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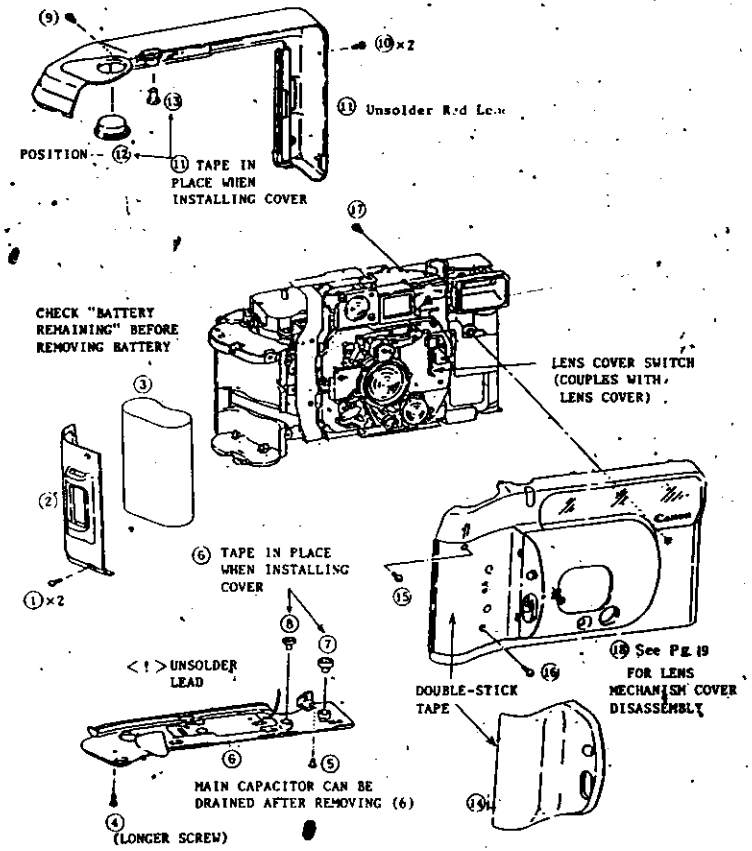
Sure Shot Supreme

I. Covers Removal & Associated Adjustments



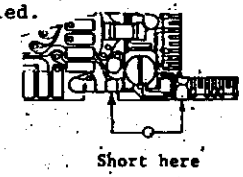
Above disassembly allows the following adjustments to be performed.

Index No.	Adjustment (Page No.)
6	Battery Remaining (2); Flash Activation (3) AE LEVEL (4); IRED POWER (12)
11	PSD OPTICAL ALIGNMENT (7)
18	LENS FOCUS (5); AF MARK (6)

I. Covers Removal & Associated Adjustments

1. Procedures concerning the Lithium Battery (3)
   Whenever the battery is removed, the "Battery Remaining" is cleared. This indicator actually counts the number of shutter releases. Since it is cleared when the battery is removed, the battery remaining indicator will show the "full" indication when the battery is reinstalled. This is why the indicator must be reset to the correct indication whenever the same battery is reinstalled.

Shortings	Segment
1 to 7	A (7 counts)
8 to 19	3 (12 counts)
20 to 31	2 (12 counts)
32 to 43	1 (12 counts)
over 44	0



   A. First, before removing the battery, note the indication.
   B. Next, count the number of times the "battery remaining" contact is shorted to ground until the indication drops to the next segment.
   C. When the battery is reinstalled at the end of repair, repeatedly short the "battery remaining" contact to until the segment above the uppermost one which was displayed before repair disappears. Now short the contact the number of times which is the differences in the total number of counts for than segment and the number determined in step "b".

2. Bottom Cover (6)

<!> Remove two screws (4) & (5), open the back cover and lift up on the back cover side to remove the cover. Unsolder the shield ground wire from the circuit board. These adjustments are possible with the bottom cover removed.

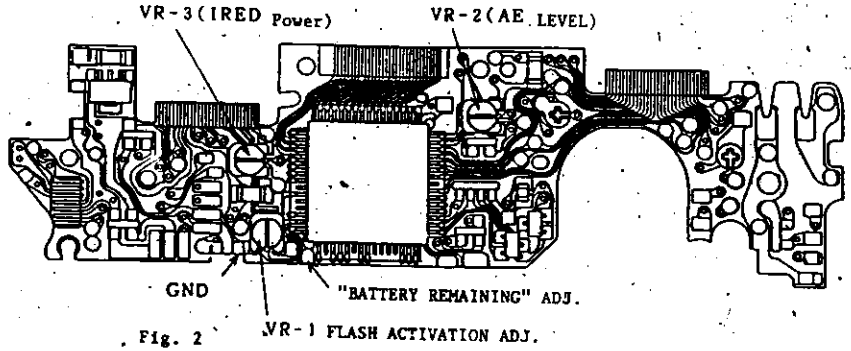


Fig. 2

I. Cover Removal and Associated Adjustments

3. Automatic Flash Activation Adjustment

This procedure adjust the point where the flash is automatically activated when it is necessary as the main light source. The adjustment is necessary if either VR1 or the main circuit board is changed.

A. Standard
1) Indication: Flash mark lights in viewfinder

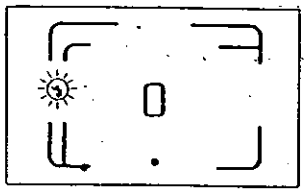


Fig. 3

2) Activation Point (ISO 100, K: 17.68)

EV	Brightness	Limits
8.5	64.00 nit	±03EV

B. Adjustment (using EF-500)
1) Set the EF-500 to EV9 and K:12.5. This is 64.00 nit.
2) Set the camera in front of the screen.
3) Set the K to 14.03. - The flash mark should not light.
4) Set the K to 11.14. - The flash mark should light.
5) Adjust VR1 until conditions 3 and 4 are met.

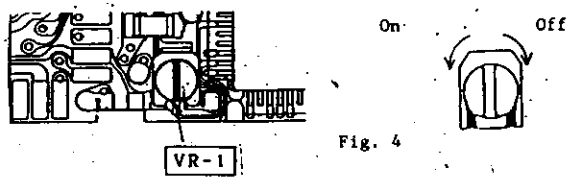


Fig. 4

*) Large variations will affect AE accuracy.

I. Cover Removal and Associated Adjustments

4. AE Accuracy

A. Standard:
K: 17.68; ISO 100; STILL

EV	Brightness	Limit
9*	90.52	0EV ± 1 EV
2	724.2	
15	5793	

B. Adjustment
1) Adjust the level with VR2. Turning clockwise increases exposure and counterclockwise decreases it. (This causes little change at high brightnesses.)

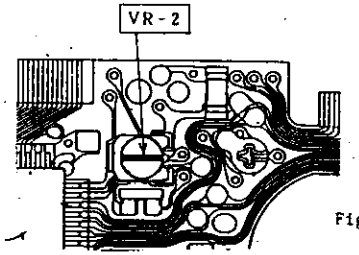


Fig. 5

2) If proper high brightness exposure cannot be achieved, remove the lens mechanism cover and adjust the auxiliary diaphragm.

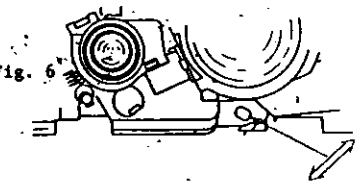


Fig. 6

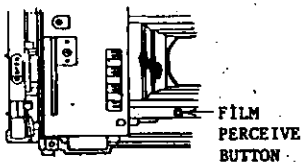


Fig. 7

Note: If film preceive button is pressed with the AE tester's photoreceptor the camera will go into the rewind mode each time the shutter is released.

5. Objective Lens Focus

A. Standard
Establish correct contrast focus point by checking several good units.

Tools: 200 or 300mm T Type Collimator
Focal Plane Mirror -1T, 0.17mm Shim -1S

<1> Limits: ± 0.05mm

B. Adjustment

1) Install the focal plane mirror and shim, and close the back cover. (Fig. 8)

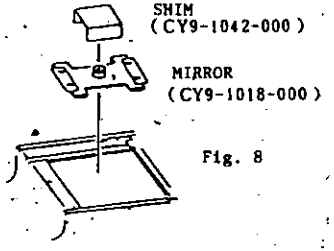


Fig. 8

2) Install the shutter button and release the shutter once. (This is to put the lens at the reset position.) Extend the lens one tooth with the lens drive lever. This is the "infinity" point of this lens. (Fig. 9).

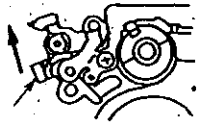


Fig. 9

3) Open the shutter with the rotor's shutter drive pin, in the direction of the arrow. (Fig. 10)

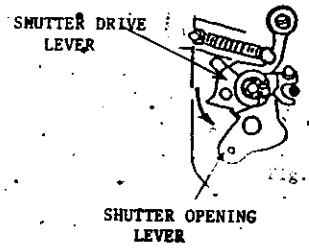


Fig. 10

4) Adjust with the focus adjustment screw. (Fig. 11)

<1> 5) **The cam ring has two infinity positions on the cam ring. Release the shutter once more and repeat the process to check that both infinity positions are correct. If not, change the cam ring.**

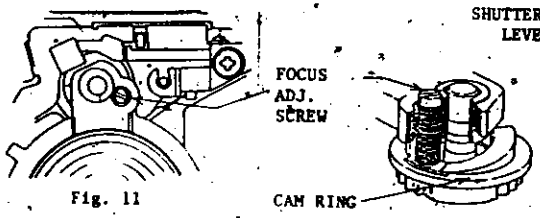


Fig. 11

6. Autofocus Adjustment

Autofocus adjustments consists of the AF ZONE MARK POSITION adjustment (6A), the PSD OPTICAL ALIGNMENT (6B), and the IRED POWER adjustment (6C).

A. AF ZONE MARK POSITION ADJ.
This adjustment is to align the IR beam with the AF mark in the viewfinder. Perform this adjustment if the IRED, AF mark, or viewfinder frame has been changed.

1) Set the camera 1.5 meters from the IR checker. Turn the IR checker on and set it to "low".

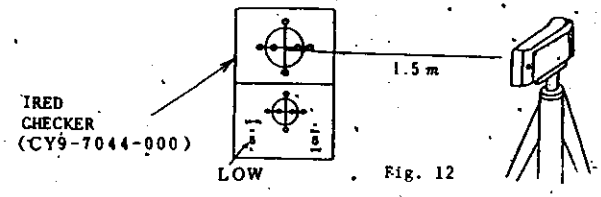


Fig. 12

2) Align the AF mark with the sensing area on the IR checker and press the shutter button to the first stroke while watching the IR checker indicators. Check that both green LEDs light.

3) If one of the red LEDs lights, move the camera in the opposite direction until both green ones light. Fix the camera in that position.

4) If the finder mark must be repositioned, position it as shown in figure 13.

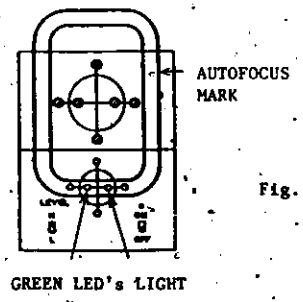


Fig. 13

B. PSD OPTICAL ALIGNMENT

This aligns the IR beam on the PSD element. Alignment of both axes, lateral and longitudinal is required. Adjust if the autofocus doesn't work correctly, or if IC3 or the shutter flex has been replaced.

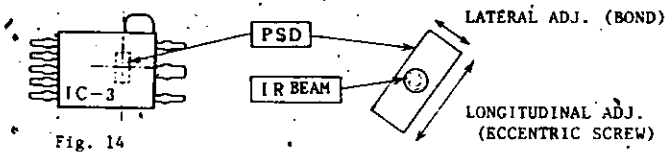


Fig. 14

First, remove the LCD, unsolder the shield plate from the release C.B., unhook in two spots, and remove the shield plate.

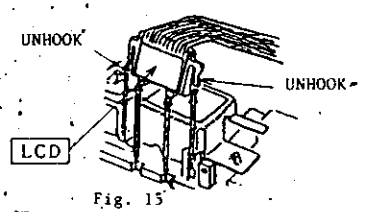


Fig. 15

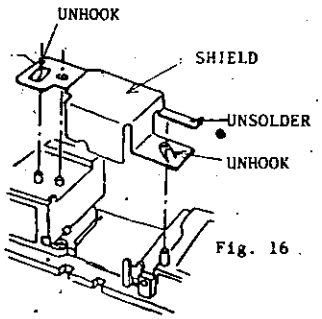


Fig. 16

1) Lateral Adjustment

a) To adjust laterally, use a highly reflective surface, like aluminum (but not a mirror). Set the camera exactly square with the reflector and 1.5 meters from it. This is to insure a strong signal. The back of the AL-1/T-80 AF charts is a good target.

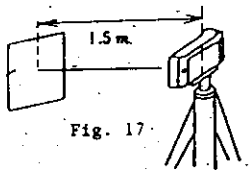


Fig. 17

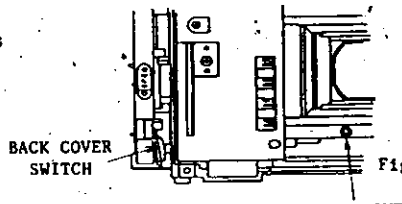


Fig. 18

b) Release the back cover latch and push the film perceive switch. This simulates misloading; so when the shutter button is presses, the IRED transmits continuously.

c) Solder leads to the AF OUT (JC1p1) and GND. Attach to the oscilloscope.

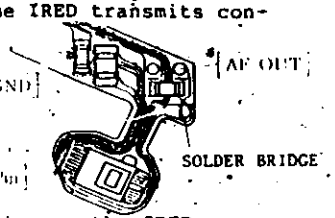


Fig. 19

Vertical: 0.5V/cm
Time : 5ms / cm

d) Lightly press the shutter button so the IRED transmits. (DON'T HOLD FOR MORE THAN 30 SECONDS AT A TIME to prevent damaging the IRED.)

e) Watch the IRED output on the scope, and adjust IC3 in the direction marked for maximum output. IC3 is held with both G 103 and Cyanobond.. After adjustment fix it with G 103 bond temporarily and apply Cyanobond after all adjustments are complete. (Fig. 20, 21)

f) After the adjustment, clear the misloading condition.

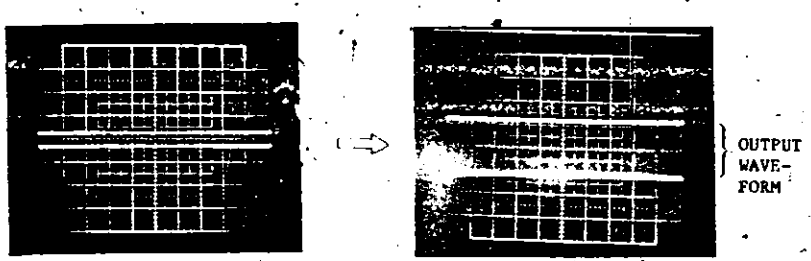


Fig. 20

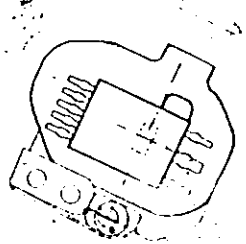


Fig. 21

2) Longitudinal Adjustment (Method 1)
(Mechanical adjustment, without oscilloscope)

a) Set the camera on a tripod 0.6m squarely in front of a 32% gray card.

b) Press and hold the shutter button. While still holding the button, move the cam one tooth at a time until the lens falls.

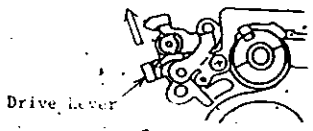


Fig. 22

c) The lens should fall after three teeth. If it does not, adjust with the eccentric screw.

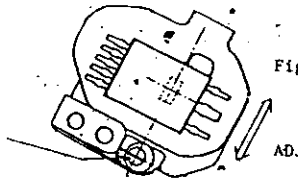


Fig. 23

d) At 1.60 meters, it should fall after 9 teeth. Adjust the eccentric so it falls after the respective number of teeth at 0.6 and 1.6 meters. After 10 teeth it should fall at at 2.22 meters.

Additional Information:

The focusing gear / cam has two cycles per revolution. The position where the lens falls back is 13 teeth from the reset position. When the lens focus to 0.6 meters, it is extended to position 10. At 1.60 meters, it is at position 4, and at position 3 at 2.22 meters.

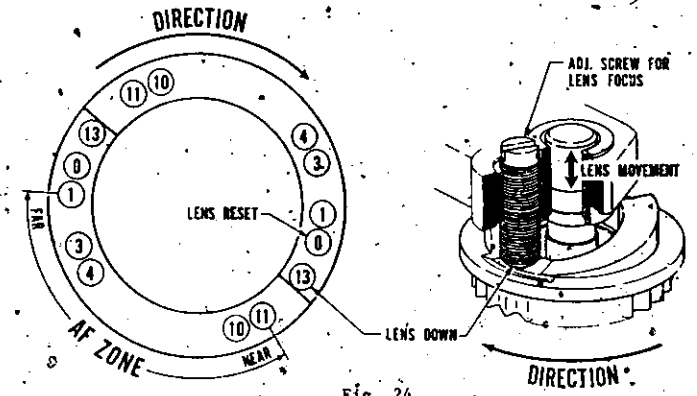


Fig. 24

So the numbers given in the adjustment are actually the difference between the number of positions between the reset and the "fall back" positions. The number of steps in the AF focusing range is fixed, but the total numbers of steps may vary, so the numbers in the adjustment may change.

Total steps: T
Adjust steps: A

So:

T - AF steps = A

Ex: 13 - 10 (0.55m) = 3 steps (adjustment)
13 - 4 (1.6m) = 9 steps (adjustment)
13 - 3 (2.22m) = 10 steps (check only)

3) Longitudinal Adjustment (Method 2)
(Electrical adjustment, using oscilloscope)
Unlike the first method, this method can be used with the front cover installed.

a) Use a white surface (90% reflectance - CY9-3053-000).
b) Measure at 2.05 and 2.70 meters.
c) Attach the oscilloscope.

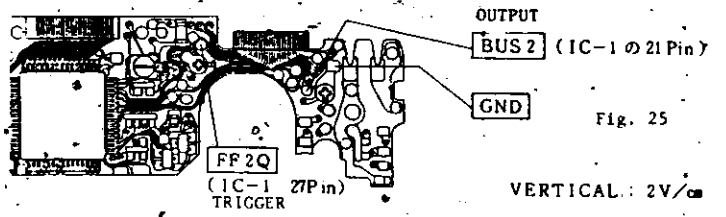
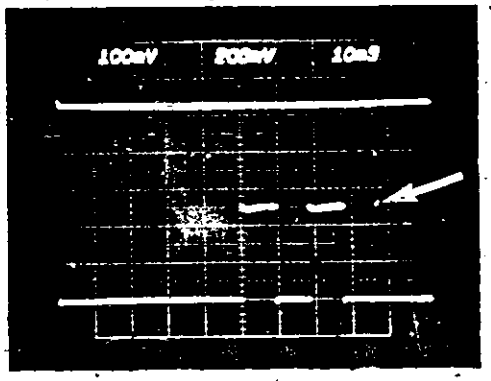


Fig. 25

d) Push the shutter button (SW 1 on) and check the waveform. It should be the same at 2.05, 2.22 and 2.70 meters.



2.22m WAVEFORM

pulses, but only a spot (leading third occurs because the current is stopped as the third pulse starts.

Fig. 26

e) Adjust as in [illegible] figure 23.

Note: This adjustment checks the electrical signal. For checking the mechanism, use method 1.

C. IRED POWER ADJ.
This adjustment is to set the IRED current to the optimum level. (When the main circuit board is changed, set VR3 in the middle of its range.)

1)Adjustment

a) Set the camera square with the 90% reflector and 1.6 meters from it.

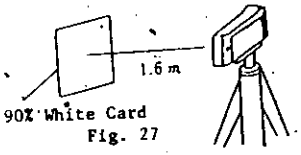


Fig. 27

b) Attach leads to the IRED output and ground.

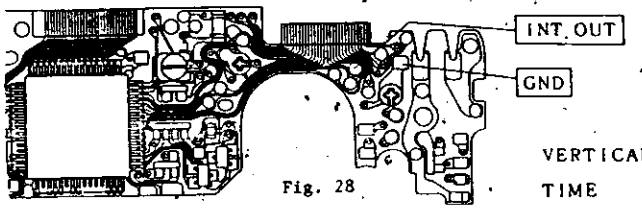


Fig. 28

c) When the shutter is released, the waveform should look like this.

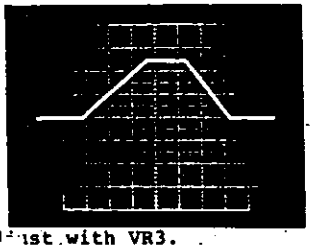
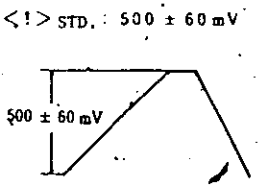


Fig. 29



d) Adjust with VR3.

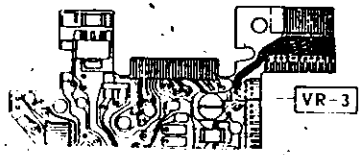
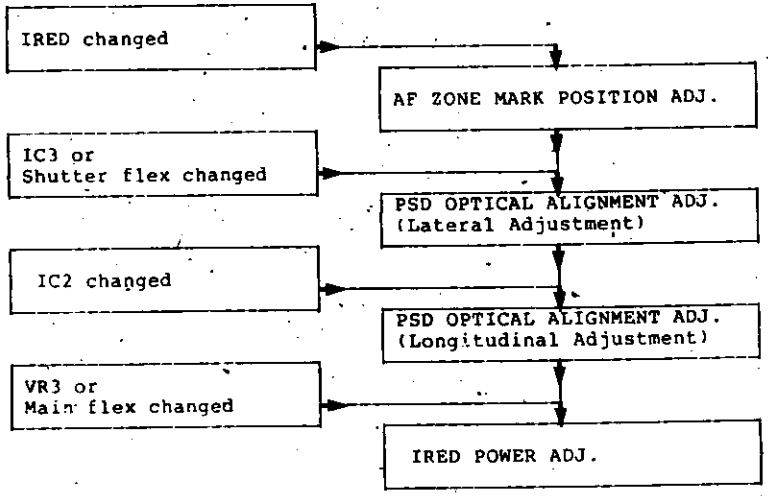


Fig. 30

I. Cover Removal and Associated Adjustments

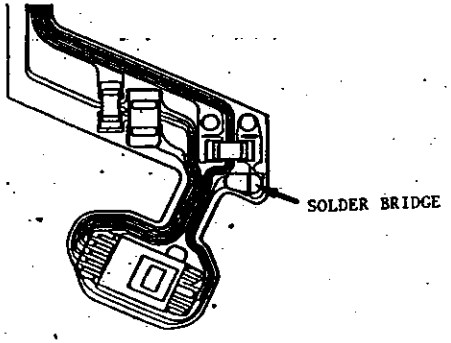
6. Autofocus Adjustments (Summary)

The autofocus adjustments consists of the AF ZONE MARK POSITION, the PSD OPTICAL ALIGNMENT, and the IRED POWER adjustments, but not all three are necessary for every repair.



NOTICE: When changing the shutter flex, be sure to add the shutter bridge shown below.

Fig. 31



I. Cover Removal and Associated Adjustments

7. Parallax

Parallax Alignment Chart (Make locally)

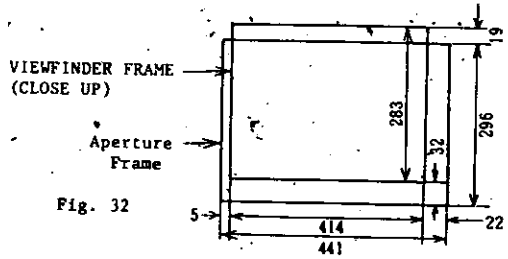


Fig. 32

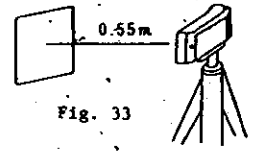


Fig. 33

Adjustment

1. Set the camera square with the chart and 55cm distant.
2. Put a ground glass in the film aperture.
3. Advance the cam ring 11 steps from the reset position, and open the shutter (See focus adjustment).
4. Adjust the camera so the aperture chart lines are aligned with the aperture.
5. The close-up marks should be on the viewfinder close-up frame marks. If so, no adjustment is necessary. (Fig. 34)
6. If not, loosen and adjust the frame mask and re-bond with G-103 bond.

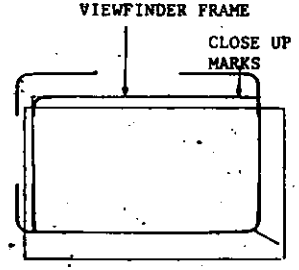


Fig. 34

CAUTION: When this adjustment is necessary it is also necessary to perform the autofocus adjustments consists of the AF ZONE MARK POSITION adjustment (6A), the PSD OPTICAL ALIGNMENT (6B), and the IRED POWER adjustment (6C). This is because the a[illegible]ark is attached to the viewfinder fra[illegible].

I. Cover Removal and Associated Adjustments

8. Flash Auto Performance

Service checks involve checking film plane brightness as explained in the SPEEDLITE 155A Repair Guide.

—Check (Service)

Distance (m)	2.0
ISO	100
Limit	Average ( ) ± 1 EV

1. Install the front cover and cover the AE SPC with opaque black tape.
2. Locate the camera 2.0 meters from the reflector and install the EV tester photosensor. Set the EV tester to ASA 100, K-17.68.

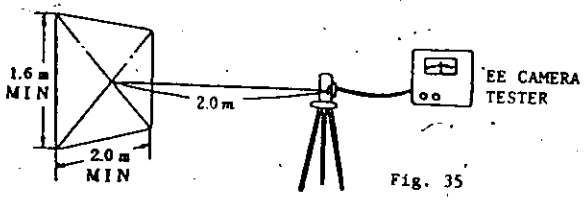


Fig. 35

Note: Flash Auto (FA) accuracy is determined by the position of the photointeruptor on the shutter flex (Fig. 40). There is no service adjustment. If the accuracy is insufficient change the flex.

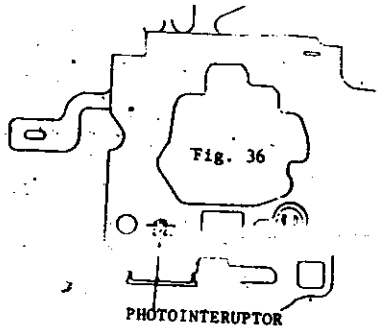
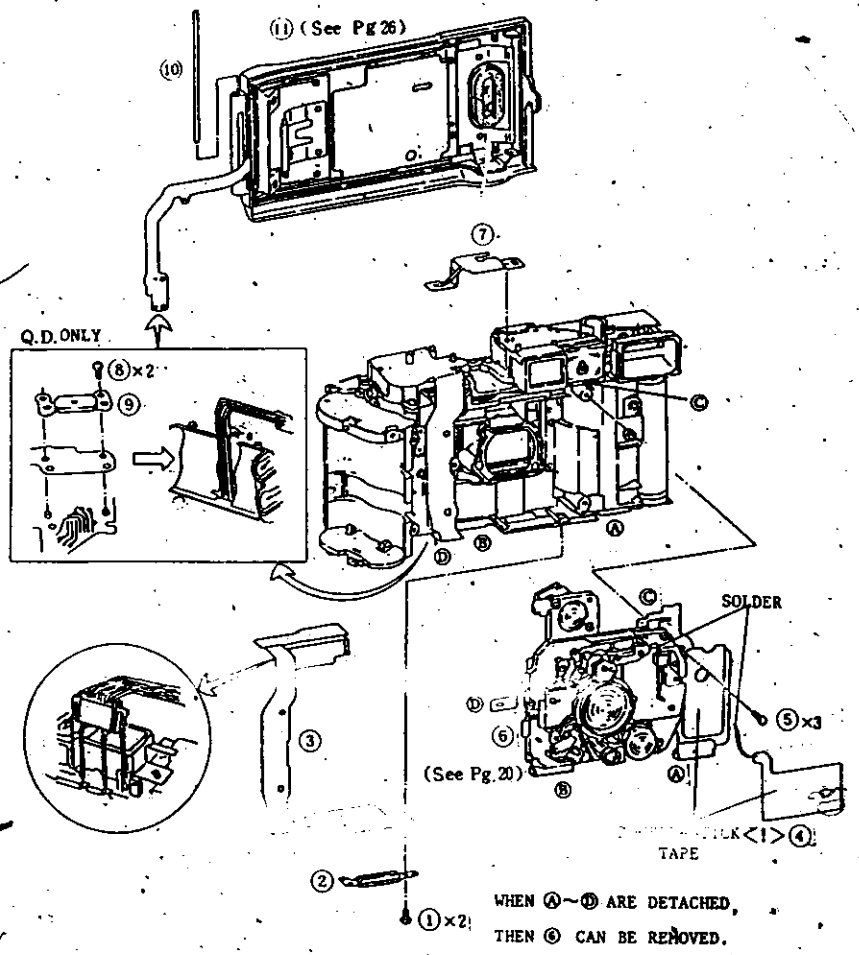


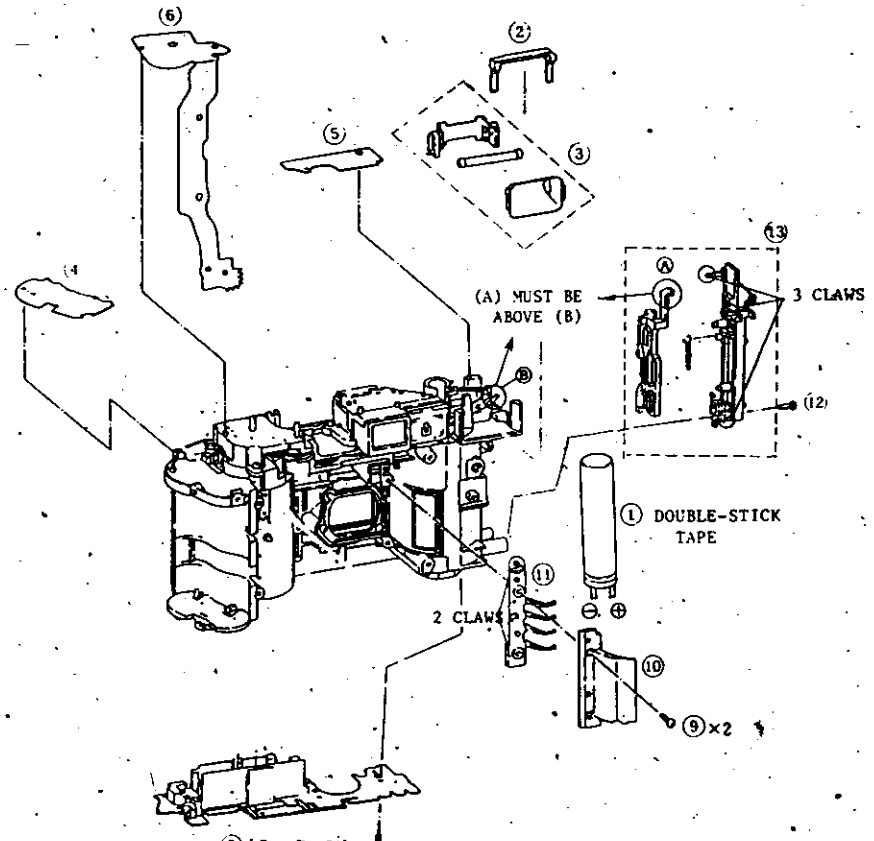
Fig. 36

II. Front Panel and Back Cover Removal



Above disassembly allows the following adjustment to be performed.

Index No.	Adjustment (Page No.)
6	SPC (IC4) POSITIONING (22)


⑥
②
⑤
③
④
⑬
Ⓐ
(A) MUST BE ABOVE (B)
3 CLAWS
Ⓑ
⑫
① DOUBLE-STICK TAPE
⑪
2 CLAWS
⑩
⑨×2
⑧ (See Pg.24)
⑦ NON Q.D. HAS 2 SCREWS

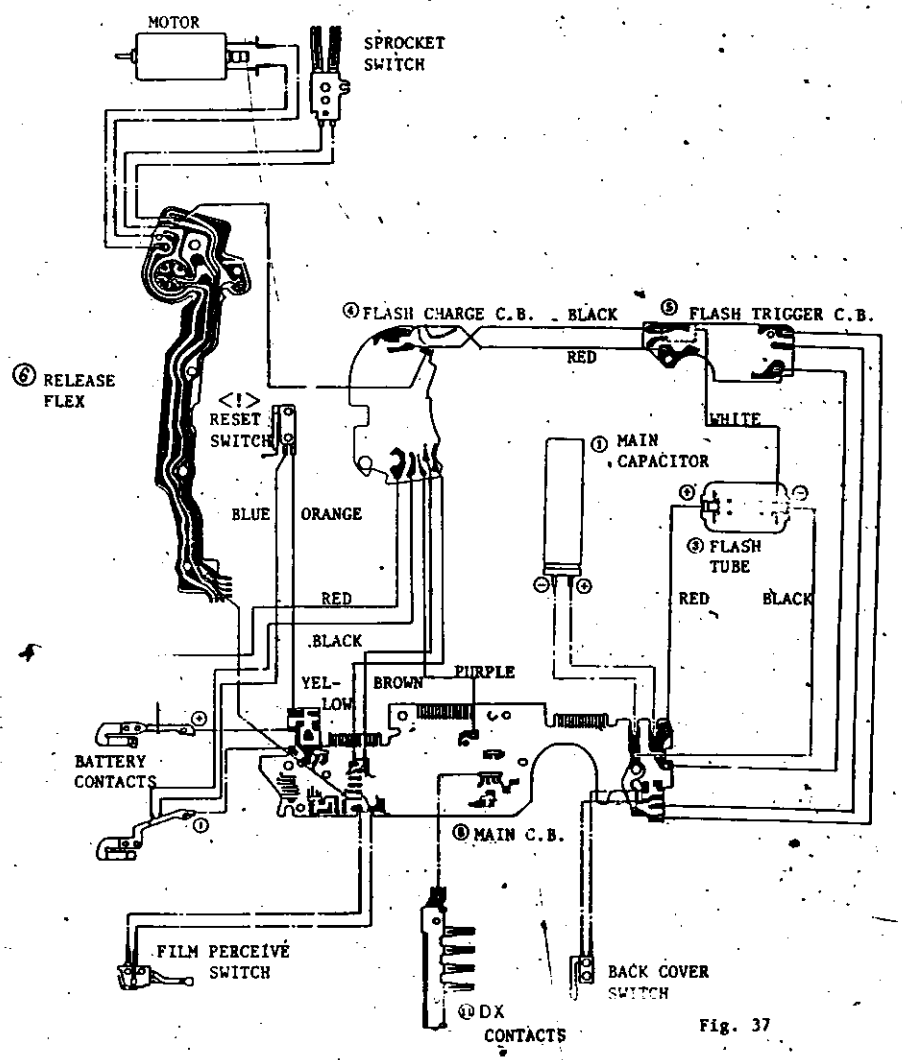
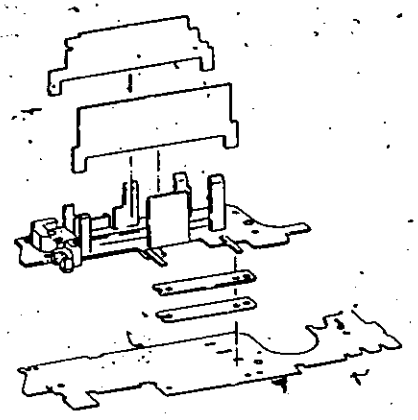

MOTOR
SPROCKET
SWITCH
④ FLASH CHARGE C.B.
BLACK
⑤ FLASH TRIGGER C.B.
RED
⑥ RELEASE FLEX
<!> RESET SWITCH
WHITE
① MAIN CAPACITOR
BLUE
ORANGE
③ FLASH TUBE
RED
BLACK
RED
BLACK
YEL-LOW
BROWN
PURPLE
BATTERY CONTACTS
② MAIN C.B.
FILM PERCEIVE SWITCH
BACK COVER SWITCH
⑪ DX CONTACTS

Fig. 37

VII. Main Circuit Board Disassembly



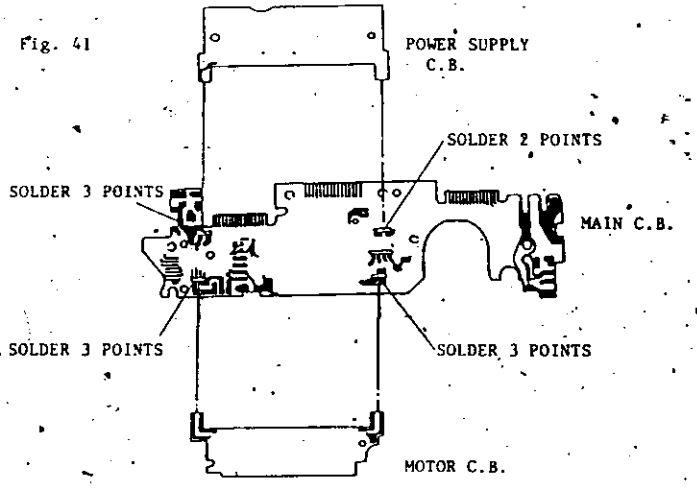
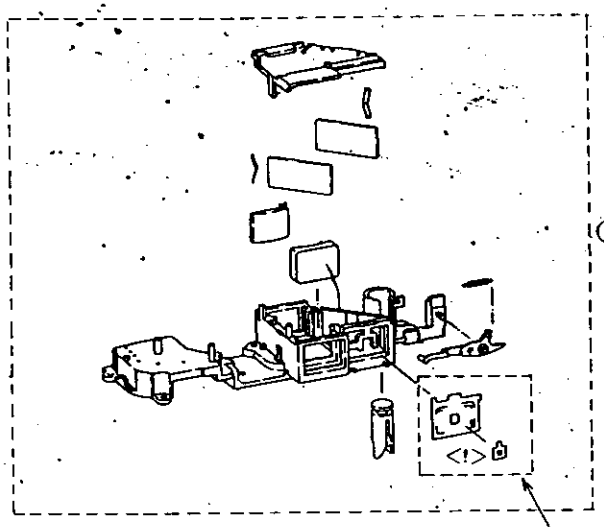


Fig. 41

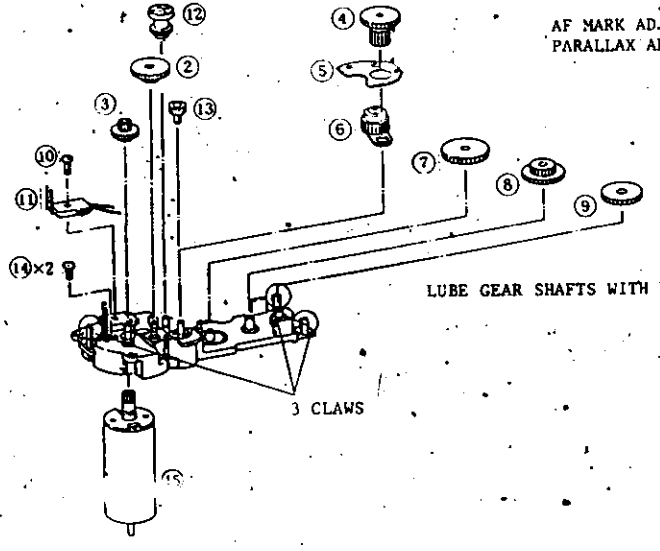
VIII. Winding Unit Disassembly



① UNHOOK FROM 3 CLAWS IN LOWER DRAWING

ADJUSTMENT REQUIRED

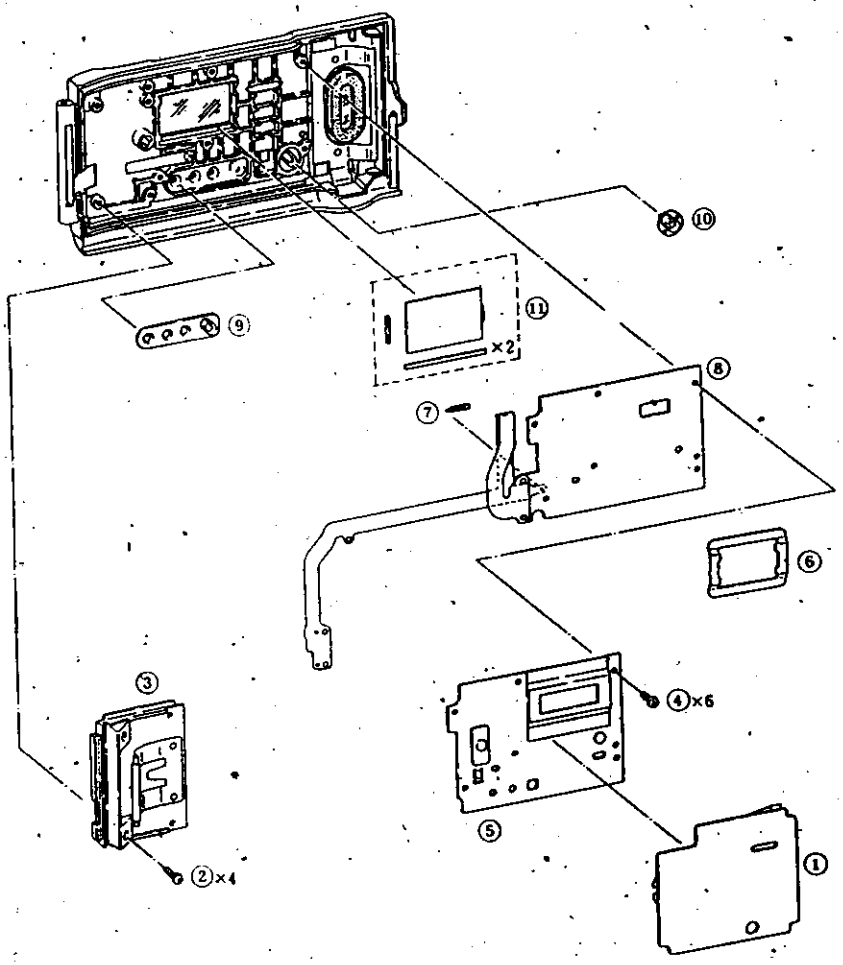
AF MARK ADJ. (pg. 6)
PARALLAX ADJ. (pg. 14)



REMOVE THESE PARTS TO REMOVE MOTOR.

① → ② → ④ → ⑤ → ⑭ → ⑮

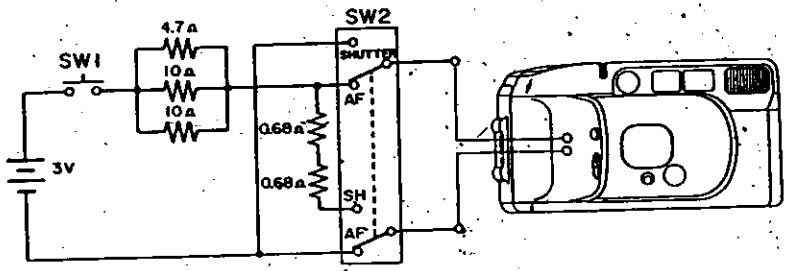
IX. Quartz Date Back Cover Disassembly.



Additional Information

AF Kludge

The AF kludge, or rotor operating tool is a inexpensive, easy to build devise that can be built in your shop.. It makes checks possible with the front cover and lens mechanism cover installed that usually require removing the covers. The grip covering reveals two holes which give access to the rotor circuit.



Adjustments using Kludge (Refer to the section indicated for details not listed here.)

Lens Focus: (pg. 5)

1. Attach the kludge to the camera.
2. Release the shutter once to insure the lens is at the reset position. (The lens is at reset after a normal winding cycle.
3. Set SW2 at AF and close SW1 once. (This sets the lens at infinity.)
4. Set SW2 at SHUTTER and press and hold SW1. The shutter will open and remain open. (Do not hold for more than 30 seconds at a time or rotor damage may occur.)

Autofocus (PSD Optical Alignment - Longitudinal Adj. (pg. 9)

1. Attach the kludge to the camera.
2. Set SW2 at AF.
3. Press and hold the camera's shutter button.
4. Repeatedly open and close SW1 cycles until the lens resets. (One ON and one OFF is one count.)

Rewinding an Electrically Malfuctioning Camera

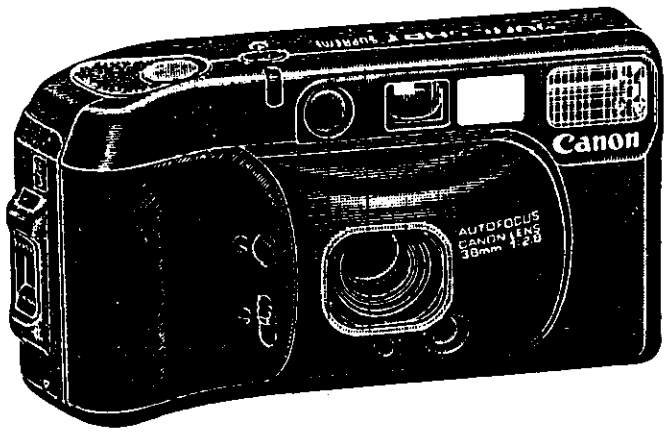
This cameras have a special service "manual" rewind switch, but certain electronic problems may make automatic and manual rewind impossible. In this case, follow the procedure outlined below, preferably in a darkroom or changing bag to preserve the customers exposures.

1. Remove the battery.
2. Open the back cover and lift the film cartridge out. Turn the spool two or three turns in the winding direction.
3. This action will cause the winding clutch gear to shift, freeing the spool.
4. Gently pull the film off of the spool.

END

CANON U.S.A.

SURE SHOT SUPREME
TROUBLE
SYMPTOM

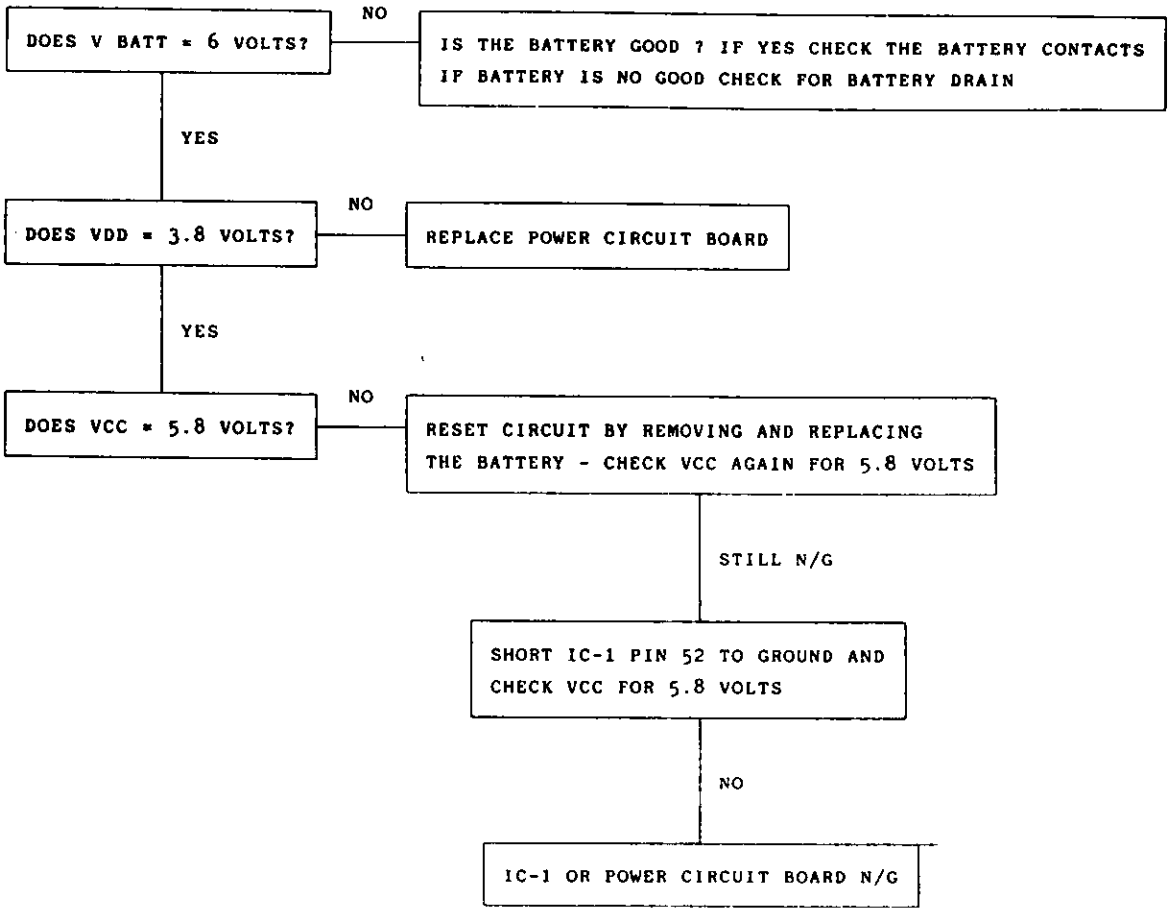


NAS01-002-001

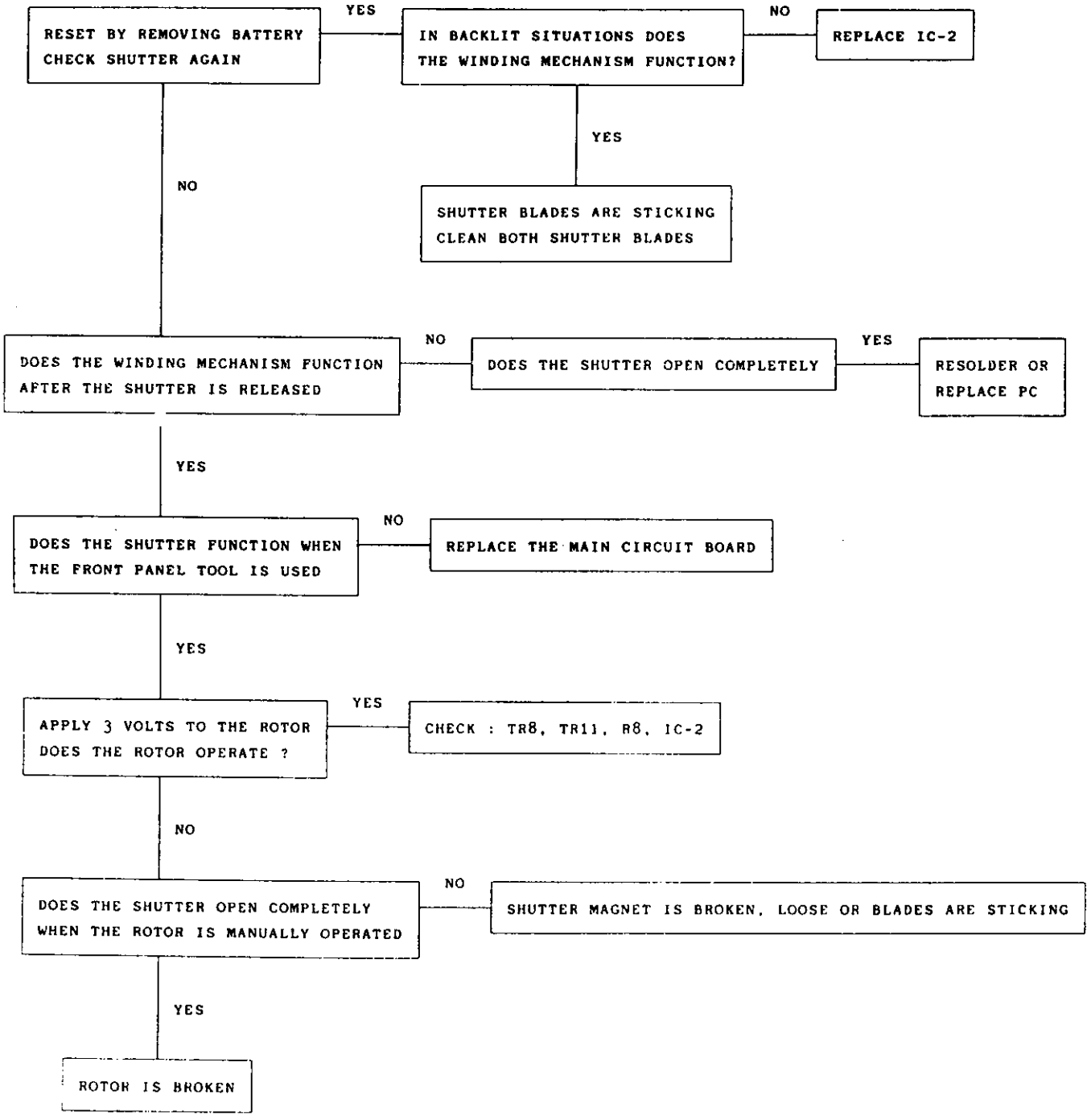
SUPREME TROUBLE SHOOTING GUIDE

DATA COMPILED BY JASON LEE
CANON U.S.A.
CAMERA SERVICE DIVISION
EDITED BY JAMES C. MARTIN

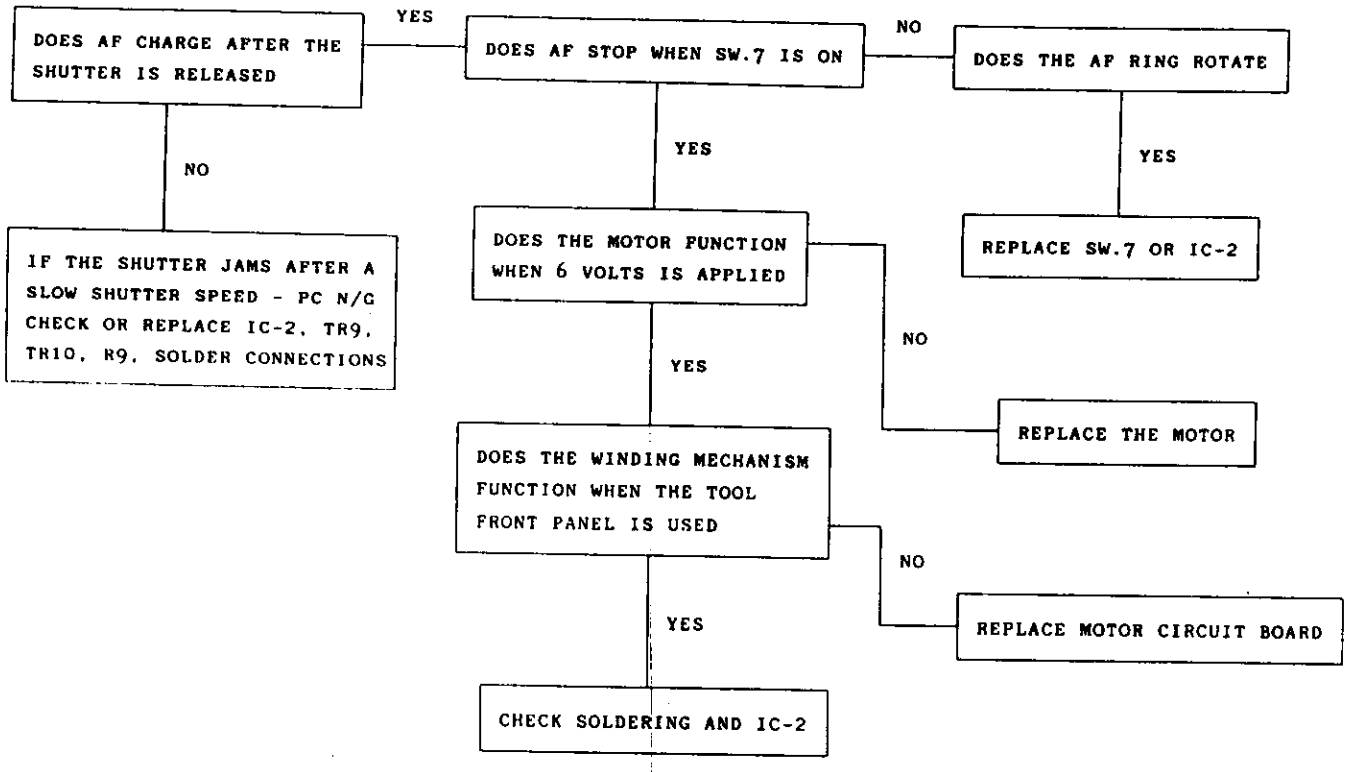
1. PROBLEMS RELATED TO THE POWER SUPPLY (NO : V BATT, VDD and VCC)



2. PROBLEMS RELATED TO THE SHUTTER (SHUTTER DOES NOT OPERATE PROPERLY)

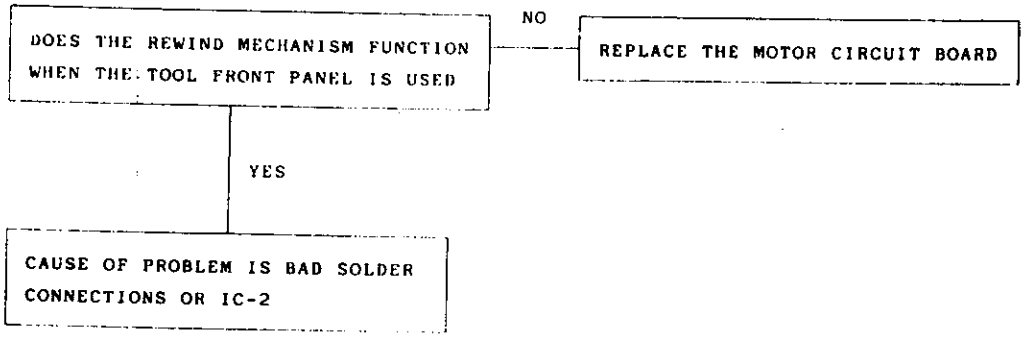


3. PROBLEM RELATED TO THE WINDING MECHANISM (AF DOESN'T CHARGE)

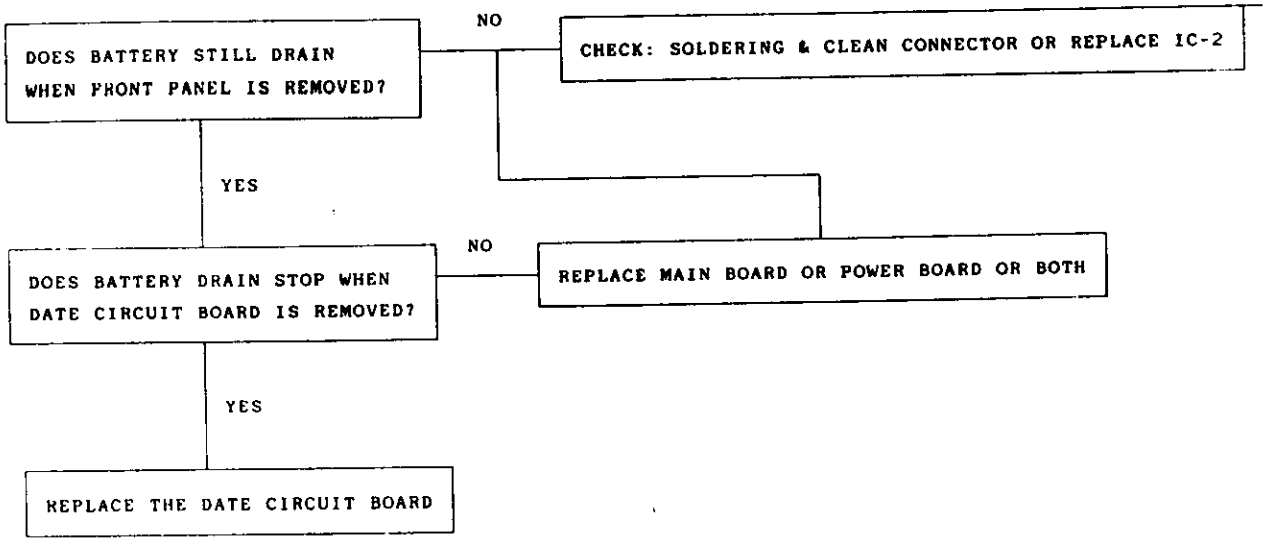


NOTE : IF AF DOESN'T STOP AT THE RIGHT POSITION, THE MOST PROBABLE CAUSE IS SWITCH 7

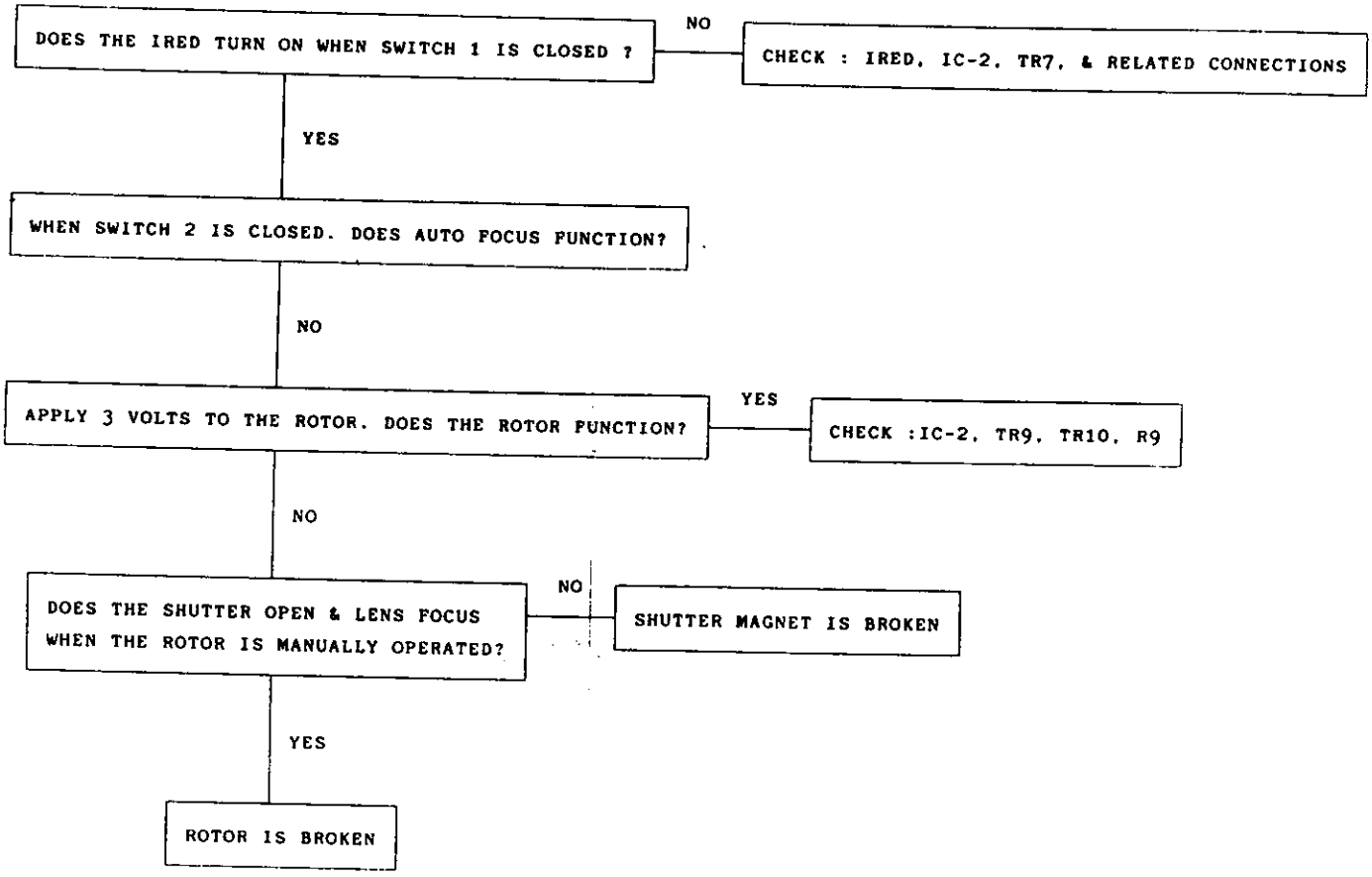
4. PROBLEMS RELATED TO THE REWIND MECHANISM



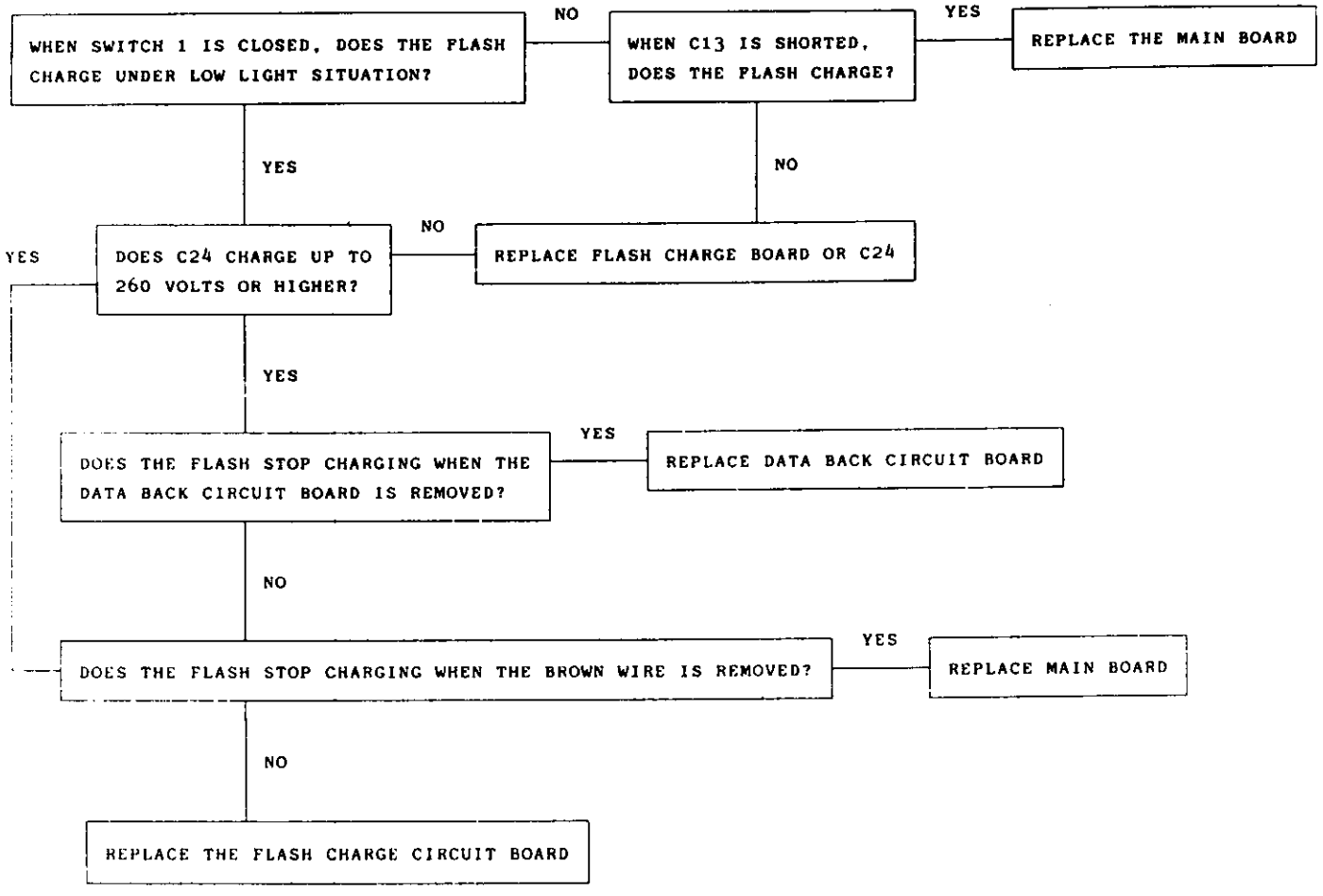
5. PROBLEMS RELATED TO BATTERY DRAIN



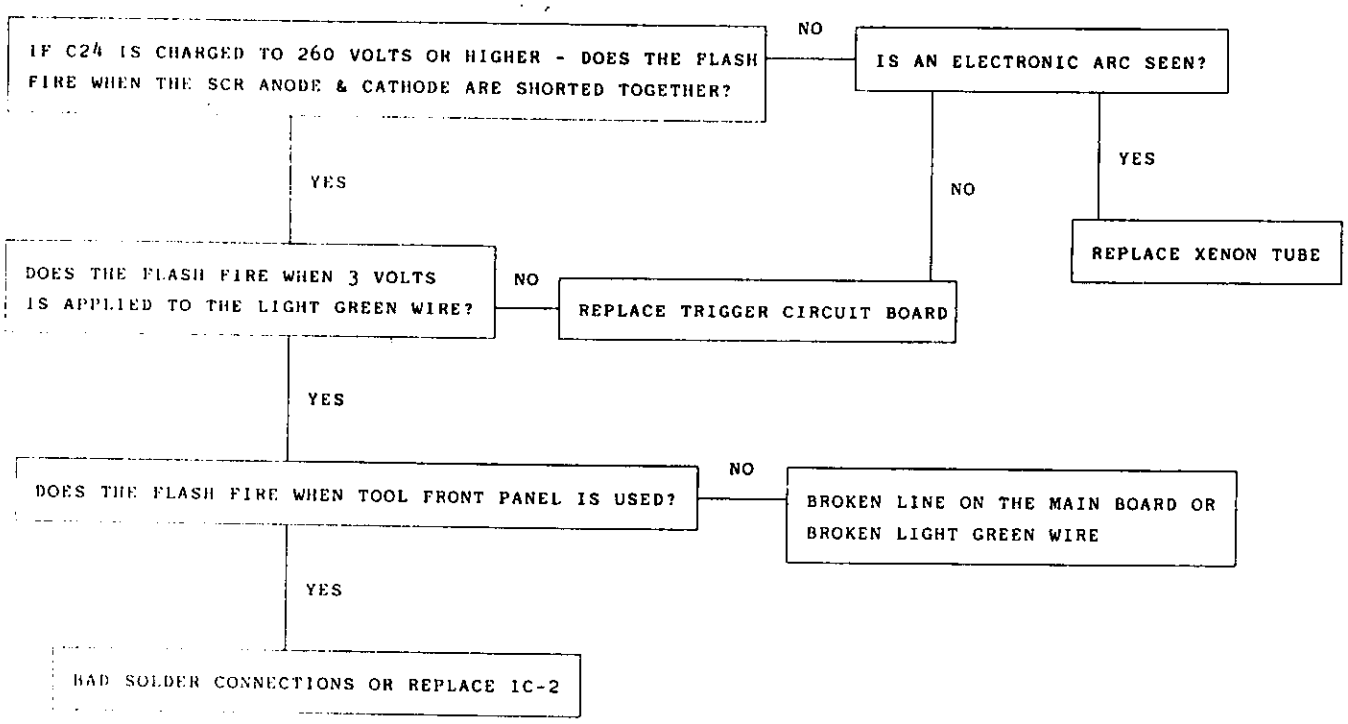
6. PROBLEMS RELATED TO AUTO FOCUS (ALWAYS INFINITY FOCUS OR ERRATIC FOCUSING)



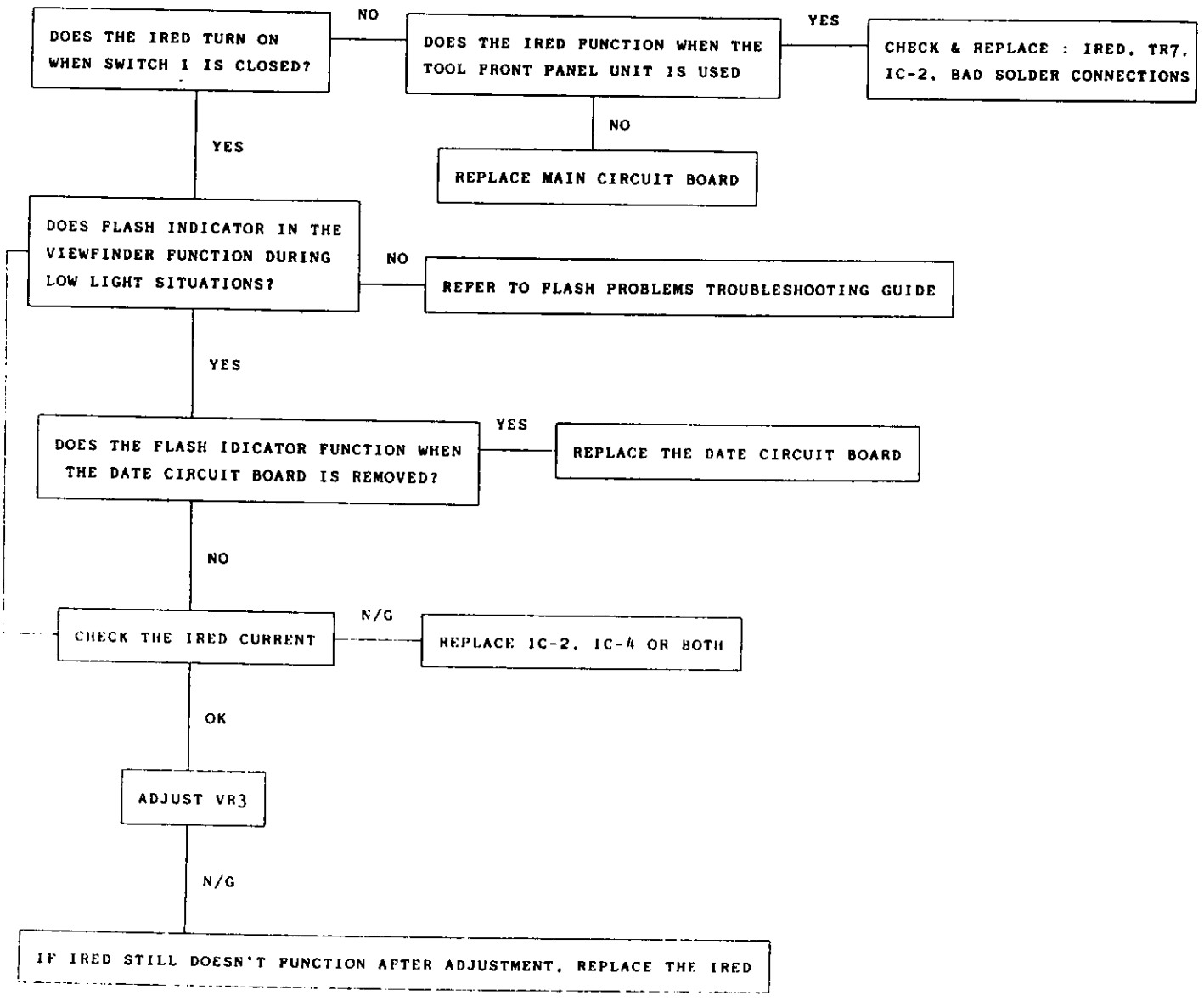
7. PROBLEMS RELATED TO THE FLASH (DOESN'T CHARGE / DOESN'T STOP CHARGING)



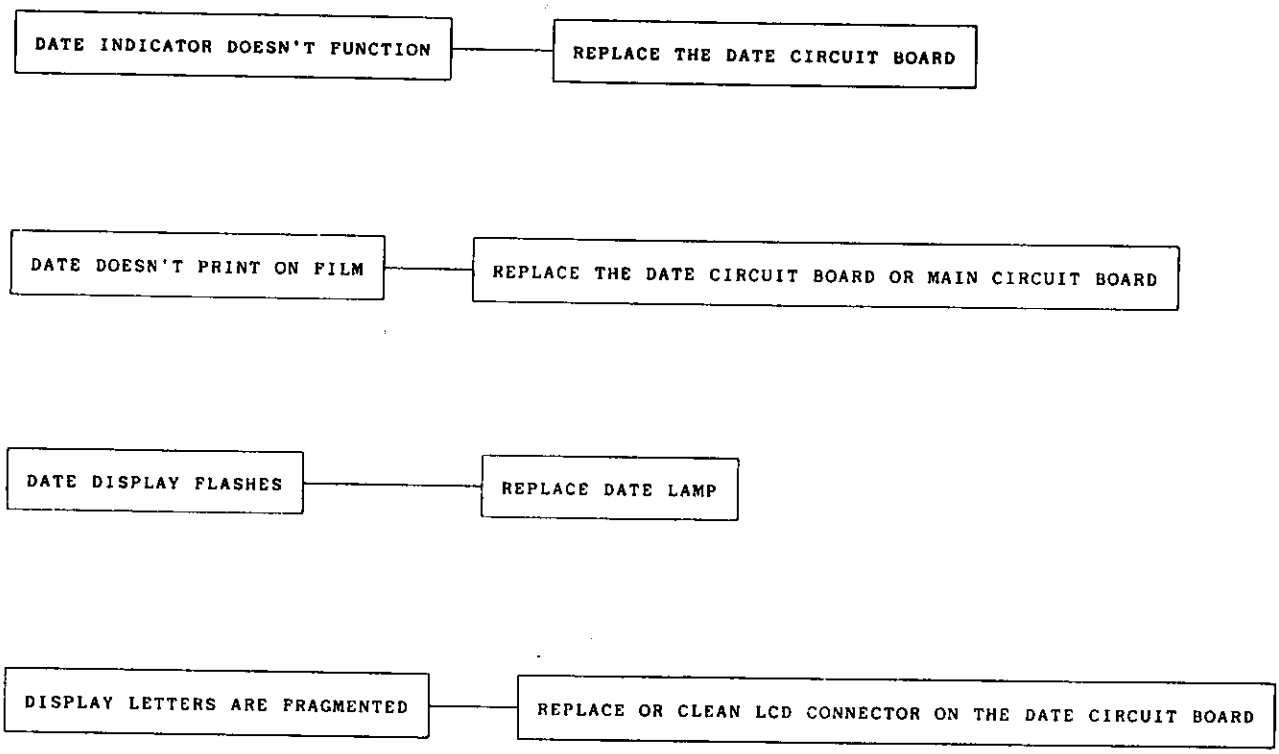
8. PROBLEMS RELATED TO THE FLASH (FLASH DOESN'T FIRE)



9. FLASH DOESN'T FIRE WHEN SUBJECT IS BACKLIT & FLASH INDICATOR DOESN'T APPEAR IN THE VIEWFINDER



10. PROBLEMS RELATED TO THE DATE INDICATOR



SIGNAL VOLTAGES

V BATT = 6 VOLTS

VDD = 3.8 VOLTS

VCC = 5 VOLTS

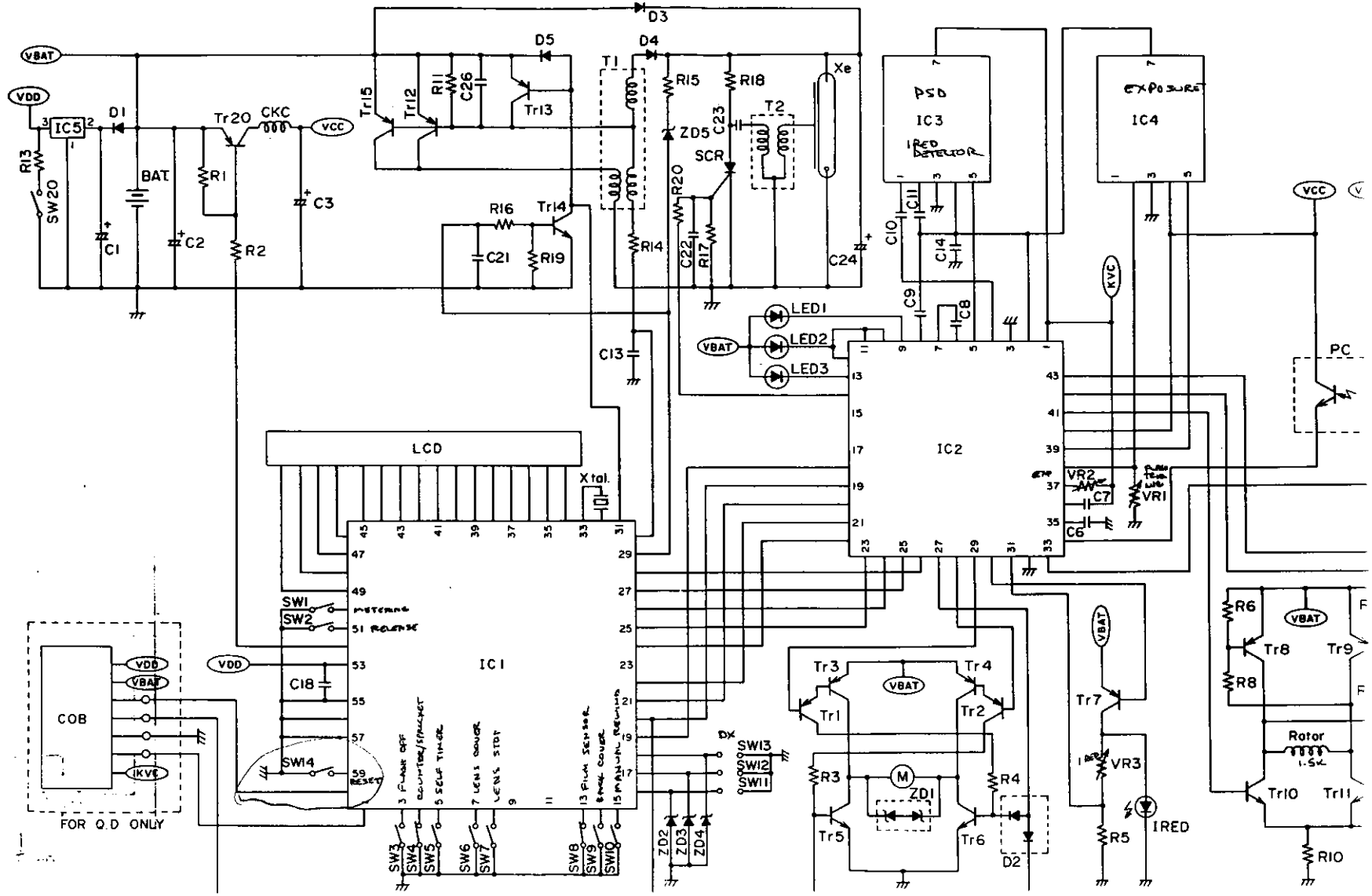
KVC = 2.4 VOLTS

VC = 1.2 VOLTS

OSC = 3 VOLTS

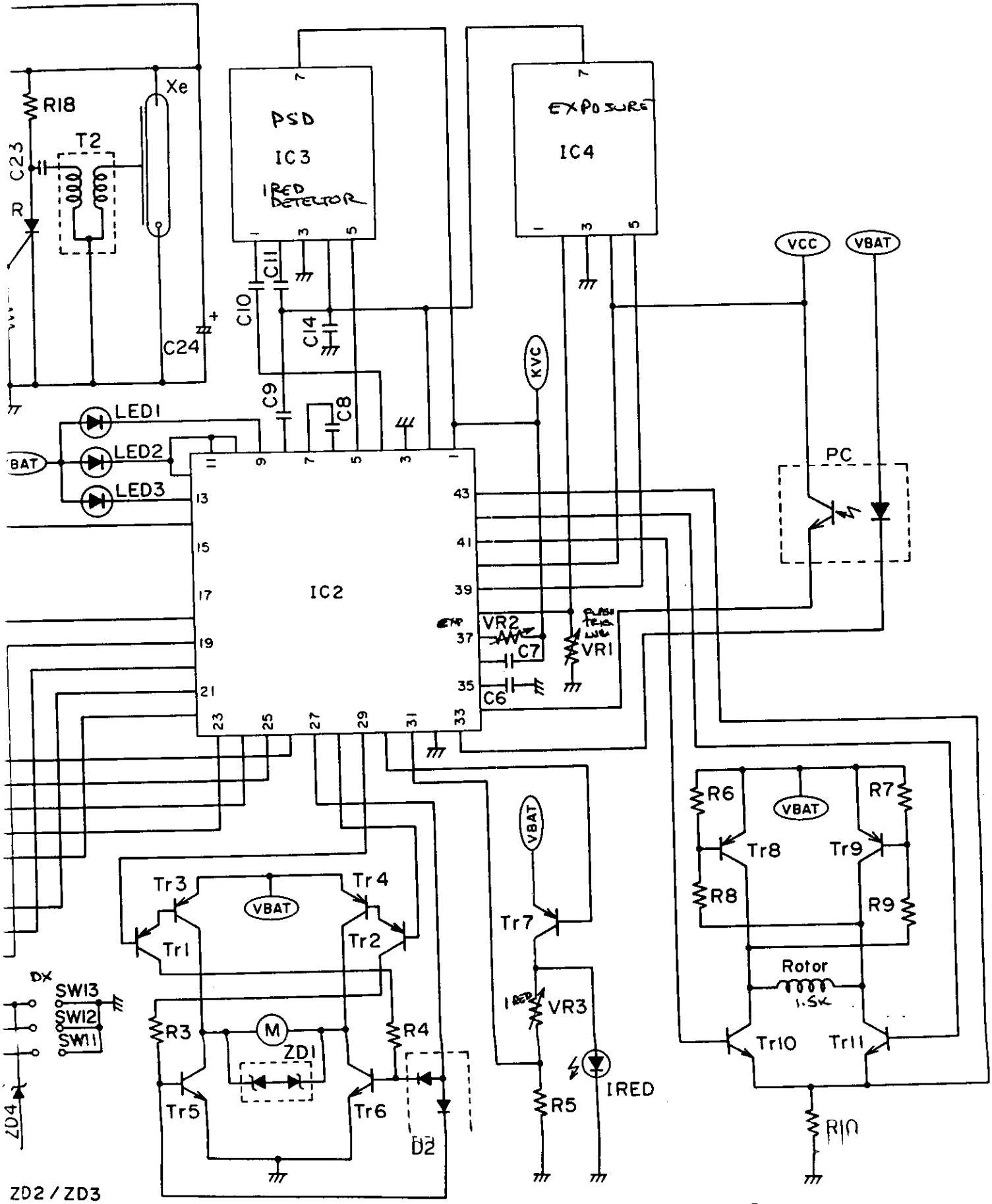
SCHEMATIC DIAGRAM
CY8-1622-104-201

AUTOBOY 3 Q.D., SURE SHOT SUPREME Q.D., TOP SHOT Q.D.



REF. NO. C13-2381~3
C13-2391~3

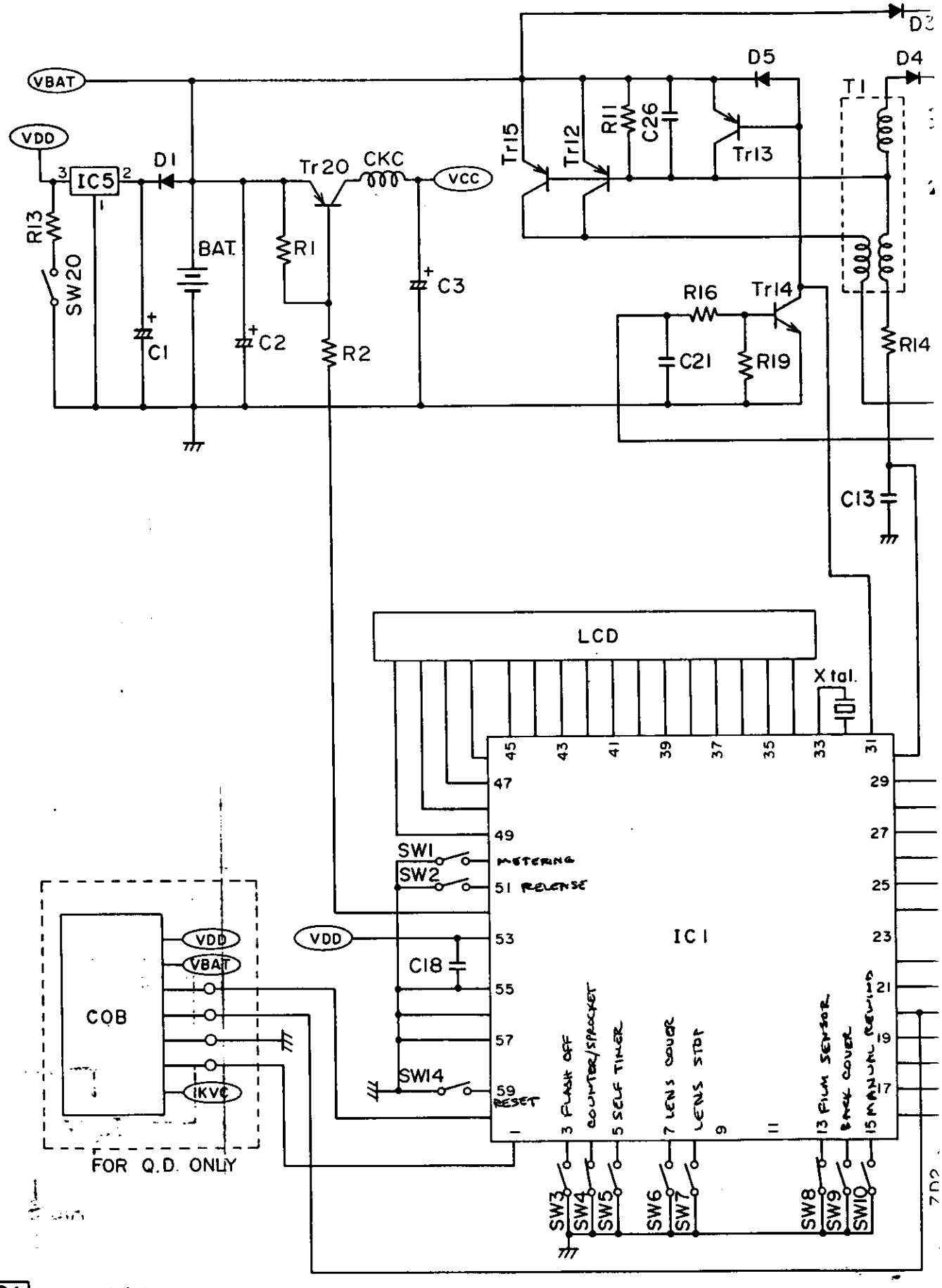
SHOT SUPREME, TOP SHOT
RE SHOT SUPREME Q.D., TOP SHOT Q.D.



ZD2 / ZD3
is a twin diode.

CANON AUTOBOY 3, SU
AUTOBOY 3 Q.D.

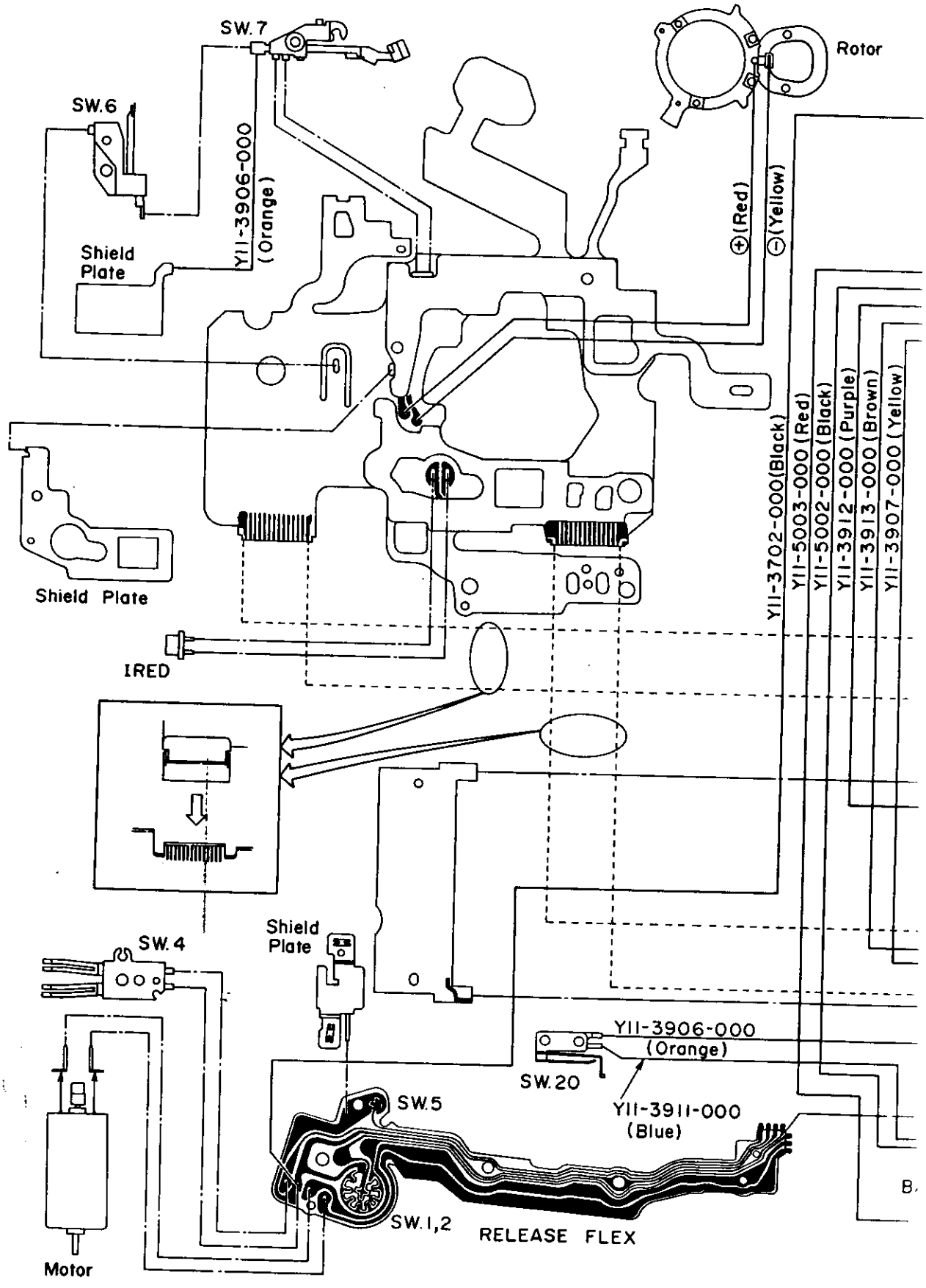
SCHEMATIC DIAGRAM
CY8-1622-104-201



01 APR, 1986

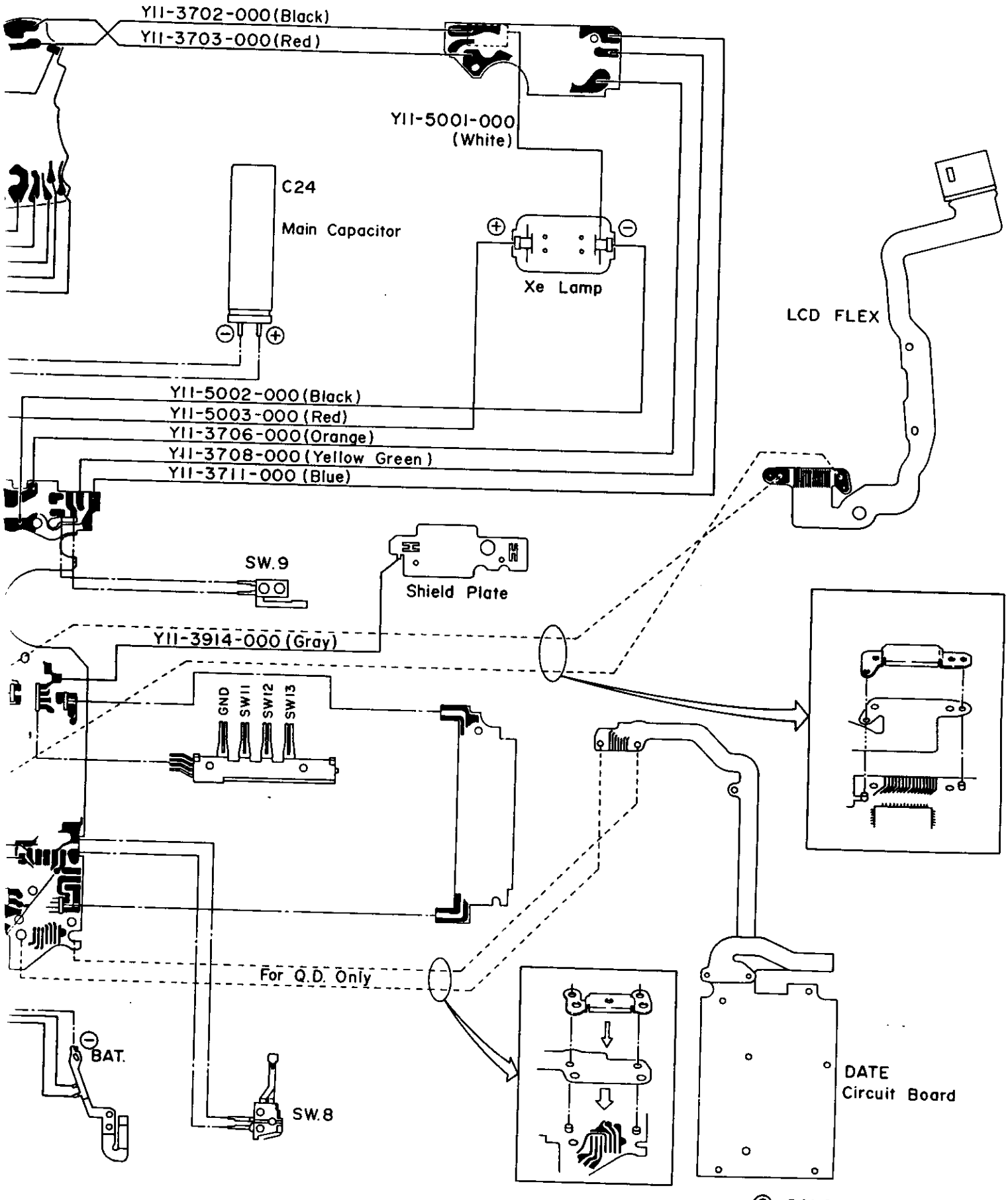
CANON AUTOBOY 3, SURE
AUTOBOY 3 Q.D., S

WIRING DIAGRAM
CY8-1422-106-204



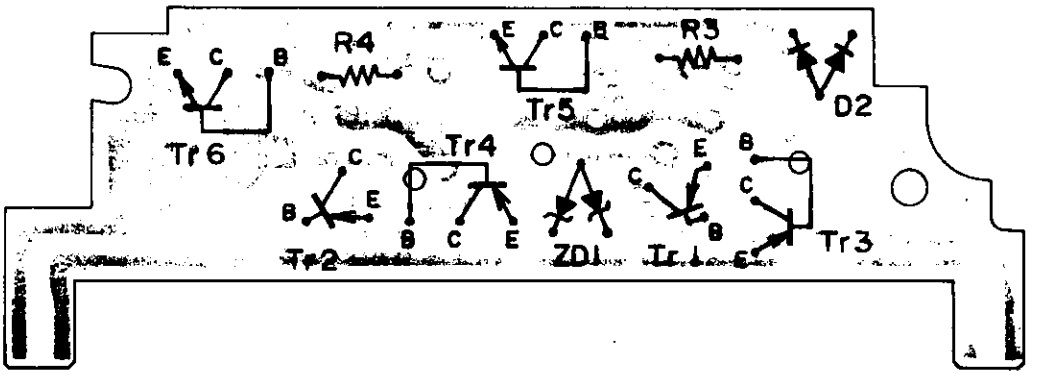
REF. NO. C13-2381~3
C13-2391~3

IOT SUPREME, TOP SHOT
E SHOT SUPREME Q.D., TOP SHOT Q.D.

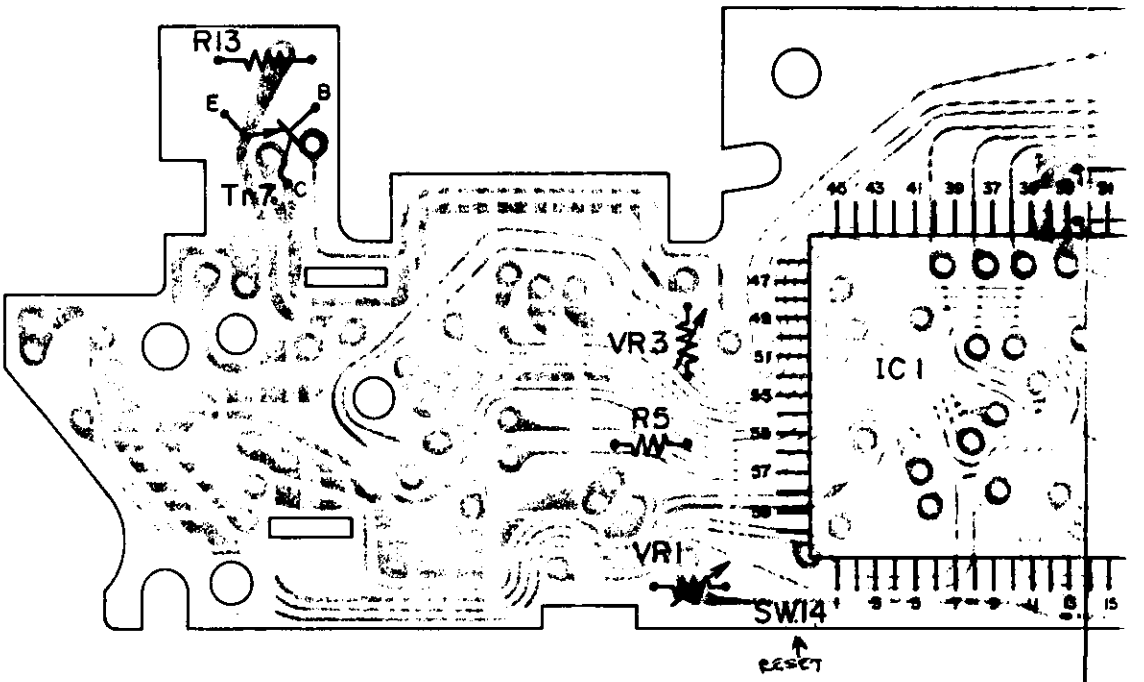


CANON AUTOBOY 3, SURE SHOT
AUTOBOY 3 Q.D., SURE SH

P.C.B. DIAGRAM
CY8-1422-106-202

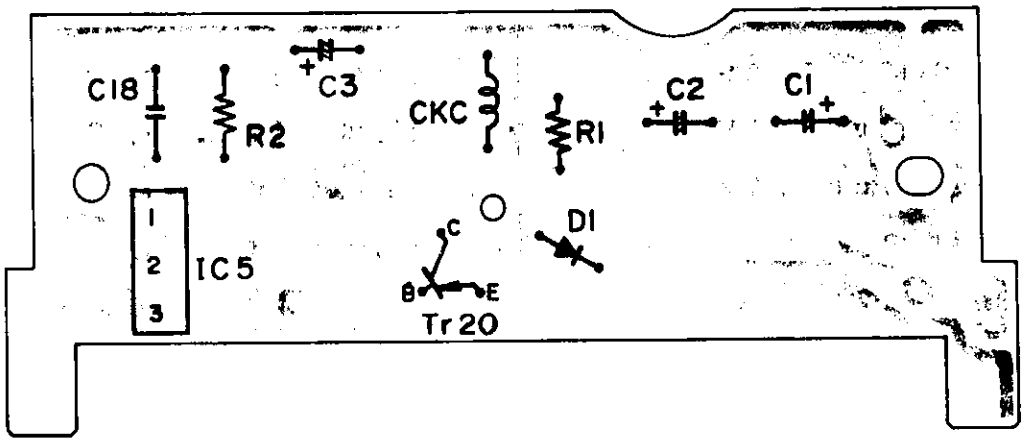


MOTOR CIRCUIT BOARD

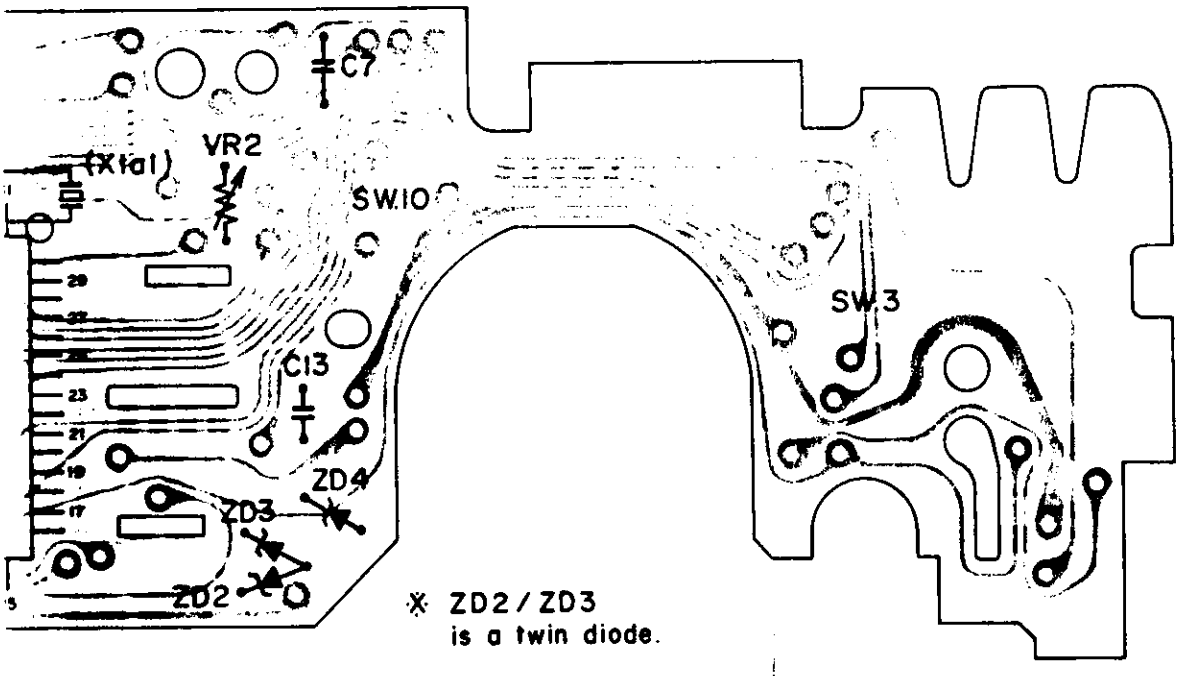


MAIN CIR

SUPREME, TOP SHOT
SHOT SUPREME Q.D., TOP SHOT Q.D.



POWER CIRCUIT BOARD



RCUIT BOARD

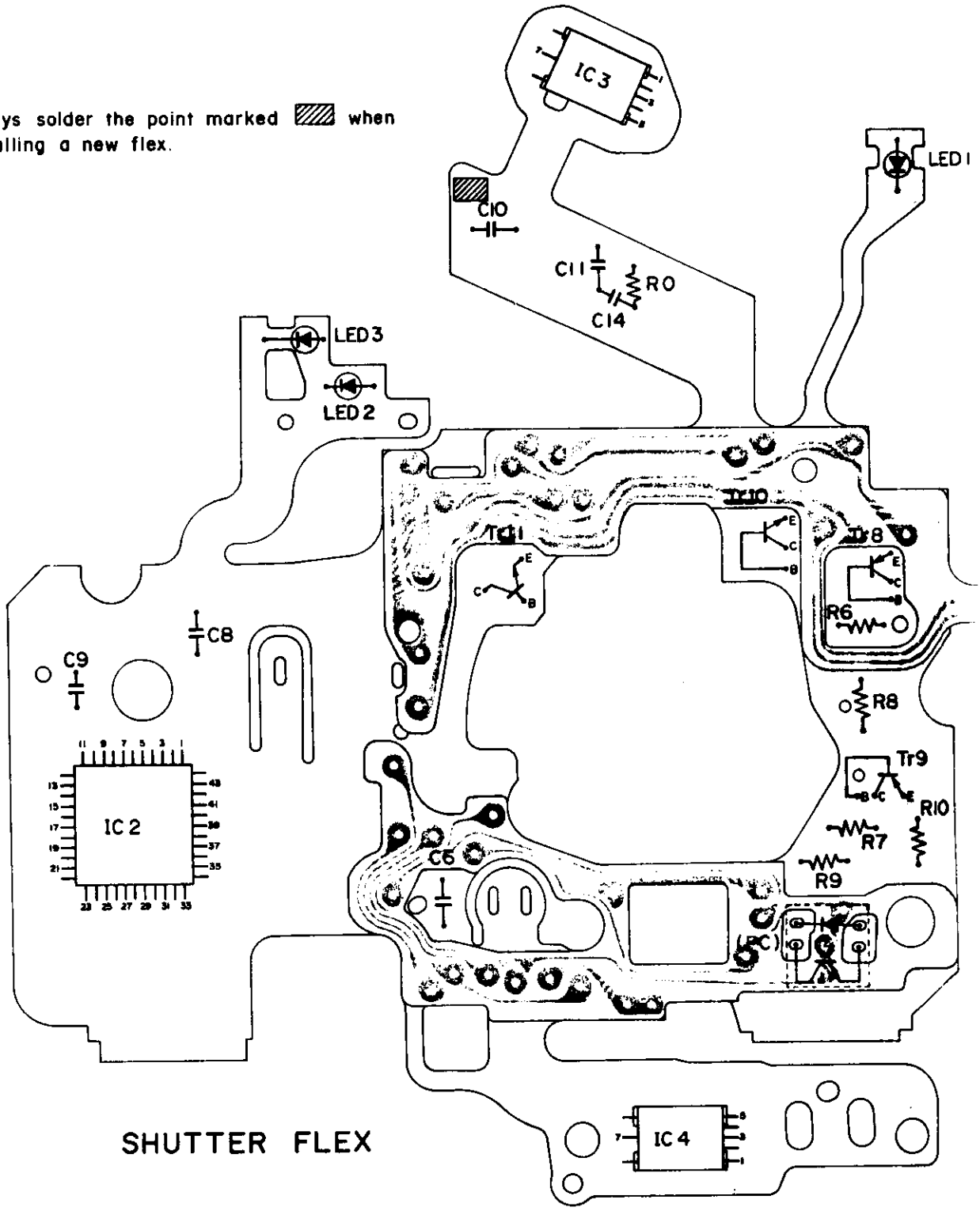
Symbol	Spec. or Mfg.
C1	68uF, 7V T
C2	68uF, 8V T
C3	47uF, 8V T
C6	0.022uF, 25V C
C7	0.1uF, 25V C
C8	0.33uF, 25V T
C9	4.7uF, 25V T
C10	0.1uF, 25V C
C11	0.22uF, 35V T
C13	0.022uF, 25V C
C14	0.1uF, 25V C
C18	0.1uF, 25V C
C21	0.01uF, 16V
C22	0.01uF, 16V
C23	0.047uF, 350V
C24	155uF, 280V E
C26	2200pF, 16V
D1	MA704
D2	1S2835
D3	S5566G
D4	ES01F
D5	1SS176
R1	10 KOHM 1/16W
R2	2.2 KOHM 1/16W
R3	100 OHM 1/4W
R4	100 OHM 1/4W
R5	3.0 KOHM 1/16W
R6	10 KOHM 1/16W
R7	10 KOHM 1/16W
R8	270 OHM 1/16W
R9	270 OHM 1/16W
R10	1.1 OHM 1/16W

Symbol	Spec. or Mfg.
R11	10 KOHM 1/8W
R13	1 KOHM 1/16W
R14	2 KOHM 1/8W
R15	18 KOHM 1/8W
R16	5.6 KOHM 1/8W
R17	1 KOHM 1/8W
R18	1 MOHM 1/8W
R19	1.5 KOHM 1/8W
R20	560 OHM 1/8W
Tr1	RN2401
Tr2	RN2401
Tr3	RN6003
Tr4	RN6003
Tr5	2SC2982
Tr6	2SC2982
Tr7	RN6003
Tr8	2SA1213Y
Tr9	2SA1213Y
Tr10	2SC2982
Tr11	2SC2982
Tr12	2SA1431Y
Tr13	RN2205
Tr14	2SC2458Y
Tr15	2SA1431Y
VR1	50 KOHM
VR2	20 KOHM
VR3	3.3 KOHM
ZD1	MA3062WA
ZD2	RD7.5M
ZD3	MA3075WA
ZD4	MA3075WA
ZD5	1AZ270X

CANON AUTOBOY 3, SURE SHOT SU
AUTOBOY 3 Q.D., SURE SHO

P.C.B. DIAGRAM
CY8-1422-106-201

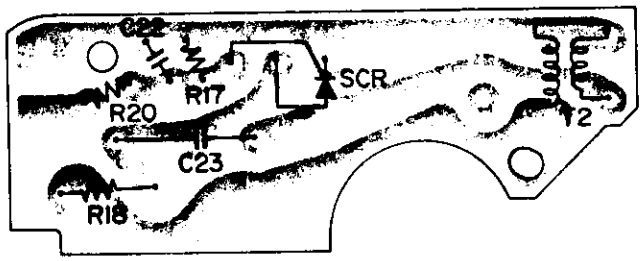
* Always solder the point marked ▨ when installing a new flex.



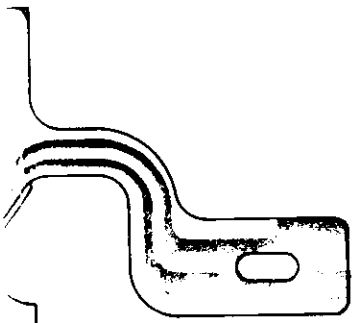
SHUTTER FLEX

SUPREME, TOP SHOT
SHOT SUPREME Q.D., TOP SHOT Q.D.

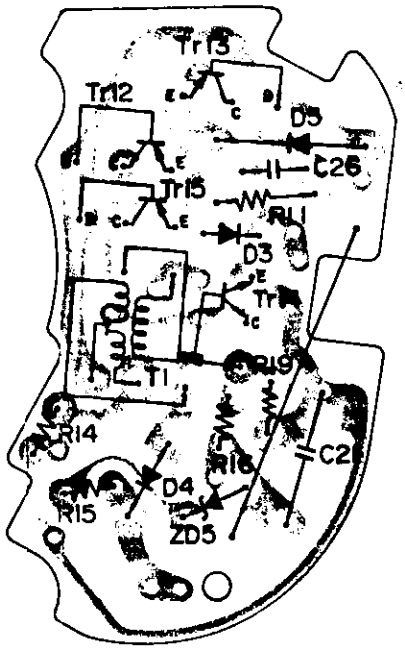
LED1



FLASH TRIGGER BOARD



R10



FLASH CHARGE BOARD

ELECTRIC PARTS SPECIFICATION

Symbol	Nomenclature
SW1	Operation Switch
SW2	Release Switch
SW3	Flash Off Switch
SW4	Sprocket Switch
SW5	Self Timer Switch
SW6	Lens Cover Switch
SW7	Lens Stop Switch
SW8	Film In Switch
SW9	Back Cover Switch
SW10	Manual Rewind Switch
SW11	ISO Switch
SW12	ISO Switch
SW13	ISO Switch
SW14	Battery Remaining Test
SW20	Reset Switch

Symbol	Spec. or Mfg.
IC1	SN28875
IC2	SN28874
IC3	SN28873
IC4	SN28872
IC5	S-81237AG
IRED	HE8801RG
LCD	
LED1	CL-50SR-CD
LED2	CL-51G-CD
LED3	CL-51R-CD
PC	GP2S04
SCR	CR02AM-8-A8
CKC	LQN5N271K
T1	D09
T2	KP-32
Xe	H150GOT
X' tal	CFS-206