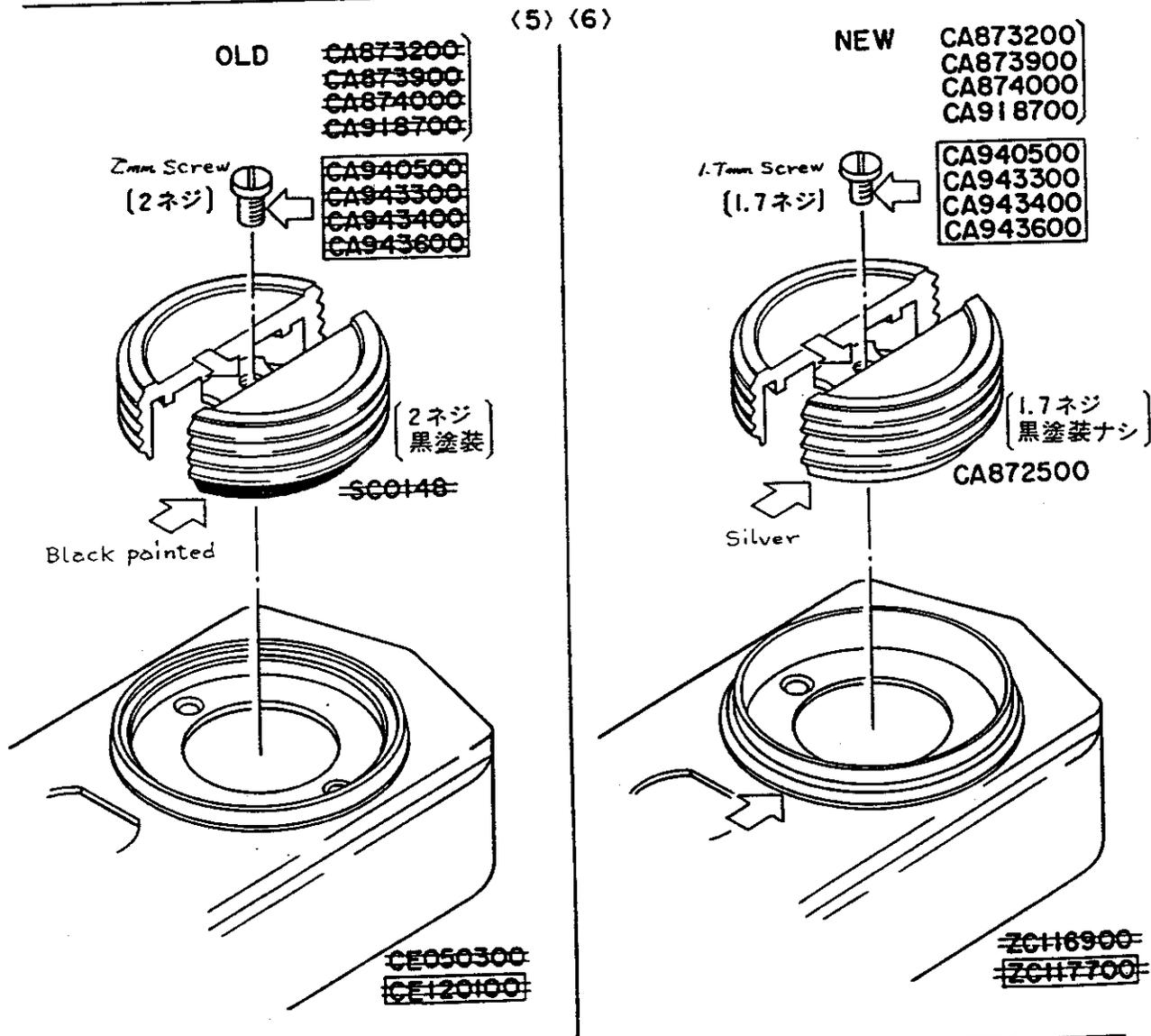
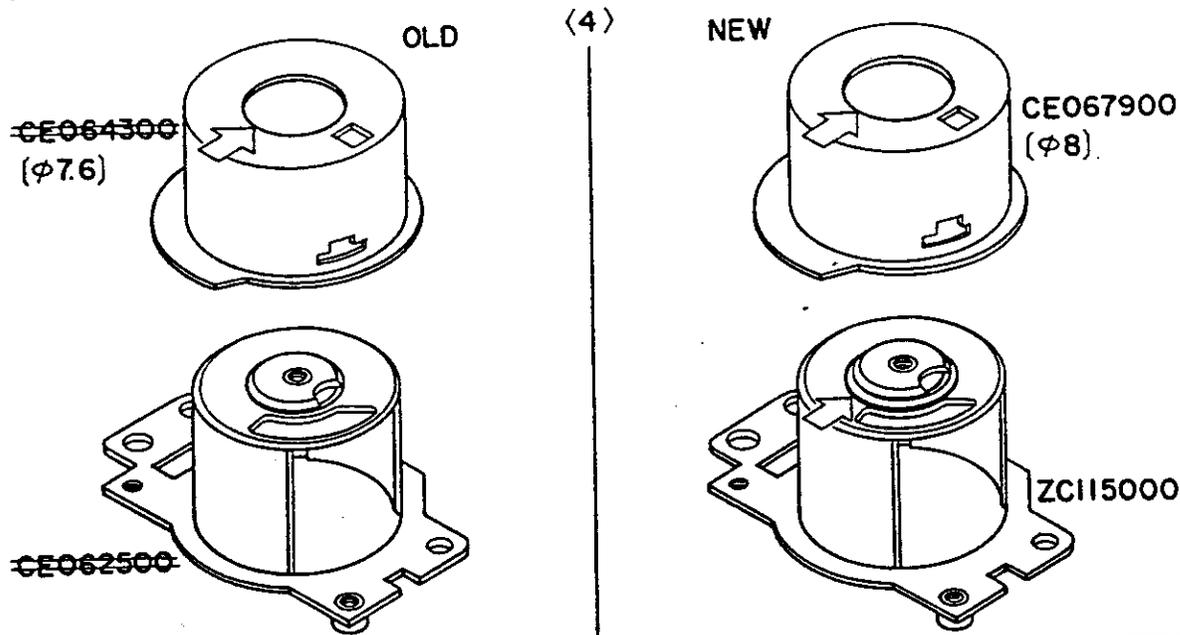


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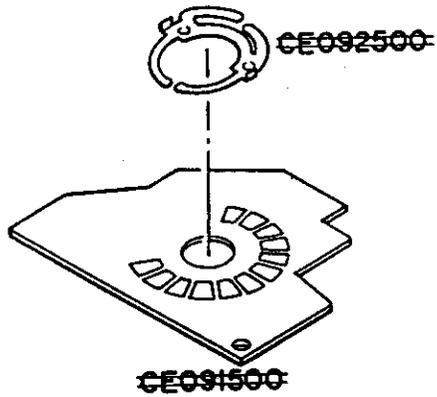
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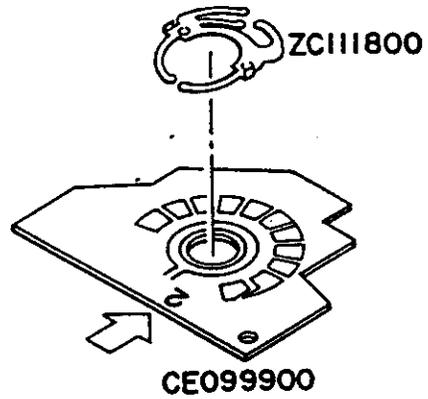


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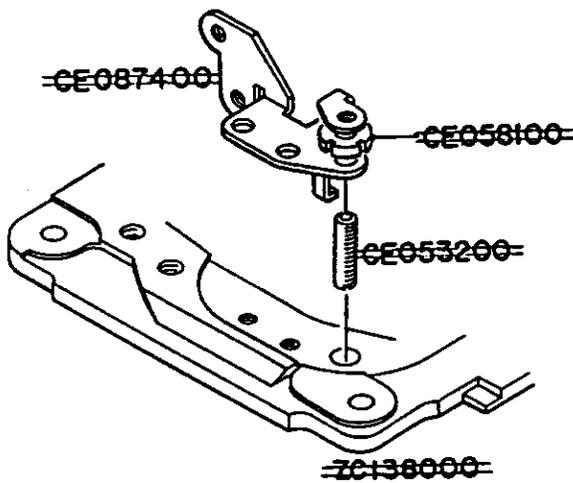


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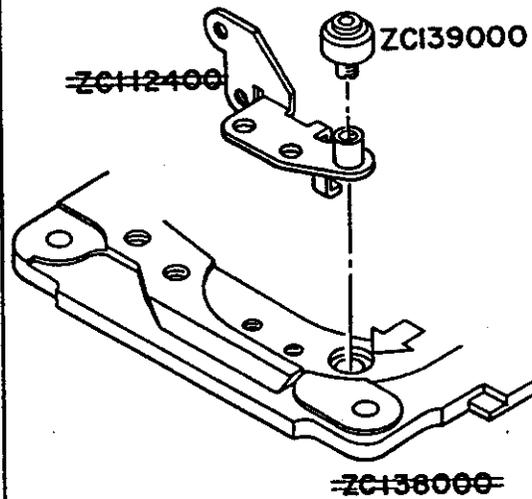


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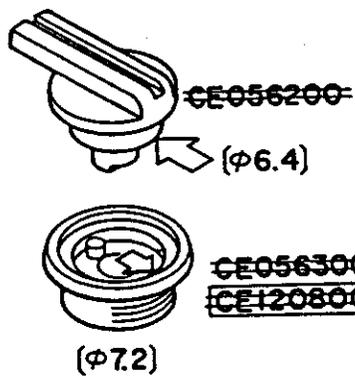


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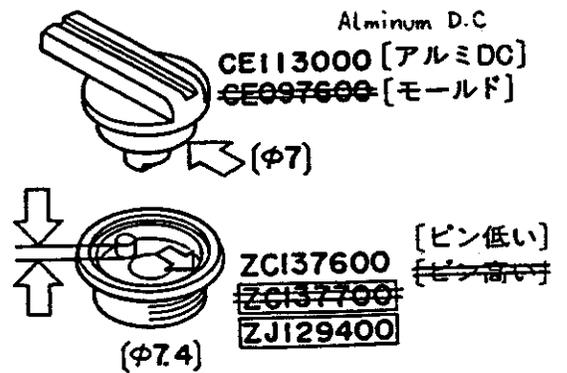


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NEW



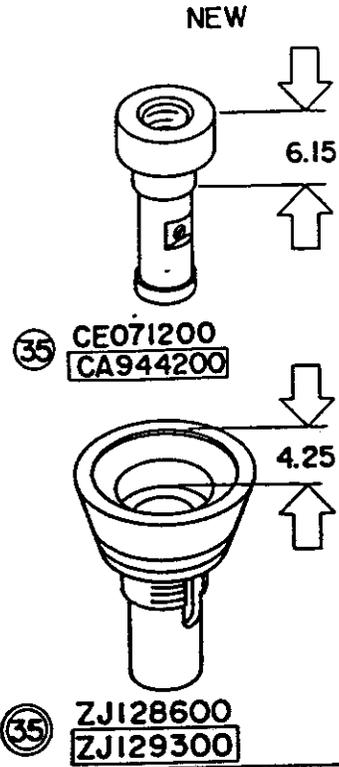
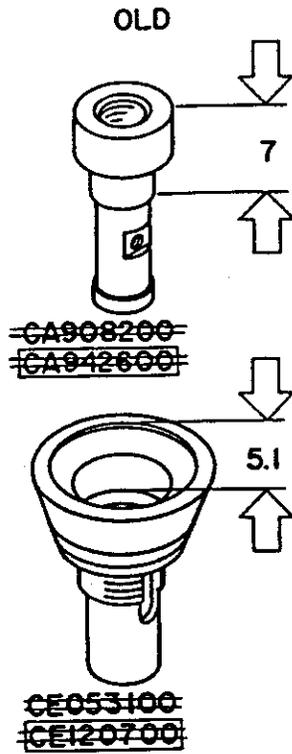


PARTS LIST & DRAWING

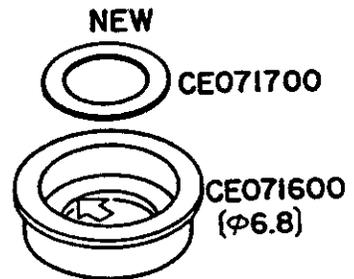
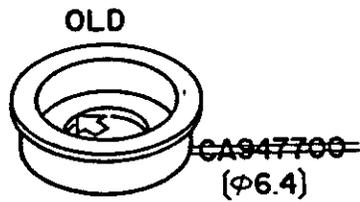
ORIGINAL VERSION

Many part numbers used descriptively
in the text have been superseded.
This original parts list has been
provided for reference only. Please
do not use it to order parts.

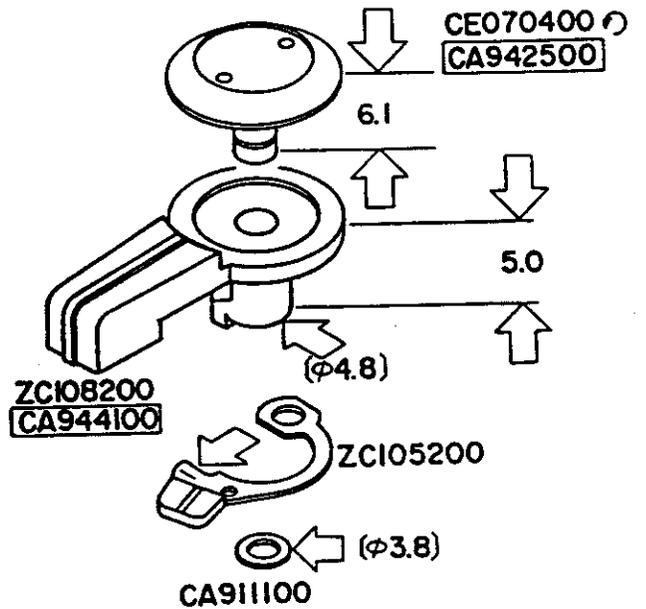
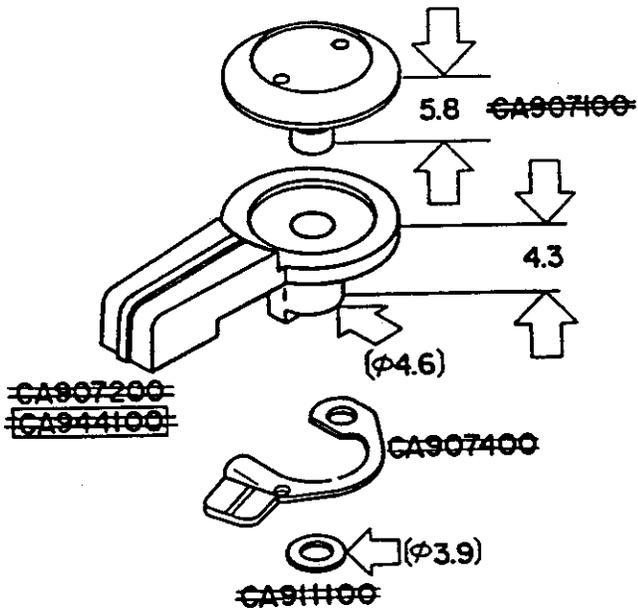
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(11)



(13)



(12)

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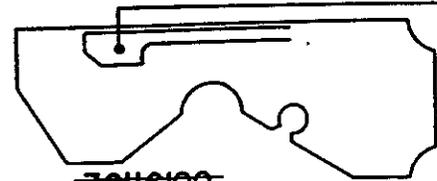
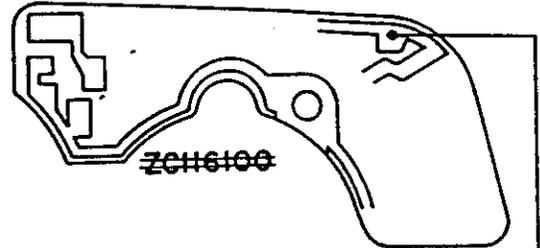
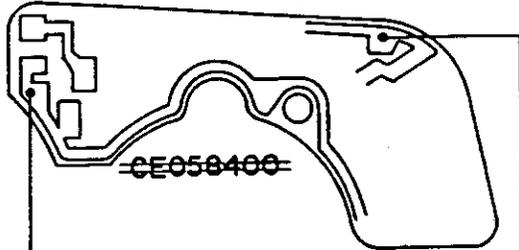
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 PUK1.7x2.5SO

 PUK1.7x2.5SN

 CE057000

 CE099400



~~RBJ-C25~~

~~ZCH6100~~

 CE057000

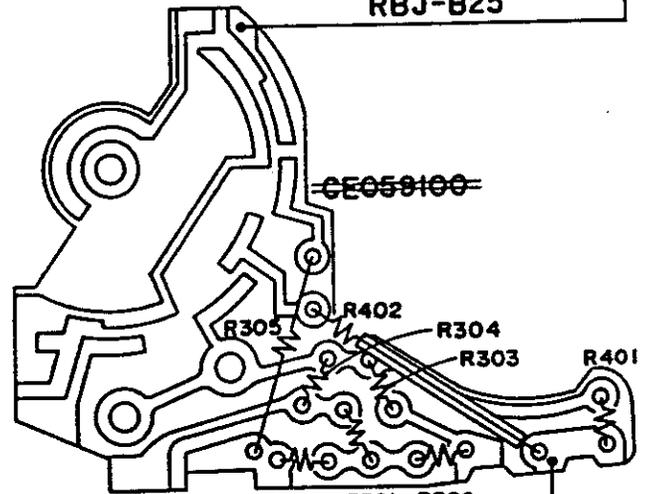


RBJ-B25

 PUK1.4-605SO

~~RBJ-C95~~

RBJ-B30



~~CE058100~~

CE059100

R303

R304

R305

R306 R301 R302

R305

R402

R304

R303

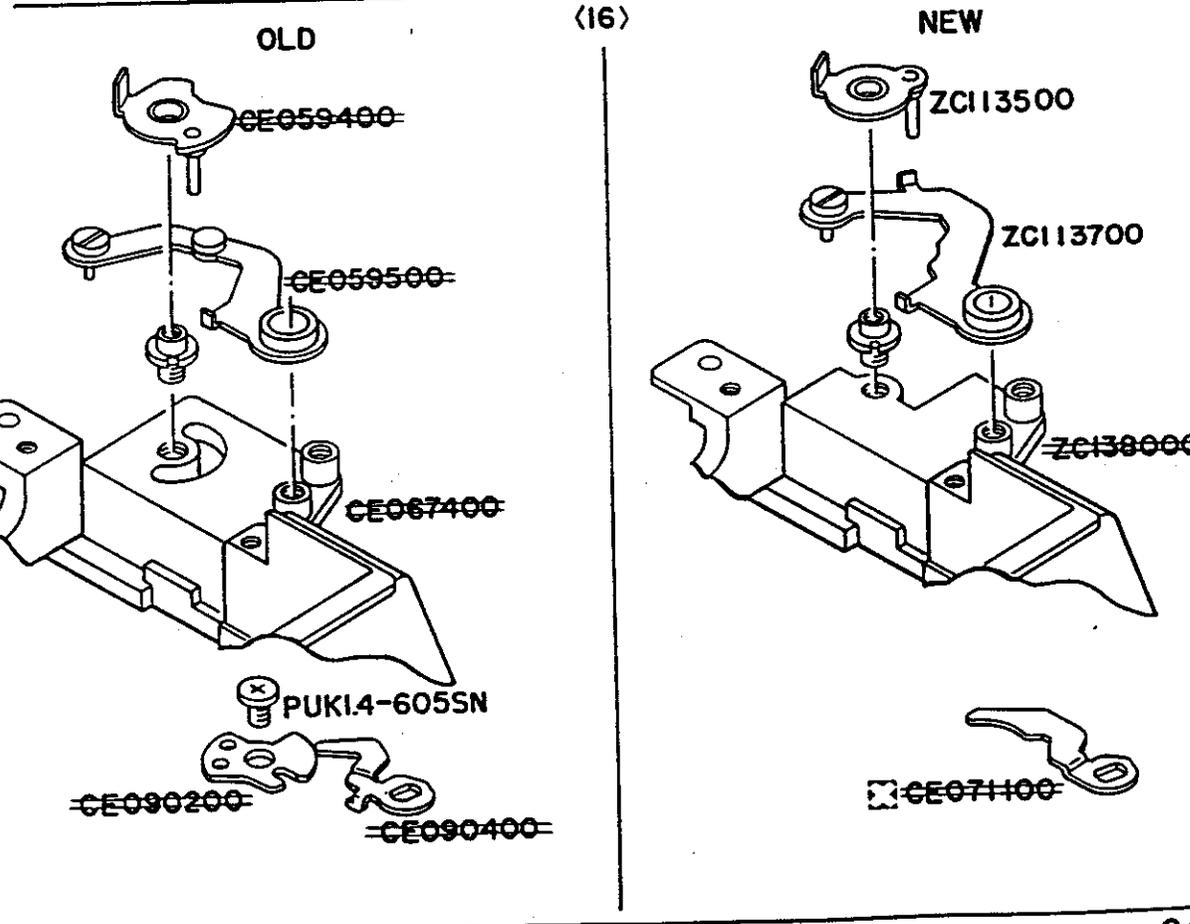
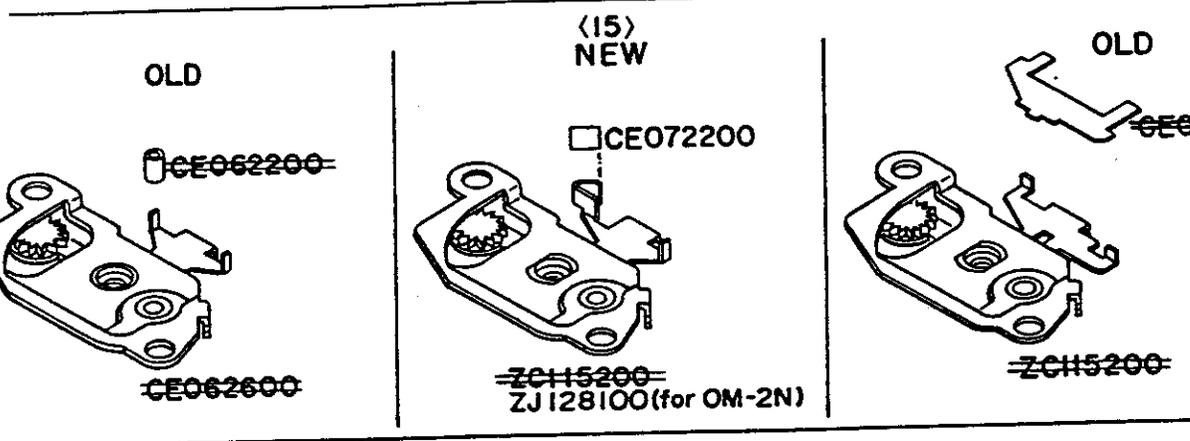
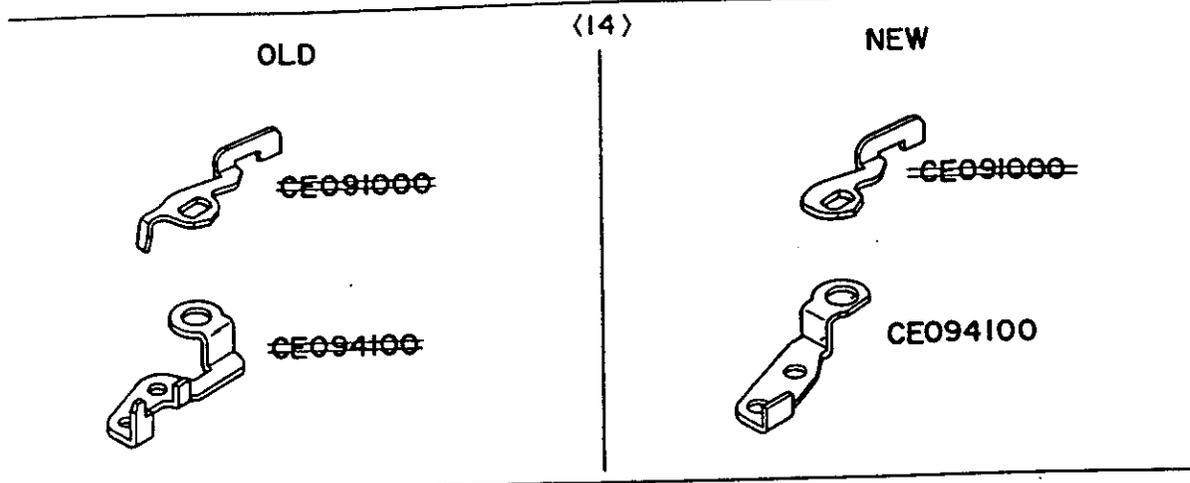
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R306

R301

R302

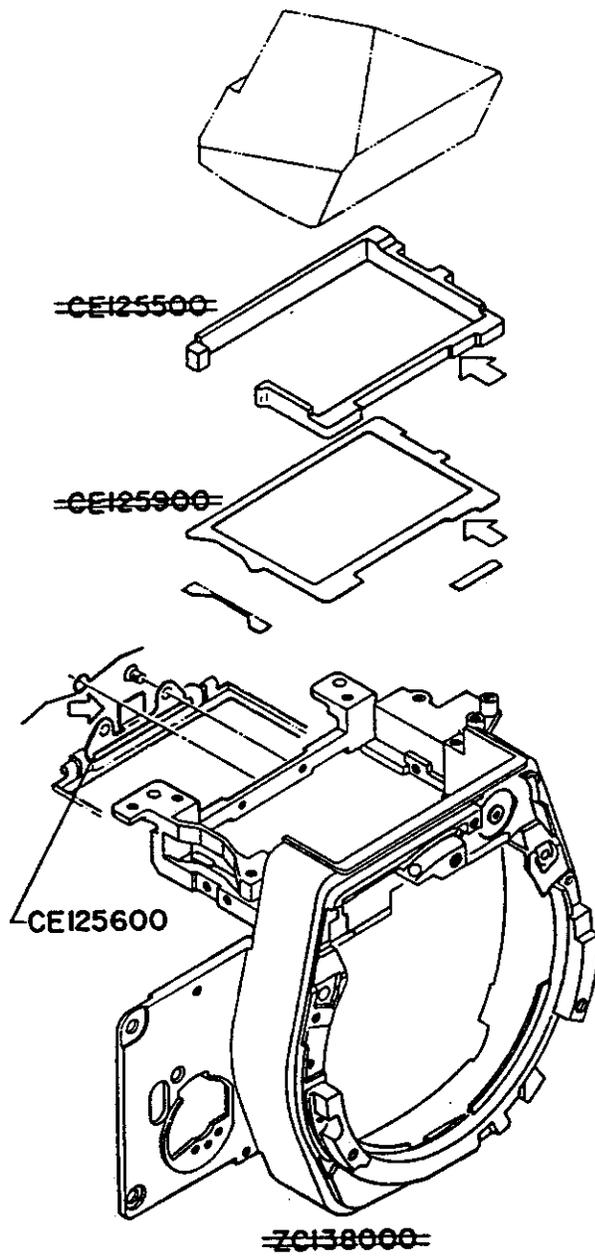
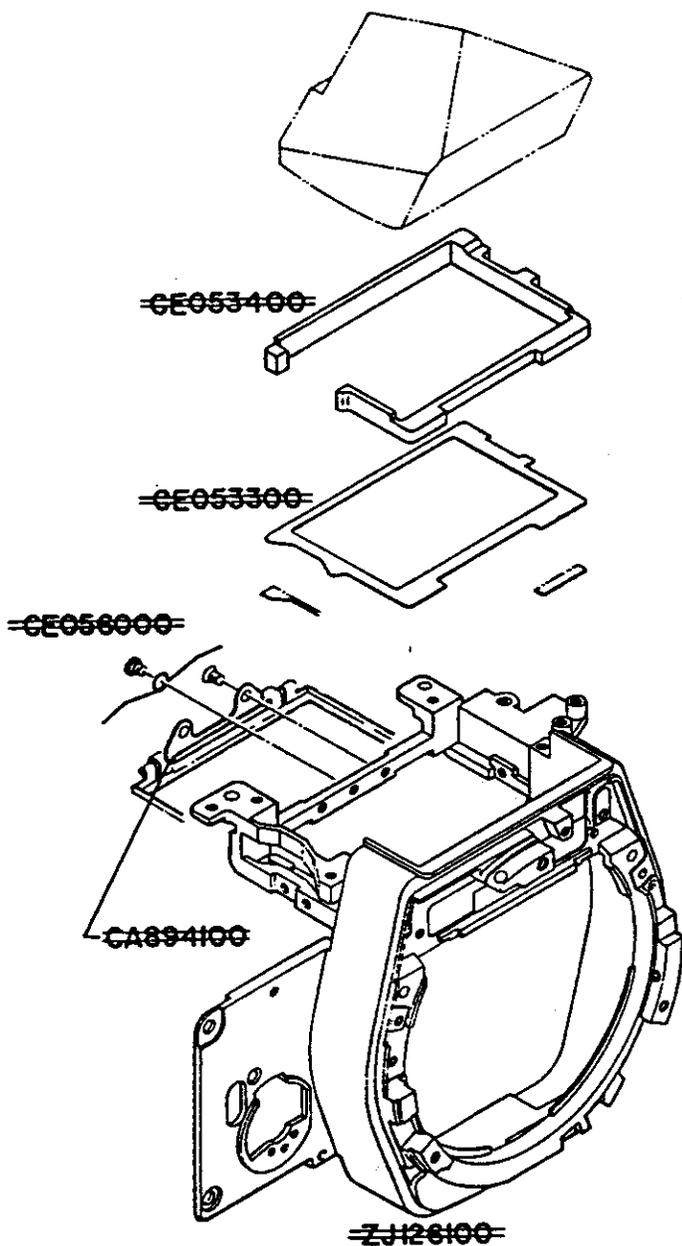
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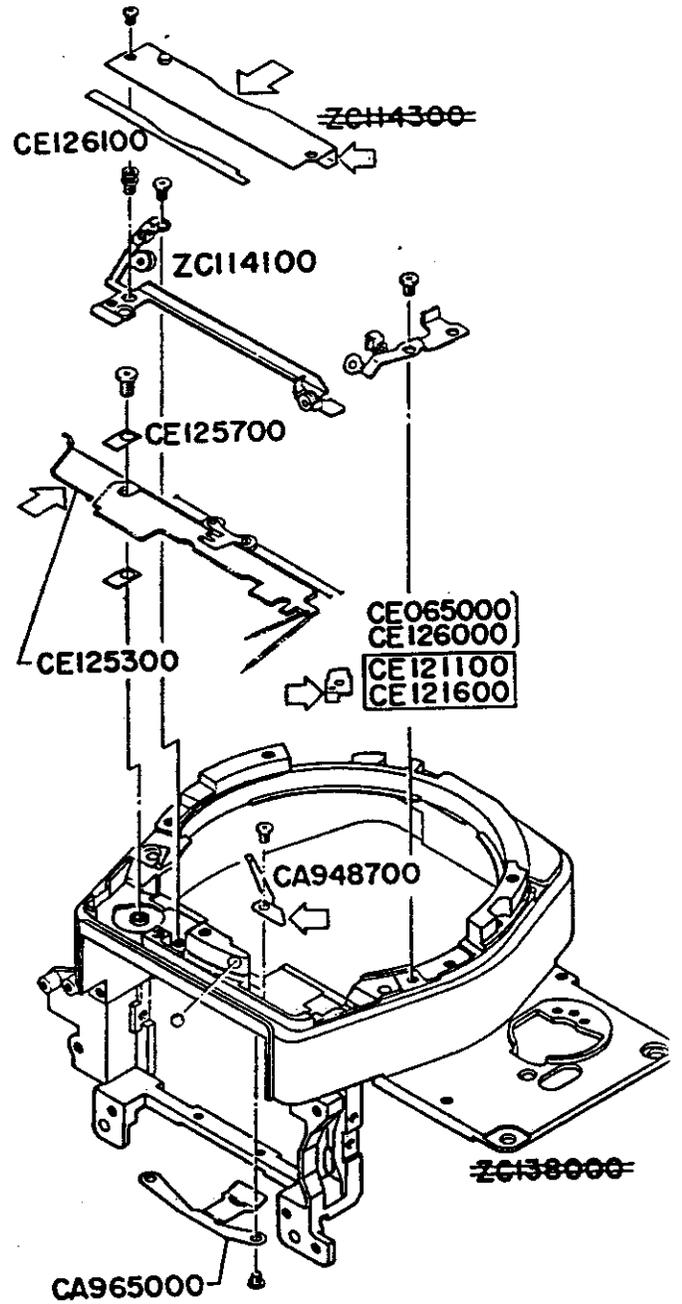
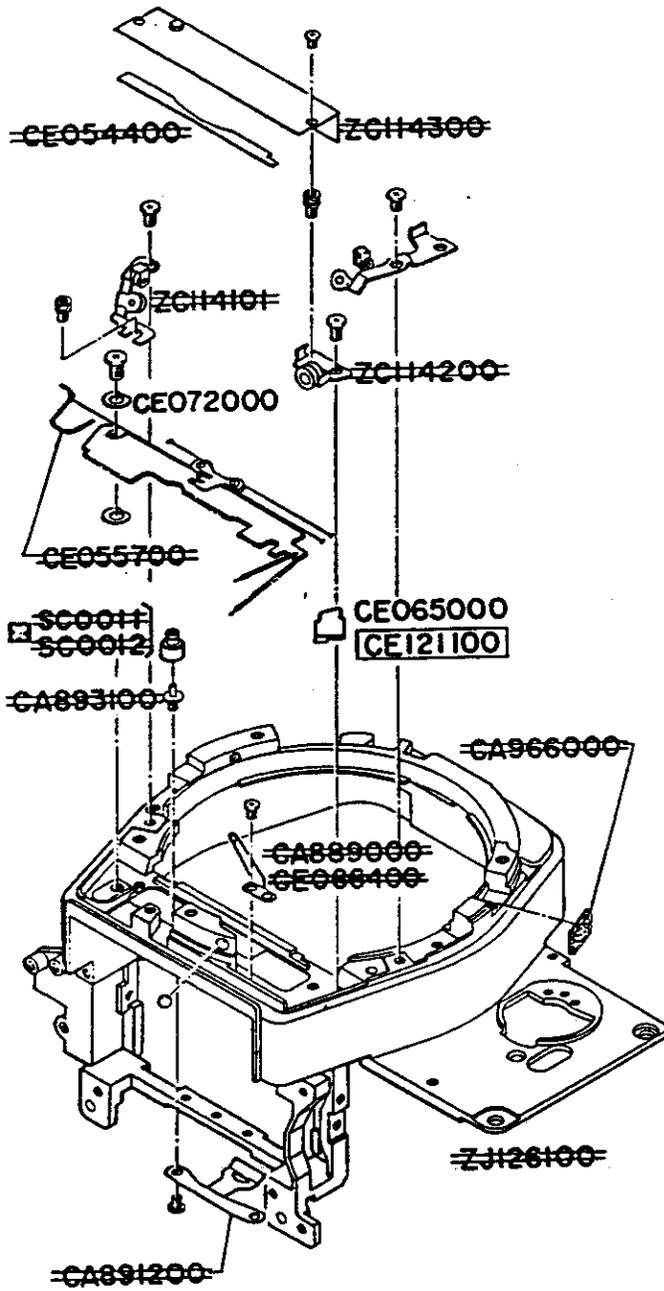
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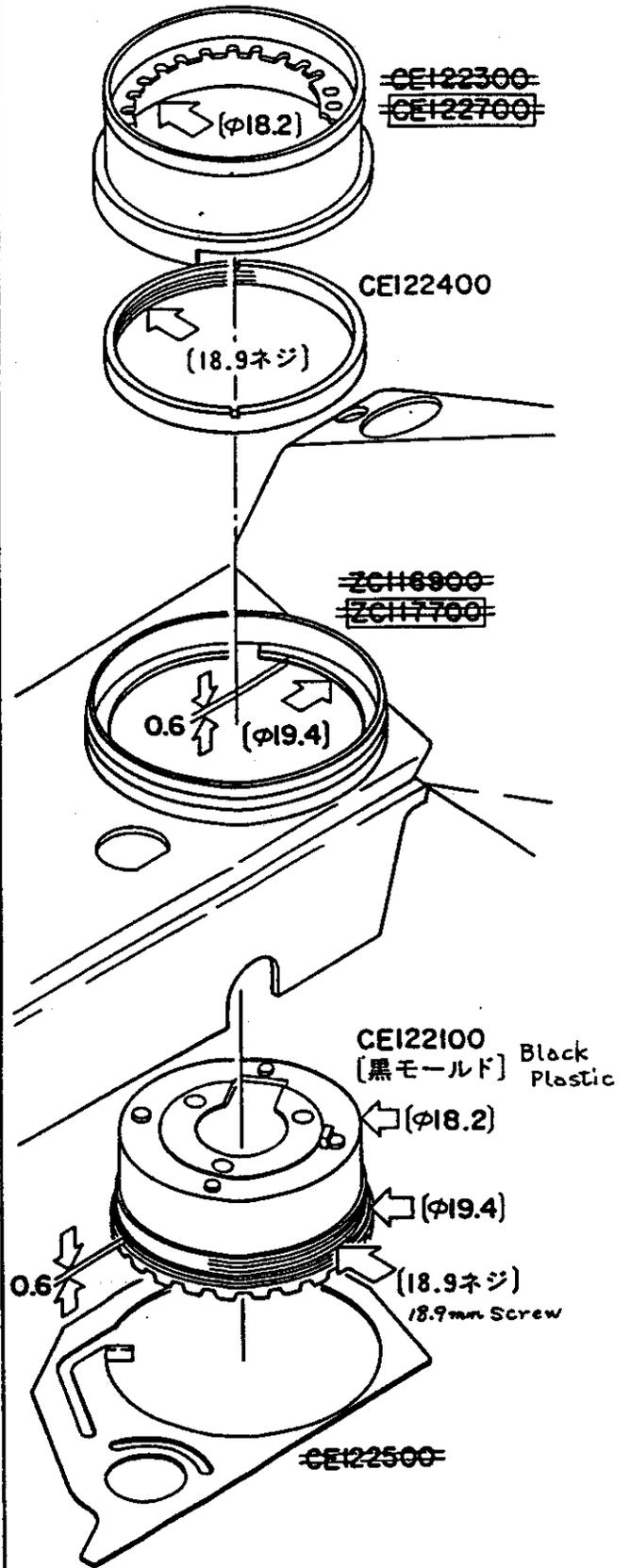
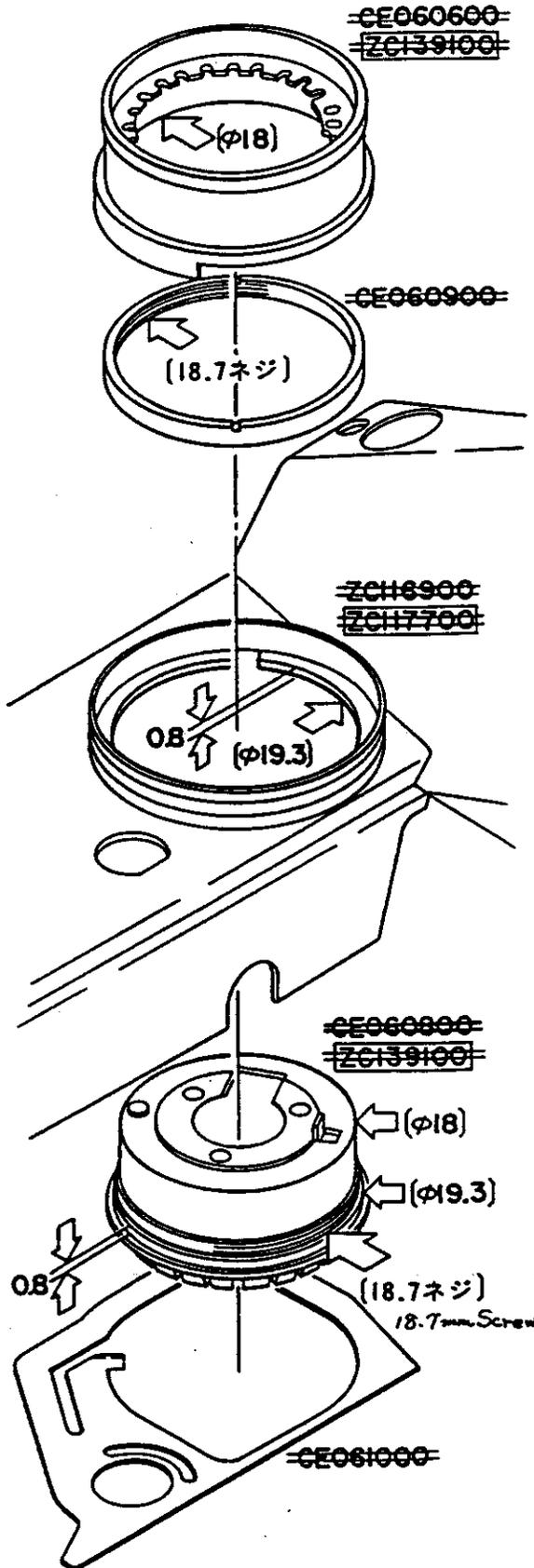
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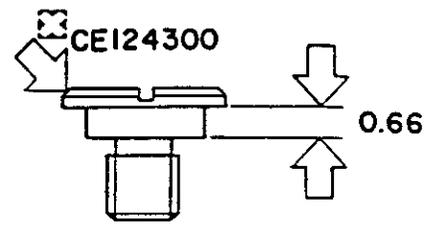
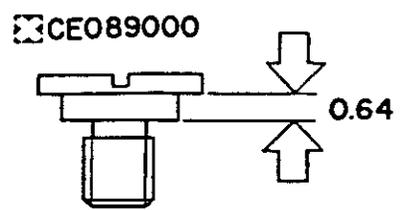
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NEW



(19)

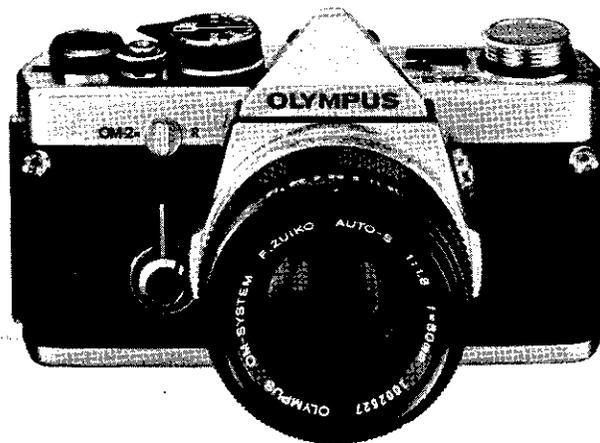


OLYMPUS OM-2N REPAIR MANUAL

INDEX

PARTS LIST & EXPLODED PARTS DIAGRAM

| | |
|--|----------|
| A. GENERAL OUTLINE AND MECHANICAL FEATURES | A-1 ~ 12 |
| B. CHECK POINTS (INSPECTION STANDARDS) | B-1 ~ 3 |
| C. ORDER OF DISASSEMBLY | C-1 ~ 2 |
| D. OUTLINE OF REPAIRS | D-1 ~ 9 |
| E. PARTS WHERE OIL, GREASE, ETC. SHALL BE USED | E-1 |
| F. SPECIAL TOOLS | F-1 |
| G. IMPROVED PARTS TABLE | G-1 |
| H. OTHERS ... <i>WIRING</i> | H-1 |



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**PARTS LIST
AND
EXPLODED PARTS DIAGRAM**

EXPLANATION OF MARKS

① Indicates parts that are supplied both as a single piece and as an assembled unit. In the latter case, the single part is incorporated in the assembled unit indicated with the mark ①.
Exception: Parts in the mark () are not supplied in single pieces.
(Parts that are supplied only in single pieces are not indicated with any mark. While parts that are supplied as an assembled unit are prefixed with "Z" or "U".)

] Several types of parts for the same position are available, from which most suitable one is to be selected.

* 3 Parts differ according to different models and types. This mark is used to indicate various combinations in a picture.

⤵ Left-handed screw. The mate screw hole is not marked particularly.

⊠ Indicates parts that should not be touched directly by bare hand because special surface treatment is applied. Wear fingerstalls or use tweezers.

★ Not supplied as a repair part.

□ Used exclusively for black finish models.

— Indicates original parts. New, modified ones are not indicated with this mark. Both original and modified parts are supplied.

== No more available parts due to design change or out of stock.

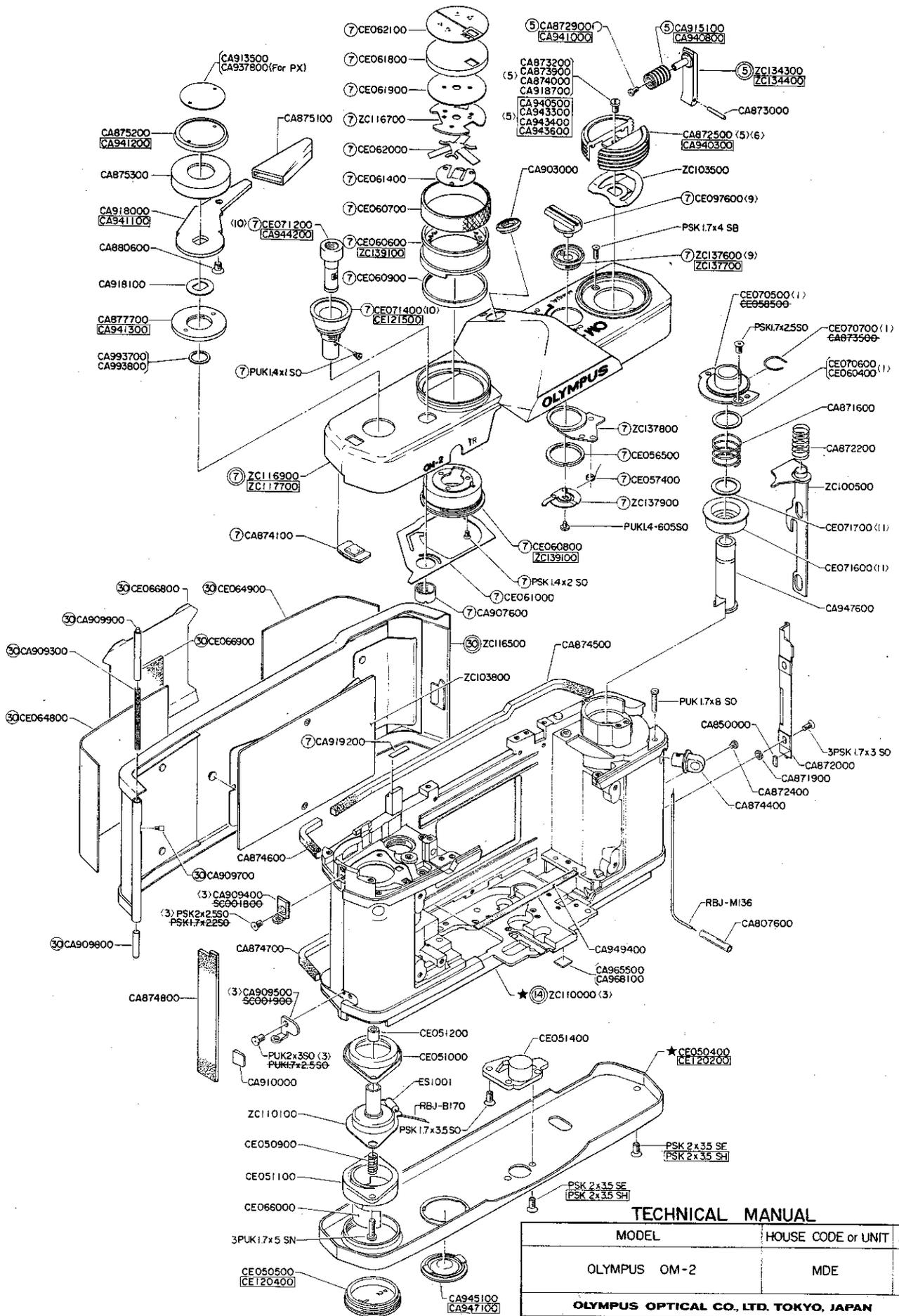
✕ A correction mark. Parts with this mark are not available.

< 2 > Modified parts that are unable to show in the technical manual. The figure indicates reference page number.

2-A3 This notation is entered in the "Remarks" column of parts list and indicates parts position in the technical manual.

2-A3 → Parts position. The technical manual is divided into 16 equal sections. Each section can be identified by using A, B, C and D from left to right and 1, 2, 3 and 4 from top to bottom.

→ Indicates page number in which the technical manual appears. However, 1/1 (page 1 of 1) is not indicated particularly.

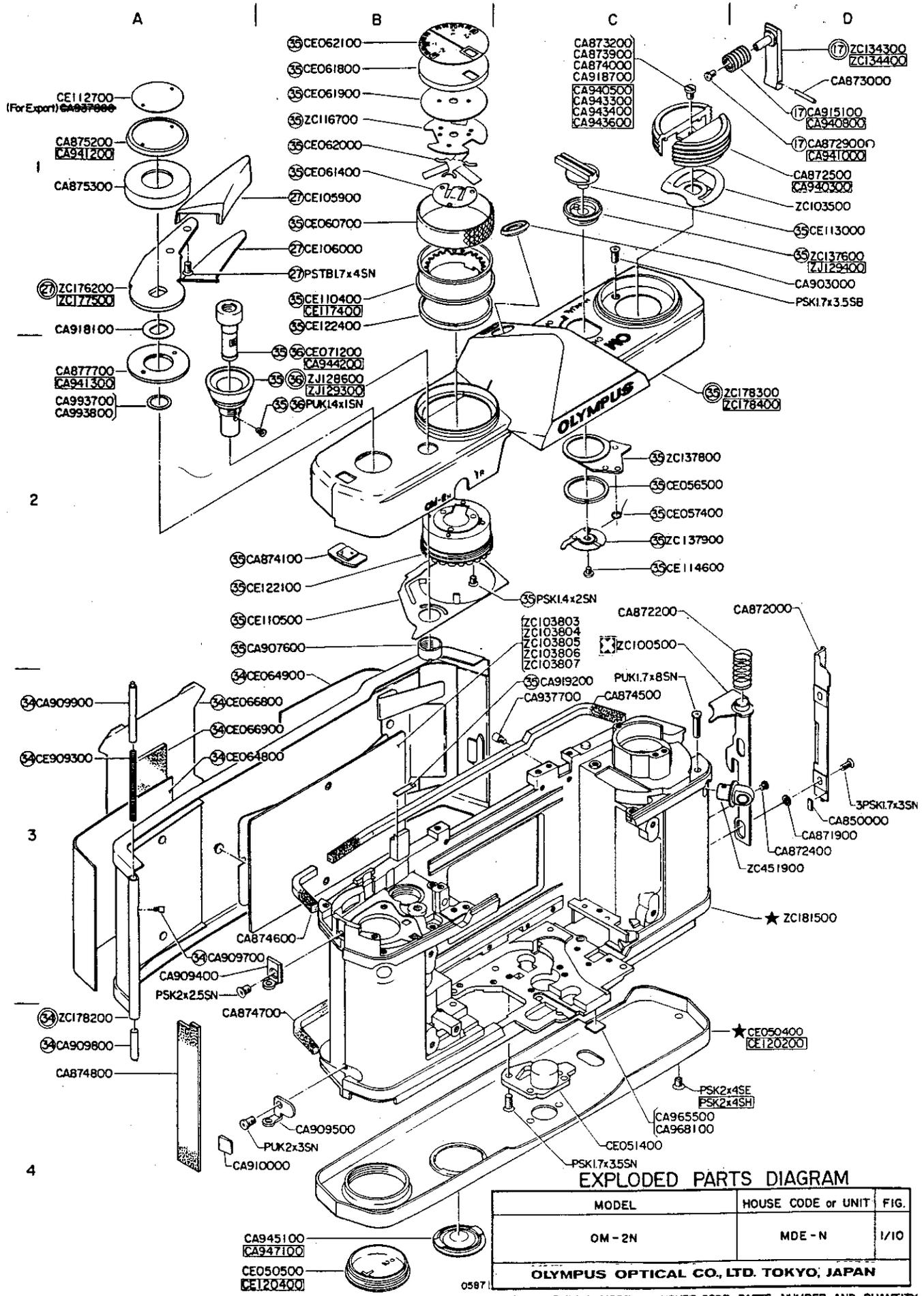


TECHNICAL MANUAL

| MODEL | HOUSE CODE or UNIT | FIG. |
|--------------|--------------------|------|
| OLYMPUS OM-2 | MDE | 1/8 |

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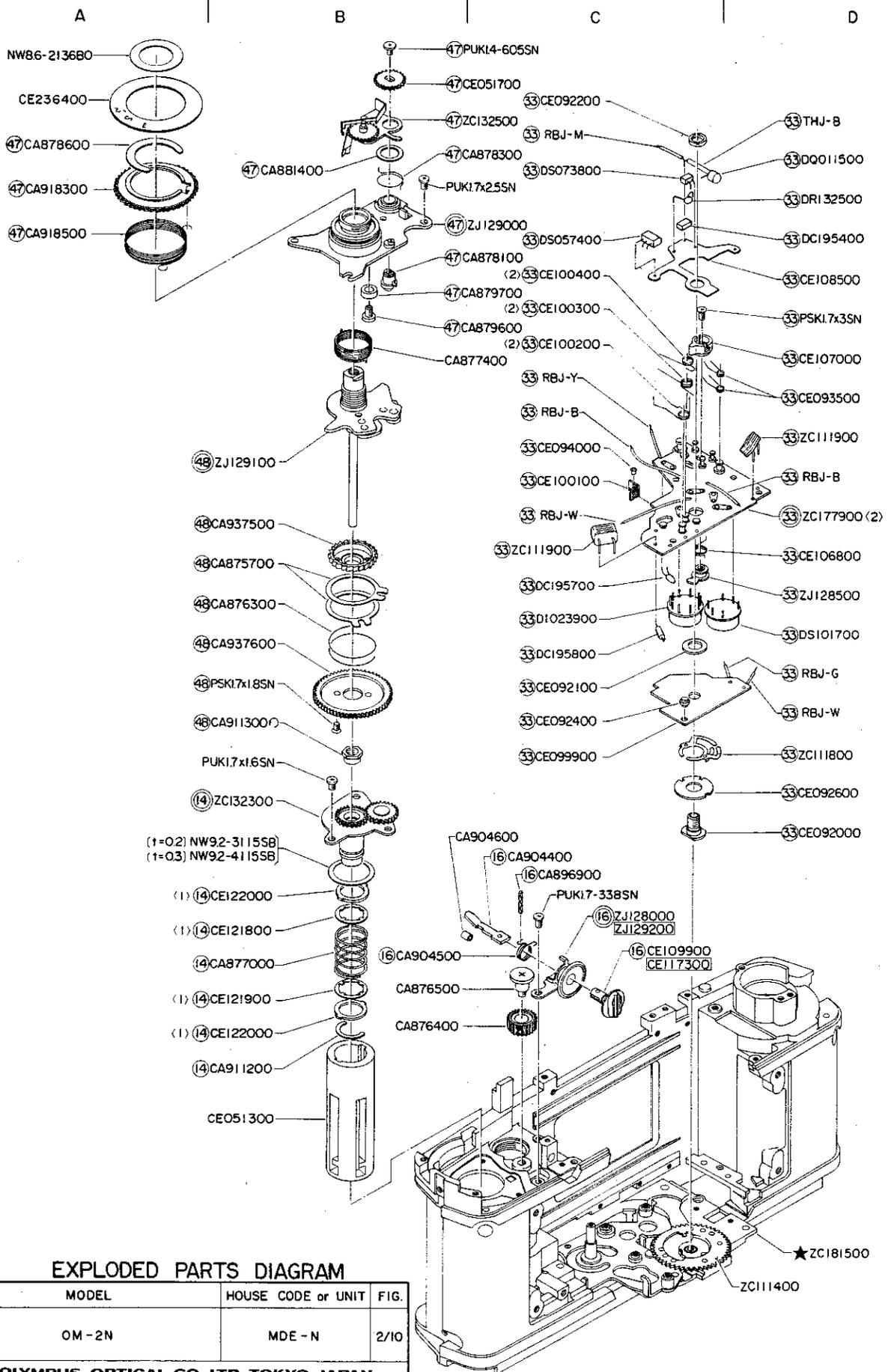
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OM-2N | MDE-N | 1/10 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.

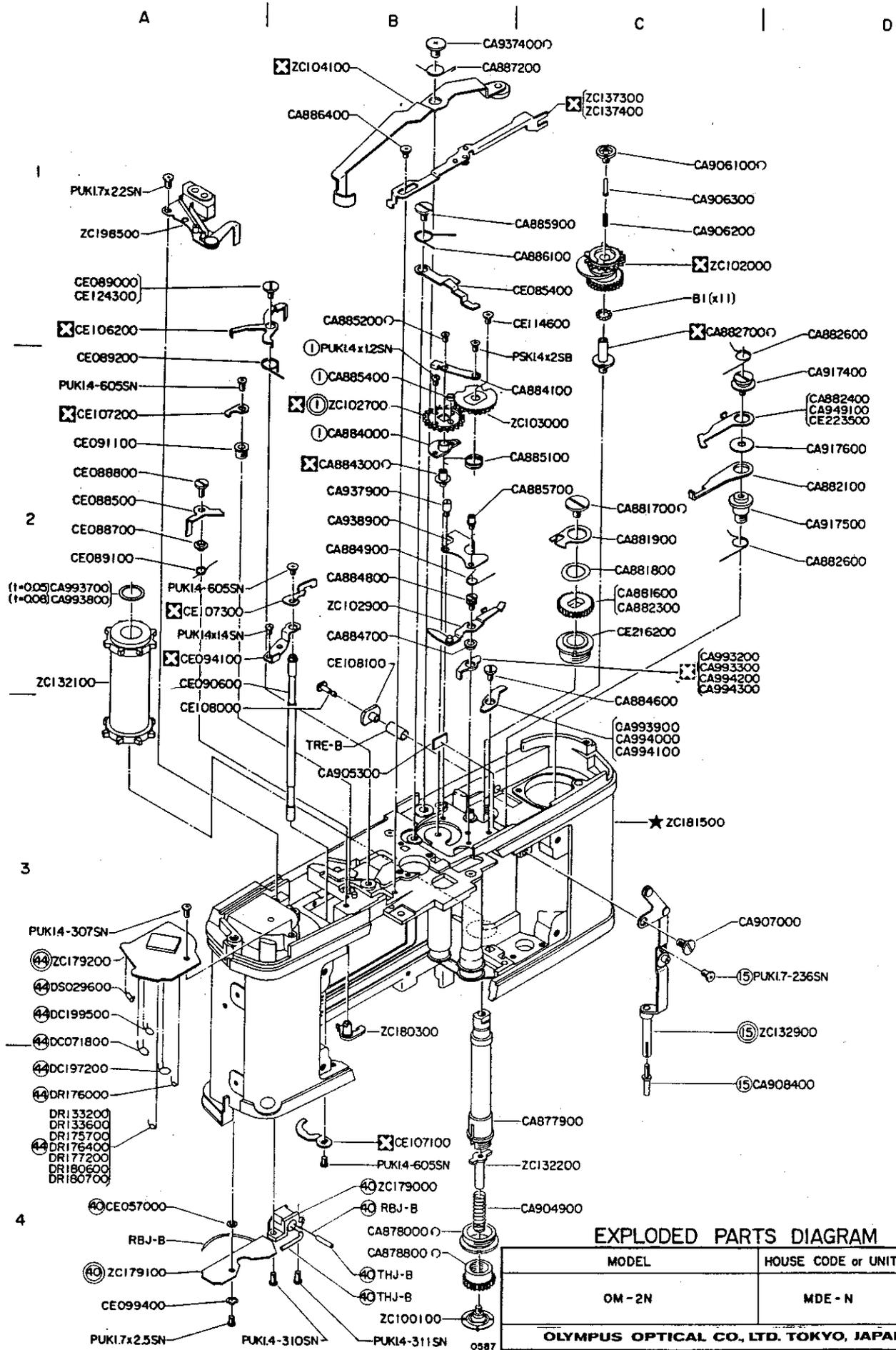


EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OM-2N | MDE-N | 2/10 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

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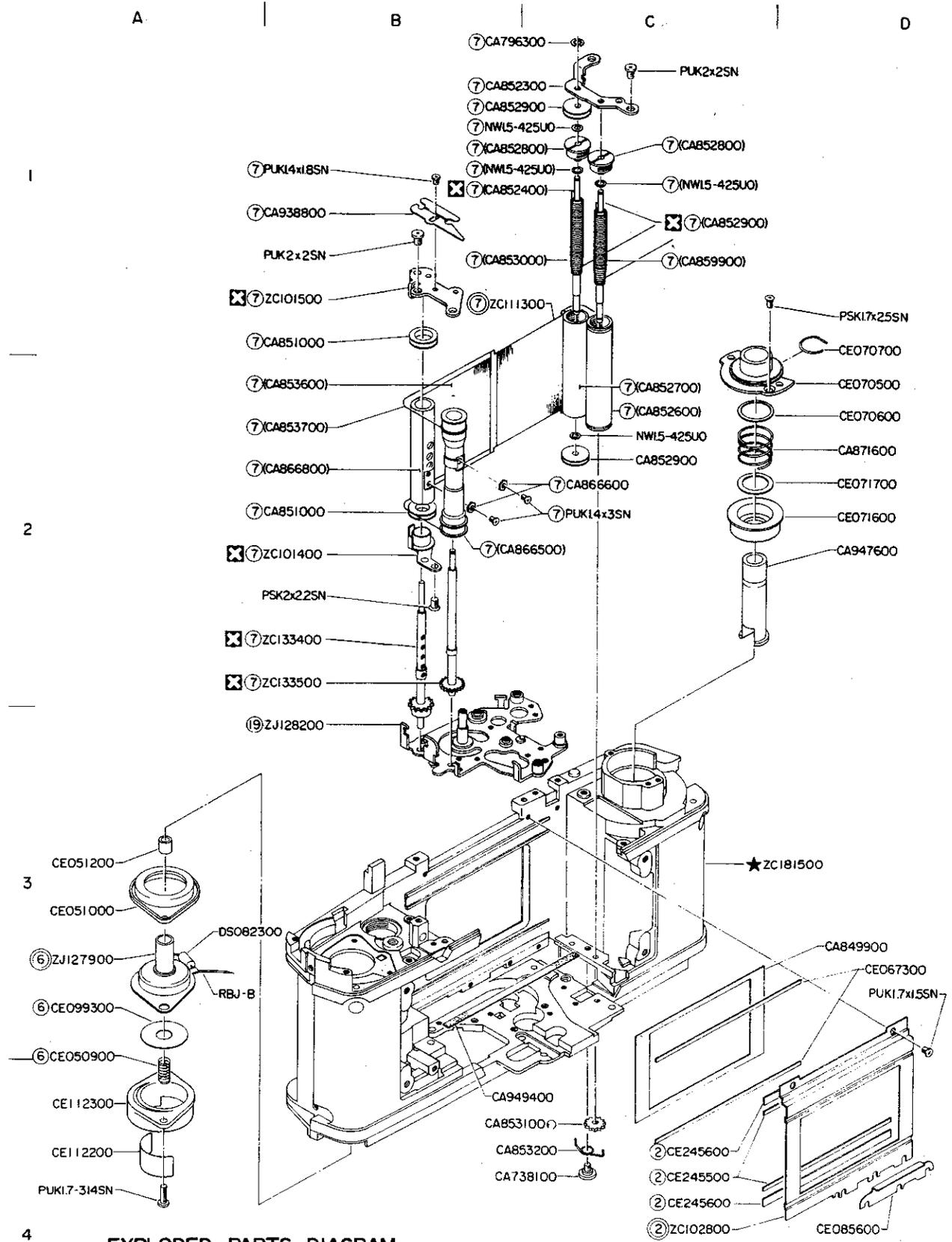
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OM-2N | MDE-N | 3/10 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.

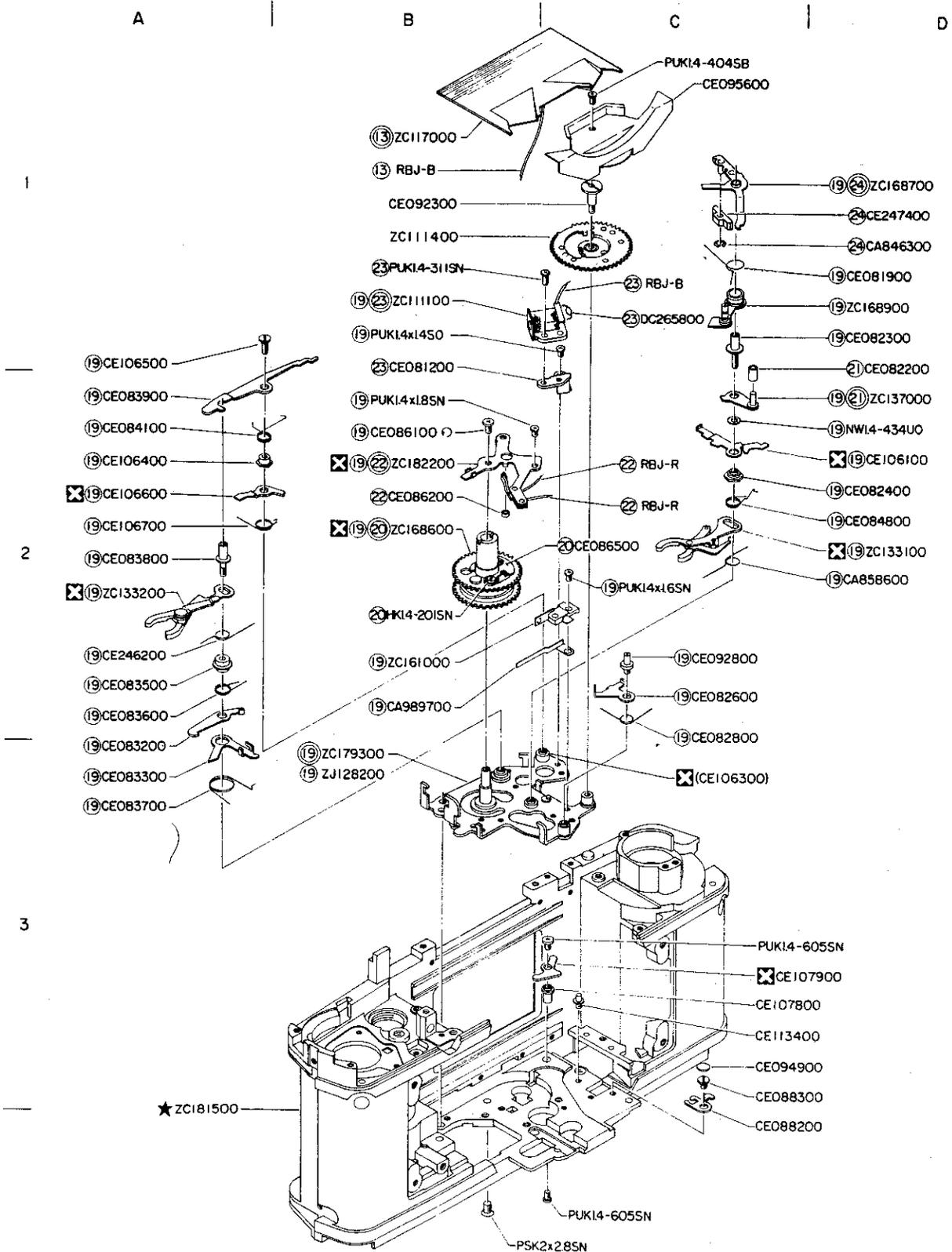


EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OM-2N | MDE-N | 4/10 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

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NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OM - 2N | MDE - N | 5/10 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

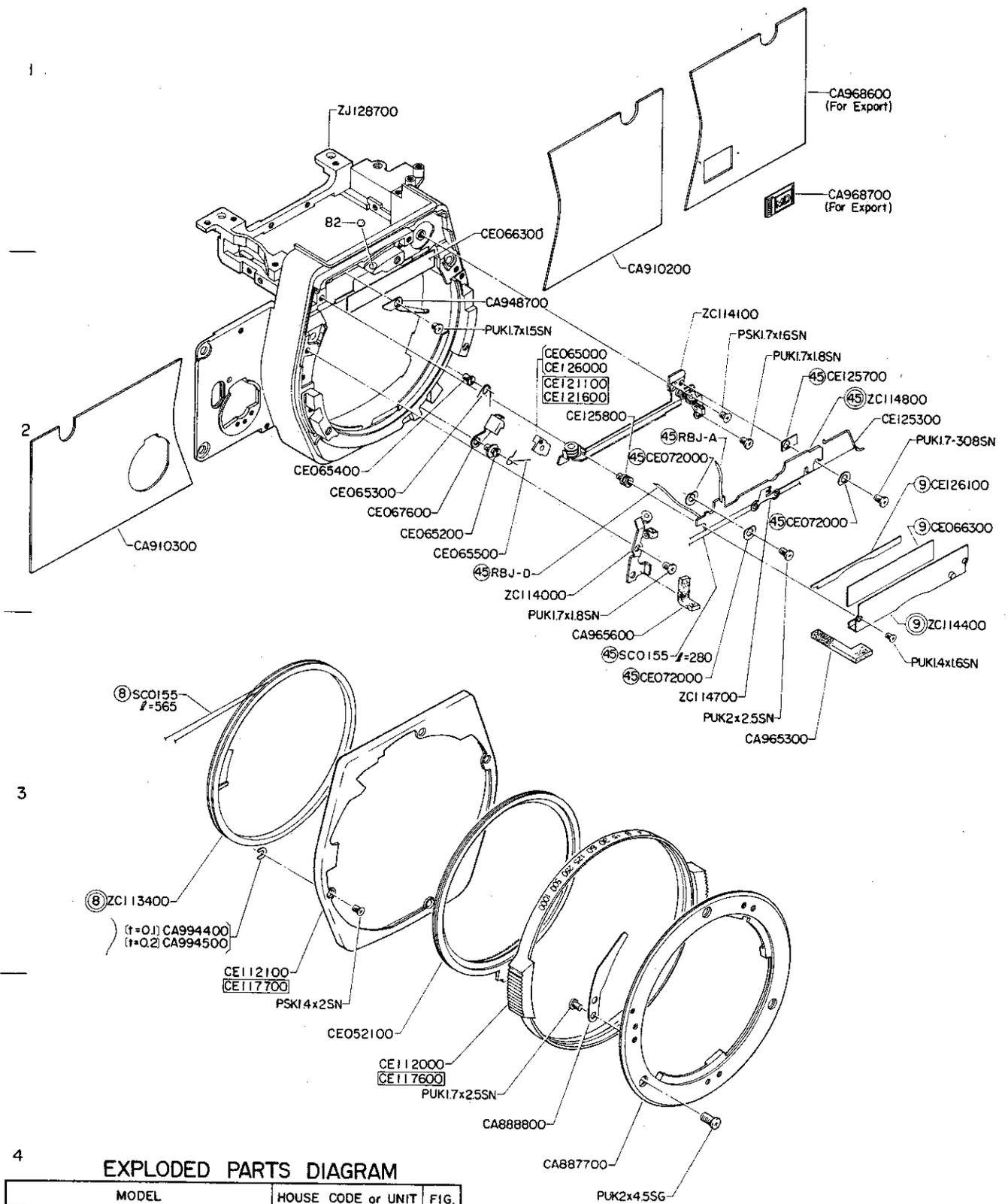
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.

A

B

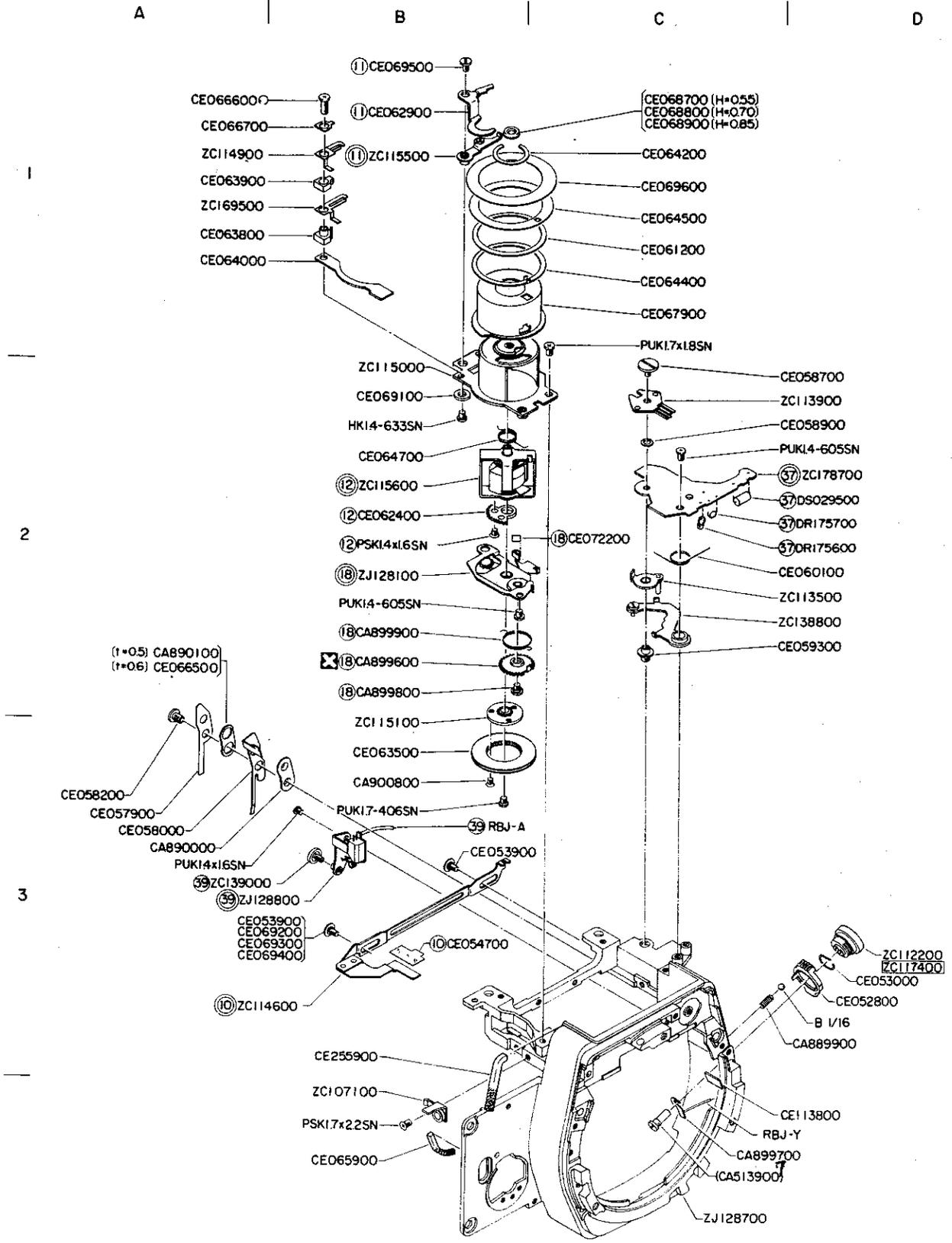
C

D



0285

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|-------|--------------------|------|
| OM-2N | MDE-N | 7/10 |

OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

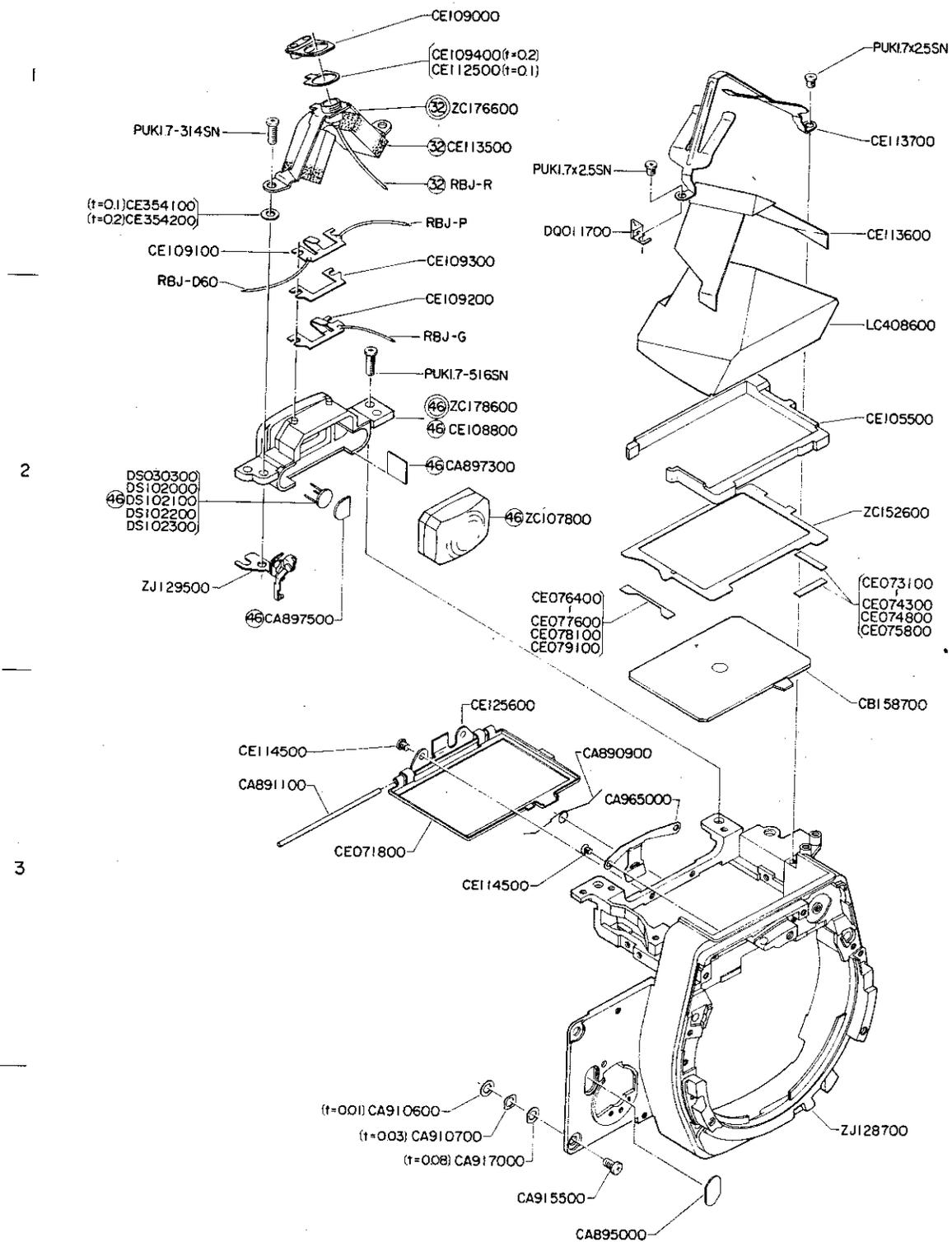
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.

A

B

C

D

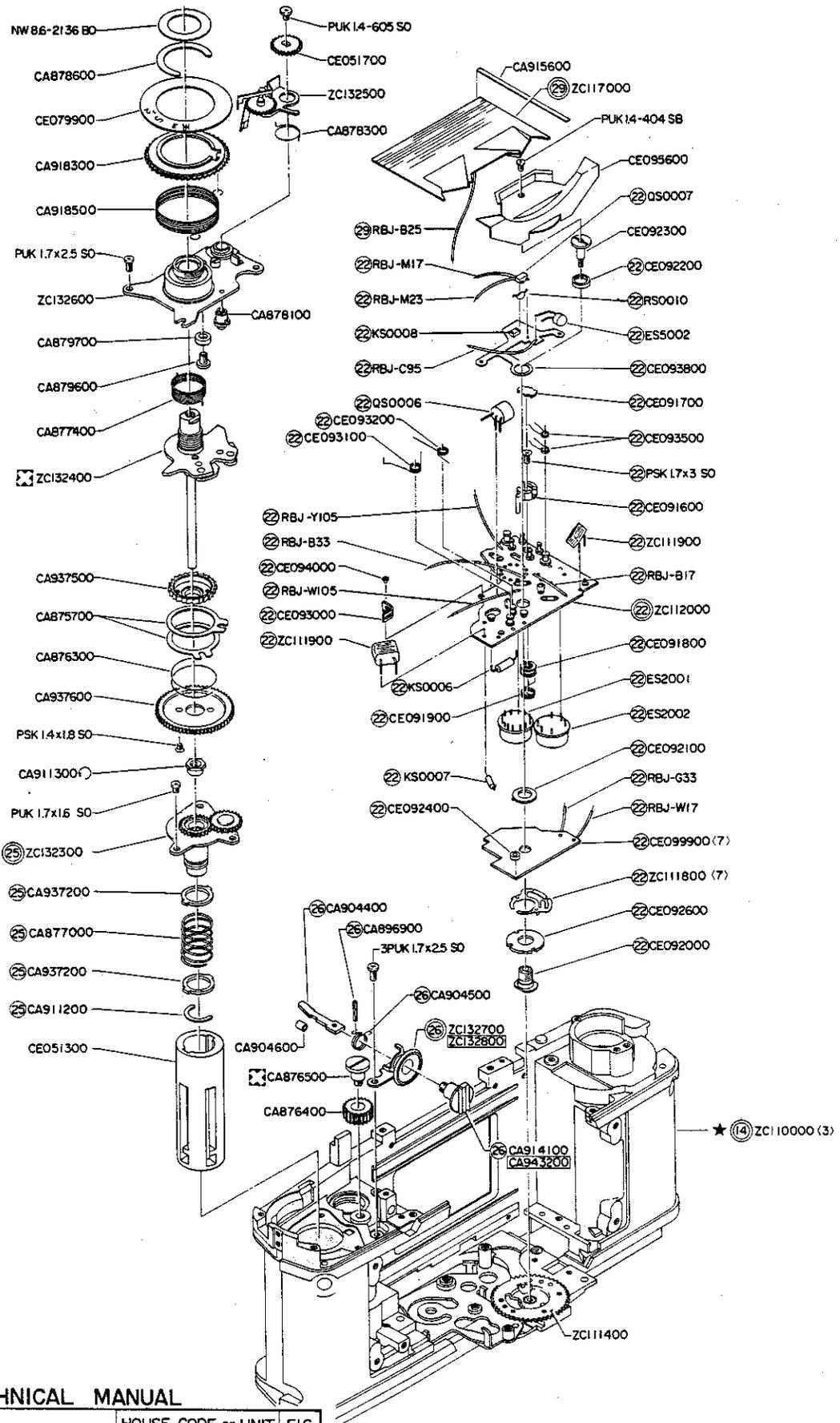


EXPLODED PARTS DIAGRAM

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OM-2N | MDE-N | 9/10 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

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NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.



TECHNICAL MANUAL

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 2/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

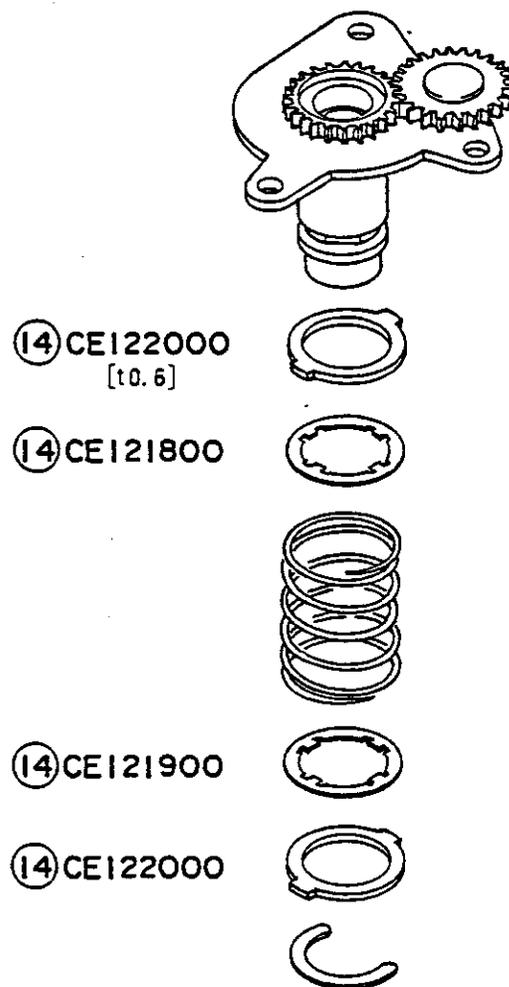
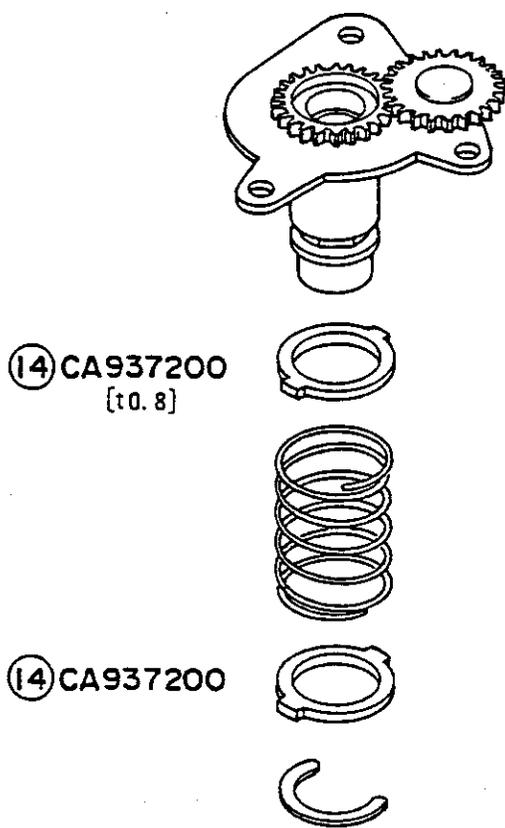
IMPROVED PARTS TABLE

MDE-N 変更部品表 IMPROVED PARTS TABLE

OLD

<1>

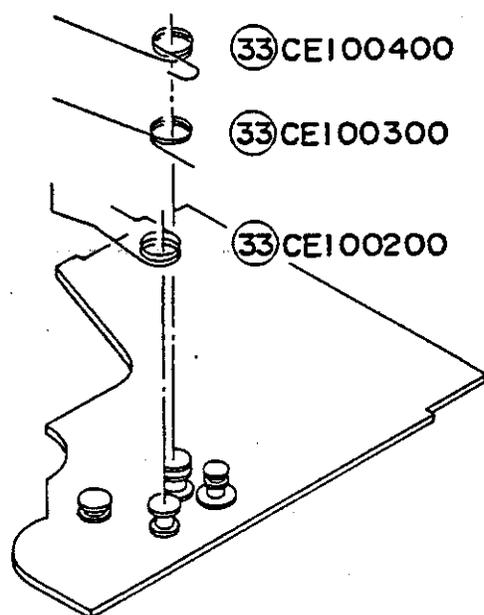
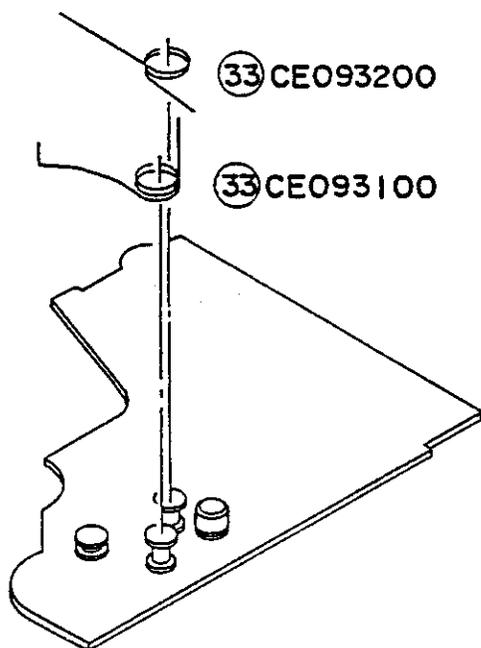
NEW



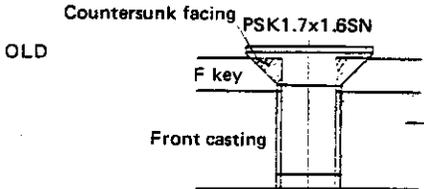
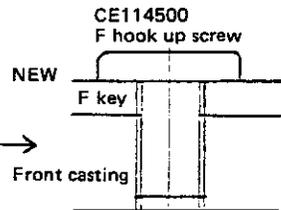
OLD

<2>

NEW

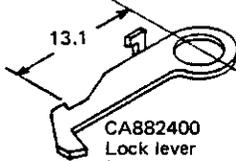
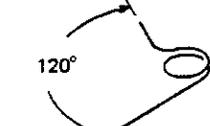
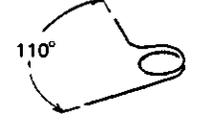


DATA MODIFICATION NOTICE

| MODEL | M D E - N | SUBJECT | Change of F key setscrew |
|---|--|-----------------------------|--|
| DESCRIPTION | | | |
| MDE-N PL | None | → CE114500 | F hook up screw 9-C3 2 |
| MDE-N EPD 9-B3 | PSK1.7 x 1.6SN | → PSK1.7 x 1.6SN | CE114500 |
| <p>P.L. PARTS LIST E.P.D. EXPLODED PARTS DIAGRAM</p> | | | |
| REASON OF MODIFICATION | | | |
| <p>Countersunk facing is unnecessary in assembling F key.</p> | | | |
| OLD |  <p>Countersunk facing PSK1.7x1.6SN F key Front casting</p> | NEW |  <p>CE114500 F hook up screw F key Front casting</p> |
| <p>The countersunk screw has been replaced with flat head one. (Countersunk facing has been omitted.)</p> | | | |
| PARTS MANAGEMENT | | | |
| <p>CA9650 F key in stock is not faced. Request shipment of CE1145 F key plate.</p> | | | |
| REMARKS | | | |

| MODEL | M D E - N | SUBJECT | Prevention of upward mirror deviation |
|---|-----------|---------|---------------------------------------|
| <p>DESCRIPTION No data modification.</p> <div style="text-align: center;"><p>ZC133200 → ZC133200</p></div> <p>P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION For preventing the mirror from deviating upward, the rising portion of B pinch 1 has been extended as shown above.</p> | | | |
| <p>PARTS MANAGEMENT The old B pinch 1 should be used so far as it is stocked. (The new part has the same No.)</p> | | | |
| <p>REMARKS OM10 also uses B pinch 1. However, the old part must not be used for OM10.</p> | | | |

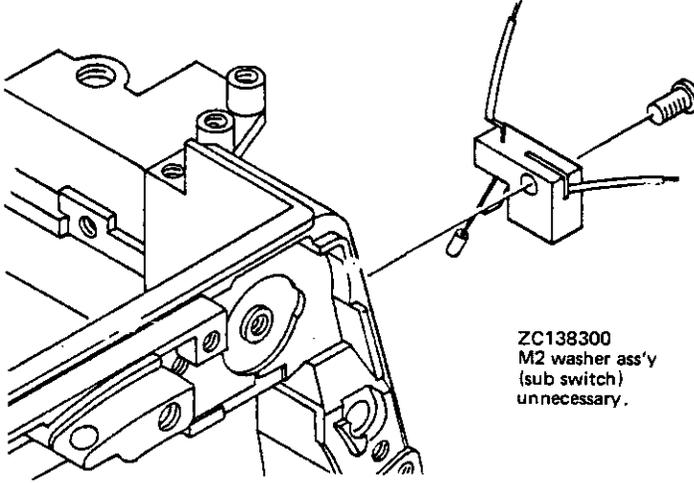
| MODEL | M D E | SUBJECT | Standardization of gear Ass'y with NDE-N |
|--|---|---|--|
| DESCRIPTION | | | |
| MDE PL | ZC137200 Gear A B ass'y ZC137100 Contact A CE082500 Plate | → ZC168600 Gear A ass'y → ZC137200 Gear A B ass'y → ZC137100 Contact A → ZC182200 → CE082500 Plate | 3-B2 3-B1 1 3-B3 1 3-C2 1 |
| MDE EPD | 3-B2 ☒ (15) ZC137200 3-C2 (15) CE082500 | → ☒ (15) ZC168600 → (11) ZC182200 → (15) CE082500 | |
| <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>MDE</p> </div> <div style="text-align: center;"> <p>Parts of gear A ass'y have been standardized with MDE-N.</p> </div> <div style="text-align: center;"> <p>MDE-N</p> </div> </div> | | | |
| <p>P.L. PARTS LIST I.P.D. EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION Gear A ass'y has been standardized with OM-2N.</p> | | | |
| <p>PARTS MANAGEMENT Use ZC137200 so far as it is stocked. Then, use ZC168600 Gear A ass'y and ZC182200 plate (Check stock of ZC137200 and manage it as ZC168600 if the former is the same as the latter.)</p> | | | |
| <p>REMARKS</p> | | | |

| MODEL | M D E - N | SUBJECT | Measure for proper engagement between 2 and 3 gear assemblies | | |
|--|---|---|---|--|-----|
| DESCRIPTION | | | | | |
| MDE-N PL | None | → CE114600 3G screw | 3-C2 | | 1 |
| | None | → CE223500 Lock lever 3 | short, with large reference hole | | 1/3 |
| MDE-N EPD 3-C1 | PUK1.4-605SN | → PUK1.4-605SN | CE114600 | | |
| | [CA882400 CA949100 | → [CA882400 CA949100 CE223500 | | | |
| (1) |  |  |  | | |
| | CA882400 Lock lever (with no check hole) | CA949100 Lock lever 2 (with check hole 0.8φ) | CE223500 Lock lever 3 (with check hole 1.5φ) | | |
| (2) |  |  | | | |
| | OLD CA882600 Lock spring (wire dia. 0.23) | NEW CA882600 Lock spring (wire dia. 0.26) | | | |
| (3) |  |  | | | |
| | OLD PUK1.4-605SN (Head dia. 3) | NEW CE114600 3G screw (Head dia. 4) | | | |
| P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM | | | | | |
| REASON OF MODIFICATION | | | | | |
| (1) For preventing friction between the 2 and 3 gear assemblies, CE223500 Lock lever 3 having short interval between claws has been added for permitting slection from among three types (as already practiced for OM-10). | | | | | |
| (2) Spring force has been increased to prevent deviation between the 2 and 3 gear assemblies. | | | | | |
| (3) The screw heads have been enlarged to prevent vertical play of the 3 gear ass'y. | | | | | |
| PARTS MANAGEMENT | | | | | |
| ○ Parts No. of the lock lever remains uncharged . . . The old part is to be used so far as it is stocked. | | | | | |
| ○ Request shipment of the lock lever 3 and 3G screw. | | | | | |
| ○ PUK1.4 x 605SN is used in another location and should be managed in the conventional manner. | | | | | |
| REMARKS | | | | | |

DATA MODIFICATION NOTICE

| MODEL | M D E - N | SUBJECT | Durability improvement of SW base plate and Spool holder | | |
|--|-----------|---------------|--|--|---------------|
| DESCRIPTION | | | | | |
| MDE-N PL | CA937200 | Spool holder | → | CE122000 CA937200 | Spool holder |
| | None | | → | CE121800 | Plate A <1> 1 |
| | None | | → | CE121900 | Plate B <1> 1 |
| | ZC182400 | SW base plate | → | ZC198500 ZC182400 | SW base plate |
| MDS-MN EPD | 3-A1 | ZC182400 | → | ZC198500 ZC182400 | |
| | 2-B3 | (14) CA937200 | → | <1> (14) CE122000 CA937200 | |
| Improved parts table <1> to be newly prepared. | | | | | |
| P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM | | | | | |
| REASON OF MODIFICATION | | | | | |
| ○ UPI parts have been adopted as standard for improving durability | | | | | |
| PARTS MANAGEMENT | | | | | |
| ○ The new SW base plate is interchangeable with the old one as an assembly. . . . (Use the new plate ass'y after the old one has been consumed.) | | | | | |
| ○ Request shipment of both the plates. | | | | | |
| REMARKS | | | | | |
| The SW base plate, spool holder, plates A and B are usable with the preceding models (MDS, MDS-M and MDE.) | | | | | |

| MODEL | M D E - N | SUBJECT | Omission of sub switch |
|--------------------|--------------------------|---------|---|
| DESCRIPTION | | | |
| MDE-N PL | ZC138300 M2 washer ass'y | → | ZC138300 M2 washer ass'y 7-C3 |
| MDE-N EPD 7-C3 | ②⑤ ZC138300 | → | ②⑤ ZC138300 |
| | ②⑤ RBJ-R | → | ②⑤ RBJ-R |
| 7-D3 | ②⑤ RBJ-A | → | ②⑤ RBJ-A |
| | PUK1.7-314SN | → | PUK1.7-314SN |
| 10-C1 | ZC138300 (SW402) | → | ZC138300 (SW402) |
| | RED 30 | → | RED 30 |
| | BLUE 30 | → | BLUE 30 |



ZC138300
 M2 washer ass'y
 (sub switch)
 unnecessary.

P.L.: PARTS LIST
 E.P.D.: EXPLODED PARTS DIAGRAM

REASON OF MODIFICATION

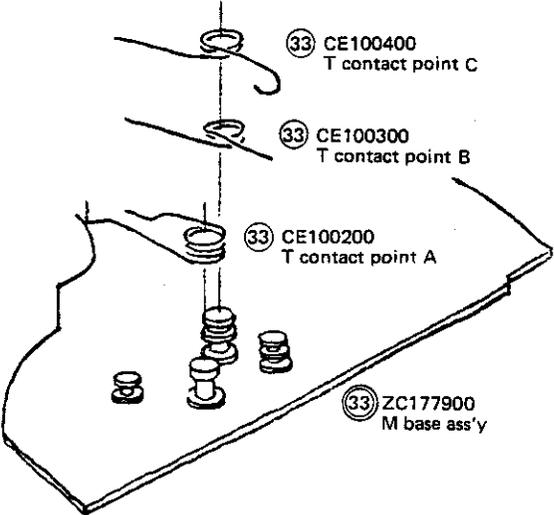
In the convenience of the model change from OM-2 to OM-2N, the main switch was equipped with double contacts made of wires to improve reliability. This improvement has made the sub switch (AC138300) unnecessary.

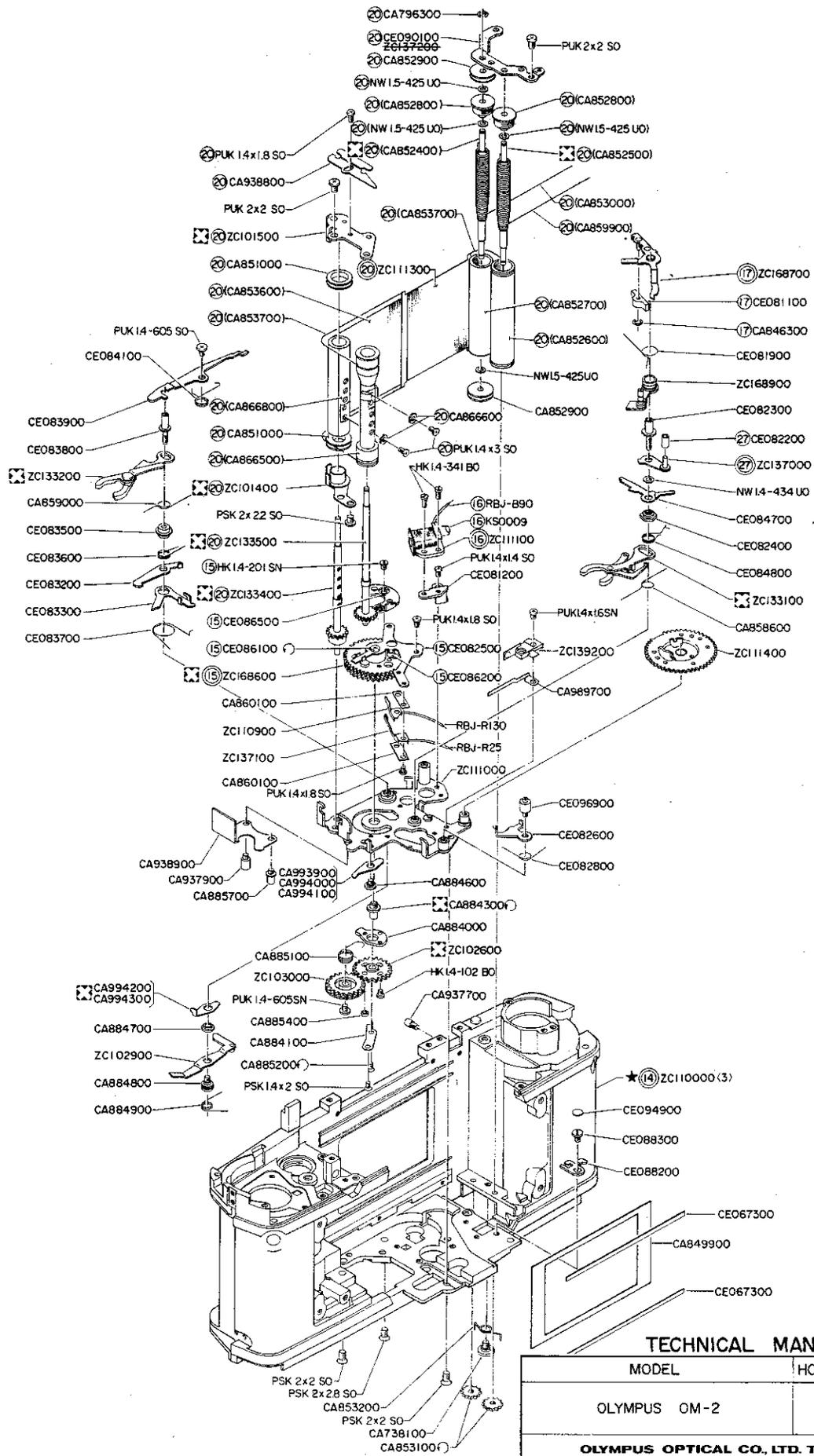
PARTS MANAGEMENT

ZC138300 M2 washer ass'y is necessary for preceding Model MDE and should be managed in the conventional manner.

REMARKS

OM-2 (MDE) is incompatible with the main switch (ZJ128800 M center plate) which is equipped with the double contacts made of wires.
 The old main and sub switches should be used for OM-2 in the conventional manner.
 (From April, 1980)

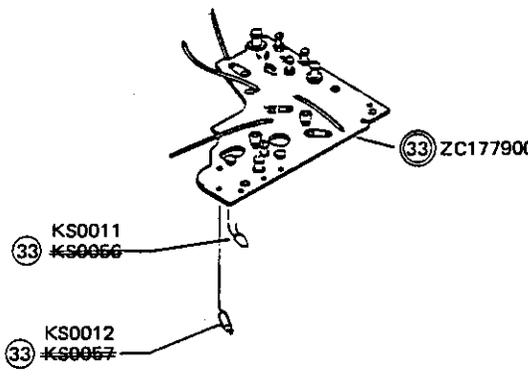
| MODEL | M D E - N | SUBJECT | Dualization of trigger contact |
|---|-------------|---|--------------------------------|
| DESCRIPTION | | | |
| MDE-N PL | CE093100 | → CE100200 CE093100 T contact point A | |
| | CE093200 | → CE100300 CE093200 T contact point B | |
| | None | → CE100400 T contact point C | <2> 1 |
| MDE-N EPD 2-C1 | ③③ CE093200 | → <2> ③③ CE093200 | |
| | ③③ CE093100 | → <2> ③③ CE093100 | |
| 2-D2 | ③③ ZC177900 | → ③③ ZC177900 <2> | |
| Improved parts table <2> to be newly prepared. | | | |
|  | | | |
| P.L. PARTS LIST E.P.D. EXPLODED PARTS DIAGRAM | | | |
| REASON OF MODIFICATION | | | |
| The trigger contact has been dualized for assuring higher reliability of triggering operation. (This improvement has already been done in MDJ.) | | | |
| PARTS MANAGEMENT | | | |
| <ul style="list-style-type: none"> ○ Use the old parts so far as they are stocked (manage in the conventional manner.) ○ The new T contact points A, B and C have already been used in MDJ. ○ The code/No. of the M base ass'y remains unchanged. Use the old one so far as it is stocked. | | | |
| REMARKS | | | |



TECHNICAL MANUAL

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 3/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

| MODEL | M D E - N | SUBJECT | Change of capacitors (C101 and C102) |
|---|-----------|---|--------------------------------------|
| DESCRIPTION | | | |
| MDE-N PL | KS0056 | → KS0011 KS0056 Capacitor | |
| | KS0057 | → KS0012 KS0057 Capacitor | 620pF 680pF |
| MDE-N EPD 2-C2 | ③③ KS0056 | → ③③ KS0056 | KS0011 |
| | ③③ KS0057 | → ③③ KS0057 | KS0012 |
|  <p>P.L. PARTS LIST E.P.D. EXPLODED PARTS DIAGRAM</p> | | | |
| REASON OF MODIFICATION Change of manufacturer | | | |
| PARTS MANAGEMENT ○ Use the old capacitors so far as they are stocked (the new and old ones are interchangeable with each other.) | | | |
| REMARKS | | | |

DATA MODIFICATION NOTICE

| MODEL | M D E - N | SUBJECT | Replacement of rear adjusting plate with front adjusting plate on left side | |
|--------------------|-----------|--------------------------|---|----------|
| DESCRIPTION | | | | |
| MDE-N PL | CE073100 | Front adjusting plate 60 | t 0.03 | 2/15 → 3 |
| MDE | } | " | " | 2/15 → 3 |
| | CE075800 | " | t 0.30 | 2/15 → 3 |
| | } | " | " | 2/15 → 1 |
| | CE076400 | Rear adjusting plate 80 | t 0.03 | 2/15 → 3 |
| | } | " | " | 2/15 → 1 |
| | CE079100 | " | t 0.30 | 2/15 → 3 |

P.L.: PARTS LIST
 I.P.D.: EXPLODED PARTS DIAGRAM

REASON OF MODIFICATION

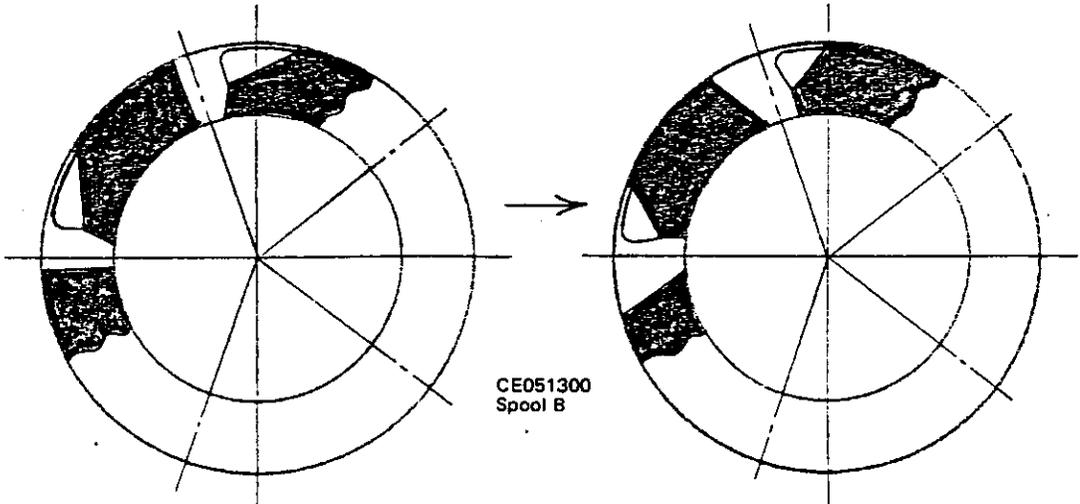
- When a rear adjusting plate thicker than 0.25 mm is selected for focusing, Fresnel lens (viewfinder screen) may have play due to contact between bending of the F frame and adjusting plate. For correcting this defect, the rear adjusting screw has been replaced with a front adjusting plate on the left side.

PARTS MANAGEMENT

- Manage the adjusting plates in the conventional manner. (since modification has been made only on the number of required adjusting plates.)

REMARKS

| MODEL | M D E - N | SUBJECT | Measure to assure good contact on synchronous X contact (increase of bending angle of X contact) |
|---|-----------|---------|--|
| <p>DESCRIPTION</p> <p>No data modification.</p> <div><p>The diagram illustrates the modification of the CA989700 X contact. On the left, a cross-section of the contact is shown with a bending angle of 14°. Below it, text states: 'CA989700 X contact' and 'MDJ and MDQ use this contact. It is named CE248100 X Contact for distinguishment from CA989700 (having bending angle of 35°)'. An arrow points to the right, where the same contact is shown with a bending angle of 35°. Below it, text states: 'CA989700 X contact' and 'CA989700 X Contact used for MDS-MN and MDE-N.'.</p></div> <p>P.L. PARTS LIST E.P.D. EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION</p> <p>The bending angle has been increased to assure good frictional contact on the X contact. This is effective to correct chattering due to poor contact on X contact (especially on OM-2). The X contact having bending angle of 14° is generally usable in the camera body. (MDJ and MDQ adopt X contact having bending angle of 14°.)</p> | | | |
| <p>PARTS MANAGEMENT</p> <ul style="list-style-type: none">○ Request the new X contact having bending angle of 35° whose part No. remains unchanged (CA989700).○ CA989700 X contact having bending angle of 14° should be stored under a part No. CE248100. | | | |
| <p>REMARKS</p> <ul style="list-style-type: none">○ When the X contact having bending angle of 35° is required emergently, use the X contact having bending angle of 14° after increasing the bending angle to 35°. | | | |

| MODEL | M D E - N | SUBJECT | Prevention of film from protruding from spool (improvement of the spool claw) |
|---|-----------|---------|--|
| <p>DESCRIPTION</p> <p>No data modification.</p> <div><p>CE051300 Spool B</p></div> <p>P.L. PARTS LIST E.P.D. EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION</p> <ul style="list-style-type: none">○ In order to prevent film from protruding from the spool, the angles of the claws and grooves have been improved in the spool as illustrated above. | | | |
| <p>PARTS MANAGEMENT</p> <ul style="list-style-type: none">○ Part No. of spool B remains unchanged (CE051300).○ Use the old parts so far as it is stocked. | | | |
| <p>REMARKS</p> <p>The modification has been effected since the end of October, 1981.</p> | | | |

| MODEL | MDE - N | SUBJECT | Omission of winding shaft sub ass'y |
|---|---------|---------|-------------------------------------|
| <p>DESCRIPTION</p> <p>ZC132400 Winding shaft ass'y → Omitted</p> <div style="text-align: right;"> </div> <p>P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION</p> <p>Due to modification of manufacturing processes, ZC132400 Winding shaft sub ass'y will not be stocked hereafter at the factory or repair shops. ZJ129100 Winding shaft ass'y will hereafter be used instead.</p> | | | |
| <p>PARTS MANAGEMENT</p> <p>ZC132400 will not be shipped hereafter.</p> | | | |
| <p>REMARKS</p> | | | |

| MODEL | M D E - N | SUBJECT | Adoption of parts (L base plate and Fastening plate 2) prepared for Model MDJ |
|--|-----------------|------------|---|
| DESCRIPTION | | | |
| 1) CE090100 | L base plate | → CA852300 | L base plate |
| 2) CE081100 | Fastening plate | → CE247400 | Fastening plate 2 |
| <p>The diagram illustrates two parts being replaced. Part 1) shows the transition from CE090100 (an L-shaped base plate with a curved top edge and a circular hole) to CA852300 (an L-shaped base plate with a straight top edge and a circular hole). Part 2) shows the transition from CE081100 (a rectangular fastening plate with a circular hole) to CE247400 (a rectangular fastening plate with a circular hole and a different top profile). Arrows indicate the direction of replacement.</p> | | | |
| <p>P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM</p> | | | |
| REASON OF MODIFICATION | | | |
| <p>1) CA852300 prepared for use with Model MDS-MN and Model MDJ has been adopted in Model MDE-N. It shows no difference when used as the curtain ass'y.</p> <p>2) CE247400 prepared for use with Model MDJ has been adopted in Model MDE-N. It has already been used in Model MDE-N with no difference caused in its performance.</p> | | | |
| PARTS MANAGEMENT | | | |
| CE090100 and CE081100 should be used so long as they are stocked. These parts will not be delivered hereafter. | | | |
| REMARKS | | | |
| This modification applies also to Model MDE. | | | |

DATA MODIFICATION NOTICE

| MODEL | M D E - N | SUBJECT | Part No. change of transistor (QS0007 → QS0037) |
|---|-----------|---------|--|
| <p>DESCRIPTION QS0007 Transistor → QS0037 Transistor (Q102)</p> <p>P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION Transistor QS0007 has been replaced with QS0037 for convenience of part preparation. The old transistor (2SA811) is interchangeable with the new one (2SA811A) with no problem in performance of the instrument.</p> | | | |
| <p>PARTS MANAGEMENT QS0007 should be used so long as it is stocked. (QS0007 may hereafter be managed as QS0037).</p> | | | |
| <p>REMARKS This modification applies also to Model MDE.</p> | | | |

DATA MODIFICATION NOTICE

| MODEL | M D E - N | SUBJECT | Adoption of MDJ part (sprocket lower holder) |
|--|-----------|---------|---|
| <p>DESCRIPTION</p> <p>CA881500 Sprocket lower holder → CE216200 Sprocket lower holder</p> <div style="text-align: center;"><p>CA881500 (metal) → CE216200 (molding)</p></div> <p>P.L.: PARTS LIST E.P.D.: EXPLODED PARTS DIAGRAM</p> | | | |
| <p>REASON OF MODIFICATION</p> <p>The sprocket lower holder has been replaced with the molded part already used in Model OM-10. CA881500 (made of metal) → CE216200 (molding) (Shape of the sprocket lower holder remains unchanged.)</p> | | | |
| <p>PARTS MANAGEMENT</p> <p>No particular request of part shipment required. CA881500 should be managed in the conventional manner.</p> | | | |
| <p>REMARKS</p> <p>CA881500 (made of metal) should be used in Model MDE (OM-2), MDS and MDS-M (OM-1). CE216200 (modling) should be adopted after CE881500 has been used.</p> | | | |

A

**GENERAL OUTLINE
AND
MECHANICAL FEATURES**

A. GENERAL OUTLINE AND MECHANICAL FEATURES

1. MAIN SPECIFICATIONS

System: OLYMPUS OM System

Model Name: OM-2N

House Cord: MDE-N

Camera Type:

35 mm Single Lens Reflex with automatic exposure control electronic focal plane shutter.

Film Format: 24 mm x 36 mm.

Lens Mount:

OLYMPUS OM Mount, bayonet type; rotation angle 70°, flange back 46 mm.

Shutter:

Focal plane shutter, automatic exposure control from 120 seconds to 1/1,000 second (ASA 100, F1.3, at normal temperature and humidity).

Manual exposure: B, 1—1/1,000 sec., ring mounted control.

Synchro:

FP-X switch type contact, incorrect flash prevention. (Accessory shoe mount for X contact).

Automatic Exposure Control:

Aperture-preferred automatic exposure control electronic shutter type. TTL Direct Light Measuring System. Measuring range: ASA 100 from F1.2, 120 seconds to F16, 1/1,000 second. (EV-6.5 — EV18) (at normal temperature and humidity). Light sensors: 2 SBC sensors. Large exposure compensation dial: $\pm 2EV$ (within the ASA film speed range). Automatic flash exposure: Direct contacts for TTL Auto Flash (full automatic flash with T20 electronic flash).

Manual Exposure:

TTL type. Measuring system: Full aperture center-weighted metering. Measuring range: EV1.5 — EV17 (ASA 100 with F1.2 standard lens). Light sensors: 2 CdS sensors.

Zero-method with needle visible in viewfinder.

Film speed setting:

ASA 12 — 1,600, set by lifting and rotating film speed dial.

Auto/Manual Selection:

By selector lever.

Power source:

Two 1.5V silver oxide batteries [Eveready (or UCAR) S-76 or equivalents].

Battery Check:

3-stage battery check lamp (light emitting diode) indicates full voltage, depleted charge, and exhaustion of batteries. Shutter lock to limit drainage.

Mirror Unlock:

Mirror lock-up can be released simultaneously with battery check.

Viewfinder:

Pentaprism type wide-vision finder.

Focusing Screens:

Wide selection of interchangeable screens. Standard type Focusing Screen 1—13 (micro-prism split image matte type).

Finder View-field:

97% of actual picture field.

Viewfinder Magnification:

0.92X at infinity with standard 50 mm lens.

Apparent Field View:

Vertical 23° 30', horizontal 35°.

Indicators in Viewfinder:

3-stage selector lever. (Auto: Shutter speed indicator. — Manual: exposure index. — Off: nothing). Exposure compensation marker. Charge/Auto check lamp (with T20 Electronic Flash mounted).

Reflex Mirror:

Oversize, quick return type (without lock-up).

Film Loading:

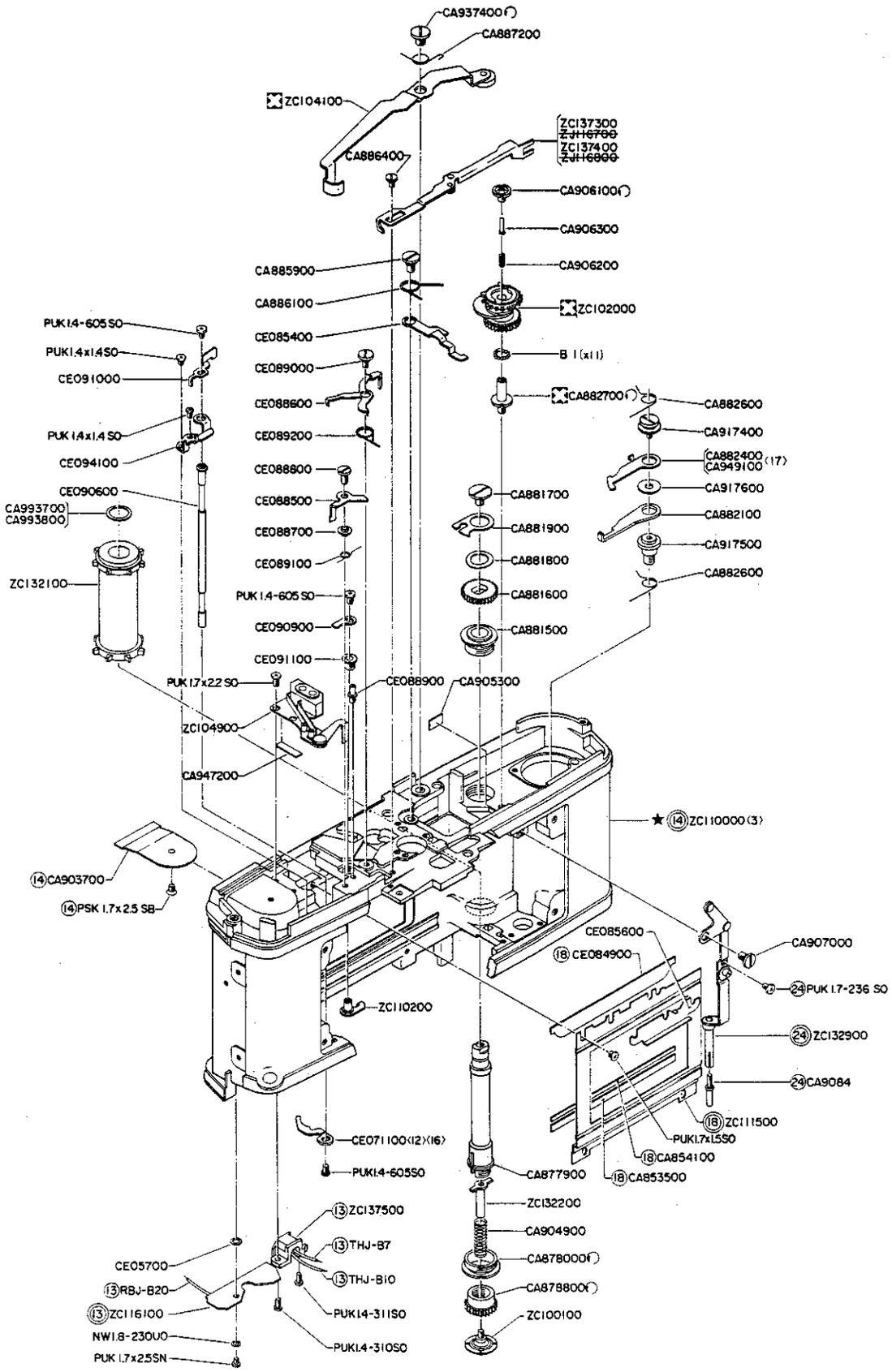
OLYMPUS easy loading.

Manual Film Advance:

Lever type with 150° angle for one long or several short strokes, pre-advance angle 30°, self-cocking, double advance and double exposure prevention.

Motor Drive Advance:

With Motor Drive 1 unit attached, single frame and continuous advance at speed of 5-frame per second (at exposures above 1/500 sec., with fresh batteries and at normal temperature and humidity).



TECHNICAL MANUAL

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 4/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

Exposure Counter:

Progressive type with automatic reset.

Film Rewind:

Crank type, with rewind release lever setting, automatic return.

Self-Timer:

4–12 second delay lever type with 180° maximum angle can be stopped and reset after actuation.

Camera Back:

Removable hinge type, with memo holder.

Interchangeable with Recordata Back 2 and 250 Film Back 1.

Hot Shoe Socket:

OLYMPUS special accessory shoe (optional) attachable.

Dimensions and Weights:

Body only: 136 x 83 x 50 mm
(5.35" x 3.27" x 1.97")

520 g (18.3 oz)

With F1.8 lens: 136 x 83 x 81 mm
(5.35" x 3.27" x 3.19")

690 g (24.3 oz)

With F1.4 lens: 136 x 83 x 86 mm
(5.35" x 3.27" x 3.39")

750 g (26.5 oz)

With F1.2 lens: 136 x 83 x 97 mm
(5.35" x 3.27" x 3.82")

830 g (29.3 oz)

2. MECHANICAL FEATURES

(1) "S" lock release mechanism

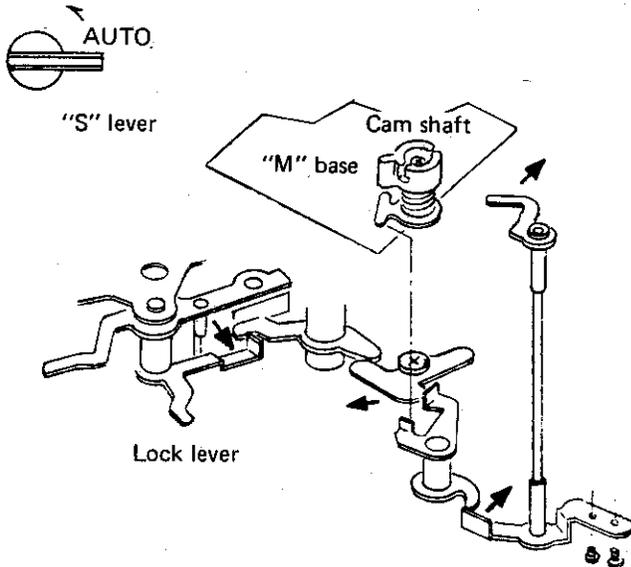
This is an added feature for releasing the shutter from its locked condition. The shutter releasing feature of the old OM-2, in which the shutter can be released by means of dial B, is retained. Thus, there are two ways of shutter releasing in the present model.

With the "S" lock release mechanism, its "S" lever located above top plate is to be operated to release the shutter: turning it from AUTO to CHECK (RESET) releases the shutter from locked condition.

Description

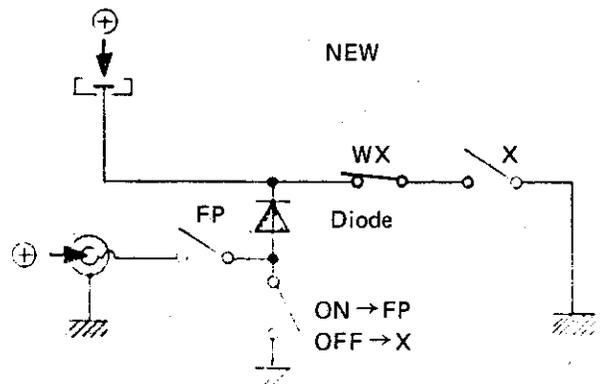
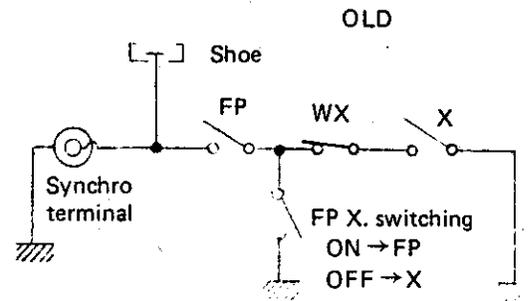
"S" lever is actually an auto-manual selector lever. As this lever is turned in the arrow direction, a series of levers transmits this movement to actuate the lock lever directly, thereby unlocking the shutter.

CHECK-RESET



(2) Location of direct shoe

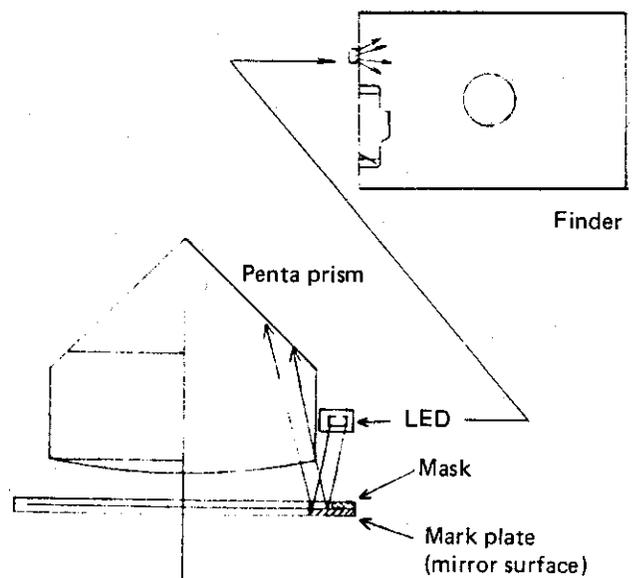
Direct shoe is associated only with X contact. It is related in no way to the selection between FP and X as will be noted in the diagram on the right. The terminal on FRONT CASTING can serve both X and FP contacts.



(3) Strobe signal indication inside finder

With the strobo for this model properly connected, the LED inside the finder becomes operative and, by lighting up and going out, signifies two states, as follows:

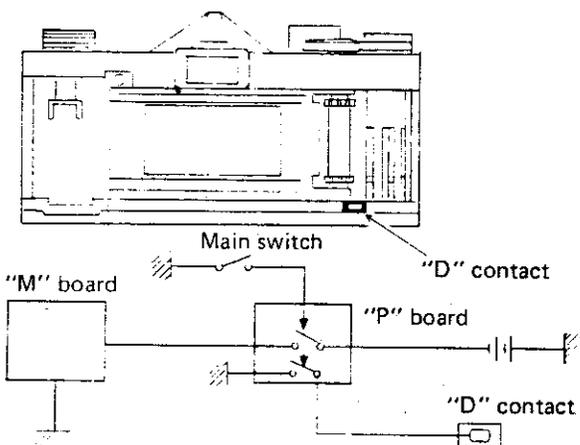
- LED on (lighted) : Strobe charging completed
- LED blinks repeatedly : A shot has been properly taken under strobo.



(4) Direct (D) contact for recor-data back

As illustrated in the schematic diagram below, "D" contact is provided to enable a new, cord-detachable type of recor-data back to be used as cordless. A special-duty switch built in the IC on "P" board is an addition. It is by this switch that the light-emitting switch comes on concurrently with the turning on of main switch. The effects of this switch show up in two ways, both essential for proper operation, as follows:

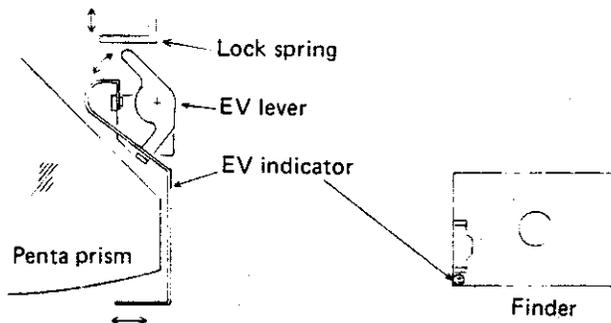
- No misoperation when strobo is used with the camera.
- The recor-data back always flashes even to a subject of high brightness, regardless of the switching operation from the "FP" to the "X" contact and vice versa.



(5) Indication of exposure compensation inside finder

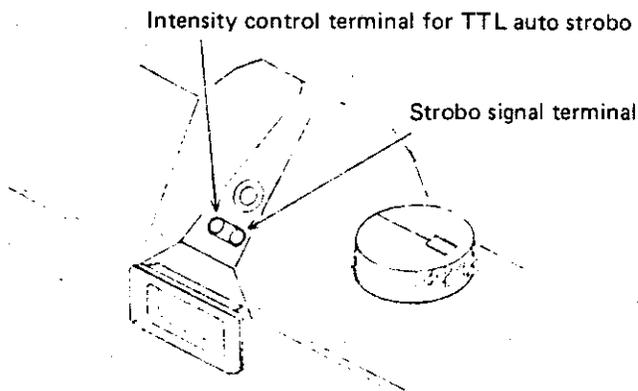
A mark signifying "compensation" appears inside the finder when the exposure compensated in either direction, "+" or "-".

Lock spring, shown on the left, moves up or down when the compensation dial is turned to compensate exposure. By the movement of this spring, the "E" indicator (which is actually a leaf spring) is actuated to move rightward or leftward.



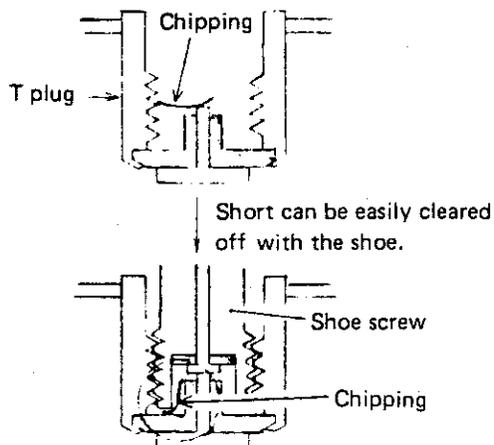
(6) Terminals for TTL AUTO strobo light intensity and strobo signal

In comparison with the old model, the present camera has an additional LED for strobo signal and, for this reason, it has an additional terminal.



(7) Anti-shortcircuit shoe screw

To eliminate the possibility of permanent "short" due to chippings coming from screw threads, the contact point on "+" side is located at a higher elevation. Be careful not to confuse the new shoe with shoes of old type: the new shoe can be readily discriminated because it has right-hand screw threads.



(8) Revised voltage of battery checker

Reference voltage for "M" base has been revised: it is higher by 0.05 volt than in the old OM-2. This revision brings about the following changes:

- When turned on 2.8 volts minimum
- When flickering 2.8 volts maximum
- A minimum of 0.1 volt higher than when not turned on.
- When not turned on 2.5 ± 0.05 volts
- When the shutter is locked. 2.35 ± 0.06 volts

(9) Summary of changes associated with shutter

1. "M" base

- 1) Reference voltage changed to:
 0.95 ± 0.01 volt when "M" base is singly used;
1 volt when incorporated into a camera.
- 2) FET :
The temperature characteristic has improved.
- 3) Sub-board:
Reshaped and the LED has been provided with legs.

(10) "P" base functions

An IC, newly designed, is included in "P" base to implement the following six functions:

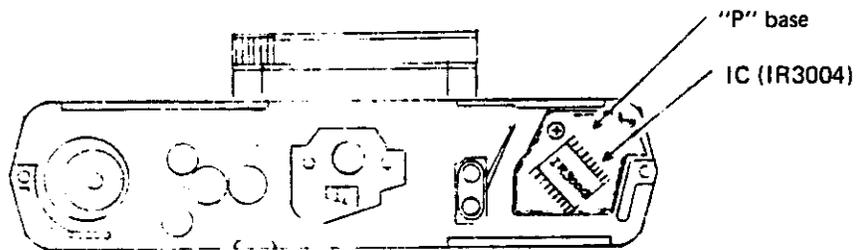
- 4) C cam:
Reshaped because of "S" lever used to reset.
- 5) C plate 4:
Added because of "S" lever used to reset.

2. Addition of "P" base

An IC has been added to achieve improvements relative to the following drawbacks:

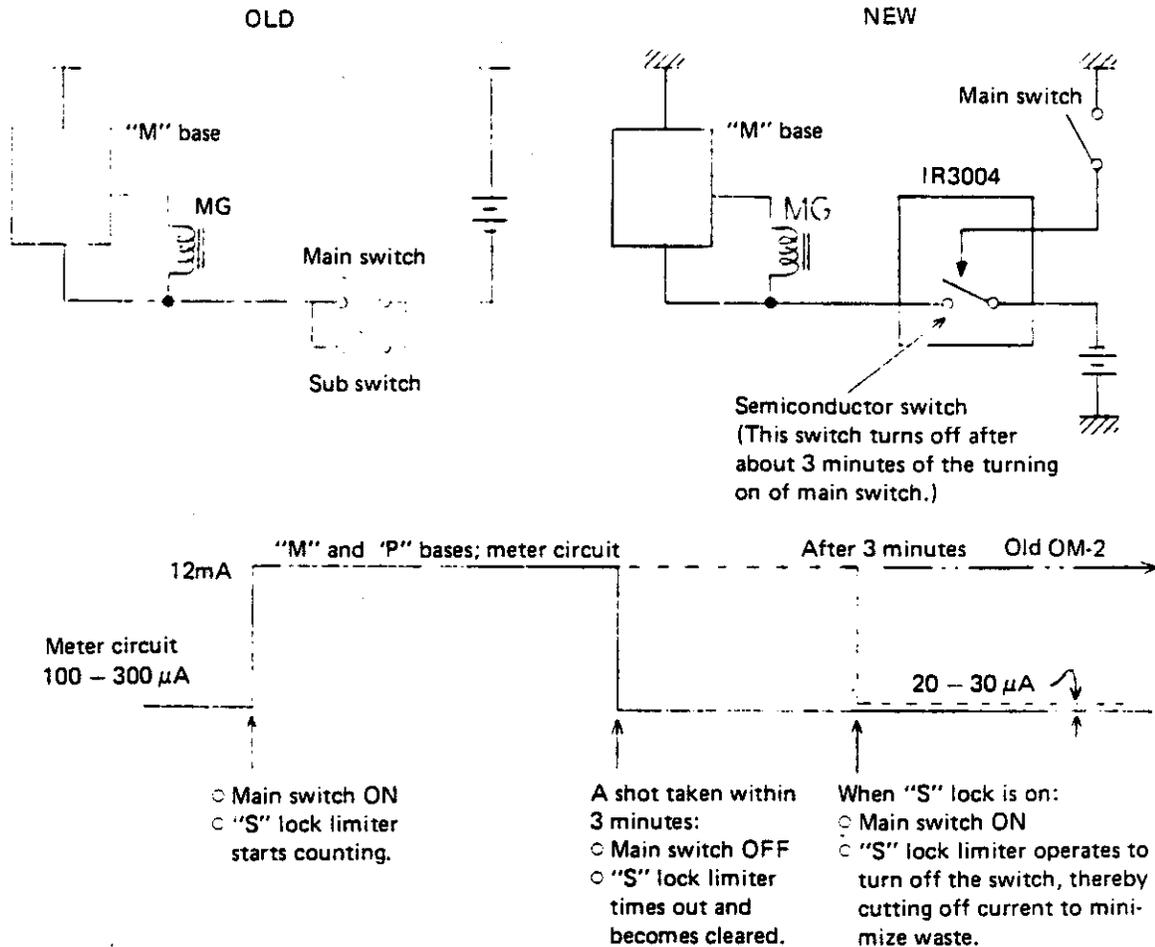
- 1) Rapid energy drain from the battery because of shutter lock.
- 2) Off limiter affects shutter time when ASA sensitivity is varied for adjustment.
- 3) Auto limiter affects shutter time when ASA sensitivity is varied for adjustment.
- 4) Some skill is needed to operate TTL auto strobo satisfactorily.
- 5) Misoperation is prone to occur when both recor-data back and strobo are in use.
- 6) The shutter is sometimes kept open after full flashing of the TTL auto strobe.

Improvements are obtained by means of the newly added "P" base.



Installed position of "P" base

1. Limiter on power supply to shutter lock
 After the turning on of main switch, electric current to "M" base and electro-magnet is cut off in about 3 minutes.



1-1. As the limiter goes off, consumed current decreases to between 20 and 30 μ A. At this rate of energy drain, the battery will serve 2 to 3 months before it becomes run down. (Under the same condition in the old type, the battery runs down in about 1 to 2 days.)

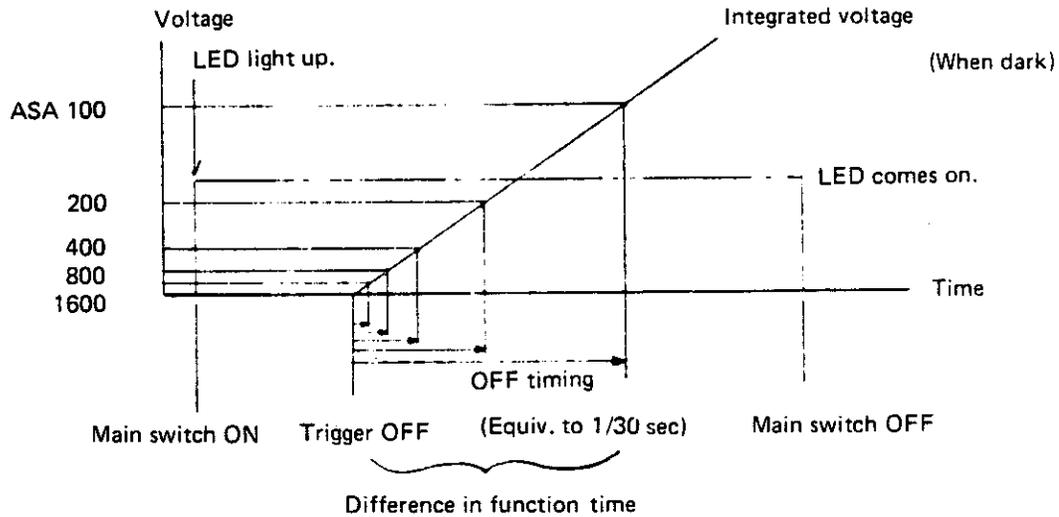
1-2. Once the limiter operates, no current flows to "M" base unless main switch is turned off again. (Instead of turning off main switch, the battery may be removed.)

2. OFF timing (off limiter)

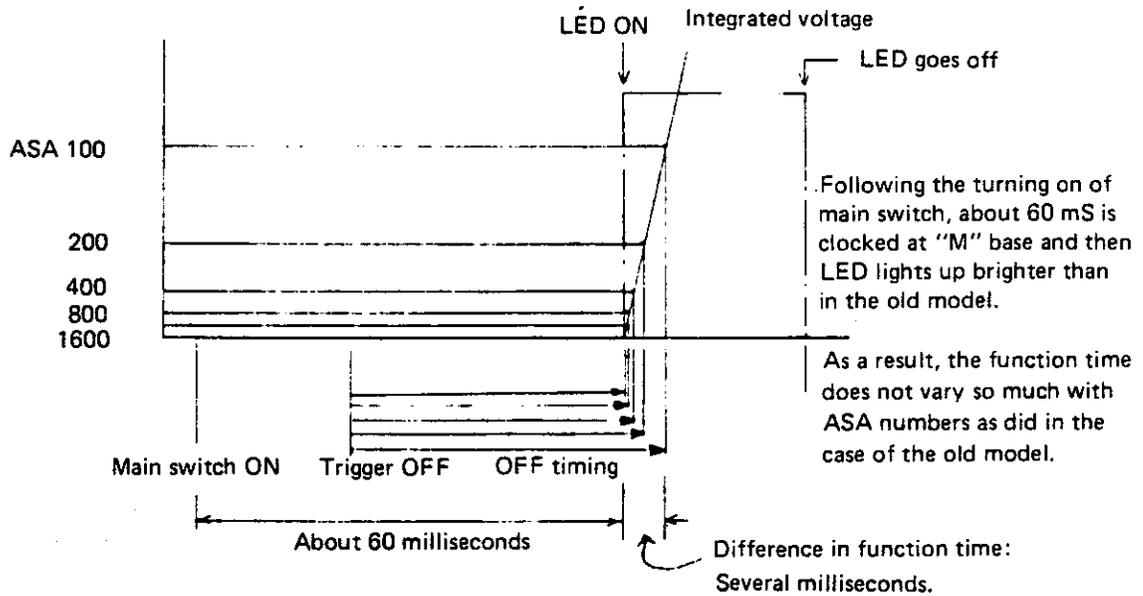
In the old OM-2, its off limiter times out in about 1/30 second at ASA 100 but in about 1/60 second at ASA 200; at ASA 50, it times out in about 1/15 second.

An improvement has been accomplished with the new off limiter in regard to the above variation of timing duration. The effect of the ASA setting on timing duration is minimized in the present model.

2-1. OLD off limiter timing action



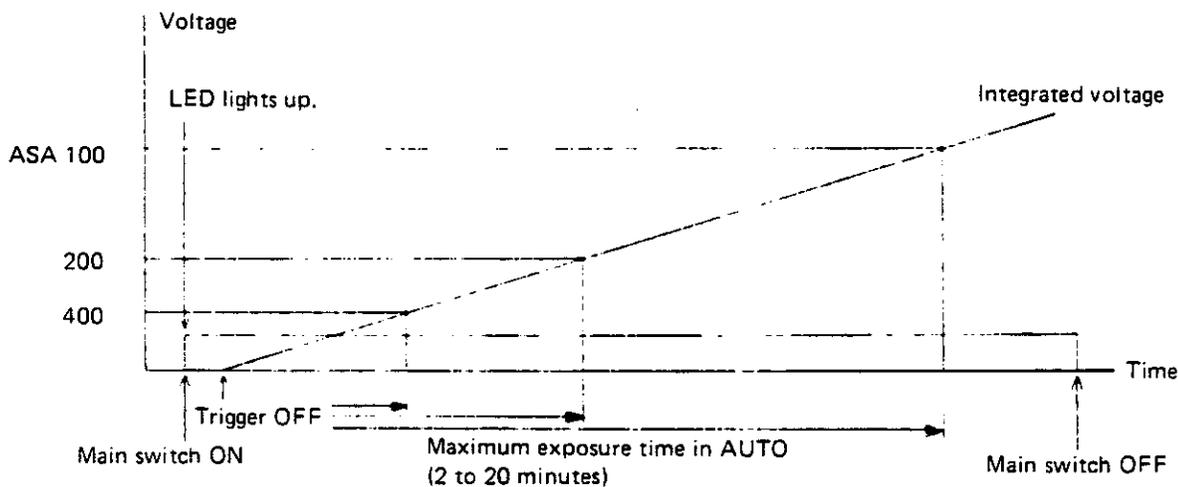
2-2. NEW off limiter timing action



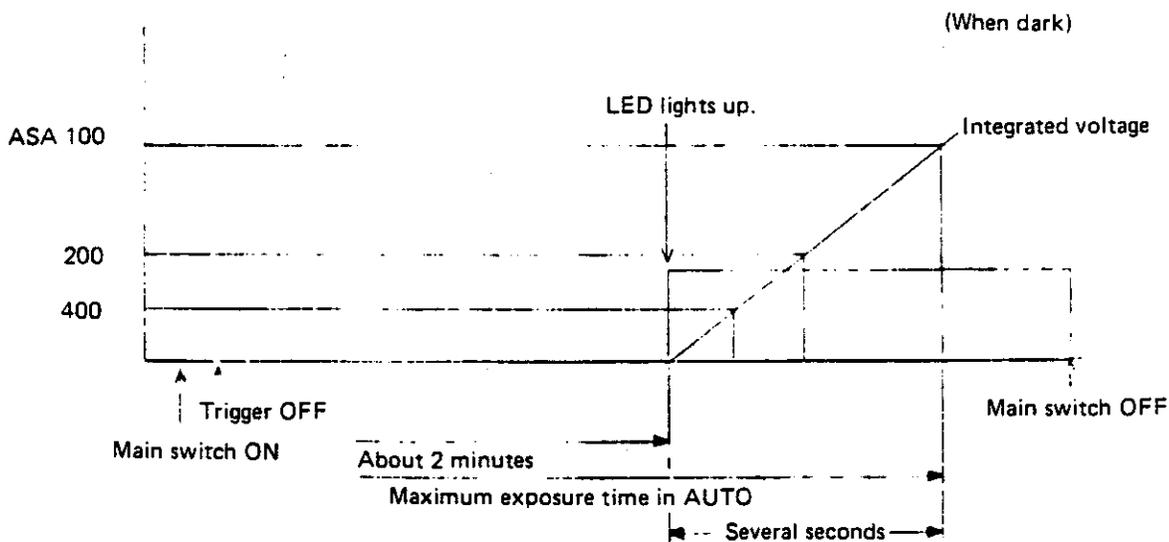
3. AUTO maximum exposure time (auto limiter)
 In the old model, maximum exposure time was subject to wide variation, just as in the case of

its off limiter, with changes in ASA sensitivity setting. As will be noted in the following two graphs, a substantial improvement is secured.

3-1. OLD auto limiter timing action



3-2. NEW auto limiter timing action



After about 2 minutes (2 to 5 minutes) of the turning on of main switch, the LED lights up brighter than in the old type. As a result, there

is no possibility of the maximum exposure time stretching out from 5 minutes and up to 20 minutes.

4. Automatic switch-over of TTL auto strobo
- 4-1. With a strobo for the exclusive use (T20 etc.) connected to the shoe, a signal enters the camera from the strobo to initiate an automatic selective switching in the following manner:

TTL auto cut signal issued

With T20 strobo or similar one, the signal forces the circuit into "TTL auto," no matter what mode the strobo is set in.

TTL auto cut signal NOT issued

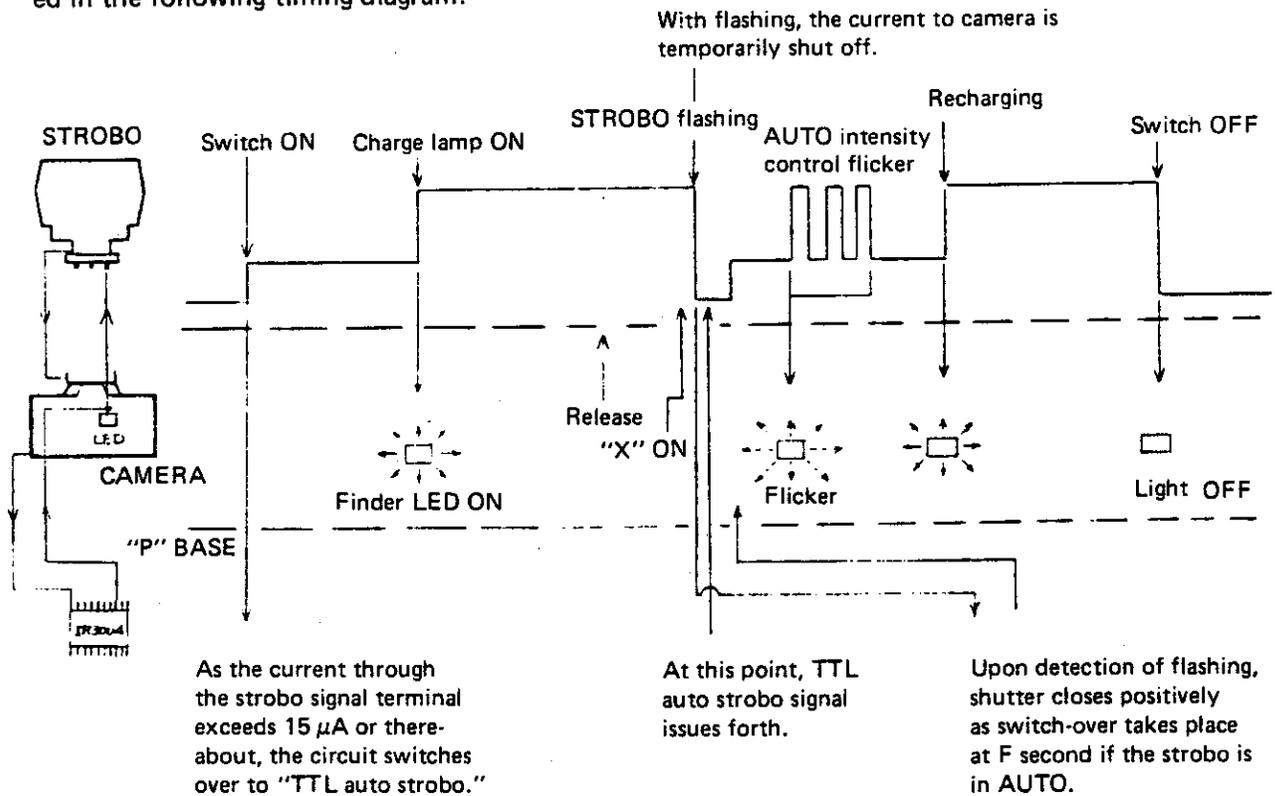
Flashing occurs according to the mode in which the strobo is set. Thus, both "normal auto" and "manual" can be used.

- 2) Voltage level of TTL auto cut signal
- When electromagnet on : 3 volts
'M' base is ON
- When electromagnet on : 0 volt
'M' base is OFF

Voltage at terminal ④ of IR024 connected to MG is inverted to 0 and 3 volts at IR3004 to be used as cut signals.

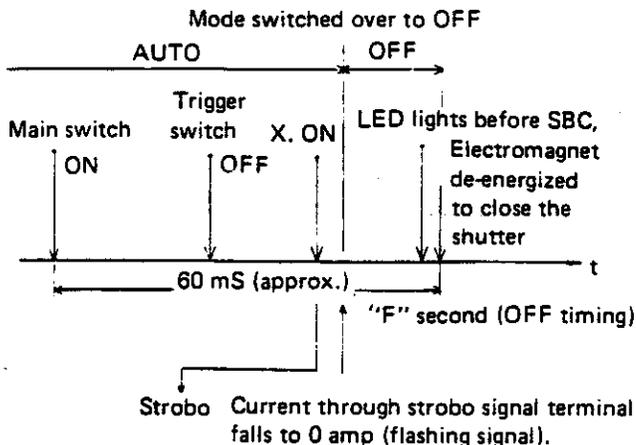
4-2. Operating principles

- 1) Various switching actions are initiated by changes in the current flowing through the strobo signal terminal. The actions are explained in the following timing diagram:



- 2) The timing of "F" is as explained in 5.
 - 3) The camera does not send out TTL auto cut signal unless current flows from strobo through the strobo signal terminal.
 - 4) With an excluded strobo (such as PS310) connected to the camera, no current flows through the strobo signal terminal, so that the cut signal does not emerge. Such a strobo does not serve as a TTL auto strobo.
 - 5) If the camera is in AUTO or OFF and receives $15 \mu\text{A}$ or more as the signal from the strobo, it becomes ready to issue out TTL auto cut signal. Upon receiving this signal, the strobo (non-excluded) automatically becomes a TTL auto strobo without regard to the mode in which it is set.
5. "F"-second timing
- 5-1. The timed action occurring at "F" seconds is calculated to prevent the shutter from remaining open after a TTL auto strobo flashing. (In the old model camera, if optimized exposure is not obtained, the shutter remains open even after a flashing and this leads to blurring due to the unsteady hand holding the camera.)

Where the non-excluded strobo is used, the flashing temporarily reduces the current (flowing through strobo signal terminal) to zero; subsequently, the zero-amp current is detected at "P" board to switch the camera to OFF mode; and consequently trigger switch turns off. Upon lapse of about 60 milliseconds of the turning on of main switch, that is, at "F" second, the shutter closes positively, as shown in this diagram:

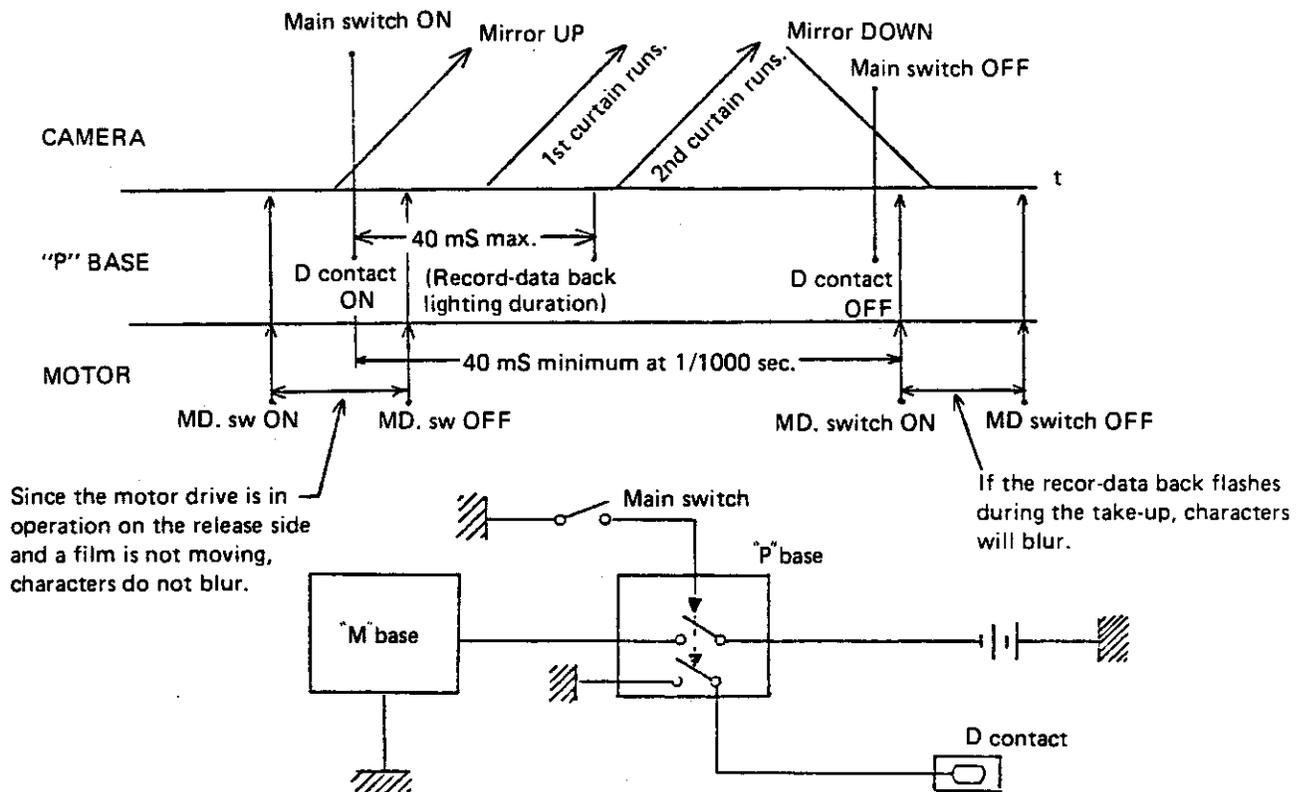


- 5-2. "F" timing occurs at 60 mS of the turning on of main switch and coincides with OFF timing. The difference between the two timing actions is that, for "F" timing, the mode is AUTO at the start of exposure but, after a flashing, changes to OFF.
- 5-3. Clocking of the 60 mS interval commences with the turning on of main switch, whether the mode is OFF, AUTO and MANUAL.
- 5-4. In OFF mode, LED before SBC lights up upon lapse of 60 mS from the turning on of main switch.
- 5-5. As a flashing signal arrives in from the strobo, resulting in a switching over of camera mode at the moment of "F" second, LED before SBC lights up in the aforementioned manner.
- 5-6. If a flashing signal arrives after a lapse of 60 mS or more, the LED lights up right then to close the shutter.

6. "D" contact

This is a flashing contact for cord-less recorder-data back, and serves to light up when the solid-state switch in the IC turns on with the turning on of main switch.

Use of the recorder-data back has eliminated trouble such as the malfunctioning caused in the old model when the strobo was used simultaneously. As can be understood from the following flashing timing, characters do not blur even when the motor drive is in operation.



(11) Relationship between T20 and LED inside finder

1. The LED inside finder flickers in the following manner:

1-1. Its flicker cycles are equal to the flashing cycles of the strobo.

If it takes more time to recharge the main capacitor, either of the following two malconditions must be suspected on the basis of the flashing duration:

1-2. Flashing duration of about 1.5 seconds

The strobo lacks in light output. This condition is evidenced by the charge lamp coming on immediately after flashing commences. The finder LED, which has priority, flickers for about 1.5 seconds and then remains lit to indicate "charging."

1-3. Flashing duration is shorter than 1.5 seconds

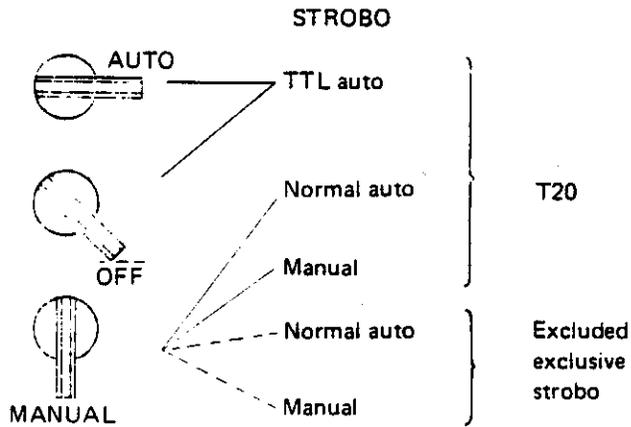
Repeated flashing will cause power shortage in the main capacitor to such an extent that the strobo sometimes fails to flash even if the shutter is released. To indicate such condition, however, the LED goes off when the shutter is released.

- Non-flashing under the above condition is accompanied by the termination of flickering of the auto check lamp on the strobo.
- The chattering of the "X" contact sometimes corresponds to the two turnings-on of the contact, thereby forcing the LED to go off even if the strobo is ready to flash.

(12) Relationship between OM-2N and strobo

1. Compatibility between camera and strobo

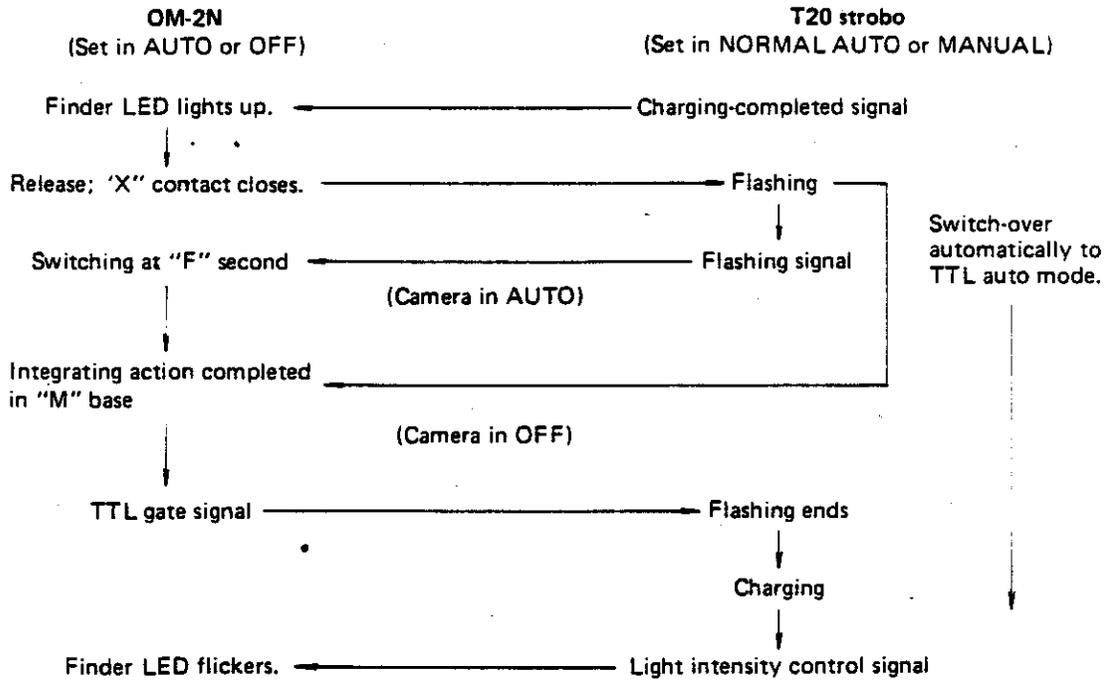
1-1. OM2N



1-2. The PS 310 strobo used with an OM-2N camera does not serve as a TTL auto strobo.

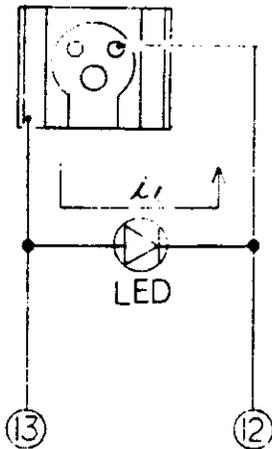
1-3. In case where T20 is used on OM-2 in combination with accessory shoe 3, if the selector lever is set at MANUAL, T20 will be ready to function in manual and normal auto modes and, if set at OFF or AUTO, T20 will function as TTL auto strobo.

2. Sequence of collaborating actions between camera and strobo for TTL auto.



(13) LED

The LED indicates strobo charging and intensity control.



1) Strobo switch ON

| State | Current (i) | LED |
|--------------------|----------------------|-----|
| Charging | 15 – 40 μ A | off |
| Charging completed | 350 μ A – 2.5 mA | on |

2) Intensity control

On-off intermittent flow \longrightarrow LED flickers.
on current 700 μ A (i)

(14) Capacitors and resistors

1) C503 (47000 PF) :

For removing noise from the signal arriving at terminal ⑫ from the strobo.

2) C501, R502

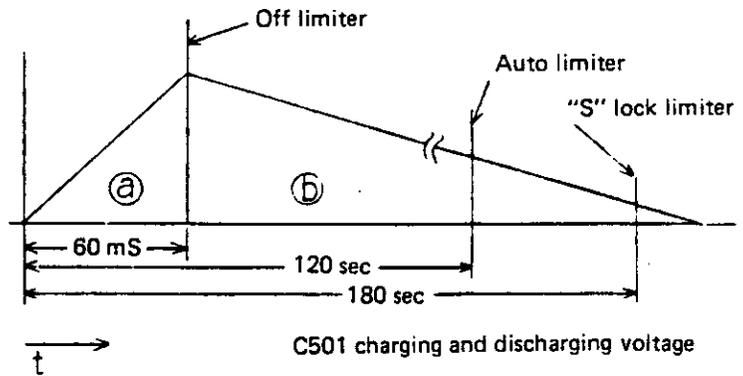
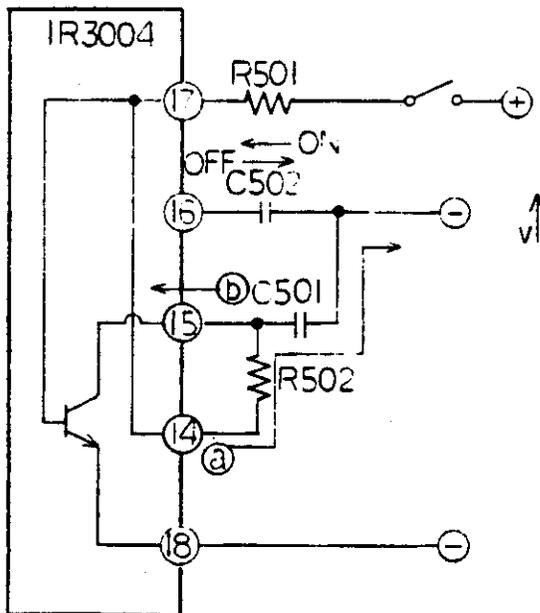
Time constant is established for off limiter by these circuit elements.

3) C501, R501:

These elements establishes time constant for auto limiter and "S" lock power supply limiter.

4) C502:

For directing the current in the arrow direction to correctly start up the IC.



Off limiter: Duration in which C501 is charged through R502.

Auto limiter

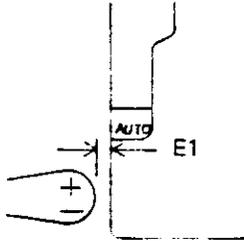
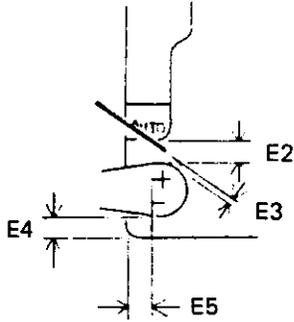
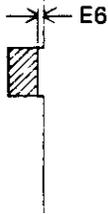
"S" lock limiter : Duration of C501 discharging.

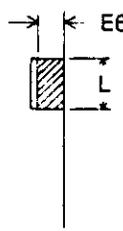
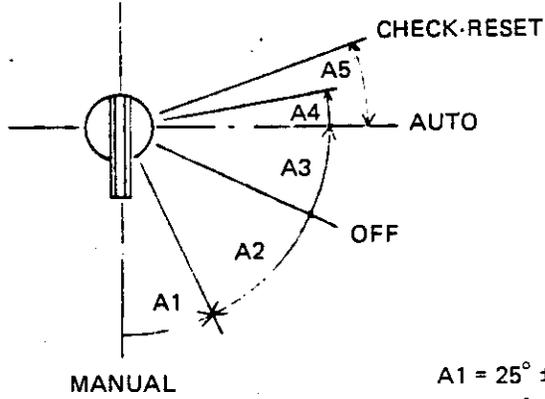
B

CHECK POINTS (INSPECTION STANDARDS)

B. CHECK POINTS (INSPECTION STANDARDS)

I. APPEARANCE - FUNCTIONS - QUALITY

| What to inspect | Item to check | Criteria |
|-----------------|------------------------------------|--|
| 1. Finder | 1) Indication of \pm correction. | <p>1. In the absence of correcting action, the correction mark should be in concealment and not visible in the finder.</p>  <p style="text-align: right;">$E1 \geq 0$</p> <p>2. When correcting action is on, the mark should be visible at click position of $\pm 1/3$ EV or over.</p>  <p style="text-align: right;"> $E2 \geq 0$ $E3 \geq 0$ $E4 \geq 0$ $E5 \geq 0$ </p> |
| | 2) LED for exclusive-use strobo. | <p>1. Reliability of indication. The indication should always be visible whenever $350 \mu A$ is made to flow through indicator terminal.</p> <p>2. Surrounding. At $900 \mu A$, there should be no ugly reflective glare on the surrounding.</p> <p>3. Positional offset of indication.</p>  <p style="text-align: right;">$E6 = 0 \sim 0.1$</p> |

| What to inspect | Item to check | Criteria |
|--------------------------------------|--|--|
| | | <p>4. Indication cut OFF.</p>  $E6 \geq \frac{1}{2} L$ <p>5. Visibility of the indication. At least 80% should appear bright in the position for full view.</p>  |
| <p>2. "S" lever (selector lever)</p> | <p>1) Lever angles.</p> <p>2) Reliability of resetting action.</p> <p>3) Defeat of reset action at AUTO.</p> | <p>1. Switch-over from one position to the next should occur at the following angles:</p>  $A1 = 25^\circ \pm 5^\circ$ $A2 = 40^\circ$ $A3 = 25^\circ \pm 5^\circ$ $A4 = 10^\circ \pm 5^\circ$ $A5 = 20^\circ \pm 5^\circ$ <p>1. Be sure that the shutter becomes accurately unlocked when "S" lever is moved to CHECK RESET position.</p> <p>1. With battery off, be sure that the shutter becomes positively locked when "S" lever is moved to ATUO.</p> |

II. FUNCTION - PERFORMANCE - QUALITY

1. Percent finder view $97^{+1}_{-2}\%$ (with MS5018)
2. Positional accuracy of focus plane
With reference focus glass inserted, the difference in path of rays between film plane and focus plane to be:
 $+0.08 \pm 0.02$
With MFSS1 (or MFSS 1-13) inserted, the difference to be $+0.05 \pm 0.02$.
3. (∞ deviation)
With the standard lens, the ∞ deviation should not exceed 0.04 in either direction.
4. Electric current consumption
 - 4-1. 12 mA maximum at 3.15 V in AUTO or MANUAL (the same as old OM-2).
 - 4-2. 15 mA maximum at 3.15 V in B (the same as old OM-2).
 - 4-3. 12 up to but no exceeding 18 mA at 3.15 V in BATTERY CHECK.
 - 4-4. 800 μ A in 1/1 second as exposure meter current (the same as old OM-2). (MANUAL; 1sec; F1.8; BV 16)
 - 4-5. Current to decrease to and below 70 μ A within 5 minutes of shutter locking. (Measure with "S" lever in OFF position.)
5. Brightness of checker LED
Light to be recognizable in the environment equivalent to BV 15, at 2.70 volts.
6. Automatic exposure
 - 6-1. Maximum AUTO exposure time to be 2 to 5 minutes. The shutter should close positively within this duration in total darkness at ASA 100.
 - 6-2. When timing is OFF, the shutter should positively close within 22 to 50 mS in total darkness at ASA 100.

During the above tests, there should occur no appreciable blur on the film.
7. Efficiency of contacting action
 - 7-1. "X" contact: At least 40% at slow timing inclusive of 1/60; interval 1 mS.
 - 7-2. "FP" contact: 70% minimum; interval 2.5 mS.

Insulation resistance
30 megohms minimum at 500 volts.

Contact resistance
Resistance to be low enough to manifest continuity with a test voltage of 3 V.
8. Electrical characteristic of "D" contact
ON signal should come in earlier by 40 mS than occurrence of motor winding signal, and the chattering, if any, should be not longer than 5 mS.
Measure the shutter speed in MANUAL 1/1000.
9. Battery checker
To light up at 2.8 V or above.
To flash at below 2.8 V. (Higher than the turning-off voltage by at least 0.1 V.)
To go out at 2.5 ± 0.05 V.
The shutter to become locked at 2.35 ± 0.06 V.

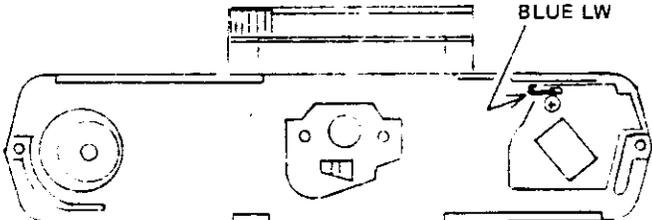
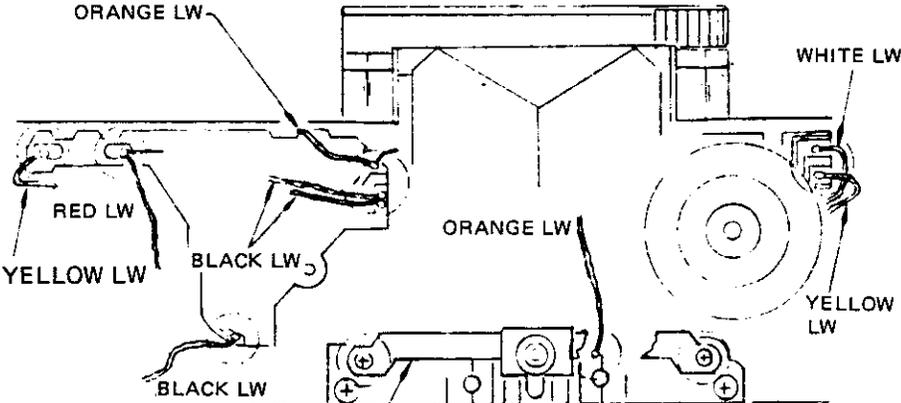
C

ORDER OF DISASSEMBLY

C. ORDER OF DISASSEMBLY

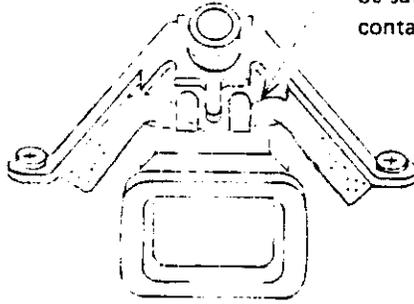
NOTE : The only difference in disassembling procedure between the present model and the old OM-2 resides in the soldered part encountered in removal of Front Casting. The following procedure refers to this difference. For the full procedure, consult the manual for the old OM-2.

1. Front Casting Removal (Docking removal)

| To be removed | Q'ty | Explanation |
|---|----------------------------|--|
| 1) Top cover 2) Bottom plate 3) Left side leather 4) Right side leather 5) Light proof padding M 6) Covering plate | 1 1 1 1 2 1 | For removal of these parts, consult the repair manual of OM-2. " " " " " " |
| 7) Undo the soldered connection of BLUE lead wire, on the underside of the camera body. | 1 |  |
| 8) Undo the soldered connections, at the top of camera body, of the following lead wires. YELLOW LW RED LW ORANGE LW BLACK LW WHITE LW | 2 1 1 2 1 |  |
| 9) Remove "S" base. | 1 | |
| 10) Undo soldered connection of ORANGE wire at "S" contact 1. | 1 | |
| 11) Contact 1. Contact 2. | 1 1 | These come off as a set. |
| 12) Run in "S" base securing screws. | 1 | "S" base securing screws are to be run in and tightened as a tentative measure so that the "E" indicator will not be disturbed in place when the following screws ("S" frame securing screws and Front Casting securing screws) are removed. |
| 13) "S" frame securing screw. | 2 | Be sure the above when these screws are removed. |
| 14) Front Casting securing screw | 4 | |

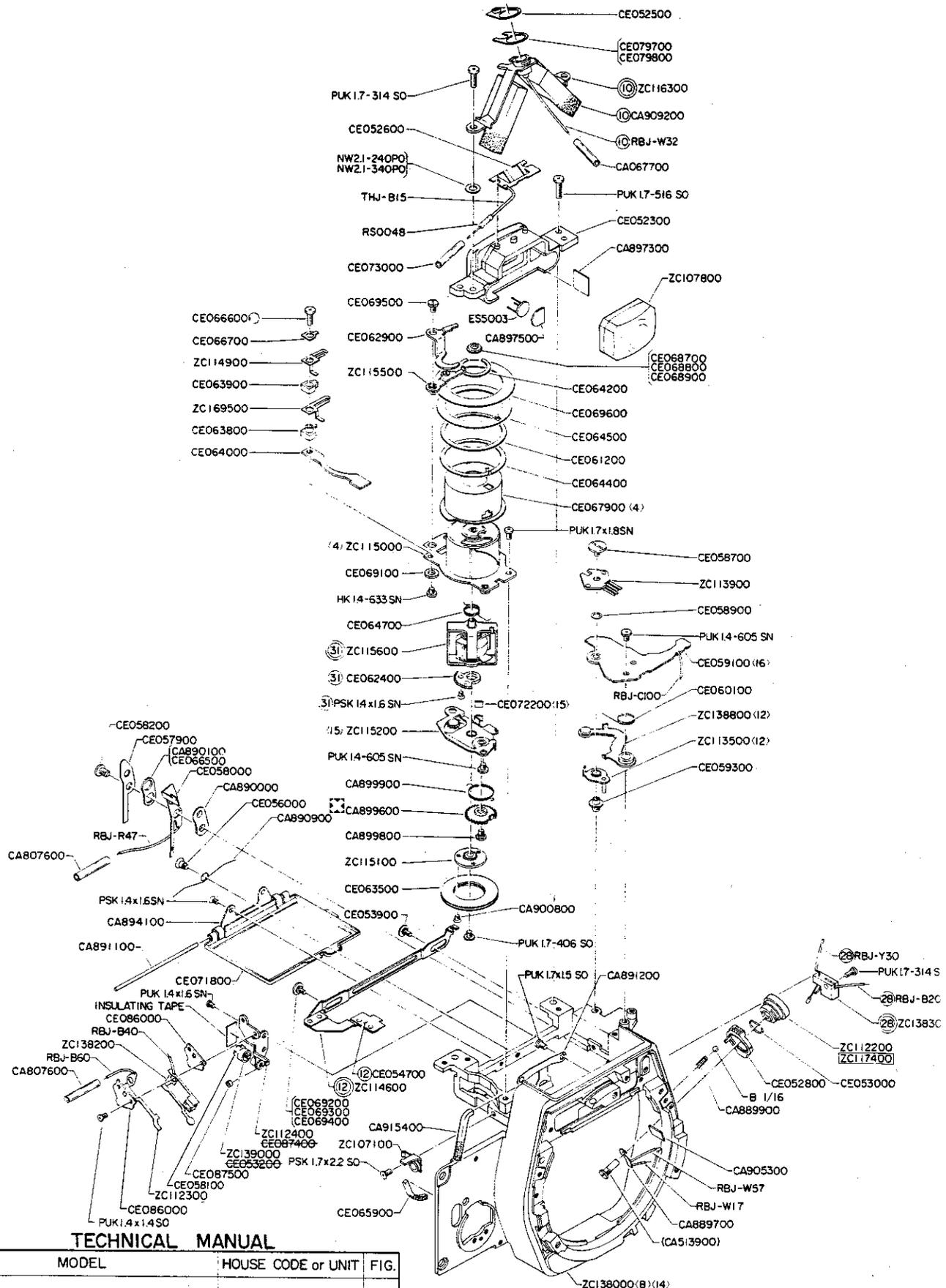
2. Precaution to be exercised when installing "S" base

After tightening the securing screws, be sure to insert plain mold under "S" contact.



D

OUTLINE OF REPAIRS



TECHNICAL MANUAL

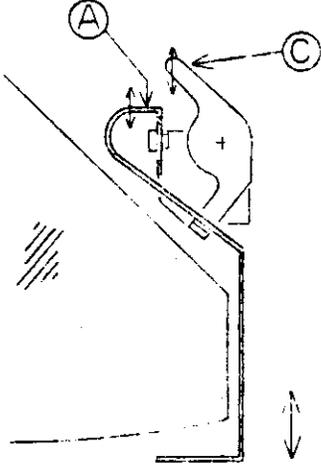
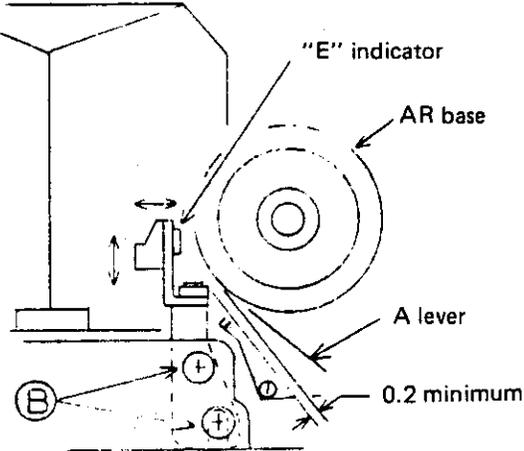
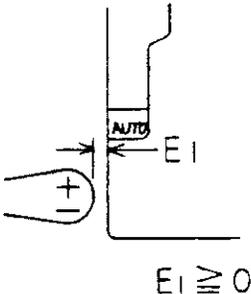
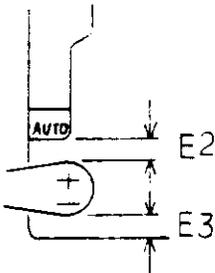
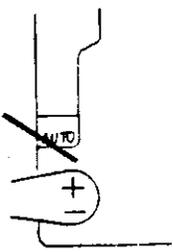
| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 6/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

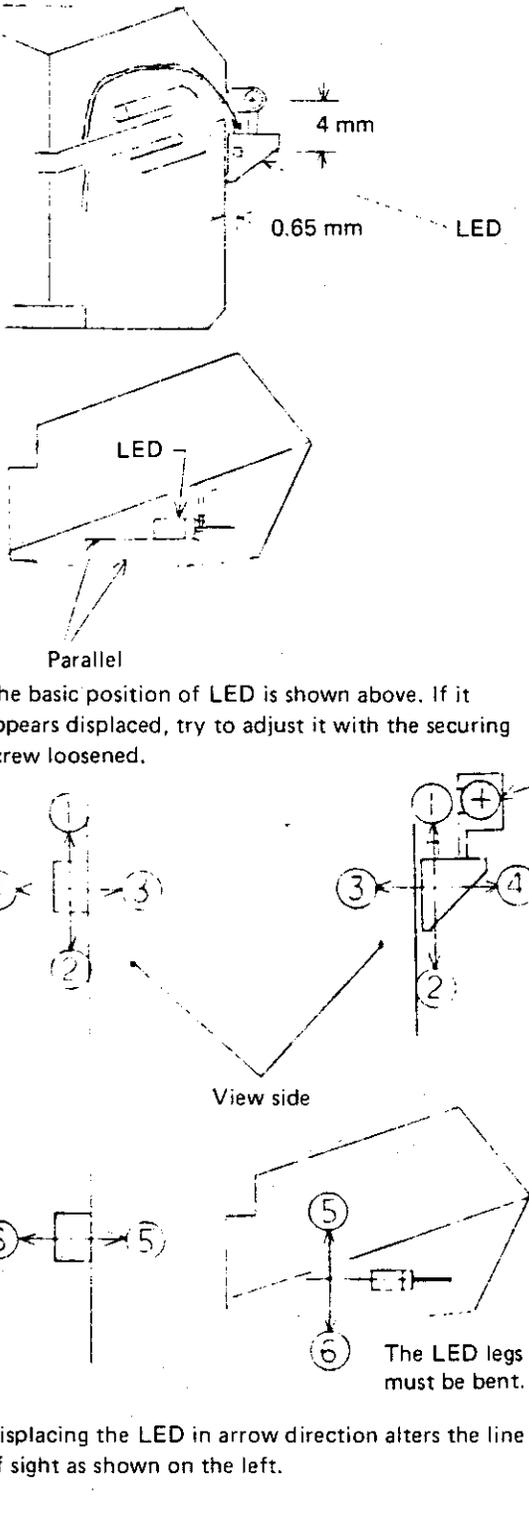
D. OUTLINE OF REPAIRS

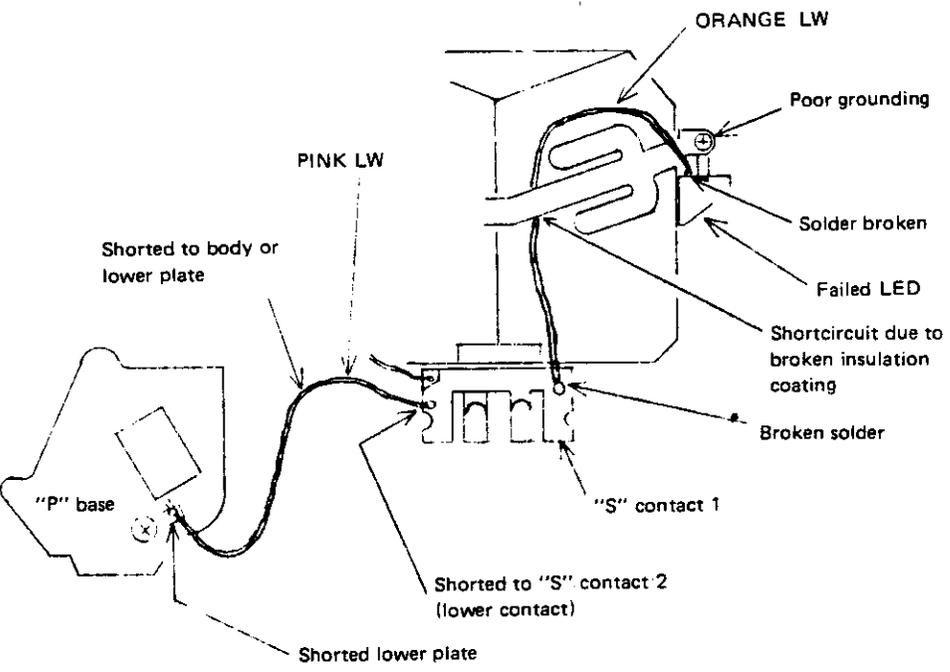
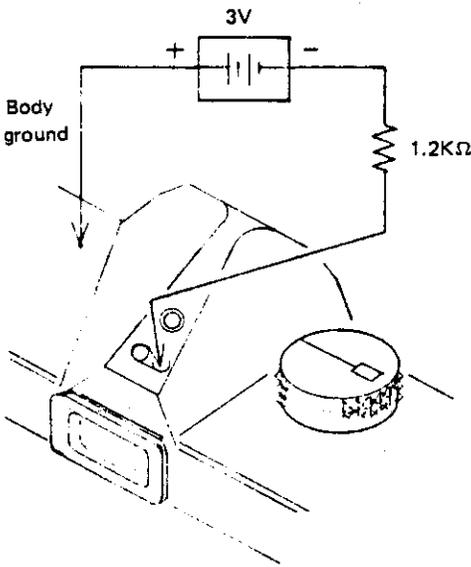
I FINDER SERVICES

1. "E" indicator

| Symptom or malfunction | How to correct or repair | Criteria or specification |
|--|---|--|
| <p>1-1. Indicator positioned improperly.</p> |  <p>Adjust the curvature at (A).</p> <p>Adjust the curvature at (C) by altering the positional relation between this part and Top cover.</p>  <p>Loosen screws (B), and adjust the indicator in right-left and fore-aft directions to locate it correctly.</p> <p>If the overlapping position of exposure meter hand cannot be corrected by "E" indicator adjustment alone, displace Meter Needle Stopper or exposure meter as a whole.</p> |  $E1 \geq 0$  $E2 \geq 0$ $E3 \geq 0$ <ul style="list-style-type: none"> • Check to be sure that clearance between AR board and indicator is at least 0.2 mm. • Turn AR board one complete rotation to be sure there is no interference between "E" indicator and (A) lever.  |

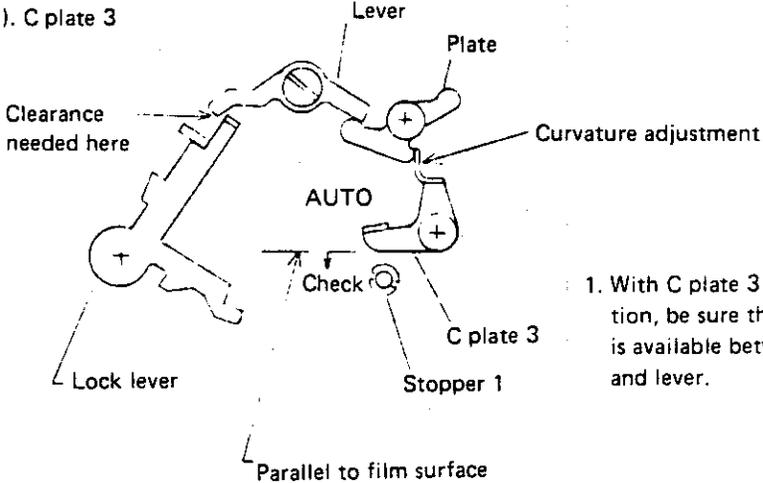
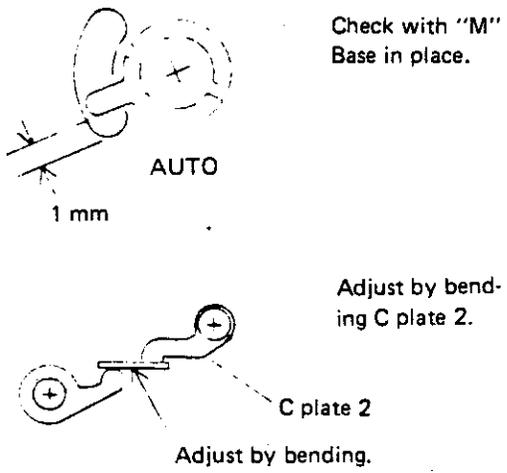
2. Strobe Indication LED

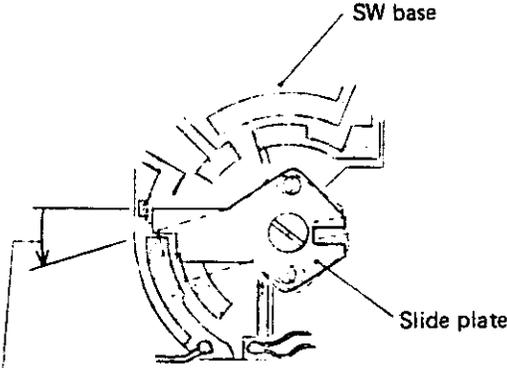
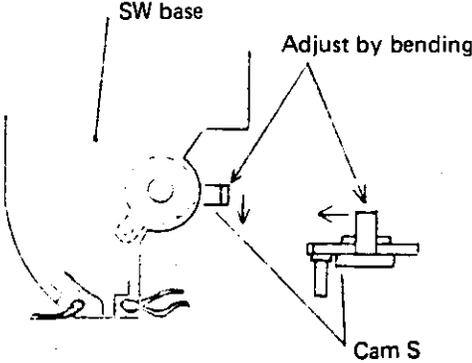
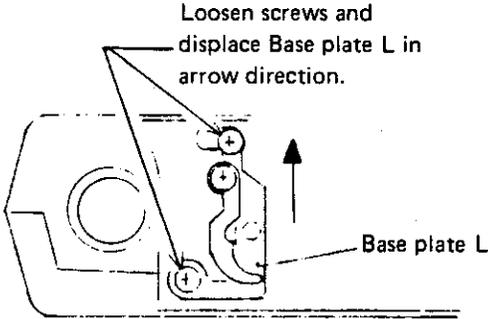
| Symptom or malcondition | How to correct or repair | Criteria or specification |
|---|---|--|
| <p>2-2. Light-emitting face is displaced.</p> |  <p>Parallel</p> <p>The basic position of LED is shown above. If it appears displaced, try to adjust it with the securing screw loosened.</p> <p>(LED securing screws)</p> <p>View side</p> <p>The LED legs must be bent.</p> <p>Displacing the LED in arrow direction alters the line of sight as shown on the left.</p> <p>Permissible</p> <p>Black line</p> <p>View side</p> <p>(Cause)</p> <p>Protruding or dulled</p> <p>Mask</p> | <p>Look into the finder at eye level. If at least 80% of the light is visible, the LED face may be deemed properly positioned.</p> |

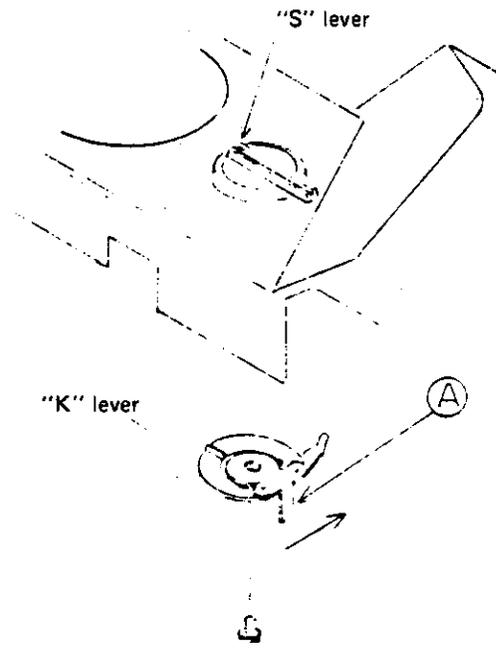
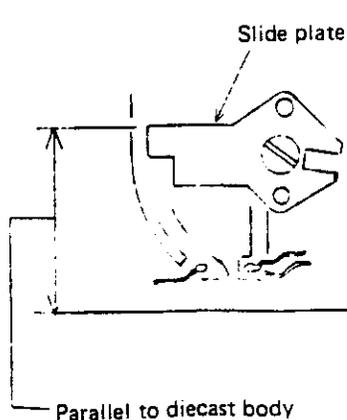
| Symptom or malfunction | How to correct or repair | Criteria or specification |
|---|--|--|
| <p>2-2. LED does not emit light.</p> <p>NOTE: LED operates only when the right kind of strobo is used.</p> |  <p>The diagram shows a camera's internal LED circuit. Labels include: ORANGE LW (Orange Light Wire), PINK LW (Pink Light Wire), Poor grounding, Solder broken, Failed LED, Shortcircuit due to broken insulation coating, Broken solder, "S" contact 1, "S" contact 2 (lower contact), Shorted lower plate, Shorted to "S" contact 2 (lower contact), Shorted to body or lower plate, and "P" base.</p> <ol style="list-style-type: none"> 1) Check for possible causes indicated above. 2) The source of energy for this LED is in the strobo. If nothing is wrong with the camera, check the strobo. <p>Checking the LED for light emission</p>  <p>The test circuit diagram shows a 3V battery connected in series with a 1.2KΩ resistor and the LED. The positive terminal of the battery is connected to the LED's anode, and the negative terminal is connected to the LED's cathode through the resistor. The LED is shown mounted on a camera body with a label 'Body ground' pointing to the connection point.</p> | <p>Be sure that LED lights up positively at 350 μA.</p> <p>There should be no ugly reflection at 900 μA.</p> <p>LED should light when tested as shown on the right.</p> <p>Be sure that LED does not light when the minus side is put to the other terminal.</p> |

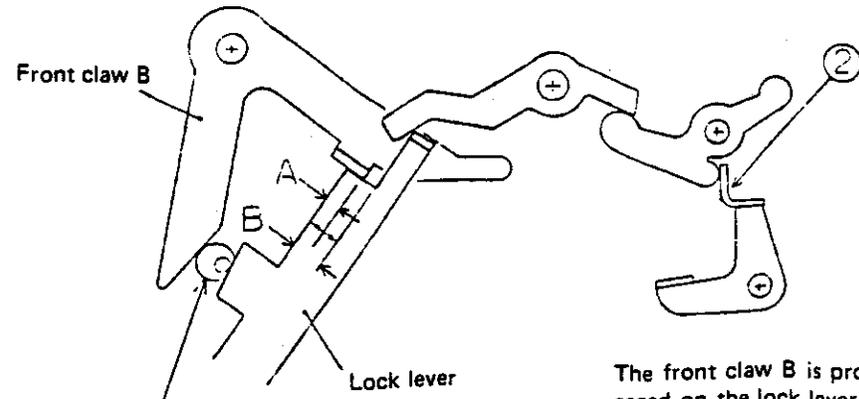
II SHUTTER SERVICES

1. "S" Lock Release

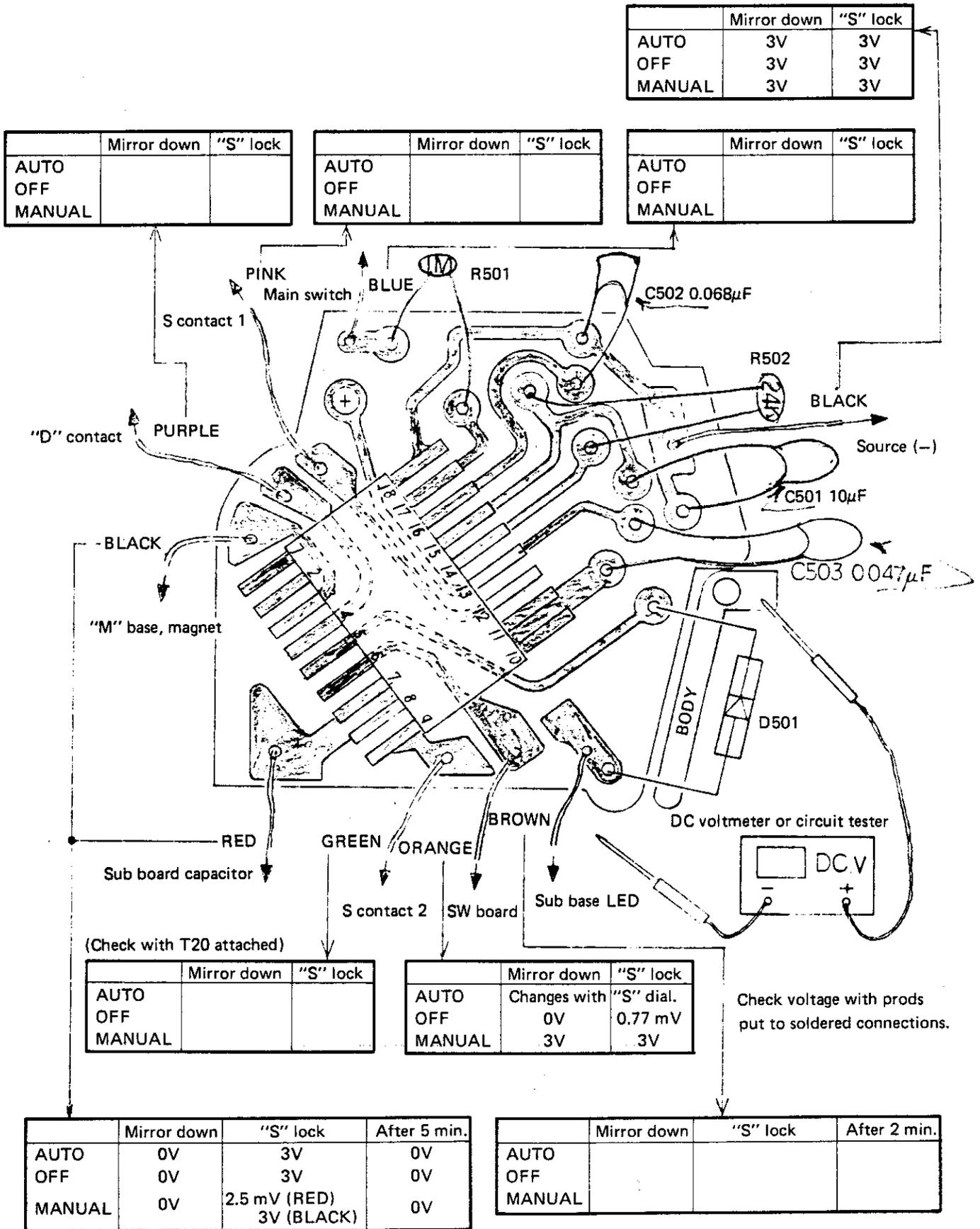
| Symptom or malcondition | How to correct or repair | Criteria or specification |
|--------------------------------------|--|---|
| <p>1-1. No releasing of "S" lock</p> | <p>The basic adjustment is as follows:</p> <p>1). C plate 3</p>  <p>ADJUSTMENT: Hold the shutter in locked condition. With C plate 3 held parallel to film surface, adjust the curvature of C plate 3 in such way that there will occur a clearance between Lever and Lock lever.</p> <p>If the magnet is in place, this clearance is not visible. Instead of checking the clearance be sure that lock lever will not move in AUTO condition.</p> <p>2). C plate 2</p>  <p>Check with "M" Base in place.</p> <p>Adjust by bending C plate 2.</p> | <p>1. With C plate 3 in AUTO position, be sure that the clearance is available between lock lever and lever.</p> <p>2. Move C plate 3 to check side, and see if "S" lock becomes released before C plate 3 touches the stopper as it should.</p> <p>There should be a play of about 1 mm for Cam in the slot in AUTO condition, as shown on the left.</p> <p>Regardless of the 1 mm clearance, the shutter must be switchable from AUTO to MANUAL and vice versa.</p> |

| Symptom or malcondition | How to correct or repair | Criteria or specification |
|-------------------------|--|--|
| | <p>3). Position of slide plate</p>  <p>Range of "S" lock release</p> <p>Adjust as follows:</p> <p>3)-1. Adjustment by cam S</p>  <p>(View with slide plate removed)</p> <p>After adjusting as above, check the position of exposure-meter indicating plate in OFF state and, as necessary, correct its position. Also, make sure that the shutter can be switched from AUTO to MANUAL and vice versa.</p> <p>3)-2. Adjustment by Base plate L</p>  | <p>Check to be sure that "S" lock can be released within the range shown in the above view.</p> <p>After displacing, check and, as necessary, correct shutter speed and curtain speed.</p> |

| Symptom or malfunction | How to correct or repair | Criteria or specification |
|------------------------|---|---|
| | <p>4). Position of K lever on Top cover</p>  <p>Adjust by bending part (A) of "K" lever.</p> | <p>With "S" lever in AUTO, remove upper plate, and check to be sure that slide plate is parallel to the body.</p>  |

| | | |
|-----------------------------------|--|---|
| <p>1-2 "S" lock fails to work</p> | <p>1). Adjust the engagement of the Front claw B on lock lever</p> <p>The adjustment should be made with the shutter in "S" lock position.</p>  <p>① Eccentric for adjusting the engagement of A</p> $A \geq \frac{1}{2}B$ | <p>The front claw B is properly engaged on the lock lever if the engagement is stable when the change lever on the Top cover is switched from MANUAL to AUTO.</p> <p>In case the engagement is unstable, adjust by changing the curvature of the C plate 3.</p> |
|-----------------------------------|--|---|

2. "P" Base
2-1. Terminal voltages



"P" Base

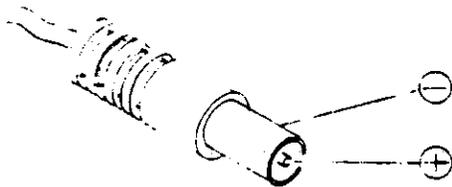
| Symptom or malfunction | How to correct or repair | Criteria or specification |
|---|--|--|
| 2-2. Improper timing action of off limiter | Adjust off limiter by means of C501 and R502. Raising the C501-R502 setting increases the time constant. | Refer to the preceding page for the positions of these elements. |
| 2-3. Improper timing action of auto limiter. | Adjust auto limiter by means of C501 and R501. Raising the setting of C501 and R501 increases the time constant. (Do not raise R501 beyond 1.5 megohms.) PRECAUTIONS: <ul style="list-style-type: none"> • If R501 is set for too large a ohmic resistance value, IC (IR3004) may refuse to operate. • Auto limiter and "S" lock power supply limiter are to be adjusted at the same place. For this reason, after adjusting "S" lock limiter, check the supply limiter, too. | |
| 2-4. Improper timing action of "S" lock power supply limiter. | The method of adjustment is the same as for auto limiter. | |

3. Synchronizing Action

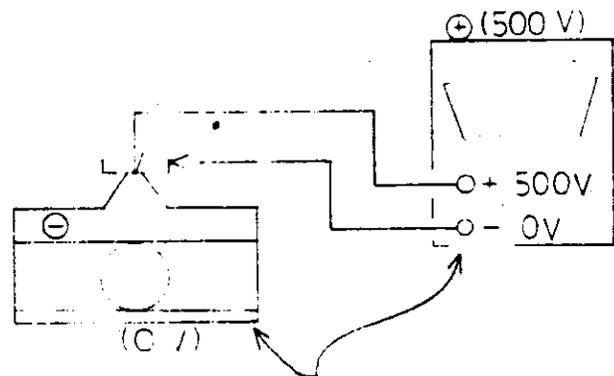
3-1. Checking method

In the present camera, "X" contact is the only synchro contact on the shoe side. Thus, measurements must be taken in the following manner:

- 1) Outer conductor is minus \ominus and inner conductor is positive \oplus .
(Do not reverse this polarity or measurements will be meaningless.)

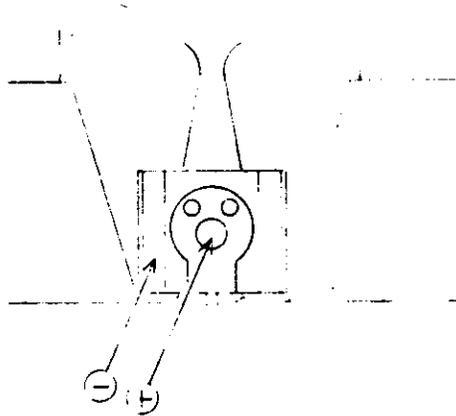


- 2) Be sure that the internal circuit wires of the tester are grounded \ominus .
(If the ground is positive \oplus , the meter body will shock you when you touch it inadvertently.)

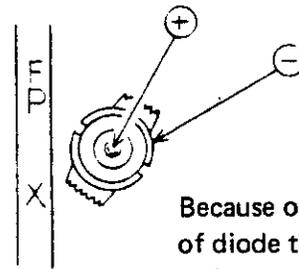


Be aware of 500-volt potential difference existing between camera body and tester.
Never touch the two at the same time.

3) Contact efficiency



"X" contact 60% minimum



Because of the presence of diode the efficiency is as follows:

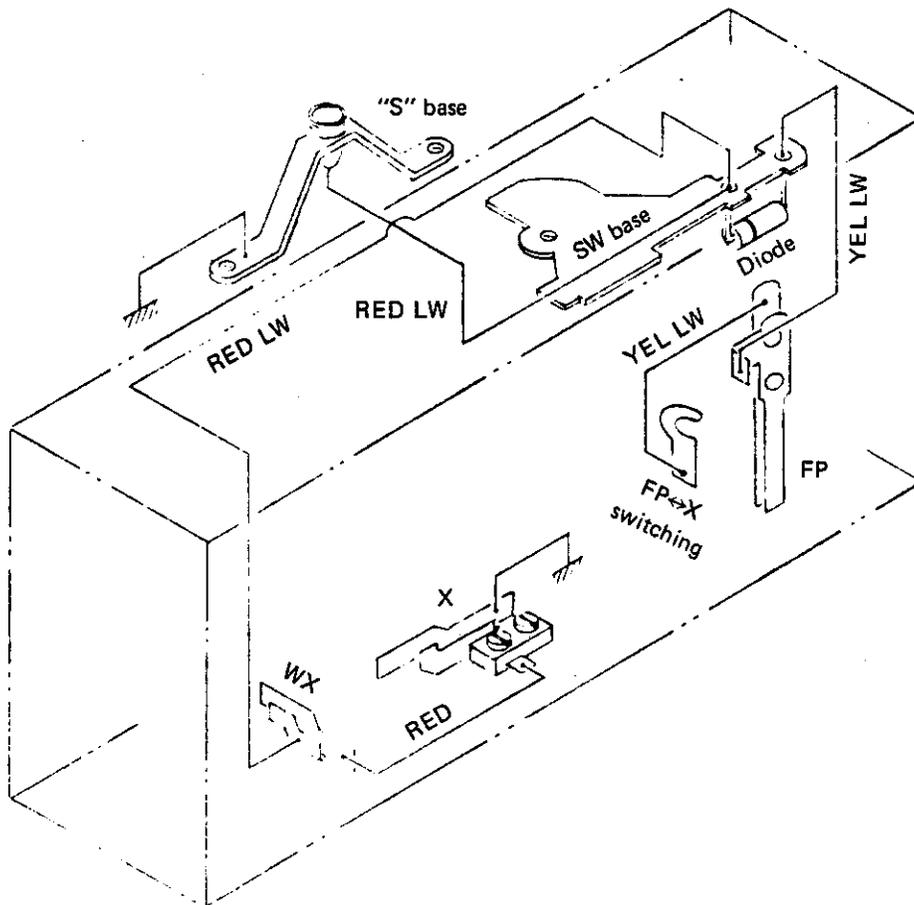
"X" contact 40% minimum

"FP" contact 60% minimum

3-2. Insulation resistance requirements

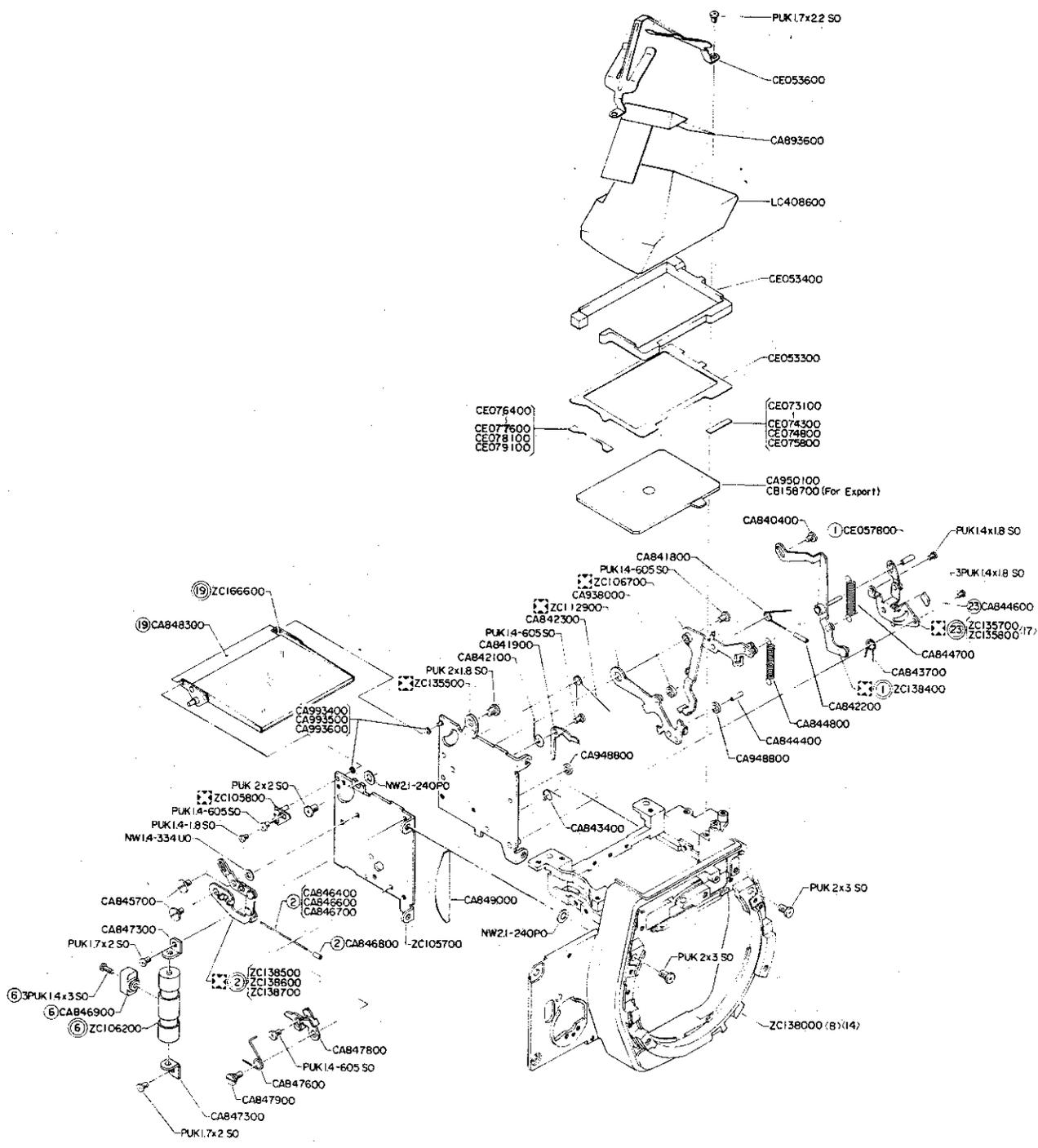
- | | |
|---|---|
| <p>1) FP (plug only) : 30 megohms or over after taking up or shutter operation.</p> <p>2) X (plug) : 30 megohms or over during taking-up operation.</p> | <p>3) X (shoe) : 30 megohms or over for full take-up stroke. 30 megohms or over after operating the shutter. 30 megohms at FP, too.</p> |
|---|---|

3-3. Wiring diagram



H

OTHERS

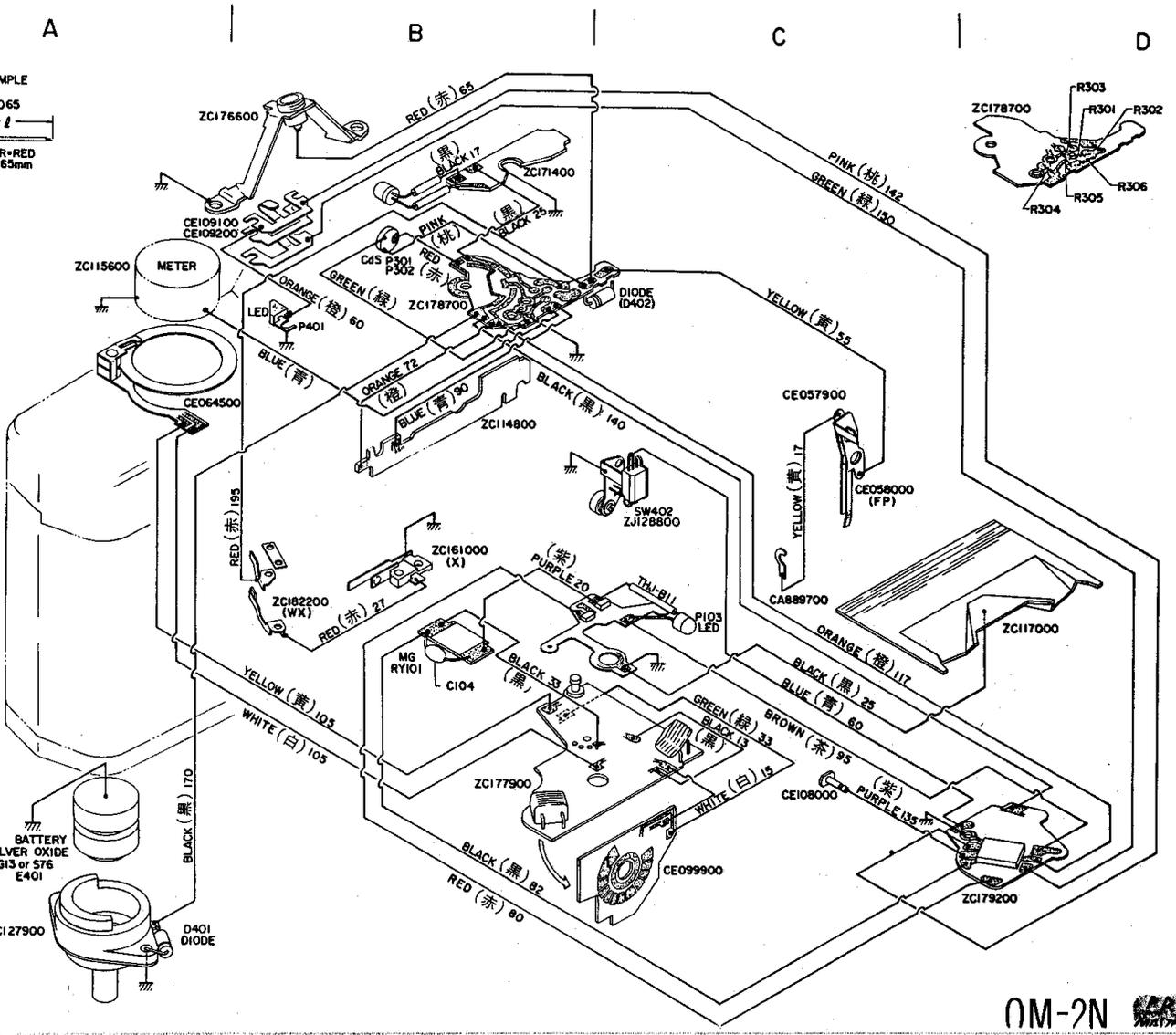


TECHNICAL MANUAL

| MODEL | HOUSE CODE or UNIT | FIG. |
|---|--------------------|------|
| OLYMPUS OM-2 | MDE | 7/8 |
| OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN | | |

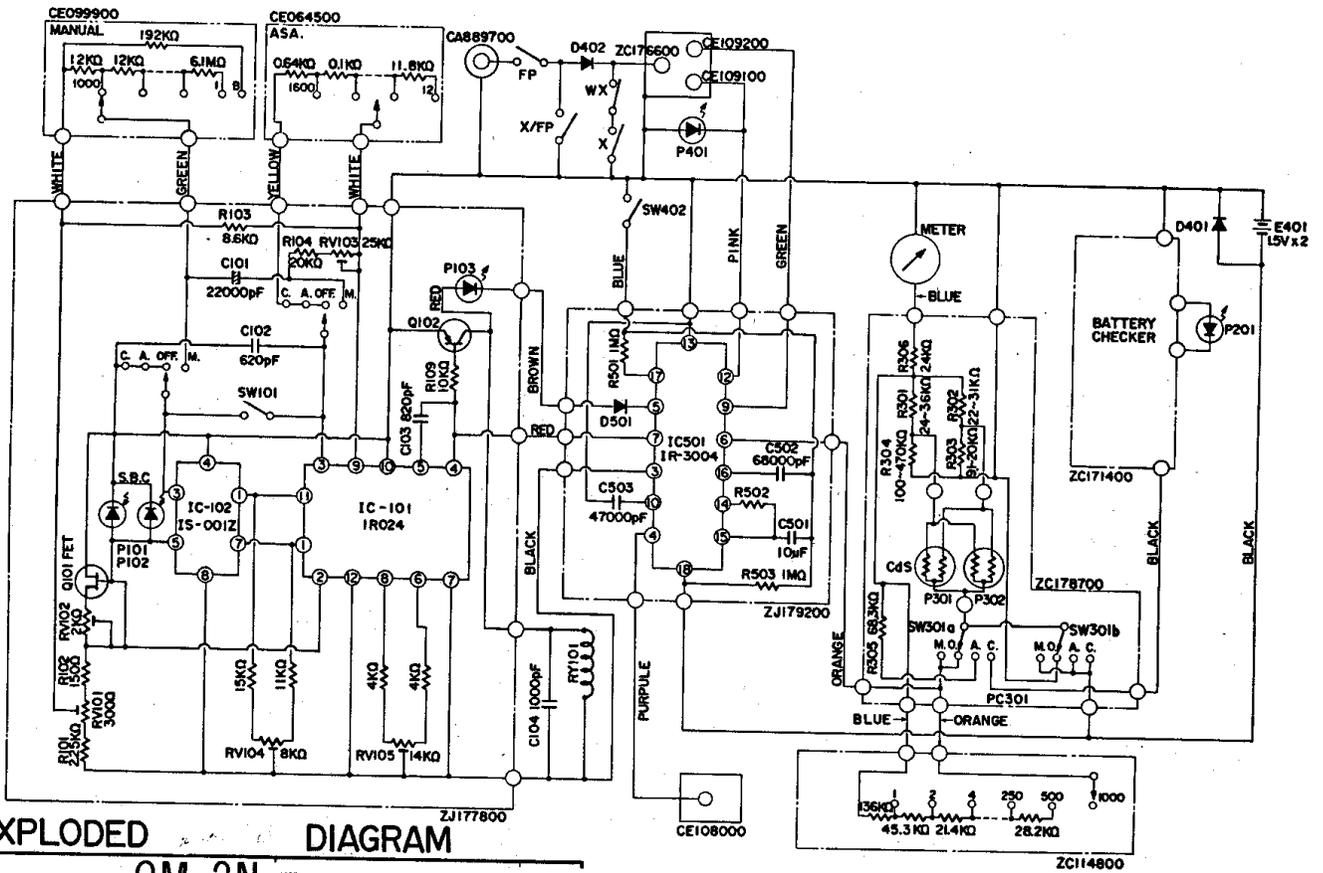
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

EXAMPLE
 RED65
 COLOR=RED
 f=65mm



OM-2N

3



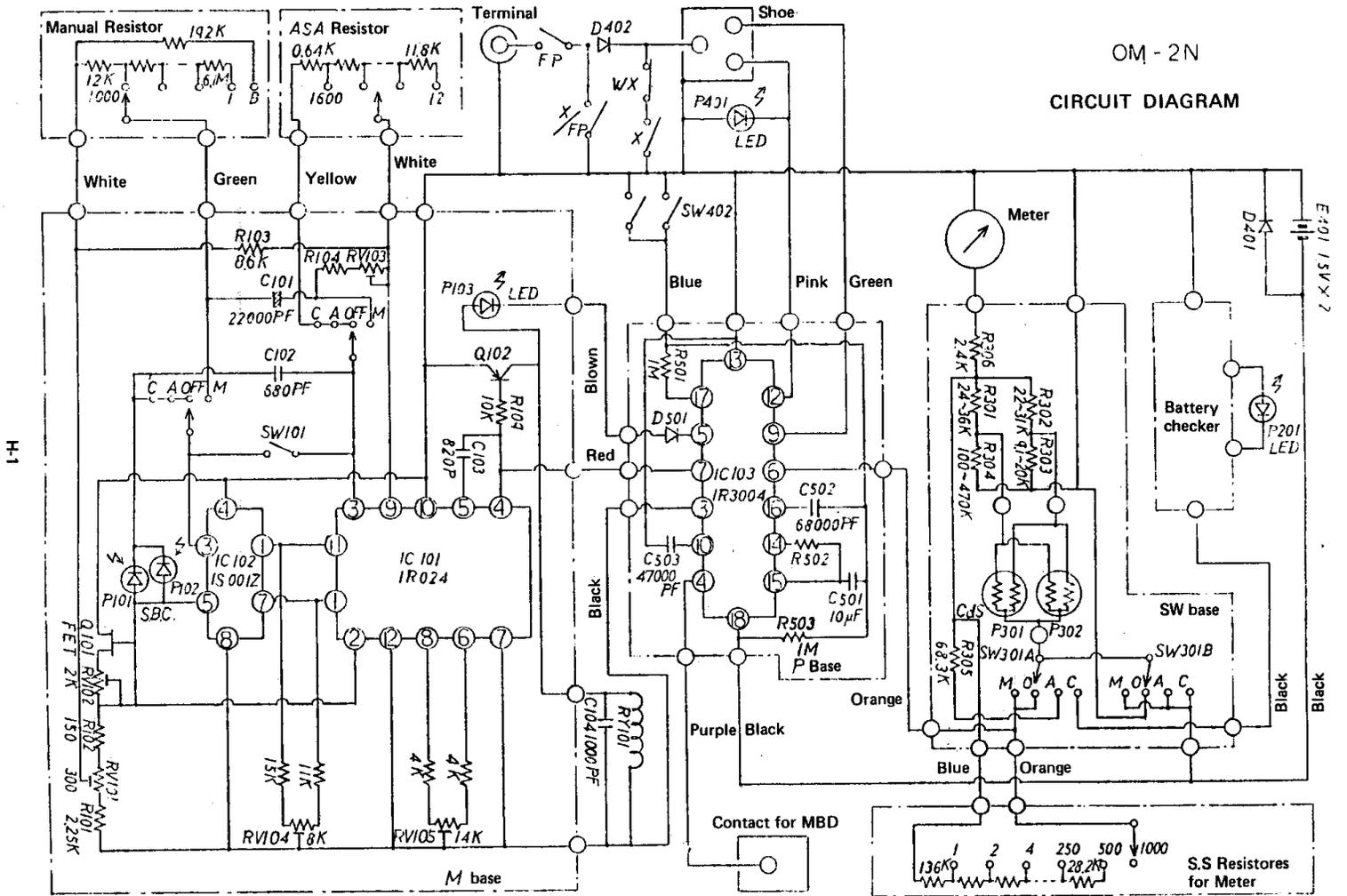
4

EXPLODED DIAGRAM

OM-2N



OM - 2N
CIRCUIT DIAGRAM



H-1

MODIFICATION

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|----------------------------|-----------|-----------|----------------------------|----------|
| CA738100 | STOPPER SCREW | 4-C4 | CA874100 | FILM COUNTER COVER | 1-B2 |
| CA796300 | RING E | 4-B1 | CA874500 | LIGHT PROOF L | 1-C3 |
| CA807600 | TUBE | 1-D3 etc. | CA874600 | LIGHT PROOF R | 1-B3 |
| CA840400 | M LEVER SCREW | 8-C1 | CA874700 | LIGHT PROOF (LOWER) | 1-B4 |
| CA841800 | STOPPER SPRING | 8-C1 | CA874800 | LIGHT PROOF (SIDE) | 1-A4 |
| CA841900 | M HOOKING LEVER | 8-B2 | CA875200 | LEVER HOLDER | 1-A1 |
| CA842100 | HOOKING LEVER SPRING | 8-B2 | CA875300 | LEVER DECORATION | 1-A1 |
| CA842200 | TUBE 2 | 8-D2 | CA875700 | F PLATE | 2-B2 |
| CA842300 | RETURNING SPRING | 8-C2 | CA876300 | F SPRING | 2-B2 |
| CA843400 | HOOK SPRING | 8-C2 | CA876400 | ST IDLE | 2-B3 |
| CA843700 | MS SPRING | 8-D2 | CA876500 | IDLING SHAFT | 2-B3 |
| CA844600 | M RING | 8-D1 | CA877000 | SPOOL SPRING | 2-B3 |
| CA844700 | M SPRING | 8-D2 | CA877400 | LEVER SPRING | 2-C2 |
| CA844800 | CONNECTING LEVER SPRING | 8-D2 | CA877700 | HOLDER | 1-A2 |
| CA845700 | LEVER SHAFT | 8-A3 | CA877900 | ST SHAFT | 3-C4 |
| CA846300 | E RING 0.8 | 5-D1 | CA878000 | SPROCKET HOLDER (UPPER) | 3-B4 |
| CA846800 | SPRING COVER | 8-B3 | CA878100 | FC GEAR SHAFT | 2-C1 |
| CA846900 | PIPE CONNECTOR | 8-A3 | CA878300 | RETURNING SPRING | 2-C1 |
| CA847300 | PIPE HOLDER | 8-B3 | CA878600 | C RING | 2-A1 |
| CA847600 | POSITIONING SPRING | 7-A3 | CA878800 | ST GEAR | 3-B4 |
| CA847800 | POSITIONING PLATE | 7-A3 | CA879600 | L STOPPER | 2-C1 |
| CA847900 | POSITIONING SHAFT | 7-A3 | CA879700 | WASHER (RUBBER) | 2-C1 |
| CA848300 | LIGHT PROOF PLATE | 8-A2 | CA881400 | WASHER 2 | 2-C1 |
| CA849000 | RIGHT COVER | 8-B3 | CA881600 | GEAR NO. 1 | 3-C2 |
| CA849900 | B MASK | 4-D3 | CA881700 | GEAR NO. 1 SCREW | 3-C2 |
| CA850000 | STOPPER | 1-D3 | CA881800 | GEAR NO. 1 SPRING | 3-C2 |
| CA851000 | ROLLER A | 4-B1, B2 | CA881900 | K CLAW | 3-C2 |
| CA852300 | PLATE L | 4-B1 | CA882100 | CHECKING LEVER | 3-D2 |
| CA852900 | ROLLER B | 4-B1, C2 | CA882300 | 1 GEAR 2 | 3-C2 |
| CA853100 | TENSION NUT | 4-C4 | CA882400 | LOCK LEVER | 3-D2 |
| CA853200 | TENSION NUT STOPPER | 4-C4 | CA882600 | LOCK SPRING | 3-D1, D2 |
| CA858600 | A LEVER SPRING | 5-D2 | CA882700 | SHAFT NO. 2 | 3-C1 |
| CA860100 | STOPPER PLATE | 3-B2, B3 | CA884000 | S WINDING PLATE | 3-B2 |
| CA866600 | ADJUSTING SCREW | 4-C2 | CA884100 | 4 BASE PLATE | 3-C2 |
| CA871600 | R COLLAR SPRING | 4-D2 | CA884300 | SHAFT NO. 4 | 3-B2 |
| CA871900 | KEY COLLAR | 1-D3 | CA884600 | SPRING SHAFT | 3-C3 |
| CA872000 | KEY COVER | 1-D2 | CA884700 | KS HOLDER | 3-B2 |
| CA872200 | KEY SPRING | 1-C2 | CA884800 | KS SHAFT | 3-B2 |
| CA872400 | KEY POSITIONING SCREW | 1-D3 | CA884900 | KS SPRING | 3-B2 |
| CA872500 | R KNOB | 1-D1 | CA885100 | GEAR 3 SPRING | 3-C2 |
| CA872900 | R PINCH SET SCREW | 1-D1 | CA885200 | SHAFT 4 SCREW | 3-B1 |
| CA873000 | R LEVER PIN | 1-D1 | CA885400 | S RING | 3-B2 |
| CA873200 | R SCREW (h: 1) | 1-C1 | CA885700 | BASE PLATE SHAFT | 3-C2 |
| CA873900 | R SCREW 2 (h: 0.8) | 1-C1 | CA885900 | BULB PLATE SCREW | 3-C1 |
| CA874000 | R SCREW 3 (h: 1.1) | 1-C1 | CA886100 | RETURNING SPRING | 3-C1 |

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|-----------------------------|------|-----------|------------------------------|--------------------|
| CA886400 | KL SHAFT | 3-B1 | CA910600 | SHIM 1 (t: 0.01) | 9-B4 |
| CA887200 | KM SPRING | 3-B1 | CA910700 | SHIM 2 (t: 0.03) | 9-B4 |
| CA887700 | B MOUNT | 6-C4 | CA911100 | ST WASHER | 8-C2 |
| CA888800 | NOUNT SPRING | 6-B4 | CA911200 | C WASHER | 2-B3 |
| CA889700 | FP SYNCHRO CONTACT POINT | 7-D3 | CA911300 | GEAR FASTENER | 2-B3 |
| CA889900 | FX SPRING | 7-D3 | CA915100 | R KNOB | 1-D1 |
| CA890000 | INSULATING PLATE | 7-A3 | CA915500 | FRONT SCREW | 9-B4 |
| CA890100 | INSULATING PLATE | 7-A2 | CA915600 | LIGHT PROOF PADDING M | 8-B3 |
| CA890900 | F SPRING | 9-A3 | CA917000 | SHIM 3 (t: 0.08) | 9-B4 |
| CA891100 | F SHAFT | 9-A3 | CA917400 | L HOLDER | 3-D2 |
| CA893900 | B SPRING SHAFT | 8-B3 | CA917500 | M HOLDER | 3-D2 |
| CA895000 | COVER | 9-C4 | CA917600 | L HOLDER WASHER | 3-D2 |
| CA896900 | SHAFT SP 61 | 2-C3 | CA918100 | LEVER WASHER | 1-A1 |
| CA897300 | C LIGHT PROOF | 9-B2 | CA918300 | FILM COUNTER LC | 2-A1 |
| CA897500 | C COVER | 9-A2 | CA918500 | FILM COUNTER SPRING | 2-A1 |
| CA899600 | SPRING GEAR | 7-B3 | CA918700 | R LEVER WASHER 4 (h: 0.9) | 1-C1 |
| CA899800 | GEAR SHAFT | 7-B3 | CA919200 | ADJUSTING PLATE | 1-C3 |
| CA899900 | GEAR SPRING | 7-B3 | CA937400 | M LEVER SHAFT | 3-B1 |
| CA900800 | PULLEY SCREW | 7-B3 | CA937500 | WINDING LC | 2-B2 |
| CA903000 | T NUT | 1-D1 | CA937600 | WINDING GEAR | 2-B2 |
| CA904400 | K CENTER PLATE | 2-C3 | CA937700 | GUIDE | 1-C3 |
| CA904500 | K LEVER SPRING | 2-B3 | CA937900 | 3G SPRING | 3-B2 |
| CA904600 | K PLATE HOLDER | 2-C3 | CA938000 | RUBBER BAND | 8-C2 |
| CA904900 | CLAW SHAFT SPRING | 3-C4 | CA938800 | UPPER STOPPER | 4-B1 |
| CA905300 | STOPPER PROOF | 3-B3 | CA938900 | LOWER STOPPER | 3-B2 |
| CA906100 | ME GUIDE | 3-C1 | CA945100 | COVER M | 1-B4 |
| CA906200 | COVER SPRING | 3-C1 | CA947600 | R SHAFT | 4-D2 |
| CA906300 | COVER FASTENER | 3-C1 | CA948700 | CLICK SPRING | 6-B2 |
| CA907000 | C SCREW | 3-D3 | CA948800 | RUBBER BAND 3 | 8-C2, D2 |
| CA907500 | F SPRING | 8-C4 | CA949100 | LOCK LEVER 2 | 3-D2 |
| CA907600 | RELEASE BASE NUT | 1-B2 | CA949400 | FELT C | 4-C4 |
| CA907700 | KNOB | 8-C3 | CA965000 | F KEY | 9-C3 |
| CA908400 | BUTTON SHAFT | 8-D3 | CA965300 | DAMPER 2 | 6-C3 |
| CA908600 | S LEVER PLATE | 8-D3 | CA965500 | STOPPER PLATE (t: 0.4) | 1-C4 |
| CA908700 | D SCREW | 8-B3 | CA965600 | FRONT PROOF | 6-C3 |
| CA908800 | W SPRING | 8-C3 | CA968100 | STOPPER PLATE 2 | 1-C4 |
| CA909300 | PRESSING SPRING | 1-A3 | CA968600 | LEFT SIDE LEATHER | For Export 6-D1 |
| CA909400 | HINGE PIN HOLDER | 1-A3 | CA968700 | MD HARK | For Export 6-D1 |
| CA909500 | HINGE PIN HOLDER | 1-B4 | CA989700 | X SYNCHRO CONTACT POINT | 5-B2 |
| CA909700 | SHAFT SCREW | 1-A3 | | | |
| CA909800 | SHAFT WASHER A | 1-A4 | | | |
| CA909900 | SHAFT B | 1-A3 | | | |
| CA910000 | PILLOW | 1-B4 | | | |
| CA910200 | LEFT SIDE LEATHER | 6-C2 | CA993200 | S LEVER 2c | 3-C2 |
| CA910300 | RIGHT SIDE LEATHER | 6-A2 | CA993300 | S LEVER 2d | 3-C2 |

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|------------------------|------------|-----------|-------------------------------------|----------|
| CA993400 | SHIM (t: 0.15) | 8-B3 | CE062000 | MK PLATE | 1-B1 |
| CA993500 | SHIM (t: 0.2) | 8-B3 | CE062100 | EV PLATE | 1-B1 |
| CA993600 | SHIM (t: 0.3) | 8-B3 | CE062400 | M GEAR 2 | 7-B2 |
| CA993700 | WASHER 1 (t: 0.05) | 3-A2, 1-A2 | CE062900 | A LEVER 1 | 7-B1 |
| CA993800 | WASHER 1 (t: 0.08) | 3-A2, 1-A2 | CE063500 | PULLEY M | 7-B3 |
| CA993900 | S LEVER 1 | 3-C3 | CE063800 | CONTACT BASE | 7-A1 |
| CA994000 | S LEVER 1 | 3-C3 | CE063900 | CONTACT POINT WASHER | 7-A1 |
| CA994100 | S LEVER 1 | 3-C3 | CE064000 | BASE A | 7-A1 |
| CA994200 | S LEVER 2 | 3-C2 | CE064200 | CAM HOLDER | 7-C1 |
| CA994300 | S LEVER 2 | 3-C2 | CE064400 | CAM HOLDER | 7-C1 |
| CA994400 | FRONT SHEARS (t: 0.1) | 6-A3 | CE064500 | AR BASE | 7-C1 |
| CA994500 | FRONT SHEARS (t: 0.2) | 6-A3 | CE064700 | ST SPRING | 7-B2 |
| CA236400 | FC PLATE | 2-A1 | CE064800 | REAR COVER LEATHER R | 1-A3 |
| CB158700 | FOCUSING SCREEN (1-13) | 9-D3 | CE064900 | REAR COVER LEATHER L | 1-B3 |
| CE354100 | fc NW10 t=0.1 | 9-A1 | CE065000 | RESET BUTTON | 6-C2 |
| CE354200 | fc NW20 t=0.2 | 9-A1 | CE065200 | HOOK SHAFT | 6-B2 |
| CE050400 | BOTTOM PLATE | 1-D4 | CE065300 | HOOK SPRING | 6-B2 |
| CE050500 | COVER | 1-B4 | CE065400 | BL SPRING HOLDER | 6-B2 |
| CE050900 | CONTACT POINT | 4-A3 | CE065500 | BL SPRING | 6-B2 |
| CE051000 | INSULATING TUBE | 4-A3 | CE065900 | LOWER PROOF | 7-B4 |
| CE051200 | SHAFT COLLAR | 4-A3 | CE066300 | SL INSULATOR | 6-B1, D2 |
| CE051300 | SPOOL B | 2-B3 | CE066500 | INSULATOR | 7-A2 |
| CE051400 | TRIPOD SOCKET | 1-C4 | CE066600 | A SCREW | 7-A1 |
| CE051700 | FC GEAR | 2-C1 | CE066700 | A INSULATOR | 7-A1 |
| CE052100 | DIAL GEAR | 6-B4 | CE066800 | FASTENING PLATE | 1-A3 |
| CE052800 | FX KNOB | 7-D3 | CE066900 | FASTENING SPRING | 1-A3 |
| CE053000 | P STOPPER SPRING | 7-D3 | CE067300 | B LIGHT PROOF | 4-D3 |
| CE053900 | SL SHAFT | 7-B3 | CE067600 | BL LEVER | 6-B2 |
| CE054700 | DISPLAY PLATE | 7-B3 | CE067900 | A CAM | 7-C1 |
| CE056500 | NUT | 1-C2 | CE068700 | UPPER STOPPER 1 (ℓ : 0.25) | 7-C1 |
| CE057000 | INSULATING PLATE | 3-A4 | CE068800 | UPPER STOPPER 2 (ℓ : 0.4) | 7-C1 |
| CE057400 | C SPRING | 1-C2 | CE068900 | UPPER STOPPER 3 (ℓ : 0.55) | 7-C1 |
| CE057800 | SR TUBE | 8-C1 | CE069100 | LOWER STOPPER | 7-B2 |
| CE057900 | F CONTACT (UPPER) | 7-A3 | CE069200 | SL SHAFT 2 (ℓ : -0.01) | 7-B3 |
| CE058000 | F CONTACT (LOWER) | 7-A3 | CE069300 | SL SHAFT 3 (ℓ : +0.01) | 7-B3 |
| CE058200 | F SCREW | 7-A3 | CE069400 | SL SHAFT 4 (ℓ : +0.03) | 7-B3 |
| CE058700 | SLIDE SCREW | 7-D2 | CE069500 | A SCREW | 7-B1 |
| CE058900 | SLIDER HOLDER | 7-D2 | CE069600 | INSULATION WASHER | 7-C1 |
| CE059300 | CAM SHAFT | 7-D2 | CE070400 | S LEVER STOPPER | 8-C4 |
| CE060100 | SPRING | 7-D2 | CE070500 | R SHAFT HOLDER | 4-D2 |
| CE060700 | RUBBER RING | 1-B1 | CE070600 | COLLAR SPRING HOLDER | 4-D2 |
| CE061200 | AR INSULATOR | 7-C1 | CE070700 | R SPRING | 4-D1 |
| CE061400 | CAM SPRING | 1-B1 | CE071200 | BUTTON | 1-B2 |
| CE061800 | CAP | 1-B1 | | | |
| CE061900 | ASA PLATE | 1-B1 | | | |

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PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|------------------|----------|-----------|-----------------------|------|
| CE071600 | R COLLAR | 4-D2 | CE076900 | REAR ADJ. PLATE | 9-C2 |
| CE071700 | R SPRING HOLDER | 4-D2 | | (t: 0.08) | |
| CE071800 | F FRAME | 9-B3 | CE077000 | REAR ADJ. PLATE | 9-C2 |
| CE072000 | BASE B WASHER | 6-C2, C3 | | (t: 0.09) | |
| CE072200 | N STOPPER | 7-C2 | CE077100 | REAR ADJ. PLATE | 9-C2 |
| CE073100 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.10) | |
| | (t: 0.03) | | CE077200 | REAR ADJ. PLATE | 9-C2 |
| CE073200 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.11) | |
| | (t: 0.04) | | CE077300 | REAR ADJ. PLATE | 9-C2 |
| CE073300 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.12) | |
| | (t: 0.05) | | CE077400 | REAR ADJ. PLATE | 9-C2 |
| CE073400 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.13) | |
| | (t: 0.06) | | CE077500 | REAR ADJ. PLATE | 9-C2 |
| CE073500 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.14) | |
| | (t: 0.07) | | CE077600 | REAR ADJ. PLATE | 9-C2 |
| CE073600 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.15) | |
| | (t: 0.08) | | CE078100 | REAR ADJ. PLATE | 9-C2 |
| CE073700 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.20) | |
| | (t: 0.09) | | CE079100 | REAR ADJ. PLATE | 9-C2 |
| CE07380 | FRONT ADJ. PLATE | 9-D2 | | (t: 0.30) | |
| | (t: 0.10) | | CE081200 | MG BASE | 5-B1 |
| CE073900 | FRONT ADJ. PLATE | 9-D2 | CE081900 | REAR SPRING B | 5-D1 |
| | (t: 0.11) | | CE082200 | T TUBE | 5-D1 |
| CE074000 | FRONT ADJ. PLATE | 9-D2 | CE082300 | REAR SHAFT | 5-D1 |
| | (t: 0.12) | | CE082400 | REAR NUT | 5-D2 |
| CE074100 | FRONT ADJ. PLATE | 9-D2 | CE082600 | B LEVER | 5-C2 |
| | (t: 0.13) | | CE082800 | B SPRING | 5-C2 |
| CE074200 | FRONT ADJ. PLATE | 9-D2 | CE083200 | FRONT CLAW A | 5-A2 |
| | (t: 0.14) | | CE083300 | FRONT CLAW B | 5-A2 |
| CE074300 | FRONT ADJ. PLATE | 9-D2 | CE083500 | FRONT SHAFT | 5-A2 |
| | (t: 0.15) | | CE083600 | FRONT SPRING A | 5-A2 |
| CE074800 | FRONT ADJ. PLATE | 9-D2 | CE083700 | FRONT SPRING B | 5-A2 |
| | (t: 0.20) | | CE083800 | PINCH SCREW | 5-A2 |
| CE075800 | FRONT ADJ. PLATE | 9-D2 | CE083900 | M LEVER | 5-A2 |
| | (t: 0.30) | | CE084100 | M HOOKING LEVER SCREW | 5-A2 |
| CE076400 | REAR ADJ. PLATE | 9-C2 | CE084800 | SL SPRING | 5-D2 |
| | (t: 0.03) | | CE085400 | B PLATE | 4-C1 |
| CE076500 | REAR ADJ. PLATE | 9-C2 | CE085600 | INSTALLER T | 4-D4 |
| | (t: 0.04) | | CE086100 | GEAR SCREW | 5-B2 |
| CE076600 | REAR ADJ. PLATE | 9-C2 | CE086200 | B STOPPER RING | 5-B2 |
| | (t: 0.05) | | CE086500 | GEAR PLATE | 5-C2 |
| CE076700 | REAR ADJ. PLATE | 9-C2 | CE088200 | M RELEASE | 5-C4 |
| | (t: 0.06) | | CE088300 | MR SHAFT | 5-C3 |
| CE076800 | REAR ADJ. PLATE | 9-C2 | CE088500 | TURN PLATE A | 3-A2 |
| | (t: 0.07) | | CE088700 | TURN COLLAR | 3-A2 |
| | | | CE088800 | TURN SCREW | 3-A2 |

- : PARTS STILL AVAILABLE = : PARTS NO LONGER AVAILABLE

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|----------------------|------|-----------|----------------|------|
| CE089000 | TURN SHAFT | 3-A1 | CE109200 | S CONTACT 2 | 9-B2 |
| CE089100 | TURN SPRING A | 3-A2 | CE109300 | S SHEET | 9-B1 |
| CE089200 | TURN SPRING B | 3-A2 | CE109400 | T WASHER | 9-B1 |
| CE090600 | C SHAFT | 3-A2 | CE109900 | K KNOB | 2-C3 |
| CE091100 | C SCREW | 3-A2 | CE110400 | A DIAL | 1-B1 |
| CE092000 | BASE PIPE | 2-D3 | CE110500 | LOCK SPRING | 1-B2 |
| CE092100 | INSULATOR | 2-C2 | CE112000 | DIAL | 6-B4 |
| CE092200 | BASE NUT | 2-C1 | CE112100 | FRONT COVER | 6-B3 |
| CE092300 | BASE SHAFT | 5-B1 | CE112200 | SHEET | 4-A4 |
| CE092400 | POSITIONER | 2-C3 | CE112300 | CELL CASE | 4-A4 |
| CE092600 | CONTACT POINT WASHER | 2-D3 | CE112500 | T WASHER | 9-B1 |
| CE092800 | B SCREW | 5-C2 | CE112700 | DISK | 1-A1 |
| CE093500 | K CONTACT POINT | 2-D2 | CE113000 | S LLEVER | 1-D1 |
| CE094000 | TOOTH STOPPER 18 | 2-C2 | CE113400 | C STOPPER | 5-C3 |
| CE094100 | C BASE PLATE | 3-A2 | CE113500 | SM COVER | 9-B1 |
| CE094900 | RM INSULATOR | 5-C3 | CE113600 | P COVER | 9-D1 |
| CE095600 | LOWER COVER | 5-C1 | CE113700 | P STOPPER | 9-D1 |
| CE099300 | CELL INSULATOR | 4-A3 | CE113800 | F INSULATOR | 7-D4 |
| CE099400 | B PLATE C WASHER | 3-A4 | CE114000 | DISK 1 | 8-D4 |
| CE099900 | S BASE PLATE | 2-C3 | CE114500 | F KEY SCREW | 9-C3 |
| CE100100 | T FASTENER | 2-C2 | CE114600 | 3 GEAR SCREW | 3-C1 |
| CE100200 | T CONTACT POINT A | 2-C1 | CE121800 | F PLATE B | 2-B3 |
| CE100300 | T CONTACT POINT B | 2-C1 | CE121900 | F PLATE A | 2-B3 |
| CE100400 | T CONTACT POINT C | 2-C1 | CE122000 | SPOOL HOLDER | 2-B3 |
| CE105500 | PRISM BASE | 9-D2 | CE122100 | CLICK RING | 1-B2 |
| CE105900 | LEVER KNOB | 1-B1 | CE122400 | L NUT | 1-B1 |
| CE106000 | KNOB COVER | 1-B1 | CE124300 | SHAFT 2 | 3-A1 |
| CE106100 | LOCK LEVER | 5-D2 | CE125300 | SPRING | 6-D2 |
| CE106200 | TURN PLATE B | 3-A1 | CE125600 | F HINGE | 9-B3 |
| CE106400 | M LEVER WASHER | 5-A2 | CE125700 | SPACER | 6-D2 |
| CE106500 | M LEVER SCREW | 5-A1 | CE125800 | SHAFT 2 | 6-C2 |
| CE106600 | LEVER | 5-A2 | CE126000 | BL BUTTON 2 | 6-C2 |
| CE106700 | SPRING | 5-A2 | CE126100 | GUIDE PLATE | 6-D2 |
| CE106800 | SPRING | 2-D2 | CE216200 | S PLATE | 3-C2 |
| CE107000 | CAM SHAFT | 2-D1 | CE223500 | LOCK LEVER 3 | |
| CE107100 | C LEVER | 3-B4 | CE245500 | LIGHT PROOF | 4-C4 |
| CE107200 | C PLATE 1 | 3-A2 | CE245600 | LIGHT PROOF | 4-C4 |
| CE107300 | C PLATE 2 | 3-A2 | CE246200 | B LEVER SPRING | 5-A2 |
| CE107800 | CONNECTING SHAFT | 5-C3 | CE247400 | HOLDING PLATE | 5-D1 |
| CE107900 | PLATE | 5-D3 | CE251100 | MS TUBE | 8-C2 |
| CE108000 | D CONTACT | 3-A3 | CE255900 | LIGHT PROOF | 7-B4 |
| CE108100 | D CASE | 3-B2 | | | |
| CE108500 | SUB PLATE | 2-D1 | LC408600 | PENTAPRISM | 9-D2 |
| CE108800 | S FRAME | 9-B2 | | | |
| CE109000 | S INSULATOR | 9-B1 | SC0155 | B STRING | |
| CE109100 | S CONTACT 1 | 9-A1 | | | |

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|------------------------|------------|-----------|--------------------------|------|
| ZC100100 | CLAW SHAFT 2 ASS'Y | 3-B4 | ZC115100 | PULLEY HOLDER ASS'Y | 7-B3 |
| ZC100500 | KEY PLATE A ASS'Y | 1-C2 | ZC115500 | A LEVER 2 ASS'Y | 7-B1 |
| ZC101400 | ROLLER WASHER ASS'Y | 4-B2 | ZC115600 | METER ASS'Y | 7-B2 |
| ZC101500 | SHAFT PLATE ASS'Y | 4-B1 | ZC116700 | DISK ASS'Y | 1-B1 |
| ZC102000 | GEAR 2 SHAFT ASS'Y | 3-C1 | ZC117000 | COVERING PLATE ASS'Y | 5-B1 |
| ZC102700 | GEAR 4 ASS'Y | 3-B2 | ZC132100 | SPROCKET ASS'Y | 3-A2 |
| ZC102800 | FRAME ASS'Y | 4-C4 | ZC132200 | ST CLAW ASS'Y | 3-C4 |
| ZC102900 | KS LEVER ASS'Y | 3-B2 | ZC132300 | SPOOL SHAFT ASS'Y | 2-B3 |
| ZC103000 | GEAR 3 ASS'Y | 3-C2 | ZC132500 | FC RETURNING LEVER ASS'Y | 2-C1 |
| ZC103500 | R LEVER SPRING ASS'Y | 1-D1 | ZC132900 | RELEASE PLATE ASS'Y | 3-D4 |
| ZC103803 | PRESSURE PLATE 3 | 1-C2 | ZC133100 | A PINCH 1 ASS'Y | 5-D2 |
| ZC103804 | PRESSURE PLATE 4 | 1-C2 | ZC133200 | B PINCH 2 ASS'Y | 5-A2 |
| ZC103805 | PRESSURE PLATE 5 | 1-C2 | ZC133400 | TUBE SHAFT B ASS'Y | 4-B2 |
| ZC103806 | PRESSURE PLATE 6 | 1-C2 | ZC133500 | TUBE SHAFT A ASS'Y | 4-B2 |
| ZC103807 | PRESSURE PLATE 7 | 1-C2 | ZC134300 | R LEVER ASS'Y | 1-D1 |
| ZC107100 | KM LEVER ASS'Y | 3-B1 | ZC135500 | SIDE PLATE L ASS'Y | 8-B2 |
| ZC105200 | START LEVER ASS'Y | 8-C3 | ZC137000 | TR PLATE ASS'Y | 5-D2 |
| ZC105700 | SIDE PLATE R ASS'Y | 8-A2 | ZC137300 | KL PLATE 3 ASS'Y | 3-C1 |
| ZC105800 | M PLATE ASS'Y | 8-A2 | | (PIN 1.4φ) | |
| ZC106200 | PIPE ASS'Y | 8-B3 | ZC137400 | KL PLATE 3 ASS'Y | 3-C1 |
| ZC106700 | M CHARGE ASS'Y | 8-C2 | | (PIN 1.8φ) | |
| ZC107100 | B SPRING PLATE ASS'Y | 7-B4 | ZC137600 | SWITCH WASHER ASS'Y | 1-D1 |
| ZC107800 | EYEPIECE LENS ASS'Y | 9-B2 | ZC137800 | C BASE ASS'Y | 1-C2 |
| ZC108200 | ST LEVER ASS'Y | 8-C4 | ZC137900 | K LEVER ASS'Y | 1-C2 |
| ZC109900 | S BASE COVER | 8-C4 | ZC138400 | M LEVER ASS'Y | 8-C1 |
| ZC111100 | HG BASE COVER | 5-B1 | ZC138500 | LINK ASS'Y (SP:0.4φ) | 8-B3 |
| ZC111300 | SHUTTER CURTAIN | 4-B1 | ZC138600 | LINK ASS'Y (SP:0.45φ) | 8-B3 |
| ZC111400 | S GEAR ASS'Y | 2-D4, 5-B1 | ZC138700 | LINK ASS'Y (SP:0.55φ) | 8-B3 |
| ZC111800 | K CONTACT ASS'Y | 2-D3 | ZC139000 | EP SCREW ASS'Y | 7-A3 |
| ZC111900 | L BASE ASS'Y | 2-C2, D2 | ZC152600 | MASK ASS'Y | 9-D2 |
| ZC112200 | SOCKET ASS'Y | 7-D3 | ZC161000 | FX BASE ASS'Y | 5-B2 |
| ZC112800 | SIDE PLATE R-2 ASS'Y | 8-A2 | ZC162600 | CONNECTING LEVER ASS'Y | 8-C2 |
| ZC113400 | CONNECTING TUBE ASS'Y | 6-A3 | ZC166600 | H FRAME ASS'Y | 8-B2 |
| ZC113500 | CAM S ASS'Y | 7-D2 | ZC166800 | SELF-TIMER ASS'Y | 8-C2 |
| ZC113700 | LEVER ASS'Y | 7-D2 | ZC168600 | GEAR A, B ASS'Y | 5-B2 |
| ZC113900 | SLIDE DISK ASS'Y | 7-D2 | ZC168700 | REAR CLAW ASS'Y | 5-D1 |
| ZC114000 | STOPPER ASS'Y | 6-C2 | ZC168900 | HOOK LEVER ASS'Y | 5-D1 |
| ZC114100 | RIGHT PLATE ASS'Y | 6-C2 | ZC169500 | A CONTACT POINT 2 ASS'Y | 7-A1 |
| ZC114400 | PROTECTION PLATE ASS'Y | 6-D2 | ZC176200 | WINDING LEVER ASS'Y | 1-A1 |
| ZC114600 | SLIDER ASS'Y | 7-B3 | ZC176600 | S BASE ASS'Y | 9-B1 |
| ZC114700 | SL CONTACT POINT ASS'Y | 6-C3 | ZC117900 | M BASE ASS'Y | 2-D2 |
| ZC114800 | BASE PLATE B ASS'Y | 6-D2 | ZC178200 | REAR COVER ASS'Y | 1-A4 |
| ZC114900 | A CONTACT 1 ASS'Y | 7-A1 | ZC178300 | TOP COVER ASS'Y | 1-B2 |
| ZC115000 | METER BASE ASS'Y | 7-B2 | | | |

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-------------------------------|----------------------------|------|-----------|----------------------|--------------------|
| ZC178600 | S FRAME ASS'Y | 9-B2 | CA947100 | COVER H | 1-B4 |
| ZC178700 | SW BASE ASS'Y | 7-D2 | CE117300 | K KNOB | 2-C3 |
| ZC179000 | CL HOUSE ASS'Y | 3-B4 | CE117400 | A DIAL | 1-B1 |
| ZC179100 | C CIRCUIT | 3-A4 | CE117600 | DIAL - | 6-B4 |
| ZC179200 | P BASE ASS'Y | 3-A3 | CE117700 | FRONT COVER | 6-B4 |
| ZC179300 | S BASE 2 ASS'Y | 5-B3 | CE120200 | LOWER PLATE | |
| ZC179700 | SIDE PLATE L-2 ASS'Y | 8-B1 | CE120400 | COVER | 1-B4 |
| ZC180300 | C PLATE 3 ASS'Y | 3-B3 | CE121100 | BL BUTTON | 6-C2 |
| ZC181500 | DIECAST BODY ASS'Y | | CE121600 | BL BURRON 2 | 6-C2 |
| ZC182200 | S PLATE UPPER ASS'Y | 5-B2 | ZC117400 | SOCKET ASS'Y | 7-D3 |
| ZC198500 | SW BASE PLATE ASS'Y | 3-A1 | ZC134400 | R LEVER ASS'Y | 1-D1 |
| ZC451900 | STRAP EYELET ASS'Y | 1-D3 | ZC177500 | WINDING LEVER ASS'Y | 1-A1 |
| ZJ127900 | CELL COVER ASS'Y | 4-A3 | ZC178400 | TOP COVER ASS'Y | 1-D2 |
| ZJ128000 | K CENTER PLATE ASS'Y | 2-C3 | ZJ129200 | K CENTER PLATE ASS'Y | 2-C3 |
| ZJ128100 | LOWER PLATE M ASS'Y | 7-B2 | ZJ129300 | BUTTON WASHER ASS'Y | 1-B3 |
| ZJ128200 | S BASE ASS'Y | 5-B3 | ZJ129400 | SWITCH WASHER ASS'Y | 1-D1 |
| ZJ128400 | M BASE B ASS'Y | 8-D1 | PSK2x4SH | SCREW | 1-C4 |
| ZJ128500 | C PLATE 4 ASS'Y | 2-D2 | DC071800 | CAPACITOR | 10 μ F 3V |
| ZJ128600 | BUTTON WASHER ASS'Y | 1-B2 | DC195400 | CAPACITOR | 820PF 50V |
| ZJ128700 | FRONT CASTING ASS'Y | 6-B1 | DC195700 | CAPACITOR | 0.022 μ F 25V |
| ZJ128800 | M CENTER PLATE ASS'Y | 7-B3 | DC195800 | CAPACITOR | 620PF 50V |
| ZJ129000 | BASE PLATE ASS'Y | 2-C1 | DC197200 | CAPACITOR | 0.068 μ F 35V |
| ZJ129100 | WINDING SHAFT ASS'Y | 2-B2 | DC199500 | CAPACITOR | 0.047 μ F 35V |
| ZJ129500 | E INDICATOR | 9-A2 | DC265800 | CAPACITOR | 1000PF 50V |
| ZJ182900 | B SPRING ASS'Y | 8-B3 | DI023900 | IC | 1R-024 |
| <u>PARTS FOR BLACK FINISH</u> | | | DQ011500 | LED | GL-30PR8 |
| CA907300 | S BASE COVER | 8-C4 | DQ011700 | LED | GL-9PR8 |
| CA940300 | R KNOB | 1-D1 | DR172600 | RESISTOR | 24K Ω 1/16W |
| CA940500 | R LEVER WASHER | 1-C1 | DR172700 | RESISTOR | 25K Ω 1/16W |
| CA940800 | R KNOB | 1-D1 | DR172800 | RESISTOR | 26K Ω 1/16W |
| CA941000 | R KNOB SCREW | 1-D1 | DR172900 | RESISTOR | 27K Ω 1/16W |
| CA941200 | LEVER FASTENER | 1-A1 | DR173000 | RESISTOR | 28K Ω 1/16W |
| CA941300 | FASTENER | 1-A2 | DR173100 | RESISTOR | 29K Ω 1/16W |
| CA942500 | S LEVER STOPPER | 8-C4 | DR173200 | RESISTOR | 30K Ω 1/16W |
| CA943300 | R LEVER WASHER (h: 0.8) | 1-C1 | DR173300 | RESISTOR | 31K Ω 1/16W |
| CA943400 | R LEVER WASHER (h: 1.1) | 1-C1 | DR173400 | RESISTOR | 32K Ω 1/16W |
| CA943600 | R LEVER WASHER (h: 0.9) | 1-C1 | DR173500 | RESISTOR | 33K Ω 1/16W |
| CA944100 | ST LEVER B | 8-C4 | DR173600 | RESISTOR | 34K Ω 1/16W |
| CA944200 | BUTTON | 1-B1 | | | |

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|-----------|-----------------------------|--------------|--------------|------------------------------|------|
| DR173700 | RESISTOR | 35KΩ 1/16W | RBJ-M | LEAD COIL (PURPLE), 10m LONG | |
| DR173800 | RESISTOR | 36KΩ 1/16W | RBJ-D | LEAD COIL (ORANGE), 10m LONG | |
| DR173900 | RESISTOR | 33KΩ 1/16W | RBJ-P | LEAD COIL (PINK), 10m LONG | |
| DR174000 | RESISTOR | 23KΩ 1/16W | RBJ-R | LEAD COIL (RED), 10m LONG | |
| DR174100 | RESISTOR | 9.1KΩ 1/16W | RBJ-W | LEAD COIL (WHITE), 10m LONG | |
| DR132500 | RESISTOR | 10KΩ 1/16W | RBJ-Y | LEAD COIL (YELLOW), 10m LONG | |
| DR174200 | RESISTOR | 11KΩ 1/16W | | | |
| DR134100 | RESISTOR | 12KΩ 1/16W | THJ-B | TUBE (BLACK), 5m LONG | |
| DR174400 | RESISTOR | 13KΩ 1/16W | TRE-B | TUBE (BLACK), 5m LONG | |
| DR174500 | RESISTOR | 14KΩ 1/16W | | | |
| DR131500 | RESISTOR | 15KΩ 1/16W | | | |
| DR174700 | RESISTOR | 16KΩ 1/16W | | | |
| DR174800 | RESISTOR | 17KΩ 1/16W | | | |
| DR138000 | RESISTOR | 18KΩ 1/16W | PUK1.4x1SN | SCREW | |
| DR175000 | RESISTOR | 19KΩ 1/16W | PUK1.4x1.2SN | SCREW | |
| DR130100 | RESISTOR | 20KΩ 1/16W | PUK1.4x1.4SN | SCREW | |
| DR175200 | RESISTOR | 100KΩ 1/16W | PUK1.4x1.6SN | SCREW | |
| DR175300 | RESISTOR | 180KΩ 1/16W | PUK1.4x1.8SN | SCREW | |
| DR175400 | RESISTOR | 270KΩ 1/16W | PUK1.4x1.8SB | SCREW | |
| DR175500 | RESISTOR | 470KΩ 1/16W | PUK1.4x3SN | SCREW | |
| DR175600 | RESISTOR | 68.3KΩ 1/20W | PUK1.4-307SN | SCREW | |
| DR175700 | RESISTOR | 2.4KΩ 1/16W | PUK1.4-310SN | SCREW | |
| DR176000 | RESISTOR | 1KΩ 1/16W | PUK1.4-311SN | SCREW | |
| DR176400 | RESISTOR | 1.3KΩ 1/16W | PUK1.4-404SB | SCREW | |
| DR133600 | RESISTOR | 1.5KΩ 1/16W | PUK1.4-405SN | SCREW | |
| DR177200 | RESISTOR | 1.8KΩ 1/16W | PUK1.4-440SN | SCREW | |
| DR133200 | RESISTOR | 2.0KΩ 1/16W | PUK1.4-605SN | SCREW | |
| DR180600 | RESISTOR | 2.2KΩ 1/16W | PUK1.4-605SB | SCREW | |
| DR180700 | RESISTOR | 2.7KΩ 1/16W | PUK1.7x1.5SN | SCREW | |
| | | | PUK1.7x1.6SN | SCREW | |
| DS029500 | DIODE | 1N4005 | PUK1.7x1.8SN | SCREW | |
| DS029600 | DIODE | 1S1588 | PUK1.7x2SN | SCREW | |
| DS082300 | DIODE | 1N4001 | PUK1.7x2.2SN | SCREW | |
| DS057400 | FET | 2SK118-0 | PUK1.7x2.5SN | SCREW | |
| DS073800 | TRANSISTOR | 2SA811A | PUK1.7x8SN | SCREW | |
| DS101700 | IC | IS-001Z | PUK1.7-236SN | SCREW | |
| DS030300 | Cds | TYPE-A | PUK1.7-308SN | SCREW | |
| DS102000 | Cds | TYPE-B1 | PUK1.7-314SN | SCREW | |
| DS102100 | Cds | TYPE-B2 | PUK1.7-338SN | SCREW | |
| DS102200 | Cds | TYPE-B3 | PUK1.7-406SN | SCREW | |
| DS102300 | Cds | TYPE-C | PUK1.7-516SN | SCREW | |
| | | | PUK2x1.8SN | SCREW | |
| RBJ-A | LEAD COIL (BLUE), 10m LONG | | PUK2x2SN | SCREW | |
| RBJ-B | LEAD COIL (BLACK), 10m LONG | | PUK2x2.5SN | SCREW | |
| RBJ-C | LEAD COIL (BROWN), 10m LONG | | PUK2x3SN | SCREW | |
| RBJ-G | LEAD COIL (GREEN), 10m LONG | | PUK2x4.5SN | SCREW | |

PARTS LIST

| PARTS No. | NAME OF PARTS | NOTE | PARTS No. | NAME OF PARTS | NOTE |
|--------------|----------------|------|-----------|---------------|------|
| PSK1.4x1.6SN | SCREW | | | | |
| PSK1.4x2SN | SCREW | | | | |
| PSK1.4x2SB | SCREW | | | | |
| PSK1.4x2.5SN | SCREW | | | | |
| PSK1.7x1.6SN | SCREW | | | | |
| PSK1.7x1.8SN | SCREW | | | | |
| PSK1.7x2.2SN | SCREW | | | | |
| PSK1.7x2.5SN | SCREW | | | | |
| PSK1.7x3SN | SCREW | | | | |
| PSK1.7x3.5SN | SCREW | | | | |
| PSK1.7x3.5SB | SCREW | | | | |
| PSK1.7x4SN | SCREW | | | | |
| PSK2x2.2SN | SCREW | | | | |
| PSK2x2.5SN | SCREW | | | | |
| PSK2x2.8SN | SCREW | | | | |
| PSK2x3SN | SCREW | | | | |
| PSK2x4SE | SCREW | | | | |
| 3PSK1.7x3SN | SCREW | | | | |
| PSTB1.7x3SN | SCREW | | | | |
| HK1.4-201SN | SCREW | | | | |
| NW1.4-228U0 | WASHER | | | | |
| NW1.4-334U0 | WASHER | | | | |
| NW1.4-434U0 | WASHER | | | | |
| NW1.5-425U0 | WASHER | | | | |
| NW1.8-230U0 | WASHER | | | | |
| NW1.8-336P0 | WASHER | | | | |
| NW8.6-2136B0 | WASHER | | | | |
| NW9.2-3115SB | WASHER | | | | |
| NW9.2-4115SB | WASHER | | | | |
| B 1 | BALL | | | | |
| B 1/16 | BALL | | | | |
| B 2 | BALL | | | | |
| OLD | NEW | | | | |
| CE093100 | → CE100200 <2> | | | | |
| CE093200 | → CE100300 <2> | | | | |
| = CA937200 | → CE122000 <1> | | | | |



GENERAL OUTLINE AND MECHANICAL FEATURES

GENERAL OUTLINE AND MECHANICAL FEATURES

1. GENERAL OUTLINES

HOUSE CORD: MDE

MODEL NAME: OM-2

2. MAIN SPECIFICATIONS

System: OLYMPUS OM System

Camera type: 35mm Single Lens Reflex with automatic exposure control electronic focal plane shutter.

Film format: 24mm x 36mm.

Lens mount: OLYMPUS OM Mount, bayonet type; rotation angle 70°, flange back 46mm.

Shutter: Focal plane shutter, automatic exposure control from several tens of seconds to 1/1,000 second (ASA 100, F1.2, at normal temperature and humidity). Manual exposure: B, 1-1/1,000 sec., ring mounted control.

Synch.: FP.X switch type contact, incorrect flash prevention.

Automatic exposure control: Aperture-preferred automatic exposure control electronic shutter type. TTL Direct Light Measuring System, center-weighted for bright, and averaging for dark conditions. Measuring range: ASA 100 F1.2 from several tens of seconds to F16, 1/1,000 seconds. (about EV-5.5 - EV 18) (at normal temperature and humidity). Light sensors: 2 SBC sensors. Large fine-exposure adjustment dial: ± 2 EV (within the ASA film speed range). Automatic flash exposure: Direct contacts for TTL Auto Flash.

Manual exposure: TTL type. Measuring system: Full aperture center-weighted metering. Measuring range: EV1.5 - EV17 (ASA 100 with F1.2 standard lens). Light sensors: 2 CdS sensors. Zero-method with needle visible in viewfinder.

Film speed setting: ASA 12 — 1600, set by lifting and rotating film speed dial.

Auto/Manual selection: By switching lever.

Battery check: 3-stage battery check lamp (light emitting diode) indicates full voltage, depleted charge, and exhaustion of batteries. Shutter lock to limit drainage.

Power source: Two 1.5V silver oxide batteries (Eveready (or UCAR) S-76 or equivalents).

Viewfinder: Pentaprism type wide-vision finder.

Focusing screens: Wide selection of interchangeable screens.
Standard type Focusing Screen 1-1 (microprism-matte type).

Finder view-field: 97% of actual picture field.

Apparent field view: Vertical 23°30', horizontal 35°.

Indicators in: 3-stage selector lever. (Auto: Shutter speed indicator. — Manual: exposure index. — Off: nothing).

Reflex mirror: Oversize, quick return type (without lock-up).

Film loading: OLYMPUS easy loading.

Manual film advance: Lever type with 150° angle for one long or several short strokes, pre-advance angle 30°, self cocking, double advance and double exposure prevention.

Motor drive: With Motor Drive 1 unit attached, single frame and continuous advance at speed of 5-frame per second (at exposures above 1/500 sec., with fresh batteries and at normal temperature and humidity).

Exposure counter: Progressive type with automatic reset.

Film rewind: Crank type, with rewind clutch setting, automatic return.

Self-timer: 4 - 12 second delay lever type with 180° maximum angle. stopped and reset after actuation.

Camera back: Removable hinge type, with memo holder.
Interchangeable with Recordata Back 1 and 250 Film Back 1.

Hot shoe socket: OLYMPUS accessory shoe (optional) attachable.

Dimensions and weights:

| | | |
|-----------------|---|----------------|
| Body only: | 136 x 83 x 50mm (5.35" x 3.27" x 1.97") | 520g (18.3 oz) |
| With F1.8 lens: | 136 x 83 x 81mm (5.35" x 3.27" x 3.19") | 690g (24.3 oz) |
| With F1.4 lens: | 136 x 83 x 86mm (5.35" x 3.27" x 3.39") | 750g (26.5 oz) |
| With F1.2 lens: | 136 x 83 x 97mm (5.35" x 3.27" x 3.82") | 830g (29.3 oz) |

3. CAUTION

AUTO: At "AUTO", the shutter speed varies automatically in response to the f/stop preselected and lighting conditions regardless of the shutter dial setting, except "B".

To release the shutter lock: When the shutter is locked due to improper battery condition, the lock can be released by resetting the shutter dial. (Align the reset marks, * and arrow, while depressing the reset button. At this point, the shutter dial is set to "B".)

When trouble occurred: If the shutter is locked, the battery shall be depleted quickly. Therefore, release the lock immediately.

4. MECHANICAL FEATURES

CONTENTS

- 1 WX Mechanism
- 2 Shutter Lock and Lock Release
- 3 Automatic Synchronization
- 4 Battery Checker (3-level indication)
- 5 Light Measuring Method
- 6 Shutter Speed Adjusting Mechanism
- 7 Shutter Circuit Diagram
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- 10 Operation Sequence at AUTO
- 11 Supplementary Description of AUTO Circuit
- 12 Operation Sequence of M Circuit Board at AUTO
- 13 ASA Conversion and Decision Level
- 14 Shutter Curtain and "Off" timing of MG
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- 18 Outline of Exposure Meter
- 19 Coupling Mechanism of Aperture Ring and Exposure Meter
- 20 Coupling Mechanism of Shutter Dial and Exposure Meter
- 21 ASA Conversion
- 22 F/stop Conversion

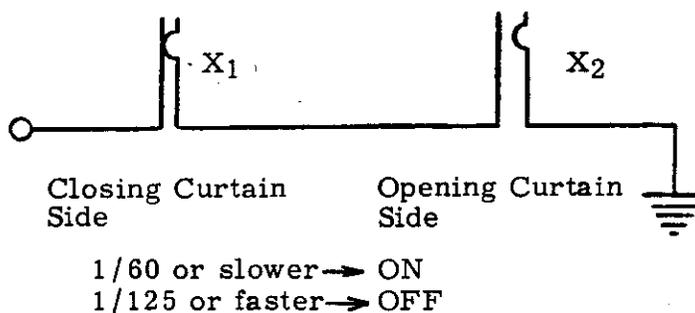
[1] WX Mechanism (Prevention of flashing at 1/125 sec. and faster)

The mechanism, in which the X contact is not turned on for the shutter speeds faster than 1/125 of a second, is called "WX mechanism".

The principle lies in the structure comprising two contact pieces; X₂ coupling with opening curtain and X₁ coupling with closing curtain, wired in series each other. When the shutter is charged, the contact piece X₂ is OFF, while X₁ is ON.

1/60 sec. or slower ----- When the opening curtain fully run, X₂ is turned ON; at this point, the closing curtain doesn't start for a certain time (X₁ remains ON). Both contacts are thus ON at the same time.

1/125 sec. or faster ----- The closing curtain runs before X₂ is turned on. (X₁ is OFF.) Both contacts are thus OFF at the same time.



[2] Shutter Lock and Lock Release

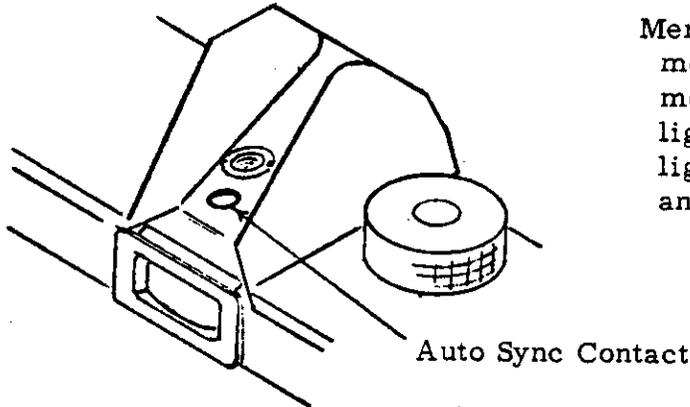
When the shutter cannot operate due to battery voltage drop and other battery troubles, the shutter lock is activated and the mirror is locked up midway. To return the mirror to the original position, turn the shutter dial to "B". Thereafter, load fresh batteries correctly. (See CAUTION at the top of this chapter.)

[3] Automatic Synchronization

The shutter of OM-2 is of an electric control type for both auto and manual. Whenever the closing curtain has run, MG (magnet) is turned from ON to OFF.

Since the MG takes a coil form, back electromotive force (caused by self-induction) is generated for the change in the current.

This back electromotive force is utilized to control a special electronic flash unit. Both the OM-2 and the special electronic flash unit are provided with an exclusive synch contact in addition to the conventional direct contact.



Merit: The flash light is measured based on the TTL method to control amounts of light. This assures real time light measurement and offers an ideal type of automatic flash.

{4} Battery Checker (3-level indication)

When the switching lever is pressed to the "CHECK" position (the lever is automatically returned by releasing the finger), the red light-emitting diode provides three indications of ON, BLINK and OFF depending upon battery voltage.

- QN Normal (battery voltage 2.75V or higher)
- BLINK Better to replace (2.75V ± 0.04V or lower)
(Still provides about 20 rolls of 36-frame film.)
- OFF Replace (2.45V ± 0.04V or lower)

{5} Light Measuring Method

The light measurement is performed through two CdSs in the eyepiece section and two SBCs (Silicon Blue Cell) in the mirror box, making a total of four light sensors.

The CdSs in the eyepiece section are connected only to the exposure meter visible in the viewfinder, and plays a role of controlling the pointer of the exposure meter.

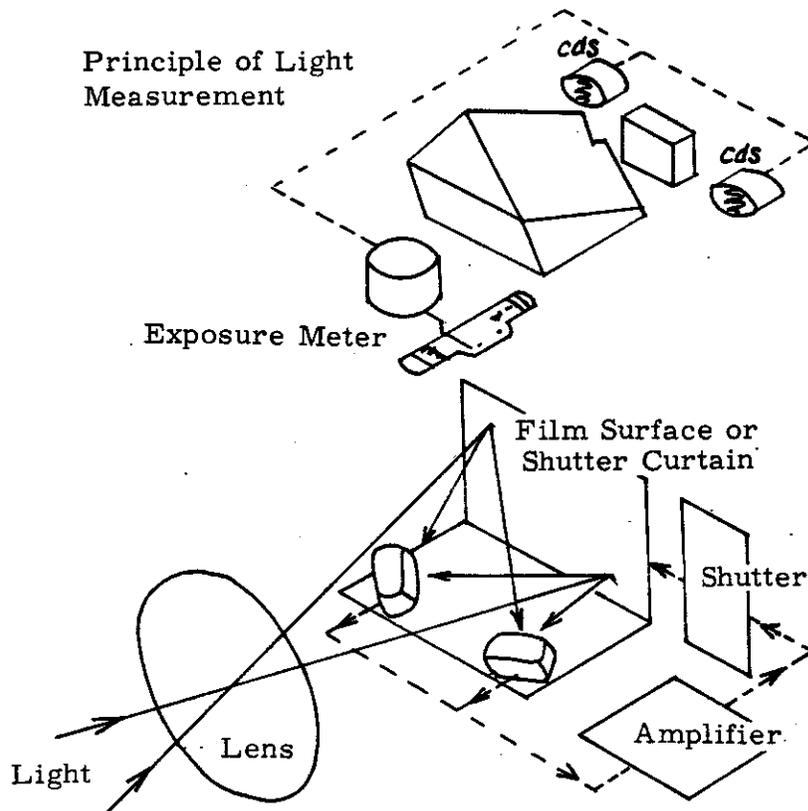
The SBCs in the mirror box are used to measure the light at AUTO to control the shutter speed.

The SBCs face the film plane to measure the reflected light from the film surface (from shutter curtain at high shutter speeds).

Since the SBCs measure substantially the reflected light from the opening curtain at high shutter speeds, the shutter curtain is printed with a "random pattern" designed to achieve correct exposures. (Take care not to leave finger marks, nor smudge the curtain.)

The main switch of the SBCs is turned on when the shutter button is depressed and the mirror is being flipped up. The SBC's quick reaction speed (μ sec order) amply assures the control of shutter speed which is about 1/1000 sec. at the highest.

Therefore, unlike other single-lens reflex cameras with electronic shutter, the conventional memory device is needless; hence, correct exposures can always be obtained even when the subject or scene varies its brightness at the moment of shutter opening.



Reflectance variations of various types of film is approximately $\pm 0.3EV$.

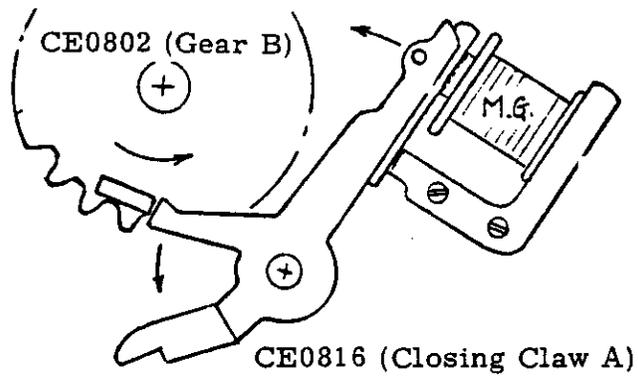
From among a number of patterns, the random pattern was selected which was found to yield best exposures.

[6] Shutter Speed Adjusting Mechanism

The shutter speed adjustment is done with a mechanical governor in OM-1. but is done with an electric governor (MG + Amplifier) in OM-2. The operation principle of the opening and closing curtains is as follow.

Opening Curtain ... Winding and running are performed with CA8547 (Gear A), same as in OM-1.

Closing Curtain ... The curtain is wound with CE0802 (Gear B), the gear is engaged by MG attractive force and the shutter speed is adjusted by amplifier. The OM-1 governor is replaced by MG and amplifier; others are same as in OM-1.



When MG is turned off, CE0816 (Closing Claw A) is disengaged from CE0802 (Gear B), CE0802 rotates in the arrow direction due to the tension of the closing curtain and the closing curtain starts running.

[8] Description of Each Component

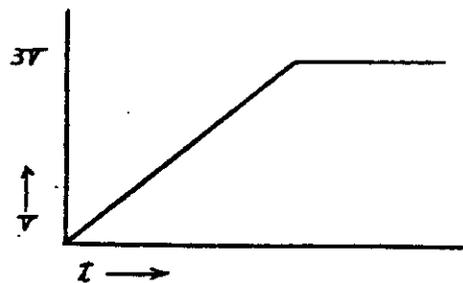
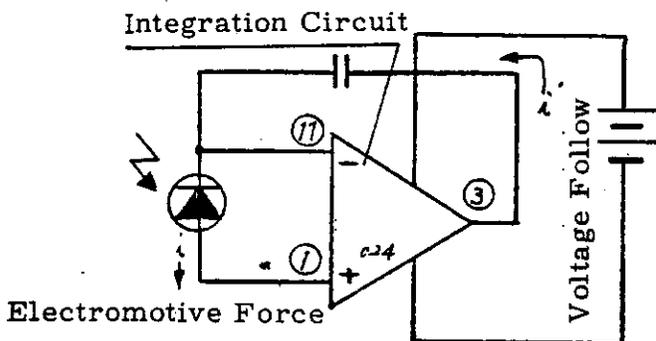
(1) IR 024 (IC 101)

This IC includes four circuits: a) integration circuit, b) comparator, c) sub circuit and d) limiter.

a) Integration Circuit



This is also called an operational circuit. It makes the condenser to charge at a rate such that the relation between charging quantity and time can be expressed in a linear formula (straight line if expressed graphically). ($i = i'$; if i is constant, i' will also be constant.) When connected as in the illustration below, it acts to flow the current to the output pin (3) so that potential difference between two input pins. (1) and (11) shall always becomes zero.



Relation between V and t of condenser is expressed by a straight line because of integration circuit.

b) Comparator

This is connected next to the integration circuit. The comparator acts to decide whether the electric signal transmitted has a potential greater than the rated voltage. and switches its output from 0V to 3V if the potential is greater than the rated voltage. The terminals for input electric signal consist of pins (9) and (2) . while the output terminal of (4) . (As the potential difference of 3V is generated between the base (B) and emitter (E) of the switch transistor Q102 at a 0V output. MG is turned on. When the output is switched to 3V. MG is turned off because potential difference between B and E becomes zero.)

See Shutter Circuit Diagram in the preceding page.

c) Sub circuit

When battery power is depleted, the limiter described below operates to turn off the MG and the shutter is locked. However, if this condition were left as it is, the battery would recover and MG would repeat turning on and off. To prevent this, the sub circuit operates to shunt large current.

d) Limiter

When battery voltage drops below the rated value, the limiter operates to eliminate the potential difference between base and emitter to prevent turning on of MG.

(2).. MOS FET (Metal-Oxide-Semiconductor Field-Effect-Transistor)

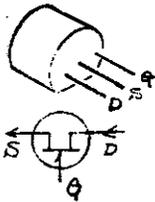


This is connected between SBC and IC 024. Insulation resistance* on the input side of the integration circuit of IC 024 cannot be made ∞ due to structural reason. Thus, extremely weak currents like SBC's (approx. 10^{-11} A) cannot be dealt with accurately. MOS FET has a very high insulation resistance on its input interface, so that it can accurately catch the extremely weak currents and amplifies and sends them to the integration circuit.

* Correctly, input impedance

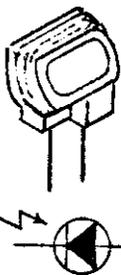
MOS FET is destroyed with static electricity of 100V, so must be grounded.

(3) FET



This functions to make flow of electric current constant even when the battery voltage fluctuates, and makes the voltage constant. It is provided with 3 pins: source (S), drain (D) and gate (G). When the voltage between S and G is changed, the current flowing from D to S is changed.

(4) SBC (Silicon Blue Cell)



This is a photo-sensitive element, which generates electromotive force when receiving light.

Features

1. Very quick response speed (10^{-5} - 10^{-6} sec.) enables real time and unremitting light measurement.
2. Dark current is weak and accuracy on the low luminance level is high.
3. Electromotive current caused by incident light changes linearly ($\gamma = 1$).

therefore easy to compute.

4. Blue filter applied lowers the infrared-ray rate to below 14%.

(5) Condenser

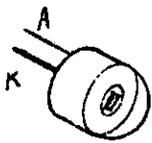
This plays an important role of deciding the exposure time. The potential between its electrodes is 0V before charging, and is increased in proportion to charging. When the charging current is large (i. e. when the subject or scene is bright), the voltage increase is rapid. Due to the integration circuit, the relation between the charging voltage increase and time is linear. Two condensers are provided for the following reason. In the AUTO mode, the current to be handled is weak because of SBC, so the condenser capacity is small. Whereas, in the MANUAL mode, the current value is designed large for safety purposes and the condenser capacity is made larger.

Condenser for AUTO 470 pF

Condenser for MANUAL 22000 pF

In addition to the above, two condensers are used; one for the prevention of comparator oscillation and the other for voltage adjustment of second synchro circuit.

(6) LED (Light-Emitting Diode)



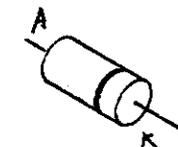
When the shutter is released in a dark place, the LED (positioned underneath SBC) illuminates the SBC to prevent the shutter from being left opened.

Connect (+) side to the anode (A) and (-) side to the cathode (K), respectively.



When the AUTO/MANUAL switching lever is set to the OFF position, the LED is lit brightly and the shutter can be released at about 1/15 sec. and faster even at OFF.

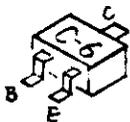
(7) Diode



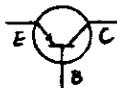
This is connected in the shortest distance between the batteries to prevent current flow when batteries are loaded upside down.



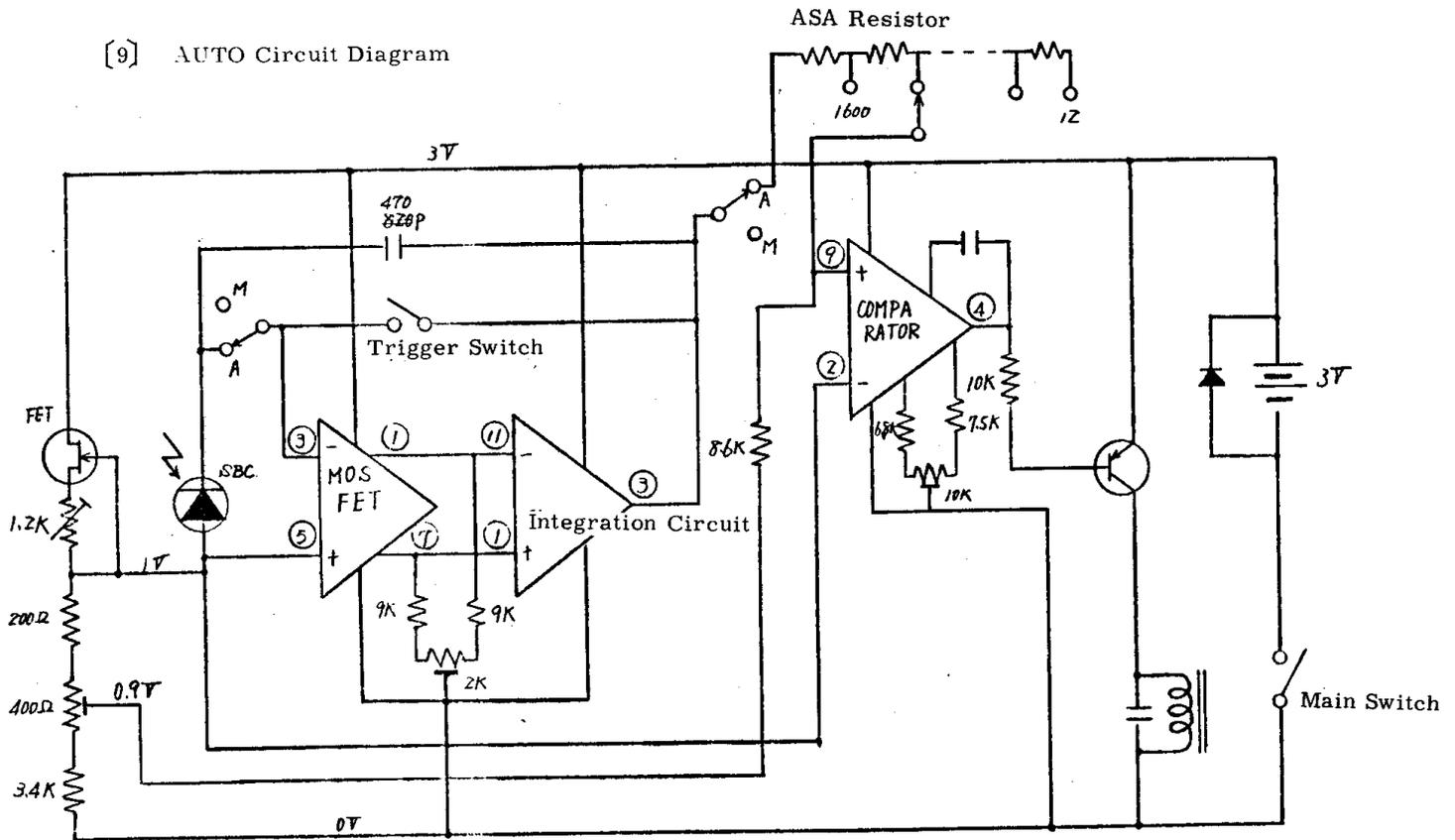
(8) Transistor



The transistor used in the M circuit board is for turning on and off of the magnet.



[9] AUTO Circuit Diagram



[10] Operation Sequence at AUTO

1) Wind lever is advanced.

Trigger switch is turned ON.

2) Shutter is released and mirror is flipped up.

Main switch is turned on, MG is turned on and closing claw A is fixed (closing curtain is fixed).

3) Opening curtain runs.

(a) Trigger SW is turned off, and condenser for AUTO (470pF) starts charging.

(b) The voltage applied to ASA resistor is increased, and the current to flow through the resistor of $8.6K\Omega$ is increased.

(c) The voltages applied to pins 2 and 9 of IC 024 become same level. (pin 9 becomes 1V)

(d) The voltage on pin 4 of IC 024 is increased from 0V to 3V. (comparator)

(e) The transistor ceases to flow current, and MG is turned off.

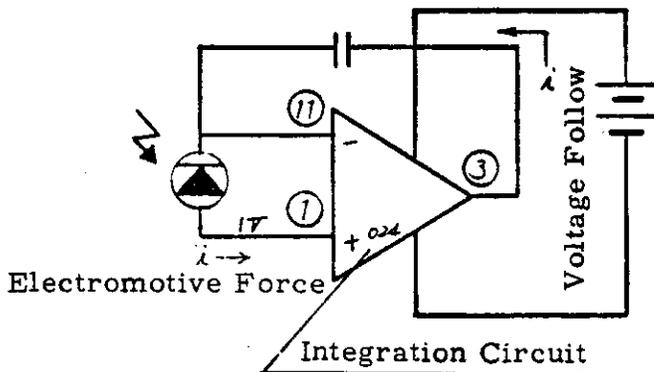
4) Closing claw is disengaged, and closing curtain runs.

5) Mirror flips down.

Main SW is turned off.

[11] Supplementary Description of AUTO Circuit

1) Voltage Follow of Integration Circuit



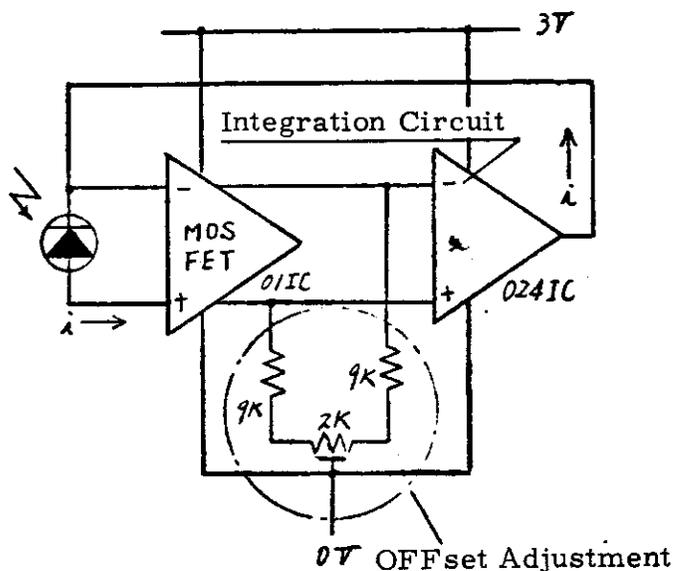
(a) When the SBC receives light, it permits electric current i to flow in the arrow direction because of its photo-electromotive property. (The current to flow is proportional to the amount of incident light.)

(b) The potential on the (+) side pin 1 of the integration circuit increases.

(c) The integration circuit has a property to draw current from the

circuit until potentials on the (+) and (-) pins become the same level (1V) to bring balance between (+) and (-). (This is called "voltage follow".)

2) Off Set Adjustment

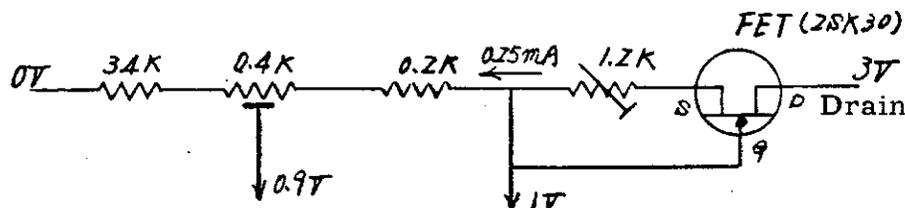


(a) Theoretically, same potential of 1V is to be applied to both (+) and (-) of IC 01. but this is not the case in actuality due to the inevitable variations in the properties of M circuit board, IC. etc. Thus, like in the circuit encircled, a variable resistor of $2K\Omega$ is used to make the potential on both sides 1V.

(b) The $2K\Omega$ variable resistor can adjust the range of about $\pm 25mV$.

(c) Improper OFF adjustment causes considerable affection to EE accuracy on the high ASA level.

3) Description of 1V and 0.9V Lines



(a) If the voltage between source (S) and gate (G) of FET is changed by means of the $1.2K\Omega$ variable resistor, the current from S can be varied. The resultant current is constant even when the battery voltage 3V is changed, owing to the FET property. (The current is adjusted to $0.25mA$.)

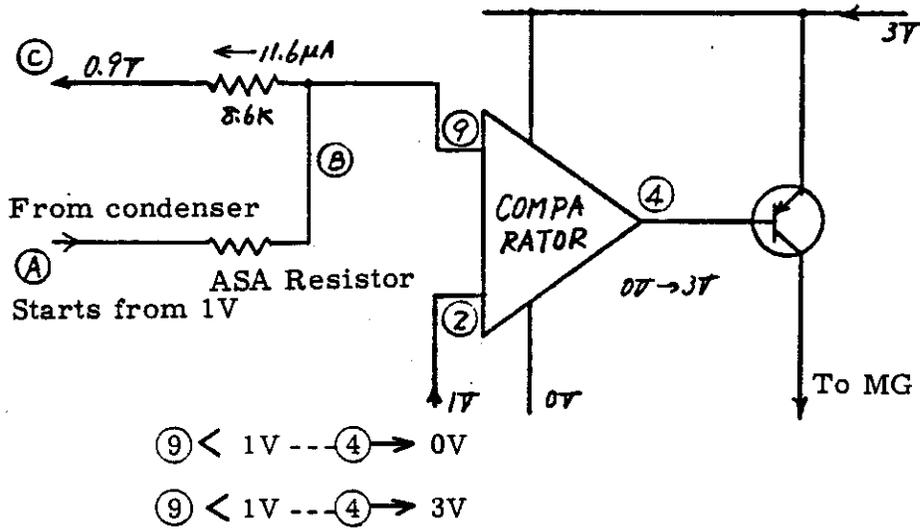
(b) 1V

$$(3.4K\Omega + 0.4K\Omega + 0.2K\Omega) \times 0.25mA = 1V$$

(c) 0.9V

$$(3.4K\Omega + 0.4K\Omega / 2) \times 0.25mA = 0.9V$$

4) Comparator (Decision Circuit)



(a) The comparator is connected as illustrated above. When the condenser is charged and its voltage is increased, voltages at B and 9 are also increased.

Before charging $A = 1V$, so that $0.9V < B < 1V$, and current flows in $A \rightarrow B \rightarrow C$.

(b) As charging of condenser advances (the voltage at A increases), the voltage at B is increased to greater than 1V ($\textcircled{9} > \textcircled{2}$). The condenser charging voltage at this time is calculated as described below.

The 1V at B lowers to 0.9V after passing through the resistor of $8.6K\Omega$, so the value of current flowing there through is:

$$\frac{1V - 0.9V}{8.6K\Omega} = 11.6\mu A$$

To flow the current of $11.6\mu A$ across ASA resistor ($7.16K\Omega$ at ASA 100) the increase in the voltage at A should be:

$$11.6\mu A \times 7.16K\Omega = 83mV$$

(condenser voltage becomes $1V + 83mV = 1.083V$.)
 The increment of $83mV$ is the charging voltage.
 The charging voltage is also called "decision level" and is a very important value. See Section (13).

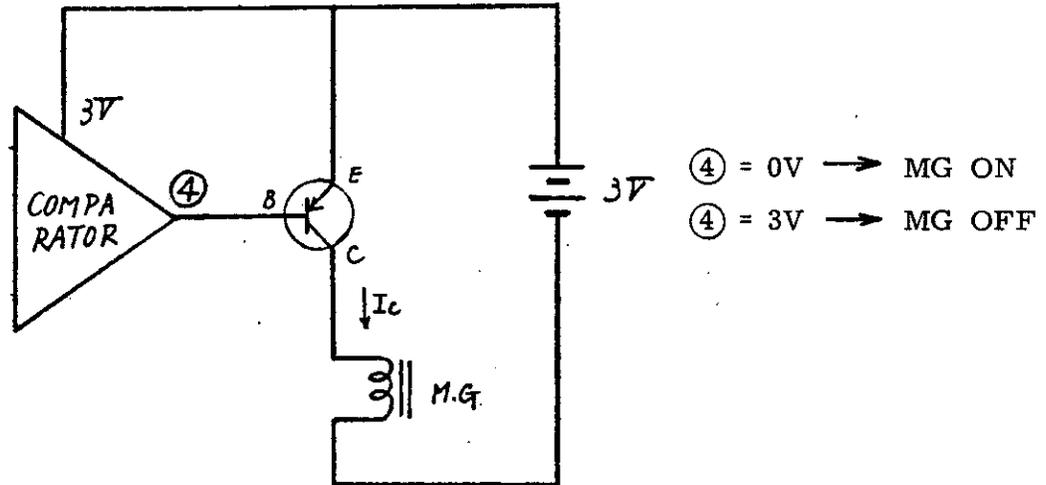
Note: Current flowing from B to 9.
 Since the impedance of the comparator is very high, the current across B - 9 can be considered zero and the above relation is established.

(c) When the voltage at 9 of the comparator becomes greater than that at 2, the output will be switched as follow.

⑨ < ② (=1V): Pin 4 on the output side has 0V MG ON

⑨ > ② (=1V): Pin 4 " " has 3V MG OFF

5) ON and OFF of Magnet



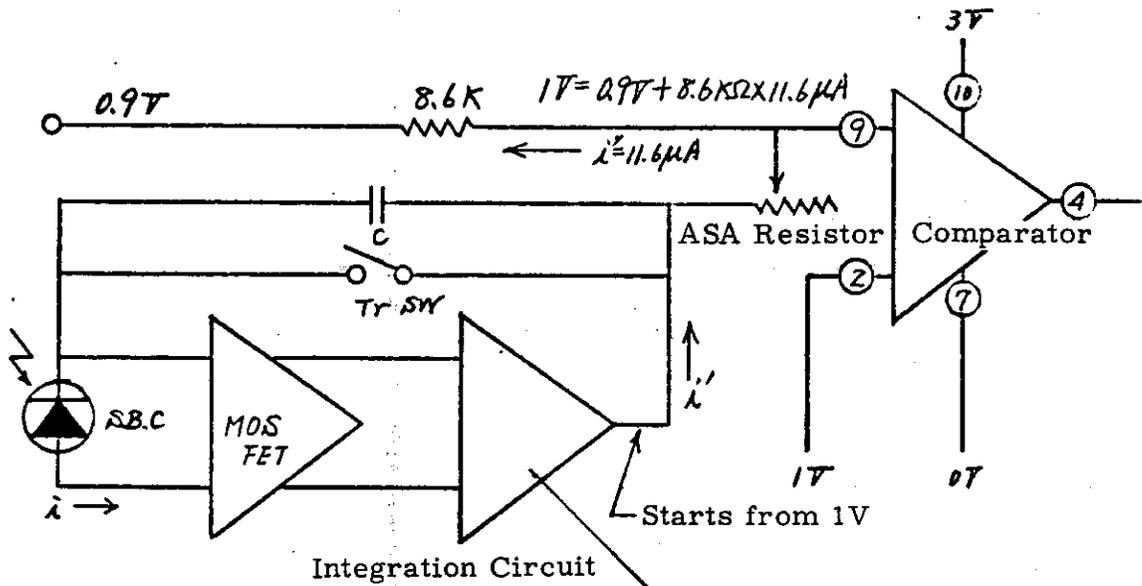
(a) MG ON

When pin 4 of comparator has 0V, the potential difference of 3V is generated between the base and emitter and current flows; hence, amplified current I_c flows into MG and MG is turned on.

(b) MG OFF

When pin 4 has 3V, there is no potential difference between B and E and no current flows; hence, no I_c current flows and MG is turned off.

[12] Operation Sequence of M Circuit Board at AUTO



- 1) Main SW is turned on, and Tr SW (trigger switch) is turned off.
- 2) When SBC receives light and electromotive force i is generated, current i' flows from the integration circuit of IC 024 through the MOS FET, and current is charged in condenser ($i = i'$).
- 3) The voltage of the condenser is increased in proportion to the quantity of the charging current.
- 4) When the voltage of the condenser is increased to 1.083V, the current, obtained by the formula (1), flows in the ASA resistors of 7.16K Ω (at ASA 100) and 8.6K Ω .

$$i'' = \frac{1.083V - 0.9V}{7.16K\Omega + 8.6K\Omega} = 11.6\mu A \dots\dots\dots (1)$$

- 5) The voltage at pin 9 is:

$$V_{\textcircled{9}} = 0.9V + 8.6K\Omega \times 11.6\mu A = 1V \dots\dots\dots (2)$$

- 6) According to the property of comparator, when the voltage at pin 9 becomes greater than that at pin 2 ($\textcircled{9} > \textcircled{2}$), the voltage at the output pin 4 is switched from 0 to 3V.

- 7) For the turning on and off of MG, see preceding page.

- 8) ASA conversion is done by changing ASA resistance, thereby changing the charging voltage of the condenser which is necessary to flow the current of $i'' = 11.6\mu A$. (The charging time is changed, and thus the exposure time is changed.)

- 9) The shutter speed change corresponding to the change in the brightness of the subject or scene is done as follow.

When the light intensity received by the SBC changes, electromotive force i changes linearly ($\gamma = 1$) and the current i'' changes at the same time, and thus the charging time of the condenser is always properly controlled.

[13] ASA Conversion and Decision Level

As the current of 11.6 μA flows between the ASA resistor and the resistor of 8.6K Ω , the potential of 0.1V is generated there between. See Sections [11] - 4) and [12].

This current flows from the charged condenser through the ASA resistor. If the value of 11.6 μA is constant and the value of the ASA resistor is changed, the charging voltage can also be changed according to the Ohm's law.

$$I = \frac{E}{R} = 11.6\mu A \text{ (constant)}$$

Due to the integration circuit, the following relationship is established between the charging voltage and time (light quantity is constant).

$$y = x$$

y: charging voltage
x: charging time

When charging voltage is doubled, charging time is also doubled. This enables ASA conversion.

Charging voltage for each ASA value is obtained by the following formula:

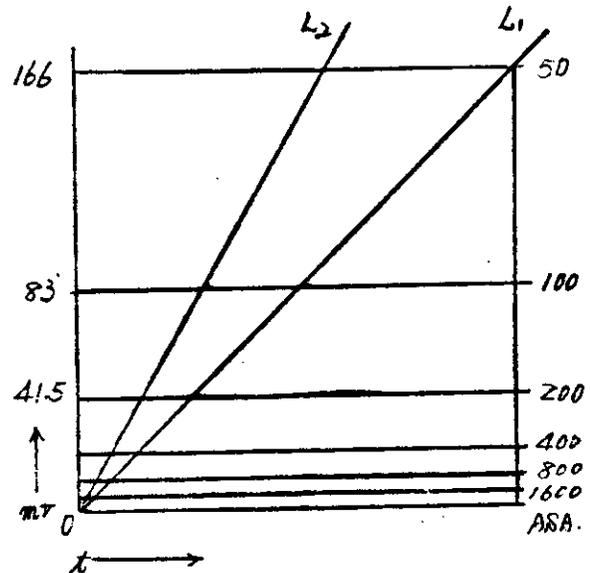
As the charging voltage is 83mV for ASA 100

$$V = \frac{100}{ASA} \times 83\text{mV} \quad \text{ASA: ASA sensitivity}$$

"V" is called "decision level".

| ASA | Theoretical Value (mV) | Corrected Value | Resistance Value (K Ω) |
|------|------------------------|-----------------|--------------------------------|
| 12 | 664 | | 57.2 |
| 25 | 332 | | 28.6 |
| 50 | 166 | | 14.3 |
| 100 | 83 | | 7.16 |
| 200 | 41.5 | | 3.58 |
| 400 | 20.8 | | 1.79 |
| 800 | 10.4 | 11.9 | 1.02 |
| 1600 | 5.2 | 7.4 | 0.64 |

Decision Level and Resistance



ASA and Decision Level

(Subject luminance $L_2 > L_1$, ASA relation is the same.)

14 Shutter Curtain and "Off" timing of MG

There is the following relation between the shutter curtain and MG.

If T_1 is made equal to T_2 . TMG can be made equal to T_s

where:

T_s Shutter speed ($t_3 - t_6$)

TMG . . . MG attractive time ($t_2 - t_4$)

[16] Operation Sequence at MANUAL

The operation of M circuit board is the only difference from at AUTO. Other shutter mechanisms operate in the same manner as at AUTO.

At AUTO:

- (1) SBC converts the intensity of light to electrical quantity, and controls shutter speed.
- (2) The condenser charging voltage is led into the comparator through the ASA resistor.

At MANUAL:

- (1) SBC and ASA resistor are disconnected from the circuit.
- (2) The shutter speed circuit board is connected to one pin of the MOS FET. The shutter speed is controlled by changing the current value, which is obtained by varying fixed resistance of shutter speed circuit board.

The operation sequence is as follow:

- (1) Pin ⑤ of MOS FET is applied with 1V.
Pin ③ of MOS FET is connected to 0.9V through the shutter speed circuit board.
- (2) Since there is a potential difference between the input pins of MOS FET, when the trigger switch is turned off, voltage follow is effected by the integration circuit.
- (3) The condenser for MANUAL is charged and voltage of condenser is increased.
- (4) When the voltage at pin ⑨ from integration circuit becomes 1V or greater, the comparator activates, and the voltage on pin ④ of comparator is switched from 0 to 3V. MG is then turned off.
- (5) Closing curtain runs.

[17] Shutter Speed Circuit Board

The shutter speed circuit board is directly connected to the speed gear. When the shutter dial is turned, the circuit board rotates to set a resistance value corresponding to each shutter speed. The resistors for individual shutter speeds are serially connected. The shutter speed of 1/1000 sec. is set to the minimum resistance value.

[18] Outline of Exposure Meter

As described in the preceding section, the exposure meter provides only the viewfinder information, and is separated from the automatic operation of the shutter.

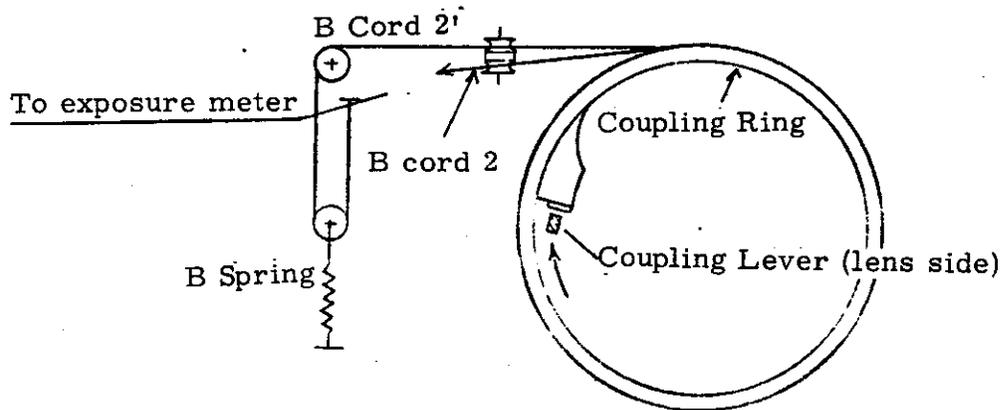
Following points are the major differences as compared with OM-1.

- (1) For coupling of aperture ring and exposure meter, the conventional cam is replaced by a cord for directly connecting each other.
- (2) Coupling of shutter dial and exposure meter has been changed from mechanical one to electrical resistor switching.
- (3) Information display within viewfinder is different for AUTO and OFF.

[19] Coupling Mechanism of Aperture Ring and Exposure Meter

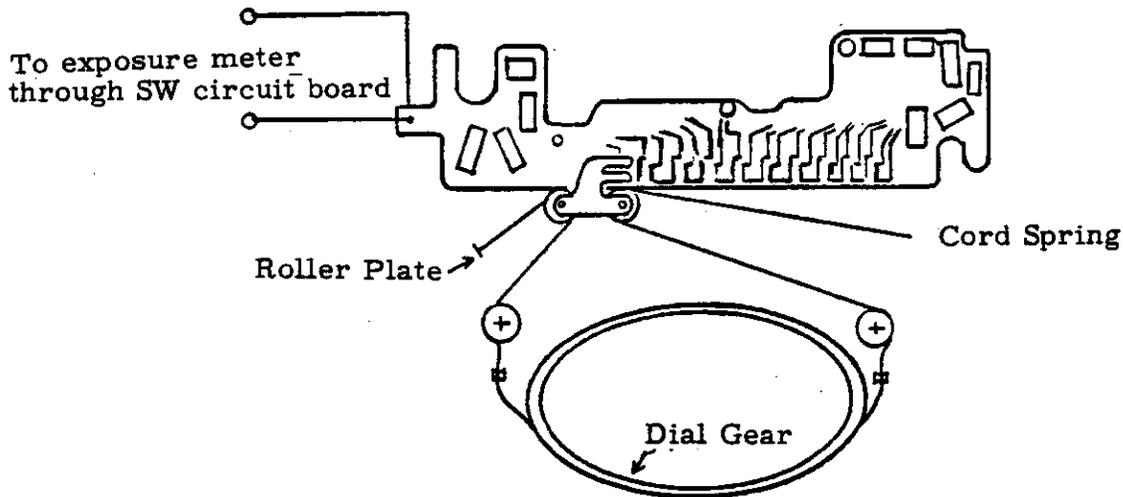
When aperture ring is turned, coupling lever (lens side) rotates the coupling ring. The rotation of the coupling ring winds the B cord 2 and turns the meter pulley.

At this point, B cord 2' adhered to the outer periphery of the coupling ring is simultaneously moved to pull on B spring. The projection of the coupling ring is assured of follow ability in that it is always brought to bear on the coupling lever of the lens, whenever the aperture ring is turned back.



[20] Coupling Mechanism of Shutter Dial and Exposure Meter

When shutter dial is turned, the directly connected dial gear rotates, the cord (B cord 1) adhered to the outer periphery of dial gear moves SL contact piece to change the resistance of B circuit board and meter deflection is changed.



[21] ASA Conversion

- (1) At AUTO, ASA conversion is made through resistors of AR circuit board glued to A cam.
- (2) At MANUAL, ASA conversion is made by operating P lever by means of A lever 1 to deflect the exposure meter. (A-lever 1 makes one body with A-lever 2 which is brought to bear on A-cam.)

[22] F/stop Conversion

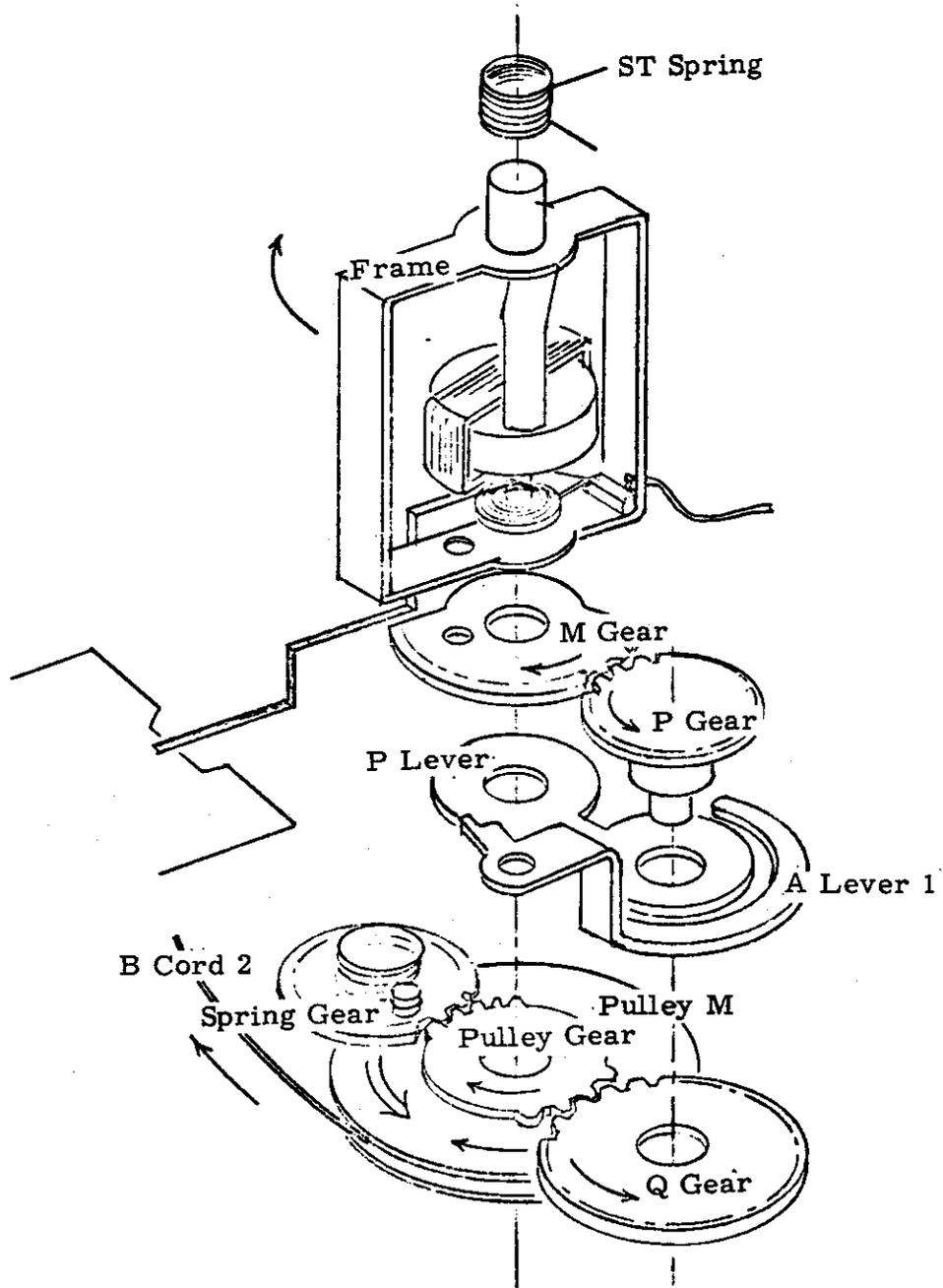
When aperture ring is turned from F16 to the maximum lens opening, the cord (B cord 1) moves in the arrow direction to rotate pulley M.

The pulley gear, which is made in one body with pulley M, rotates Q gear and turns M gear through P gear, which is made in one body with Q gear. The M gear is fixed via screw to meter frame and rotates the meter.

The pulley M is always tensioned in the arrow direction (⇒) by means of a spring, hooked to the spring gear, and ST spring. The cord (B cord 1) is always tensioned.

See next page.

Mechanism of Meter's Movable Parts



B cord 2 is interlocking with coupling ring



CHECK POINTS (INSPECTION STANDARDS)

CHECK POINTS (INSPECTION STANDARDS)

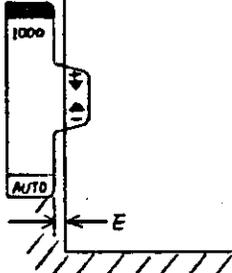
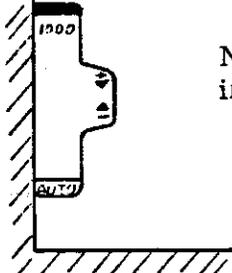
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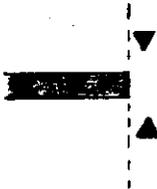
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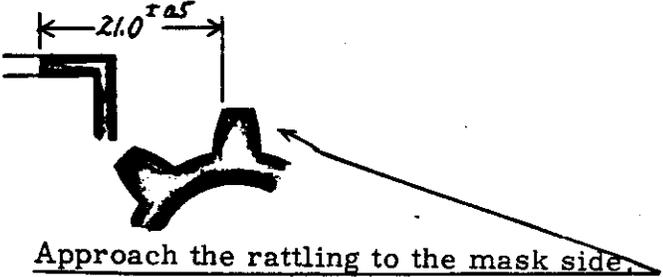
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I. Appearance and General Functions

| Major Check Point | Relative Functions to be checked | Checking Method or Points of Special Attention |
|-------------------|---|---|
| 1 View-finder | 1) Viewfield | (1) No dirt or filth on it. (2) No image cut-off due to foreign substance. (3) The edge of the prism should not be observed conspicuously. (4) Viewfield Percentage: $97^{+1}_{-2}\%$ (with MS5018) |
| | 2) Focus | (1) When focused at ∞ or at a distance desired, there should be no discrepancy between the reading on the focusing ring and the actual distance from subject to the film surface. |
| | 3) Eyepiece Frame | (1) No deformation, rattling, nor space between the top cover. The magnifier should be mounted onto it firmly. |
| 2 Exposure Meter | 1) Position of the indication plate | (1) In case of MANUAL  |
| | | (2) In case of AUTO  |
| | 2) Scratch and dirt of the indication plate | (1) Should not be observed conspicuously. |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|--|--|---|
| Exposure Meter | 3) Assurance of coming in and out of the indication plate | (1) Should be surely interlocked with the operation of the selector lever. |
| | 4) Smoothness of coming in and out of the indication plate | (1) Should not be unsmooth or with no friction against the meter needle. |
| | 5) Play of the meter needle | (1) None |
| | 6) Stuck of the meter needle | (1) Should not be stuck when deflecting to the middle of 1/2 - 1/4 (temporal). |
| | 7) Length of the meter needle | (1) In case of AUTO, at the longer, should be lower than the dotted line.  |
| | | (2) In case of AUTO, at the shorter, should be over the dotted line.  |
| | | 8) Deflection range of the meter needle | (1) Red zone The needle should be within the red zone in its full width. |
| (2) Blue zone  <p>The needle should be within the range shown in the illustration.</p> | | |

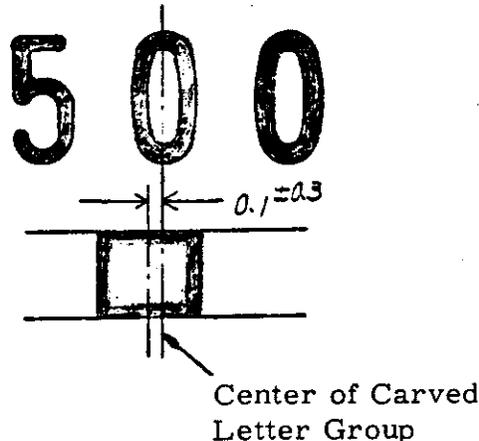
| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|-------------------|--|--|
| 3 R Knob | 1) Rattling of the knob | (1) No rattling vertically. (2) Horizontal tolerance should be 0.1mm or less in the stored position. (3) Should be 0.3mm or less at the tip of the knob when pulled out. |
| | 2) Operation of the knob | (1) Smooth and accurate rotation for rewinding with no excessive unevenness and squeak regardless of whether the film is loaded. (2) Surely pulled out (second step) and automatically returned to the original position. |
| | 3) R knob pulling force | First step: 350 ± 100g Second step: 1200 ± 300g |
| 4 Rear Cover | 1) Horizontal rattling of the rear cover | (1) No rattling at the lock portion when locked regardless of whether there is patrone. |
| | 2) Rattling of the hinge | (1) Slight up-down movement No friction on the end surfaces of the upper and lower plates. (2) Vertical tolerance 0.15 or less |
| | 3) Assurance of opening and closing | (1) Smooth with no friction to the upper and lower plates. |
| | 4) Demounting pin | (1) Should be depressed with no excessive unsmoothness and squeak. (2) Should be surely returned when released after the depression. (3) Pin Operating Force 350 ± 80g |
| 5 Pressure Plate | 1) Mounting position | (1) Should be mounted with the fixed side come to the lock side. |
| | 2) Flatness | (1) Should be 0 - -0.03. but the (-) should be concave against the lens. |

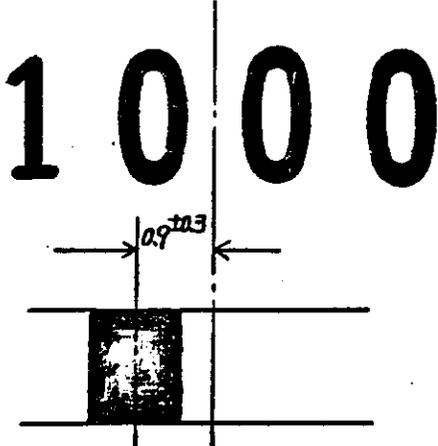
| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|----------------------|---|---|
| 6 Sprocket | 1) Position of the teeth |  <p>Approach the rattling to the mask side.</p> |
| 7 Spool | 1) Rattling | <p>(1) Vertical tolerance 0.3 or less (temporal)</p> <p>(2) Radial tolerance 0.25 or less (at the outer spool diameter)</p> <p>(3) Rotational direction 3 or less</p> |
| 8 Shutter Curtain | 2) Operating force | <p>(1) 180 - 350g x 6mm 180 - 400g x 6mm, temporal</p> |
| 9 Film Advance Lever | 1) Appearance of Edge Metal | <p>(1) Prior or subsequent to film advancement, the edge metal should not appear within the mask.</p> |
| 8 Shutter Curtain | 2) Unevenness, blurring, unclearness and moire of the curtain | <p>(1) Opening curtain should have no conspicuous unevenness, blurring, unclearness and moire.</p> |
| 8 Shutter Curtain | 3) Position of the curtain | <p>(1) Opening curtain should have no excessive inclination in the pattern.</p> <p>(2) Opening curtain should have no excessive vertical deviation.</p> |
| 8 Shutter Curtain | 4) Assurance of the curtain tension | <p>(1) The curtains should not be slanted nor loose.</p> |
| 9 Film Advance Lever | 1) Rattling | <p>(1) Vertical tolerance (at the center of the axis): 0.2 or less</p> <p>(2) Tolerance at the tip of the lever: 0.35 or less, temporal 0.7 or less</p> <p>(3) Horizontal and vertical tolerance (at the center of the axis): 0.1 or less</p> |

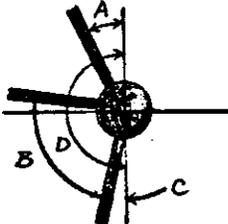
| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|---------------------------|---|--|
| Film Advance Lever | 2) Assurance of operation | (1) Upon a full stroke or winding motion, film should be advanced by a full frame and the shutter and the mirror should be charged accurately. (2) Even with a quick winding, the shutter should be set accurately. |
| | 3) Smoothness of operation | (1) Film should be advanced smoothly without difficulty at the start of the lever motion, an extreme friction, uneven movement, or squeaks. |
| | 4) Operating force | (1) Should be 1000g or less at the tip of the lever, when film is loaded. |
| | 5) Assurance of the film advance by short strokes | (1) Even with short strokes, the film should be advanced properly and locked in position accurately. |
| | 6) Assurance of the prevention for double film-advance | (1) Film cannot be advanced consecutively for the second frame without shutter release. |
| | 7) Assurance of the film release | (1) Upon shutter release, the film can be advanced for the subsequent frame. |
| | 8) Shutter release prior to or during the film advancing motion | (1) It should not allow the shutter release action prior to or during the film advancing motion. Be cautions at the point immediately prior to completion of the film advancing motion, particularly. |
| | 9) Pre-advancing force of the film winding lever | (1) Should be 25 - 50g at the tip of the lever. |
| | 10 Release Button | 1) Rattling | (1) Vertical: No rattling (2) Slight up-down motion: 0.25 or less |
| 2) Assurance of operation | | (1) Surely released. (2) Surely returned to the original position even when released slowly after depressed strongly. |

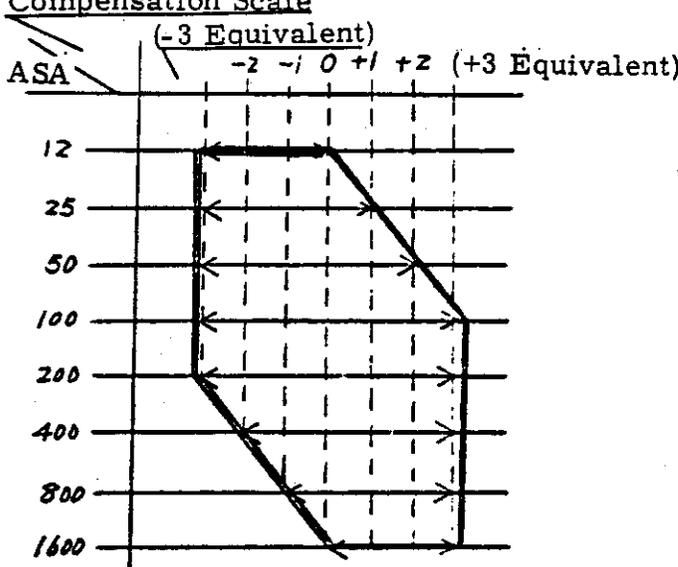
| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|--------------------------|---|---|
| Release Button | 3) Smoothness of operation | (1) Should be smooth with no friction, uneven movement and squeaks. |
| | 4) Rotation of the release button | (1) No rotation. |
| | 5) Release force | (1) $240 \pm 50g$ See the Product Standards. |
| | 6) Button free height | (1) $+1.3 \pm 0.2$ (from the tip of the button base) (The plus sign (+) means that the button is extruding from the button base.) |
| | 7) Release position | (1) -0.2 ± 0.15 (from the tip of the button base) |
| 11 Film Counter | 1) Accordance of index and frame number | (1) In case of the letter for the start:  <p>After opening and closing of the rear cover, the index lines should not be out of S.</p> |
| | | (2) At "1" and even numbers:  <p>Figure Width 0.8</p> <p>The center of the index line should be within ± 0.4 from the center.</p> |
| | 2) Indication of No. 1 | (1) Upon closure of the rear cover and completion of charging (or even without charging), the first figure ("1") should appear in the window after advancement of 3 frames. |
| | 3) Stop position | (1) When the number plate stops at (37). "E" should be visible. |
| 12 Film Rewinding Clutch | 4) Assurance of returning | (1) When the rear cover is opened, the number should return accurately to the "S" position. |
| | 1) Inclination | (1) Should be $\pm 2^\circ$ or less against the vertical in the normal state. and 90_{-0}^{+10} in the set state. The set position can be 85° , rarely. |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|---|---|--|
| Film Rewinding Clutch | 2) Space between the upper plate and the rewinding clutch base | (1) Between the upper plate: 0.2 or less |
| | | (2) Between the frame: 0.3 or less |
| | 3) Assurance of R side setting | (1) When turned 90° or beyond, it should be set accurately and should not return to the original position. (Setting can be performed even during the film-advancing motion.) |
| | 4) Assurance of operation | (1) When the knob is set, the sprocket should be released and made free in motion. |
| | 5) Smoothness of operation | (1) Should be surely returned to the original position in the early stage of the subsequent film-advance motion. |
| 13 S Lever (AUTO/MANUAL Selector Lever) | 1) Rattling | (1) Vertical tolerance: 0.07 or less |
| | | (2) Slight up-down motion: 0.25 or less at the tip of the lever |
| | | (3) At the click time: No rattling |
| | 2) Assurance of operation | (1) Clicking should be felt. Even if it goes beyond MANUAL, it should return to the clicking position when releasing the finger. |
| | 3) Smoothness | (1) Smooth without extreme uneven movement and difficulty. |
| | 4) Assurance of action | (1) The lever must be clicked into place at the MANUAL, AUTO, and OFF Positions Securely. |
| | 5) Assurance of the interlocking of the indication plate | (1) The indications within the view-finder should surely be changed over in interlocking with the lever setting to the AUTO, MANUAL and OFF, respectively. |
| | 6) Check stop position | (1) 20° ± 5° |
| 7) Assurance of returning from the check position | (1) Should be surely returned to the AUTO click position when releasing the finger. | |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|-----------------------------|---|--|
| 14 Checker | 1) Temperature characteristic | (1) Within 100 mV/10° against the room temperature. |
| | 2) Brightness of lighting | (1) The lighting (red light) should be discriminated even in the circumstance equivalent to BV15. The voltage is to be 2.65V. |
| | 3) Limitation of lighting | (1) LED should surely light up when the S lever is set to the CHECK position with batteries of at least 2.75V loaded. |
| 15 Shutter Dial | 1) Marking | (1) B: Fluorescent red 1 - 60: Purple blue 125 - 1000: Black |
| | 2) Rattling | (1) Horizontal: 0.15 or less |
| | | (2) Click: 0.2 or less at the outer shutter dial diameter |
| (3) Radial: 0.1 or less | | |
| 3) Accordance of graduation | <p>(1) Discrepancy between the center of the index and that of the letter (B - 250) should be ± 0.3 at the center of the carved letter.</p> <p>(500)</p>  <p style="text-align: center;">Center of Carved Letter Group</p> | |

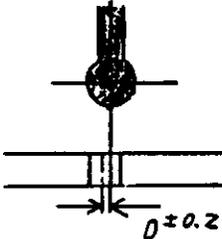
| Major Check Point | Relative Function to be Checked | Checking Method or Points of Special Attention |
|-------------------|--------------------------------------|--|
| Shutter Dial | | <p>(1000)</p>  |
| | 4) Change-over position | (1) Should be changed over at $2/3 \pm 1/3$. Should be surely changed over at the $1/125$ click position. |
| | 5) Assurance of resetting | (1) Reset should be made surely. |
| | 6) Position of resetting | <p>(1) Should not be reset even if the S dial is turned to the stop position on the B side.</p> <p>(2) Reset should be made surely when the reset button is depressed to set to B.</p> |
| 16 Self-timer | 1) Inclination of the lever | <p>(1) Should be $\pm 1^\circ$ against the vertical in the state before setting.</p> <p>(2) Parallelism to the rewinding clutch should be observed normal.</p> |
| | 2) Smoothness of setting | (1) Setting should be made smoothly without no friction, extreme uneven movement and squeaks. |
| | 3) Smoothness of the lever returning | (1) Upon setting of the self-timer, the setting lever alone will return to its original position smoothly with proper friction but without staggering by self-weight. |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|-------------------------------|--|--|
| Self-timer | 4) Assurance of stopping in the middle of run and restarting | (1) If the start-lever is pushed to the left during the timer operation, the timer should be stopped. But when the lever is returned to the correct position again, the timer should resume operation accurately. |
| | 5) Smoothness of operation | (1) The self-timer should operate smoothly without uneven movement such as hesitation or stoppage. |
| | 6) Operation angle of the lever |  <p>A: Unsettable range, not exceeding 40° (for reference)</p> <p>B: Release button operable range, 70 - 190°</p> <p>C: Slip range after setting, not exceeding 10°</p> <p>D: Charge side stop position, 190° ± 3°</p> |
| | 7) Operating time | <p>(1) Full set: 12 ± 3 sec.</p> <p>(2) Allowance after release: 5 sec. or less</p> |
| 17 Exposure compensation Dial | 1) Clearance | <p>(1) No clearance between the dial and the rubber ring.</p> <p>(2) Clearance between the dial and the dial base should be 0.15 or less.</p> <p>(3) Clearance between the dial and the scale plate should be 0.07 or less.</p> |
| | 2) Accordance of the exposure compensation scale | (1) The index and the exposure compensation scale should not be disaccorded extremely by seeing from the directly above direction. |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|----------------------------|--|---|
| Exposure Compensation Dial | 3) Assurance of operation | <p>(1) The stop function should surely effect, and the operation is allowed in the range indicated in the illustration below to make the proper exposure compensation.</p> <p><u>Compensation Scale</u> (-3 Equivalent) ASA (-2 -1 0 +1 +2 (+3 Equivalent))</p>  |
| | 4) Smoothness of operation | (1) Operation should be smooth without extreme uneven feeling and difficulty. |
| | 5) Rotating force | (1) Click disengaged: $1000 \pm 300\text{g/cm}$ |
| | 6) Pulling-up force | (1) $500 \pm 120\text{g}$ (at the lock released position) |
| | 7) Accordance of the window of the exposure compensation plate and ASA index | (1) Cut-off should be within the width of the letter. But no cut-off at ASA 100. |
| 18 Motor Drive Part | 1) Motor Cover | (1) Protrusion from the lower plate to the cover: 0 ± 0.1 |
| | | (2) Eccentricity with the lower plate: 0.15 or less |
| | | (3) It should be surely screwed in and unscrewed. |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|---|--|---|
| Motor Drive Part | | (4) Plating fineness should be same as that of the lower plate. |
| | 2) Contact terminal | (1) Stage difference of the contact from the contact base: 0 ± 0.05 |
| | | (2) Depression of the contact base from the lower plate: 0.1 ± 0.2 |
| | | (3) Clearance between the lower plate and the contact base: 0.3 or less |
| | | (4) There should be no clearance between the contact base and the contact. |
| | 3) Assurance of switching of the contacts | (1) The contacts should be conductive except during the shutter operation. |
| | | (2) After the shutter operation is started, two contacts should be insulated and the rear side of the movable terminal and the camera die-cast body should be shortcircuited. |
| | 4) Conduction and insulation resistance of the contact | (1) Inner resistance upon conductive: 0.2Ω or less |
| | | (2) Insulation resistance upon insulated: 500V 50M Ω or greater |
| | 5) Operation of the release plate | (1) Should surely operate and make the release. |
| (2) Operating force: $180 \pm 20g$ | | |
| (3) Stroke (release position): $2 \pm 0.4mm$ Stroke (stop position): 2.5mm or more | | |
| 19 Reset Button | 1) Rattling | (1) 0.15 or less |
| | 2) Assurance of operation | (1) It should surely come in and out, and the shutter dial should not reach the B when it is not depressed. |
| | | (2) When it is depressed, the dial should be able to rotate. |
| | | (3) When returning from the B to "1", the returning should be performed independently of the button. |
| 3) Operating force | (1) $120 \pm 40g$ | |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|----------------------------|--|---|
| Reset Button | 4) Stroke | (1) Standard dimensions  Lock released position: $0.3 \begin{matrix} +0.2 \\ -0.1 \end{matrix}$ Stop position: $0 \begin{matrix} +0.15 \\ -0.2 \end{matrix}$ |
| | 5) Clearance between the front cover | (1) 0.15 or less |
| 20 Focusing Glass | 1) Assurance of mounting | (1) The focusing glass should be surely pressed at the focal position in the condition with the F key effective. |
| | 2) Assurance of the F key operation | (1) It should surely lock with "click" sound. |
| | 3) Assurance of demounting | (1) The F key should be disengaged without extreme difficulty, and the focusing glass mounting frame should be lowered and the focusing glass should be removed. |
| 21 Iris Lever | 1) Rattling | (1) Position and dimensions including the rattling should be satisfied. |
| | 2) Assurance of operation | (2) Operation should be sure. Use KC-0074G for the measurement of the position. |
| 22 Iris Interlock Ring | 1) Rattling | (1) Position and dimensions including the rattling should be satisfied. |
| | 2) Assurance of operation | (1) The coupling ring should rotate to the stopper at B. |
| | | (2) The coupling ring should surely return. |
| 3) Smoothness of operation | (1) The operation should be smooth without extreme uneven movement and difficulty. | |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|-------------------|--|--|
| 23 B Mount | 1) Appearance | (1) The mount screw should be free from biting. |
| | 2) Disaccordance of the shutter index and the index of the lens side | (1) When locking surely with the standard lens mount, the disaccordance of the index on the upper part of the body mount and the index of the lens side should be less than the illustrated value.  |
| | 3) Smoothness of the lens mounting and demounting | (1) The lens should be mounted and demounted without extreme friction, uneven movement and squeaks. (2) Mounting and demounting rotational force should be 4 - 7kg/cm. |
| | 4) Parallelism and flatness | (1) Parallelism and flatness to the film surface should be 0.02 or less (0.025 or less. temporal) anywhere within 20 in either side from the mask center on the basis of the B mount. |
| 24 FX Knob | 1) Biting of the slit of the socket base | (1) None. |
| | 2) Rattling | (1) Vertical tolerance: 0.2 or less (2) Click: 0.2 or less |
| | 3) Assurance of switching | (1) Switching should be made with the time lag indicated at the shutter. |
| | 4) Position of the X/FP switching | (1) The switching should be made at the position near 2/3 to FP from the center of the X/FP. |
| 25 Shutter Lock | 1) Assurance | (1) When the battery voltage is 0V - 2.32 ± 0.06V or the battery is loaded inversely. the shutter lock should function. |

| Major Check Point | Relative Functions to be Checked | Checking Method or Points of Special Attention |
|--------------------|----------------------------------|---|
| 26 WX | 1) Assurance | (1) The X contact should flash at the shutter speed of 1/60 or slower in the manual mode, and not at 1/125 or faster. |
| 27. Movable Mirror | 1) Smoothness of operation | (1) It should operate without hesitation and stoppage and squeaks. |

II. Functions and Features (Items to be checked by measuring instruments)

1. Film Advance Lever Operating Force 1000g or less at the tip of the lever. when film is loaded.
2. Film Advance Lever Returning Force 30_{-6}^{+10} g at the beginning of the return stroke or thereabout.
3. Film Advance Lever Pre-advancing Force 25 - 50g at the tip of the lever.
4. Shutter Button Releasing Force 240 ± 50 g.
5. Shutter Button Free Height $+1.3 \pm 0.2$ from the tip of the button base (The plus sign (+) means that the button is extruding from the base.)
6. Shutter Button Release Position -0.2 ± 0.15
7. Shutter Button Stopping Position 0.5 and over in depth in relation with button seat top surface.
8. Release Button Shaft Depth of Action 7 ± 0.3 from button top surface
9. R Knob Pulling Force First Step: 350 ± 100 g
Second Step: 1200 ± 300 g
10. Self-timer setting Force 600g or less at the tip of the lever.
11. Self-timer Start Lever Operating Force 160 ± 80 g at the tip of the lever.
12. FX Knob Operating Force 700 ± 200 g at the tip of the knob.
13. Shutter Dial Operating Force Middle Position: 600 ± 300 g/cm
Click Position: 1500 ± 500 g/cm (1600 ± 650 . temporal)
14. S Lever (AUTO/MANUAL Selector Lever) Operating Force
 330 ± 70 g at the tip of the lever upon the click released.
 500 ± 150 g upon complete pressing to CHECK.

15. Flange-back 46.0 ± 0.02 , 46.0 ± 0.025 temporal
16. Tunnel Interval $0.2 \begin{matrix} +0.02 \\ -0.01 \end{matrix}$
17. Accuracy of Meter Indications
- a. Indication Difference in AUTO/MANUAL switching:
- $1/60$; $\pm 0.3\text{EV}$, BV11 F5.6
Other than $1/60$; $\pm 0.5\text{EV}$
- b. Accuracy of Each Indication
- K = 1.3 ASA100 Voltage; $3.15\text{V} \pm 0.005$

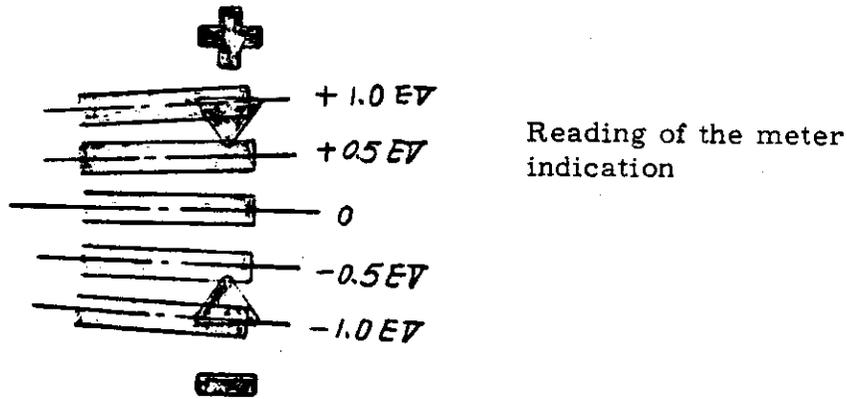
OM-2 EE Tester

| BV | S.S | FNO | Accuracy of Indication | |
|----|-------|-----|------------------------|------------|
| 4 | 1/2 | 2.8 | $\pm 0.6\text{EV}$ | (Temporal) |
| 8 | 1/30 | 2.8 | $\pm 0.6\text{EV}$ | (") |
| 11 | 1/60 | 5.6 | $\pm 0.6\text{EV}$ | (") |
| 14 | 1/125 | 11 | $\pm 0.6\text{EV}$ | (") |
| 16 | 1/500 | 11 | $\pm 0.6\text{EV}$ | (") |

Caution: The shutter dial should be rotated from the 1/1000 side.
The aperture ring should be turned from the F16 side.

In case of LSBL7 or LSBL1

| | | | | |
|----|-------|-----|--------------------|------------|
| 6 | 1/2 | 5.6 | $\pm 0.6\text{EV}$ | (Temporal) |
| 8 | 1/2 | 11 | $\pm 0.6\text{EV}$ | (") |
| 9 | 1/4 | 11 | $\pm 0.6\text{EV}$ | (") |
| 10 | 1/125 | 11 | $\pm 0.6\text{EV}$ | (") |
| 12 | 1/125 | 5.6 | $\pm 0.6\text{EV}$ | (") |
| 14 | 1/125 | 11 | $\pm 0.6\text{EV}$ | (") |
| 15 | 1/500 | 8 | $\pm 0.6\text{EV}$ | (") |
| 16 | 1/500 | 11 | $\pm 0.6\text{EV}$ | (") |



18. Curtain Speed At 1/1000: 11.5 ± 0.1 ms
 The difference in the speeds of the curtains is $0 \begin{smallmatrix} +0.15 \\ -0 \end{smallmatrix}$. The opening curtain should be faster.

19. Manual Exposure Time

| Setting | Exposure time | Guaranteed quality |
|---------|---------------|--------------------------|
| 1/1 | 1000 ms | 871 - 1148 ms |
| 1/2 | 500 " | 436 - 574 " |
| 1/4 | 250 " | 218 - 287 " |
| 1/8 | 125 " | 109 - 144 " |
| 1/15 | 62.5 " | 54.5 - 71.8 " |
| 1/30 | 31.2 " | 27.2 - 35.9 " |
| 1/60 | 15.6 " | 13.6 - 17.9 " |
| 1/125 | 7.81 " | 6.81 - 8.97 " |
| 1/250 | 3.91 " | 3.40 - 4.49 " |
| 1/500 | 1.95 " | 1.59 - 2.40 " |
| | | (1.53 - 2.49 " Temporal) |
| 1/1000 | 0.98 " | 0.77 - 1.43 " |

20. Unevenness of Exposure

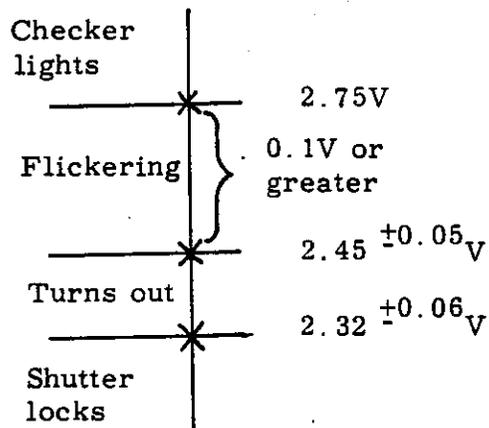
- 1/1 - 1/250: 0.15 EV or less
- 1/500: 0.3 EV or less
- 1/1000: 0.35 EV or less

21. Disorder of Exposure 10 continuous measuring values of exposure time should be all within the above standards.

22. Contact Efficiency of X Contact Max. 60% or above and minimum 50% or above at the interval of 1ms. in slow speed including 1/60 sec.

23. Contact Efficiency of FP Contact 70% or above at the interval of 2.5ms.
24. Insulation Resistance and Contact Resistance Insulation Resistance: 30M Ω at 500V
Contact Resistance: Ascertain continuity at 3V
25. Time Lag for X Contact At 1/60 sec., it should be switched in within 1.5ms of the closing action of the closing curtain. upon completion of the opening curtain opening.
26. Time Lag for FP Contact It should be switched in at 8 - 14ms. prior to commencement of the first curtain action.
27. Accuracy of Automatic Exposure $\pm 0.6EV$ at 1/1000 sec. or equivalent and $\pm 0.4EV$ at 1/500 sec. or slower in the range BV2 - BV16 at ASA100. K = 1.3 with fresh batteries (two).
28. Longest Exposure Time for AUTO The shutter should be closed within 60 sec. - 20 min at ASA100 in complete darkness.
(30 - 60 sec. in temporal is also available.)
29. Longest Exposure Time for OFF The shutter should be closed within 35ms - 140ms at ASA100 in complete darkness.
30. Temperature Characteristic, -20 - 60° At ASA12 - 400, automatic exposure accuracy; the changing amount should be within the following value against the characteristic at the room temperature.

| | |
|-----------------------|-------|
| 1/250 sec. or slower: | 0.3EV |
| 1/500 or equivalent: | 0.4EV |
| 1/1000 or equivalent: | 0.5EV |
31. Humidity Characteristic After leaving in 20°C and 90% humidity for two hours, the changing amount in this condition should be within 0.5EV at ASA100 and 10 sec. or equivalent as compared with the characteristic in the normal humidity.
32. Difference between Automatic Exposure and Indication Real exposure should be 20ms or longer when the exposure meter indicates 1/30.
33. Voltage Characteristic
 - a. The shutter lock should not activate in the voltage range of 3.2V - before-lock value.
 - b. The shutter lock should operate in the range of lock voltage - 0V.
 - c. The battery checker and the voltage should be as follow.



34. Change in Exposure against Voltage Fluctuation The changing amount should be within 0.2EV for either AUTO or MANUAL in the range of 3.2V - lock voltage.

35. Current Consumption At AUTO and MANUAL
12mA or less at 3.15V

At B
15mA or less at 3.15V

At CHECK
15 - 20mA at 3.15V

At meter
800 μ A at 1/1 sec.

36. Vertical Discrepancy in Positioning the Actual Picture The actual picture should be beyond 0.3mm or more from the perforations.

37. Interval between Picture Frames 1.85 ± 0.5



ORDER OF DISASSEMBLY

ORDER OF DISASSEMBLY

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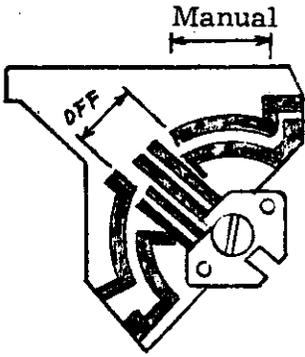
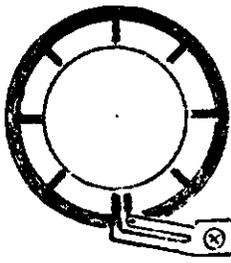
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Caution: **X**

mark at the head of the part number shows the part which should not be touched directly by fingers. Be sure to cover fingers with rubber fingerstalls, and use new ones when they are discolored to prevent rusting.

1 Removal of CE0503

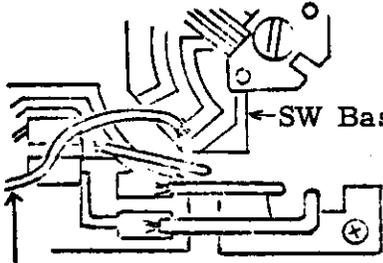
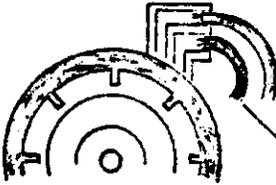
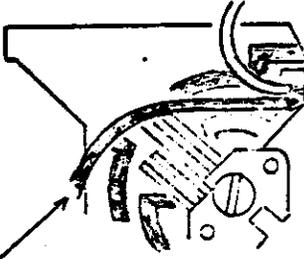
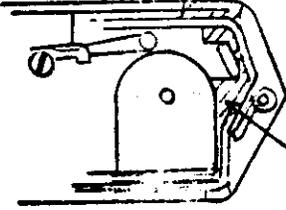
| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|-----------------------------|------|----------------------------------|--|--|
| CA9030 (T nut) | 1 | KC- CA9030G (Screw driver) | | |
| CA8752 (FW lever holder) | 1 | KC- CA8752G (Screw driver) | Single body { CA9135 CA8752 CA8753 Single body { CA9180 CA8751 CA8806 CA9181 | Pin face hole of CA9135 and hole of CA8752 are accorded. and the parts are removable together in one body. |
| CA8777 (Fastening ring) | 1 | KC- CA8777G (Screw driver) | | KC-CA8777G is made of aluminum. and take care not scratch. |
| CA8725 (R Knob) | 1 | KC-0071M (Wrench) | Single body { CA9150 CA8730 CA8731 | CA8733 is easy to be deformed. and thus the jig at left must be used. |
| PSK1.7x 4SB (Screw) | 2 | Plus Screw- driver | CE0503 unit CE0525 CE0527 (0 - 3 ea.) CA8722 NW8.6- 2136BO (0 - 1 ea.) | Prior to the removal of CE0503. set the switching lever to the OFF position and ASA to 100. The OFF and ASA 100 setting on the body side are as follow. |

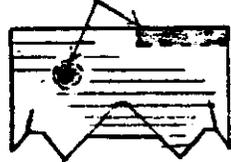
| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|-----------------|------|-----------|-----------------|---|
| | | | |  <p>Manual</p> <p>OFF</p> <p>OFF Position of SW base plate</p>  <p>ASA 100 Position of AR base plate</p> |

[2] Separation of CE0502 (Front casting) from Die-cast Body

Basically, there is no difference as compared with OM-1, but the number of soldered portion is increased.

| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|---------------------|------|--|---------------------------------|---|
| CE0524 Lead Wire | 1 | Soldering Iron | Thermo- constrictive Tube | CE0503 should be then being removed. Remove first from the vinyl tube portion. LW on the die-cast body side is white. |
| CE0526 Lead Wire | 1 | Unger Three-wire Soldering Iron | Thermo- constrictive Tube | Remove the portion between 10K Ω resistor and purple LW (RBJ-M115). |

| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|---|------|-------------------------------|--|--|
| Remove the soldered checker LW (RBJ-B30) from CA9483 (SW base plate) | 1 | Soldering Iron of 20W or less | |  <p>← SW Base Plate</p> <p>RBJ-B30</p> |
| Remove the soldered two LWs (RBJ-Y105, RBJ-W105) of CE0640 (Base plate A) | 2 | " | |  <p>RBJ-Y105 (Yellow)</p> <p>RBJ-W105 (White)</p> |
| Remove the battery compartment LW (RBJ-B170) from CA9483 (SW base plate) | 2 | " | |  <p>RBJ-B170 Black</p> |
| Remove the red LW (RBJ-R47) of the front casting and the red LW (RBJ-R125) of the die-cast body bottom. | | | <p>Reference:</p> <ul style="list-style-type: none"> <li>◦ Red LW of the front casting is removable from the FP contact piece. <li>◦ Red LW of the die-cast body bottom is removable from the X contact piece. | <p>Lower cover should be then being removed.</p> <p>Red and Black LWs</p>  <p>LW Storage</p> <p>The above illustration shows the condition with the lower cover removed.</p> |

| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|---|------|--|--|--|
| Remove the black LW (RBJ-B60) of the front casting and the black LW (RBJ-B100) of the die-cast body bottom. | | <ul style="list-style-type: none"> ◦ Black LW of the front casting is removable from the main switch. ◦ Black LW of the die-cast body bottom is removable from the MG. | | |
| PUK1.4-404ST | 1 | Plus Screw-driver | CE0951 | |
| CA9156 (Light proof padding) | 2 | Tweezers | | Raise the movable mirror with finger before the removal. |
| CE0955 (Covering plate) | 1 | | Caution: CE0955 is soldered to CE0914 with the lead wire, but the removal of the solder is unnecessary. |  <p>Adhered to the arrowed portion with pliobond.</p> |
| CA9155 (Screw) | 4 | Plus Screw-driver | | Before removing the screw, peel off CA9102 and CA9103. For CA9103, it is sufficient to peel off the half from the strap eyelet R side in the self-lever direction. |
| PUK1.7-516SO (Screw) | 2 | Plus Screw-driver | SM Frame CE0502 | |

(1) Removal of CE0502 (Front casting)

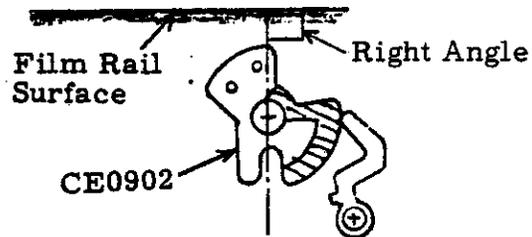
Set the SW base plate to the OFF position, keep the mirror up with the finger and remove while moving CE0502 slightly up and down so that its upper part is removed first. When the upper part has been removed, continue the removal so as to remove the part on the self-timer side. There is the possibility of breaking the vinyl covering of white and yellow LWs of CE640 when moving up and down. Thus, displace the LWs sideways to prevent the above. When CE0502 is removed, CE0955 may be hooked. In such case, thus, pay attention not to break the LW and make scratches on the mirror.

(2) Order of Docking

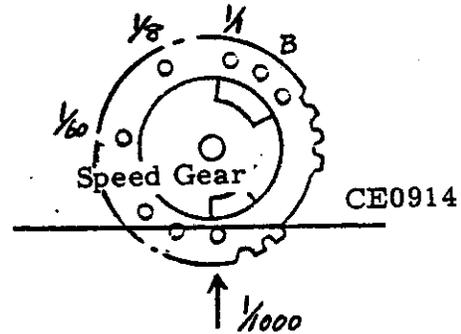
1) Preparation on the Die-cast Body Side

a) Set CE0902 to the OFF position.

Never turn CE0902, except the oblique line portion in the right illustration, to prevent the deformation of the contact piece.



b) Set CE0829 to 1/1000. After setting, keep it unmoved until four front screws are tightened.



c) Return to the pre-winding condition to protect the opening shutter curtain.

2) Preparation on the CE0502 Side

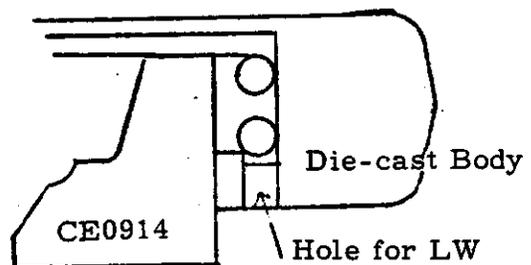
a) Set CA9483 to the OFF position.

b) Set the shutter dial to 1/1000.

c) Return to the condition before the mirror charge.

3) Docking

a) Pass the red and black LWs coming out below CE0502 through the LW hole of the body.



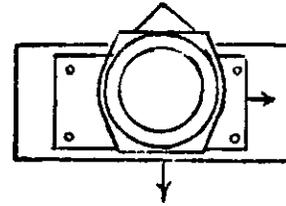
b) When CE0955 is wired by the LW, flip up the mirror with the finger and place it into the mirror box.

c) Insert CE0955 from the lower right portion into the body so as to insert the R shaft side first. (Take care not to jam each LW: pay attention because CE0902 is easy to move.)

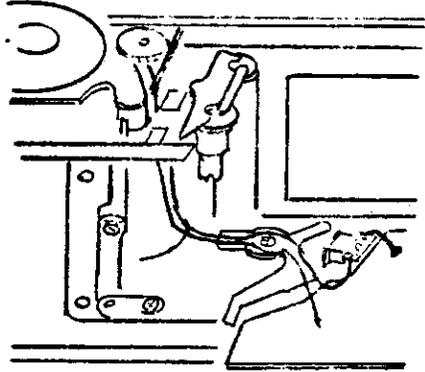
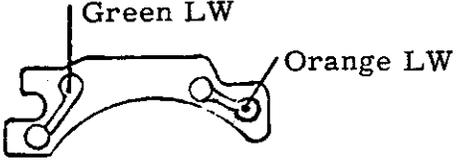
d) Make sure that the pin underneath CA9483 and the groove of CE0902 are accorded (verify switching).

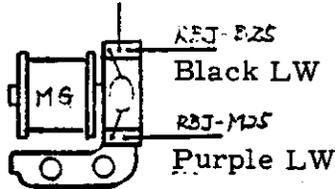
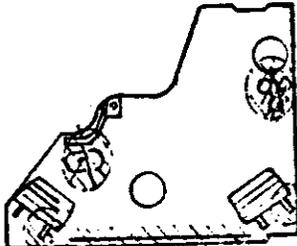
e) Hook the self-timer on the screw of the release plate.

f) Tighten four CA9155. Apply CE0502 to the lower right side, and fasten it in the diagonal direction.



[3] Removal of CE0914 M circuit board (CE0502 should be being removed.)

| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|--|--------|--|-----------------|---|
| Remove bonding of RBJ-W105 (white LW) and RBJ-Y105 (yellow LW) | 1 each | Pincette | |  <p>Re-bonding must be made on the original bonding position.</p> |
| Desolder green and orange LWs of CE0942. | 1 each | Unger Three-wire Soldering Iron | |  |
| Desolder brown LW (RBJ-C95) on the die-cast body bottom. | 1 | " | CA8076 | |

| Parts to Remove | Q'ty | Tool Used | Removable Parts | Remarks |
|---|--------|---------------------------------|---|---|
| Desolder purple LW(RBJ-M25) and black LW (RBJ-B25) of magnet. | 1 each | Unger Three-wire Soldering Iron | |  |
| Desolder purple LW (RBJ-M115) of die-cast body and purple LW (RBJ-M20) of CE0938. Peel green, brown and orange LWs bonded to die-cast body bottom. | 1 | " | CA8076 | After peeling off the bonding, pull each LW from under CE0515. |
| CE0923 (Screw) | 1 | Flat Compass | Single body { CE0914 CE0938 CE0915 CE0829 | Caution: (1) Rubber fingerstalls must be used. (2) The screwdriver-adjusting resistor must not be rotated. (3) The oblique line portions in the illustration below should never be smudged.  |

(1) Order of Placement of CE0914

(Use rubber fingerstalls.)

1) Pass brown, green and orange LWs of CE0914 through the LW hole of die-cast body.

2) Set the protrusion of CE0829 toward you and, with CE0914, the notch of CE0915 toward you.

3) Accord CE0913 with CE0916 of CE0914. (CE0913 is to be recommendably set to the MANUAL position.)

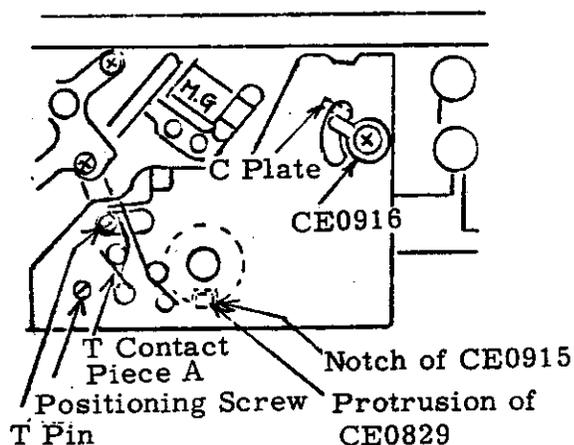
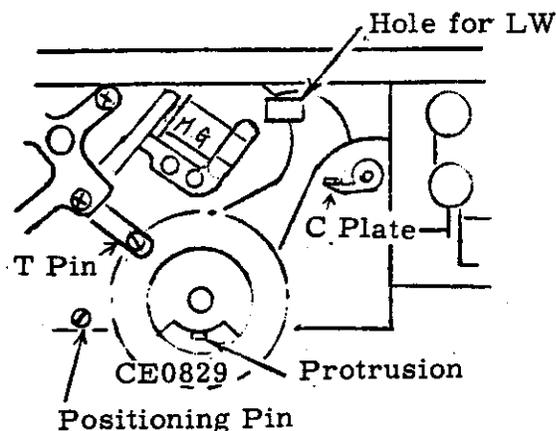
Push into CE0913 with CE0916.

4) Match T pin with CE0931 of CE0914. (The released shutter condition is recommendable.)

5) Put the position hole of CE0914 on the positioning screw, and, at the same time, match CE0829 with CE0915.

6) Fix CE0914 to the die-cast body with CE0923.

7) Solder each LW referring to the preceding page. and adhere them to the predetermined position.



[4] Disassembly of the Shutter (Part of the lower side of the die-cast body)

See the Repair Manual for OM-1.

[5] Removal of the Shutter Curtain

See the Repair Manual for OM-1.

[6] Removal of CE0801 (S base plate)

1) Disengage cylinders A and B of the shutter curtain.

(See the Repair Manual for OM-1)

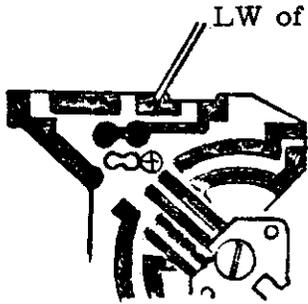
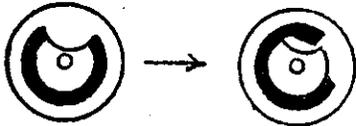
2) Remove two PSK1.7 x 3.5SO to take off CA8875.

- 3) Remove two PSK2 x 2SO. (Bellock is attached.)
 Remove one PSK2 x 2.8SO. (Bellock is unusable.)
 Then, CE0801 comes off.

[7] Disassembly of the Film Wind Mechanism
 See the Repair Manual for OM-1.

[8] Disassembly of CE0502 (Front casting)
 (CE0502 should be being separated from die-cast body.)

| Main Parts | Parts to Remove | Q'ty | Removable Parts | Remarks |
|---|-----------------------------|------|---|--|
| V 40 Self-timer | CA9077 (Pinch) | 1 | | Remove CA9077 and PSK1.4 x 2.5SO with CA9111 fully lowered. |
| | PSK1.4 x 2.5SO | 1 | | After the removal, set CA9074 to the stop position to stop it in the set state, and then remove CA9071. |
| | CA9071 (Stopper) | 1 | Single body [CA9072 CA9086 CA9075 CA9111 | |
| | PSK2 x 3SO | 2 | V 40 Self-timer | Be sure to interlock CA9074 with self-timer when assembling. |
| LC4086 Pentaprism | PUK1.7- 314SO | 2 | CE0524 CE0526 | |
| | PUK1.7 x 2.2SO | 2 | CE0536 CA8936 LC4086 | Remove PUK screw from SW base plate side. |
| CE0547 (Indication plate) (CE0538) | CE0539 (SL shaft) | 2 | Single body [CE0538 CE0547 | Remove from SW base plate side. Take sufficient care not to scratch CE0547. Clean with Ligroine if soiled. |
| Meter Movable Section (DS4001) | CA9008 (Pulley screw) | 3 | CE0635 | |

| Main Parts | Parts to Remove | Q'ty | Removable Parts | Remarks |
|-----------------------|---|------|--|--|
| Meter Movable Section | PUK1.7 x 2SO | 2 | Single body CA8981 CE0626 Meter Movable Section |  LW of Meter |
| | Remove the soldering of CA9483. (SW base plate) | 1 | | |
| | CE0642 (C washer) | 1 | |  Remove in this state. |
| | CE0666 (A screw) | 1 | Single body CE0643 CE0645 | Just loosen CE0666 (left-hand screw). Displace A contact piece 1 sideways. and remove A cam. |
| | HK1.4-633SN | 1 | CE0629 | Just displace sideways not to hook when taking out the meter movable part in the next step. |
| | PUK1.4-605SO | 2 | CE0626 CE0647 Meter Movable Part | Take care not to lose teflon tube (CE0622). Take care not to break CE0640. |

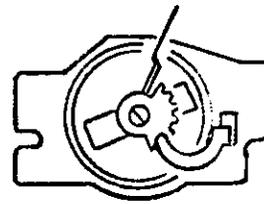
(1) Order of Assembly of Meter Movable Parts

1) Hook CE0647 to CE0625 as shown in the right illustration.

(CE0643 should be being disengaged and the stopper screw of CE0629 should be being removed.)



2) Apply thin coat of grease 023P to the part of the meter movable section to be inserted into the bearing of CE0625 and the part to be inserted into the bearing of CE0626, and insert them into CE0626.



3) Stop HK1.4-633SN of CE0629.

4) Place CE0626 and fix it with two bellock attached PUK1.4-605SO.

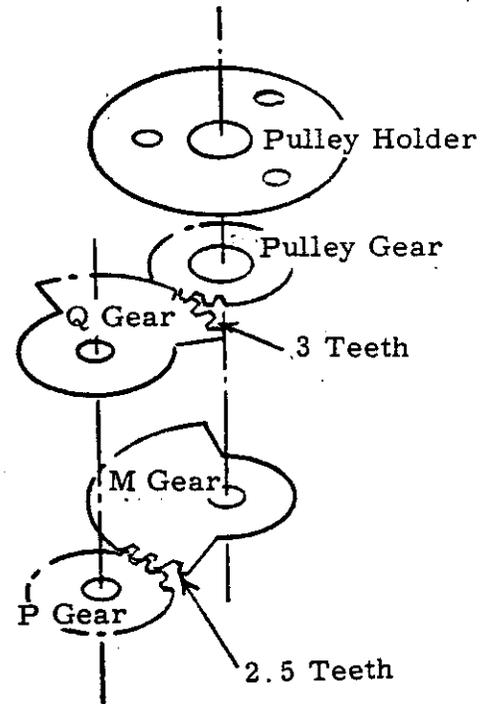
Setting Manner of CE0626

Place the half of CE0626 on the meter movable section and slide it under the A lever while pushing it downward.

5) Hook CE0647, which was hooked to CE0625, on the protrusion of the frame of the meter movable section.

6) Place CE0643. fix it with CE0642 and finally fix it with CE0666 (left-hand screw) after positioning for the A contact piece.

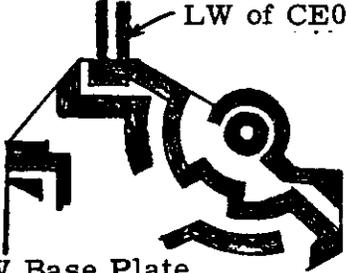
7) Remove PUK1.7-406SO. disengage the pulley gear. which is made in one body with CA8981. and decide the tooth position as shown in the right illustration.



Note: At ASA 12. the eccentric of A lever 2 is centered.

See page 25.

| Main Parts | Parts to Remove | Q'ty | Removable Parts | Remarks |
|--|---|------|--------------------------------------|--|
| CE0579 CE0580 (FP contact point) | Remove the white LW (BRJ-W17) of CE0579 (F contact) | 1 | | |
| | CE0582 (T screw) | 2 | CE0579 CA8901 CE0580 CA8900 | Take sufficient care when assembling CE0582 as it is éasy to break. Glue the red LW to the original position when assembling. |

| Main Parts | Parts to Remove | Q'ty | Removable Parts | Remarks |
|-----------------------------------|---------------------------------|------|---|--|
| CE0871 CE0872 (Main switch) | PUK1.4 x 1.6SO | 2 | Single body { CE0871 CE0872 CE0874 Note that some are provided with a sub-switch. |  <p>LW of CE0871</p> <p>SW Base Plate</p> <p>Soldering Point of Black LW of Main Switch.</p> <p>This should be done with CE0579 and CE0580 removed.</p> |
| CE0555 (Circuit board B) | PUK2 x 4.5SG | 3 | Single body { CA8877 CA8888 CE0520 CE0521 CE0522 | } Inseparable because these are combined with B cord. |
| | PSK1.4 x 2SO | 4 | CE0519 CE0650 | For the incorporation of the reset button, it is recommendable to set it on the front cover and then provide to CE0502 together therewith. |
| | PUK1.4 x 1.6SO | 2 | CE0553 | |
| | PUK2 x 2.5 SO | 2 | CE0555 | Loosen B cord of CE0546, and remove circuit board B and SL contact piece together. |
| CE0543 (Right side plate) | See the Repair Manual for OM-1. | | | |
| CA8410 (Left side plate) | See the Repair Manual for OM-1. | | | |



OUTLINE OF REPAIRS

OUTLINE OF REPAIRS

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