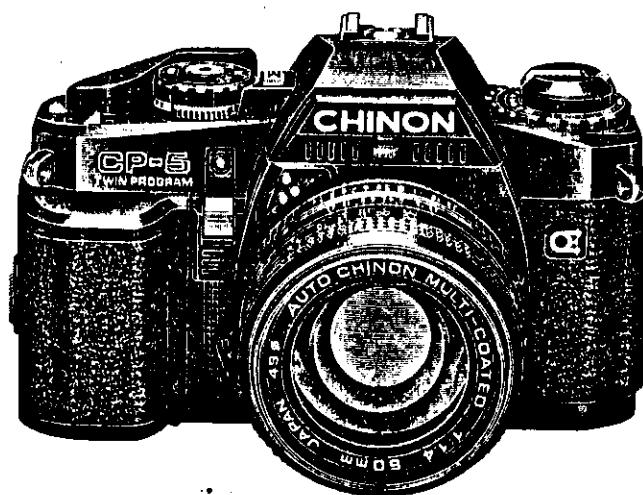


Service Manual

FOR

CHINON CP-5

TWIN PROGRAM



CHINON INDUSTRIES INC.

INTRODUCTION

Information contained in this service manual refers to the CHINON CP-5 TWIN PROGRAM S.L.R. camera and is prepared to aid repair and maintenance service at authorised service stations.

The information and specifications in this service manual are the most up-to-date at the time of publication. However, the Research, engineering, and QA Department of CHINON are constantly making efforts to further improve the products manufactured by the company. Modification, therefore, may become inevitable and we reserve the right to make any changes without further notice.

Before making attempts to repair or adjust the unit, read the manual thoroughly. Specifications and adjustment procedures are described in detail and trouble-shooting may be used to diagnose problems. Electrical data and parts information are filed at the end of this service manual.

For technical inquiries and further assistance write to:

CHINON INDUSTRIES INC., Service Dept.
21-17 1-chome Takashima
Suwa-shi, Nagano-ken
392 Japan

Service Manual
for
CHINON CP-5 TWIN PROGRAM S.L.R. Camera

1st edition, October 1983
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CHINON INDUSTRIES INC.
Service Department.

CONTENTS

HOW TO USE THIS SERVICE MANUAL

Section 1	GENERAL
Section 2	REPAIR GUIDE
Section 3	SERVICE TOOL LIST
Section 4	ELECTRICAL DATA
Section 5	PARTS INFORMATION
Section 6	PRICE LIST OF SPARE PARTS
Section 7	SERVICE MANUAL REPORT

HOW TO USE THIS SERVICE MANUAL

Chinon Service manual consists of the following seven sections:
General, Repair Guide, Service Tool List, Electrical Data, Parts Information,
Price List of the Spare Parts, and Service Manual Report.
These seven sections are divided by index sheets for easy identification.

GENERAL

The General section consists of information useful to the repairman.
It may consists of any or all of the following: technical specifications, block
diagram, design principals, new or unusual repair technics, or any other infor-
mation useful to the repairman.

REPAIR GUIDE

1. The Repair Guide contains the necessary instructions for complete repair,
adjustment, and trouble shooting of the product.
2. It may consist of circuit and/or mechanism explanations.

SERVICE TOOLS LIST

1. This list all special tools and test equipment required for service after
sales and their uses.
2. For specifications, detailed explanation, and price of these, please refer
to the distributed lists of "TOOLS & INSTRUMENTS".
3. Please typeout the tool No. and the necessary quantity on the orther sheets
when you order the special tools or test equipment.

ELECTRICAL DATA

The Electrical Data consists of the schematic diagram, wiring diagram, and
component location useful to the repairman.

PARTS INFORMATION

1. The Parts Information consists of the exploded view and containing parts list.
2. The parts list for each exploded view is on the facing page and botf pages
have the same number.
3. The exploded views are arranged in the correct sequence of disassembly and/
or assembly.
4. The parts list consists of six columns. The function of each column is:

Column 1. ORDER QTY: Please fill-in the necessary quantity in this column
when you order the spare parts, and typeout your name
and Order No. on the parts list.

Column 2. Parts name in Japanese.

Column 3. CLASS: This column lists the consumption code letter for the
part. This indicates the replacement probability.
The parts listed on the PARTS LIST are each maked
with one of the letters A, B, C, D, and E in accordance
with the frequency at which it is used in servicing.

A: Used most frequency.

B: Used very frequency


C: Used frequency.

D: Used less frequency .

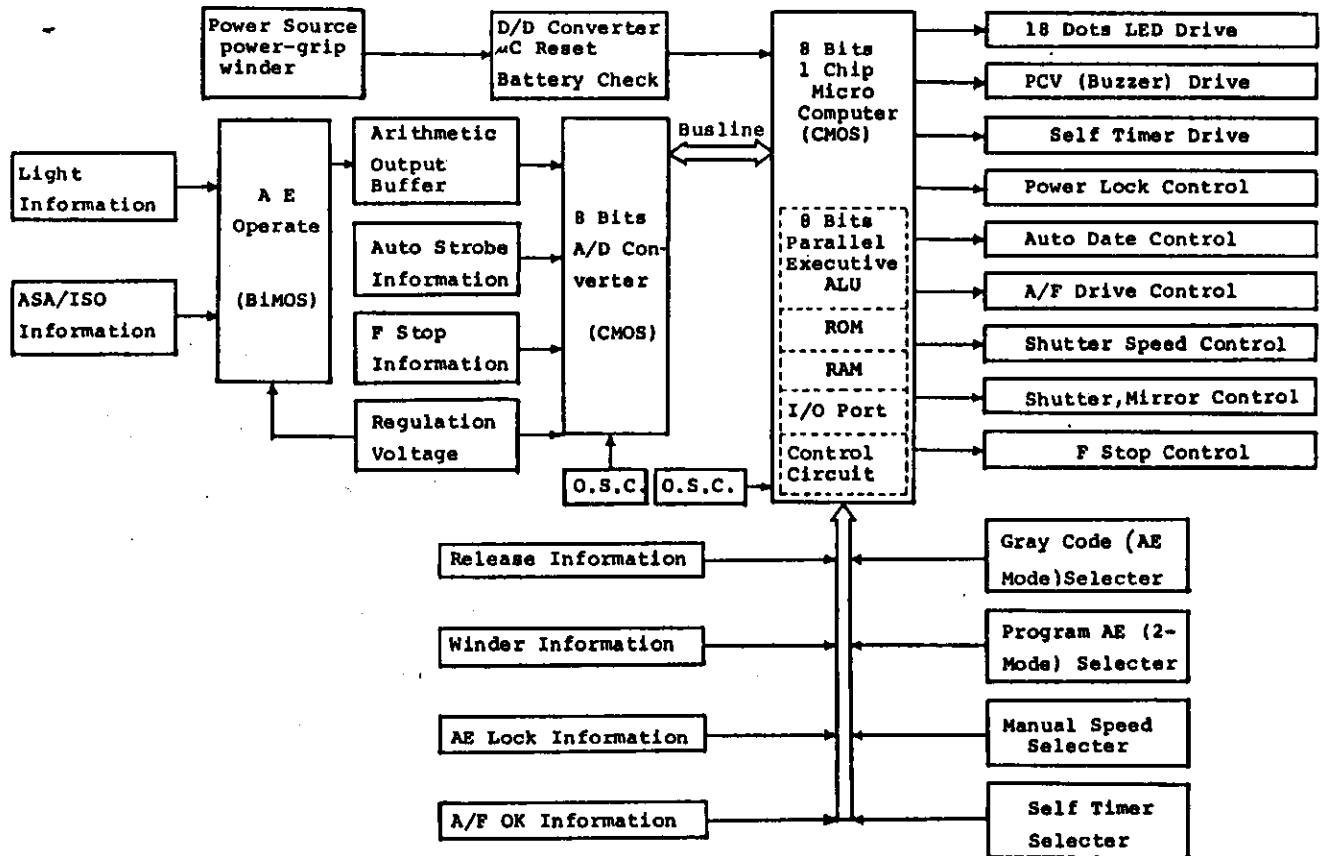
E: Used rarely.

SPECIFICATION

Technical Specifications	CHINON CP-5 TWIN PROGRAM	Remarks
Type	SLR, Two-Stage Program and Aperture-priority system (AE)	
Picture Mount	24 x 36 mm	
Lens Mount	Bayonet mount with built-in active AF lens contacts	
Mirror	Lage, quick return, shockless system	
Focusing Aid	Penta prism, split-micro screen	
Viewfinder Coverage	Approx. 92 %	
Viewfinder Magnification	Approx. 0.87 times with 50 mm lens set at	
Viewfinder Indication	Shutter speed, under/over exposure, slow shutter speed warning, flash synchro, program AE, F number (optical)	Red, Green & Yellow LEDs. audible buzzer
Exposure Meter	TTL, center weighted full aperture system	
Photo Cell	1 x silicon photo diode	
Exposure Control Range	EV 1 - 19 (8 sec., F/1.4 - 1/1000 sec., F/22)	At ASA 100
ASA Sensitivity	ASA/ISO 25 - 3200 (DIN 15 - 36)	1/3 EV step with safety lock
Exposure Memory	Built-in	
Multiple Exposure	Built-in	
Shutter	Electro-magnet, vertical focalplane	
Shutter Speed	Auto: 8 - 1/1000 sec. Manu: B, X (1/100), 8 - 1/1000 sec.	Stepless
Shutter Release	Electro-magnetic type	
Program AE Mode	<p>Two-Stage available</p> <p>Program 1: For fast moving objects. Lens aperture stays open up to the shutter speed of 1/60 sec. Between 1/60 - 1/1000 sec., the aperture varies in accordance with the programmed shutter speed.</p> <p>Program 2: For slow moving objects, depth-of-field well considered AE charactor. Lens aperture stays full open up to the shutter speed of 1/8 sec. At faster than 1/8 sec., the aperture varies in accordance with the programmed shutter speed.</p>	

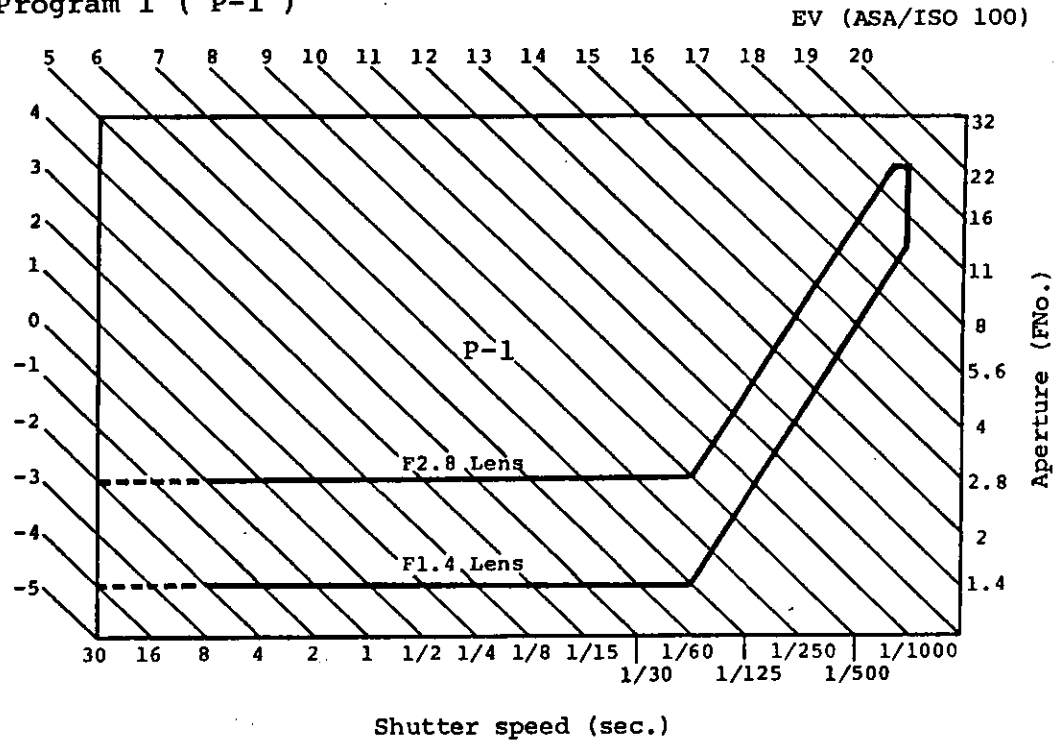
Program AE Mode Warning	Built-in	Green LED
Manual Shutter Speed Selector	One touch activation type	LEDs
S.C.S. (Shutter Speed Change Signal)	Built-in	Audible buzzer
M.E.S. (Manual Exposure Signal)	Built-in	Audible buzzer
Film Winding	Single stroke (130° with 25° stand-off), Power winder adaptable	CHINON Power Winder PW-600, 601
Film Rewinding	Rewinding button & rewinding crank	
Film Counter	Auto reset with back cover open	
Strobe-ready Indicator	1/125 sec. LED &  LED lights up	CHINON Auto Flash S-240, 280, 360
Main Switch Lock	Built-in with shutter speed dial	
Battery Check	Built-in with LED indicator	
Self Timer	Electronically controlled at 10 sec.	Flashing Red LED & audible buzzer
Synchronization	"X" strobe sync. at 1/100 sec.	Hot shoe, PC conector
Direct Imprint Contacts	Built-in	CHINON Auto Date AD-510
AF Contacts	Built-in	CHINON F/3.3 - 4.5, f=35 - 70 mm AF lens
Tripod Mount	Built-in (screw mount)	JIS 1/4
Memo Holder	Built-in	
Power Source	1.5V x 3 batteries	LR03 in power-grip
Dimensions	136(W) x 88(H) x 51(D) mm	
Weight	520 grams	Without lens, batteries

MICRO-COMPUTER SYSTEM'S BLOCK DIAGRAM
OF
CHINON CP-5

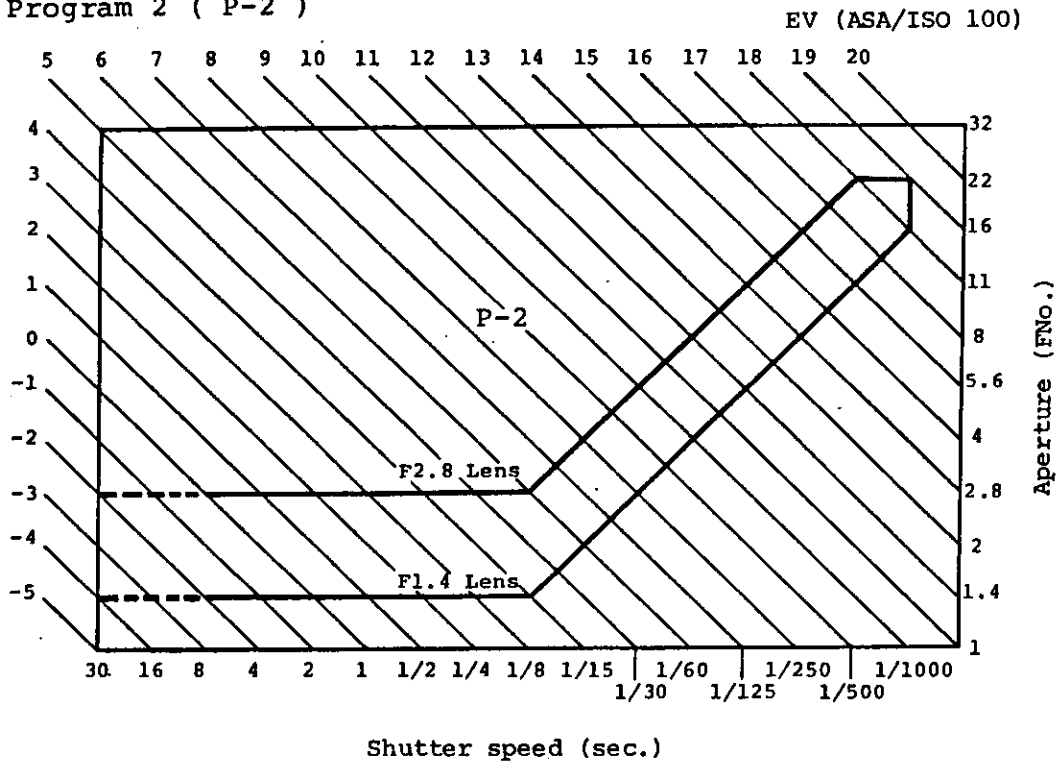


TWO-STAGE PROGRAM AE CURVE OF CHINON CP-5

Program 1 (P-1)



Program 2 (P-2)



CONTENTS

	Page
I. DISASSEMBLY PROCEDURE	2
A. Top Cover, Bottom Cover & Front Cover Removal ..	2
B. Mirror Housing Removal	4
C. Shutter Removal	6
D. Sprocket Removal	6
E. Take-up Spool Removal	7
II. SHUTTER UNIT	8
A. Electro-Mechanical Shutter	8
B. Shutter Trouble-shooting	9
III. MIRROR HOUSING UNIT	11
A. Combination Magnet	11
B. F Stop Magnet	11
C. Mirror Housing Operation	12
IV. WINDING MECHANISM	15
A. Operation of Winding Mechanism	15
B. Power Winder Switch	15
V. FOCUS ADJUSTMENT	16
A. Flange Back Check and Adjustment	16
B. Viewfinder Focus Adjustment	17
VI. CIRCUIT DESCRIPTION	18
A. Function of Micro-Computer	18
B. Function of Bipolar Analog IC	19
C. Function of MOS Digital IC	21
D. Timing Chart	22
E. General Flow Chart	23
VII. EXPOSURE CONTROL	25
A. Manual Shutter Speed Confirm	25
B. Automatic Shutter Speed Adjustment	25
C. Confirm the Program AE	31
D. Battery Checker Voltage Adjustment	31
E. Light Value	31
F. EV Chart	32
G. Program Curve	33
VIII. SHUTTER RELEASE MECHANISM	34
IX. TROUBLE SHOOTING *	35

* The Trouble shooting will be furnished as soon as possible after trouble shooting procedure are established.

I. DISASSEMBLY PROCEDURE

A. Top Cover, Bottom Cover & Front Cover Removal

[In case of Top Cover Removal]

- | | | | |
|---|--|---|--|
| ① <u>Name plate</u>
1371BOCS1085A
1371BOCS1085A | ② <u>Screw</u>
117-30114 x 2 | ③ <u>Screw</u>
127-40114 x 2 | ④ <u>Cover</u>
1371BOC-3016A |
| ⑤ <u>Screw</u>
912-70114 | ⑥ <u>Advance lever</u>
1371BOC-3015A | ⑦ <u>M trim plate</u>
1371BOC-2006A | ⑧ <u>Release button guide</u>
1371BOC-2021A |
| ⑨ <u>M dial</u>
1371BOC-2001A | ⑩ <u>Release button</u>
1371BOC-2020A | ⑪ <u>Release shaft</u>
1371BOC-2028A | ⑫ <u>Spring</u>
0971BOC-2022A |
| ⑬ <u>Rewind knob</u>
1171BOCU1031A | ⑭ <u>ASA ring</u>
1091BOC-2103A | ⑮ <u>Washer</u>
XY5-012 | ⑯ <u>Spring</u>
1091BOC-2104A |
| ⑰ <u>ASA dial trim plate</u>
1371BOC-2105A | and <u>ASA dial</u>
1171BOC-2101A | ⑱ <u>Screw</u>
127-35014 x 2 | ⑲ <u>Screw</u>
317-35114 |
| ⑳ <u>Screw</u>
317-40014 | ㉑ <u>Top cover</u>
1371BOCS1061A
1371HOCS1061A | | |

[In case of Bottom Cover Removal]

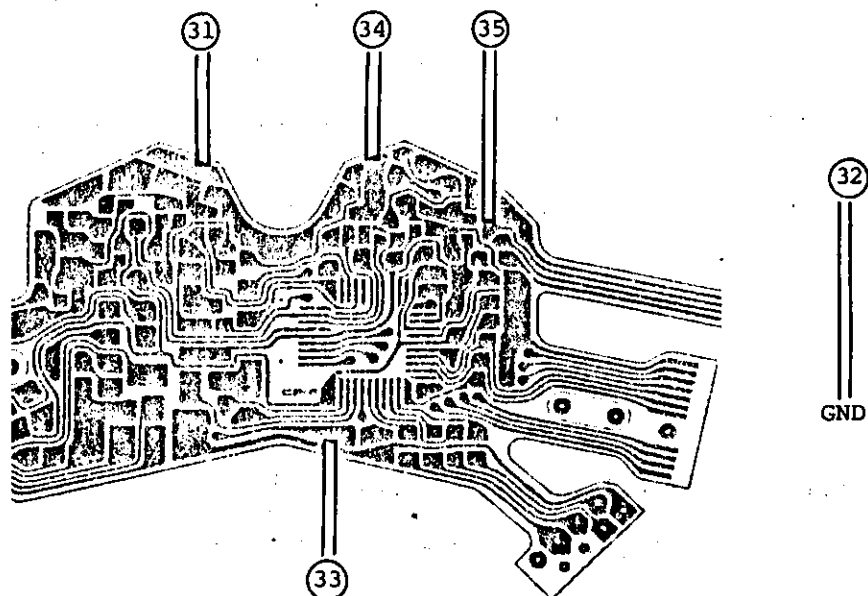
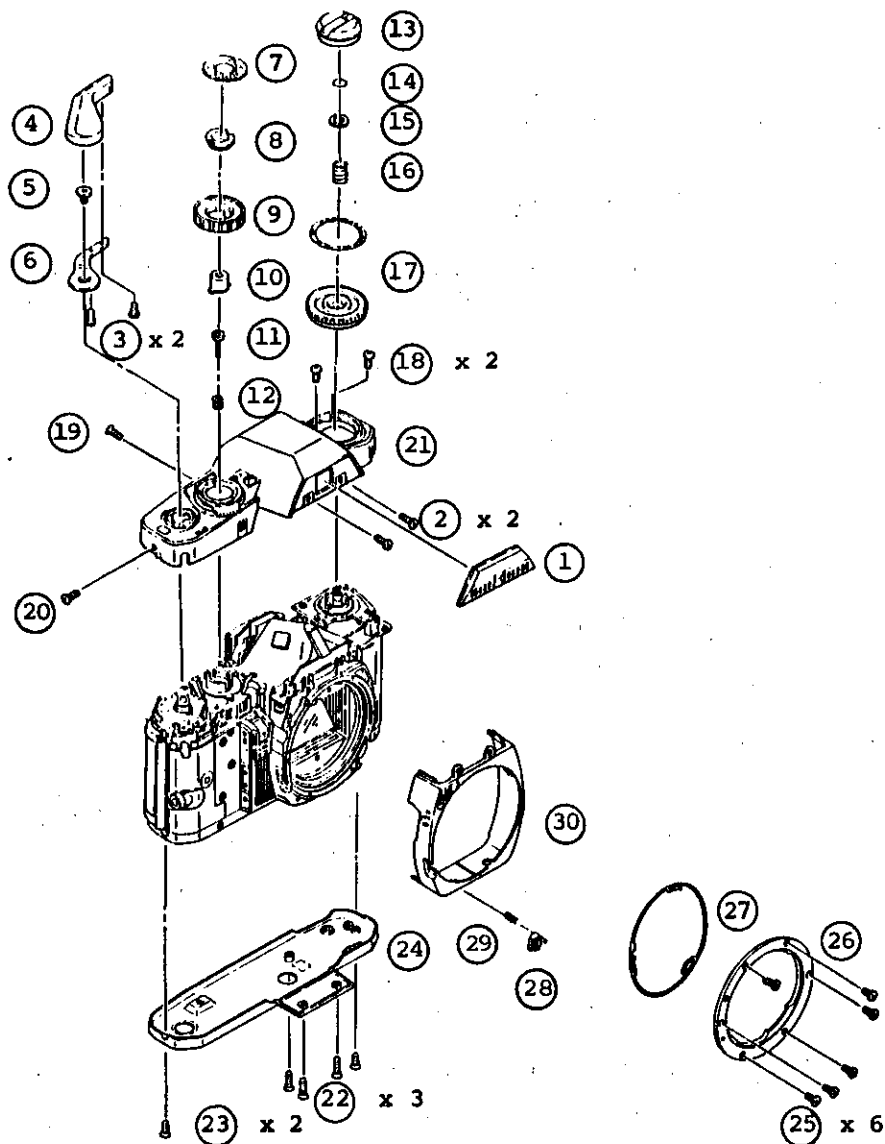
- | | | |
|---------------------------------|---------------------------------|---|
| ㉒ <u>Screw</u>
317-60114 x 3 | ㉓ <u>Screw</u>
317-35114 x 2 | ㉔ <u>Bottom cover</u>
1371BOCS1051A
1371HOCS1051A |
|---------------------------------|---------------------------------|---|

[In case of Front Cover Removal]

- | | | | |
|----------------------------------|--|--|--|
| ㉕ <u>Screw</u>
112-30134 x 6 | ㉖ <u>Bayonet mount</u>
0971BOC-4201A | ㉗ <u>Mount spring</u>
0971BOC-4202A | ㉘ <u>Mount lock pin</u>
0971BOCS4216A |
| ㉙ <u>Spring</u>
0971BOC-4218A | ㉚ <u>Front cover</u>
1371BOCS4205A
1371HOCS4205A | | |

If you remove the Top Cover completely, unsolder the following five lead-wires from Flexible pattern A and body side.

- | | | |
|---------------------------|--------------------------|--------------------------|
| ㉛ <u>White lead-wire</u> | ㉜ <u>Black lead-wire</u> | ㉝ <u>Green lead-wire</u> |
| ㉞ <u>Yellow lead-wire</u> | ㉟ <u>Brown lead-wire</u> | |



B. Mirror Housing Removal

Follow the Top, Bottom, and Front Cover Removal. Then,

- (1) Screw 1371BOC-1212A (2) Battery case 1371BOCS1201A (3) Leather(R) 1371BOC-1006A (4) Leather(L) 1371BOC-1007A

If you remove the Mirror housing unit completely, unsolder the twenty lead-wires from the Flexible pattern A side and P.C. Board A side (bottom side) with following procedures.

- (5) Black lead-wire (6) Pink lead-wire (7) Yellow lead-wire
(8) Purple lead-wire (9) Brown lead-wire (10) Red lead-wire
(11) Blue lead-wire (12) Green lead-wire (13) Gray lead-wire
(14) Orange lead-wire (15) White lead-wire (16) Black lead-wire
(17) Gray lead-wire (18) Pink lead-wire (19) Yellow green lead-wire
(20) Yellow green lead-wire (21) Blue lead-wire (22) Sky blue lead-wire
(23) Black lead-wire (24) Purple lead-wire

- (25) Screw 112-02614 x 4 (26) Screw 112-30121 (27) Screw 117-30114 (28) Lug plate XB-20300

- (29) Screw 117-30014 x 3 (30) Mirror housing 1371BOCS4001A with Frensel box 1371BOCS4304A and

Flexible pattern A 1371BOCSEP27A and M dial base plate 1371BOCS2002A

Procedure (31) to (37) shows the lead-wires for M dial base plate removal. Unsolder the following lead-wires from Flexible pattern A side.

- (31) Red lead-wire (32) Pink lead-wire (33) Black lead-wire
(34) Brown lead-wire (35) Orange lead-wire (36) Sky blue lead-wire
(37) Yellow lead-wire Then, disconnect the position (38). (39) M dial base plate 1371BOCS2002A

Procedure (40) to (55) shows the lead-wires for Flexible pattern A removal. Unsolder the following lead-wires.

- (40) Red lead-wire (41) Blue lead-wire (42) Red lead-wire
(43) Sky blue lead-wire (44) Gray lead-wire (45) Green lead-wire
(46) Yellow lead-wire (47) Blue lead-wire (48) Orange lead-wire
(49) Blue lead-wire (50) Green lead-wire (51) Purple lead-wire
(52) Red lead-wire (53) White lead-wire (54) Earth lead-wire
(55) White lead-wire Then, disconnect the position (56).

(57) Screw
117-35214 x 2

(58) Collar
1171B0C-4014A x 2

(59) Screw
114-30114

(60) LED holder
0971B0C-4309A

(61) Leather
1371B0C-4259A

(62) Screw
317-25014

(63) Screw
317-62814

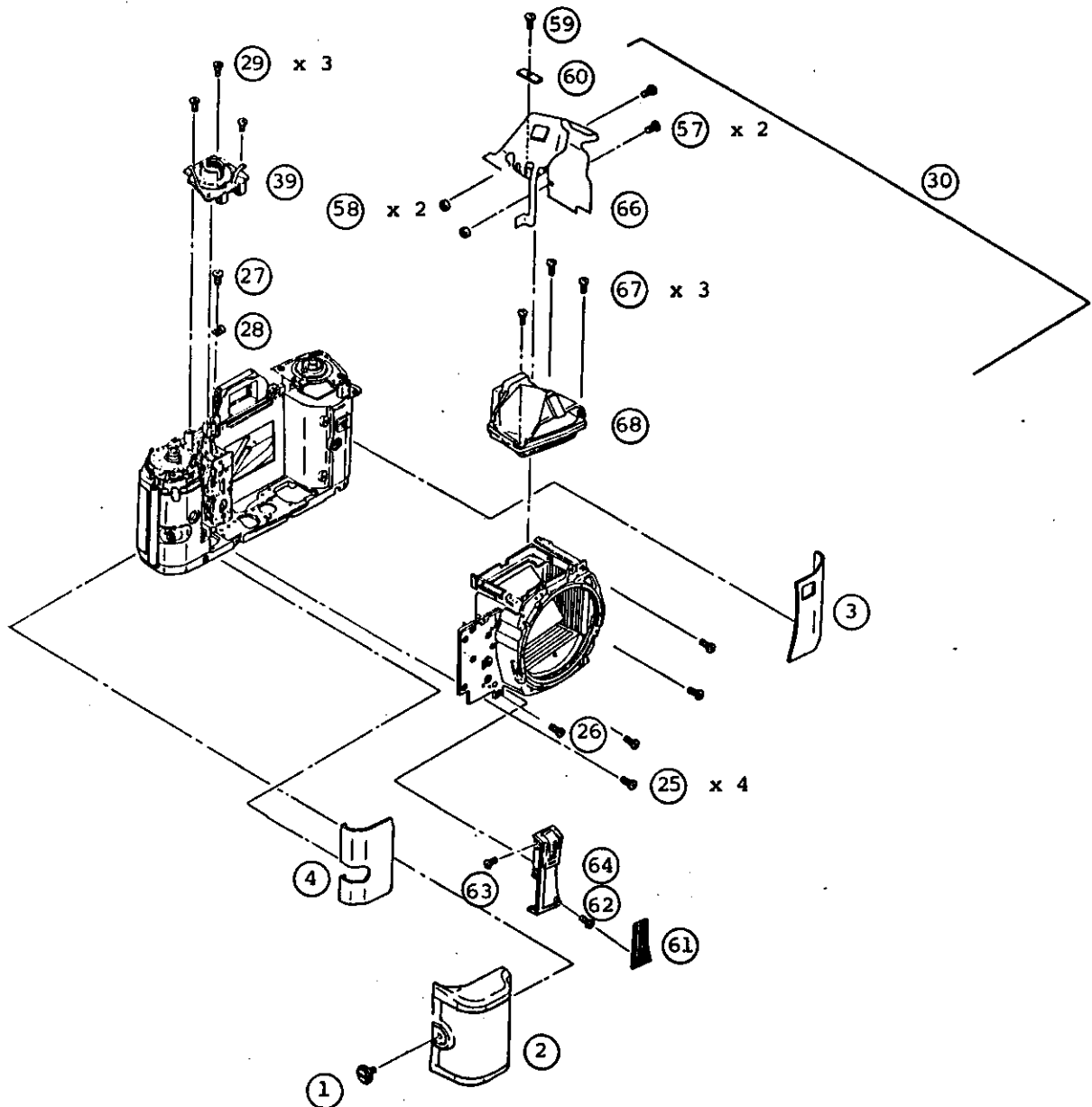
(64) Front decoration plate
1371B0CS4260A

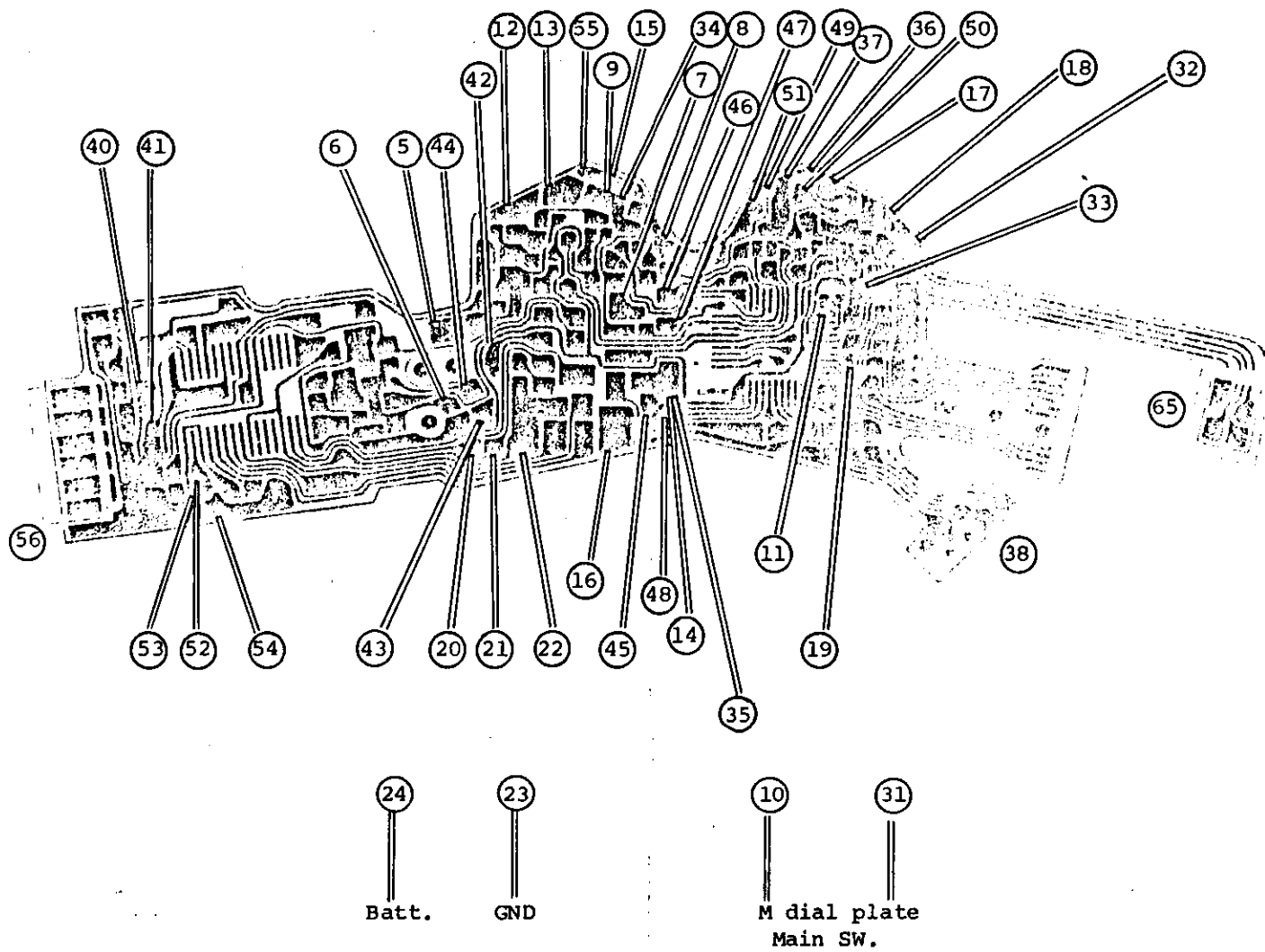
Then, disconnect the position (65).

(66) Flexible pattern A
1371B0CSEP27A

(67) Screw
117-30114 x 3

(68) Frensel box
1371B0CS4304A

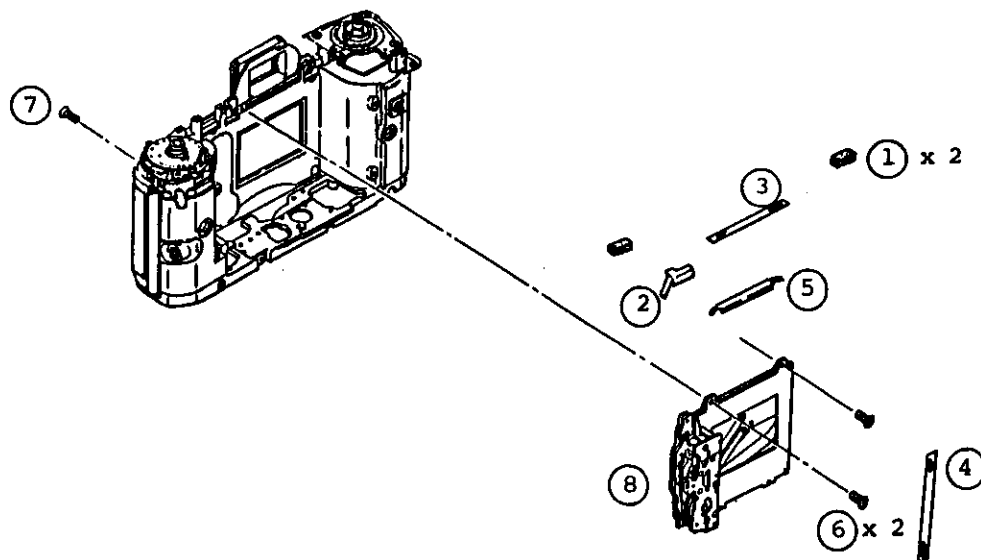




C. Shutter Removal

Refer to following procedure after Mirror housing removal.

- | | | | | |
|---------------------------------|--------------------------------------|-----------------------------------|----------------------------|---|
| ① <u>Sponge</u>
XM-3020 x 2 | ② <u>Side plate</u>
0971B0C-1504A | ③ <u>Sponge</u>
XM-1025 | ④ <u>Sponge</u>
XM-1036 | ⑤ <u>Shielding plate</u>
0971B0C-1502A |
| ⑥ <u>Screw</u>
317-30021 x 2 | ⑦ <u>Screw</u>
317-30014 | ⑧ <u>Shutter</u>
1291B0C-1501A | | |



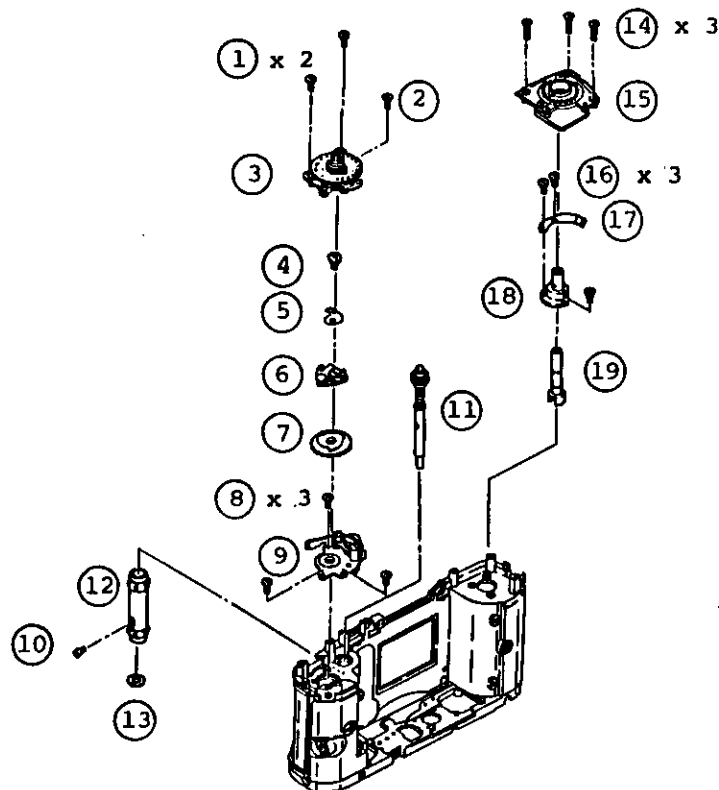
D. Sprocket Removal

Follow the Top cover removal, then

- | | | | |
|---|--|--------------------------------------|-----------------------------|
| ① <u>Screw</u>
117-30114 x 2 | ② <u>Screw</u>
317-30014 | ③ <u>Counter</u>
1371B0CS2201A | ④ <u>Screw</u>
113-03014 |
| ⑤ <u>Claw pressure plate</u>
0971B0C-3013A | ⑥ <u>Transport claw</u>
0971B0CU3006A | ⑦ <u>First gear</u>
0971B0C-3038A | |
| ⑧ <u>Screw</u>
117-30114 x 3 | ⑨ <u>Winding base plate</u>
1371B0CS3031A | ⑩ <u>Screw</u>
0271W0C-0153A | |
| ⑪ <u>Sprocket shaft</u>
1071B0CS3052A | ⑫ <u>Sprocket</u>
0771B0C-3051A | ⑬ <u>Washer</u>
XY4-009 | |

If you remove the Rewinding shaft,

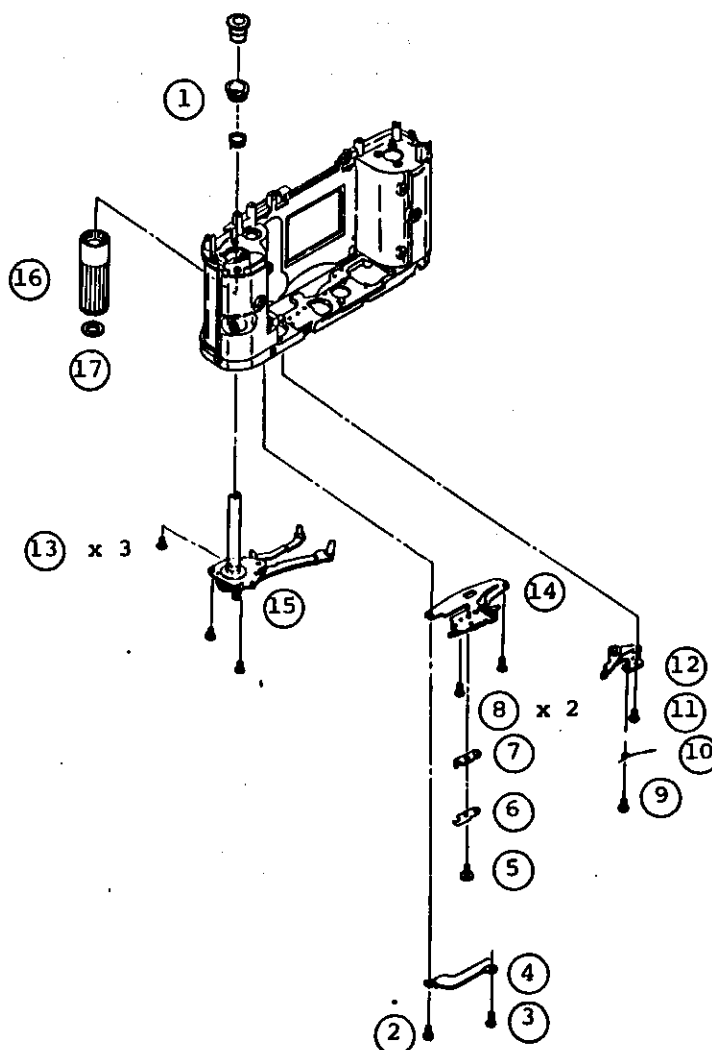
- | | | |
|---|--|---|
| ⑭ <u>Screw</u>
317-60014 x 3 | ⑮ <u>ASA base plate</u>
1171B0CU2109A | ⑯ <u>Screw</u>
117-25614 x 3 |
| ⑰ <u>Door latch spring</u>
0971B0C-1044A | ⑱ <u>Rewinding shaft base</u>
1091B0C-1037A | ⑲ <u>Rewinding shaft</u>
1091B0C-1036A |



E. Take-up Spool Removal

Follow the procedure after Sprocket Removal, then

- ① Gear
0971BOC-3064A and Reel sleeve
1371BOC-3063A and Friction spring
0971BOC-3065A
- ② Screw
117-40114 ③ Screw
112-40121 ④ Charge lever holder
0971BOC-3108A ⑤ Screw
117-02414
- ⑥ Cover
0971BOC-3129A ⑦ Winder switch
1371BOCS3126A ⑧ Screw
317-30021 x 2 ⑨ Screw
917-50114
- ⑩ Spring
0971BOC-3088A ⑪ Screw
117-25114 ⑫ Stop lever
0971BOCU3085C ⑬ Screw
312-25114 x 3
- ⑭ Guide base plate
1371BOCS3125A ⑮ Winding base plate (Lower)
1371BOCS3071A ⑯ Take-up spool
1371BOCS3061A
- ⑰ Washer
XY6-001



II. SHUTTER UNIT

A. Electro-Mechanical Shutter

Shutter speed, both auto and manual, is controlled by electromagnet system. In auto mode, shutter speed automatically and steplessly changes from 8 sec. to 1/1000 sec. depending upon film speed, F number and luminance of the subject. Fourteen different shutter speed, B, 8 sec., to 1/1000 sec., are provided in manual mode.

The following supplies information about minute adjustment only to aid the reader to gain deeper understanding of the shutter mechanism. A shutter as spare parts is factory adjusted, and further adjustment need not be performed.

a. Curtain speed adjustment

The curtain speed is adjusted to 6.0 msec., however, the speed of less than 7.0 msec. is acceptable.

To increase the curtain speed, turn the speed adjust gear clockwise as indicated with arrows. Each teeth advancement increases the speed approximately 1.5 msec. See Fig. II-1.

b. Trigger switch adjustment

After connecting the standard control circuit adjust the eccentric adjustment screw to obtain correct shutter speed at 1/1000 sec. See Fig. II-2.

*When the gap (g-1) is too narrow the shutter speed will be too slow A

*When the gap (g-2) is too wide the shutter speed will be too fast B

Note: The standard control circuit is specially designed to adjust trigger switch contact gap.

c. Synchro contact adjustment

The adjustment is made by bending the contact "C" so that synchronization is made without fault at "X" (1/100 sec.) speed setting. The contact must be free from dust and corrosion.

Synchro time lag

Shutter speed at "X" (1/100 sec.)

A lag 0.35 - 1.15 msec

B lag No less than 2.4 msec

No less than 30mA when DC 500V applied

See fig. II-3

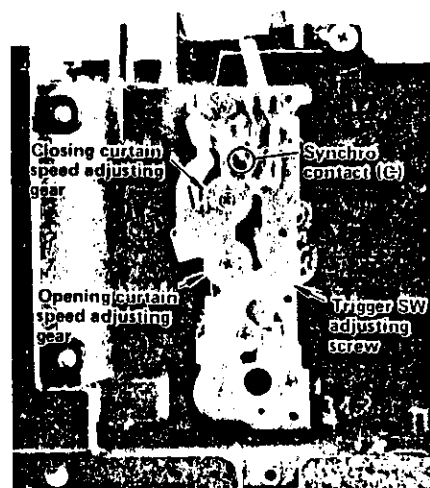


Fig. II-1

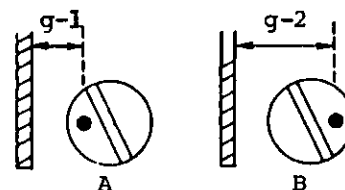


Fig. II-2

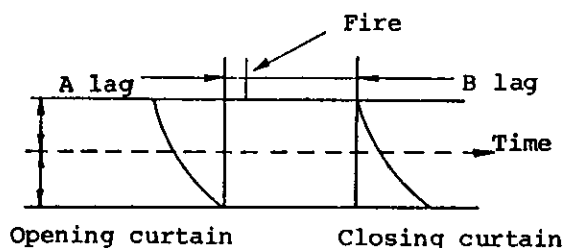


Fig. II-3

B. Shutter Trouble-shooting

Refer to Fig. II-4

DEFECTS	DESCRIPTION	CAUSE
Synchro contact efficiency defective	Less than 50% at 1 msec.	a. Synchro contact dirty b. Worn out contacts
Slow speed unstable	Speed will not change at 1.8 V	a. Magnet dirty b. Armature scratched
Shutter stays open		a. Armature lever spring loose or bent b. P.C. Board defective c. Closing curtain lever spring loose
Closing curtain will not close, or not close firmly		a. Closing curtain lever spring loose
Shutter speed too slow or too fast		For CP-5 shutter speed is controlled electronically, the cause may be found in electronic components and adjustment
Shutter will not charge	Upon winding, curtain trips without shutter release	a. Shutter release lever spring loose
Uneven exposure	"A" and "C" channel shutter speed differ from "B" channel	a. Improper curtain speed (opening and closing curtain speed must be matched). Curtain speed should be less than 7 msec
Curtain dirty	Dusts or finger prints on curtain	a. Wipe of the dust. Use cleaner of thin rubber

1. P.C. board
2. Magnet lead wires
3. Closing curtain release lever
4. Closing curtain release lever spring
5. "X" lever
6. Opening lever claw
7. Curtain actuation lever
8. Opening curtain lever
9. Curtain actuation lever spring
10. Trace of set lever
11. Release lever
12. Upper plate
13. Set lever
14. Rubber stopper
15. Middle plate
16. Armature spring
17. Armature
18. Bulb retainer
19. Closing lever claw center
20. Bulb retainer center
21. Guide post
22. "X" synchro contact
23. Closing lever post
24. Opening lever post
25. Armature center
26. Timing contact center
27. Trigger sw. adjust center
28. Timing contact retainer center
29. Release lever center
30. T1 center
31. T2 center

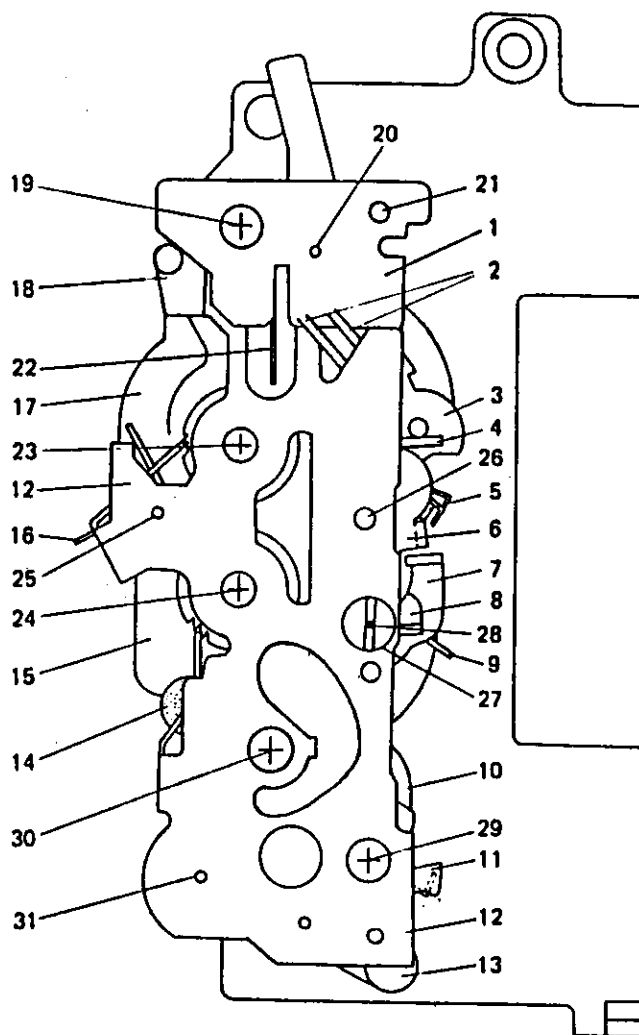


Fig. II-4

III. MIRROR HOUSING UNIT

Mirror Housing

The mirror housing is one of the major components of the camera and it has many important function.

When the shutter release is depressed mirror opens the light path to the shutter. As this "Mirror up" is completed the mirror housing release a shutter trigger signal.

When the shutter is closed the mirror release lever is actuated and starts "Mirror return".

The housing also consists of lens diaphragm stop-down mechanism.

Moreover, CHINON CP-5 is equipped a new exposure controlled system; it say "Program AE" (automatic exposure).

For new system, the mirror housing is equipped "F-Stop" mechanism.

Further more, the housing vital to the flange back focus and the viewfinder focus.

The focus adjustment procedure will be explained in later.

Each elements of the mirror housing supplied as a spare parts is factory adjusted and further adjustment need not be performed.

The information contained in the elements description is for the extensive repair only.

A. Combination Magnet

General electric magnet works as magnet by magnetizing the iron core of coil with electricity.

However, in case of combination magnet, core itself is a permanent magnet.

Magnetism of both the coil and the permanent magnet negate each other.

Then, the combination magnet lose its magnetism.

By using the principle of this operation, adhere armature lever to combination magnet and extinguish adhesion of both combination magnet and armature lever by electrifying combination magnet.

Then, combination magnet will turned "ON" by shutter release and the armature lever will leave.

So during above operation, F-value is determined, and combination magnet will turned "ON" again.

Then, armature lever will leave again and mirror-up will begin.

B. F Stop Magnet

The CHINON CP-5 camera is designed with a two-stage Program AE Mode and the new AE system is controlled by the Micro-computer perfectly.

The F stop magnet determines the hour of the F stop-down system's activation by the Micro-computer's command.

When Aperture-priority AE mode and Manual exposure Mode occur, the F stop magnet operates the F stop-down system by constant hour.

C. Mirror Housing Operation

1. Operation of mirror housing charge

Mirror charge lever (137BOCS4006A) will be actuated by the charge lever A (1371BOCS3104A). See Fig. III-1.

The mirror charge lever will be locked by the closing signal lever B (1371BOC-4019A).

The mirror housing is charged completely. See Fig. III-2.

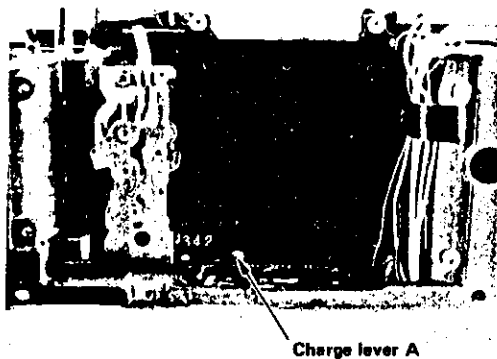


Fig. III-1

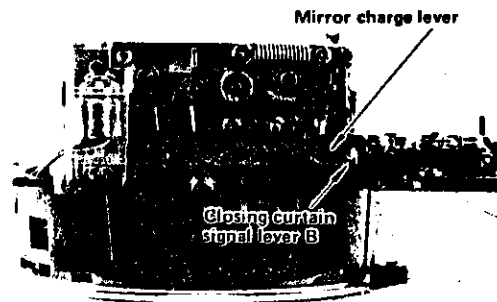


Fig. III-2

2. Operation of the F stop

When the combination magnet (1171BOC-EZ01A) is turned "ON", the armature lever (1371BOCS4007A) will be released from the combination magnet and push the start hook lever (1371BOCS4010A). See Fig. III-3.

Then, the slide plate (1371BOCS4013A) runs and the F start lever (1371BOC-4144A) is pushed by the F stop-down lever C (1371BOCS4034A).

At the same time, the F armature reset lever (1371BOC-4143A) pushes the mirror hook lever B (1371BOCS4016A). See Fig. III-4.

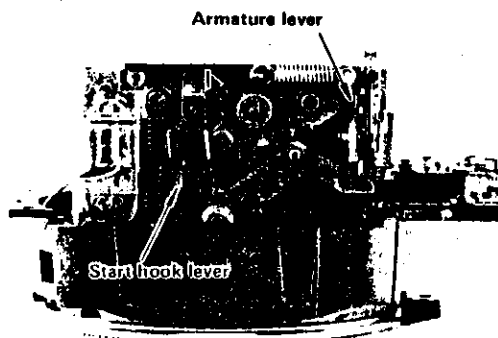


Fig. III-3

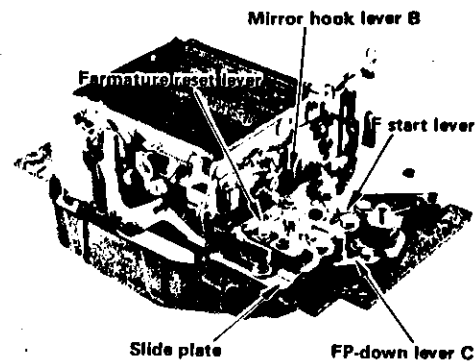


Fig. III-4

The F stop magnet (1371BOC-EZ01A) is turned "ON" the moment that the shutter is released and the F armature lever (1371BOC-4142A) will be leaved. See Fig. III-5.

Then, the F ratchet (1371BOCS4039A) is absolved by the ratchet claw. So the F stop-down lever A (1371BOCS4032A) moves the F value position through the F stop-down gear and F stop-down lever operation. See Fig. III-6.

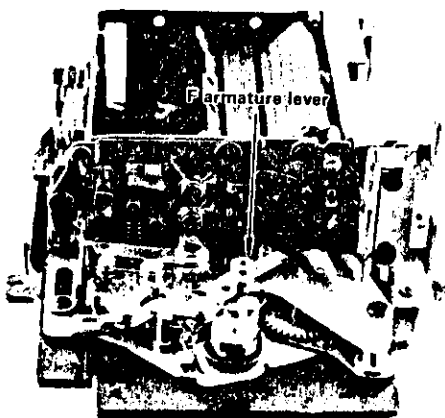


Fig. III-5

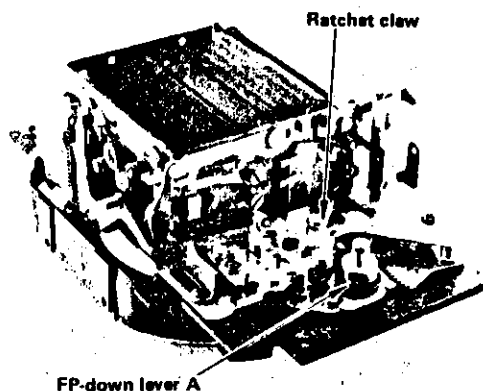


Fig. III-6

3. Operation of mirror-up

When the combination magnet is turned "ON" again, the armature lever will be released from the combination magnet and push the start hook lever. Then, the lock of the mirror hook lever A (1371BOCS4015A) will be released. See Fig. III-7.

Then, the mirror lever (1371BOCS4014A) lifts up the mirror system, and as a result, the mirror hook lever A is absolved. The mirror-up operation will come to an end. Also the shutter release lever (1371BOC-4017A) and shutter function are sequenced to actuate the opening curtain lever. See Fig. III-8.

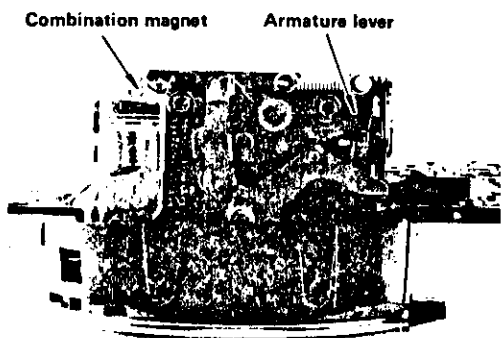


Fig. III-7

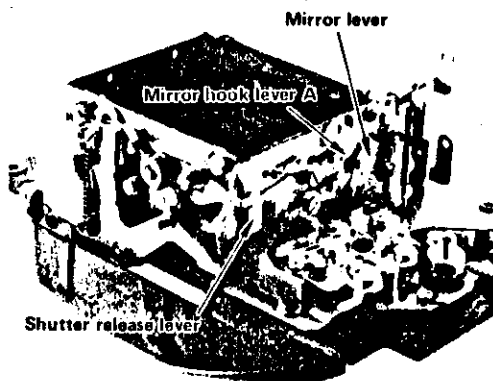


Fig. III-8

4. Operation of mirror-down

The shutter's closing curtain release lever presses the closing curtain signal lever A (1371BOC-4018A) thereby actuating the closing curtain signal levers A and B in sequence.

The mirror charge lever should be released from the closing curtain signal lever B. See Fig. III-9.

Also the housing will return the first position, when it will be finished all of the operations (mirror charge, F stop, mirror-up and mirror-down).

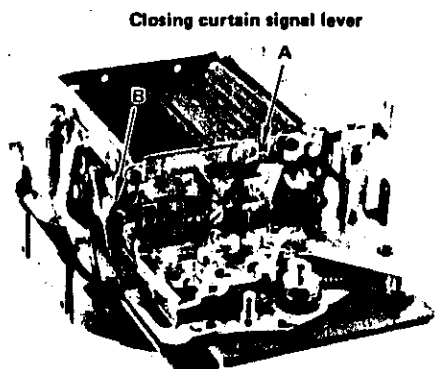


Fig. III-9

IV. WINDING MECHANISM

A. Operation of Winding Mechanism

The charge lever A (1371BOCS3104A) and charge lever B (1371BOCS3111A) should be connected with stop cam (0971BOCU3102A). See Fig. IV-1.

The charge lever pin A on the charge lever A actuated with the mirror charge lever (1371BOCS4006A) and the charge pin B on the charge lever B actuated with the set lever of shutter.

By winding, the charge lever A should be charged by the mirror housing and charge lever B should be charged by the shutter. See Fig. IV-2.

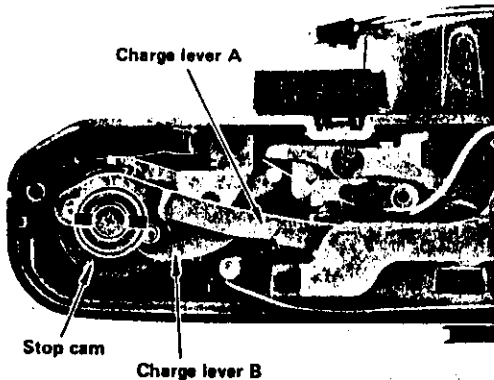


Fig. IV-1

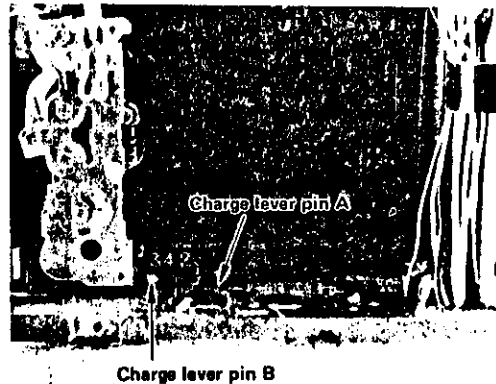


Fig. IV-2

By charging the mirror housing, the mirror the charge lever pin (on the mirror charge lever) will move and it should be connected with the transmission lever.

The transmission lever will be released from the stop lever (0971BOCU3085B) and the stop lever contacts on the circumference of the stop cam with the stop lever spring (0971BOC-3088A).

When winded the camera completely and returned the stop cam, the stop lever will be hooked with the stop cam hook. When the closing curtain is started, the charge lever pin will return. The transmission lever will return with spring and it push the stop lever. Now hook is released. See Fig. IV-3.

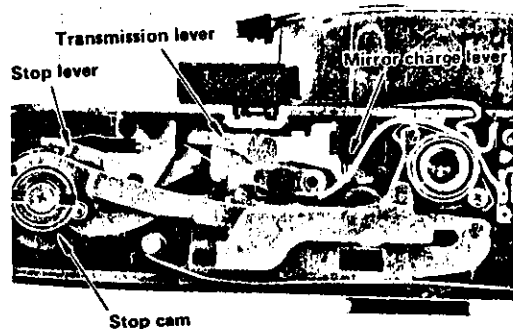


Fig. IV-3

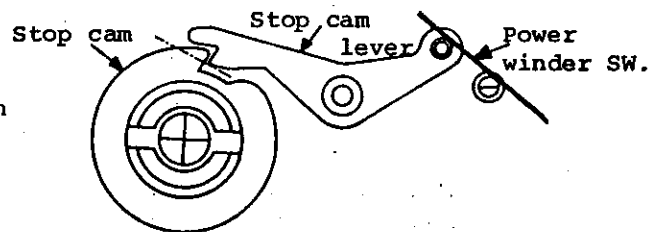


Fig. IV-4

B. Power Winder Switch

The mounting of the winder to the camera must be done without difficulty all of connector contacts should be free from dust or corrosion. Resistance: Less than 10Ω.

Adjust the contact gap by bending so that the winder switch shall be closed when the stop cam lever is positioned on the center of the stop cam hook. See Fig. IV-4.

V. FOCUS ADJUSTMENT

To the quality of the picture produced by at SLR camera, two focus adjustment is vital (excluding lens focus). One is called the "Flange Back Focus" and the other is called the "Viewfinder Focus".

The flange back focus is the distance between the lens mount hardware surface and the film plane. The distance should be correctly adjusted in order to focus clearly with any kind of interchangeable lenses. Improper adjustment of this focus will affect the viewfinder focus, too.

The viewfinder focus must be adjusted correctly so that film plane image precisely coincide. If this poorly adjusted, whenever focused through the viewfinder, the results on the film will be out focus in actual picture taking. See Fig. V-1.

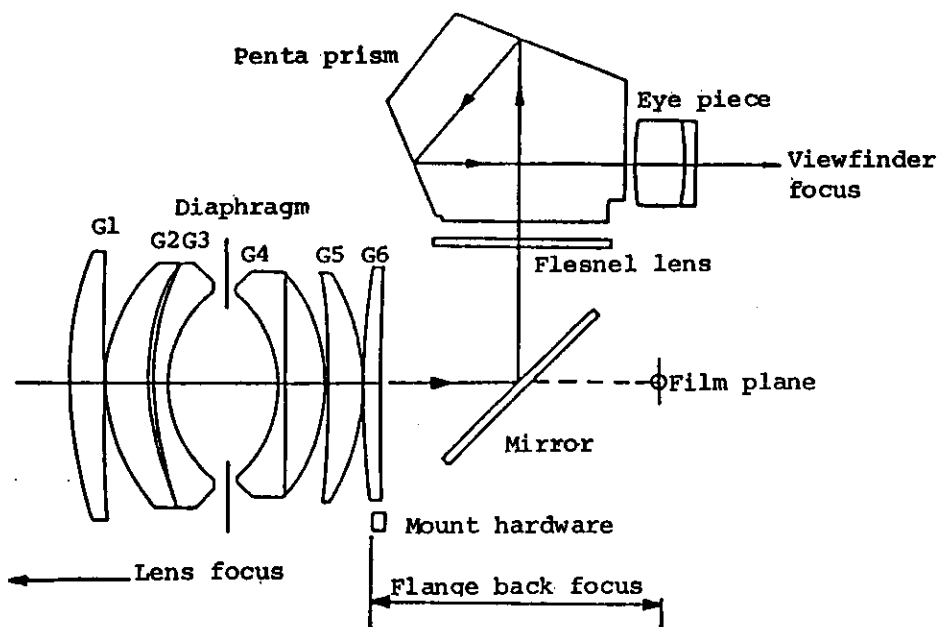


Fig. V-1

A. Flange Back Check and Adjustment

Tools Used: Dial gauge (T2-202)

- a. Place the camera on a dial gauge (T2-202) and insert a block gauge between the camera and dial gauge. Rotate the camera. See Fig. V-2.

The dial gauge reading should be:

55.5 ± 0.01 mm (45.5 ± 0.01 mm + Block gauge 10.0 mm)

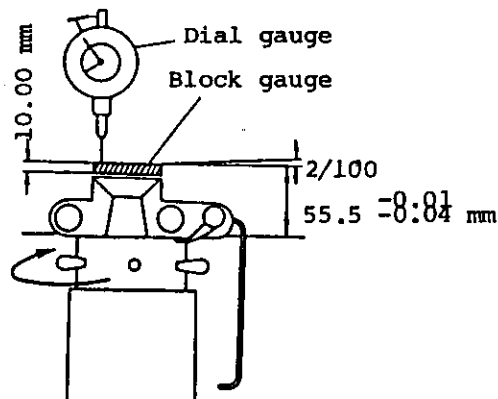


Fig. V-2

- b. The reading should not fluctuate more than 0.02 mm even it is within the specified range.

When adjustment is necessary, loosen the six set screws of the mount and insert or withdraw the mount washers.

Three kinds of washers are available:
0.03, 0.05, 0.07 mm.

Tighten the six set screws securely after the adjustment.

See Fig. V-3.

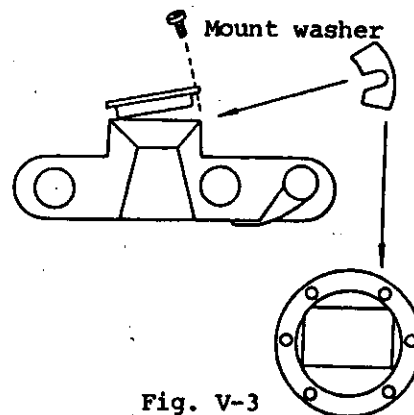


Fig. V-3

B. Viewfinder Focus Adjustment

Tools used: Infinity collimator (T0-005)
Focus calibrated lens (f=50 mm lens)

- a. Mount the lens to the body and turn the lens focusing ring to obtain sharpest collimator image on the viewfinder screen.

If the collimator is not available aim at a distant object more than 250 m away (with f=50 mm lens).

- b. When the sharpest image is obtained at near distance side of the focus ring, turn the three adjustment screws clockwise.



Fig. V-4

- c. When the sharpest image is not obtained even at "∞" position, turn the three adjustment screws counterclockwise.

See Fig. V-4.

- d. The image should be sharpest at the focus ring at "∞" position.

After the adjustment, release the shutter several times and check focus again.

- e. After adjustment, lock these screw with glue.

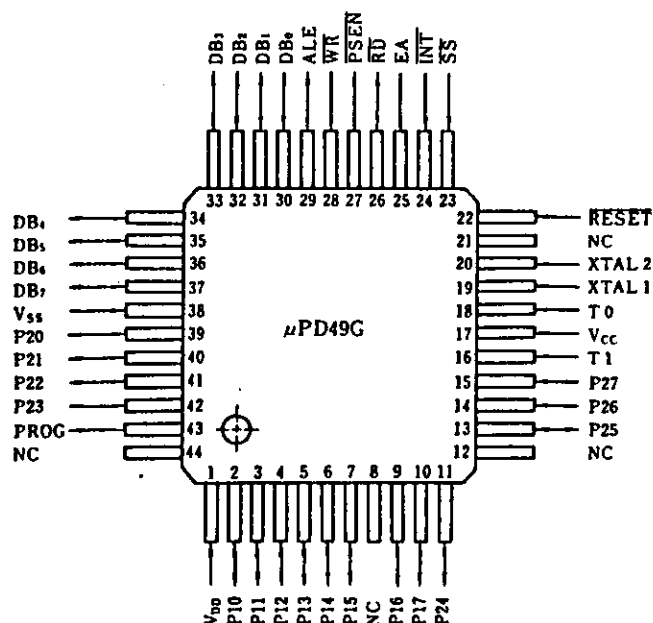
VI. CIRCUIT DESCRIPTION

A. Function of Micro-Computer (μ PD49G)

Name of terminal

Connection Diagram (Top View)

P10 - P17 : Input/Output (PORT1)
 P20 - P27 : Input/Output (PORT2)
 DB0 - DB7 : Data Bus
 T0, T1 : Test
 INT : Interrupt
 RD : Read
 WR : Write
 ALE : Address Latch Enable
 PSEN : Program Store Enable
 RESET : Reset
 SS : Single Step
 EA : External Access
 XTAL 1, 2 : Xtal (Crystal) Input
 VDD : Stand-By Control

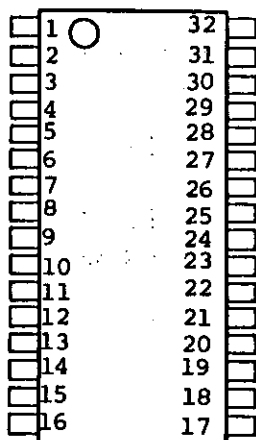


Pin No.	Name of terminals	Functions
1	VDD	5.0 V - 5.6 V
2 - 10	P10 - P17 P12(4)	S2 SW. : "ON" at Low level, "OFF" at High level
	P13(5)	Self SW. : "ON" at Low level, "OFF" at High level
	P14(6)	Mode SW. : Gray code
	P15(7)	Mode SW. : Gray code
	P16(9)	Mode SW. : Gray code
	P17(10)	Manual SW. : "ON" at Low level, "OFF" at High level
11 - 15	P24 - P27 P24(11)	LED's Anode drive : UNDER, 1, 1/15, 1/250
	P25(13)	: 8, 1/2, 1/30, 1/500
	P26(14)	: 4, 1/4, 1/60, 1/1000
	P27(15)	: 2, 1/2, 1/125, OVER
16	T1	Trigger SW. : To picture sequence, when Trigger SW. at Low level.
17	VCC	5.0 V - 5.6 V
18	T0	Winding and AF OK : Winding completion to High level, AF OK to High level
19	XTAL 1	6 MHz \pm 0.3 %
20	XTAL 2	6 MHz \pm 0.3 %
22	RESET	Micro-computer is reset condition (stop condition) at Low.

24	$\overline{\text{INT}}$	Sl SW. : "ON" at Low level, "OFF" at High level
30	DB0	CS (Chip Select) Reference : uPD7001C
31	DB1	SCK (Serial Clock)
32	DB2	Cathode of Program LED (GREEN)
33	DB3	Power lock : power hold at Low
34	DB4	Cathode side drive of Buzzer and Self LED
35	DB5	F stop magnet drive and Auto date drive, Self LED Anode side drive : F stop magnet "ON" at Low level, when DB4 at High level and DB5 at Low level Self LED goes "ON"
36	DB6	Shutter magnet drive : Shutter magnet "ON" at High
37	DB7	Combination magnet drive and Auto date drive drive : Combination magnet "ON" at Low, when DB5 and DB7 at Low. Auto date is printed.
39	P20	LED's Cathode drive : OVER, 1/1000, 1/500, 1/250
40	P21	: 1/125, 1/60, 1/30, 1/15
41	P22	: 1/8, 1/4, 1/2, 1
42	P24	: 2, 4, 8, UNDER

B. Function of Bipolar Analog IC (MSA421RS)

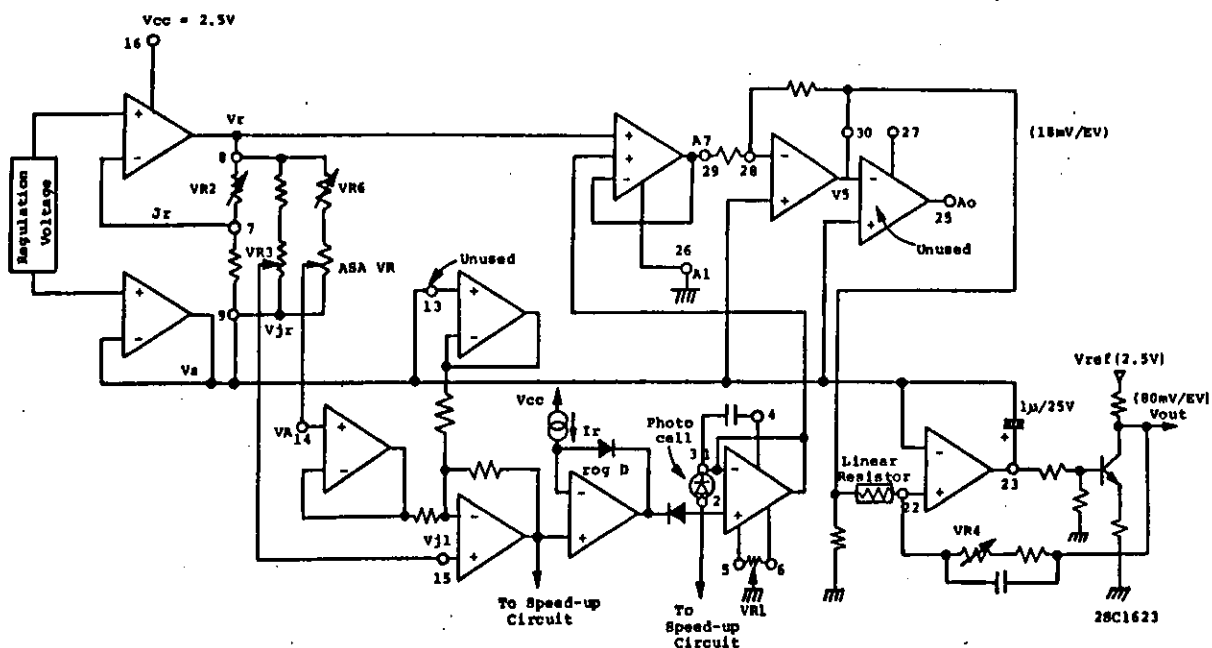
Connection Diagram (Top View)



Pin NO.	Name of terminals	Functions
1	A3-IN	MOS TOP Ope.-Amp-Input : Connection to Cathode at SPD
2	A3+IN	MOS TOP Ope.-Amp+Input : Connection to Anode at SPD
3	A3-IN	Same as Pin 1
4	A3 Comp	Phase compensational C Input

5	A3 OFF-SET ADJ	OFF- SET adjust connection for MOS TOP Ope.- Amp.
6	A3 OFF-SET ADJ	Same as Pin 5
7	Jr	Vrs Adjustment Input
8	Vr OUT	Reference Voltage (Vr) Output
9	Vs OUT	Reference Voltage (Vs) Output
10 - 12	NC	No connection
14	VA	Film speed (ASA/ISO) Input
15	VJ1	Level Adjustment Input
16	VCC	Power source + Input
18 - 20	NC	No connection
24	C2	To speed-up circuit connect
28	A5-IN	A5 Amp. Input
29	A7 OUT	A7 Amp. Output
30	A5 OUT	A5 Amp. Output
31	C2	To speed-up circuit connect
32	GND	Power source - Input

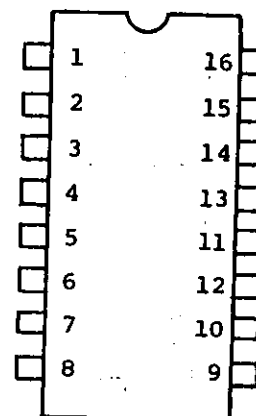
MSA421RS Equivalence Circuit



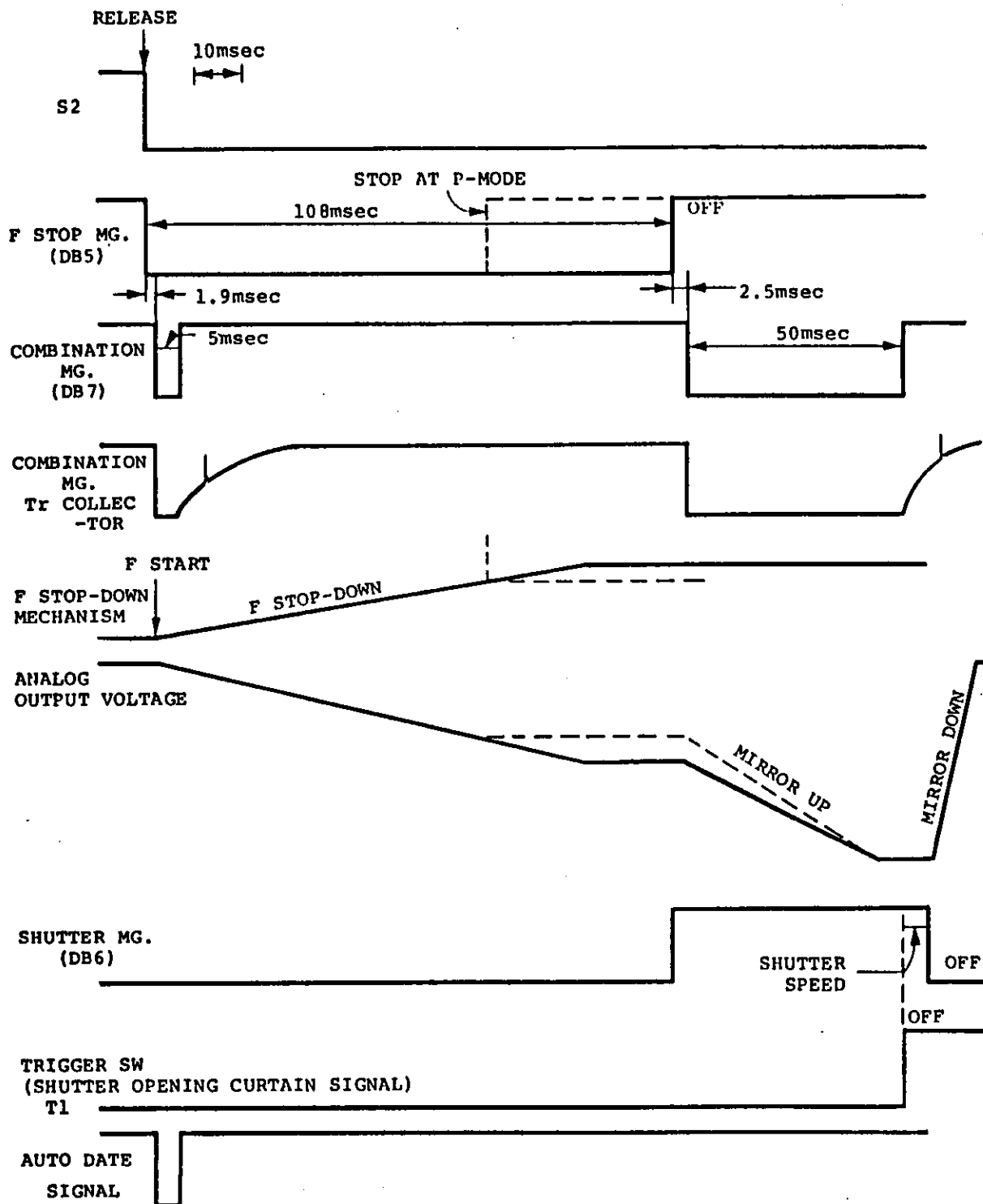
C. Function of MOS Digital IC (μ PD7001C) for A/D Converter

Pin No. Name of terminals Connection Diagram (Top View)

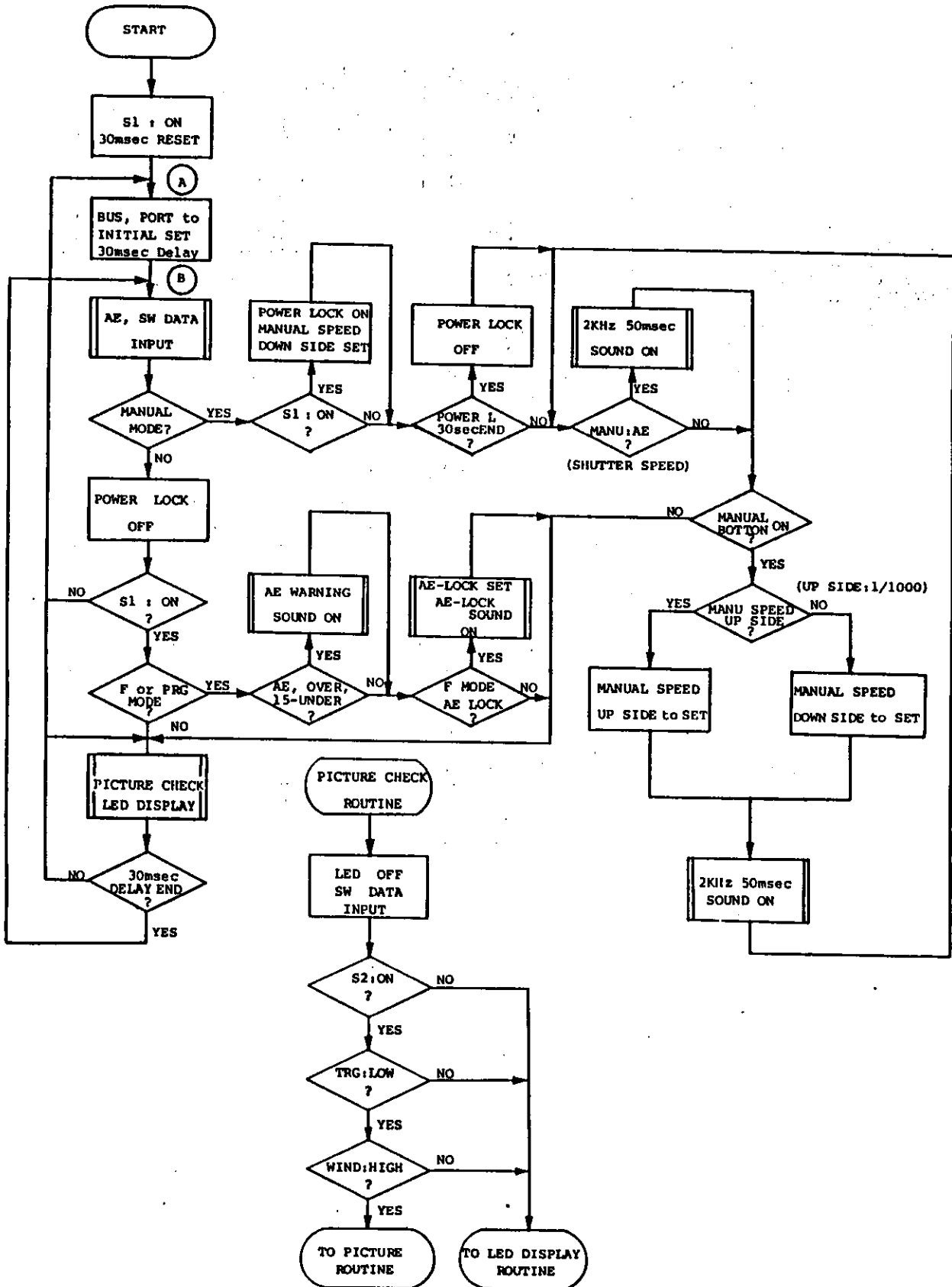
1	$\overline{\text{EOC}}$:	End of convert
2	DL	:	Date Latch
3	SI	:	Serial Input
4	$\overline{\text{SCK}}$:	Serial Clock
5	SO	:	Serial Output
6	$\overline{\text{CS}}$:	Chip Select
7	CL0	:	Clock
8	CL1	:	Clock
9	VSS	:	GND
10	A0	:	Analog Input
11	A1	:	Analog Input
12	A2	:	Analog Input
13	A3	:	Analog Input
14		:	Analog GND
15	VREF	:	Reference Voltage Input
16	VDD	:	Power source



D. Timing Chart



E. General Flow Chart



VII. EXPOSURE CONTROL

The CHINON CP-5 features Two-stage Program automatic exposure controlled system. Once the lens F stop is set to F/22 (50mm F/1.4 lens), the shutter speed and F stop are automatically calculated and controlled for the correct exposure. Most of the controlling circuit is integrated into the Micro-computer.

A. Manual Shutter Speed Confirm

Tools used: DC power source (T0-057)
Shutter speed tester (T0-064)

1. Connect the DC connector to camera and set the power supply voltage to 4.0 ± 0.2 V.
2. Check the manual shutter speed with the shutter speed tester, so that the reading becomes within nominal ± 0.3 EV without 1/1000 sec.

Shutter Speed (msec.)

EV Speed	-0.3EV	Nominal	+0.3EV
1/500	1.58	1.95	2.40
1/250	3.18	3.91	4.81
1/125	6.34	7.81	9.62
1/60	12.7	15.6	19.2
1/30	25.4	31.3	38.5
1/15	50.8	62.5	77.0
1/8	102	125	154
1/4	203	250	308
1/2	406	500	616
1	812	1000	1231
2	1625	2000	2642
4	3449	4000	4925
8	6898	8000	9850

The 1/1000 sec., so that the reading becomes within nominal ± 0.4 EV.
(-0.4 EV: 0.37 msec., nominal: 0.49 msec., +0.4 EV: 0.65 msec.)

B. Automatic Shutter Speed Adjustment

1. Connect the DC connector to camera and set the power supply voltage to 4.0 ± 0.2 V.
2. Off-set Adjustment for SPD Input-Ope.-Amp.
 - a. Connect the voltmeter to TP-1 (MSA421 Pin 1) and TP-2 (MSA421 Pin 2).
 - b. Adjust the potentiometer VR1 (100K Ω) so that the voltage of between TP-1 and TP-2 becomes as follows.
 $V(1-2) = 0 \pm 0.001$ V [with 50mm F/1.4 lens, LV = 15]

See Fig. VII-1, 2.

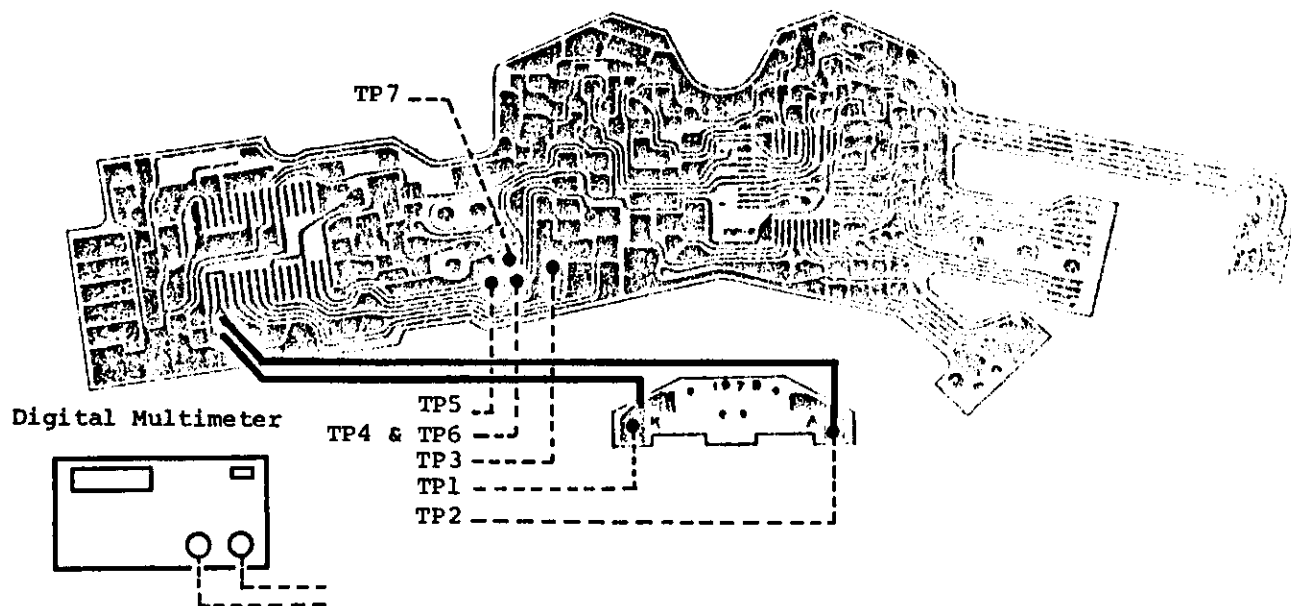


Fig. VII-1

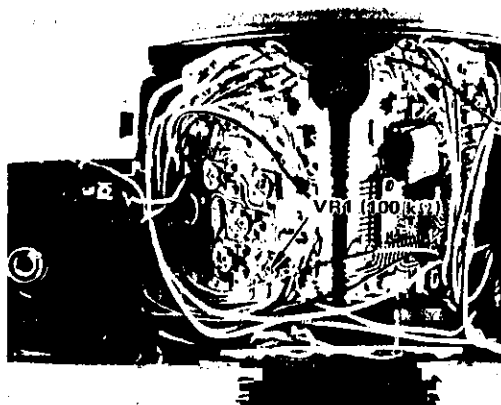


Fig. VII-2

3. Regulation Voltage (Vrs) Adjustment

- a. Connect the multimeter to TP-3 (MSA 421 Pin 8) and TP-4 (MSA421 Pin 9), and adjust the potentiometer VR2 (22KΩ) so that the voltage of between TP-3 and TP-4 becomes as follows.
 $V_{rs} = 288 \text{ mV} \pm 3.6 \text{ mV} (18 \text{ mV/EV} \times 16 \text{ steps})$
 See Fig. VII-3.

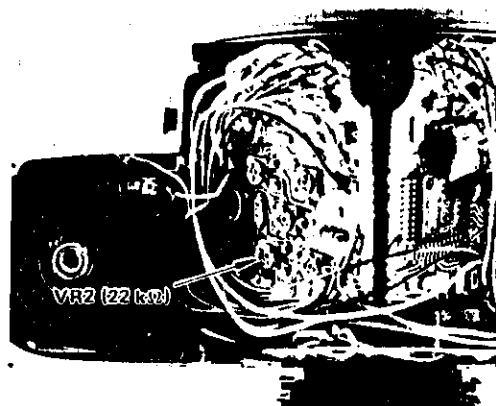


Fig. VII-3

4. Y Adjustment of ASA VR (VA)

- a. Set the ASA ring to ASA 25. Then, connect the voltmeter to TP-4 (MSA421 Pin 9) and TP-5 (MSA421 Pin 14), and adjust the potentiometer VR6 (47K Ω) finely, so that the voltage of between TP-4 and TP-5 becomes as follows.
 $VA(25) = 126 \text{ mV} \pm 3.6 \text{ mV} (18 \text{ mV/EV} \times 7 \text{ steps})$

See Fig. VII-1, 4.

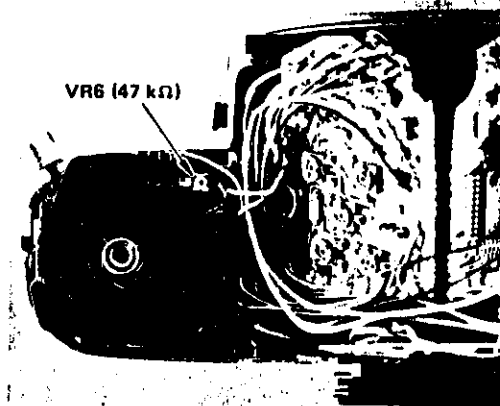


Fig. VII-4

5. Y Adjustment of F/No. VR (VF)

- a. Connect the voltmeter to TP-6 (MSA421 Pin 13) and TP-7 (MSA421 Pin 32:GND), and check the voltage at F/2.
- b. After check the voltage, turn the diaphragm ring to F/22 and adjust the potentiometer VR5 (47K Ω) so that the voltmeter reading becomes as follows.
 $VF(22) = VF(2) + 560 \text{ mV} \pm 10 \text{ mV} (80 \text{ mV/EV} \times 7 \text{ steps})$ [with 50mm F/1.4 lens]

See Fig. VII-1, 5.

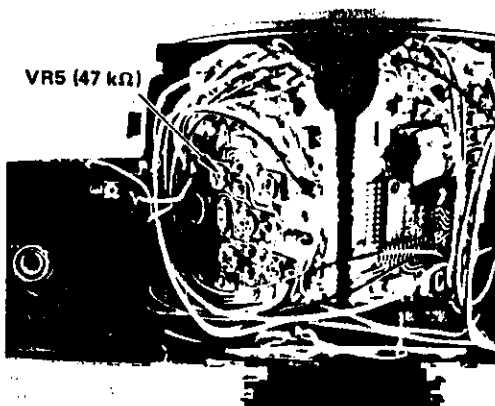


Fig. VII-5

6. A/D Compensational Adjustment (with EE camera tester)

a. Level adjustment of A/D compensator

Adjusting conditions:

Light source: LV 6 Film speed: ASA/ISO 100 F number: F/5.6

Exposure mode: Auto

Adjust the potentiometer VR3 (22K Ω) so that the filmplane exposure is within the range of nominal ± 0.15 EV. See Fig. VII-6.

Shutter Speed (msec.)

-0.15EV	0EV	+0.15EV	LED Indicator
450	500	555	1/2 sec.

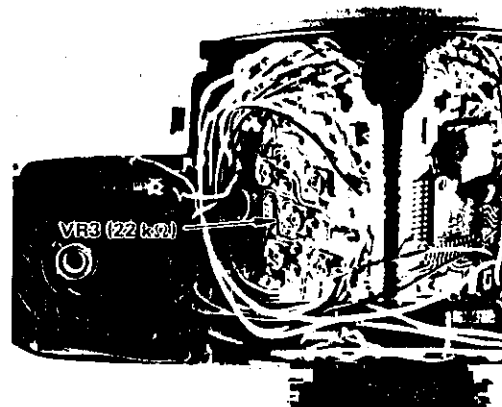


Fig. VII-6

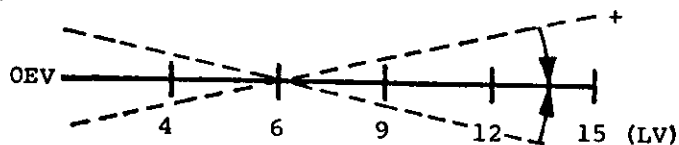
b. Y Adjustment of A/D compensator

Adjusting conditions:

Film speed: ASA/ISO 100

F number: F/5.6

Exposure mode: Auto



Check the AE at each light source of LV 15, 12, 9 and 4.

When the EV on the image is rights illustrated, it can be adjusted finely with the potentiometer VR4 (22K Ω). See Fig. VII-7

EV at each light source = within nominal ± 0.2 EV

Shutter Speed (msec.)

LV	-0.2EV	0EV	+0.2EV	LED Indicator
15	0.85	0.98	1.12	1/1000 sec.
12	6.80	7.81	8.97	1/125 sec.
9	54.4	62.5	71.8	1/15 sec.
6	435	500	574	1/2 sec.
4	1741	2000	2297	2 sec.

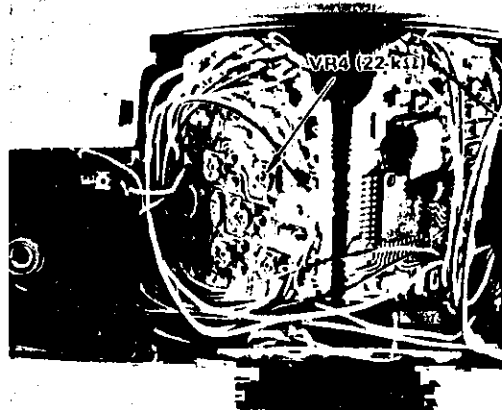
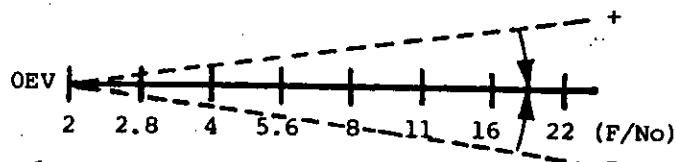


Fig. VII-7

7. F/No Compensational Confirm

Confirming conditions:

Light source: LV 9
Film speed: ASA/ISO 100
Exposure mode: Auto



Check the AE at each F number.

If the EV is not within the range of nominal ± 0.2 EV, it can be readjusted finely with potentiometer VR5 (47K Ω).

Reference: B.5

Shutter Speed (msec.)

F/No	-0.2EV	0EV	+0.2EV	LED Indicator
2	0.85	0.98	1.12	1/1000 sec.
5.6	6.80	7.81	8.97	1/125 sec.
16	54.4	62.5	71.8	1/15 sec.
22	109	125	144	1/8 sec.

This time, A/D level changes, too.

It is necessary, it can be readjusted with potentiometer VR3 (22K Ω).

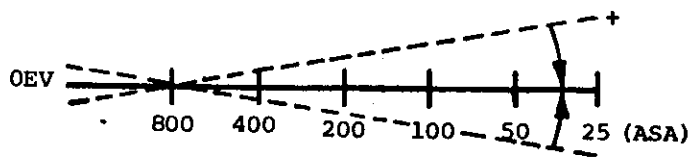
(γ is not changeable.)

Reference: B.6.a

8. ASA Compensational Confirm

Confirming conditions:

Light source: LV 9
F number: F/5.6
Exposure mode: Auto



Check the AE at each film speed.

If the EV is not within the range of nominal ± 0.2 EV, it can be readjusted finely with potentiometer VR6 (47K Ω).

Reference: B.4

This time, A/D level changes, too.

It is necessary, it can be readjusted with potentiometer VR3 (22K Ω).

Reference: B.6.a

Shutter Speed (msec.)

ASA	-0.2EV	0EV	+0.2EV	LED Indicator
800	0.85	0.98	1.12	1/1000 sec.
400	1.70	1.95	2.24	1/500 sec.
200	3.40	3.91	4.48	1/250 sec.
100	6.80	7.81	8.97	1/125 sec.
50	13.6	15.6	17.9	1/60 sec.
25	27.2	31.3	35.8	1/30 sec.

9. Final Confirmation of AE

Checking conditions:

Light source: LV 9 Film speed: ASA/ISO 100 F number: F/5.6

Exposure mode: Auto

Check the AE so that the reading becomes within nominal ± 0.15 EV.

If it is not correctly, readjust the AE level by potentiometer VR3 (22k Ω).

Reference: B.6.a

Then, change the light source, F number and film speed, confirm the AE so that the reading becomes within ± 0.3 EV in the range of interlocked operation.

If it is not correctly, repeat from procedures B.6, 7 and 8.

At ASA/ISO 100, F/5.6

LV	-0.3EV	0EV	+0.3EV	LED Indicator
15	0.79	0.98	1.20	1/1000 sec.
12	6.35	7.81	9.62	1/125 sec.
9		62.5		1/15 sec.
6	406	500	616	1/2 sec.
4	1625	2000	2462	2 sec.

At LV 9, ASA/ISO 100

F/No.	-0.3EV	0EV	+0.3EV	LED Indicator
2	6.35	7.81	9.62	1/125 sec.
4	25.4	31.3	38.5	1/30 sec.
5.6		62.5		1/15 sec.
16	406	500	616	1/2 sec.
22	812	1000	1231	1 sec.

At LV 9, F/5.6

ASA	-0.3EV	0EV	+0.3EV	LED Indicator
3200	1.59	1.95	2.40	1/500 sec.
800	6.35	7.81	9.62	1/125 sec.
400	12.7	15.6	19.2	1/60 sec.
100		62.5		1/15 sec.
25	203	250	308	1/4 sec.

C. Confirm the Program AE

Checking conditions:

F number: F/22 (with 50mm F/1.4 lens)

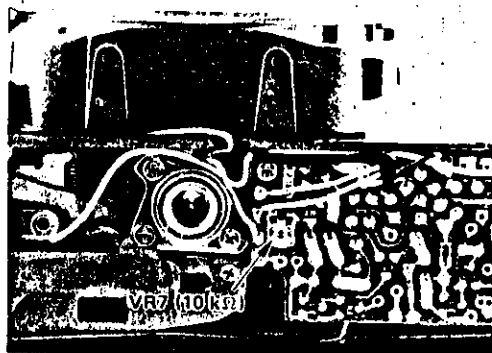
Film speed: ASA/ISO 100

Exposure mode: Program 1 and 2

Change the light source (LV 4, 6, 9, 12 and 15), confirm the AE so that the reading becomes within ± 0.5 EV in the range of interlocked operation. If it is not correctly, repeat from B.6, 7, 8 and 9.

D. Adjustment of Battery Checker Voltage

1. Set the power supply voltage to 3.0 V and the Exposure mode selector to "A" or "P".
2. Adjust the potentiometer VR7 (10K Ω) so that the shutter speed indication LED's should be turned ON/OFF within 3.0 ± 0.1 V, when the S1 is switched ON/OFF by shutter release button.
3. After adjustment, confirm that the shutter speed indication LED's goes out at power supply voltage 2.2 ± 0.1 V and switch S1 "ON".



See Fig. VII-8

Fig. VII-8

E. Light Value

LV	cd/m ²	R.LUX
4	2.24	7.0
5	4.48	14.0
6	9.95	28.0
7	17.90	56.2
8	35.81	112.5
9	71.62	225.0
10	143.24	450.0
11	286.47	900.0
12	572.95	1800.5
13	1145.90	3599.9
14	2291.79	7199.9
15	4583.59	14399.8

The table right gives cross reference of light intensity required for testing and adjusting the CHINON CP-5.

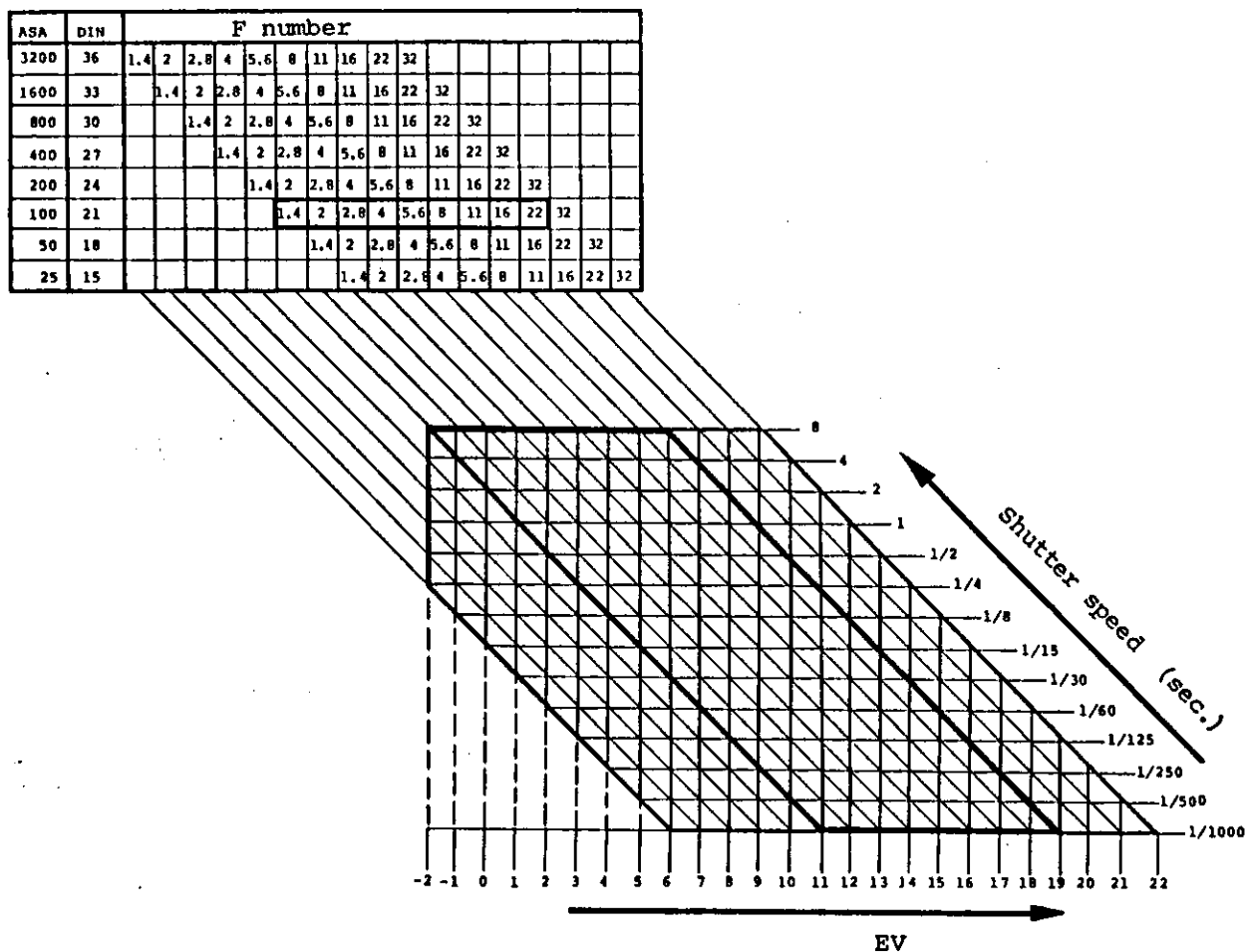
Conditions:

Film speed: ASA/ISO 100

K value: 1.3

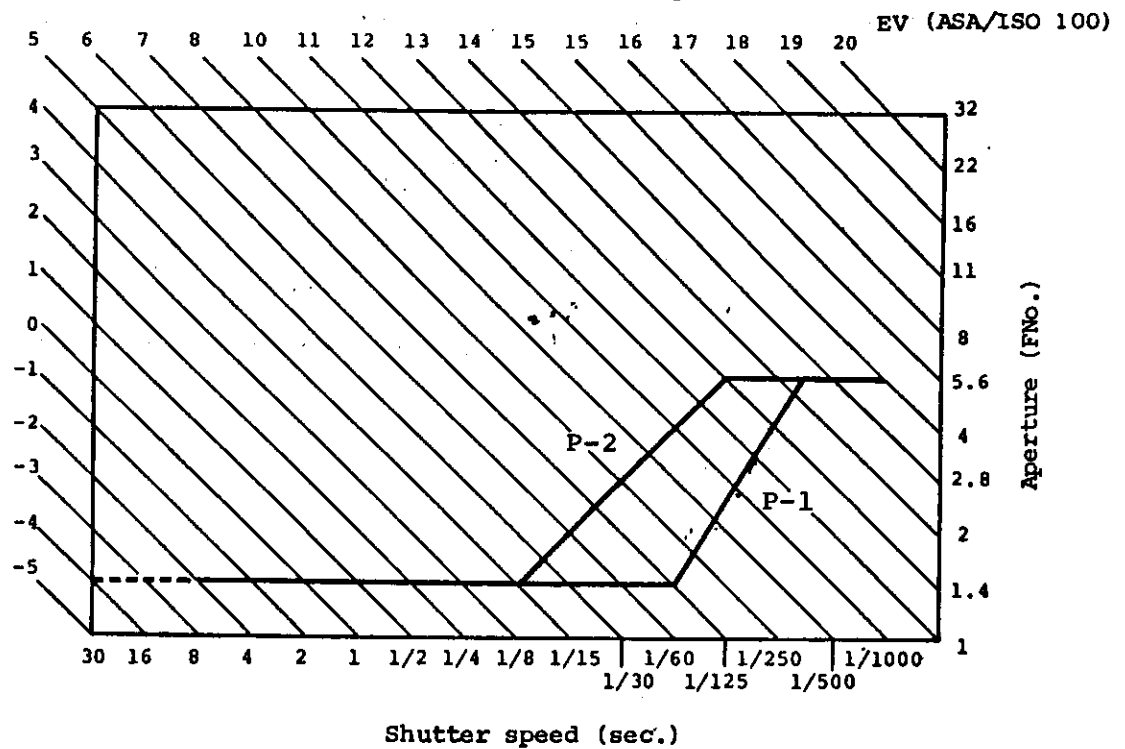
F. EV Chart

The longitudinal lines represent the values of EV; the horizontal lines, shutter speeds and the standing lines, F numbers. Each point where the three lines intersect with one another explains the relationship between the shutter speed, the EV value and the F number. The area outlined by heavy line indicates the range in which the interlocked operation is performed for measurement of the intensity of light when an F/1.4 lens is used for a film with the sensitivity of ASA/ISO 100.



G. Program Curve

Program 1 or 2 (With 50mm f/1.4 lens, its aperture set at 5.6)

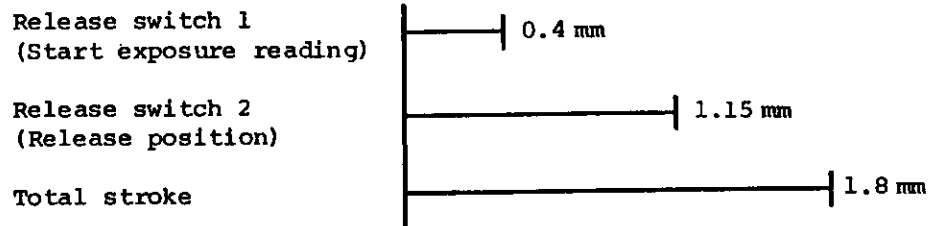


Reference: GENERAL

VIII. SHUTTER RELEASE MECHANISM

CHINON CP-5 camera is furnished with electromagnetic shutter release system. The electromagnetic shutter release, which enable us to take pictures instantly without any time lag made by long stroke of traditional cameras. Since the electromagnetic shutter release can cocked only with slight touch, we can prevent shutter blurring.

Release stroke (standard)



IX. TROUBLE SHOOTING

A. Relationship of Electricity

1. Shutter cannot be released

Description of defects	Location of defects	Cause
Metering LED does not light up, and shutter cannot be released.	P.C.Board C	Main switch contact defective.
		Release switch S1's contact defective, improper soldering.
	P.C.Board A	D/D convertor, zener diode defective.
	Flexible pattern A	Seralock (6MHz) improper soldering.
Shutter cannot be released even through metering LED light up.	Winder switch	Winder switch is not disengaged, contact defective.
	P.C.Board C	Release switch S2 contact defective, improper lead-wire soldering.
	Flexible pattern A	μPD49G 2pin improper soldering.
Metering LED goes out with S2 switch on and shutter cannot be released.	Flexible pattern A	Transistor DV4,5 (2SD596) defective, improper soldering.
	Combination Mg.	Combination Mg. defective, improper leadwire soldering and stain.

2. Metering LED does not light up, or metering LED does not correct light up

Description of defects	Location of defects	Cause
" $\frac{1}{2}$ " LED does not light up.	Flexible pattern A	Resistor 6.2KΩ contact defective, improper soldering.
"1000" LED does not light up.	Flexible pattern A	μPD49G 14, 25pin improper soldering.
"PROG." LED does not light up.	Flexible pattern A	Resistor 2KΩ of μPD49G 32 pin or LED anode side contact defective, improper soldering.
	P.C.Board C	Foil bridged.
LED continues to light up.	P.C.Board C	Release switch S1, S2 bridged.
"PROG." LED continues to light up.	P.C.Board C	M slider contact defective.

Description of defects	Location of defects	Cause
" \angle " LED continues to light up.	P.C.Board F	μ PD7001C improper soldering.
Only "OVER" LED light up.	Flexible pattern A	Resistor 10K Ω of EE output transistor (2SC1623)'s base improper soldering.
Only "UNDER" LED light up.	Flexible pattern A	MSA421RS, VR3(22K Ω), Resistor 20 K Ω , 20K Ω of MSA421RS pin7, 8, Resistor 4.7K Ω with Electrolytic capacitor 3.3 μ F/10V positive side and shield leadwire improper soldering.
	P.C.Board F	μ PD7001C improper soldering.
	P.C.Board D	SPD bad connection.
LED light up slow.	P.C.Board A	Resistor 20K Ω with Electrolytic capacitor 2.2 μ F/16V positive side improper soldering.
"PROG." LED light up at "A" mode.	P.C.Board C	M slider defective or stain.
"UNDER" LED light up at "P" mode.	Flexible pattern A	μ PD49G 31, 32pin improper soldering.
LED does not up at "M" mode.	Flexible pattern A	Resistor 47K Ω of μ PD49G 24pin improper soldering.
Self-timer LED does not light up.	P.C.Board B	Self LED , leadwire improper soldering.

3. Another electrical troubles

Description of defects	Location of defects	Cause
Program 1, Program 2 does not changes.	P.C.Board C	M slider contact defective.
Mirror box does not charges.	Winder switch	Winder switch's timing defective.
Mirror continues to go up.	Shutter	Improper leadwire soldering.

B. Relationship of Mechanism

1. Mirror box

Description of defects	Location of defects	Cause
Charging defective.	Mirror box	<ul style="list-style-type: none"> Mirror charge lever defective Closing curtain signal lever B defective.
Shutter cannot be released.	Mirror box	<ul style="list-style-type: none"> Armature lever defective or Armature lever spring disengaged. Slide plate defective or Slide plate spring disengaged. Trigger lever spring disengaged. Reset pin spring disengaged.
With shutter released, mirror does not go up.	Mirror box	<ul style="list-style-type: none"> Mirror up spring disengaged. Mirror down spring erio defective.
F stop-down defective.	Mirror box	<ul style="list-style-type: none"> Ratchet gear defective. F stop-down gear defective. F stop lever spring disengaged.

2. Another mechanical troubles

Description of defects,	Location of defects	Cause
Winding lever does not return.	Winding base plate (Lower)	Don't take off.
Counter does not return.	Counter	Counter spring caught.

SERVICE TOOLS LIST
OF
CHINON CP-5

Tool No.	Tool Name	Application
T0-001	(-)Screwdriver set (#1 - 6)	Excellent for all fine work.
T0-002	(+)Screwdriver set (#4 - 6)	
T0-003A	Screwdriver handle: Type A	Interchangeable with various bits.
T0-003B	Screwdriver handle: Type B	"
T0-004A	Screwdriver bit: Type A	For very fine work.
T0-004B	Screwdriver bit: Type B	For fine work.
T0-004C	Screwdriver bit: Type C	For very fine work with long shaft.
T0-011	Precision set	For delicate work.
T0-013	Micro nipper	
T0-015	Plier	
T0-019A	Tweezers: Type A	"AA" size for fine work.
T0-019B	Tweezers: Type B	"MM" size for very fine work.
T0-025	Blower	Safely clean lens surface.
T0-027	Injector	For oiling or glueing.
T0-028	Glue	Special glue for screws bolts.
T0-029A	Cement: Type A	For bonding the metals.
T0-029B	Cement: Type B	"
T0-032	Cement	For light intercepting
T0-050	Auto collimator (f=80 mm)	For very short focus lenses.
T0-051	Auto collimator (f=120 mm)	For short focus lenses.
T0-052	Auto collimator (f=193.5 mm)	For all lenses.
T0-053	Auto collimator (f=300 mm)	For long focus lenses.
T0-054	Auto collimator (f=500 mm)	For very long focus lenses.
T0-055	Infinity collimator	Checking or adjusting viewfinder focus.
T0-056	Lens micro-meter	Equiped with auto collimator.
T0-057	DC power source (2A)	Regulated DC power supply.
T0-058	Tester	All purpose.
T0-059	Digital multimeter	For measuring the voltage and resistance
T0-060	Mega ohm tester	For checking electric leakage.
T0-064	Shutter tester	For measuring the shutter speed.
T0-065	Multi camera tester	For measuring the exposure.
T0-066	EE tester	"
T0-067	F number tester	Measuring the difference of value against the standard F.
T2-201	Camera stand	
T2-202	Dial gauge	For checking the level of camera mount.
T2-204B	Flange back gauge: Type B	For bayonet mount.
T2-205	Mirror stand	For checking or adjusting focus and equipped with auto collimator.
T2-260	Spanner wrench	Tightening or loosening a parts of "Release button guide (1371BOC-2021A)"

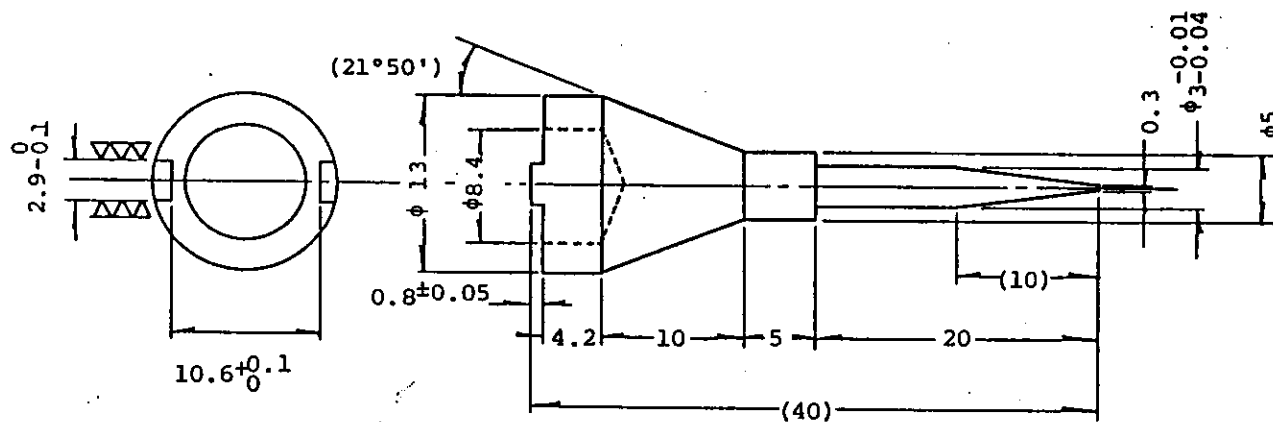
* For specifications, detailed explanation, and price of these, please refer to already distributed lists of "TOOLS & INSTRUMENTS".

Special Tools

#T2-260

Tightening or loosening a parts of "Release button guide"

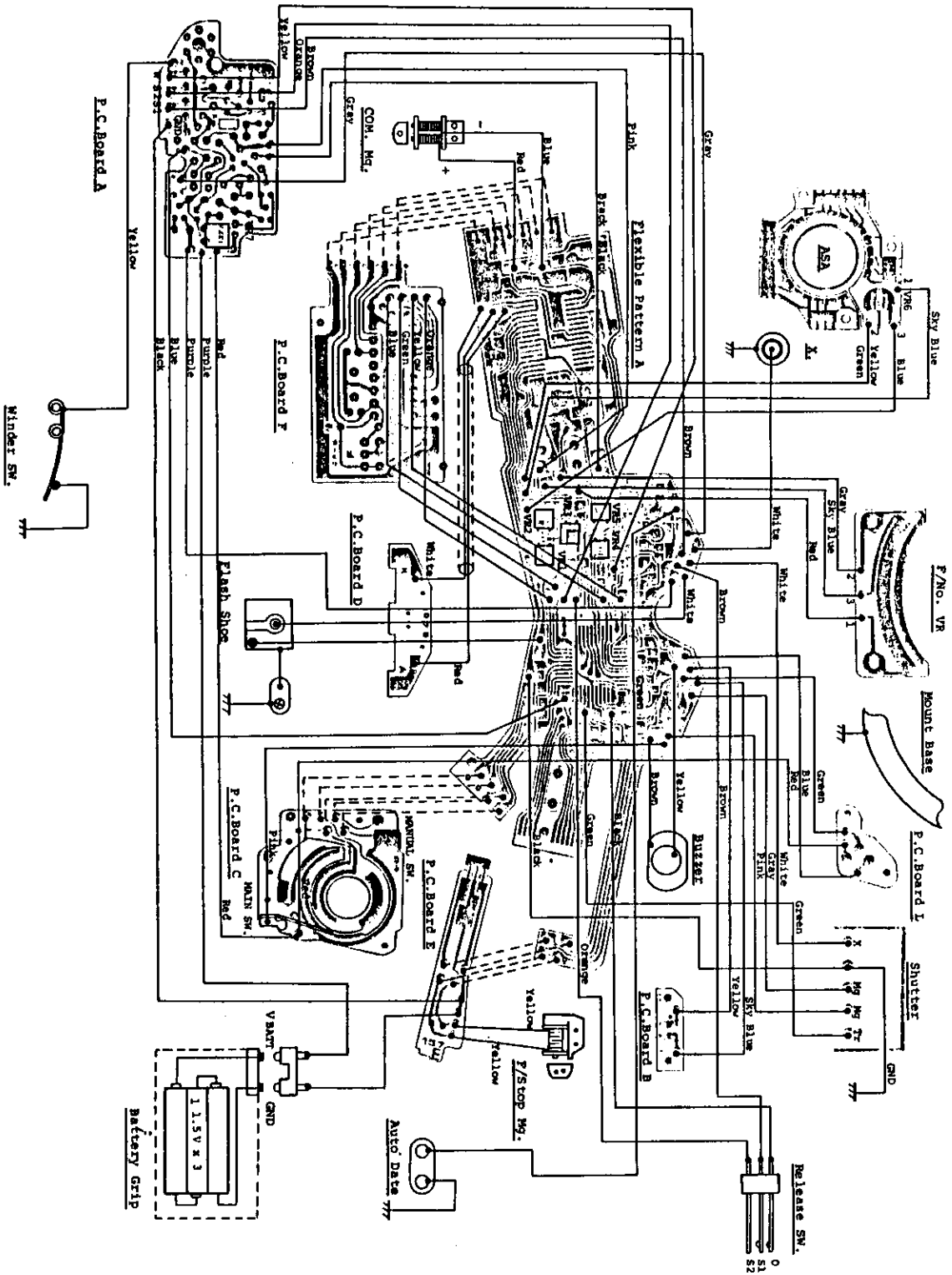
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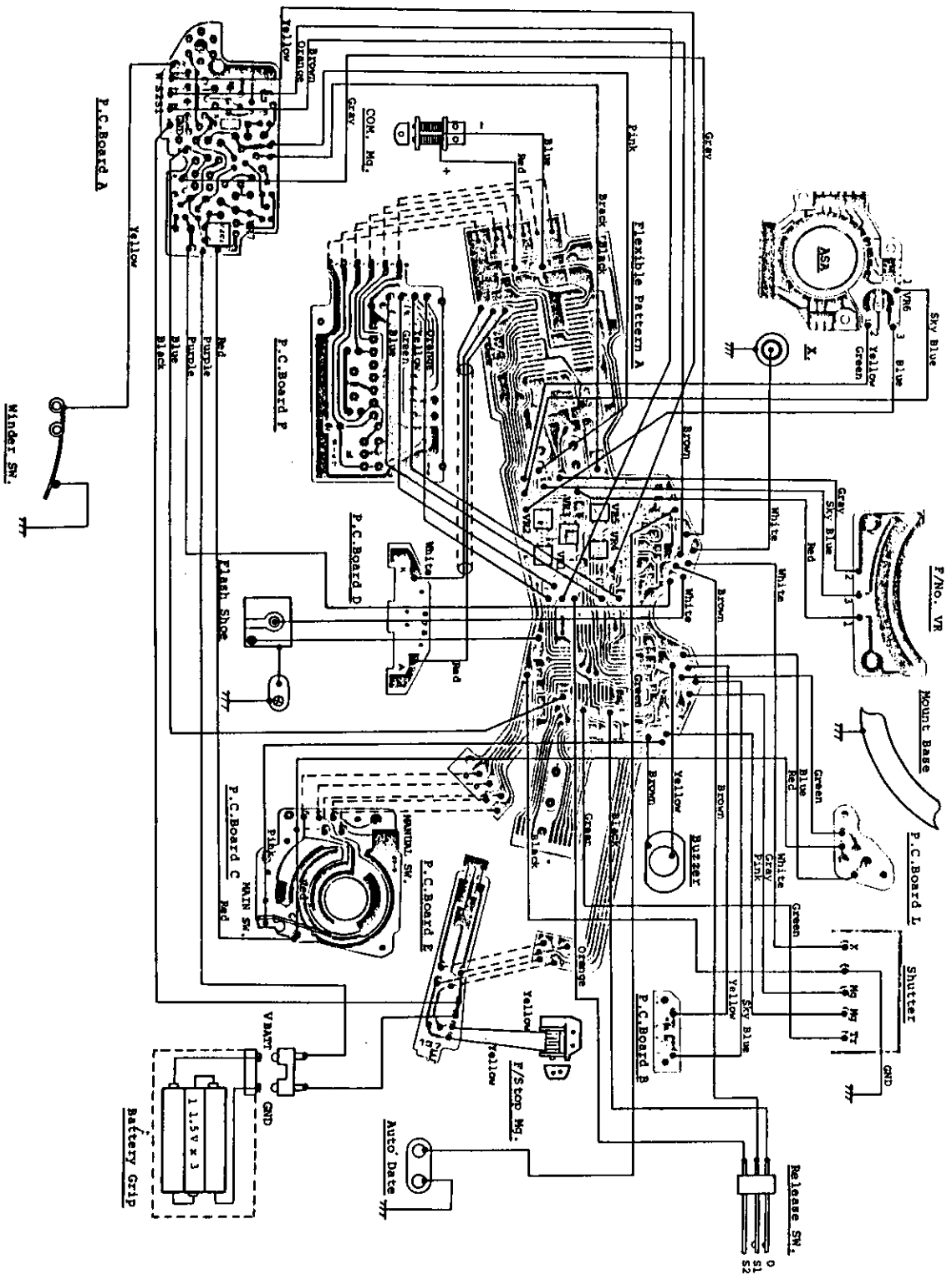
CONTENTS

	Page
SCHEMATIC DIAGRAM	2
WIRING DIAGRAM	3
FLEXIBLE PATTERN A	4
P.C.BOARD A	5
P.C.BOARD F, B & E	6

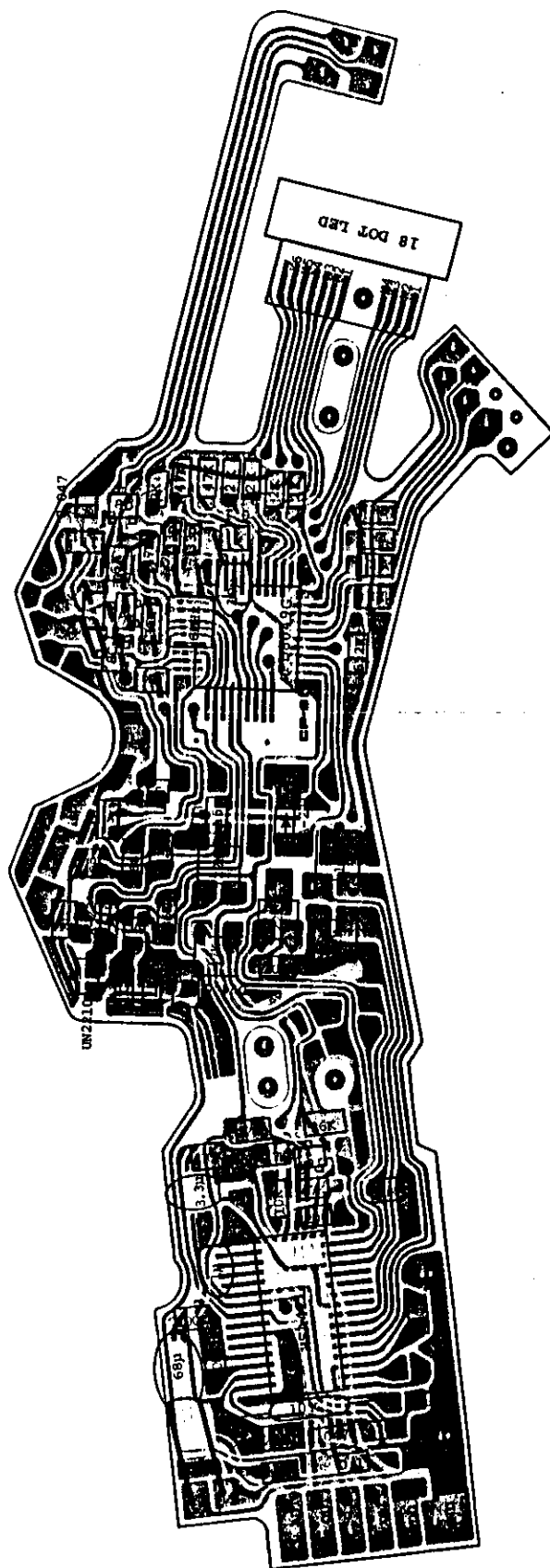
WIRING DIAGRAM FOR CHINON CP-5



WIRING DIAGRAM FOR CHINON CP-5

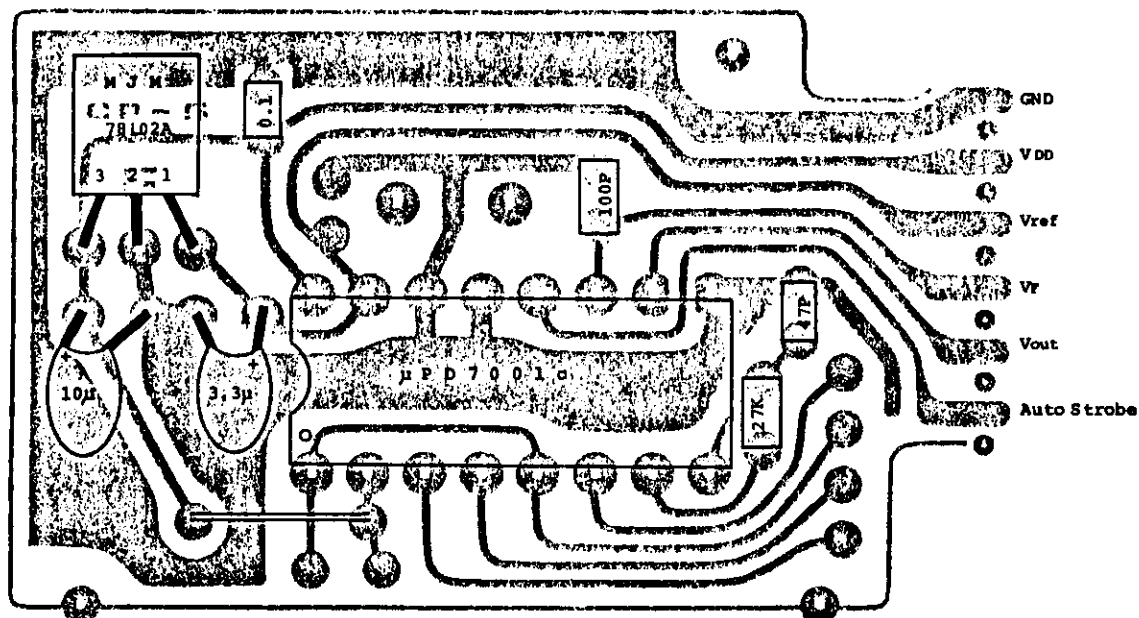


FLEXIBLE PATTERN A FOR CHINON CP-5

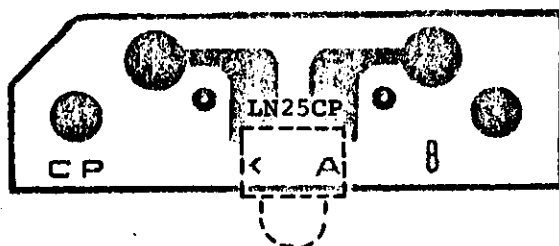


- 5 -

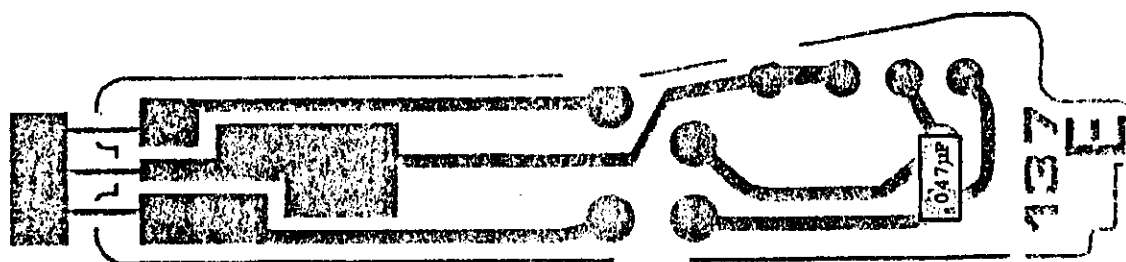
P.C.BOARD F, B & E



P.C. BOARD F



P.C. BOARD B



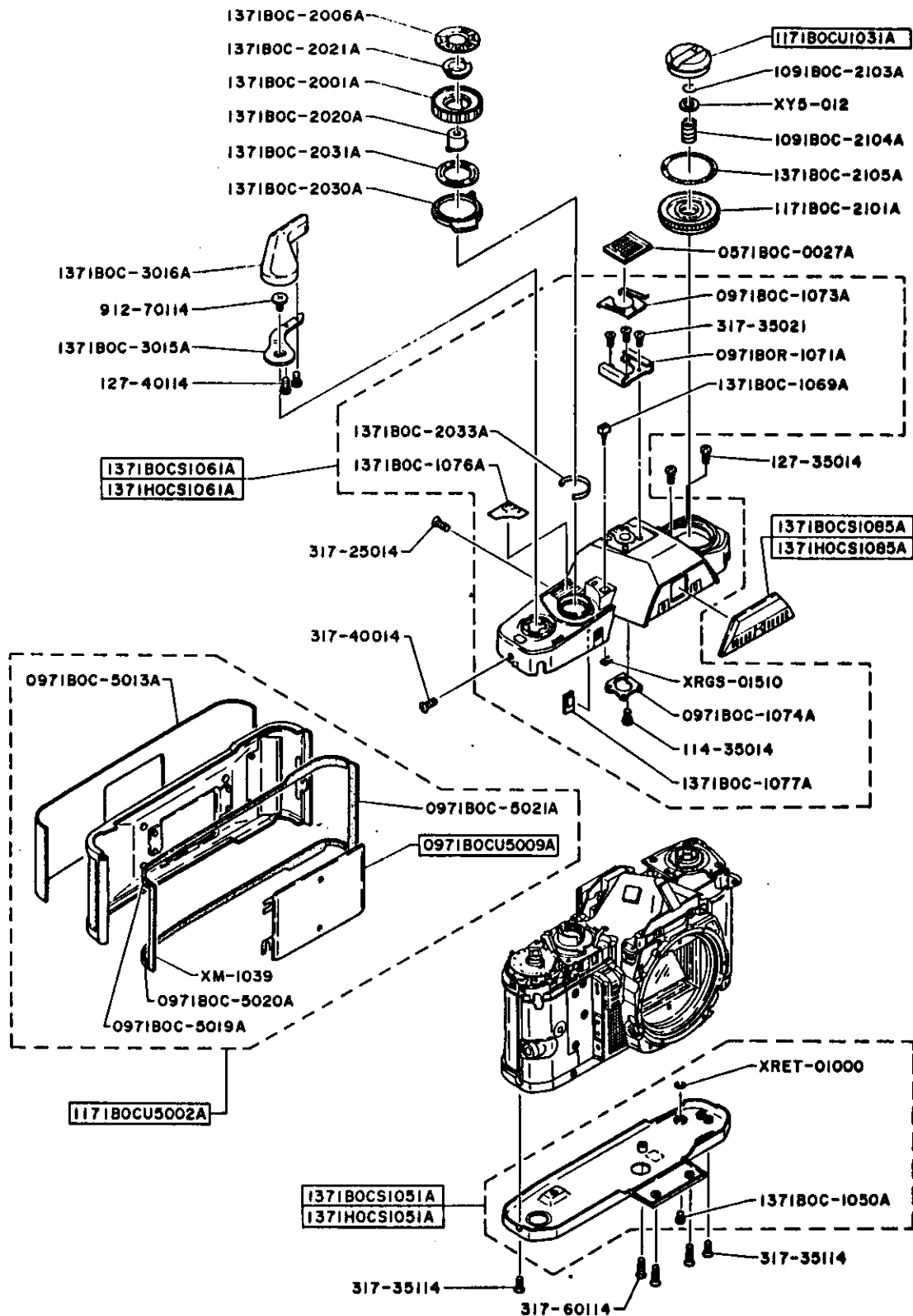
P.C. BOARD E

CONTENTS

	Page
OUTER COVERS (TOP, BOTTOM, & BACK COVERS)	1
BATTERY CASE, M DIAL BASE PLATE, & ASA BASE PLATE	2
MIRROR HOUSING DISASSEMBLY (1)	3
MIRROR HOUSING DISASSEMBLY (2)	4
MIRROR HOUSING DISASSEMBLY (3)	5
MIRROR HOUSING DISASSEMBLY (4)	6
FRESNEL LENS BOX & FLEXIBLE PATTERN A	7
SHUTTER	8
WINDING MECHANISM	9

1

EXPLODED VIEW OF CHINON CP-5 TWIN PROGRAM



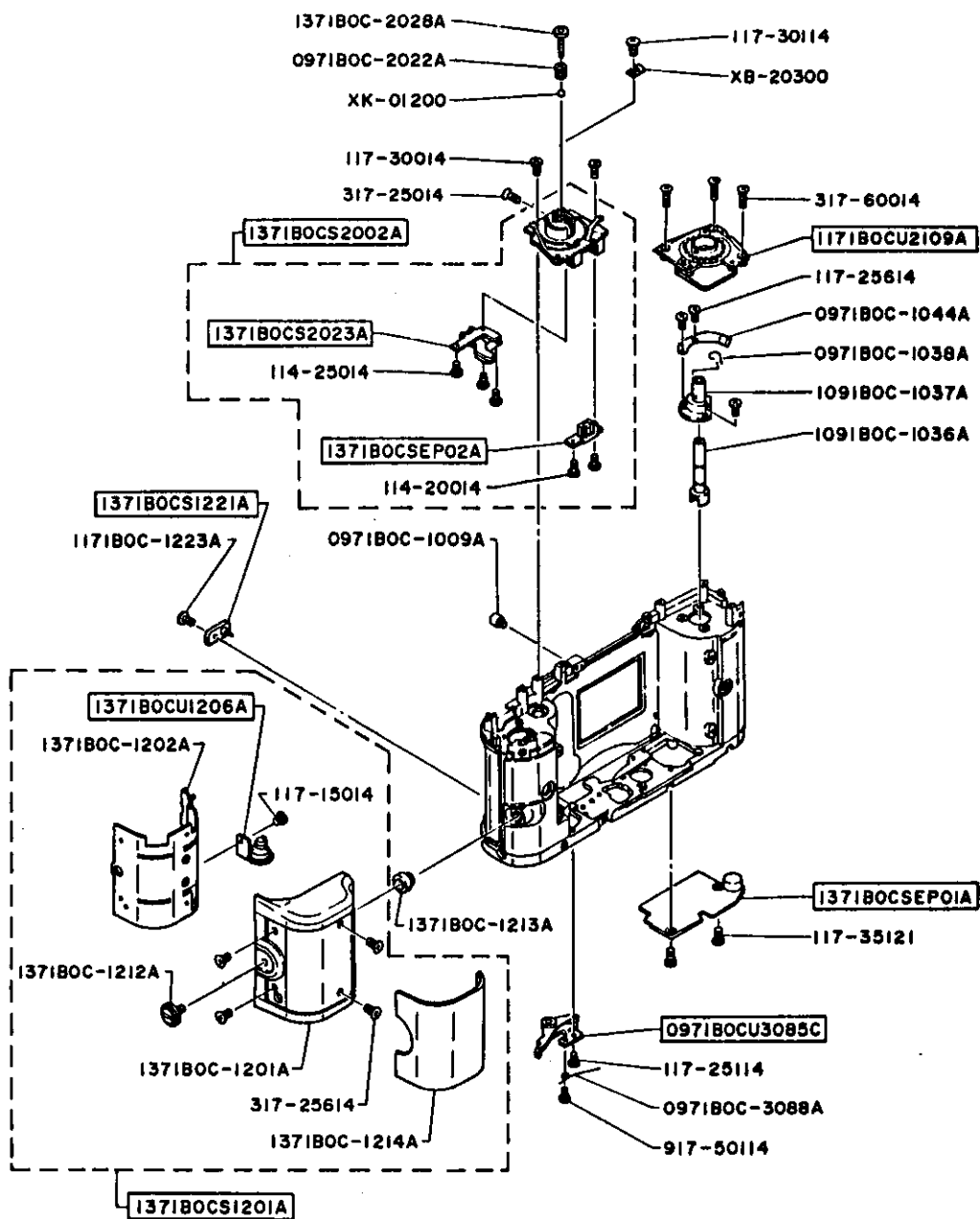
PARTS LIST

1

OUTER COVERS (TOP, BOTTOM, & BACK COVERS)

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	マキモト"シノフ" セット	D	1171BOCU1031A	1	Rewinding knob
	シタカハ"ー" セット	C	1371BOCS1051A	1	Bottom cover
	ウワカハ"ー" セット	C	1371BOCS1061A	1	Top cover
	フ"ラント"ハ"ン セット	A	1371BOCS1085A	1	Name plate
	ウラフ"タマエフ"ミ セット	C	1171BOCU5002A	1	Back cover
<hr/>					
	アッパ"ン セット	D	0971BOCU5009A	1	Pressure plate
	シューカハ"ー"	D	0571BOC-0027A	1	Hot shoe cover
	テ"ンケ"ンセツデン	D	1371BOC-1050A	1	Power contact
	Mボ"タン	D	1371BOC-1069A	1	M button
	ACシュー	D	0971BOR-1071A	1	Hot shoe
<hr/>					
	シューハ"ネ	D	0971BOC-1073A	1	Hot shoe spring
	シュートリツクサ"	D	0971BOC-1074A	1	Hot shoe mount base
	Pモード"メイハ"ン	D	1371BOC-1076A	1	P-Mode trim plate
	セルフLEDマ"ト	D	1371BOC-1077A	1	Self LED window
	Mタ"イタル	D	1371BOC-2001A	1	M dial
<hr/>					
	Mメイハ"ン	A	1371BOC-2006A	1	M trim plate
	リリース"ボ"タン	D	1371BOC-2020A	1	Release button
	リリース"ボ"タンカ"イト"	D	1371BOC-2021A	1	Release button guide
	Pレハ"ー	D	1371BOC-2030A	1	P lever
	Pレハ"ーボシ"ヨイタ	D	1371BOC-2031A	1	P lever subsidiary plate
<hr/>					
	Pクリックハ"ネ	D	1371BOC-2033A	1	P click spring
	ASAタ"イタル	C	1171BOC-2101A	1	ASA dial
	ASAリング"	B	1091BOC-2103A	1	ASA ring
	ASASP	B	1091BOC-2104A	1	Spring
	ASAタ"イタルメイハ"ン	D	1371BOC-2105A	1	ASA dial trim plate
<hr/>					
	マキアケ"レハ"ー	D	1371BOC-3015A	1	Advance lever
	マキアケ"カハ"ー	C	1371BOC-3016A	1	Advance lever cover
	ウラフ"タレサ"ー	D	0971BOC-5013A	1	Back cover leather
	ウラフ"タハ"ッキンウエ	D	0971BOC-5019A	1	Sponge
	ウラフ"タハ"ッキンシタ	D	0971BOC-5020A	1	Sponge
<hr/>					
	ウラフ"タテレンフ"	D	0971BOC-5021A	1	Ribbon
	ウラフ"タシヤコウハ"ッキン 097	XM-1039		1	Sponge
	Eリング" 1.0	XRET-01000		1	E ring
	GSリング" 15	XRGS-01510		1	GS ring
	5.45X8.0-0.4 ASAワッシャ	XY5-012		1	Washer
<hr/>					
	PHK1.4X3.5-2.5X0.5	114-35014		1	Screw
	THK1.7X3.5-2.5X0.5	127-35014		2	Screw
	THK1.7X4.0-3.0X0.6	127-40114		2	Screw
	PSK1.7X2.5-2.5X0.5	317-25014		1	Screw
	PSK1.7X3.5-2.5X0.5	317-35021		3	Screw
<hr/>					
	PSK1.7X3.5-3.0X0.6	317-35114		2	Screw
	PSK1.7X4.0-2.5X0.5	317-40014		1	Screw
	PSK1.7X6.0-3.0X0.5	317-60114		3	Screw
	PDK2.0X3.5-5.4X1.0-	912-70114		1	Screw
<hr/>					
The following parts are used exclusively for CHINON CP-5 SILVER.					
<hr/>					
	シタカハ"ー" セット	C	1371H0CS1051A	1	Bottom cover
	ウワカハ"ー" セット	C	1371H0CS1061A	1	Top cover
	フ"ラント"ハ"ン セット	A	1371H0CS1085A	1	Name plate

EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



PARTS LIST

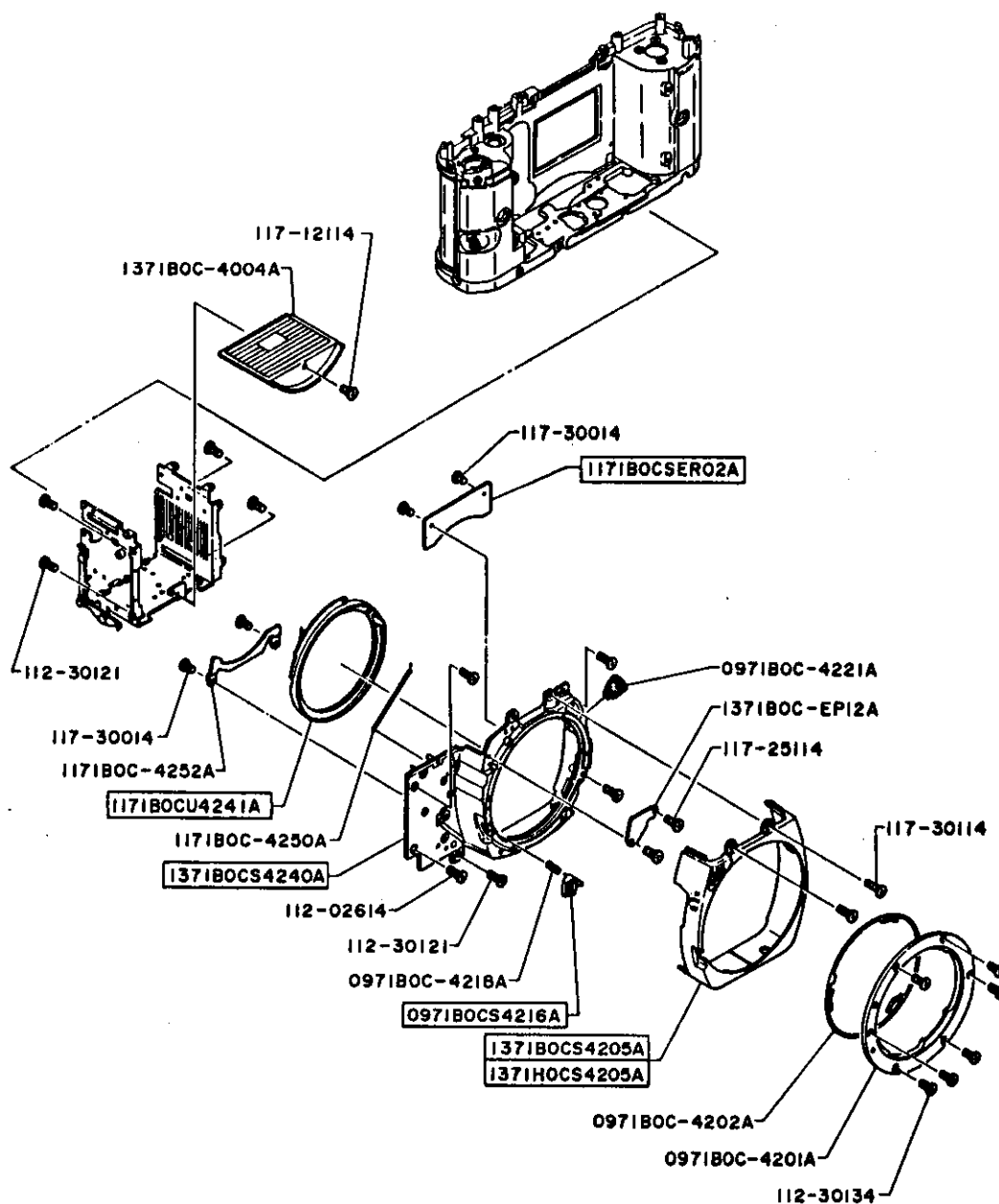
2

BATTERY CASE, M DIAL BASE PLATE, & ASA BASE PLATE

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	テンチケース セット	D	1371B0CS1201A	1	Battery case
	ホンタイセッテンウケ セット	D	1371B0CS1221A	1	Direct contact
	Mダ イヤルキハ ン セット	D	1371B0CS2002A	1	M dial base plate
	ASAキハ ン セット	D	1171B0CU2109A	1	ASA base plate
	リリース SW セット	D	1371B0CS2023A	1	Release switch
<hr/>					
	クイシレハ ー セット	D	0971B0CU3085C	1	Stop lever
	フ リントキハ ンA セット	D	1371B0CSEP01A	1	P.C.Board A
	フ リントキハ ンB セット	D	1371B0CSEP02A	1	P.C.Board B
	フィルムカ イト ヒ ン	D	0971B0C-1009A	1	Screw
	マキモト シシ フ	D	1091B0C-1036A	1	Rewinding shaft
<hr/>					
	マキモト シサ	D	1091B0C-1037A	1	Rewinding shaft base
	マキモト シSP	D	0971B0C-1038A	1	Spring
	カイハイバ ン	D	0971B0C-1044A	1	Door latch spring
	テンチケース	C	1371B0C-1201A	1	Battery case
	テンチケースカハ ー	D	1371B0C-1202A	1	Battery case cover
<hr/>					
	テンチセッハ ンD	D	1371B0C-1206A	1	Battery contact D
	テンチセッテンSP	D	1371B0C-1208A	3	Battery contact spring
	テンチケーストリツクネシ	D	1371B0C-1212A	1	Screw
	テンチケーストリツクナット	D	1371B0C-1213A	1	Nut
	テンチケースレザー ー	B	1371B0C-1214A	1	Battery case leather
<hr/>					
	ホンタイセッテンB	D	1171B0C-1223A	1	Direct contact B
	リリース シ フSP	D	0971B0C-2022A	1	Spring
	リリース シ フ	D	1371B0C-2028A	1	Release shaft
	クイシレハ ーSP	D	0971B0C-3088A	1	Spring
	リート センホルダ ーC		XB-20300	1	Lug plate
<hr/>					
	スチールボ ール 1.2		XK-01200	1	Steel ball
	PHK1.4X2.0-2.5X0.5		114-20014	2	Screw
	PHK1.4X2.5-2.5X0.5		114-25014	3	Screw
	PHK1.7X1.5-2.5X0.5		117-15014	1	Screw
	PHK1.7X2.5-3.0X0.6		117-25114	1	Screw
<hr/>					
	PHK1.7X2.5-3.0X0.9		117-25614	3	Screw
	PHK1.7X3.0-2.5X0.5		117-30014	2	Screw
	PHK1.7X3.0-3.0X0.6		117-30114	1	Screw
	PHK1.7X3.5-3.0X0.6		117-35114	2	Screw
	PSK1.7X2.5-2.5X0.5		317-25014	1	Screw
<hr/>					
	PSK1.7X2.5-3.0X0.8		317-25614	4	Screw
	PSK1.7X6.0-2.5X0.5		317-60014	3	Screw
	POK1.7X2.5-2.4X0.8		917-50114	1	Screw
<hr/>					

3

EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



PARTS LIST

3

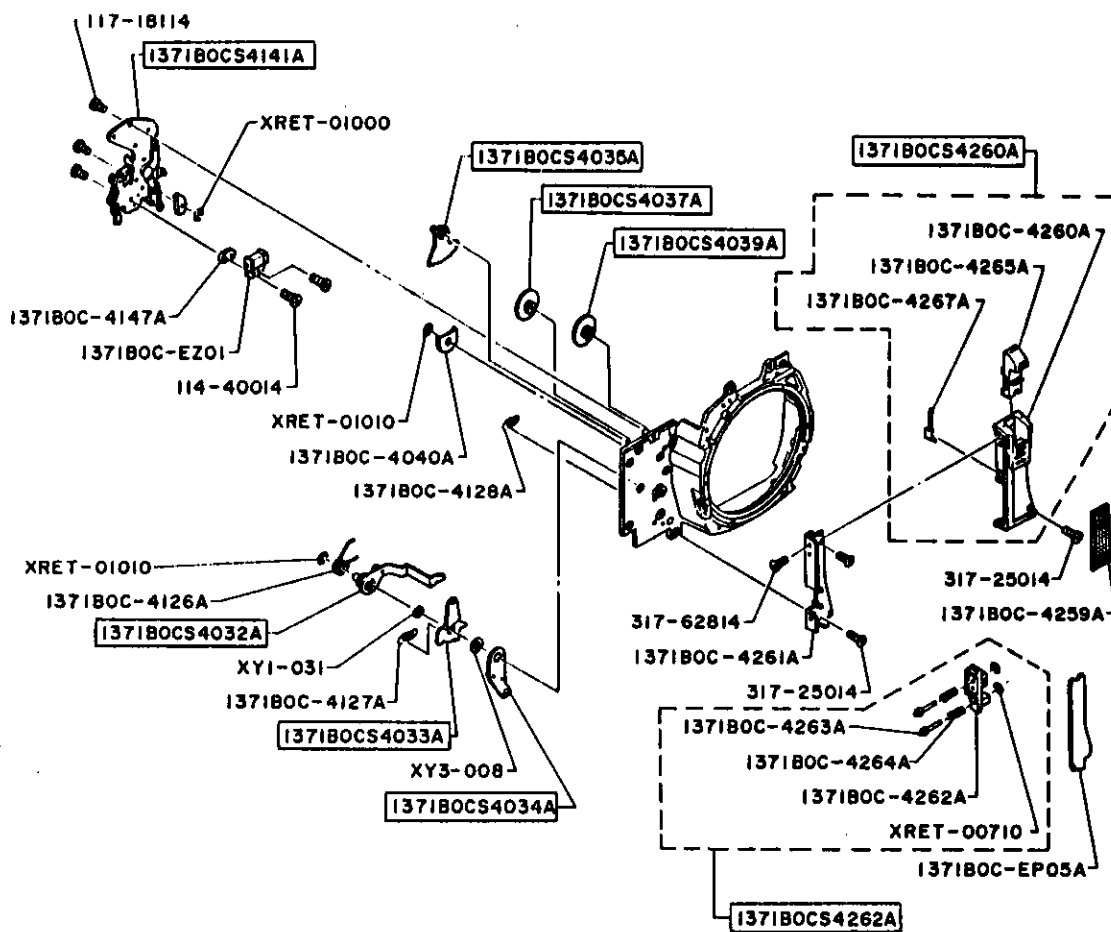
MIRROR HOUSING DISASSEMBLY (1)

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	ミラーボックス セット	C	1371B0CS4001A	1	Mirror housing
	マウントベース セット	G D	1371B0CS4240A	1	Mount base
	Fチレントウリング セット	C	1171B0CS4241A	1	F/No. information ring
	マウントロックピンウケ セット	D	0971B0CS4216A	1	Mount lock pin
	Fエレメント セット	D	1171B0CSER02A	1	F element
<hr/>					
	ハネネットマウント	D	0971B0C-4201A	1	Bayonet mount
	マウントハネ	D	0971B0C-4202A	1	Mount spring
	ロックピンSP	D	0971B0C-4218A	1	Spring
	シンクロプラグ	D	0971B0C-4221A	1	"X" contact plug
	FチSP	D	1171B0C-4250A	1	Spring
<hr/>					
	Fチレントウリング オサエ	D	1171B0C-4252A	1	Ring holder
	プリント基板	D	1371B0C-EP12A	1	P.C.Board L
	PHK2.0X3.0-3.0X0.7		112-02614	4	Screw
	PHK2.0X3.0-3.0X0.6		112-30121	5	Screw
	PHK2.0X3.0-3.0X0.6		112-30134	5	Screw
<hr/>					
	PHK1.7X1.2-3.0X0.5		117-12114	1	Screw
	PHK1.7X2.5-3.0X0.6		117-25114	2	Screw
	PHK1.7X3.0-2.5X0.5		117-30014	4	Screw
	PHK1.7X3.0-3.0X0.6		117-30114	6	Screw
<hr/>					
Mirror housing(1371B0CS4001A) is composed of parts shown on page 3, 4, 5, and 6 without following parts.					
	マイカハネ セット	C	1371B0CS4205A	1	Front cover
	マイカハネ セット	C	* 1371H0CS4205A	1	Front cover
	ミラーボックスD	D	1371B0C-4004A	1	Mirror box D

* marking : For the exclusive use of CHINON CP-5 SILVER.

4

EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



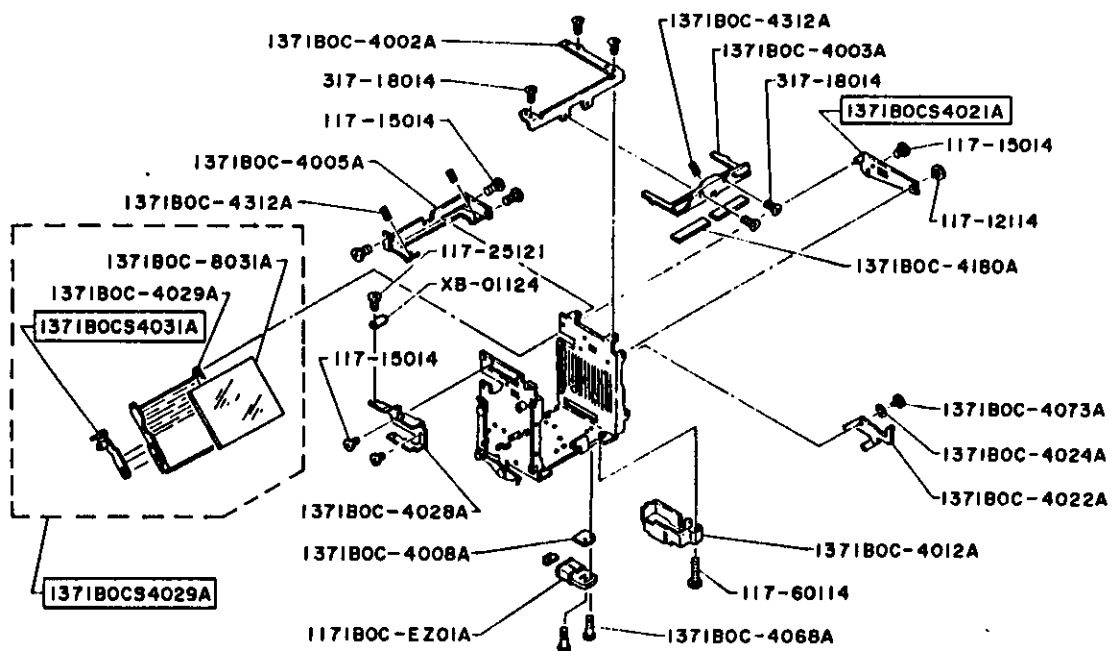
PARTS LIST

4

MIRROR HOUSING DISASSEMBLY (2)

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	シボ" リコミレハ" -A セット	G D	1371B0CS4032A	1	Stop-down lever A
	シボ" リコミレハ" -B セット	G D	1371B0CS4033A	1	Stop-down lever B
	シボ" リコミレハ" -B セット	G D	1371B0CS4034A	1	Stop-down lever C
	シボ" リコミキ" 1A セット	G D	1371B0CS4035A	1	Stop-down gear A
	シボ" リコミキ" 1C セット	G D	1371B0CS4037A	1	Stop-down gear C
	シボ" リラチェット セット	G D	1371B0CS4039A	1	Stop-down ratchet
	シボ" リコミキハ" ン セット	G D	1371B0CS4141A	1	Stop-down base plate
	シボ" リコミキ" 1ツメ	D	1371B0C-4040A	1	Stop-down gear claw
	シボ" リコミレハ" -ASP	D	1371B0C-4126A	1	Spring
	シボ" リコミレハ" -BSP	D	1371B0C-4127A	1	Spring
	シボ" リアーマチャーリセットSP	D	1371B0C-4128A	1	Spring
	シボ" リマク" ネットダ" イ	D	1371B0C-4147A	1	Magnet pedestal
	シボ" リストッ7" MG	D	1371B0C-EZ01A	1	Magnet
	Eリング" 1.0		XRET-01000	1	E ring
	Eリング" 1.0		XRET-01010	1	E ring
	HW1.7X4.0-0.4	XY1-031		1	Washer
	ワッシャー 3.2X5.0-0.4	XY3-008		1	Washer
	PHK1.4X4.0-2.5X0.5	114-40014		2	Screw
	PHK1.7X1.8-3.0X0.6	117-18114		3	Screw
Mirror housing is composed of parts shown on page 3, 4, 5, and 6 without following parts.					
	マエカサ" リイタ セット	D	1371B0CS4260A	1	Front decoration plate
	デ" ンチセッテンウケ セット	D	1371B0CS4262A	1	Power contact holder
	マエカサ" リイタレサ" -	C	1371B0C-4259A	1	Leather
	マエカサ" リイタ	D	1371B0C-4260A	1	Front decoration plate
	マエカサ" リキハ" ン	D	1371B0C-4261A	1	Front decoration base plate
	デ" ンチセッテンウケ	D	1371B0C-4262A	1	Power contact holder
	デ" ンチセッテン	D	1371B0C-4263A	2	Power contact
	デ" ンチセッテンウケSP	D	1371B0C-4264A	2	Spring
	セルフレハ" -	D	1371B0C-4265A	1	Self lever
	セルフクリックハ" ネ	D	1371B0C-4267A	1	Self click spring
	7" リントキハ" ンE	D	1371B0C-EP05A	1	P.C.Board E
	Eリング" 0.7		XRET-00710	2	E ring
	PSK1.7X2.5-2.5X0.5		317-25014	3	Screw
	PSK1.7X6.2-2.5X0.5		317-62814	1	Screw

EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



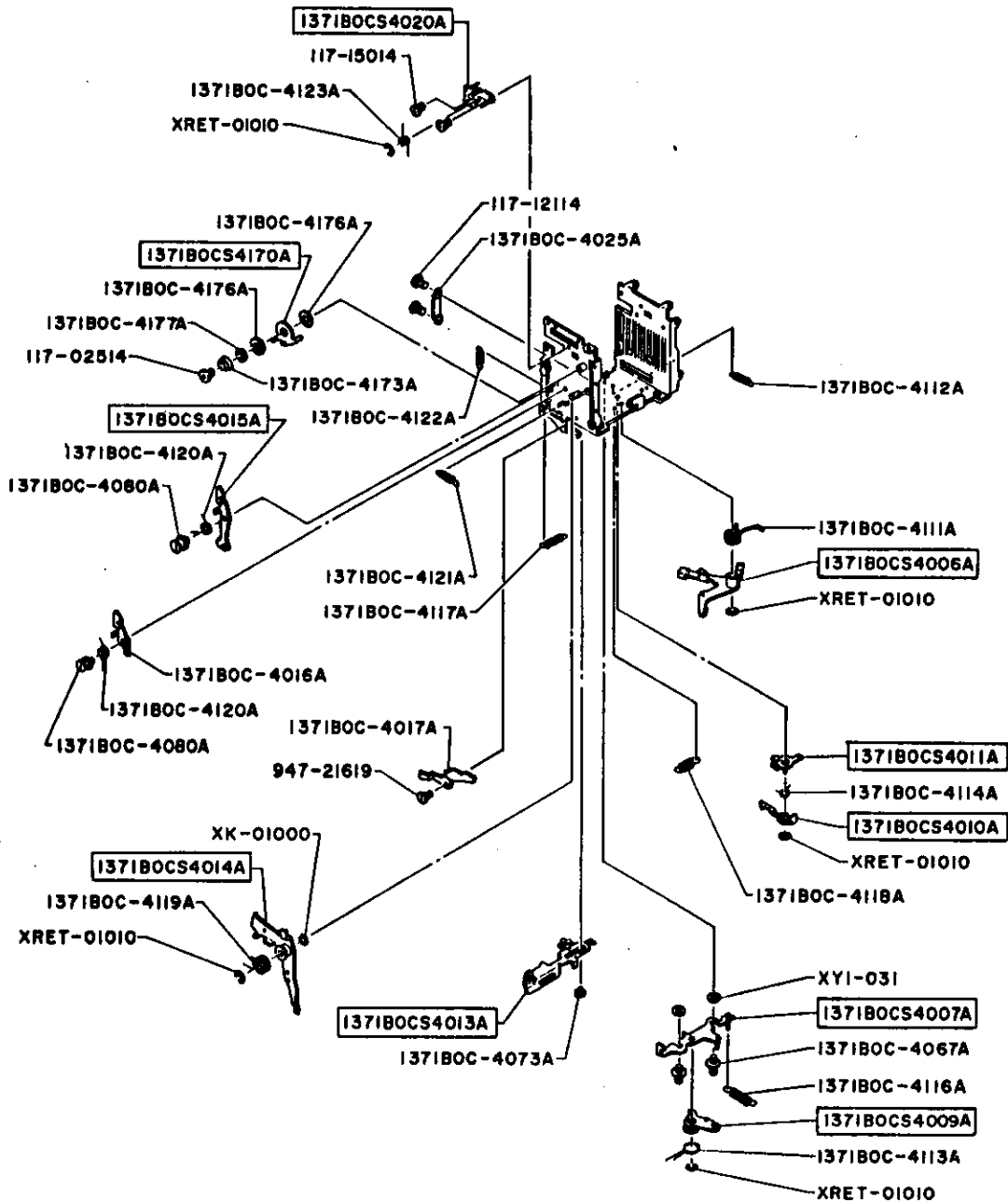
PARTS LIST

5

MIRROR HOUSING DISASSEMBLY (3)

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	ミラーシマ"ハ"ンB セット	G D	1371B0CS4021A	1	Mirror frame supporter B
	メインミラーワウ セット	G D	1371B0CS4029A	1	Main mirror frame
	ミラーホシ"ヨウワ" セット	G D	1371B0CS4031A	1	Mirror subsidiary frame
	ミラーホ"ツクスB	D	1371B0C-4002A	1	Mirror box B
	ミラーホ"ツクスC	D	1371B0C-4003A	1	Mirror box C
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	ミラーホ"ツクスE	D	1371B0C-4005A	1	Mirror box E
	マウ"ネットタ"イ	D	1371B0C-4008A	1	Magnet pedestal
	マウ"ネットカハ"ー	D	1371B0C-4012A	1	Magnet cover
	メインミラーウケ	D	1371B0C-4022A	1	Main mirror holder
	ミラーウケHW	D	1371B0C-4024A	1	Washer
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	LEDキハ"ン	D	1371B0C-4028A	1	LED base plate bracket
	メインミラーワウ	D	1371B0C-4029A	1	Main mirror frame
	マウ"ネットヨウネシ"	D	1371B0C-4068A	1	Screw
	スライト"フ"レートガ"イト" A	D	1371B0C-4073A	1	Slide plate guide A
	ミラーホ"ツクスハ"ツキンマI	D	1371B0C-4180A	2	Sponge
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	ヒ"ントチヨウセイヒ"ス	D	1371B0C-4312A	3	Adjustment screw
	メインミラー	D	1371B0C-8031A	1	Main mirror
	コンビ"ネーションマウ"ネット	D	1171B0C-EZ01A	1	Combination magnet
	ラウ"ハ"ンタンシ		XB-01124	1	Lug plate
	PHK1.7X1.2-3.0X0.5		117-12114	1	Screw
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	PHK1.7X1.5-2.5X0.5		117-15014	7	Screw
	PHK1.7X6.0-3.0X0.5		117-60114	1	Screw
	PSK1.7X1.8-2.5X0.5		317-18014	5	Screw

EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



PARTS LIST

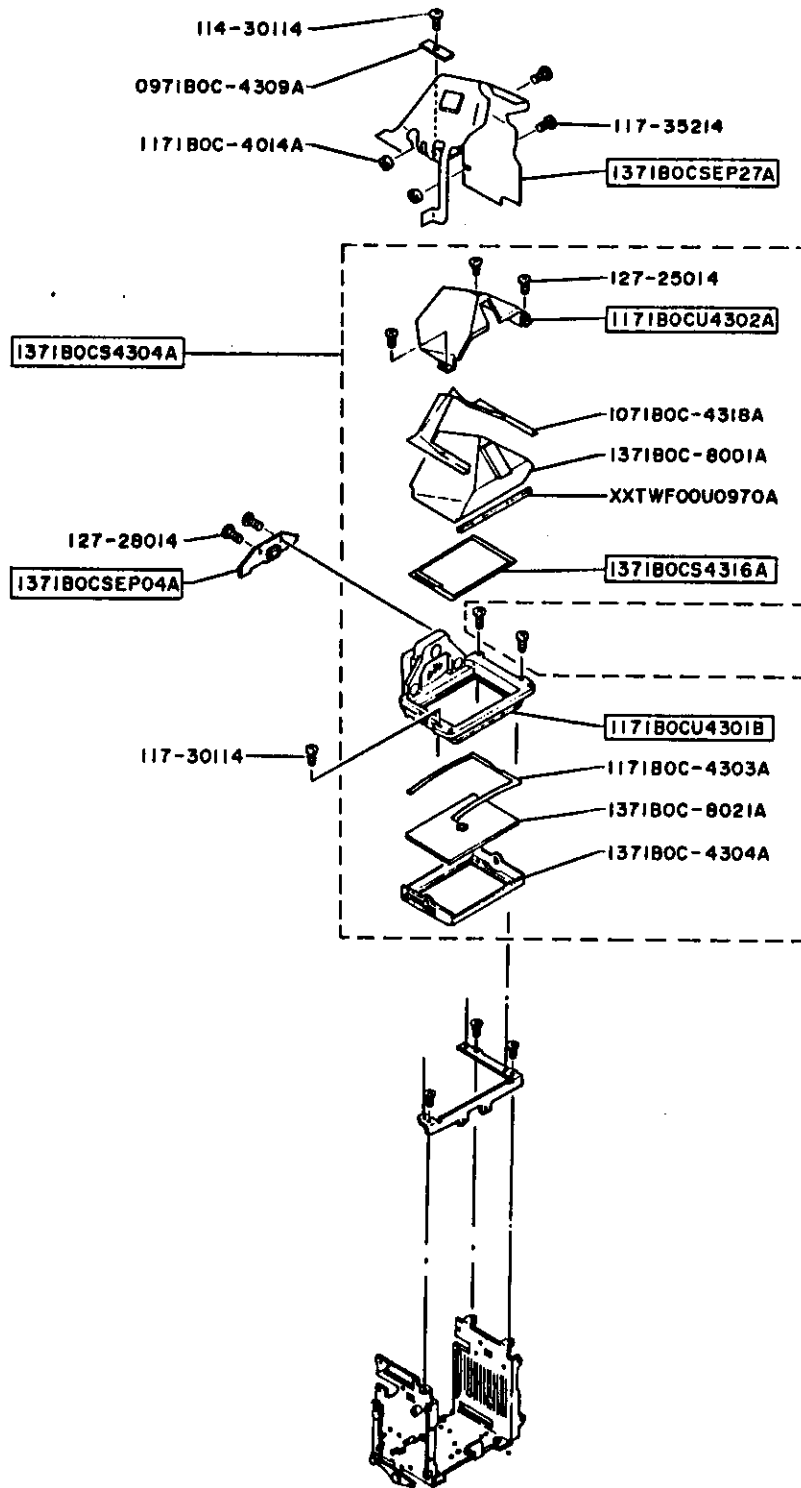
6

MIRROR HOUSING DISASSEMBLY (4)

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	ミラーチャージレバ - セット	G D	1371BOCS4006A	1	Mirror charge lever
	アーマチャーレバ - セット	G D	1371BOCS4007A	1	Armature lever
	トリカ - レバ - セット	G D	1371BOCS4009A	1	Trigger lever
	スタートフックレバ - セット	G D	1371BOCS4010A	1	Start hook lever
	アーマチャーレバ - オウエ セット	G D	1371BOCS4011A	1	Armature lever holder
	スライド フレート セット	G D	1371BOCS4013A	1	Slide plate
	ミラーレバ - セット	G D	1371BOCS4014A	1	Mirror lever
	ミラーフックレバ - A セット	G D	1371BOCS4015A	1	Mirror hook lever A
	ミラーシシ ハン A セット	G D	1371BOCS4020A	1	Mirror supporter B
	ミラーフリクションレバ - セット	G D	1371BOCS4170A	1	Mirror friction lever
	ミラーフックレバ - B	D	1371BOC-4016A	1	Mirror hook lever B
	シャッターリリースレバ -	D	1371BOC-4017A	1	Shutter release lever
	シボ リコミレバ - オウエ	D	1371BOC-4025A	1	Stop-down lever holder
	アーマチャーレバ - カ イト	D	1371BOC-4067A	1	Armature lever guide
	スライド フレート カ イト A	D	1371BOC-4073A	1	Slide plate guide A
	ミラーフックレバ - シ フ	D	1371BOC-4080A	1	Mirror hook lever shaft
	ミラーチャージレバ - SPA	D	1371BOC-4111A	1	M charge lever spring A
	ミラーチャージレバ - SPB	D	1371BOC-4112A	1	M charge lever spring B
	トリカ - レバ - SP	D	1371BOC-4113A	1	Trigger lever spring
	スタートフックSP	D	1371BOC-4114A	1	Start hook spring
	アーマチャーレバ - SP	D	1371BOC-4116A	1	Armature lever spring
	スライド フレートSP	D	1371BOC-4117A	1	Slide plate spring
	アーマチャーレバ - オウエISP	D	1371BOC-4118A	1	Armature lever hold. sp.
	ミラーアップSP	D	1371BOC-4119A	1	Mirror-up spring
	ミラーフックレバ - SP	D	1371BOC-4120A	2	Mirror hook lever spring
	サキマクSP	D	1371BOC-4121A	1	Opening curtain spring
	アトマクSP	D	1371BOC-4122A	1	Closing curtain spring
	メインミラーSP	D	1371BOC-4123A	1	Main mirror spring
	ミラーフリクションSPA	D	1371BOC-4173A	1	Mirror friction spring A
	ミラーフリクションHWC	D	1371BOC-4176A	2	Mirror friction washer B
	ミラーフリクションHWC	D	1371BOC-4177A	1	Mirror friction washer C
	スチールボール 1.0		XK-01000	1	Steel ball
	Eリング 1.0		XRET-01010	5	E ring
	HW1.7X4.0-0.4		XY1-031	2	Washer
	PHK1.7X2.5-5.5X0.7		117-02514	1	Screw
	PHK1.7X1.2-3.0X0.5		117-12114	2	Screw
	PHK1.7X1.5-2.5X0.5		117-15014	2	Screw
	DK 1.7X1.1-2.5X0.45-		947-21619	1	Screw

7

EXPLODED VIEW OF CHINON CP-5 TWIN PROGRAM



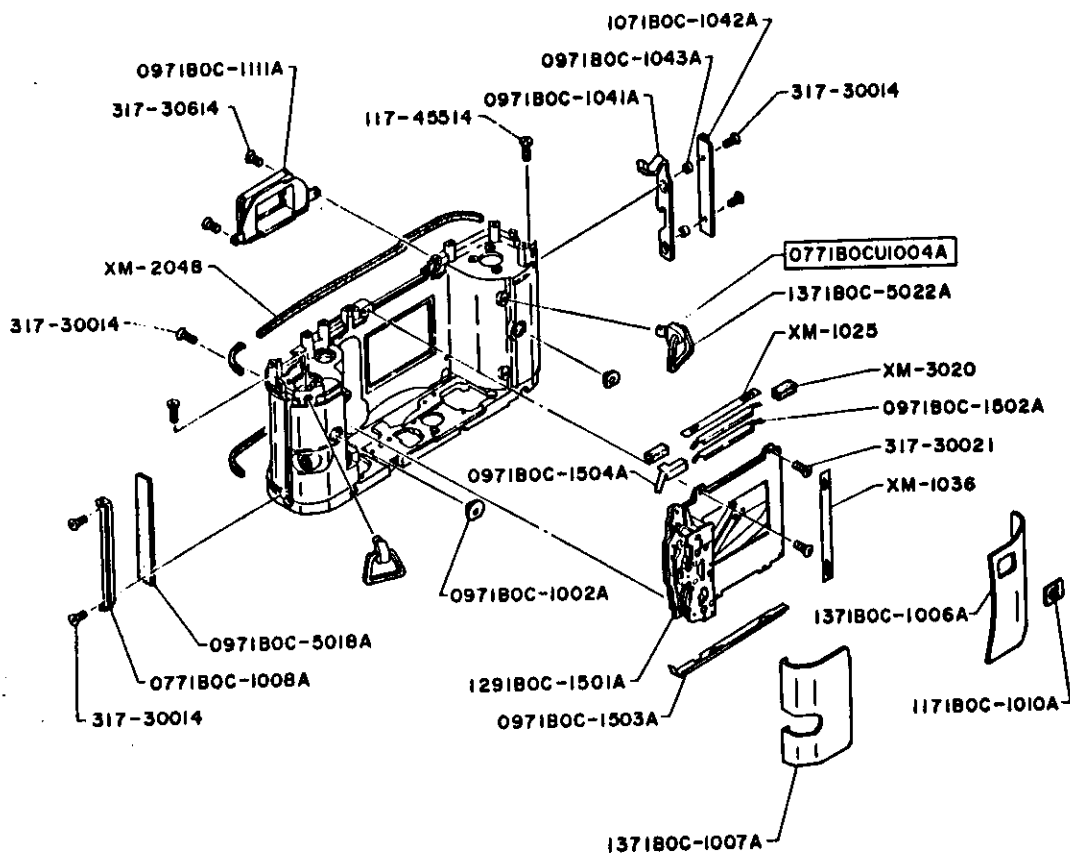
PARTS LIST

7

FRESNEL LENS BOX & FLEXIBLE PATTERN A

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	ニメンターフ°ヨリ 097	D	XXTWF00U0970A	1	Tape
	ハ°ンダワフ セット	D	1171B0CU4301B	1	Prism frame
	ハ°ンダカハ°ーテフ° セット	D	1171B0CU4302A	1	Prism cover
	フレネルホ°ックス セット	C	1371B0CS4304A	1	Fresnel lens box
	フレネルマスク セット	G D	1371B0CS4316A	1	Fresnel mask
<hr/>					
	フ°リントキハ°ND セット	D	1371B0CSEP04A	1	P.C.Board D
	フレキシフ°ルハ°ターンA セット	C	1371B0CSEP27A	1	Frexible pattern A
	ミラーホ°ックスハ°ターンウケ	D	1171B0C-4014A	2	Collar
	フレネルオサエハ°ネ	D	1171B0C-4303A	1	Spring
	フレネルホ°ックス	D	1171B0C-4304A	1	Box
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	LEDオサエ	D	0971B0C-4309A	1	LED holder
	ハ°ンダワフヒメロンシ	D	1071B0C-4318A	1	Shielding tape
	ハ°ンダフ°リス°ム	C	1371B0C-8001A	1	Prism
	フレネルレンズ°	C	1371B0C-8021A	1	Fresnel lens
	PHK1.4X3.0-3.0-0.6		114-30114	1	Screw
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	PHK1.7X3.0-3.0X0.6		117-30114	3	Screw
	PHK1.7X3.5-3.5X0.6		117-35214	2	Screw
	THK1.7X2.5-2.5X0.5		127-25014	3	Screw
	THK1.7X2.8-2.5X0.5		127-28014	2	Screw
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EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



PARTS LIST

8

SHUTTER

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	ツリカン (ヒ・シ アリニョウ)	D	0771B0CU1004A	2	Wrist strap lug
	ホンタイモールト	D	0971B0C-1002A	2	Shielding plastic
	マエレサ - ミキ	A	1371B0C-1006A	1	Leather(R)
	マエレサ - ヒタリ	A	1371B0C-1007A	1	Leather(L)
	ウラフ タシ クウク	D	0771B0C-1008A	1	Shaft retainer

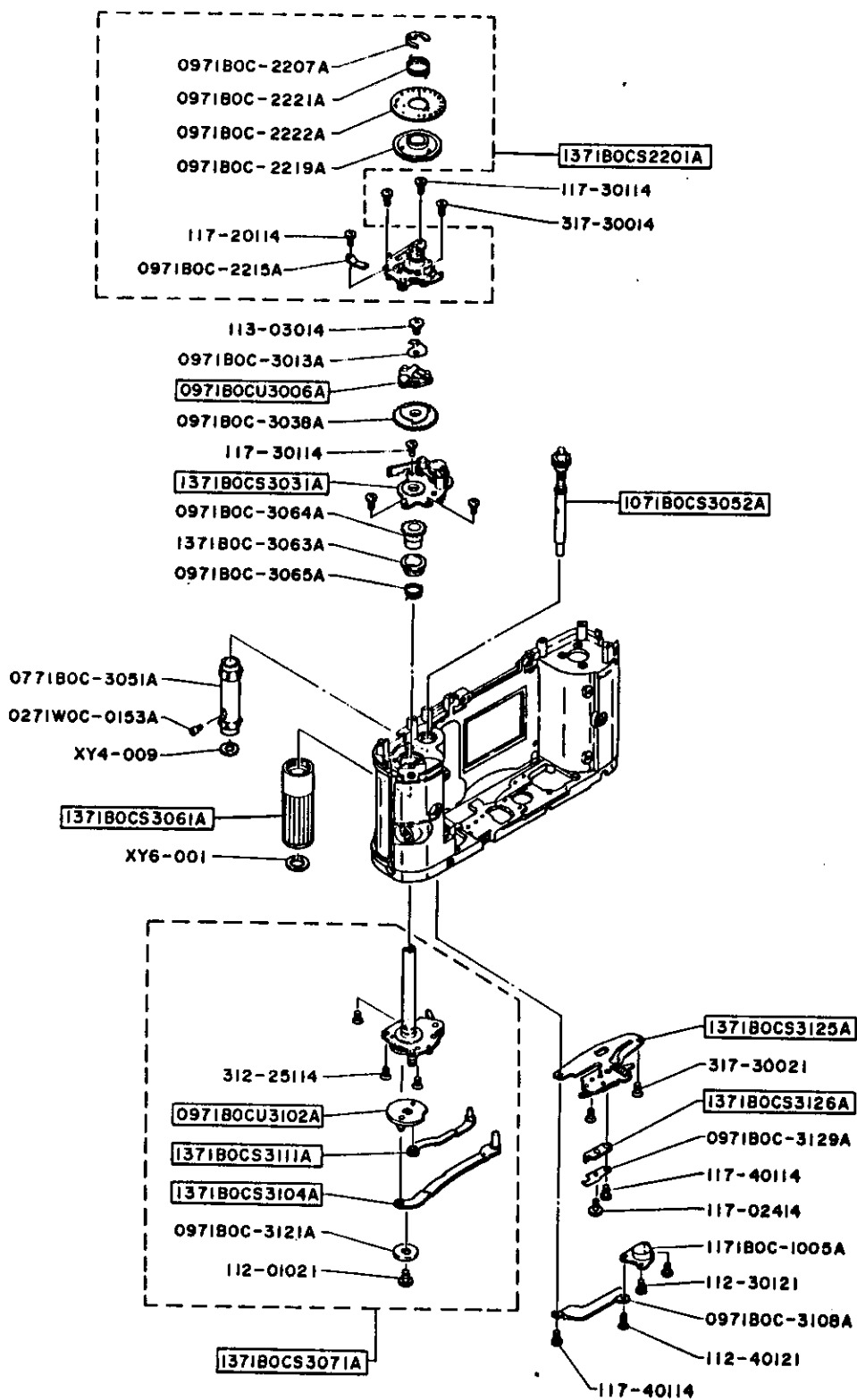
	AFマーク	D	1171B0C-1010A	1	AF mark
	カイハイツメ	D	0971B0C-1041A	1	Door latch
	カイハイカハ -	D	1071B0C-1042A	1	Door latch cover
	カイハイカラ	D	0971B0C-1043A	1	Collar
	セツカ ンサ	D	0971B0C-1111A	1	Eyeiece base

	シャッター	C	1291B0C-1501A	1	Shutter
	Sシャコウハ ンウI	D	0971B0C-1502A	1	Shielding plate
	Sシャコウハ ンシタ	D	0971B0C-1503A	1	Shielding plate
	シャッターソクメンハ ン	D	0971B0C-1504A	1	Side plate
	ホンタイテレンフ	D	0971B0C-5018A	1	Ribbon

	サンカクカン	D	1371B0C-5022A	2	Wrist strap lug
	セツカ ンサ ハ° ッキンB 077		XM-1025	1	Sponge
	ホンタイソクメンハ° ッキン 097		XM-1036	1	Sponge
	ホンタイハ° ッキン 097		XM-2048	2	Sponge
	シャッターハ° ッキンウI 097		XM-3020	2	Sponge

	PHK1.7X4.5-2.5X0.8		117-45514	2	Screw
	PSK1.7X3.0-2.5X0.5		317-30014	5	Screw
	PSK1.7X3.0-2.5X0.5		317-30021	2	Screw
	PSK1.7X3.0-3.0X0.8		317-30614	2	Screw

EXPLODED VIEW
OF
CHINON CP-5 TWIN PROGRAM



PARTS LIST

9

WINDING MECHANISM

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME
	Cキハ"ン セット	C	1371B0CS2201A	1	Counter
	オフリツメサ" セット	D	0971B0CU3006A	1	Transport claw
	マキアケ" キハ"ンウエ セット	D	1371B0CS3031A	1	Winding base plate(Upper)
	スプ" ロケットシ" フ セット	D	1071B0CS3052A	1	Sprocket shaft
	リールトウ セット	D	1371B0CS3061A	1	Take-up spool
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	マキアケ" キハ"ンシタ セット	D	1371B0CS3071A	1	Winding base plate(Lower)
	クイシカム セット	D	0971B0CU3102A	1	Stop cam
	チャージ" レバ" -A セット	D	1371B0CS3104A	1	Charge lever A
	チャージ" レバ" -B セット	D	1371B0CS3111A	1	Charge lever B
	マキアケ" ガ" イト" キハ"ン セット	D	1371B0CS3125A	1	Guide base plate
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	ワインダ" -SWタ" イ セット	C	1371B0CS3126A	1	Winder switch
	スプ" ロケットレント" ウネシ"	D	0271W0C-0153A	1	Screw
	サンキャクサ"	D	1171B0C-1005A	1	Tripod socket
	Cラチェットオサエ	D	0971B0C-2207A	1	Set ring
	Cシヒョウ	D	0971B0C-2215A	1	Counter indicator
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	Cラチェット	D	0971B0C-2219A	1	Counter ratchet
	CSP	D	0971B0C-2221A	1	Spring
	Cフ" レート	D	0971B0C-2222A	1	Counter plate
	オフリツメオサエ	D	0971B0C-3013A	1	Claw pressure plate
	1ハ"ンキ"ヤ	D	0971B0C-3038A	1	First gear
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	スプ" ロケット	D	0771B0C-3051A	1	Sprocket
	リールスリーブ"	D	1371B0C-3063A	1	Reel sleeve
	リールキ"ヤ	D	0971B0C-3064A	1	Gear
	リールフリクションSP	D	0971B0C-3065A	1	Friction spring
	チャージ" レバ" -オサエ	D	0971B0C-3108A	1	Charge lever holder
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	リンクツツメ	D	0971B0C-3121A	1	Winder link claw
	ワインダ" -SWカハ" -	D	0971B0C-3129A	1	Cover
	ワッシャー 4.2X8.0-0.2		XY4-009	1	Washer
	ワッシャー 6.2X9.0-0.2		XY6-001	1	Washer
	PHK2.0X3.0-5.0X0.6		112-01021	1	Screw
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	PHK2.0X3.0-3.0X0.6		112-30121	2	Screw
	PHK2.0X4.0-3.0X0.6		112-40121	1	Screw
	PHK2.3X3.5-6.0X0.6		113-03014	1	Screw
	PHK1.7X3.7-5.0X0.6		117-02414	1	Screw
	PHK1.7X2.0-3.0X0.6		117-20114	1	Screw
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	PHK1.7X3.0-3.0X0.6		117-30114	5	Screw
	PHK1.7X4.0-3.0X0.6		117-40114	2	Screw
	PSK2.0X2.5-3.0X0.6		312-25114	3	Screw
	PSK1.7X3.0-2.5X0.5		317-30014	1	Screw
	PSK1.7X3.0-2.5X0.5		317-30021	2	Screw

