CHINON SERVICE MANUAL

FOR

132PXL/133PXL

CHINON INDUSTRIES INC.

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INTRODUCTION

Information contained in this manual refers to the CHINON 132PXL/ 133PXL silent movie cameras and are prepared to aid repair and maintenance service at authorized service stations.
The information and specifications in this 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. Electronical data and parts information are filed at the end of this manual.

For technical inquiries and further assistance write to:

CHINON INDUSTRIES INC., QA Dept.

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Suwa-shi, Nagano-ken,
392 Japan

Service Manual
for
CHINON 132PXL/133PXL Silent Movie Cameras

1st edition, November 1982

CONTENTS

HOW TO USE THIS SERVICE MANUAL

Chinon Service Manual consists of the following seven sections:
General, Repair Guide, Service Tools List, Electrical Data, Parts Information, Price List of the Spare Parts, and Service 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 consist of any or all of the following: technical specifications, block diagram, design principals, new or unusual repair technics, or any other information useful to the repairman.

REPAIR GUIDE

1. The Repair Guide contains the necessary instructions for complate repair, adjustment, and troubleshooting 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 already distributed lists of "TOOLS & INSTRUMENTS".
3. Please typeout the Tool No. and the necessary quantity on the order sheets when you order the special tools or test equipment.

ELECTRICAL DATA

1. The Electrical Data consists of the schematic diagram, wiring diagram, and component location useful to the repairman.
2. The checking voltage is indicated on the schematic diagram with red number. The identical checking voltage is indicated also on the component location with the same number.

PARTS INFORMATION

1. The Parts Information consists of the exploded views and containing parts list.
2. The parts list for each exploded view is on the facing page and both 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 marked 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 frequently.
   B: Used very frequently.
   C: Used frequently.

D: Used less frequently.
E: Used rarely.

Column 4. PARTS NO.: This column lists the part number.
Column 5. QTY: This column indicats the number of identical parts used in the exploded view on the facing page.
Column 6. PARTS NAME: Parts name in English.

5. The spare parts order is limited to indicated parts in this parts list.

PRICE LIST

1. Price List of Spare Parts presents the unitprice of the service parts you receive from us.
2. The page number on the parts information in which each part is described is shown on the right side of each part so that you may easily identify.
3. All the price of the spare parts on the price list section are subject to change without notice.

SERVICE MANUAL REPORT

In keeping with our policy of the best service after sale, we issue the Service Manual Reports and/or Technical Modification on Product when any change is made in the product such as design or production changes, added capabilities, or appearance changes. Please fill-in the these reports in this section.

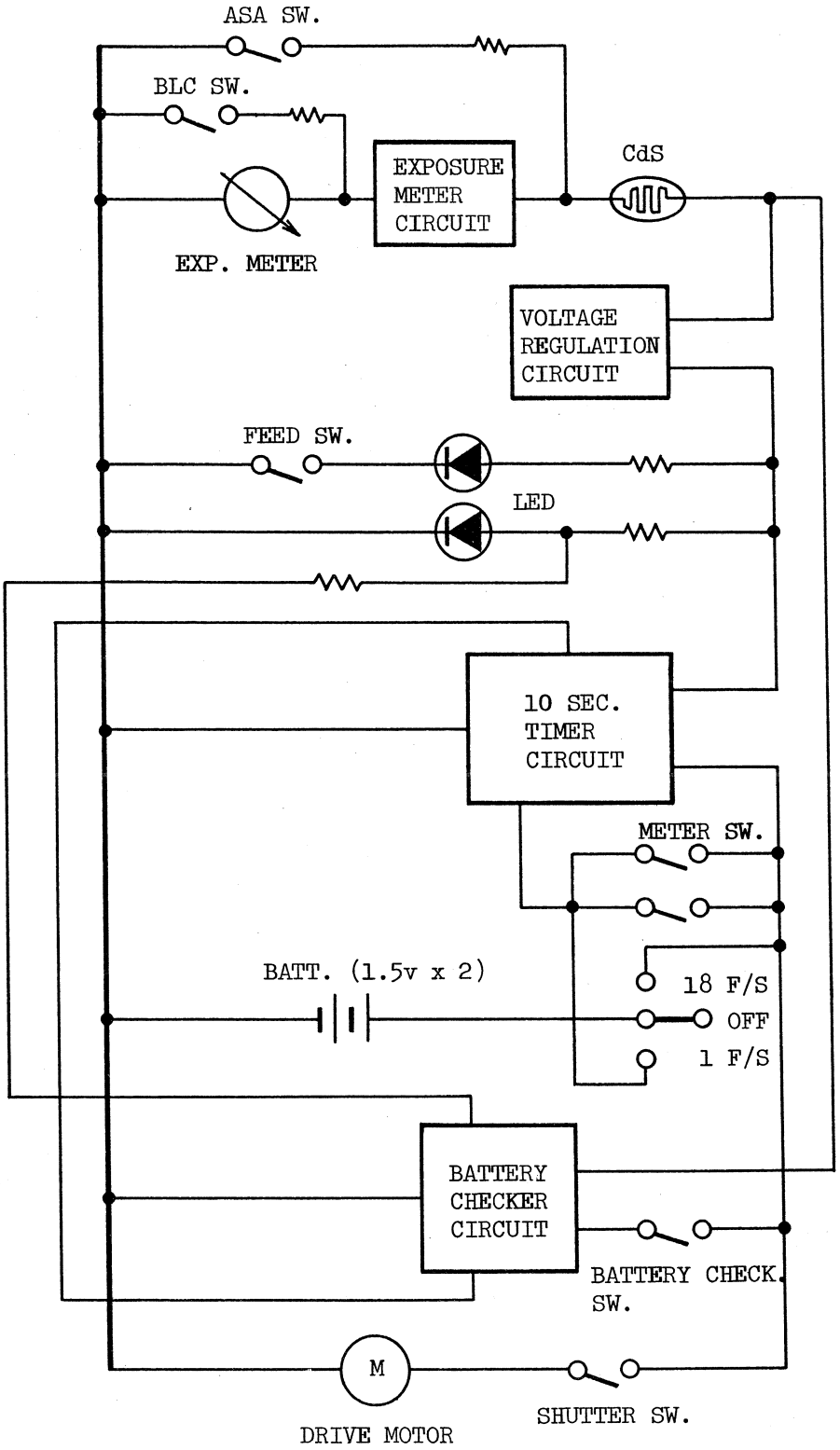
SPECIFICATIONS

	Technical Specification \ Model	CHINON 133PXL	CHINON 132PXL
	Type	Super 8 Silent Movie Camera	
OPTICAL SYSTEM (LENS)	Lens	CHINON REFLEX ZOOM LENS	
	Maximum aperture	F 1:1.3	F 1:1.3
	Focal length	f=8.5 - 25.5 mm	f=11 - 22 mm
	Focus range	1.5 m - ∞	Fixed
	Lens construction	12 elements in 11 groups	8 elements in 8 groups
	Master lens	F 1:1.3, f=15mm	F 1:1.3, f=15mm
	Focus adjustment	Yes	
	Filter mount size	46mmø, P=0.75mm	43mmø, P=0.75mm
	Zooming	Fixed(One) speed	Fixed(one) speed
VIEWFINDER	Type	SLR	SLR
	Eyesight adjustment	Yes(-3 ~ +1 diopt)	Yes(-3 ~ +1 diopt)
	Eyepiece rubber hood	Yes	Yes
	Viewfinder coverage	92%	92%
	Magnification: Viewfinder	1.0 time	1.0 time
	: Mask	13.9 times	13.9 times
	Film transport signal	Yes(Red LED)	Yes(Red LED)
	Exposure warning: Under	Yes	Yes
EXPOSURE METER	Measuring system	TTL	TTL
	Photo cell	CdS	CdS
	Exposure control	Automatic	Automatic
	Aperture range	F/1.3 - F/22	F/1.3 - F/22
	Type A filter	Yes	Yes
	Back light control	Yes	Yes
	ASA film speed	ASA25 - ASA100	ASA25 - ASA100
	Meter system	Two vanes, instant-response system	
OPERATION ETC.	Shutter opening angle	220°	220°
	Film speed: Silent	1, 18 FPS	1, 18 FPS
	Film counter	Yes	Yes
	Battery tester	Yes(Red LED)	Yes(Red LED)
	Run lock	Yes	Yes
	Power source	3.0V(1.5Vx2) Alkaline battery	
	Main switch indicator	Yes(Red LED, 10 sec.)	Yes(Red LED, 10 sec.)
	Lens cap	Yes	Yes
	Movie light socket	Yes(1/4-20 UNC)	Yes(1/4-20 UNC)
	Tripod socket	Yes(1/4-20 UNC)	Yes(1/4-20 UNC)
	Fold down grip handle	Yes	Yes
	Hand strap	Yes	Yes
	Dimension	42(W)x114(H)x172(D) mm	42(W)x114(H)x165(D) mm
	Weight	450 grams (15.87 oz.)	380 grams (13.40 oz.)

BLOCK DIAGRAM

OF

CHINON 132PXL/133PXL



CONTENTS

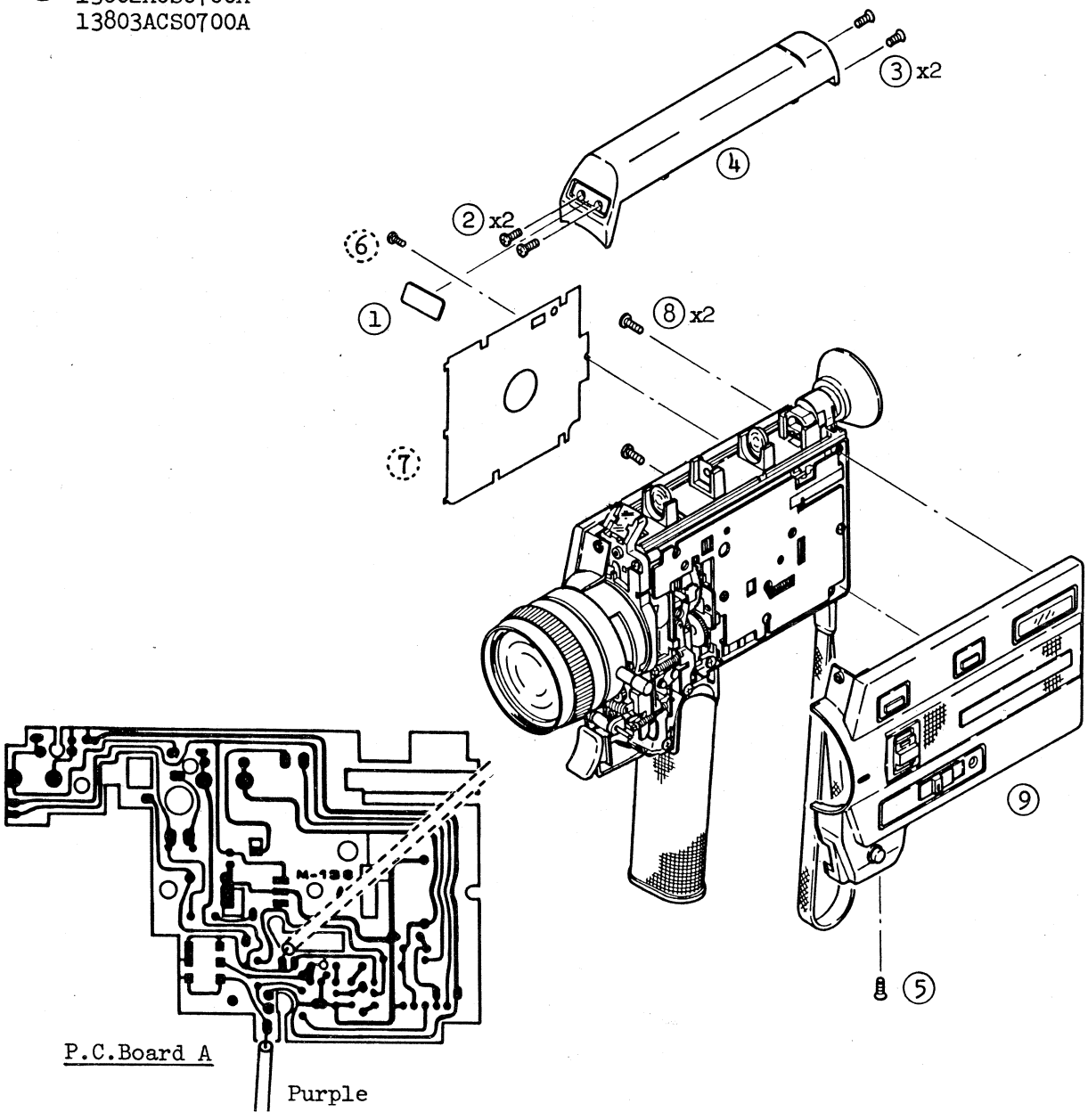
I. DISASSEMBLY PROCEDURE

A. Left Side Cover Removal

① Name plate 13803AC-0142A ② Screw 122-70114 x 2 ③ Screw 322-50114 x 2 ④ Upper cover 13803AC-0141A

⑤ Screw 322-55114 ⑥ Screw 122-40114 ⑦ Film chamber plate 13803AC-0056A ⑧ Screw 122-75314 x 2

⑨ Left side cover
13802ACS0700A
13803ACS0700A



When the Left side cover is removed, camera does not run.
To run the camera, move the purple lead of the motor to the position indicated with an interrupted line.

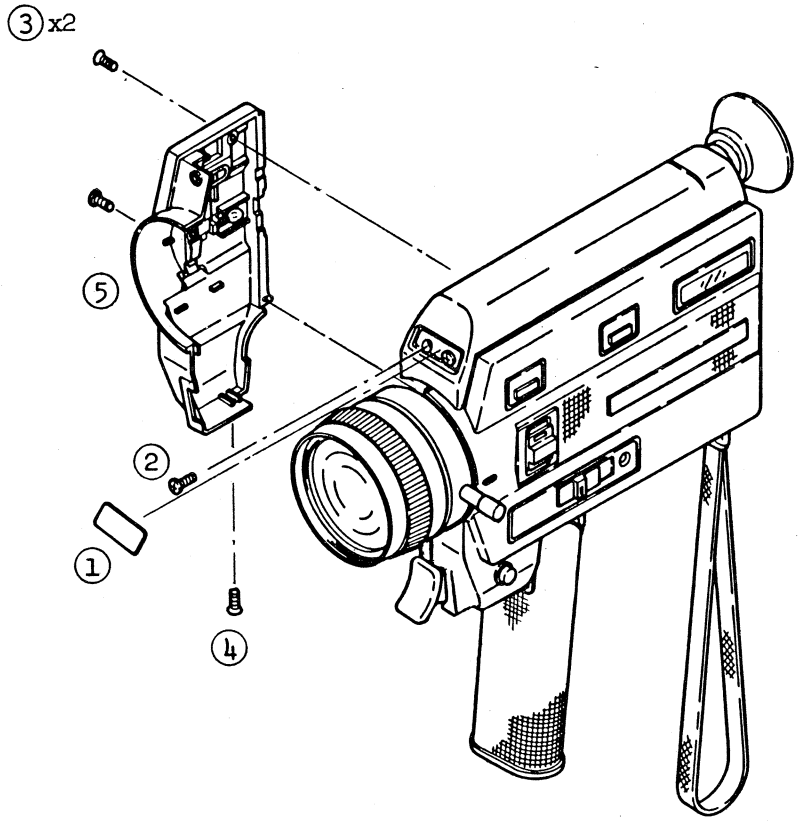
Note: Procedure ⑥ and ⑦ are for the adjustments of film transport signal, take-up torque, and exposure.

B. Right Side Cover Removal

① Name plate 13803AC-0142A ② Screw 122-70114 ③ Screw 122-40114 x 2 ④ Screw 322-55114

⑤ Right side cover 13803ACS0800A

Note: Set the filter button of the right side cover at day-light position when you put together a right side cover.

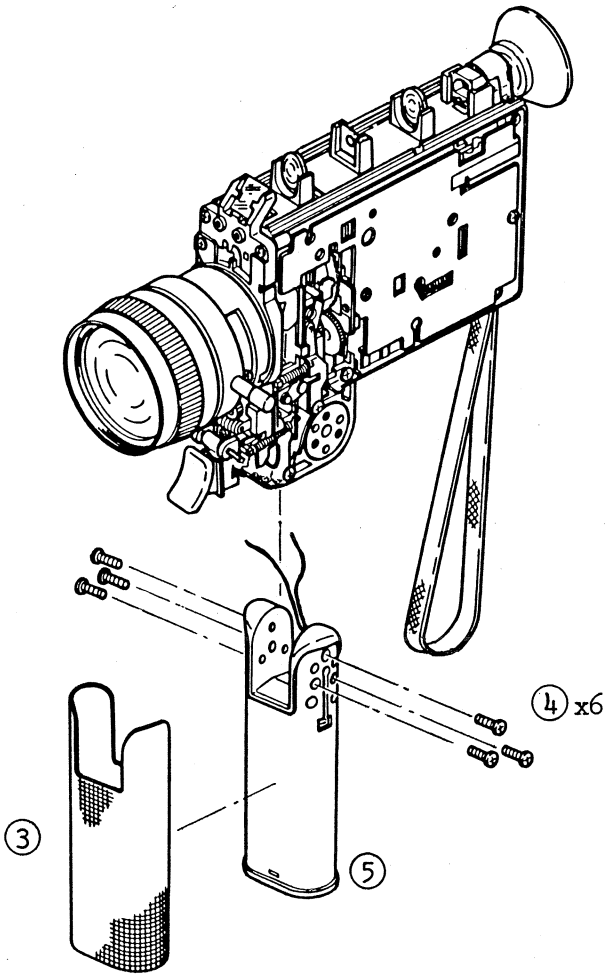


C. Grip Handle Removal

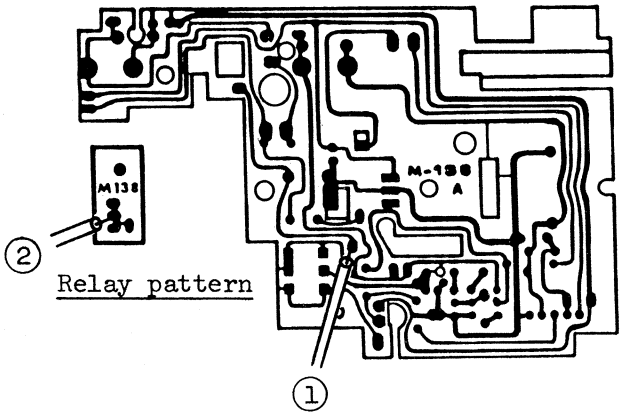
Follow the Left Side Cover Removal and Right Side Cover Removal. Then, unsolder the two leads from the P.C.Board A and Relay pattern.

① Purple lead ② Black lead ③ Grip leather 13803AC-0204A ④ Screw 112-50714 x 6

⑤ Grip 13803ACU1100A



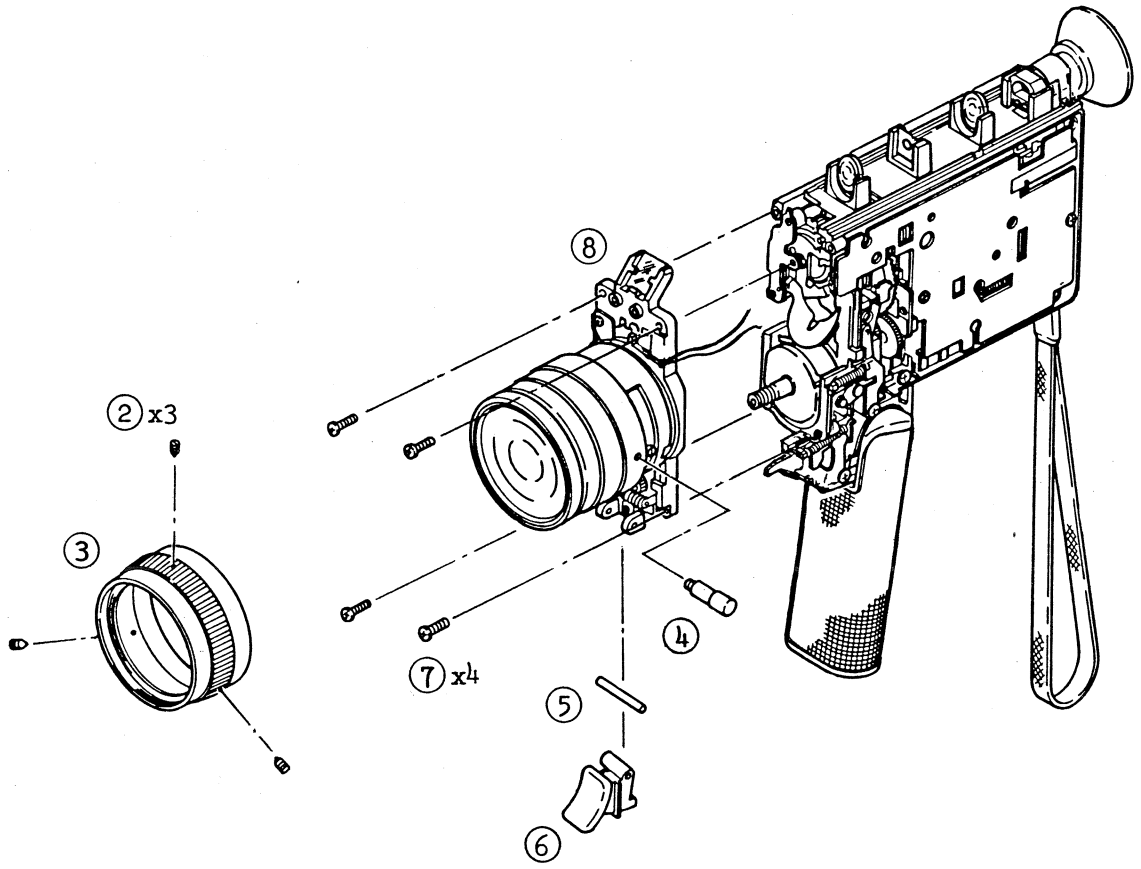
P.C.Board A



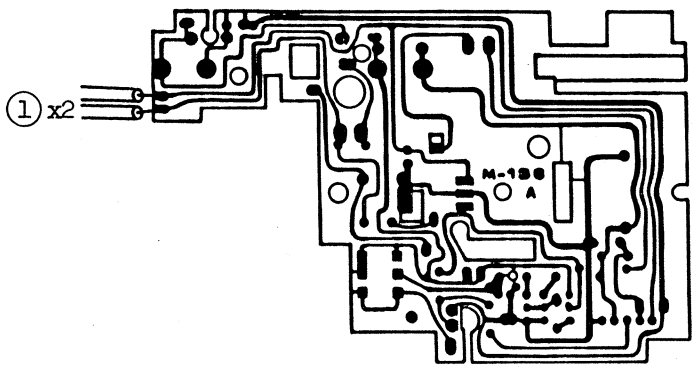
D. Zoom Lens Removal

Follow the Left Side Cover Removal and Right Side Cover Removal. Then, unsolder the two leads from the P.C.Board A.

① Gray lead x 2	② Screw 012-30423 x 3	③ Focus ring 13803AC-0701A	④ Zoom lever 11903AE-0705A
⑤ Button shaft 13803AC-0031A	⑥ Shutter button 13803AC-0030A	⑦ Screw 122-80714 x 4	⑧ Zoom lens 13802ACUKYOTA 13803ACUKYOTA



P.C.Board A



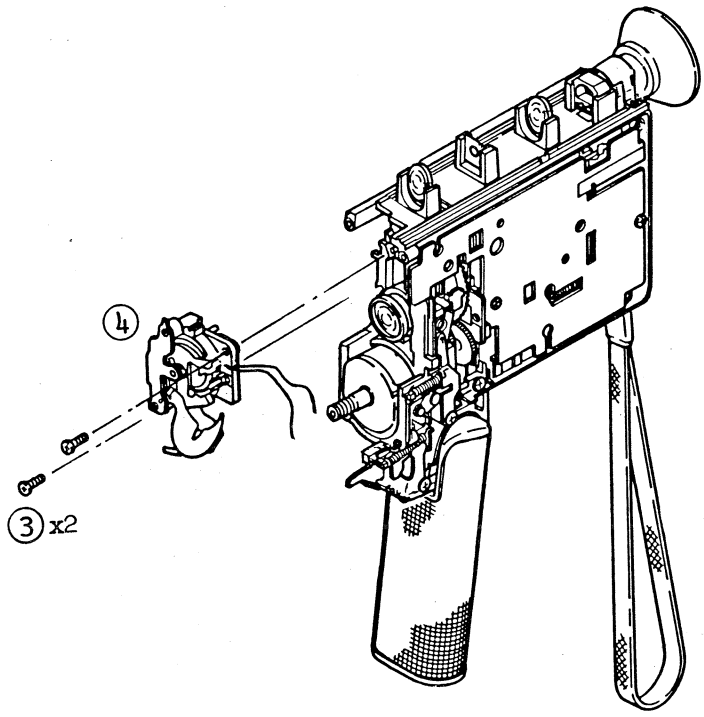
E. Exposure Meter Removal

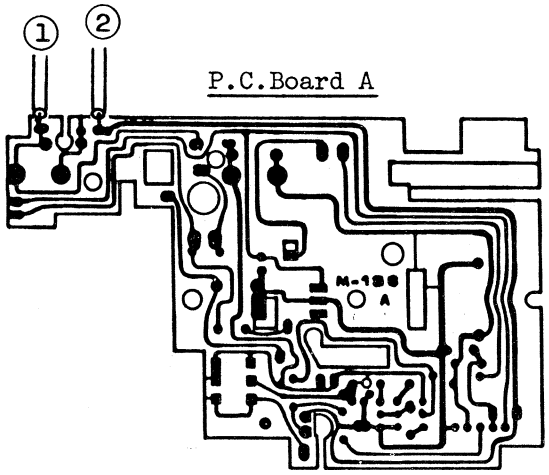
Follow the Left Side Cover Removal, Right Side Cover Removal and Zoom Lens Removal.

Unsolder the two leads from the P.C.Board A side.

① Red lead ② Black lead ③ Screw 122-60114 x 2 ④ Exp. meter 13803ACU1500A

Note: Upon removing, do not damage the exp. meter vanes.





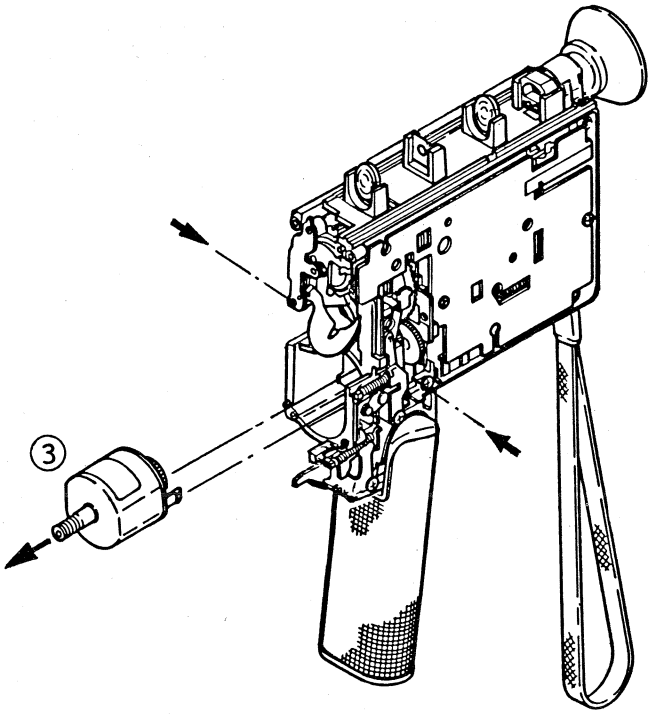
r. Drive Motor Removal

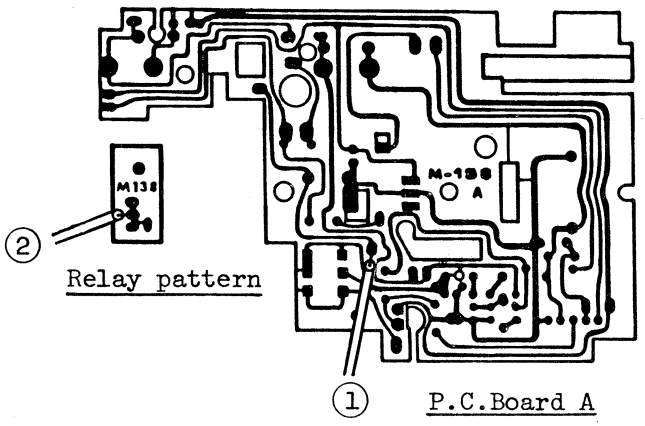
Follow the Left Side Cover, Right Side Cover and Zoom Lens Removals.
Then, unsolder the two leads from the P.C.Board A and Relay pattern side.

① Red lead ② Blue lead ③ Drive motor 13803ACS0230A

Note: Motor can be removed by following methord.

Push the two motor lock-claws from both sides of the camera and keep that condition, then pull the motor shaft in the direction of an arrow.





II. FILM TRANSPORT SYSTEM

A. System Construction

Before explaining the circuit, please refer to the schematic diagram in the section of ELECTRICAL DATA.

a. Film transport signal circuit

During film transport, the feed switch contacts 'ON' and 'OFF' intermittently by movement of film take-up dial and signal LED1(TLR102A) seen in the viewfinder is frickering.
The feed switch becomes 'ON' or 'OFF' state when the film in the cartridge is ended (when the film take-up dial is stopped), and signal LED1 becomes 'ON' or 'OFF'.

b. Checker circuit

The resistor R13(6.2/1W) is a dummy load which will enable the battery checker circuit measure the battery voltage similar to the one under camera normal operation.
The total voltage applied to the circuit, when the battery checker switch is closed, will be divided by the resistor R11 and R12(10K,4.7K) and proportional voltage appears at the pin #2 of IC2(M51202L). On the other hand, constant voltage (approx. 1.60V) flows from pin #3 of IC1 to pin #1 of IC2. When the voltage of IC2 pin #2 becomes higher than voltage of IC2 pin #1, the output level of pin #3 becomes high and LED2(PR3433S) will light.

c. Drive motor circuit

The transport motor is of mechanical governer type and no speed control circuit is required.
The battery power is directly applied to the drive motor through the 1-18 FPS selection switch (Main switch) and shutter switch. The shutter switch closes contact when the shutter button is depressed, and finally the drive motor starts to rotate.
The malfunction of the circuit may be caused by defective drive motor as well as poor contact of the shutter switch.

d. 10 sec. timer circuit

The 10 sec. timer circuit consists of the transistor TR1(A937), TR2(C2021), capacitor C2(47μ/6.3v), resistor R8(3.3K), R9(220K) and R10(130K).
The electric current flows to the circuit and LED2(PR3433S) will light when main and meter switches turns on. When meter switch or main switch turns off, capacitor C2 will discharge the current through the resistor R9 and R10. Approx. 10 sec. later, the base voltage of transistor TR2 will become 0.5V and LED2 will light out.

B. Adjustment Procedure

For smooth transportation of film, the following adjustment is needed.

a. Film take-up torque adjustment

Film take-up torque has a tendency to decrease gradually with a passage of film and readjustment may become necessary although it is factory adjusted to the specifications.

Equipment used:

Torque watch (T1-103)

Adjustment:

1. Open the film chamber door and remove the film chamber plate (13803 AC-0056A) and a screw (122-40114).
2. Unscrew the shaft (13803AC-0042A) of take-up dial clockwise and take out the take-up dial (13803ACU0251A).
3. In order to adjust the film take-up torque, the take-up dial should be taken all of the pieces as indicated Fig. 2-1.
4. Adjustment can be made by bending the two spring plate (13803AC-0041A) so that the torque watch reading becomes as table belows.

Take-up torque	45 - 60 gcm

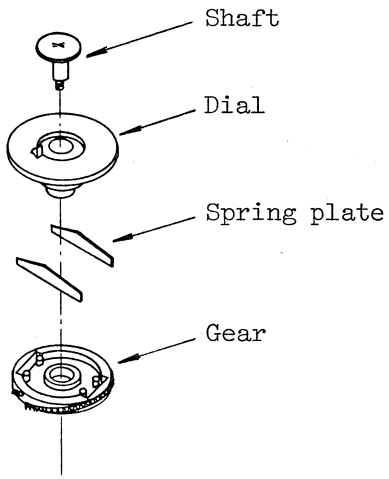


Fig. 2-1

b. Film transport signal adjustment

The film transport signal seen in the viewfinder can be adjusted by feed switch as follows.

Adjustment:

1. Open the film chamber door. Then, unscrew the film chamber plate set screw (122-40114) and peel off the film chamber plate (13803AC-0056A).
2. Adjust the feed switch contact (13803AC-0051A Contact spring) directly by bending so that the red LED seen in the viewfinder will

be switched 'ON-OFF' by the movement of the film take-up dial. Refer to Fig. 2-2.

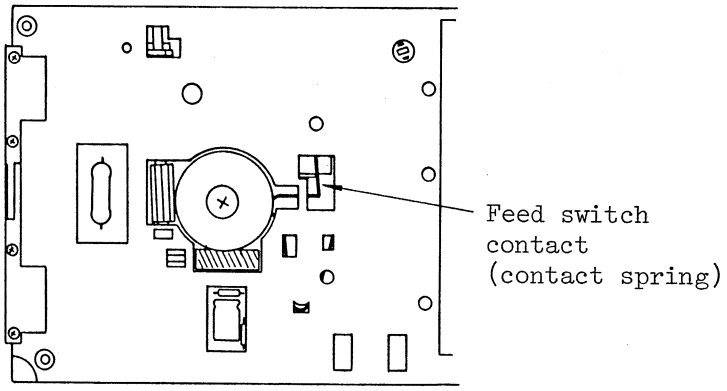


Fig. 2-2

c. Shutter switch timing adjustment

The shutter switch should be in 'ON' state when the tip of the stop lever is in area "A". When stop lever recessed in the groove, that is, in area "B", the shutter switch is now 'OFF' position.

Adjustment:

To adjust the shutter switch timing, bend the shutter switch contact directly.

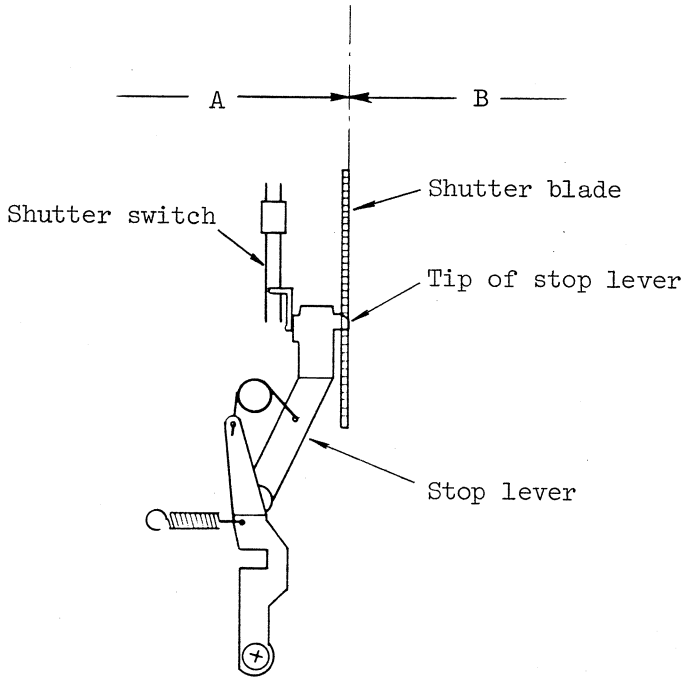


Fig. 2-3

d. Battery checker

The battery checker lamp (LED PR3433S) turns on at power supply voltage 2.4V and that it turns off at 2.2V.

e. Film transport speed

The film transport speed must be 18.0 $\pm$ 1.0 FPS with load.
(The motor speed can not be adjusted and above value is standard value for checking.)

f. Claw adjustment

The free travel of the claw is 0.45 - 0.60mm from the aperture surface when set the claw at high position of shutter blade cam. Refer to Fig. 2-4.

The stroke is $4.6\ ^{+\ 0.16}_{-\ 0.06}$ mm.

The side load must be 110 $\pm$ 10 g.
Adjustment is made with coil spring (13803AC-0008A).

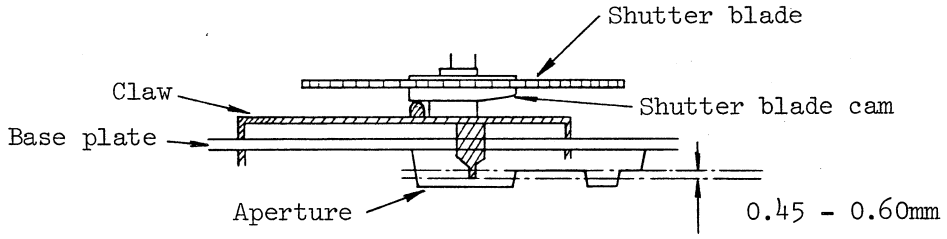
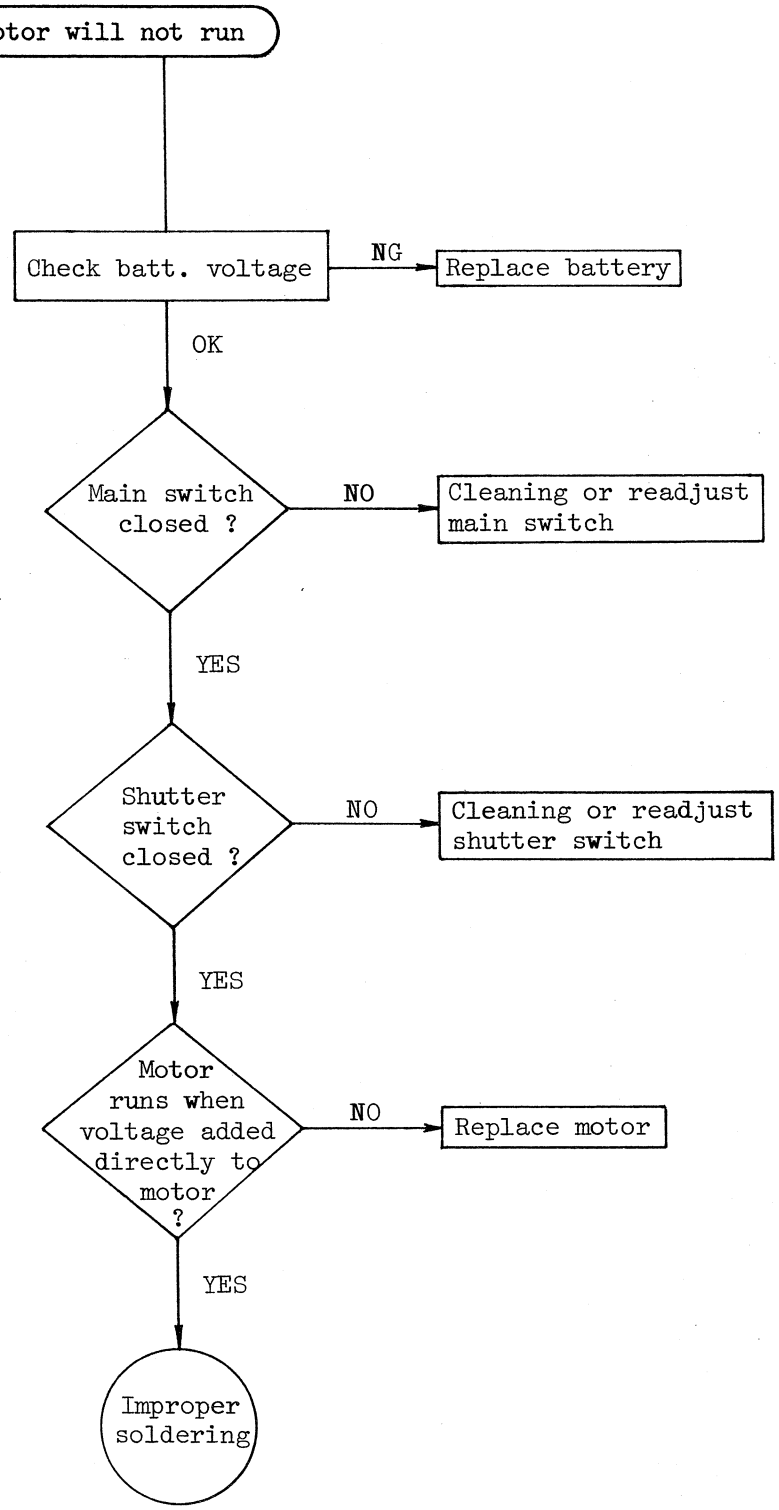


Fig. 2-4

The claw should be positioned in the center between the left and right perforation edges.

C. Trouble-shooting

a. Motor will not run



III. EXPOSURE CONTROL SYSTEM

A. System Construction

a. Exposure control circuit

The exposure control system functions when the meter switch is closed. The fundamental circuit of the automatic exposure meter circuit is made of the IC1(LVC-521), capacitor C1(22μ/6.3v), CdS(54C-10), potentiometer VR1 (5K-ohm), and resistor R2(2K).

Pin #3 of IC1 provides constant voltage of 1.60V (approx. 1.50 - 1.70V) to the meter circuit. The photo cell(CdS) changes it internal resistance value upon change of light intensity and thus controls the current to the exposure meter.

The ASA change-over circuit is connected parallel to the exposure meter, the resistor R2(2K), and the potentiometer VR1(5K-ohm).

The BLC circuit is connected also parallel to the exposure meter. Combination of the switches and resistors determines total resistance value which by-passes exposure meter current.

B. Adjustment Procedure

a. Exposure adjustment

Inspection:

Set the camera at ASA 40 and zoom to Wide position, insert the exposure probe into the film chamber. Then, take exposure reading at F/2.8, F/5.6, and F/11.
The reading should be within nominal ± 1 EV.
Refer to the instruction booklet of the EE Tester used for detailed set-up.

Equipment:

DC power source (T0-057) with DC connector (T1-115)
EE Tester (T0-065, T0-066)

Adjustment:

1. Remove the right side cover(13803ACS0800A) and film chamber plate. Refer to Right Side Cover Removal on page 3.
2. Set a light source to F/2.8, ASA 40.
   Move the ND taper filter so that film plane exposure becomes nominal.
3. Set a light source to F/11, ASA 40.
   Adjust the potentiometer VR1(5K-ohm) so that film plane exposure becomes nominal.
4. Check exposure at F/2.8 and F/5.6, and repeat procedure 2 and 3 if needed.

Note: After the adjustment lock the ND taper filter with glue (T0-028). Do not need to remove the right side cover only for adjustment of bright light level. It can adjust only by potentiometer VR1(5K-ohm).
For ND taper filter and potentiometer location, refer to Figs 3-1 and 3-2.

The table below gives cross reference of light intensity required for adjustment.

K factor : 1.92
T value : 0.03395 (18 FPS, 220°/360°)
B value : ASA 40, 18 FPS

LV	7-6/10	9-7/10	11-7/10	13-7/10	15-7/10
cd/m^2	26.5	121.7	486.8	1816.8	7267.3
F/Stop (ASA 40)	F/1.3	F/2.8	F/5.6	F/11	F/22

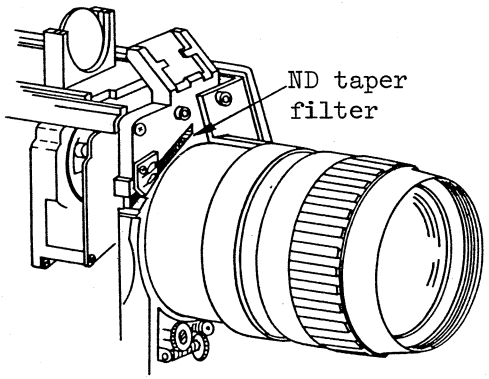


Fig. 3-1

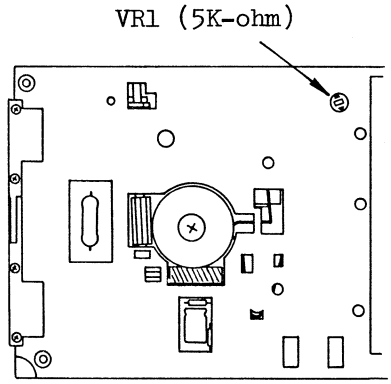


Fig. 3-2

b. Under exposure warning adjustment

Area of under exposure warning signal seen in the viewfinder can be adjusted directly by bending the warning signal lever.
Refer to Fig. 3-3.
The warning signal should be within the specified area in Fig. 3-4 when the battery power is shutted off.

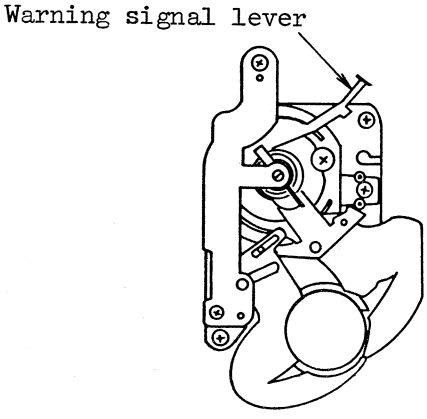


Fig. 3-3

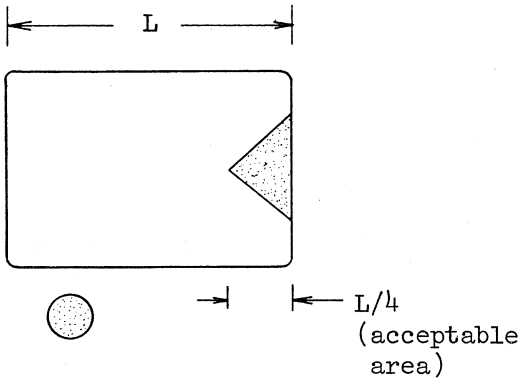


Fig. 3-4

c. ASA switch adjustment or cleaning

ASA switch contact can be cleaned or the gap be adjusted by removing the right side cover (13803ACS0800A).
To remove the right side cover, refer to Right Side Cover Removal.
The gap between switch contacts should be 'ON' state when the cartridge (ASA 40) was inserted.

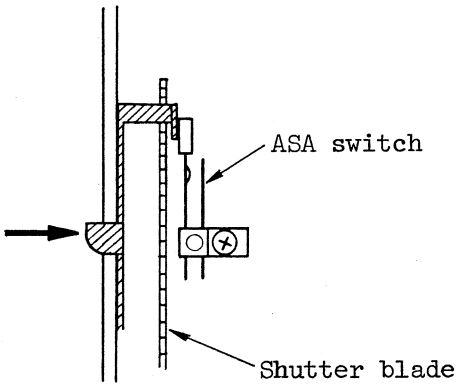
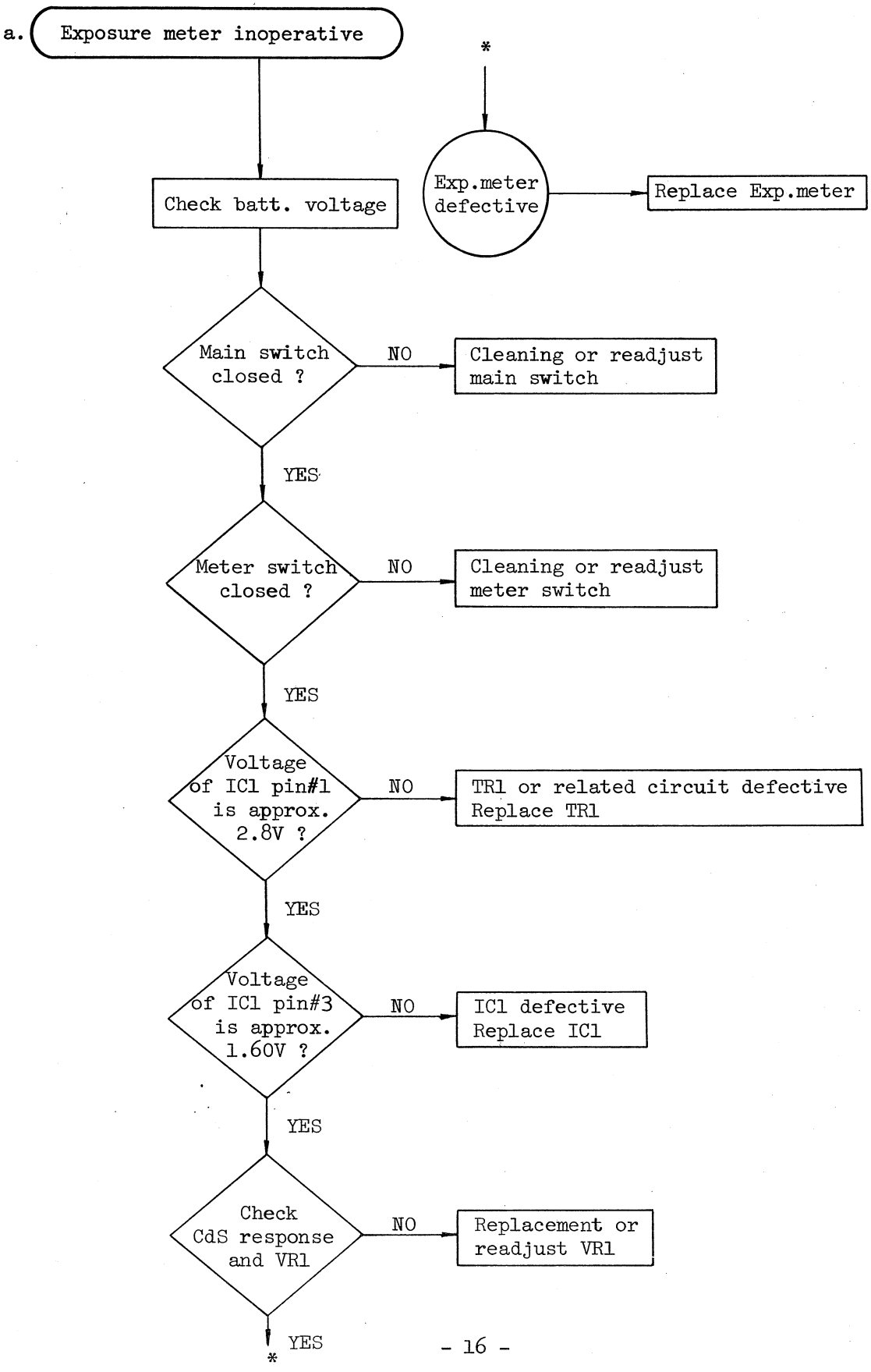


Fig. 3-5

C. Trouble-shooting

a.



IV. OPTICAL SYSTEM

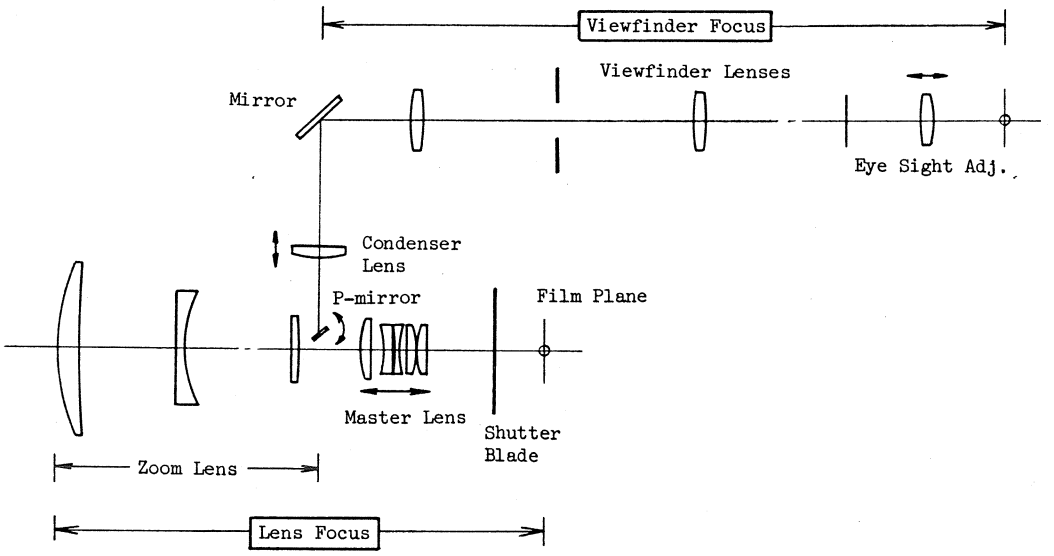
A. System Construction

Fig. 4-1 depicts basic construction of the optical system.

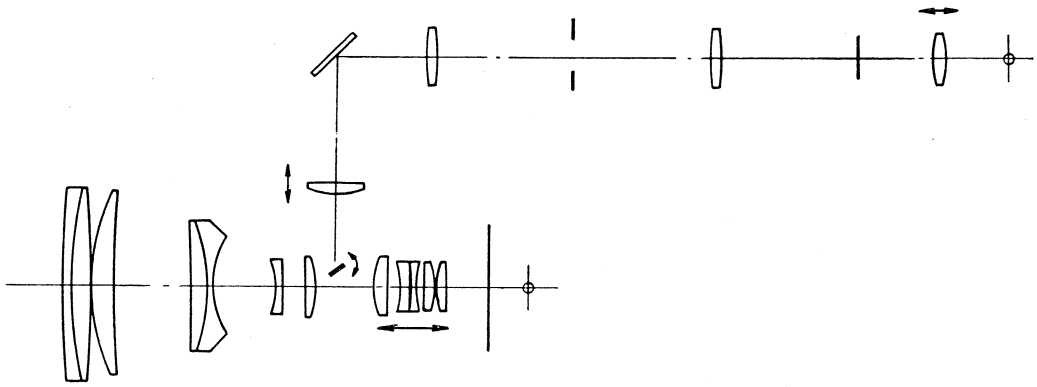
The system is consisted of the lens focus section, which includes the zoom lens, the p-mirror, and the master lens to the film plane, and from the viewfinder section which starts at the p-mirror, includes the mirror and the viewfinder lenses.

Adjustment of the lens focus section is made by changing the position of master lens. Function of viewfinder section is to monitor the image to be registered on film, and adjustment of the viewfinder section is as important as master lens adjustment.

Zoom lens assembly, not only ones assembled in a camera but also ones supplied as spare parts, are factory adjusted and further adjustment need not be performed to the zoom lens itself.



For 132P XL



For 133P XL

Fig. 4-1

B. Adjustment Procedure

a. Lens focus adjustment

Inspection:

Between the master lens and film plane is the shutter blade blocking the light path. Therefore, while running the camera, open the film chamber door and decrease power supply voltage to open the shutter blade. Use external power supply (Clear the light path).
The shutter may not open at the first trial. Repeat until the film chamber is viewed through the zoom lens and not part of the shutter blade blocks the light path.
Insert the surface mirror (Mirror stand) into the film chamber and take the reading. See Fig. 4-2.

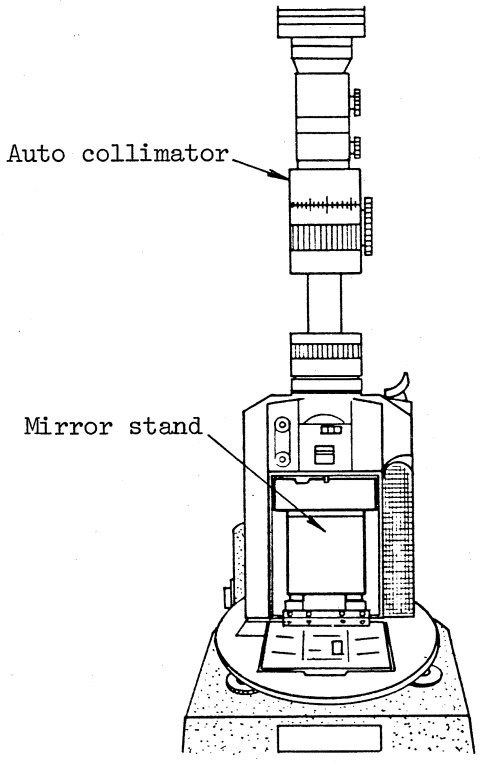


Fig. 4-2

Equipment:

Auto collimator f=193.5mm (T0-052) and f=80mm (T0-050)
Mirror stand (T1-101A)
VF adjustment rod (T1-111)

Adjustment:

1. Remove the left side cover. Refer to Left Side Cover Removal.
2. Set the focus ring to infinity position and zoom to tele, then take focus reading.
   (Set the zoom to tele and take focus reading in case of 132P XL.)
3. To adjust the focus, insert a VF adjustment rod specially made for this purpose into the guide hole, and slide the master lens to set

focus. See Fig. 4-3.
After adjustment, check wide focus.

Note: The master lens is locked with glue. Before adjustment, glue may require pre-soaking with solvent.

4. After adjustment, lock the master lens with glue and set the left side cover.

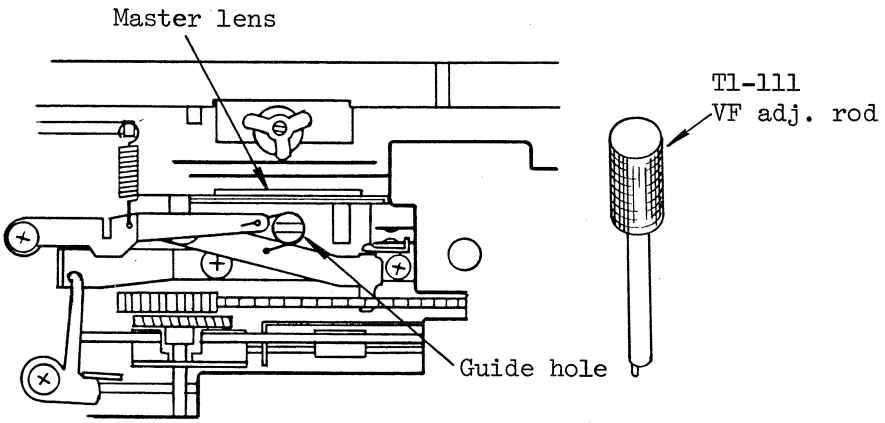


Fig. 4-3

Focus specifications:

The table below shows focus specifications for adjustment.

Model	Zoom	Auto collimator	Reading
133P XL	Tele	193.5 mm	+6.0 ± 0.5
	Wide	80 mm	+6.5 ± 1.0
132P XL	Tele	193.5 mm	+0.3 ± 0.5
	Wide	80 mm	+0.6 (Check)

Including adjustment after zoom lens replacement, adjustment of master to set tele focus will automatically bring wide focus into the specified range. However should further tele focus adjustment on model 133P XL becomes necessary, please adjust it with the following methods.

1. At the first, check wide focus and adjust it with master lens if necessary.
2. Remove the focus ring(13803ACS7100A) and loosen the three screws (3 x 012-20423) which set the 1'st lens(Top lens) group.
   Refer to Fig. 4-4.
   The 1'st lens group is locked with glue and it may require pre-soaking with solvent.
3. Set the camera to infinity and zoom to tele, then turn the 1'st lens group to set focus.
   After adjustment, tighten the three screws and lock them with glue.
4. Check wide focus again and repeat the procedure as needed.

If the 1'st lens group adjustment is performed, the viewfinder focus should be checked or adjusted.

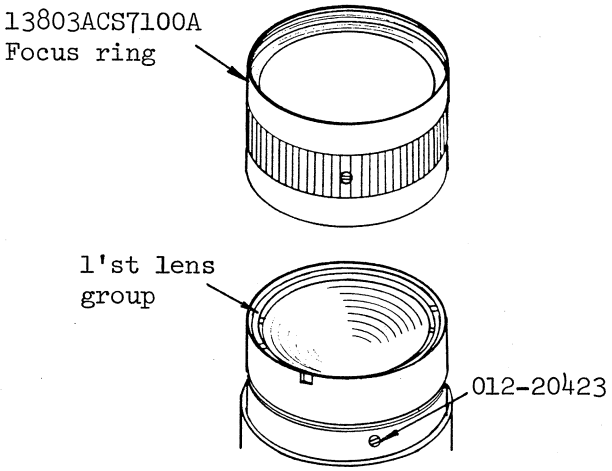


Fig. 4-4

b. Adjustment of viewfinder

- Parallax adjustment

The TTL system is employed in the viewfinder system and adjustment to precisely correlate the film plane image with the viewfinder image is necessary.

Inspection:

Open the shutter blade. Refer to Inspection of Lens focus adjustment. Insert a right angle viewer into the film chamber and mount the camera on a camera stand or tripod. Adjust the viewfinder to your eyesight by turning the eyepiece. Looking through the right angle viewer, set the camera squarely to the chart. See Fig. 4-5.
The distance to the chart and zoom position may be set voluntrily for this adjustment. Looking into the viewfinder to check possible image shift or image tilt. The film plane image must cover the entire viewfinder image.

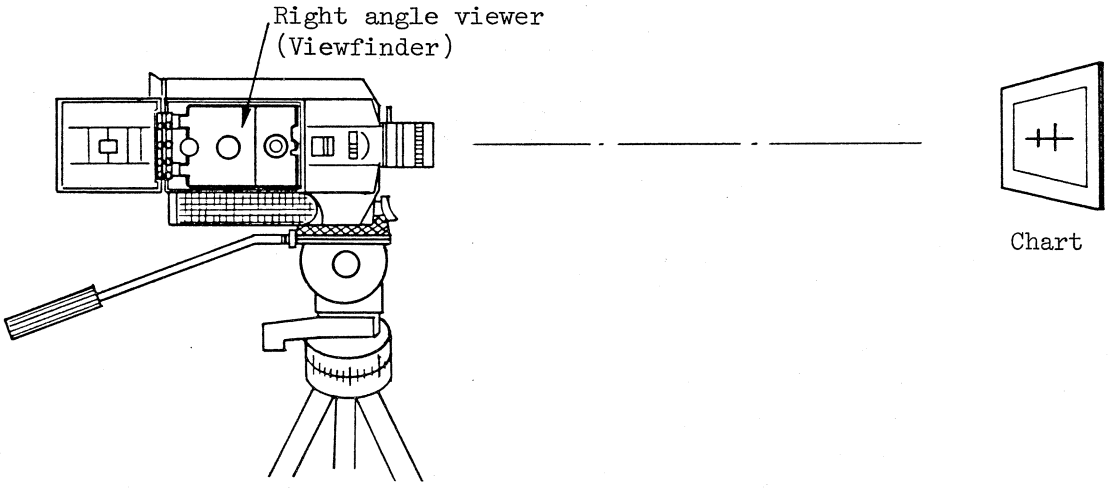


Fig. 4-5

Equipment:

Camera stand (T2-201) or Tripod
Right angle viewer(Viewfinder) (T1-102)
Chart

Adjustment:

1. Remove the left side cover. Refer to Light Side Cover Removal.
2. The parallax adjustment can be made by turning the shaft of P-mirror holder(13803ACU8512A) with (-) screwdriver.
   Refer to Fig. 4-6.

   Note: The P-mirror holder is locked with glue.
   Before adjustment, dissolve it with solvent.
   After adjustment, lock the P-mirror holder with glue.

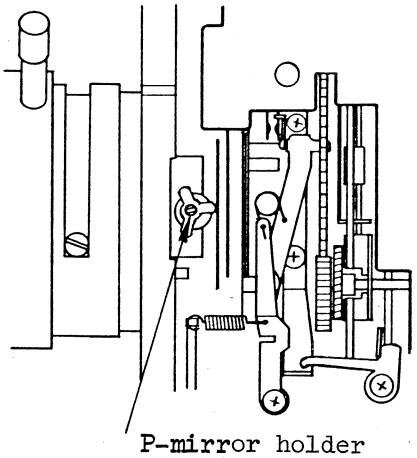


Fig. 4-6

● Viewfinder focus adjustment

This adjustment is made after parallax adjustment.

Equipment:

Chart
Tripod or Camera stand (T2-201)
VF adjustment rod (T1-111)

Adjustment:

1. Remove the Left side cover.
2. Set the camera 5 meters away from the chart and zoom to Tele full magnification.
3. Looking into the viewfinder, turn the eyepiece until the outline of a viewfinder mask is sharpest.
4. Insert a VF adjustment rod into the guide hole, and slide the F-1 lens holder(13803ACU8201A) until the image is sharpest by turning the VF adjustment rod.
   See Fig. 4-7.
5. After adjustment, lock the F-1 lens holder with glue.

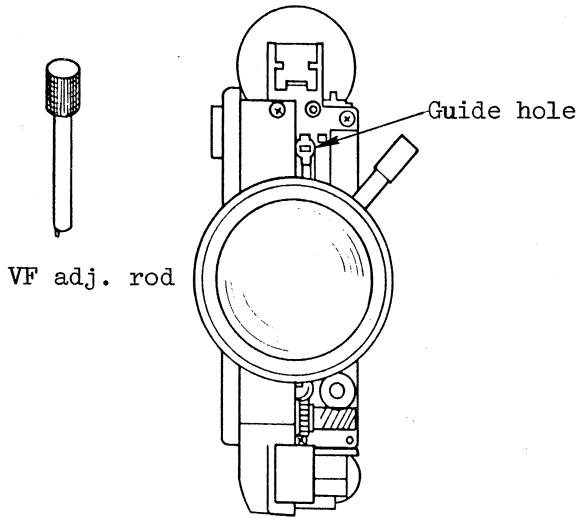


Fig. 4-7

C. Viewfinder Display

The Fig. 4-8 illustrates the indicators displayed in the viewfinder.

a. Film transport/
Film end signal

b. Under exposure warning

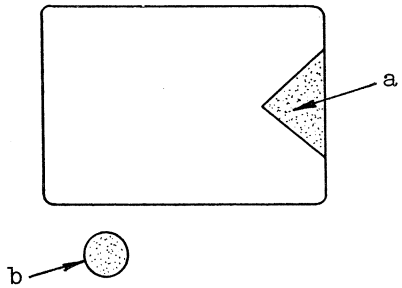


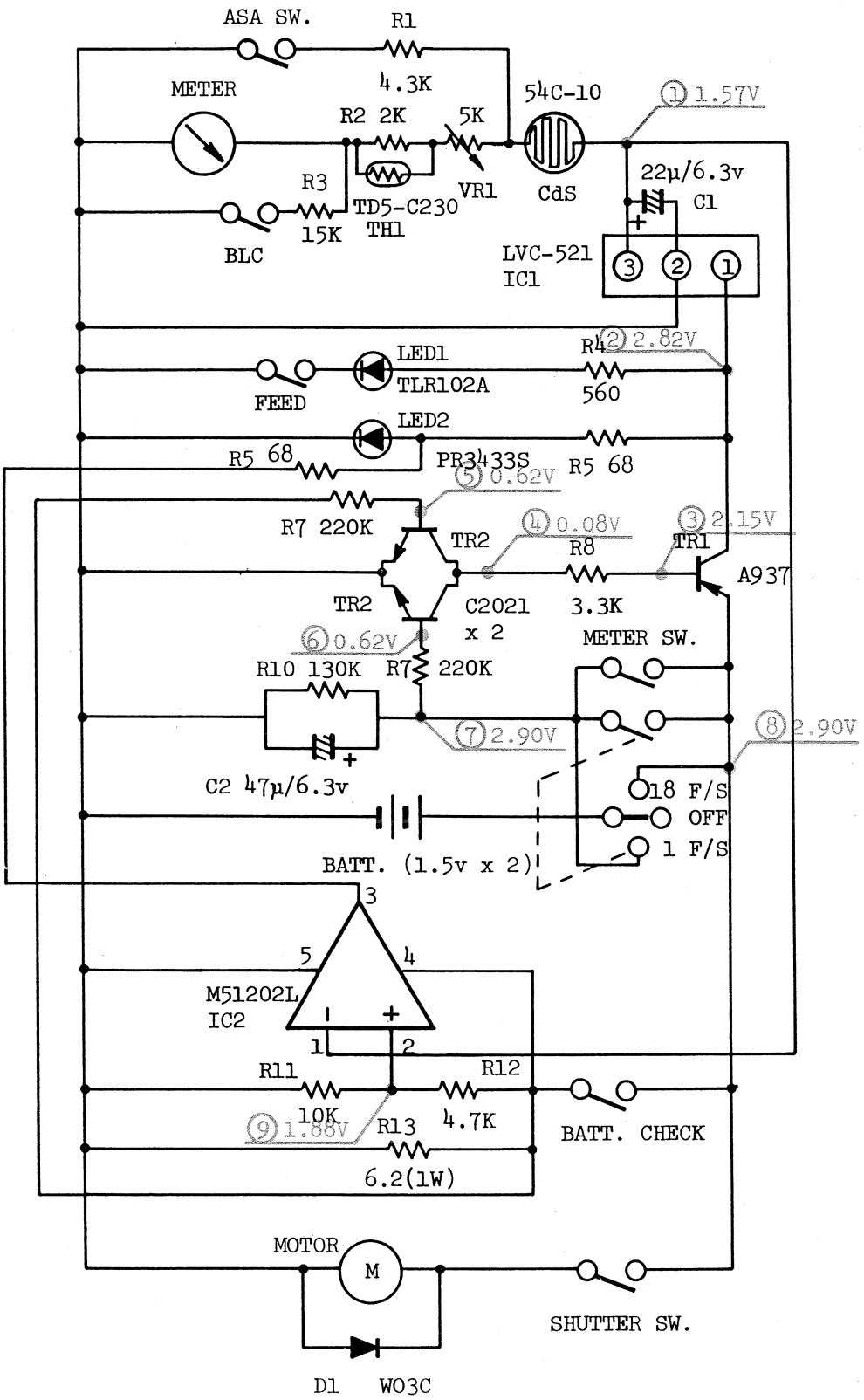
Fig. 4-8

SERVICE TOOLS LIST
OF
CHINON 132PXL/133PXL

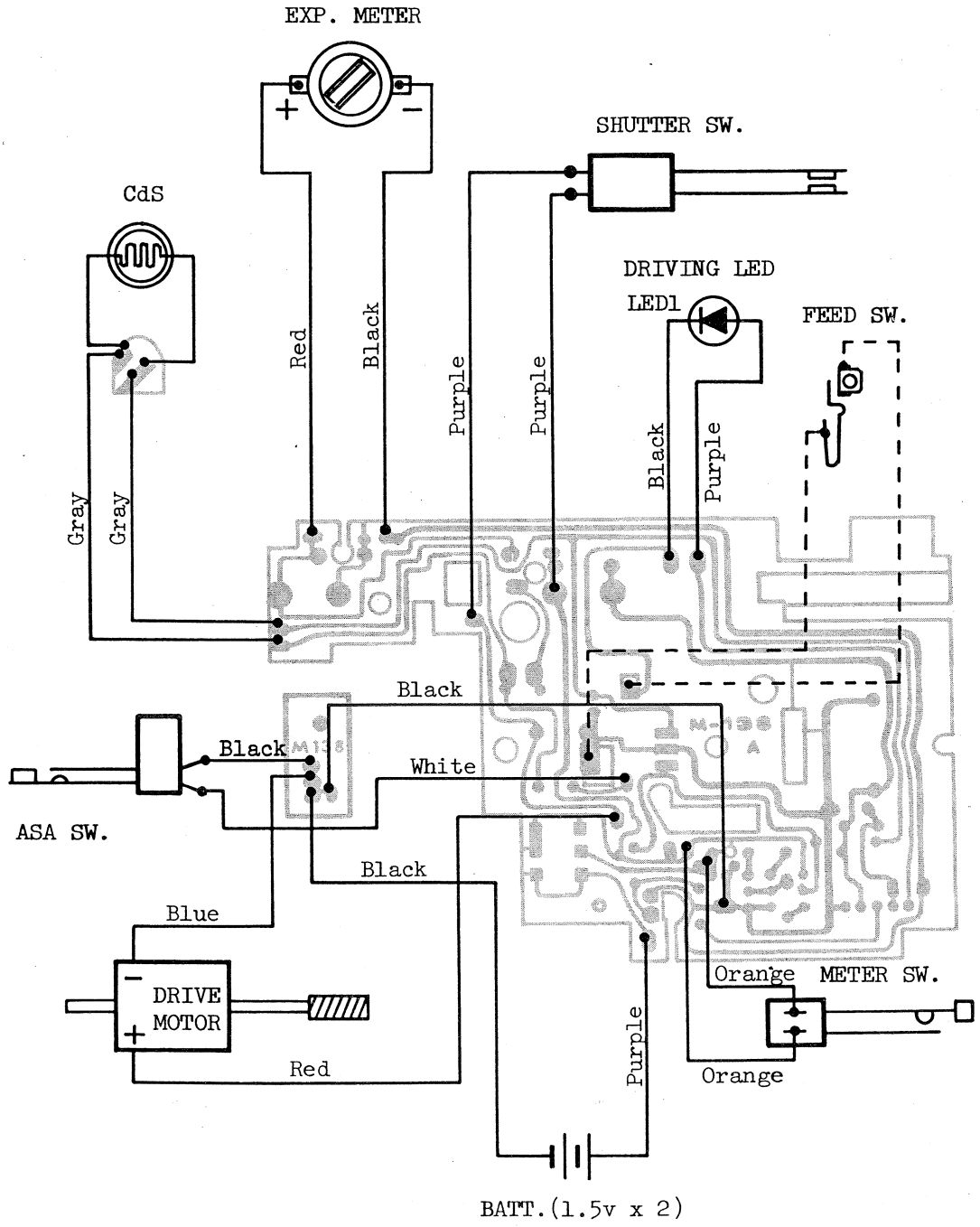
Tool No.	Tool Name	Application
T0-001	(-) Screwdriver set (#1-6)	
T0-002	(+) Screwdriver set (#4-7)	
T0-003A	Screwdriver handle: Type A	
T0-003B	Screwdriver handle: Type B	
T0-004A	Screwdriver bit: Type A	
T0-004B	Screwdriver bit: Type B	
T0-004C	Screwdriver bit: Type C	
T0-011	Precision file set	
T0-013	Micro nipper	
T0-019A	Tweezers: Type A	
T0-019B	Tweezers: Type B	
T0-025	Blower	
T0-026	Oiler	
T0-027	Injector	
TC-028	Glue	
T0-029A	Cement: Type A	
T0-029B	Cement: Type B	
T0-050	Auto collimator f=80 mm	For focus adjustment.
T0-052	Auto collimator f=193.5 mm	"
T0-055	Infinity collimator	"
T0-057	DC power source (2 A)	Regulated DC power supply.
T0-058	Tester	
T0-059	Digital multi-meter	
T0-061	Strobe-scope	For measurement of film transport speed.
T0-063	Frame counter	"
T0-065	Multi camera tester	For exposuring measurement.
T0-066	EE tester	"
T0-073	Electron volt-meter	For measuring the voltage or current.
T1-101A	Mirror stand	For checking or adjusting focus. Equipped with auto collimator.
T1-101B	Spare mirror	
T1-102	Viewfinder	Checking or adjusting parallax.
T1-103	Torque watch (50 ft.)	Checking or adjusting film take-up torque.
T1-106	Claw gauge set	For checking or adjusting the height and position of claw.
T1-111	VF adjustment rod	Viewfinder and master lens adjustment.
T1-115	DC connector	With combination of the DC power source.
T2-201	Camera stand	For parallax adjustment will be useful.

CONTENTS

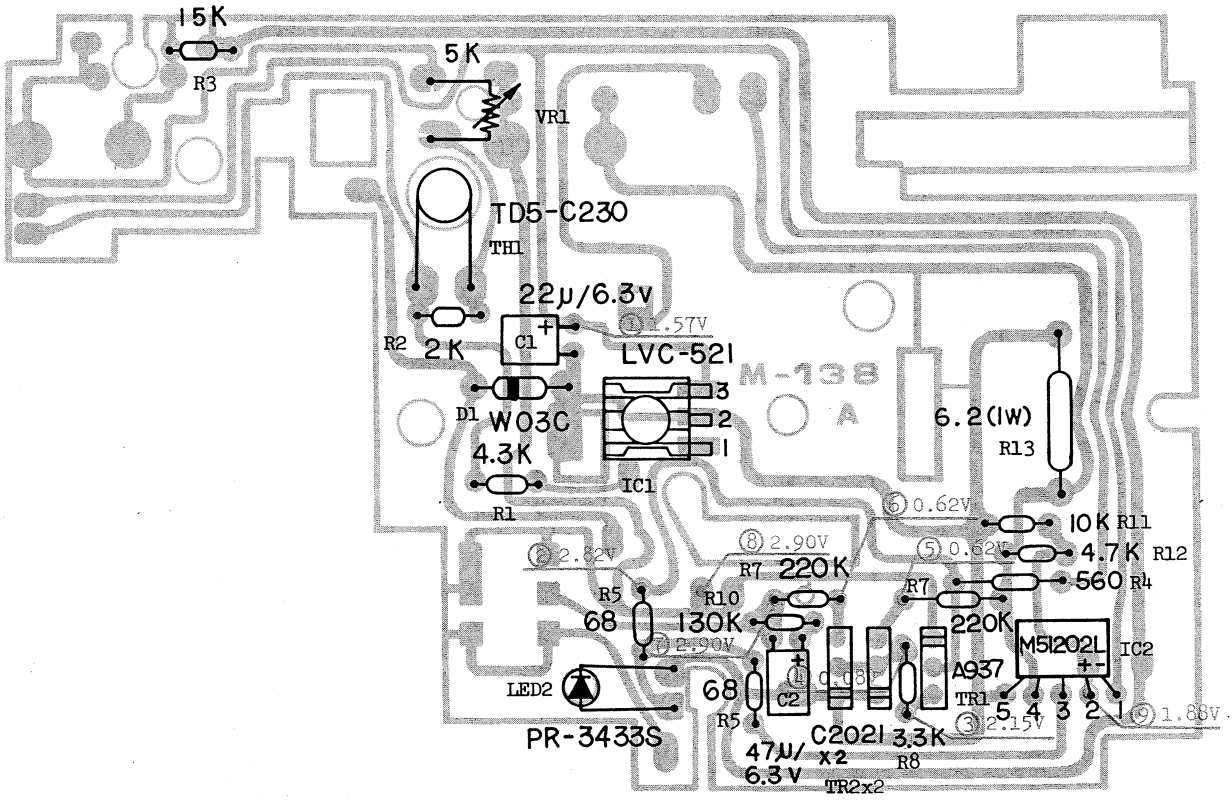
SCHEMATIC DIAGRAM
回　路　図



WIRING DIAGRAM
実 体 配 線 図



PRINTED CIRCUIT BOARD A & CDS PLATE
プ リ ン ト 基 板 A　　C D S 基板

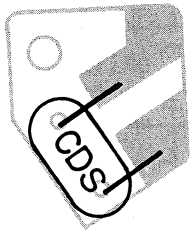


P.C.BOARD A

Note: Voltage of each test point (except ⑤ and ⑨) is measured between Test point and GND with following condition.

Power supply voltage: DC 3.00 V
FPS setting : 18 FPS
Meter and Shutter switches 'ON'
No load should be given to drive motor

To check the Test point ⑤ and ⑨, close the checker switch only then measure its voltage.

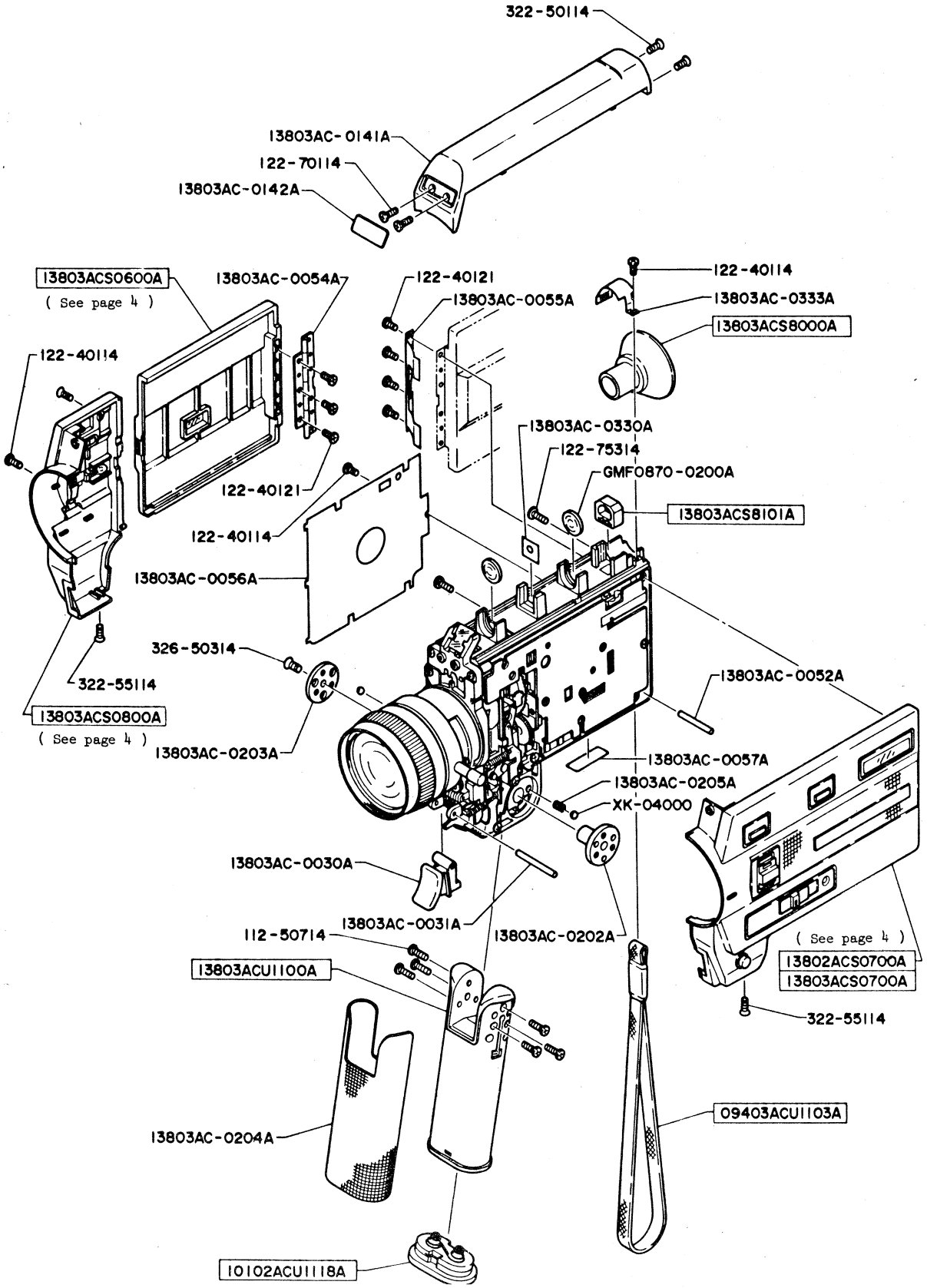


CDS PLATE

CONTENTS

1

EXPLODED VIEW
OF
CHINON 132PXL/133PXL



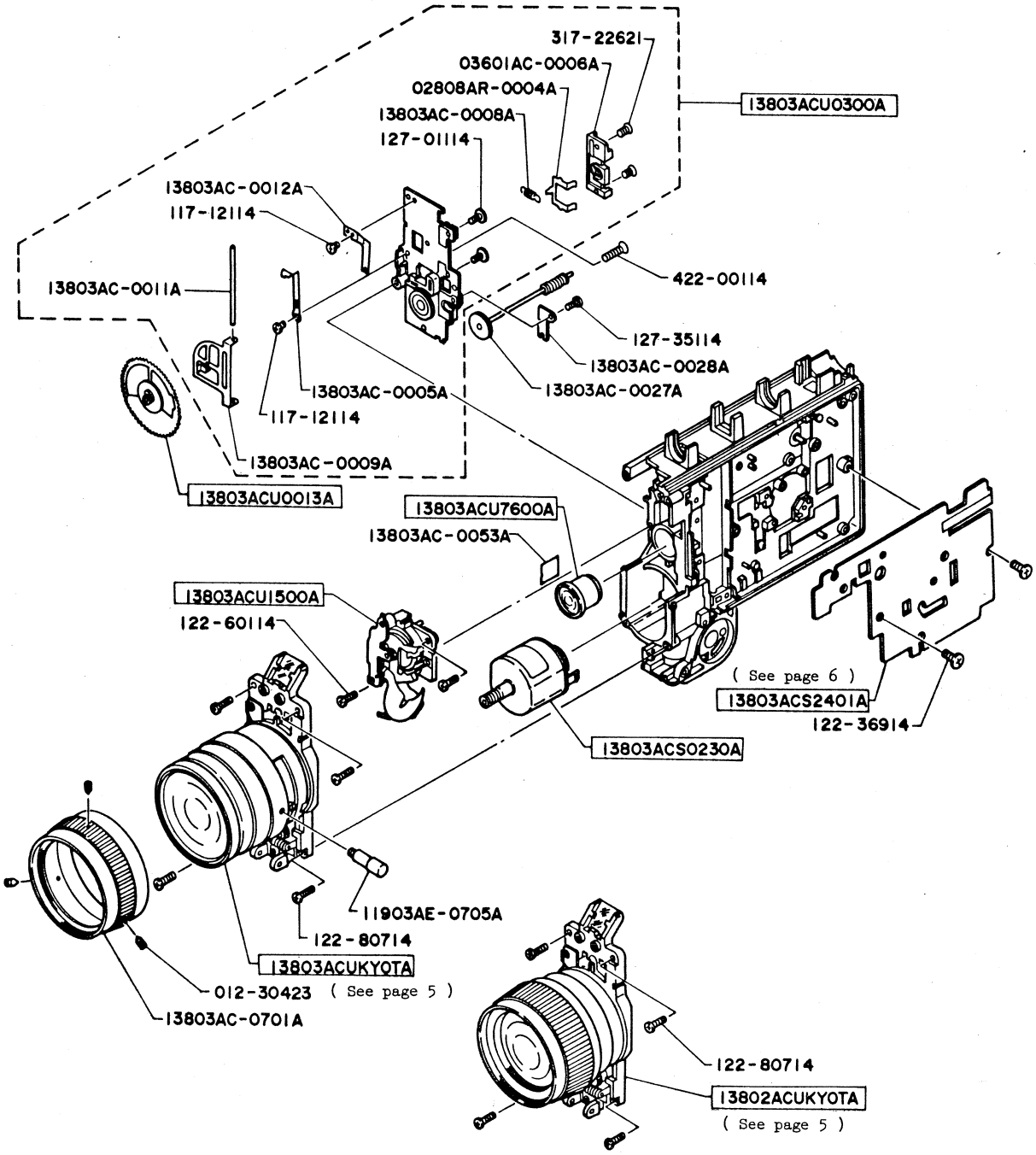
PARTS LIST

GENERAL DISASSEMBLY
総 体 図

ORDER QTY	部 品 名 称	CLASS	PARTS NO.	QTY	PARTS NAME	x2	x3
10	オモテフタ(S)	C	13803ACS0600A	1	Film chamber door	o	o
20	ウラフタ(S)	C	13802ACS0700A	1	Left side cover	o	
	ウラフタ(S)	C	13803ACS0700A	1	Left side cover		o
10	マエフタ(S)	C	13803ACS0800A	1	Right side cover	o	o
10	ｸﾞﾘｯﾌﾟ(S)	C	13803ACU1100A	1	Grip	o	o
—	Rストラップ(S)	C	09403ACU1103A	1	Hand strap	o	o
—	ｸﾞﾘｯﾌﾟｷｬｯﾌﾟ(S)	C	10102ACU1118A	1	Battery cap	o	o
30	ｾﾘｶﾞﾝﾜｸ(S)	C	13803ACS8000A	1	Eyepiece	o	o
20	ﾏｽｸﾜｸ(S)	D	13803ACS8101A	1	V/F mask	o	o
30	ｼｬｯﾀｰﾎﾞﾀﾝ	C	13803AC-0030A	1	Shutter button	o	o
10	ｼｬｯﾀｰﾎﾞﾀﾝｼﾞｸ	E	13803AC-0031A	1	Button shaft	o	o
20	ｽﾄﾗｯﾌﾟｼﾞｸ	D	13803AC-0052A	1	Strap shaft	o	o
—	ﾁｮｳﾊﾞﾝ	E	13803AC-0054A	1	Hinge	o	o
—	ﾌｨﾙﾑｺﾃｲﾊﾞﾈ	E	13803AC-0055A	1	Guide spring	o	o
—	ｶｻﾞﾘｲﾀ	D	13803AC-0056A	1	Film chamber plate	o	o
	NO.ﾌﾟﾚｰﾄ	D	13803AC-0057A	1	No. plate	o	o
	ｳｴｶﾊﾞｰ	B	13803AC-0141A	1	Upper cover	o	o
	ﾌﾞﾗﾝﾄﾞﾊﾞﾝ	A	13803AC-0142A	1	Name plate	o	o
	G02	E	GMF0870-0200A	2	Lens G02	o	o
	ｸﾞﾘｯﾌﾟｼﾞｸ	E	13803AC-0202A	1	Grip shaft	o	o
	ｸﾞﾘｯﾌﾟｼﾞｸｵｻｴ	E	13803AC-0203A	1	Retainer	o	o
—	ｸﾞﾘｯﾌﾟﾚｻﾞｰ	A	13803AC-0204A	1	Grip leather	o	o
	ｸﾞﾘｯﾌﾟﾛｯｸﾊﾞﾈ	E	13803AC-0205A	1	Lock spring	o	o
	ｾｲﾘﾂｼﾎﾞﾘ	E	13803AC-0330A	1	Diaphragm	o	o
	ｾﾘｶﾞﾝｵｻｴｲﾀ	E	13803AC-0333A	1	Eyepiece holder	o	o
	PHK2.0x5.0-3.5x1.0		112-50714	6	Screw	o	o
	THK2.0x4.0-3.0x0.6		122-40114	3	Screw	o	o
	THK2.0x4.0-3.0x0.6		122-40121	7	Screw	o	o
	THK2.0x7.0-3.0x0.6		122-70114	2	Screw	o	o
	THK2.0x7.5-4.0x0.8		122-75314	2	Screw	o	o
	TSK2.0x5.0-3.0x0.6		322-50114	2	Screw	o	o
	TSK2.0x5.5-3.0x0.6		322-55114	2	Screw	o	o
	TSK2.6x5.0-4.0x0.8		326-50314	1	Screw	o	o
50	ｽﾁｰﾙﾎﾞｰﾙ 4.0		XK-04000	1	Steel ball	o	o

2

EXPLODED VIEW
OF
CHINON 132PXL/133PXL



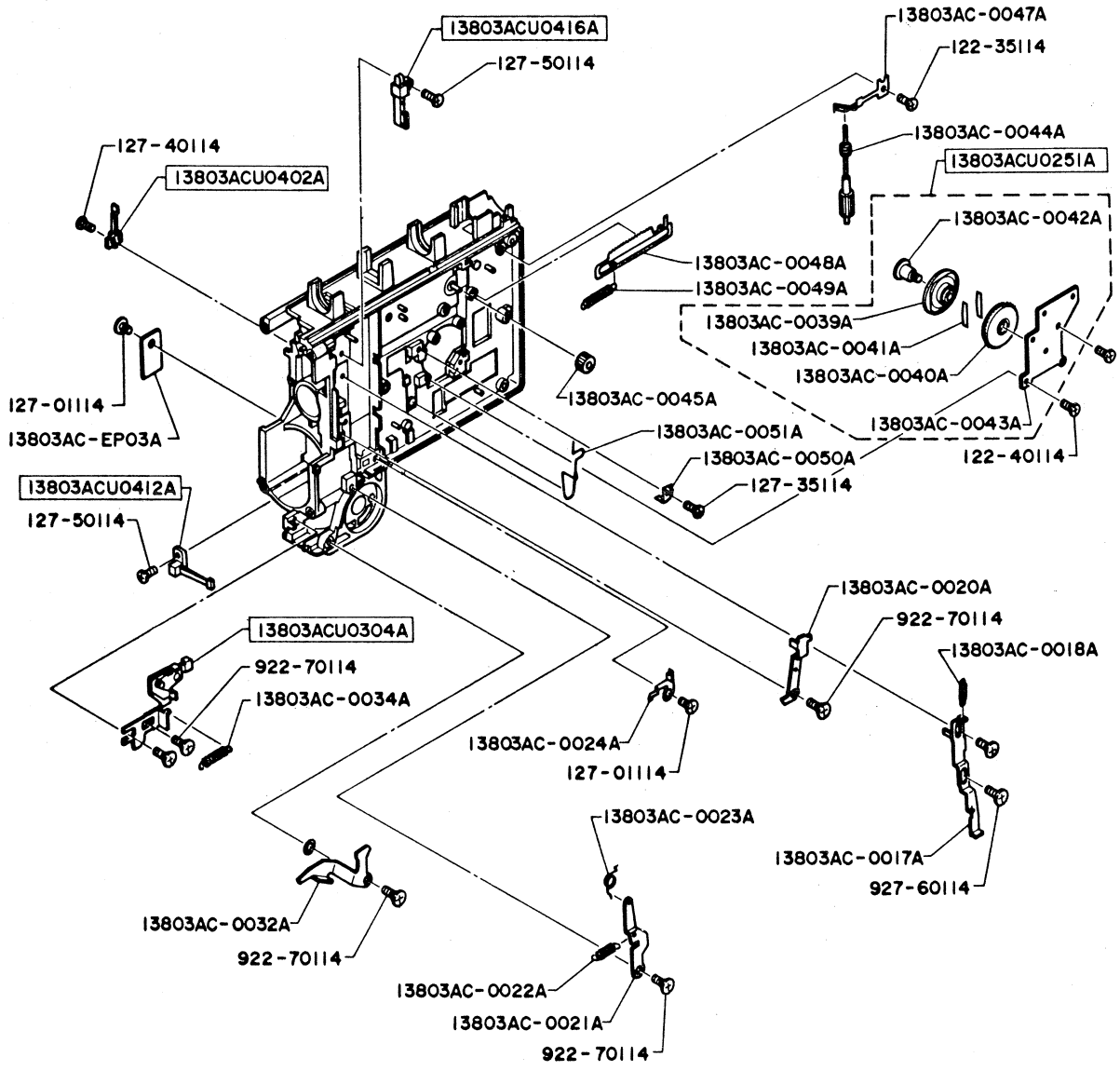
PARTS LIST

MAIN FRAME (1) AND ZOOM LENS
本　体(1)　　鏡　筒

ORDER QTY	部品名称	CLASS	PARTS NO.	QTY	PARTS NAME	x2	x3
10	カム(S)	D	13803ACU0013A	1	Shutter blade	o	o
50	ｸﾄﾞｳﾓｰﾀｰ(S)	C	13803ACS0230A	1	Drive motor	o	o
20	ﾏｴｲﾀ(S)	D	13803ACU0300A	1	Front plate	o	o
50	ﾒｰﾀｰ(S)	D	13803ACU1500A	1	Exp. meter	o	o
10	ﾌﾟﾘﾝﾄｷﾊﾞﾝA(S)	D	13803ACS2401A	1	P.C.Board A	o	o
10	ﾏｽﾀｰ(S)	D	13803ACU7600A	1	Master lens	o	o
30	ｷｮｳﾄｳ(S)	D	13802ACUKYOTA	1	Zoom lens	o	
30	ｷｮｳﾄｳ(S)	D	13803ACUKYOTA	1	Zoom lens		o
-	ﾌｲﾙﾑｵｻｴ	E	02808AR-0004A	1	Film pressure	o	o
-	ASAｲﾀ	E	13803AC-0005A	1	ASA plate	o	o
-	ｱﾊﾟｰﾁｬｰ	D	03601AC-0006A	1	Aperture	o	o
20	ﾌｨﾙﾑｵｻｴﾊﾞﾈ	E	13803AC-0008A	1	Spring	o	o
10	ｵｸﾘﾘﾒ	D	13803AC-0009A	1	Claw	o	o
-	ﾘﾒｼﾞｸ	E	13803AC-0011A	1	Claw shaft	o	o
30	ｵｸﾘｲﾀﾊﾞﾈ	D	13803AC-0012A	1	Spring plate	o	o
10	ﾏｷﾄﾘｳｫｰﾑ	D	13803AC-0027A	1	Take-up worm	o	o
20	ﾏｷﾄﾘｼﾞｸｵｻｴ	E	13803AC-0028A	1	Retainer	o	o
20	ﾏｽﾀｰｵｻｴﾊﾞﾈ	E	13803AC-0053A	1	Spring plate	o	o
20	ｷｮﾘｶﾝ	B	13803AC-0701A	1	Focus ring		o
-	ｽﾞｰﾑﾚﾊﾞｰ	D	11903AE-0705A	1	Zoom lever		o
	KS2.0x3.0		012-30423	3	Screw		o
	PHK1.7x1.2-3.0x0.5		117-12114	2	Screw	o	o
	THK2.0x3.6-4.5x1.0		122-36914	2	Screw	o	o
	THK2.0x6.0-3.0x0.6		122-60114	2	Screw	o	o
	THK2.0x8.0-3.5x1.0		122-80714	4	Screw	o	o
	THK1.7x3.0-5.0x0.8		127-01114	2	Screw	o	o
	THK1.7x3.5-3.0x0.6		127-35114	1	Screw	o	o
	PSK1.7x2.2-3.0x0.8		317-22621	2	Screw	o	o
20	TSK2.0x10.0-3.0x0.6		422-00114	1	Screw	o	o

3

EXPLODED VIEW
OF
CHINON 132PXL/133PXL



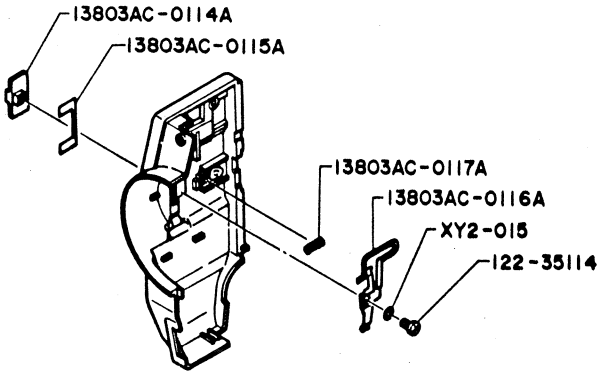
PARTS LIST

MAIN FRAME (2)
本　体 (2)

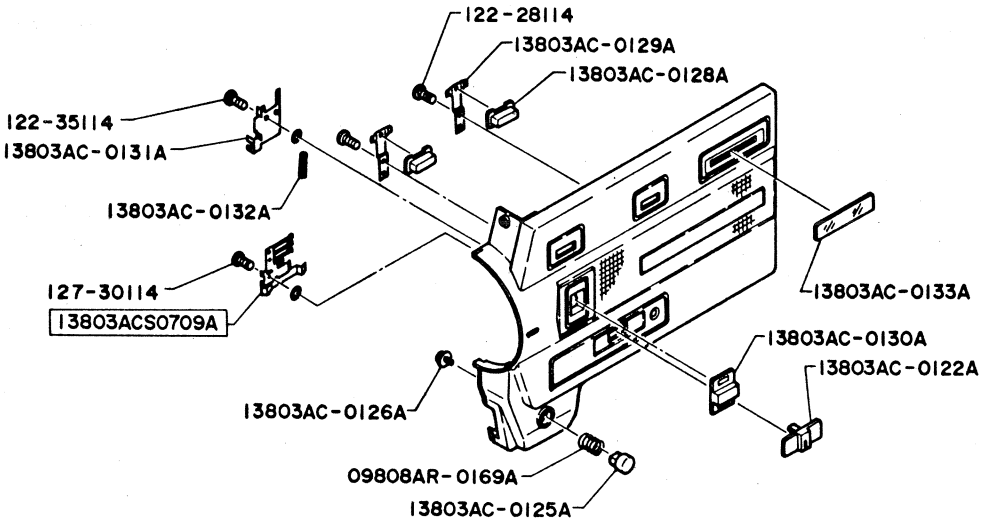
ORDER QTY	部品名称	CLASS	PARTS NO.	QTY	PARTS NAME	x2	x3
	ﾏｷﾄﾘﾀﾞｲﾔﾙｲﾀ(S)	D	13803ACU0251A	1	Take-up dial	o	o
	ｼｬｯﾀｰﾚﾊﾞｰB(S)	E	13803ACU0304A	1	Shutter lever B	o	o
	ASAｽｲｯﾁ(S)	D	13803ACU0402A	1	ASA switch	o	o
	ﾒｰﾀｰｽｲｯﾁ(S)	C	13803ACU0412A	1	Meter switch	o	o
	ｼｬｯﾀｰｽｲｯﾁ(S)	C	13803ACU0416A	1	Shutter switch	o	o
	1ｺﾏﾚﾊﾞｰ	E	13803AC-0017A	1	1 FPS lever	o	o
	1ｺﾏﾚﾊﾞｰﾊﾞﾈ	E	13803AC-0018A	1	Spring	o	o
	ｽﾄｯﾌﾟﾚﾊﾞｰ	E	13803AC-0020A	1	Stop lever	o	o
	ﾚﾘｰｽﾞﾚﾊﾞｰ	E	13803AC-0021A	1	Release lever	o	o
	ﾚﾘｰｽﾞﾚﾊﾞｰﾊﾞﾈ	E	13803AC-0022A	1	Spring	o	o
	ﾋﾁｭｳﾘﾘﾊﾞﾈ	E	13803AC-0023A	1	Spring	o	o
	18-1ｷﾘｶｴﾚﾊﾞｰ	E	13803AC-0024A	1	18-1 select lever	o	o
	ｼｬｯﾀｰﾚﾊﾞｰA	E	13803AC-0032A	1	Shutter lever A	o	o
	ｼｬｯﾀｰﾚﾊﾞｰB	E	13803AC-0034A	1	Shutter lever B	o	o
	ﾏｷﾄﾘﾀﾞｲﾔﾙ	C	13803AC-0039A	1	Dial	o	o
	ﾏｷﾄﾘｷﾞﾔ	D	13803AC-0040A	1	Gear	o	o
	ﾏｷﾄﾘﾌﾘｸｼｮﾝﾊﾞﾈ	C	13803AC-0041A	2	Friction spring	o	o
	ﾏｷﾄﾘﾀﾞｲﾔﾙｼﾞｸ	D	13803AC-0042A	1	Shaft	o	o
	ﾏｷﾄﾘﾀﾞｲﾔﾙｲﾀ	E	13803AC-0043A	1	Bracket	o	o
	ﾌｰﾃｰｼﾞｳｫｰﾑ	E	13803AC-0044A	1	Counter worm	o	o
	ﾌｰﾃｰｼﾞｷﾞﾔ	E	13803AC-0045A	1	Counter gear	o	o
	ﾌｰﾃｰｼﾞﾋﾟﾝﾊﾞﾈ	E	13803AC-0047A	1	Counter spring	o	o
	ﾌｰﾃｰｼﾞｼｼﾝ	D	13803AC-0048A	1	Counter indicator	o	o
	ﾌｰﾃｰｼﾞﾊﾞﾈ	E	13803AC-0049A	1	Spring	o	o
	ｷｭｳｿｳｾｯﾍﾟﾝ	E	13803AC-0050A	1	Switch contact	o	o
	ｷｭｳｿｳｾｯﾍﾟﾝﾊﾞﾈ	C	13803AC-0051A	1	Contact spring	o	o
	ﾁｭｳｹｲｷﾊﾞﾝ	D	13803AC-EP03A	1	Relay pattern	o	o
	THK2.0x3.5-3.0x0.6		122-35114	1	Screw	o	o
	THK2.0x4.0-3.0x0.6		122-40114	2	Screw	o	o
	THK1.7x3.0-5.0x0.8		127-01114	2	Screw	o	o
	THK1.7x3.5-3.0x0.6		127-35114	1	Screw	o	o
	THK1.7x4.0-3.0x0.6		127-40114	1	Screw	o	o
	THK1.7x5.0-3.0x0.6		127-50114	2	Screw	o	o
	TDK2x3.5-3x0.85-5x0.8		922-70114	5	Screw	o	o
	TDK1.7x3-2.5x0.6-5x0.8		927-60114	2	Screw	o	o

4

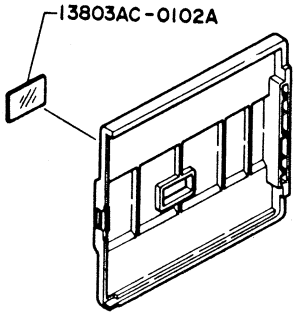
EXPLODED VIEW
OF
CHINON 132PXL/133PXL



Right Side Cover



Left Side Cover



Film Chamber Door

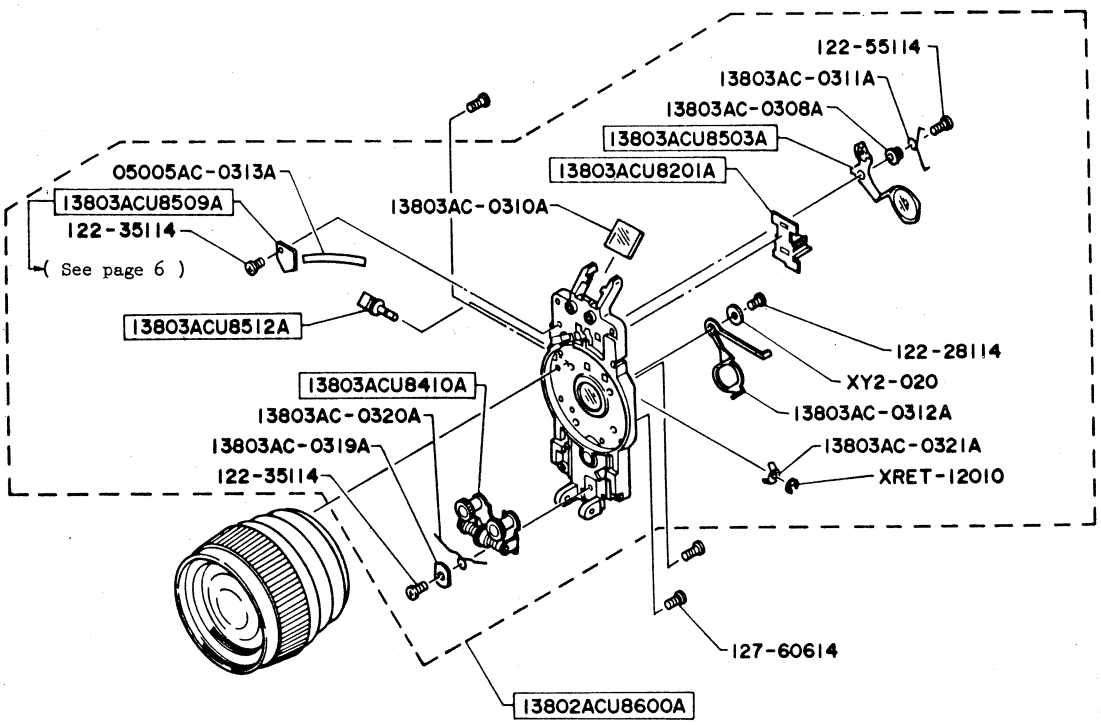
PARTS LIST

OUTER COVERS (RIGHT AND LEFT SIDE COVERS & FILM CHAMBER DOOR)
外　観（前蓋、裏蓋、表蓋）

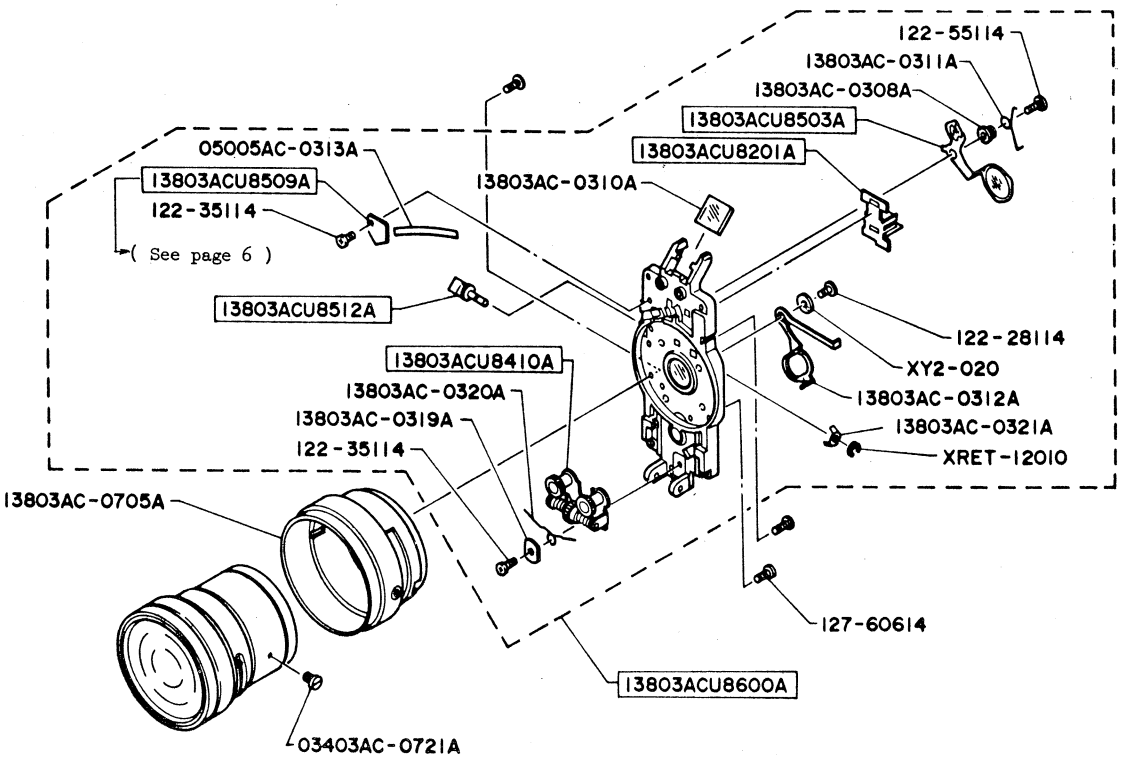
ORDER QTY	部品名称	CLASS	PARTS NO.	QTY	PARTS NAME	x2	x3
	ﾒｲﾝｽｲｯﾁ(S)	D	13803ACS0709A	1	Main switch	o	o
	ﾗﾍﾞﾙﾏﾄﾞｲﾀ	C	13803AC-0102A	1	Door window	o	o
	ﾌｨﾙﾀｰﾎﾞﾀﾝ	D	13803AC-0114A	1	Filter button	o	o
	ﾌｨﾙﾀｰﾋｮｳｼﾞﾊﾞﾝ	D	13803AC-0115A	1	Indication plate	o	o
	ﾌｨﾙﾀｰﾎﾞﾀﾝﾊﾞﾈ	D	13803AC-0116A	1	Spring	o	o
	ｵﾓﾃﾌﾀﾛｯｸﾊﾞﾈ	E	13803AC-0117A	1	Lock spring	o	o
	ﾒｲﾝｽｲｯﾁﾎﾞﾀﾝ	D	13803AC-0122A	1	Main switch button	o	o
	ﾗﾝﾛｯｸﾎﾞﾀﾝ	D	13803AC-0125A	1	Run lock button	o	o
	ﾗﾝﾛｯｸﾎﾞﾀﾝｼﾞｸ	E	13803AC-0126A	1	Button shaft	o	o
	BLCﾎﾞﾀﾝ	D	13803AC-0128A	2	BLC button	o	o
	BLCｾｯﾍﾟﾝ	E	13803AC-0129A	2	BLC contact	o	o
	ﾊﾟﾜｰﾎﾞﾀﾝ	D	13803AC-0130A	1	Power button	o	o
	ﾊﾟﾜｰﾎﾞﾀﾝｳｹ	E	13803AC-0131A	1	Button holder	o	o
	ﾊﾟﾜｰﾎﾞﾀﾝﾊﾞﾈ	E	13803AC-0132A	1	Spring	o	o
	ﾌｰﾃｰｼﾞﾏﾄﾞ	C	13803AC-0133A	1	Counter window	o	o
	ﾁｪｯｶｰﾎﾞﾀﾝﾊﾞﾈ	E	09808AR-0169A	1	Spring	o	o
	THK2.0x2.8-3.0x0.6		122-28114	2	Screw	o	o
	THK2.0x3.5-3.0x0.6		122-35114	2	Screw	o	o
	THK1.7x3.0-3.0x0.6		127-30114	1	Screw	o	o
	HW2.2x5.0-0.3		XY2-015	1	Washer	o	o

5

EXPLODED VIEW
OF
CHINON 132PXL/133PXL



For 132P XL



For 133P XL

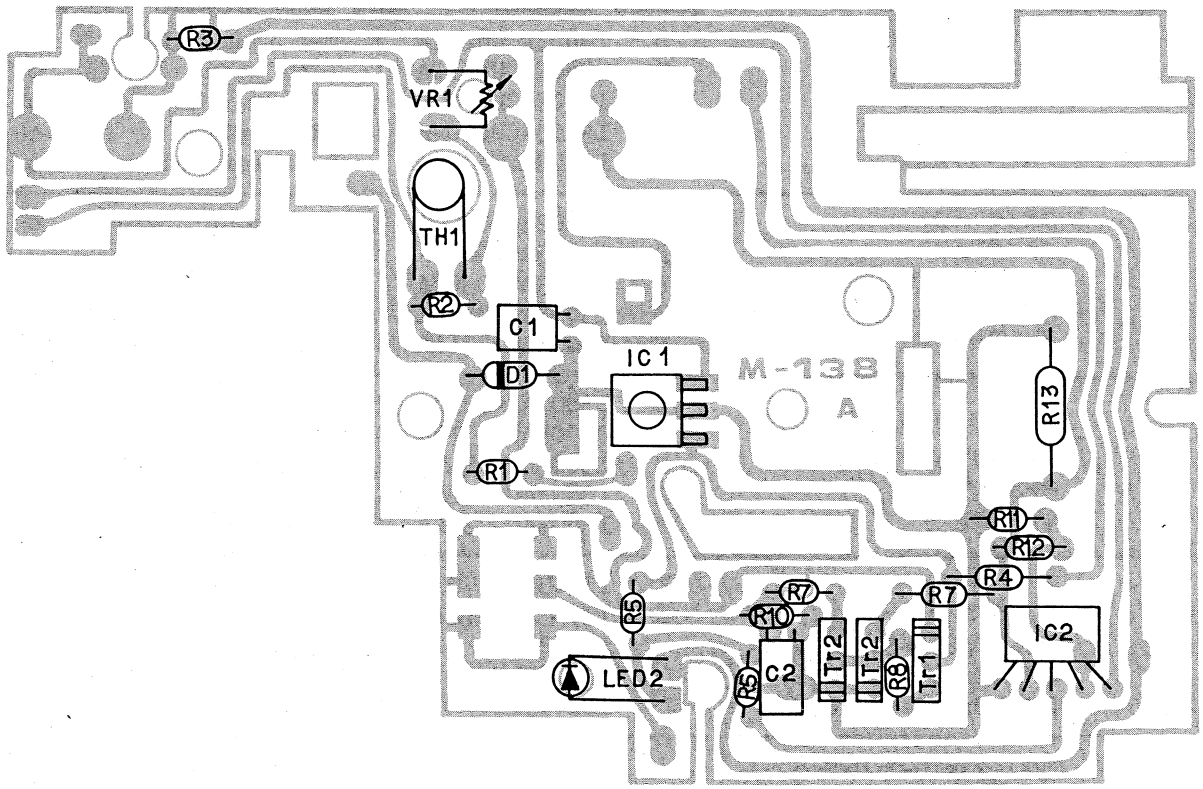
PARTS LIST

ZOOM LENS
鏡　筒

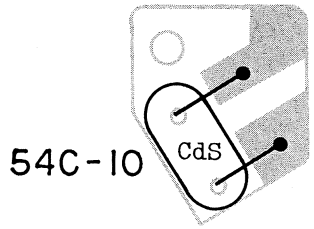
ORDER QTY	部品名称	CLASS	PARTS NO.	QTY	PARTS NAME	x2	x3
	F1レンズ"ウケ(S)	D	13803ACU8201A	1	F-1 lens holder	o	o
	Pチュウリツバ"ン(S)	D	13803ACU8410A	1	Zoom gear	o	o
	フィルターワク(S)	D	13803ACU8503A	1	Filter frame	o	o
	CDSキバ"ン(S)	D	13803ACU8509A	1	CdS plate	o	o
	Pミラーウケ(S)	C	13803ACU8512A	1	P-mirror holder	o	o
	コテイサ"(S)	D	13802ACU8600A	1	Lens mount base	o	
	コテイサ"(S)	D	13803ACU8600A	1	Lens mount base		o
	フィルターワクオサエ	E	13803AC-0308A	1	Holder	o	o
	Fミラー	E	13803AC-0310A	1	F-mirror	o	o
	フィルターバネ	E	13803AC-0311A	1	Spring	o	o
	Pレバー	E	13803AC-0312A	1	P-lever	o	o
	テーパ°ーフィルター	D	05005AC-0313A	1	Taper filter	o	o
	Pチュウリツバ"ンオサエ	E	13803AC-0319A	1	Holder	o	o
	Pチュウリツバネ	E	13803AC-0320A	1	Spring	o	o
	ミラーウケバネ	E	13803AC-0321A	1	Spring	o	o
	ズームカン	E	13803AC-0705A	1	Zoom ring		o
	ズームストッパ°	E	13803AC-0721A	1	Zoom stopper		o
	THK2.0x2.8-3.0x0.6		122-28114	1	Screw	o	o
	THK2.0x3.5-3.0x0.6		122-35114	2	Screw	o	o
	THK2.0x5.5-3.0x0.6		122-55114	1	Screw	o	o
	THK1.7x6.0-3.0x0.8		127-60614	3	Screw	o	o
	E リング 2.0		XRET-I2010	1	E ring	o	o
	HW2.2x7.0-0.4		XY2-020	1	Washer	o	o

6

EXPLODED VIEW
OF
CHINON 132PXL/133PXL



P.C.BOARD A



CDS PLATE

PARTS LIST

P.C.BOARD A & CDS PLATE
プリント基板ACDS基板

ORDER QTY	部品名称	CLASS	SYMBOL	PARTS NO.	QTY	PARTS NAME	x2	x3
	ﾃﾞﾝｹﾞﾝIC	D	IC1	QLVC-521	1	IC(LVC-521)	o	o
	ｺﾝﾊﾟﾚｰﾀｰIC	D	IC2	QM51202L	1	IC(M51202L)	o	o
	TR.2SA937	D	Tr1	Q2SA937	1	Transistor(2SA937)	o	o
	ﾄﾗﾝｼﾞｽﾀｰ	D	Tr2	Q2SC2021	2	Transistor(2SC2021)	o	o
	LED(アカ)	D	LED2	QPR3433S	1	LED Red(PR3433S)	o	o
	ﾊﾝｺﾃｲ	D	VR1	VD06SH2-502-M1	1	Pot. meter 5K(5K-Ohm)	o	o
	ｻｰﾐｽﾀ	D	TH1	QTD5-C230	1	Thermistor 3K(TD5-C230)	o	o
	ﾀﾞｲｵｰﾄﾞ	D	D1	QW03C	1	Diode(W03C)	o	o
	ｱﾙﾐﾃﾞﾝｶｲ	D	C1	CEX0JC220QP07	1	Capacitor(22μF/6.3V)	o	o
	ｱﾙﾐﾃﾞﾝｶｲ	D	C2	CEX0JC470QE07	1	Capacitor(47μF/6.3V)	o	o
	ｶｰﾎﾞﾝ1/6	D	R1	RDNT432J	1	Resistor(4.3K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R2	RDNT202J	1	Resistor(2K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R3	RDNT153J	1	Resistor(15K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R4	RDNT561J	1	Resistor(560,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R5	RDNT680J	2	Resistor(68,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R7	RDNT224J	2	Resistor(220K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R8	RDNT332J	1	Resistor(3.3K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R10	RDNT134J	1	Resistor(130K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R11	RDNT103J	1	Resistor(10K,1/6W)	o	o
	ｶｰﾎﾞﾝ1/6	D	R12	RDNT472J	1	Resistor(4.7K,1/6W)	o	o
	ｻﾝｶｷﾝｿﾞｸ	D	R13	RSET6R2J	1	Resistor(6.2,1W)	o	o
	CDS (54C-10)	D	CDS	09806AR-ED01A	1	CdS(54C-10)	o	o