

**PENTAX®**

# Service Manual

ENGLISH

**PENTAX Z-1**



PRODUCT No.27030 **Z-1**

PRODUCT No.27031 **PZ-1**

PRODUCT No.27032 **Z-1 QUARTZ DATE**

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## 【Specifications】

Type	TTL AE/AF power zoom 35mm SLR with built-in TTL flash.
Format	24mm x 36mm.
Lens	SMC PENTAX FA, F (In case of K- and KA-mount lens, focus indication can be used with F5.6 or brighter lens.)
Lens mount	PENTAX KAF2-mount (K-mount with AF coupler, lens and focus information contacts and power contacts for zoom.)
Power zoom	
◦ Type	Power zoom lenses with built-in motor.(Power supply from camera body.)
◦ Mode	①Power zoom (by zoom ring) ②Image-size tracking...Automatic tracking to stored image-size. ③Zoom clip...Automatic tracking to stored focal distance. ④Auto zoom effect...Automatic zoom during the exposure.
Auto-focus system	
◦ Type	TTL phase-matching system (SAFOX II)
◦ Range	EV-1~EV18 (At ISO100 with f1.4/50mm lens)
◦ Mode	①AF single (Focus lock available) ②AF servo (Predictive AF provided) ③Manual
Exposure control	
◦ Metering	TTL multi(8)-segment metering. Spot-metering and center-weighted metering also possible.
◦ Range	EV0~EV20 (At ISO100 with f1.4/50mm)
◦ Mode	①Hyper programmed AE ②Programmed AE ③Shutter-priority AE ④Aperture-priority AE ⑤Hyper manual ⑥Manual (Bulb)
◦ Compensation	±4EVs(1/3 stop increments)
Shutter	
◦ Type	Electronically controlled vertical-run focal-plane shutter. Electro-magnetic release.
◦ Speed range	①Auto 1/8000~30 sec.(Stepless) ②Manual 1/8000~30 sec. ③Bulb
◦ Shutter lock	Turning main switch off.
Viewfinder	
◦ Type	Pentaprism finder.
◦ Field of view	92%
◦ Magnification	0.8X (With f1.4/50mm lens at ∞)
◦ Diopters	-2.5~+1.5 Dpt. adjustable.
◦ Focusing screen	Interchangeable aspheric-micro-matte.

Mirror

- Type Instant-return mirror with AF secondary mirror.

Built-in flash

- Type Retractable TTL auto flash with spotbeam projector.
- Guide number 14 (ISO100, M)
- Sync. speed 1/250 sec. ~ 1/30 sec.
- Covering range Covers 35mm lens angle of view.

Film loading/wind and rewind

- Loading Film advances automatically to 1st frame after the back cover is closed
- Wind/Rewind Auto wind/rewind and auto rewind stop by built-in motor.  
Mid-roll rewind provided.  
Single advance mode/Consecutive mode (Approx. 3 frames/sec.)

Usable film

35mm perforated cartridge film.  
DX-coded film with ISO 25~5000  
Non-DX-coded film with ISO 6~6400

Self-timer

- Type Electronically-controlled type.
- Delay time Approx. 12sec.  
2 sec. mode, 3 consecutive exposures mode. also provided.
- Start Shutter button
- Confirmation By red lamp blinking, PCV beep tone and LCD panel.
- Cancelation Main switch off.

Auto bracketing mode

Three-frame consecutive shots with exposure bracketing from  
 $\pm 0.3\text{EV}$  to  $\pm 4\text{EV}$   
Possible to use with exposure compensation.

Power source

- Battery One 6V lithium battery (2CR5)
- Batt. warning Battery exhaustion symbol is lit in external LCD panel.  
Blinking when the shutter is locked.

Pentax functions 18 user-defined functions.

Dimensions 152.0mm(W) × 95.5mm(H) × 74.0mm(D) / 6" × 3.8" × 2.9"

Weight 650g / 22.9oz. (without battery)

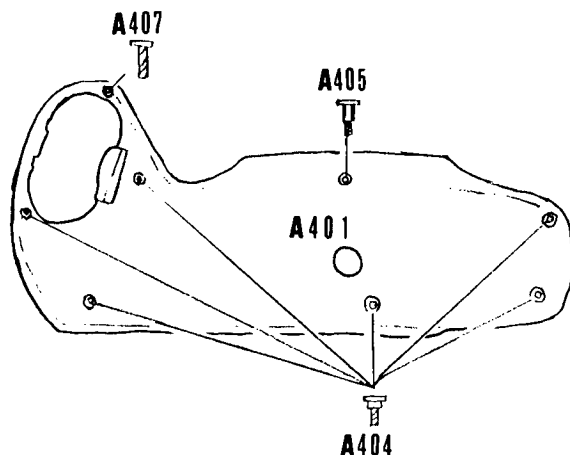
## 【Disassembly I】

### Disassembly Procedures of Main Body

☆ Do not forget wrist strap.

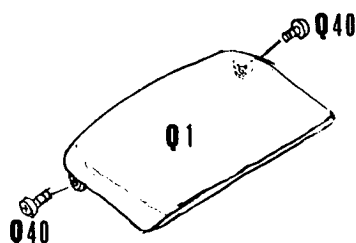
#### 1. Bottom Cover A 4 0 1

- 1- 1     A404 x6     Bottom cover retainer screw A
- 1- 2     A405     Bottom cover retainer screw B
- 1- 3     A407     Bottom cover retainer screw C
- A401 •     Bottom cover •
- 0-A402     Battery cover assy.



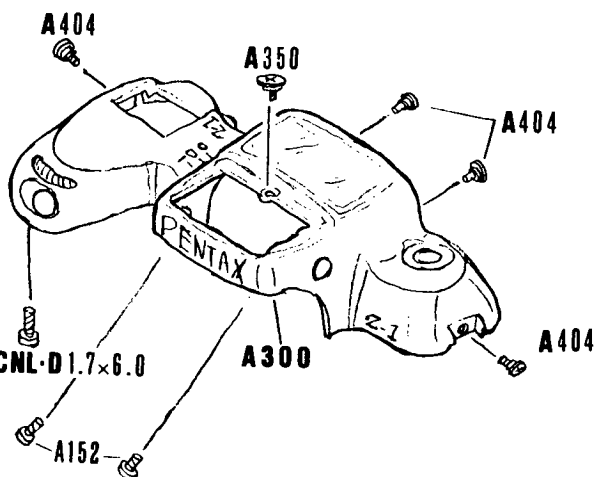
#### 2. Flash Cover Q 1

- 2- 1     Set flash to pop-up position.
- 2- 2     Q40 x2     Flash cover retainer screw
- ☆ There are couple of small hooks on Q1 and  
engaging the flash block. Remove Q1 carefully.
- 2- 3     Q1     Flash cover
- 2- 4     Store flash.



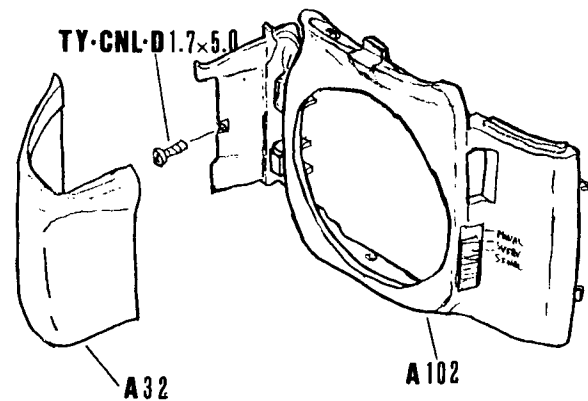
#### 3. Top Cover Assy. A 3 0 0

- 3- 1     Open back cover and remove Eyecup.
- 3- 2     Remove Hot shoe cover.
- 3- 3     TY-CNL-D1.7x6.0(Inside battery housing)
- 3- 4     A152 x2     Front cover retainer screw
- 3- 5     A404 x4     Bottom cover retainer screw A  
(Near eyepiece x2, strap hook x1 each) TY-CNL-D1.7x6.0
- 3- 6     A350     Top cover retainer screw
- A300     Top cover assy.
- 3- 7     Discharge electricity accumulated in  
the main capacitor at the location  
shown in the figure.



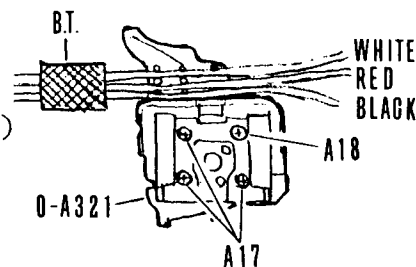
4 . Front Cover Assy. . A 1 0 2

- 4- 1     A32            Grip rubber
- 4- 2     Remove Release socket cap.
- 4- 3     TY-CNL-D1.7x5.0
- A102          Front cover and related parts



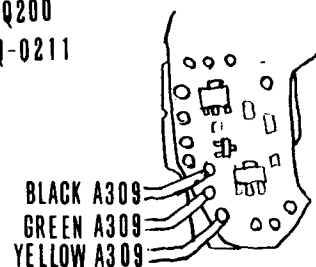
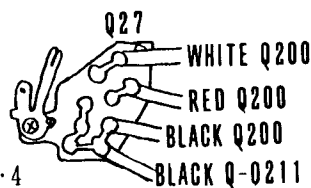
5 . Hot Shoe A 3 2 2

- 5- 1     Remove lead wires from studs of Hot shoe.  
         Peel off black tape.(If included)
- 5- 2     A323            Hot shoe spring
- 5- 3     A17 x3          Hot shoe retainer screw A(W/screw lock)
- 5- 4     A18            Hot shoe retainer screw B
- A322          Hot shoe
- 0-A321 .       Hot shoe base assy. .
- A326 x4       Hot shoe contact spring
- A305          ML switch

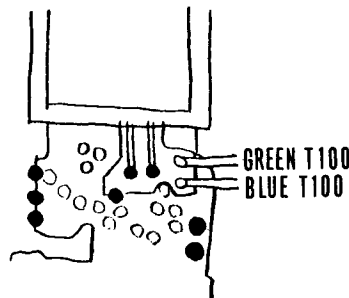


6 . LCD P.C. board(T200) and related parts

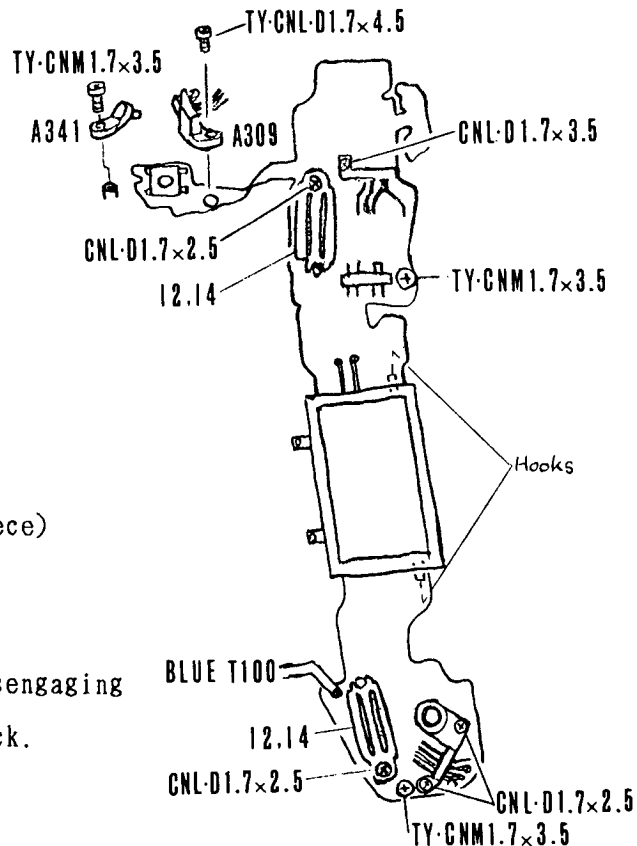
- 6- 1     Unsolder 9 lead wires.
  - On Flash relay P.C.B.(Q27)---Wh,R,Blx2 ...4
  - On LCD illumination FPC---Blu,G .....2
  - From TV dial contact piece---Bl,G,Y...3



- 6- 2     Unsolder 8 soldering lands.
  - LCD illumination .....2
  - LCD FPC.....1
  - Flash switch.....2
  - Flash FPC(Q202).....3



- 6- 3 TY-CNL-D1.7x4.5  
A309 TV dial contact piece
- 6- 4 CNL-D1.7x2.5 x2(FPC retainer)  
12 x2 FPC retainer plate C  
14 x2 FPC retainer rubber C
- 6- 5 Unsolder one lead wire.  
• Under 0100 FPC...Blue.....1
- 6- 6 TY-CNM1.7x3.5  
A341 FPC retainer plate
- 6- 7 CNL-D1.7x3.5(A315-AV dial contact piece)
- 6- 8 CNL-D1.7x2.5 x2(A328-Set switch)
- 6- 9 TY-CNM1.7x3.5 x2(T200 GND)
- 6-10 Remove LCD P.C. board(T200) while disengaging  
the hooks between T200 and flash block.

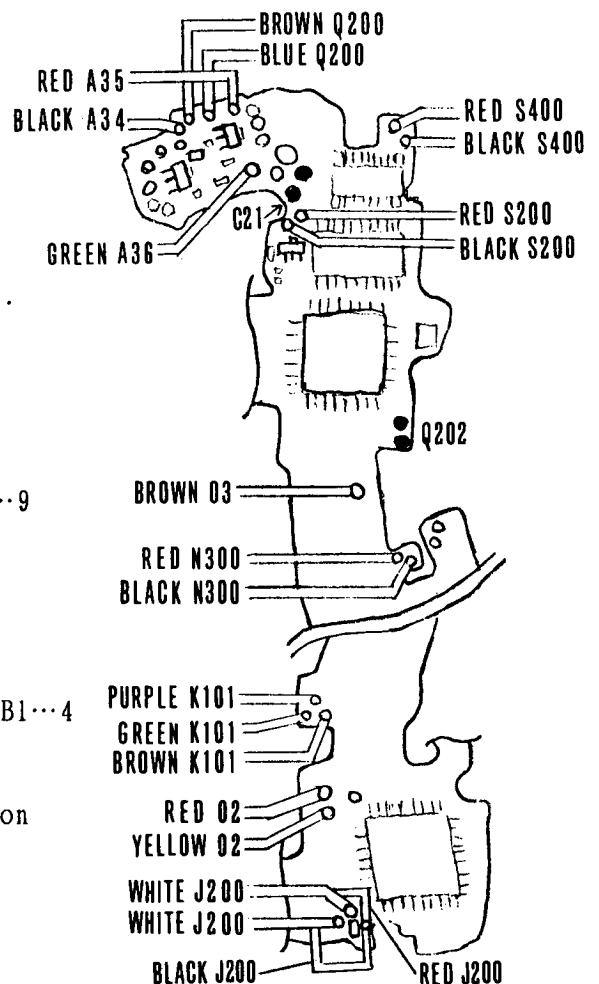


## 7. Eyepiece Assy. 0 - M 3 0 1

- 7- 1 TY-CNM1.7x7.0 x2  
0-M301 Eyepiece assy.

## 8. Main P.C. Board T 1 0 0

- 8- 1 TY-CNL-F1.7x3.5(0-A22)  
0-A22 Select SW base plate assy.
- 8- 2 TY-CNM1.7x3.5 x3(0-A19)  
0-A19 Hot shoe base plate assy.
- 8- 3 Unsolder 21 lead wires...Top section  
• Top of the grip...Rx3,Blx3,Br,Blu,G...9  
• From AF spotbeam(0-Q20).....Br.....1  
• From PCV(N300)...R,BI...2  
• From f-volume(K101)...G,Br,Pu...3  
• From TTL flash sensor(J200)...Wx2,R,BI...4  
• From Self-timer LED(02)...R,Y...2  
Unsolder 4 soldering lands...Top section  
• Wind/compl. SW(C21)-T100.....2  
• Flash FPC(Q202)-T100...2

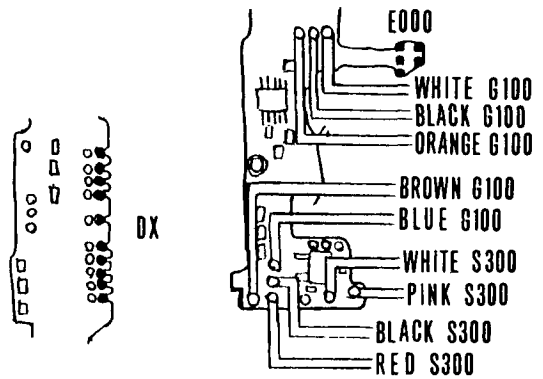


8- 4 Unsolder 15 soldering lands...Front section

- Shutter(0-E000)-T100...5
- DX contacts(R110,R120)-T100...10

Unsolder 9 lead wires...Front section

- From Diaph. control(G100)...0,B1,W...3
- At Front/bottom...R,B1,W,Pi,Br,Blu...6

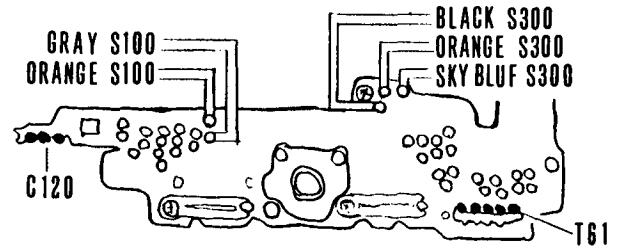


8- 5 Unsolder 5 lead wires...Bottom section

- From AF motor(S300)...B1,O,Light Blu...3
- From Release Mag.(S100)...0,Gray...2

Unsolder 8 soldering lands...Bottom section

- Data FPC(T61)-T100...5
- Film pulse counter(C120)-T100...3



8- 6 TY-CNL-D1.7x3.0(DC/DC converter)

8- 7 M11 Photo cell retainer plate

M10 Photo cell adjusting pin

8- 8 TY-CNL-F1.7x3.0(Photo cell board)

8- 9 CNL-D1.7x2.5 x2(FPC retainer)

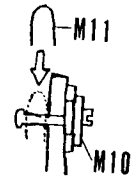
I1 x2 FPC retainer plate A

I3 x2 FPC retainer rubber A

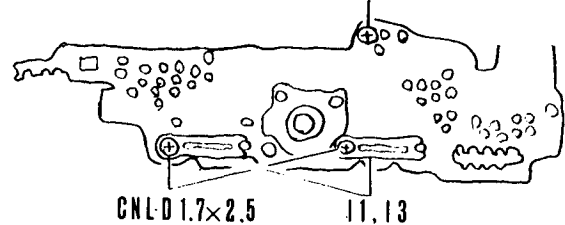
8-10 CNL-E2.0x3.5(T100 GND)

8-11 T100 Main P.C. board

TY-CNL-D1.7x3.0



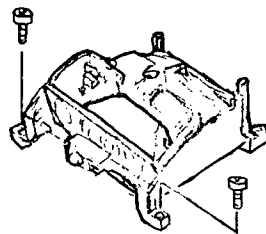
CNL-E2.0x3.5



9 . Flash Block Assy.

9- 1 TW-CNL-D1.7x4.0 x2

9- 2 Flash block assy.



10 . Front Housing Block/Viewfinder Block

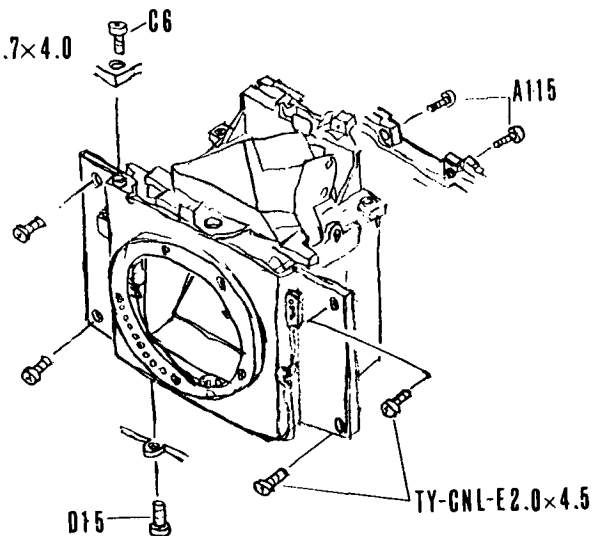
10- 1 D15 Bottom mech. plate retainer screw

10- 2 A115 x2 Main body retainer screw

10- 3 C6 Charge mech. plate retainer screw

10- 4 TY-CNL-E2.0x4.0 x4

Front housing/Viewfinder block

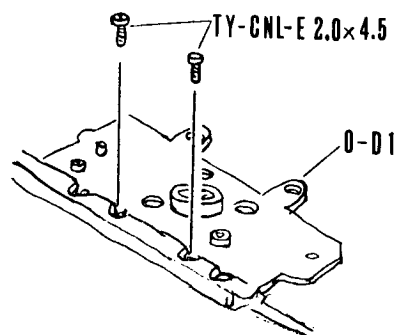




1 1 . Rewind Bottom Mech. Plate Assy. 0 - D 1

11- 1 TY-CNL-E2.0x4.5 x2

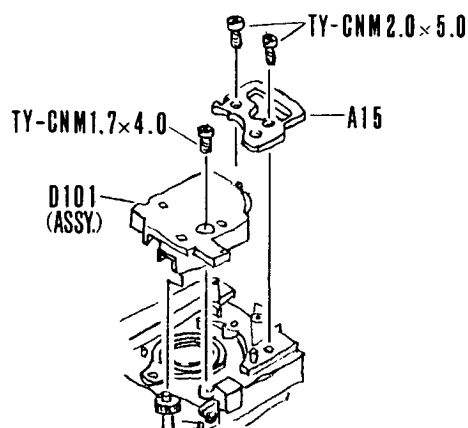
0-D1 Rewind bottom mech. plate assy.



1 2 . Strap Hook, Left A 1 5

12- 1 TY-CNM2.0x5.0 x2

A15 Strap hook, left



1 3 . Top Rewind Mech. Block

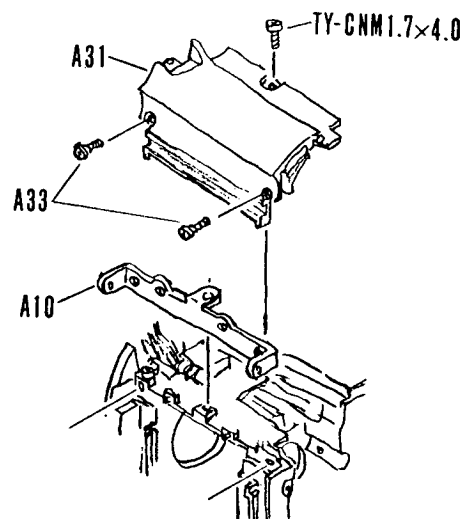
13- 1 TY-CNM1.7x4.0

Top rewind mech. block

1 4 . Back Cover Assy.

14- 1 Remove Back cover.

★Pay attention not to damage  
the shutter blade from this point.



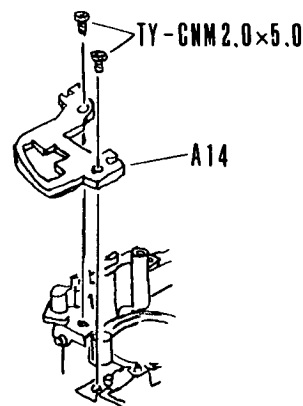
1 5 . Side Cover A 3 1

15- 1 A33 x2 Side cover retainer screw

15- 2 TY-CNM1.7x4.0(A31)

A31 Side cover

A10 Back cover shaft receptacle



1 6 . Strap Hook, Right A 1 4

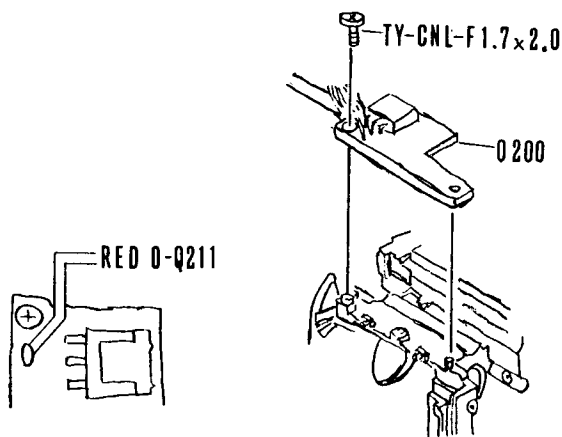
16- 1 TY-CNM2.0x5.0 x2

A14 Strap hook, right

17. Flash P.C. Board Q 2 0 0

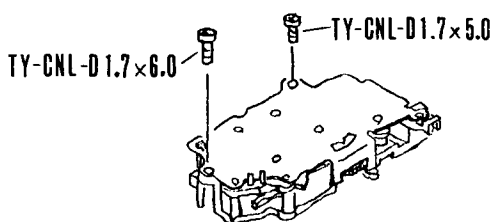
- 17-1 Unsolder one lead wire  
• From Main capacitor(0-Q211)---R---1

- 17-2 TY-CNL-F1.7x2.0  
Q200 Flash P.C. board



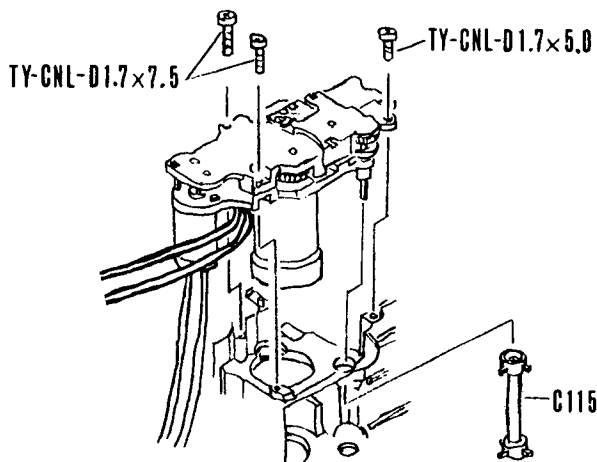
18. Shutter Charge Block

- 18-1 TY-CNL-D1.7x6.0  
18-2 TY-CNL-D1.7x5.0  
Shutter charge block



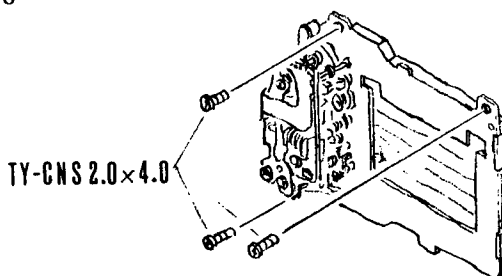
19. Film Advance Mech. Block

- 19-1 TY-CNL-D1.7x5.0  
19-2 TY-CNL-D1.7x7.5 x2  
Film advance mech. block  
C115 Sprocket



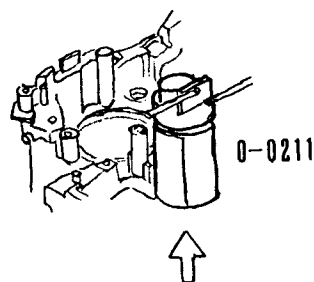
20. Shutter Block 0 - E 0 0 0

- 20-1 TY-CNS2.0x4.0 x3  
0-E000 • Shutter block •  
T62 Shutter FPC



21. Main Capacitor 0 - Q 2 1 1

- 21-1 Push 0-Q211 upward to remove.(Push very hard! )  
21-2 0-Q211 Main capacitor



## 2 2 . Back Cover Key Assy. 0 - A 4

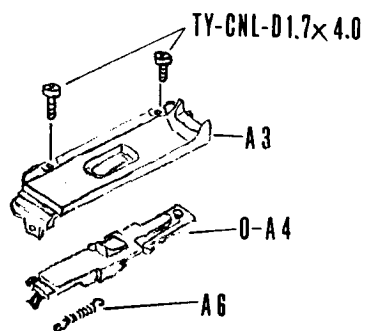
22- 1 Set Back cover key to closed position.

22- 2 TY-CNL-D1.7x4.0 x2

A3 Back cover key cover

0-A4 Back cover key assy.

A6 Back cover key spring

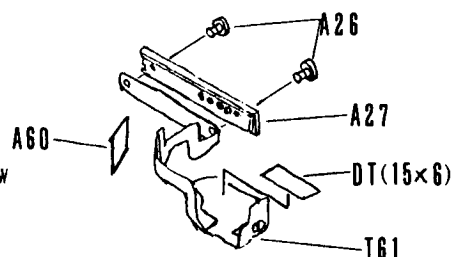


## 2 3 . Data FPC T 6 1

23- 1 A26 x2 Data contact cover retainer screw

A27 Data contact cover

T61 Data FPC(Double-stick tape)



## 2 4 . DX Contact Piece R 1 1 0

24- 1 TY-CNL-F1.7x4.5 x2

R101 DX contact cover

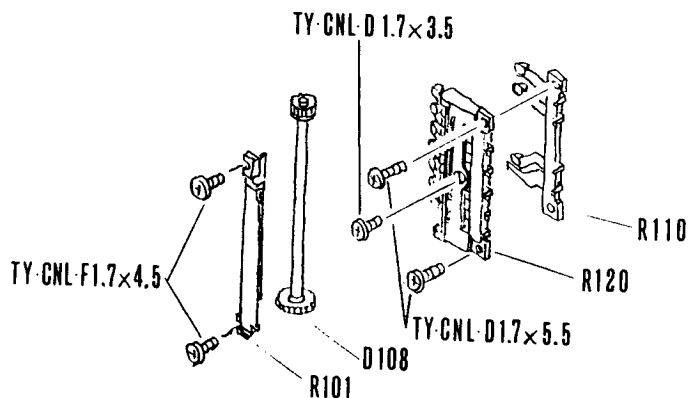
D108 Connecting rod gear

24- 2 TY-CNL-D1.7x5.5 x2

24- 3 TY-CNL-D1.7x3.5

R120 DX contact piece B

R110 DX contact piece A



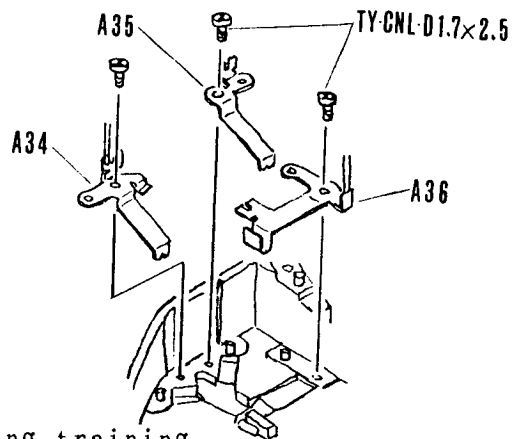
## 2 5 . Battery Switch A 3 6

25- 1 TY-CNL-D1.7x2.5

A36 Battery switch

25- 2 TY-CNL-D1.7x2.5 x2

A34 • A35 Battery contact piece A • B



☆The parts listed below are not removed during training.

A13 Film cartridge guide(TW-CNS1.7x2.5)

A16 Film cartridge retainer spring

0-A20 Film retainer plate assy.

A55 Spacer

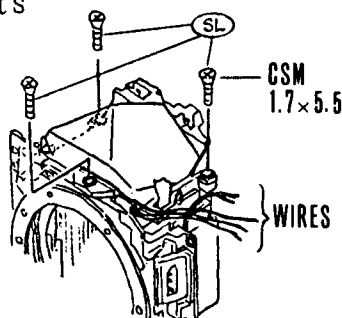
A59 Shutter light seal

## 【Disassembly II】

### Disassembly Procedures of Front Housing/ Viewfinder and Related Parts

#### 1. Front Housing/Viewfinder and Related Parts

- 1- 1      CSM1.7x5.5 x3  
Viewfinder block  
Front housing

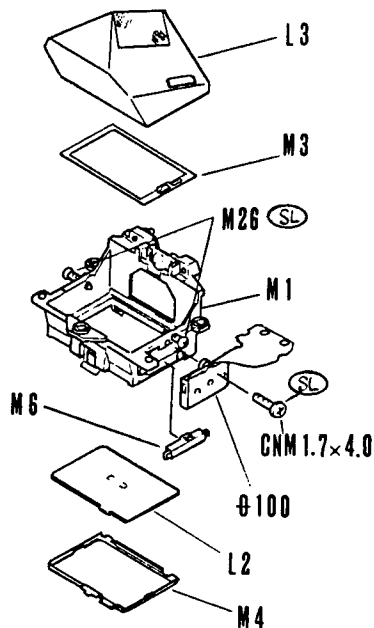


#### 2. Finder Block

- 2- 1      M4            Fresnel lens holder  
            L2            Fresnel lens  
2- 2      M26           Prism retainer screw(Just loosen)  
            L3 • M8 x2    Penta prism • Prism protection sheet  
            M3            Viewfinder mask  
2- 3      CNM1.7x4.0(Ø100)  
            Ø100 • M6    Finder display block • Display prism  
            M1           Prism seat

☆No need to remove parts below during training.

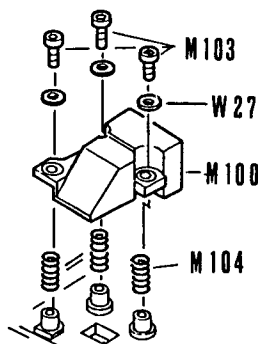
- M2 x3      Focus adjusting nut  
M5          Holder retainer plate  
M7          Condenser lens  
M9          Positioning pin  
M26 x2     Prism retainer screw



#### 3. CCD Block M100

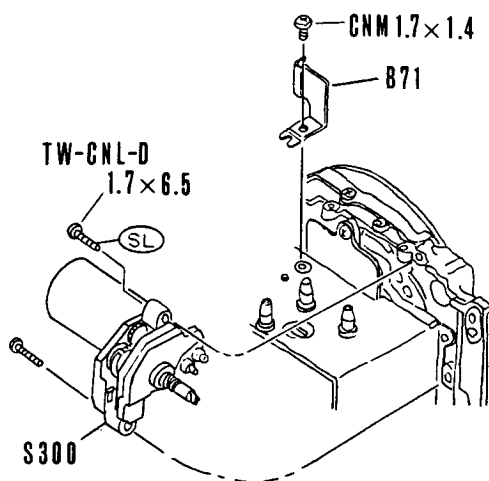
【Tool】 Hexagonal screw driver 1.5mm

- 3- 1      M103 x3      CCD block adjusting screw  
            W27 (t=0.5) x3  
            M100        CCD block  
3- 2      M104 x3      CCD block spring



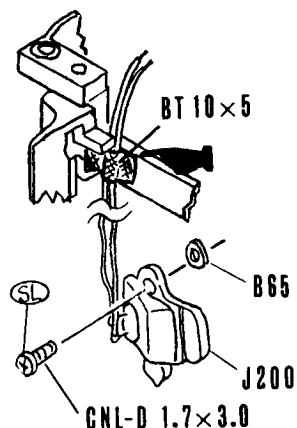
#### 4. AF Motor S 3 0 0

- 4-1 CNM1.7x1.4  
B71 Lead wire holder
- 4-2 TW-CNL-D1.7x6.5 x2  
S300 AF motor



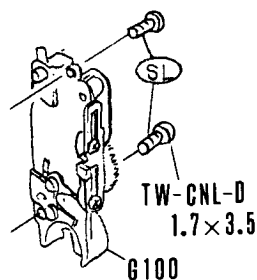
#### 5. TTL Flash Photo Sensor J 2 0 0

- 5-1 Peel off black tape holding lead wires.
- 5-2 CNL-D1.7x3.0  
J200 TTL flash photo sensor  
B65 Spacer



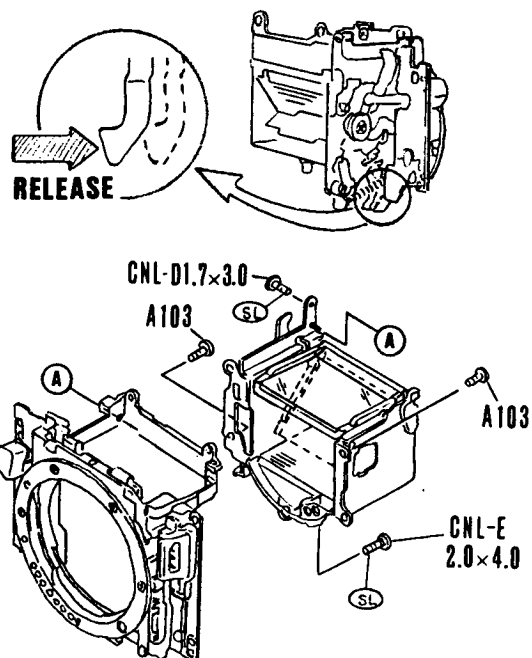
#### 6. Diaphragm Control Block G 1 0 0

- 6-1 TW-CNL-D1.7x3.5 x2
- 6-2 G100 Diaph. control block



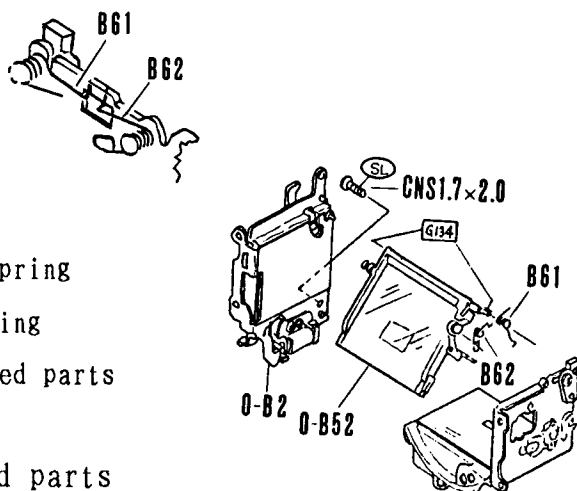
#### 7. Front Housing(A100) and Related Parts

- 7-1 Release hook of mirror  
to set mirror-up position.
- 7-2 CNL-D1.7x3.0
- 7-3 CNL-E2.0x4.0
- 7-4 A103 x2 Mirror housing retainer screw  
Remove shaft(A) from front housing.  
O-B000 Mirror housing  
Front housing



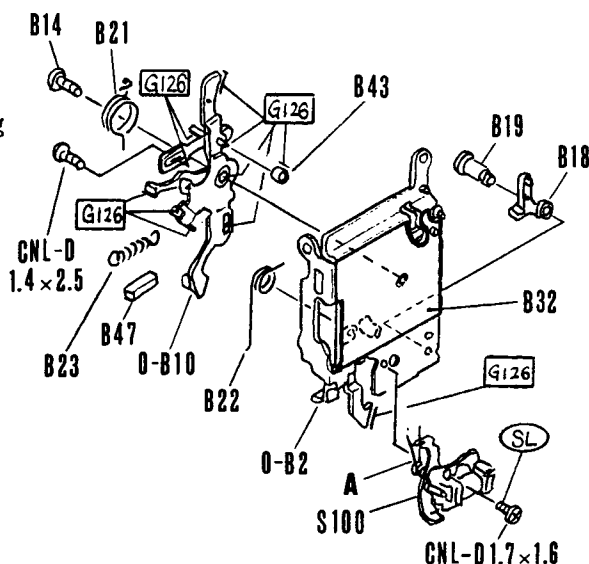
## 8. Mirror Housing 0 - B 0 0 0

- 8- 1 Unhook B61 and B62.
- 8- 2 CNS1.7x2.0
- 0-B2 Mech. plate assy. right
- 0-B52 Mirror seat assy.
- B61 1st mirror restitution spring
- B62 2nd mirror actuating spring
- Mirror housing mech. plate and related parts



## 9. Mech. plate assy. right and related parts

- 9- 1 B23 Mirror actuating spring
- B47 Spring silencer
- 9- 2 B19 Shutter release lever screw
- B18 Shutter release lever
- 9- 3 B22 Hook lever restitution spring
- 9- 4 CNL-D1.7x1.6
- S100 Release magnet block
- 9- 6 CNL-D1.4x2.5
- 9- 7 B14 Charge lever retainer screw
- B21 Diaph. actuating spring
- 0-B10 Charge lever assy.
- B43 Mirror actuating pin collar
- 0-B2 Mech. plate assy. right



☆ No need to remove parts below during traning.

- 0-B3 Mirror seat receptacle, right (CNL-D1.4x2.5)
- B32 Light seal plate, right

## 【Assembly II】

### Assembly Procedures of Front Housing/ Viewfinder and Related Parts

#### 1. Mech. Plate Assy.(0-B2) and Related Parts

1- 1      0-B2           Mech. plate assy. right

1- 2      B43           Mirror actuating pin collar

1- 3      0-B10          Charge lever assy.

1- 4      B14           Charge lever retainer screw

1- 5      CNL-D1.4x2.5

1- 6      B21           Diaph. actuating spring

1- 7      S100          Release magnet assy.

1- 8      CNL-D1.7x1.6

1- 9      Hook spring of Magnet block.

1-10      B22           Hook lever restitution spring

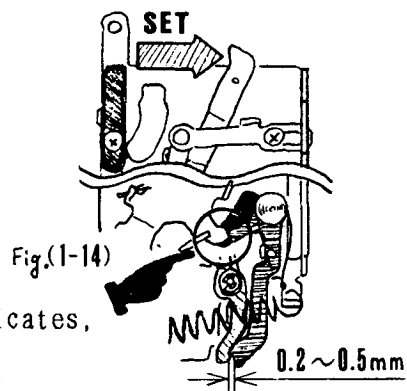
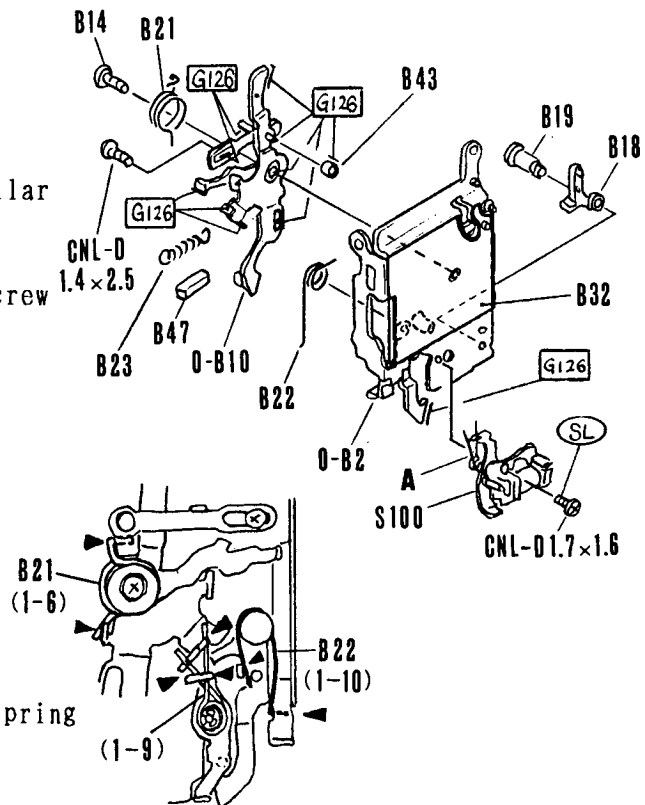
1-11      B18           Shutter release lever

1-12      B19           Shutter release lever screw

1-13      B23           Mirror actuating spring

B47           Spring 'silencer

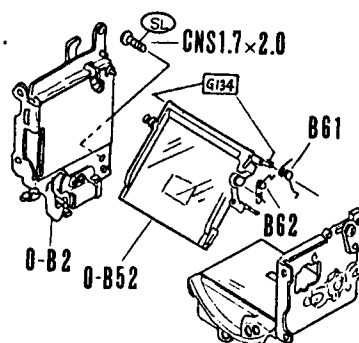
1-14      Set charge completion condition as figure indicates,  
then check gap(0.2~0.5mm) between the levers.



☆Confirm Light seal right(B32) is flat and has not lifted up.

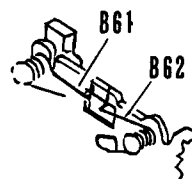
## 2. Mirror Housing 0-B000

- 2-1 Set Mech. plate assy.(0-B2) to charged condition.
- 2-2 Mirror mech. plate and related parts
- 2-3 Set 1st Mirror restitution spring(B61) to shaft of Mirror seat assy.(0-B52).
- 2-4 0-B52 Mirror seat assy.
- 2-5 Mech. plate assy. right(0-B2) and related parts
- 2-6 CNS1.7x2.0
- 2-7 Hook other end of B61 to hole of Mech. plate.



☆Do not release the mirror at this point,  
because there is no stopper for mirror.

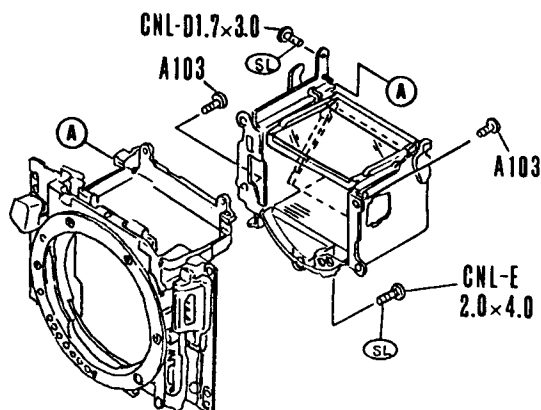
- 2-8 Hook 2nd mirror actuating spring(B62) to stud of 2nd mirror seat first, then stud of Mech. plate, and finally hole of Mech. plate.



## 3. Front Housing(A100) and Related Parts

- 3-1 Front housing(A100) and related parts
- 3-2 A103 x2 Mirror housing retainer screw
- 3-3 CNL-E2.0x4.0
- 3-4 CNL-D1.7x3.0

☆Confirm the function of the 1st and 2nd mirror.

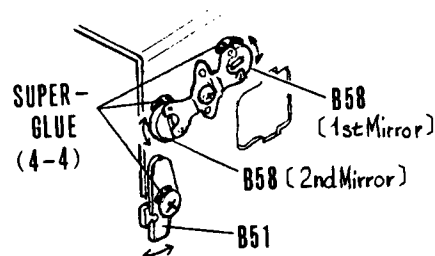


## 4. 【Adjusting】 1st and 2nd mirror at 45°

【Tester】 Optical regulator for MEF

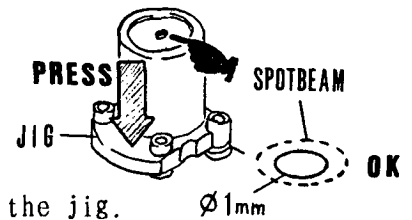
【Jig】 45° angle of mirrors adjusting jig for 26300(SF7)

- 4-1 Move 1st and 2nd mirror seat receptacle(B58) for Y-axis and Left supporter plate(B51) for X-axis to adjust centering diviation within a range of 10' .(Rough adjustment)





- 4- 2 As shown in the figure, when you set the Mirror 45° adjusting jig on the Front housing, a laser beam is radiated near the 1mm hole of the jig.



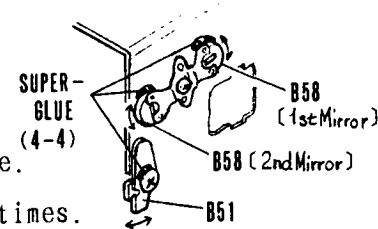
☆When making the adjustment, be careful not to look directly into laser beam as damage to your eyes may result.

☆As the jig has slight play forwards and backwards, make sure that as you check the beam location you hold the area indicated in the figure with tweezers, etc.

- 4- 3 Move 2nd mirror adjusting screw and B51, and adjust the laser beam to radiate to the center of the jig hole.

☆After the adjustment, activate the mirror seat assy. several times. Make sure that the position of the laser beam does not change.

- 4- 4 After checking, apply super-glue to B51 and B58.

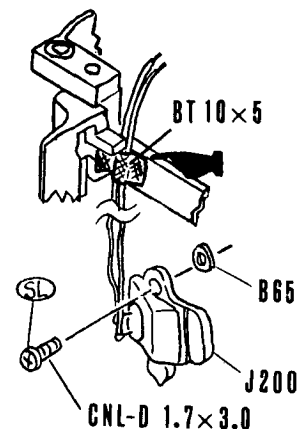


## 5. TTL Flash Photo Sensor J 2 0 0

- 5- 1 B65 Spacer  
5- 2 J200 TTL flash photo sensor

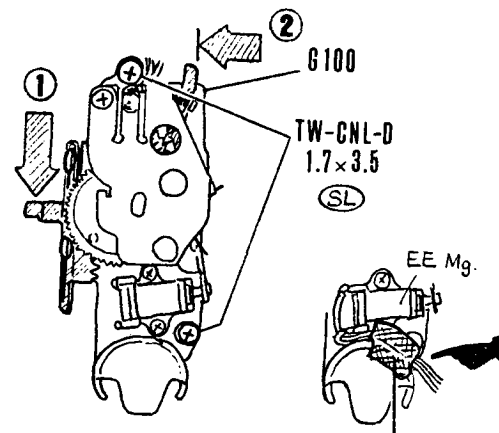
☆In case replacement of J200 is required, cut the terminals of the new J200 to approx. 2mm in length.

- 5- 3 CNL-D1.7x3.0



## 6. Diaphragm Control Block G 1 0 0

- 6- 1 Push down the Slide plate of G100 ①, and hold it by engaging the Latch lever ②.  
6- 2 Release the mirror to the mirror-up condition.  
6- 3 Set G100 onto front housing.  
6- 4 TW-CNL-D1.7x3.5 x2  
6- 5 Reset the Latch lever of G100, and charge the mirror mech.  
6- 6 Fix two lead wires from G100 (EEMg) by black tape as shown in figure.



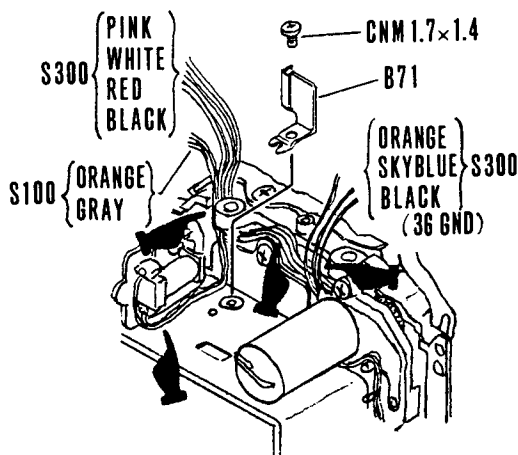
☆Confirm when pressing the pre-view button, Diaph. slide lever moves.

7. AF Motor S 3 0 0

- 7- 1            S300            AF motor

☆Contact pins for power zoom should come out through the hole of B36(Light seal cover).

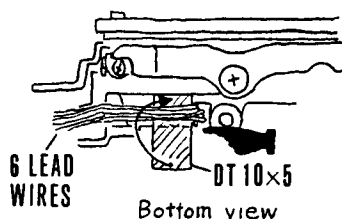
- 7- 2 TW-CNL-D1.7x6.5 x2



- 7-3      Arrange the lead wires  
            as shown in figure.

- 7-4      B71      Lead wire holder

- 7- 5 CNM1.7x1.4

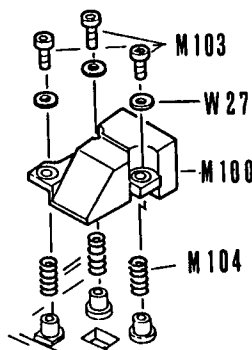


8 . CCD Block M 1 0 0

- 8- 1       M104 x3       CCD block spring  
             M100       CCD block  
             W27(t=0.5) x3

- 8- 2      M103 x3      Adjusting screw

☆Apply screw lock to screw thread  
before adjusting CCD block.

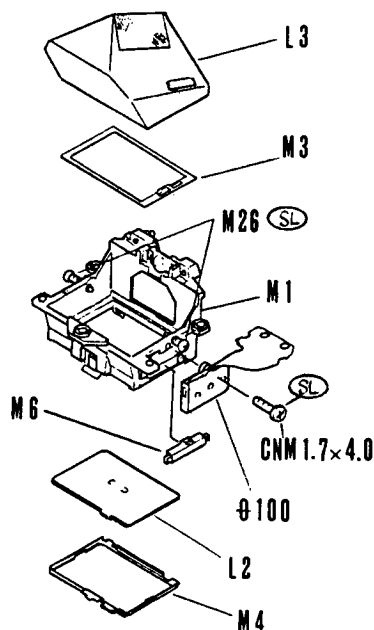


- 8- 5 Tighten three M103 down completely until they stop,  
and then back out 1.5 turns each.

→ Temporary adjustment of CCD position.

## 9. Viewfinder and Related Parts

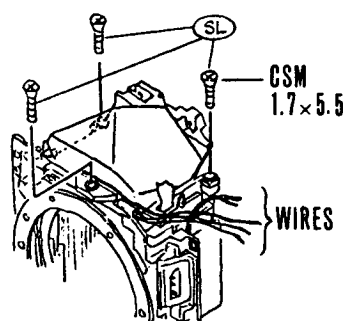
- 9-1 M1 Prism seat and related parts
- 9-2 M6 Display prism
  - Ø100 Finder display block
  - CNM1.7x4.0
- 9-3 M3 Finder mask
  - L3 Penta prism
  - M8 x2 Protection sheet
  - M15 Dust prevention seal
- 9-4 Fix prism temporarily with M26.
- 9-5 L2 Fresnel lens
  - M4 Fresnel lens holder



## 10. Front Housing/Viewfinder and related parts

☆Make sure lead wires are not pinched.

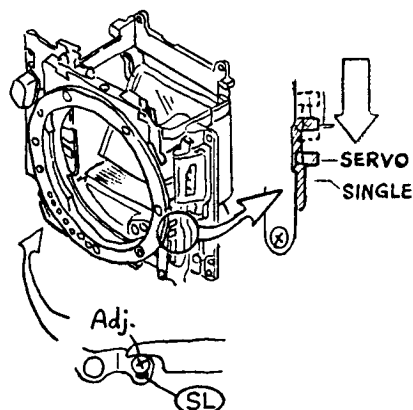
- 10-1 Front housing
  - Viewfinder block
  - CSM1.7x5.5 x3



## 11. AF Joint Stroke Adjustment

【Tool】 Vernier calipers

- 11-1 Set AF mode SW to SERVO or SINGLE.
- 11-2 If the Mount lock button is not pressed, AF coupler should stick out from mount surface by 1.3mm or more.
- 11-3 When the mount lock button is pressed and the mount lock pin comes to mount surface, the AF coupler should not stick out of mount surface.
- 11-4 Turn eccentric screw on the Joint lever plate(0-A126) to adjust.

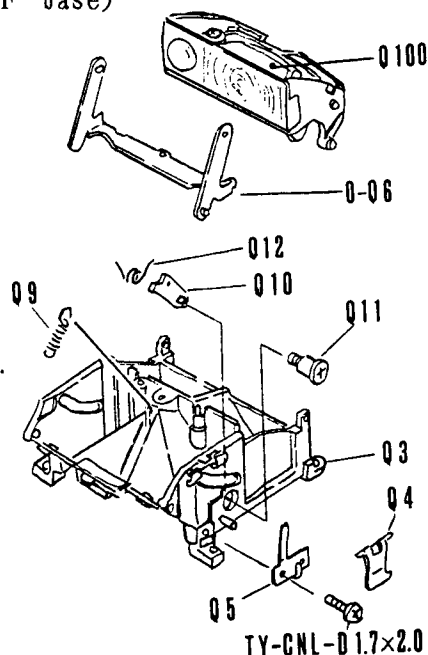
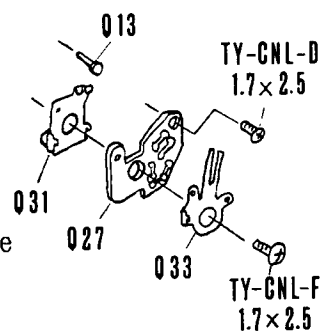
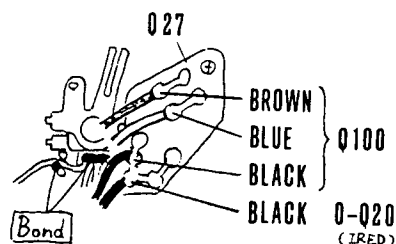


## 【Disassembly III】

### Disassembly Procedures of Flash Block

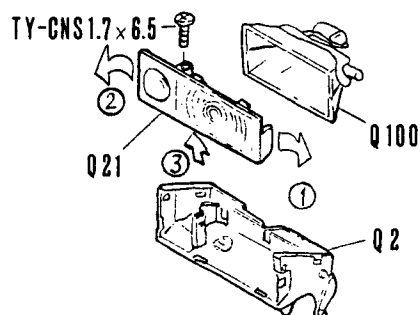
#### 1. Flash Block (F = Flash)

- 1-1 Unsolder 4 lead wires.  
• On Q27(F relay P.C. board)---Blx2、Br、Blu---4
- 1-2 Remove the bond from lead wires on Q3(F base).
- 1-3 TY-CNL-F1.7x2.5  
Q33・Q13 F SW moving contact piece・F SW pin
- 1-4 TY-CNL-D1.7x2.5  
Q27・Q31 F relay P.C. board・F SW fixed contact piece  
Set flash to pop-up position.
- 1-6 Q9 F pop-up spring
- 1-7 Remove 0-Q6(F arm assy.) from Q2(F case) and Q3(F base)  
Be careful not to bend the F arm assy.
- 1-8 0-Q6 F arm assy.
- 1-9 Flash assy.(Q100) and related parts(Q2,etc.)
- 1-10 Q4 F release lever
- 1-11 TY-CNL-D1.7x2.0  
Q5 F release lever spring
- 1-12 Unhook Q12(F hook spring) from Q10(F hook lever).
- 1-13 Q11・Q10・ F hook lever shaft・F hook lever・  
Q12 F hook spring
- 1-14 Q3・N300・θ2 F base・PCV・Self-timer LED



#### 2. Flash Assy.(Q100) and Related Parts

- 2-1 Remove silicone at trigger coil, and lift trigger coil.
- 2-2 TY-CNS1.7x6.5
- 2-3 Unhook Q21(Diffuser) from Q2(F frame),  
and pull up it together with Flash assy.(Q100).
- 2-4 Q21・Q100 Diffuser・Flash assy.
- 2-5 TY-CNL-D1.7x3.5  
0-Q20・Q2 IRED assy.・F frame



# 【Assembly III】

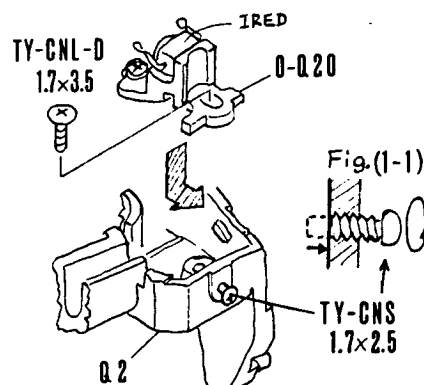
## Assembly Procedures of Flash Block

### 1. Flash Assy.(Q100) and Related Parts

1- 1 Loosen TY-CNS1.7x2.5 to set 0-Q20(1RED)  
at start position for adjutment.

1- 2 Q2 • 0-Q20 F frame • 1RED assy.

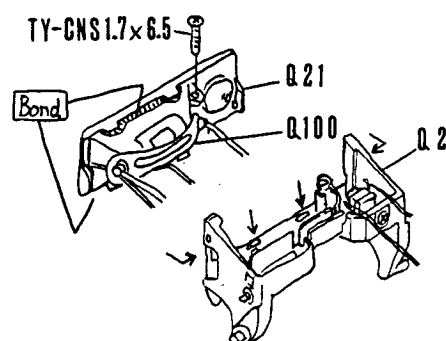
TY-CNL-D1.7x3.5...Temporarily



1- 3 Set Q21(Diffuser) together with  
Q100(Flash assy.)to Q2(F frame).

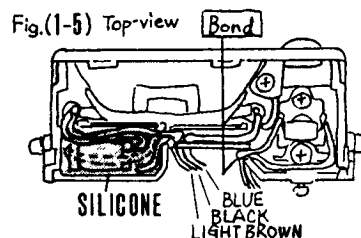
1- 4 TY-CNS1.7x6.5

...Tighten it while pushing Q21 backwards.

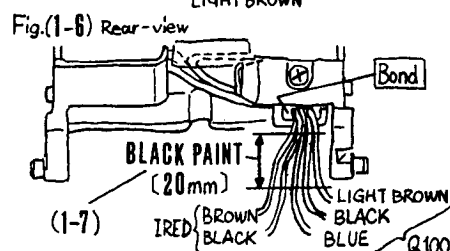


1- 5 Arrange lead wires and trigger coil,  
and apply the bond and silicone  
as shown in figures.

1- 6 Set the lead wires at the studs of Q2  
and fix them by bond.



1- 7 Paint the lead wires with black ink  
as shown in figure to improve appearance.



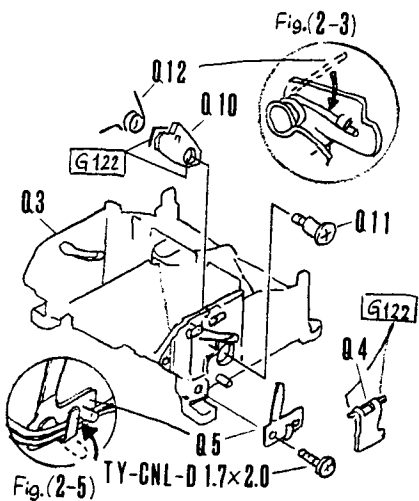
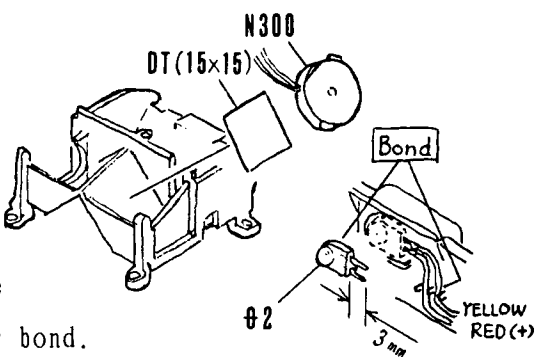
2. Flash Block

- 2- 1      Q3 • N300 •    F base • PCV •  
            θ2              Self-timer LED

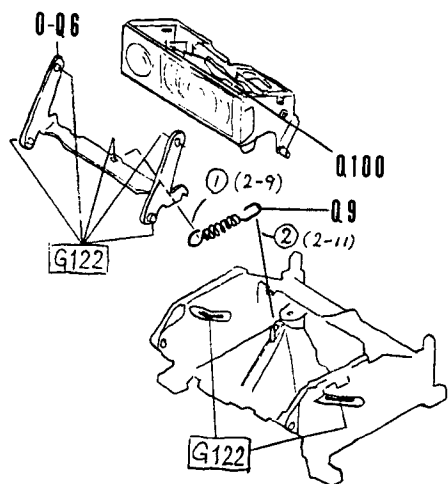
☆In case replacement of N300(PCV) or θ2(LED) are required, set them as figures indicate by DT or bond.

§ PCV=Piezo Ceramic Vibration  
§ LED=Light Emitting Diode  
§ DT =Double-stick Tape

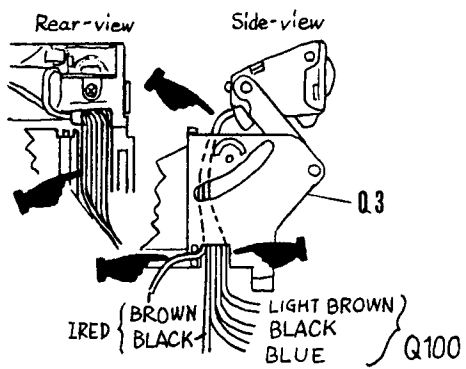
- 2- 2      Q12 • Q10 •    F hook spring • F hook lever •  
            Q11              F hook lever shaft  
2- 3      Hook Q12 to Q10 as shown in figure.  
2- 4      Q5              F release lever spring  
            TY-CNL-D1.7x2.0  
2- 5      Arrange the lead wires from θ2 on Q5.  
2- 6      Q4              F release lever  
2- 7      Confirm the function of Q4, Q5 and Q10.



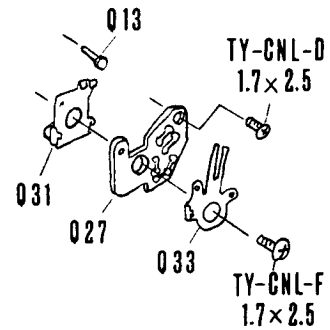
- 2- 8      0-Q6              F arm assy.  
            Install 0-Q6 being careful not to bend it,  
            and pay attention to the proper direction.  
2- 9      Install Q9 to 0-Q6. ...Refer to the figure.  
2-10      Flash assy.(Q100) and related parts  
2-11      Q9              F pop-up spring



- 2-12      Pass the lead wires from Q100 through  
            the hole of Q3, and arrange them  
            as shown in figures.



- 2-13 Q31 F SW fixed contact piece  
 Q27 F relay P.C. board  
 TY-CNL-D1.7x2.5
- 2-14 Q13 F SW pin  
 Q33 F SW moving contact piece  
 TY-CNL-F1.7x2.5



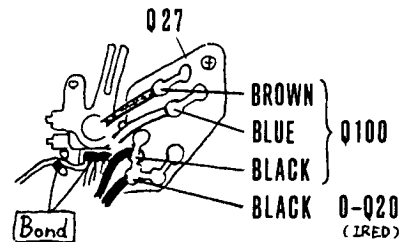
☆Confirmation

1. When flash is stored, it should be firmly locked.
2. When Q4 is pressed, flash should be unlocked and pop-up smoothly.
3. Check the ON/OFF of the flash switch. (Between Q31 and Q33)
  - OFF when stored. ----- 0.3mm or more gap between the contact pieces.
  - ON when pops up.

- 2-15 Apply the bond as shown in figure to fix the lead wires.

- 2-16 Solder 4 lead wires

• On Q27(F relay P.C. board)---Blx2,Br,Blu---

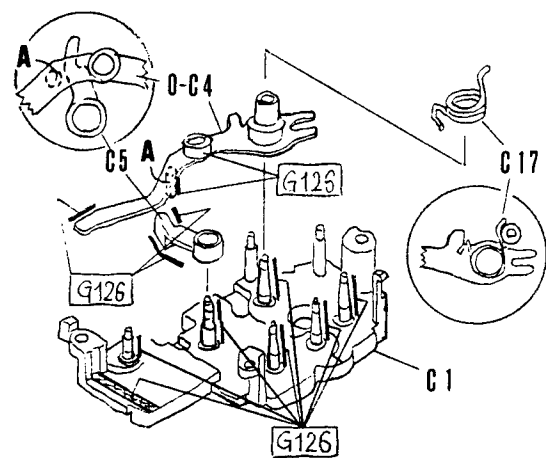


【Assembly IV】

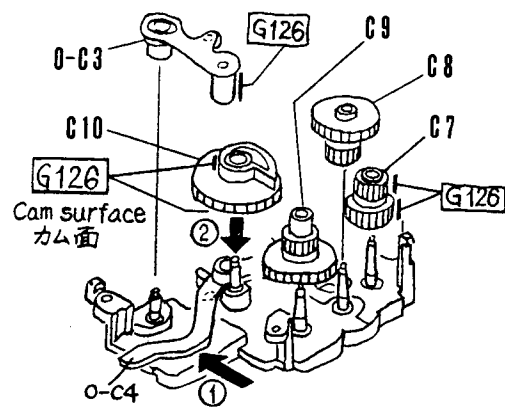
Assembly Procedures of Wind/Rewind Mech.

1. Charge Block

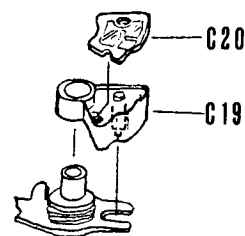
- 1- 1 C1 Charge mach. plate A
- 1- 2 C5 Diaph. control reset lever
- 1- 3 0-C4 Mirror charge lever assy.
- 1- 4 C17 Restitution spring



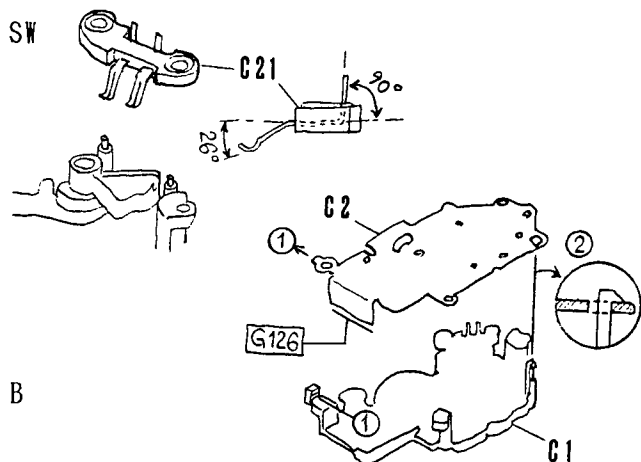
- 1- 5 C7 1st reduction gear
- 1- 6 C9 3rd reduction gear
- 1- 7 C8 2nd reduction gear
- 1- 8 C10 Cam gear
- ...Move 0-C4 from cam section of C10...
- 1- 9 0-C3 Shutter charge lever assy.



- 1-10 C20 Wind-on completion SW board
- ...Wipe C20 using Evers etc.
- 1-11 C19 Wind-on completion SW holder



- 1-12 C21 Wind-on completion SW



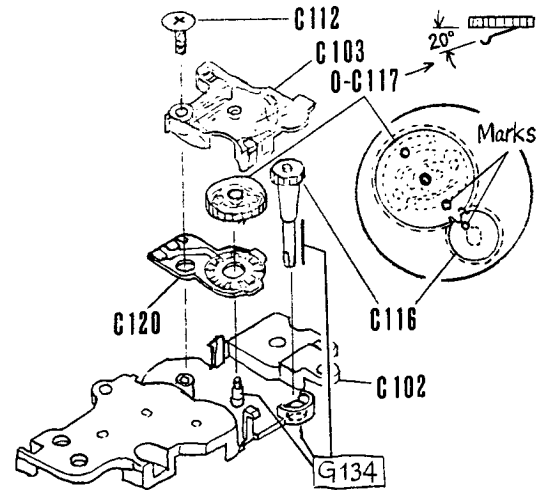
- 1-13 C2 Charge mech. plate B



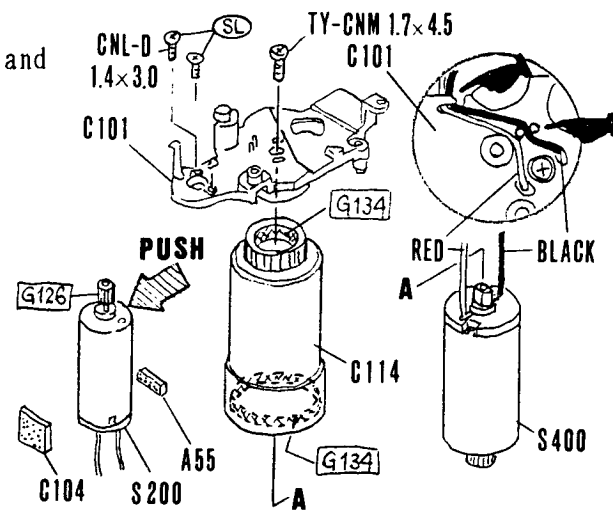
## 2. Film Advance Mech. Block

- 2- 1 C102 Wind-on mech. plate B
- 2- 2 C120 Film pulse counter board
- 2- 3 Wipe C120 using Evers etc.
- 2- 4 0-C117 Film pulse counter gear assy.
- 2- 5 C116 Sprocket gear
- 2- 6 C103 Film pulse counter cover
- 2- 7 C112 Cover retainer screw

Aline the marks of C116 and 0-C117 as figures.



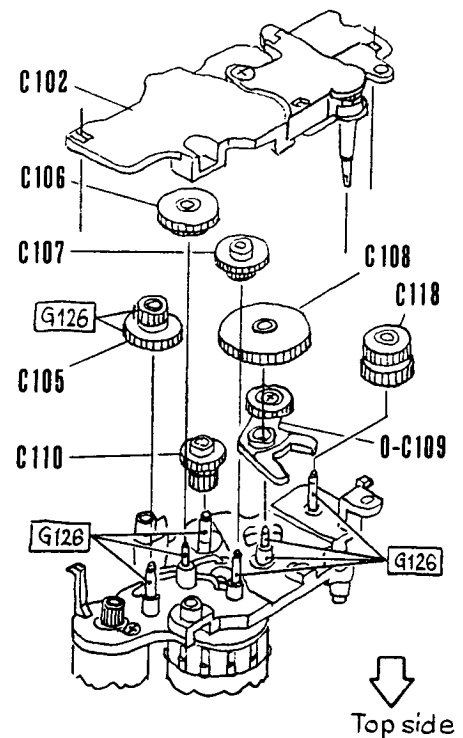
- 2- 8 C101 Wind-on mech. plate A
- 2- 9 Set C114(Spool) to S400(Charge motor) and arrange two lead wires on to C101.
- 2-10 C114 Spool
- S400 Charge motor
- TY-CNM1.7x4.5
- 2-11 S200 Film transport motor
- A55 Spacer
- C104 Motor spacer
- CNL-D1.4x3.0 x2



- 2-12 C110 5th reduction gear
- 2-13 0-C109 Planet gear assy.
- 2-14 C108 4th reduction gear
- 2-15 C107 3rd reduction gear
- 2-16 C105 1st reduction gear
- 2-17 C106 2nd reduction gear
- 2-18 C118 Rewind connection gear

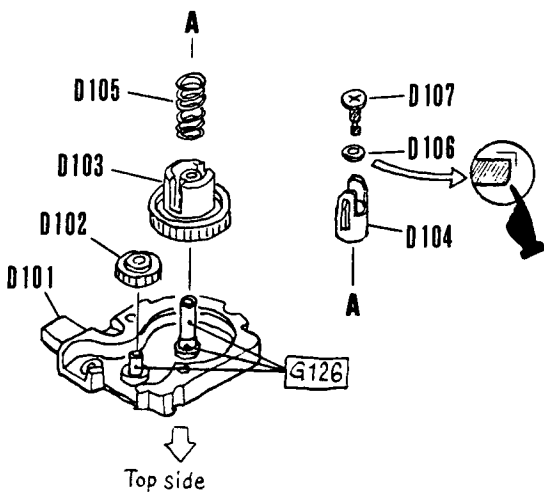
- 2-19 Install Wind-on mech. plate B assy.(C102) to Wind-on mech. plate A(C101).
- 2-20 Supply 3V to S200 to confirm the function of mech. block.

- Wind-on...Red→⊖、Black→⊕
- Rewind ...Red→⊕、Black→⊖



3 . Rewind Mech. Block, Top

- 3- 1 D101 Rewind mech. block, top
- 3- 2 D102 Idle gear
- 3- 3 D103 Rewind fork gear
- 3- 4 D105 Rewind fork spring
- 3- 5 D104 Rewind fork
- 3- 6 D106 Rewind fork retainer plate
- 3- 7 D107 Rewind fork retainer screw

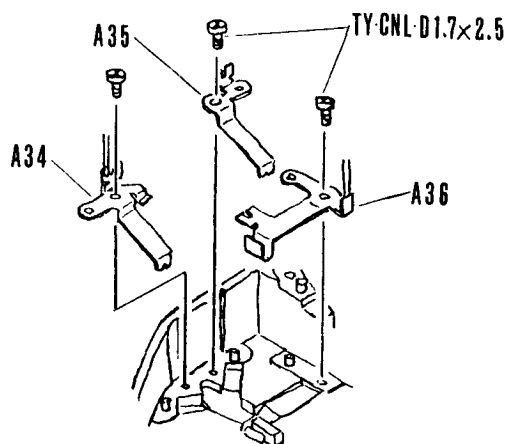


## 【Assembly I】

### Assembly Procedures of Main Body

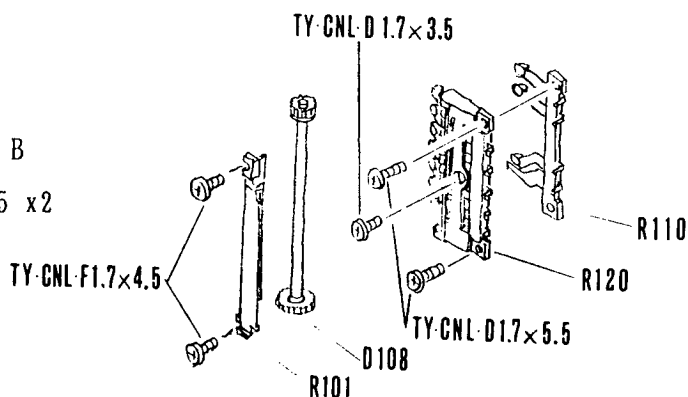
#### 1. Battery Switch A 3 6

- 1- 1 A34 Batt. contact piece A  
TY-CNL-D1.7x2.5
- 1- 2 A35 Batt. contact piece B  
TY-CNL-D1.7x2.5
- 1- 3 A36 Battery switch  
TY-CNL-D1.7x2.5
- 1- 4 A34 and A36 should be conducted.



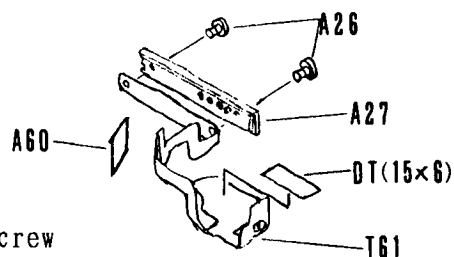
#### 2. DX Contact Piece R 1 1 0

- 2- 1 R110・R120 DX contact piece A・B  
TY-CNL-D1.7x3.5・TY-CNL-D1.7x5.5 x2
- 2- 2 D108 Connecting rod gear  
R101 DX contact cover  
TY-CNL-F1.7x4.5 x2



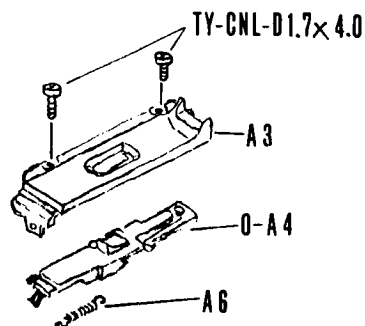
#### 3. Data FPC T 6 1

- 3- 1 T61 Data FPC  
A27 Data contact cover  
A26 x2 Data contact cover retainer screw
- 3- 2 Fix T61 to Main body by using A60(Tape) and Double-stick tape.



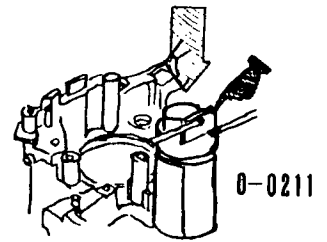
#### 4. Back Cover Key Assy. 0 - A 4

- 4- 1 Wipe off T61(Data FPC) using Evers etc.
- 4- 2 A6 Back cover key spring  
0-A4 Back cover key assy.  
A3 Back cover key cover  
TY-CNL-D1.7x4.0 x2



## 5. Main Capacitor 0 - Q 2 1 1

- 5- 1 Install the Main capacitor to the Main body  
using Double-stick tape while confirming the direction.



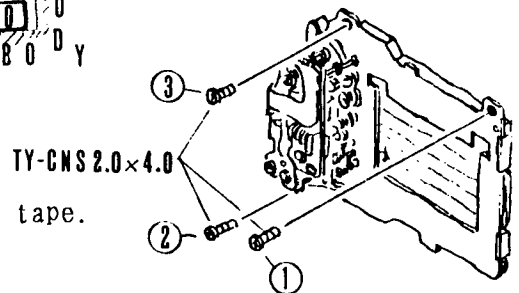
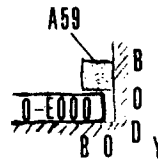
## 6. Shutter Block 0 - E 0 0 0

☆Do not pinch A59(Light seal) by 0-E000.

- 6- 1 0-E000 • T62 Shutter block • Shutter FPC

TY-CNS2.0x4.0 x3

- 6- 2 Fix T62 to the Main body using double-stick tape.



## 7. Film Advance Mech. Block

- 7- 1 C115 Sprocket

- 7- 2 Move 0-A20(Film retainer plate assy.) TY-CNL-D1.7x7.5  
while installing C114(Spool) to the Main body.

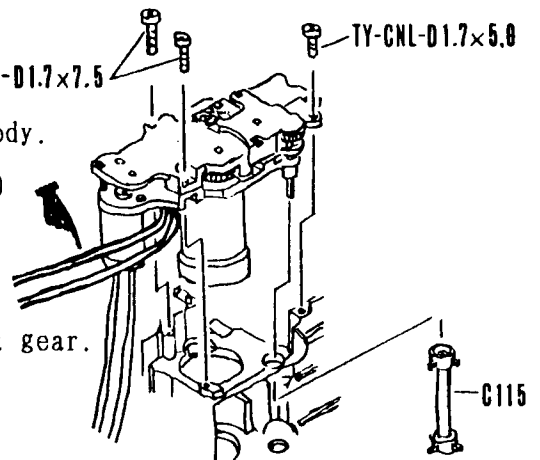
- 7- 3 Arrange two lead wires(Red,Black) from S400  
to the gap between Main body and S200.

- 7- 4 Set Film advance mech. block to the body  
while engaging C115(Sprocket) with sprocket gear.

- 7- 5 TY-CNL-D1.7x7.5 x2

- 7- 6 TY-CNL-D1.7x5.0

☆Spool should be free at this stage.



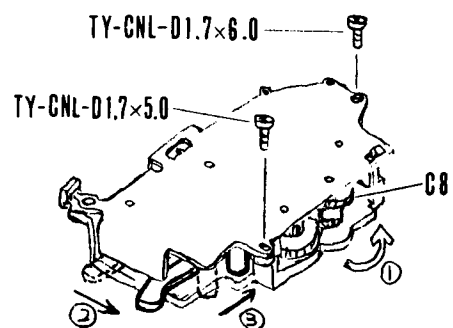
## 8. Charge Block

- 8- 1 Turn C8 to the right(①) to set  
the Charge block for charged condition.(②)

- 8- 2 Set the Shutter charge lever(0-C3) of  
the Charge block to right-hand-side(③) of  
the charge lever of Shutter block(0-E000).

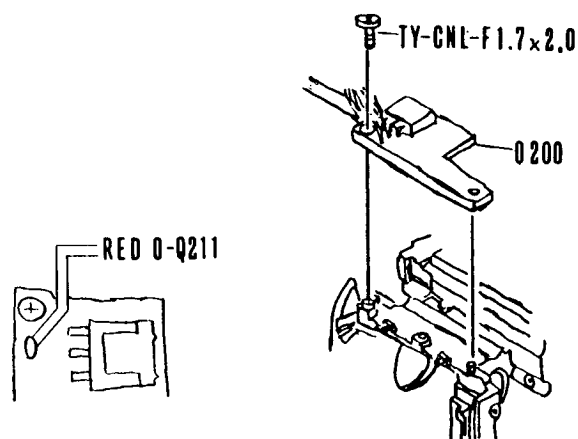
- 8- 3 TY-CNL-D1.7x5.0

- 8- 4 TY-CNL-D1.7x6.0



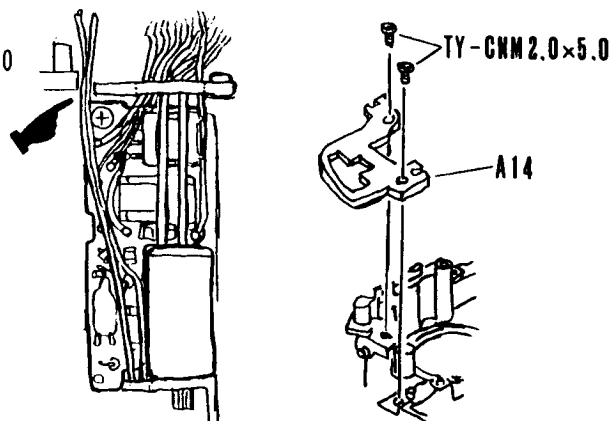
## 9. Flash P.C. Board Q 2 0 0

- 9-1 Q200 Flash P.C. board
- 9-2 Do not pinch the lead wires.
- 9-3 TY-CNL-F1.7x2.0
- 9-4 Solder one lead wire.  
• From 0-Q211(Main capacitor)---R---1



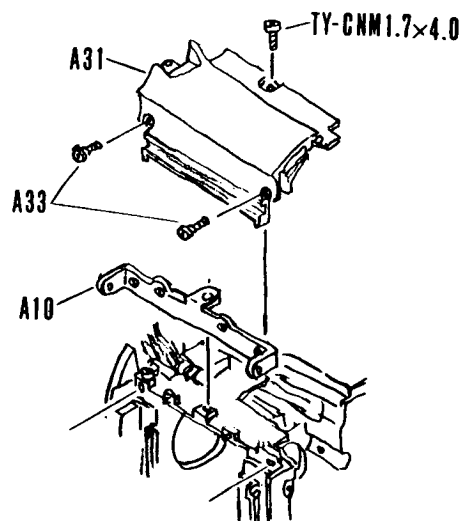
## 10. Strap Hook, Right A 1 4

- 10-1 Arrange 8 lead wires from Q200 and S200 to inside of A14(Strap hook).
- 10-2 A14 Strap hook, right
- 10-2 TY-CNM2.0x5.0 x2



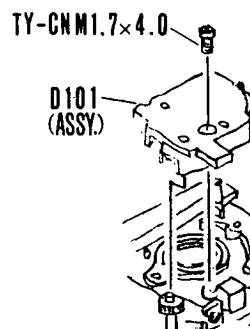
## 11. Side cover A 3 1

- 11-1 A10 Back cover shaft receptacle
- 11-2 Arrange the two lead wires(Red,Black) from S400 to the left(Film plane) of A14(Strap hook).
- 11-3 A31 Side cover  
A33 x2 Side cover retainer screw  
TY-CNM1.7x4.0



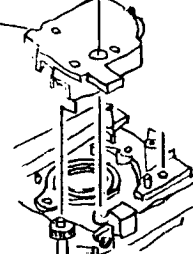
## 12. Back Cover Assy.

- 12-1 Back cover assy.
- 12-2 Confirm the function of the Back cover and the Back cover key.



## 13. Rewind Mech. Block, Top

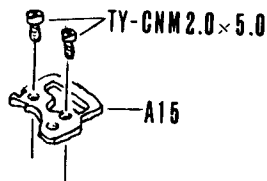
- 13-1 Rewind mech. block, top  
TY-CNM1.7x4.0



#### 1 4 . Strap Hook, Left A 1 5

14- 1 A15 Strap hook, laft

TY-CNM2.0x5.0 x2

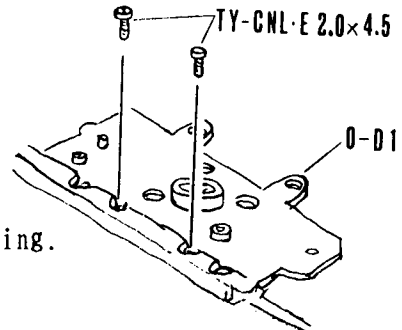


#### 1 5 . Rewind Mech. Block, Bottom 0 - D 1

15- 1 0-D1 Rewind mech.block, bottom

☆Pay attention to the engagement of gears while installing.

TY-CNL-E2.0x4.5 x2



#### 1 6 . Front Housing/Viewfinder and related parts

16- 1 Set to the charged condition all of the 0-E000, 0-B000 and Charge block.

☆How to set the charged condition at this stage.

Supply 3~4V to S400 until Charge block becomes as state as shown in figures, and set C5 to right.

S400 Black←⊕, S400 Red←⊖

16- 2 Set the Front housing to the Main body.

☆Do not pinch the lead wires and FPC.

16- 3 TY-CNL-E2.0x4.5 x4

16- 4 C6 Charge block retainer screw

16- 3 A115 x2 Main body retainer screw

16- 4 D15 Rewind mech.block retainer screw

☆Mechanical Back Adjustment

Standard 4 5 . 4 6 ±0.02mm

#### 1 7 . 【Adjustment】 Viewfinder Focus/Parallax

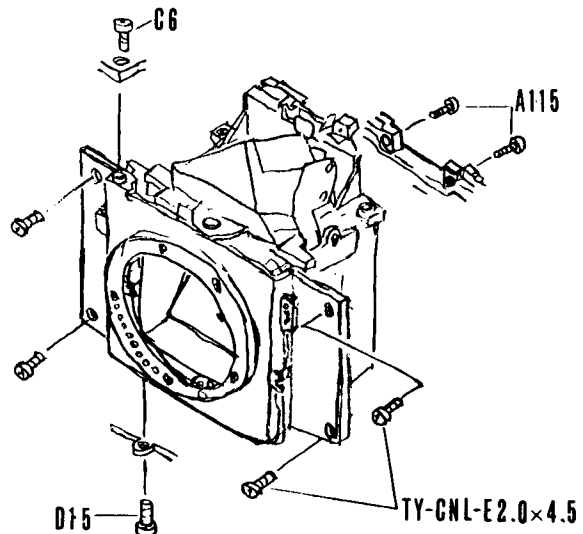
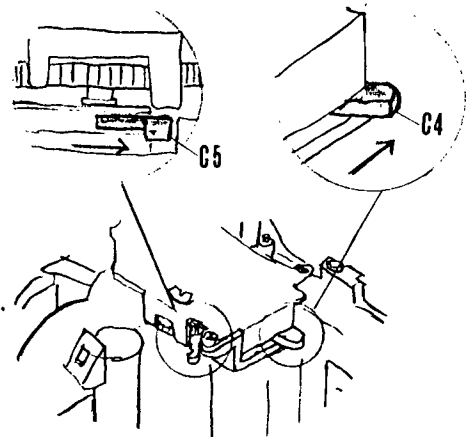
17- 1 Install 0-M301(Eyepiece) and A401(Bottom cover) for temporally.

17- 2 ☆Viewfinder focus

Turn M2(Focus adj. nut) to adjust.

Standard 0 ± 0 . 0 5 mm

17- 3 Apply the bond to M2 after adjustment.



- 17- 4 ☆Parallax  
Adjust right/left by M26(Prism retainer screw)

Standard Right/Left 1° or less

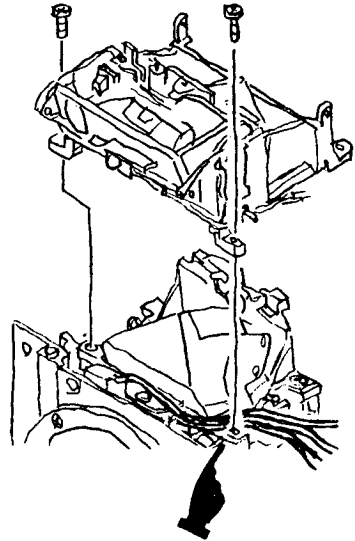
Top/Bottom 1° 50' or less

- 17- 5 After adjustment, apply screw lock to M26 and remove O-M301, A401.

## 1 8 . Flash Block

- 18- 1 Arrage the lead wires from  
K101(f-VR) as shown in figure.

- 18- 2 Flash block  
TW-CNL-D1.7x4.0 x2



## 1 9 . Main P.C. Board. T 1 0 0

☆Wipe off the all connecting lands and switching lands before installation

- 19- 1 T100 Main P.C. board  
19- 2 Move the lead wires at the top of the grip  
to set DC/DC section as shown in figures.

TY-CNL-D1.7x3.0(DC/DC section)

- 19- 3 CNL-E2.0x3.5(Bottom GND)

- 19- 4 T100-M100(FPC connection)

I3 FPC retainer rubber A

I1 FPC retainer plate A

CNL-D1.7x2.5

- 19- 5 T100-O-T301(FPC connection)

I3 FPC retainer rubber A

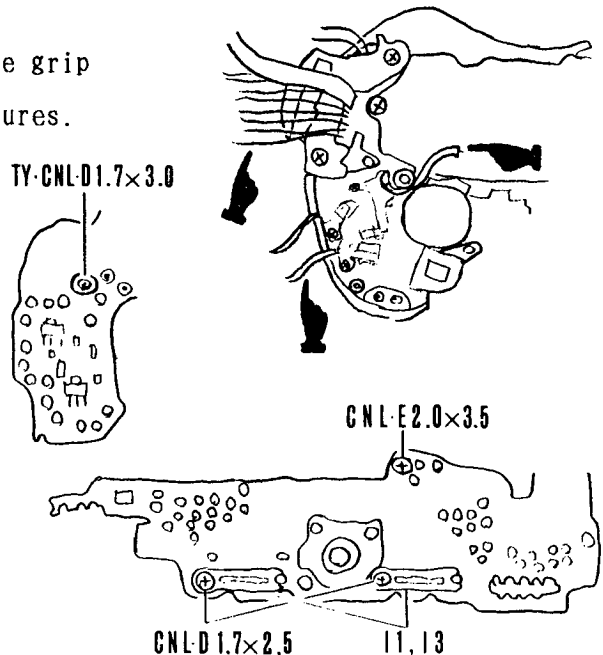
I1 FPC retainer plate A

CNL-D1.7x2.5

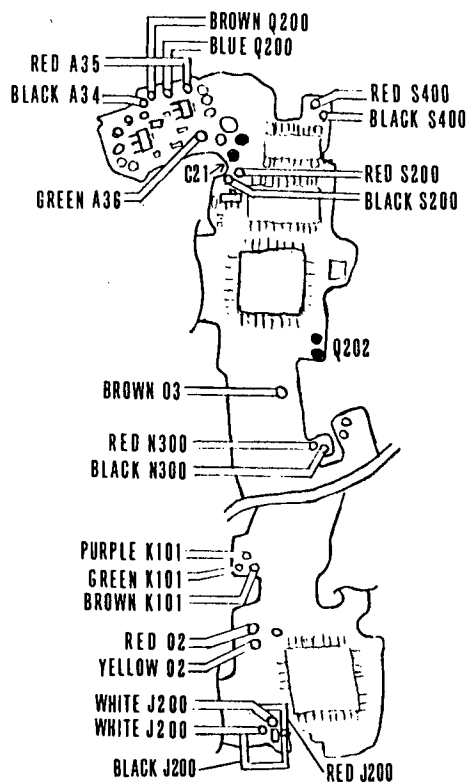
- 19- 6 M10 Photo sensor adj. pin

M11 Photo sensor holder

TY-CNL-F1.7x3.0(Temporally)



- 19- 7 Solder 2 1 lead wires...Top section
- On top of grip...Rx3,Blx3,Br,Blu,G...9
  - From AF spot beam...Br...1
  - From PCV(N300)...R,BI...2
  - From f-VR(K101)...G,Br,Pu...3
  - From TTL sensor(J200)...Wx2,R,BI...4
  - From Self-timer LED(θ2)...R,Y...2



- Solder 4 soldering lands...Top section
- Wind-on completion SW(C21)-T100...2
  - Flash FPC(Q202)-T100...2

- 19- 8 Set Q202 to the guide pin of the Q3.

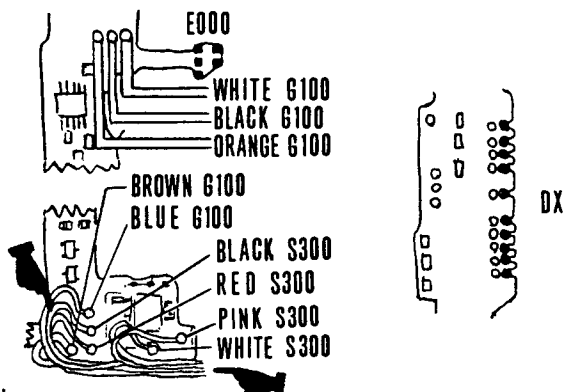
- 19- 9 Solder 9 lead wires...Front section
- From Diaph. control(G100)...Or,BI,W...3
  - From S300 etc...R,BI,W,Pi,Br,Blu...6

- Solder 1 5 soldering lands
- Shutter FPC(T62)-T100...5
  - DX contacts(R110,R120)-T100...10

- 19-10 Solder 5 lead wires...Bottom section

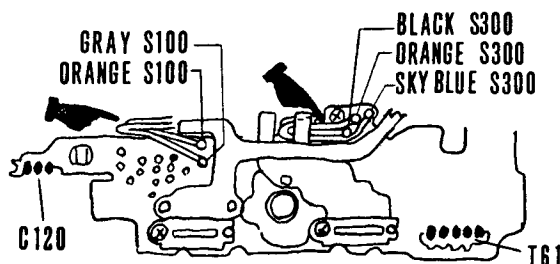
☆Pay attention to the direction of the wires!

- From AF motor(S300)...BI,Or,L/Blu...3
- From Release Mg(S100)...Or,Gray...2



- Solder 8 soldering lands...Bottom section

- Data FPC(T61)-T100...5
- Film pulse SW(C120)-T100...3



- 19-11 0-A19 Hot shoe base plate

T12 Lug plate

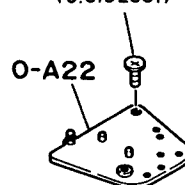
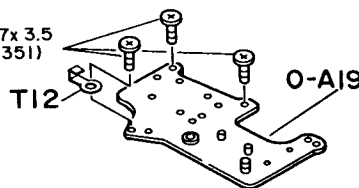
TY-CNM1.7x3.5 x3

TY-CNM1.7x3.5  
(C.6092351)

- 19-12 0-A22 Select SW base plate

TY-CNL-F1.7x3.5

TY-CNL-F1.7x3.5  
(C.6192351)



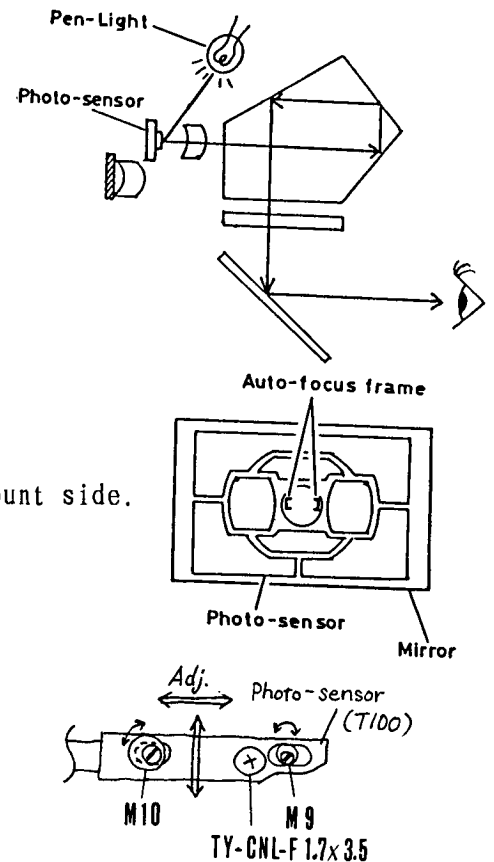


## 2 0 . Eyepiece Assy. 0 - M 3 0 1

20- 1 0-M301 Eyepiece assy.  
TY-CNM1.7x7.0 x2

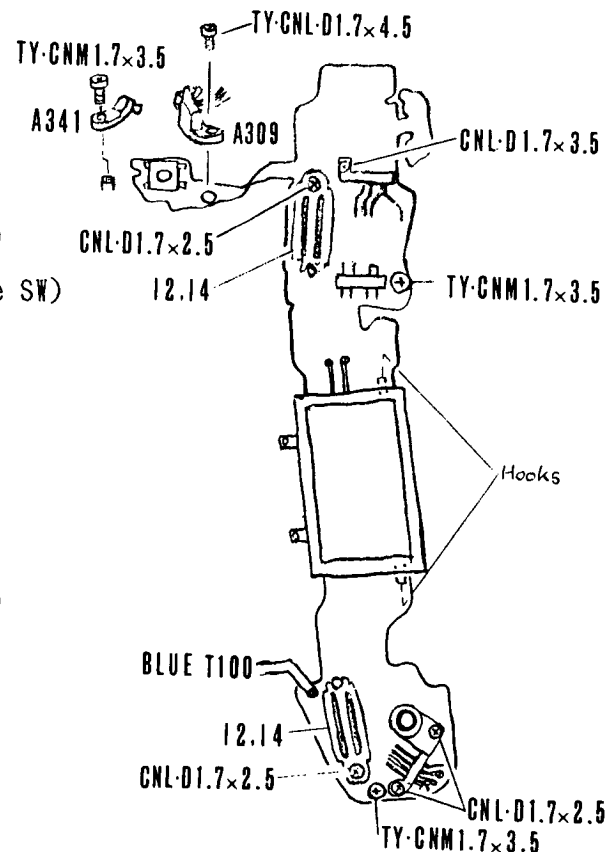
### 2 1 . 【Adjustment】 Photo Sensor Position

- 21- 1 Cover the Eyepiece with black tape.  
21- 2 Shoot a near point-like light, such as a pen light, to the photo sensor, and search for a position where the pattern of the photo sensor can be seen from the mount side.  
21- 3 Loosen TY-CNL-F1.7x3.5 and move the entire photo sensor to make the auto-focus frame at the center of the round sensor(A sensor) located at the center of the photo sensor.  
21- 4 Peel off the black tape from the Eyepiece.



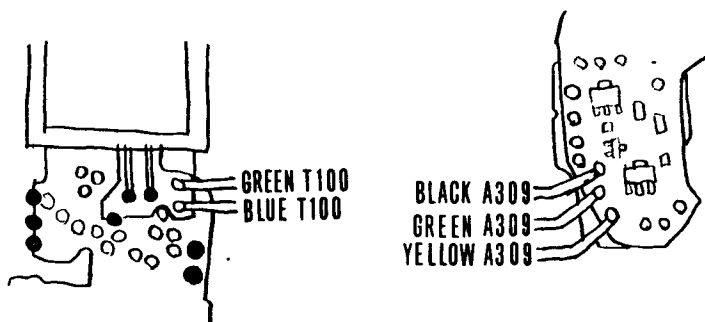
### 2 2 . LCD P.C. Board T 2 0 0

- 22- 1 Set the LCD section to the Flash block first, and set holes of T200 to Flash SW.  
22- 2 T200 LCD P.C. board  
22- 3 TY-CNM1.7x3.5 x2(T200 GND)  
22- 4 CNL-D1.7x2.5 x2(Set SW section)  
22- 5 CNL-D1.7x3.5(Av dial contacts section)  
22- 6 A341 FPC retainer plate(Release SW)  
TY-CNM1.7x3.5  
22- 7 A309 Tv dial contact piece  
TY-CNL-D1.7x4.5  
22- 8 Solder 1 lead wire  
• From T100 to T200...Blu...1  
22- 9 FPC connection(T100-T200 • ①100-T200)  
14 x2 FPC retainer rubber C  
12 x2 FPC retainer plate C  
CNL-D1.7x2.5 x2



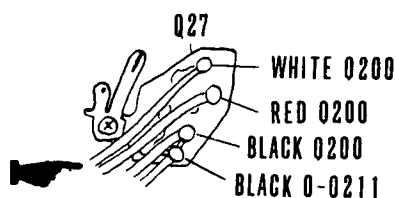
22-10 Solder 8 soldering lands

- Flash SW—T200...2
- Flash FPC—T200...3
- LCD FPC—T200...1
- EL lamp terminals...2



22-11 Solder 9 lead wires

- From TV dial contacts(A309)...B1,G,Y...3
- From T100 to EL lamp FPC...Blu,G...2
- To Flash relay PCB(Q27)...W,R,B1x2...4



☆Pay attention to the arrangement of the lead wires. !

## 2 3 . Hot Shoe A 3 2 2

23- 1 A305 ML switch

23- 2 0-A321 • Hot shoe base assy.

A326 x4 Hot shoe spring

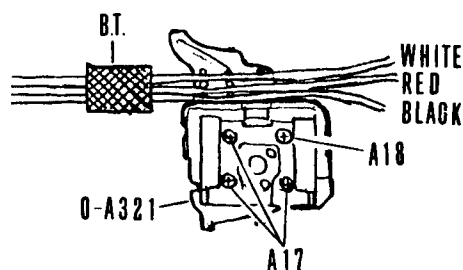
23- 3 A322 Hot shoe

A18 Hot shoe retainer screw B

A17 x3 Hot shoe retainer screw A

23- 4 A323 Hot shoe spring

23- 5 Arrange the three lead wires(B1,R,W)  
from Q200 onto 0-A321.



☆Checking Function

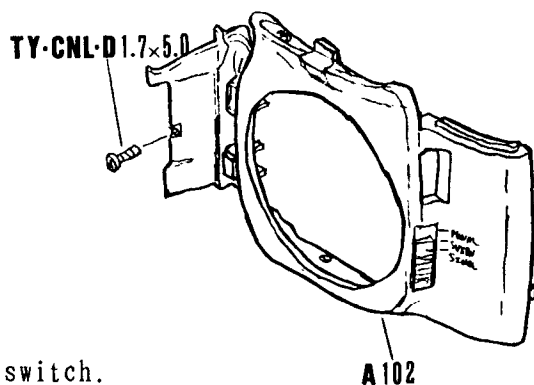
1. Supply 6V(Battery) to the body, and turn the main switch to ON.
2. Confirm the release and charge function of the shutter, and Flash function.

## 2 4 . Front Cover A 1 0 2

24- 1 Set AF mode SW to "MANUAL"  
both the main body and front cover.

24- 2 A102 Front cover  
TY-CNL-D1.7x5.0

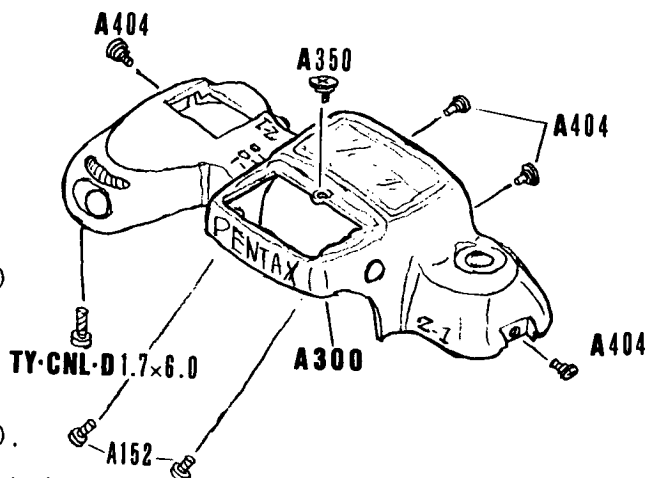
24- 3 Confirm the function of the AF mode switch.



## 2 5 . Top Cover Assy. A 3 0 0

☆No dust, fluff, etc. are allowed on or in the LCD section, Eyepiece and top cover.

☆Confirm the contact pieces(A309,A315,A328) are not bend or broken.



- 25- 1 Set the Main SW to OFF position both body(T203) and top cover(A303).
- 25- 2 Install the top cover(A300) to the body while pulling the front cover(A102) forward.
- 25- 3 A300 Top cover assy.
- 25- 4 A350 Top cover retainer screw(above flash)
- 25- 5 Confirm the pop-up and storage function of flash.
- 25- 6 A152 x2 Front cover retainer screw(bottom of flash)
- 25- 7 A404 x4 Bottom cover retainer screw A  
(Left/Right of eyepiece, Left/Right strap hook)
- 25- 8 TY-CNL-D1.7x6.0(Inside of battery chamber)

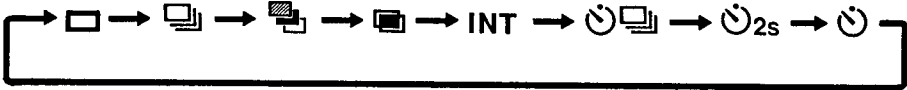
## 2 6 . Checking Function

- 26- 1 Supply power to the body.(5.5V, 3A or more/Battery 2CR5)
- 26- 2
  - Set the FA lens to the body, and set the diaph. ring to "A".
  - Set the Main switch of body to "Green position", then confirm the LCD showing exposure mode "P".
  - ...Confirmation of Main SW and A/M Switching...
- 26- 3
  - Set the Main switch to "Full-feature position" and set the Mode dial to "MODE"
  - Rotating the Tv dial to the right while holding down the Mode set button will change the exposure mode as shown below.
  - After confirmation, set to "HyP" mode.(For next procedures)
  - ...Confirmation of Main SW, Mode set SW and Tv dial...

→ HyP → P → ATv → AA<sub>v</sub> → HyM → Mbu }

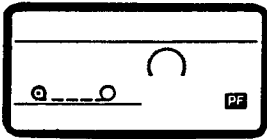
- 26- 4 • Set the Mode dial to "DRIVE".
- Rotating the Tv dial to the right while holding down the Mode set button will change the drive mode as shown below.
- After confirmation, set to "□(Single)" mode.

...Confirmation of Mode dial, Mode set SW and Tv dial...



- 26- 5 • Rotating the Av dial will change the aperture within the range.
- ...Confirmation of the Av dial...

- 26- 6 • Set the Mode dial to "PF<sub>0.4</sub>".
- Confirm the LCD displays as shown in figure.
- ...Confirmation of Mode dial...



- 26- 7 • Set the Mode dial to "ISO".
- Rotating the Tv dial while holding down the Mode set button will change film speeds.
- ...Confirmation of ISO switching...

- 26- 8 • Set the Mode dial to "■||)".
- Rotating the Tv dial while holding down the Mode set button will change display "■||)" ON/OFF. Set to "HyM" mode.
- ...Confirmation of selection of PCV sounds...

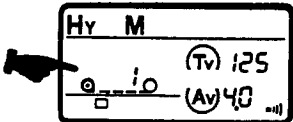
- 26- 9 • Pushing the IF button will show the Tv, Av and "⊕" in finder.
- ...Confirmation of IF switch...



- 26-10 • Pushing the ML button will show "✱" in the viewfinder
- ...Confirmation of ML switch...

- 26-11 • By pressing "□" and "⊕/■" buttons at same time, LCD will illuminated for about 5 sec.

- 26-12 • Load the test film.
- Closing the back cover will load the film up to frame No.1.
- ...Confirmation of Back cover SW and Film cartridge SW...



- 26-13 • Release shutter several times and confirm advance and counter.
- Set the Mode dial to "PF<sub>0.4</sub>", and rotating the Tv dial while holding down the Mode set button will turn off "PF" display.
- Take finger off from Mode set button and rotating the Tv dial to the left for 3 steps will start the rewinding.

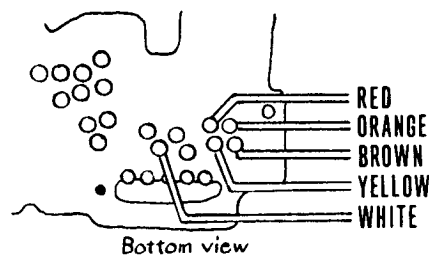
## 2 7 . Flash Check(Dark condition)

- 27- 1 Supply the power to the body.
- 27- 2 Set the flash to pop-up condition and cover the firing section.
- 27- 3 Set the black body mount cap to the body.  
... For set to totally dark condition...
- 27- 4 Set the ISO to "6400".
- 27- 5 When flash ready mark comes up, release the shutter, and confirm the flash fires. Repeat above procedures 5 times.

## 2 8 . 【Adjustment】 Auto Exporsure and Auto Focus (ROM Writing)

【Testers】 Personal Computer(PC-88 or 98) • Display  
Programmed software for 27030  
Regulated DC power-supply or battery(2CR5)  
Optical regulator for MEF  
Shutter tester(7PE-25A3)

【Jigs • Tools】 Serial interface (with 3 cables)  
Interface buffer (With one cable)  
Pressure plate w/LX 1st curtain for TTL adjustment  
Power SW adapter  
Hexagonal screw driver 1.5mm  
Focus standard lens for MEF



- 28- 1 Solder 5 lead wires from Interface.
- 28- 2 Supply the power to the body.
- 28- 3 Use 27030 exclusive programmed software, check and adjust AE/AF .

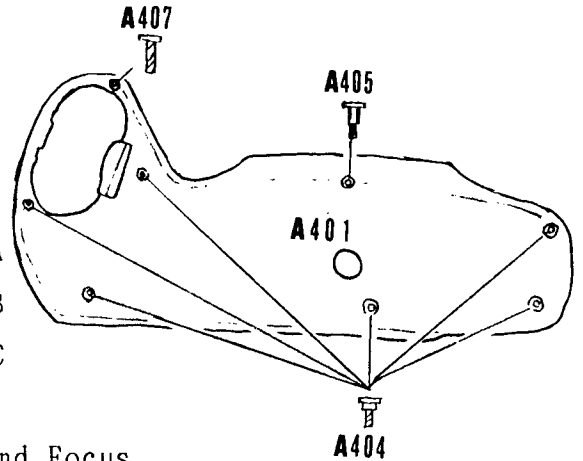
①EEPROM CHECKING(START) → ②(A)GROUP → ③(B)GROUP



⑤EEPROM CHECKING(END) ← ④NUMBER OF REPAIRS

## 29. Bottom Cover A401

- 29-1 A32 Grip rubber
- 29-2 0-A402 Battery cover assy.
- A401 Bottom cover
- 29-3 A404 x6 Bottom cover retainer screw A
- 29-4 A405 Bottom cover retainer screw B
- 29-5 A407 Bottom cover retainer screw C

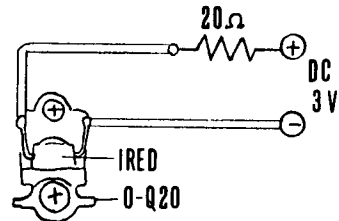


## 30. 【Adjustment】 AF Spot Beam Position and Focus

☆Method of checking and adjustment are similar to the SFXs(259,263,25905)

- 30-1 How to lights up the spot beam(IRED).

A.Unsolder two lead wires(Br,B1) from 0-Q20,  
connect  $20\Omega$  resistor to positive and supply  
3V to 0-Q20(IRED).



【Do not connect too long!】

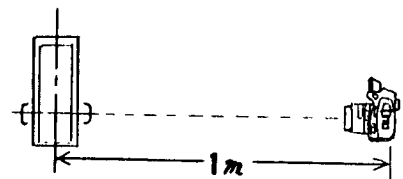
B.Supply the power to the body.

Set AF mode SW to "SINGLE", attach the F or FA lens to the body.

Pressing the shutter button halfway will lights up the IRED  
under EV1 or darker circumstances.

- 30-2 Set the flash to pop-up condition, attach 50mm F or FA lens.

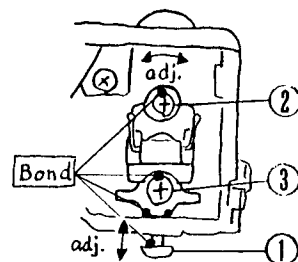
- 30-3 Set the dintance between chart and  
camera to 1m, match the focus frame  
of viewfinder to the chart.



- 30-4 Adjust the spot beam position for within  
a area, and becomes in-focus at → ← mark.

- Loosen the screw ③.
- Adjust the focus by screw ①.
- Adjust the vertical position by screw ②
- Adjust the horizontal position by 0-Q20.

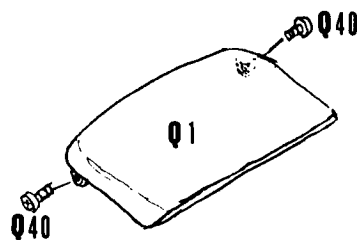
After adjustment, tighten the screw ③,  
re-confirm position and focus, apply bond.



- 30-5 Set the Reflection board at 4m away from body,  
and check if AF works correctly under EV1 or darker condition

### 3 1 . Flash Cover Q 1

- 31- 1 Set the flash to pop-up position.
- 31- 2 Q1 Flash cover
- 31- 3 Q40 x2 Flash cover retainer screw
- 31- 4 Confirm the function of the flash.



### 3 2 . Confirmation of Exposure Value and DX Switching

【Tester】 Shutter tester(7PE-25A3)

【Jig】 Master lens for 24500

#### 【Exposure value】

- 32- 1 Set the battery(2CR5) to the body.
- 32- 2 Attach the the master lens to the body, and set diaph. ring to "A".
- 32- 3 Set the main SW to "Green position", ISO to "100", AF mode SW to "MANUAL", and open the back cover, push the back cover key.
- 32- 4 Set the body to the shutter tester and check the exposure value.

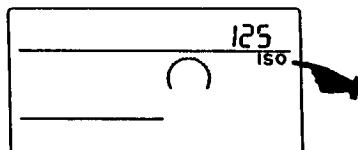
【Standard】 EV 1 2 ... - 0.3 ~ + 0.5 EV

EV 6 ~ 14 ... - 0.5 ~ + 0.7 EV

☆Check at other exposure modes if neccessary.

#### 【Dx Switching】

- 32- 5 Set the "ISO" to "125" by manually.
- 32- 6 Load the DX coded film.(Except ISO 125)
- 32- 7 Press the mode set button and confirm the ISO is set by loaded DX-film.
- 32- 8 If the film speed according to the DX code is different from the manually set film speed, "ISO" appears on the LCD panel.



§ P F = Pentax Function

PF No.8 is selection of the film speed setting priority.

P F 8 - 0 ...Automatic film-speed setting...Standard

- 1 ...Allows user-defined film-speed setting

### 3 3 . Checking of the Auto-focus • AF mode • Power zoom function

【Tester】 Optical Regulator for MEF


【Jig】 Focus Master Lens for MEF

- 33- 1 Attach the Focus master lens to the body. Set the AF mode lever to "MANUAL".  
Set on the 500mm collimator in the Optical regulator.
- 33- 2 Turn the focusing ring to the right end, and then gradually return  
the focusing ring to the position where the In-focus mark appears,  
and read the scale. = A
- 33- 3 Turn the focusing ring to the left end, and then gradually return  
the focusing ring to the position where the In-focus mark appears,  
and read the scale. = B
- 33- 4 Center point of A and B  $[(A+B)/2]$  should be within a range of  
 $-0.05 \sim +0.06$ .
- 33- 5 Attach the FA zoom lens to the body, set the AF mode SW to "SINGLE",  
and confirm the AF functions.  
Check the switching of the SINGLE and SERVO mode.  
SINGLE...Only when the subject is in focus, the shutter can be released.  
SERVO ...The shutter can be released at any time.
- 33- 6 Confirm the power zoom functions.



## 【Wind/Rewind Mech. Sequence】



### A. Loading

- 1) Set the film in the camera body (Cartridge SW OFF), and close the back cover (Back cover SW OFF), then the Film motor (S200) starts.
- 2) When the camera receives 28 wind pulses (WP), then stops the Film motor, and displays frame No. "1" on the LCD panel.  
Error . . . . . If WP is not received for 0.6 sec. after the Film motor starts, then stops the Film motor.  
Error display . .  E flickers.

### B. Winding

- 1) The film motor starts 4ms after the OFF-signal of the 2nd curtain Mg.
- 2) When the camera receives 8 WP, then stops the Film motor and counts up the film counter on LCD.
- 3) At the end of the film, the WP is not received for 0.2 sec., then starts rewinding. 【PF】  
Error . . . In case of WP is not received for 0.2 sec. during the winding, then starts rewinding. (Film perforations are broken, etc.)

### C. Rewinding

- 1) As the film rewinds, the film counter is displayed in descending order by WP.
- 2) During the rewinding, WP is not received for 1.5 sec., stops the Film motor, and  mark in the LCD flickers. 【PF】
- 3)  flickering are continues and does not functions at all until the back cover is opened.


※【PF】(Pentax Function)---For winding and rewinding

◦ PF 1 1 - 0 ---Film rewinds fully into cartridge---Standard

1 1 - 1 ---Leaves film leader outside film cartridge.

◦ PF 1 2 - 0 ---Rewinds film automatically---Standard

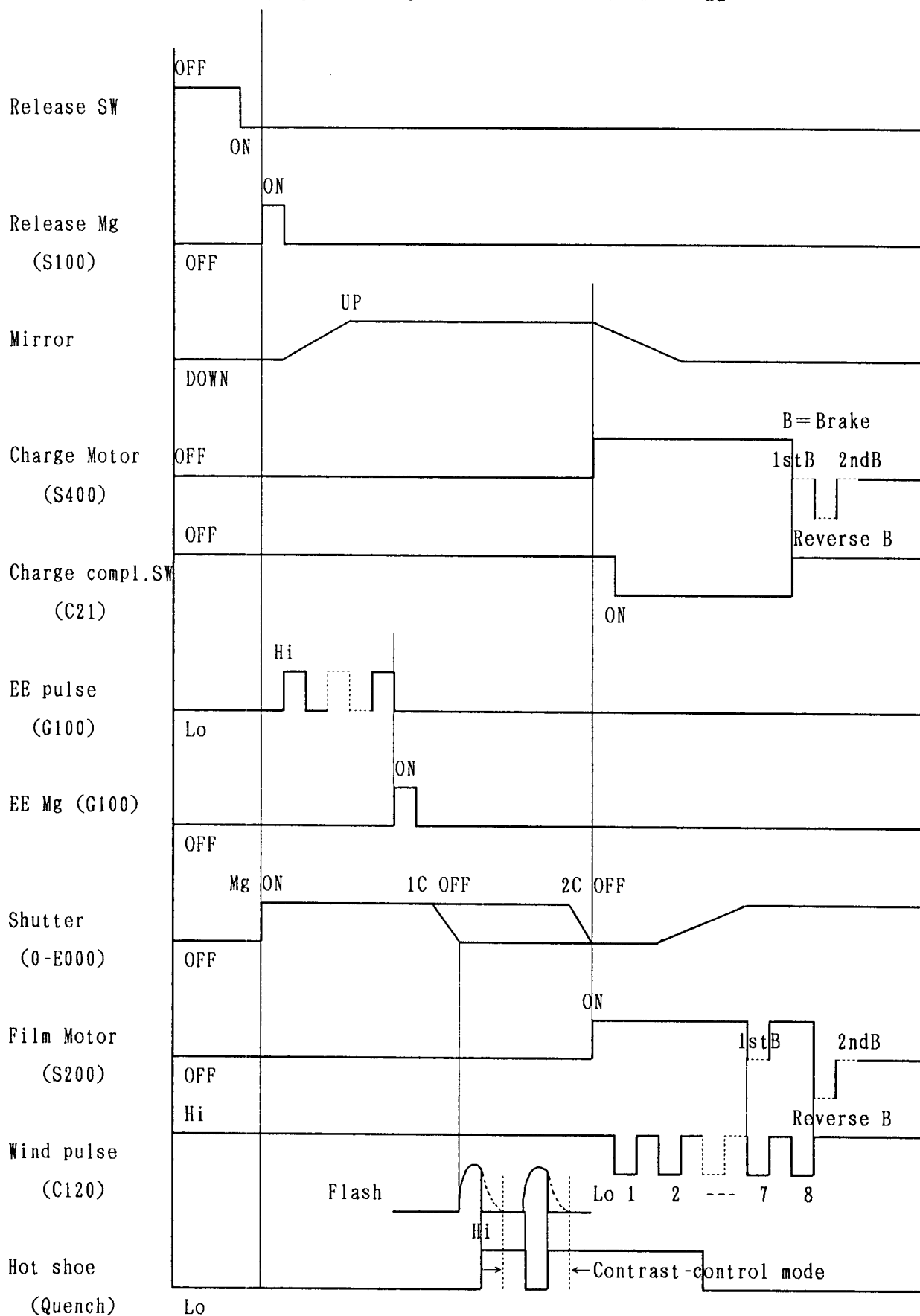
1 2 - 1 ---Rewinding starts manually

① Set the mode dial to 

② While holding the mode set button, turn the Tv dial to the left to clear **PF** from the LCD panel.

③ Release the set button, turn the Tv dial three steps to the left.

【Sequence Diagram from Release to Winding】





### 【Battery Life and Battery Consumption】

General photography	About 80 rolls
With a flash use 50%	About 25 rolls
With a flash use 100%	About 14 rolls
Bulb exposure time	About 6 hours

Using a fresh battery and 24-exposure roll at room temperature.

### 【Battery Exhaustion Warning】

	Warning level(3.4V)	Release lock level(3.23V)
Ext. LCD	 mark lights up	 mark flickers
Int. Disp.	Ordinary display	Lights off
Functions	Ordinary function	Release lock

### 【Consumption】

1. Main switch OFF	5 0 $\mu$ A or less
2. Main switch ON with FA Zoom lens	2 2 0 $\mu$ A or less
Main switch ON except with FA Zoom	1 6 0 $\mu$ A or less
3. Metering	1 8 0 mA or less
4. Exposure (Bulb)	2 7 0 mA or less
5. AF motor (Average)	5 2 0 mA or less
6. Winding the film (Average)	1 0 0 0 mA or less
7. Rewinding the film	5 5 0 mA or less

※Set the regulated DC-power supply to 5.5V with more than 3A.

※1 and 2 are without film.

【Correspondence with DX-coded film】

For Film Speeds

	Contacts No.				
I S O	②	③	④	⑤	⑥
2 5	■	■	■	□	■
3 2	■	■	■	■	□
4 0	■	■	■	□	□
5 0	□	■	■	□	■
6 4	□	■	■	■	□
8 0	□	■	■	□	□
1 0 0	■	□	■	□	■
1 2 5	■	□	■	■	□
1 6 0	■	□	■	□	□
2 0 0	□	□	■	□	■
2 5 0	□	□	■	■	□
3 2 0	□	□	■	□	□
4 0 0	■	■	□	□	■
5 0 0	■	■	□	■	□
6 4 0	■	■	□	□	□
8 0 0	□	■	□	□	■
1 0 0 0	□	■	□	■	□
1 2 5 0	□	■	□	□	□
1 6 0 0	■	□	□	□	■
2 0 0 0	■	□	□	■	□
2 5 0 0	■	□	□	□	□
3 2 0 0	□	□	□	□	■
4 0 0 0	□	□	□	■	□
5 0 0 0	□	□	□	□	□

For Ground

	①	⑦
GND	□	□

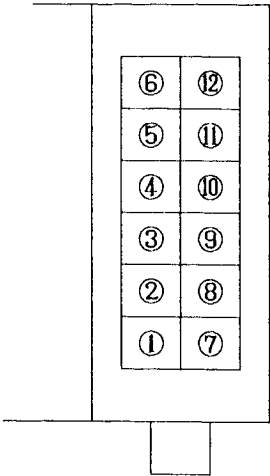
For No. of Exposures

No.	⑧	⑨	⑩
12	□	■	■
20	■	□	■
24	□	□	■
36	■	■	□
—	□	■	□
—	■	□	□
72	□	□	□

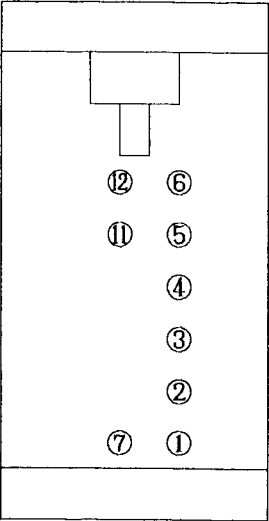
For Latitude

	⑪	⑫
± 1/2	■	■
± 1	□	■
+ 2, - 1	■	□
+ 3, - 1	□	□

DX-coded film

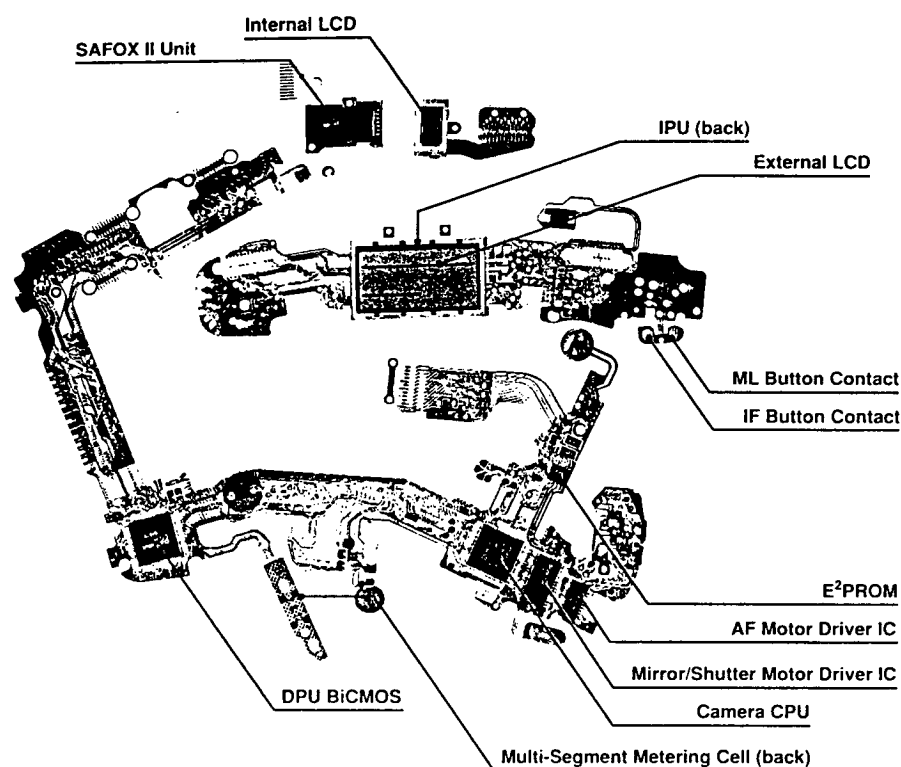


Z - 1

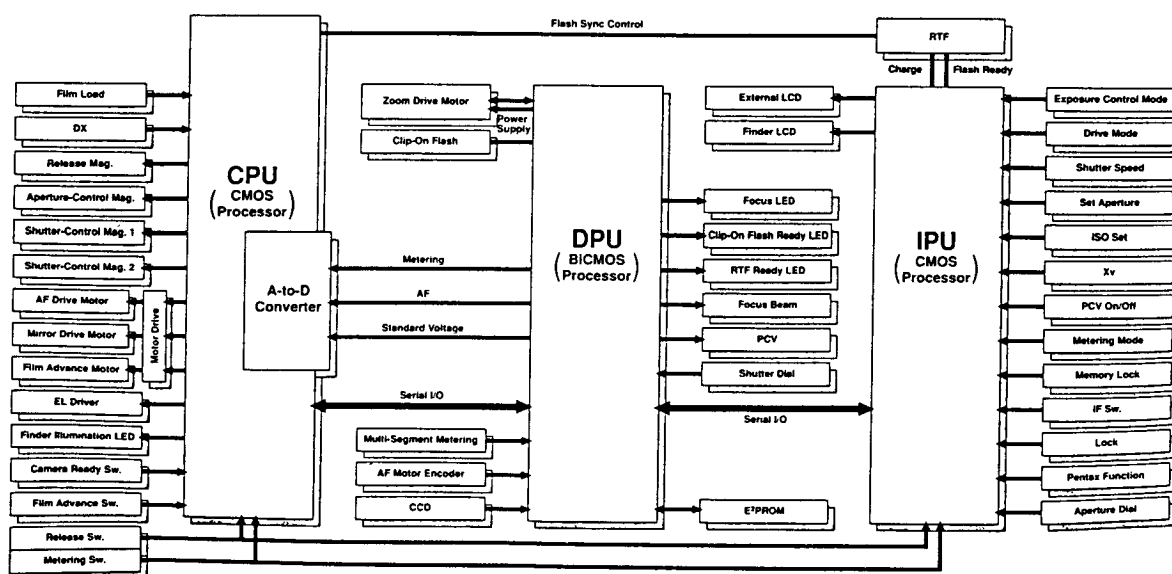


□ = Conduction(Silver), ■ = Insulation(Black)

## ■ Z-1's Flexible Printed Circuit Board



## ■ Schematic Diagram of Z-1's Electronic Circuitry



\*\*\*\*\* 27030 TEST PROGRAM \*\*\*\*\*

TURN MAIN SW OF BODY ON.

TURN SW OF I/O IF BOX ON.

ATTACH POWER SW ADAPTER TO CAMERA.

AFTER CONFIRMING ABOVE, PRESS KEY [ 1 ].

AFTER REPLACING MAIN PC BOARD PRESS KEY [ 2 ].

\*\*\*\*\* MAIN MENU \*\*\*\*\*

EEPROM CHECKING (START) ----> [ 1 ]

EXPOSURE AND PULSE LEVEL ADJUSTMENTS (A) ----> [ 2 ]

AF AND RELATED ADJUSTMENTS (B) ----> [ 3 ]

NUMBER OF REPAIRS ----> [ 4 ]

EEPROM CHECKING (END) ----> [ 5 ]

BATTERY LEVEL ADJUSTMENT ----> [ 6 ]

\*\*\*\*\* BATTERY CHECKING \*\*\*\*\*

\* SET REGULATED DC POWER SUPPLY TO 3.40 v. ( MORE THAN 3 AMPERE )

AFTER CONFIRMING ABOVE, PREES KEY [ Y ].

WHEN YOU RETURN TO FRONT MENU, PREES KEY [ N ].

\*\*\*\*\* BATTERY CHECKING \*\*\*\*\*

DATA IS BEING READ. 10

CHECKING HAS BEEN COMPLETED.

DOES THIS DATA WRITE TO EEPROM ?

IF YOU ARE READY TO START, PREES KEY [ Y ].

WHEN DO NOT WRITE DATA, PREES KEY [ N ].

\*\*\*\*\* BATTERY CHECKING \*\*\*\*\*

BATTERY CHECKING HAS BEEN COMPLETED.

\*SET REGULATED DC POWER SUPPLY TO 6 v.

BATTERY CHECKING AGAIN ----> [ 1 ]

MAIN MENU ----> [ 2 ]

\*\*\*\*\* EEPROM CHECKING (START) \*\*\*\*\*

IF YOU ARE RADY TO START, PRESS KEY [ Y ].

WHEN YOU RETURN TO MAIN MENU, PRESS KEY [ N ].

BEING PREPARED.

DATA OF EEPROM IS BEING CHECKED.

DATA OF EEPROM IS ALL OK!!

EEPROM DATA CHECKING HAS BEEN COMPLETED.

EEPROM CHECKING AGAIN ----> [ 1 ]

MAIN MENU ----> [ 2 ]

DATA OF EEPROM IS BEING CHECKED.

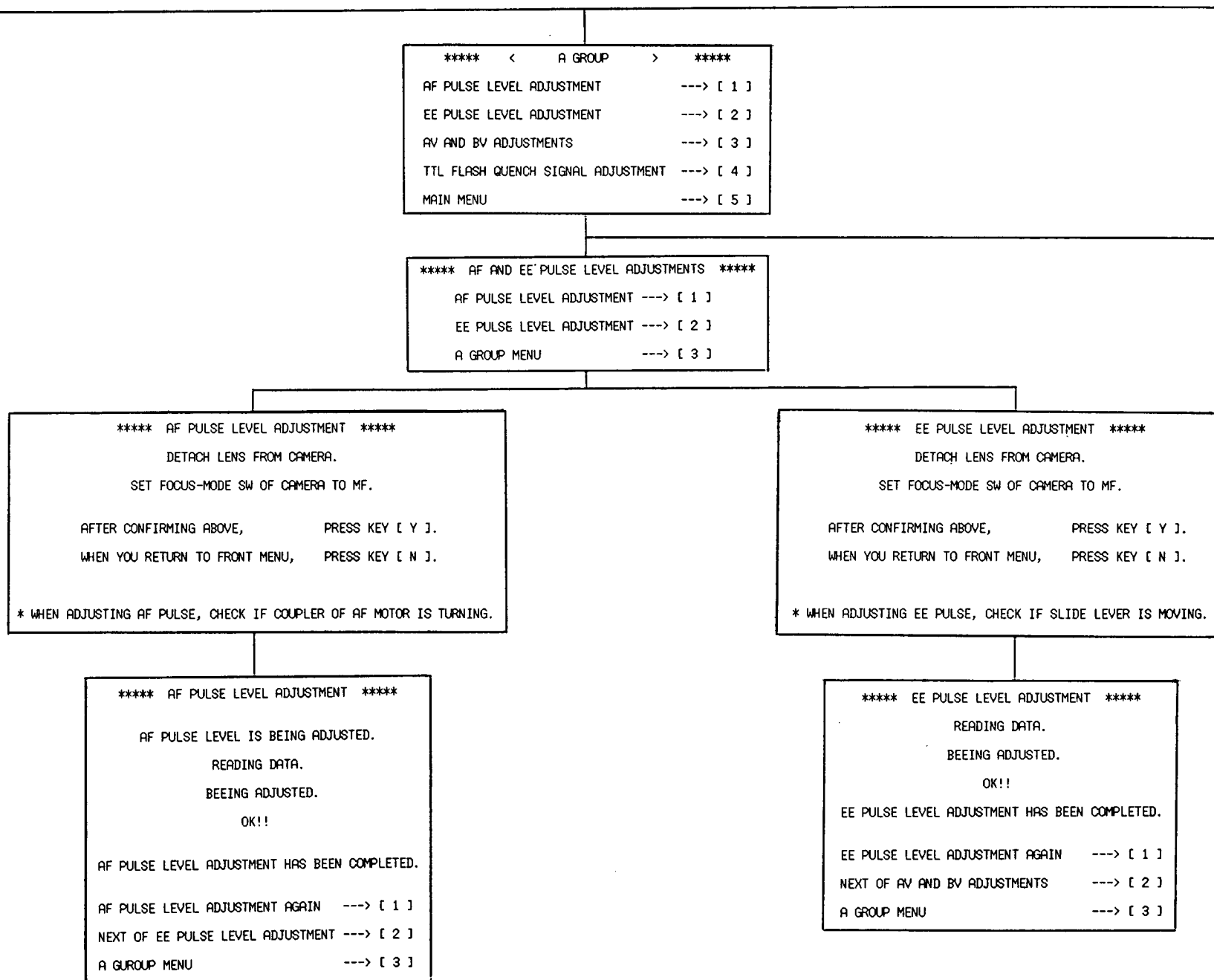
STANDARD DATA IS NO GOOD!!  
DATA IN 57 POSITION(S) IS NO GOOD!!  
ADJUSTMENT DATA IS NO GOOD!!  
DO BATTERY CHECKING AGAIN.

EEPROM DATA CHECKING HAS BEEN COMPLETED.

EEPROM CHECKING AGAIN ----> [ 1 ]

MAIN MENU ----> [ 2 ]

WRITTING ERROR OF STANDARD EEPROM ----> [ 3 ]



\*\*\*\*\* EXPOSURE AND TTL FLASH ADJUSTMENTS \*\*\*\*\*

- AV AND BV ADJUSTMENTS ----> [ 1 ]
- TTL QUENCH SIGNAL ADJUSTMENT ----> [ 2 ]
- A GROUP MENU ----> [ 3 ]

\*\*\*\*\* AV AND BV ADJUSTMENTS \*\*\*\*\*

MOUNT F-8 SET RING ONTO CAMERA.  
ATTACH LIGHT MEASURING MASTER LENS  
FOR LX WITH WIDE OPENED POSITION.  
SET LIGHT SOURCE TO LV 12.

AFTER CONFIRMING ABOVE, PRESS KEY [ Y ].  
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [ N ].

\*\*\*\*\* AV AND BV ADJUSTMENTS \*\*\*\*\*

BEING ADJUSTED

AV AND BV ADJUSTMENTS HAVE BEEN COMPLETED.  
AV AND BV ADJUSTMENTS AGAIN ----> [ 1 ]  
NEXT OF TTL FLASH QUENCH SIGNAL ADJUSTMENT ----> [ 2 ]  
A GROUP MENU ----> [ 3 ]

\*\*\*\*\* TTL QUENCH SIGNAL ADJUSTMENT \*\*\*\*\*

MOUNT F-8 SET RING ONTO CAMERA.  
ATTACH LIGHT MEASURING MASTER LENS  
FOR LX WITH WIDE OPENED POSITION.  
SET LIGHT SOURCE TO LV 8.  
ATTACH TTL ADJUSTING BACK COVER ONTO CAMERA.

AFTER CONFIRMING ABOVE, PRESS KEY [ Y ].  
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [ N ].

\*\*\*\*\* TTL QUENCH SIGNAL ADJUSTMENT \*\*\*\*\*

BEING ADJUSTED

TTL QUENCH SIGNAL ADJUSTMENT HAS BEEN COMPLETED.  
TTL QUENCH SIGNAL ADJUSTMENT AGAIN ----> [ 1 ]  
A GROUP MENU ----> [ 2 ]  
B GROUP MENU ----> [ 3 ]



```

***** < B GROUP > *****
CCD POSITION ADJUSTMENT      ----> [ 1 ]
ZERO POSITION AND AGC LEVEL ADJUSTMENTS ----> [ 2 ]
CCD A CHECKING              ----> [ 3 ]
CCD B ADJUSTMENT            ----> [ 4 ]
AF ADJUSTMENT               ----> [ 5 ]
MAIN MENU                   ----> [ 6 ]

```

```

***** CCD I *****
CCD POSITION No.1 ADJUSTMENT ----> [ 1 ]
CCD POSITION No.3 ADJUSTMENT ----> [ 2 ]
CCD FOCUS ADJUSTMENT        ----> [ 3 ]
B GROUP MENU                 ----> [ 4 ]

```

```

***** CCD POSITION No.1 ADJUSTMENT *****

MOUNT CCD ADJUSTING TUBE (CIRCLE) ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SW OF CAMERA TO MF.

AFTER CONFIRMING ABOVE,      PRESS KEY [ Y ].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [ N ].

```

```

***** CCD POSITION No. 1 SCREW ADJUSTMENT *****

CCD POSITION No. 1 ADJUSTMENT HAS BEEN COMPLETED.

CCD POSITION No.1 ADJUSTMENT      ----> [ 1 ]
CCD POSITION No.3 ADJUSTMENT      ----> [ 2 ]
CCD FOCUS ADJUSTMENT            ----> [ 3 ]
ZERO POSITION AND AGC LEVEL ADJUSTMENTS ----> [ 4 ]
B GROUP MENU                    ----> [ 5 ]

```

```

***** CCD POSITION No.3 ADJUSTMENT *****

MOUNT CCD ADJUSTING TUBE (CROSS) ONTO CAMERA.
SET LIGHT SOURCE TO LV 12.
SET FOCUS-MODE SW OF CAMERA TO MF.

AFTER CONFIRMING ABOVE,      PRESS KEY [ Y ].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [ N ].

```

```

***** CCD POSITION No. 3 SCREW ADJUSTMENT *****

CCD POSITION No. 3 ADJUSTMENT HAS BEEN COMPLETED.

CCD POSITION No.1 ADJUSTMENT      ----> [ 1 ]
CCD POSITION No.3 ADJUSTMENT      ----> [ 2 ]
CCD FOCUS ADJUSTMENT            ----> [ 3 ]
ZERO POSITION AND AGC LEVEL ADJUSTMENTS ----> [ 4 ]
B GROUP MENU                    ----> [ 5 ]

```

```

***** CCD FOCUS ADJUSTMENT *****

MATCH AUTOFOCUS FRAME IN CAMERA WITH CHART
IN COLLIMATOR OF OPTICAL REGULATOR.

SET MASTER LENS TO ZERO POSITION.
SET FOCUS-MODE SW OF CAMERA TO MF.

AFTER CONFIRMING ABOVE,      PRESS KEY [ Y ].
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [ N ].

```

```

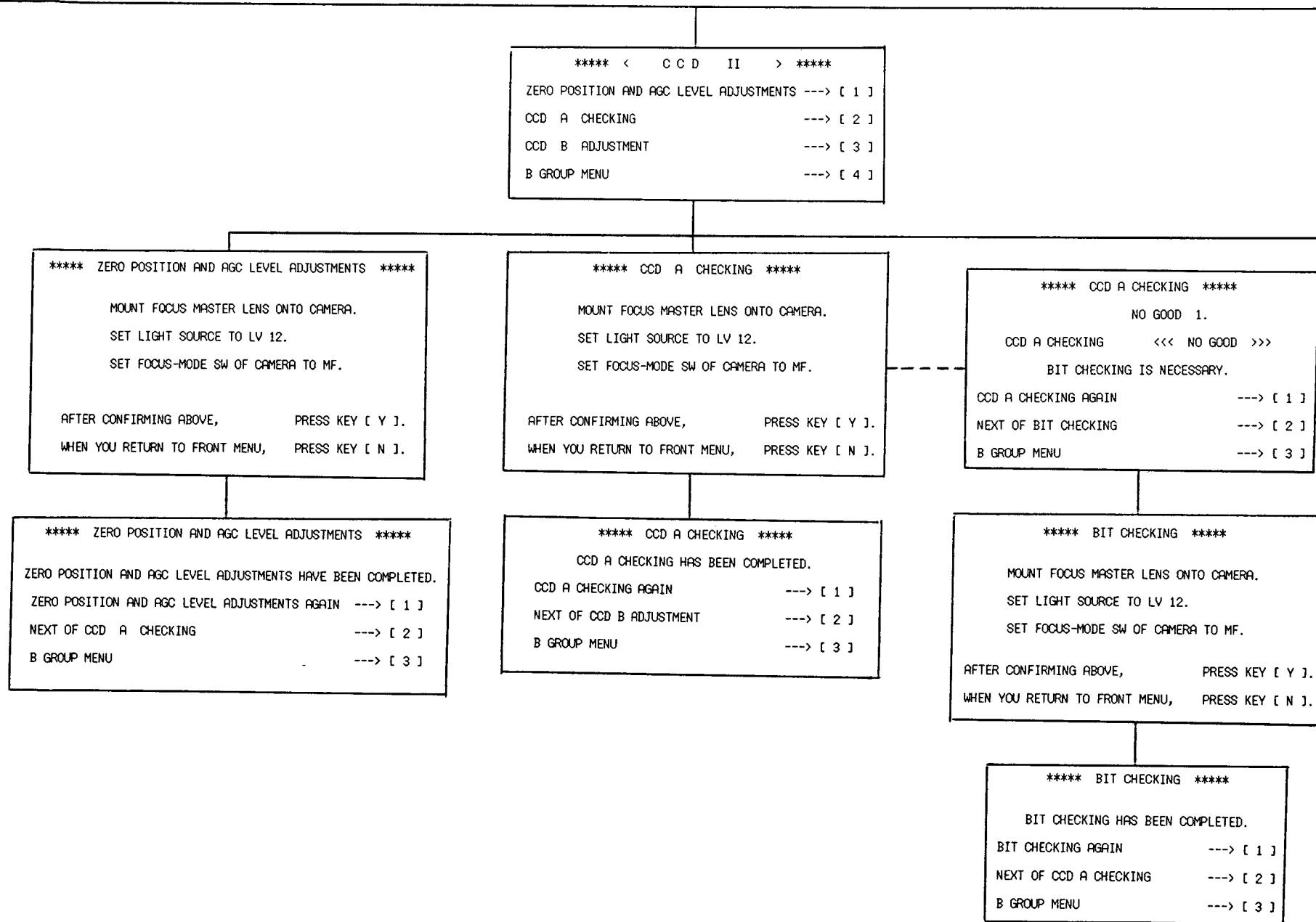
***** CCD FOCUS ADJUSTMENT *****

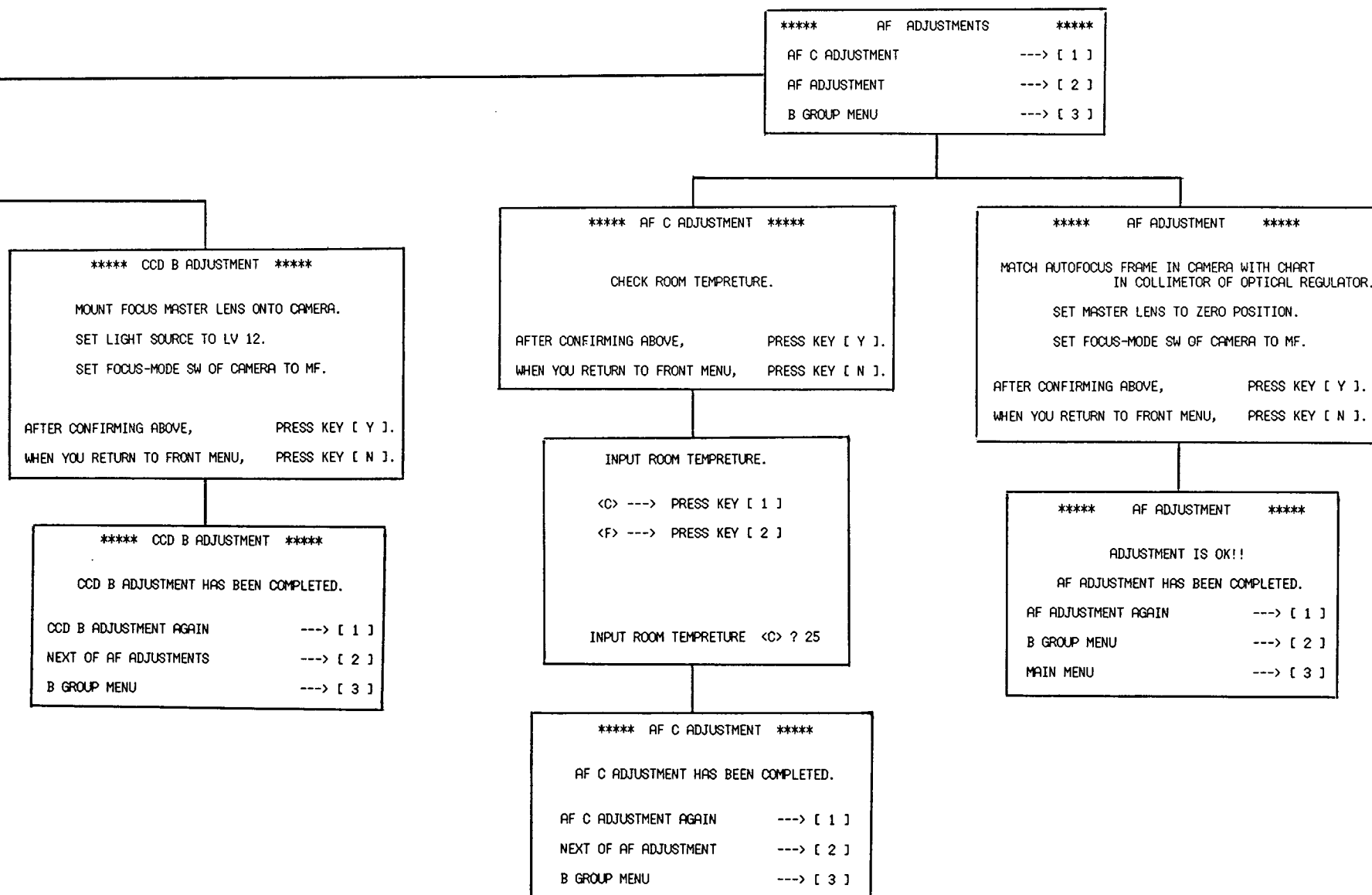
CCD FOCUS ADJUSTMENT HAS BEEN COMPLETED.

FOCUS DATA. =-27

CCD POSITION No.1 ADJUSTMENT      ----> [ 1 ]
CCD POSITION No.3 ADJUSTMENT      ----> [ 2 ]
CCD FOCUS ADJUSTMENT            ----> [ 3 ]
ZERO POSITION AND AGC LEVEL ADJUSTMENTS ----> [ 4 ]
B GROUP MENU                    ----> [ 5 ]

```





\*\*\*\*\* NUMBER OF REPAIRS \*\*\*\*\*

NUMBER OF REPAIRS = 3 - - - > 4

IF YOU ARE READY TO START, PRESS KEY [ Y ].  
WHEN YOU RETURN TO FRONT MENU, PRESS KEY [ N ].

\*\*\*\*\* NUMBER OF REPAIRS \*\*\*\*\*

NUMBER OF REPAIRS = 3 - - - > 4

NEXT OF EEPROM CHECKING (END) ---> [ 1 ]

\*\*\*\*\* EEPROM CHECKING (END) \*\*\*\*\*

IF YOU ARE RADY TO START, PRESS KEY [ Y ].  
WHEN YOU RETURN TO MAIN MENU, PRESS KEY [ N ].

BEING PREPARED.

DATA OF EEPROM IS BEING CHECKED.

DATA OF EEPROM IS ALL OK!!

EEPROM DATA CHECKING HAS BEEN COMPLETED.

EEPROM CHECKING AGAIN ---> [ 1 ]  
MAIN MENU ---> [ 2 ]

DATA OF EEPROM IS BEING CHECKED.

STANDARD DATA IS NO GOOD!!  
DATA IN 57 POSITION(S) IS NO GOOD!!  
ADJUSTMENT DATA IS NO GOOD!!  
DO BATTERY CHECKING AGAIN.

EEPROM DATA CHECKING HAS BEEN COMPLETED.

EEPROM CHECKING AGAIN ---> [ 1 ]  
MAIN MENU ---> [ 2 ]  
WRITTING ERROR OF STANDARD EEPROM ---> [ 3 ]

\*\*\*\*\* BATTERY CHECKING \*\*\*\*\*

\* SET REGULATED DC POWER SUPPLY TO 3.40 v. ( MORE THAN 3 AMPERE )

AFTER CONFIRMING ABOVE, PREES KEY [ Y ].  
WHEN YOU RETURN TO FRONT MENU, PREES KEY [ N ].

\*\*\*\*\* BATTERY CHECKING \*\*\*\*\*

DATA IS BEING READ. 10

CHECKING HAS BEEN COMPLETED.

DOES THIS DATA WRITE TO EEPROM ?

IF YOU ARE READY TO START, PREES KEY [ Y ].  
WHEN DO NOT WRITE DATA, PREES KEY [ N ].

\*\*\*\*\* BATTERY CHECKING \*\*\*\*\*

BATTERY CHECKING HAS BEEN COMPLETED.

\*SET REGULATED DC POWER SUPPLY TO 6 v.

BATTERY CHECKING AGAIN ---> [ 1 ]  
MAIN MENU ---> [ 2 ]

【 Testers, Jigs and Tools for 27030 】

Order Code No. Exclusively used for 27030

-----  
Programmed software for 27030

Order Code No. Used in common with 26900 or other cameras

96798	Personal Computer (PC-8801/FH20)
	※Display and Programmed Software are not included.
96511	Color Display (PC-KD854)
94124	Serial Interface (SIFI-269)
94125	Interface Buffer(IFB-269)
94127	TTL adjusting back cover(TAB-269)---Only use pressure plate
96506	Optical Regulator for MEF (OR-243)
96515	A Set of CCD Positioning Jig (Cross and Circle)
96410	45° angle of Mirrors Adjusting Jig for 26300 (MAAJ-263)
96516	Collimator Chart 259 for Optical Regulator (ORCC-259)
-----	Power SW Adapter
96335	EE Shutter Tester (7PE-25A3)
96636	Master Lens for 24500 (ML-245)
93170	Diaphragm Setting Ring K (KA-00-1A)
93321	Master Lens for K (KML-01)
96272	Light Measuring Master Lens for LX (LML-240)
94122	Regulated DC Power Supply(PR18-5)
96520	Hexagon Driver 1.5mm (HD-M1.5)
93300	Dial Comparator(PH-2)
93310	Block Gauge(229N-A01-A2)
93200	Mount Block(23600N-A01, A104-A)
96519	Mount Block Spacer(23600N-A01, A104-A-A)
96524	Mount Block Holder for 259(23600N-A01, A104-A-B)
96732	Mini-multi-meter
93280	1000mm Collimator
-----	Circuit tester