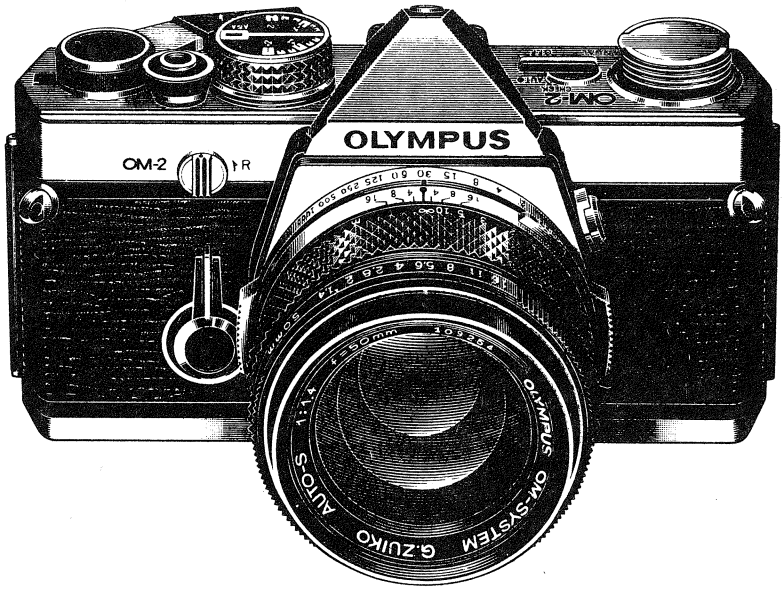
OLYMPUS

OM-2

OM-2N

REPAIR MANUAL



OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

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OLYMPUS OM-2

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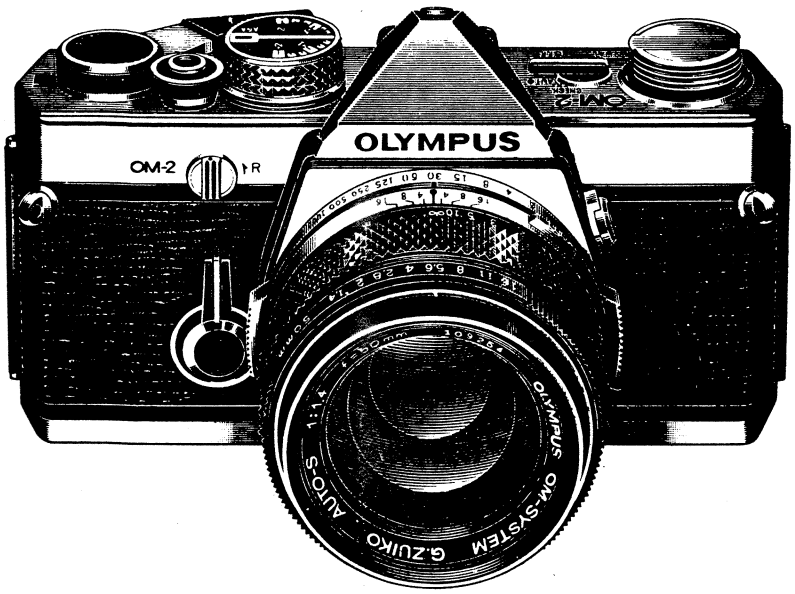


NOTE: Due to improvements and changes made throughout the production run ,some of the proceedures in the text may not be specific to the model you are working on. Please refer to the improved part table at the rear of the current part list.

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 extremly 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 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 ≒ 2.4 KΩ	R305 R305 ≒ 68.3 KΩ
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 " "

OLYMPUS
OM-2

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.

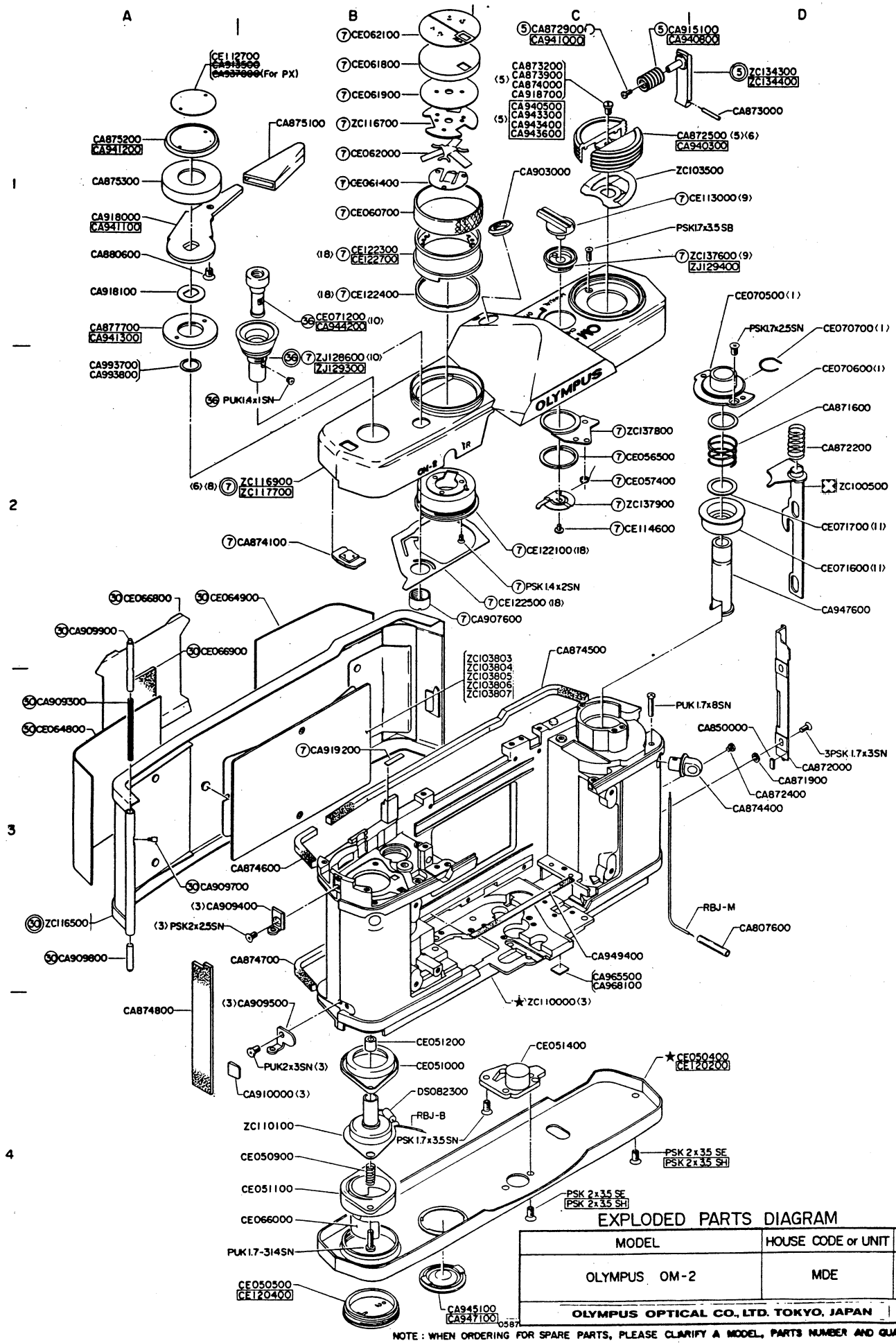
A correction mark. Parts with this mark are not available.

〈 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.



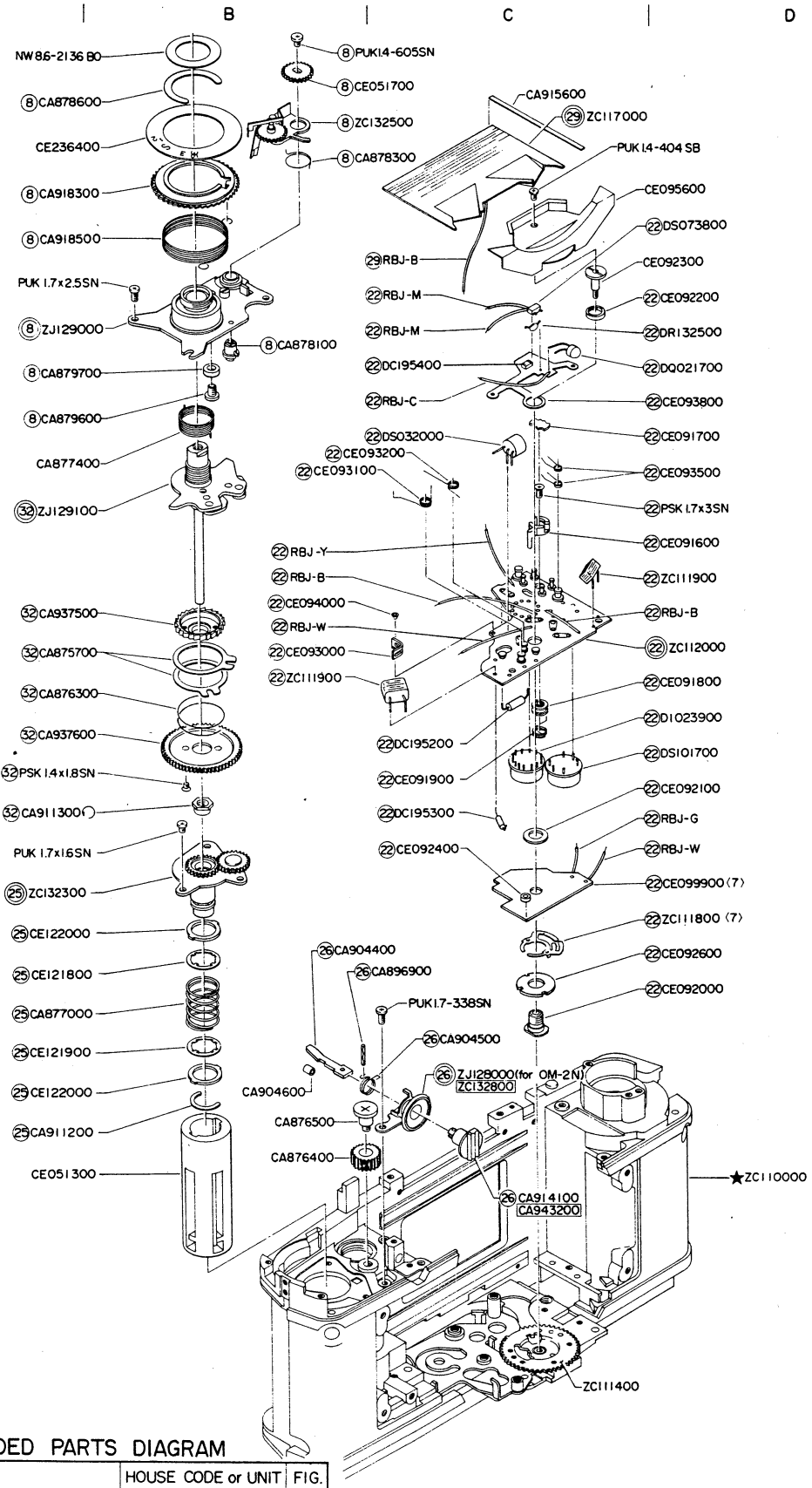
EXPLODED PARTS DIAGRAM

MODEL	HOUSE CODE or UNIT	F.I.G.
OLYMPUS OM-2	MDE	1/8

OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

0587

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

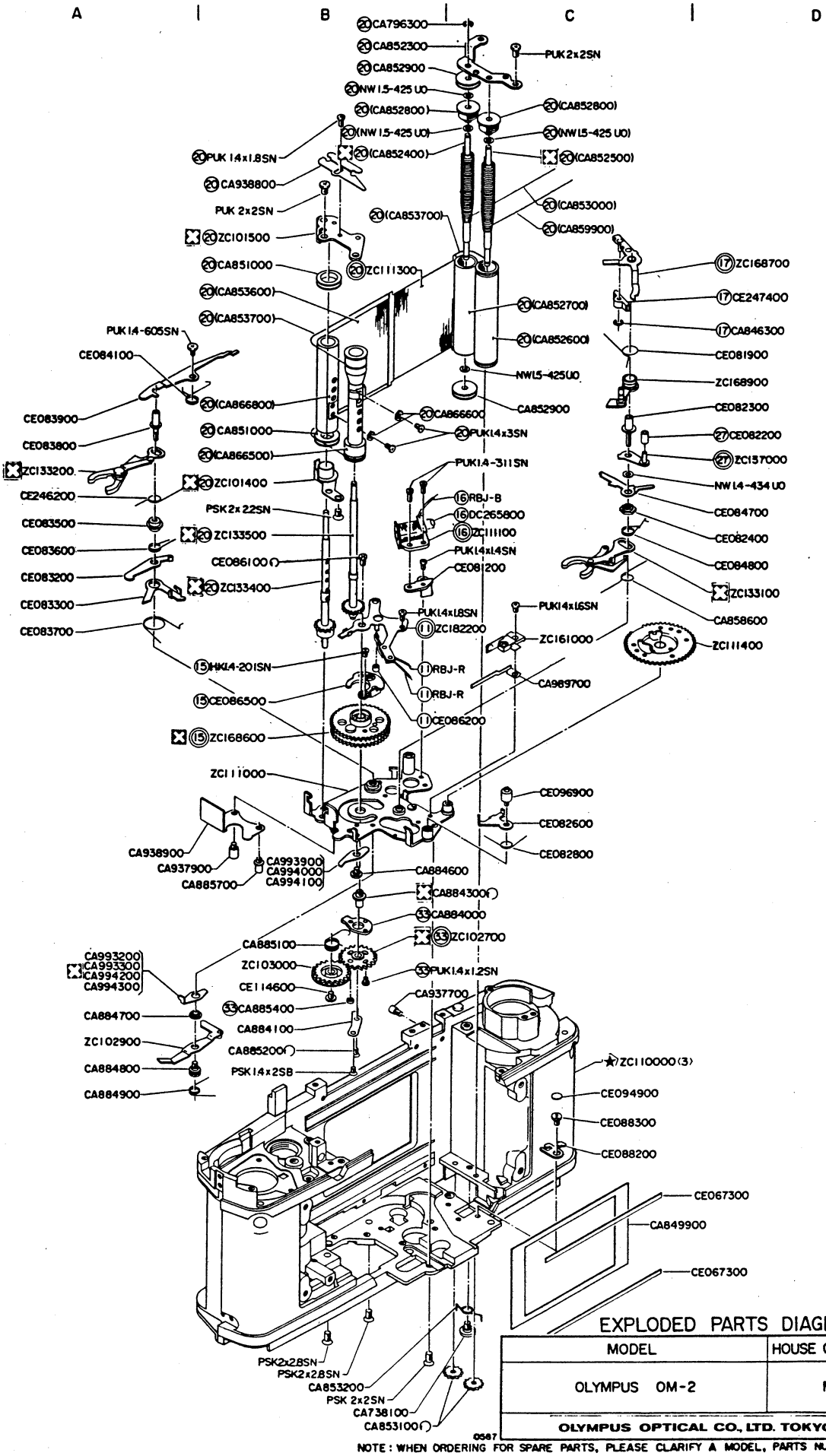


EXPLODED PARTS DIAGRAM

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

0285

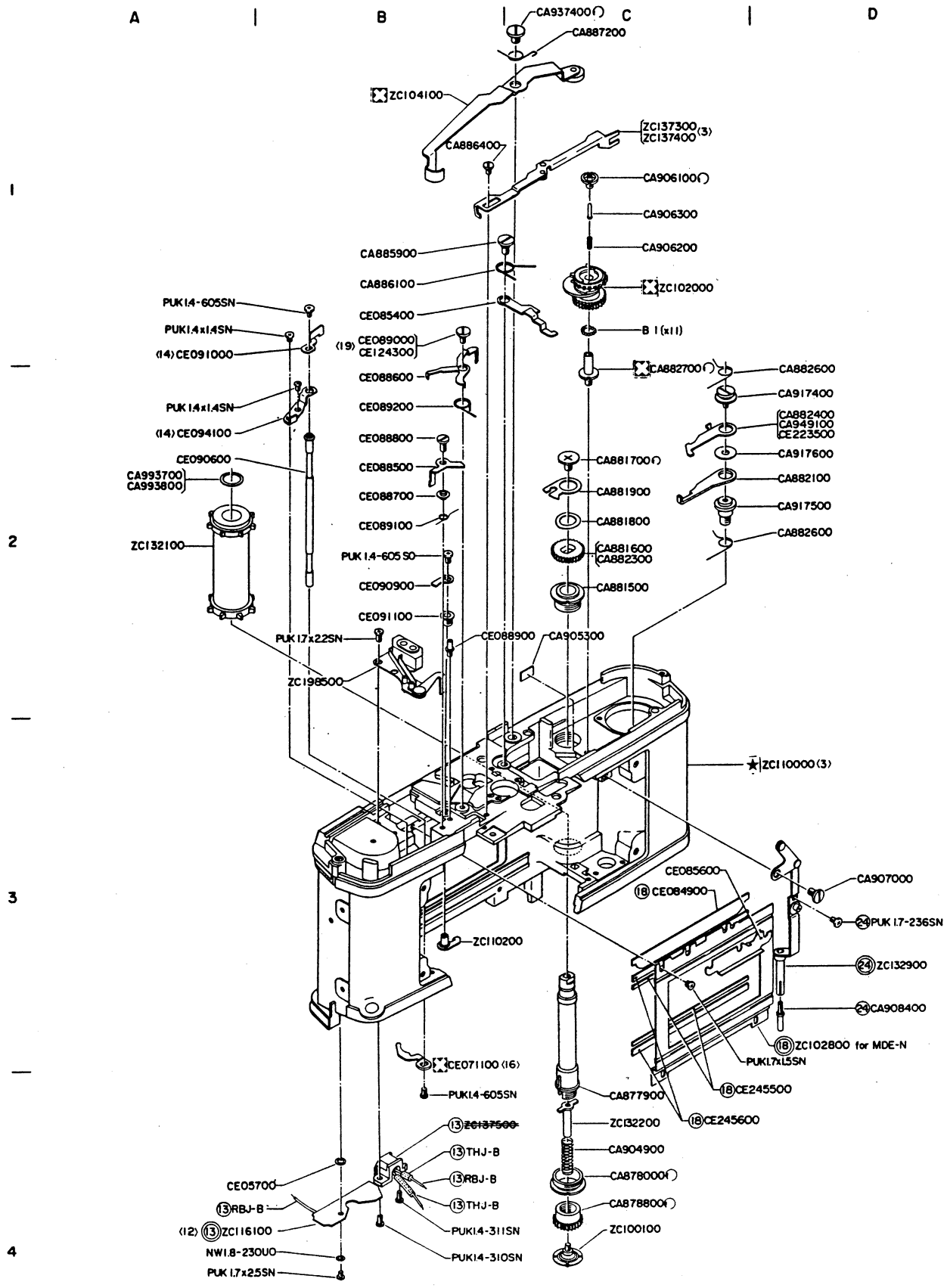
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



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.

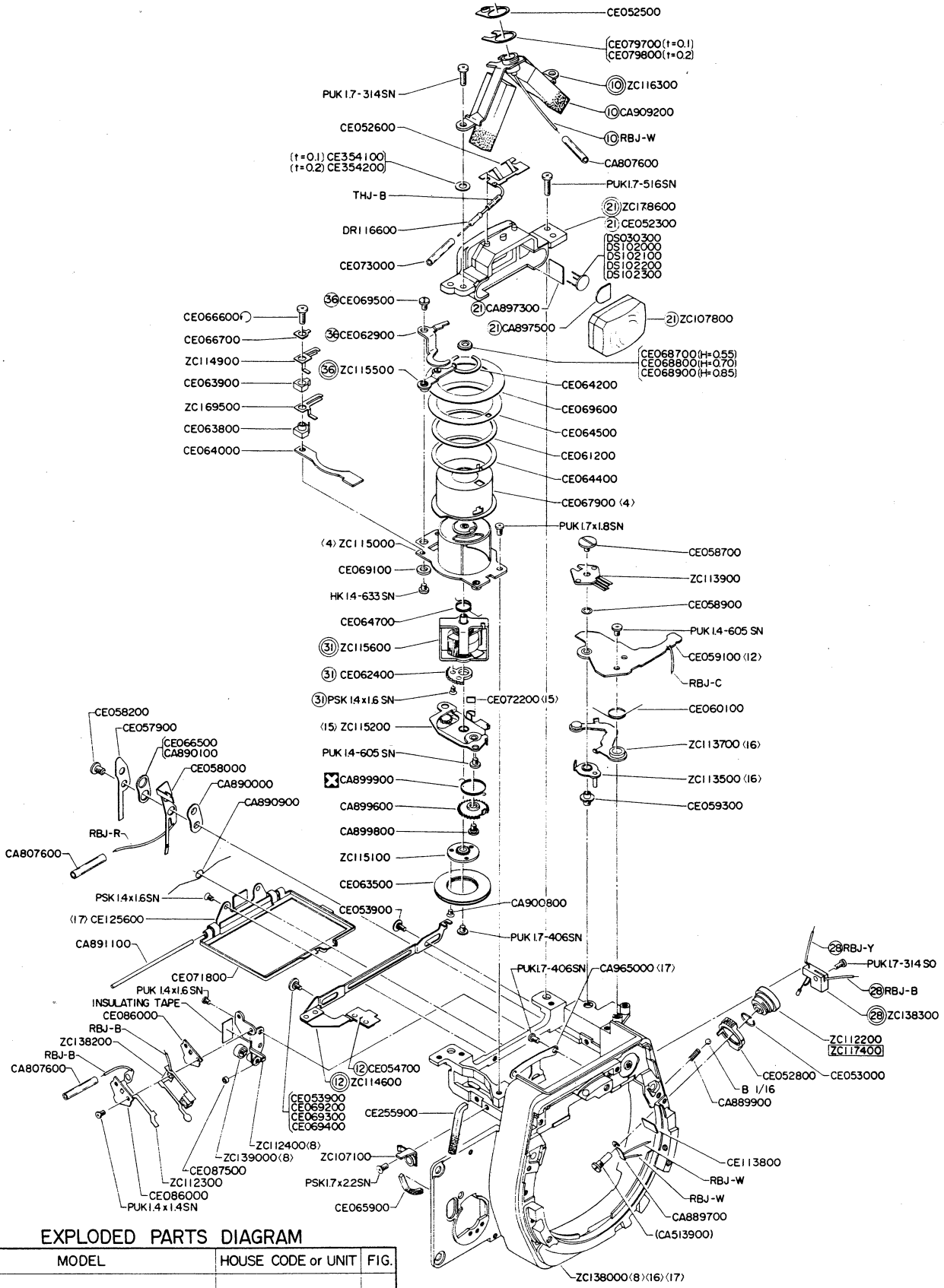


EXPLODED PARTS DIAGRAM

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

0587

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	6/8
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

0285

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

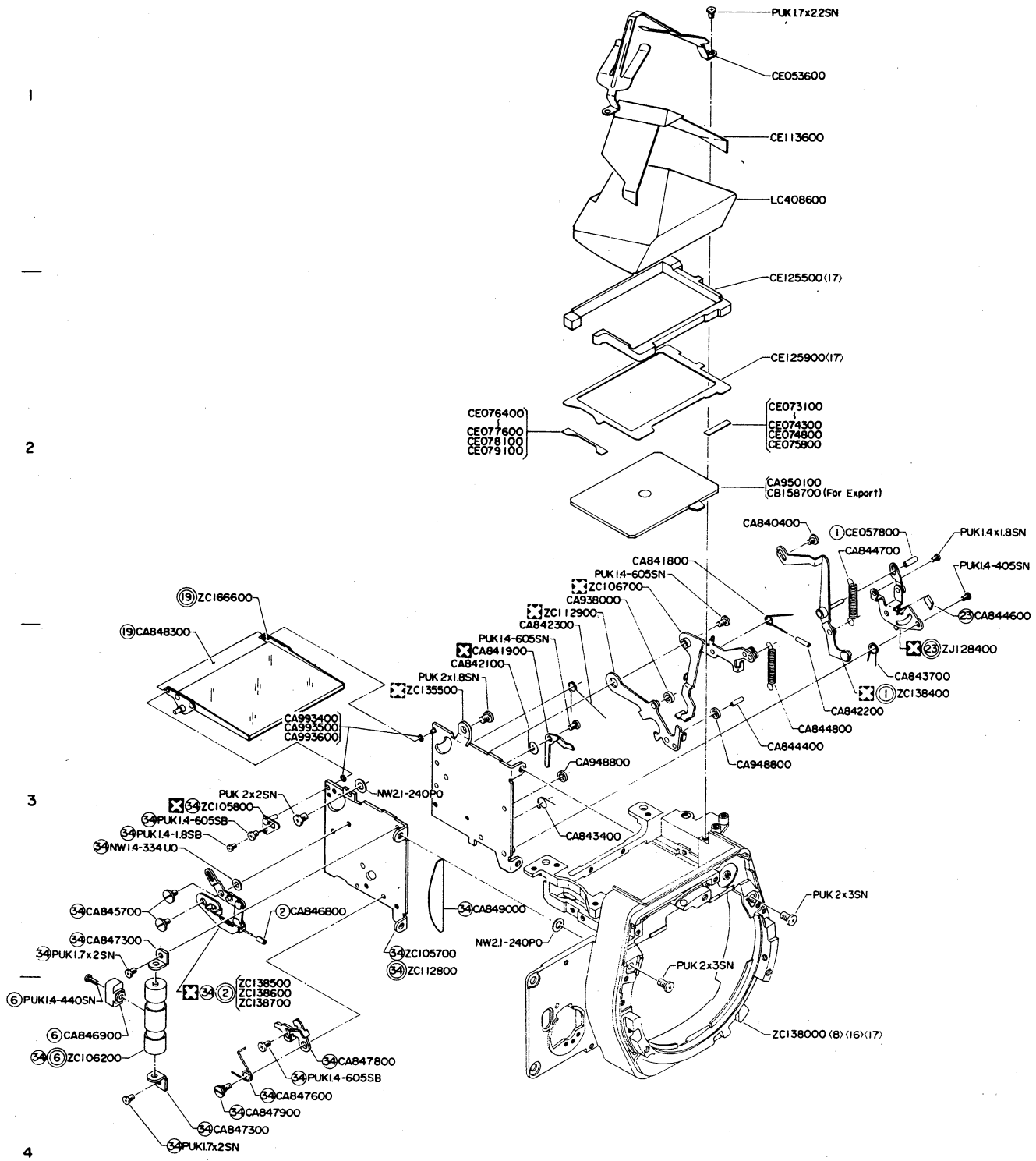
A | B | C | D

1

2

3

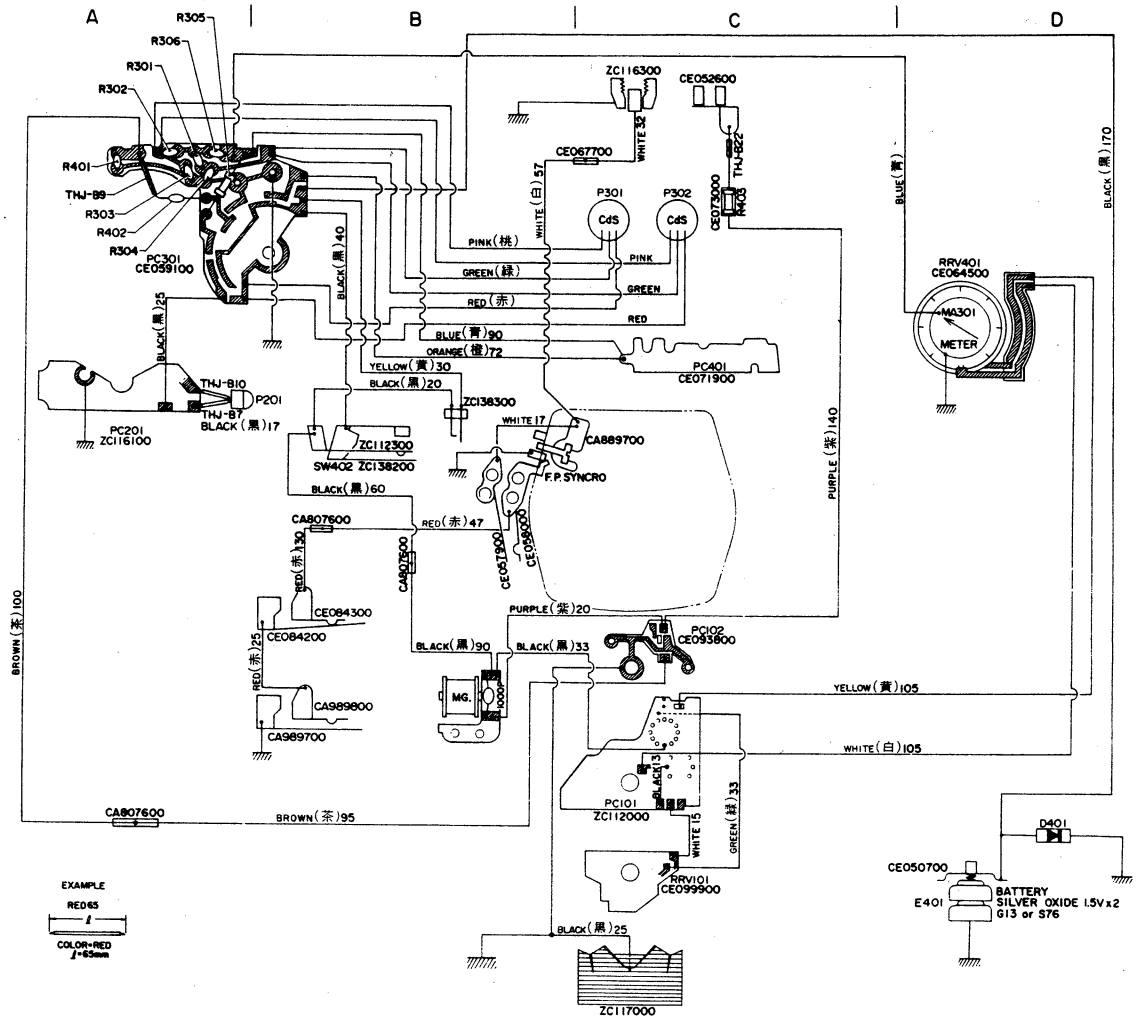
4

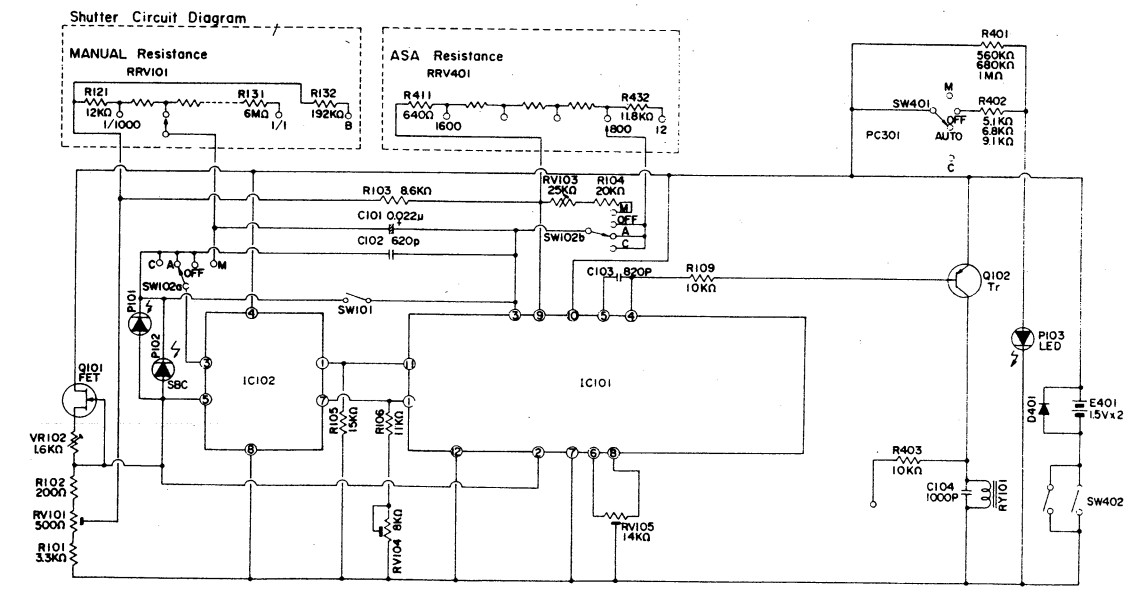


EXPLODED PARTS DIAGRAM

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

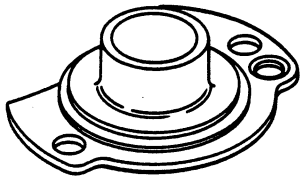
MODEL	HOUSE CODE or UNIT	FIG.
OLYMPUS OM-2	MDE	8/8
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

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

〈1〉

OLD

~~CE050500~~
~~CE121200~~ 〔黄銅Niメッキ〕



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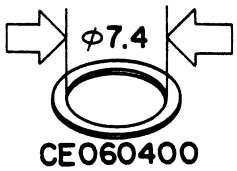

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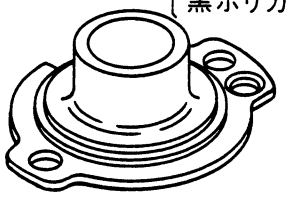

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CE070600

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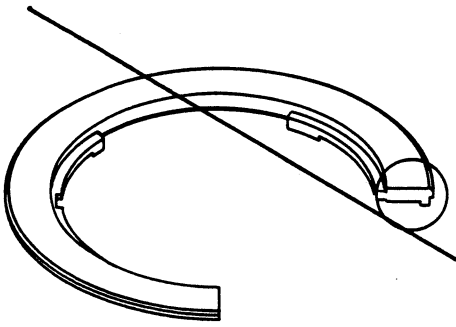

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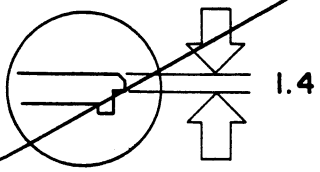

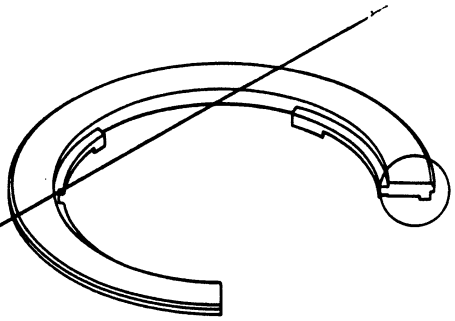

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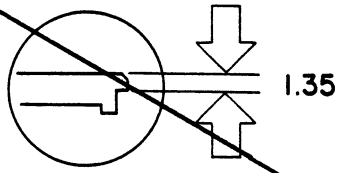

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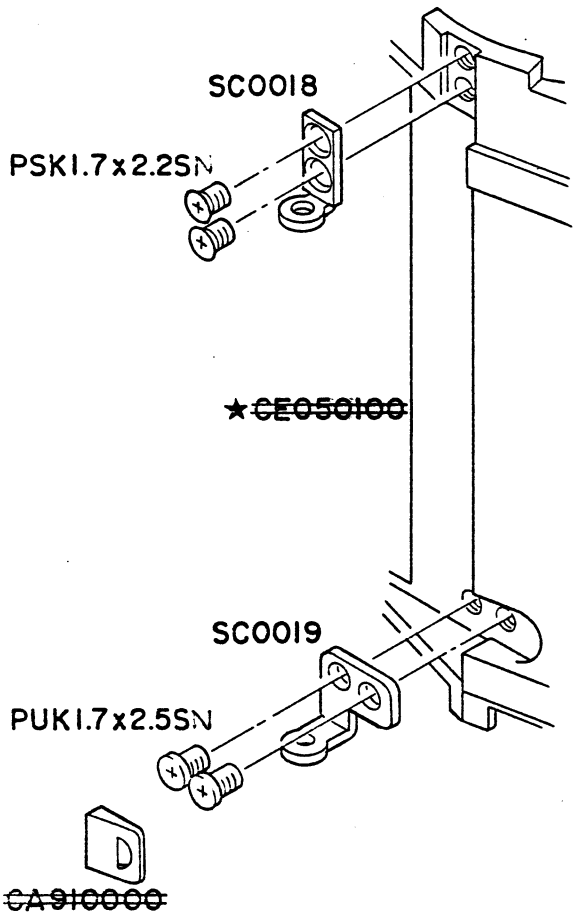
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SC0019
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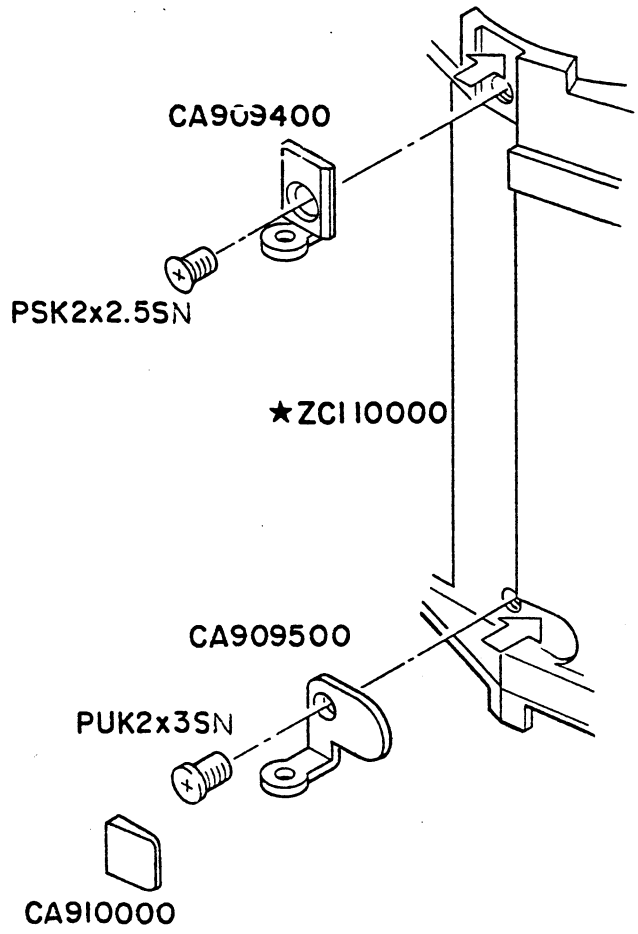
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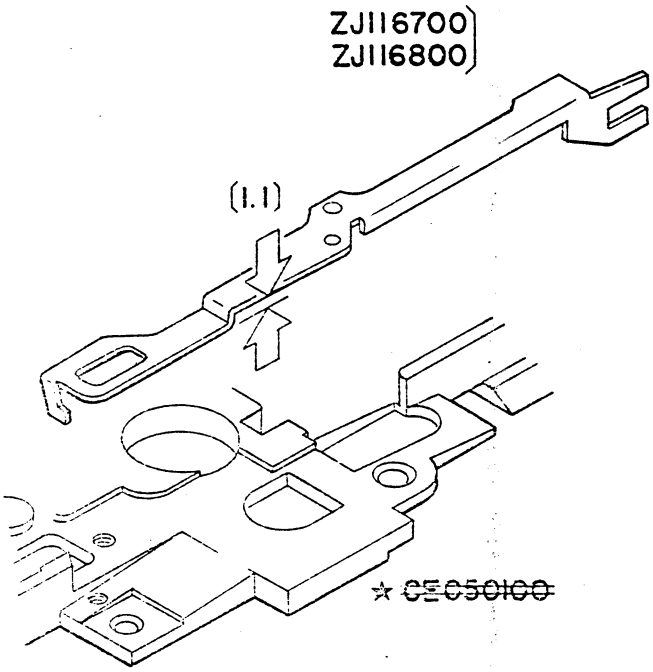
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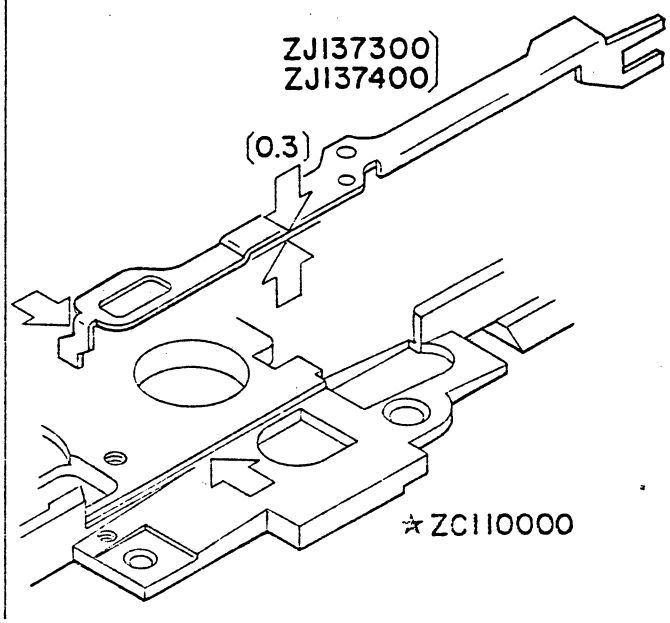
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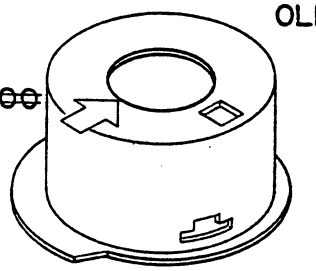

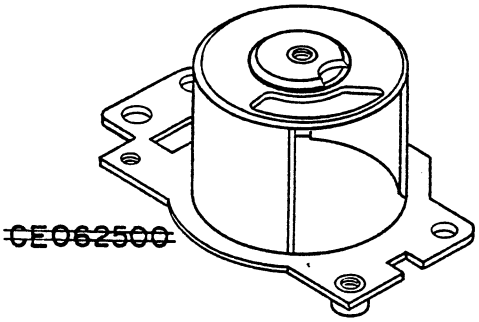

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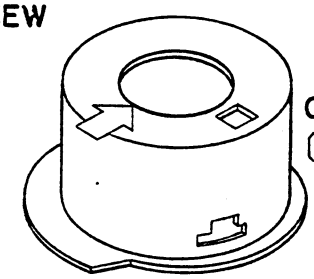

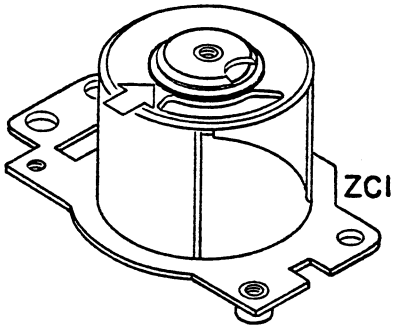

ZC115000

〈5〉〈6〉

OLD

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~~CA873900~~
~~CA874000~~
~~CA918700~~

〔2ネジ〕

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~~CA943300~~
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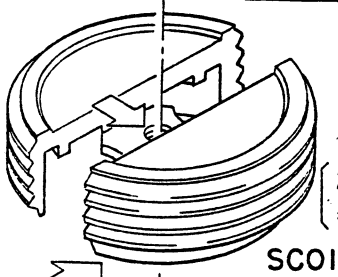
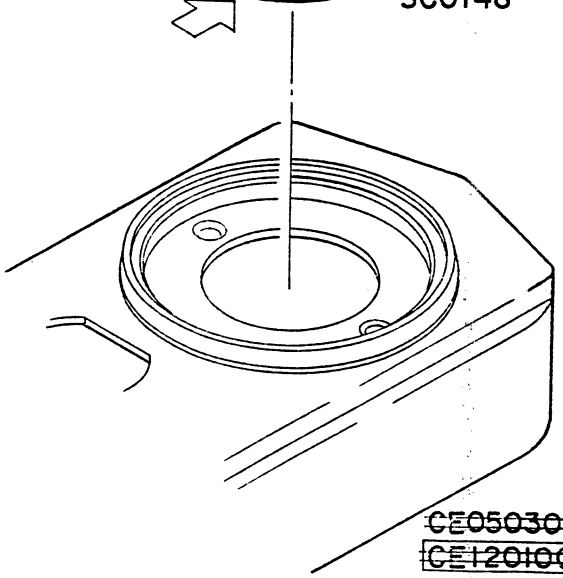


〔2ネジ
黒塗装〕

SC0148



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〔1.7ネジ〕

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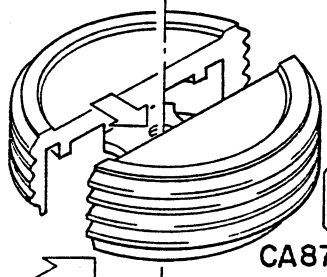
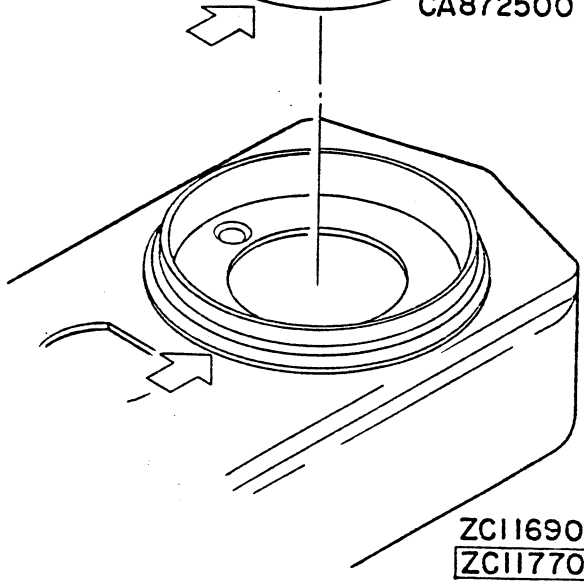


〔1.7ネジ
黒塗装ナシ〕

CA872500



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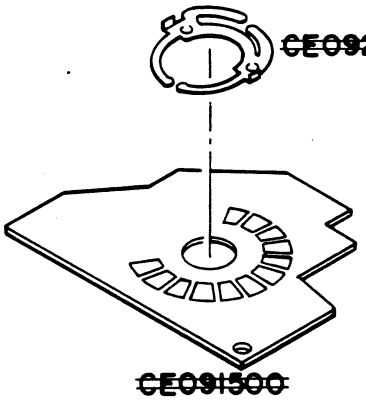

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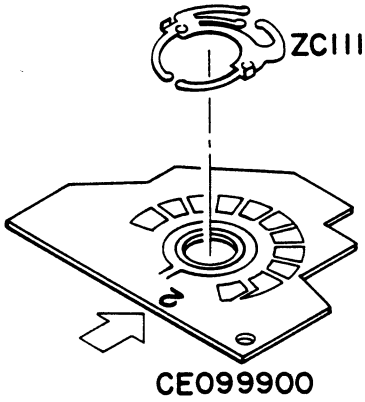

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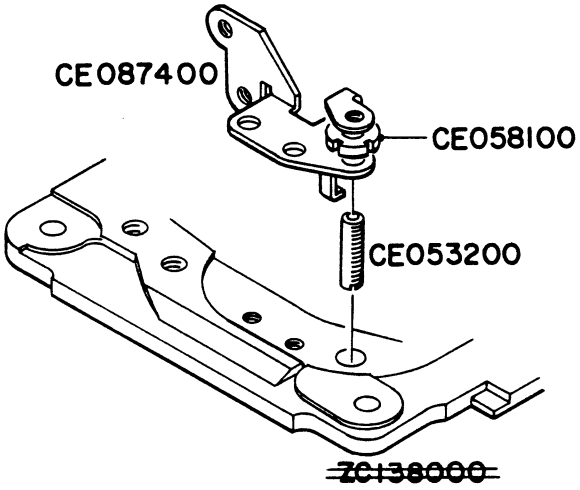

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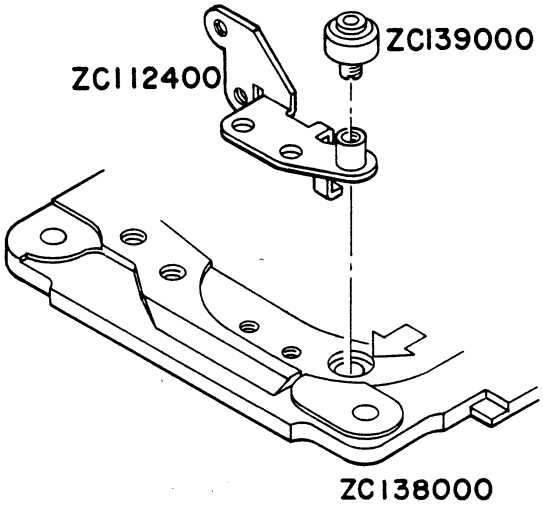

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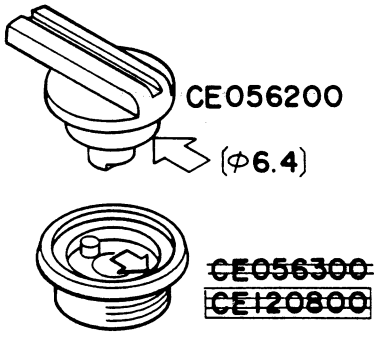

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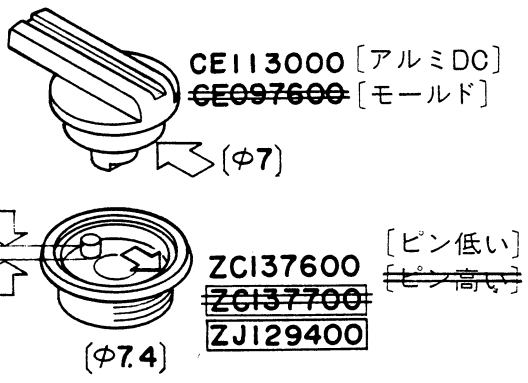

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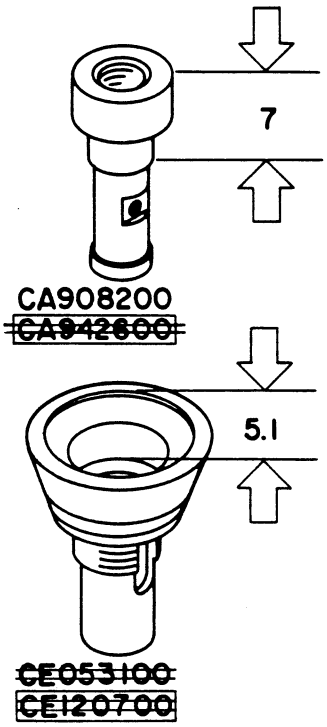

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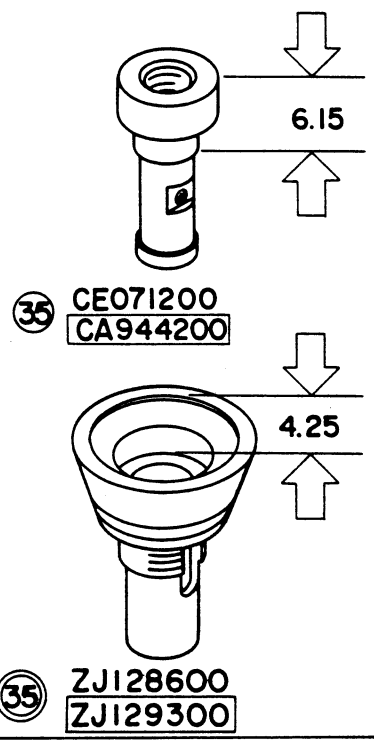

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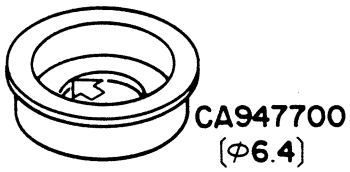

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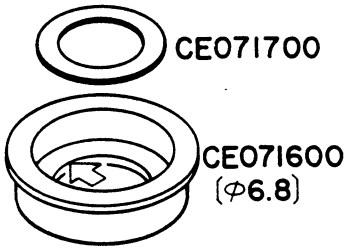

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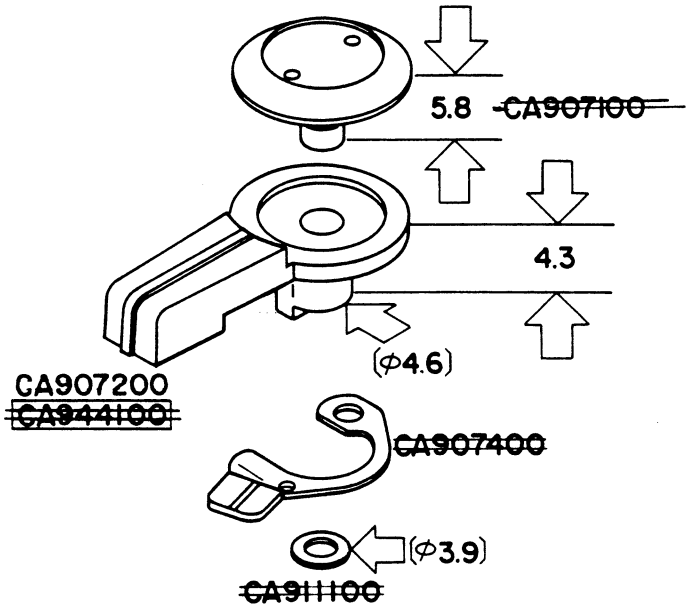
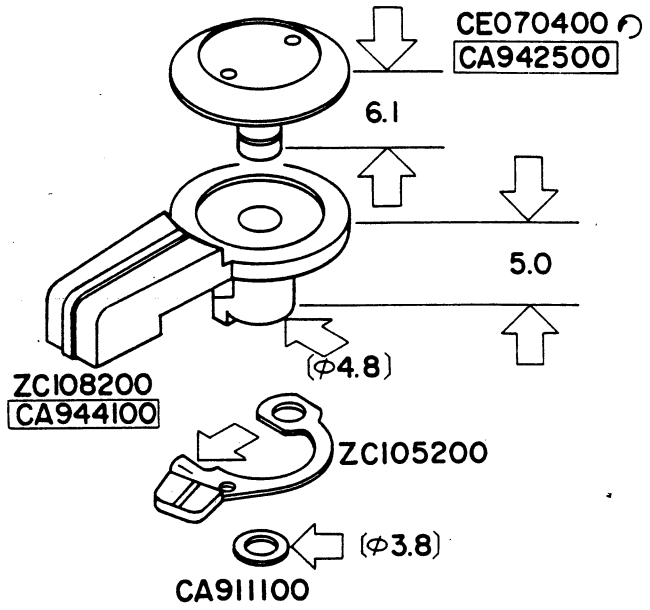




OLD

~~PUK1.7x2.5SO~~

CE057000

~~CE058400~~

~~CE090200~~

~~RBJ-C25~~

~~CE090700~~

~~PUK1.4-605SO~~

~~RBJ-C95~~

RBJ-B30

~~CE059100~~

R303

R304

R305

R306 R301 R302

NEW

PUK1.7x2.5SN

CE099400

~~ZC116100~~

ZC116100

CE057000

CE090200

RBJ-B25

CE059100

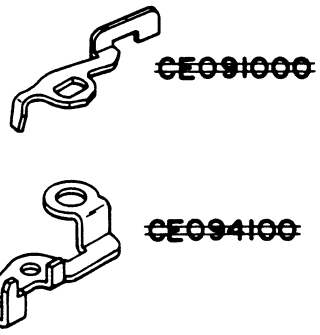
R305 R402 R304 R303

R306 R301 R302

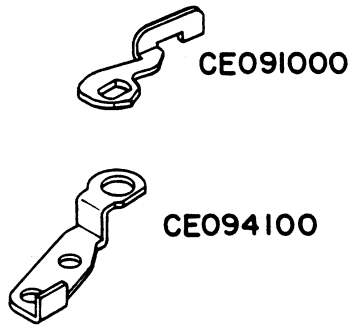
RBJ-C100

〈14〉

OLD

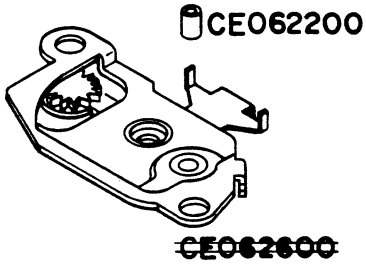


NEW

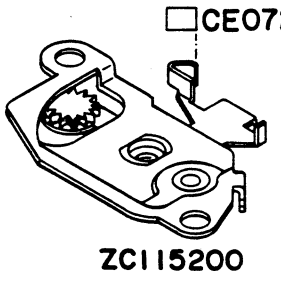


〈15〉

OLD



NEW



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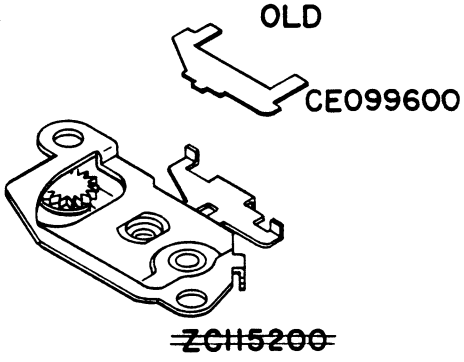

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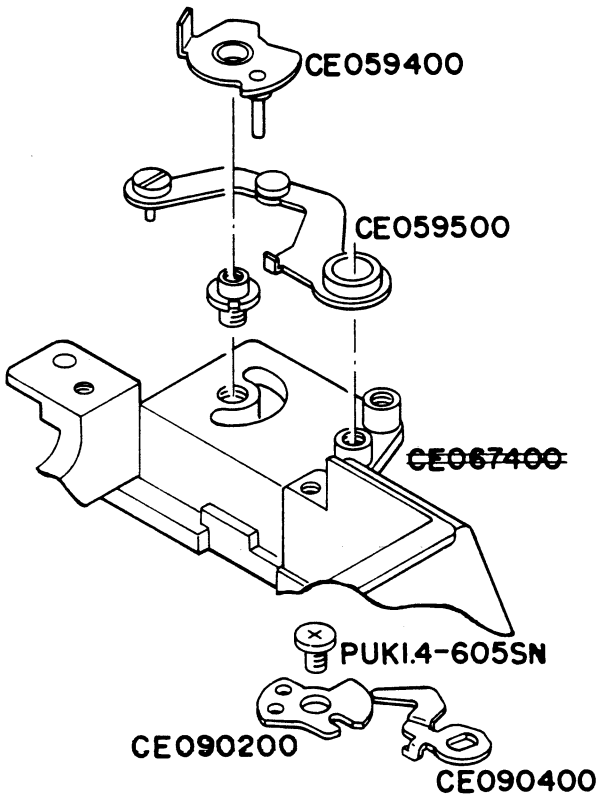
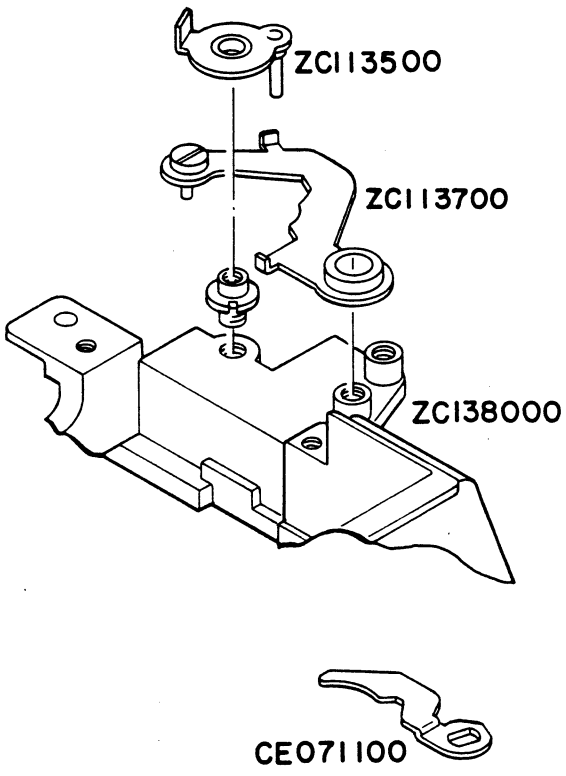
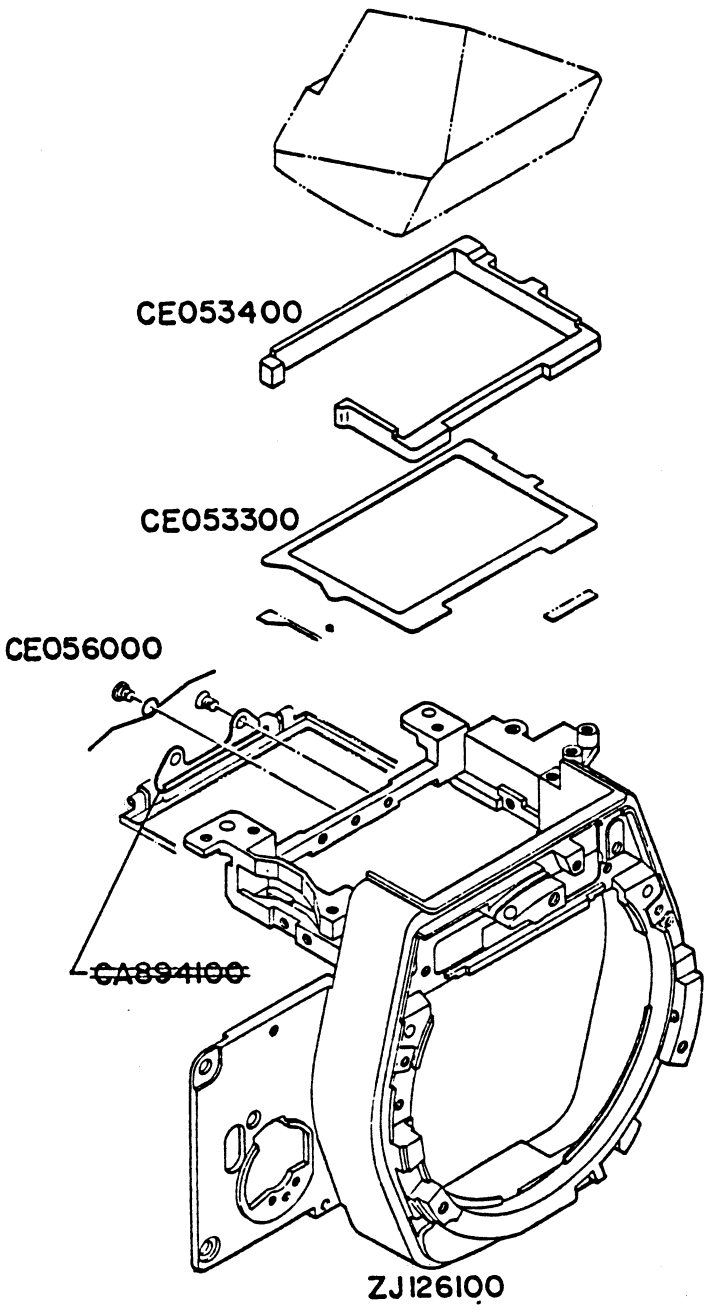
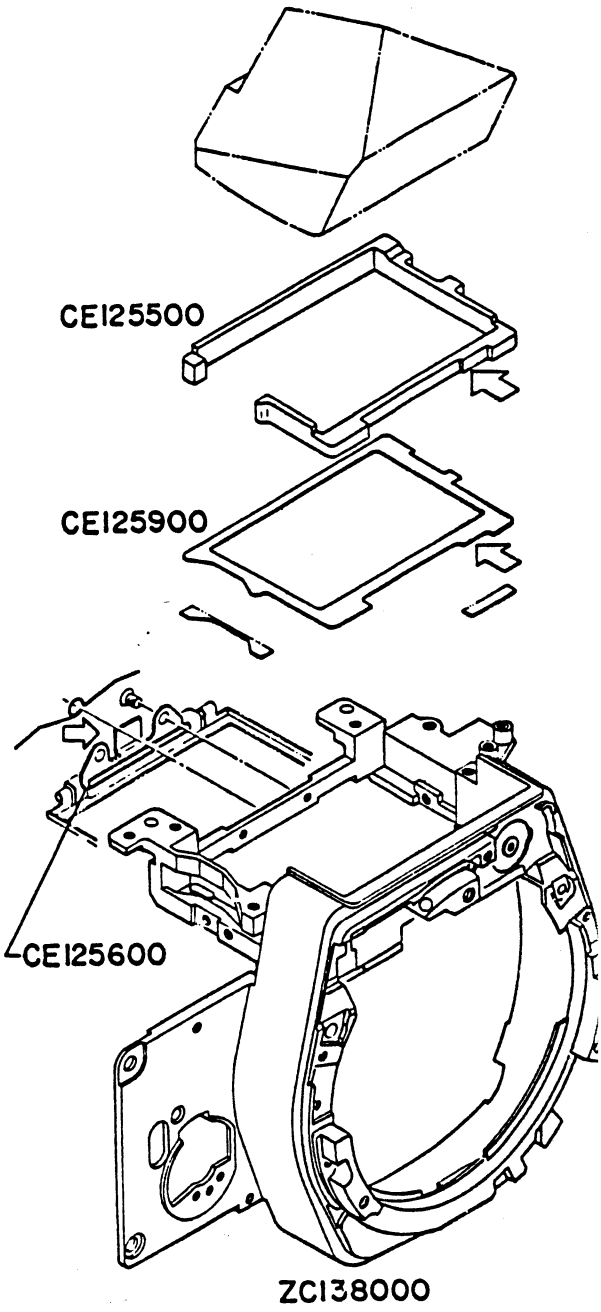


NEW



IMPROVED PARTS TABLE

(17)

OLD	NEW
	

IMPROVED PARTS TABLE

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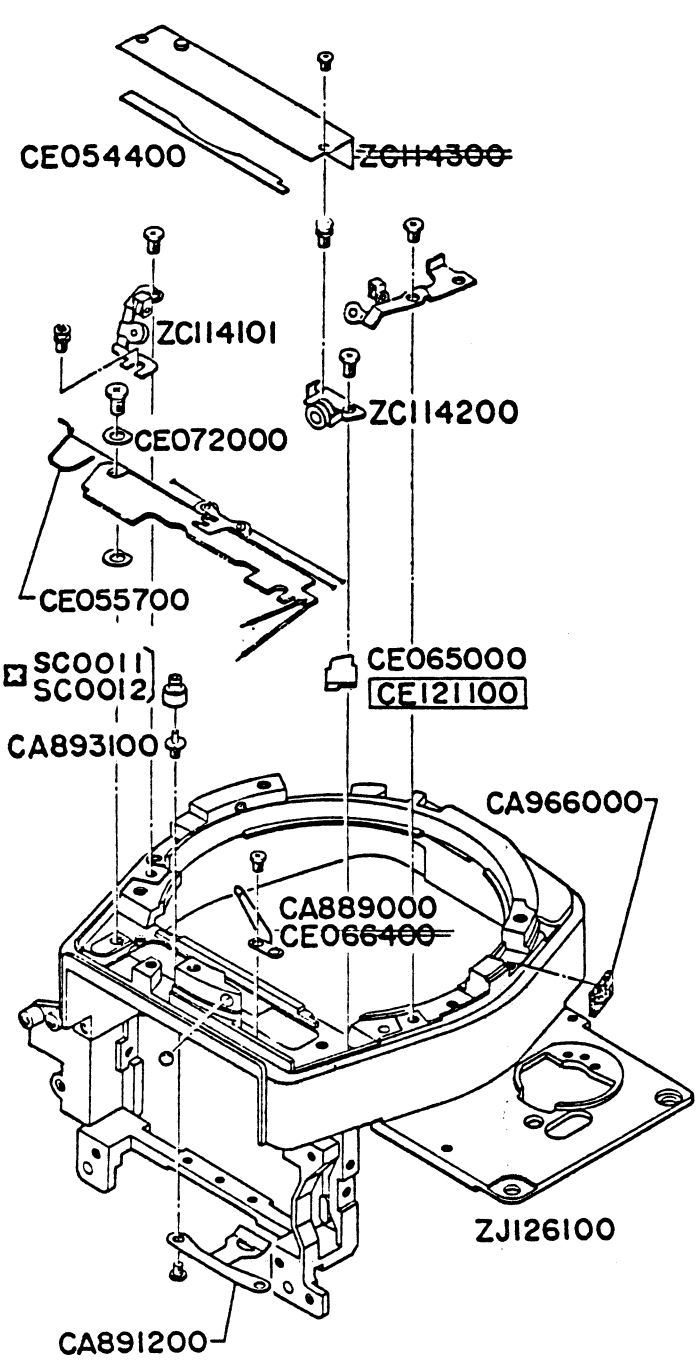
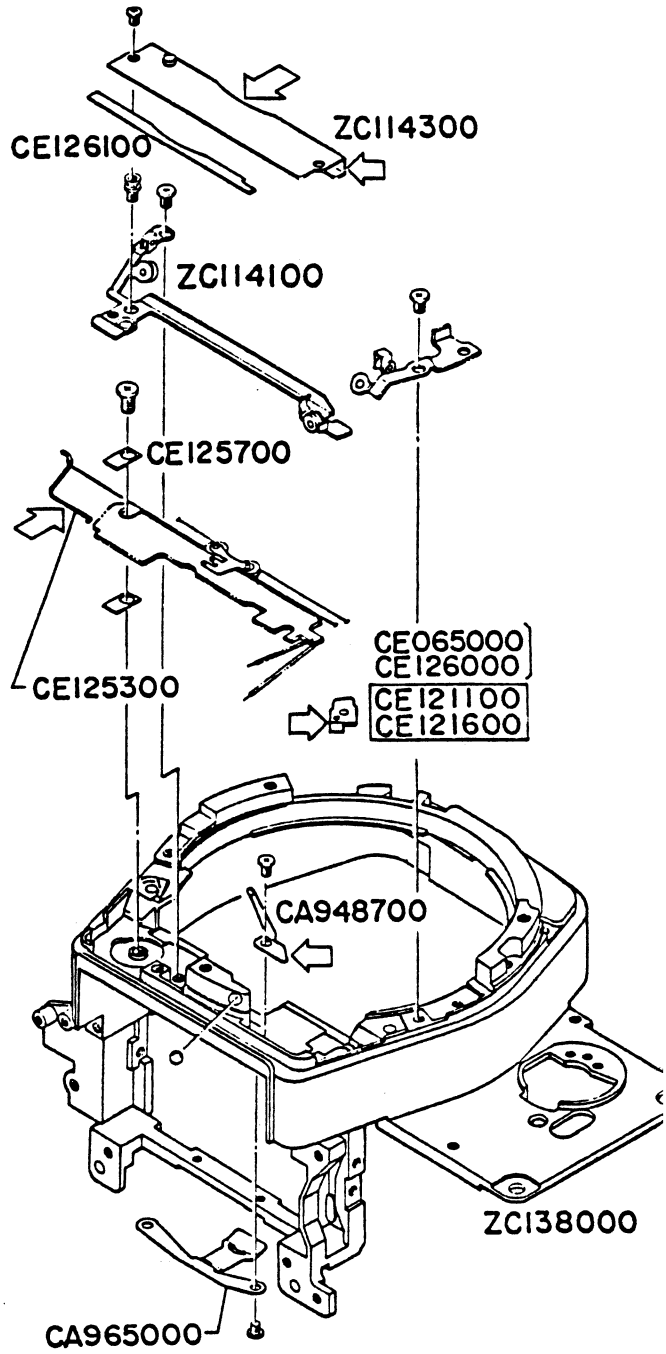
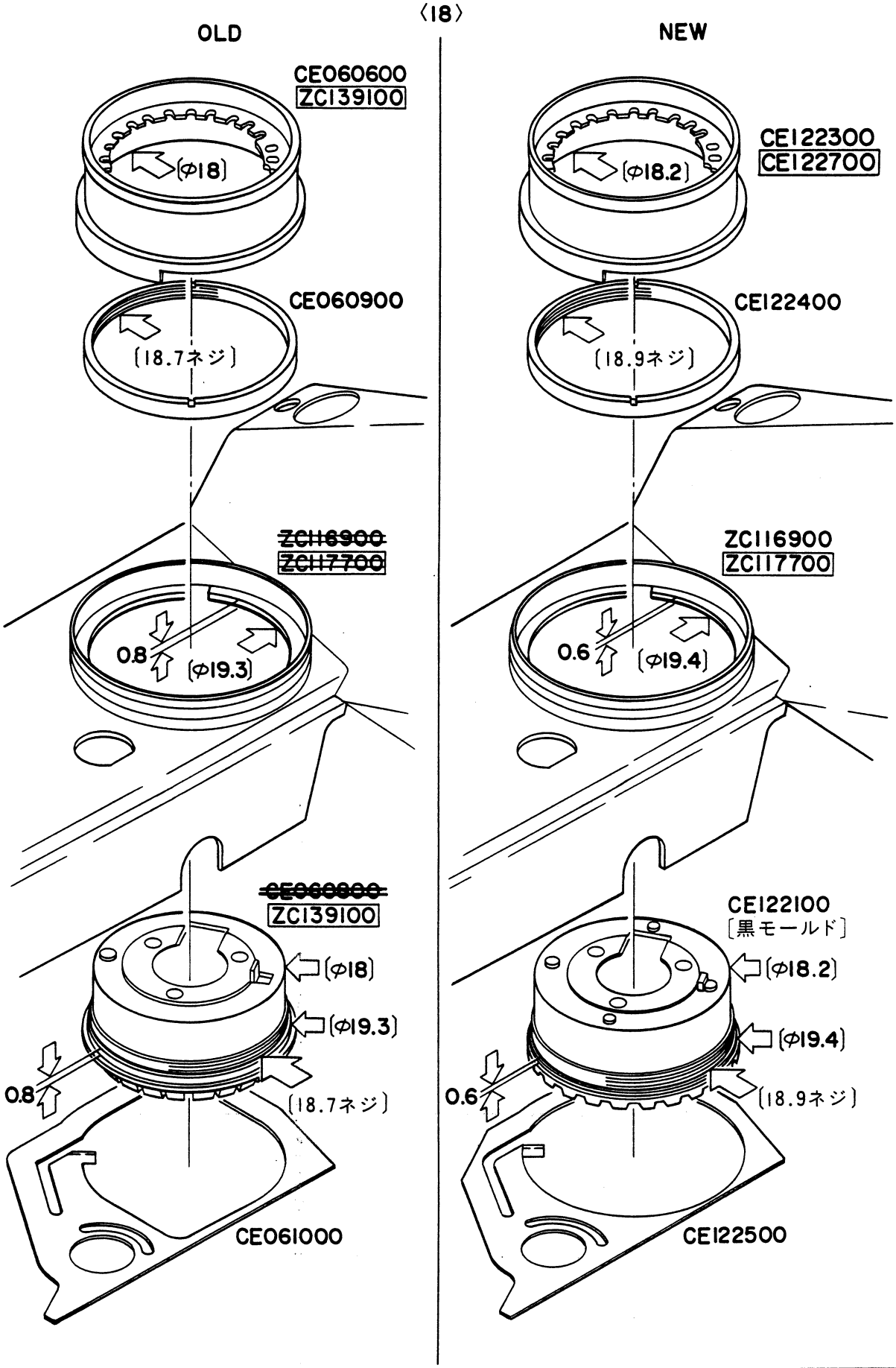


NEW

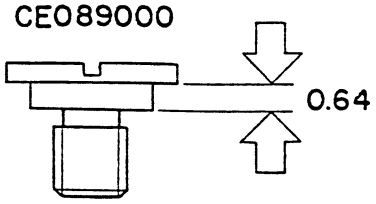


〈18〉

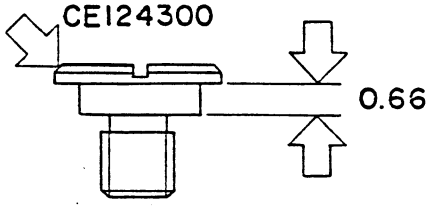

OLD
NEW
CE060600
ZC139100
(φ18)
CE060900
(18.7ネジ)
~~ZC116900~~
~~ZC117700~~
0.8
(φ19.3)
~~CE060800~~
ZC139100
(φ18)
(φ19.3)
0.8
(18.7ネジ)
CE061000
CE122300
CE122700
(φ18.2)
CE122400
(18.9ネジ)
ZC116900
ZC117700
0.6
(φ19.4)
CE122100
〔黒モールド〕
(φ18.2)
(φ19.4)
0.6
(18.9ネジ)
CE122500

〈19〉

CE089000



CE124300

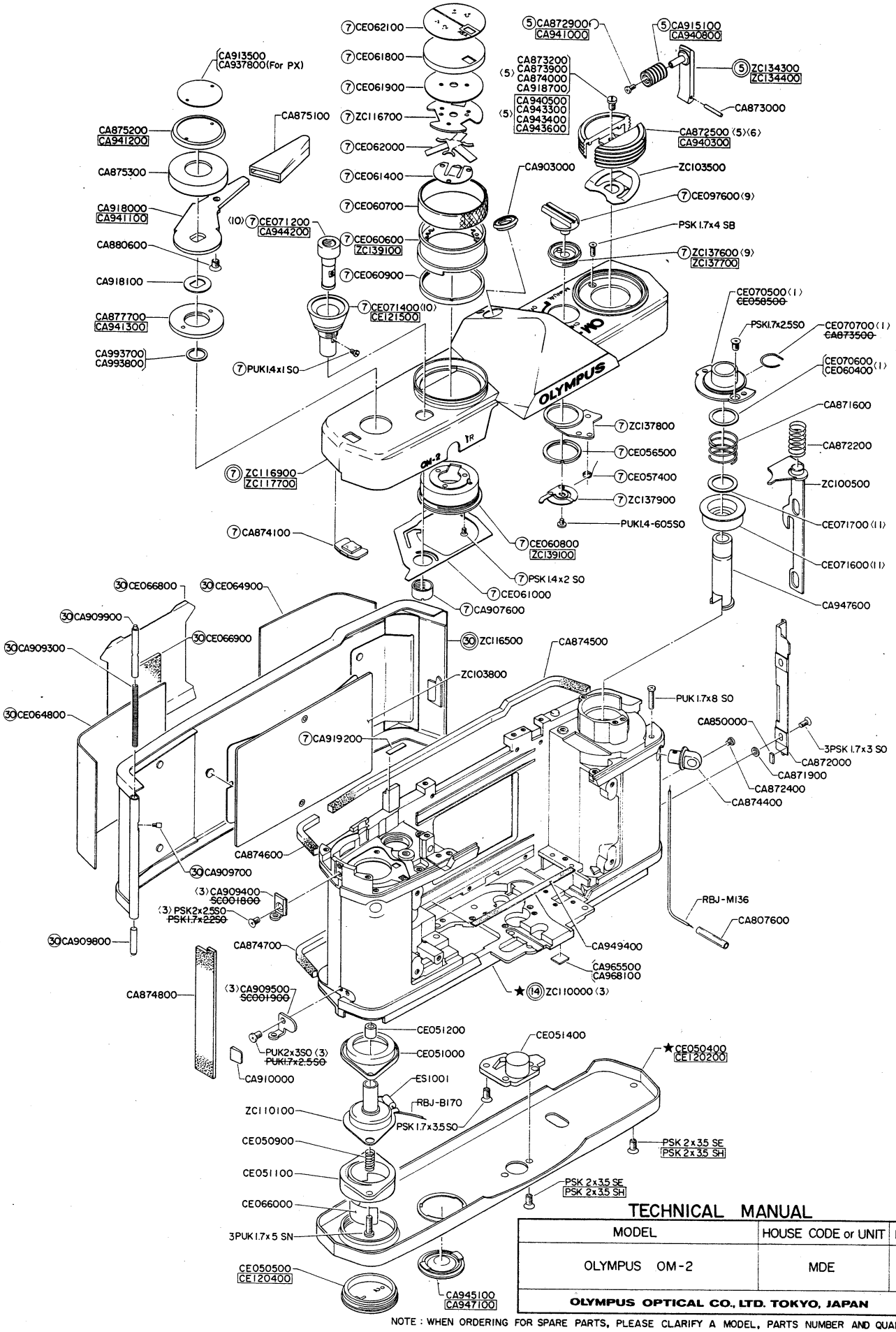


OLYMPUS OM-2

PARTS LIST & DRAWING

ORIGINAL VERSION

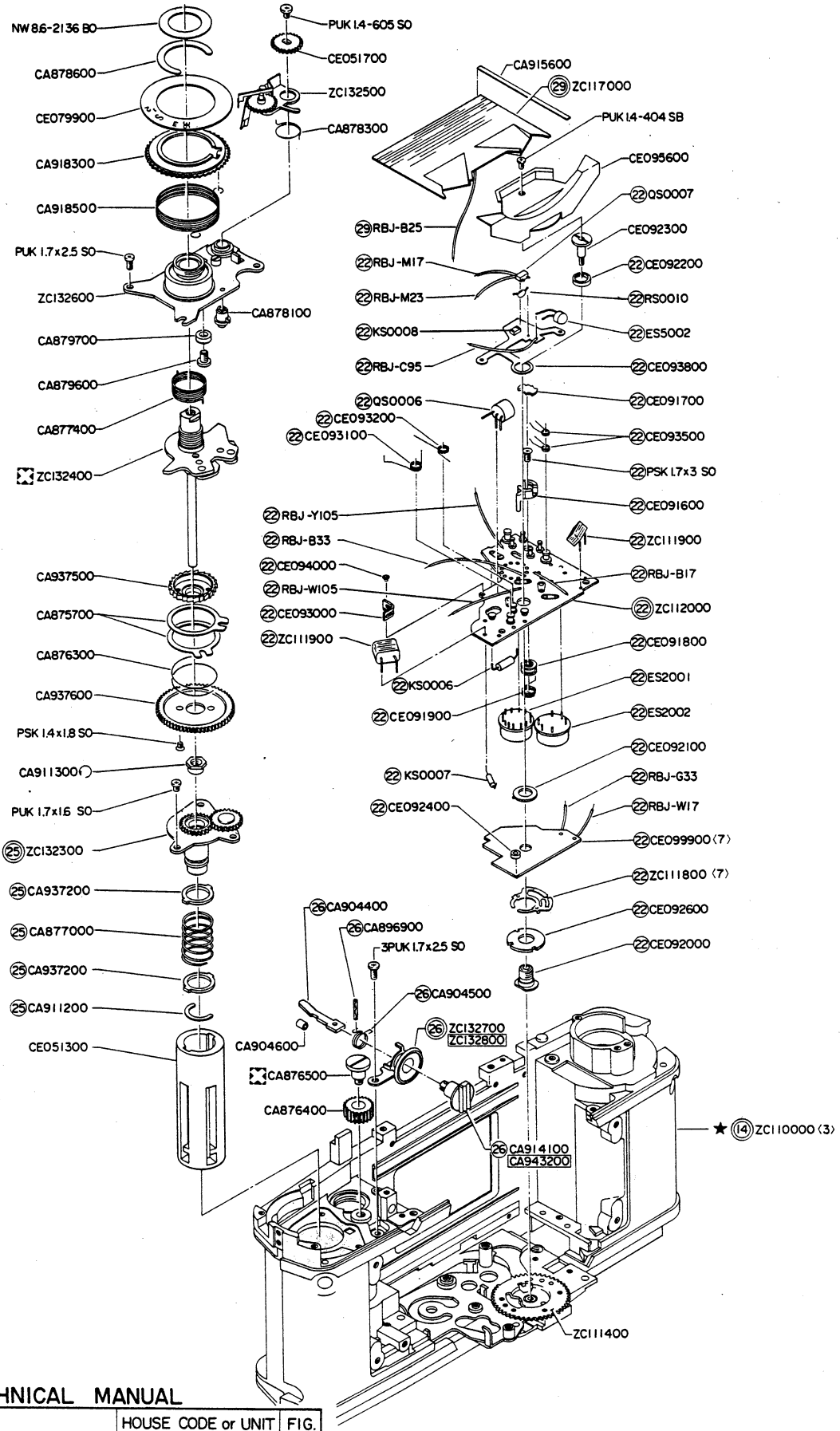
Many part numbers used descriptively in the text have been superseded. This original parts list has been provided for reference only. Please do not use it to order parts.



TECHNICAL MANUAL

MODEL	HOUSE CODE or UNIT	FIG.
OLYMPUS OM-2	MDE	1/8
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

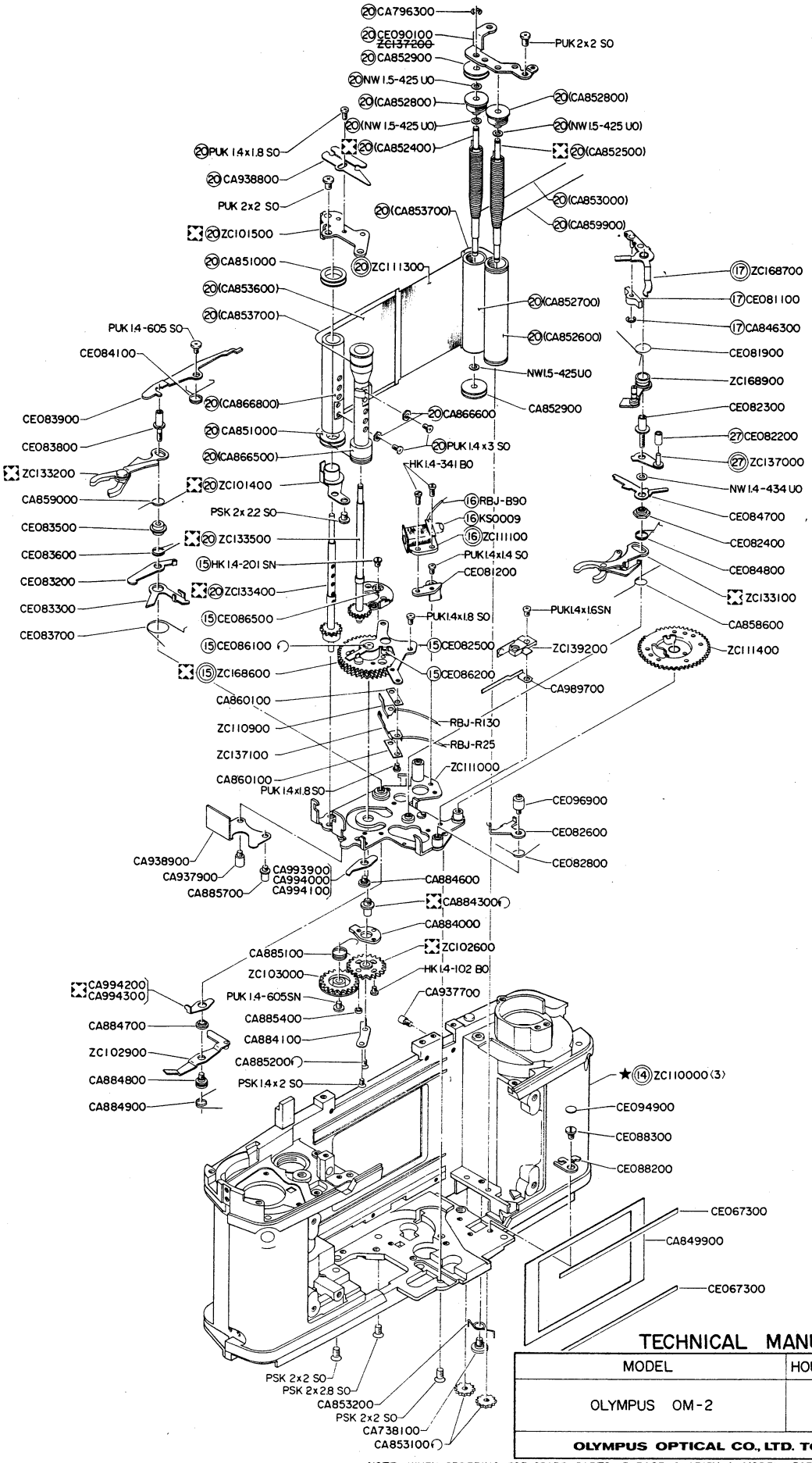
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



TECHNICAL MANUAL

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

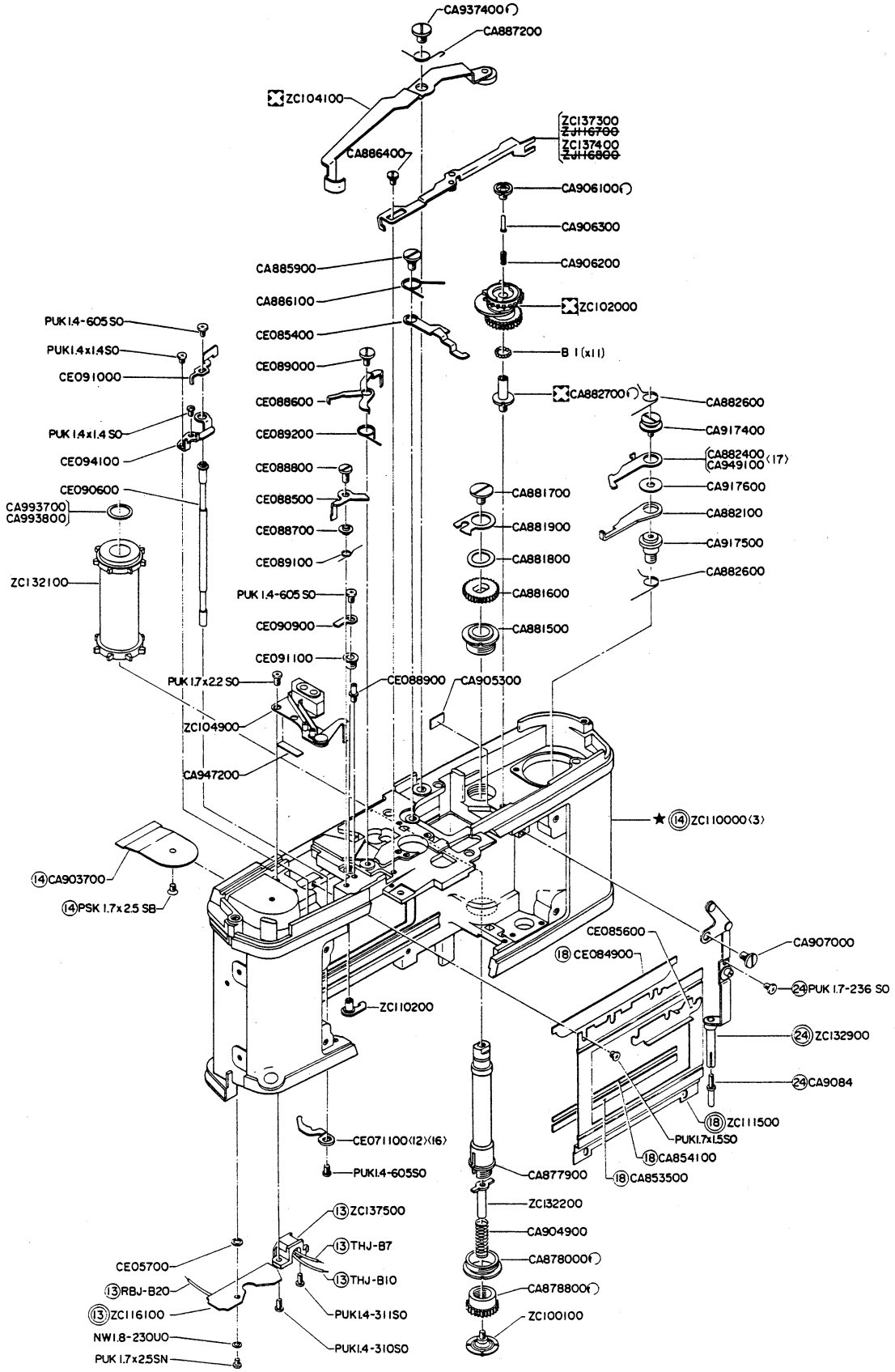
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



TECHNICAL MANUAL

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

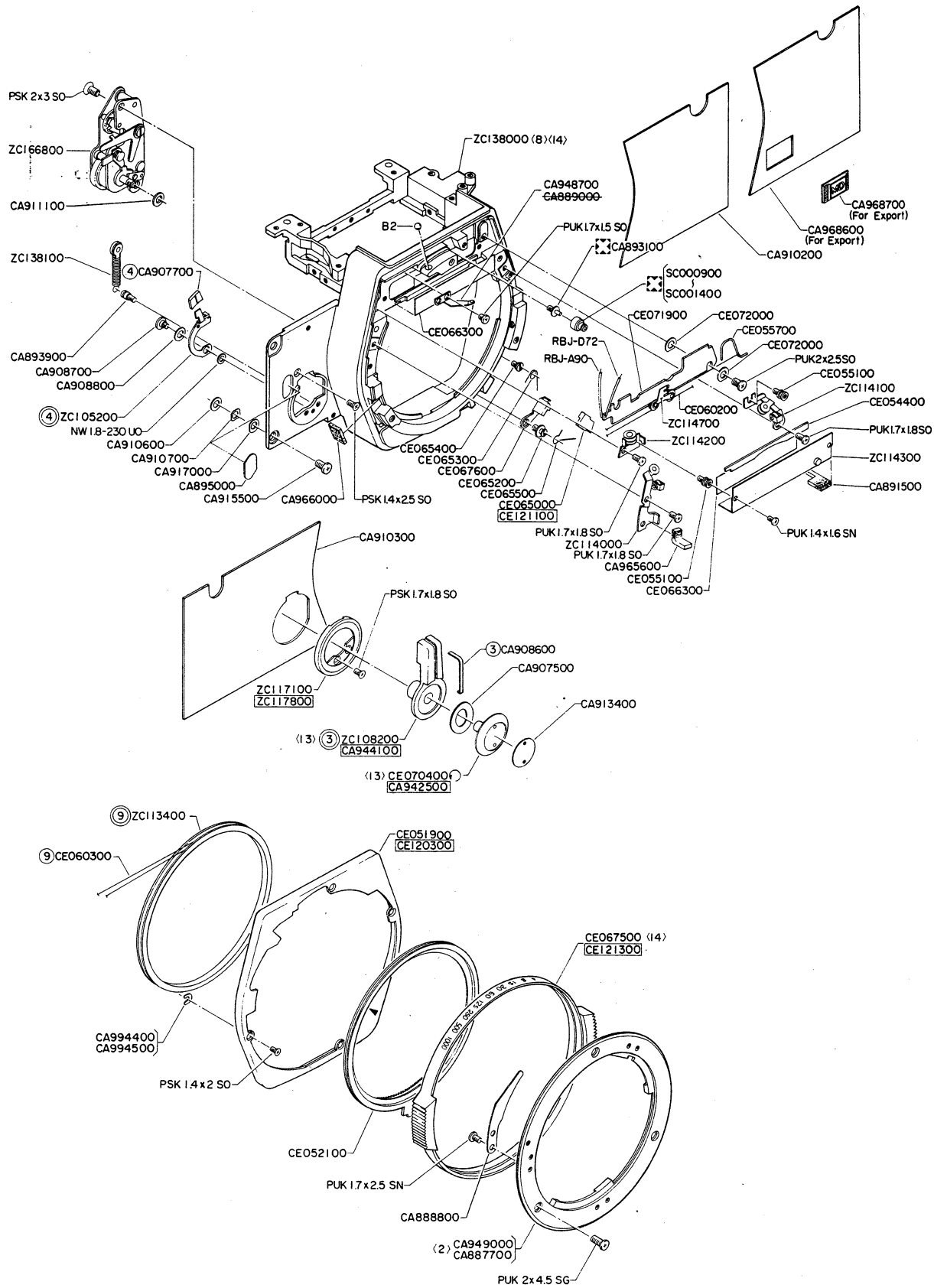
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



TECHNICAL MANUAL

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

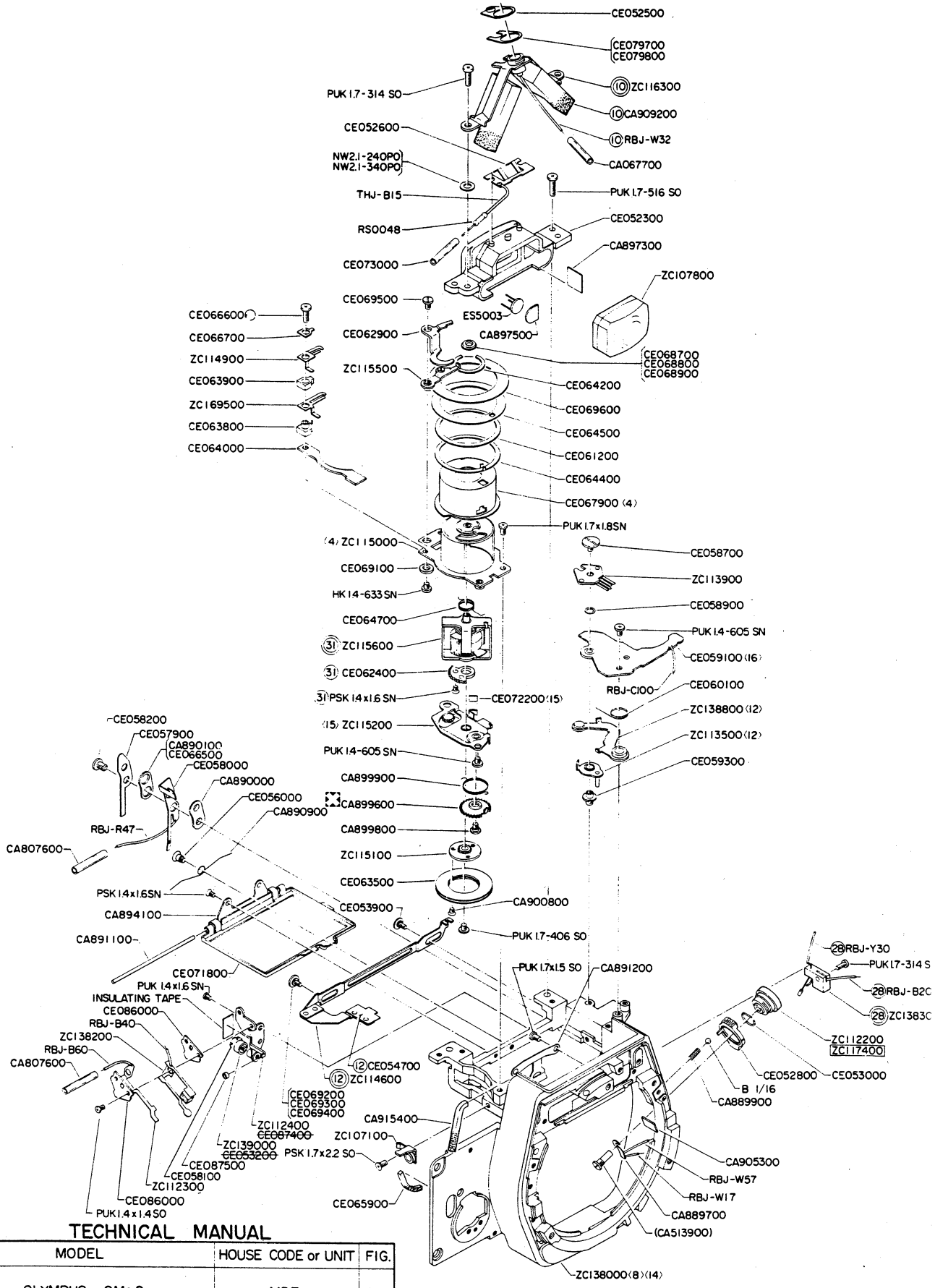
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



TECHNICAL MANUAL

MODEL	HOUSE CODE or UNIT	FIG.
OLYMPUS OM-2	MDE	5/8
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

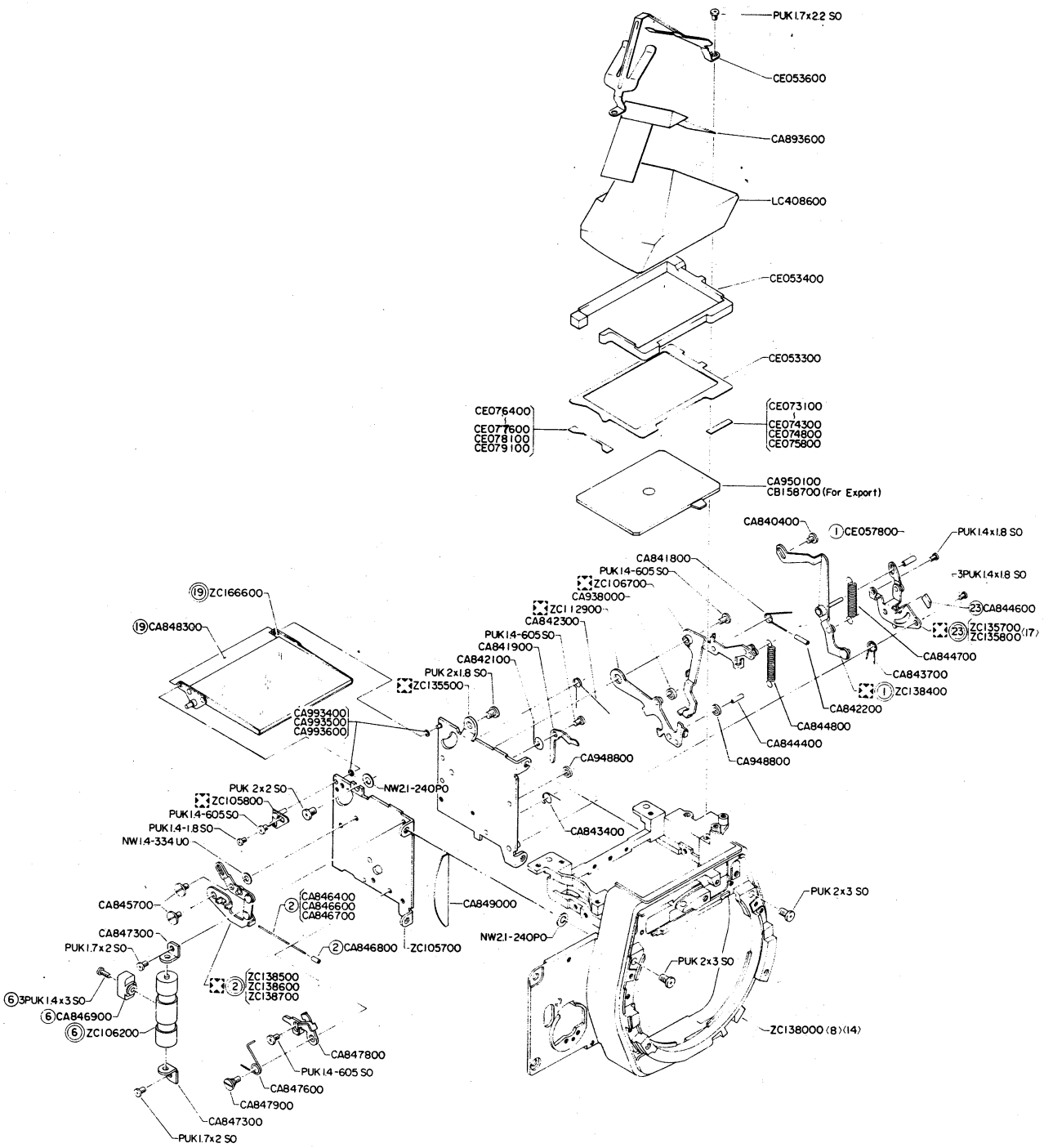
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



TECHNICAL MANUAL

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

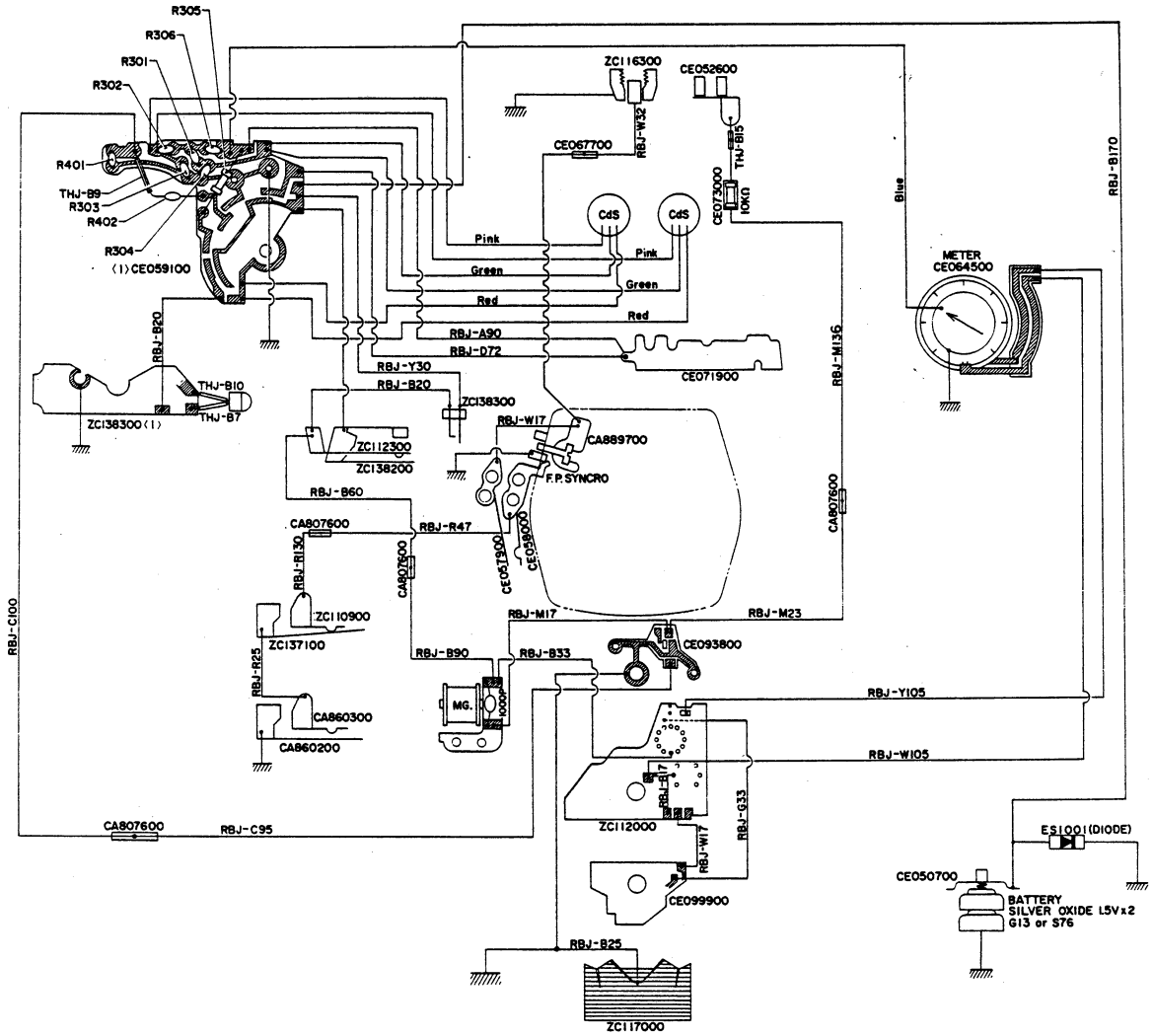
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.

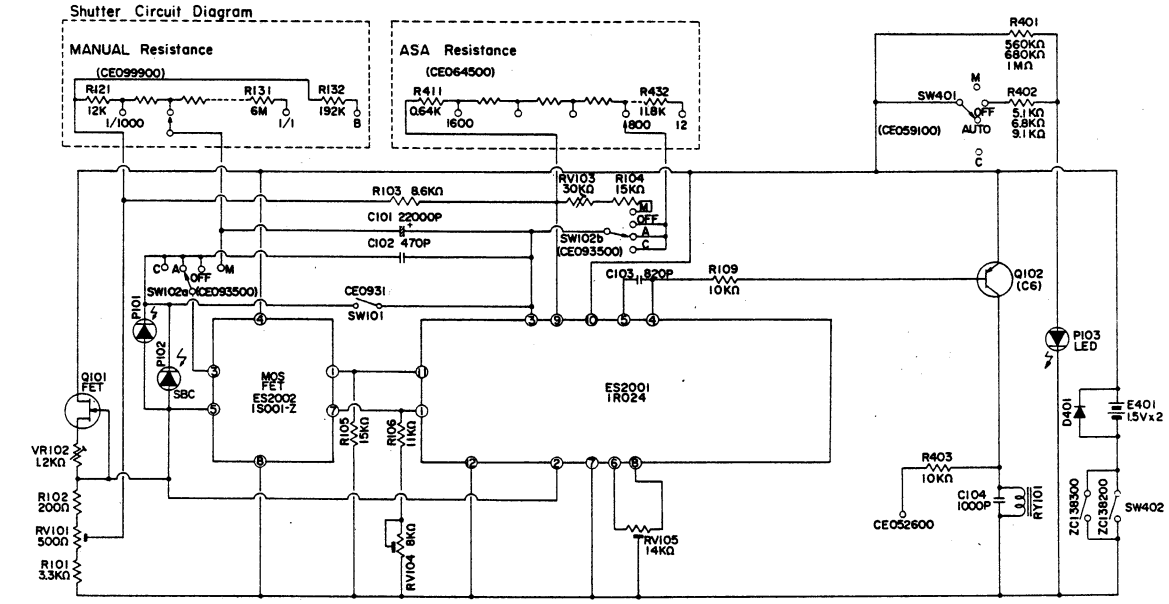


TECHNICAL MANUAL

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.





TECHNICAL MANUAL

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.

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: ±2EV (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 occured: If the shutter is locked, the battery shall be depleted quickly. Therefore, release the lock immediately.

4. MECHANICAL FEATURES

CONTENTS

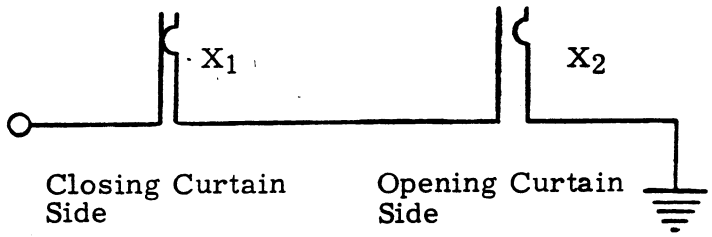
[1] WX Mechanism (Prevention of flashing at 1/125 sec. and faster)

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; X_2 coupling with opening curtain and X_1 coupling with closing curtain, wired in series each other. When the shutter is charged, the contact piece X_2 is OFF, while X_1 is ON.

1/60 sec. or slower ----- When the opening curtain fully run, X_2 is turned ON; at this point, the closing curtain doesn't start for a certain time (X_1 remains ON). Both contacts are thus ON at the same time.

1/125 sec. or faster ----- The closing curtain runs before X_2 is turned on. (X_1 is OFF.) Both contacts are thus OFF at the same time.



[2] Shutter Lock and Lock Release

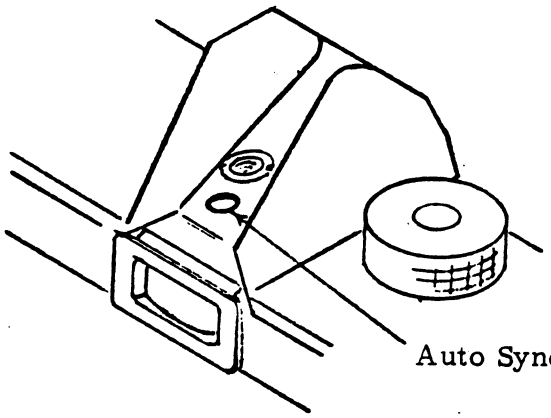
When the shutter cannot operate due to battery voltage drop and other battery troubles, the shutter lock is activated and the mirror is locked up midway. To return the mirror to the original position, turn the shutter dial to "B". Thereafter, load fresh batteries correctly. (See CAUTION at the top of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



Auto Sync 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.

ON ..... 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.

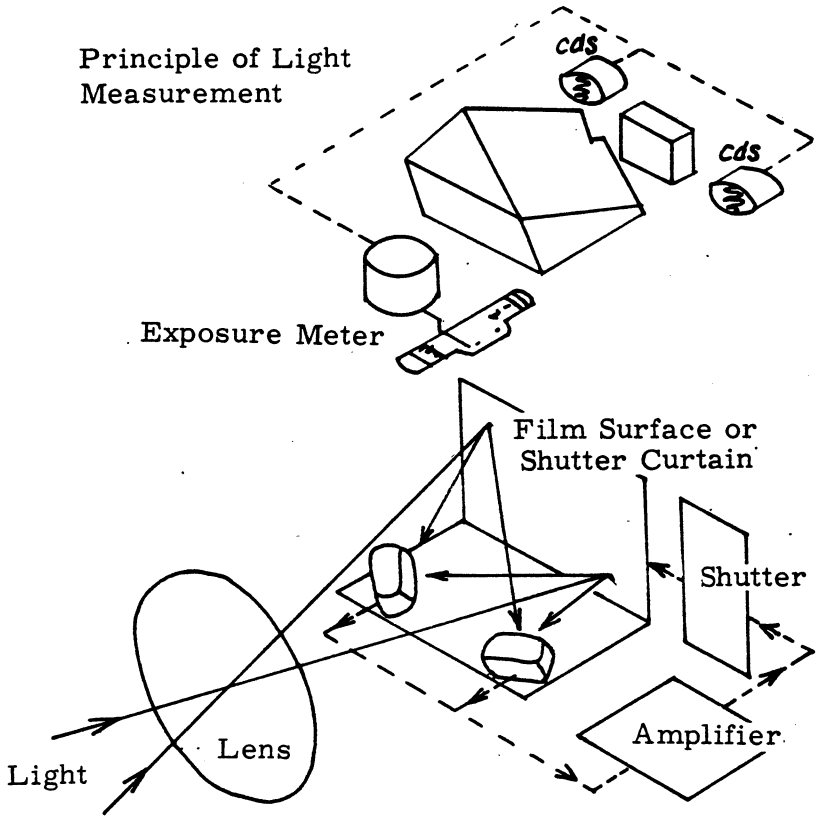
The SBCs in the mirror box are used to measure the light at AUTO to control the shutter speed.

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 ±0.3EV.

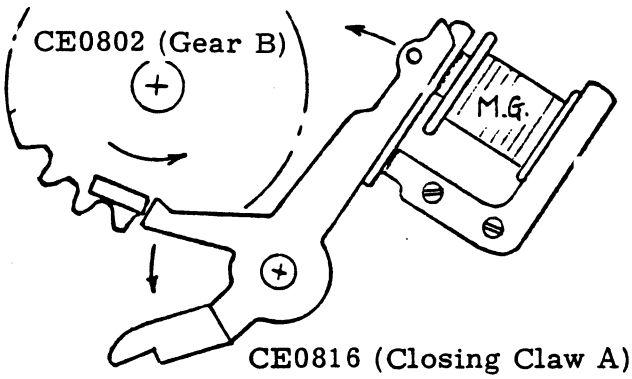
From among a number of patterns, the random pattern was selected which was found to yield best exposures.

[6] Shutter Speed Adjusting Mechanism

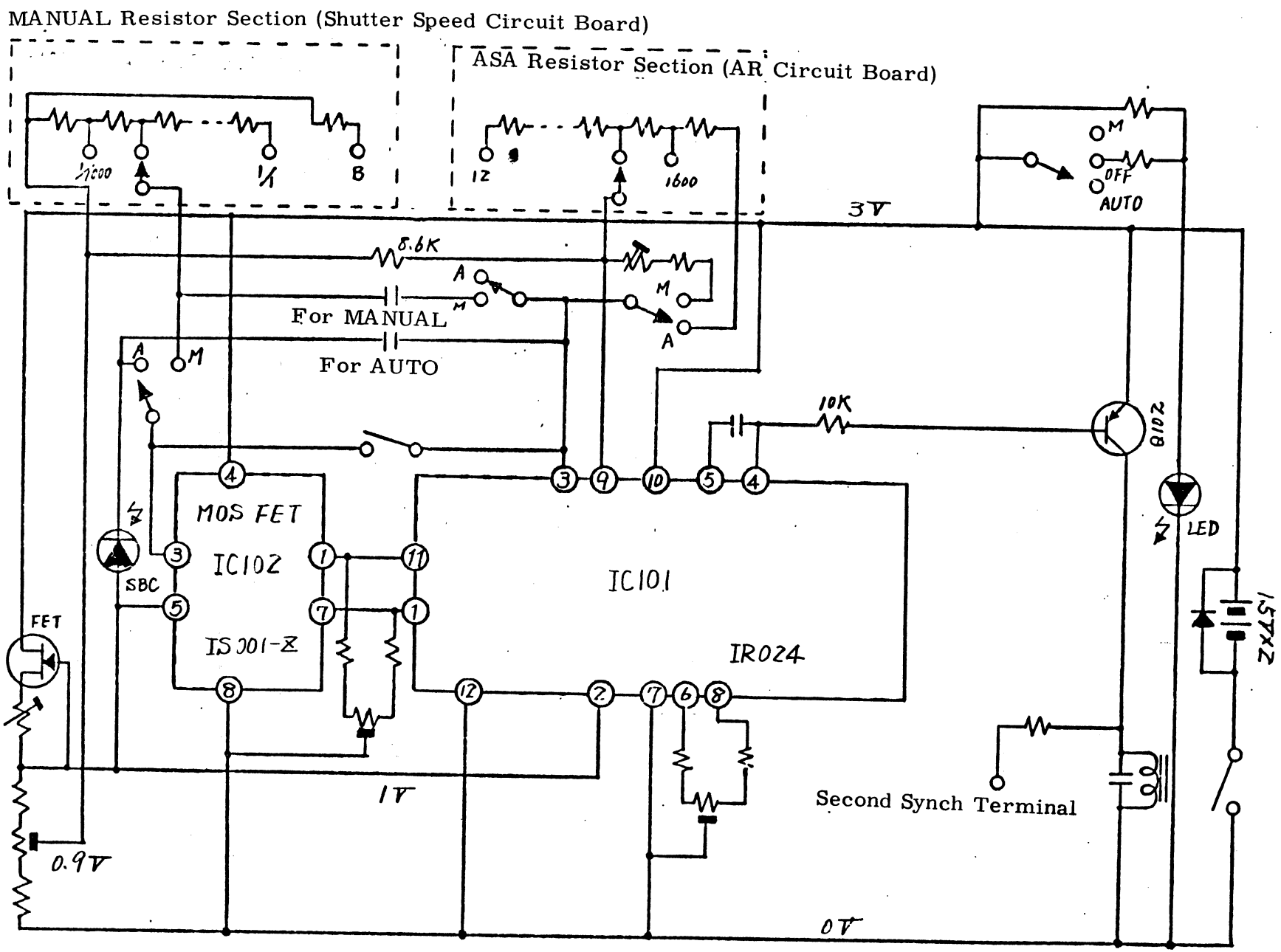
The shutter speed adjustment is done with a mechanical governor in OM-1. but is done with an electric governor (MG + Amplifier) in OM-2. The operation principle of the opening and closing curtains is as follow.

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.


MANUAL Resistor Section (Shutter Speed Circuit Board)
ASA Resistor Section (AR Circuit Board)
1/1000
1/1
B
12
1600
3V
OFF
AUTO
8.6K
A
M
For MANUAL
For AUTO
10K
Q102
MOS FET
IC102
SBC
IS301-Z
IC101
IR024
LED
FET
1V
0.9V
0V
Second Synch Terminal

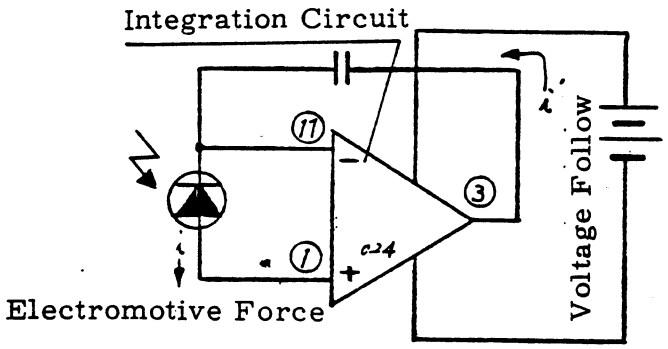
[8] Description of Each Component

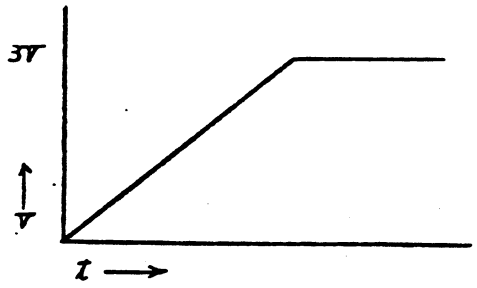
(1) IR 024 (IC 101)

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

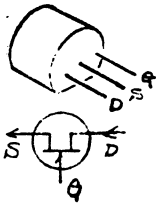
When battery voltage drops below the rated value. the limiter operates to eliminate the potential difference between base and emitter to prevent turning on of MG.

(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 structual 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.

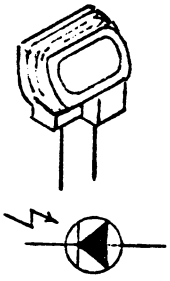
* Correctly. input impedance
MOS FET is destroyed with static electricity of 100V. so must be grounded.

(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

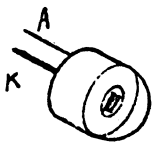
This plays an important role of deciding the exposure time. The potential between its electrodes is 0V before charging, and is increased in proportion to charging. When the charging current is large (i.e. when the subject or scene is bright), the voltage increase is rapid. Due to the integration circuit. 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)

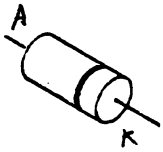


When the shutter is released in a dark place. the LED (positioned underneath SBC) illuminates the SBC to prevent the shutter from being left opened.

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

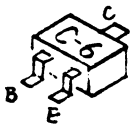
When the AUTO/MANUAL switching lever is set to the OFF position. the LED is lit brightly and the shutter can be released at about 1/15 sec. and faster even at OFF.

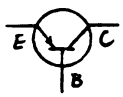
(7) Diode



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

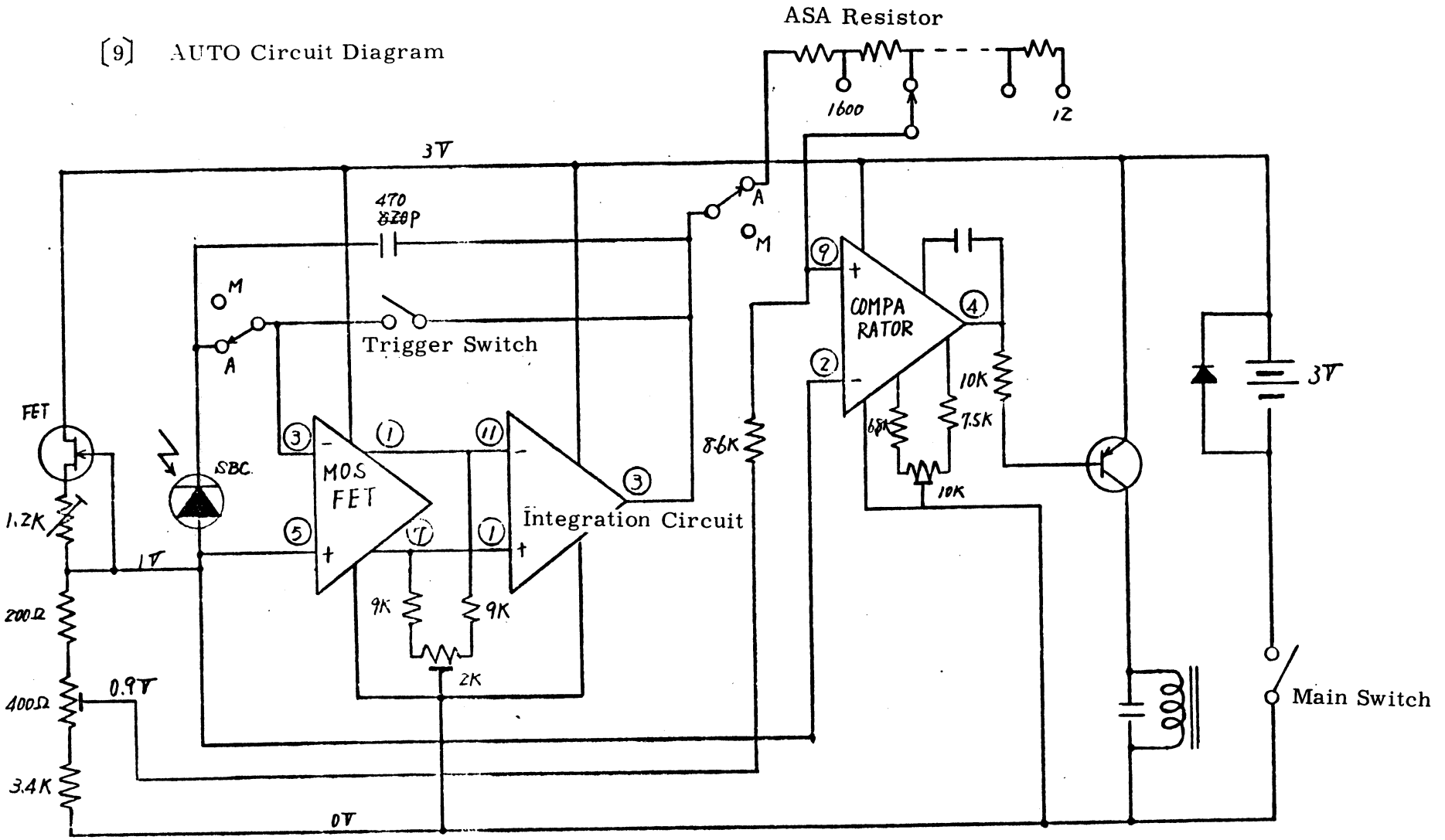
(8) Transistor





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 8.6KΩ 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.

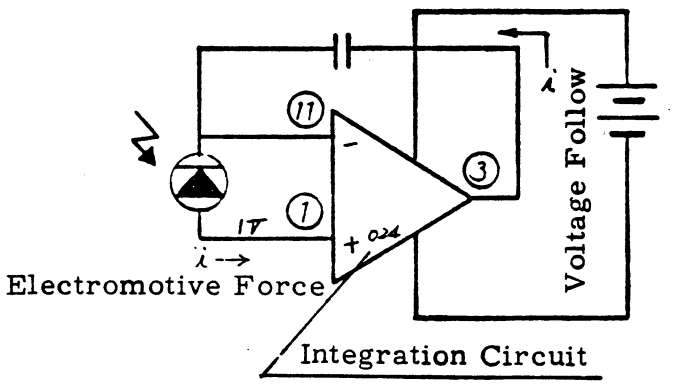
4) Closing claw is disengaged. and closing curtain runs.

5) Mirror flips down.

Main SW is turned off.

〔11〕 Supplementary Description of AUTO Circuit

1) Voltage Follow of Integration Circuit



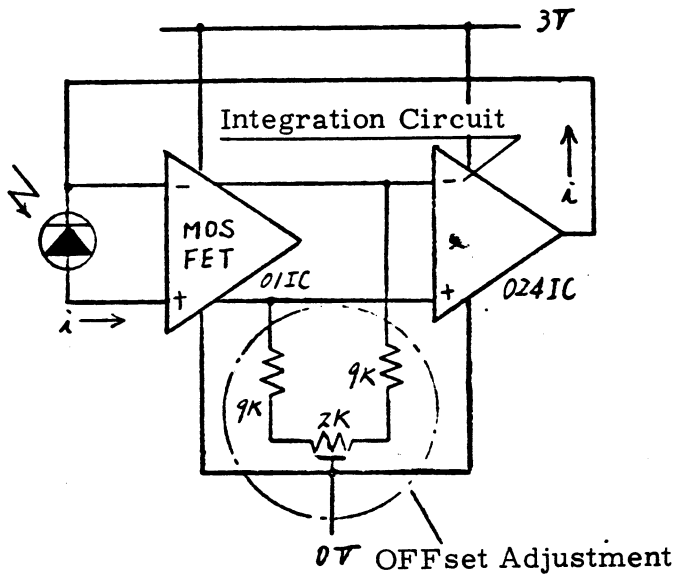
(a) When the SBC receives light, it permits electric current i to flow in the arrow direction because of its photo-electromotive property. (The current to flow is proportional to the amount of incident light.)

(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

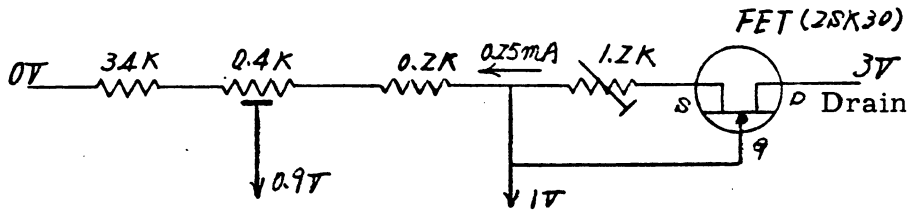


(a) Theoretically, same potential of 1V is to be applied to both (+) and (-) of IC 01. but this is not the case in actuality due to the inevitable variations in the properties of M circuit board, IC. etc. Thus, like in the circuit encircled. a variable resistor of 2KΩ is used to make the potential on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

(b) The 2KΩ variable resistor can adjust the range of about ±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 1.2KΩ 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.)

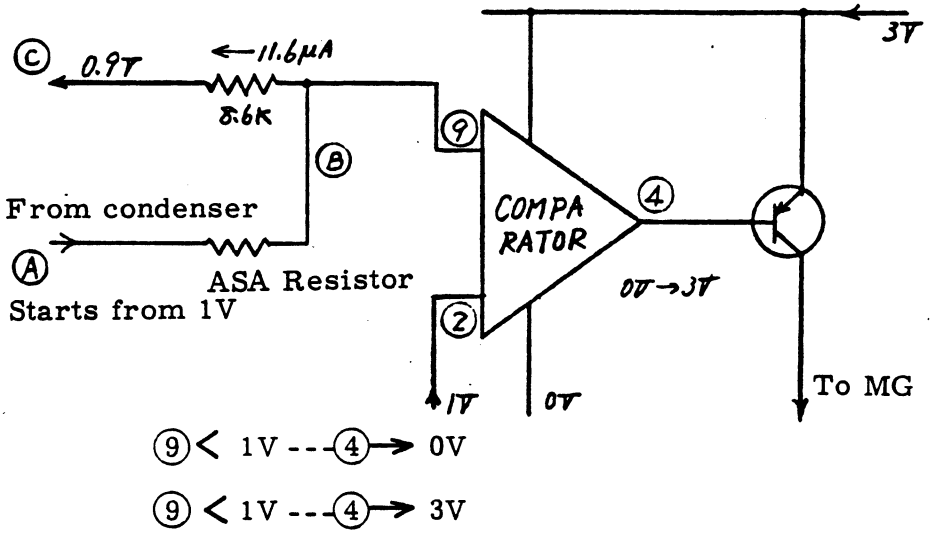
(b) 1V

(3.4KΩ + 0.4KΩ + 0.2KΩ) x 0.25mA = 1V

(c) 0.9V

(3.4KΩ + 0.4KΩ /2) x 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 → B → C .

(b) As charging of condenser advances (the voltage at A increases), the voltage at B is increased to greater than 1V (⑨>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 8.6KΩ . 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 11.6uA across ASA resistor (7.16KΩ at ASA 100) the increase in the voltage at A should be:

$$11.6uA \times 7.16K\Omega = 83mV$$

(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).

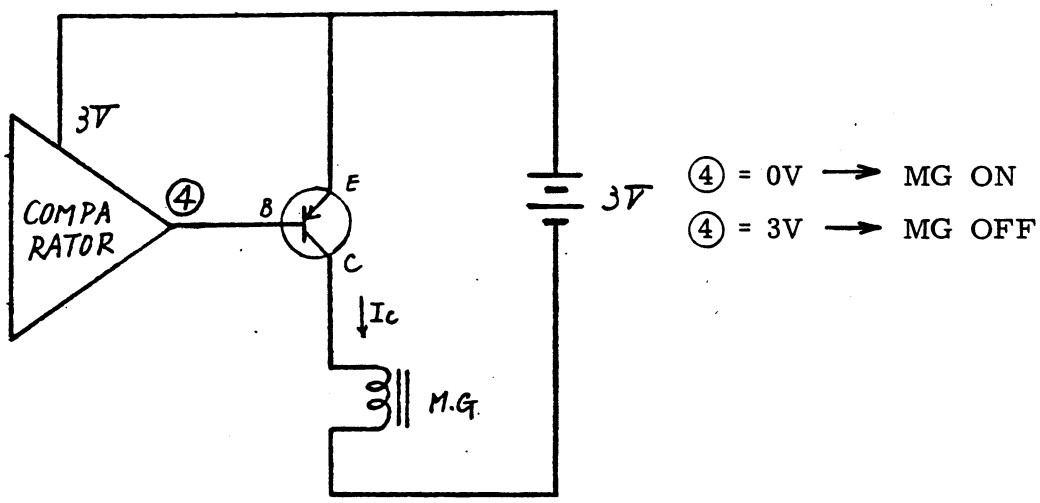
Note: Current flowing from B to 9 .
Since the impedance of the comparator is very high. the current across B - 9 can be considered zero and the above relation is established.

(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



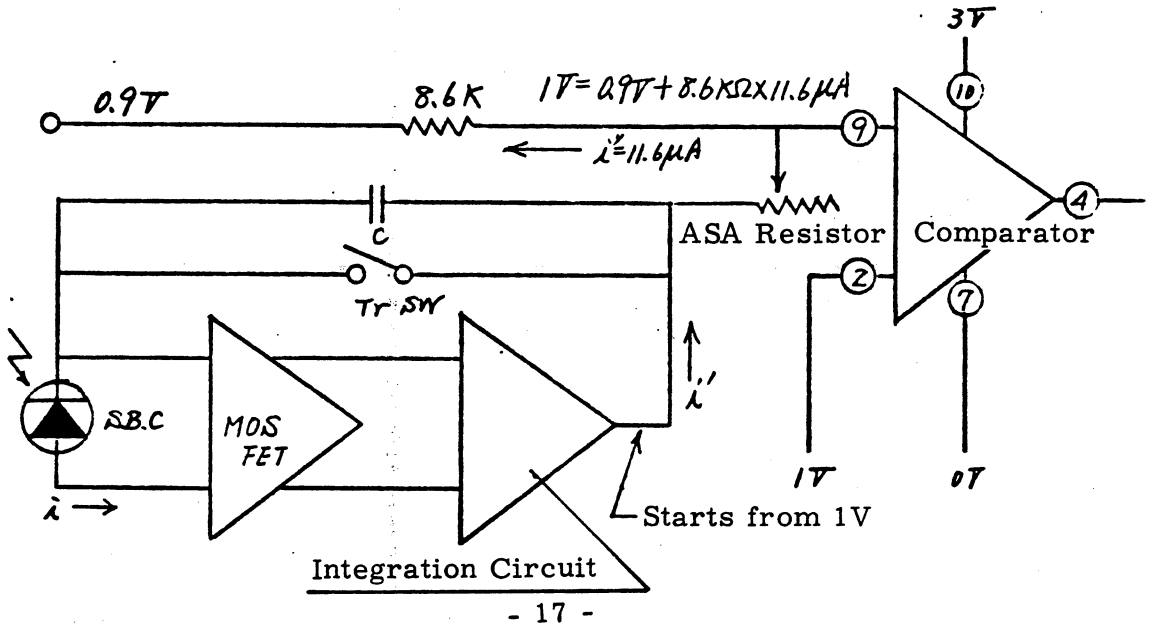
(a) MG ON

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 Ic 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 Ic 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 7.16KΩ (at ASA 100) and 8.6KΩ..

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

5) The voltage at pin 9 is:

$$V_{⑨} = 0.9V + 8.6K\Omega \times 11.6uA = 1V \quad \ldots\ldots\ldots\ldots (2)$$

6) According to the property of comparator, when the voltage at pin 9 becomes greater than that at pin 2 (⑨>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'' = 11.6uA. (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 11.6uA flows between the ASA resistor and the resistor of 8.6KΩ . 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 11.6μA 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

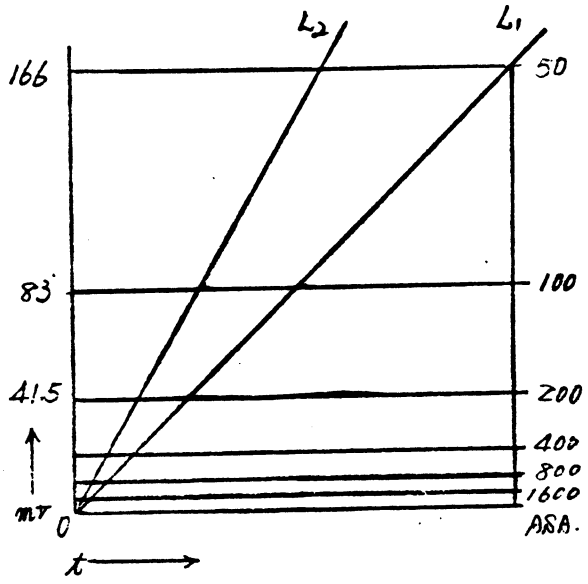
$$V = \frac{100}{ASA} \times 83mV$$

ASA: ASA sensitivity

"V" is called "decision level".

ASA	Theo-retical Value (mV)	Correct-ed Value	Resist-ance Value (KΩ)
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. T_{MG} can be made equal to T_s

where:

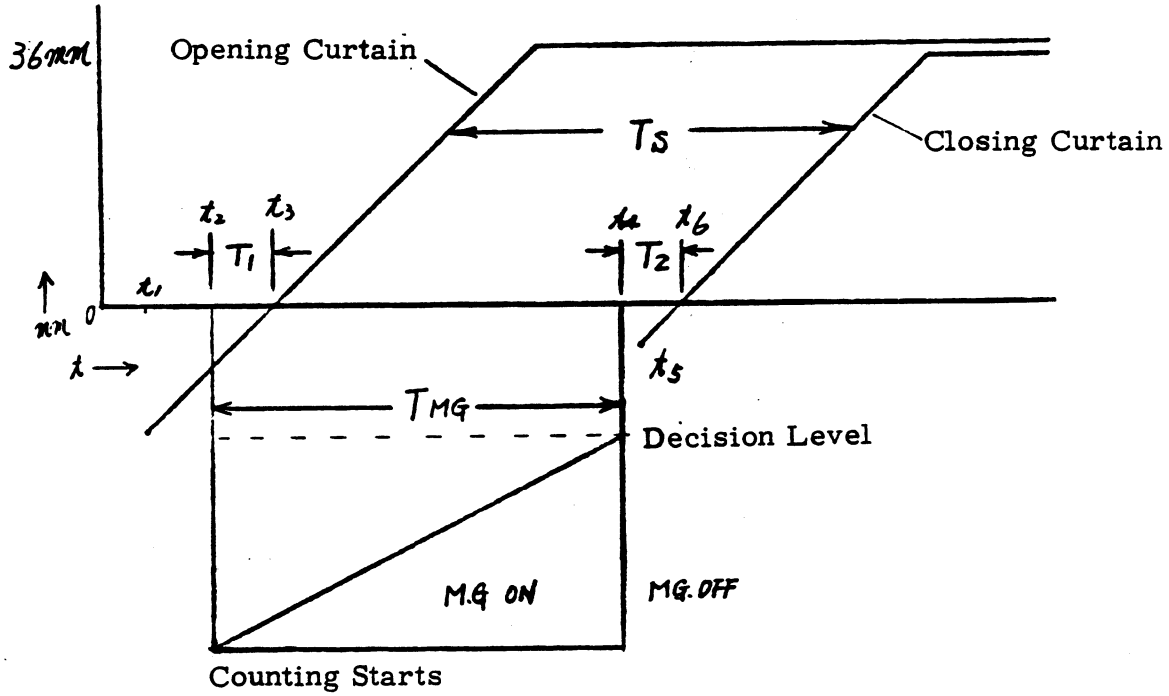
T_s .... Shutter speed ($t_3 - t_6$)

T_{MG} ... MG attractive time ($t_2 - t_4$)

T_1 ..... Time required from the turning off of trigger switch to the start of exposing the screen (t_2 - t_3)

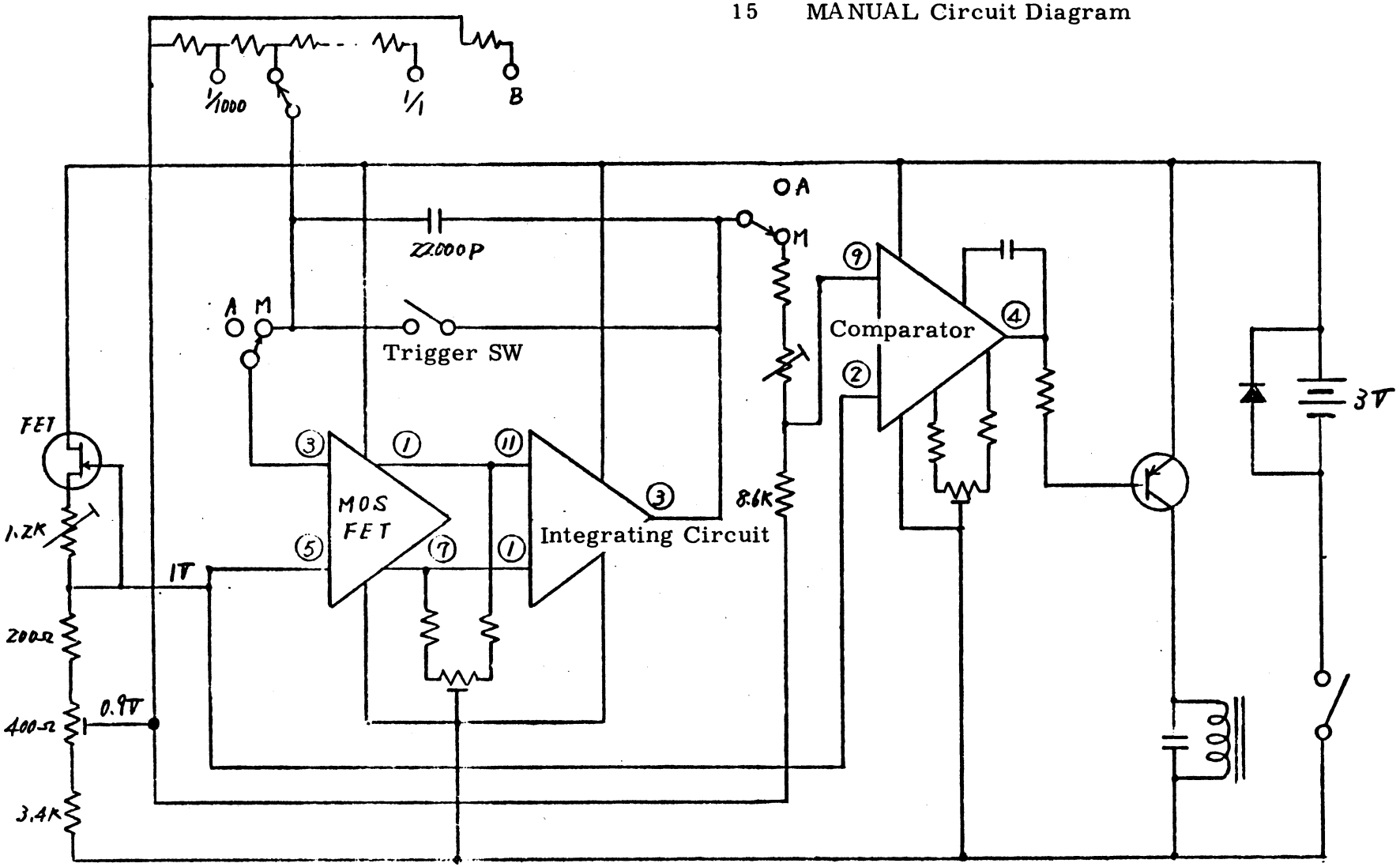
T_2 ..... Time required from the turning off of MG to the start of closing curtain (t_4 - t_6)

The adjustment of $T_1 = T_2$ is done by adjusting the timing of the trigger switch. The time t_4 - t_5 is a delay time due to the residual magnetism in the MG; etc.



t_1 ..... Opening curtain starts running.
t_2 ..... Trigger SW turns off.
t_3 ..... Exposure starts.
t_4 ..... MG turns off.
t_5 ..... Closing curtain starts running.
t_6 ..... Screen starts to be closed.

15 MANUAL Circuit Diagram



〔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 varing 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.

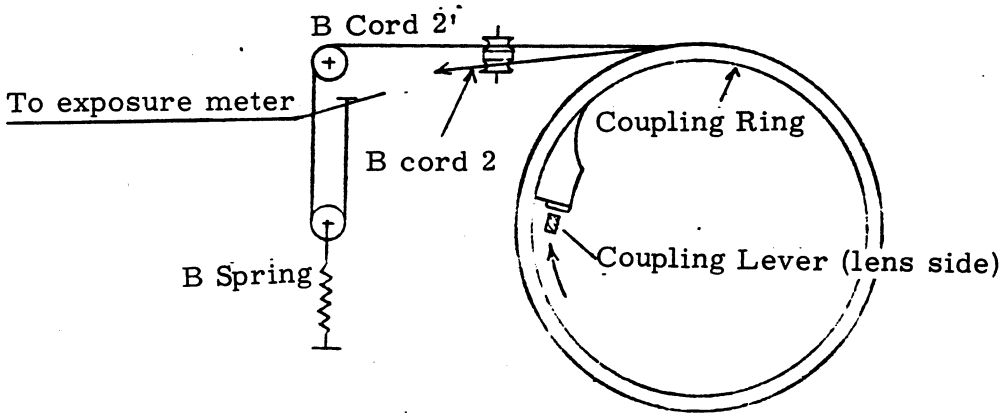
(2) Coupling of shutter dial and exposure meter has been changed from mechanical one to electrical resistor switching.

(3) Information display within viewfinder is different for AUTO and OFF.

〔19〕 Coupling Mechanism of Aperture Ring and Exposure Meter

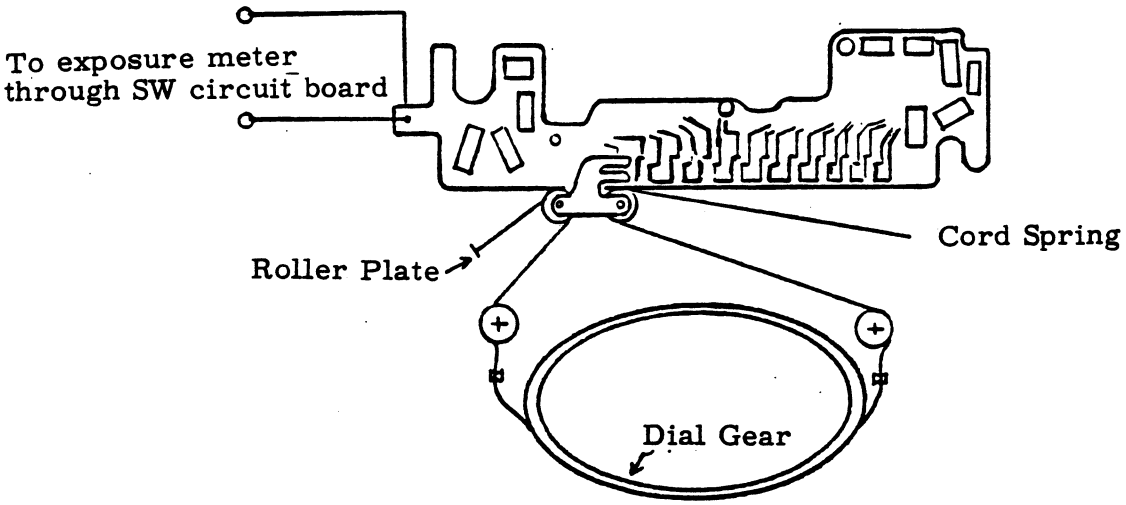
When aperture ring is turned, coupling lever (lens side) rotates the coupling ring. The rotation of the coupling ring winds the B cord 2 and turns the meter pulley.

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

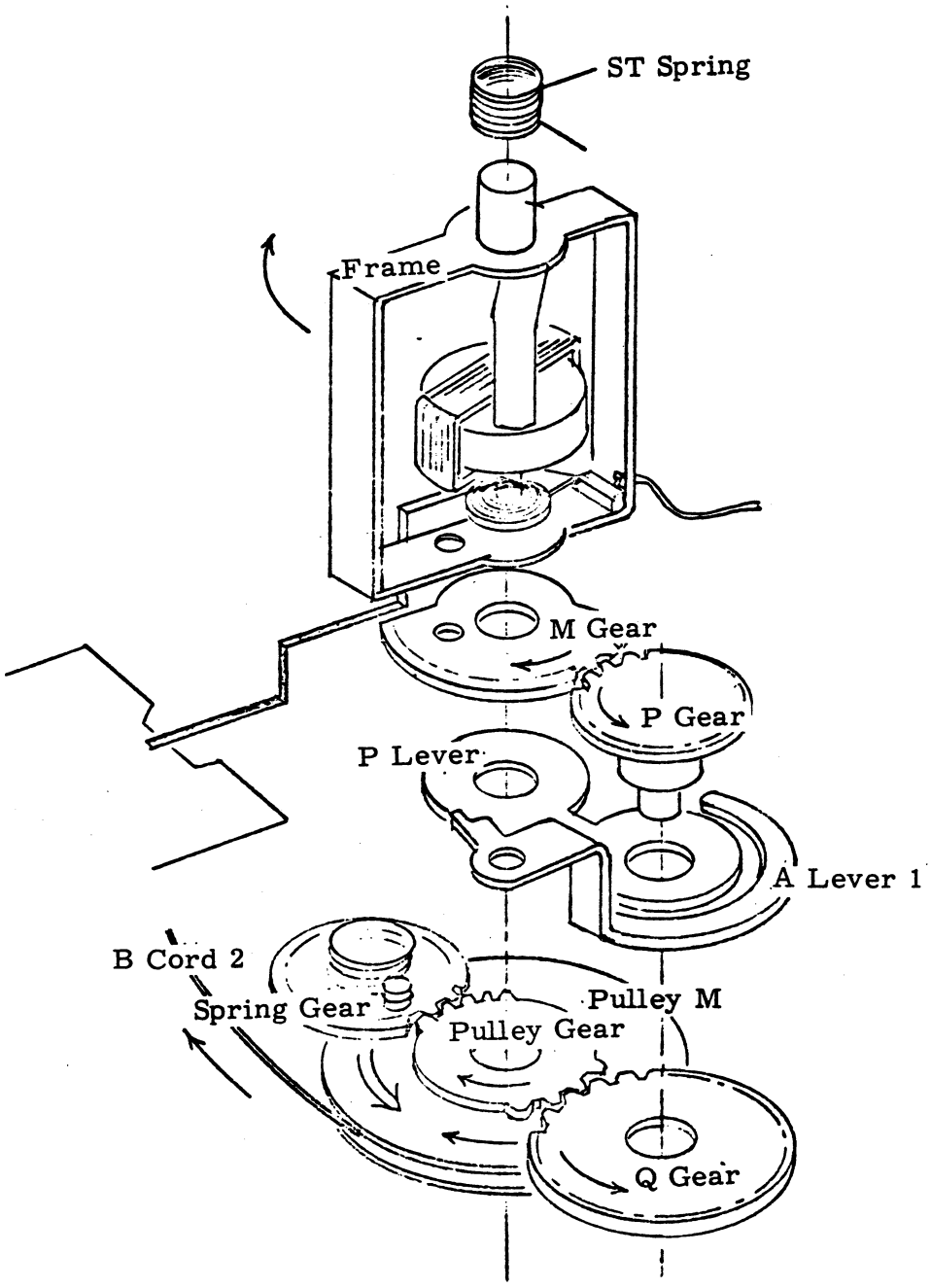
When aperture ring is turned from F16 to the maximum lens opening, the cord (B cord 1) moves in the arrow direction to rotate pulley M.

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

OLYMPUS
OM-2

CHECK POINTS (INSPECTION STANDARDS)

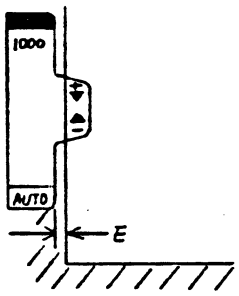
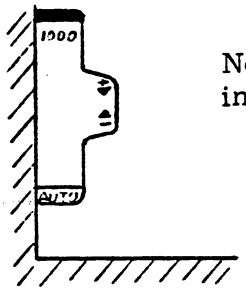
CHECK POINTS (INSPECTION STANDARDS)

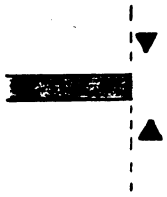
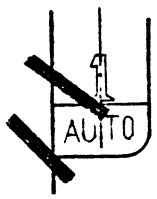
CONTENTS

Page

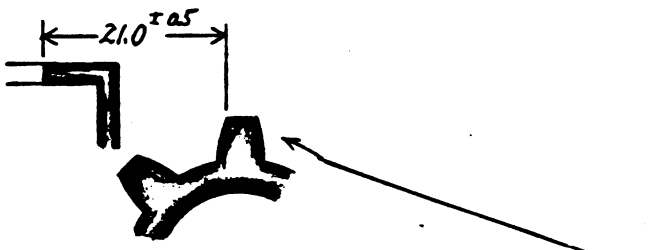
II. Functions and Features (Items to be checked by measuring instruments)

I. Appearance and General Functions

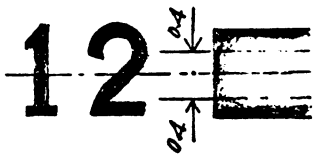
Major Check Point	Relative Functions to be checked	Checking Method or Points of Special Attention
1 Viewfinder	1) Viewfield	(1) No dirt or filth on it. (2) No image cut-off due to foreign substance. (3) The edge of the prism should not be observed conspicuously. (4) Viewfield Percentage: $97^{+1}_{-2}\%$ (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  $E \geq 0$
		(2) In case of AUTO  No excessive inclination
	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  The needle should be within the range shown in the illustration.

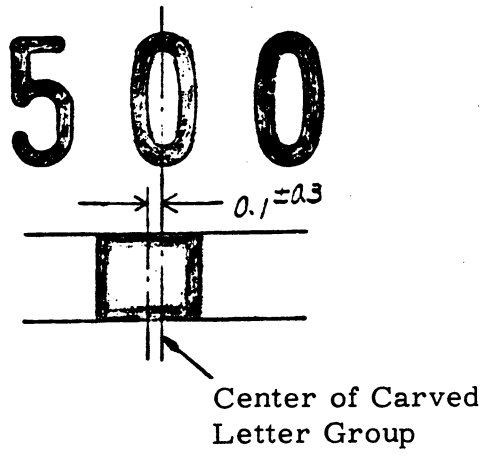
Major Check Point	Relative Functions to be Checked	Checking Method or Points of Special Attention
3 R Knob	1) Rattling of the knob	(1) No rattling vertically. (2) Horizontal tolerance should be 0.1mm or less in the stored position. (3) Should be 0.3mm or less at the tip of the knob when pulled out.
	2) Operation of the knob	(1) Smooth and accurate rotation for rewinding with no excessive uneveness 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.

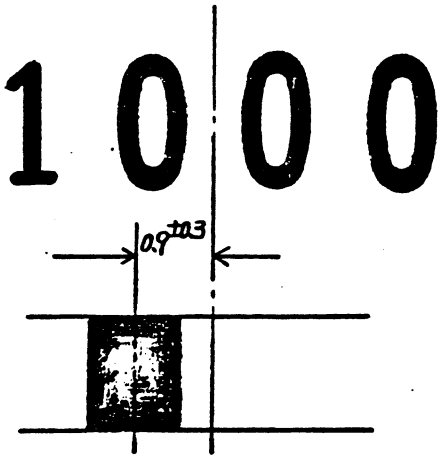
Major Check Point	Relative Functions to be Checked	Checking Method or Points of Special Attention
6 Sprocket	1) Position of the teeth	
7 Spool	1) Rattling	(1) Vertical tolerance 0.3 or less (temporal)
		(2) Radial tolerance 0.25 or less (at the outer spool diameter)
		(3) Rotational direction 3 or less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

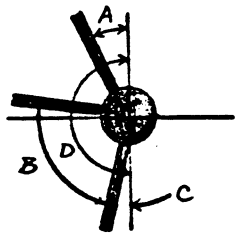
Major Check Point	Relative Functions to be Checked	Checking Method or Points of Special Attention
Film Advance Lever	2) Assurance of operation	(1) Upon a full stroke or winding motion, film should be advanced by a full frame and the shutter and the mirror should be charged accurately. (2) Even with a 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.

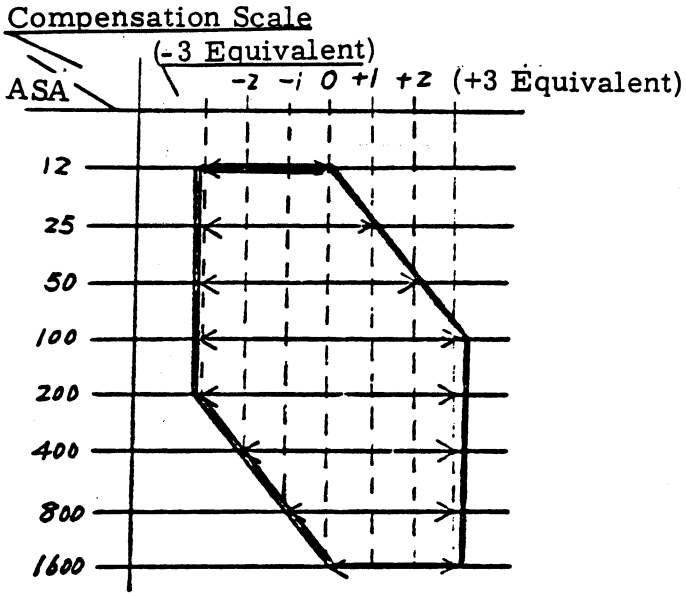
Major Check Point	Relative Functions to be Checked	Checking Method or Points of Special Attention
Release Button	3) Smoothness of operation	(1) Should be smooth with no friction, uneven movement and squeaks.
	4) Rotation of the release button	(1) No rotation.
	5) Release force	(1) 240 ± 50g See the Product Standards.
	6) Button free height	(1) +1.3 ± 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:  After opening and closing of the rear cover, the index lines should not be out of S.
		(2) At "1" and even numbers:  Figure Width 0.8 The center of the index line should be within ±0.4 from the center.
	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.
	4) Assurance of returning	(1) When the rear cover is opened. the number should return accurately to the "S" position.
12 Film Rewinding Clutch	1) Inclination	(1) Should be ±2° or less against the vertical in the normal state. and $90^{+10^{\circ}}_{-0}$ 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 viewfinder 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.

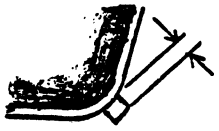
Major Check Point	Relative Functions to be Checked	Checking Method or Points of Special Attention
14 Checker	1) Temperature characteristic	(1) Within 100 mV/10° against the room temperature.
	2) Brightness of lighting	(1) The lighting (red light) should be discriminated even in the circumstance equivalent 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	(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. (500) 

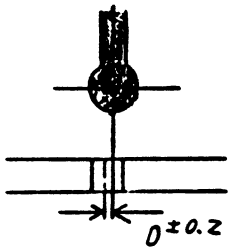
Major Check Point	Relative Function to be Checked	Checking Method or Points of Special Attention
Shutter Dial		(1000) 
	4) Change-over position	(1) Should be changed over at 2/3 ±1/3. Should be surely changed over at the 1/125 click position.
	5) Assurance of resetting	(1) Reset should be made surely.
	6) Position of resetting	(1) Should not be reset even if the S dial is turned to the stop position on the B side.
		(2) Reset should be made surely when the reset button is depressed to set to B.
16 Self-timer	1) Inclination of the lever	(1) Should be ±1° against the vertical in the state before setting.
		(2) Parallelism to the rewinding clutch should be observed normal.
	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	 A: Unsettable range, not exceeding 40° (for reference) B: Release button operable range, 70 - 190° C: Slip range after setting. not exceeding 10° D: Charge side stop position, 190° ± 3°
	7) Operating time	(1) Full set: 12 ± 3 sec.
		(2) Allowance after release: 5 sec. or less
17 Exposure compensation Dial	1) Clearance	(1) No clearance between the dial and the rubber ring.
		(2) Clearance between the dial and the dial base should be 0.15 or less.
		(3) Clearance between the dial and the scale plate should be 0.07 or less.
	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	(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. 
	4) Smoothness of operation	(1) Operation should be smooth without extreme uneven feeling and difficulty.
	5) Rotating force	(1) Click disengaged: 1000 ± 300g/cm
	6) Pulling-up force	(1) 500 ± 120g (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 50MΩ or greater
	5) Operation of the release plate	(1) Should surely operate and make the release.
		(2) Operating force: 180 ± 20g
		(3) Stroke (release position): 2 ± 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 ± 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: $0.3^{+0.2}_{-0.1}$ Stop position: $0^{+0.15}_{-0.2}$
	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^{+10}_{-6}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 ± 50g.

5. Shutter Button Free Height ..... +1.3 ± 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 ± 100g
Second Step: 1200 ± 300g

10. Self-timer setting Force ..... 600g or less at the tip of the lever.

11. Self-timer Start Lever Operating Force ..... 160 ± 80g at the tip of the lever.

12. FX Knob Operating Force ..... 700 ± 200g at the tip of the knob.

13. Shutter Dial Operating Force ..... Middle Position: 600 ± 300g/cm
Click Position: 1500 ± 500g/cm (1600 ± 650. temporal)

14. S Lever (AUTO/MANUAL Selector Lever) Operating Force .....
330 ± 70g at the tip of the lever upon the click released.
500 ± 150g upon complete pressing to CHECK.

15. Flange-back ..... 46.0 ± 0.02, 46.0 ± 0.025 temporal

16. Tunnel Interval ..... $0.2^{+0.02}_{-0.01}$

17. Accuracy of Meter Indications

a. Indication Difference in AUTO/MANUAL switching:

1/60; ±0.3EV, BV11 F5.6
Other than 1/60; ±0.5EV

b. Accuracy of Each Indication

K = 1.3 ASA100 Voltage; 3.15V ± 0.005

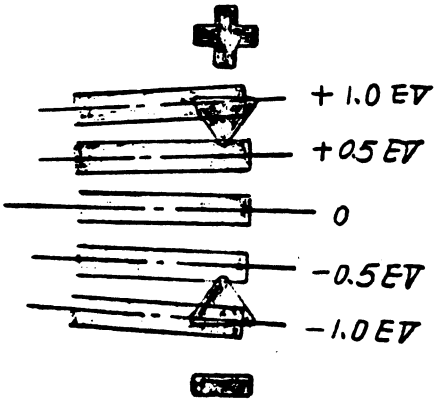
OM-2 EE Tester

BV	S.S	FNO	Accuracy of Indication	
4	1/2	2.8	±0.6EV	(Temporal)
8	1/30	2.8	±0.6EV	(")
11	1/60	5.6	±0.6EV	(")
14	1/125	11	±0.6EV	(")
16	1/500	11	±0.6EV	(")

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	±0.6EV	(Temporal)
8	1/2	11	±0.6EV	(")
9	1/4	11	±0.6EV	(")
10	1/125	11	±0.6EV	(")
12	1/125	5.6	±0.6EV	(")
14	1/125	11	±0.6EV	(")
15	1/500	8	±0.6EV	(")
16	1/500	11	±0.6EV	(")



Reading of the meter indication

18. Curtain Speed ..... At 1/1000: 11.5 ± 0.1ms
The difference in the speeds of the curtains is $0\ ^{+0}_{-0}.15$. 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. Uneveness 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: 30MΩ 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 ..... ±0.6EV at 1/1000 sec. or equivalent and ±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.

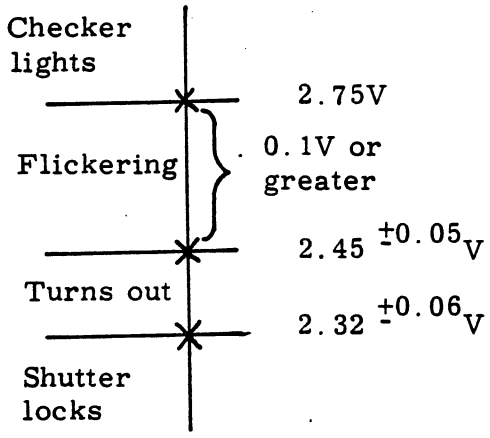
32. Difference between Automatic Exposure and Indication ..... Real exposure should be 20ms or longer when the exposure meter indicates 1/30.

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
800μA 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 ..... $1.85^{\pm 0.5}$

ORDER OF DISASSEMBLY

ORDER OF DISASSEMBLY

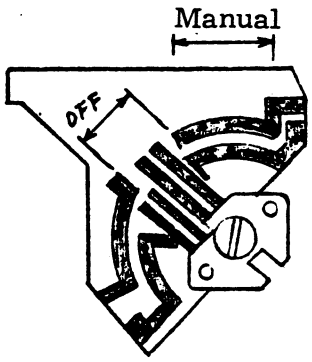
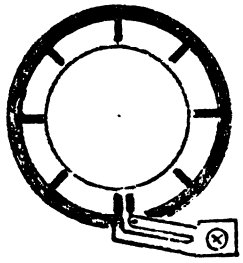
CONTENTS

Caution: ☒

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

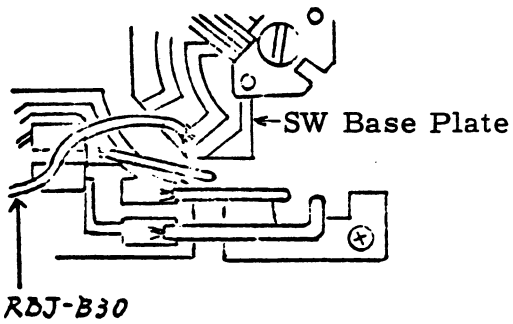
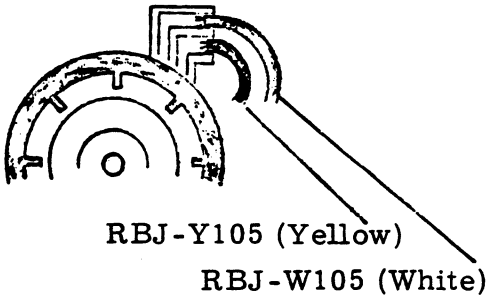
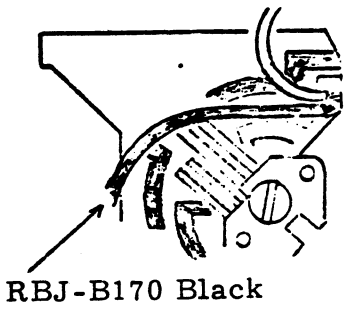
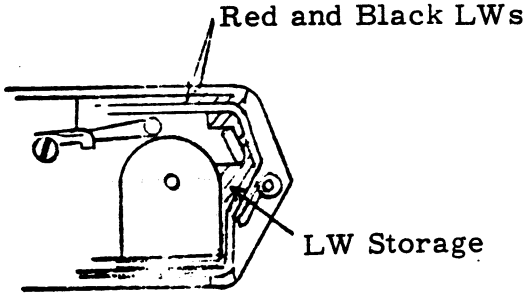
Parts to Remove	Q'ty	Tool Used	Removable Parts	Remarks
CA9030 (T nut)	1	KC-CA9030G (Screw driver)		
CA8752 (FW lever holder)	1	KC-CA8752G (Screw driver)	Single body { CA9135 CA8752 CA8753 Single body { CA9180 CA8751 CA8806 CA9181	Pin face hole of CA9135 and hole of CA8752 are accorded. and the parts 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.

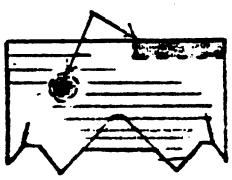
Parts to Remove	Q'ty	Tool Used	Removable Parts	Remarks
				 OFF Position of SW base plate  ASA 100 Position of AR base plate

〔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 10KΩ 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		
Remove the soldered two LWs (RBJ-Y105. RBJ-W105) of CE0640 (Base plate A)	2	"		
Remove the battery compart-ment LW (RBJ-B170) from CA9483 (SW base plate)	2	"		
Remove the red LW (RBJ-R47) of the front casting and the red LW (RBJ-R125) of the die-cast body bottom.			Reference: ◦ Red LW of the front casting is removable from the FP contact piece. ◦ Red LW of the die-cast body bottom is remova-ble from the X contact piece.	Lower cover should be then being removed.  The above illustration shows the condition with the lower cover removed.

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.		◦ 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.	 Adhered to the arrowed portion with pliobond.
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)

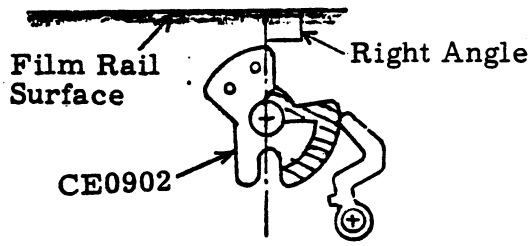
Set the SW base plate to the OFF position, keep the mirror up with the finger and remove while moving CE0502 slightly up and down so that its upper part is removed first. When the upper part has been removed, continue the removal so as to remove the part on the self-timer side. There is the possibility 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

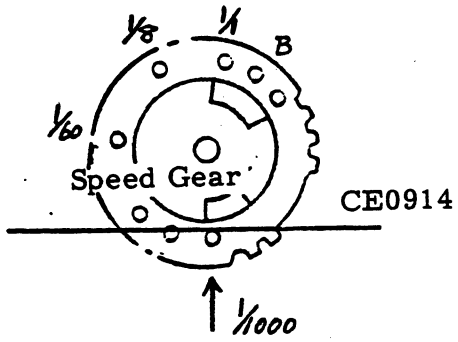
a) Set CE0902 to the OFF position.

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.

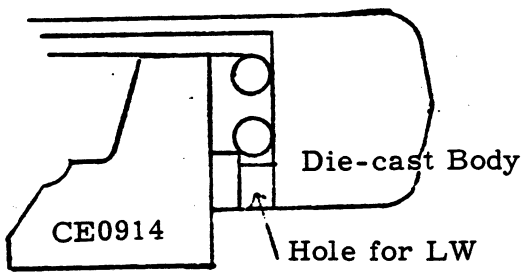
b) Set the shutter dial to 1/1000.

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.

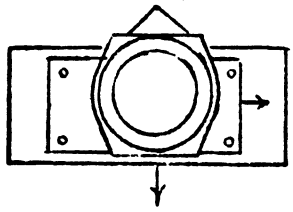


c) Insert CE0955 from the lower right portion into the body so as to insert the R shaft side first. (Take care not to jam each LW: pay attention because CE0902 is easy to move.)

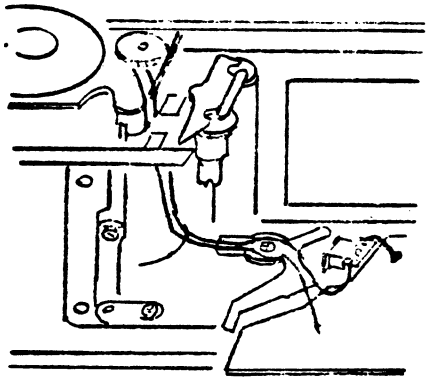
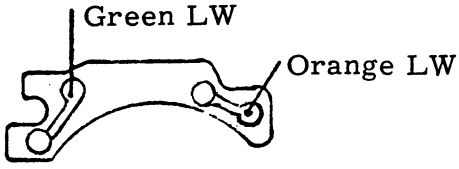
d) Make sure that the pin underneath CA9483 and the groove of CE0902 are accorded (verify switching).

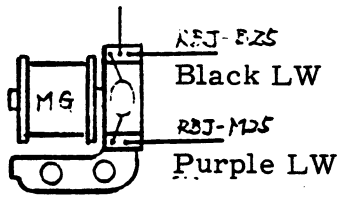
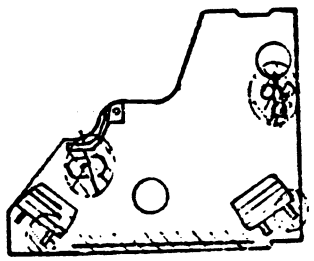
e) Hook the self-timer on the screw of the release plate.

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		 Re-bonding must be made on the original bonding position.
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.

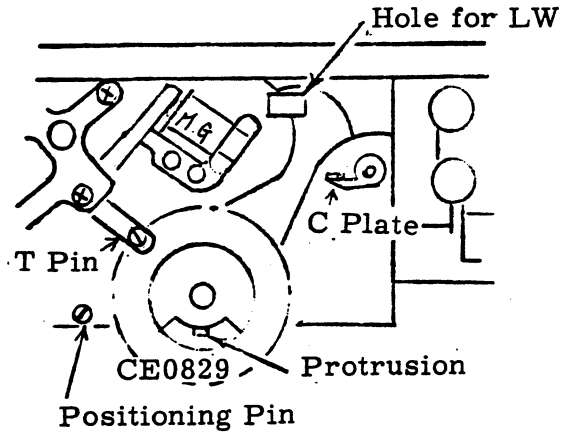
3) Accord CE0913 with CE0916 of CE0914. (CE0913 is to be recommendably set to the MANUAL position.)
Push into CE0913 with CE0916.

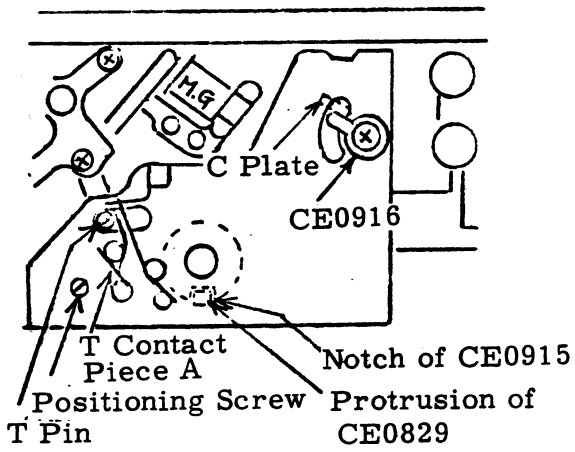
4) Match T pin with CE0931 of CE0914. (The released shutter condition is recommendable.)

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)

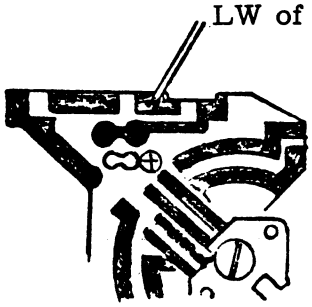
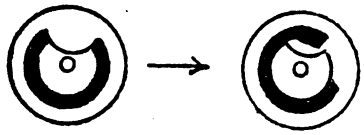
2) Remove two PSK1.7 x 3.5SO to take off CA8875.

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.)

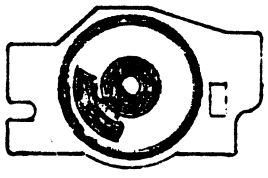
Main Parts	Parts to Remove	Q'ty	Removable Parts	Remarks
V 40 Self-timer	CA9077 (Pinch)	1		Remove CA9077 and PSK1.4 x 2.5SO with CA9111 fully lowered. After the removal, set CA9074 to the stop position to stop it in the set state, and then remove CA9071.
	PSK1.4 x 2.5SO	1		
	CA9071 (Stopper)	1	Single body 〔CA9072 CA9086 CA9075 CA9111	
	PSK2 x 3SO	2	V 40 Self-timer	Be sure to interlock CA9074 with self-timer when assembling.
LC4086 Penteprism	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.

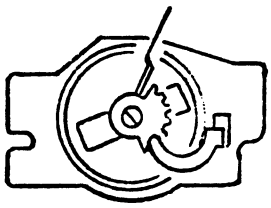
(1) Order of Assembly of Meter Movable Parts

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

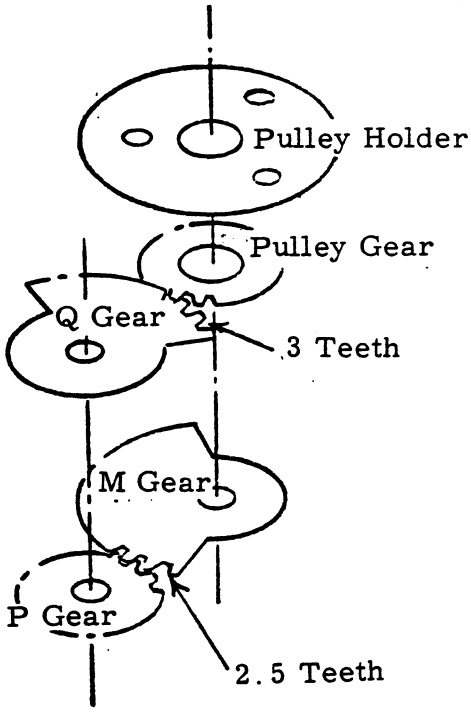
Place the half of CE0626 on the meter movable section and slide it under the A lever while pushing it downward.

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.

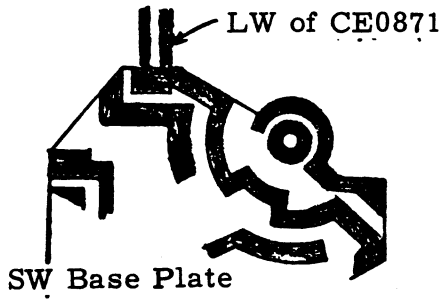
7) Remove PUK1.7-406SO. disengage the pulley gear. which is made in one body with CA8981. and decide the tooth position as shown in the right illustration.

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 easy 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.	 Soldering Point of Black LW of Main Switch. This should be done with CE0579 and CE0580 removed.
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 recommend-able 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.			

OLYMPUS OM-2

OUTLINE OF REPAIRS

OUTLINE OF REPAIRS

CONTENTS

I. FILM WINDING & SHUTTER RELEASE MECHANISMS

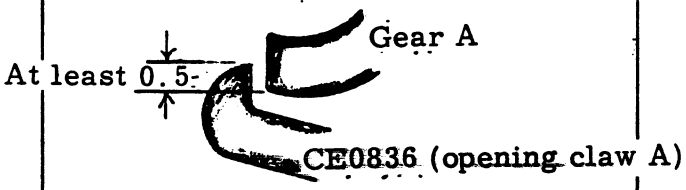
1. Winding binds

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	a. Check parts relative to film winding. b. Check if any shutter part dropped off. c. Check springs and screws of front plate parts for loosening or falling off. Make necessary repairs.	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
1) Insufficient engagement between CE0836 (opening claw A) and Gear A	a. If insufficient in horizontal direction; replace either CE0836 or Gear A (whole assembly of CE0802; Gears A and B).  b. If insufficient in vertical direction; o Bend CE0836 opening claw to adjust. o Adjust backlash of CE0836. o Replace CE0836. o Replace Gear A (whole assembly of CE0802; Gears A and B).	Curtain should not run and next winding should be impossible until release button is depressed.
2) Improper engagement of CE0839 (M. Lever) and CE0852 (B. Lever)	See the OM-1 Repair Manual.	See the OM-1 Repair Manual.

4. Excessive or insufficient winding

Cause	Remedy	Checkup
1) Improper adjustment of front eccentric	See the OM-1 Repair Manual.	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.
2) Delayed release of CA8824 (lock lever)	See the OM-1 Repair Manual.	See the OM-1 Repair Manual.

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

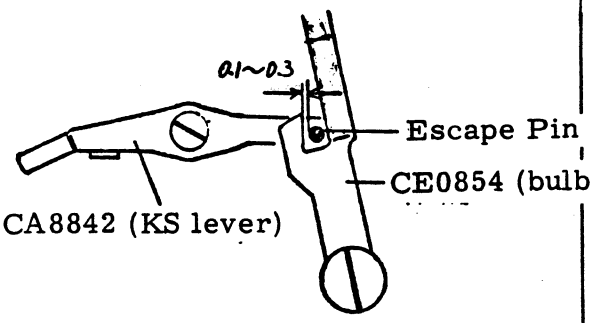
Cause	Remedy	Checkup
1) Engagement of CA8828 (2-gear) and CA8836 (3-gear) stuck together	Adjust at mounting position of CE0801 (S plate).	Winding shall be smooth without excess grating. squeak. etc.
2) Delayed release of CA8586 (A lever spring)	See the OM-1 Repair Manual.	
3) CE0851 (A fitting strip 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 entagled	See the OM-1 Repair Manual. (20 - I - D11)	
3) Loosened CA9113 (gear holder)	See the OM-1 Repair Manual. (20 - I - D11)	

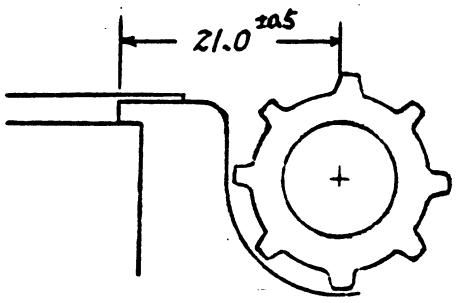
10. Shutter releasing position of button too deep or shallow.

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 ± 50grs.
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 ± 0.5mm.

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

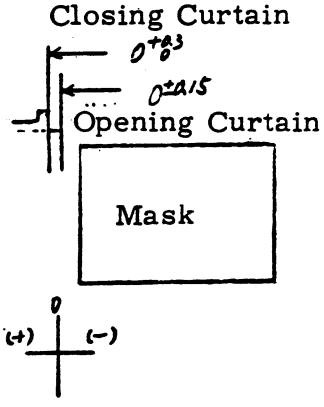
Cause	Remedy	Checkup
1) S-stopper pin of self-timer not properly adjusted	See the OM-1 Repair Manual.	See the OM-1 Repair Manual.

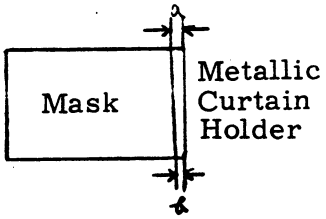
II. SHUTTER & MIRROR MECHANISMS

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 ±0.1ms. The speed of opening curtain is desirablly faster.

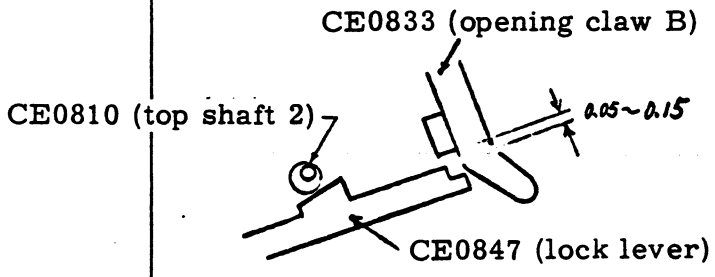
2. Opening curtain bounces

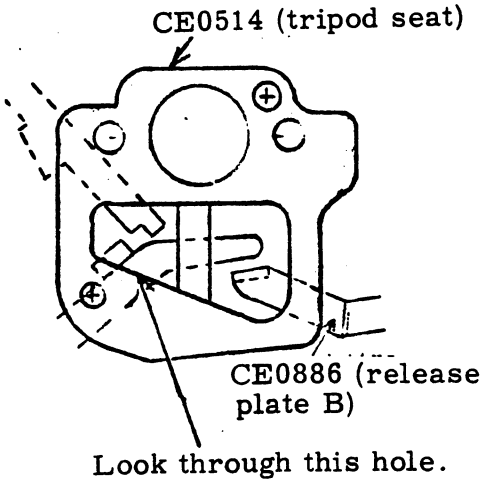
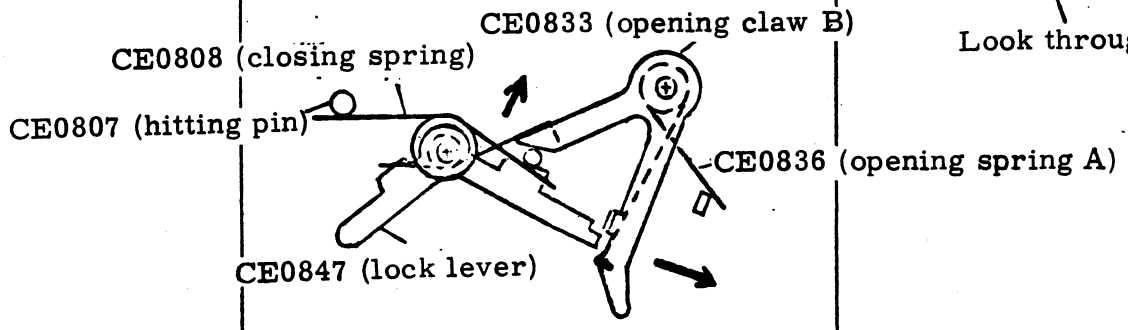
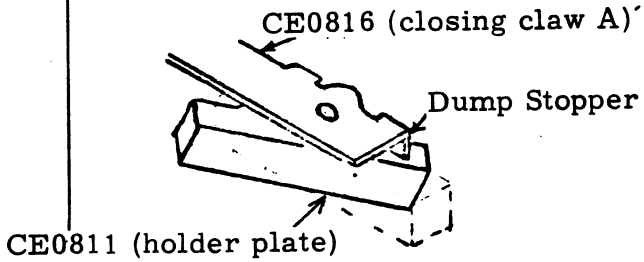
Cause	Remedy	Checkup
1) Adjustment of curtain position improper	See the OM-1 Repair Manual. Note: Do not touch or smudge the curtain. CA8519 (sylinder shaft A)→CA8661 CA8592 (opening claw) ⟶ CE0832 CA8520 (sylinder shaft B)→CA8662 CA8521 (bottom stopper)⟶CA9382 CA8522 (top stopper) ⟶ CA9388	

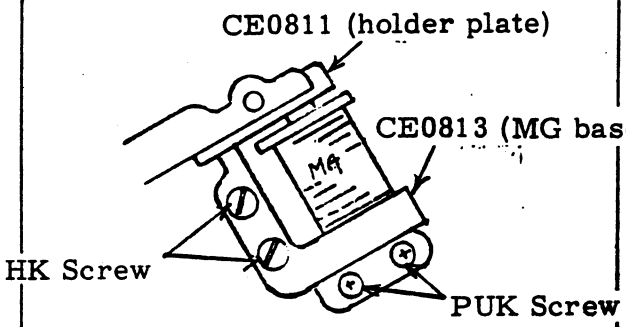
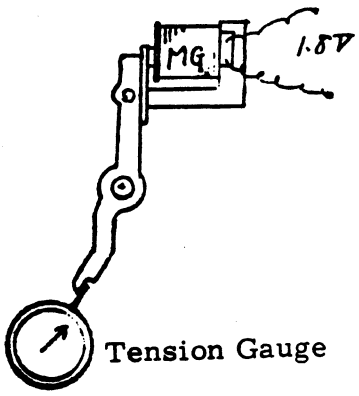
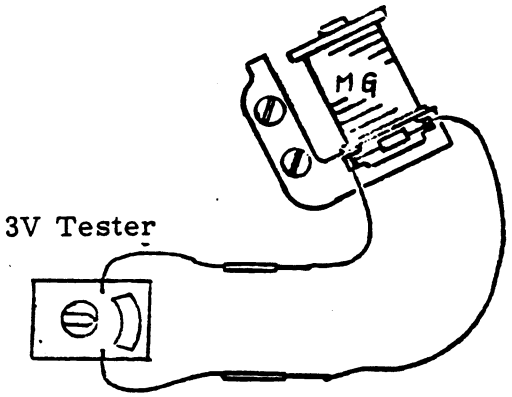
Cause	Remedy	Checkup
	Fine adjustment: Rotate CA8666 (locating seat) of cylinders A and B for fine adjustment of opening and closing curtain positions.	Inclination of curtain: The parallelism against camera mask should be 0.2 or less in the vertical direction.  Difference between a and b should be 0.2 or less. Overlapping of curtain holders: The overlapping of curtain holders should be 2.5mm or more at every position of the picture screen (the curtain holder width is 3mm.)
2) Opening curtain stops at improper position	See the OM-1 Repair Manual. Note: CA8538 (opening curtain) → CE0857 CA8519 (sylinder shaft A) → CA8661 CA8517 (sylinder stopper) → CA8666 (locating seat) CA8501 (S plate) ——→ CE0801	3.7 ± 0.3 when the protrusion of gear A is struck against CE0801 (S plate). See the OM-1 Repair Manual.
3) Brake adjustment improper	See the OM-1 Repair Manual. Note: CA8501 (S plate) ——→ CE0801 A-eccentric should be turned clockwise. 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.	See the OM-1 Repair Manual.

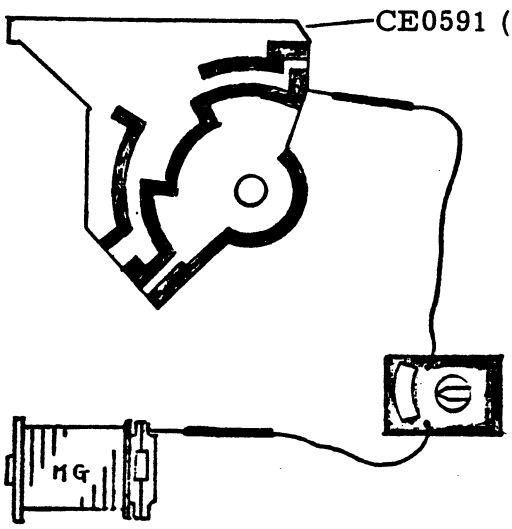
Cause	Remedy	Checkup
4) Spring tension of CA8586 weak	See the OM-1 Repair Manual. Note: CA8501 (S plate)→ CE0801	
5) A fitting strip 2 not operating properly	See the OM-1 Repair Manual.	
6) Inaccuracy in surface finish of friction ring of CA8661 (sylinder shaft A)	See the OM-1 Repair Manual.	

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 ±0.04V or less.
2) Defective CE0801 (S plate)	a. Check if clearance between CE0847 (lock lever) and CE0833 (opening claw B) is small. 	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
	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.)	
	b. CE0836 (opening spring A) is weaker than CE0808 (closing spring)  Replace CE0836 (opening spring A).	
	c. CE0811 (holder plate) rides over the dump stopper of CE0816 (closing claw A).  Replace CE0811, which is fixed to CE0816 with E ring.	Take care not to hurt the attractive surface of CE0811. If not, attractive force will be decreased.

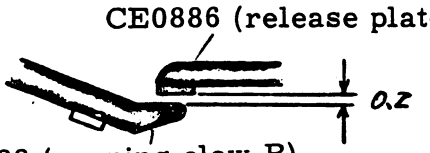
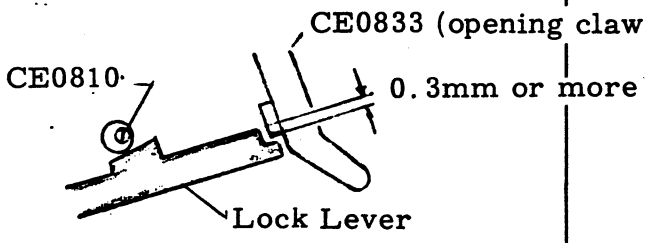
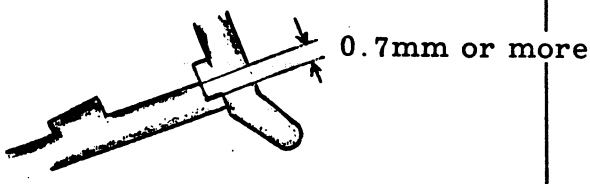
Cause	Remedy	Checkup
	d. MG attractive force is too weak. (Improper MG position)  Adjust PUK and HK screws so that MG plate is made parallel at the center of CE0811 (holder plate).	Attractive force should be 60grs or greater at 1.8V. 
	e. Coil is broken  	Normal if coil is conductive when checking by a 6V tester with about 600Ω resistance. If nonconductive. replace MG.
3) Defective main switch	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.	

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

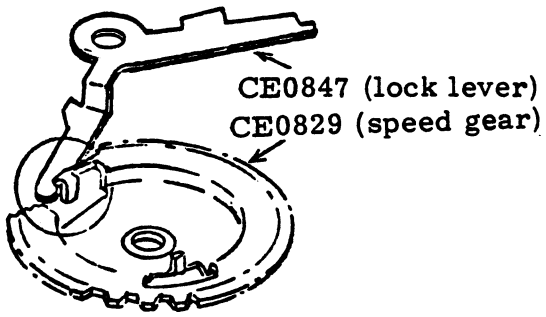
Cause	Remedy	Checkup
	Adjustment of IC height: The clearance between CE0914 (M circuit board) and IC is to be made about 0.3mm. (0.3-clearance jig is available.) c. Shortcircuit between CE0913 (change plate 3) and soldered portion. d. Shutter lock at high ASA setting due to OFFset change. See the section for OFFset adjustment. Check above and make necessary repair.	
6) Defective CE0645 (AR circuit board)	a. Shortcircuit between CE0636 (A-contact piece 1) and periphery of CE0644 (cam holder). b. Shortcircuit between the soldered portion of CE0637 (A-contact piece 2) and CE0643 (A cam). c. Shortcircuit between CE0637 and CE0644 (cam holder) due to the mounting of CE0503 (top plate). d. Shortcircuit between CE0645 (AR circuit board) and CE0501 (body). Check for above points and make necessary repair.	

4. Shutter not locked

Cause	Remedy	Checkup
1) Improper adjustment of CE0886 (release plate B)	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.	Look through the hole of CE0514 (tripod seat). See Section II - 3-2) a.

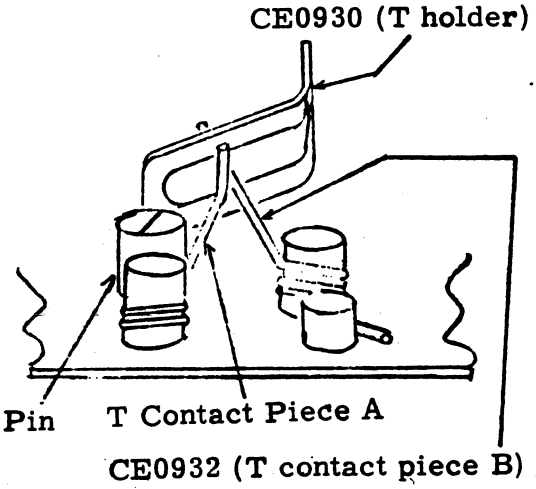
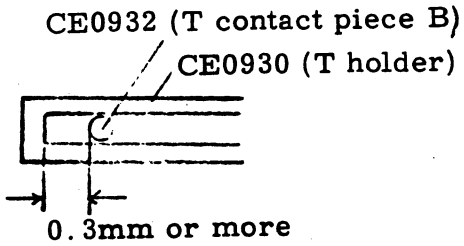
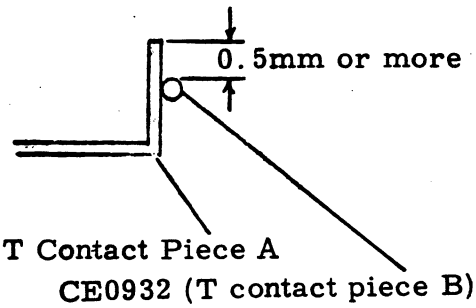
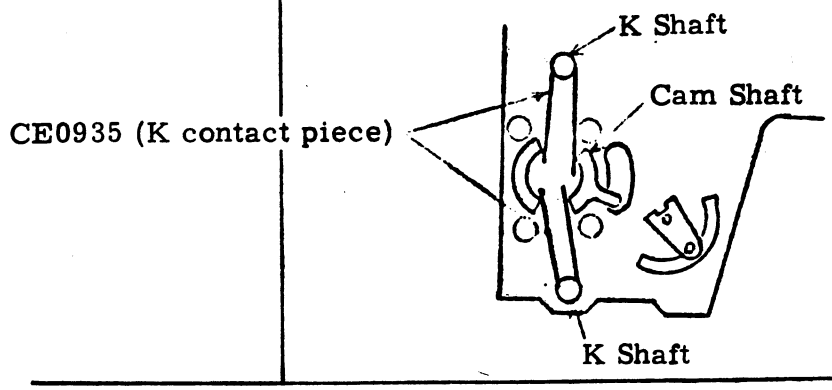
Cause	Remedy	Checkup
	 b. CE0886 should be disengaged from the hook of CE0885 (release plate B) smoothly when operating CE0885 in the film wound condition.	
	c. There should be a clearance between CE0833 (opening claw B) and CE0847 (lock lever) when striking the CE0816 (closing claw A) against MG, except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

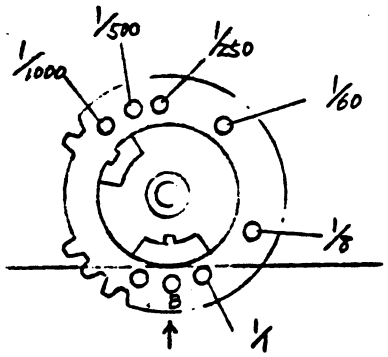
5. Shutter lock not released

Cause	Remedy	Checkup
1) Defective CE0829 (speed gear)	a. CE0847 (lock lever) does not engage with CE0829.  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.)	Even when CE0829 is slightly moved up and down, CE0847 should be engaged therewith by more than 2/3 of the plate thickness.
2) Defective CE0886 (release plate B)	a. Insufficient driving force due to defective operation of CE0886. b. Excessive force of CE0833 (opening claw B). Clean or replace the part.	

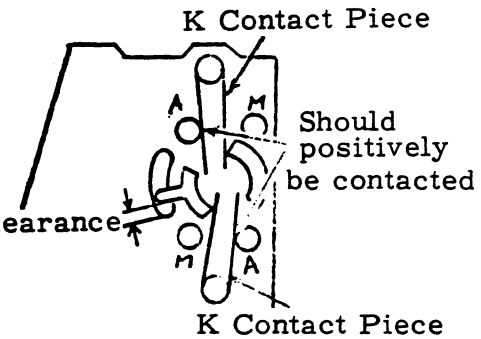
6. Shutter fully opened both at AUTO and MANUAL

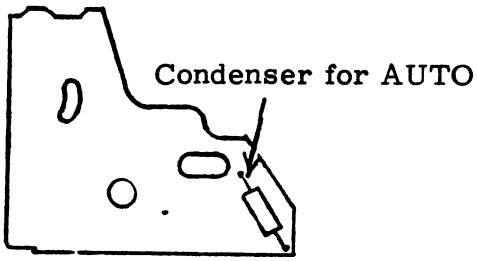
Cause	Remedy	Checkup
1) Lead wire and relateds	a. Shortcircuit between purple lead wire and main body.	Normal if resistance between auto synch contact (CE0526) and main body is ≒10KΩ when measured by a tester.

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

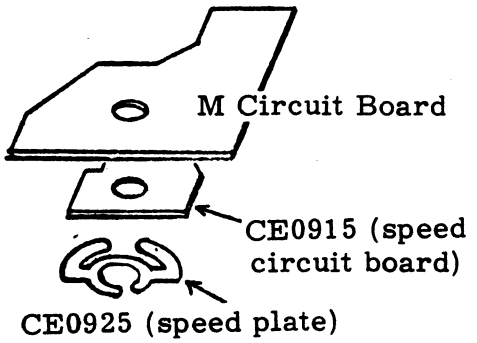
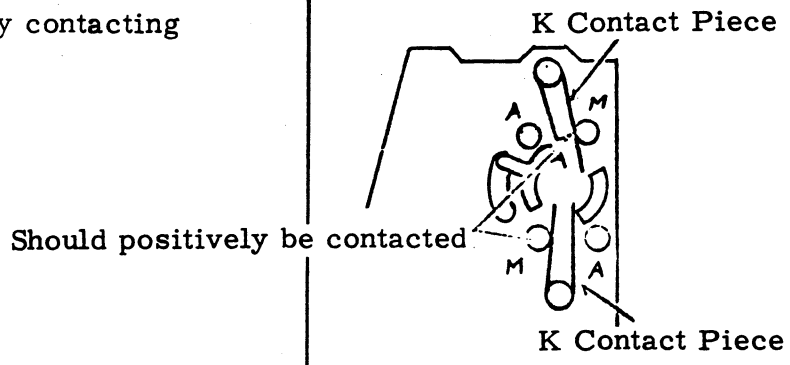
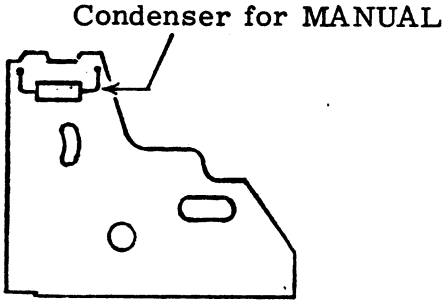
Cause	Remedy	Checkup
	d. Displaced position of CE0829 (speed gear).  When each hole comes to the front (arrowed location), corresponding shutter speed is set. The above illustration shows "B" setting.	
	e. Pattern to K-shaft is broken. See the illustration in c.	

7. Shutter fully opened at AUTO

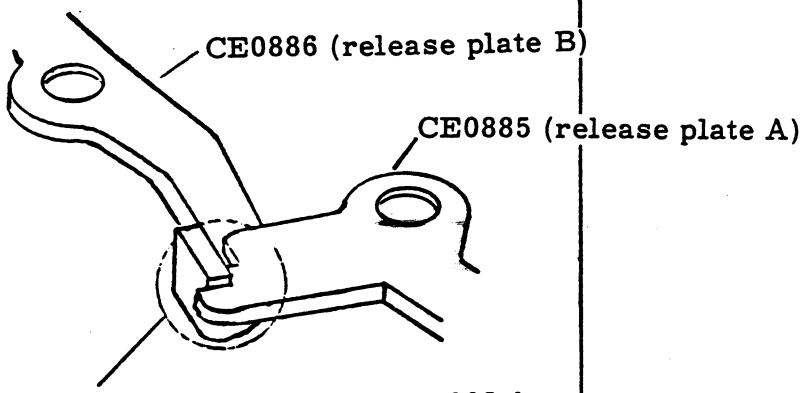
Cause	Remedy	Checkup
1) Broken wire or contact failure of ASA resistor	a. White LW (RBJ-W105) or yellow LW (RBJ-Y105) of CE0640 (circuit board A) is broken or poorly soldered. b. Broken pattern due to damaged CE0640. c. Contact failure of CE0636 and CE0637 (A contact pieces 1, 2).	
2) Contact failure of CE0935 (K contact piece)	a. Insufficient switching due to insufficient adjustment of CE0910 (charge plate 2). b. Soiled or dusty contacting surface.	

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

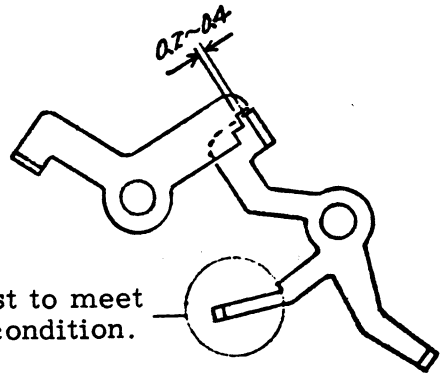
Cause	Remedy	Checkup
1) Defective CE0915 (speed circuit board)	a. White LW (RBJ-W20) or yellow LW (RBJ-Y30) of CE0915 is broken or poorly soldered. b. Contact failure of CE0925. c. Broken pattern of CE0915.	
2) Contact failure of CE0935 (K contact piece)	a. Soiled or dusty contacting surface.	
3) Defective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

9. Shutter not released (mechanical fault)

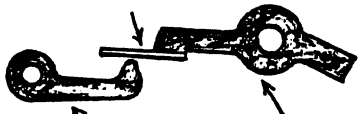
Cause	Remedy	Checkup
1) Defective mirror movement	a. There is no backlash in the left- and -right direction of CE0870 (M frame). Loosen the screw of side plate and adjust the position.	
2) Insufficient CE0886 (release plate B) force	a. Disengaging force of CE0832 (opening claw A) excessive.	
	b. CE0886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

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

10. Defective shutter speed at AUTO

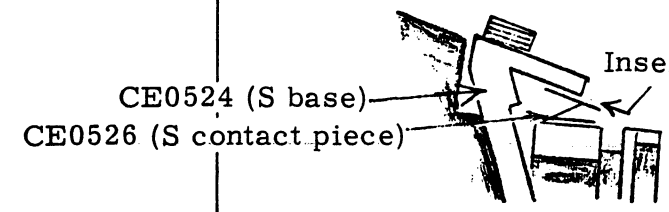
Cause	Remedy	Checkup
1) Defective CE0942 (switching board)	a. Poor soldering of CE0942. b. AUTO/MANUAL switching is defective.	
2) Defective CE0914 (M circuit board)	a. CE0935 (K-contact piece) is disconnected. b. IC is defective. c. SBC is defective. d. Poor soldering on FET.	
3) Defective CE0645 (AR 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	a. Insufficient charge due to improper adjustment of CE0886. Bend and adjust to meet the following condition.  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.	When wound, CE0886 should surely hook on the 1st step of CE0885 with the allowance described at left. There should be allowance between CE0886 and the body.

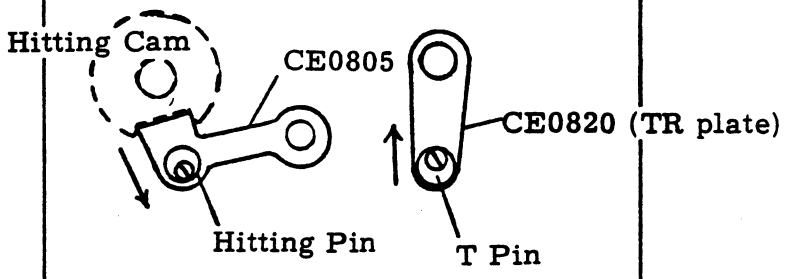
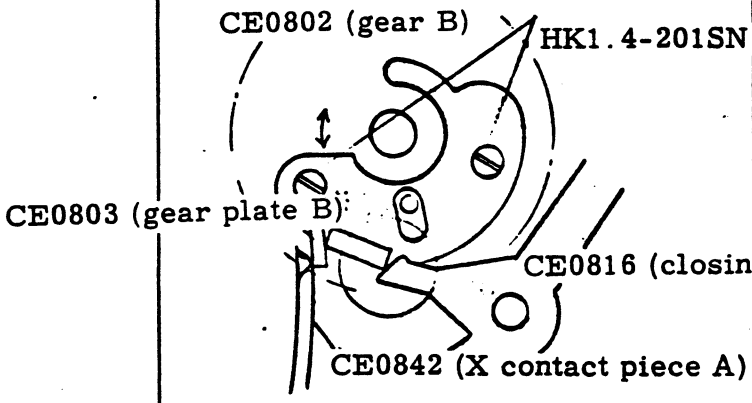
11. Defective shutter speed at MANUAL

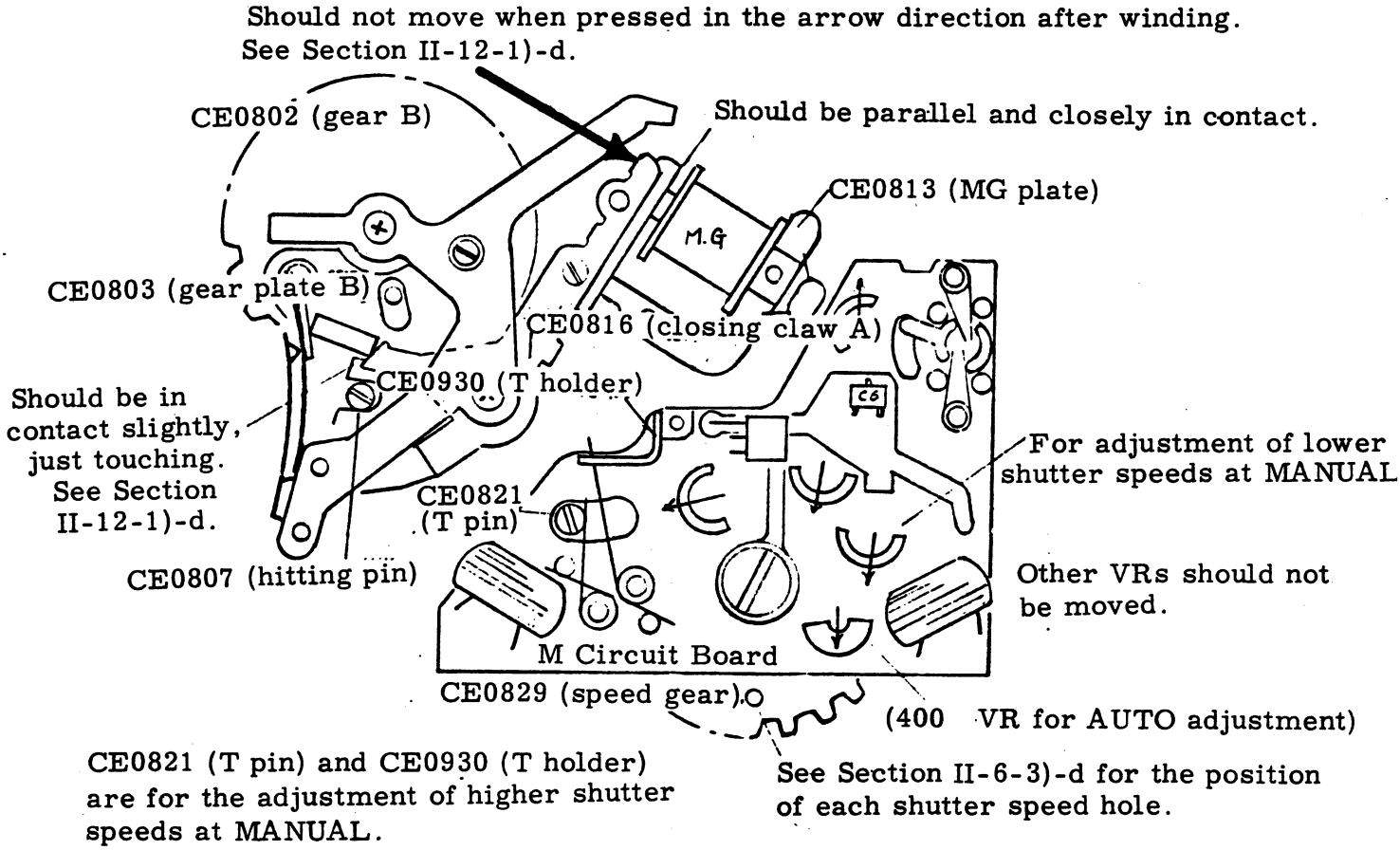
Cause	Remedy	Checkup
1) Defective CE0910 (switching plate) of CE0942 (switching board)	a. Poor soldering of CE0942. Solder it sufficiently. b. CE0910 operates improperly. At MANUAL At AUTO  Clearance should be 0.5mm or less. CE0916 (cam shaft) Hole of M Circuit Board As seen from lower side. Bend and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

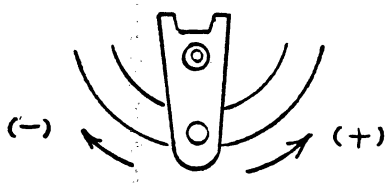
Cause	Remedy	Checkup
4) Defective main switch	a. CE0871 and CE0872 (M contact piece 1, 2) are contacted improperly. See page 74.	
5) Defective M circuit board	a. Poor soldering on FET. Correct soldering. b. CE0925 (speed plate) and CE0915 (shutter speed circuit board) are contacted improperly. Clean 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.	

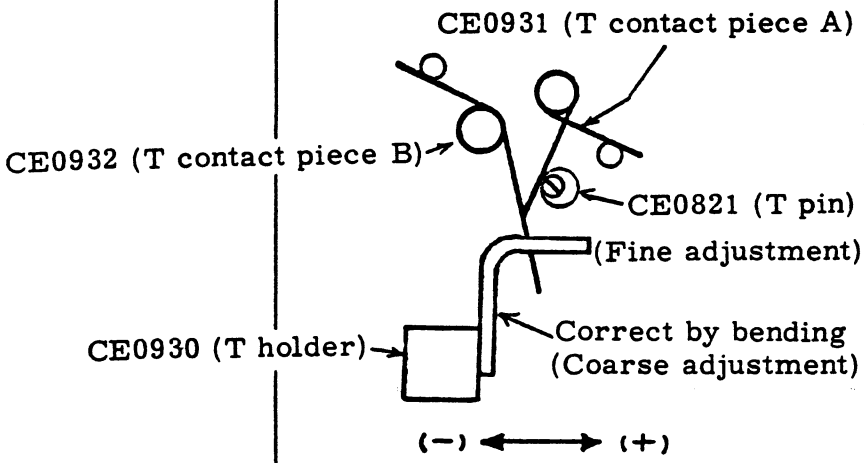
12. Manual shutter speed adjustment

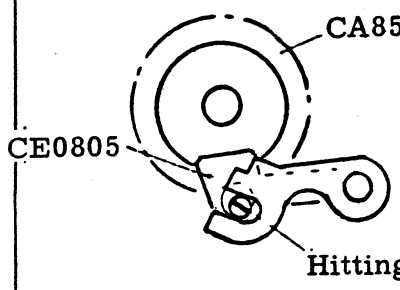
Cause	Remedy	Checkup
1) Preparation for adjustment	a. Power supply voltage is 3.10 ±0.04V. b. When CE0503 (top plate) is removed, insulate CE0524 (S base) from CE0526 (S-contact piece).  	Silver-oxide batteries may be used as the power supply.

Cause	Remedy	Checkup
	c. Adjust the eccentrics of the hitting pin of CE0805 and the T pin of CE0820 (TR plate).  Locate the screw head of eccentrics in the arrowed direction.	
	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).  	After winding, carefully return CE0816 (closing claw A) in the spring force effecting direction. Improper if 0816 moves even slightly when it is pressed against MG. Make re-adjustment. See next page.



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 sylinder 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±0.2ms 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±5ms with the 30KΩ VR of CE0914 (M circuit board). 	125±5ms

Cause	Remedy	Checkup
4) Adjustment 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 30KΩ VR and then adjust 1/500 sec. again.	

Cause	Remedy	Checkup
5) Check of 1/1000 sec.	a. If the difference is greater than 1/1000 between 1/500 sec. and 1/1000 sec.: Minimize the engagement and clearance between CE0816 (closing claw A) and CE0803 (gear plate B). Make the engaging extent to 0.4 - 0.5mm.	See Section II-12-1)-d.
	b. When the difference is smaller than 1/1000 due to smaller mini shutter speed: Adjust with the hitting pin of CE0805. See Section II-12-1)-c. c. When the difference between 1/500 sec. and 1/1000 sec. is smaller than 1/1000:	
6) Adjustment of mini shutter speed	Set to the AUTO mode and short-circuit yellow and white ASA lead wires by placing a 1KΩ resistor in-between.  The hitting pin is an eccentric.	Should be within 0.5 - 1.42ms. (Make 0.8ms as a target.) Fluctuations are acceptable if they are within the shutter speed standards.
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 ± 0.1ms 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	±0.2EV
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 "	±0.3EV
1/1000	0.98 "	0.77 - 1.43 "	±0.1 ±0.45EV

3. Exposure Uneveness

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.

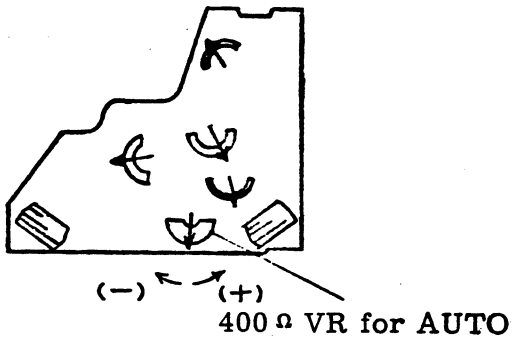
5. Mini Shutter Speed

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 uneveness should be 0.6EV or less.

13. Automatic shutter speed adjustment

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

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	Reference	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	This is caused by displacement of OFF set of CE0914 (M circuit board). Readjust the OFF set. Then, conduct the manual shutter speed adjustment and subsequently auto shutter speed adjustment. o See Section of "Adjustment of CE0914 OFF Set". o See Section of "Adjustment of Manual Shutter Speed".	

14. Diagnostic chart for defective shutter (electronic parts)

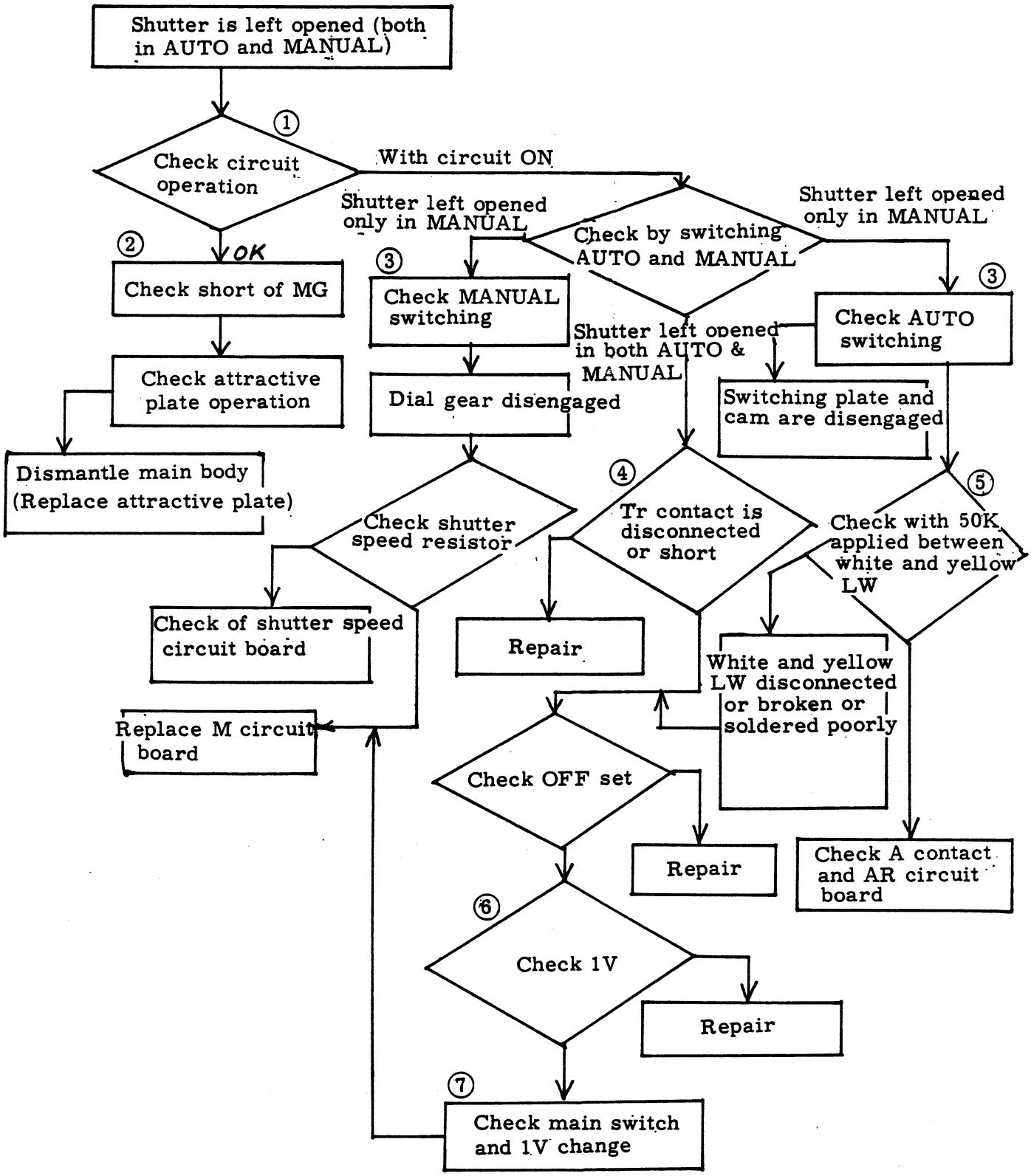
Main possible causes and diagnostic procedures to locate defective parts are given in the following charts.

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".


Shutter is left opened (both in AUTO and MANUAL)
①
Check circuit operation
With circuit ON
Shutter left opened only in MANUAL
Check by switching AUTO and MANUAL
Shutter left opened only in MANUAL
②
OK
Check short of MG
③
Check MANUAL switching
③
Check AUTO switching
Shutter left opened in both AUTO & MANUAL
Check attractive plate operation
Dial gear disengaged
Switching plate and cam are disengaged
Dismantle main body (Replace attractive plate)
④
Tr contact is disconnected or short
⑤
Check with 50K applied between white and yellow LW
Check shutter speed resistor
Check of shutter speed circuit board
Repair
White and yellow LW disconnected or broken or soldered poorly
Replace M circuit board
Check OFF set
Repair
Check A contact and AR circuit board
⑥
Check 1V
Repair
⑦
Check main switch and 1V change

① Checking of circuit operation

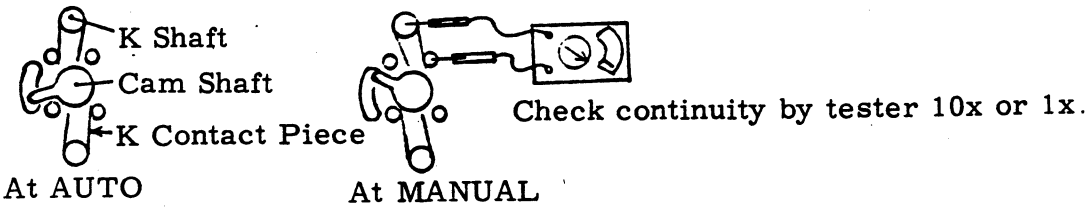
Checking by current comsumption.
MG ON ..... 8 - 9mA OFF ..... 11 - 13mA

② Shorting part of MG

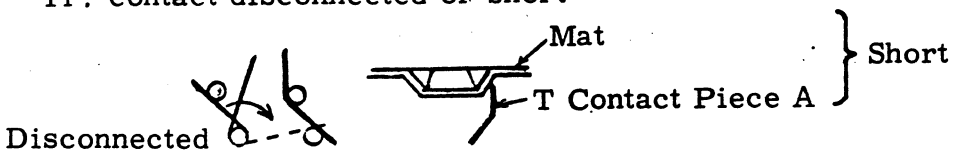
- o 10KΩ sensor and S base
- o MG coil end and body
- o Purple LW and body
- o Others

③ Check of accurate Auto/Manual switching

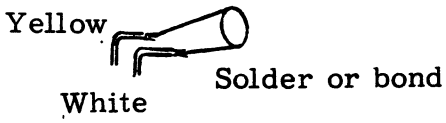
Check contact of K contact piece at S lever switching.



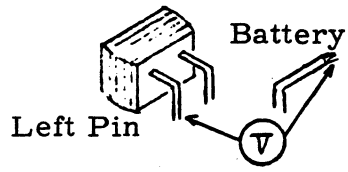
④ Tr. contact disconnected or short



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

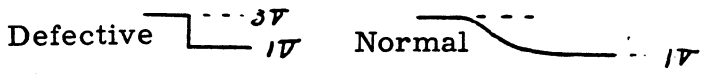


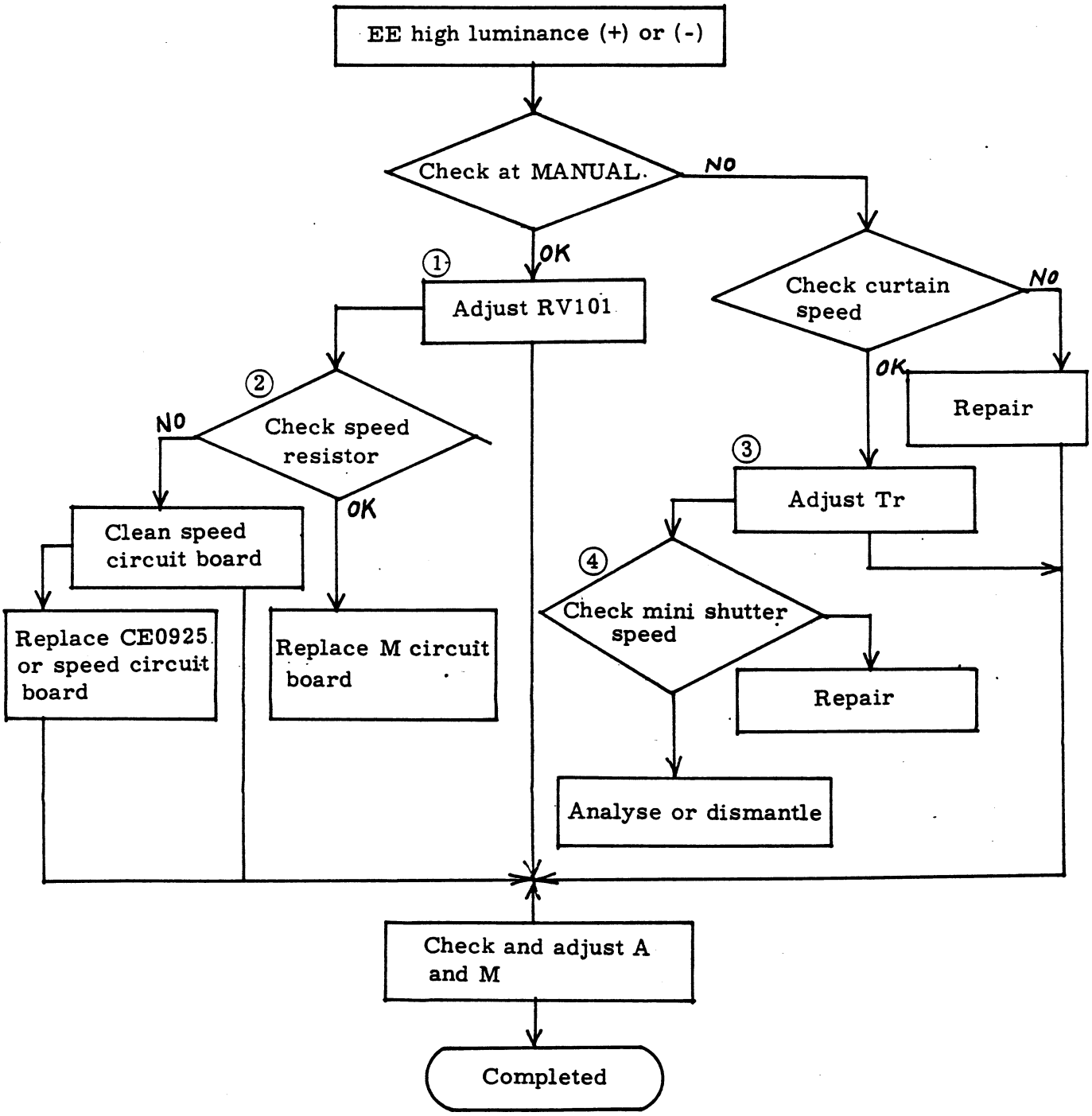
⑥ Check 1V



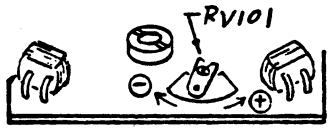
0.99 ± 0.01V
Set SW circuit board to AUTO

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



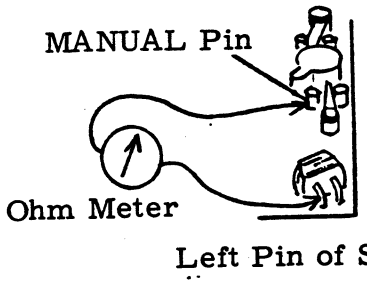

EE high luminance (+) or (-)
Check at MANUAL.
NO
OK
①
Adjust RV101
Check curtain speed
NO
OK
Repair
②
Check speed resistor
NO
OK
③
Adjust Tr
Clean speed circuit board
④
Check mini shutter speed
Replace CE0925 or speed circuit board
Replace M circuit board
Repair
Analyse or dismantle
Check and adjust A and M
Completed

① Adjustment of RV101 (AUTO)



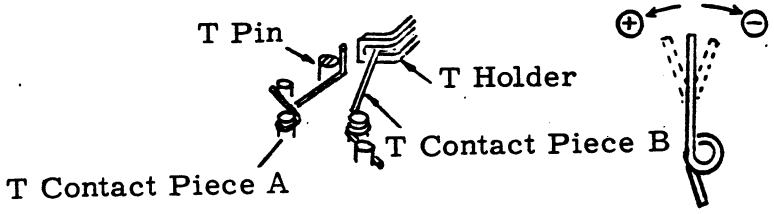
② Check of speed resistor

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



1/1000	.....	12 (KΩ)
1/500	.....	24
1/250	.....	48
1/125	.....	96
1/60	.....	192
1/30	.....	384
1/15	.....	768
1/8	.....	1.5 (MΩ)
1/4	.....	3
1/2	.....	6
1/1	.....	12

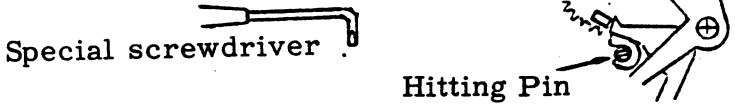
③ Tr adjustment

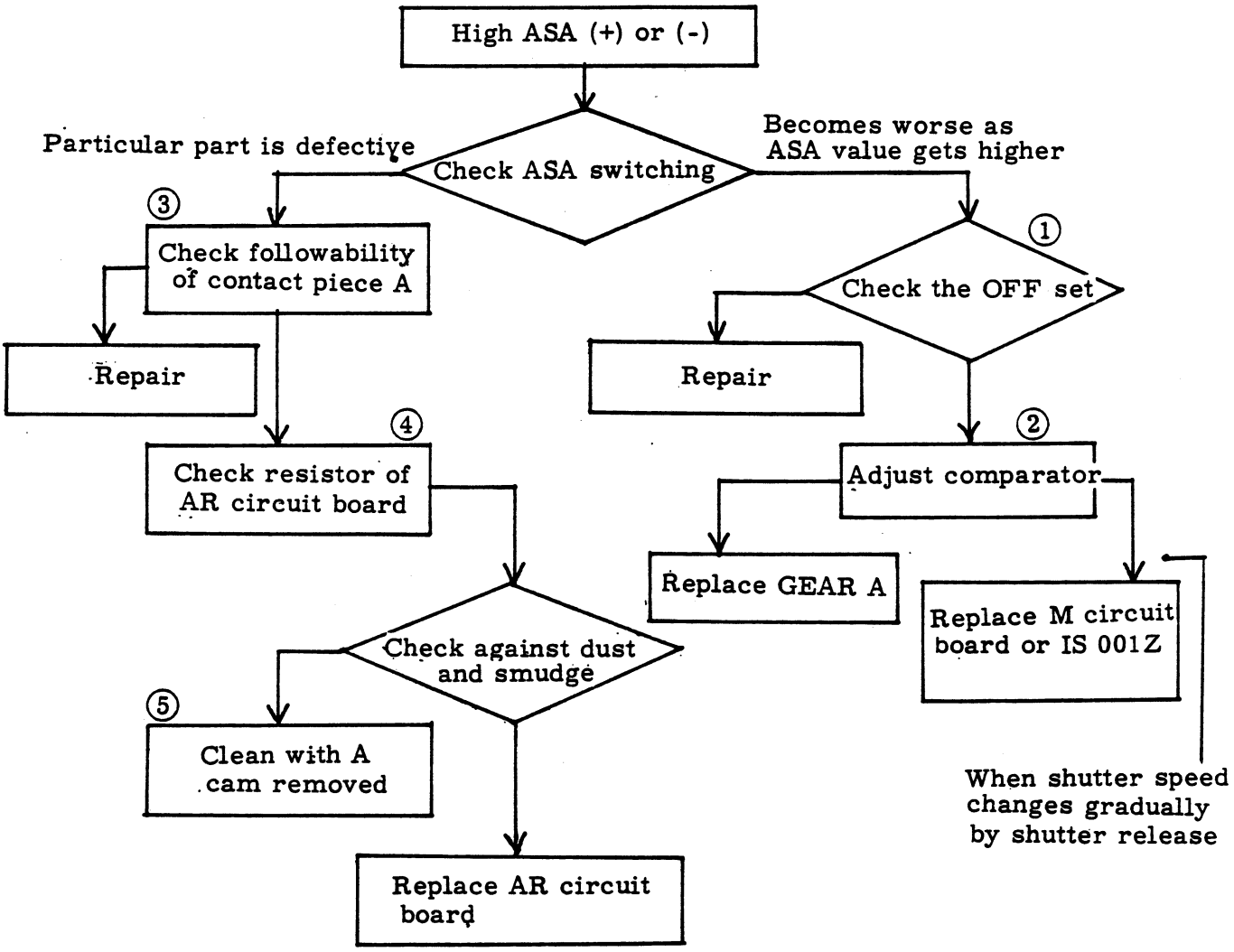


- o When fluctuation becomes excessive due to tampering with contact piece. replace and adjust it.
- o After adjustment by bending. there should be a clearance (at second step of opening claw) between T holder and T contact piece B.
- o When wound, T contact piece B should not hit T pin.

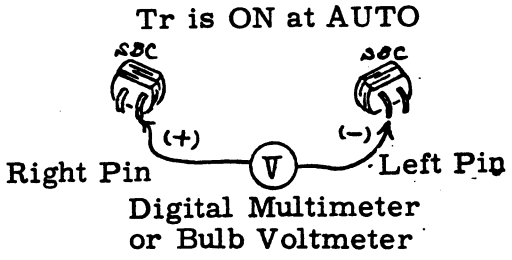
④ Adjustment of mini shutter speed

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




High ASA (+) or (-)
Check ASA switching
Particular part is defective
Becomes worse as ASA value gets higher
③
Check followability of contact piece A
Repair
④
Check resistor of AR circuit board
Check against dust and smudge
⑤
Clean with A cam removed
Replace AR circuit board
①
Check the OFF set
Repair
②
Adjust comparator
Replace GEAR A
Replace M circuit board or IS 001Z
When shutter speed changes gradually by shutter release

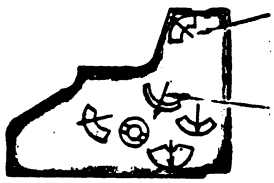
① Check of OFF set of preamplifier



- Should be ±1.5mV or less.
- Adjustment should be made to ±0.5mV or less.
- 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

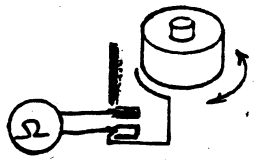


③ Check of contact piece A follow-ability

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 (KΩ)

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°.)

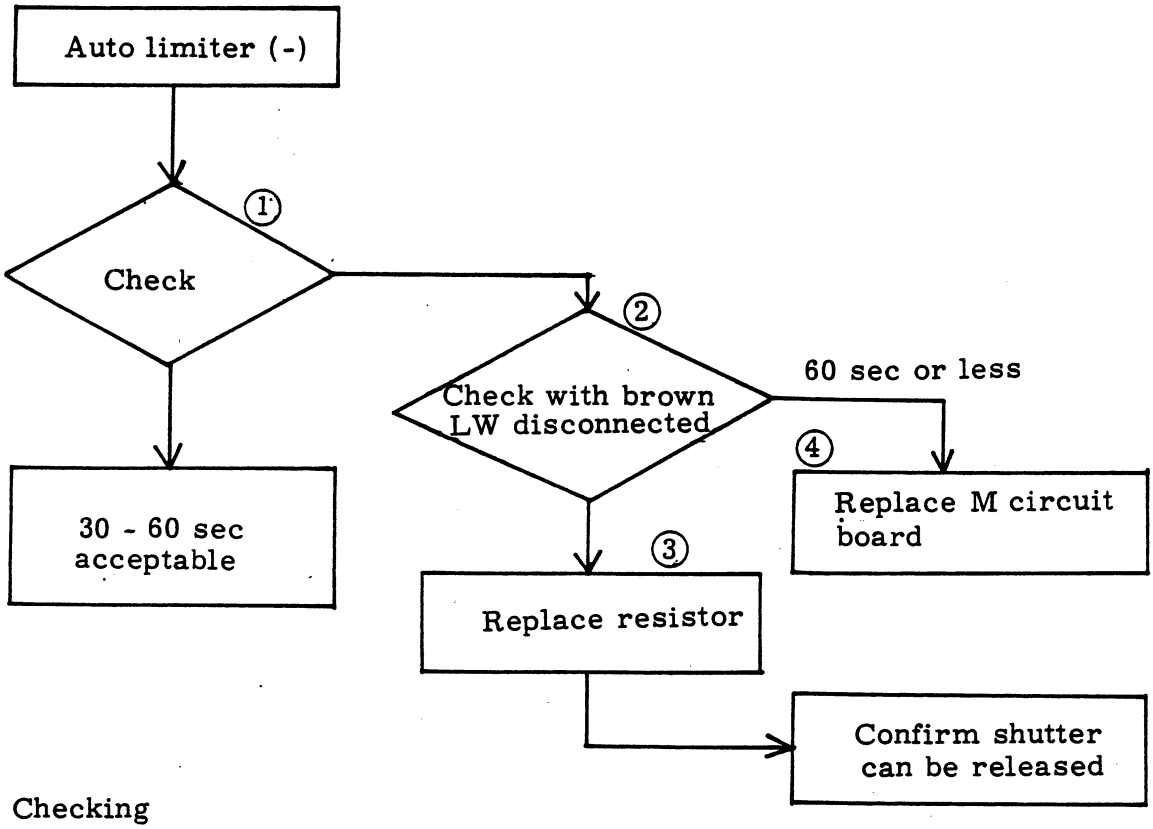
b. Loosen A contact piece fastening screw (left-hand screw), and remove the contact piece from AR circuit board.

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

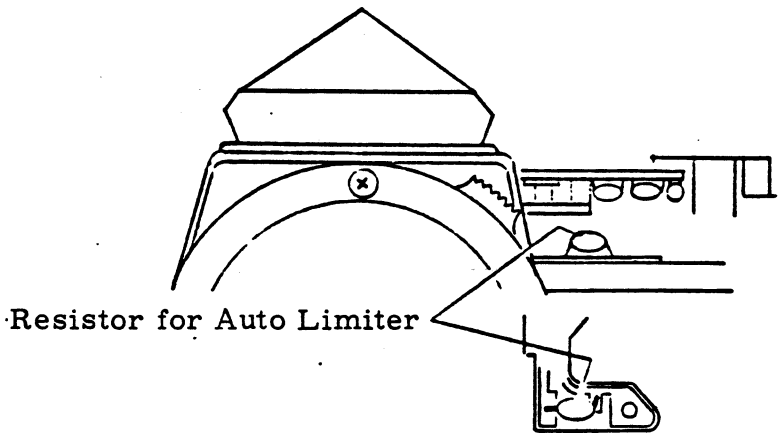
Mirror should flip down after 60 seconds or longer when shutter is released after dark condition of 3 minutes.

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

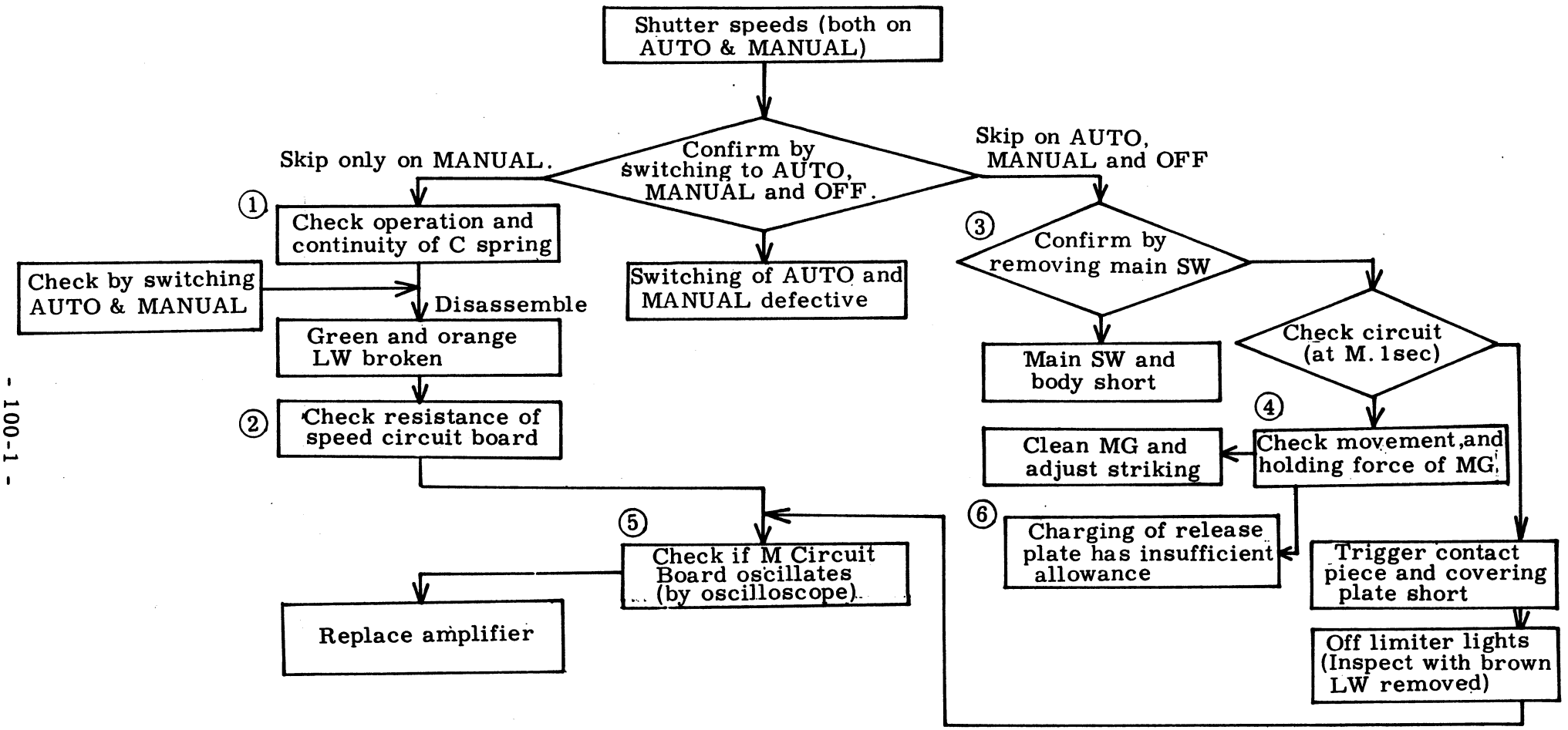
- o "Dark condition" means the state that the body cap is applied and the eyepiece frame is faced downward.

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

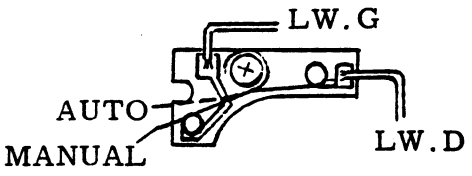
③ Remove the resistor for auto limiter, and replace it by a 1MΩ resistor. (Use the soldering iron with a pointed tip.)



④ Protection against leakage current from M circuit board.


Shutter speeds (both on AUTO & MANUAL)
Confirm by switching to AUTO, MANUAL and OFF.
Skip only on MANUAL.
Skip on AUTO, MANUAL and OFF
Switching of AUTO and MANUAL defective
① Check operation and continuity of C spring
Check by switching AUTO & MANUAL
Disassemble
Green and orange LW broken
② Check resistance of speed circuit board
③ Confirm by removing main SW
Main SW and body short
Check circuit (at M. 1sec)
④ Check movement, and holding force of MG.
Clean MG and adjust striking
⑤ Check if M Circuit Board oscillates (by oscilloscope)
Replace amplifier
⑥ Charging of release plate has insufficient allowance
Trigger contact piece and covering plate short
Off limiter lights (Inspect with brown LW removed)

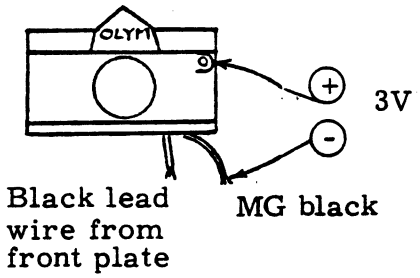
(1.) Operation of C spring



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

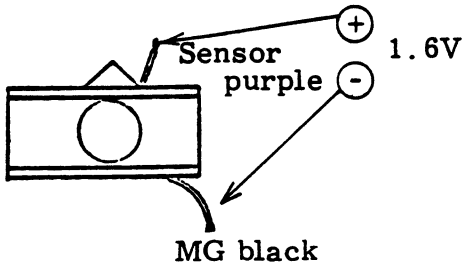
(2.) For the checking of speed resistance, refer to the page 97.

(3.)



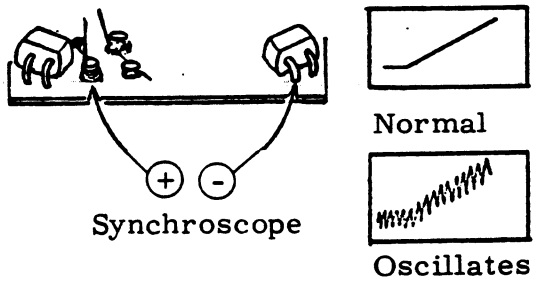
(4.) Check the movement and holding force of magnet.

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

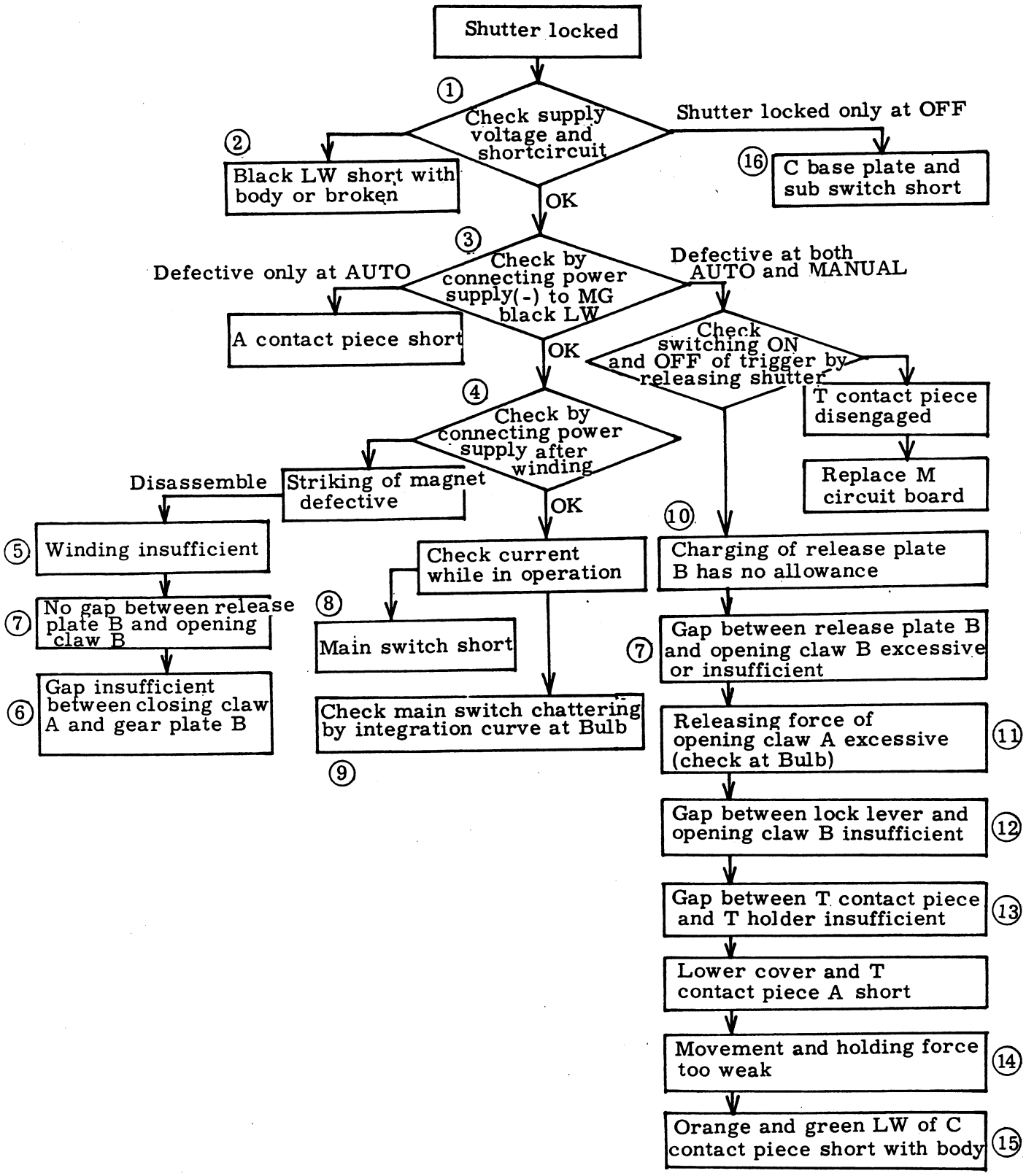


(5.) Check if M circuit board oscillates

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



(6.) It may also cause skip at Bulb.


Shutter locked
1
Check supply voltage and shortcircuit
2
Black LW short with body or broken
OK
Shutter locked only at OFF
16
C base plate and sub switch short
3
Check by connecting power supply(-) to MG black LW
Defective only at AUTO
A contact piece short
Defective at both AUTO and MANUAL
OK
Check switching ON and OFF of trigger by releasing shutter
T contact piece disengaged
Replace M circuit board
4
Check by connecting power supply after winding
Disassemble
Striking of magnet defective
OK
10
5
Winding insufficient
Check current while in operation
Charging of release plate B has no allowance
7
No gap between release plate B and opening claw B
8
Main switch short
7
Gap between release plate B and opening claw B excessive or insufficient
6
Gap insufficient between closing claw A and gear plate B
Check main switch chattering by integration curve at Bulb
9
Releasing force of opening claw A excessive (check at Bulb)
11
Gap between lock lever and opening claw B insufficient
12
Gap between T contact piece and T holder insufficient
13
Lower cover and T contact piece A short
Movement and holding force too weak
14
Orange and green LW of C contact piece short with body
15

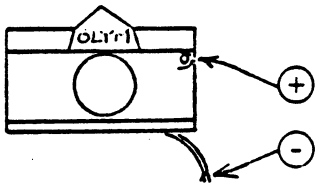
(1.) Ammeter needle deflects when main switch is turned ON.

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.

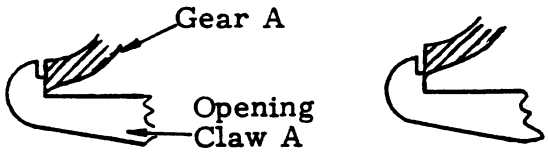
(3.)



MG black lead wire

(4.) Connect the power supply after film winding.

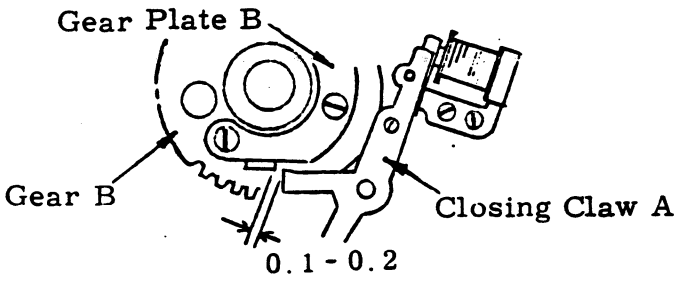
(5.) Film winding is insufficient.



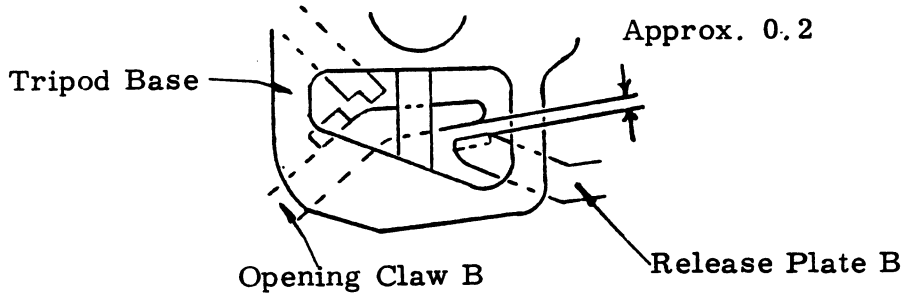
Correct Incorrect adjustment

- 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.

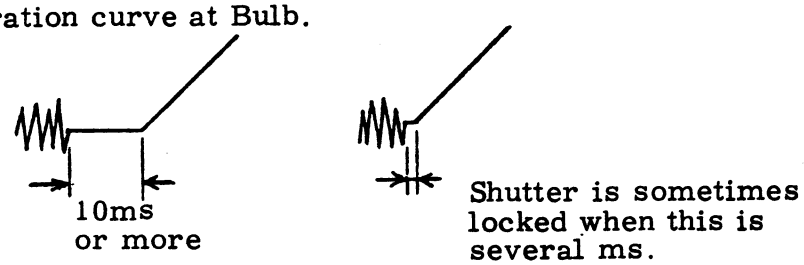


(8.) Main switch is shortcircuited.

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.



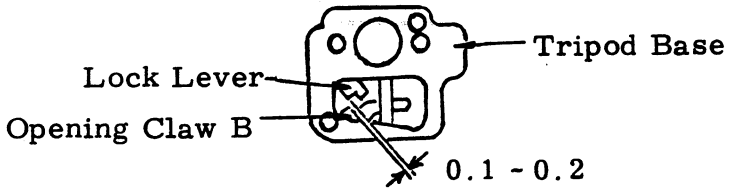
- Make the timing of the sub switch eariler.

(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.

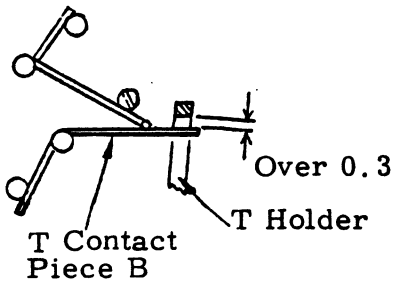
Shall be less than 60g at the tip of the opening claw B.
(Shutter release force is more than 65g).

(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

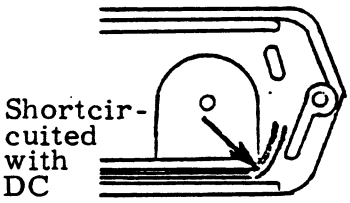
When the release plate A is engaged at the third step, the clearance shall be as illustrated.



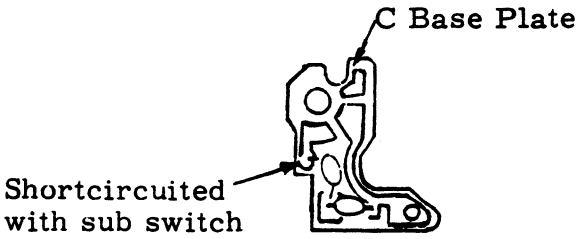
(14) Movement and holding force

- 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)

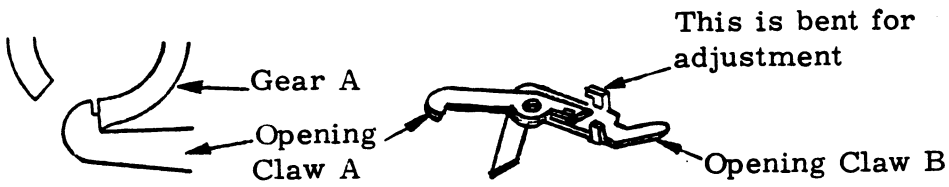
Early products used to have one step for hooking on the opening claw A. Currently, it has been modified to two steps as a provision against disorders at high shutter speeds. Adjustments of each part are made as follows.

(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.

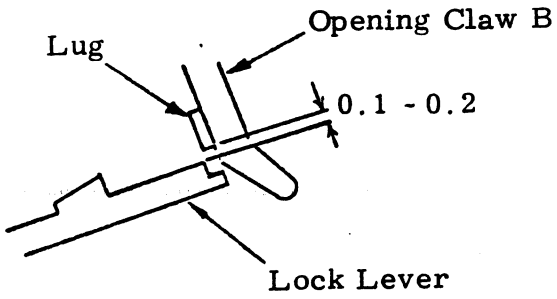
(3) Clearance between opening claw B and lock lever (CE0847)

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

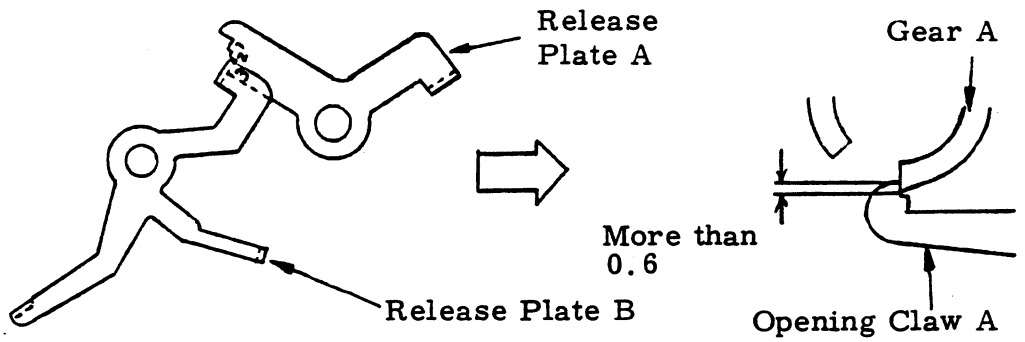
After the shutter is charged, there shall be about 0.2mm clearance between the release plate B and opening claw B.

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

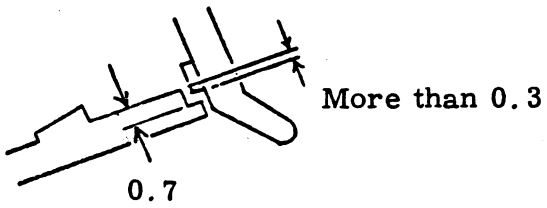
When the magnet is turned OFF and the release plate A is engaged at the third step, the engaging amount of the lock lever and opening claw B shall be more than 0.3.

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.

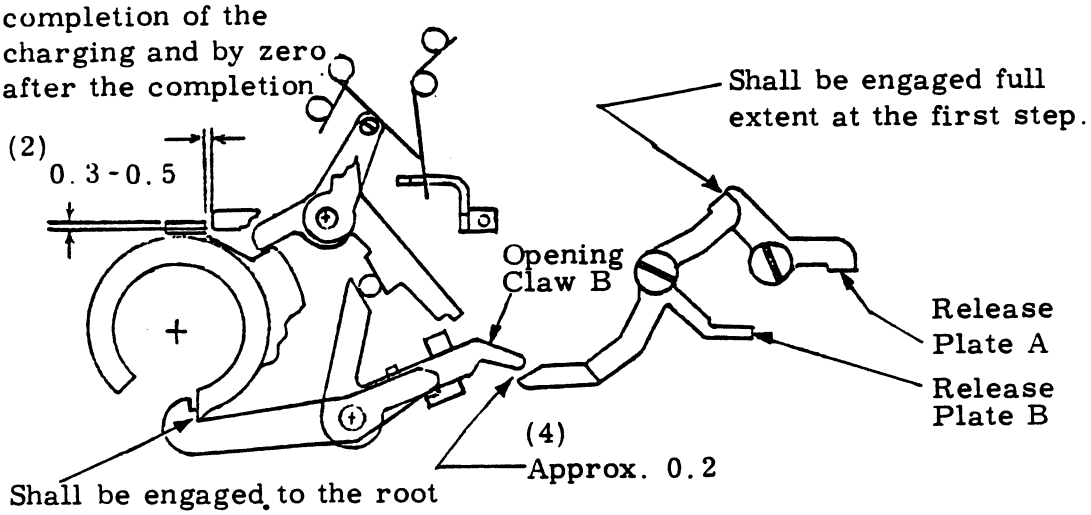
② When the release plate A is engaged at the third step and the T contact pieces A and B are separated, the shutter will be locked.

③ When the clearance between the closing claw A and gear plate B is excessive, it will cause defective step difference.

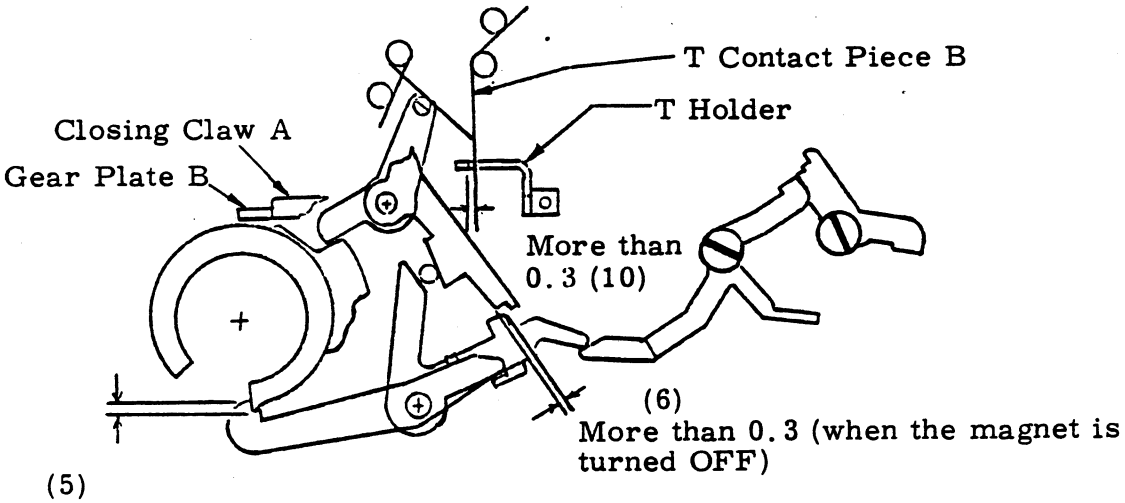
④ When the release plate A is engaged at the third step, the opening curtain shall move slightly.

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



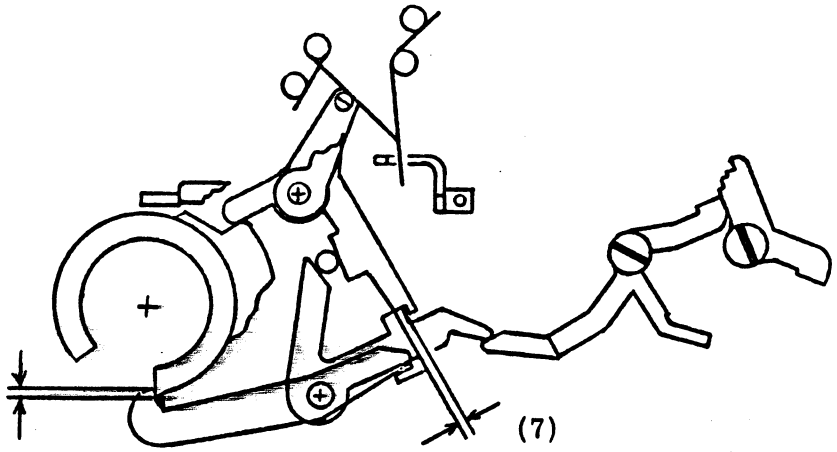
2. Conditions when the release plate A is engaged at the third step



(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)

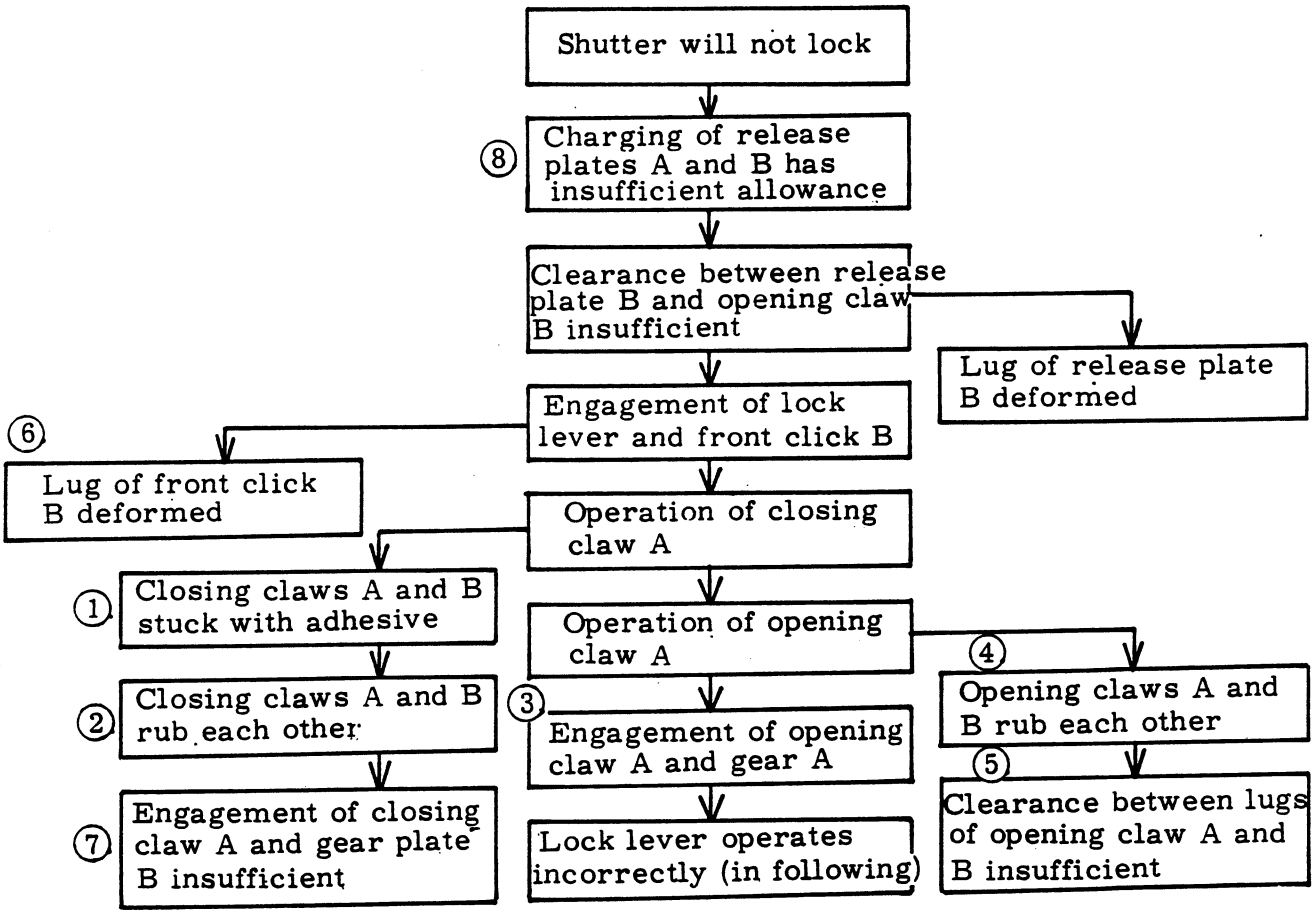
3. Conditions when the shutter is locked



(7)
More than 0.4

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

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


Shutter will not lock
⑧ Charging of release plates A and B has insufficient allowance
Clearance between release plate B and opening claw B insufficient
Lug of release plate B deformed
Engagement of lock lever and front click B
⑥ Lug of front click B deformed
Operation of closing claw A
① Closing claws A and B stuck with adhesive
② Closing claws A and B rub each other
⑦ Engagement of closing claw A and gear plate B insufficient
Operation of opening claw A
④ Opening claws A and B rub each other
③ Engagement of opening claw A and gear A
⑤ Clearance between lugs of opening claw A and B insufficient
Lock lever operates incorrectly (in following)

①

② Closing claws A and B are stuck with adhesive, or rub each other.

- 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.

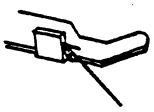
Same as in closing claw A and B in ① .

⑤ Clearance between the lugs of the opening claws A and B

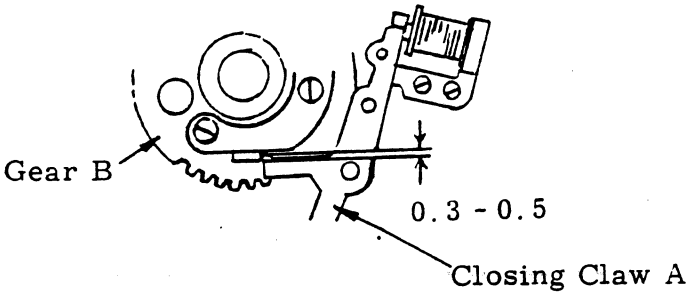
Refer to ③ .

⑥ The lug of the opening claw B is deformed.

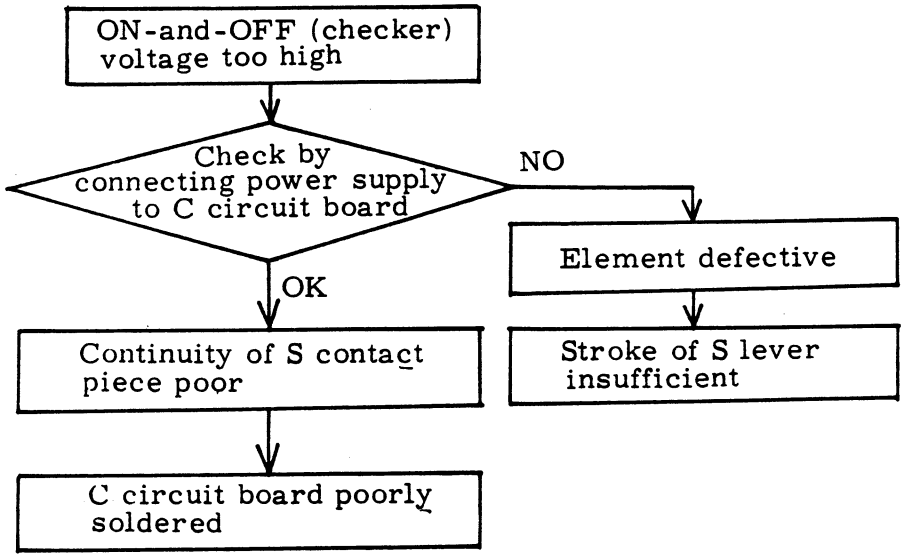
- If the lug is deformed, the lock lever slips and disengages.



⑦

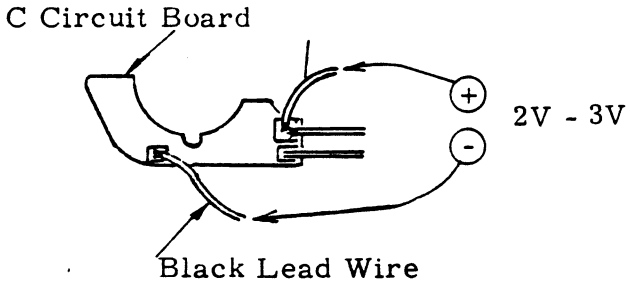


⑧ Charging of the release plates A and B shall have 0.2 - 0.4 allowance.



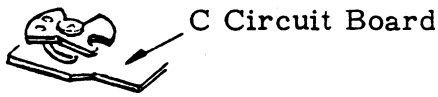
①

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.



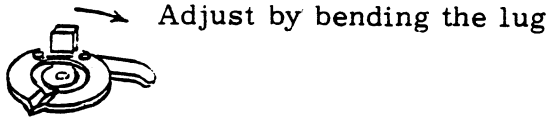
③ Poor soldering

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

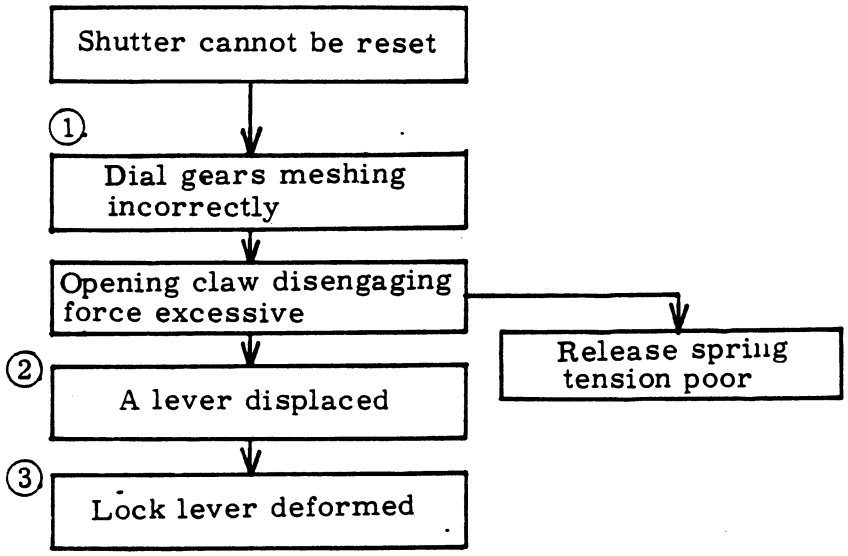
④ Defective element

- Check the chip, resistor for breakage, etc.

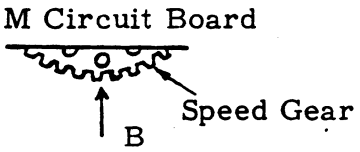
⑤ Adjustment of the S lever stroke



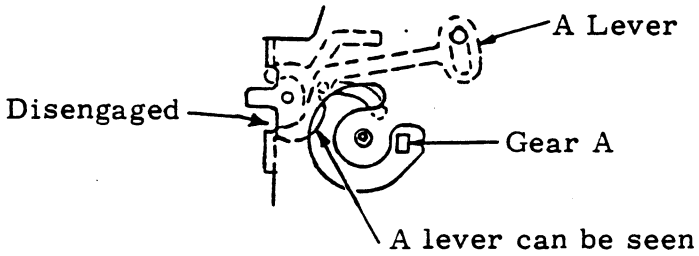
- After adjustment, be sure to check the switching of Auto, Manual and OFF.



① Meshing of dial gears



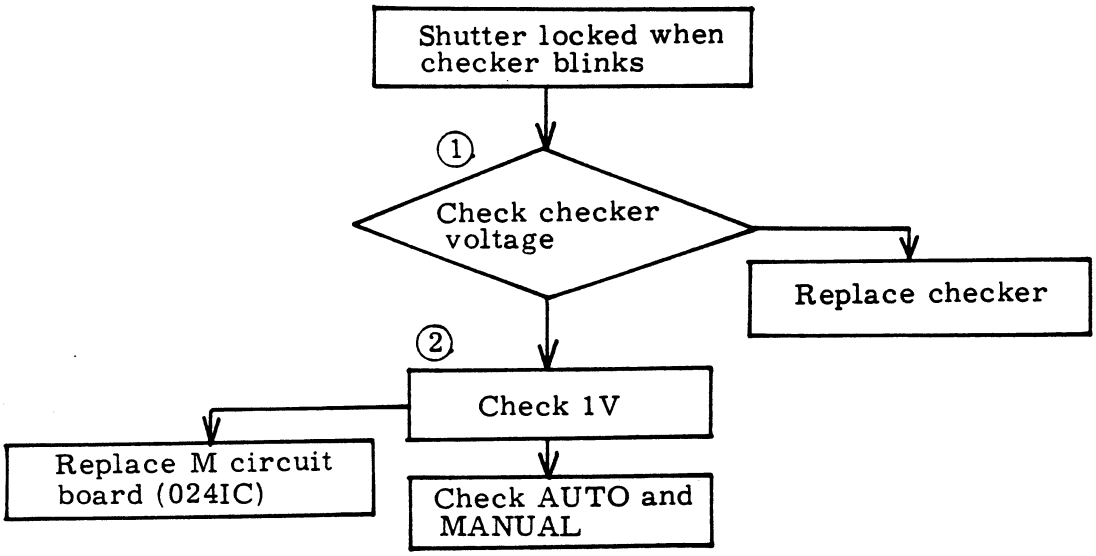
② A lever is displaced.



- 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.



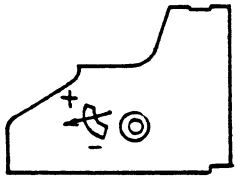
① Checker voltage

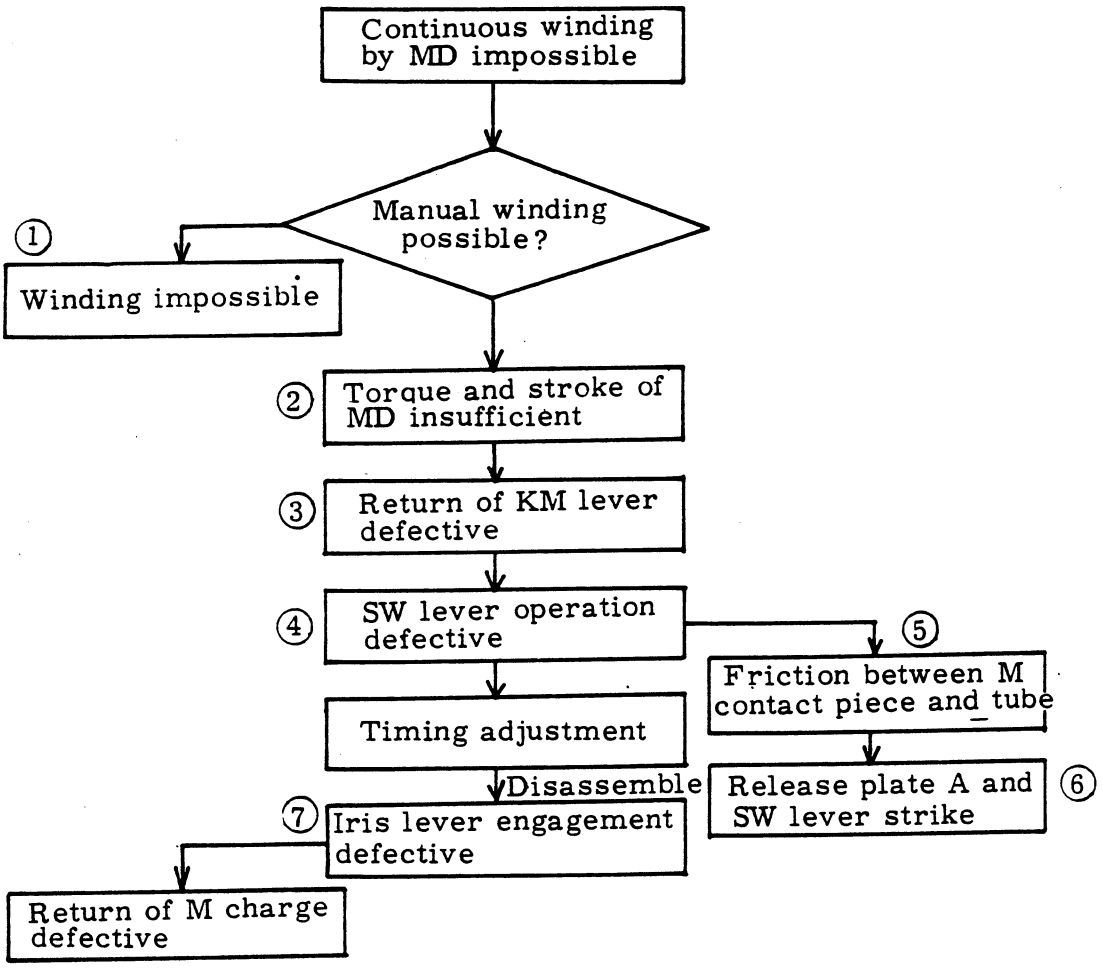
At ON-and-OFF: 2.45±0.04V - 2.75±0.04V

At OFF: Less than 2.45±0.04V

② 1V

Shall be adjusted to the range of 0.99mV±0.01 (AUTO).
(Shall be set so that the locking voltage becomes 2.40V or lower.)




Continuous winding by MD impossible
Manual winding possible?
①
Winding impossible
②
Torque and stroke of MD insufficient
③
Return of KM lever defective
④
SW lever operation defective
⑤
Friction between M contact piece and tube
Timing adjustment
Disassemble
⑥
Release plate A and SW lever strike
⑦
Iris lever engagement defective
Return of M charge defective

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±0.1kg-cm

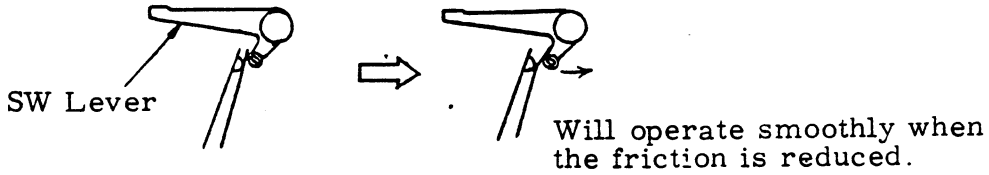
③ Return of KM lever is defective

- 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.

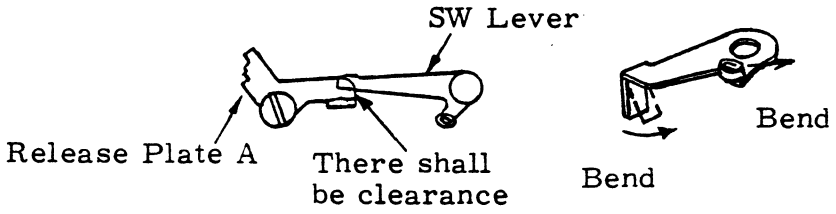
④ SW lever operation is defective.

- 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).

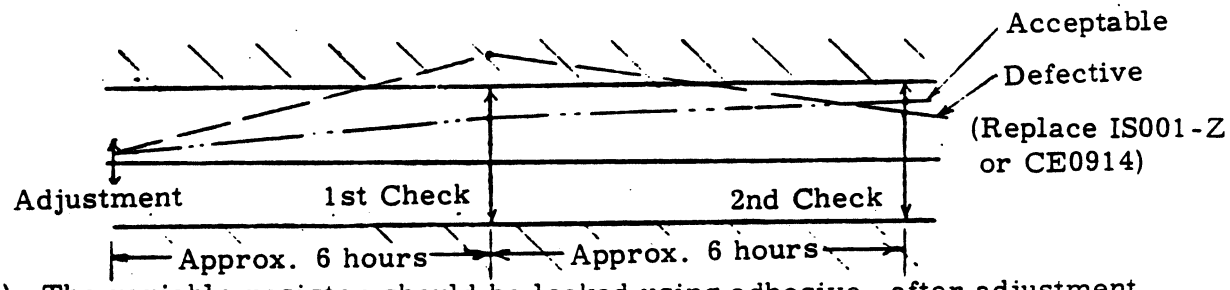
(Turning on and off of the power switch momentarily generates 60 - 70V.)

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 ±0.5mV or lower; thereafter repeat the OFF set checking two times at a 6-hour interval. The measured value at each checking should be within ±1.5mV. If adjustment is impossible. replace the IC of IS001-Z or CE0914.

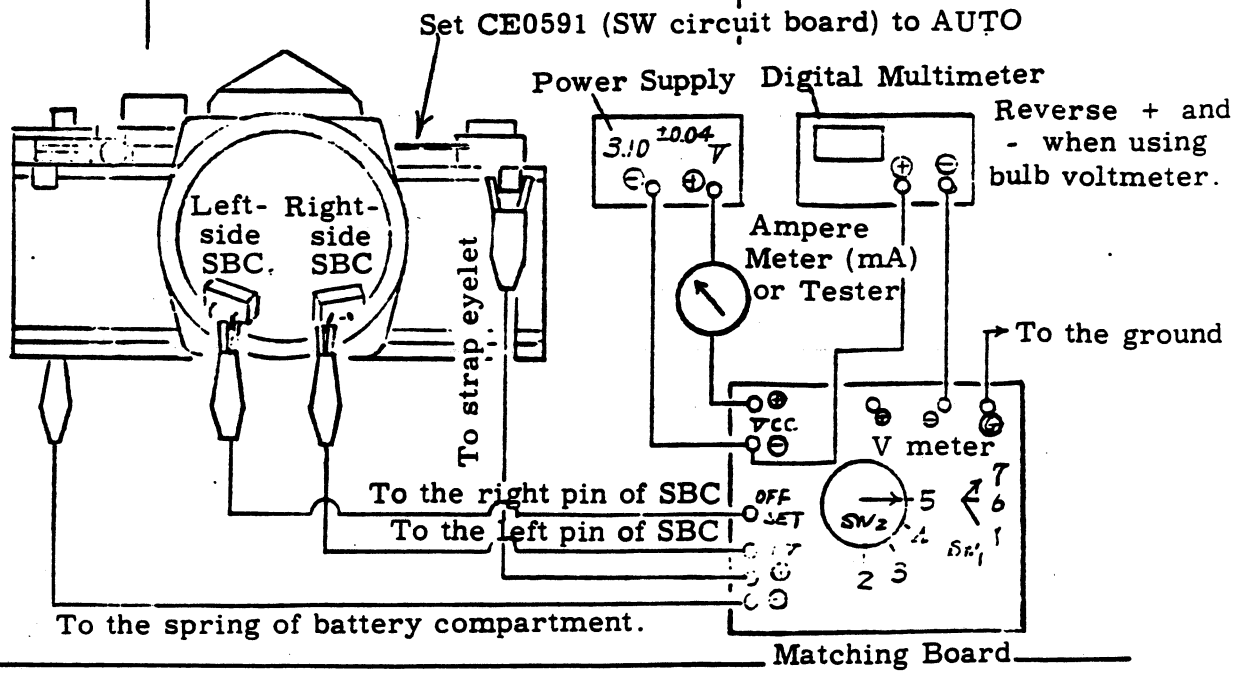


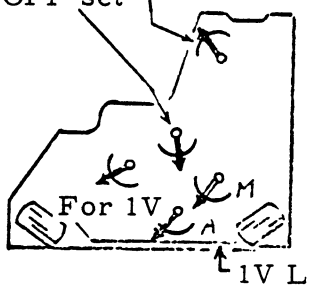
11) The variable resistor should be locked using adhesive. after adjustment.

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	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 →ON) c. Set CE0591 (SW circuit board) to AUTO. d. Set the power voltage to 3.10±0.04V. 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.)

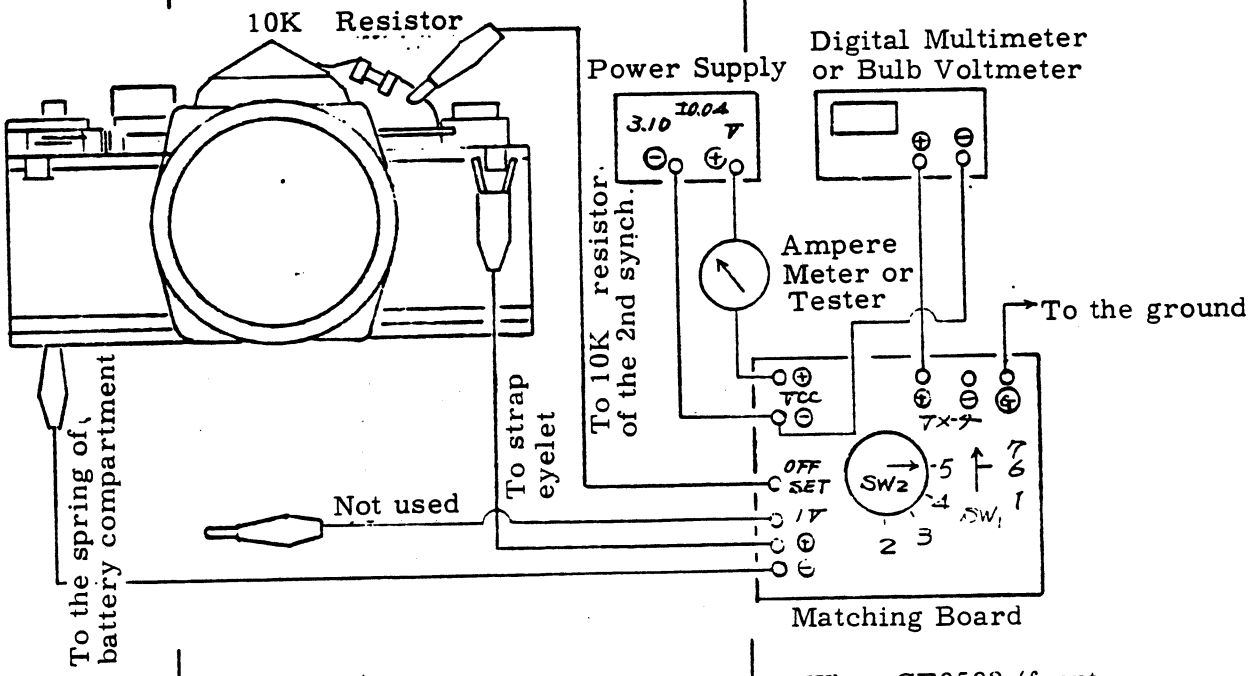


Items	Method	Remarks
	* When CE0502 (front plate) is removed. 1. Connect the clip wired to the battery compartment to the black LW on the bottom. 2. Advance the wind lever and turn on the trigger switch. ** When CE0914 is to be adjusted as a single body. 1. Connect the clip wired to the strap eyelet 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).	Note: 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.
2) 1V adjustment	a. Set switches of the matching board to 5 and 7. respectively. b. ASA = 12 c. Adjust to 0.99 ± 0.01V with the VR for 1V (1.2Kn). (-0.99 ± 0.01V at above wiring of the digital multimeter.) *** The ASA rating is irrelevant when CE0502 (front plate) is removed and CE0914 is to be checked as a single body.	For comparator OFF set For preamplifier OFF set  1V Line Each VR is as above.
3) Elimination of static electricity from each part	(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.)	

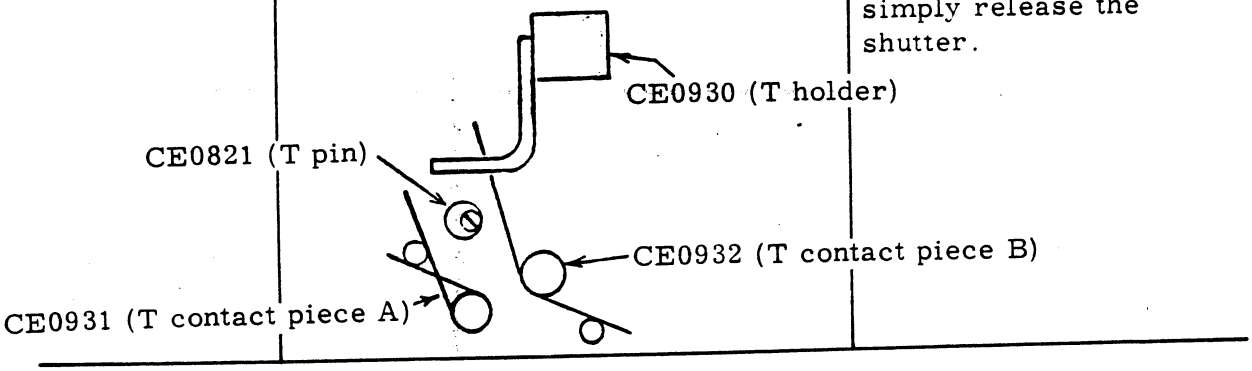
Items	Method	Remarks
	(2) Turn the Switch 1 in the sequence 7 → 6 → 1. Turn the Switch 2 in the sequence 5 → 4 → 3 → 2. (3) Turn the Switch 2 in the sequence 2 → 3 → 4 → 5. Turn the Switch 1 in the sequence 1 → 6 → 7.	Note: The SW circuit board should be surely set to AUTO upon the OFF set adjustment of preamplifier.
4) Off set adjustment of preamplifier	(1) The switches on the matching board are set to 5 and 7. (2) Adjust to 0 ± 0.5mV or less with the OFF set VR (2KΩ) for the preamplifier.	When the OFF set value is out of ±1.5mV, measure two times at every 6 hours: should be within ±1.5mV. See Section III-1-10).
5) Off set adjustment of comparator	(1) Disconnect the clip from the left pin of the right-side SBC. (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.) (3) The switches on the matching board are set to 5 and 7. (4) Adjust to the current changing point using the OFF set VR for comparator (10KΩ). Approx. 8mV → 12mV	** When the CE0914 is checked as a single body. 4.5mA → 12mA Adjustment is completed.

3. Operation check of CE0914 (M circuit board)

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

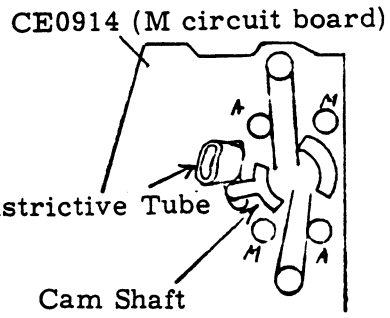


(5) Disengage CE0931 (T contact piece A) as shown below



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

Checking Items	Checking Procedure	Remarks
	* When CE0502 (front plate) is removed: 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 . ** When CE0914 is to be checked as a single body: 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 (sylinder) of CE0914.	
2) Check of automatic operation	(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.	** When CE0914 is a single body. Insert a thermo-constrictive tube or similar material between CE0914 and cam shaft as shown below to set to AUTO.

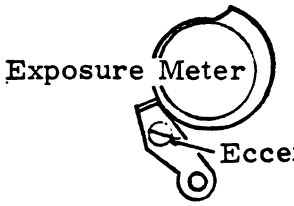
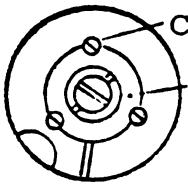
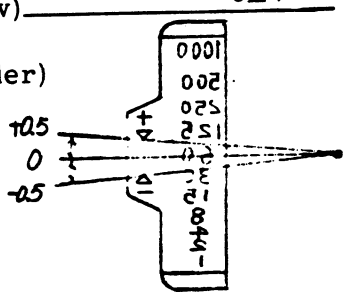
Checking Items	Checking Procedure	Remarks
	Tr SW ON: Digital multimeter (or bulb voltmeter) 2.8 - 2.9V Ampere Meter Approx. 8mA Tr SW OFF: Digital multimeter (or bulb voltmeter) 0V Ampere Meter Approx. 12mA	
3) Check of manual operation	(1) The switches on the matching board are set to 5 and 7. (2) Set the SW circuit board to MANUAL. (3) Make the same operation as (3) above. When same values as in AUTO are obtained, normal.	

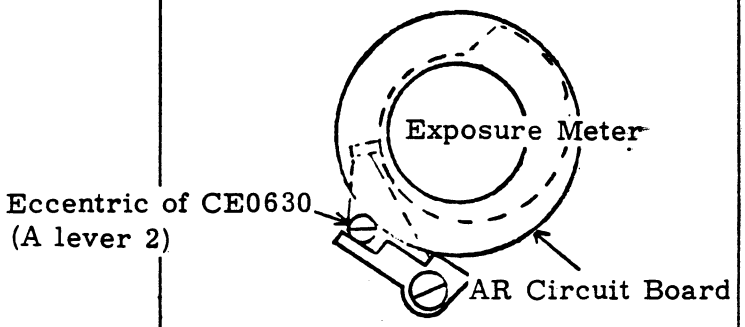
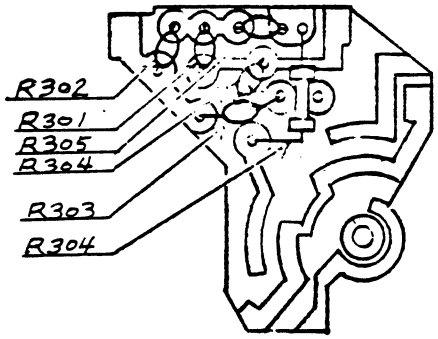
IV. EXPOSURE METER

1. Meter needle stuck

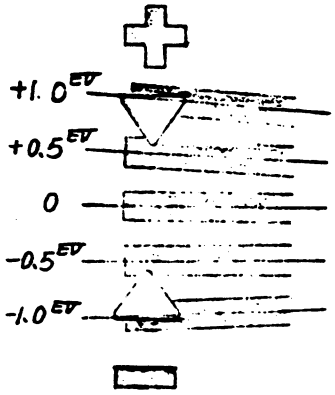
Cause	Remedy	Checkup
1) Disconnected CE0622 (teflon tube)	Teflon tube (CE0622) inserted into the needle holder may become detached. After taking out the fallen tube from inside the camera, insert a new tube into the needle holder without applying adhesive. Cautions: o Take care not to deform needle holder. o Do not use adhesive, because it is ineffective with teflon.	1. One CE0622 should be provided on the lower luminance side. 2. The mter 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
1) Zero point of meter off-positioned (Power voltage is 3.15±0.005V)	If off-positioned when confirming in the manner described at right, adjust as follow. (1) Coarse adjustment a. Preparation for adjustment 1 ASA = 100 2 f/stop = 2.8 3 Current = 121μA 4 Set the eccentric position of A lever to the center, and do not use it in the coarse adjustment.  Slitting faces slightly upward 5 There should be about 1mm clearance between CA8997 (spring gear) and CA8978 (lower boss). b. Adjustment Loosen three pulley screws fixing CA8981 (pulley holder) to adjust by slightly moving CA8981. o When zero point is to (+) side: Turn the pulley clockwise. o When zero point is off to (-) side: Turn the pulley counterclockwise.  	(1) Disconnect the black lead wire of the meter movable section from CE0591 (SW circuit board). (2) Set the camera as follow. 1 ASA = 100 (2 wires of CE0645 AR circuit board) 2 f/stop = 2.8 (3) Connect the blue lead wire of the resistor box to the black lead wire of the meter movable section. Connect the white lead wire of the resistor box to (-) of the ammeter and (+) of the ammeter to the camera body to take the earth. (4) Adjust the resistor box to 121μA. The meter needle should then be within the following range (power voltage is 3.15±0.005V). Reference: 0 $^{+0.3EV}_{-0EV}$ 

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

Cause	Remedy	Checkup
3) Defective at high luminance (BV 11)	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.	o Set the camera as follow. ① ASA = 100 ② Shutter speed = 1/60 sec. ③ f/stop = F5.6 (jig lens) ④ Set to MANUAL. o At BV 11: CE0503 removed: -0.1 ± 0.1EV CE0503 not removed: 0 ± 0.1EV Cautions: 1. The lens should be closely in contact with diffusion plate. 2. Extraneous light should not enter.
4) Defective at high luminance (BV 16)	Adjust by changing resistor R304 of CE0591 (SW circuit board). See 2) of preceding page for the position of resistors.	o Set the camera as follow. ① ASA = 100 ② Shutter speed = 1/500 sec. ③ f/stop = F 11 (jig lens) ④ Set to MANUAL. o At BV 16: CE0503 removed: -0.1 ± 0.1EV CE0503 not removed: 0 ± 0.1EV

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

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	30KΩ	-0.1 ± 0.1
11	"	1/60	5.6	303. 302	12KΩ	"
16	"	1/500	11	304	27KΩ	"

Reference Resistance

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

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

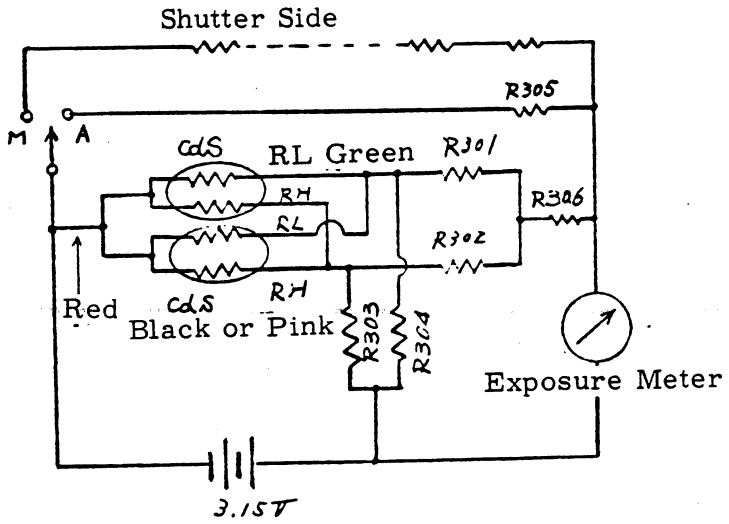
Cause	Remedy	Checkup
(See Section IV-2-2))	② Adjustment at BV 8 Set the luminance to BV 8 and adjust by changing resistor R301 of CE0591 (SW circuit board).	See the table in the previous page for combination of camera settings. -0.1±0.1EV with CE0503 removed.
	③ Re-confirm BV 4.	-0.1±0.1EV with CE0503 removed.
	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.	-0.1±0.1EV with CE0503 removed.
	⑤ Check at BV 8 Compensate the value added by the above adjustment with R304.	
	⑥ Check at BV 4.	-0.1±0.1EV with CE0503 removed.
	⑦ Adjustment at BV 16: Set the luminance to BV 16, and adjust by changing resistor R302 of CE0591.	-0.1±0.1EV with CE0503 removed.
	⑧ Confirm at BV 16 - BV 4.	
6) Defective resistance of CE0555 (circuit board B)	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.  	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.)

Cause	Remedy	Checkup
	S.S. / Resistance value / Tolerance Range (see table below)	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 KΩ	283 - 312.9 KΩ
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) ≒ 30KΩ

R302: For correction of low luminance side (EV 4 - 8) ≒ 27KΩ

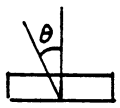
R303: For correction of high luminance side (EV 11) ≒ 12KΩ

R304: For correction of high luminance side (EV 14 - 16) ≒ 12KΩ

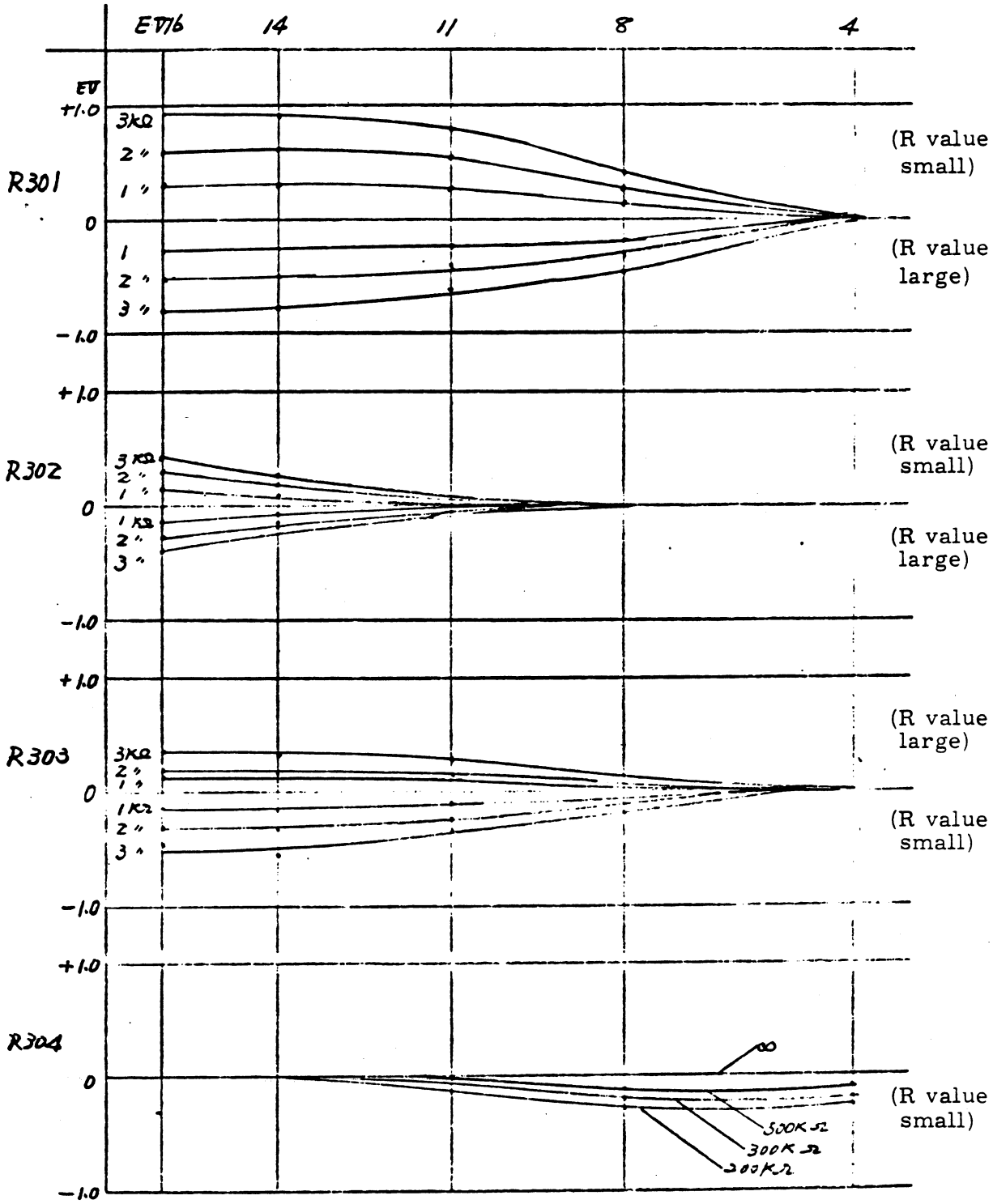
R305: Resistance value is same as at shutter speed of 1/60 sec (68.3KΩ)

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

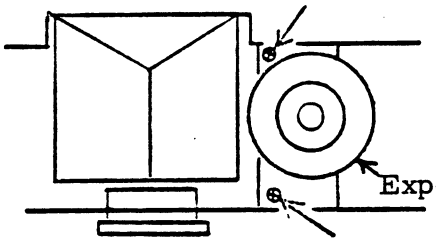
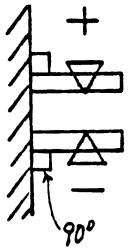
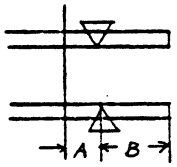
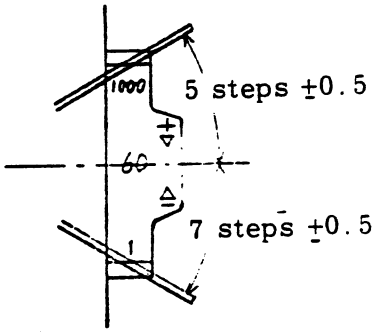
Comparison with MDS

<table>
<tr><th colspan="2"></th><th>MDS Revised</th><th>MDS</th></tr>
<tr><td>Coupling</td><td>Aperture Ring</td><td>Cord</td><td>Cord</td></tr>
<tr><td></td><td>Shutter Dial</td><td>Current (CE0555 circuit board B)</td><td>Cord</td></tr>
<tr><td>Movable Section</td><td>Deflection Angle of BV 2
 
</td><td>θ = 55μA</td><td>θ = 15μA</td></tr>
<tr><td>Check Point</td><td>ASA = 100</td><td>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</td><td></td></tr>
</table>

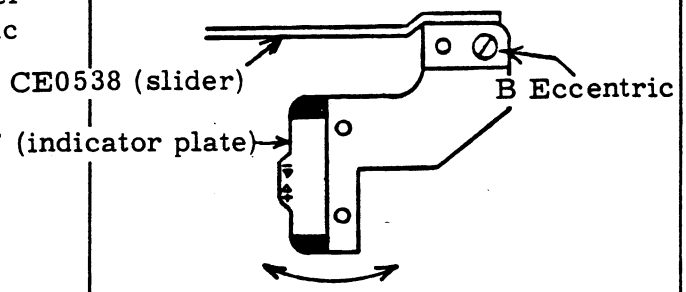
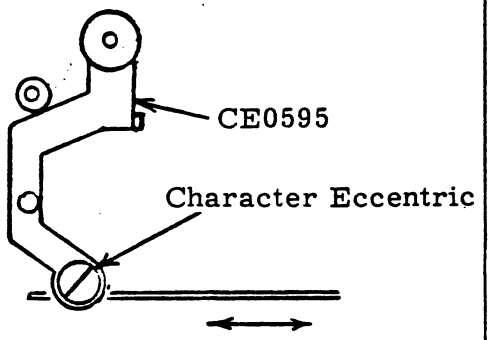
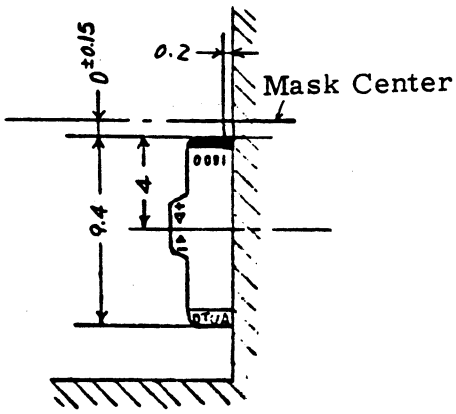
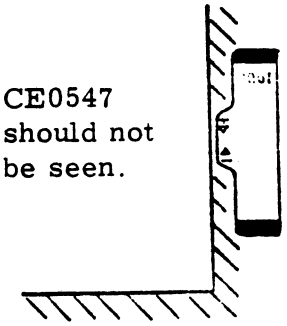
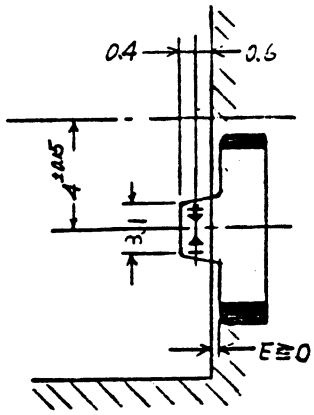
Matching Resistance and Change in Meter Deflection



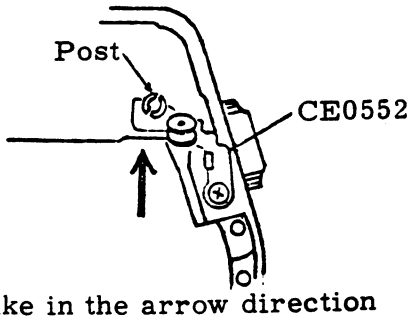
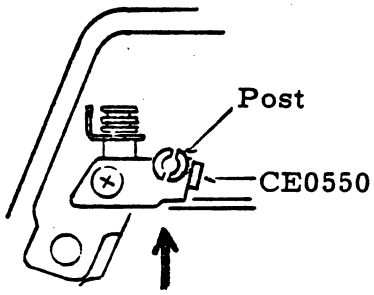
3. Improper position of meter needle

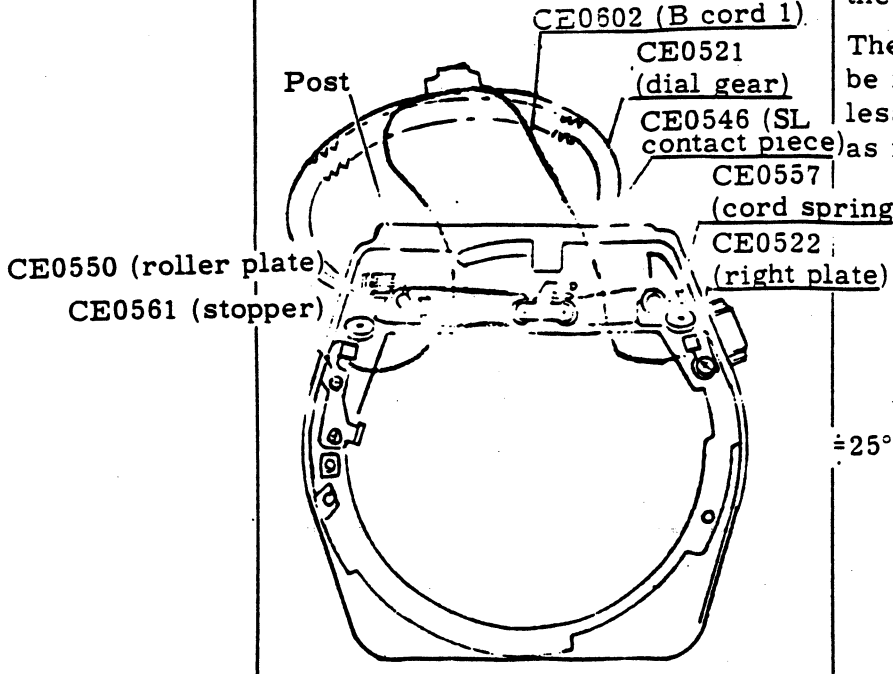
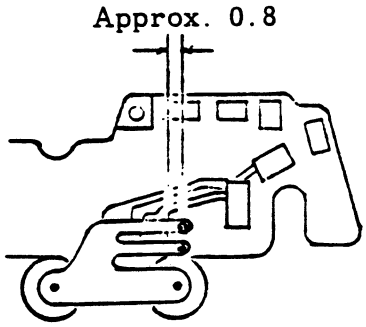
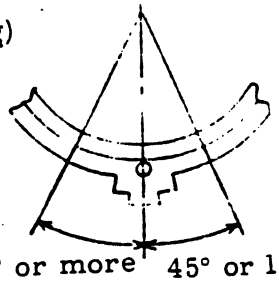
Cause	Remedy	Checkup
1) Tilted meter needle	Re-tighten two PUK1.7 x 2SO screws of the meter so that, at either one of the (+) or (-) side. the meter needle is rectangular to the side of the mask when an edge of the needle is aligned to the center of the triangle mark.  	 The angle should be 90° either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

4. Improper position of CE0547 (viewfinder indication plate)

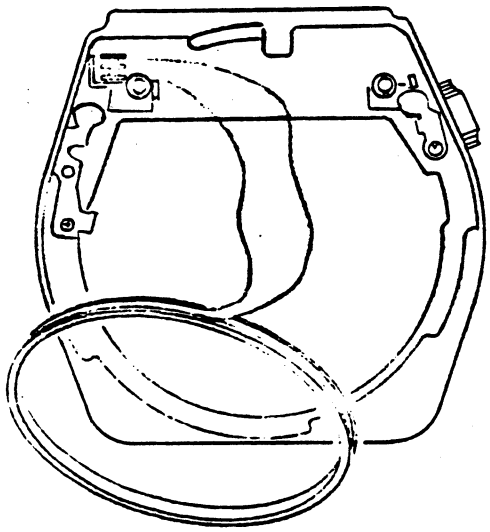
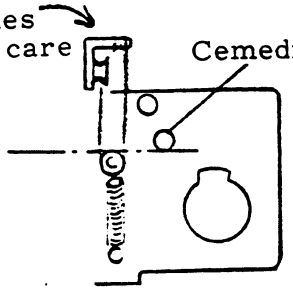
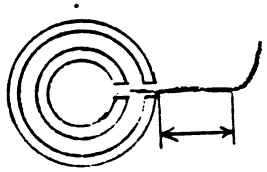
Cause	Remedy	Checkup
1) Improper adjustment of B eccentric and character eccentric	After correcting the tilting with B eccentric of CE0538 (slider), adjust the position with character eccentric of CE0595 (character lever).  The B eccentric adjustment should be made with CE0502 (front plate) removed. Adjustment of character eccentric of CE0595 (character lever)  When adjustment only for character eccentric. is to be made. remove CE0503 (top plate); the eccentric will be seen underneath CE0591 (SW circuit board). Caution: Use RIGROIN or DAIFLON S3-E for the cleaning of CE0547. Never use mixed solution. (It may be erase the characters.)	a. Tilting There should be no unsightly tilting. b. Position at AUTO  c. At OFF  d. At MANUAL 

5. Improper changing of shutter speed

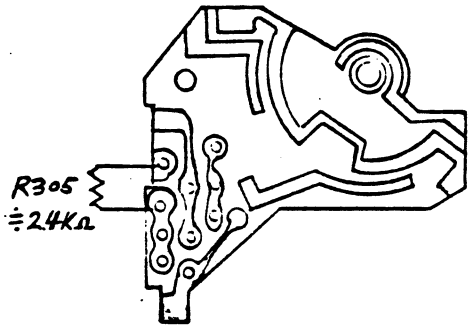
Cause	Remedy	Checkup
1) Improper position of CE0552 (right side plate)	After confirming that the roller operates normally. strike CE0552 against the post illustrated below and tighten it.  Strike in the arrow direction	
2) Improper position of CE0550 (roller plate)	After confirming that the roller operates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

Cause	Remedy	Checkup
4) Defective CE0602 (B cord 1)	Replace on re-attach CE0602 in the following manner. (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).  Gluing: Cemedine 3000RS	CE0546 (SL contact piece) should be in the position shown below when the shutter dial is set to 1/1000.  Gluing of the cord to CE0521 (dial gear): Drip 2 - 3 drops of Cemedine 3000RS into the gluing hole of CE0521. The gluing area should be more than 45° and less than 90° (20 - 30mm) as illustrated below. 

6. Improper coupling of CE0522 (coupling ring)

Cause	Remedy	Checkup
1) Defective CE0603 (B cord 2)	If CE0522 (coupling ring) operates normally, check CE0603. When it is found defective, replace or adjust it in the following manner. (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). (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. (3) Glue the lower length to CE0635 (pulley M).  Wind three times clockwise with care not to cross  	 Do not apply Cemedine here. When CE0522 (coupling ring) is struck against the stopper. the condition should be as shown at left.

7. Excessive indication difference between AUTO and MANUAL

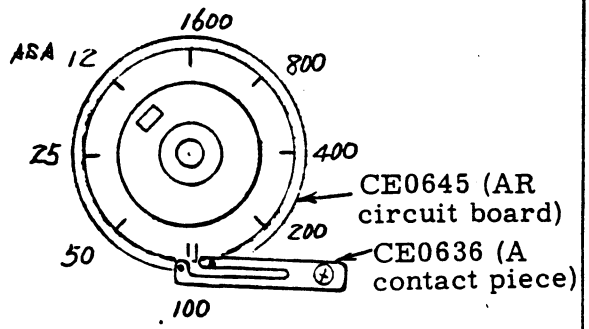
Cause	Remedy	Checkup
1) Improper adjustment of R306	Replace R306 to have the condition at right.  	Check Points at AUTO/ MANUAL. EV (ASA) Shutter Speed FNO 8 100 1/30 2.8 11 " 1/60 5.6 14 " 1/125 11 16 " 1/500 11 o Standard ... ±0.3EV for each check point. o Set to zero at MANUAL and switch to AUTO and see deviation from the center of each shutter speed value.

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

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

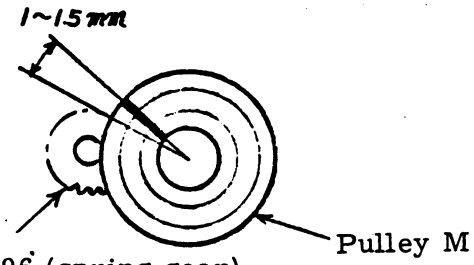
9. Others

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

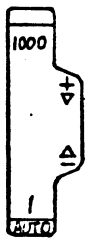
c. Engagement of M gear and CA8983 (P gear) = 2.5 teeth

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.

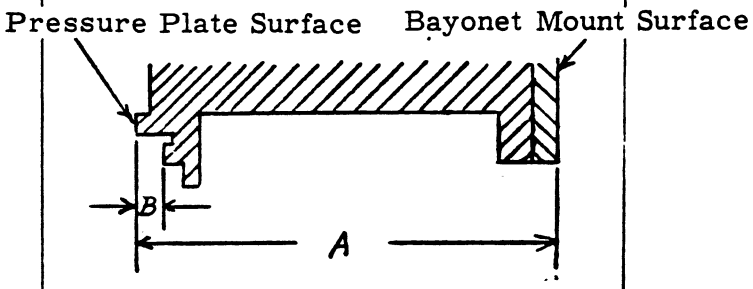
a. As the current consumption of the exposure meter is several 100μA. the battery can supply 3.15V without voltage drop.

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.

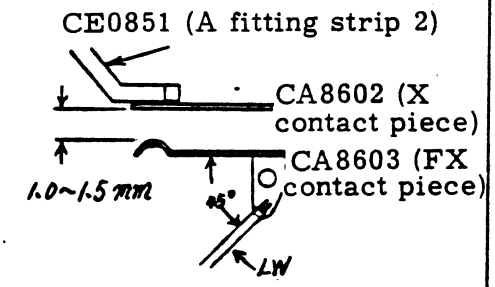
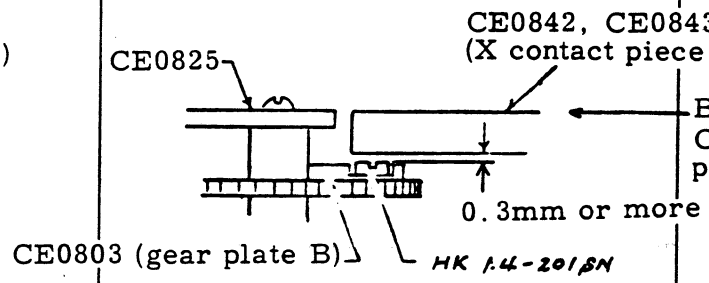
Owing to the above reasons. the power supply voltage should be set to 3.15V for the exposure meter and 3.10V for the shutter when the constant-voltage power supply is used.

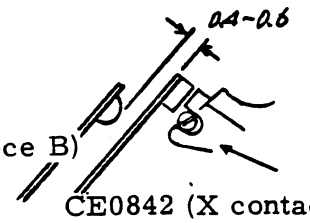
V. PERFORMANCES

1. Poor focusing

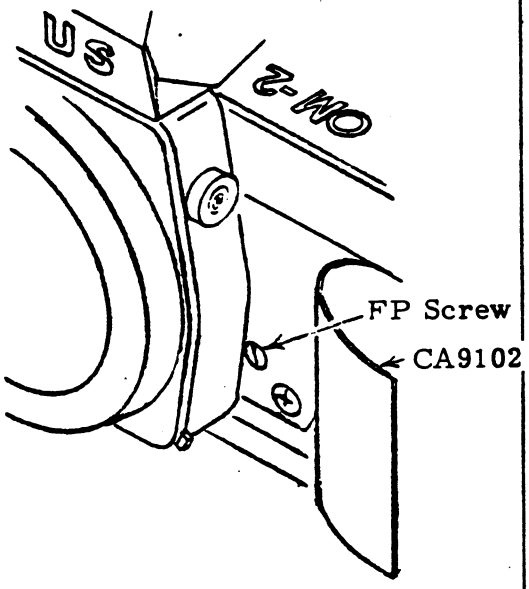
Cause	Remedy	Checkup
1) Adjustment of flange back	The distance from CA8877 (bayonet mount) to film pressure plate surface should be: $A = 46.2^{+0}_{-0.02}$ The distance from pressure plate surface to film rail surface should be: $B = 0.2^{+0.02}_{-0.01}$  Adjustment should be made with CA9106. CA9107 and CA9170 (spacer). (See the OM-1 Repair Manual.)	
2) Poor focusing in viewfinder	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.)	

2. WX contacts not conductive

Cause	Remedy	Checkup
1) Conduction failure between CA8602 (X contact piece) and CA8603 (FX contact piece)	CA8602 and CA8603 should be as follow. a. CA8602 should be pushing CE0851 after winding. (If not. bend CA8602.) b. CA8602 should not project from the edge of A Lever 1 (CE0851 ASS'Y) c. The clearance between CA8602 and CA8603 should be within 1.0 - 1.5mm.  Lead wire should be soldered at an angle of 45°	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. CA8602 and CA8603 should become conductive after the opening curtain finished running. 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.
2) Conduction failure between CE0842 (X contact piece A) and CE0843 (X contact piece B)	CE0842 and CE0843 should be as follow. (1) CE0842 and CE0843 should have a clearance of 0.3mm between HK screw of CE0803 (gear plate B) before winding.  (2) CE0842 and CE0843 should not project from CE0825 when winding is done.	

Cause	Remedy	Checkup
	(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.  Adjustment is to be made by retightening PUK1.4 x 1.6SO of CE0842 and CE0843 or by bending CE0842 and CE0843.	
3) Insufficient contact efficiency	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.	1/60 sec. at an interval of 1ms: 60% or higher 1/30 sec. at an interval of 2.5ms: 70% or higher
4) Check for insulation and continuity	Check in the following procedures. (1) Check for insulation of FP contact Check with the shutter speed set to 1/1. (2) Check for continuity of X contact It should be conductive with 3V when the shutter is released at 1/60 or slower. (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. (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.	(1) Should be 30MΩ or more at 500V when measured by insulation efficiency gauge. (2) X contact should be conductive at 3V. (3) Should be 30MΩ or more when measured by insulation efficiency gauge. (4) X contact should not be conductive and FP contact conductive at 3V.

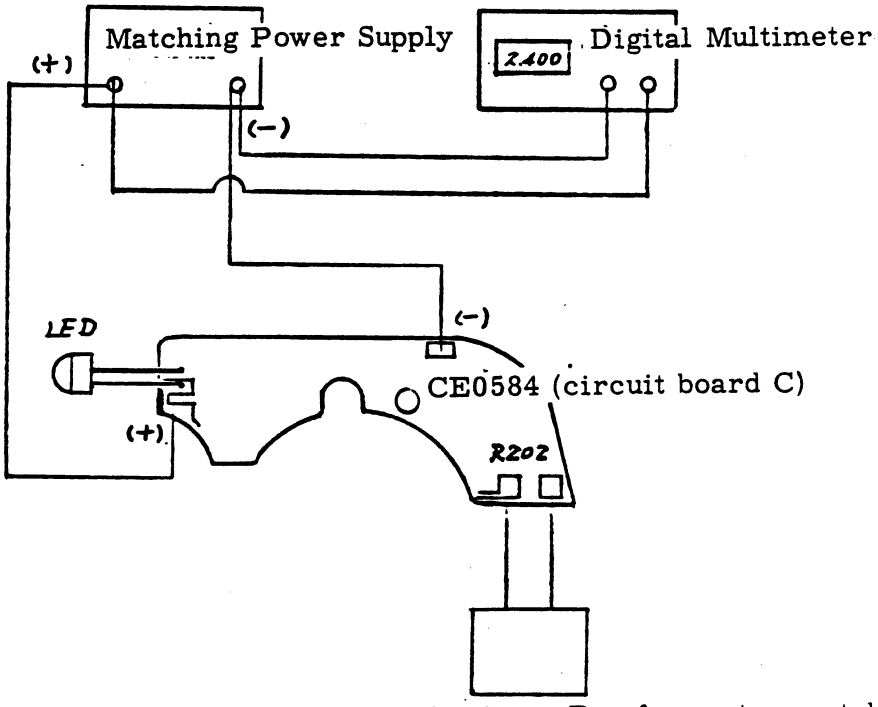
3. Improper time lag of FP contact

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

VI. OTHERS

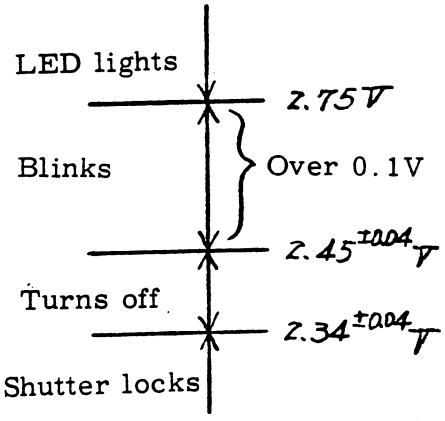
1. Improper battery checker indication

Cause	Remedy	Checkup
1) Improper matching of R202 (matching resistor)	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.	Turn-off voltage: 2.45±0.04V Blinking voltage: Difference with the turn-off voltage is 0.1V or more and 2.75V or less.



The part wired to the resistor box in the above drawing is R202, which is available in the following 11 types.

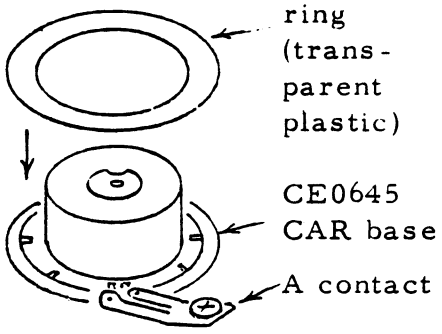
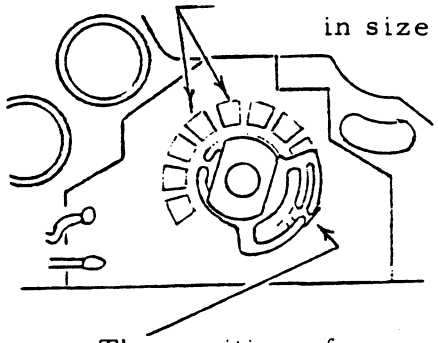
470Ω	±10%	1/16W
1.5KΩ	"	"
2.2 "	"	"
2.7 "	"	"
3.3 "	"	"
3.9 "	"	"
4.3 "	"	"
4.7 "	"	"
5.1 "	"	"
5.6 "	"	"
6.2 "	"	"

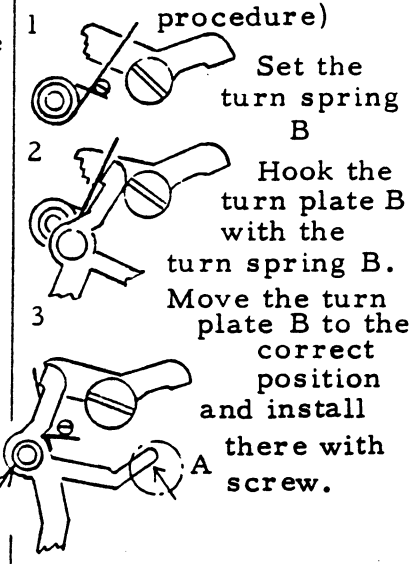
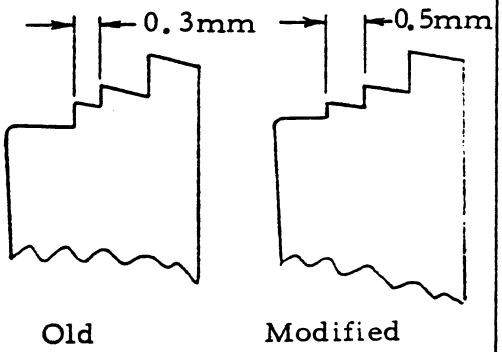


VII. SUPPLEMENT

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

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  The position of pattern and plastic plate is arranged by using 3-point contact instead of conventional 2-point contact.

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) 1 Set the turn spring B 2 Hook the turn plate B with the turn spring B. 3 Move the turn plate B to the correct position and install there with screw. 	. 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 mulfunction. 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. 

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

The bent-up portion furn plate B should be at right angles (counter-measure against shutter locked).

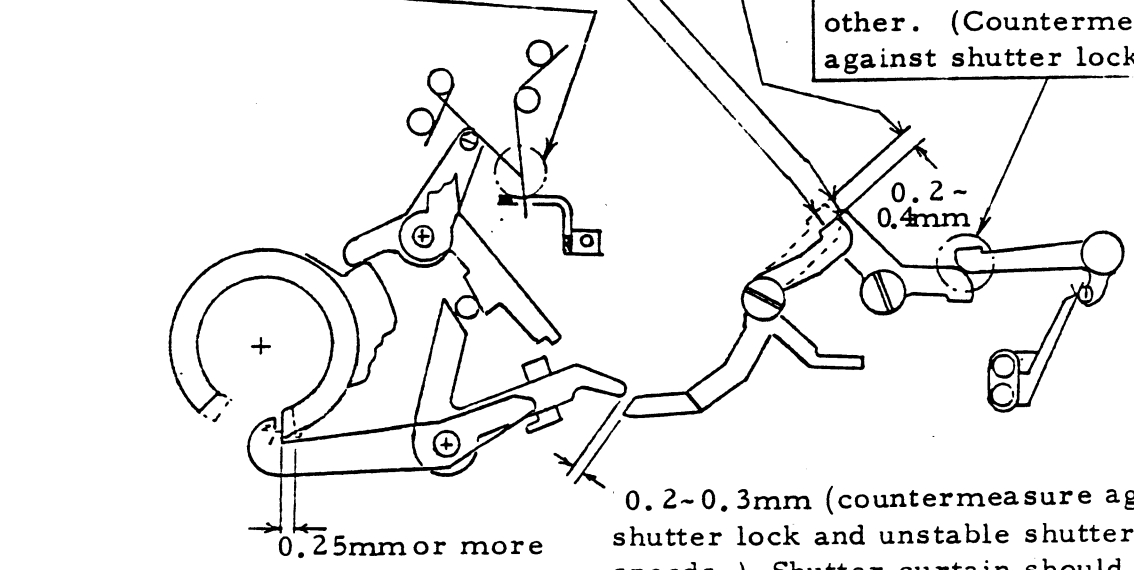
The tip of turn plate A should not rub on body die casting. (Special care must be taken in dealing with 7-type die casting.)

Should not be shortcircuited with trigger contact piece covering plate.

The trigger should be ON even after preparatory run of opening curtain (counter-measure against high speed shutter lock).

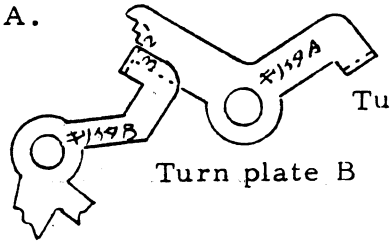
Turn plate B should hook on the 1st stage of turn plate A even when advancing the film rapidly. Charge allowance should be 0.2 - 0.4mm (countermeasure against shutter lock).

The turn plate A and SW lever should not rub each other. (Countermeasure against shutter locked.)



(Countermeasure against shutter lock)
If this dimension is exceeded, winding may become heavy.

0.2~0.3mm (countermeasure against shutter lock and unstable shutter speeds.) Shutter curtain should make preparatory run before the turn plate B comes on the 3rd stage of turn plate A.

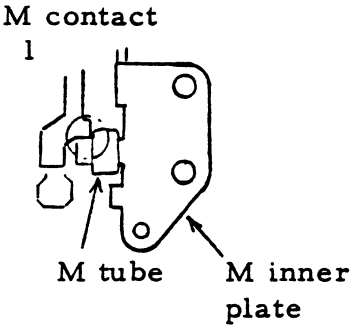
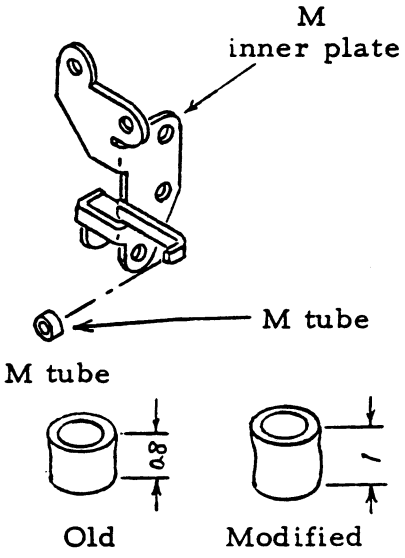


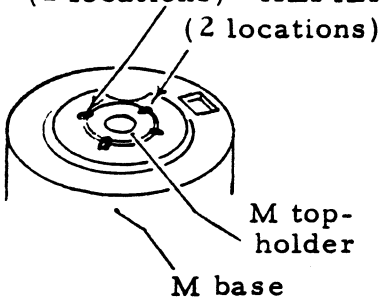
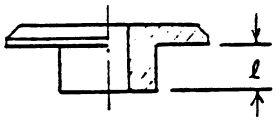
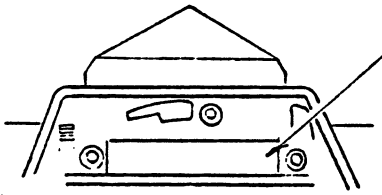
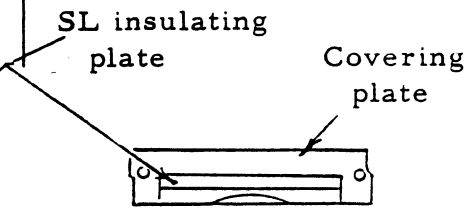
The condition where the turn plate B gets on the 3rd stage of the turn plate A.

Note: 1. Trigger contact piece A, B
2. Trigger shaft
Contact portions of above parts should be cleaned with FREON-TE (DU PONT).

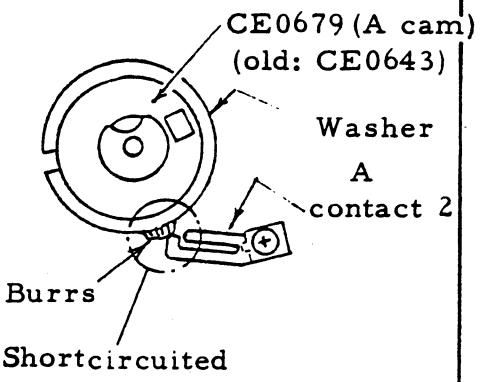
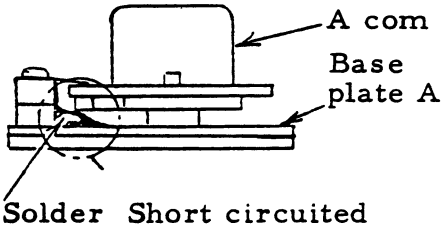
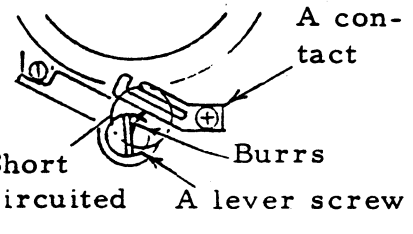
2. Measures to be taken against individual mulfunction.

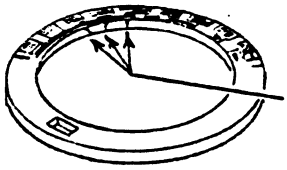
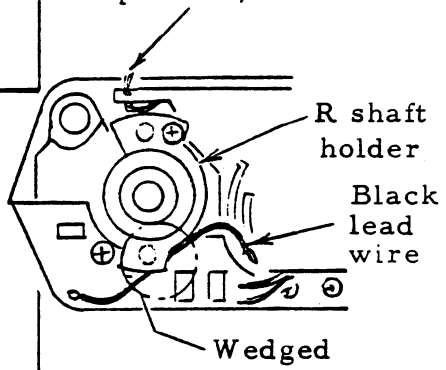
2-1 Measures requiring modification, addition and replacement of parts.

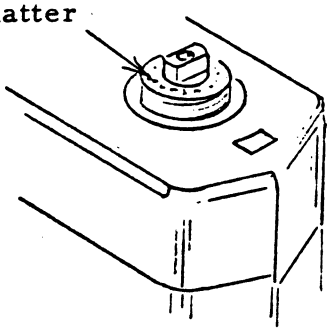
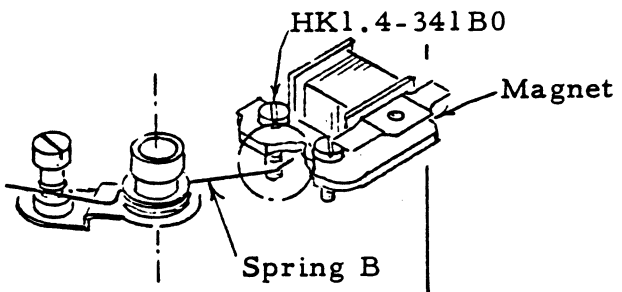
Symptom	Defective parts	Remedy	Remarks
Shutter locked. Battery exhausted abnormally.	Worn-out CE0871 (M contact 1) and CE0872 (M contact 2)	Disconnect front casting assembly from die cast body assembly and replace M contact 1 and M contact 2 by modified ones.	Modified ones are of the same size but stronger in tension.
	Improper size of CE0875 (M tube)	CE0983 (Minner plate) (old: CE0874) and CE 0871 (M contact 1) are shortcircuited because M tube is too short.  Disconnect front casting assembly from die cast body assembly and replace M tube by modified one.	

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 (2 locations) ALON 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 =0.25mm CE0687 M top-holder 1 ℓ =0.4mm CE0688 M top-holder 2 ℓ =0.55mm 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

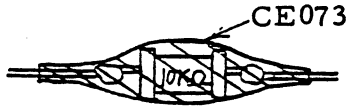
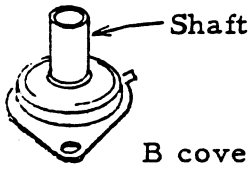
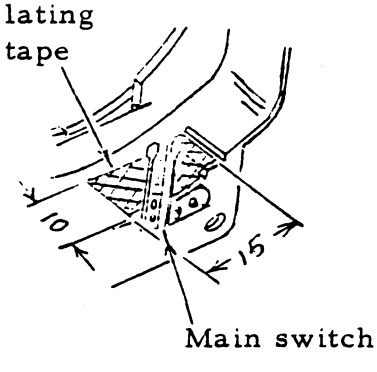
Symptom	Defective parts	Remedy	Remarks
Shutter locked	Short circuited CE0637 (A contact 2) due to improper shape of CE0644 (washer)	Burrs on the outer periphery of washer may cause short-circuit with A contact 2: replace	Shutter must not be locked at various ASA settings.  Shown with AR base plate removed.
	Short circuit between CE0679 (A cam) (old: CE0643) and solder of CE 0640 (base plate A)	Resolder	Shutter must not be locked at ASA 400. 
	Short circuit between HK1.4-633SN (A lever screw) and A contact	Remove burrs or replace screw.	
	Short circuit between OFF limiter resistor pin and CE0591 (SW circuit board) pattern		Short circuit occures in the new type SW base plate incorporating resistors of OFF limiter and AUTO limiter.

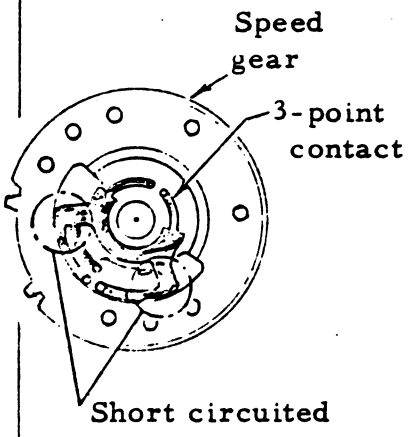
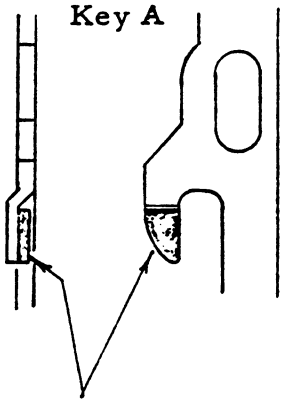
Symp-tom	Defective parts	Remedy	Remarks
Shutter locked	CdS lead wire wedged and short circuited under CE0524 (S base)		Short circuit may sometimes not occure at the time of repair but a few days after.
	AR base plate pattern extruded and short circuited with A cam		 Patterns extruded Viewed from back side of AR base plate.
	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)		 R shaft holder Black lead wire Wedged
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.

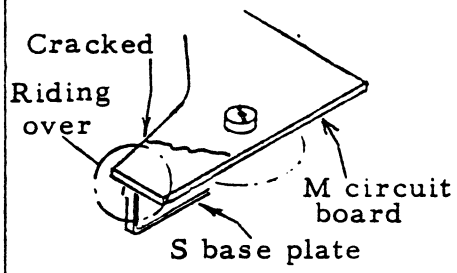
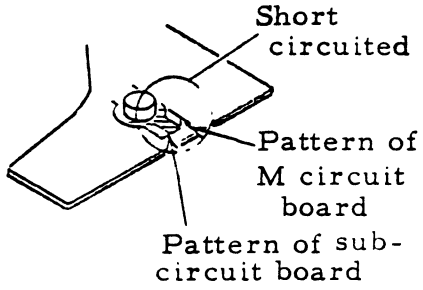
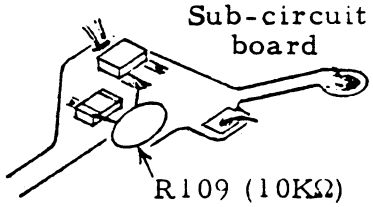
Symptom	Defective parts	Remedy	Remarks
Film advancing lever not returned	Chips, cuttings, etc. remained in the area indicated.	Clean before mounting the film advancing lever. Foreign matter 	
Shutter locked	CE0819 (Spring B) disengaged from HK1.4-341B0 (magnet screw)	Hook the spring B as illustrated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

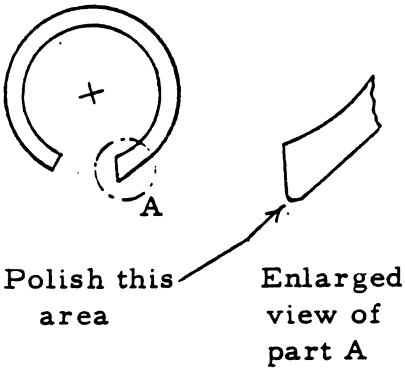
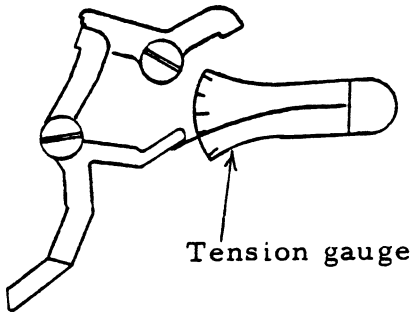
3. Measures to be taken to ensure safety when overhauling the camera

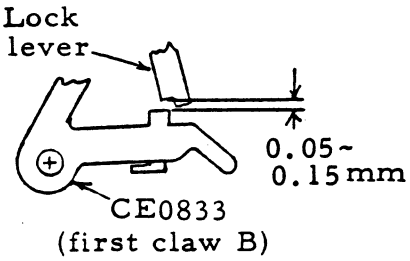
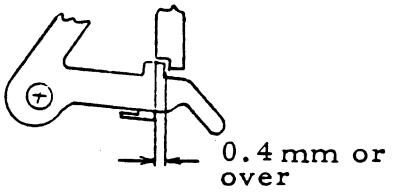
3-1 Measures requiring modification, addition and replacement of parts

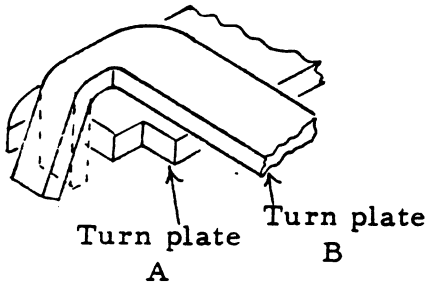
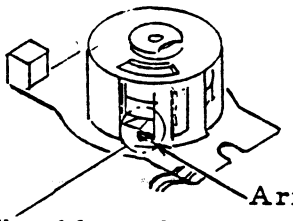
Symptom	Defective parts	Remedy	Remarks
Shutter locked	Short circuit between 10KΩ resistor of TTL terminal and top cover	Cover the whole 10KΩ resistor by means of CE0830 (thermo-constrictive tube), and heat it till it holds the registor tight. 	
	Detached caulking of CE0507 (B cover) shaft	Replace B cover 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. 	

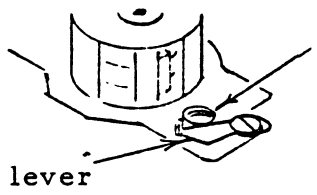
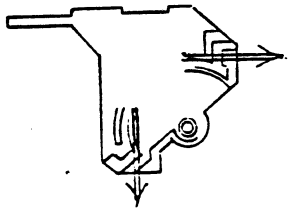
Symp-tom	Defective Parts	Remedy	Remarks
	Short circuit between CE0829 (speed gear) and CE0925 (3 point contact	Replace speed gear by teflon-coated one, or file away short circuited portion.  	
Defective rear cover lock	Insufficient thickness of CA8717 (Key A)	Replace key A by modified one.	Modified key has following structure.  This member is added to increase thickness.

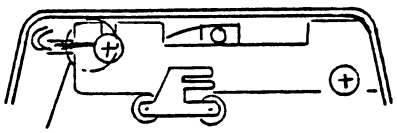
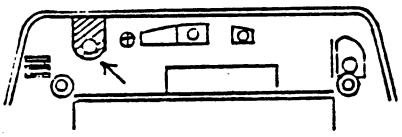
Symptom	Cause	Remedy	Check up
Shutter locked	CE0527(T washer) dropped and entered into interior	The washer may have fallen into mechanism when removing the top cover. Bond the washer with PLIOBOND.	
	Defective function of CE0515 (KM lever)	KM lever must operate smoothly and securely.	Charge allowance 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.	
	Short circuit between M circuit board pattern and solder of CE 0938 (Sub-circuit board)	Sub-circuit board pattern may be extruding over the edge. To remedy: lift sub-circuit board	
	Poor conduction of R109	Poor soldering or poor conduction inside resistor. Resolder of replace resistor.	

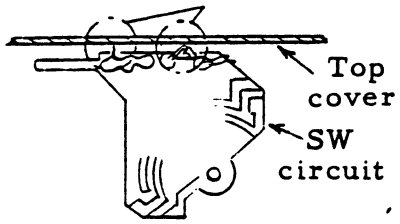
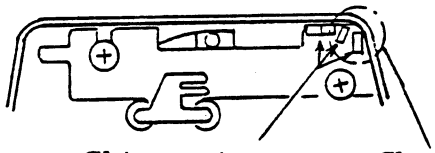
Symptom	Cause	Remedy	Check up
Shutter locked	Vertical friction of CE0865 (gear plate B) and CE0866 (rear claw A)		
	Broken wire of CE0813 (Magnet)		
Shutter lock not released (Reset is impossible)	Displaced engagement of CE0829 (speed gear)		Check by reference hole of speed gear.
	Defective function of CE0515 (KM lever)	. Friction with lead wire . Deformed lever	
	Insufficient fineness of A gear surface	Polish part A using screwdrive No. 1 with its tip wrapped by sandpaper #3000~4000 (for three minutes).  	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. 
	Insufficient fineness of CE 0832 (first crew A) surface	Polish in the same manner as above.	

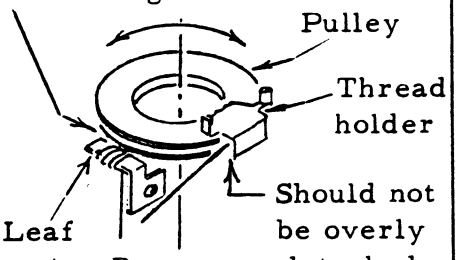
Symptom	Cause	Remedy	Chek up
Shutter does not lock	Shutter releases at 2nd step of CE0885 (turn plate A)	. Adjust clearance between CE0833 (first claw B) and CE0886 (turn plate B). . Adjust clearance between CE0832 (first claw A) and CE0833 (first claw B).	Acceptable if first curtain makes preparatory 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 CE 0847 (lock lever)	Upon completion of winding, clearance indicated below should be present.  At 3rd step of CE0885 (turn plate A), hooking amount should be as indicated below. 	(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)	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.  Angle indicated by broken lines is correct.	
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.	Bend arm to correct.  Should not be in contacted.	Acceptable if meter needle does not bind when ASA is set to a high value and lens aperture near to maximum opening.

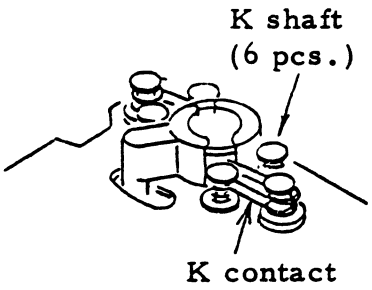
Symptom	Cause	Remedy	Chek up
Bind occurs in meter needle deflection	Iron powder entered into moving part of exposure meter.	Chips and cuttings of set screw of CE0626 (M lower plate) may enter when replacing moving part of exposure meter. Fill screw hole with PLIOBOND.  Setscrew hole of M lower plate. Fill with PLIOBOND A lever	Check by removing CE0679 (A cam). (old: CE0643)
Meter needle unstable	Flux adhered to pattern of CE 0591 (SW circuit board)	Clean the pattern with mixed solution (ether and alcohol).  Direction of cleaning	
	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 occures, apply insulating tape on top cover.	

Symptom	Cause	Remedy	Chek up
Meter needle unstable	Loose set screw of SW circuit board		
	Short circuit between lead wire and set-screw of CE0555 (circuit board B)	 Short circuited	
	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.)	 Remove circuit board B and clean the area indicated by arrow.	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.	

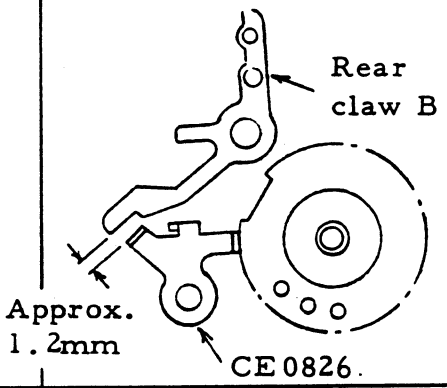
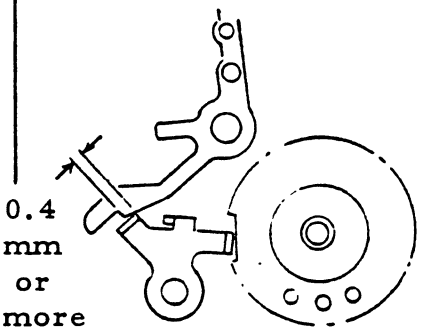
Symptom	Cause	Remedy	Chek up
Meter needle does not move	Short circuit between solder on resistor of SW circuit board and top cover	Short circuited  Correct the shape of solder or apply insulating tape to top cover.	
	Chip resistor of circuit board B contacted and short circuited with die casting (front casting)	 Chip resistors Short circuited	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.	Nedle stopper Old type: Teflon tube New type: Mylar sheet
	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.		

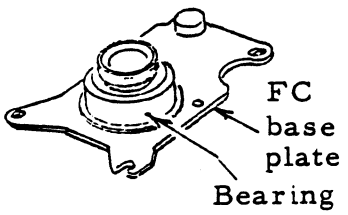
Symptom	Cause	Remedy	Chec up
Connecting ring not returned	Protrude ALON ALPHA on thread of CE0521 (dial gear)		
	Thread dis placed	Thread is liable to dis-place if CA8494 (lead spring B) is contacting with CE0635 (pulley). Floated thread holder of pulley also causes dis-placement of thread.	Should not be contacting 
Inaccurate meter indication	Excessive deflection 1. OFF center of CE0679(A cam) (old: CE0643) 2. Short circuited pattern of CE 0591 (SW cir-cuit 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	Mount the top cover by pushing it toward the front side. Take care to solder droplets.	Check indication accuracy after repair.

Symptom	Cause	Remedy	Check up
Inaccurate meter indication	Insufficient deflection 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.
	Variation in exposure accuracy at each EV 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	Deformed 3-point contact (CE0968) (old: CE0925) Insufficient contact pressure Excessive clearance between contacts Overlapped contacts of 3-point contact 3-point contact detached from contact pattern	Replace by the one with modified patterns or modified washer angle.	
Shutter fully opened	Poor conduction of K shaft and K contact (CE0935) 1. Smudged K shaft 2. Smudged K contact 3. Overlapped or bent K contact 4. Floated K shaft	Clean with FREON-TE.  	Check at each shutter speed. Check in both AUTO and MANUAL modes. Check at each ASA setting. (Check by moving up and down the A cam.) Take care to breakage of circuit board (CE0914). Check SBC condenser lens for smudge and cloud. Check interlock of 3-point contact and speed gear.

Symptom	Cause	Remedy	Check up
Shutter fully opened	Others 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)	Defective engagement of speed gear (CE0829) and dial gear. Defective engagement of speed gear tab and 3-point contact.	
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.

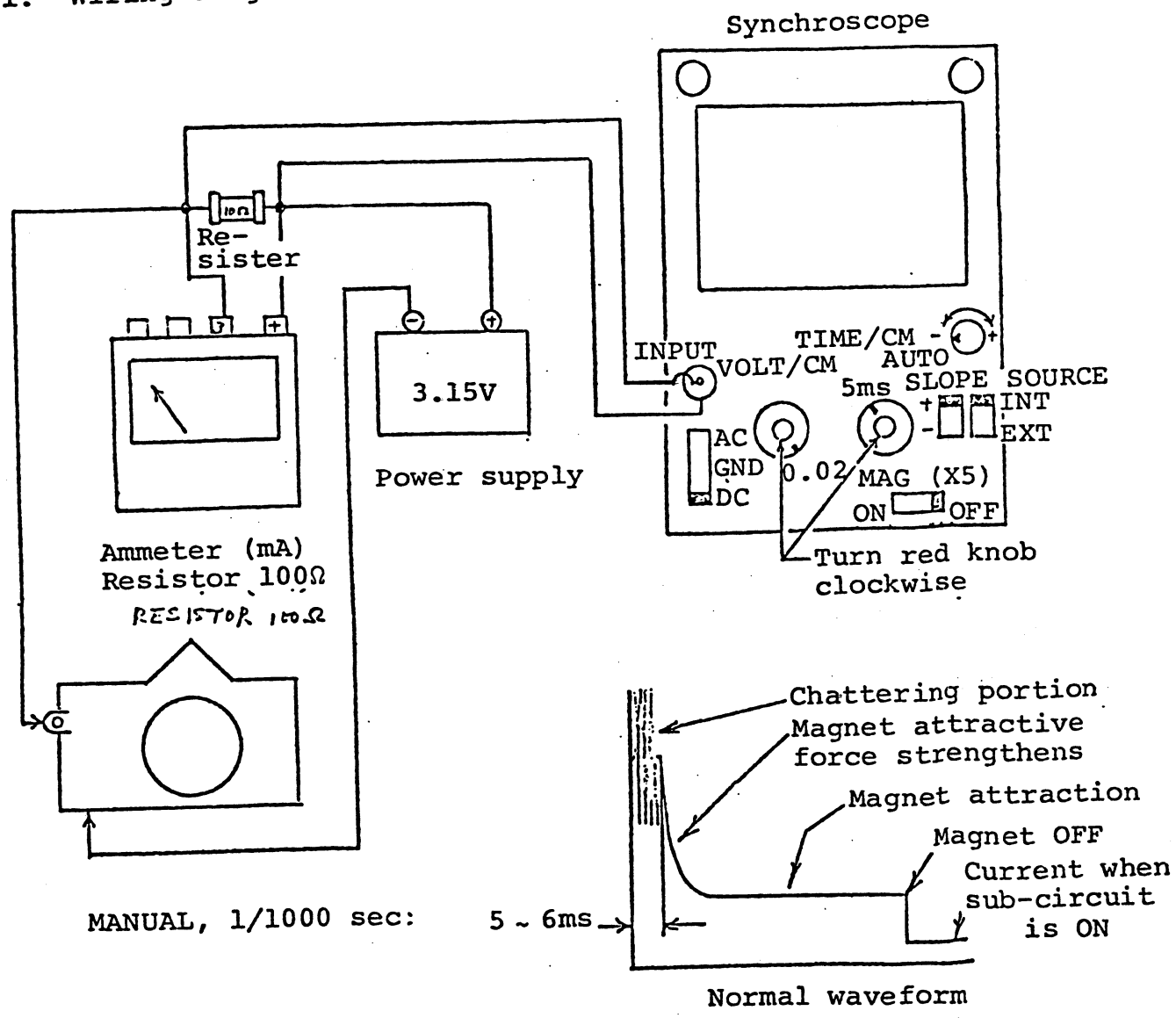
Symptom	Cause	Remedy	Check up
Shutter remains open even when "B" is released	Excessive engagement of CE0865 (gear plate B) and rear claw B (the plate underneath rear claw A (CE0816))		Shutter remains open without battery.
	Improper adjustment of space between B lever (CE0826) and rear claw B	When release button is pushed at any shutter speed other than "B", the following condition should result. 	When release button is pushed at "B", the following condition should result. 
Shutter runs facter 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		

Symptom	Cause	Remedy	Check up
Shutter runs facter than the shutter speed set	Defective AUTO/ MANUAL switching		
	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)		
	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.

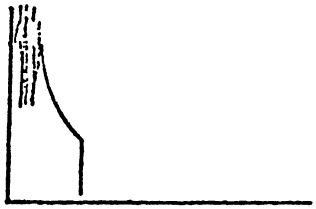
Test Using OM-2 Synchroscope

1. Wiring diagram

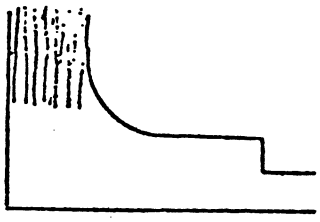


Note: This diagram indicates the circuit in which the change in current value is converted into the change in voltage by means of a 10-ohm resistor and observed on the synchroscope. Each waveform is to be considered as the change in current value.

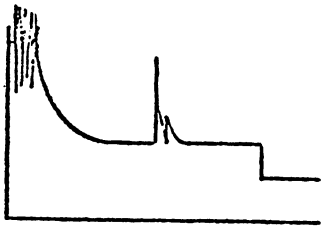
2. Examples of abnormal waveform



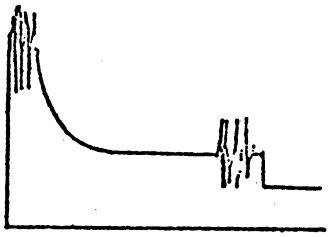
Main switch short circuited, Shutter locked.



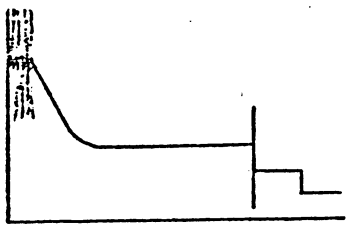
Excessive chattering, Defective main switch, Shutter locked.



Cloated holder plate, Shutter locked.



Smudged trigger switch, Shutter locked, Shutter speeds unstable.

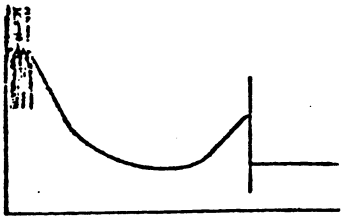


(Symptom)

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.

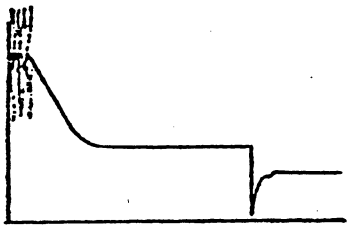


(Symptom)

Shutter locks from time to time.

(Cause)

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

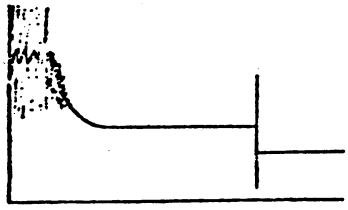


(Symptom)

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.

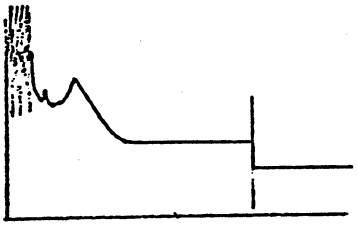


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

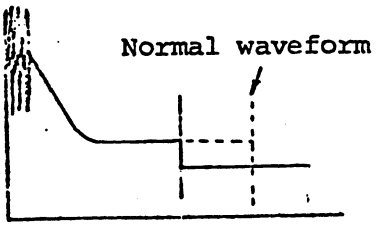


(Symptom)

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 (fornt claw B).

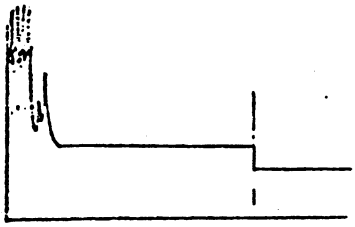


(Symptom)

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.

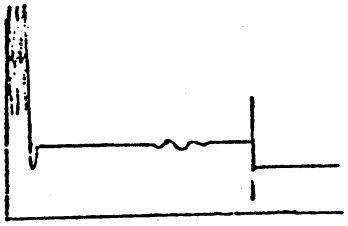


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

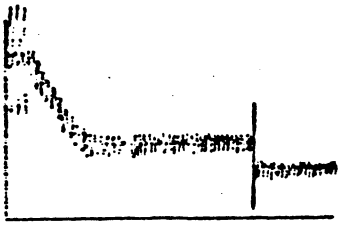


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

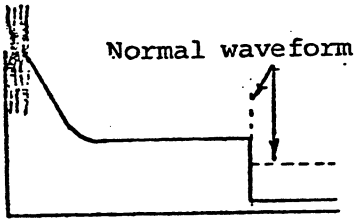


(Symptom)

Shutter lock occurs occasionally.

(Cause)

Main switch is dirty.

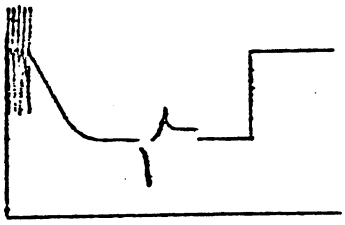


(Symptom)

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.

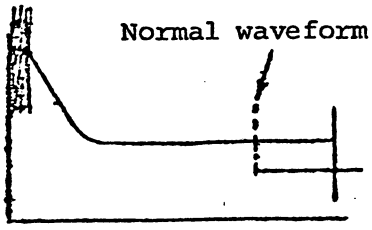


(Symptom)

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

(Cause)

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

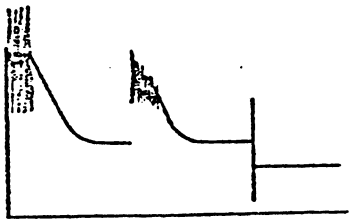


(Symptom)

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

(Cause)

Movable mirror does not move smoothly.

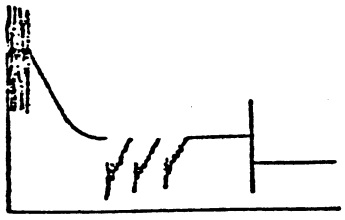


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

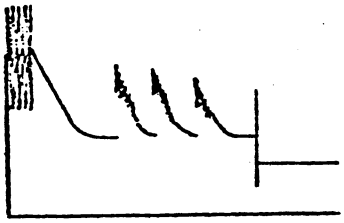


(Symptom)

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.

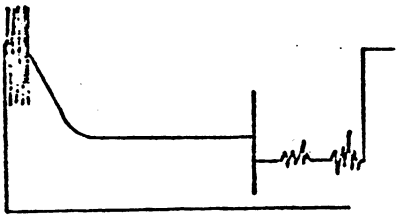


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

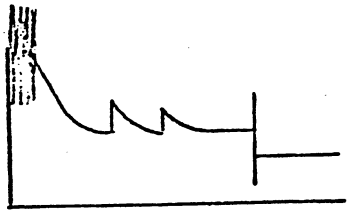


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

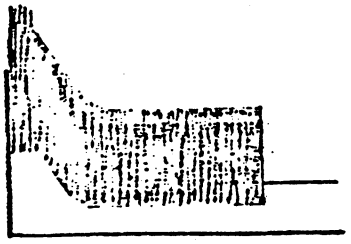


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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

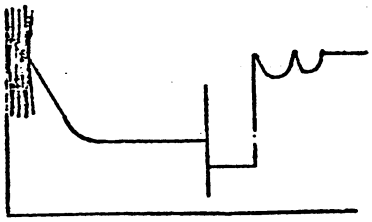


(Symptom)

Shutter lock occurs occasionally.

(Cause)

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



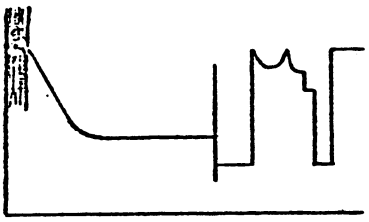
(Symptom)

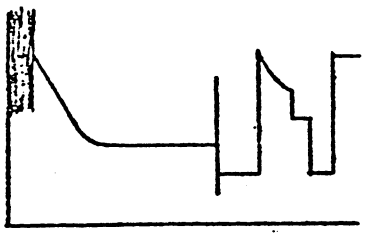
At AUTO and MANUAL, the shutter opens occasionally.

(Cause)

AT OFF SET, malfunction occurs.

The waveform changes due to the same cause of trouble.





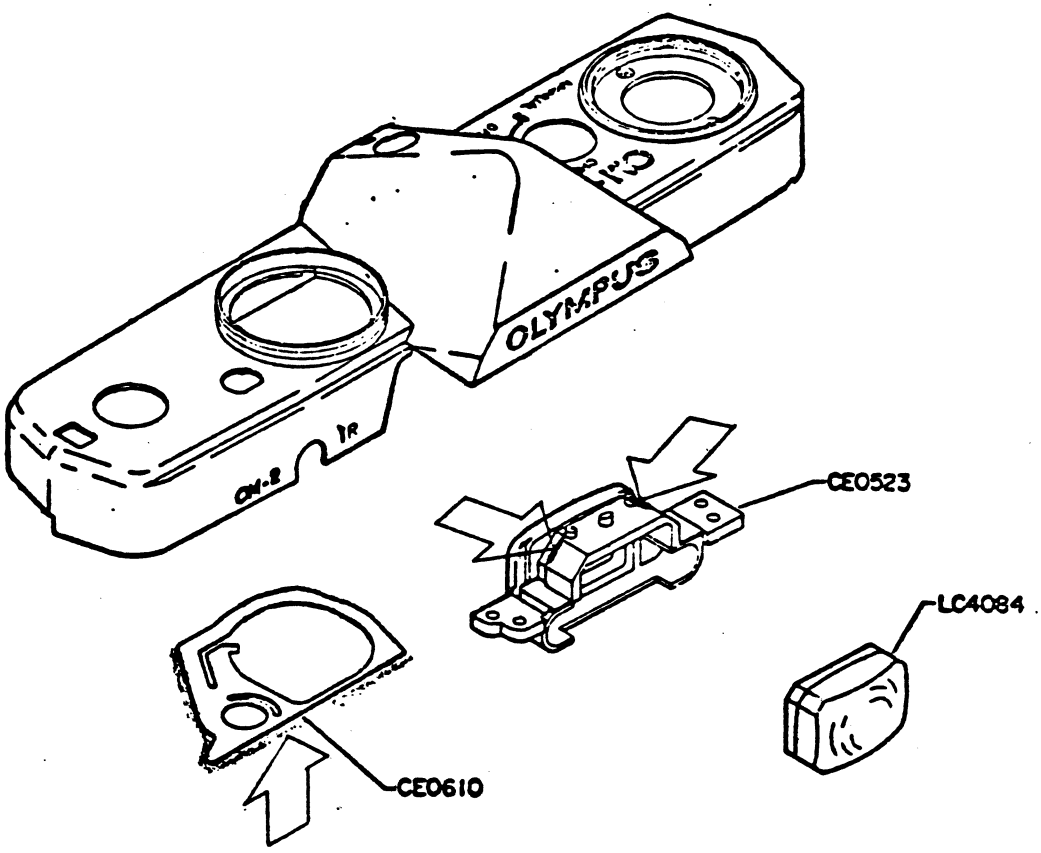
OLYMPUS OM-2

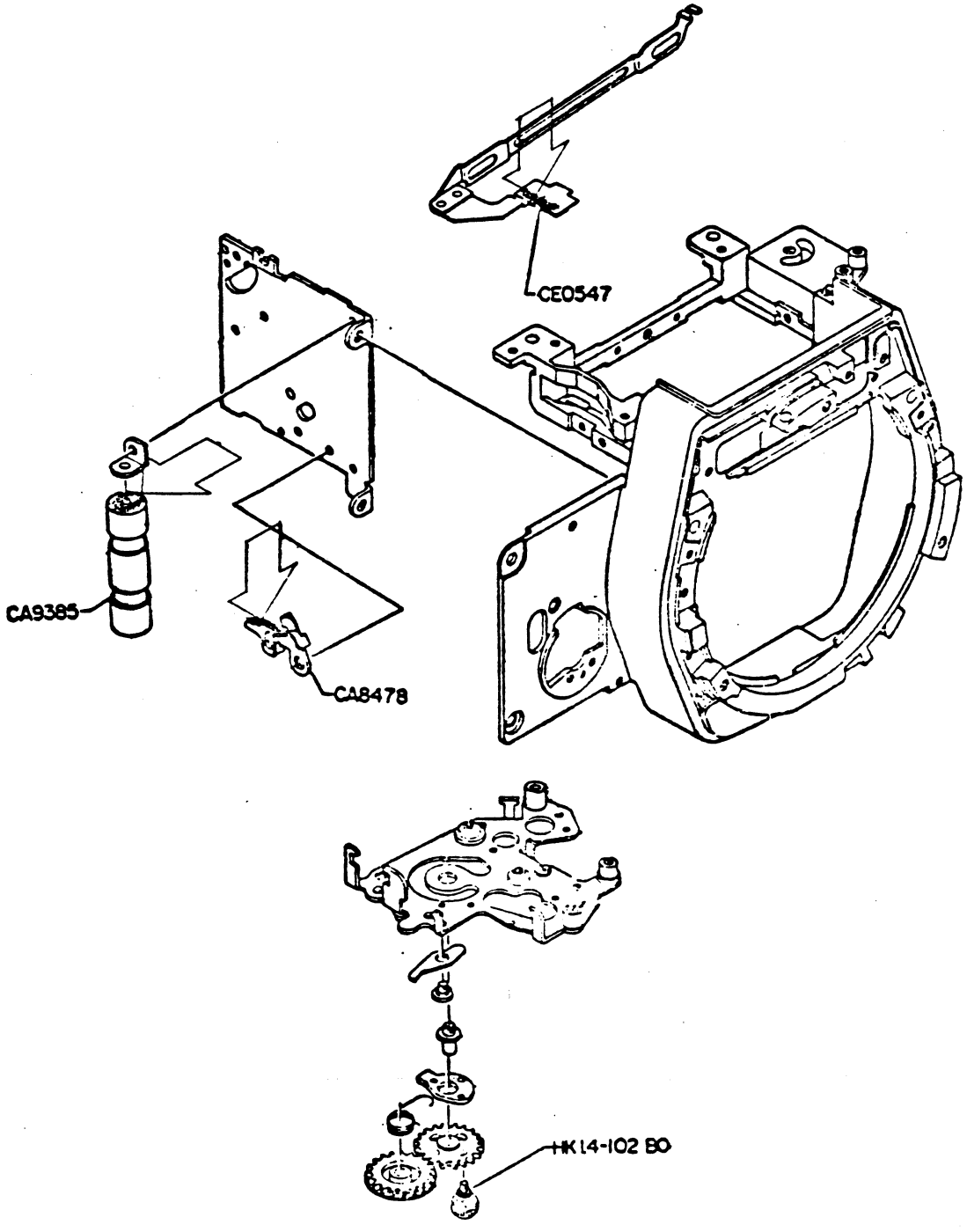
PARTS WHERE OIL. GREASE. ETC. SHALL BE USED

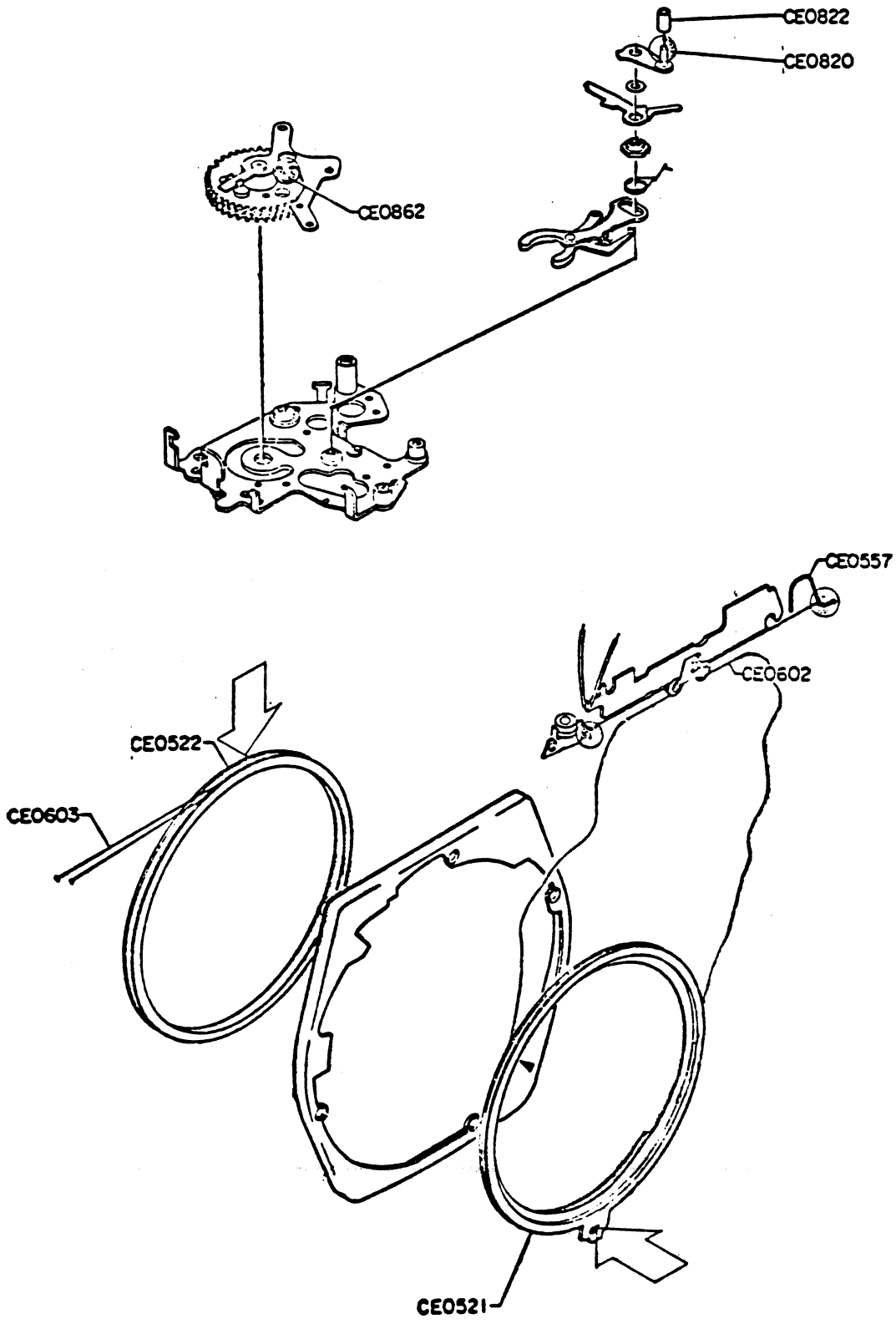
PARTS WHERE OIL, GREASE ETC. SHALL BE USED

CONTENTS

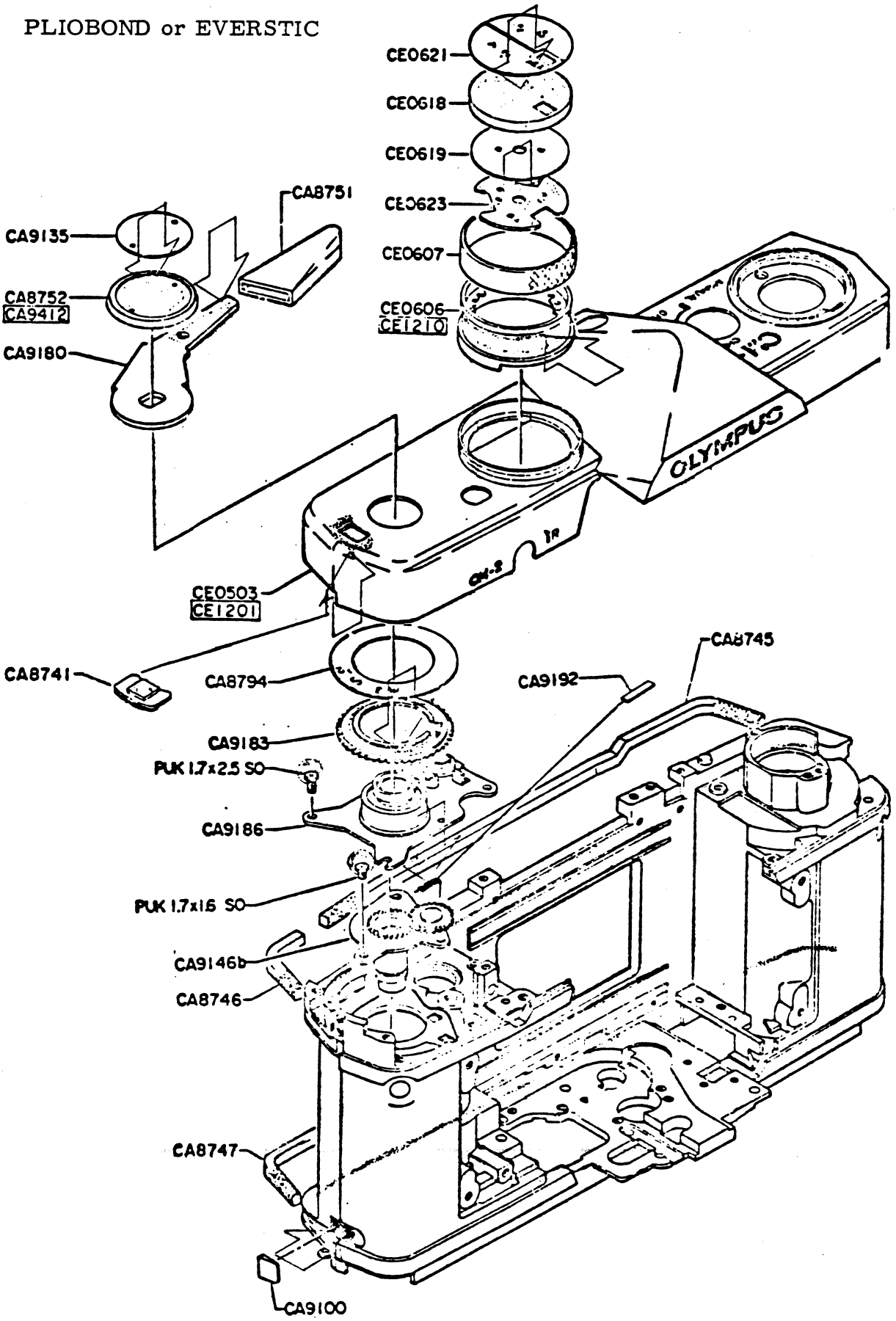
ARALDITE



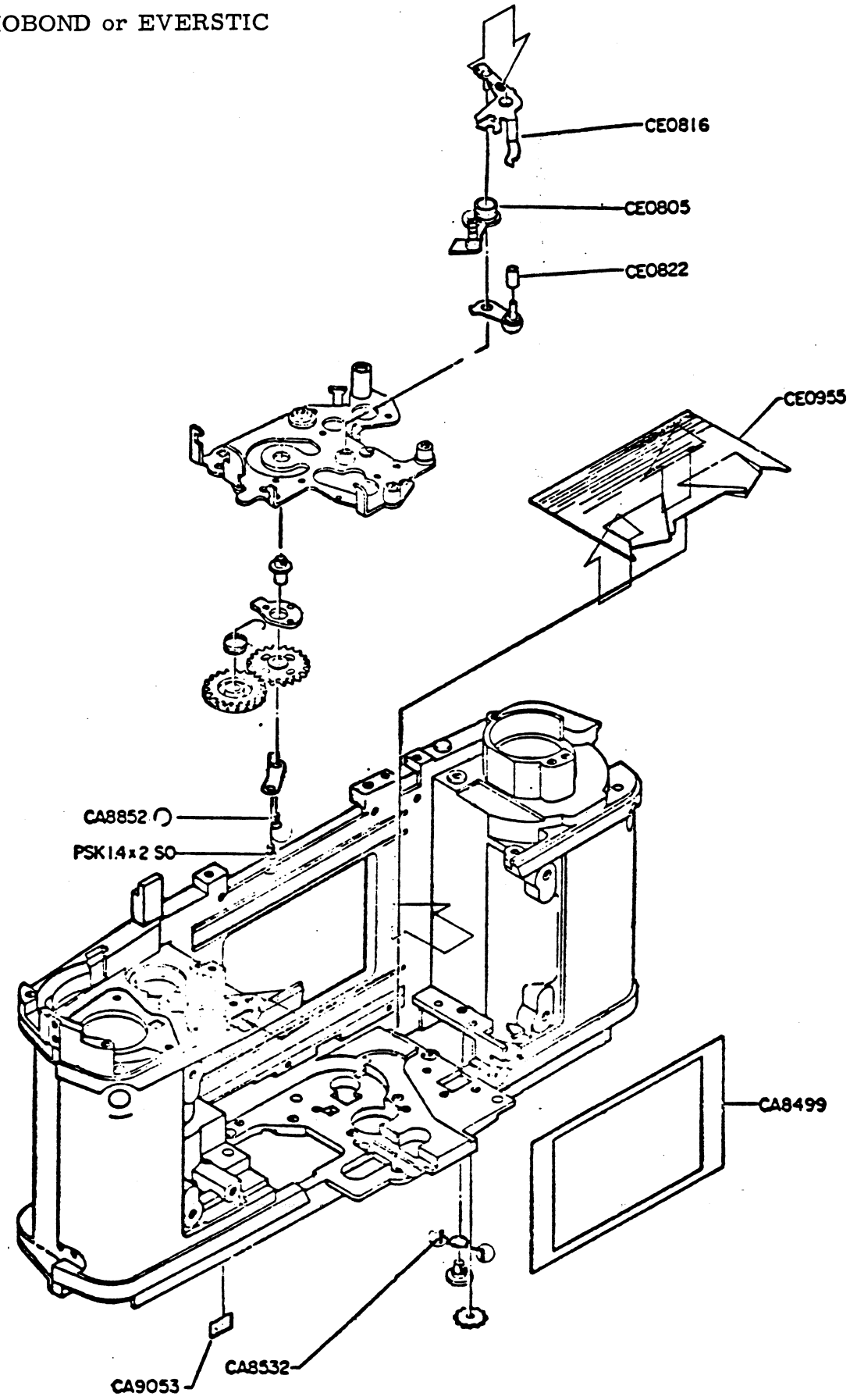

CE0547
CA9385
CA8478
HK14-102 BO


CE0822
CE0820
CE0862
CE0557
CE0602
CE0522
CE0603
CE0521

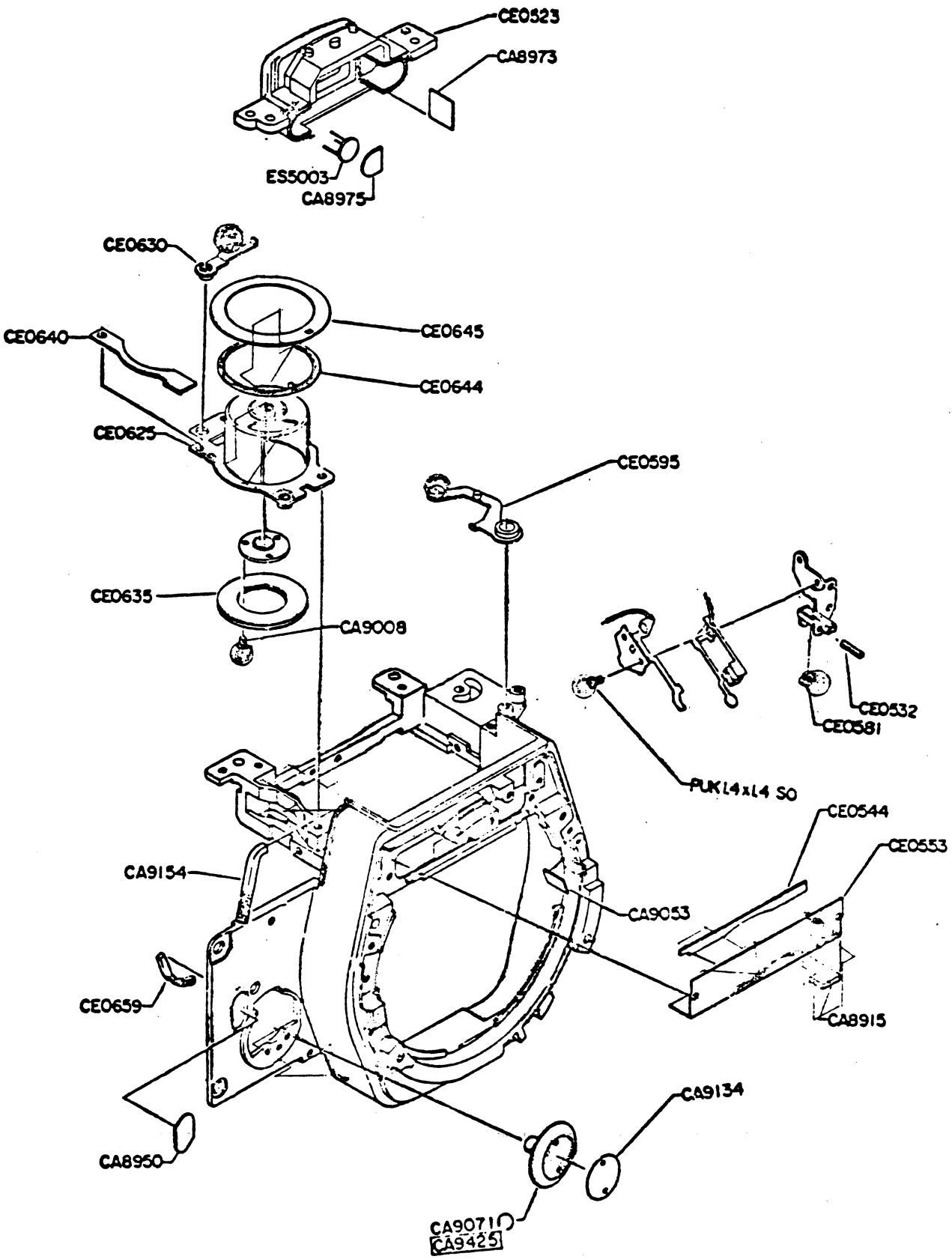
PLIOBOND or EVERSTIC



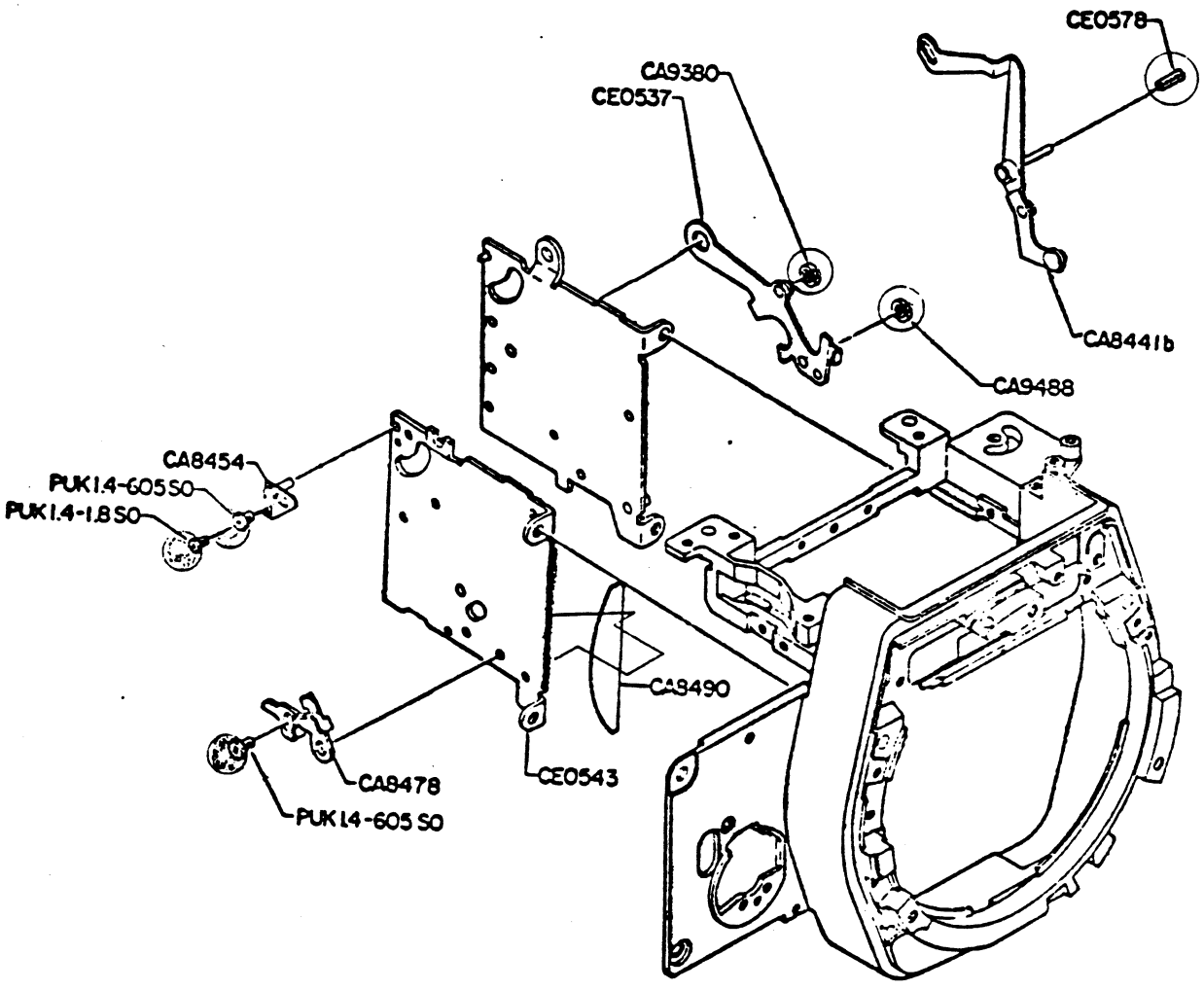
PLIOBOND or EVERSTIC



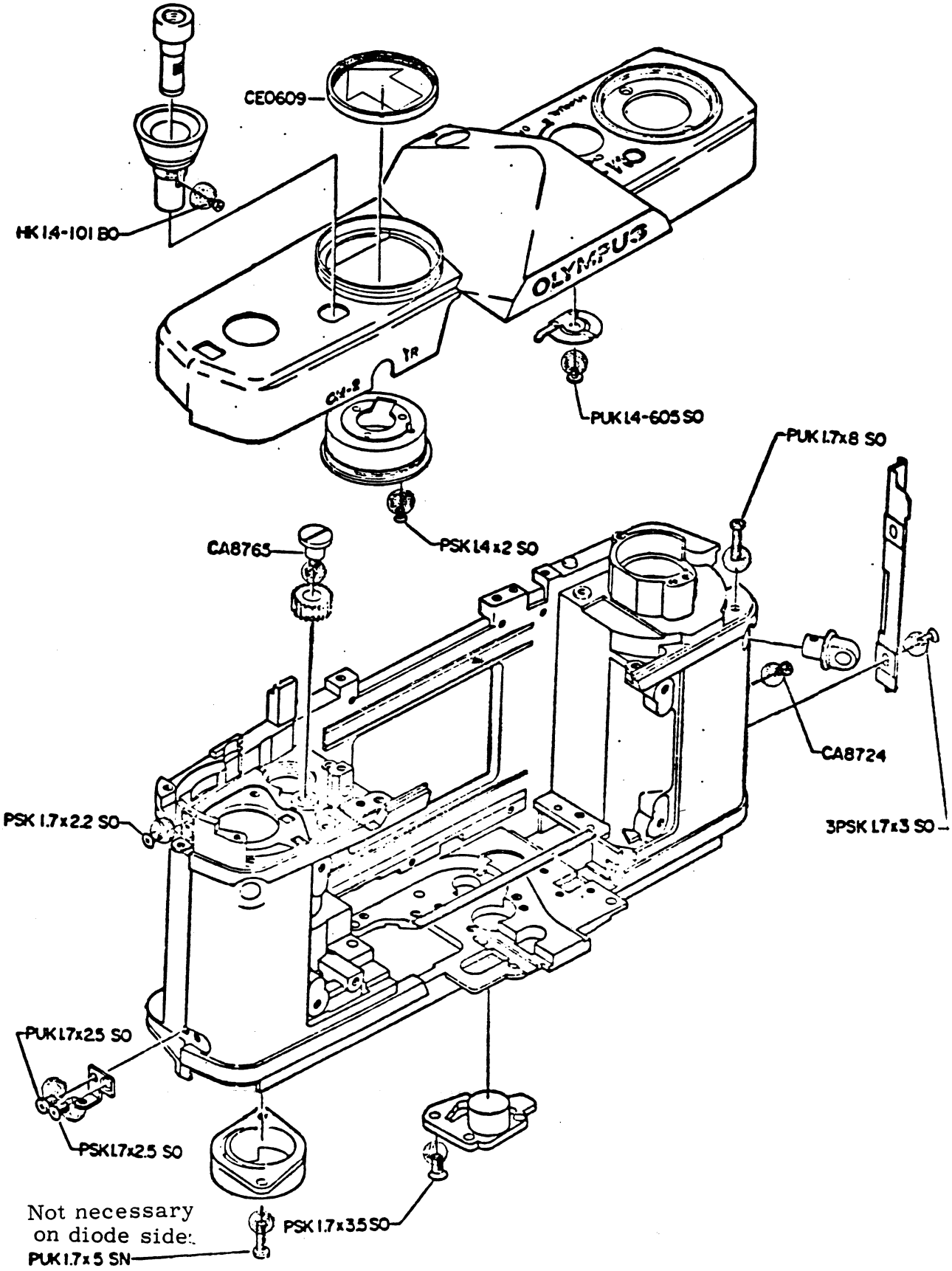
PLIOBOND or EVERSTIC



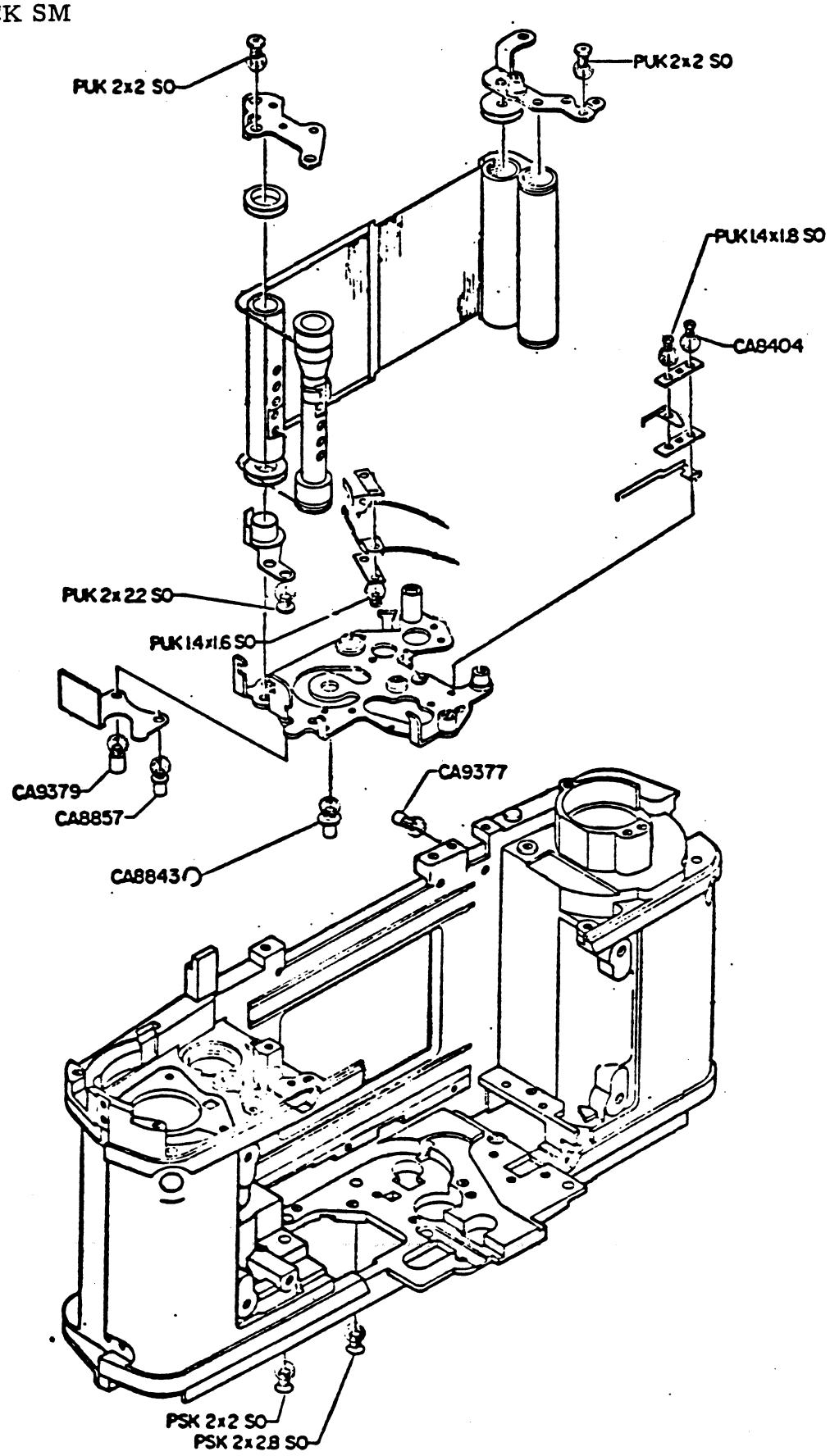
PLIOBOND or EVERSTIC



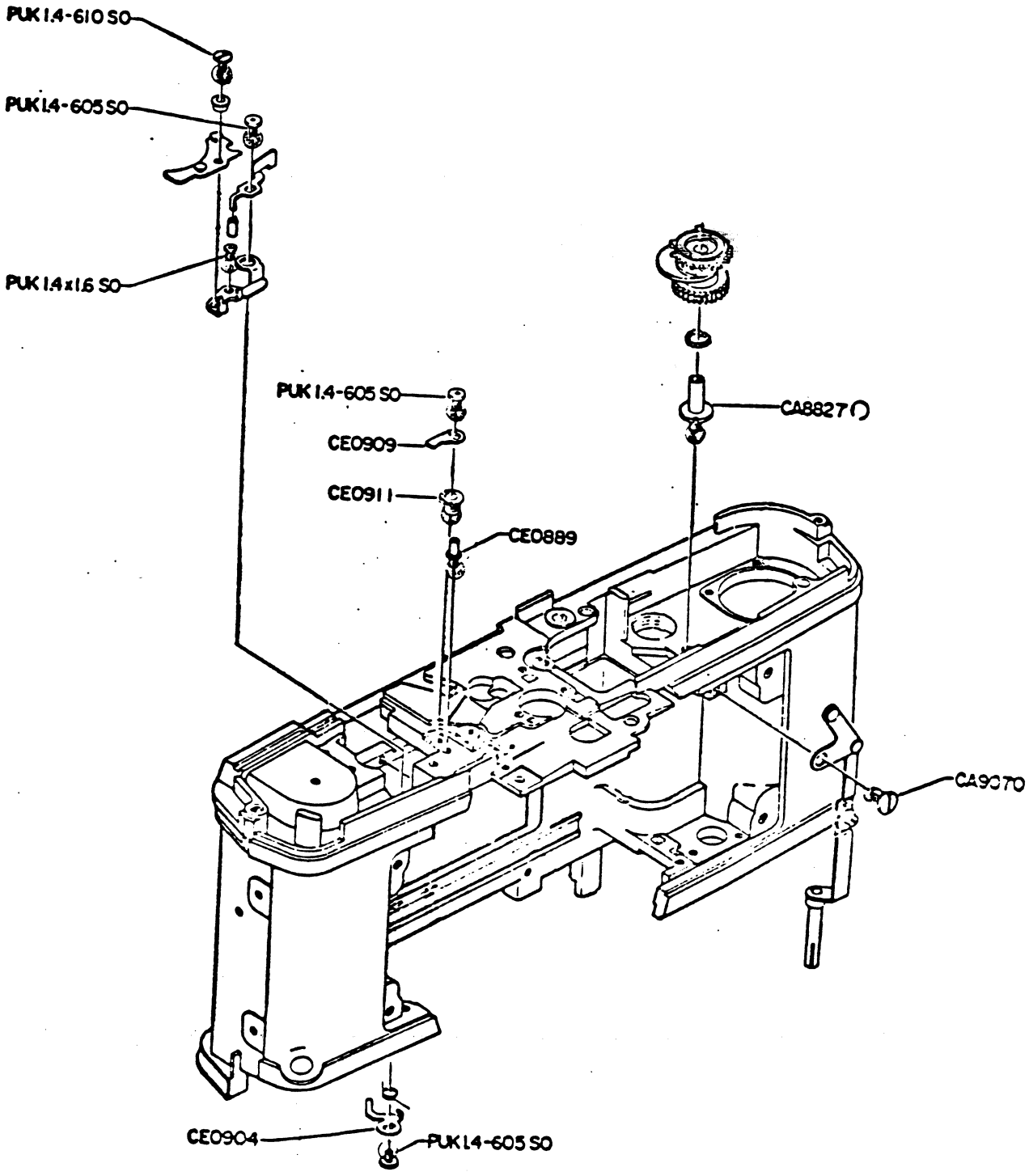
BELL LOCK SM


CE0609
HK 1.4-101 BO
OLYMPUS
PUK 1.4-605 SO
PUK 1.7x8 SO
PSK 1.4x2 SO
CA8765
CA8724
PSK 1.7x2.2 SO
3PSK 1.7x3 SO
PUK 1.7x2.5 SO
PSK 1.7x2.5 SO
Not necessary on diode side:
PUK 1.7x5 SN
PSK 1.7x3.5 SO

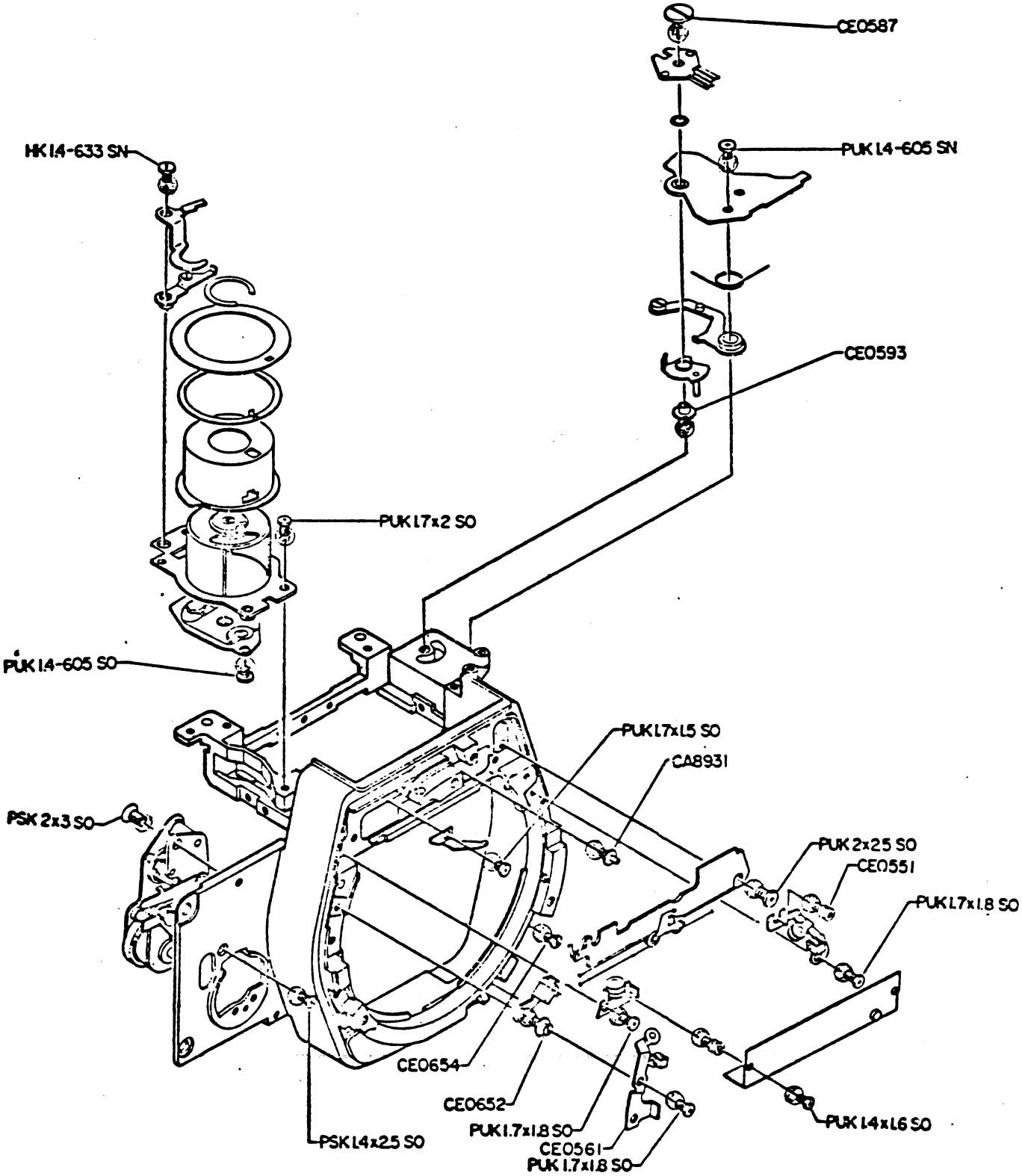
BELL LOCK SM


PUK 2x2 SO
PUK 2x2 SO
PUK 1.4x1.8 SO
CA8404
PUK 2x22 SO
PUK 1.4x1.6 SO
CA9379
CA8857
CA8843
CA9377
PSK 2x2 SO
PSK 2x2.8 SO

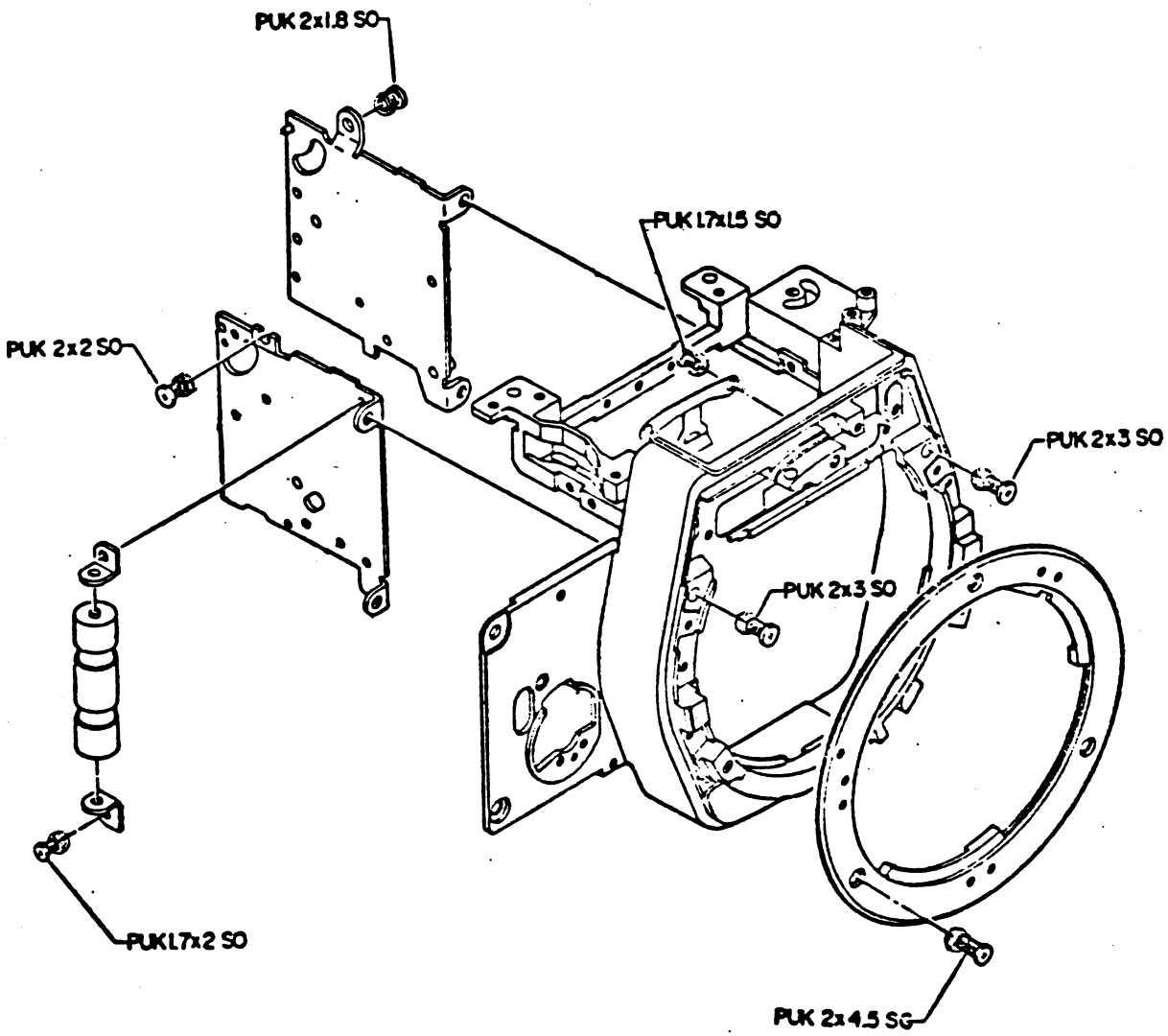
BELL LOCK SM


PUK1.4-610 SO
PUK1.4-605 SO
PUK1.4x1.6 SO
PUK1.4-605 SO
CE0909
CE0911
CE0889
CA8827O
CA9070
CE0904
PUK1.4-605 SO

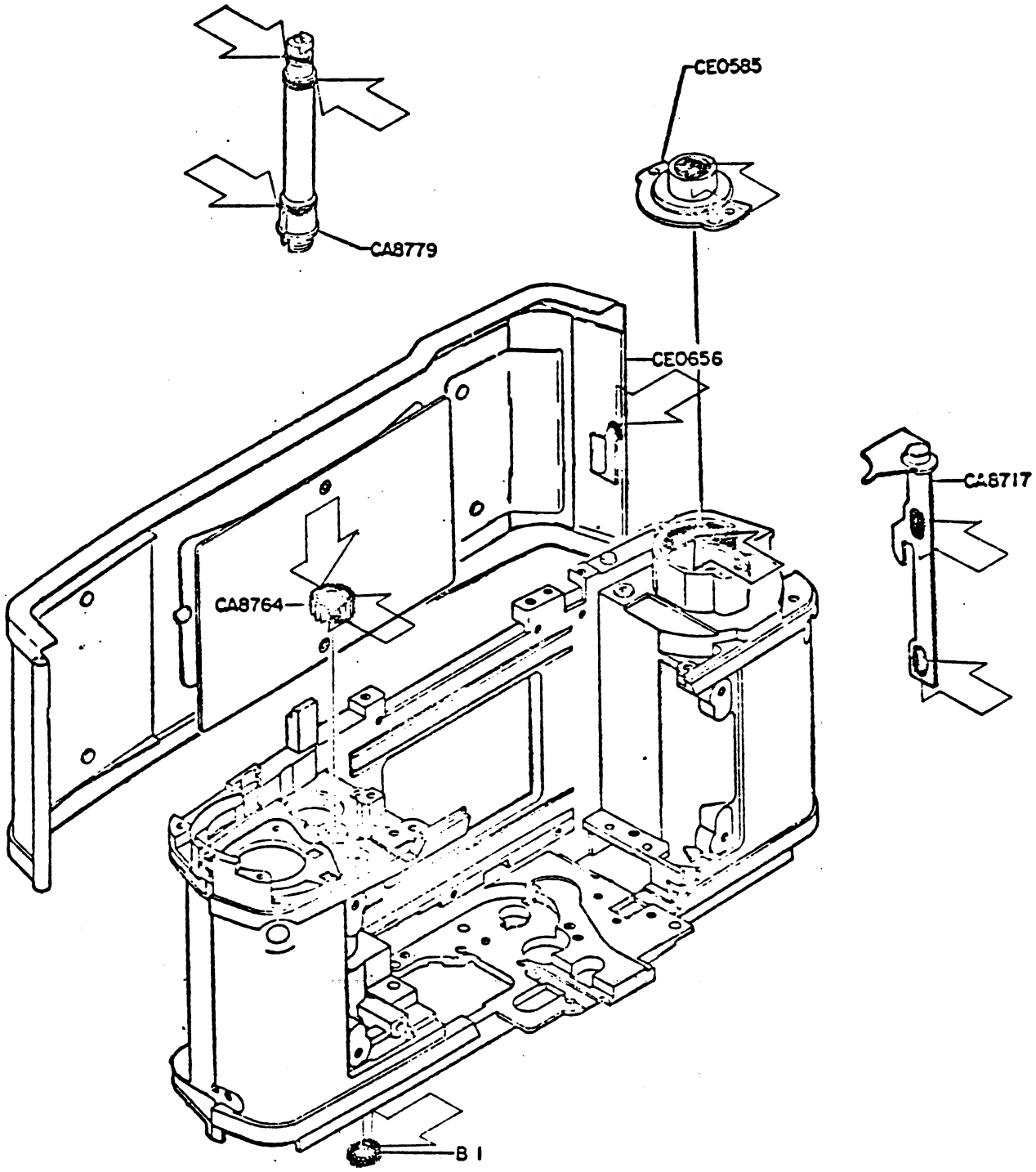
BELL LOCK SM

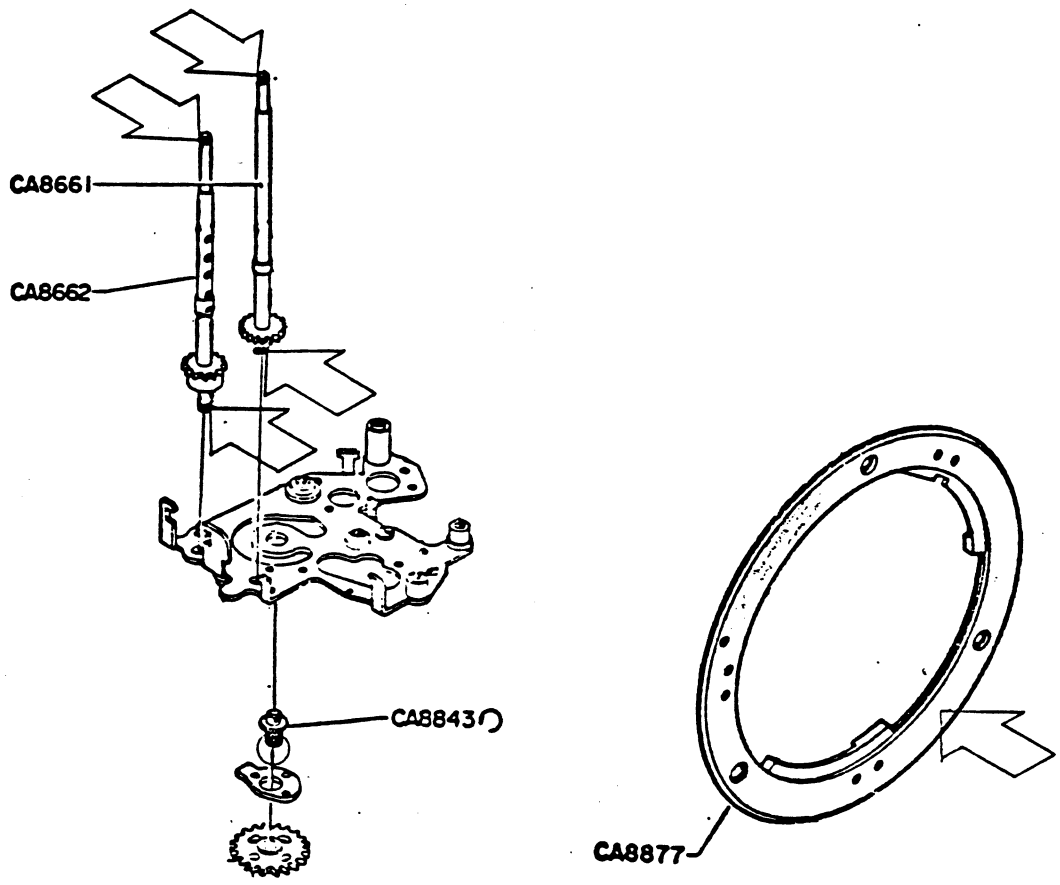

CE0587
HK1.4-633 SN
PUK1.4-605 SN
CE0593
PUK1.7x2 SO
PUK1.4-605 SO
PUK1.7x1.5 SO
CA8931
PSK 2x3 SO
PUK 2x2.5 SO
CE0551
PUK1.7x1.8 SO
CE0654
CE0652
PUK1.7x1.8 SO
CE0561
PUK 1.7x1.8 SO
PSK1.4x2.5 SO
PUK 1.4x1.6 SO

BELL LOCK SM

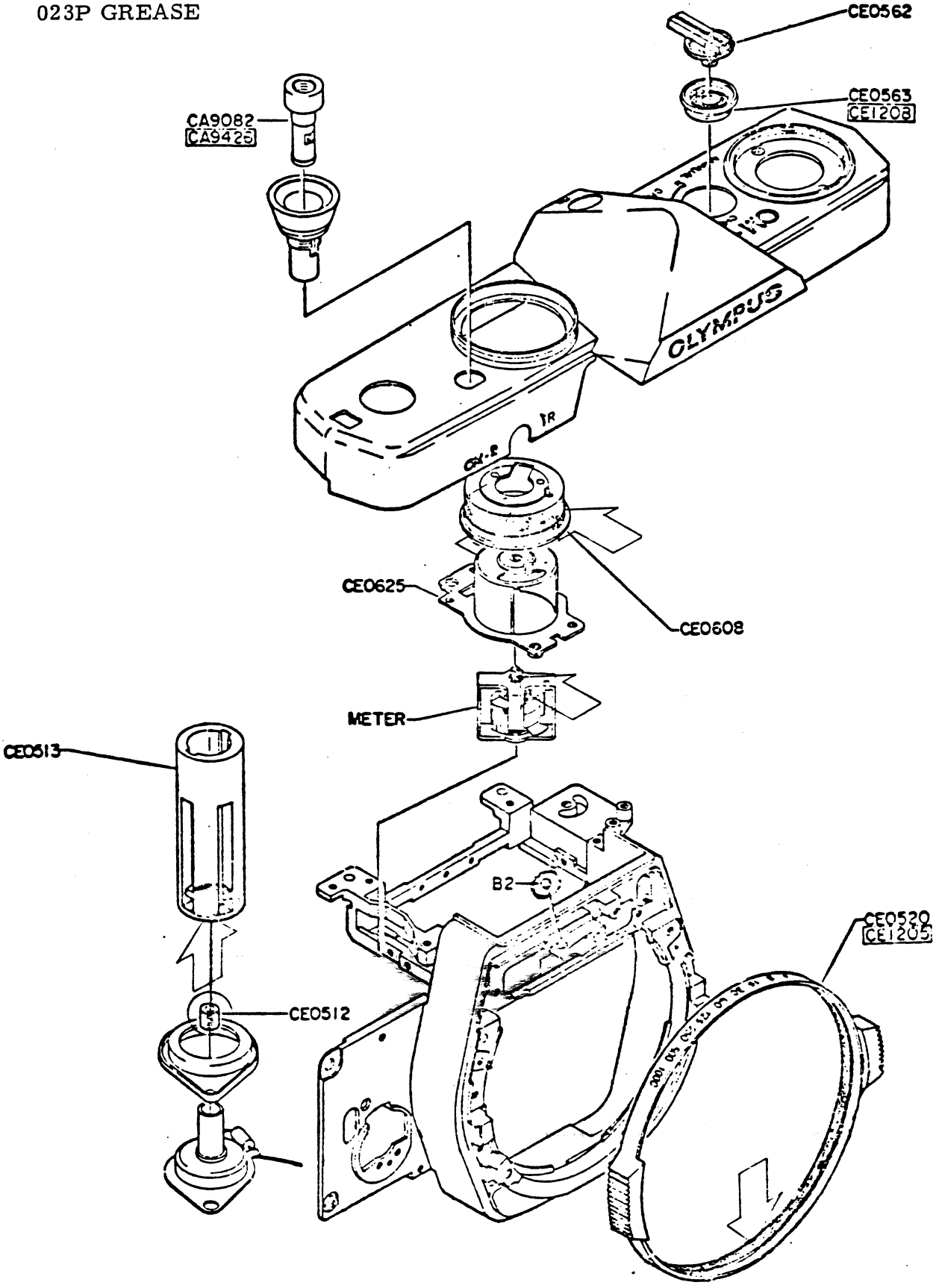

PUK 2x1.8 SO
PUK 1.7x1.5 SO
PUK 2x2 SO
PUK 2x3 SO
PUK 2x3 SO
PUK 1.7x2 SO
PUK 2x4.5 SG

EP GREASE

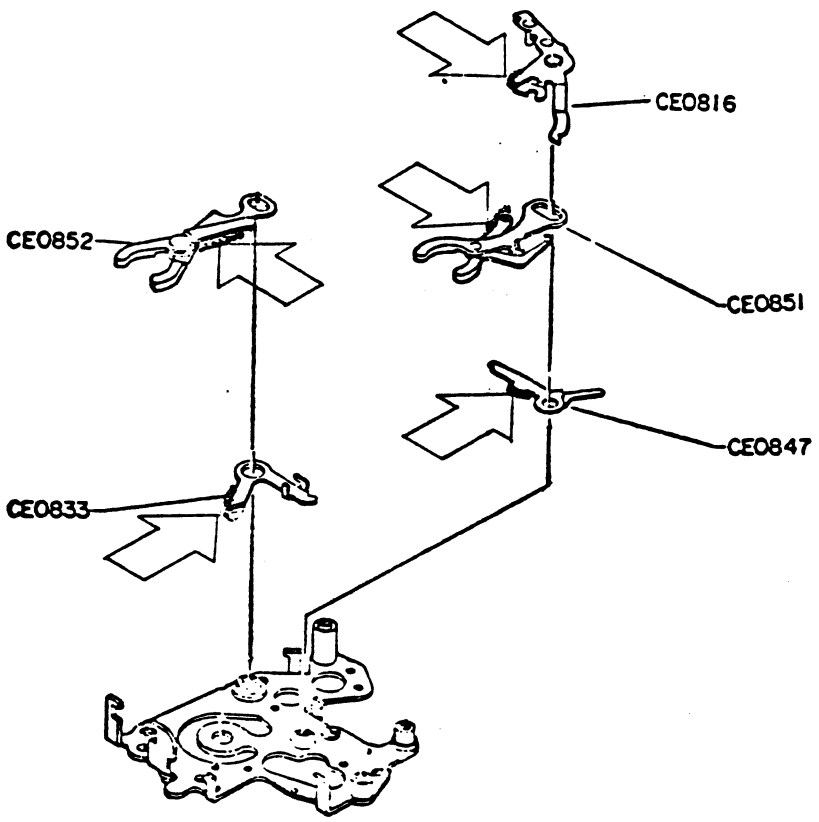



CA8661
CA8662
CA8843
CA8877

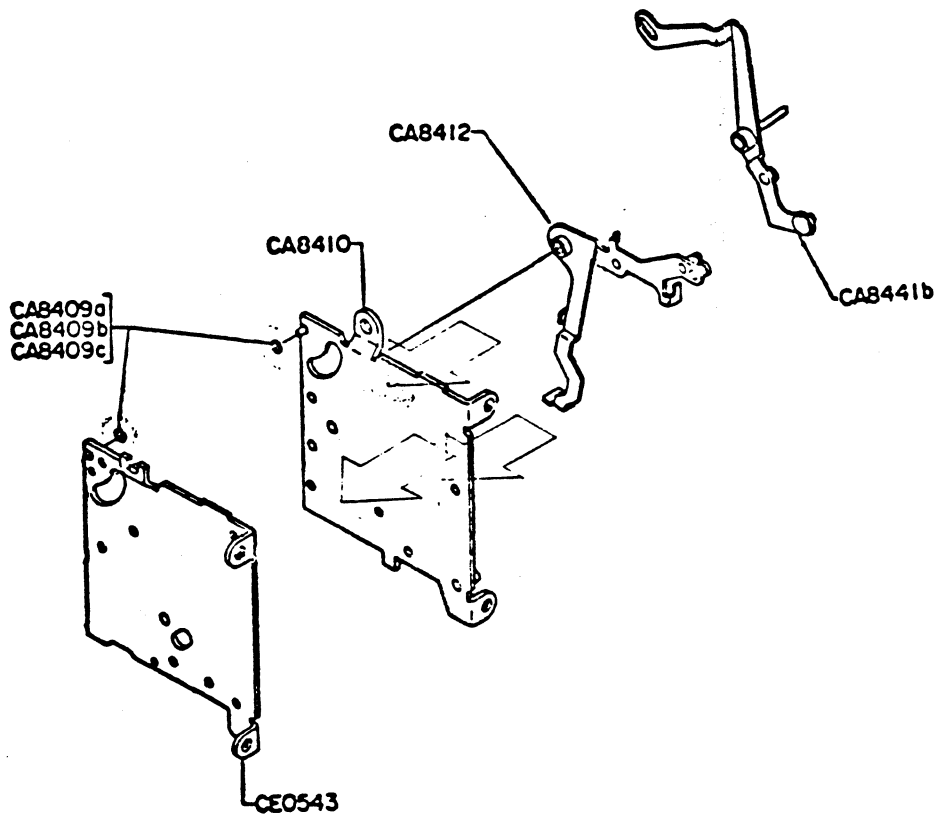
023P GREASE

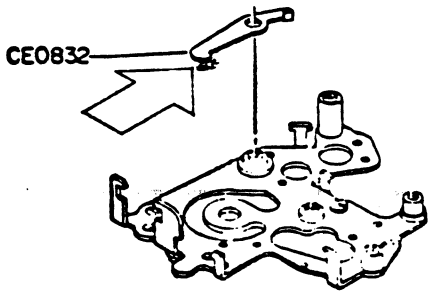

CE0562
CE0563
CE1208
CA9082
CA9425
OLYMPUS
CE0625
CE0608
METER
CE0513
B2
CE0520
CE1205
CE0512

MOLYCOAT + COSMOLUBRIC

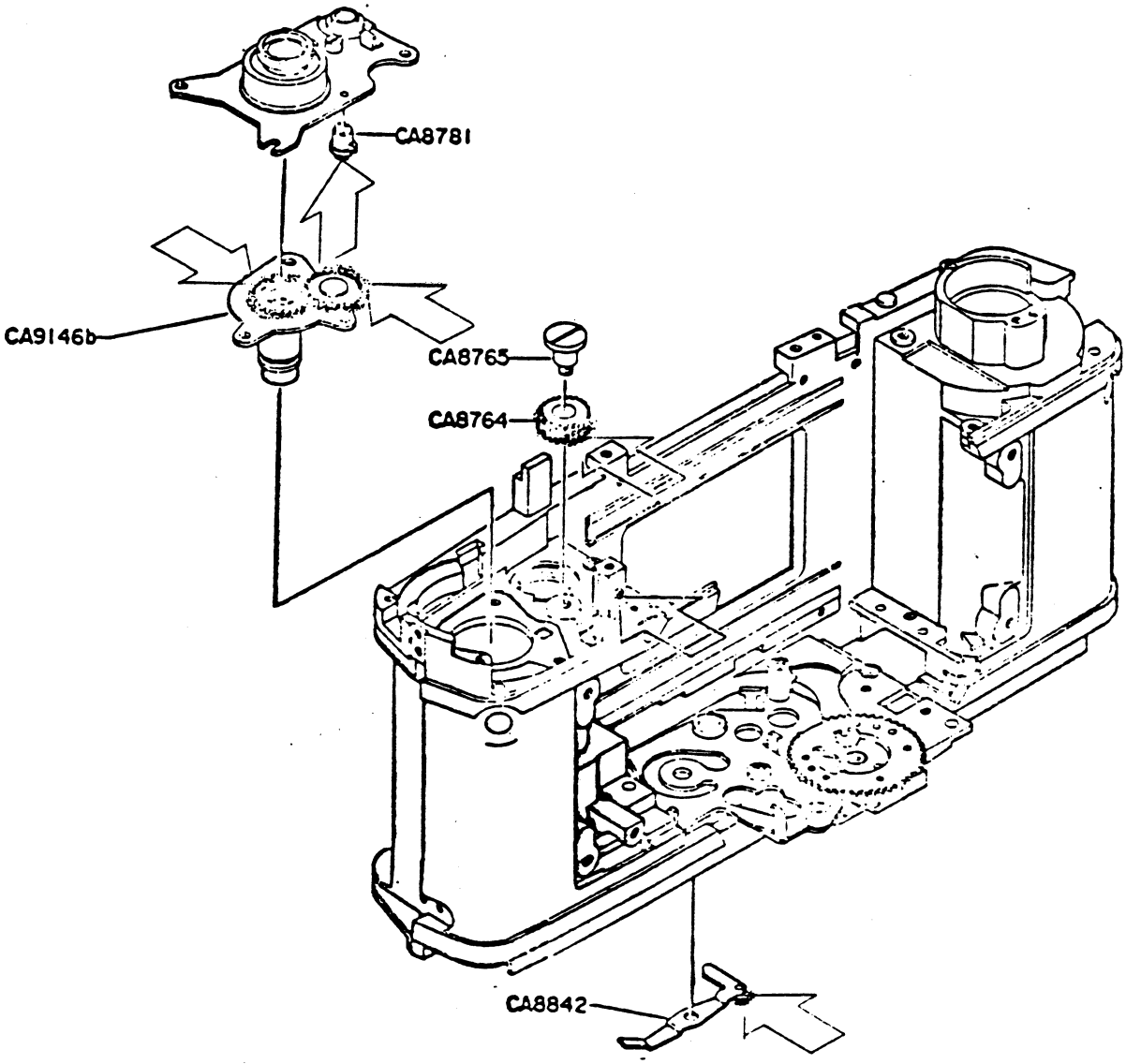


MOLYCOAT + 017P GREASE

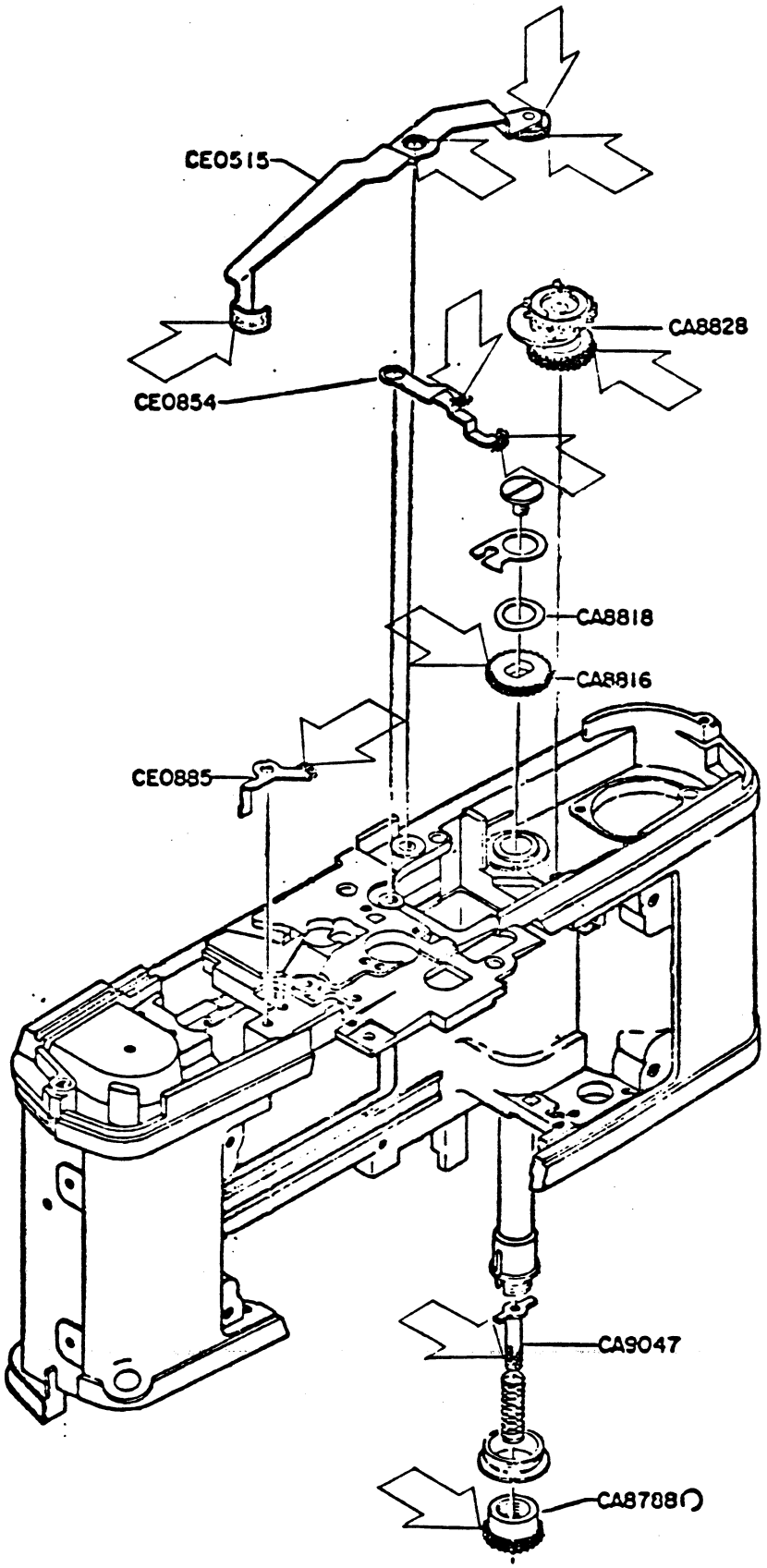




ROCOL PASTE



ROCOL PASTE



OLYMPUS
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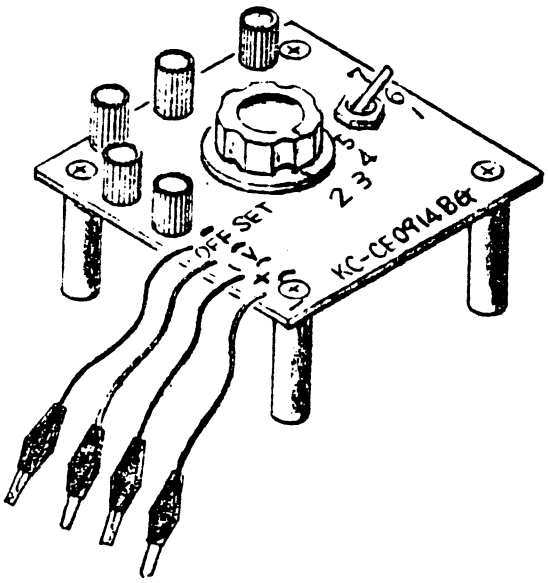
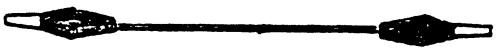
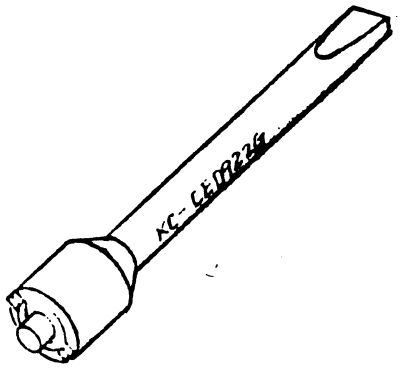
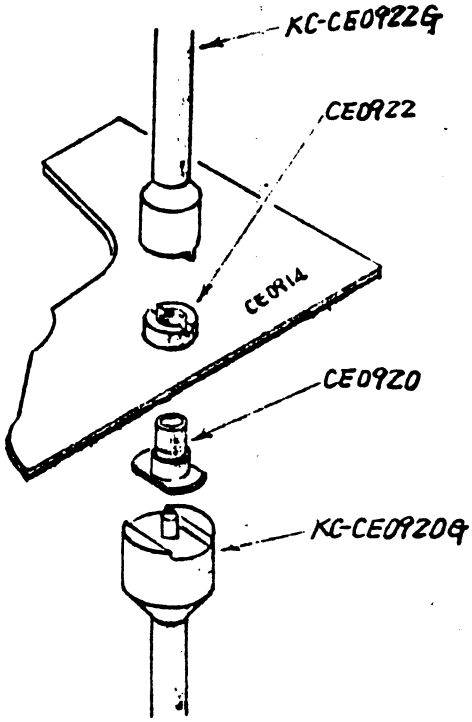
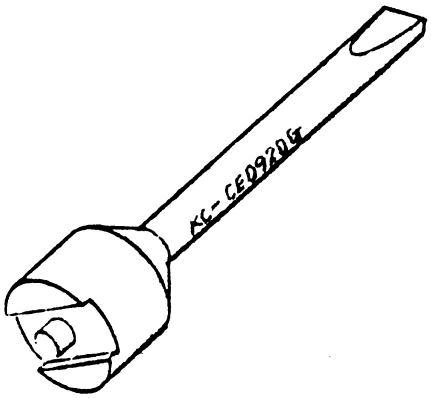
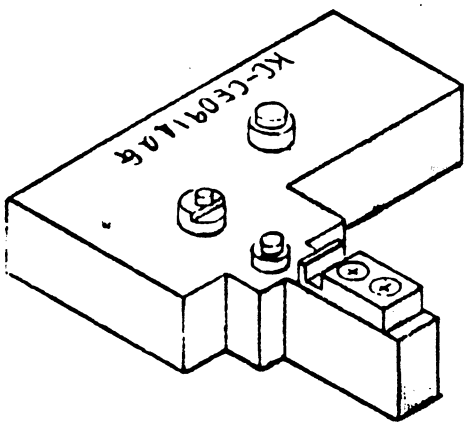
SPECIAL TOOLS

SPECIAL TOOLS

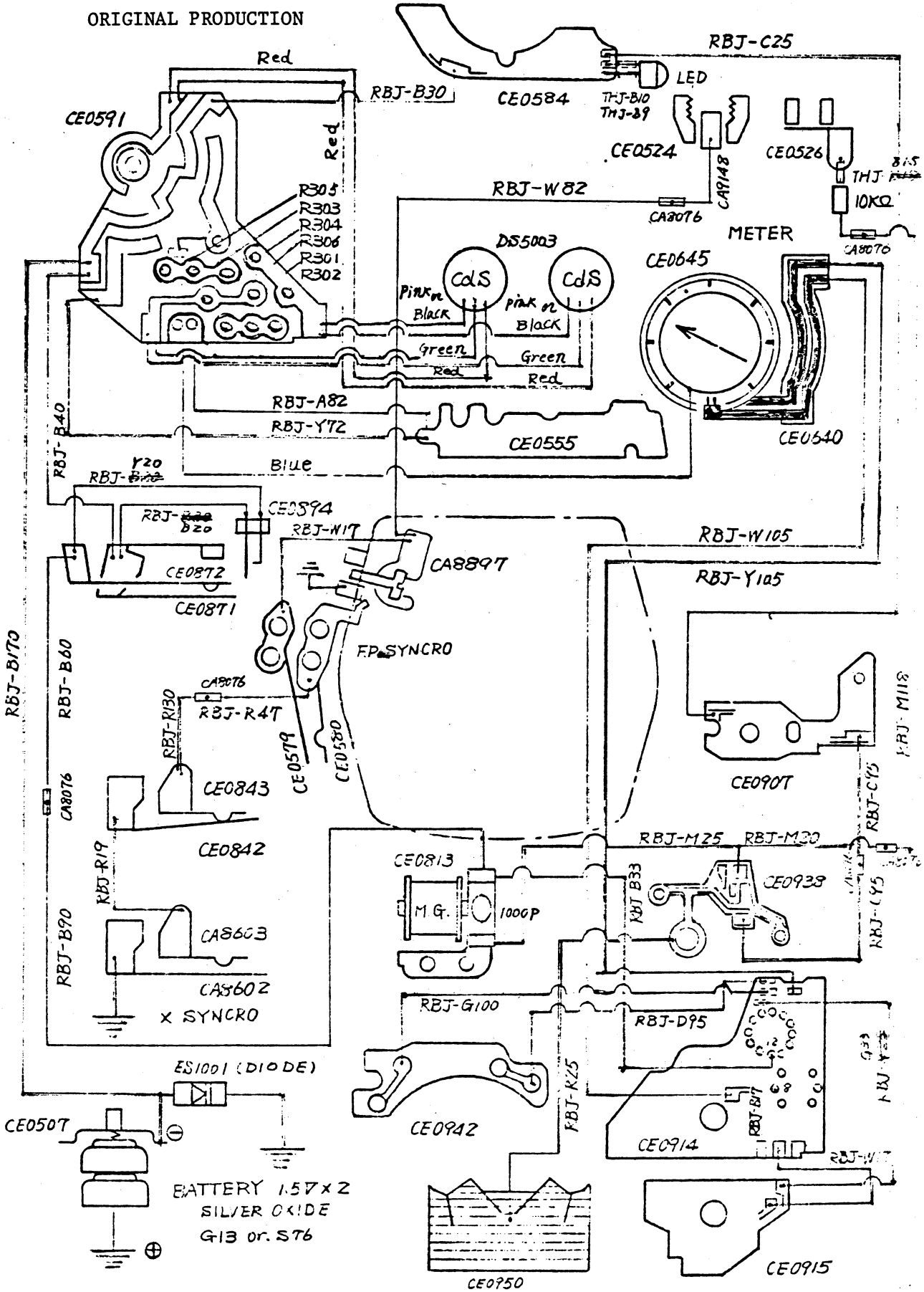
Name	Place Used & Usage	Remarks
KC-CE0914BG Matching Board 	Eliminates unnecessary electricity of IC upon matching and checking M circuit board. Usage See page 106.	
KC-CE0914CG Cord 	Used to connect the white LW (or circuit board A) to the left pin of SBC at the time of off set adjustment of the comparator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

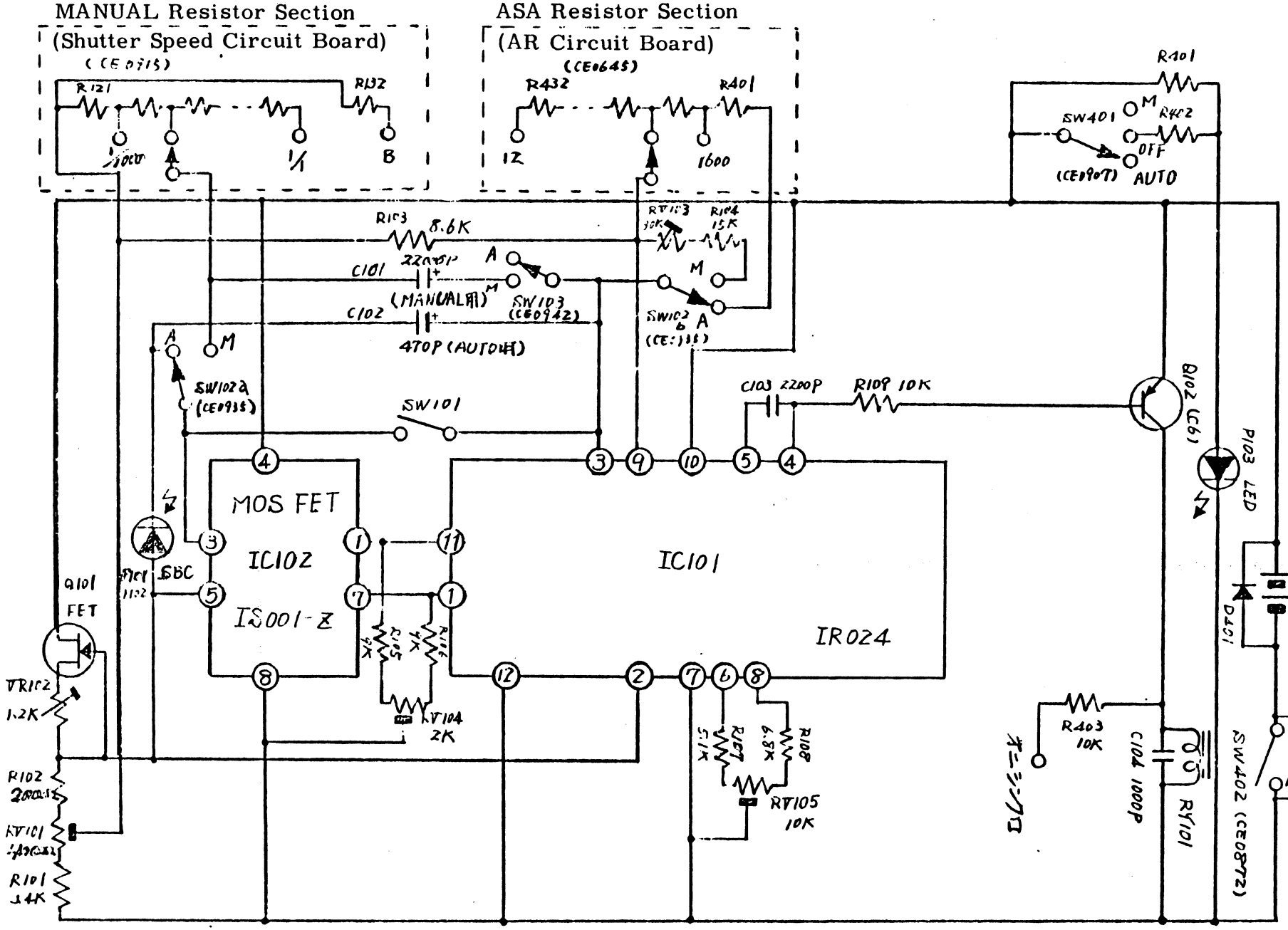
Name	Place Used & Usage	Remarks
KC-CE0922D Driver  	Used in being mounted to the driver chuck Q-0008 3.0ϕ.  	o To be newly manufactured. o Precautions on Usage Since the driver (CE0922) is soldered. turn KC-CE0920G to remove CE0920 upon disassembling or assembling.
KC-CE0920G Driver  		
KC-CE0914aG M Circuit Board Adjusting Tool  	Used upon soldering IC (IR-024 and IS-0001Z) to M circuit board. Usage 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. Then. it is to be soldered as it were.	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

1. Circuit Diagram

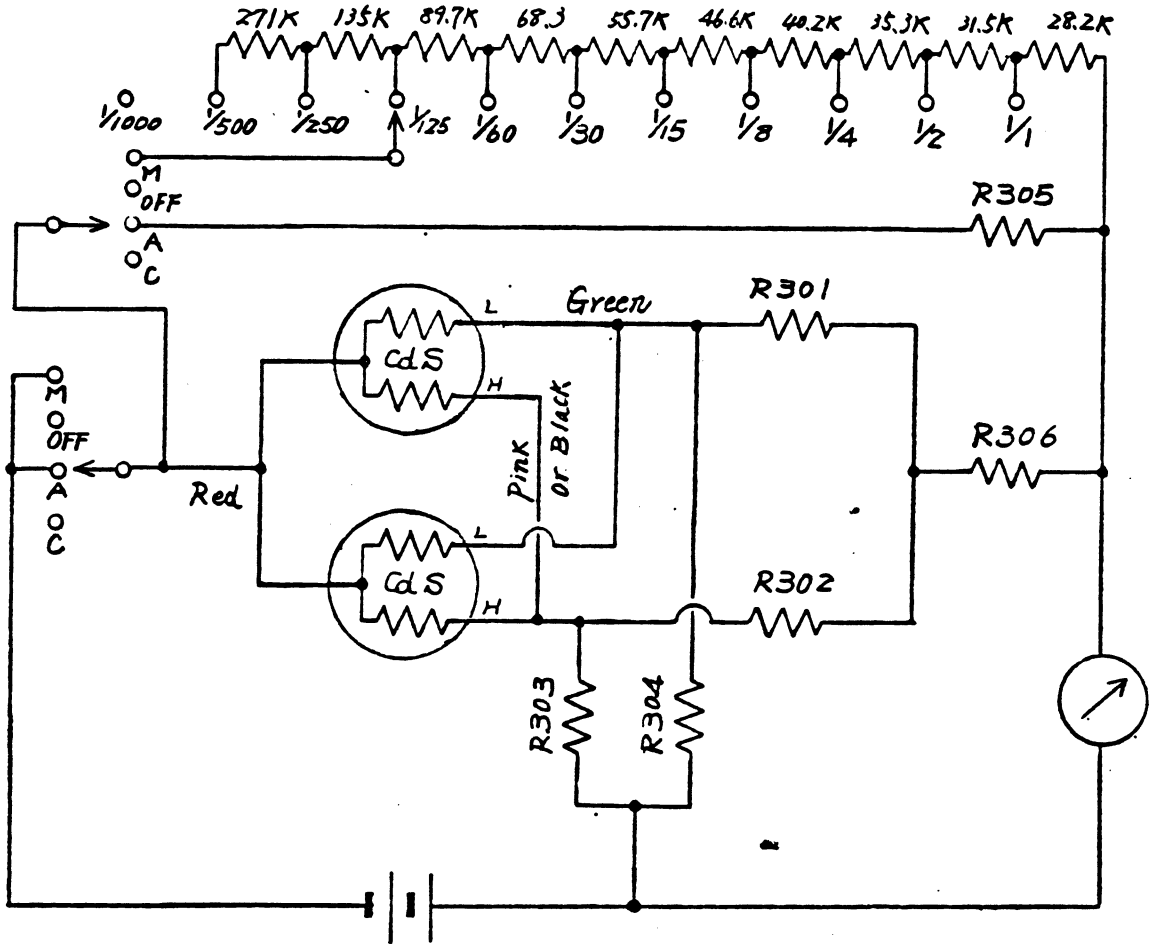
ORIGINAL PRODUCTION



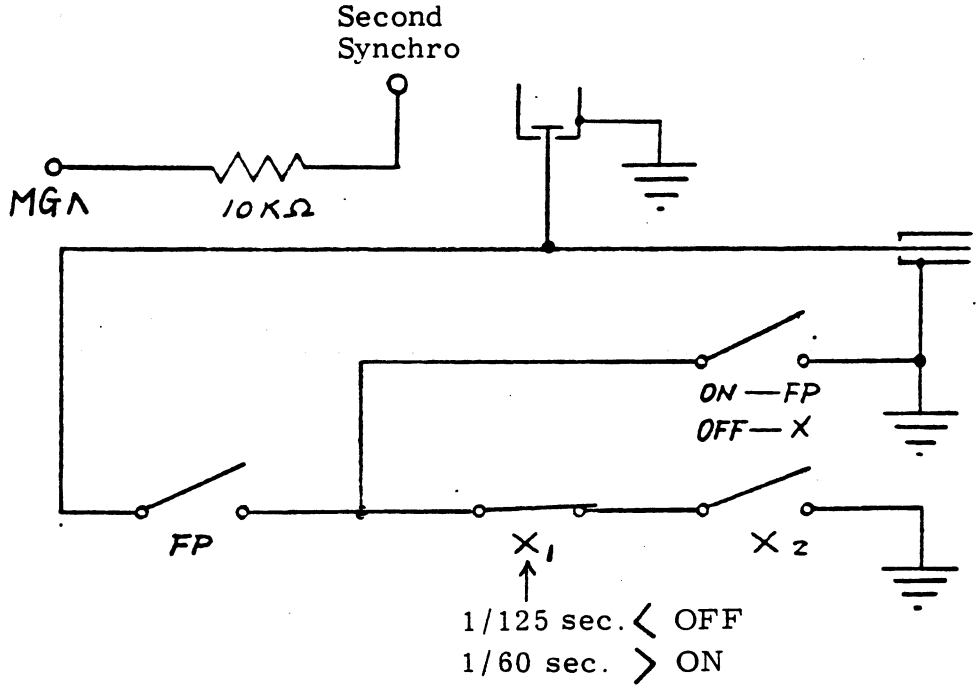

MANUAL Resistor Section
(Shutter Speed Circuit Board)
(CE0715)
R121
R132
1/1000
1/1
B
ASA Resistor Section
(AR Circuit Board)
(CE0645)
R432
R401
12
1600
R401
SW401
M
R402
OFF
AUTO
(CE0907)
R103 8.6K
RV103 33K
R104 15K
C101 220P
(MANUAL用)
SW103 (CE0942)
C102
470P (AUTO用)
SW102 A (CE0935)
SW102 a (CE0935)
SW101
C103 2200P
R109 10K
Q102 (C61)
P103 LED
MOS FET
IC102
IS001-Z
SBC
IC101
IR024
Q101 FET
VR102 1.2K
R102 200K
RV101 1M
R101 1.4K
R105 4K
R106 4K
RV104 2K
R107 5.1K
R108 6.8K
RV105 10K
R403 10K
C104 1000P
RV101
D401
E401 S7(6V)×2
SW402 (CE0872)
(CE0874)
オートシングロ

3. Meter Circuit Diagram

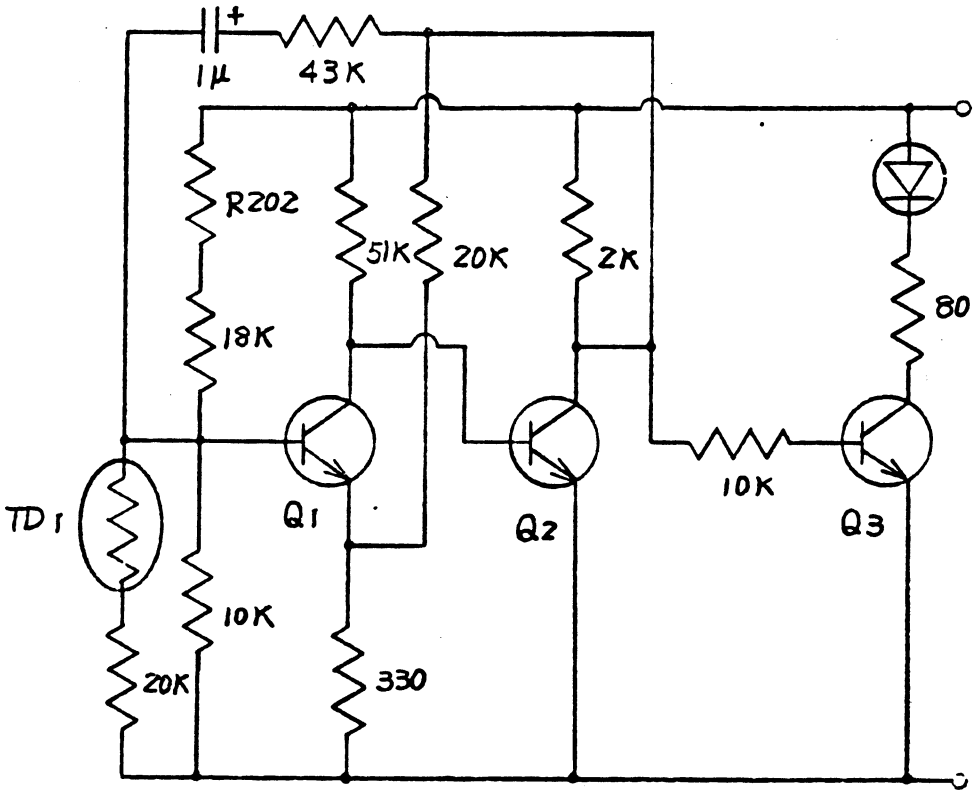
(CE0555 Base plate B)

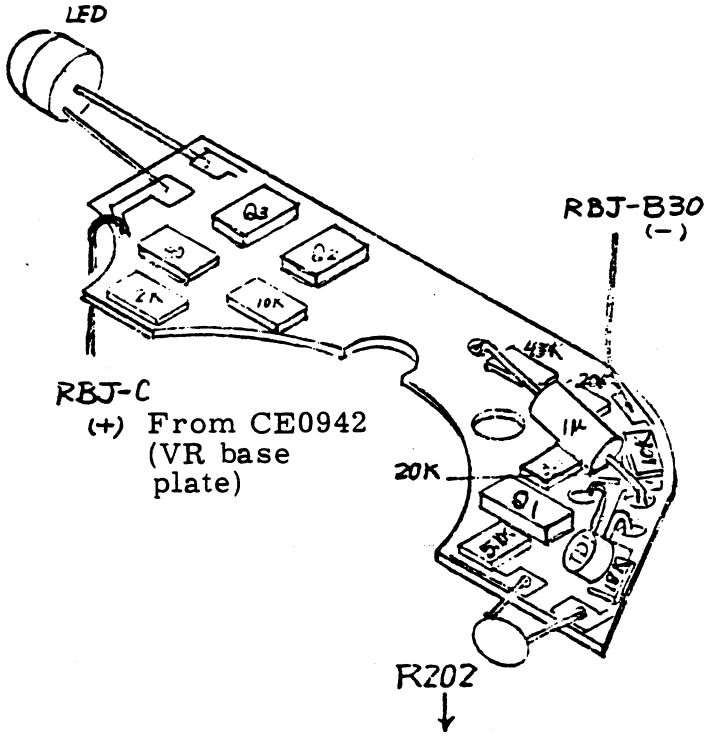


4. Synchro Circuit Diagram



5. Battery Checker Circuit Diagram
ORIGINAL PRODUCTION

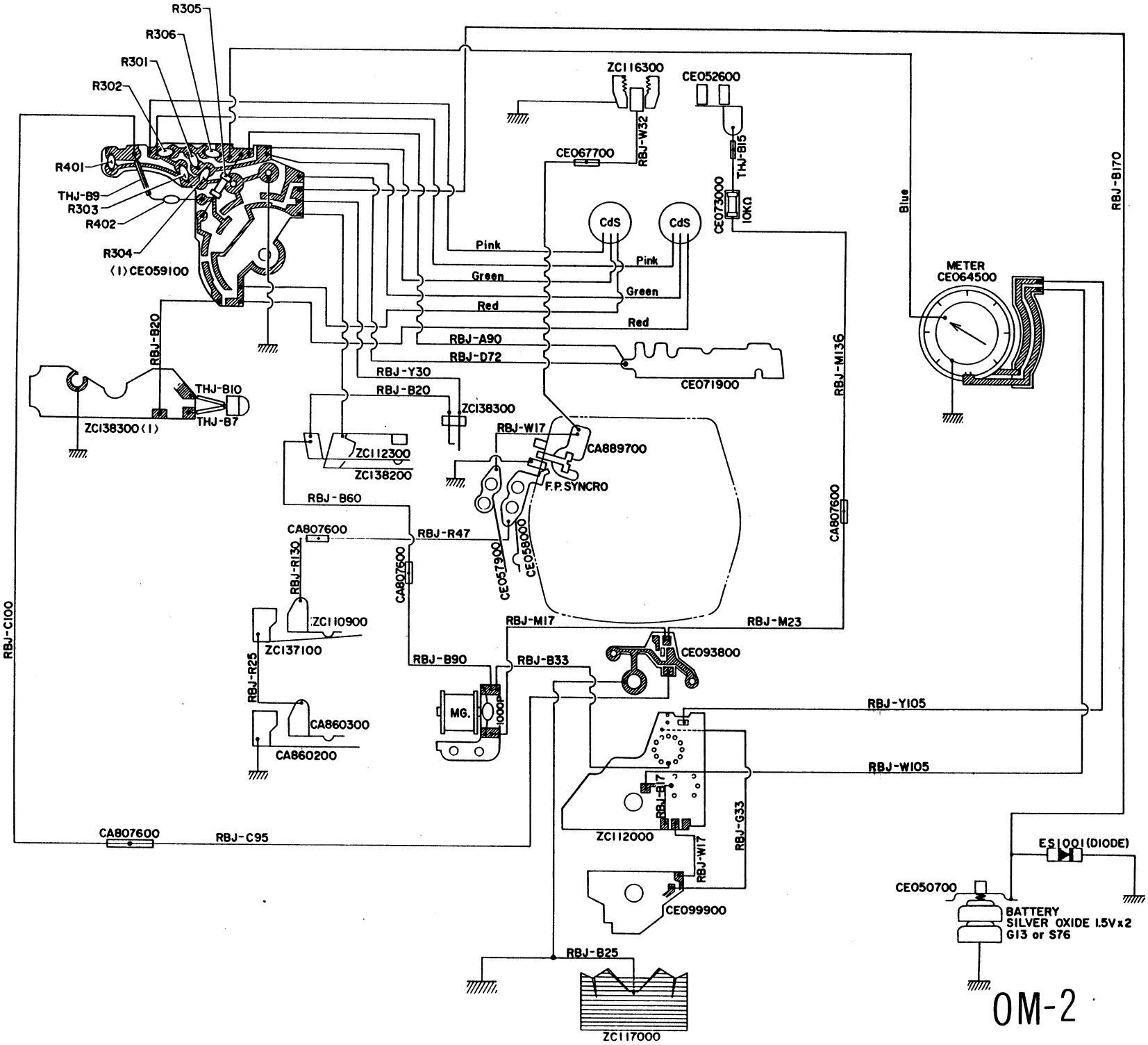




From CE0942 (VR base plate)

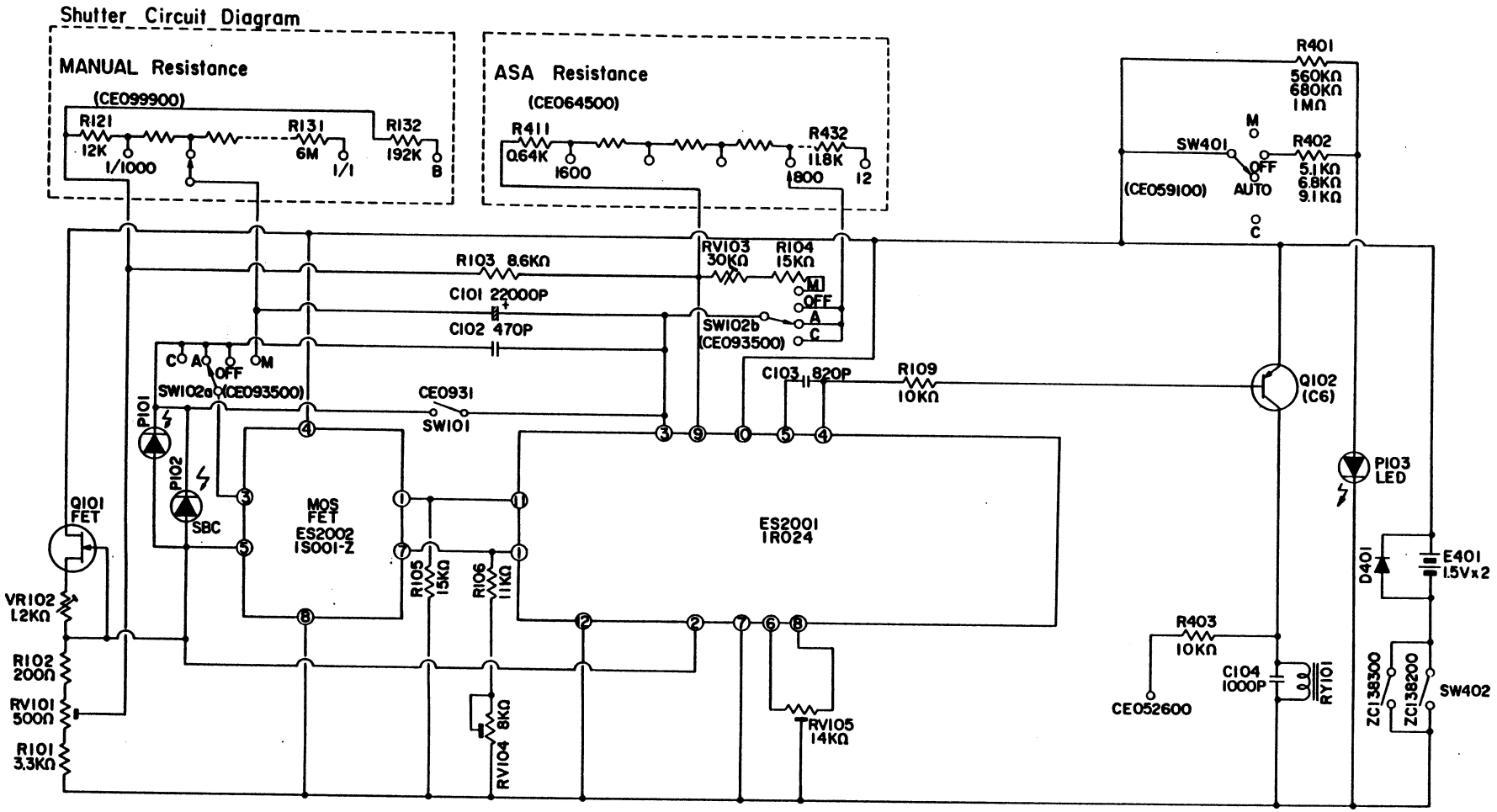
Q_1 Q_2	For oscillation
Q_3	For controlling LED
TD_1	Temperature compensation

	V_1		V_2
Q_1	OFF	Oscil-	ON
Q_2	ON	lation	OFF
Q_3	OFF	ON -OFF	ON
LED	OFF	ON -OFF	ON



OM-2

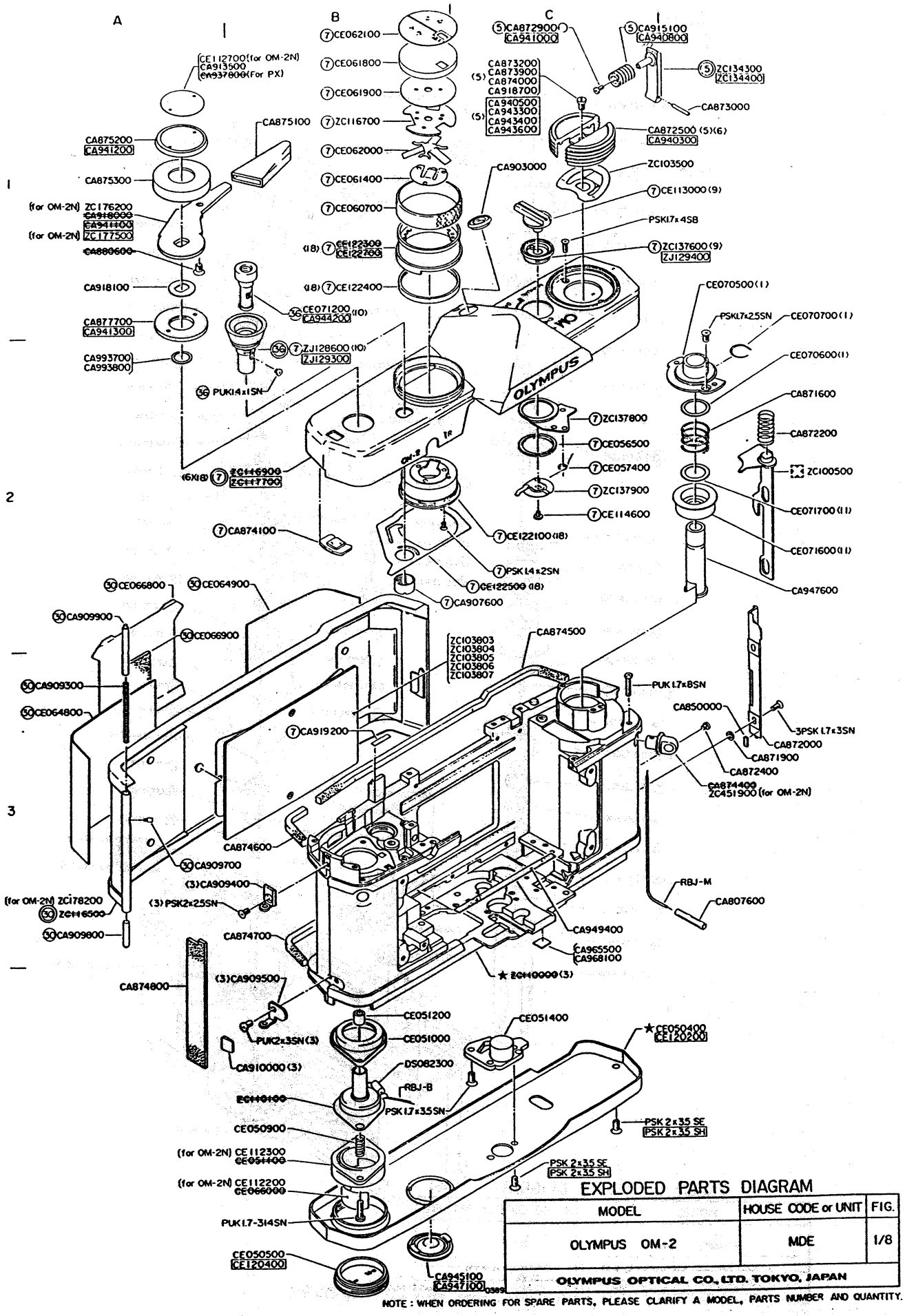
PD MASTER



OM-2

PD MASTER

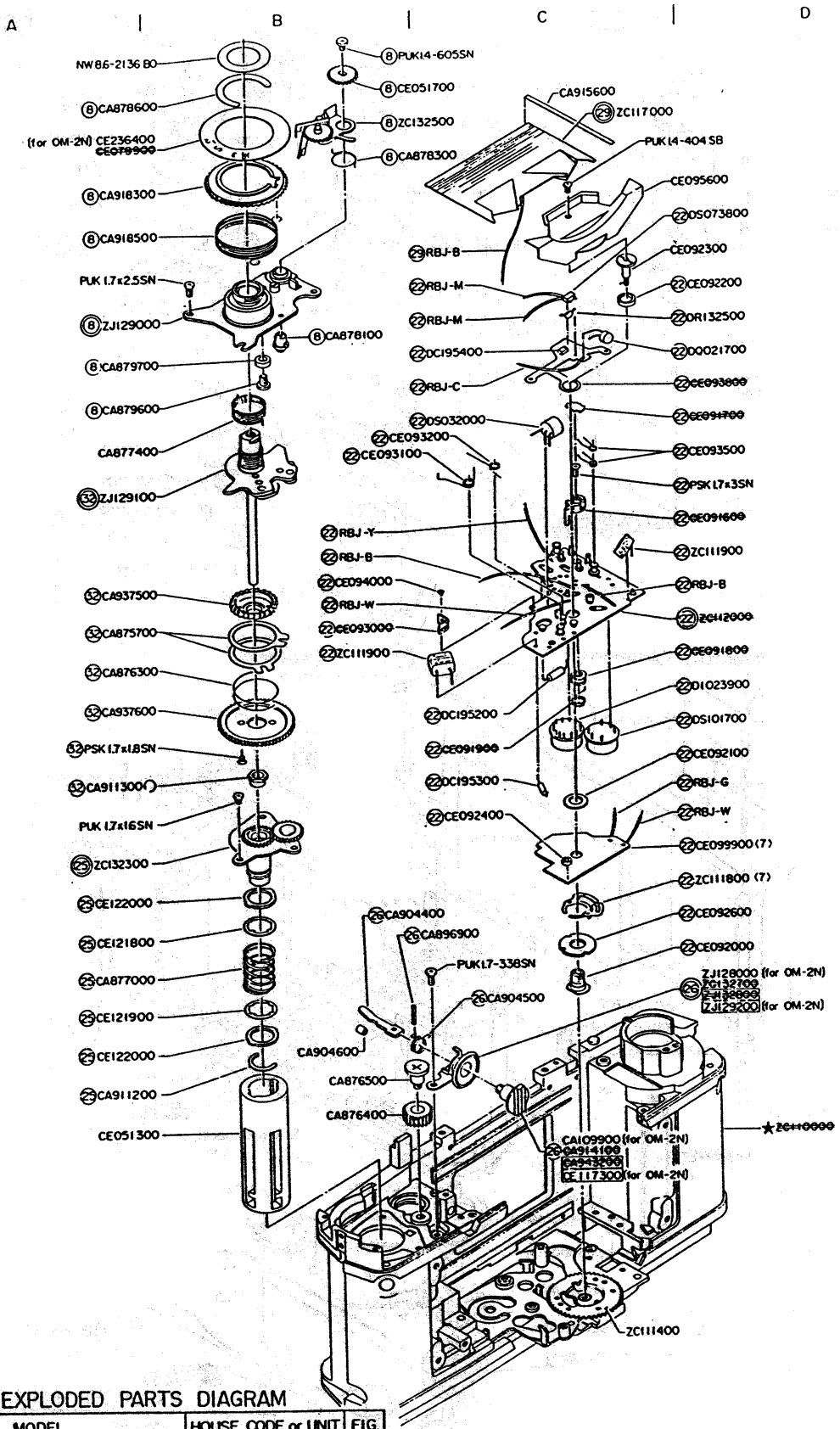
MODIFICATION



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.

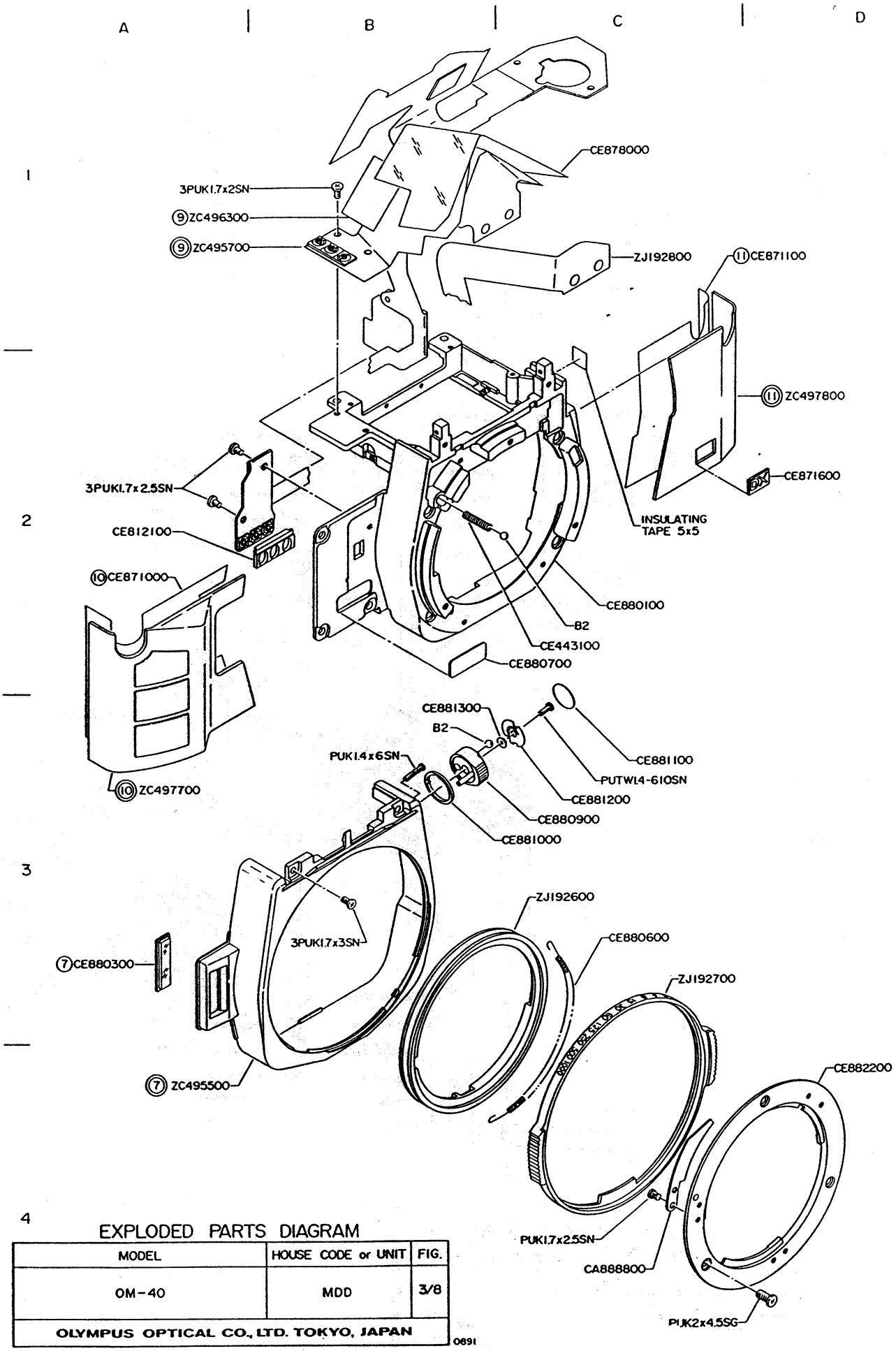


EXPLODED PARTS DIAGRAM

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

0389

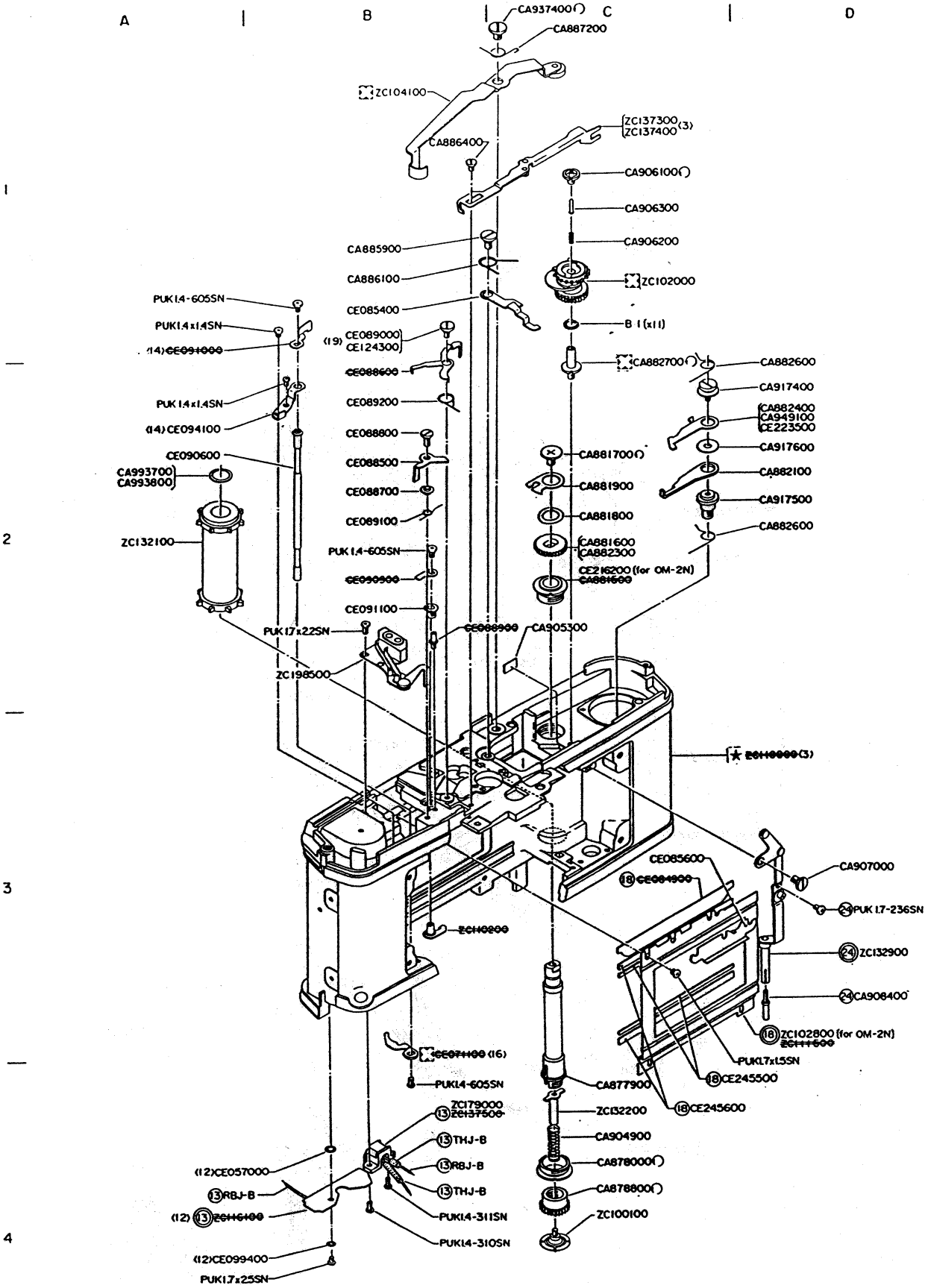
NOTE: WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

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

0891

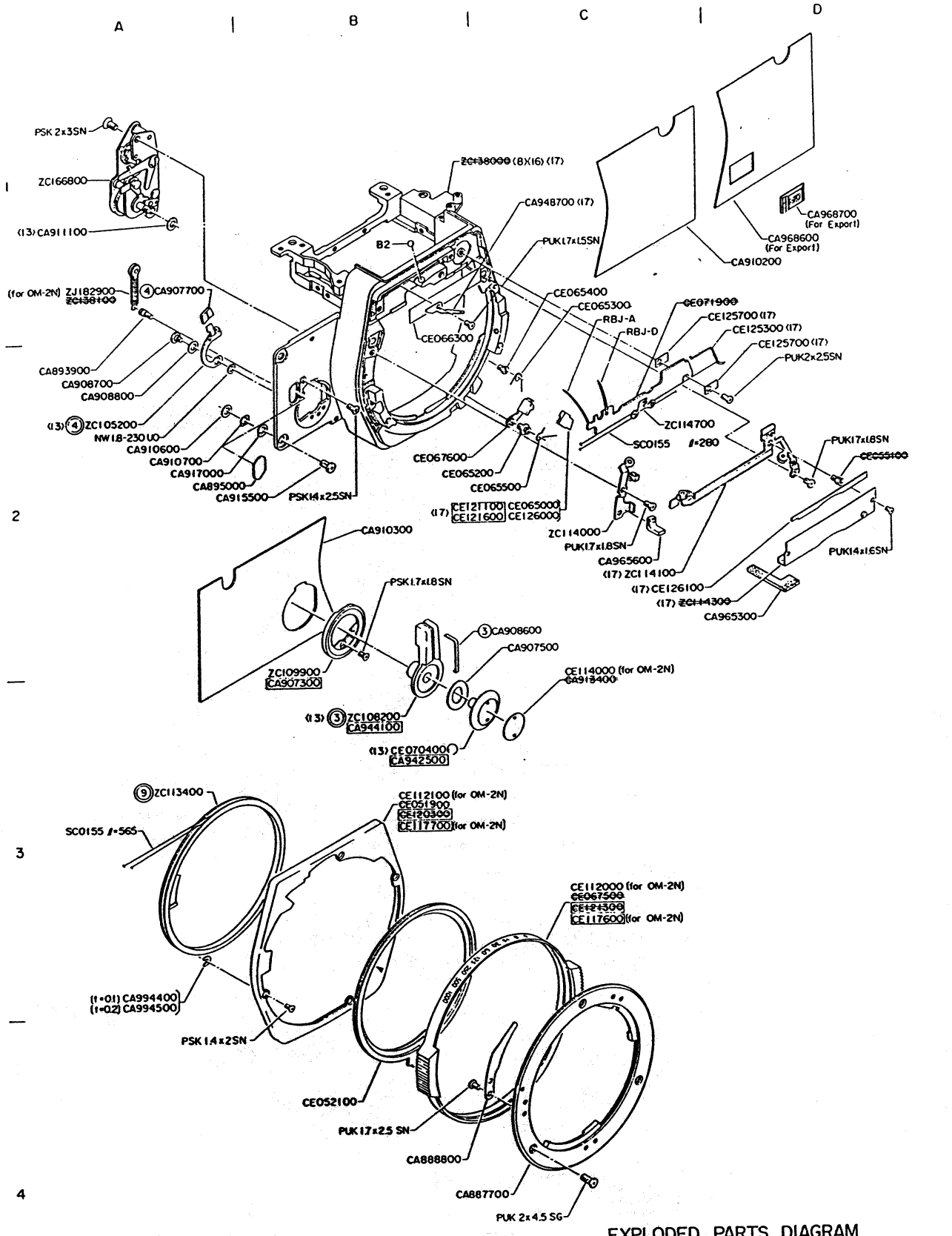


EXPLODED PARTS DIAGRAM

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

0691

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

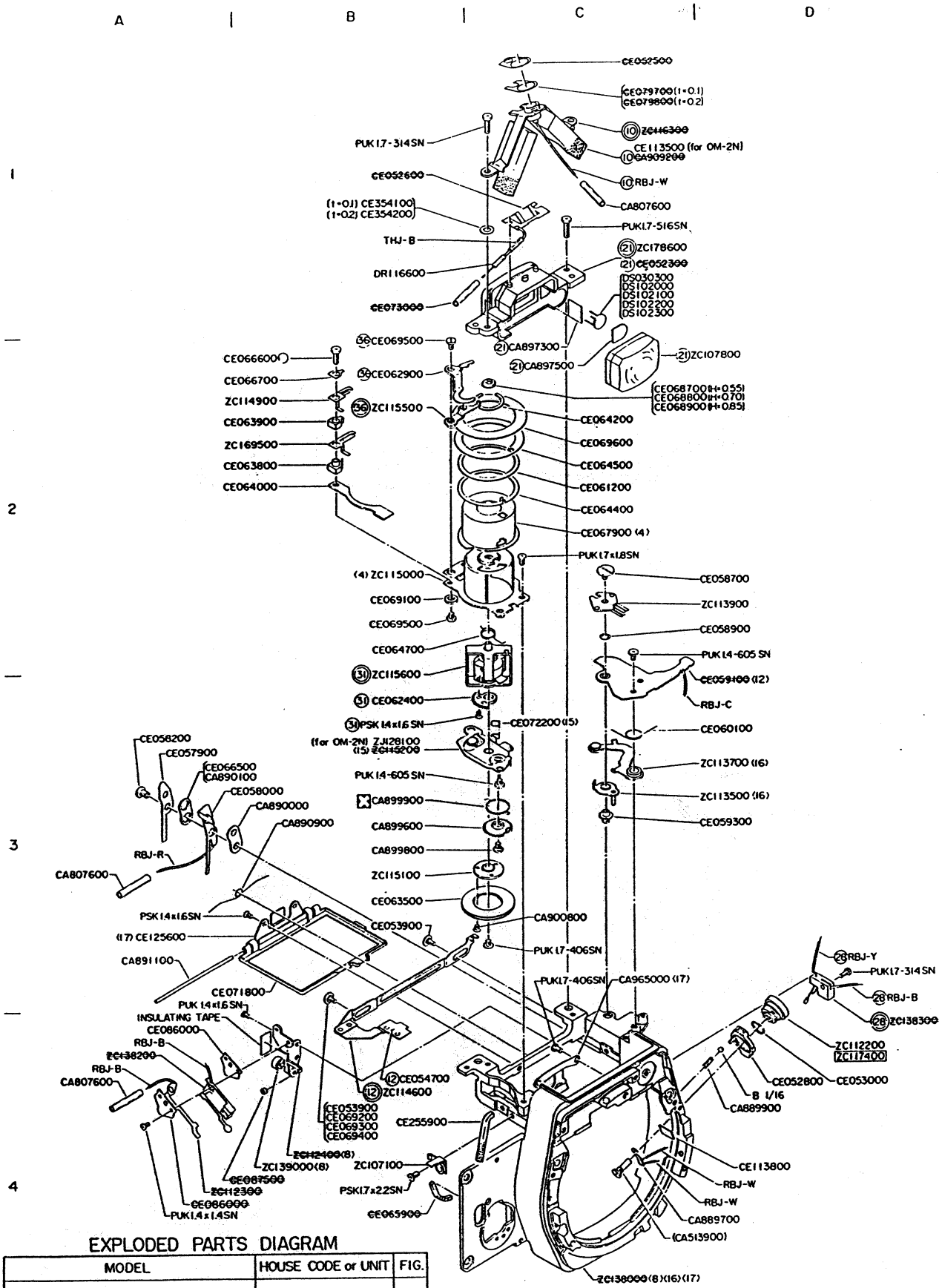


EXPLODED PARTS DIAGRAM

MODEL	HOUSE CODE or UNIT	FIG.
OLYMPUS OM-2	MDE	5/8
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

0389

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



EXPLODED PARTS DIAGRAM

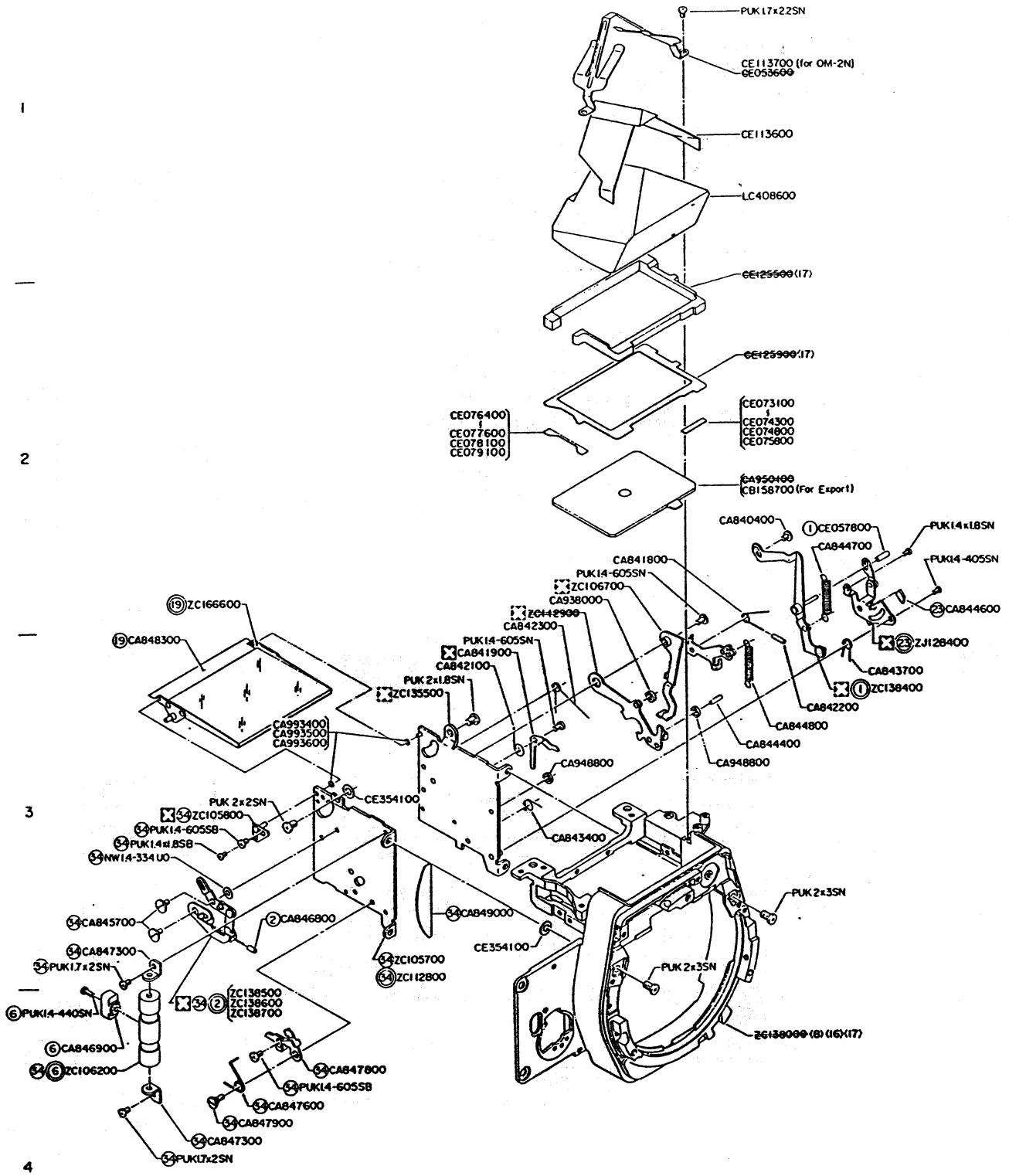
MODEL	HOUSE CODE or UNIT	FIG.
OLYMPUS OM-2	MDE	6/8
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

0389

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

A | B | C | D

1 — 2 — 3 — 4

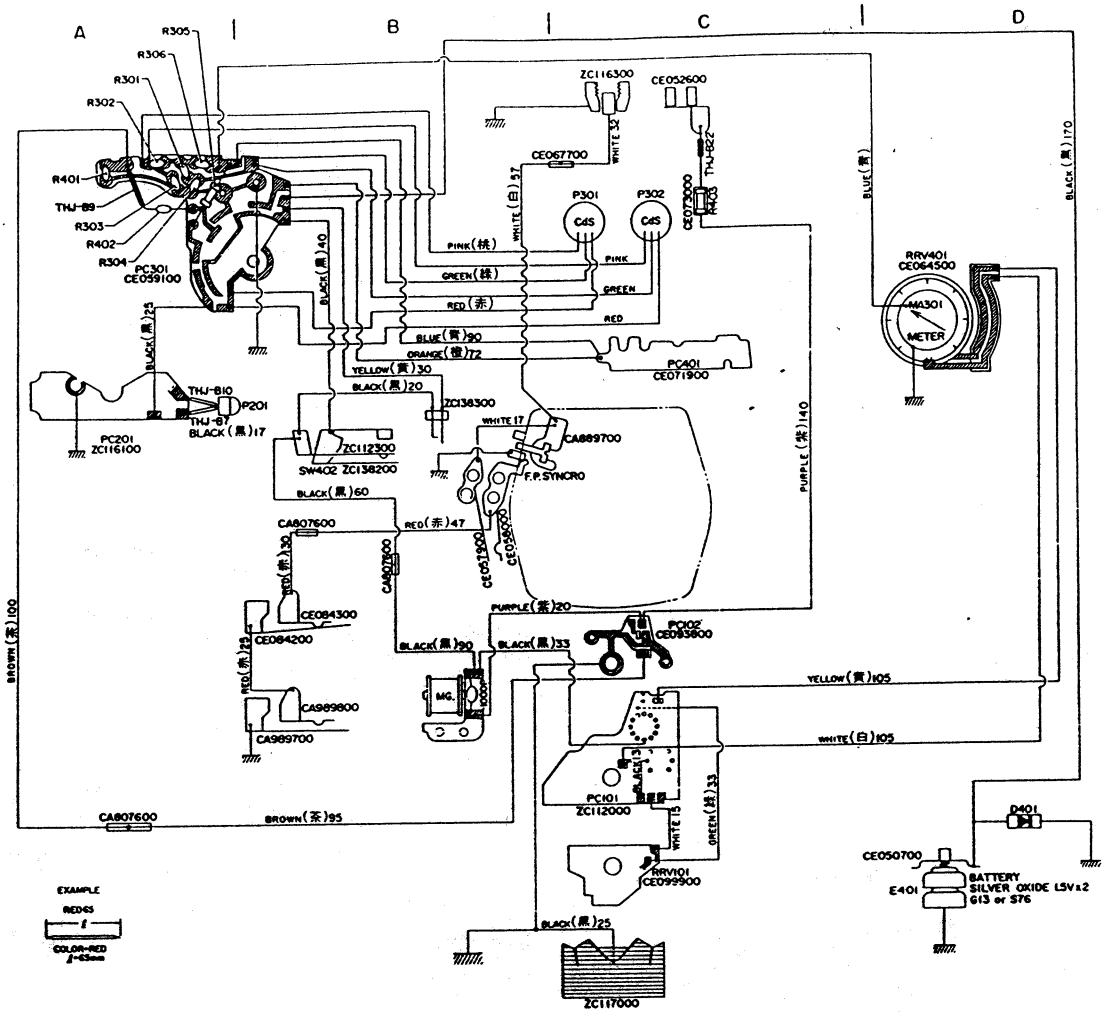


EXPLODED PARTS DIAGRAM

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

0369

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

MDE

PARTS No.	NAME OF PARTS	NOTE
ZC115600	EXPOSURE METER	6-B2
ZC116700	DISK ASS'Y	1-B1
ZC117000	COVERING PLATE ASS'Y	2-C1
ZC132100	SPROCKET ASS'Y	4-A2
ZC132200	ST CLAW ASS'Y	4-C4
ZC132300	SPOOL SHAFT ASS'Y.	2-B3
ZC132500	FC RETURNING LEVER	2-C1
ZC132900	RELEASE PLATE ASS'Y	4-D3
ZC133100	A PINCH ASS'Y	3-D2
ZC133200	B PINCH ASS'Y	3-A2
ZC133400	TUBE SHAFT B ASS'Y	3-B2
ZC133500	TUGE SHAFT A ASS'Y	3-B2
ZC134300	R LEVER ASS'Y	1-D1
ZC135500	SIDE PLATE L ASS'Y	7-B3
ZC137000	R LEVER ASS'Y	3-D2
ZC137300	KL PLATE 3 ASS'Y	φ1.4 4-C1
ZC137400	KL PLATE 3 ASS'Y	φ1.8 4-C1
ZC137600	SWITCH HOLDER ASS'Y	1-C1
ZC137800	C BASE ASS'Y	1-C2
ZC137900	K LEVER ASS'Y	1-C2
ZC138400	M LEVER ASS'Y	7-D3
ZC138500	LINK ASS'Y	SPφ0.40 7-B3
ZC138600	LINK ASS'Y	SPφ0.45 7-B3
ZC138700	LINK ASS'Y	SPφ0.55 7-B3
ZC139000	FP SCREW ASS'Y	6-B4
ZC161000	FX BASE ASS'Y	3-C2
ZC166600	MIRRER ASS'Y	7-B2
ZC166800	SELF TIMER	5-A1
ZC168600	GEAR A,B ASS'Y	3-B2
ZC168700	2nd CLAW ASS'Y	3-D1
ZC168900	HOOK LEVER ASS'Y	3-D2
ZC169500	A CONTACT POINT 2	6-B2
ZC176200	WINDING LEVER ASS'Y	SUBSTITUTED
ZC178200	REAR COVER ASS'Y	SUBSTITUTED
ZC178600	S FRAME ASS'Y	6-C1
* ZC179000	CL HOUSE ASS'Y	SUBSTITUTED
ZC182200	S PLATE U ASS'Y	3-C2
ZC198500	SW BASE PLATE ASS'Y	4-B2
ZC451900	STRAP EYELET ASS'Y	SUBSTITUTED

PARTS No.	NAME OF PARTS	NOTE
ZJ128000	KN PLATE ASS'Y	SUBSTITUTED
ZJ128100	LOWER PLATE M	SUBSTITUTED
ZJ128400	M BASE PLATE ASS'Y	7-D2
ZJ128600	BUTTON HOLDER ASS'Y	1-B1
ZJ129000	BASE PLATE ASS'Y	2-B4
ZJ182900	REAR COVER ASS'Y	SUBSTITUTED
DR172600	RESISTOR	R301·2 24KΩ 1/16W
DR172700	RESISTOR	R301·2 25KΩ 1/16W
DR172800	RESISTOR	R301·2 26KΩ 1/16W
DR172900	RESISTOR	R301·2 27KΩ 1/16W
DR173000	RESISTOR	R301·2 28KΩ 1/16W
DR173100	RESISTOR	R301·2 29KΩ 1/16W
DR173200	RESISTOR	R301·2 30KΩ 1/16W
DR173300	RESISTOR	R301·2 31KΩ 1/16W
DR173400	RESISTOR	R301 32KΩ 1/16W
DR173500	RESISTOR	R301 33KΩ 1/16W
DR173600	RESISTOR	R301 34KΩ 1/16W
DR173700	RESISTOR	R301 35KΩ 1/16W
DR173800	RESISTOR	R301 36KΩ 1/16W
DR173900	RESISTOR	R302 22KΩ 1/16W
DR174000	RESISTOR	R302 23KΩ 1/16W
DR174100	RESISTOR	R303·402 9KΩ 1/16W
DR132500	RESISTOR	R303 10KΩ 1/16W
DR174200	RESISTOR	R303 11KΩ 1/16W
DR134100	RESISTOR	R303 12KΩ 1/16W
DR174400	RESISTOR	R303 13KΩ 1/16W
DR174500	RESISTOR	R303 14KΩ 1/16W
DR131500	RESISTOR	R303 15KΩ 1/16W
DR174700	RESISTOR	R303 16KΩ 1/16W
DR174800	RESISTOR	R303 17KΩ 1/16W
DR138000	RESISTOR	R303 18KΩ 1/16W
DR175000	RESISTOR	R303 19KΩ 1/16W
DR130100	RESISTOR	R303 20KΩ 1/16W
DR175200	RESISTOR	R303 100KΩ 1/16W
DR175300	RESISTOR	R304 180KΩ 1/16W
DR175400	RESISTOR	R304 270KΩ 1/16W
DR175500	RESISTOR	R304 470KΩ 1/16W
DR175600	RESISTOR	R305 6.83KΩ 1/20W
DR175700	RESISTOR	R306 2.4KΩ 1/16W
DR176000	RESISTOR	R401 1MΩ 1/16W
DR176100	RESISTOR	R402 5.1KΩ 1/16W
DR116600	RESISTOR	R403 10KΩ 1/8W

PARTS LIST MDE

PARTS No.	NAME OF PARTS	NOTE
=CE079900	FILM COUNTER	→CE236400
=CE084700	LOCK LEVR	3-D2
=CE084900	LIGHT PROOF PLATE	4-C3
=CE086000	STOPPER PLATE	6-A4
=CE087400	M CENTER PLATE	<8>
=CE087500	M TUBE	6-B4
=CE088600	TURN PLATE B	4-B2
=CE088900	SPRING STOPPER	4-B2
=CE090200	C CAM	<16>
=CE090400	C LEVER	<16>
=CE090700	CIRCUIT BOARD C	<12>
=CE090900	C PLATE 1	4-B2
=CE091000	C PLATE 2	4-A1<14>
=CE091500	S BASE PLATE	→CE099900<7>
=CE091600	CAM SHAFT	2-D2
=CE091700	CAM COVER	2-D2
=CE091800	CAM FASTENER	2-D2
=CE091900	CAM SPRING 2	2-C2
=CE092500	K CONTACT	→ZC111800<7>
=CE093000	T FASTENER	2-B2
=CE093800	SUB CERCUIT BOAD	2-D1
=CE096900	BULB SCREW	3-C3
=CE097600	S LEVER	→CE113000<9>
=CE099600	INSULATOR	<15>
=CE120100	TOP COVER B	<6>
=CE120300	FRONT COVER	→CE117700
=CE120700	BUTTON HOLDER B	→ZJ129300<10>
=CE120800	SWITCH HOLDER B	→ZJ129400<9>
=CE121200	R SHAFT HOLDER	→CE070500<1>
=CE121300	SS DIAL	→CE117600 SUBSTITUTED
=CE122300	A DIAL	1-B1
=CE122500	LOCKING SPRING	1-C2
=CE122700	A DIAL B	1-B1
=CE125500	PRISM HOLDER	7-C2
=CE125900	MASK	7-C2
=SC0011	REWINDING ROLLER	φ3.5 <17>
=SC0012	REWINDING ROLLER	φ3.6 <17>
=SC0018	HINGE PIN HOLDER U	<3>
=SC0019	HINGE PIN HOLDER L	<3>
=SC0148	R KNOB	→CA872500<5>

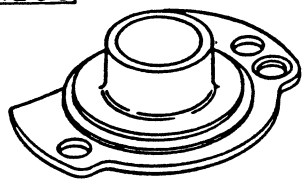
PARTS No.	NAME OF PARTS	NOTE
=ZC110000	DIE-CAST BODY	NOT FOR SALE
=ZC110100	CELL COVER	1-B4
=ZC110200	C PLATE 3	4-B3
=ZC111000	S BASE	3-B3
=ZC111500	S FRAME	→ZC102800 SUBSTITUTED
=ZC112000	M CIRCUIT BOARD	2-D2
=ZC112300	M CONTACT POINT 2	6-A4
=ZC112400	M CENTER PLATE	6-B4
=ZC112900	F LEVER	7-C2
=ZC114101	RAIL PLATE	<17>
=ZC114200	ROLLER PLATE.	<17>
=ZC114300	COVERING PLATE	5-C2
=ZC115200	LOWER PLATE M	→ZJ128100
=ZC116100	CIRCUIT BOARD C	4-A4
=ZC116300	S BASE PLATE	6-C1
=ZC116500	REAR COVER	→ZC453600
=ZC116900	TOP COVER	1-B2
=ZC117700	TOP COVER B	1-B2
=ZC132700	KN PLATE	→ZJ128000 SUBSTITUTED
=ZC132800	KN PLATE B	→ZJ129200SUBSTITUTE
*=ZC137500	CL HOUSE	→ZC179000SUBSTITUTE
=ZC137700	SWITCH HOLDER	→ZJ129400<9>
=ZC138000	FRONT PLATE	7-D4·5-C1·6-C4
=ZC138100	B SPRING	→ZJ128900 SUBSTITUTED
=ZC138200	M CONTACT POINT	6-A4
=ZC138300	M2 SWITCH	6-D4
=ZC139100	A DIAL	<18>
=ZJ116700	KL PLATE a	<3>
=ZJ116800	KL PLATE b	<3>
=ZJ126100	FRONT PLATE	<17>
=DC195200	CAPACITOR C101	0.022uF 35V
=DC195300	CAPACITOR C102	620PF 50V
=DQ021700	LED P103·201	GL-31AR8
=DR175800	RESISTOR R401	560KΩ 1/16W
=DR175900	RESISTOR R401	680KΩ 1/16W
=DR133700	RESISTOR R402	6.8KΩ 1/16W

-:PARTS STILL AVAILABLE =:PARTS NO LONGER AVAILABLE 08S

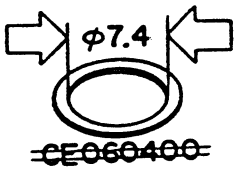
〈1〉

OLD

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



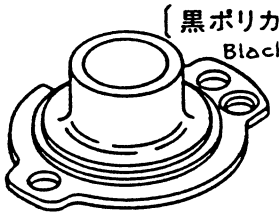
~~CA873500~~
(φ6.8)



~~CE060400~~

NEW

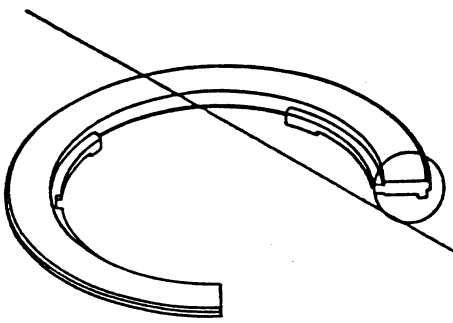
CE070500
(黒ポリカーボネート)
Black Plastic



CE070700
(φ7.4)

CE070600

〈2〉



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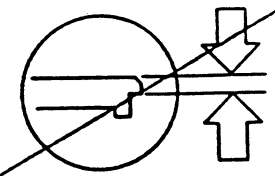

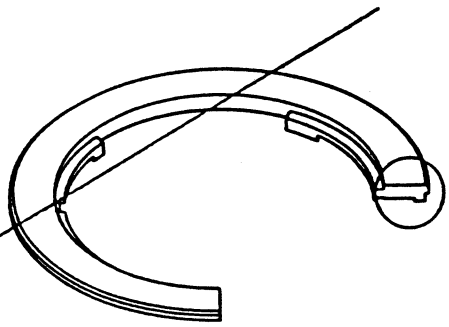

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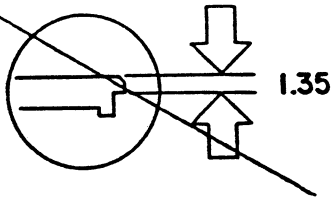

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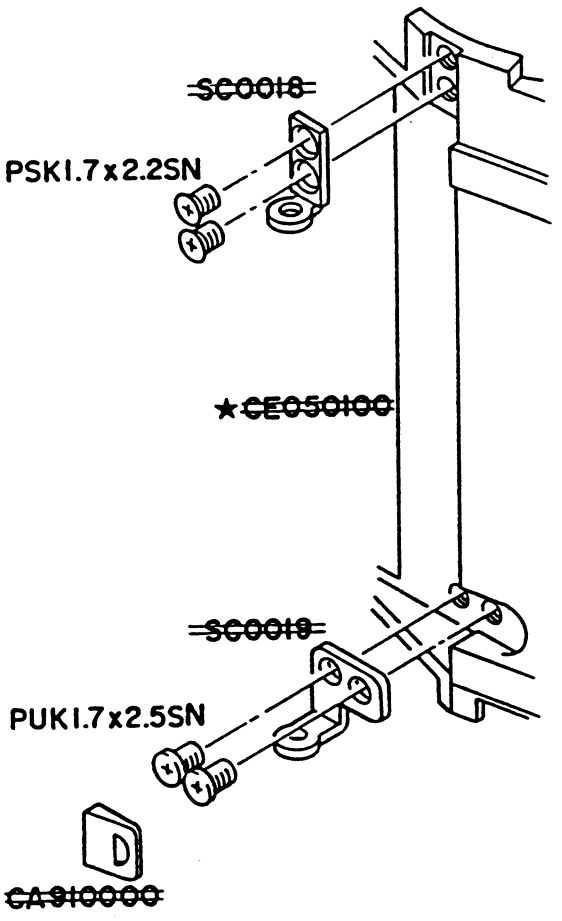
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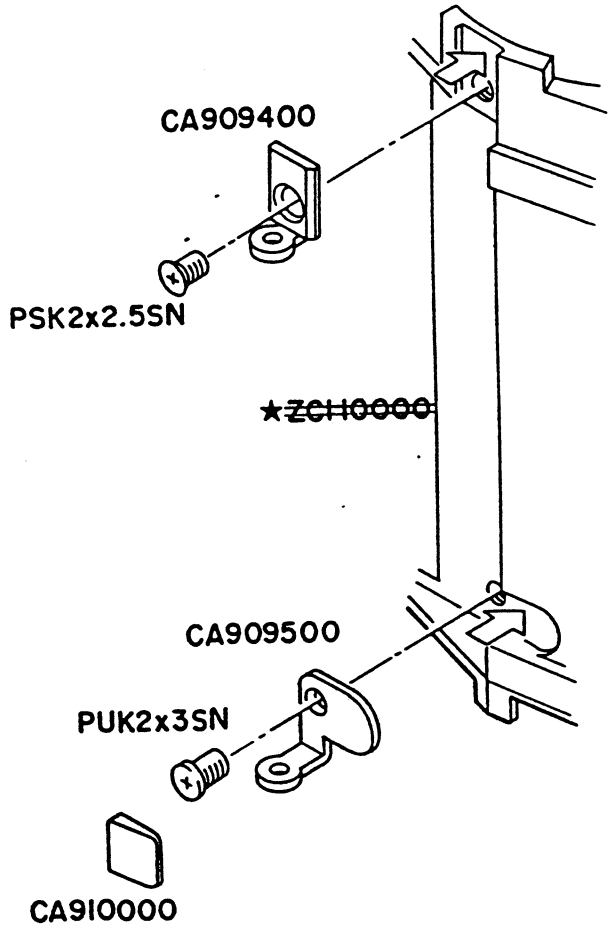
★~~CE050100~~
~~SC0018~~
PUK1.7x2.5SN
D
~~CA910000~~

NEW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★~~ZC110000~~
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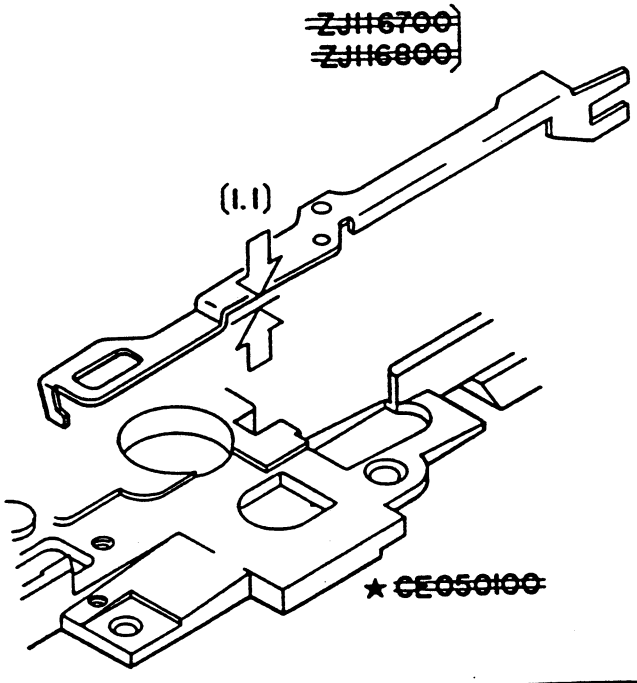
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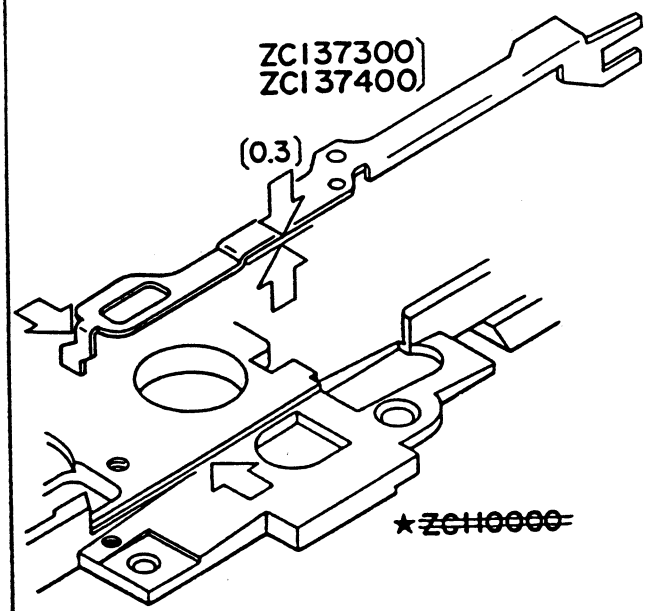
~~ZJ116800~~
(1.1)
★~~CE050100~~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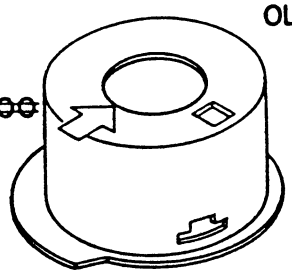
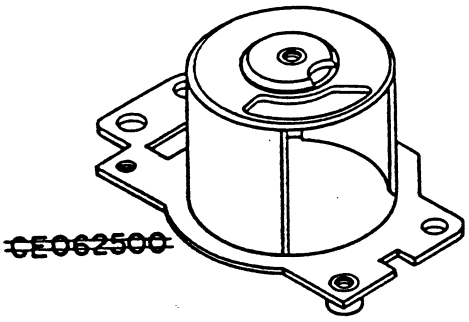
ZC137400
(0.3)
★~~ZC110000~~

〈4〉

OLD

~~CE064300~~
(φ7.6)





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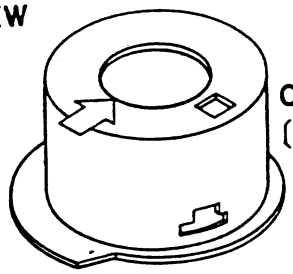
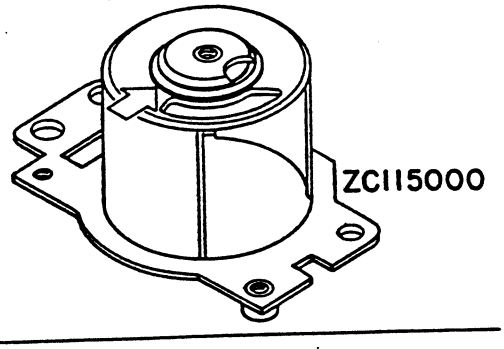
NEW

CE067900
(φ8)





ZC115000

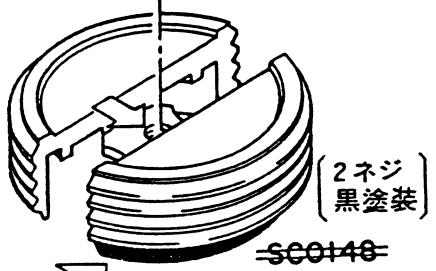
〈5〉〈6〉

OLD

~~CA873200~~
~~CA873900~~
~~CA874000~~
~~CA918700~~

2mm Screw
(2ネジ)

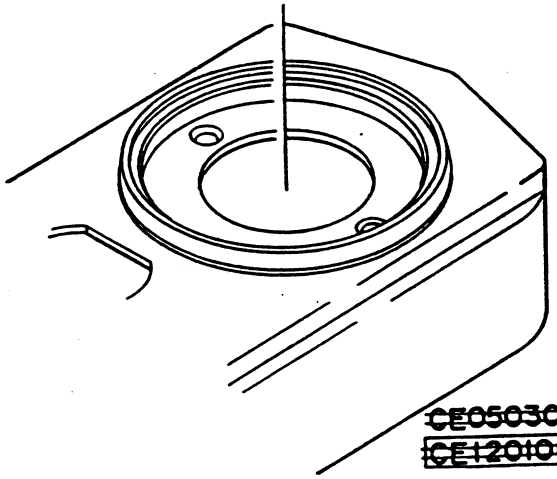
~~CA940500~~
~~CA943300~~
~~CA943400~~
~~CA943600~~



(2ネジ
黒塗装)

~~SC0148~~

Black painted



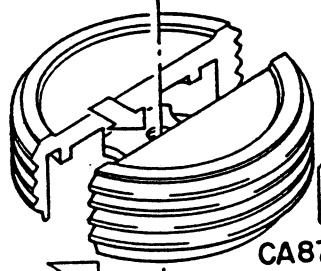
~~CE050300~~
~~CE120100~~

NEW

CA873200
CA873900
CA874000
CA918700

1.7mm Screw
(1.7ネジ)

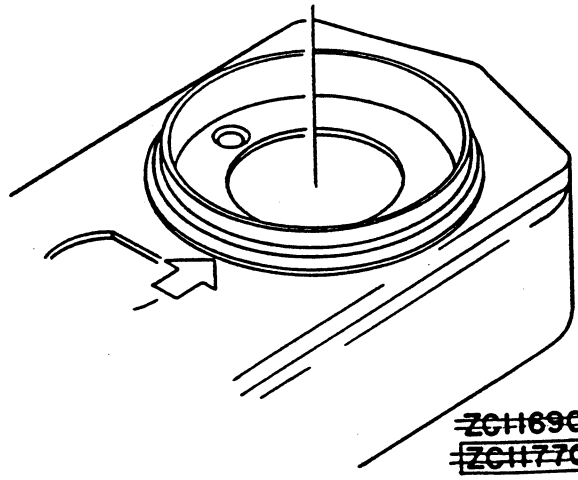
CA940500
CA943300
CA943400
CA943600



(1.7ネジ
黒塗装ナシ)

CA872500

Silver



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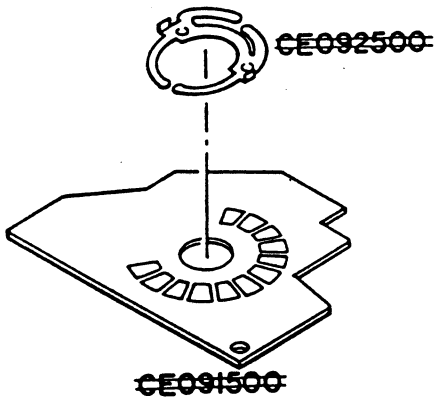
~~ZC117700~~

〈7〉

OLD



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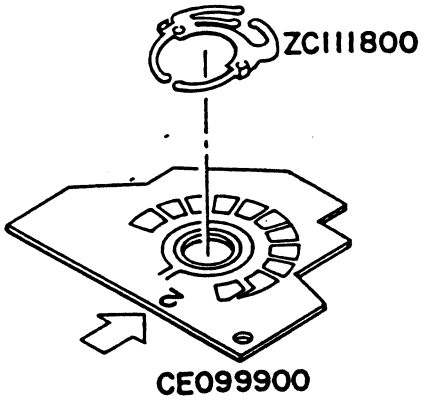

〈8〉

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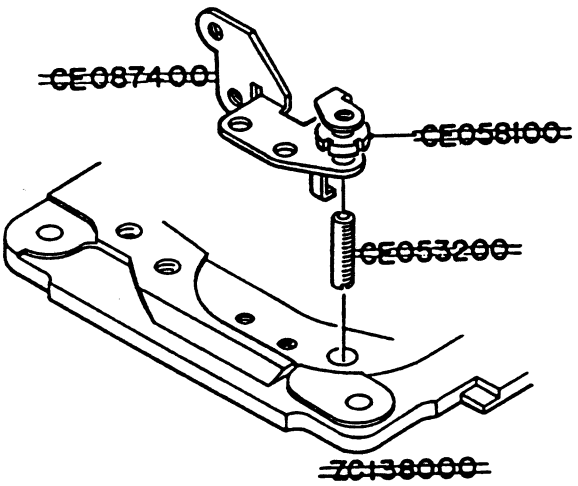

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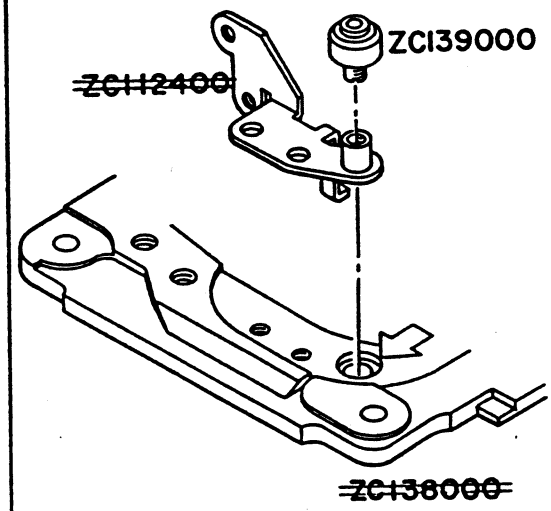

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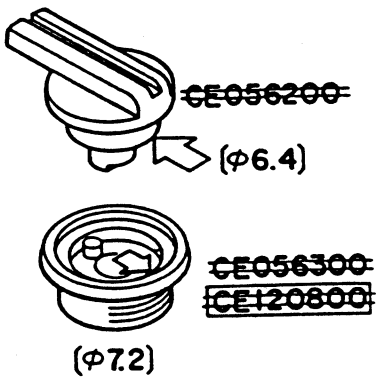

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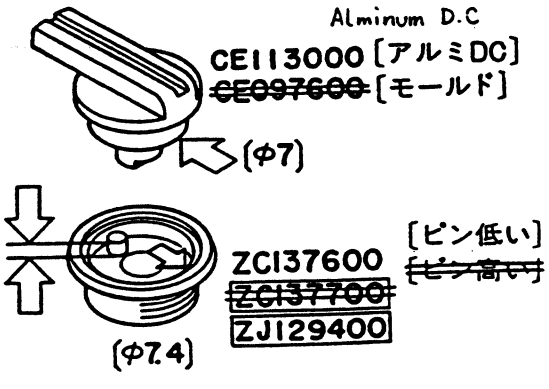

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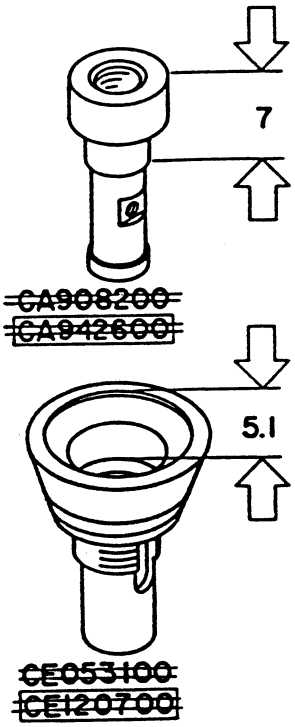

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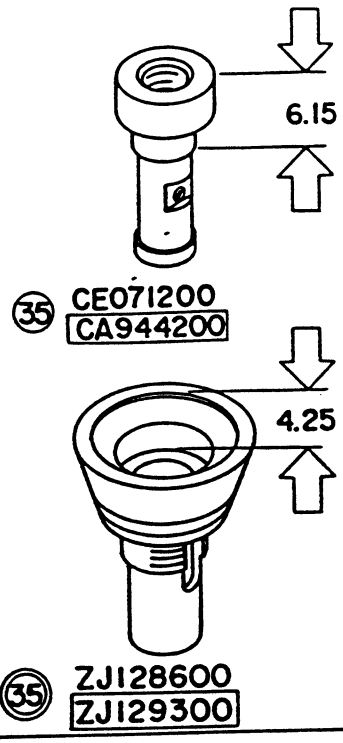

〈11〉

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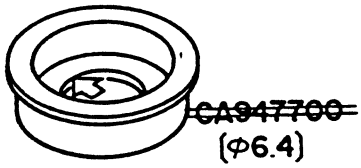

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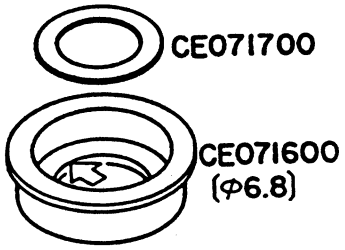

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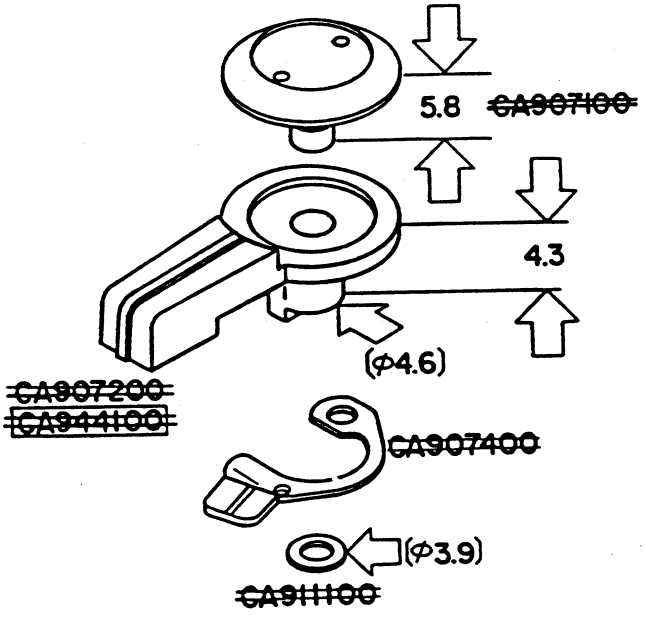

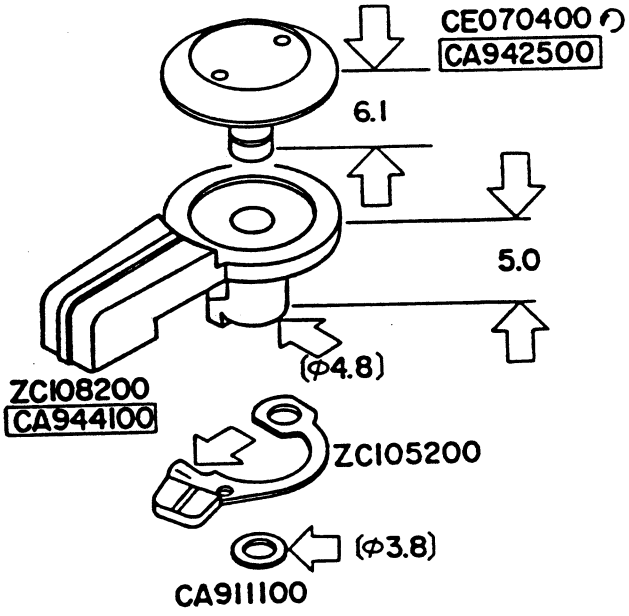

〈12〉

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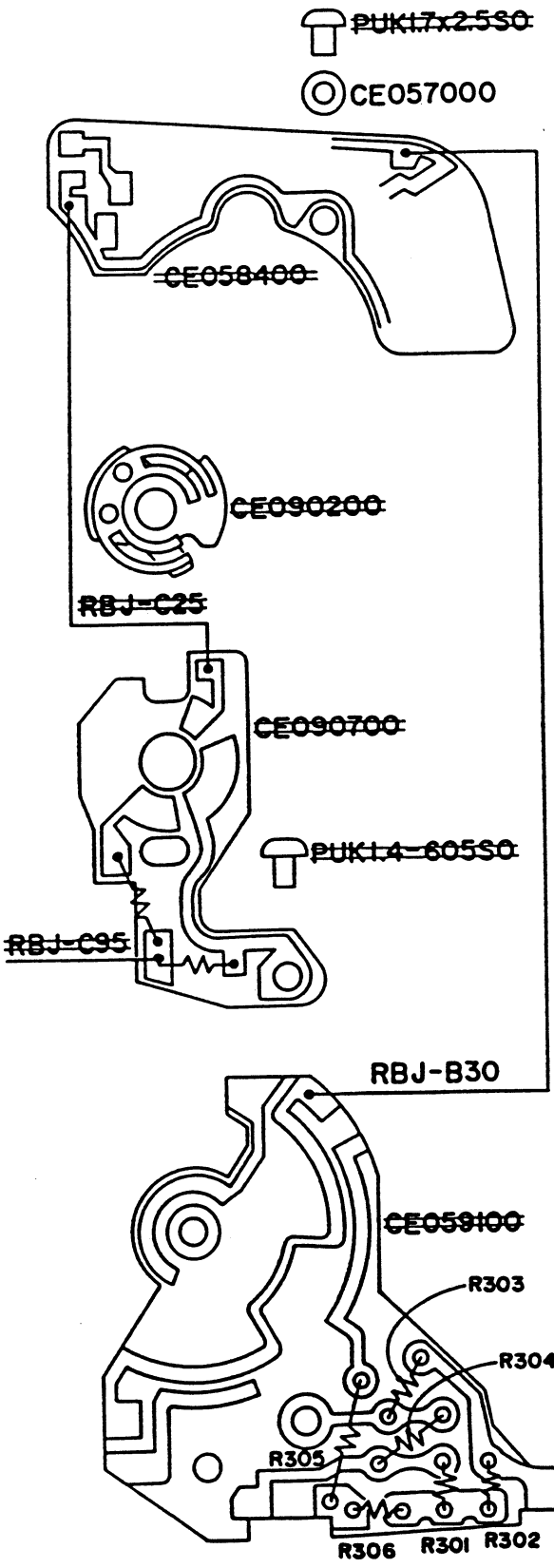
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~~RBJ-C25~~
~~CE090700~~
~~PUK1.4-605S0~~
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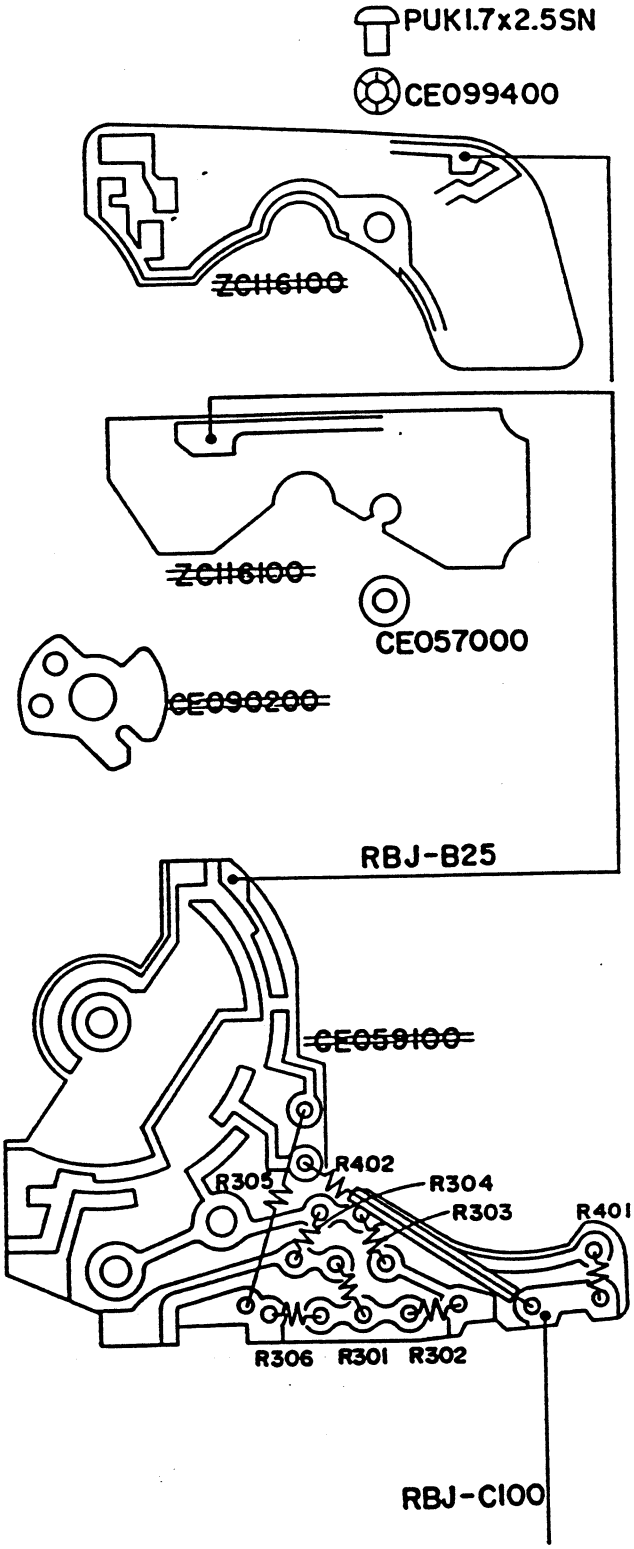
R303
R304
R305
R306
R301
R302

NEW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R401
R306
R301
R302
RBJ-C100

〈14〉

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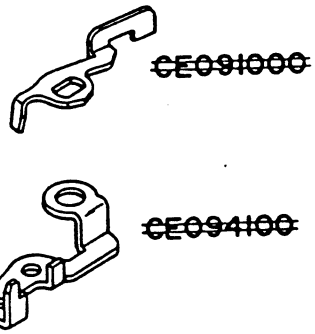

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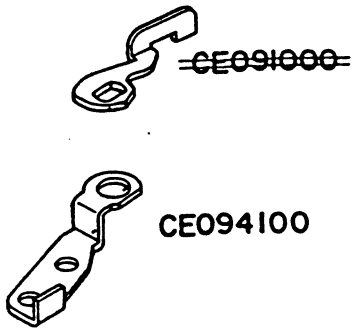

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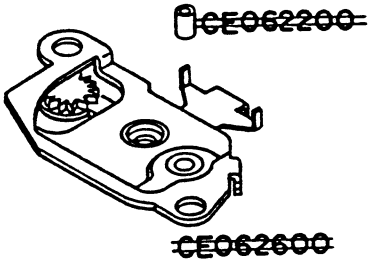

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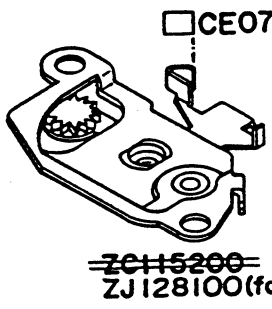

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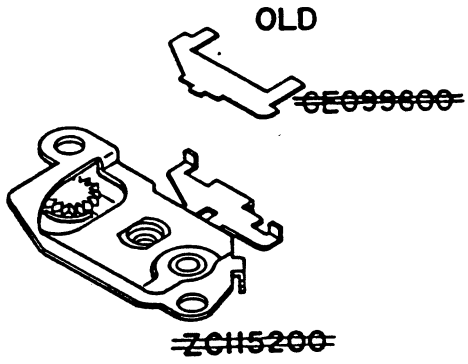

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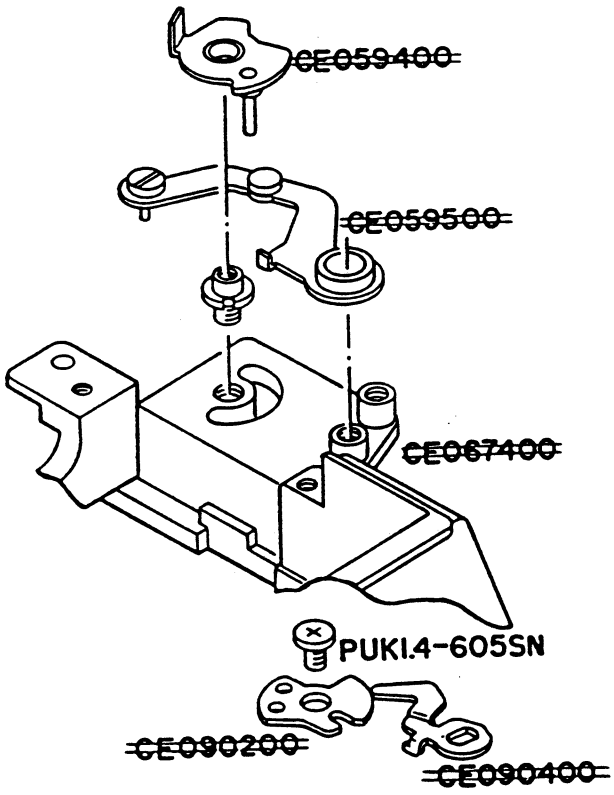

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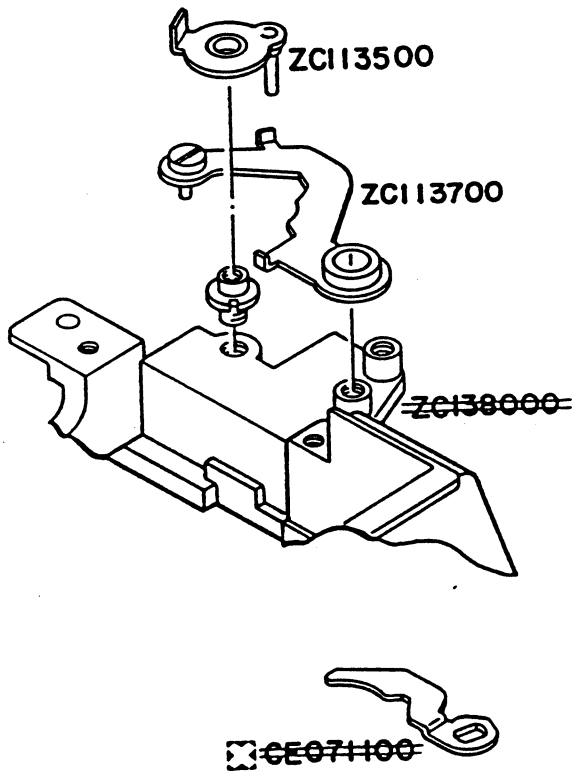

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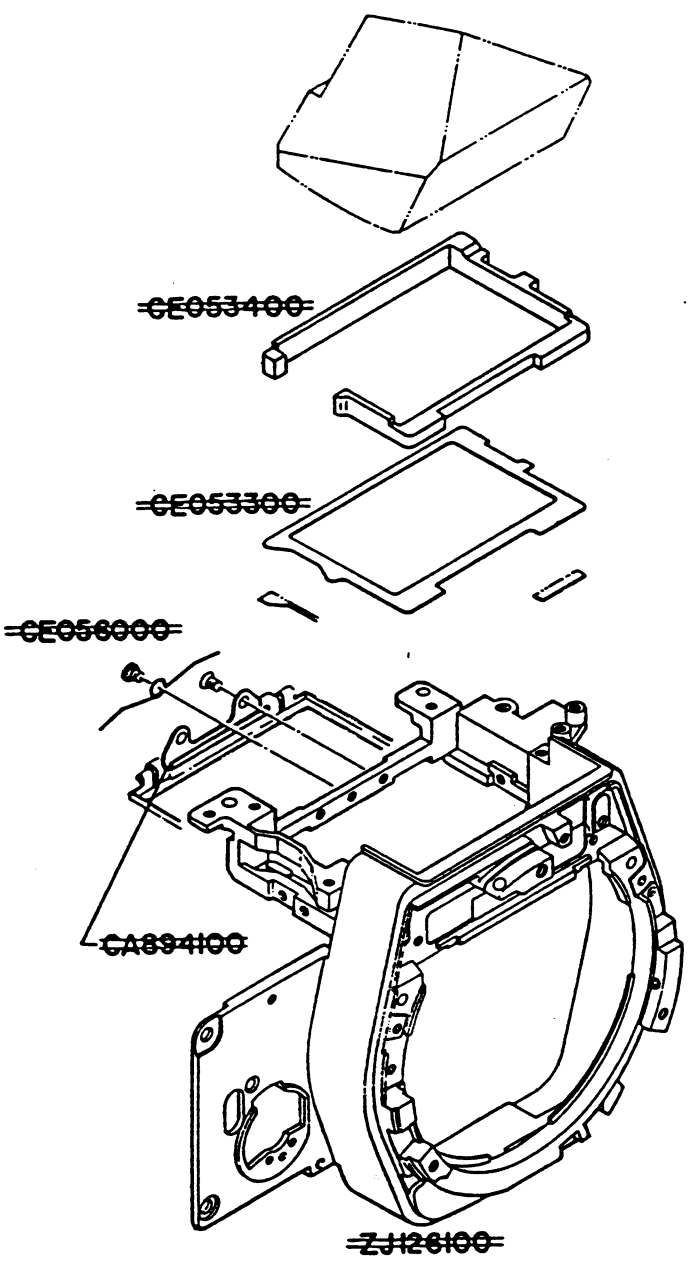
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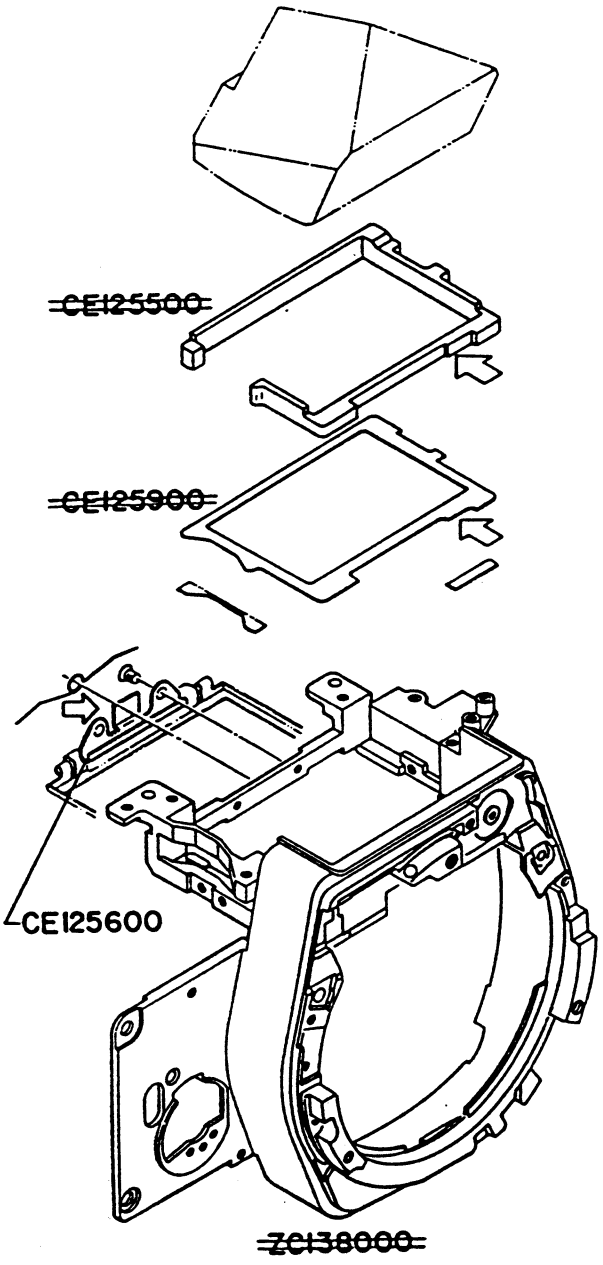
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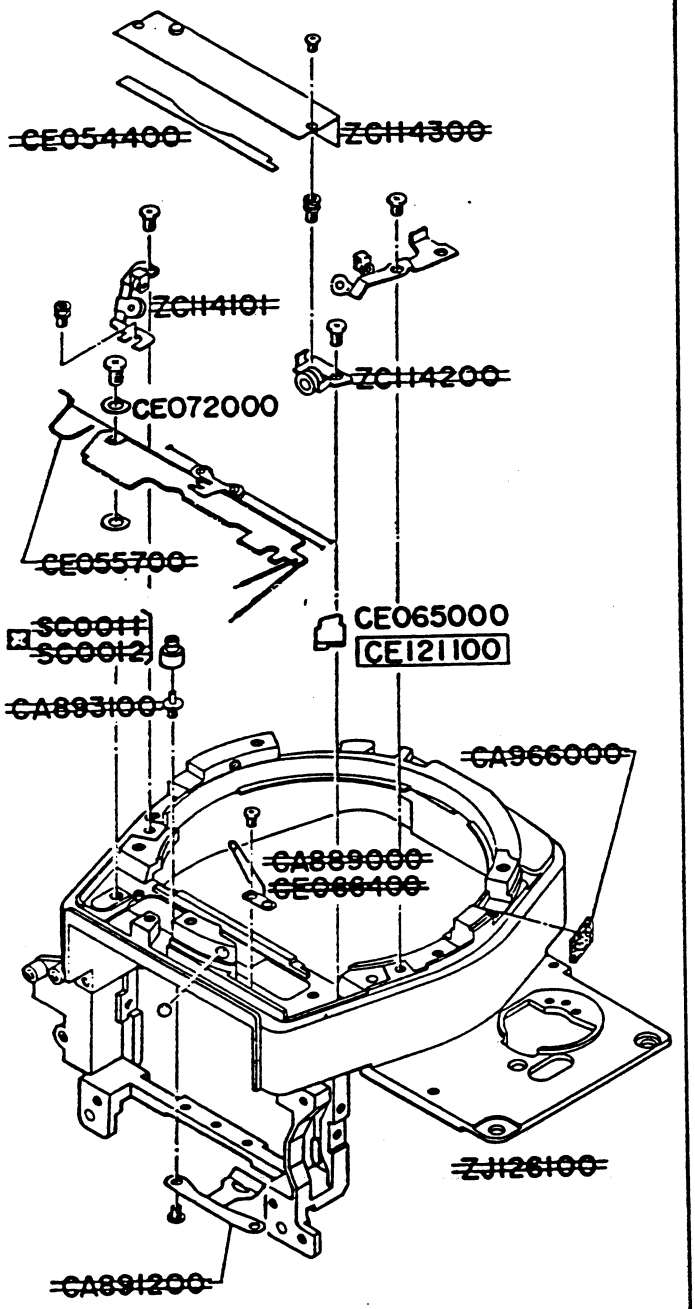
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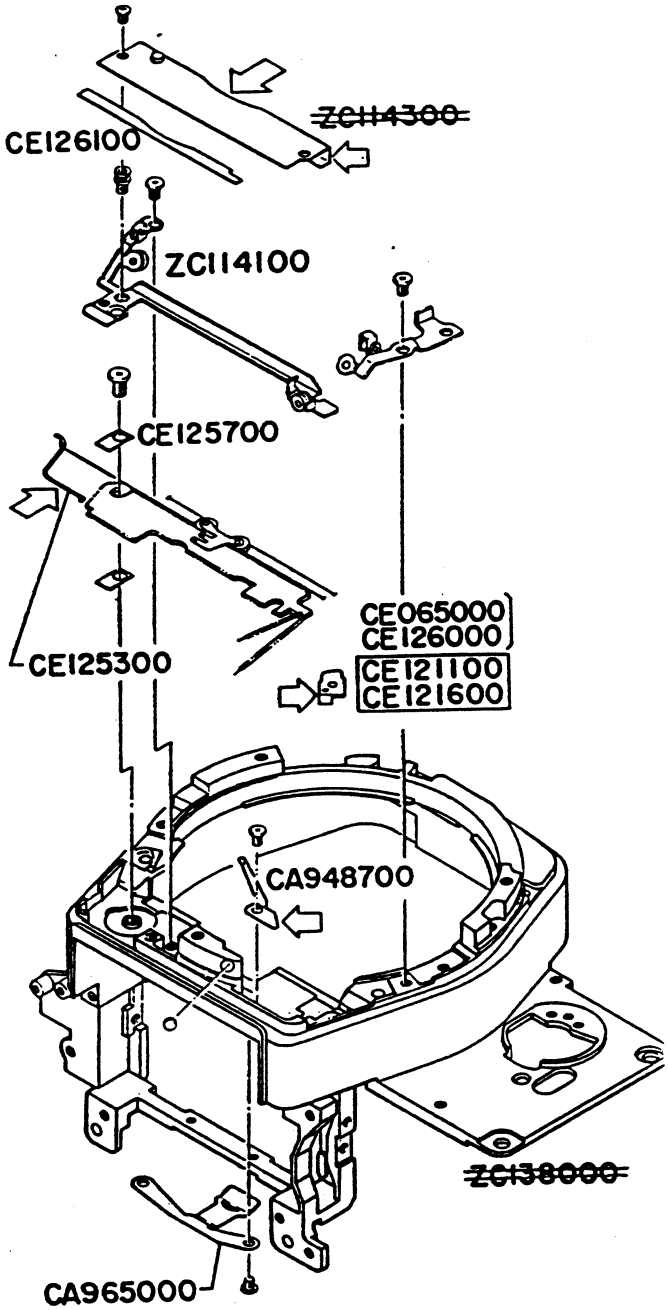
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ZC114100
CE125700
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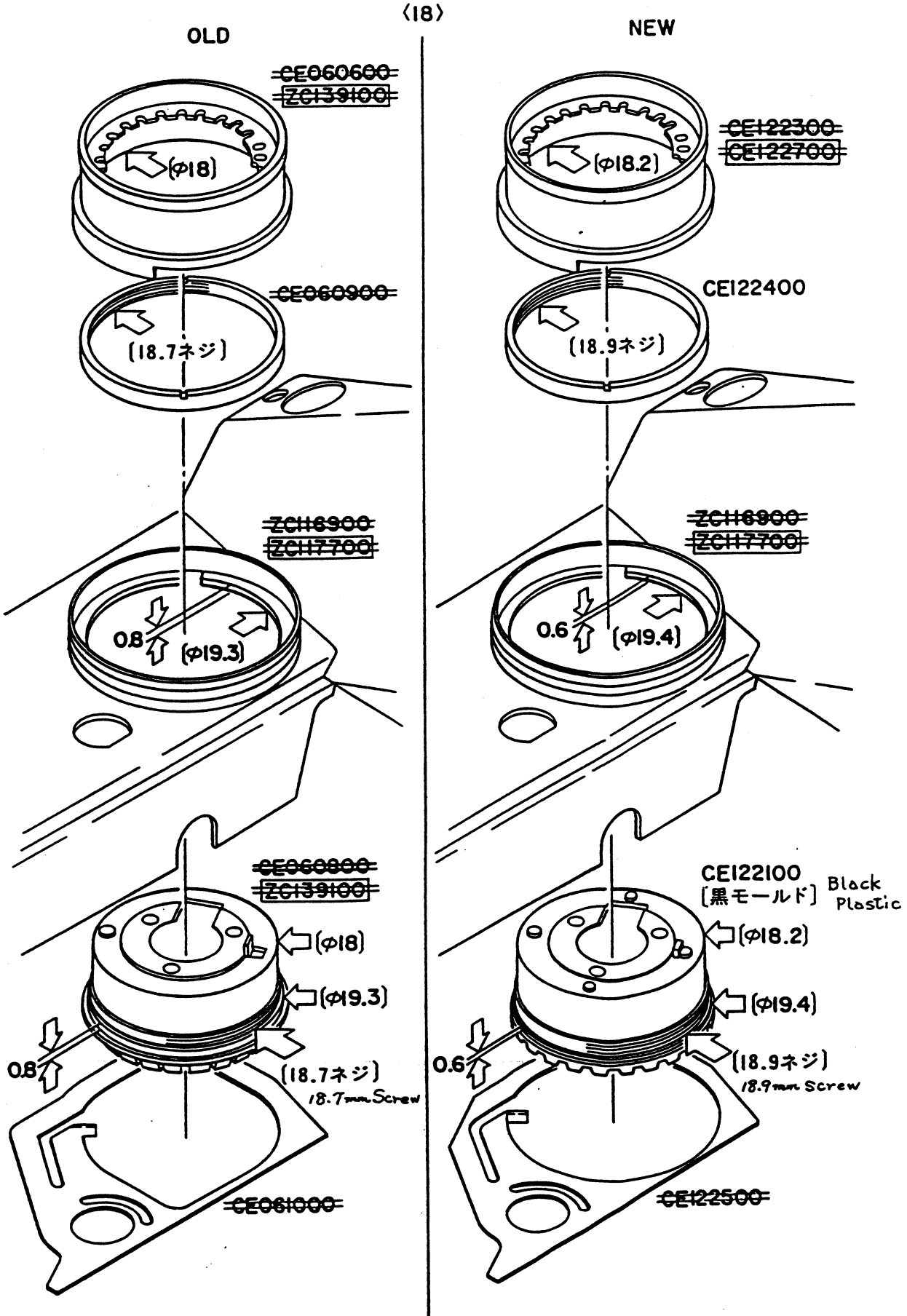
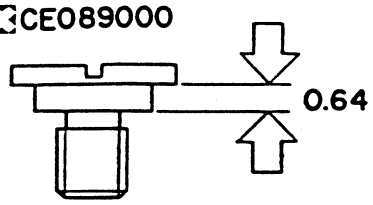
CE121100
CE121600
CA948700
~~ZC138000~~
CA965000

〈18〉


OLD
~~CE060600~~
~~ZC139100~~
(φ18)
~~CE060900~~
(18.7ネジ)
~~ZC116900~~
~~ZC117700~~
0.8
(φ19.3)
~~CE060800~~
~~ZC139100~~
(φ18)
(φ19.3)
0.8
(18.7ネジ)
18.7mm Screw
~~CE061000~~
NEW
~~CE122300~~
~~CE122700~~
(φ18.2)
CE122400
(18.9ネジ)
~~ZC116900~~
~~ZC117700~~
0.6
(φ19.4)
CE122100
[黒モールド]
Black Plastic
(φ18.2)
(φ19.4)
0.6
(18.9ネジ)
18.9mm Screw
~~CE122500~~

〈19〉

CE089000



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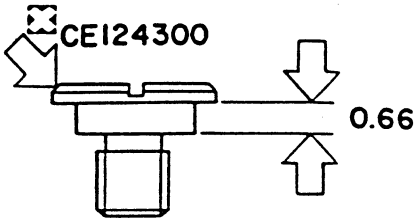


OLYMPUS
OM-2N
REPAIR MANUAL

INDEX

OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN

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.

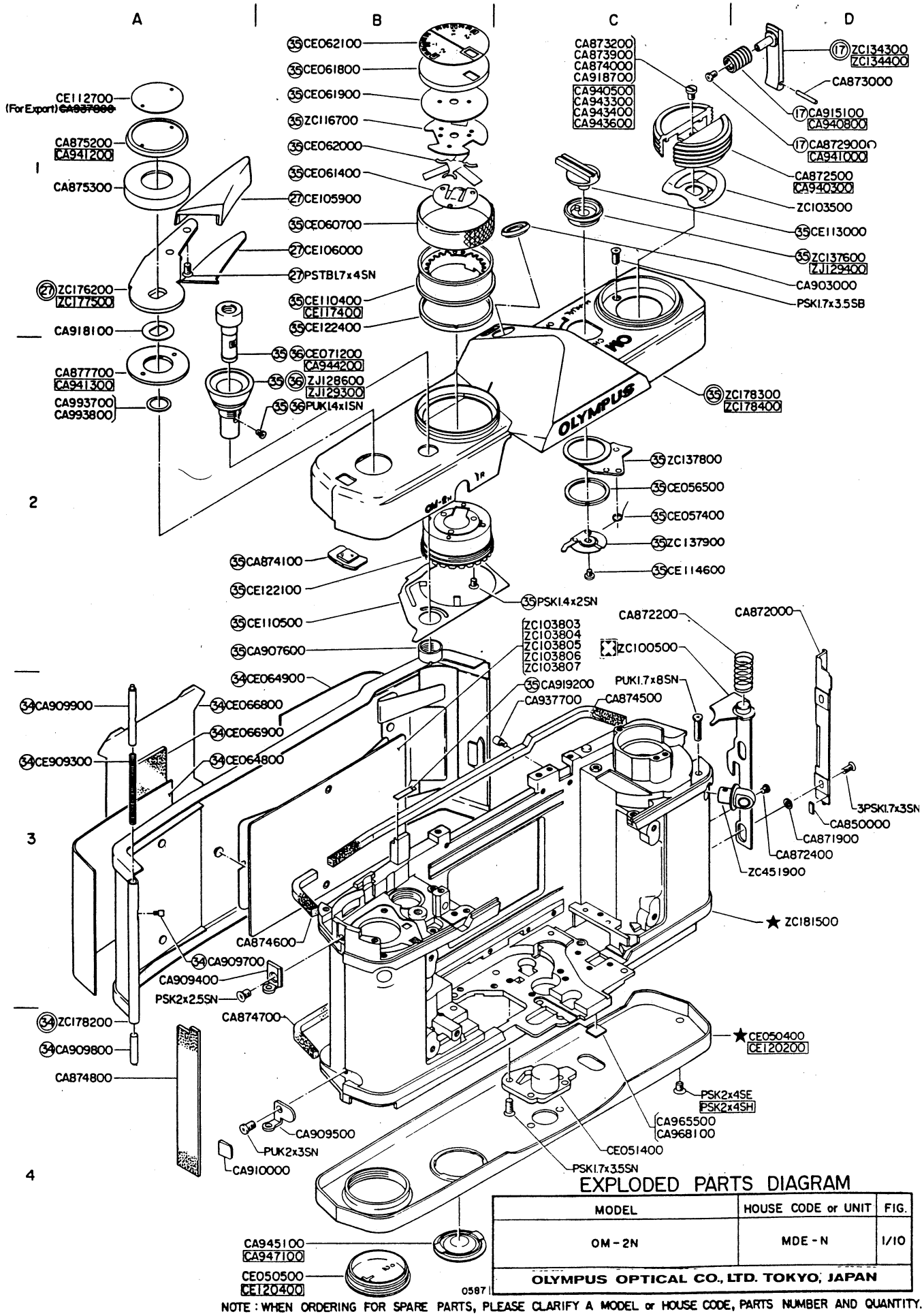
A correction mark. Parts with this mark are not available.

〈 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.

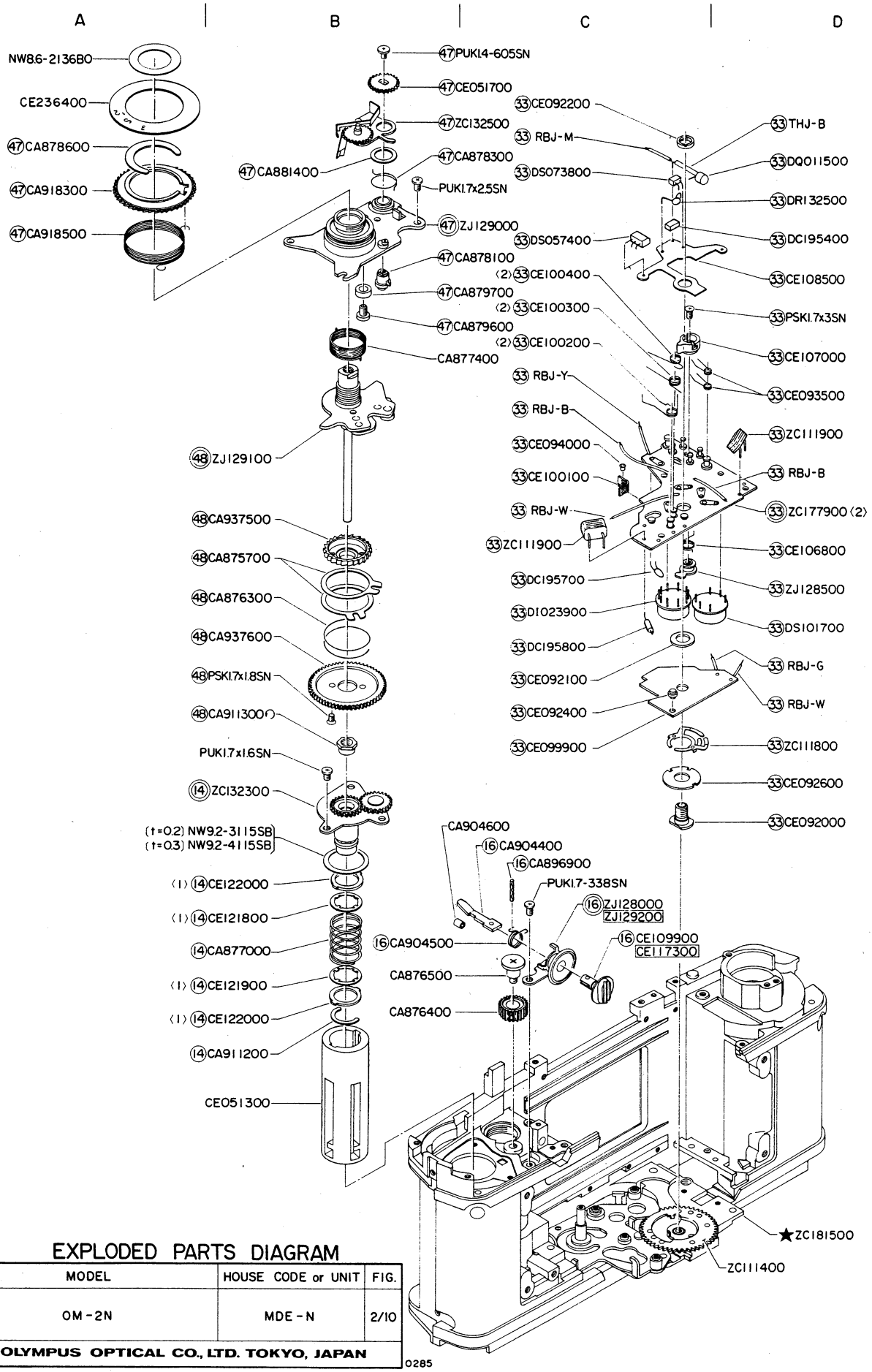


EXPLODED PARTS DIAGRAM

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

0587

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

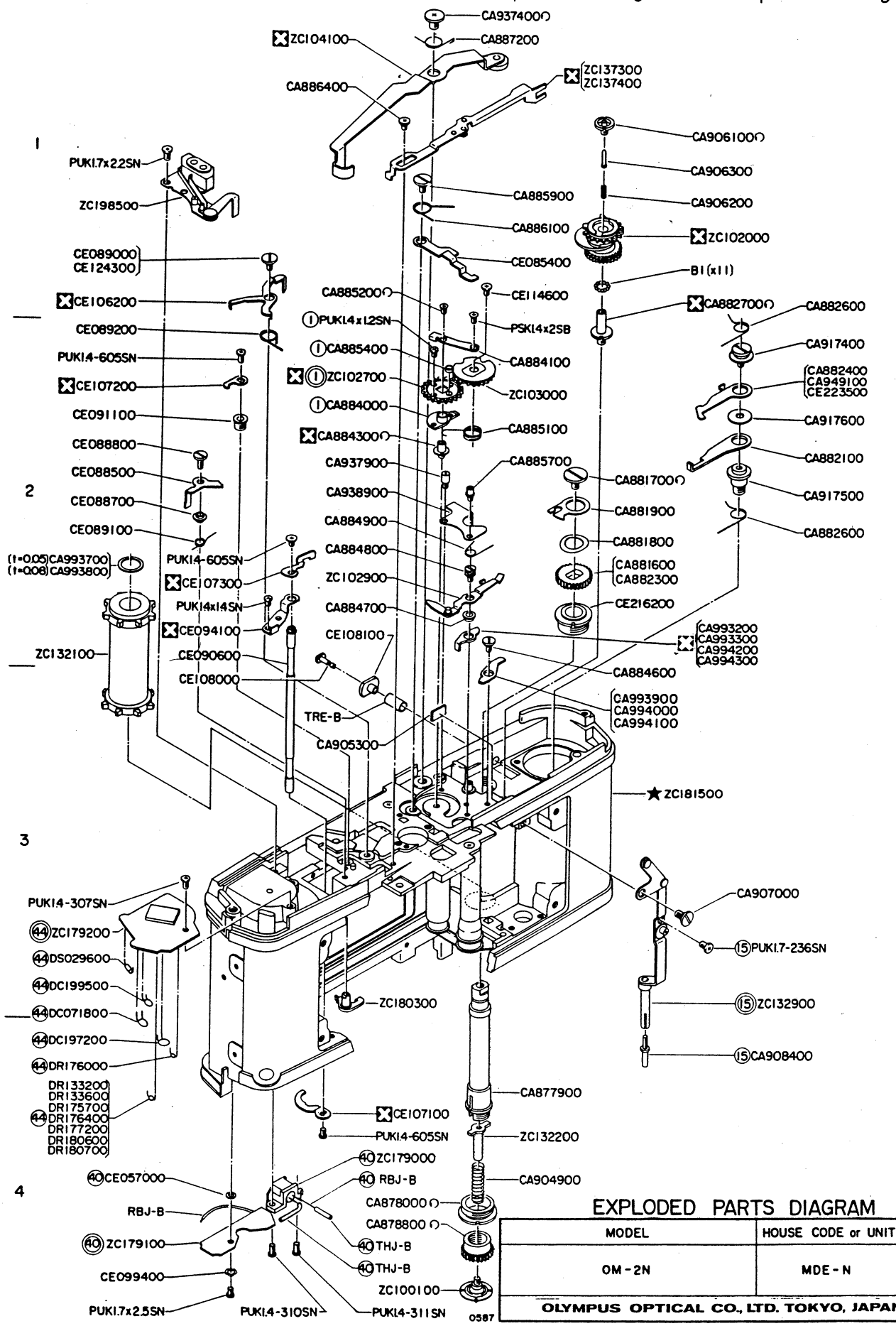


EXPLODED PARTS DIAGRAM

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

0285

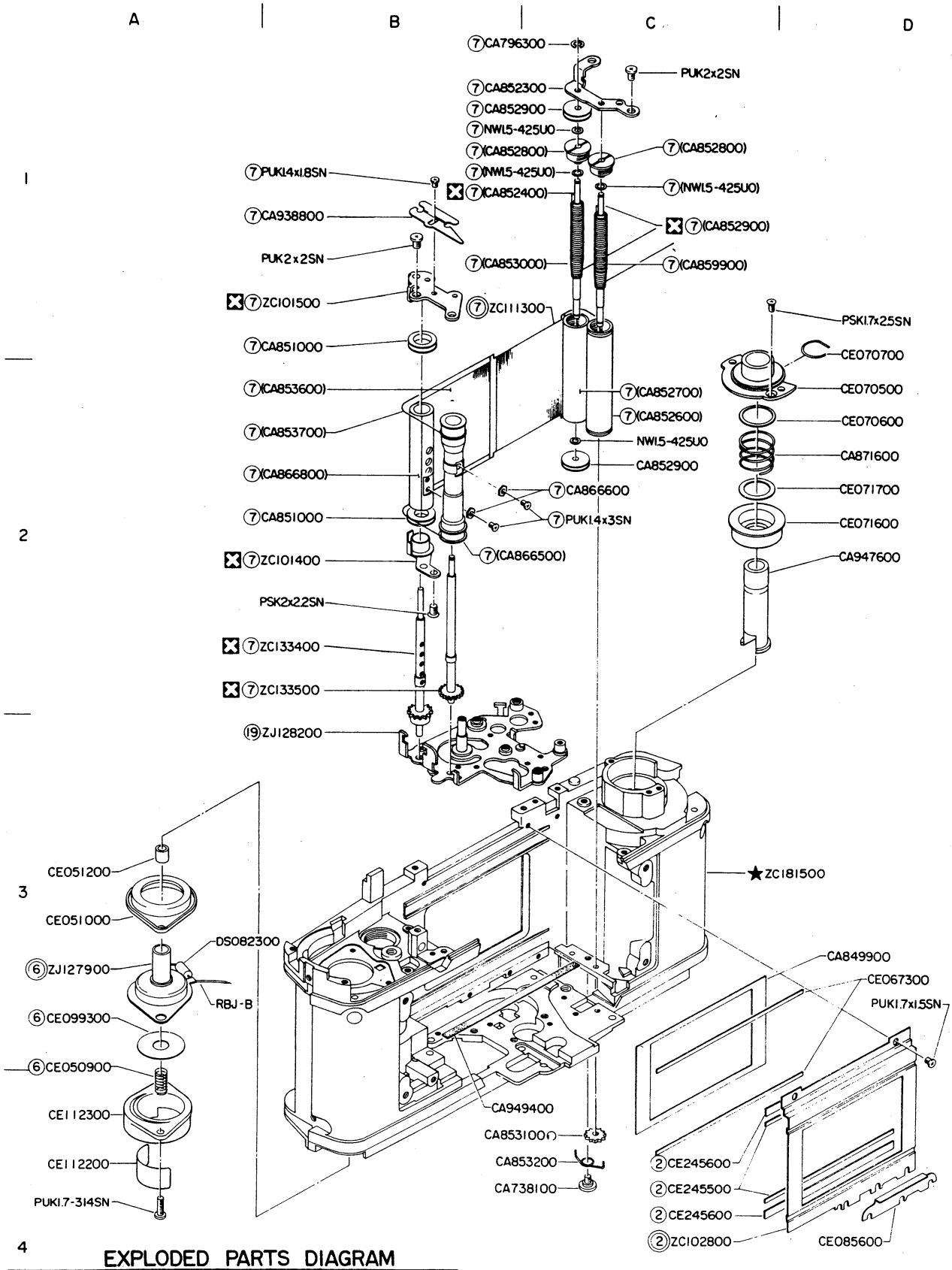
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.



EXPLODED PARTS DIAGRAM

MODEL	HOUSE CODE or UNIT	FIG.
OM-2N	MDE-N	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.

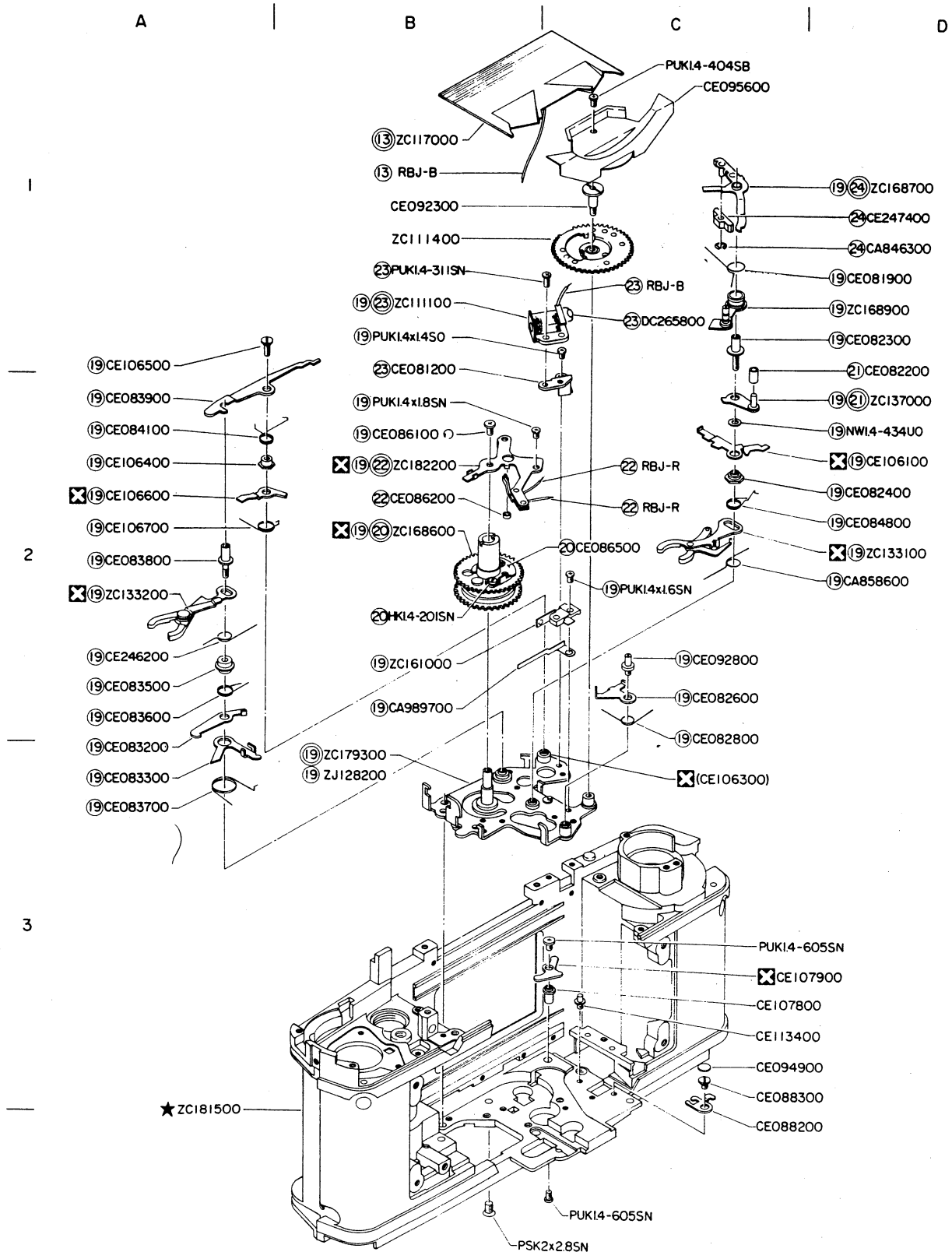


EXPLODED PARTS DIAGRAM

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

0882

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		

0882

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

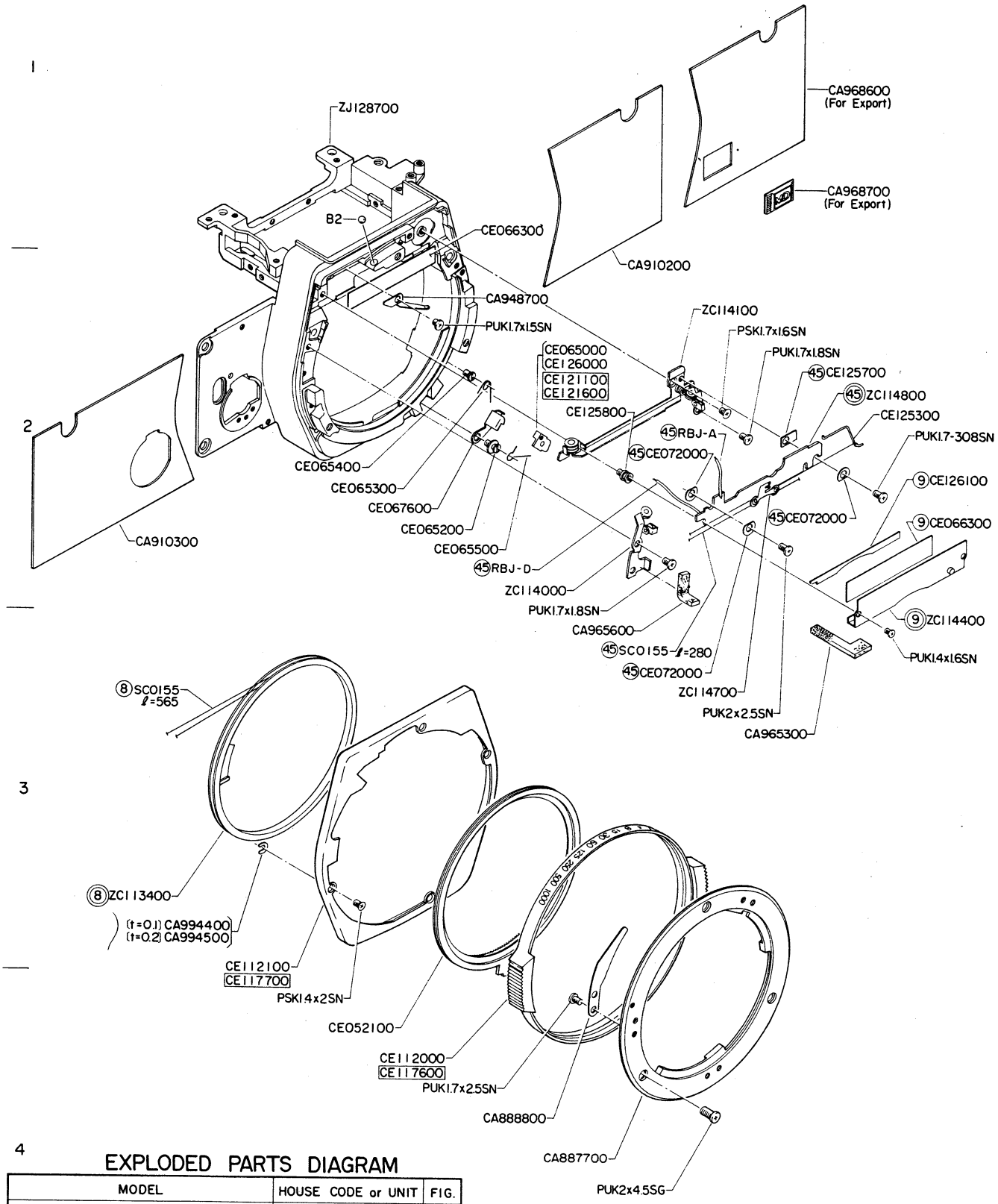
A | B | C | D

1

2

3

4



EXPLODED PARTS DIAGRAM

MODEL	HOUSE CODE or UNIT	FIG.
OM-2N	MDE-N	6/10
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

0285

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

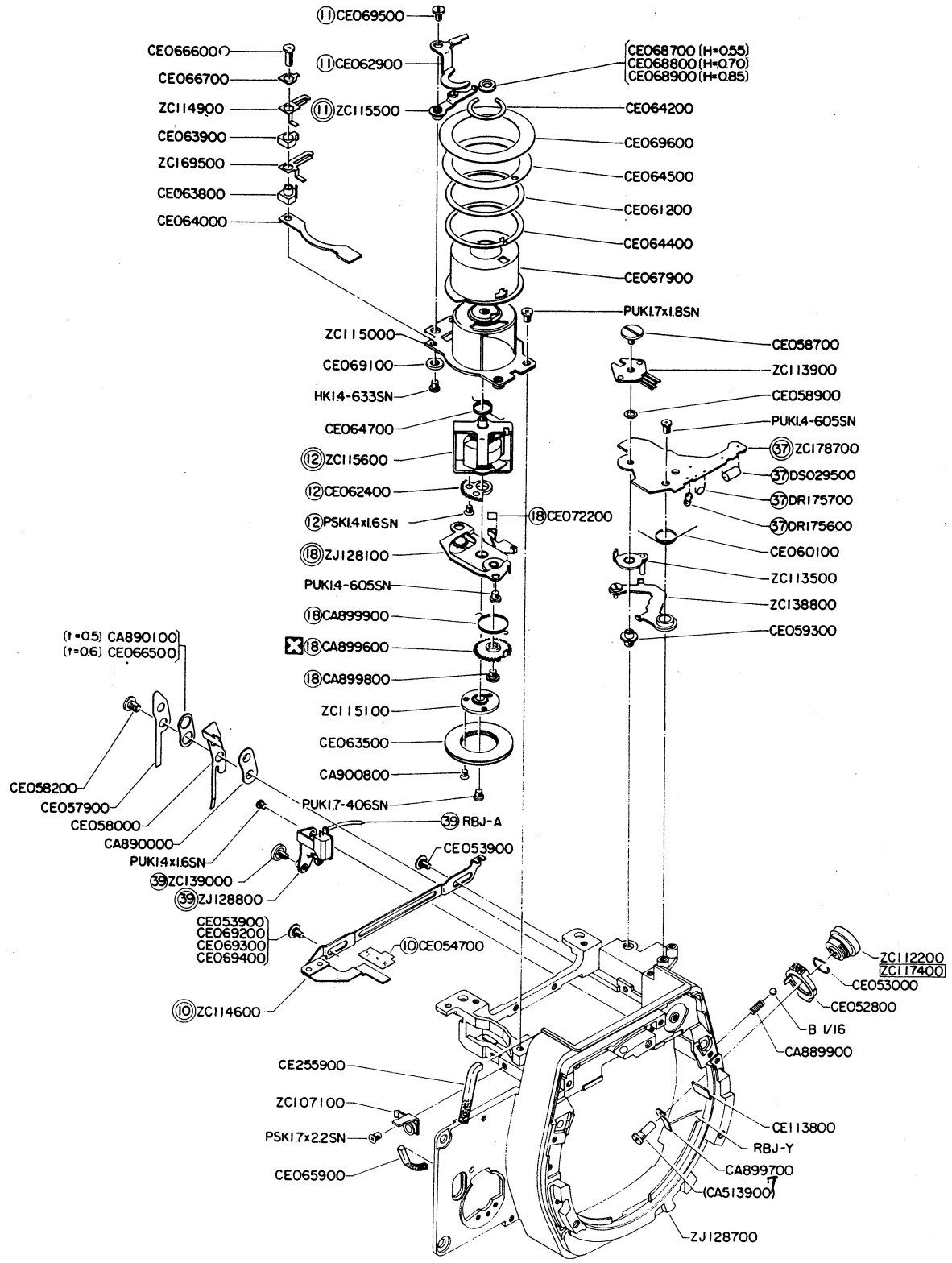
A | B | C | D

1

2

3

4



EXPLODED PARTS DIAGRAM

MODEL	HOUSE CODE or UNIT	FIG.
OM-2N	MDE-N	7/10
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

0882

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

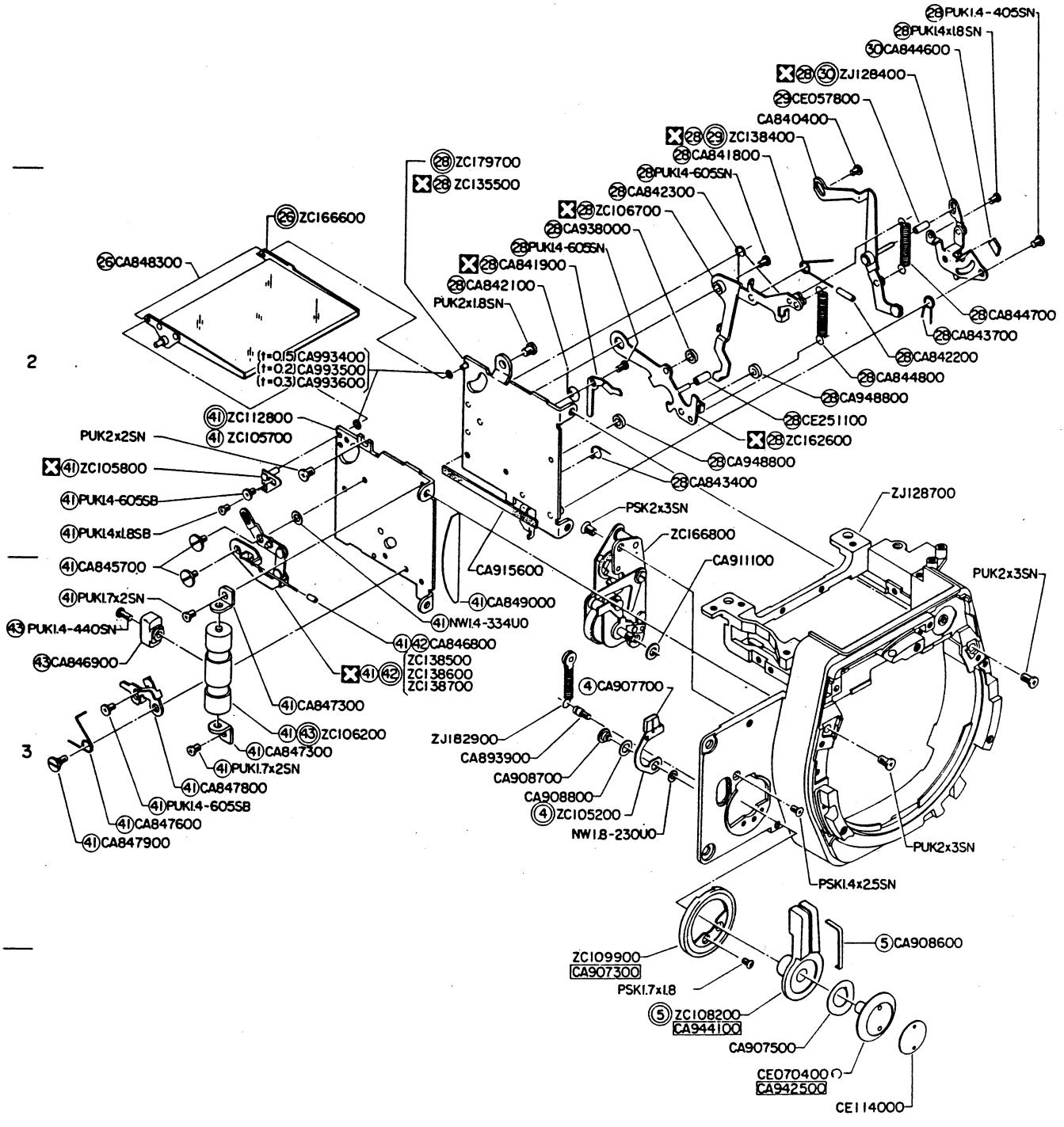
A | B | C | D

1

2

3

4



EXPLODED PARTS DIAGRAM

MODEL	HOUSE CODE or UNIT	FIG.
OM-2N	MDE-N	8/10
OLYMPUS OPTICAL CO.,LTD. TOKYO, JAPAN		

0587

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

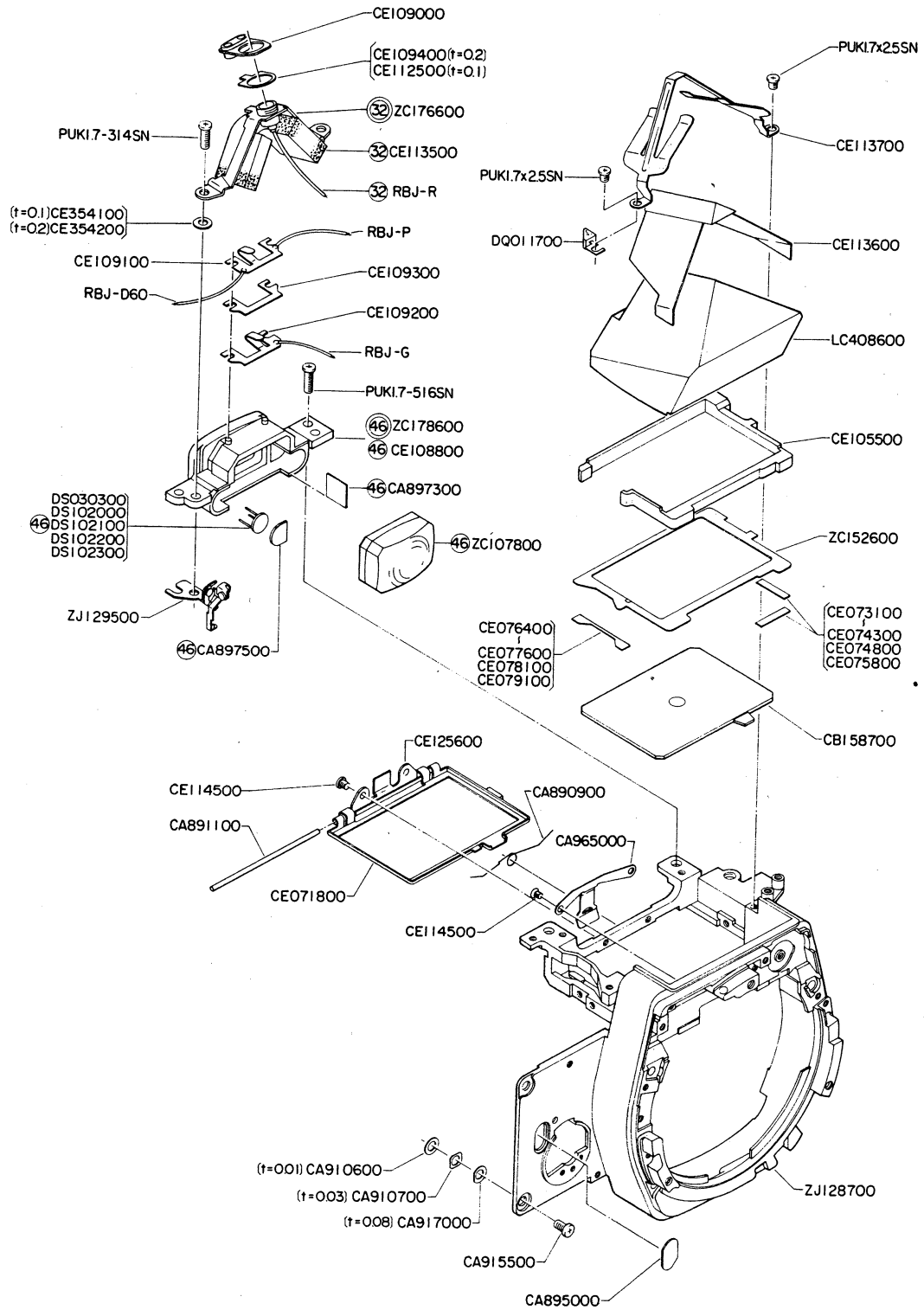
A | B | C | D

1

2

3

4

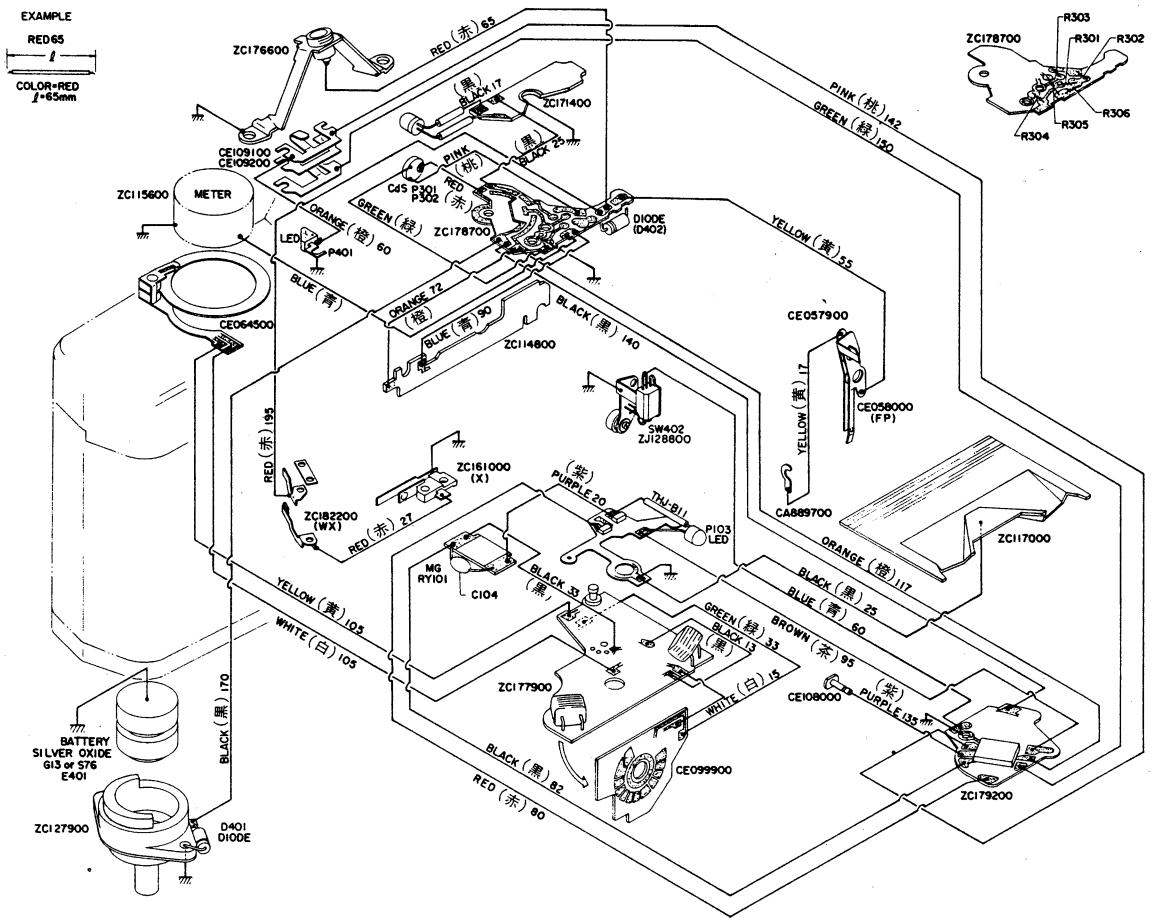


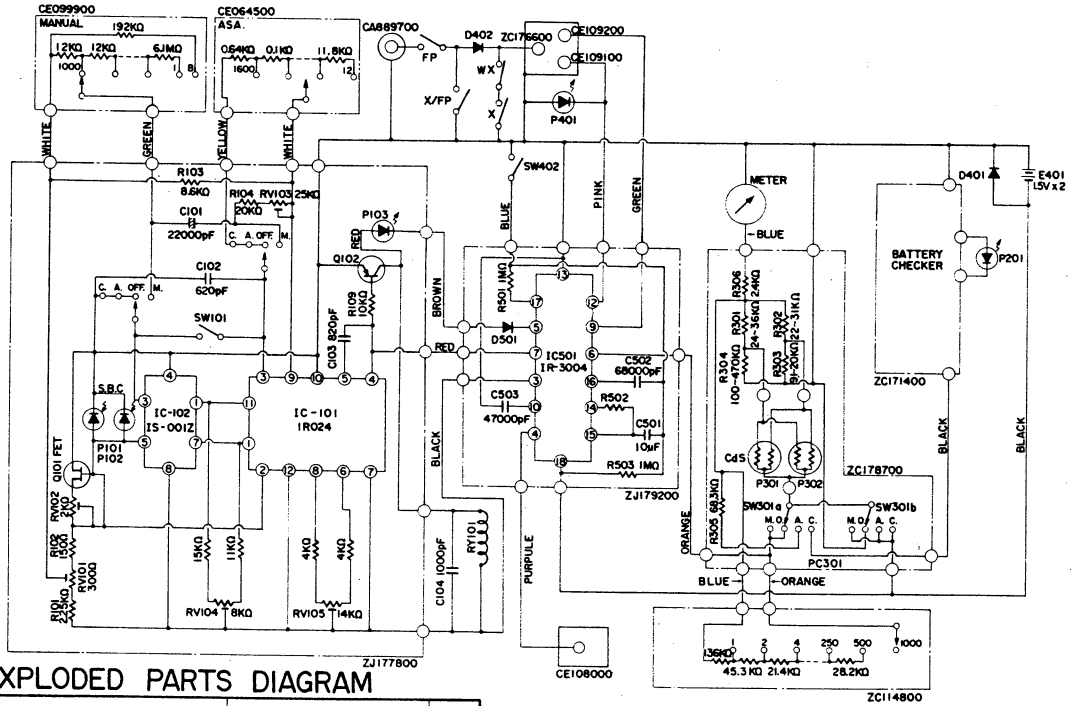
EXPLODED PARTS DIAGRAM

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

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	10/10
OLYMPUS OPTICAL CO., LTD. TOKYO, JAPAN		

0285

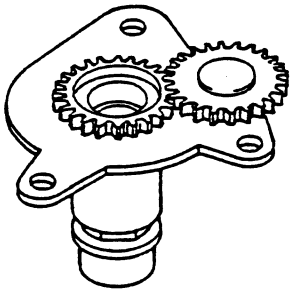
NOTE : WHEN ORDERING FOR SPARE PARTS, PLEASE CLARIFY A MODEL or HOUSE CODE, PARTS NUMBER AND QUANTITY.

IMPROVED PARTS TABLE

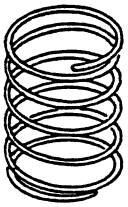
MDE-N 変更部品表 IMPROVED PARTS TABLE

〈1〉

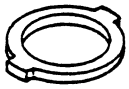
OLD



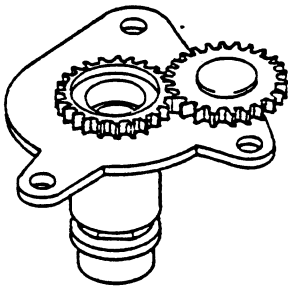
⑭CA937200
[t0.8]



⑭CA937200

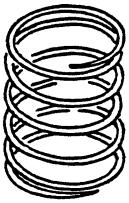


NEW



⑭CE122000
[t0.6]

⑭CE121800

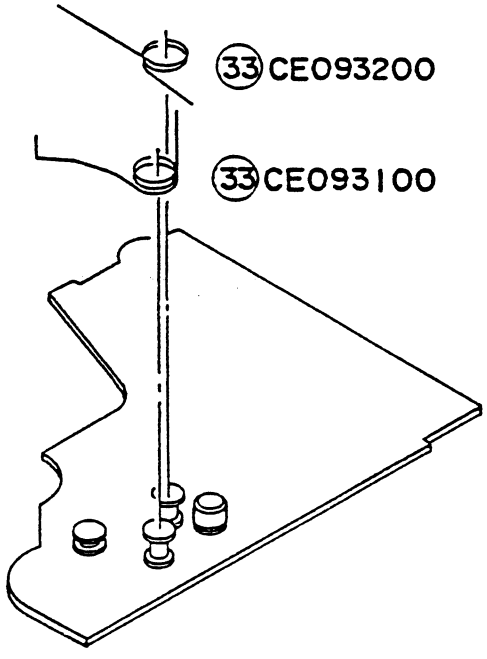


⑭CE121900

⑭CE122000

〈2〉

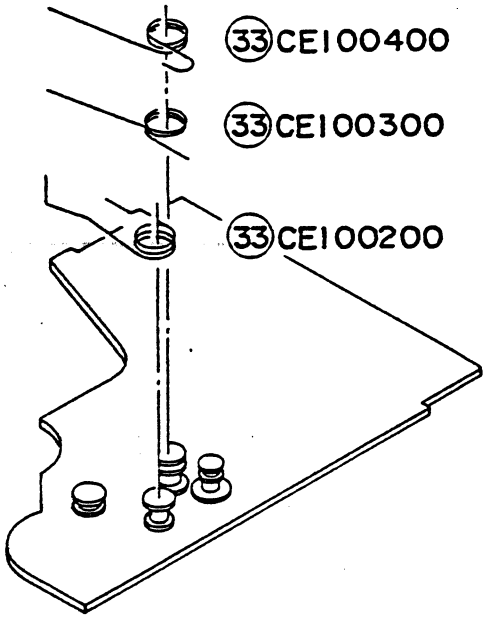
OLD



㉝CE093200

㉝CE093100

NEW



㉝CE100400

㉝CE100300

㉝CE100200

DATA MODIFICATION NOTICE

Tokyo, May 11, 1981
Our Ref. CTM- 072

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Change of F key setscrew

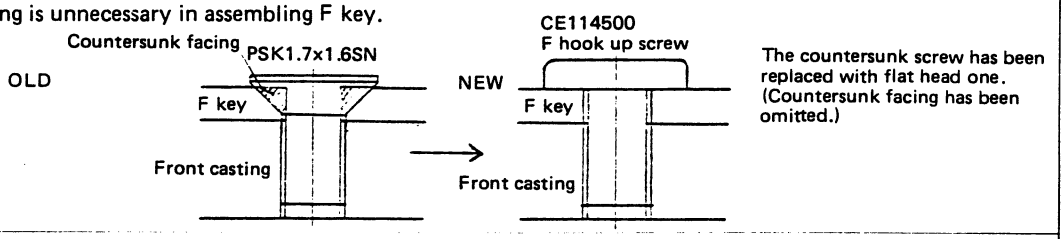
DESCRIPTION

MDE-N PL	None	→	CE114500	F hook up screw	9-C3 2
MDE-N EPD 9-B3	PSK1.7 x 1.6SN	→	CE114500 ~~PSK1.7 x 1.6SN~~		

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

REASON OF MODIFICATION

Countersunk facing is unnecessary in assembling F key.



PARTS MANAGEMENT

CA9650 F key in stock is not faced.
Request shipment of CE1145 F key plate.

REMARKS

OLYMPUS OPTICAL CO., LTD.

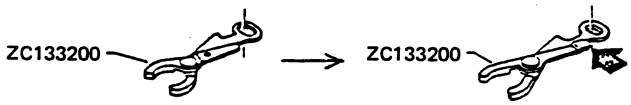
Tokyo, May 11, 1981
Our Ref. CTM- 074

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Prevention of upward mirror deviation

DESCRIPTION

No data modification.



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

REASON OF MODIFICATION

For preventing the mirror from deviating upward, the rising portion of B pinch 1 has been extended as shown above.

PARTS MANAGEMENT

The old B pinch 1 should be used so far as it is stocked. (The new part has the same No.)

REMARKS

OM10 also uses B pinch 1. However, the old part must not be used for OM10.

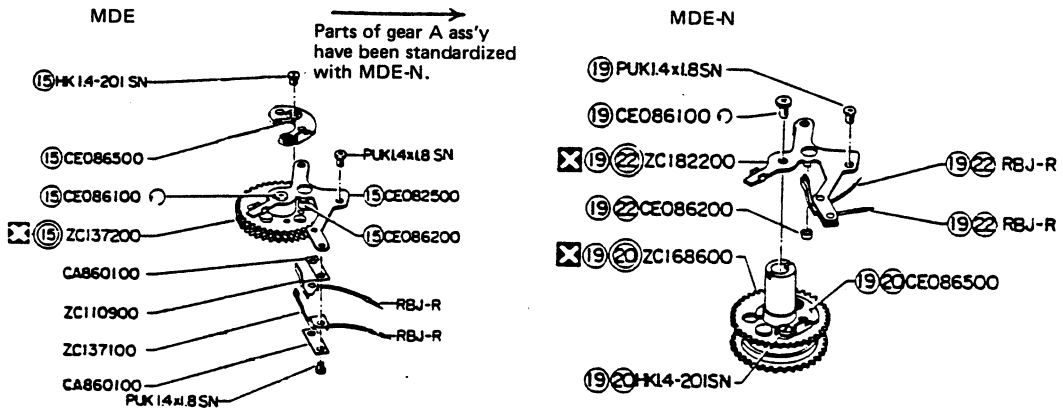
Tokyo, May 11, 1981
Our Ref. CTM-075

DATA MODIFICATION NOTICE

MODEL	M D E	SUBJECT	Standardization of gear Ass'y with NDE-N

DESCRIPTION

MDE PL		ZC137200 Gear A B ass'y	→	ZC168600 Gear A ass'y ~~ZC137200 Gear A B ass'y~~	3-B2 ~~3-B1~~	1
		ZC137100 Contact A	→	~~ZC137100 Contact A~~	~~3-B3~~	~~1~~
		CE082500 Plate	→	ZC182200 ~~CE082500~~ Plate	3-C2	1
MDE EPD	3-B2	⊠⑮ ZC137200	→	ZC168600 ⊠⑮ ~~ZC137200~~ ⑪ ZC182200		
	3-C2	⑮ CE082500	→	⑮ ~~CE082500~~		



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

REASON OF MODIFICATION

Gear A ass'y has been standardized with OM-2N.

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.)

REMARKS

Tokyo, May 11, 1981
Our Ref. CTM- 076

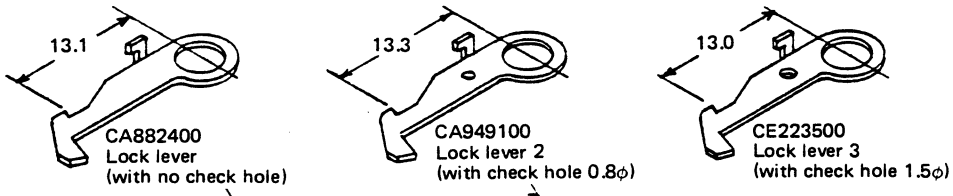
DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Measure for proper engagement between 2 and 3 gear assemblies

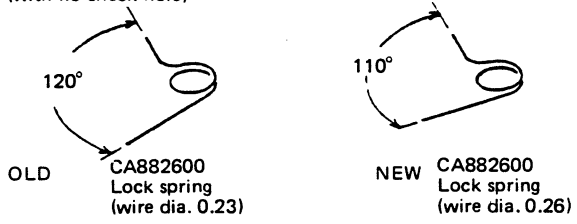
DESCRIPTION

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	→	CE114600 ~~PUK1.4-605SN~~			
	CA882400 CA949100	→	CA882400 CA949100 CE223500			

(1)



(2)



(3)

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

Tokyo, May 11, 1981
Our Ref. CTM-077

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.)

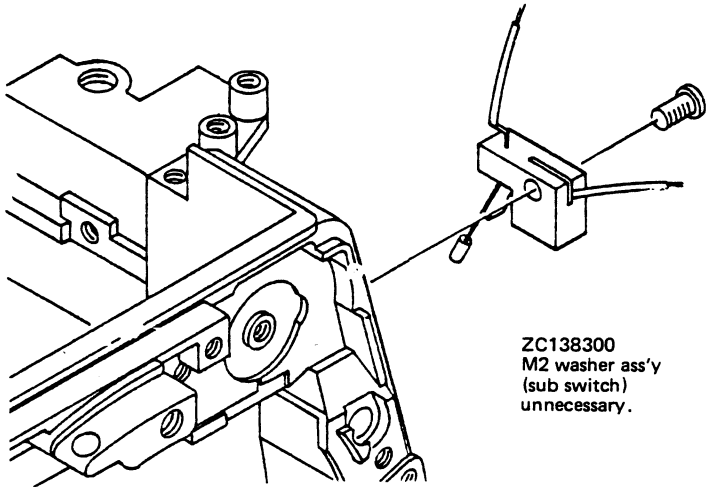
Tokyo, May 11, 1981
Our Ref. CTM-078

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Omittion of sub switch

DESCRIPTION

MDE-N PL		ZC138300 M2 washer ass'y	→	~~ZC138300 M2 washer ass'y 7-C3 1~~
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 imcompatible 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)

Tokyo, May 11, 1981
Our Ref. CTM-079

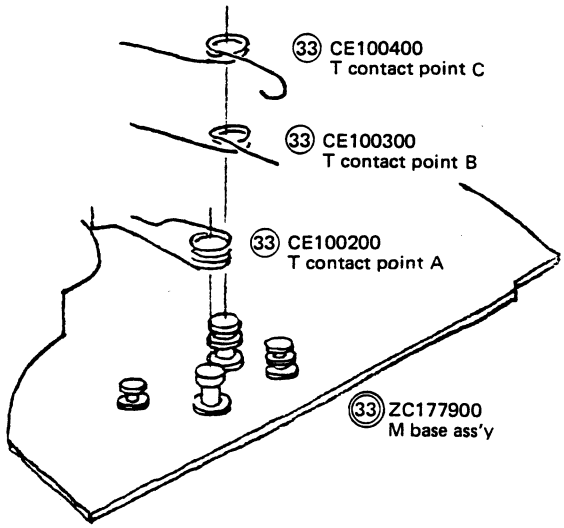
DATA MODIFICATION NOTICE

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 CE100400 ~~CE093200~~	
	㉝ CE093100	→	<2> ㉝ CE100200 ~~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

- ○ 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

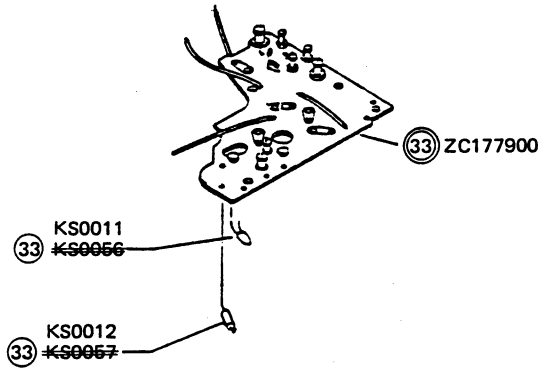
Tokyo, May 11, 1981
Our Ref. CTM-080

DATA MODIFICATION NOTICE

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 KS0011 ~~KS0056~~	
	㉝ KS0057	→	㉝ KS0012 ~~KS0057~~	



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

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

OLYMPUS OPTICAL CO., LTD.

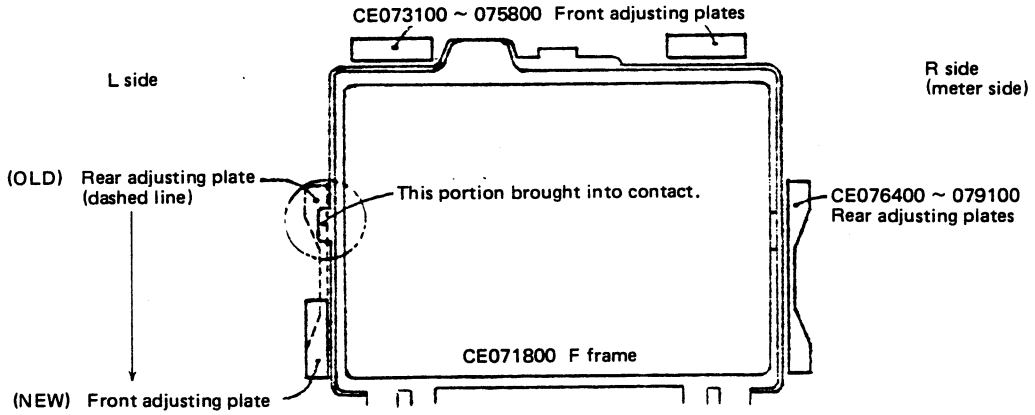
Tokyo, May 11, 1981
Our Ref. CTM-082

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 MDE	CE073100	Front adjusting plate 60	t 0.03	2/15	→	3 ~~2~~/15
	≀ CE075800	" "	t 0.30	2/15	→	3 ~~2~~/15
	CE076400	Rear adjusting plate 80	t 0.03	2/15	→	1 ~~2~~/15
	≀ CE079100	" "	t 0.30	2/15	→	1 ~~2~~/15



P.L.: PARTS LIST
E.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

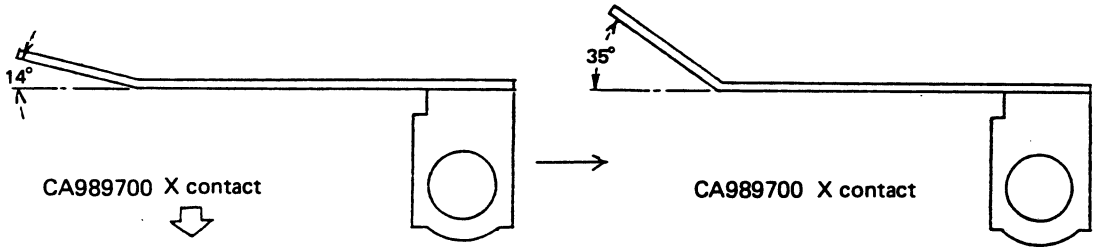
Tokyo, JAN. 20, 1982
Our Ref. CTM- 180

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Measure to assure good contact on synchronous X contact (increase of bending angle of X contact)

DESCRIPTION

No data modification.



CA989700 X contact

MDJ and MDQ use this contact.
It is named CE248100 X Contact for distinguishment from CA989700 (having bending angle of 35°).

CA989700 X contact

CA989700 X Contact used for MDS-MN and MDE-N.

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

REASON OF MODIFICATION

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°.)

PARTS MANAGEMENT

- 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.

REMARKS

- 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°.

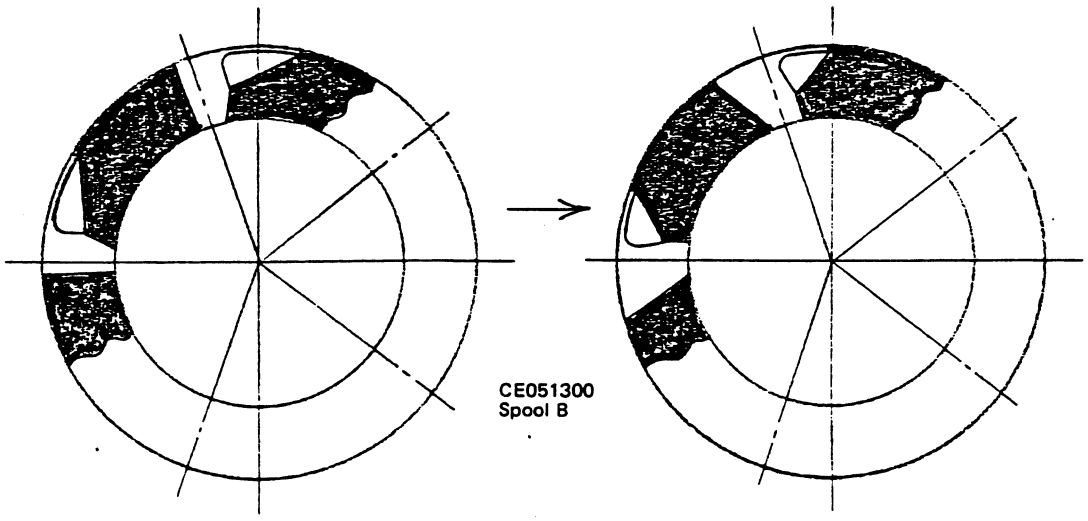
Tokyo, JAN. 20, 1982
Our Ref. CTM- 181

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Prevention of film from protruding from spool (improvement of the spool craw)

DESCRIPTION

No data modification.



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

REASON OF MODIFICATION

○ 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.

PARTS MANAGEMENT

○ Part No. of spool B remains unchanged (CE051300).
○ Use the old parts so far as it is stocked.

REMARKS

The modification has been effected since the end of October, 1981.

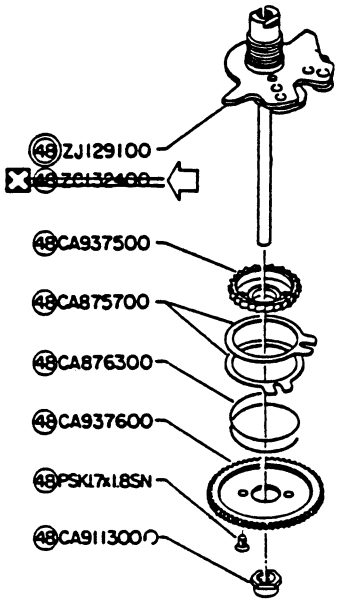
Tokyo, APR. 30, 1982
Our Ref. CTM- 195

DATA MODIFICATION NOTICE

MODEL	MDE-N	SUBJECT	Omission of winding shaft sub ass'y

DESCRIPTION

ZC132400 Winding shaft ass'y ⟶ Omitted



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

REASON OF MODIFICATION

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.

PARTS MANAGEMENT

ZC132400 will not be shipped hereafter.

REMARKS

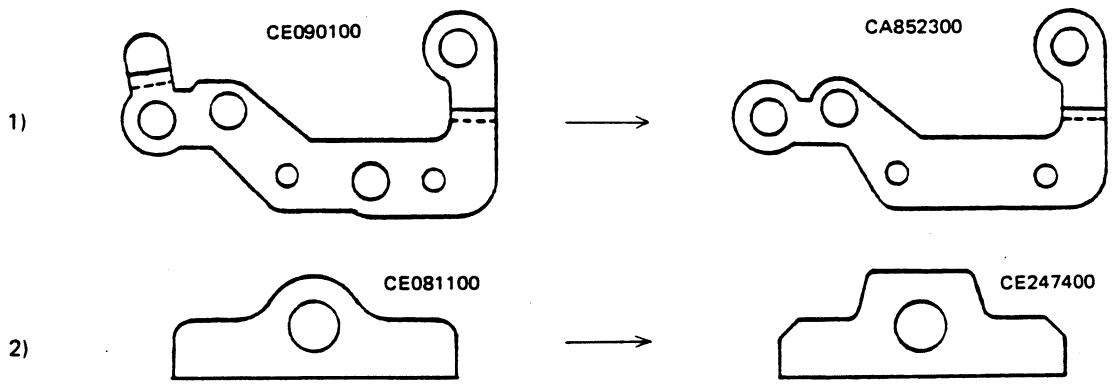
Tokyo, APR. 30, 1982
Our Ref. CTM- 196

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Adoption of parts (L base plate and Fasting 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.L.: PARTS LIST
E.P.D.: EXPLODED PARTS DIAGRAM

REASON OF MODIFICATION

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.
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.

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.

Tokyo, APR. 30, 1982
Our Ref. CTM- 197

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Part No. change of transistor (QS0007 → QS0037)

DESCRIPTION

QS0007 Transistor → QS0037 Transistor (Q102)

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

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.

PARTS MANAGEMENT

QS0007 should be used so long as it is stocked. (QS0007 may hereafter be managed as QS0037).

REMARKS

This modification applies also to Model MDE.

Tokyo, APR. 30, 1982
Our Ref. CTM- 198

DATA MODIFICATION NOTICE

MODEL	M D E - N	SUBJECT	Adoption of MDJ part (sprocket lower holder)

DESCRIPTION

CA881500 Sprocket lower holder → CE216200 Sprocket lower holder

CA881500
(metal)

CE216200
(molding)

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

REASON OF MODIFICATION

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.)

PARTS MANAGEMENT

No particular request of part shipment required.
CA881500 should be managed in the conventional manner.

REMARKS

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.

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: ±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 tempreature and humidity).

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

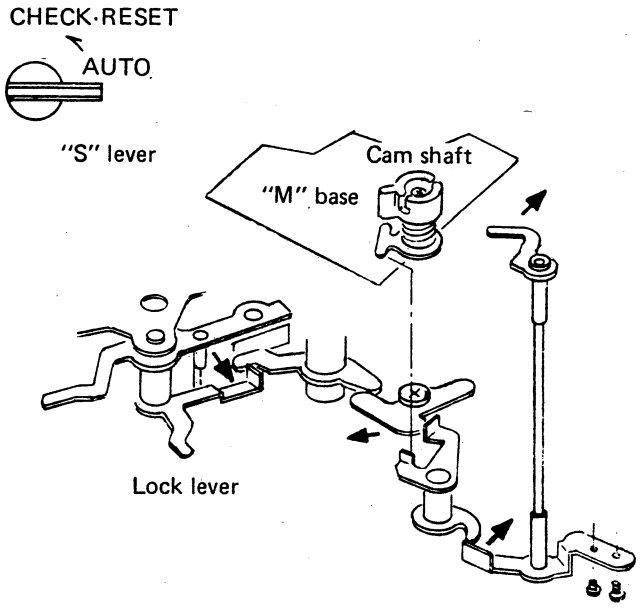
(1) "S" lock release mechanism

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.

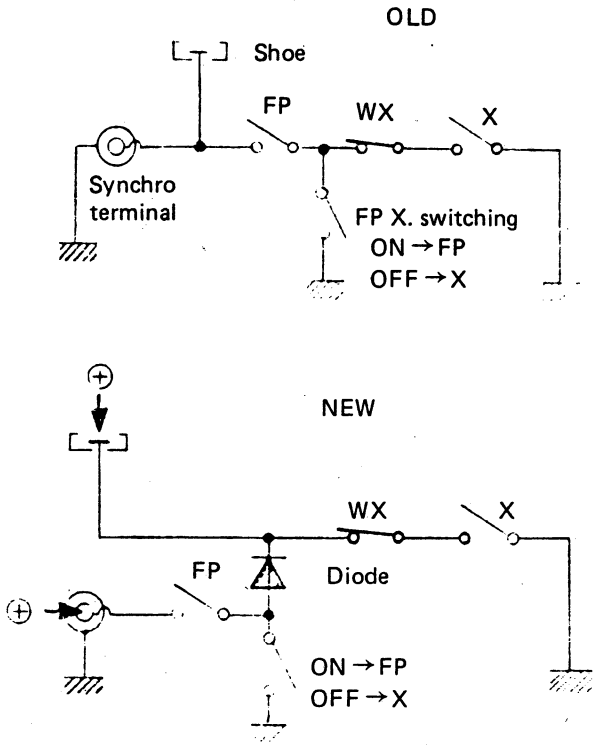
Description

"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.



(2) Location of direct shoe

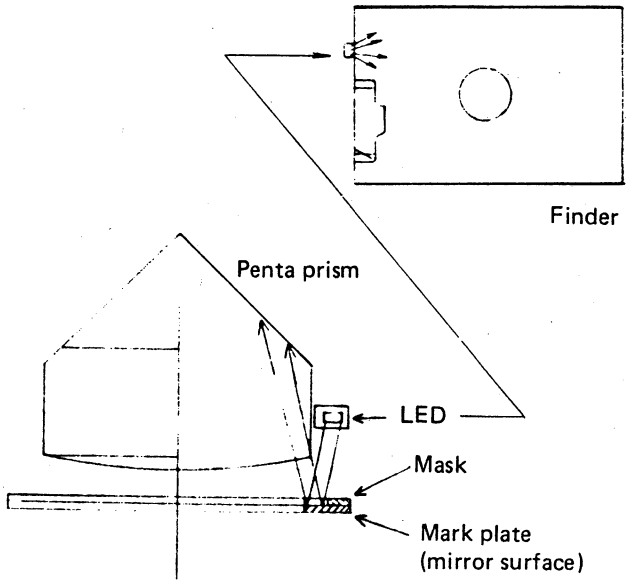
Direct shoe is associated only with X contact. It is related in no way to the selection between FP and X as will be noted in the diagram on the right. The terminal on FRONT CASTING can serve both X and FP contacts.



(3) Strobo 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) : Strobo charging completed
LED blinks repeatedly : A shot has been properly taken under strobo.

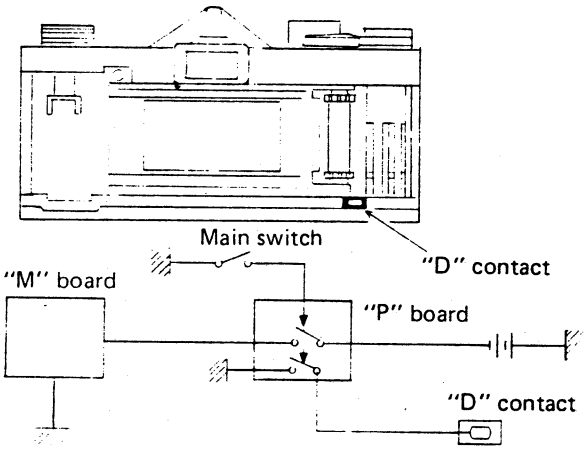


(4) Direct (D) contact for recor-data back

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:

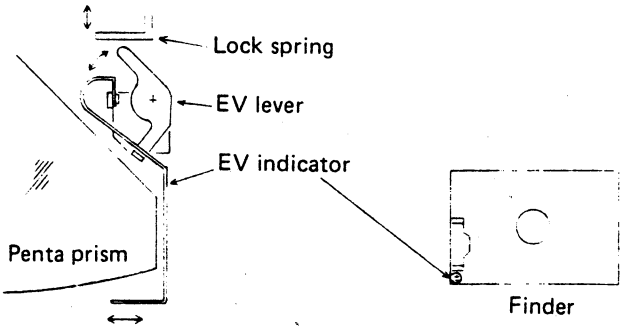
- No misoperation when strobo is used with the camera.
- The recor-data back always flashes even to a subject of high brightness, regardless of the switching operation from the "FP" to the "X" contact and vice versa.



(5) Indication of exposure compensation inside finder

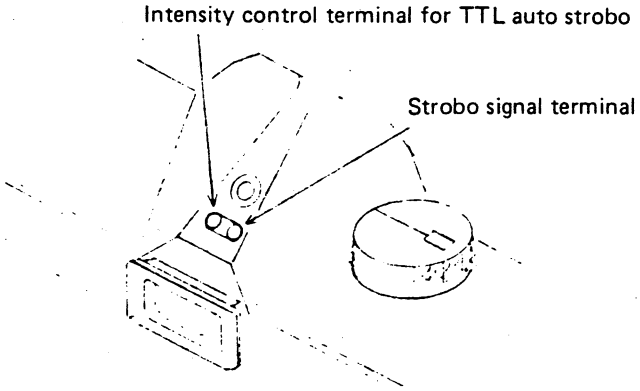
A mark signifying "compensation" appears inside the finder when the exposure compensated in either direction, "+" or "−".

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 acuated to move rightward or left-ward.



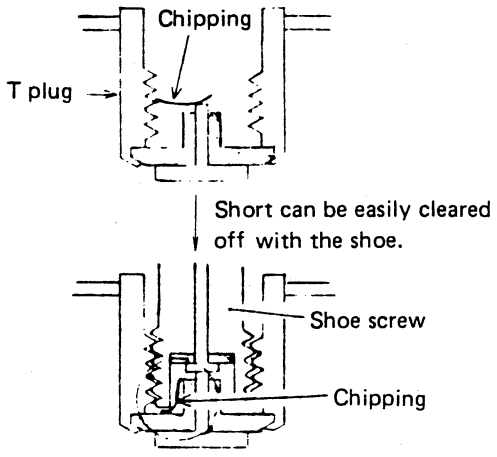
(6) Terminals for TTL AUTO strobo light intensity and strobo signal

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 niminum
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

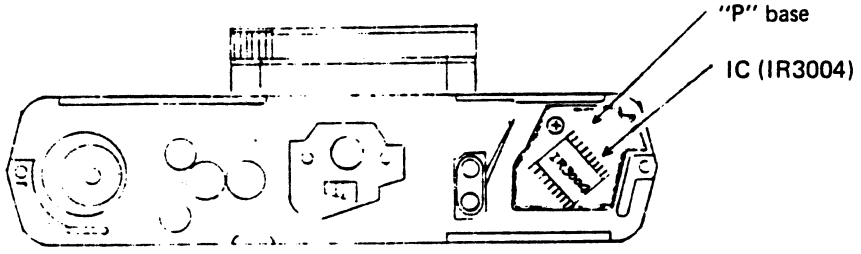
(9) Summary of changes associated with shutter

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.
   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.

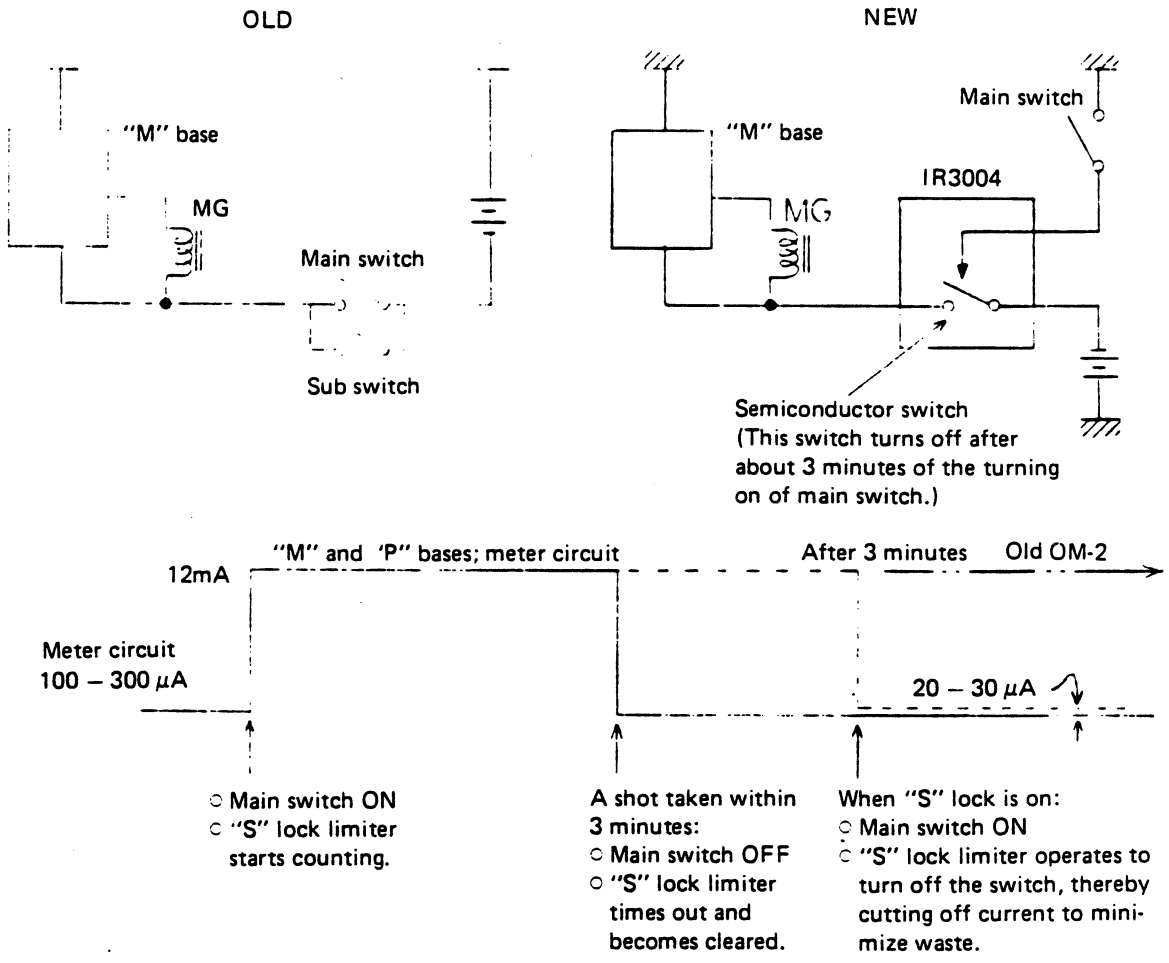
(10) "P" base functions

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



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 μA. 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.)

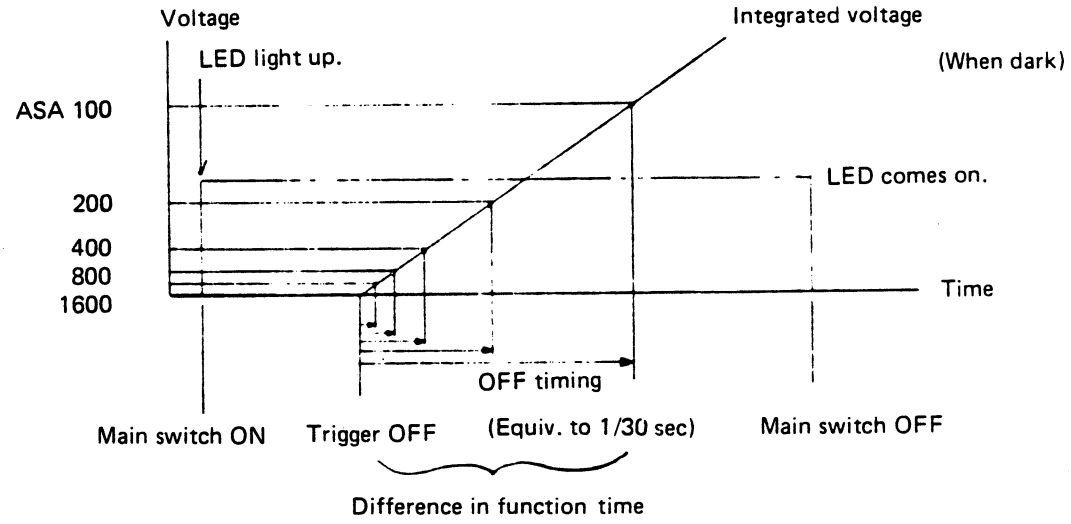
1-2. Once the limiter operates, no current flows to "M" base unless main switch is turned off again. (Instead of turning off main switch, the battery may be removed.)

2. OFF timing (off limiter)

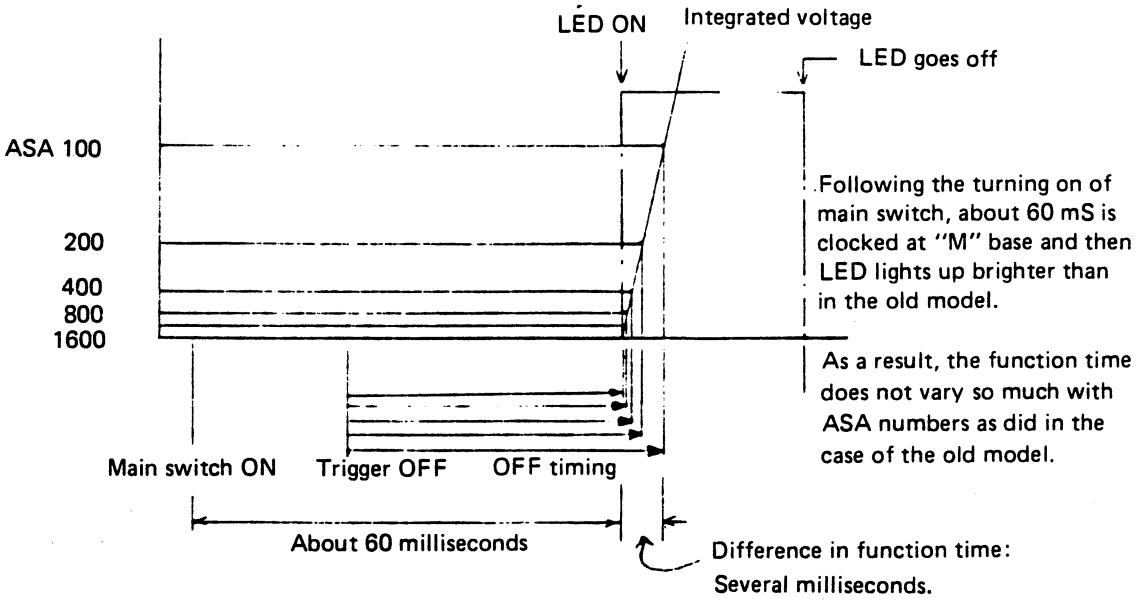
In the old OM-2, its off limiter times out in about 1/30 second at ASA 100 but in about 1/60 second at ASA 200; at ASA 50, it times out in about 1/15 second.

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

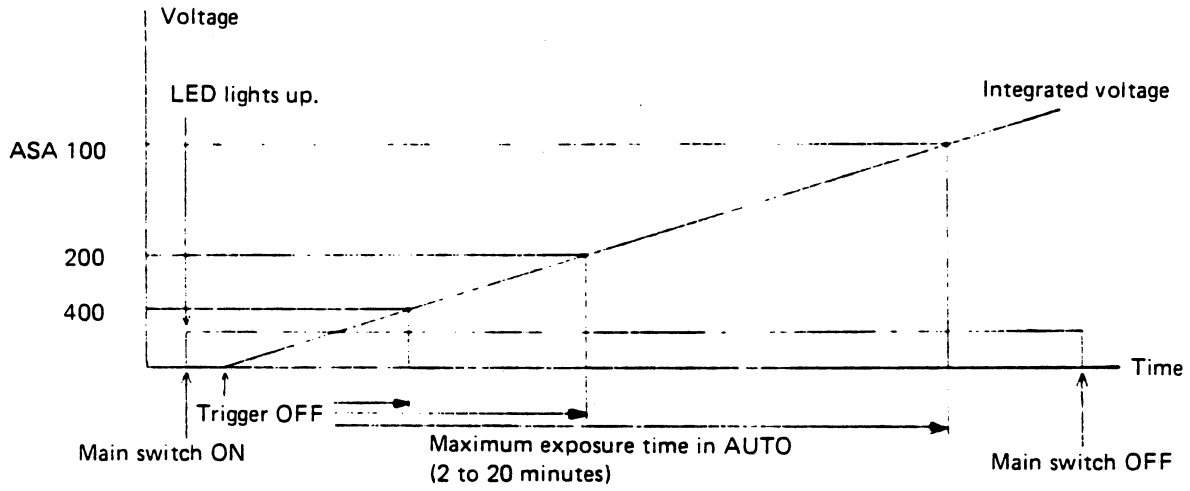


2-2. NEW off limiter timing action

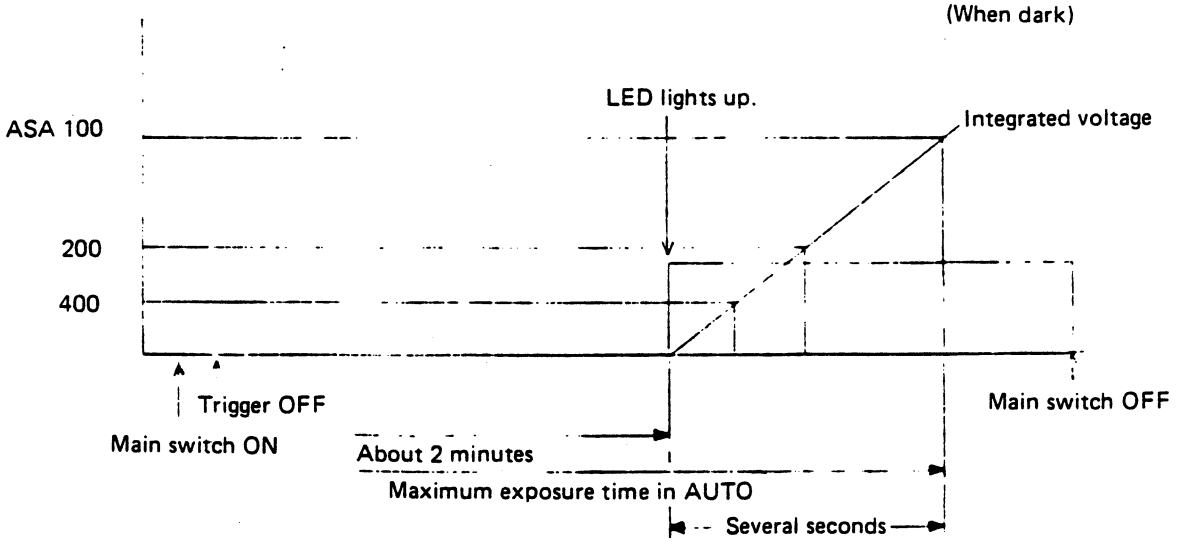


3. AUTO maximum exposure time (auto limiter)
In the old model, maximum exposure time was subject to wide variation, dust as in the case of its off limiter, with changes in ASA sensitivity setting. As will be noted in the following two graphs, a substantial improvement is secured.

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 strectching out from 5 minutes and up to 20 minutes.

4. Automatic switch-over of TTL auto strobo

4-1. With a strobo for the exclussive 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 'M" base is ON : 3 volts

When electromagnet on 'M" base is OFF : 0 volt

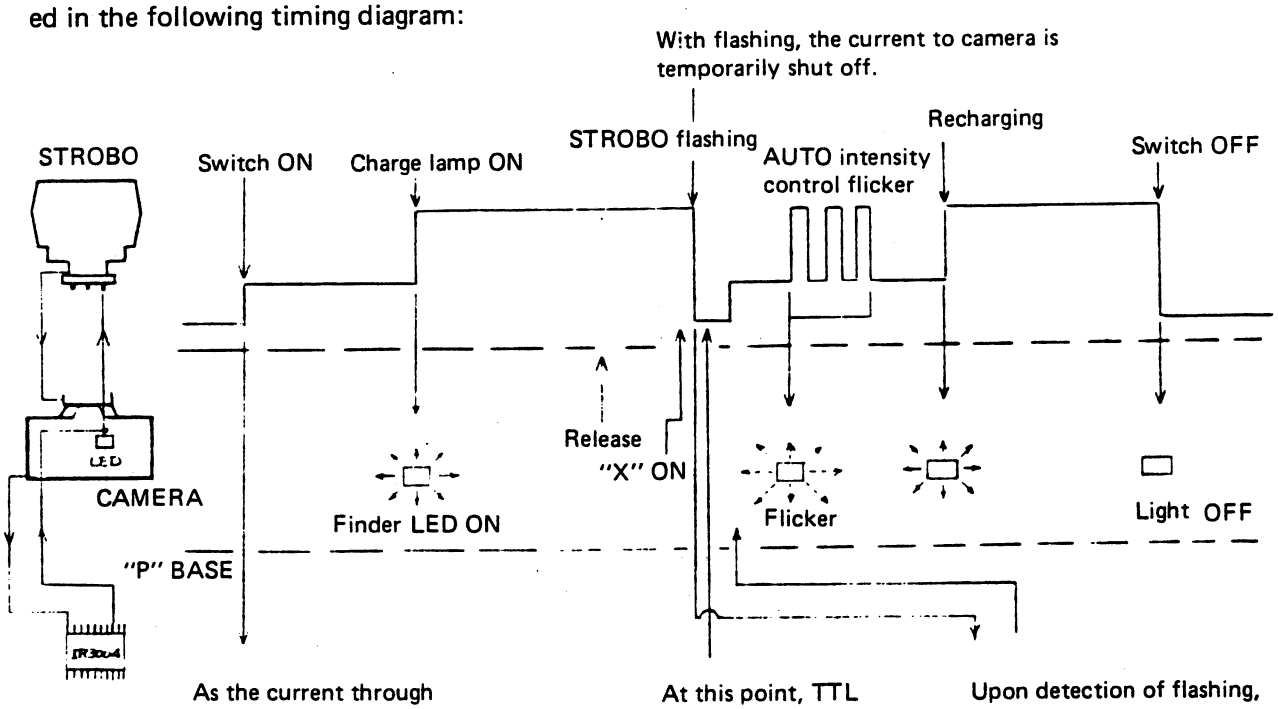
Voltage at terminal ④ of IR024 connected to MG is inverted to 0 and 3 volts at IR3004 to be used as cut signals.

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:

1) The circuit becomes modified by switching action to issue forth the cut signal to TTL auto strobo, if the following condition is satisfied:

○ The camera is set in AUTO or OFF. (If the camera is in MANUAL, the cut signal does not emerge.)

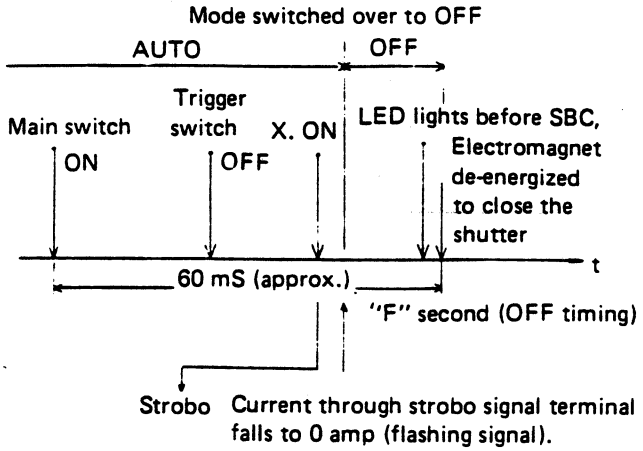


2) The timing of "F" is as explained in 5.
3) The camera does not send out TTL auto cut signal unless current flows from strobo through the strobo signal terminal.
4) With an excluded strobo (such as PS310) connected to the camera, no current flows through the strobo signal terminal, so that the cut 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 μA 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.

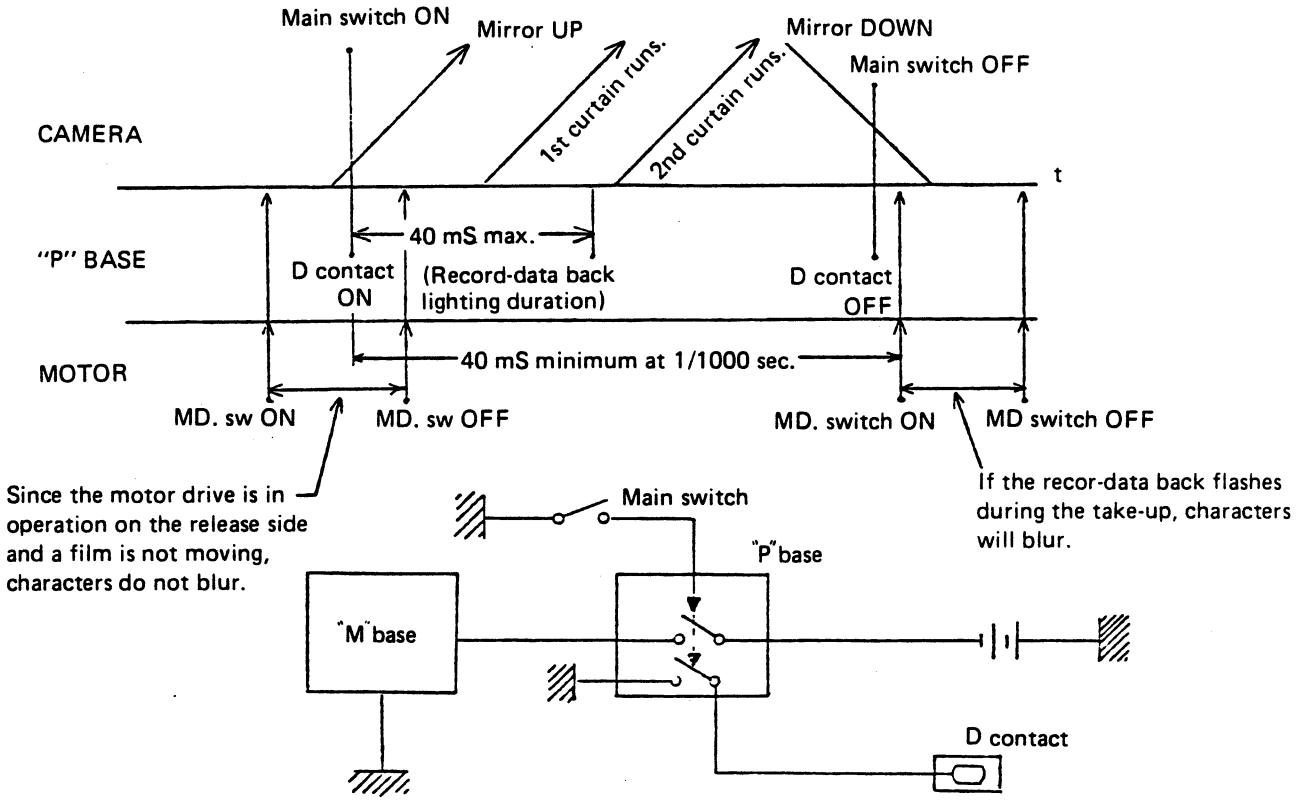
5-5. As a flashing signal arrives in from the strobo, resulting in a switching over of camera mode at the moment of "F" second, LED before SBC lights up in the aforementioned manner.

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 recor-data back, and serues to light up when the solid-state switch in the IC turns on with the turning on of main switch.

Use of the recor-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**

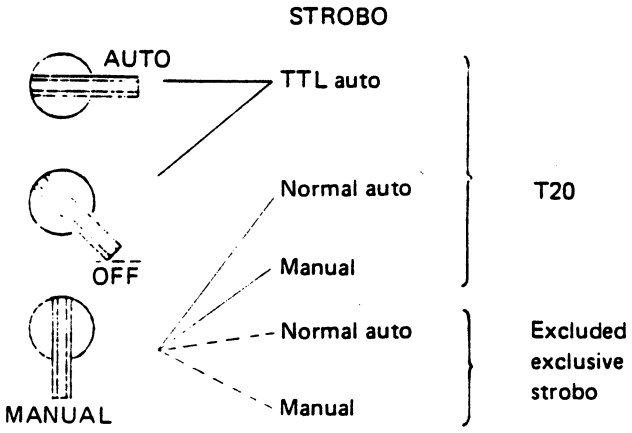
Repeated flashing will cause power shortage in the main capacitor to such an extent that the strobo sometimes fails to flash even if the shutter is released. To indicate such condition, however, the LED goes off when the shutter is released.

- 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

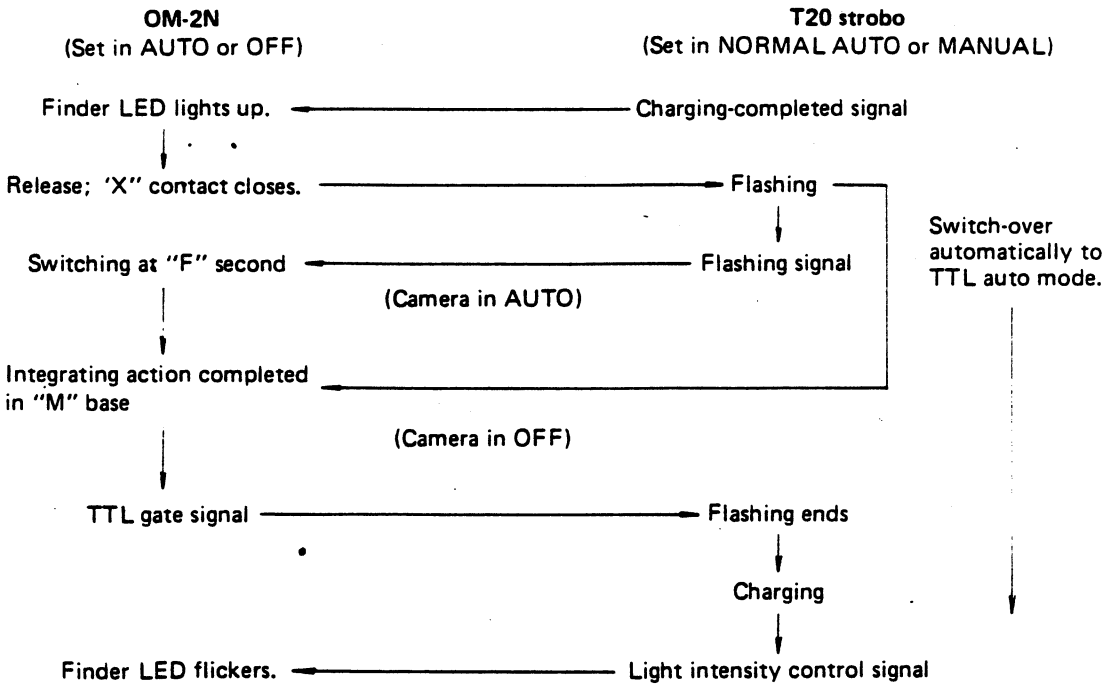
1-1. OM2N



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

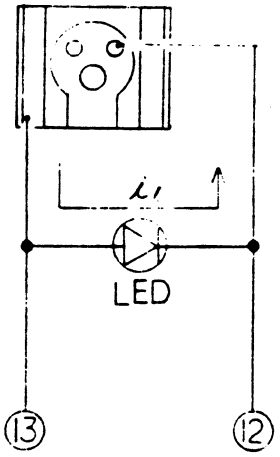
1-3. In case where T20 is used on OM-2 in combination with accessory shoe 3, if the selector lever is set at MANUAL, T20 will be ready to function in manual and normal auto modes and, if set at OFF or AUTO, T20 will function as TTL auto strobo.

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 μA	—off
Charging completed	350 μA – 2.5 mA	–on

2) Intensity control
On-off intermittent flow on current 700 μA (i) ——— LED flickers.

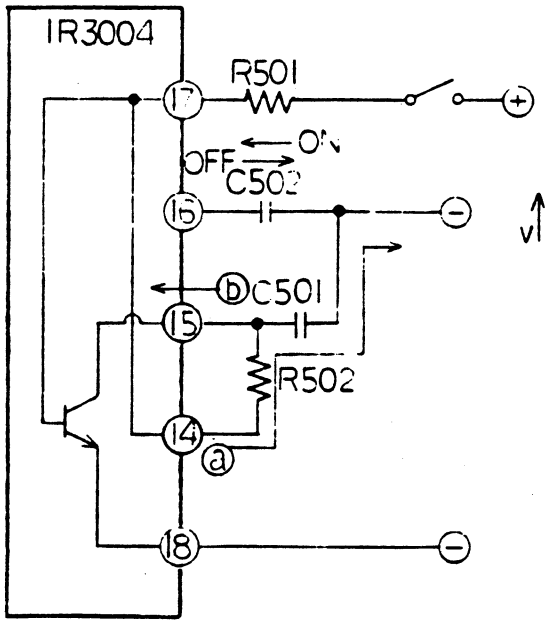
(14) Capacitors and resistors

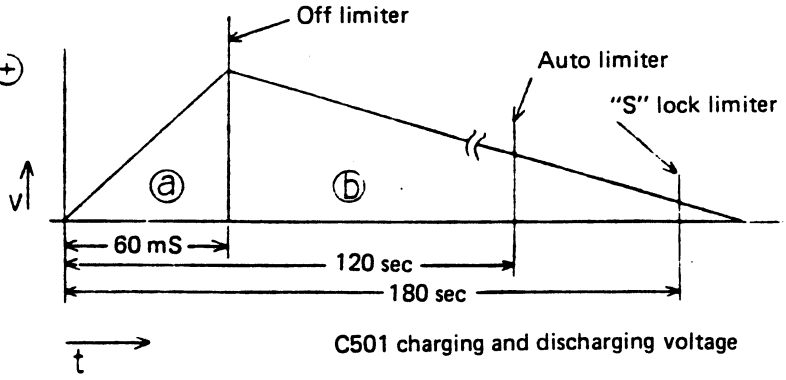
1) C503 (47000 PF) :
For removing noise from the signal arriving at terminal ⑫ from the strobo.

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.





C501 charging and discharging voltage

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

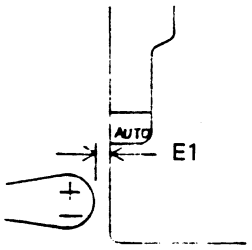
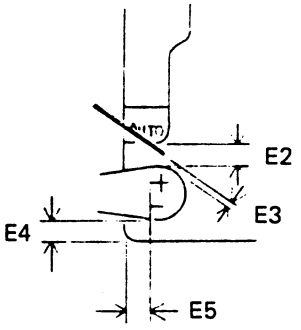
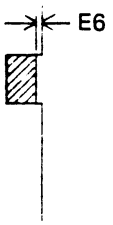
Auto limiter
"S" lock limiter : Duration of C501 discharging.

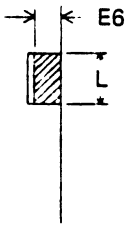
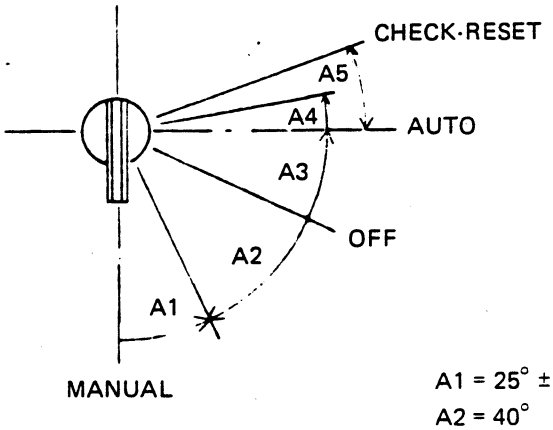
B

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 ± correction.	1. In the abosence of correcting action, the correction mark should be in concealment and not visible in the finder.  E1 ≧ 0
		2. When correcting action is on, the mark should be visible at click position of ±1/3 EV or over.  E2 ≧ 0 E3 ≧ 0 E4 ≧ 0 E5 ≧ 0
	2) LED for exclusive-use strobo.	1. Reliability of indication. The indication should always be visible whenever 350 μA is made to flow through indicator terminal. 2. Surrounding. At 900 μA, there should be no ugly reflective glare on the surrounging. 3. Positional offset of indication.  E6 = 0 ~ 0.1

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

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 μA 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 μA 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 megohoms 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 $2.5^{\pm 0.05}$ V. The shutter to become locked at $2.35^{\pm 0.06}$ V.

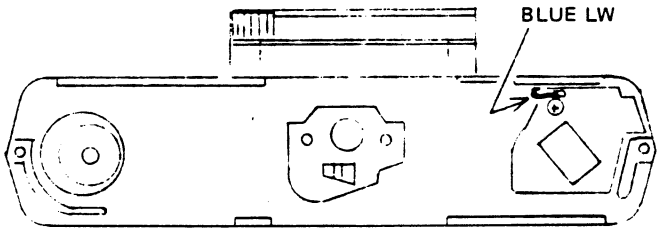
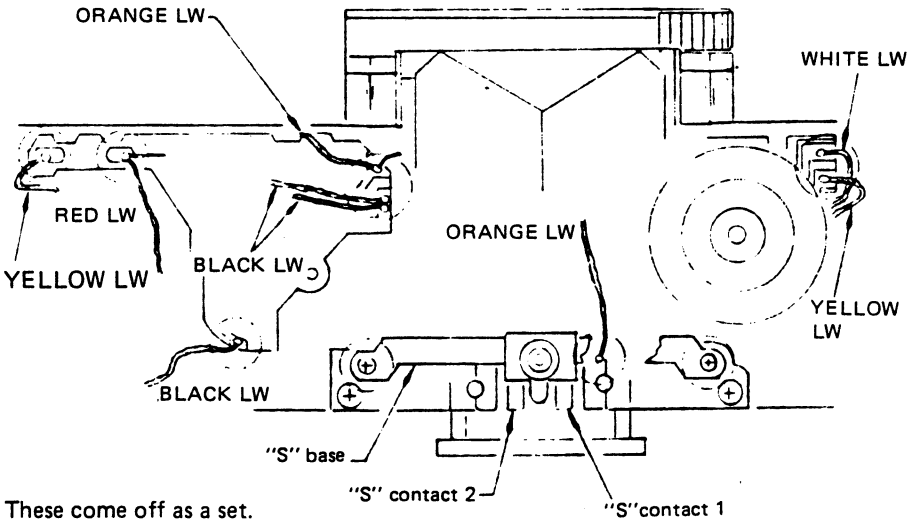
C

ORDER OF DISASSEMBLY

C. ORDER OF DISASSEMBLY

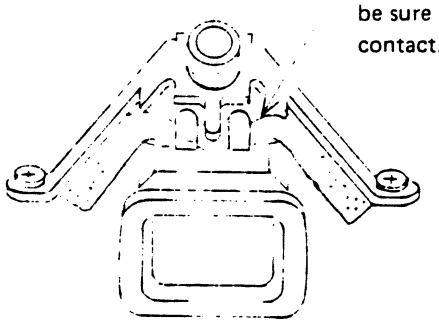
NOTE : The only difference in disassembling procedure between the present model and the old OM-2 resides in the soldered part encountered in removal of Front Casting. The following procedure refers to this difference. For the full procedure, consult the manual for the old OM-2.

1. Front Casting Removal (Docking removal)

To be removed	Q'ty	Explanation
1) Top cover	1	For removal of these parts, consult the repair manual of OM-2.
2) Bottom plate	1	"
3) Left side leather	1	"
4) Right side leather	1	"
5) Light proof padding M	2	"
6) Covering plate	1	"
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	2	
RED LW	1	
ORANGE LW	1	
BLACK LW	2	
WHITE LW	1	
9) Remove "S" base.	1	
10) Undo soldered connection of ORANGE wire at "S" contact 1.	1	
11) Contact 1.	1	These come off as a set.
Contact 2.	1	
12) Run in "S" base securing screws.	1	"S" base securing screws are to be run in and tightened as a tentatibe 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.



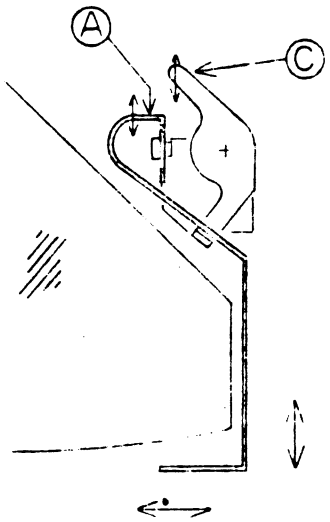
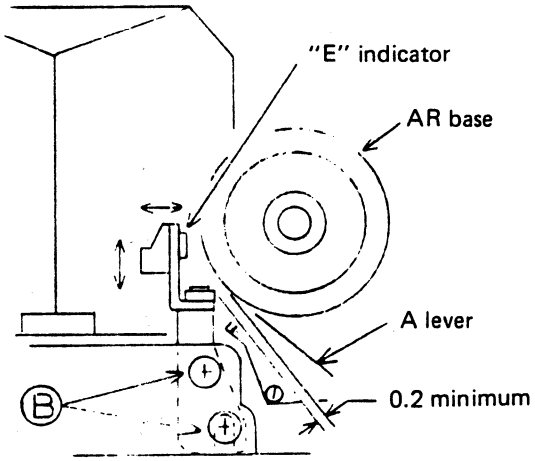
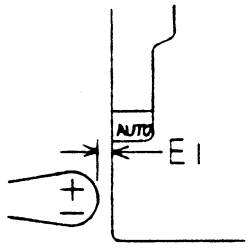
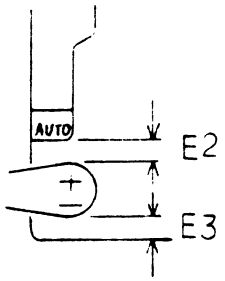
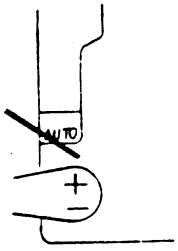
D

OUTLINE OF REPAIRS

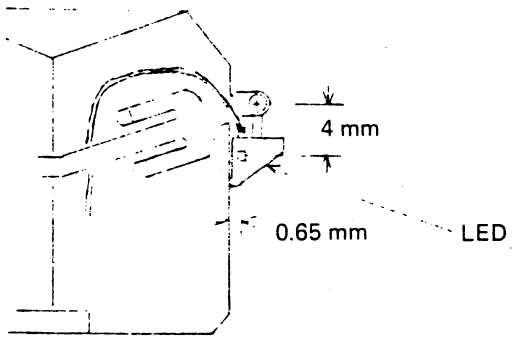
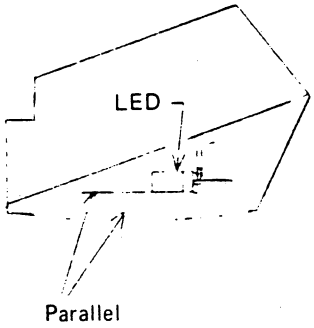
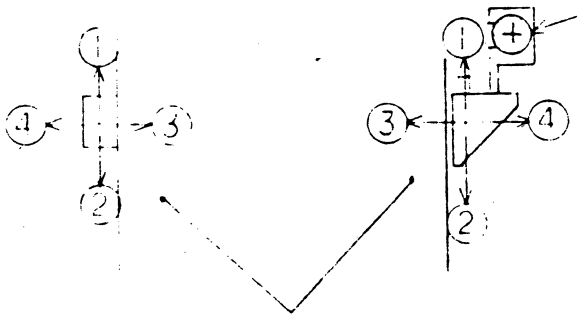
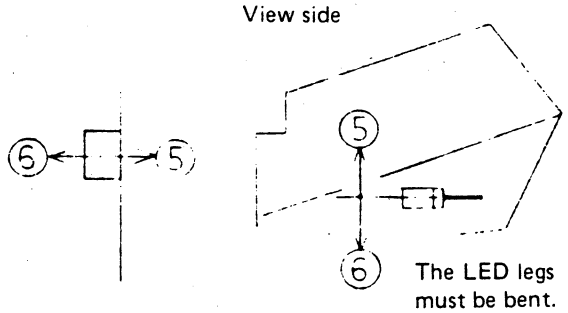
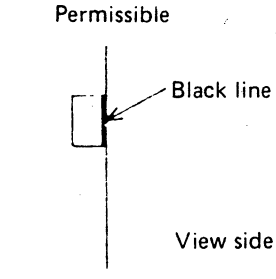
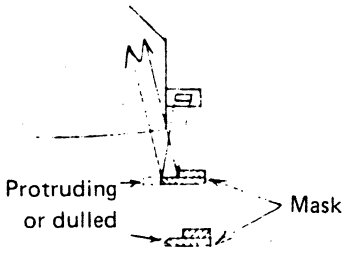
D. OUTLINE OF REPAIRS

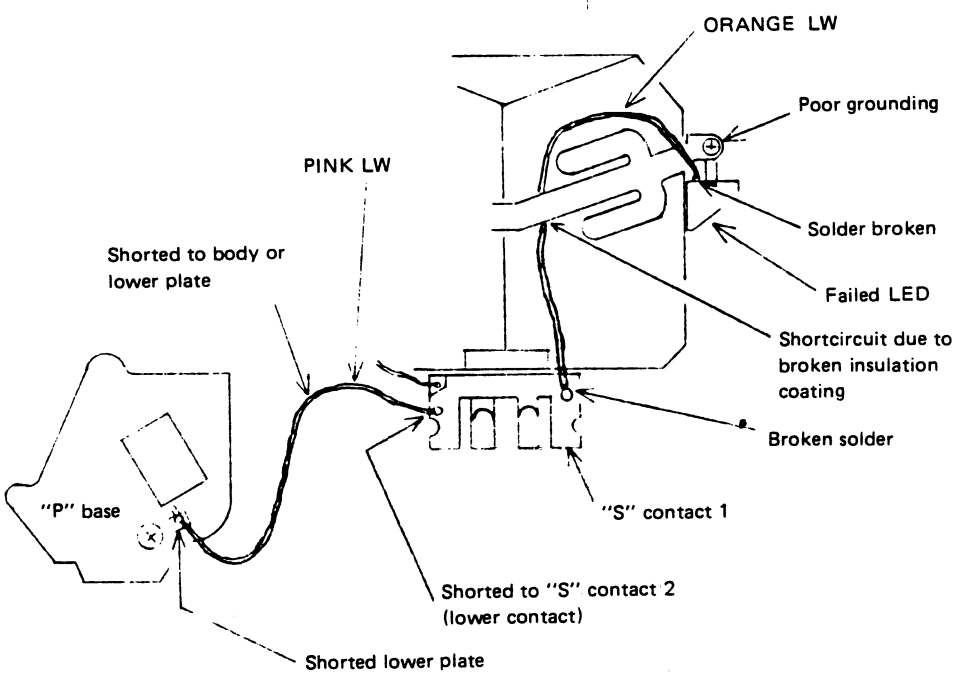
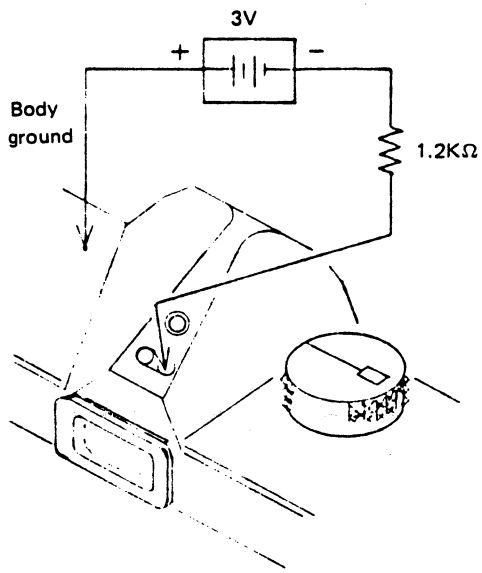
I FINDER SERVICES

1. "E" indicator

Symptom or malcondition	How to correct or repair	Criteria or specification
1-1. Indicator positioned improperly.	 Adjust the curvature at Ⓒ by altering the positional relation between this part and Top cover.  Loosen screws Ⓑ, and adjust the indicator in right-left and fore-aft directions to locate it correctly. 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.	 $E1 \geqq 0$  $E2 \geqq 0$ $E3 \geqq 0$ • 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 Ⓐ lever. 

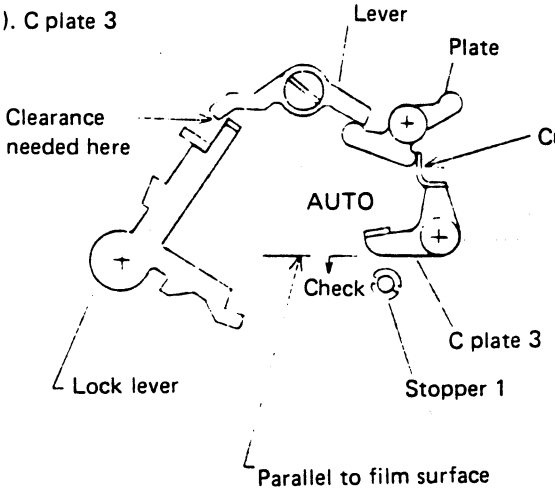
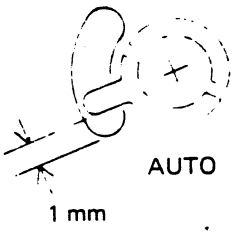
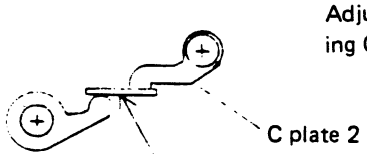
2. Strobo Indication LED

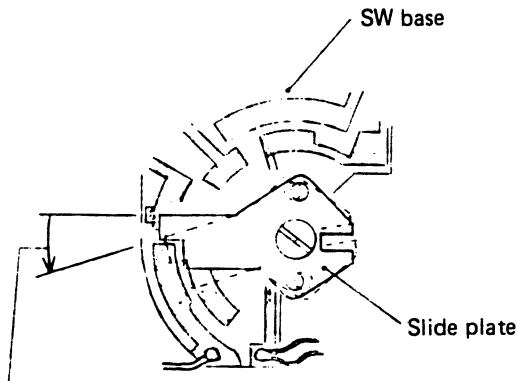
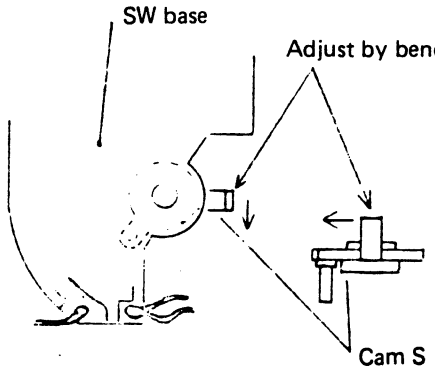
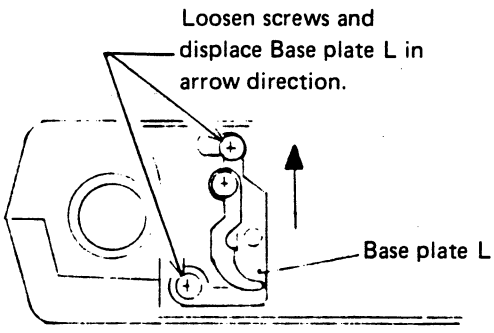
Symptom or malcondition	How to correct or repair	Criteria or specification
2-2. Light-emitting face is displaced.	  The basic position of LED is shown above. If it appears displaced, try to adjust it with the securing screw loosened.   Displacing the LED in arrow direction alters the line of sight as shown on the left.	Look into the finder at eye level. If at least 80% of the light is visible, the LED face may be deemed properly positioned.  (Cause) 

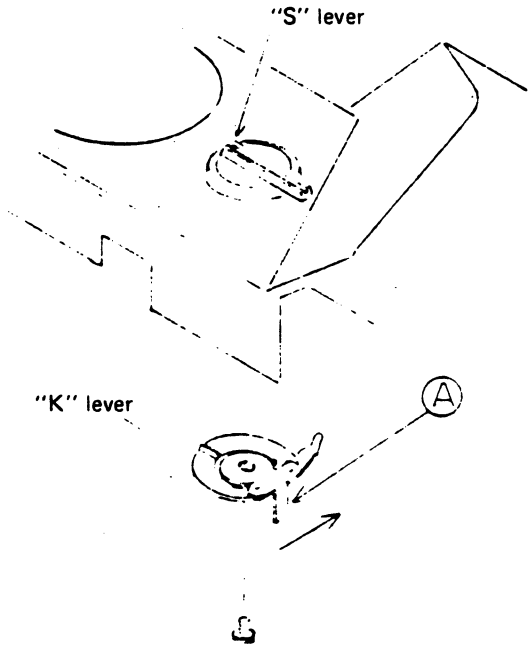
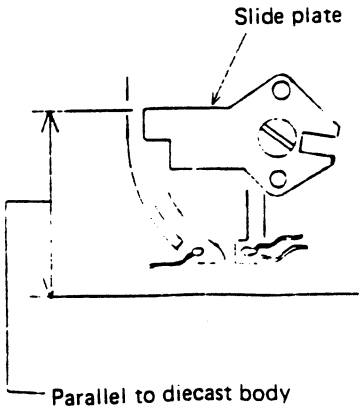
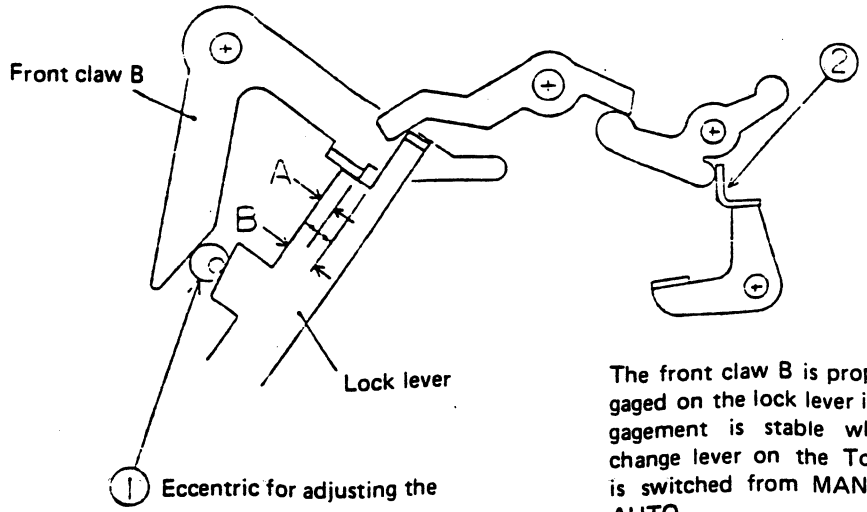
Symptom or malcondition	How to correct or repair	Criteria or specification
2-2. LED does not emit light. NOTE: LED operates only when the right kind of strobo is used.		
	1) Check for possible causes indicated above.	Be sure that LED lights up positively at 350 μA.
	2) The source of energy for this LED is in the strobo. If nothing is wrong with the camera, check the strobo.	There should be no ugly reflection at 900 μA.
	Checking the LED for light emission 	LED should light when tested as shown on the right. Be sure that LED does not light when the minus side is put to the other terminal.

II SHUTTER SERVICES

1. "S" Lock Release

Symptom or malcondition	How to correct or repair	Criteria or specification
1-1. No releasing of "S" lock	The basic adjustment is as follows: 1). C plate 3  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. 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. 2). C plate 2  Check with "M" Base in place.  Adjust by bending C plate 2. Adjust by bending.	1. With C plate 3 in AUTO position, be sure that the clearance is available between lock lever and lever. 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. There should be a play of about 1 mm for Cam in the slot in AUTO condition, as shown on the left. Regardless of the 1 mm clearance, the shutter must be switchable from AUTO to MANUAL and vice versa.

Symptom or malcondition	How to correct or repair	Criteria or specification
	3). Position of slide plate  Range of "S" lock release Adjust as follows: 3)-1. Adjustment by cam S  (View with slide plate removed) 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. 3)-2. Adjustment by Base plate L  	Check to be sure that "S" lock can be released within the range shown in the above view. After displacing, check and, as necessary, correct shutter speed and curtain speed.

Symptom or malcondition	How to correct or repair	Criteria or specification
	4). Position of K lever on Top cover  Adjust by bending part (A) of "K" lever.	With "S" lever in AUTO, remove upper plate, and check to be sure that slide plate is parallel to the body. 
1-2 "S" lock fails to work	1). Adjust the engagement of the Front claw B on lock lever The adjustment should be made with the shutter in "S" lock position.  1 Eccentric for adjusting the engagement of A $A \geqq \frac{1}{2}B$	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. In case the engagement is unstable, adjust by changing the curvature of the C plate 3.

2. "P" Base

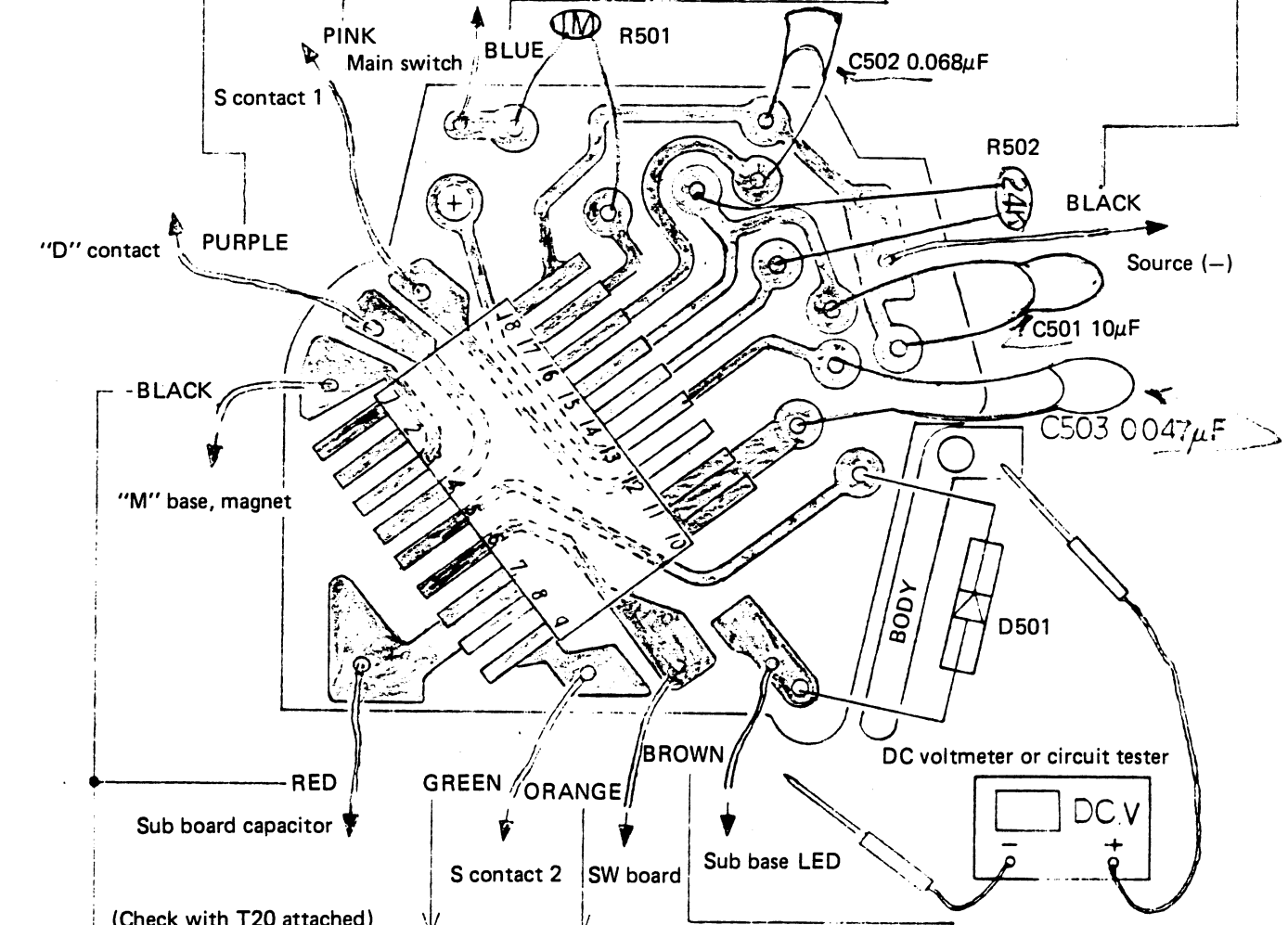
2-1. Terminal voltages

	Mirror down	"S" lock
AUTO	3V	3V
OFF	3V	3V
MANUAL	3V	3V

	Mirror down	"S" lock
AUTO		
OFF		
MANUAL		

	Mirror down	"S" lock
AUTO		
OFF		
MANUAL		

	Mirror down	"S" lock
AUTO		
OFF		
MANUAL		



(Check with T20 attached)

	Mirror down	"S" lock
AUTO		
OFF		
MANUAL		

	Mirror down	"S" lock
AUTO	Changes with	"S" dial.
OFF	0V	0.77 mV
MANUAL	3V	3V

Check voltage with prods put to soldered connections.

	Mirror down	"S" lock	After 5 min.
AUTO	0V	3V	0V
OFF	0V	3V	0V
MANUAL	0V	2.5 mV (RED) 3V (BLACK)	0V

	Mirror down	"S" lock	After 2 min.
AUTO			
OFF			
MANUAL			

"P" Base

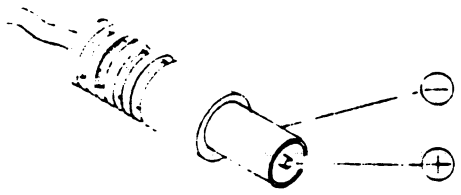
Symptom or malcondition	How to correct or repair	Criteria or specification
2-2. Improper timing action of off limiter	Adjust off limiter by means of C501 and R502. Raising the C501—R502 setting increases the time constant.	Refer to the preceding page for the positions of these elements.
2-3. Improper 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: • 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

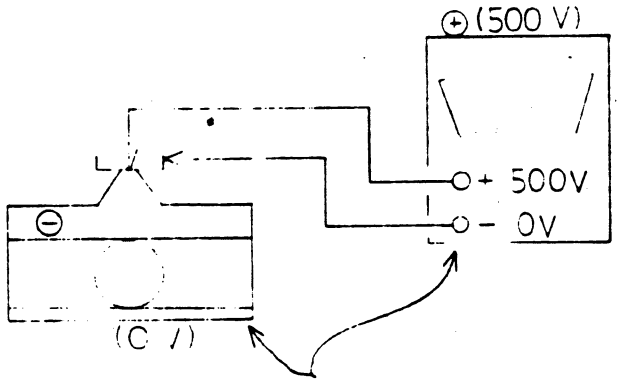
3-1. Checking method

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 ⊖ and inner conductor is positive ⊕.
(Do not reverse this polarity or measurements will be meaningless.)

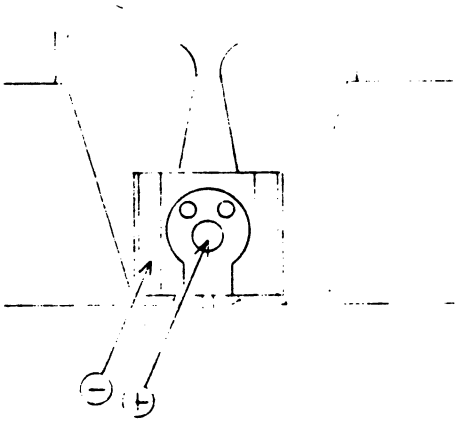


2) Be sure that the internal circuit wires of the tester are grounded ⊖.
(If the ground is positive ⊕, the meter body will shock you when you touch it inadvertently.)

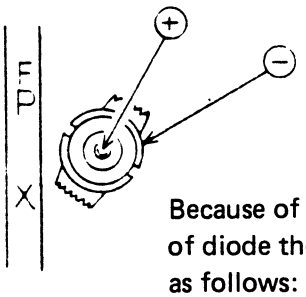


Be aware of 500-volt potential difference existing between camera body and tester. Never touch the two at the same time.

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

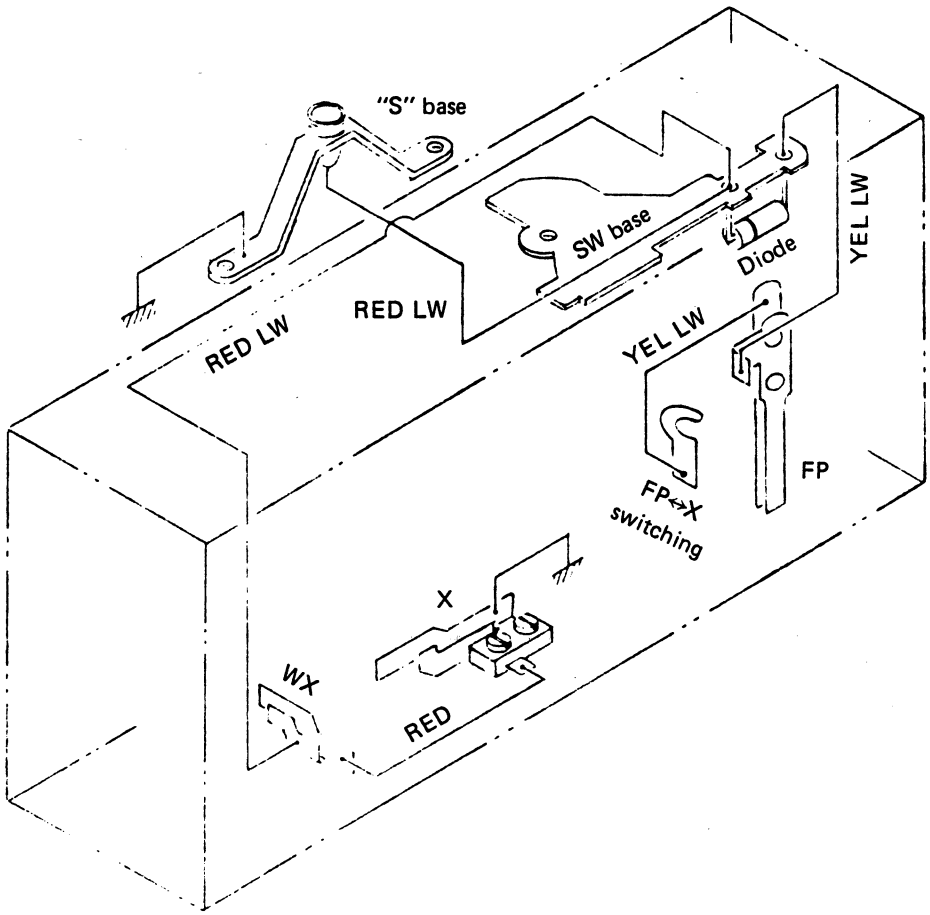
3-2. Insulation resistance requirements

1) FP (plug only) :
30 megohms or over after taking up or shutter operation.

2) X (plug) :
30 megohms or over during taking-up operation.

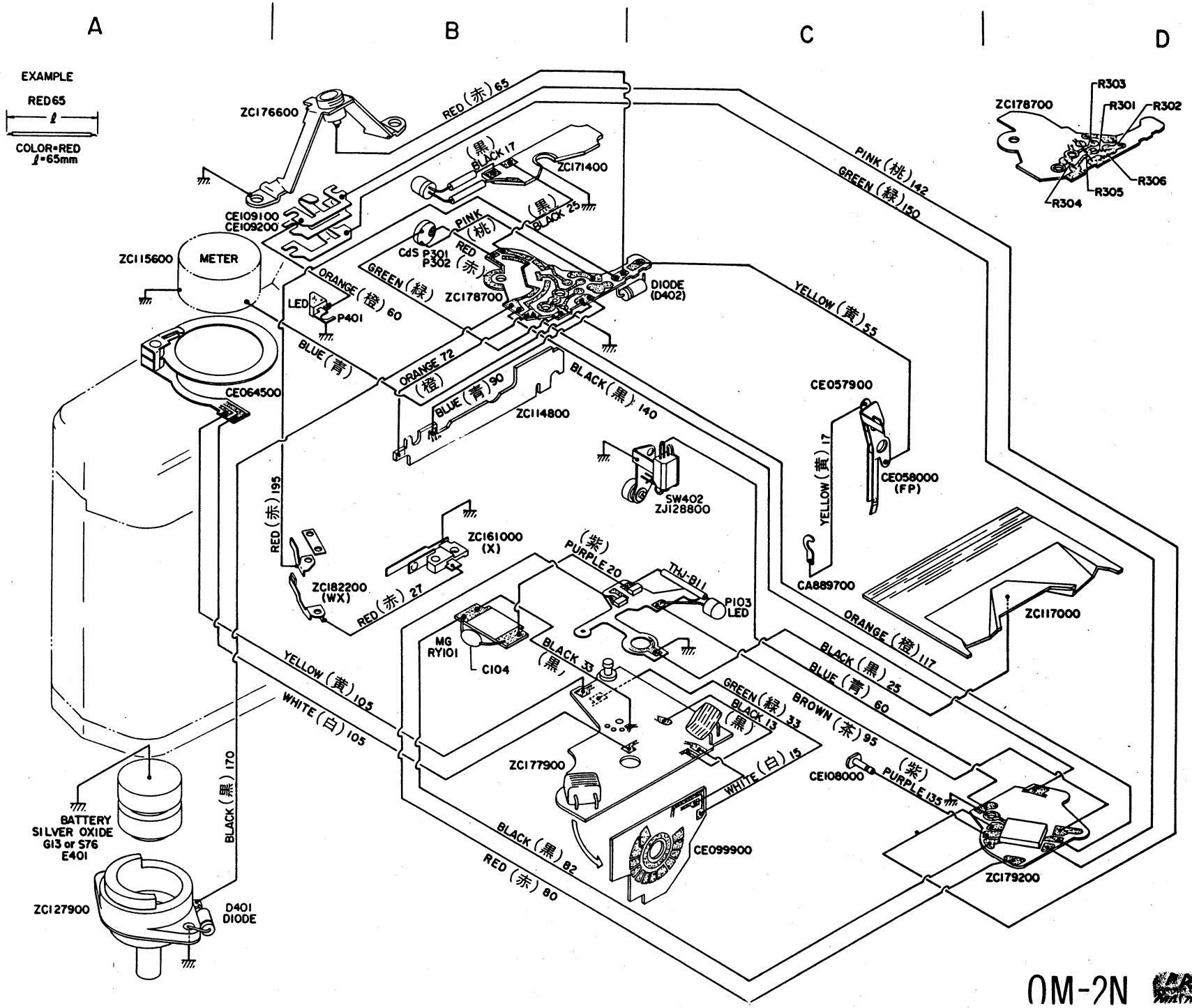
3) X (shoe) :
30 megohms or over for full take-up stroke.
30 megohms or over after operating the shutter.
30 megohms at FP, too.

3-3. Wiring diagram



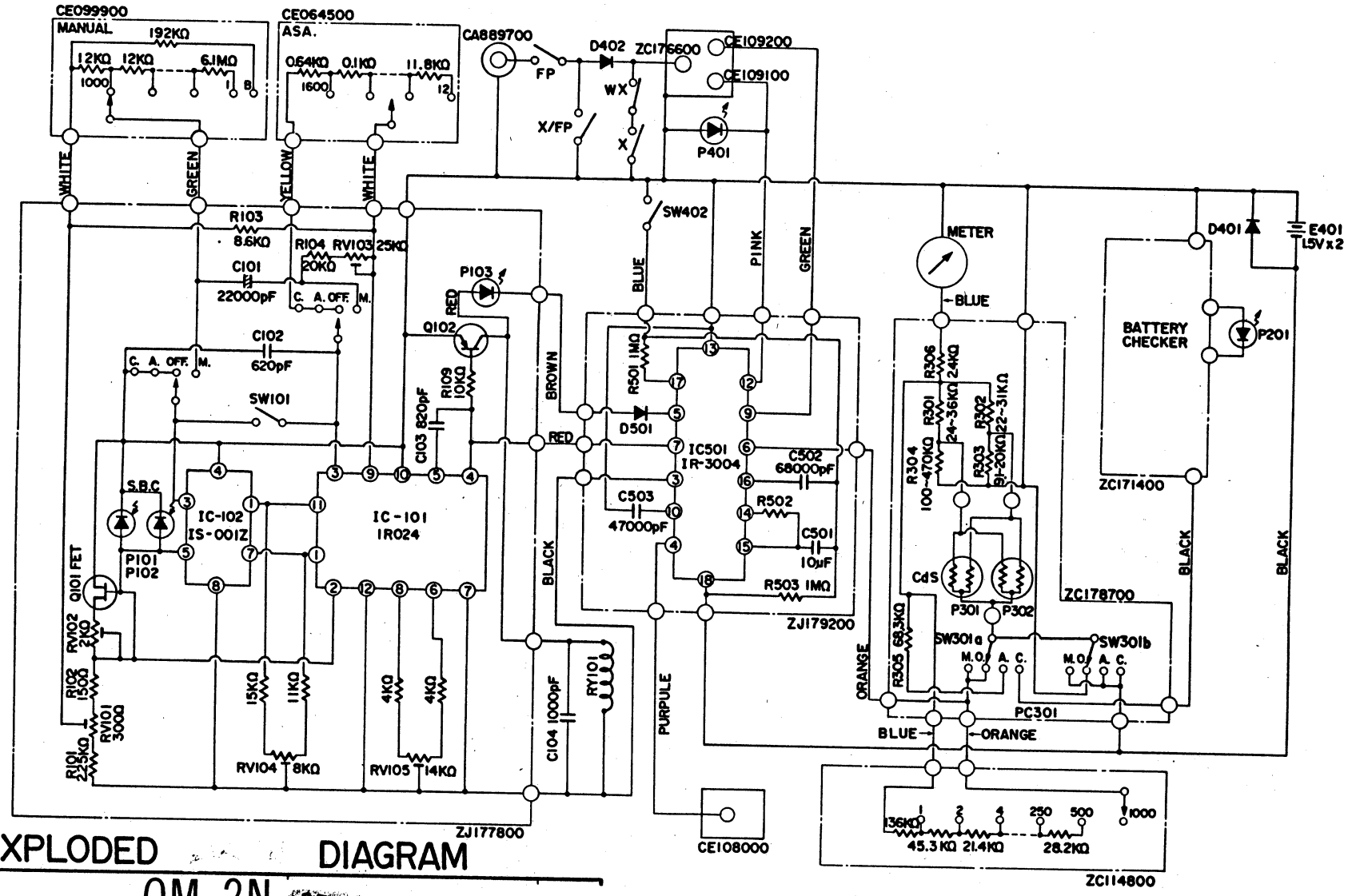
H

OTHERS


A
B
C
D
1
2
EXAMPLE
RED65
ℓ
COLOR=RED
ℓ=65mm
ZC176600
RED (赤) 65
(黒) BLACK 17
ZC171400
CE109100
CE109200
PINK (桃)
(黒) BLACK 25
CdS P301
P302
RED (赤)
ZC178700
DIODE (D402)
PINK (桃) 142
GREEN (緑) 150
YELLOW (黄) 55
ZC115600
METER
ORANGE (橙) 60
GREEN (緑)
LED
P401
BLUE (青)
ORANGE 72 (橙)
BLUE (青) 90
ZC114800
BLACK (黒) 140
CE064500
CE057900
YELLOW (黄) 17
CE058000 (FP)
SW402
ZJ128800
RED (赤) 195
ZC161000 (X)
ZC182200 (WX)
RED (赤) 27
(紫) PURPLE 20
THJ-B11
P103 LED
CA889700
ZC117000
ORANGE (橙) 117
MG RY101
C104
BLACK 33 (黒)
YELLOW (黄) 105
WHITE (白) 105
BLACK (黒) 25
BLUE (青) 60
BROWN (茶) 95
GREEN (緑) 33
BLACK 13 (黒)
ZC177900
WHITE (白) 15
CE108000
(紫) PURPLE 135
BLACK (黒) 170
BATTERY SILVER OXIDE G13 or S76 E401
BLACK (黒) 82
RED (赤) 80
CE099900
ZC179200
ZC127900
D401 DIODE
ZC178700
R303
R301
R302
R306
R305
R304

OM-2N

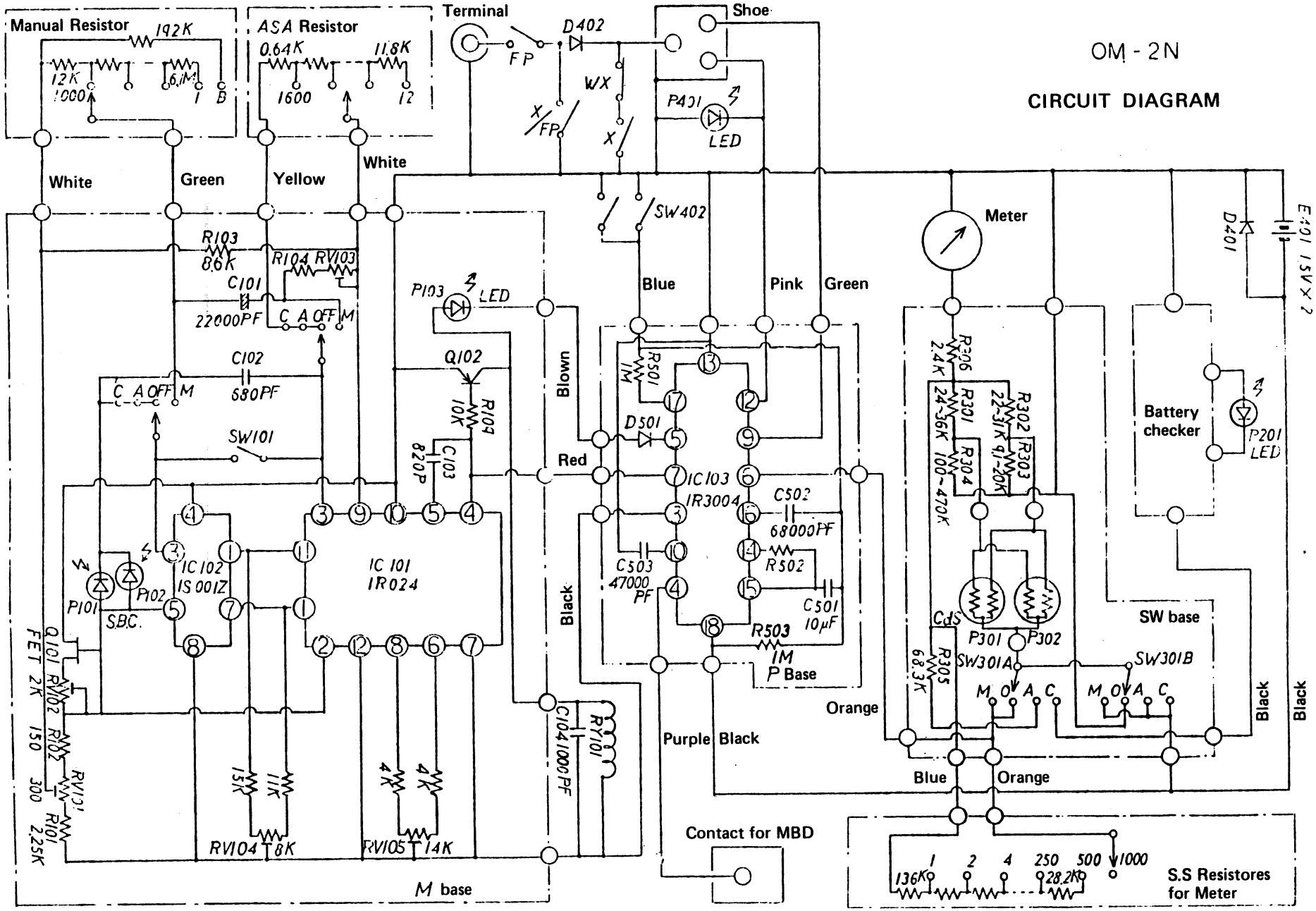
3



4

EXPLODED DIAGRAM

OM-2N


OM-2N
CIRCUIT DIAGRAM
Manual Resistor
192K
12K
1000
6.1M
1
B
ASA Resistor
0.64K
11.8K
1600
12
Terminal
FP
D402
Shoe
WX
X
FP
X
P401
LED
White
Green
Yellow
White
SW402
Meter
D401
E-101 1.5V x 2
R103
8.6K
R104 RV103
C101
22000PF
C A OFF M
P103
LED
Blue
Pink
Green
C102
680PF
C A OFF M
Q102
R109
10K
C103
820P
SW101
Blown
Red
Black
R501
1M
D501
IC103
IR3004
C502
68000PF
R502
C503
47000
PF
C501
10μF
R503
1M
P Base
IC 101
IR024
IC 102
IS 0012
P101
P102
S.B.C.
Q101 RV102 R102 RV103 R101
FET 2K 150 300 2.25K
RV104 8K
RV105 14K
C104 1000PF
RX101
M base
Purple
Black
Orange
Contact for MBD
R306
2.4K
R301
24~36K
R304
100~470K
R302
22~31K
R303
91~120K
Battery
checker
P201
LED
CdS
P301
P302
SW301A
SW301B
SW base
R305
6.8.3K
M O A C
M O A C
Black
Black
Blue
Orange
1
2
4
250
500
1000
136K
28.2K
S.S Resistores
for Meter

MODIFICATION

PARTS LIST

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

— : PARTS STILL AVAILABLE = : PARTS NO LONGER AVAILABLE

PARTS LIST

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

— : PARTS STILL AVAILABLE = : PARTS NO LONGER AVAILABLE

PARTS LIST

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

PARTS LIST

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

PARTS LIST

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

PARTS LIST

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

PARTS LIST

PARTS No.	NAME OF PARTS	NOTE
ZC178600	S FRAME ASS'Y	9-B2
ZC178700	SW BASE ASS'Y	7-D2
ZC179000	CL HOUSE ASS'Y	3-B4
ZC179100	C CIRCUIT	3-A4
ZC179200	P BASE ASS'Y	3-A3
ZC179300	S BASE 2 ASS'Y	5-B3
ZC179700	SIDE PLATE L-2 ASS'Y	8-B1
ZC180300	C PLATE 3 ASS'Y	3-B3
ZC181500	DIECAST BODY ASS'Y	
ZC182200	S PLATE UPPER ASS'Y	5-B2
ZC198500	SW BASE PLATE ASS'Y	3-A1
ZC451900	STRAP EYELET ASS'Y	1-D3
ZJ127900	CELL COVER ASS'Y	4-A3
ZJ128000	K CENTER PLATE ASS'Y	2-C3
ZJ128100	LOWER PLATE M ASS'Y	7-B2
ZJ128200	S BASE ASS'Y	5-B3
ZJ128400	M BASE B ASS'Y	8-D1
ZJ128500	C PLATE 4 ASS'Y	2-D2
ZJ128600	BUTTON WASHER ASS'Y	1-B2
ZJ128700	FRONT CASTING ASS'Y	6-B1
ZJ128800	M CENTER PLATE ASS'Y	7-B3
ZJ129000	BASE PLATE ASS'Y	2-C1
ZJ129100	WINDING SHAFT ASS'Y	2-B2
ZJ129500	E INDICATOR	9-A2
ZJ182900	B SPRING ASS'Y	8-B3

PARTS FOR BLACK FINISH

CA907300	S BASE COVER	8-C4
CA940300	R KNOB	1-D1
CA940500	R LEVER WASHER	1-C1
CA940800	R KNOB	1-D1
CA941000	R KNOB SCREW	1-D1
CA941200	LEVER FASTENER	1-A1
CA941300	FASTENER	1-A2
CA942500	S LEVER STOPPER	8-C4
CA943300	R LEVER WASHER (h: 0.8)	1-C1
CA943400	R LEVER WASHER (h: 1.1)	1-C1
CA943600	R LEVER WASHER (h: 0.9)	1-C1
CA944100	ST LEVER B	8-C4
CA944200	BUTTON	1-B1

PARTS No.	NAME OF PARTS	NOTE
CA947100	COVER M	1-B4
CE117300	K KNOB	2-C3
CE117400	A DIAL	1-B1
CE117600	DIAL -	6-B4
CE117700	FRONT COVER	6-B4
CE120200	LOWER PLATE	
CE120400	COVER	1-B4
CE121100	BL BUTTON	6-C2
CE121600	BL BURRON 2	6-C2
ZC117400	SOCKET ASS'Y	7-D3
ZC134400	R LEVER ASS'Y	1-D1
ZC177500	WINDING LEVER ASS'Y	1-A1
ZC178400	TOP COVER ASS'Y	1-D2
ZJ129200	K CENTER PLATE ASS'Y	2-C3
ZJ129300	BUTTON WASHER ASS'Y	1-B3
ZJ129400	SWITCH WASHER ASS'Y	1-D1
PSK2x4SH	SCREW	1-C4
DC071800	CAPACITOR	10μF 3V
DC195400	CAPACITOR	820PF 50V
DC195700	CAPACITOR	0.022μF 25V
DC195800	CAPACITOR	620PF 50V
DC197200	CAPACITOR	0.068μF 35V
DC199500	CAPACITOR	0.047μF 35V
DC265800	CAPACITOR	1000PF 50V
DI023900	IC	IR-024
DQ011500	LED	GL-30PR8
DQ011700	LED	GL-9PR8
DR172600	RESISTOR	24KΩ 1/16W
DR172700	RESISTOR	25KΩ 1/16W
DR172800	RESISTOR	26KΩ 1/16W
DR172900	RESISTOR	27KΩ 1/16W
DR173000	RESISTOR	28KΩ 1/16W
DR173100	RESISTOR	29KΩ 1/16W
DR173200	RESISTOR	30KΩ 1/16W
DR173300	RESISTOR	31KΩ 1/16W
DR173400	RESISTOR	32KΩ 1/16W
DR173500	RESISTOR	33KΩ 1/16W
DR173600	RESISTOR	34KΩ 1/16W

PARTS LIST

PARTS No.	NAME OF PARTS	NOTE
DR173700	RESISTOR	35KΩ 1/16W
DR173800	RESISTOR	36KΩ 1/16W
DR173900	RESISTOR	33KΩ 1/16W
DR174000	RESISTOR	23KΩ 1/16W
DR174100	RESISTOR	9.1KΩ 1/16W
DR132500	RESISTOR	10KΩ 1/16W
DR174200	RESISTOR	11KΩ 1/16W
DR134100	RESISTOR	12KΩ 1/16W
DR174400	RESISTOR	13KΩ 1/16W
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
DR175000	RESISTOR	19KΩ 1/16W
DR130100	RESISTOR	20KΩ 1/16W
DR175200	RESISTOR	100KΩ 1/16W
DR175300	RESISTOR	180KΩ 1/16W
DR175400	RESISTOR	270KΩ 1/16W
DR175500	RESISTOR	470KΩ 1/16W
DR175600	RESISTOR	68.3KΩ 1/20W
DR175700	RESISTOR	2.4KΩ 1/16W
DR176000	RESISTOR	1MΩ 1/16W
DR176400	RESISTOR	1.3KΩ 1/16W
DR133600	RESISTOR	1.5KΩ 1/16W
DR177200	RESISTOR	1.8KΩ 1/16W
DR133200	RESISTOR	2.0KΩ 1/16W
DR180600	RESISTOR	2.2KΩ 1/16W
DR180700	RESISTOR	2.7KΩ 1/16W
DS029500	DIODE	1N4005
DS029600	DIODE	1S1588
DS082300	DIODE	1N4001
DS057400	FET	2SK118-O
DS073800	TRANSISTOR	2SA811A
DS101700	IC	IS-001Z
DS030300	Cds	TYPE-A
DS102000	Cds	TYPE-B1
DS102100	Cds	TYPE-B2
DS102200	Cds	TYPE-B3
DS102300	Cds	TYPE-C
RBJ-A	LEAD COIL (BLUE), 10m LONG	
RBJ-B	LEAD COIL (BLACK), 10m LONG	
RBJ-C	LEAD COIL (BROWN), 10m LONG	
RBJ-G	LEAD COIL (GREEN), 10m LONG	

PARTS No.	NAME OF PARTS	NOTE
RBJ-M	LEAD COIL (PURPLE), 10m LONG	
RBJ-D	LEAD COIL (ORANGE), 10m LONG	
RBJ-P	LEAD COIL (PINK), 10m LONG	
RBJ-R	LEAD COIL (RED), 10m LONG	
RBJ-W	LEAD COIL (WHITE), 10m LONG	
RBJ-Y	LEAD COIL (YELLOW), 10m LONG	
THJ-B	TUBE (BLACK), 5m LONG	
TRE-B	TUBE (BLACK), 5m LONG	
PUK1.4x1SN	SCREW	
PUK1.4x1.2SN	SCREW	
PUK1.4x1.4SN	SCREW	
PUK1.4x1.6SN	SCREW	
PUK1.4x1.8SN	SCREW	
PUK1.4x1.8SB	SCREW	
PUK1.4x3SN	SCREW	
PUK1.4-307SN	SCREW	
PUK1.4-310SN	SCREW	
PUK1.4-311SN	SCREW	
PUK1.4-404SB	SCREW	
PUK1.4-405SN	SCREW	
PUK1.4-440SN	SCREW	
PUK1.4-605SN	SCREW	
PUK1.4-605SB	SCREW	
PUK1.7x1.5SN	SCREW	
PUK1.7x1.6SN	SCREW	
PUK1.7x1.8SN	SCREW	
PUK1.7x2SN	SCREW	
PUK1.7x2.2SN	SCREW	
PUK1.7x2.5SN	SCREW	
PUK1.7x8SN	SCREW	
PUK1.7-236SN	SCREW	
PUK1.7-308SN	SCREW	
PUK1.7-314SN	SCREW	
PUK1.7-338SN	SCREW	
PUK1.7-406SN	SCREW	
PUK1.7-516SN	SCREW	
PUK2x1.8SN	SCREW	
PUK2x2SN	SCREW	
PUK2x2.5SN	SCREW	
PUK2x3SN	SCREW	
PUK2x4.5SN	SCREW	

PARTS LIST

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>