

Electrical System

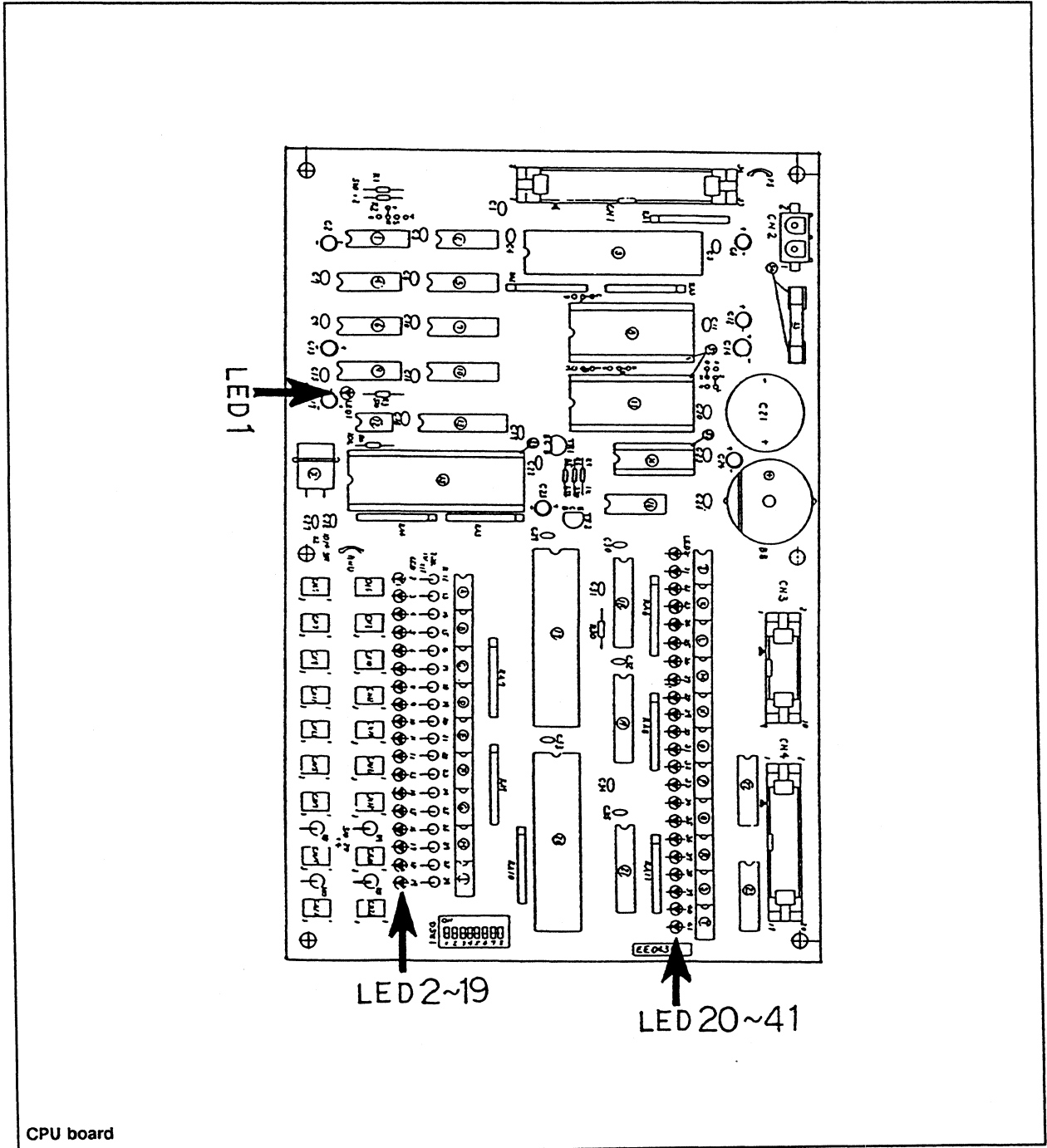
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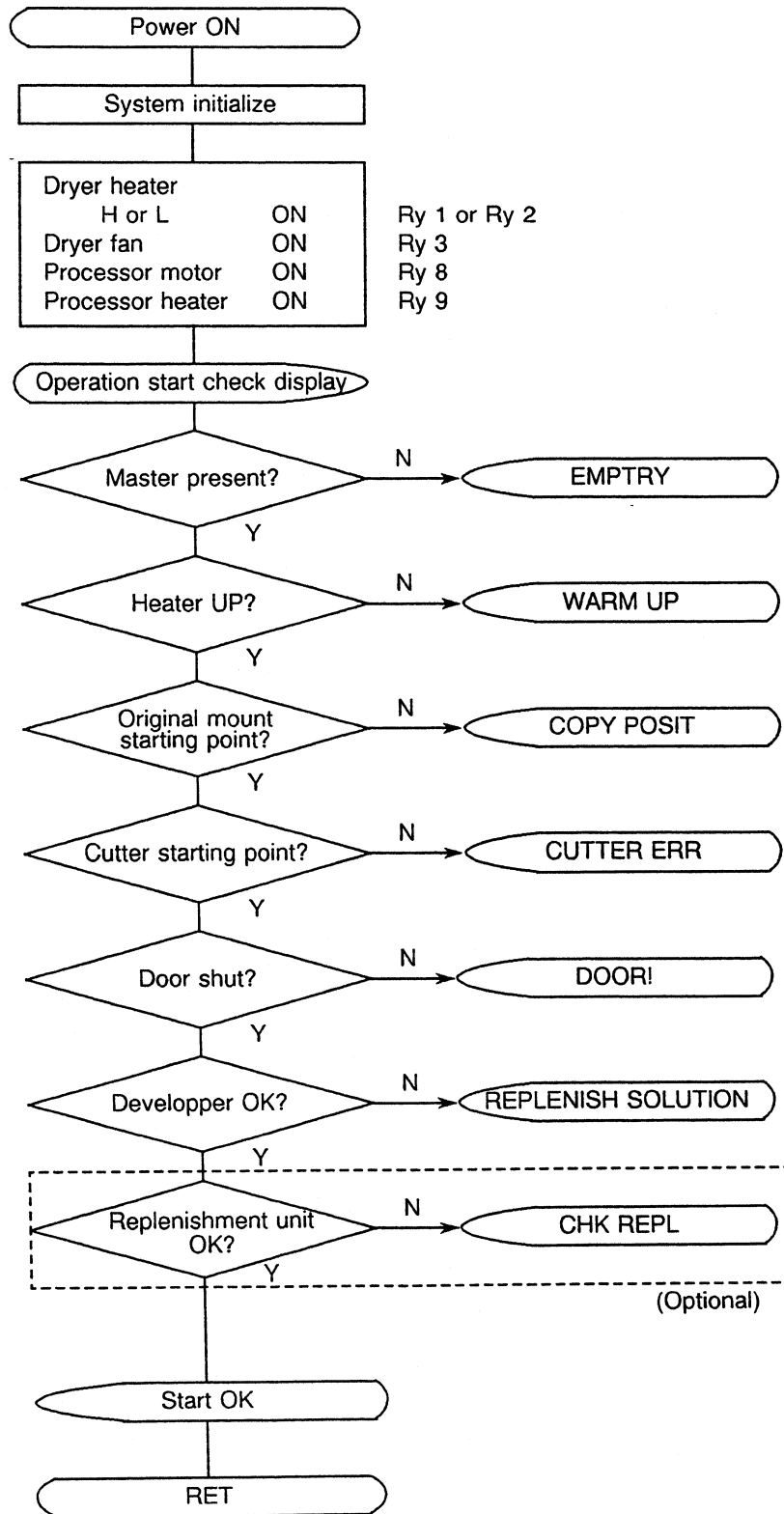
LEDs for verifying CPU board signals

The status of the board input/output signals can be verified with these LEDs.



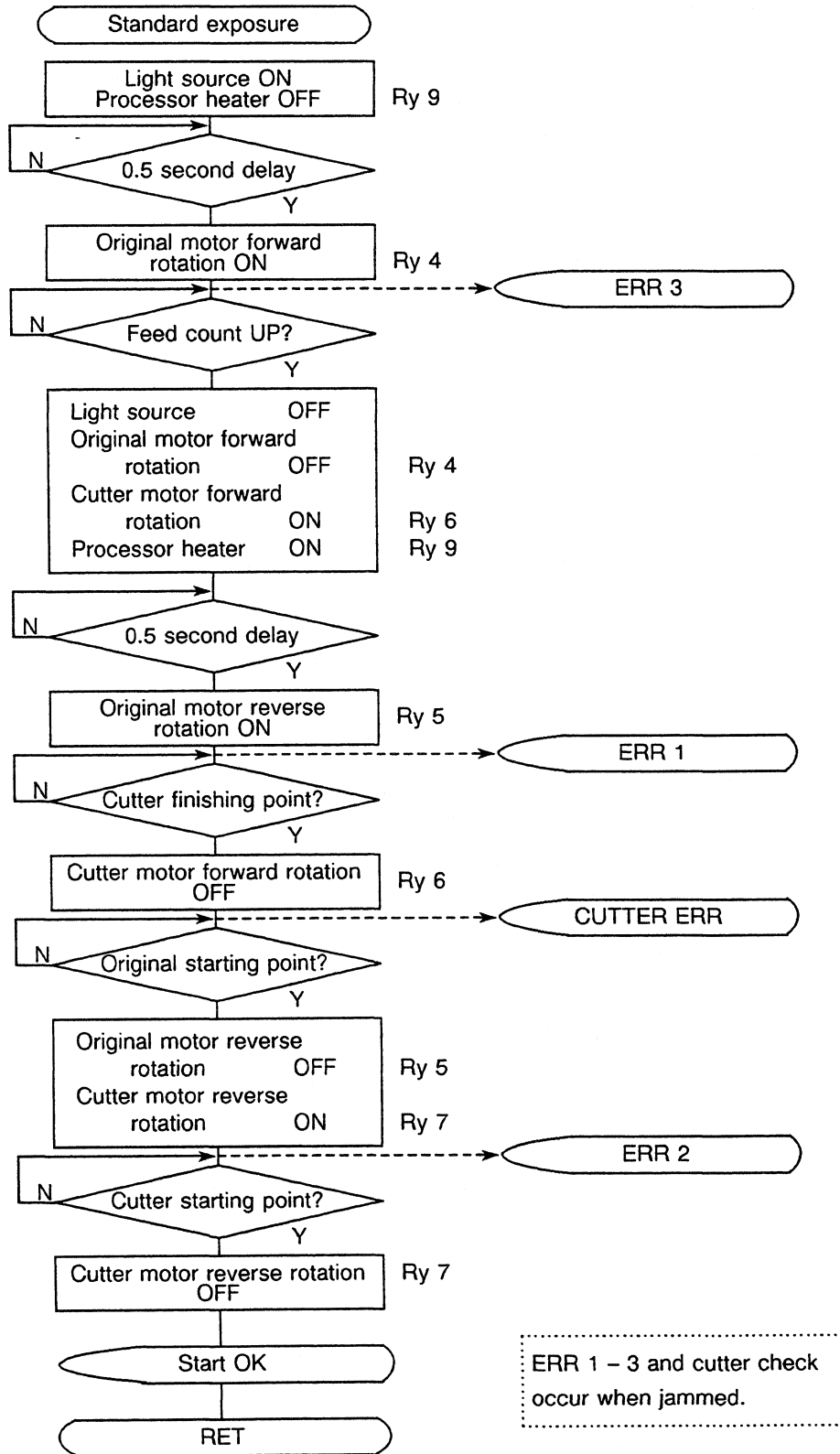
		LED name	Time of illumination
	1	CPU operating	When the CPU is operating.
LEDs for input	2	Original return sensor (for 2 divisions)	Flashes with sensor board rotation when the sensor board enters the cap of the photo interruptor (PS1) used for original return detection.
	3	Master feed sensor	Flashes with sensor board rotation when the sensor board enters the cap of the photo interruptor (PS2) used for master feed detection.
	4	Cover switch sensor	When the front (LS1) or left upper cover (LS2) are closed.
	5	Original mount starting point sensor	When there is no sensor board in the photo interruptor (PS3) used for original mount starting point detection.
	6	Original mount finishing point sensor	When there is no sensor board in the photo interruptor (PS4) used for original mount finishing point detection.
	7	Cutter starting point sensor	When there is no sensor board in the cutter starting point photo interruptor (PS5).
	8	Cutter finishing point sensor	When there is no sensor board in the cutter finishing point photo interruptor (PS6).
	9	Processor heater temperature sensor	When the heater is operating (ON).
	10	Developer level sensor	When the developer level detect reed switch (ReS1) is ON.
	14	Replenishing unit ON	When the replenishing unit power switch is ON.
	15	Replenishing OK	When the replenishment tank front SW is ON and the overflow tank is OFF.
	16	Master end sensor	When there is no master in the master end detect photo sensor (PS7).
	17	Master seam sensor	When there is no master in the seam detect photo sensor (PS8).
LEDs for output	28	Reflected light source	When reflected light source is ON.
	29	Dryer H	When the H dryer relay (RY1) is ON.
	30	Dryer L	When the L dryer relay (RY2) is ON.
	31	Dryer fan	When the dryer fan relay (RY3) is ON.
	32	Master and original mount advance	When the master and original mount advance relay (RY4) is ON.
	33	Original mount retreat	When the original mount retreat relay (RY5) is ON.
	34	Cutter advance	When the cutter advance relay (RY6) is ON.
	35	Cutter retreat	When the cutter retreat relay (RY7) is ON.
	36	Processor motor	When the processor motor relay (RY8) is ON.
	37	Processor heater	When the processor heater relay (RY9) is ON.
	38	Dehumidifier dryer	When the dehumidifier dryer relay (RY10) is ON.
	41	Automatic replenishing	During automatic replenishing

Operation Flowchart

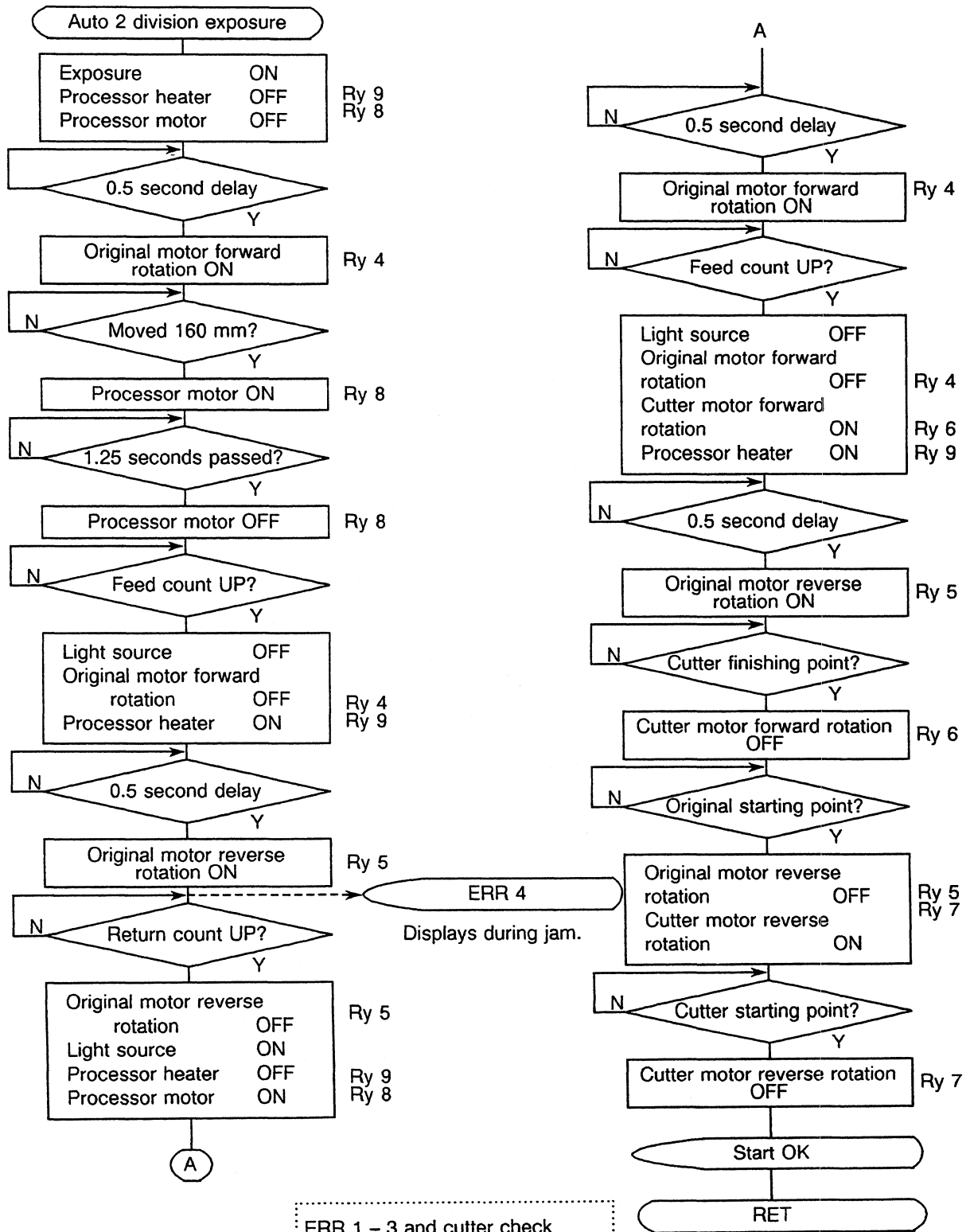


Operation Flowchart

<Standard exposure >

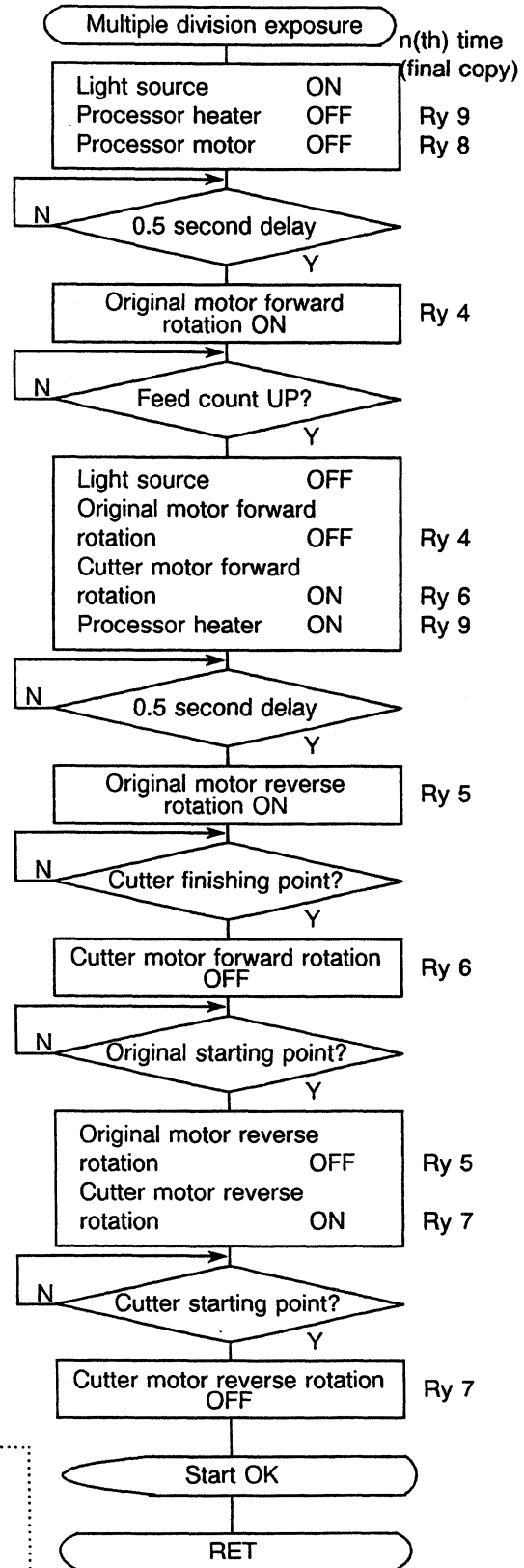
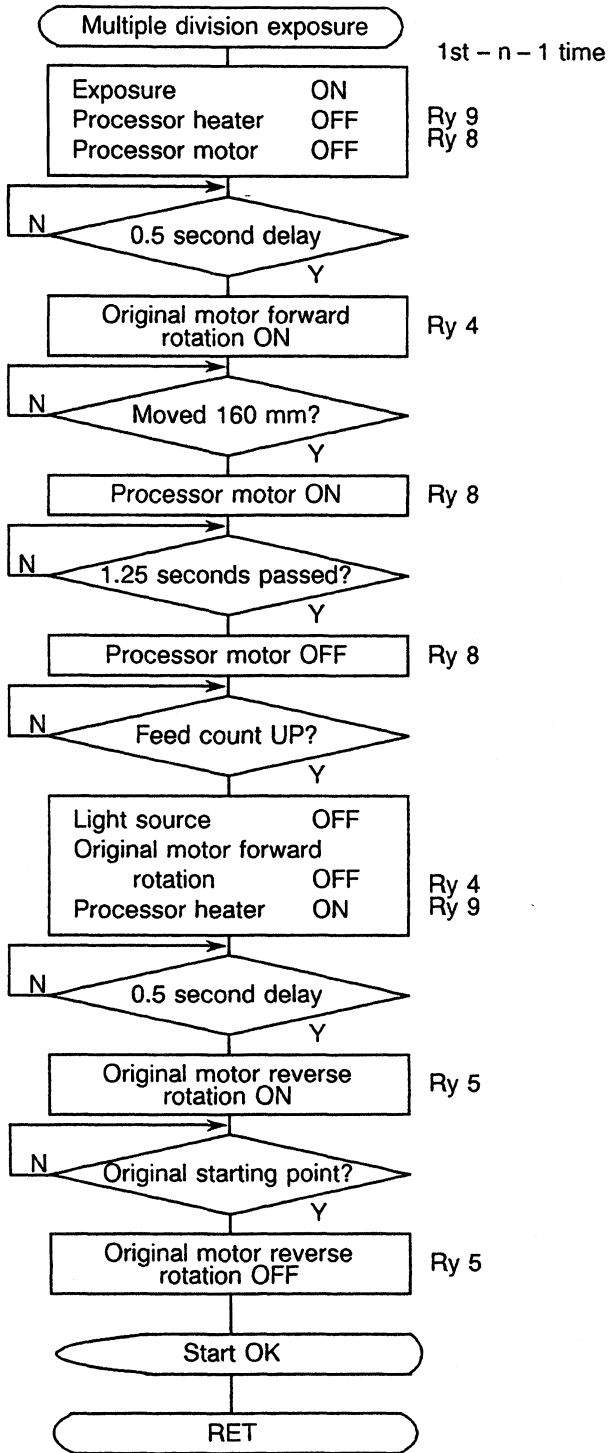


<Auto 2 division exposure>



ERR 1 - 3 and cutter check occur when jammed, the same as for standard exposure.

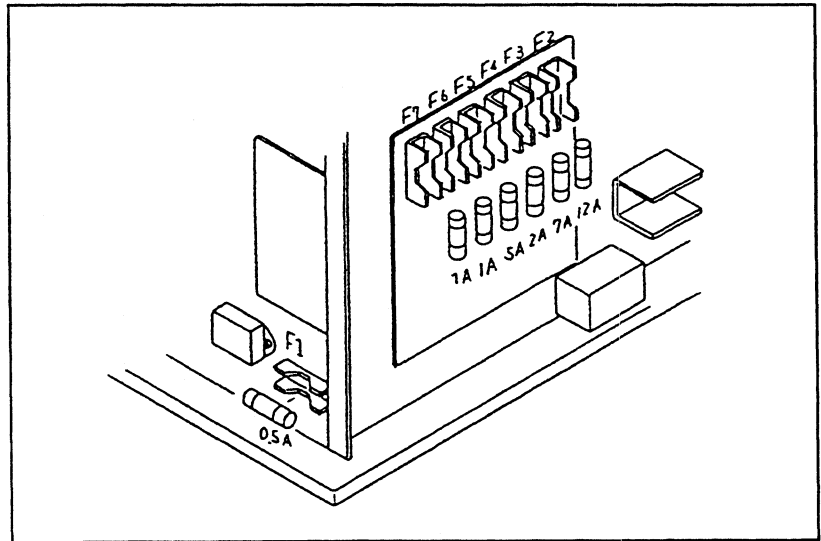
< Multiple division exposure >



ERR 1 - 3 and cutter check occur when jammed, the same as for standard exposure.

Function of Each Fuse

The electric supply unit is found below the master loading section on the right side of the machine and on the front left side of the machine. It is made up of various electrical parts. Turn the power switch and the original power source OFF before changing fuses or checking the circuit. Only use fuses of same rated capacity and type. (Use of anything different may cause damage to the unit.)



- 1. CPU board fuse (F1)**
A 0.5 A glass (Slow blow) protects the low voltage DC 5 V circuit.
- 2. Light source fuse (F2)**
A 12 A glass fuse protects the light source circuit.
- 3. Dryer fan and dryer heater fuse (F3)**
A 7 A glass fuse protects the dryer fan and dryer heater.
- 4. Drive motor fuse (F4)**
A 2 A glass fuse protects the original drive motor, the cutter drive motor and the processor drive motor circuits.
- 5. Developer heater fuse (F5)**
A 5 A glass fuse protects the developer heater circuit.
- 6. Dehumidifier fuse control circuit fuse (F6)**
A 1 A glass fuse protects the dehumidifier circuit and control circuit.
- 7. Weak voltage system protection fuse (F7)**
A 1 A glass fuse protects the low voltage DC 24 V circuit.

When Fuses Blow

1. When [F1] blows

The CPU does not operate.

2. When [F2] blows

The light source (halogen lamp) does not illuminate.

3. When [F3] blows

Dryer heater and dryer fan do not operate.

4. When [F4] blows

Master original motor, cutter motor and processor motor do not operate.

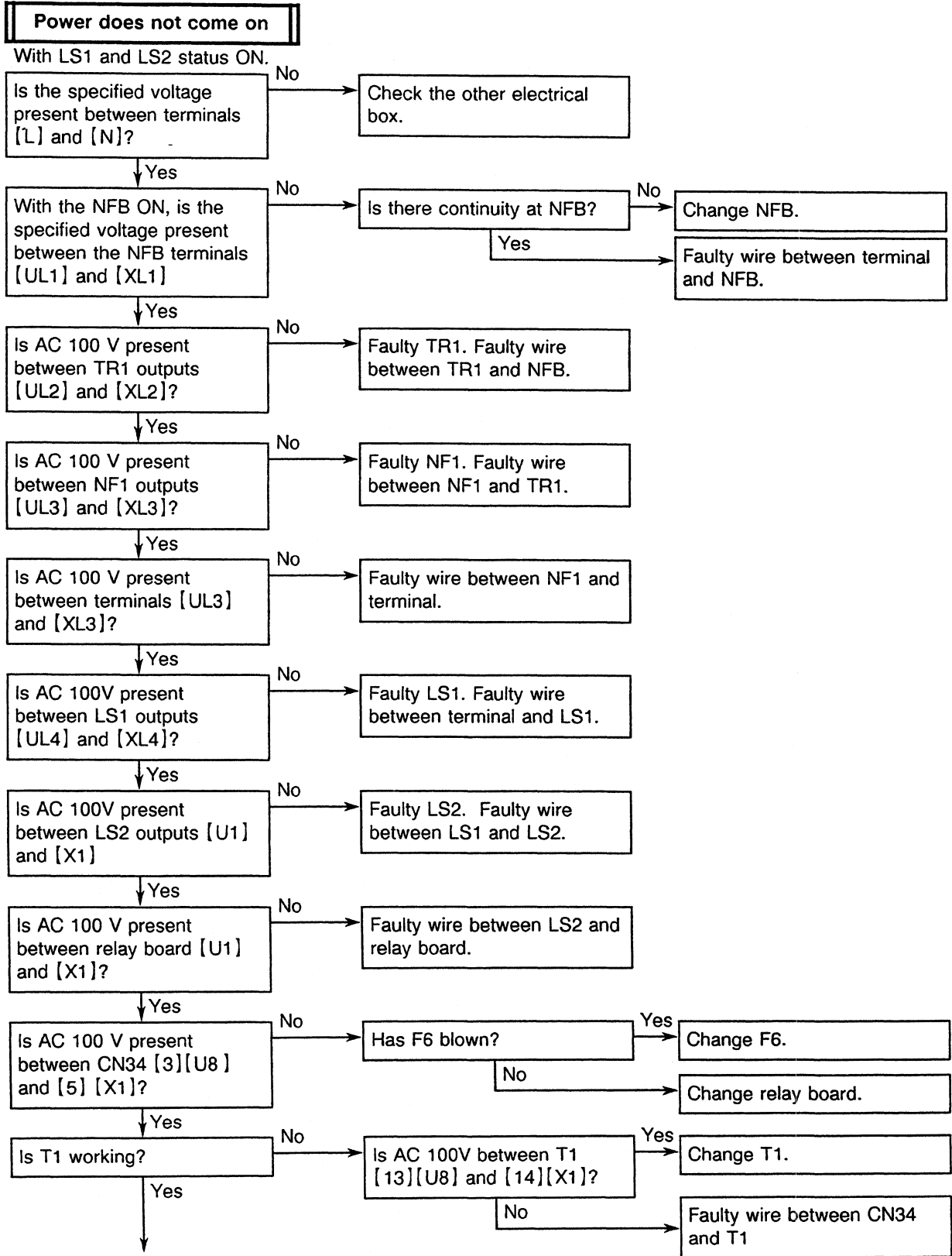
5. When [F5] blows

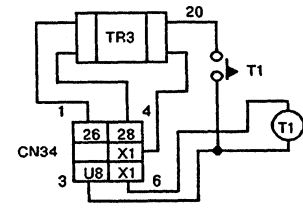
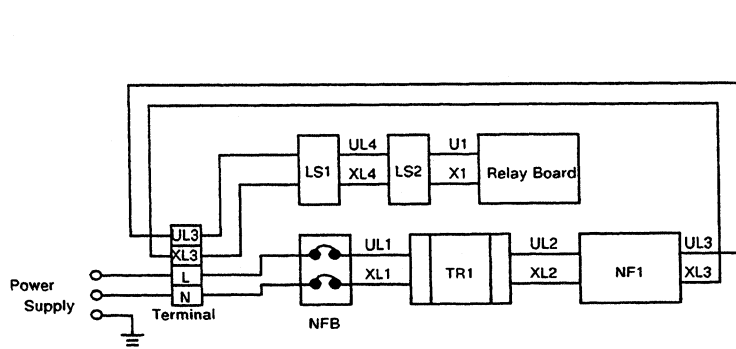
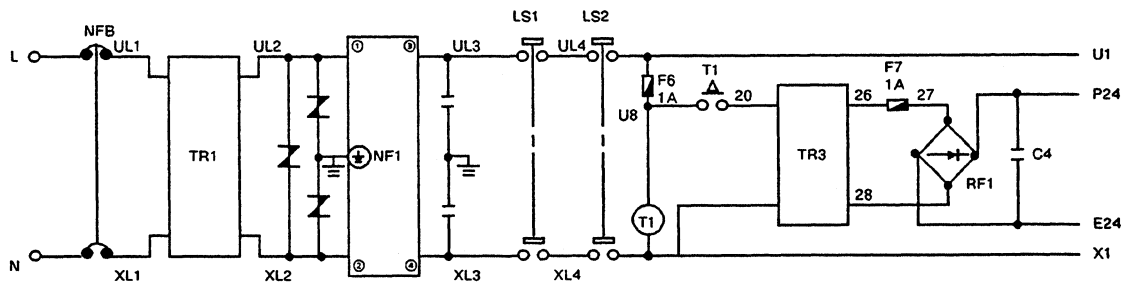
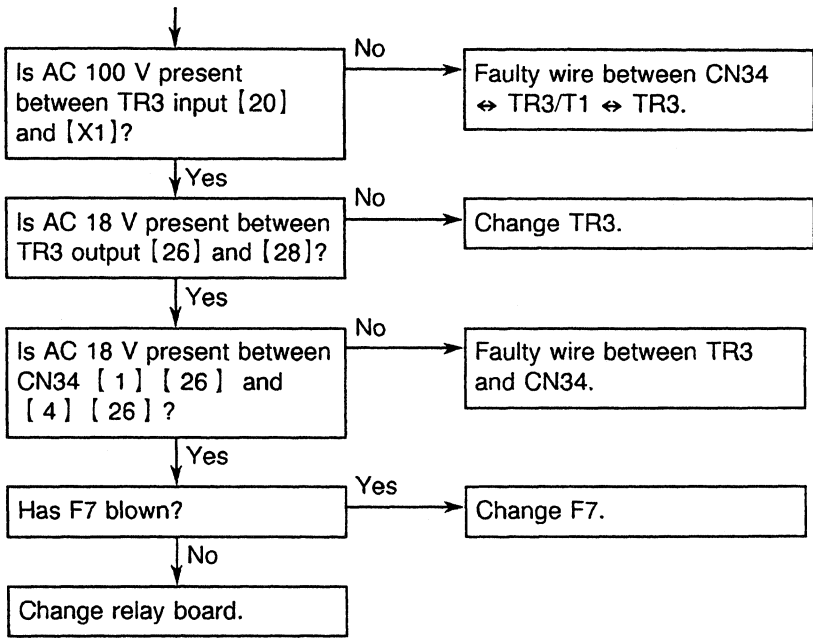
Processor heater does not operate.

6. When [F6] and [F7] blow

All operations stop.

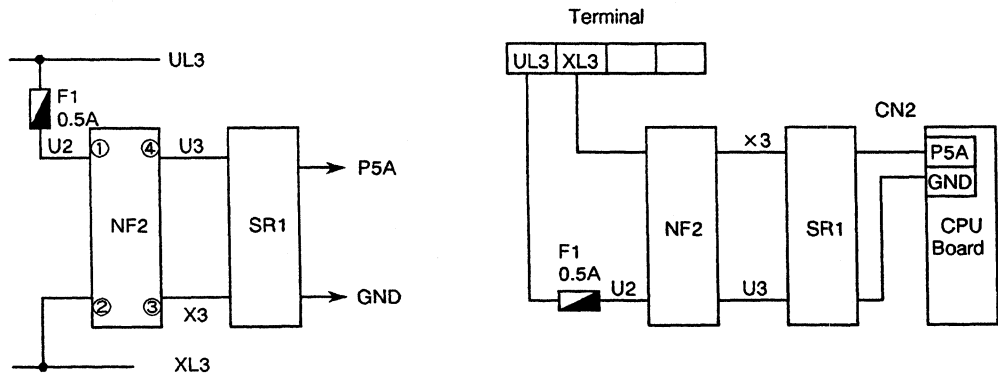
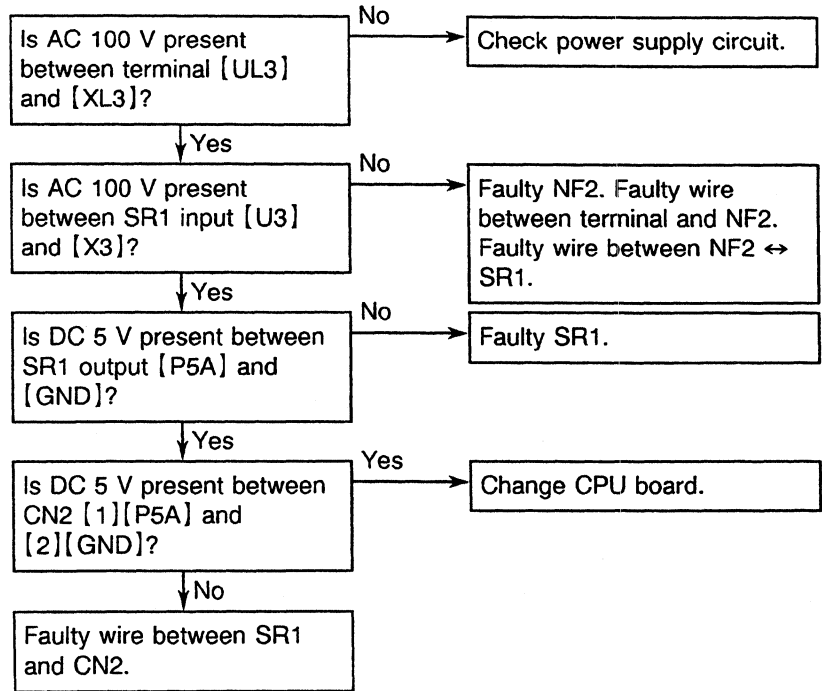
Troubleshooting





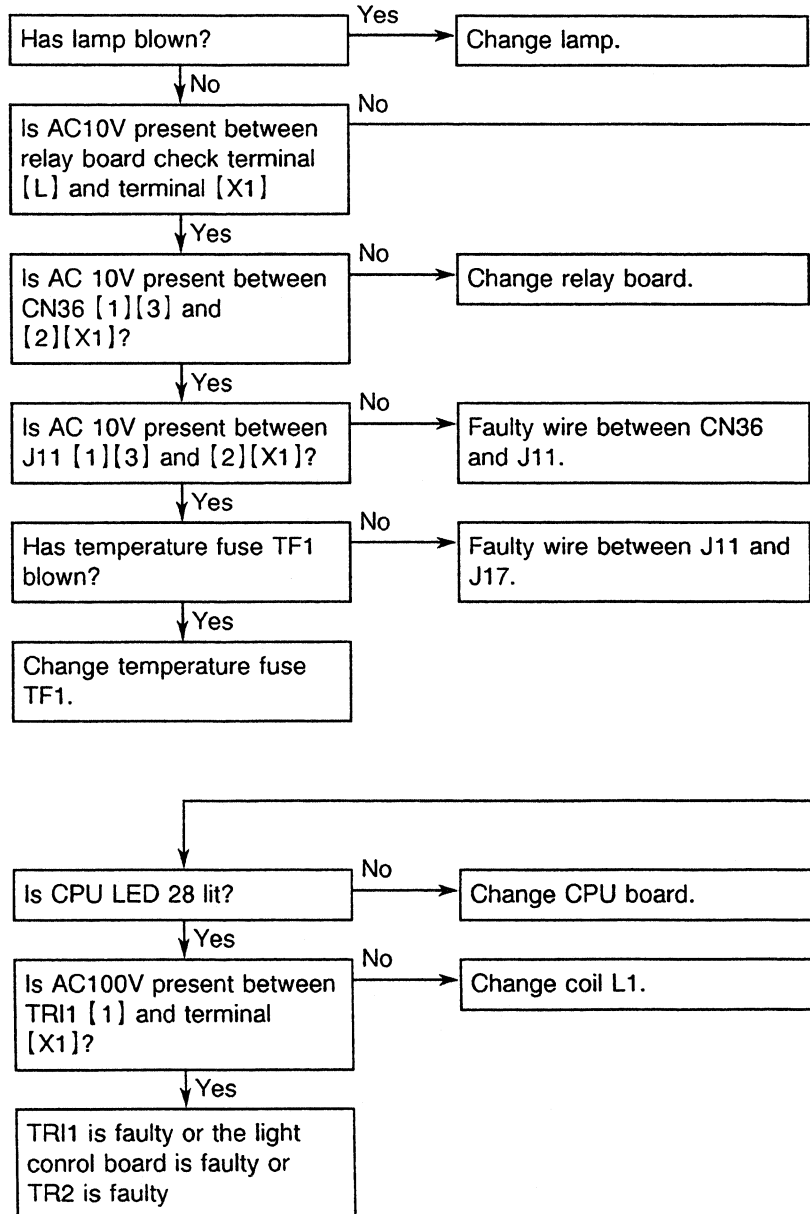
CPU does not operate

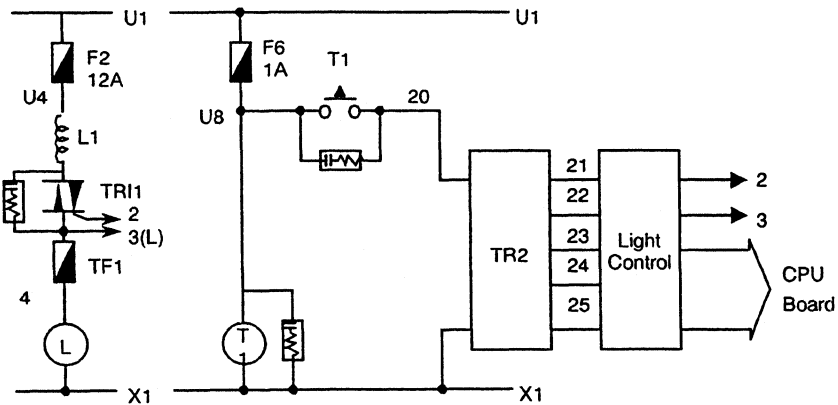
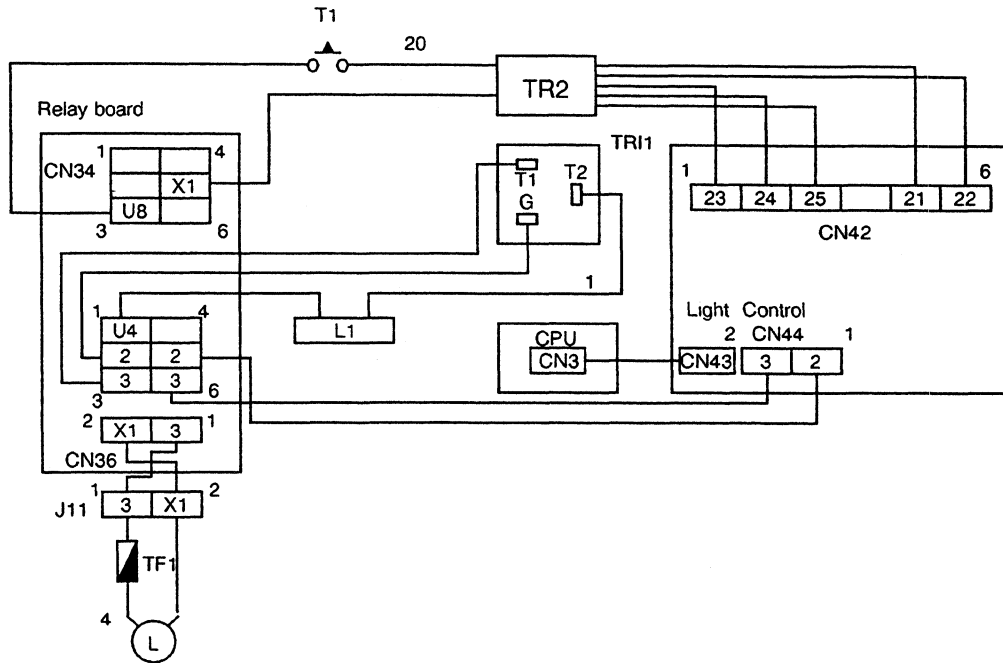
Check fuse F1



Light source does not illuminate

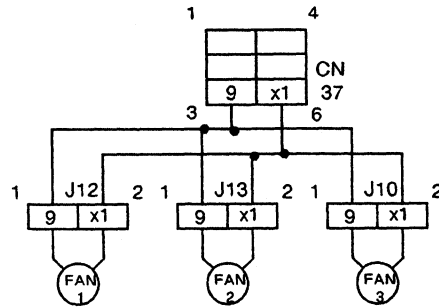
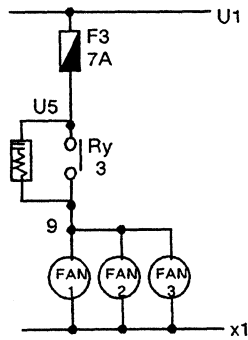
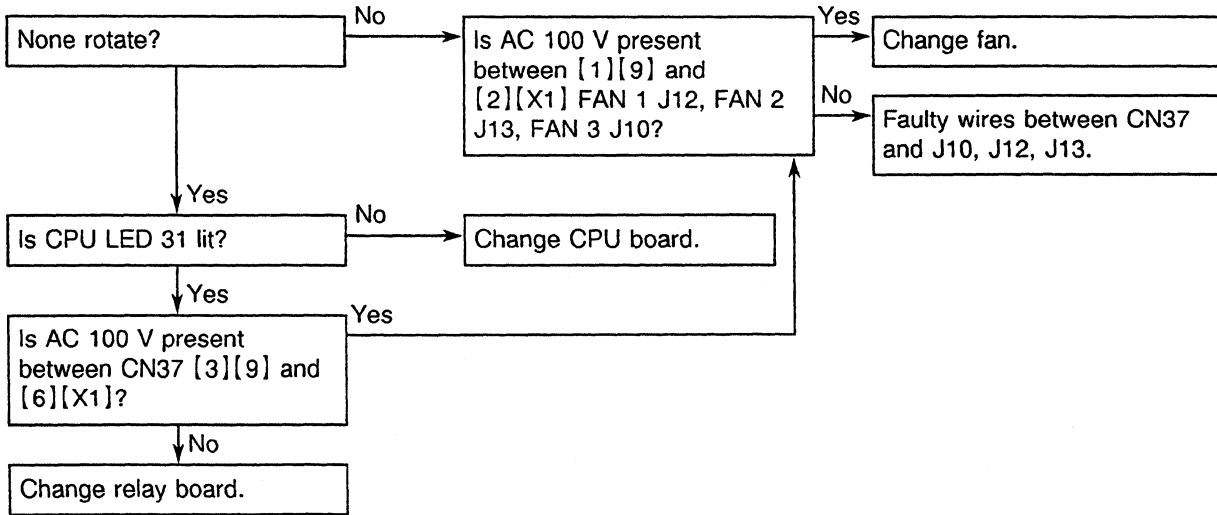
Check fuse F2





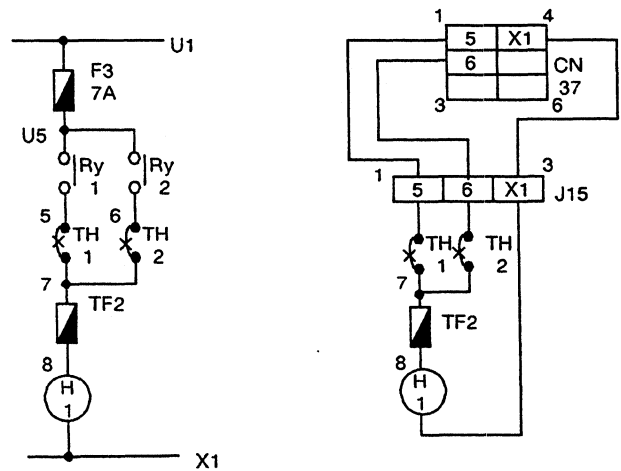
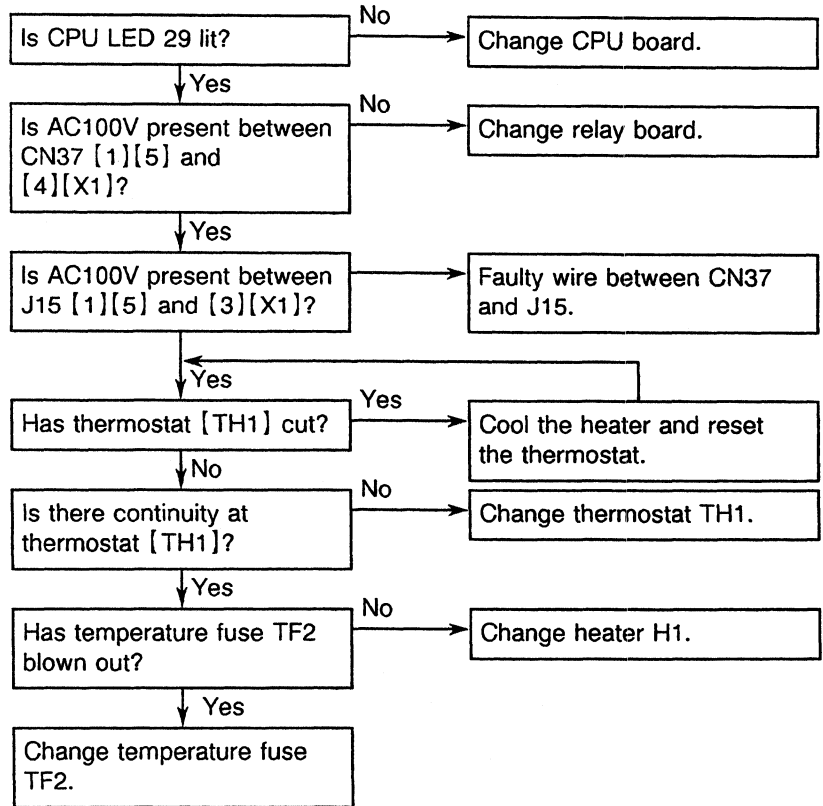
Dryer fans do not operate

Check fuse F3



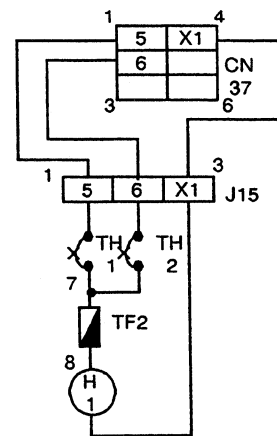
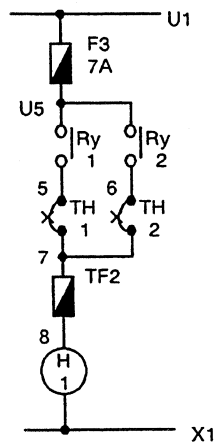
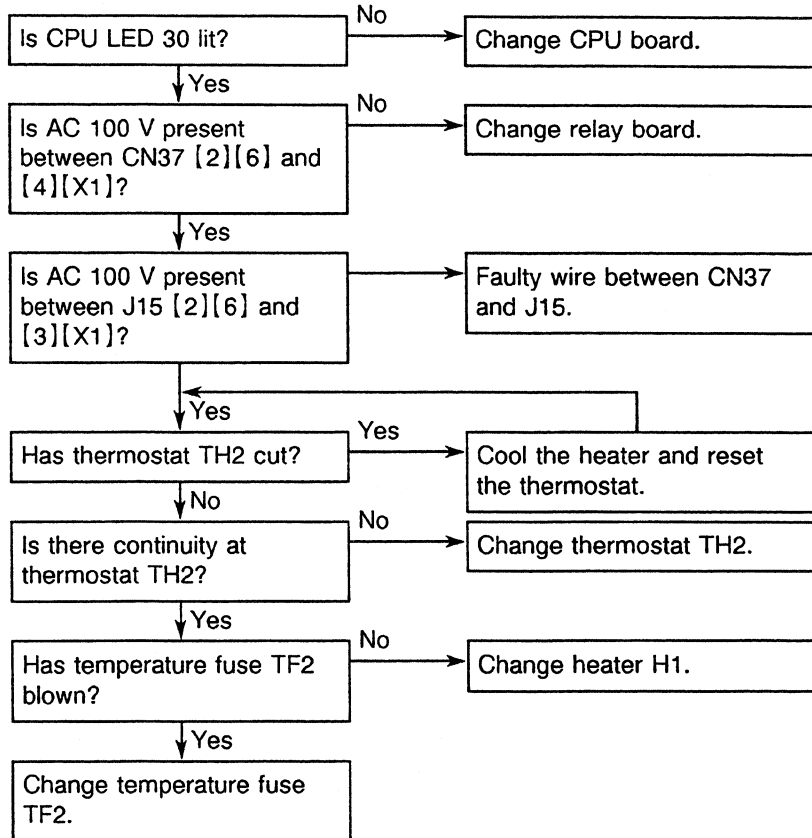
Dryer heater H does not operate

Check fuse F3



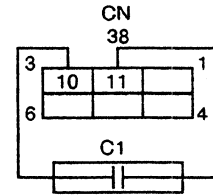
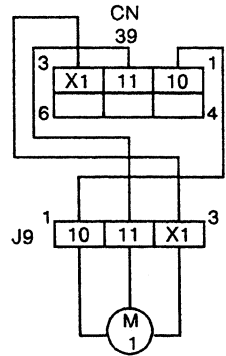
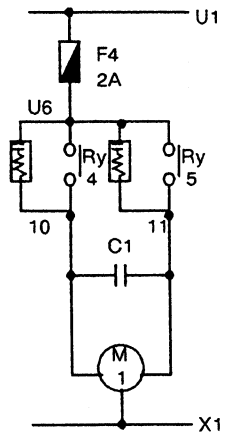
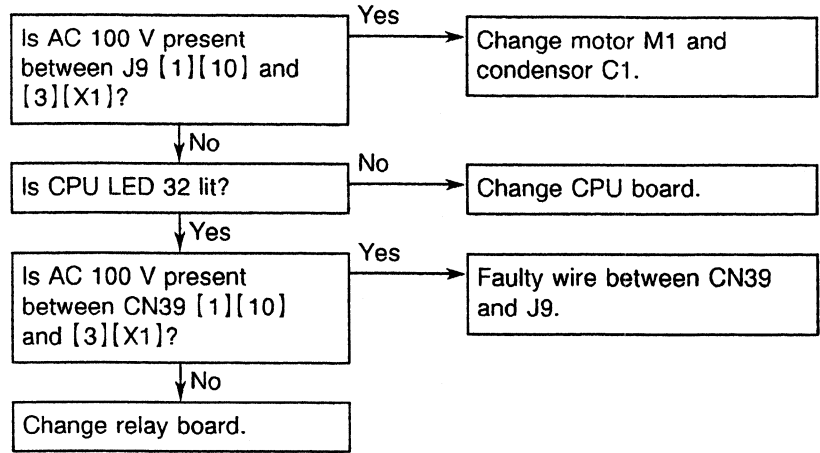
Dryer heater L does not operate

Check fuse F3



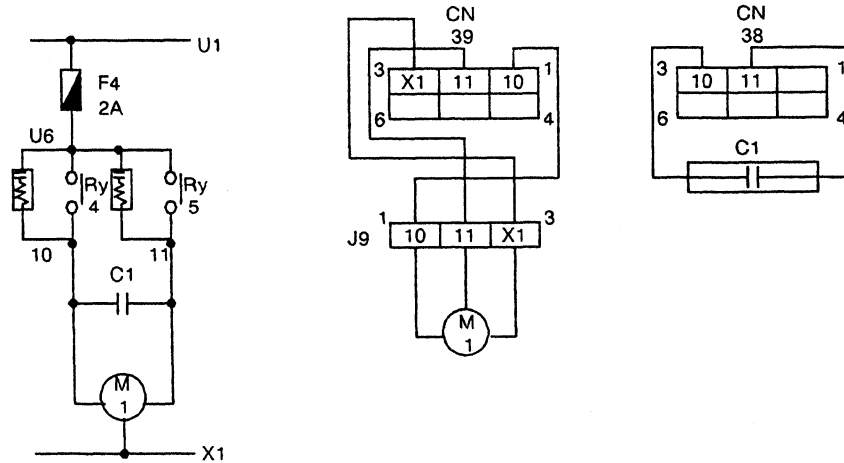
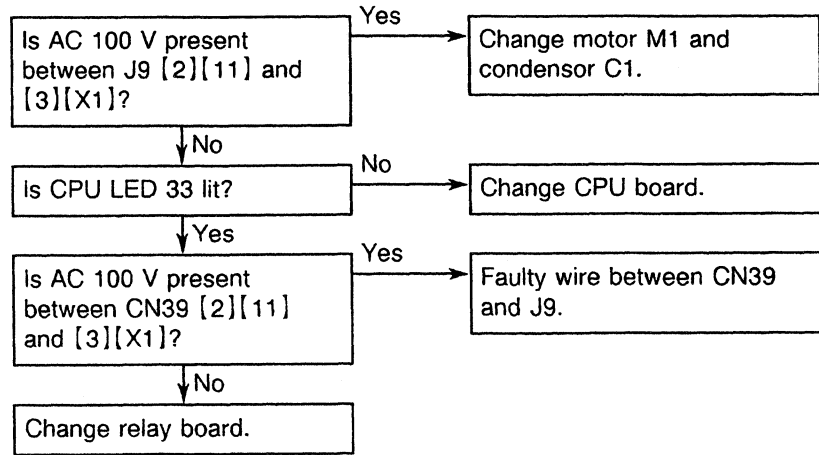
Master copy motor does not advance

Check fuse F4



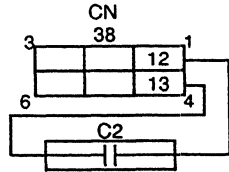
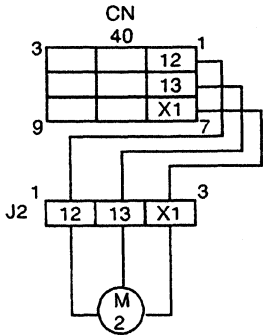
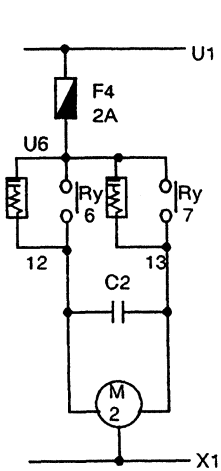
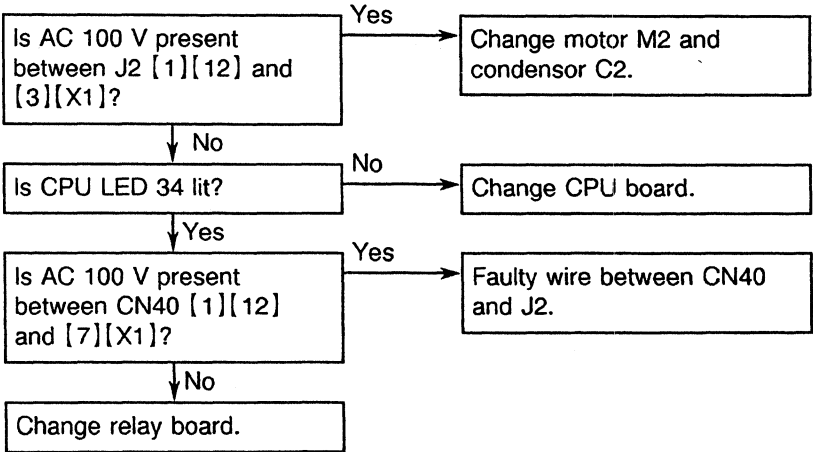
Master copy motor does not retreat

Check fuse F4



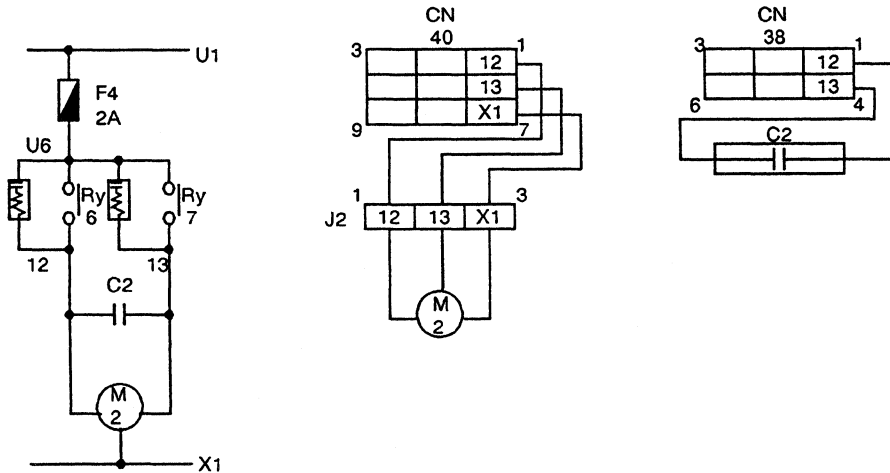
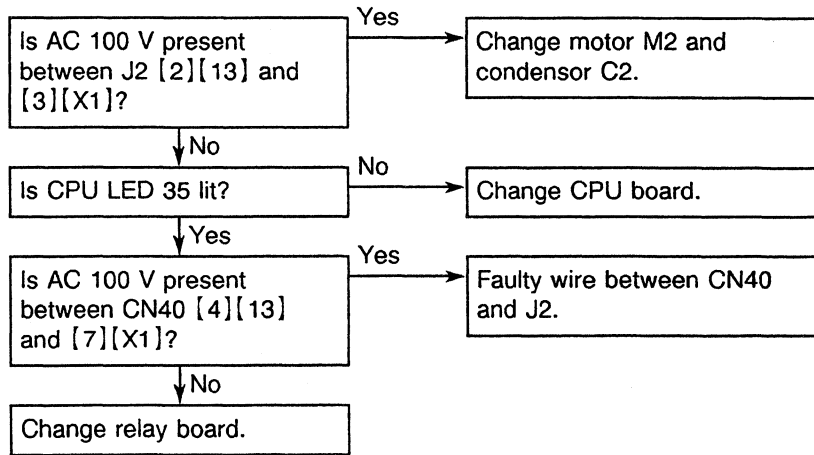
Cutter motor does not advance

Check fuse F4



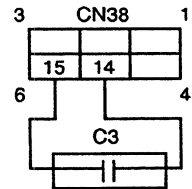
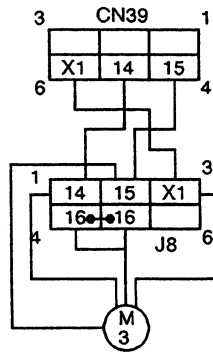
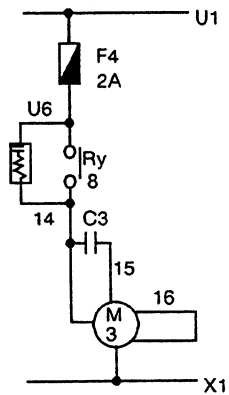
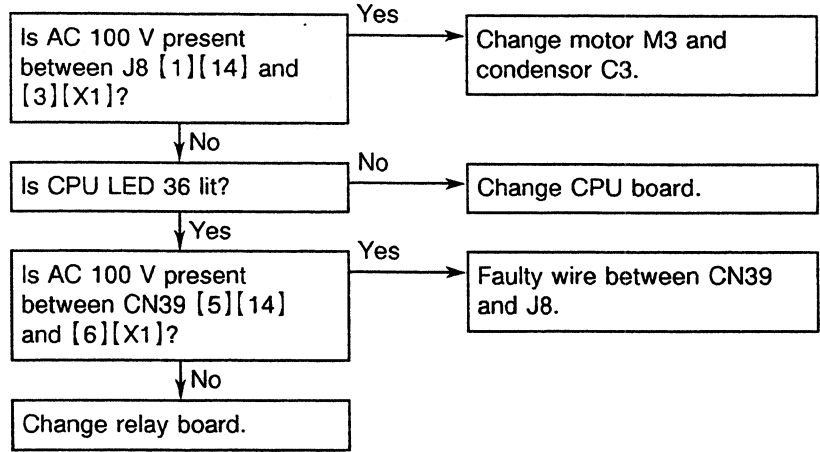
Cutter motor does not retreat

Check fuse F4



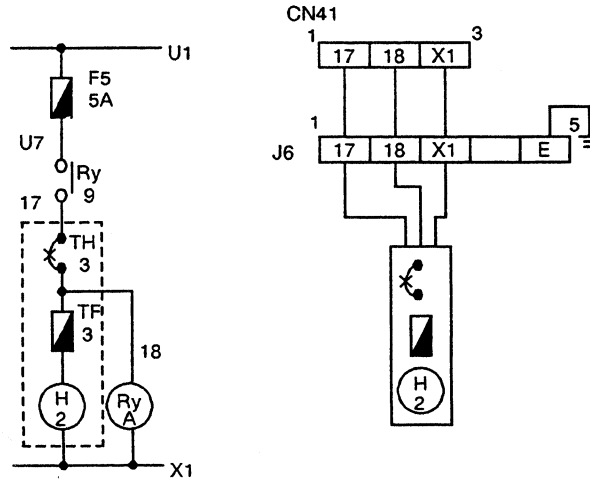
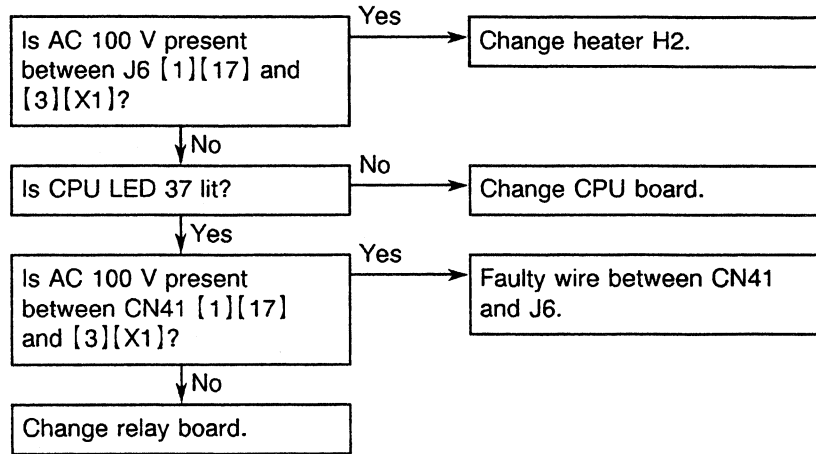
Processor motor does not move

Check fuse F4



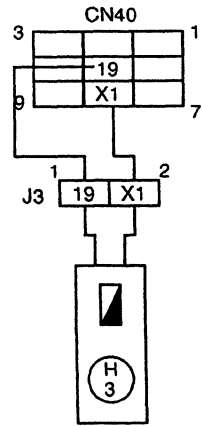
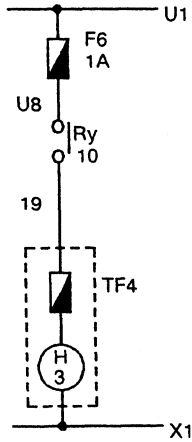
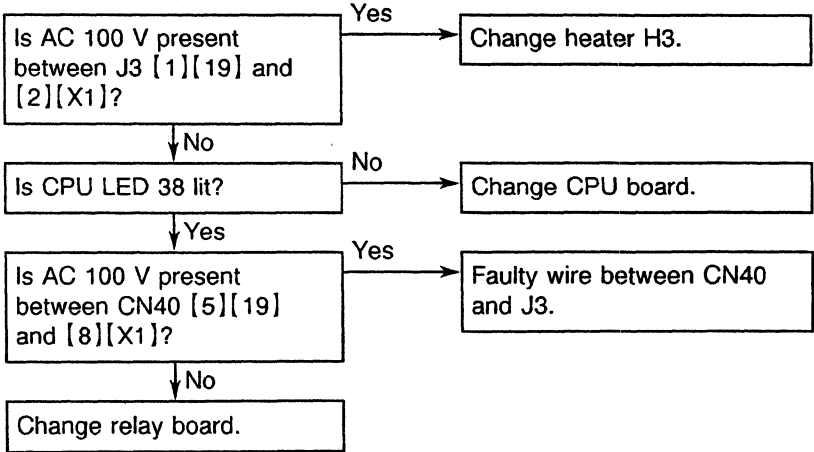
Processor heater does not operate

Check fuse F5



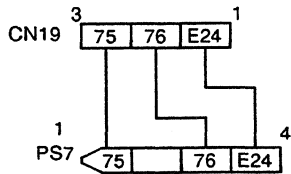
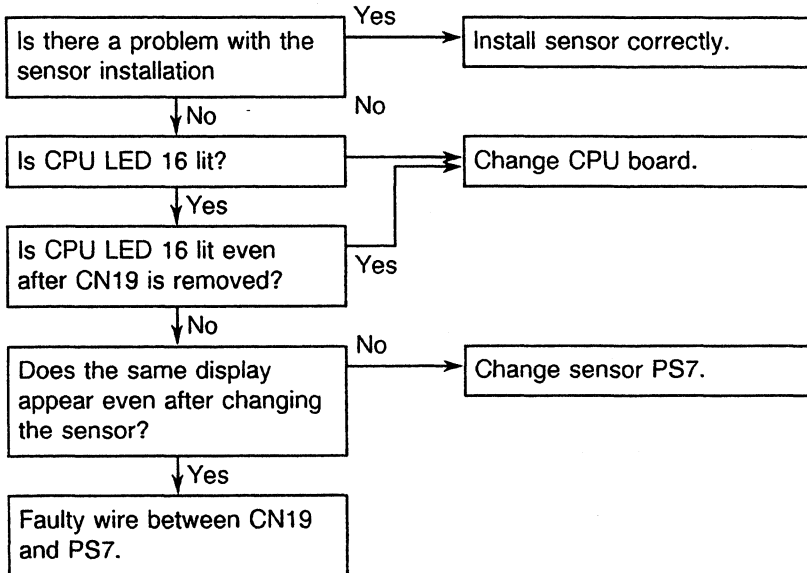
Dehumidifier dryer does not operate

Check fuse F6

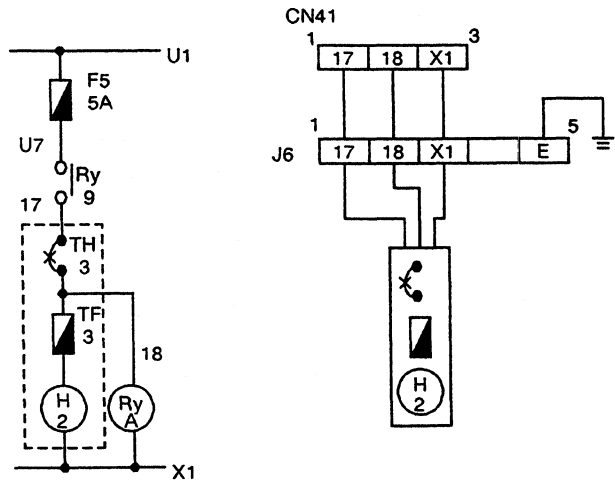
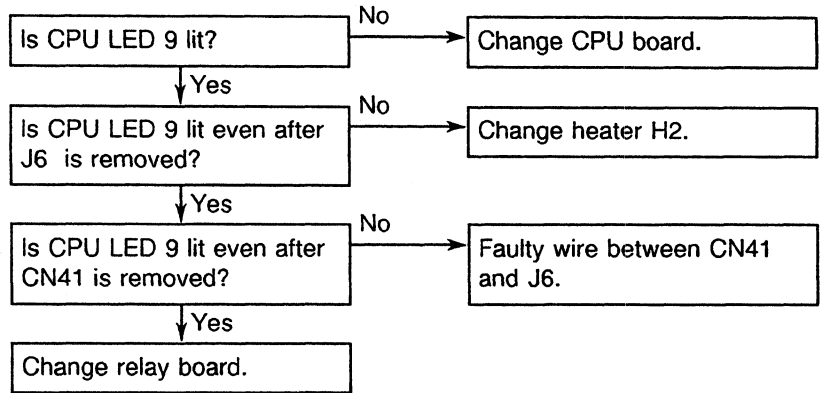


“EMPTY” displayed despite presence of master

Faulty master end sensor PS7

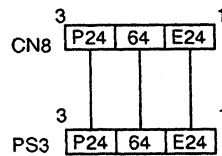
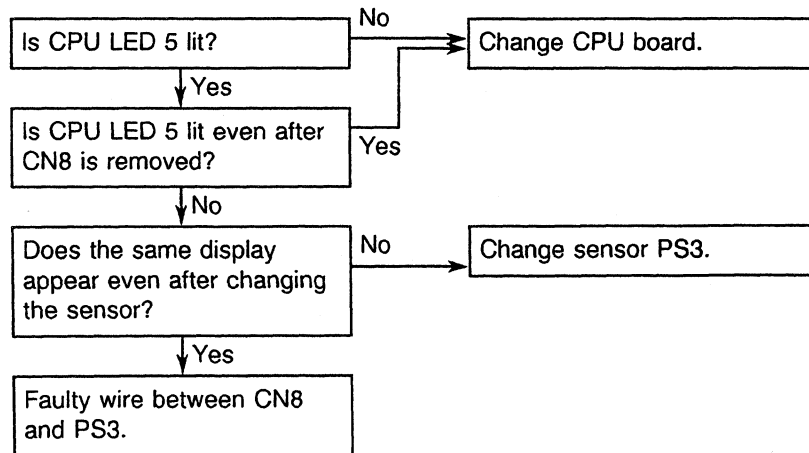


“WARM UP” does not disappear from display



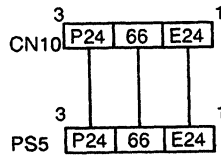
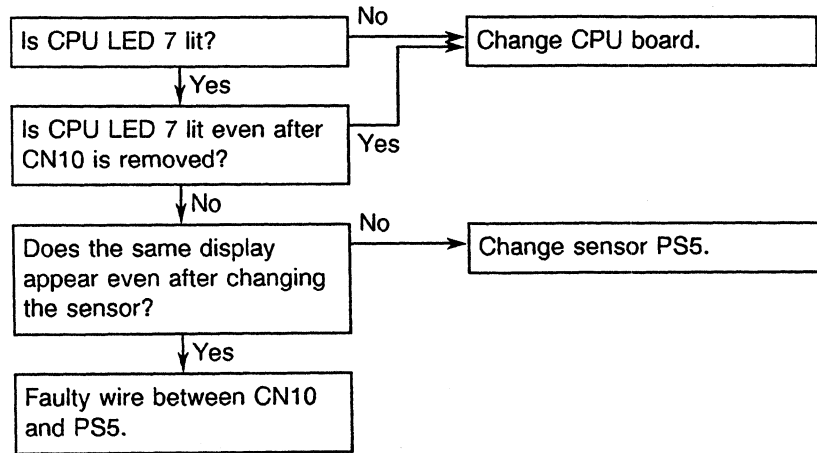
"COPY POSIT" is displayed despite original being in starting position

Faulty original starting point sensor PS3.



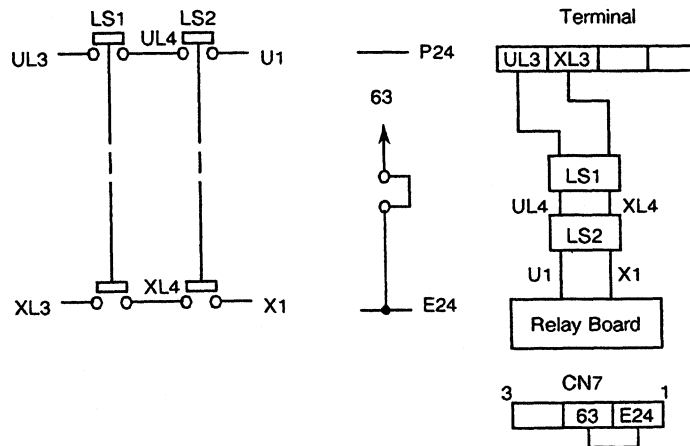
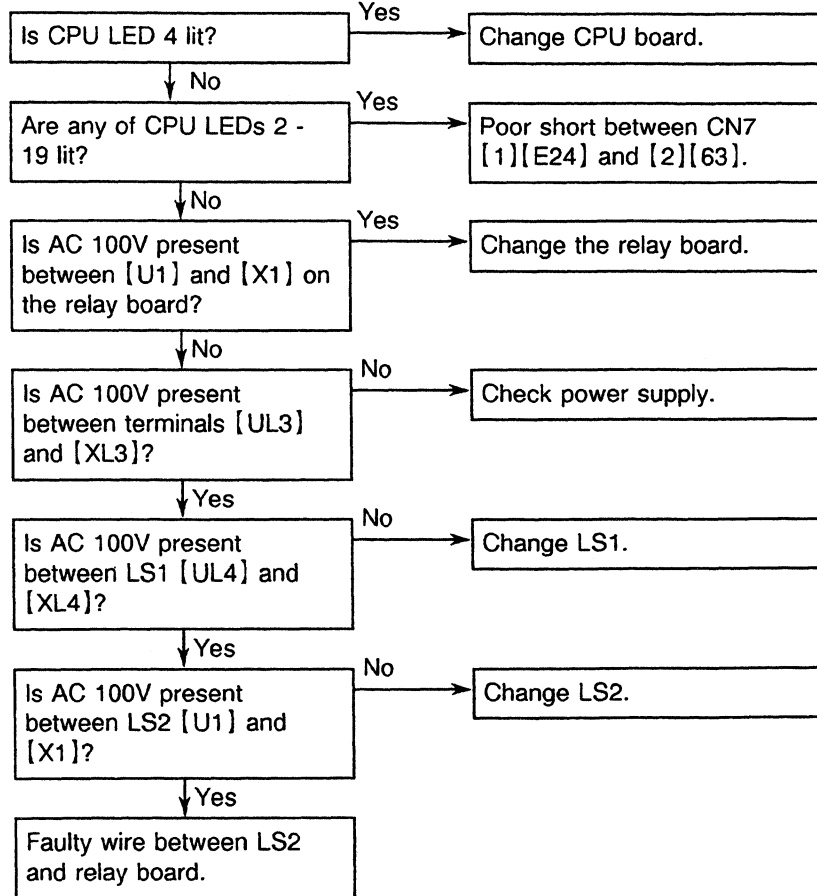
"CUTTER ERR" displayed despite cutter being in starting position.

Faulty cutter origin sensor PS5.



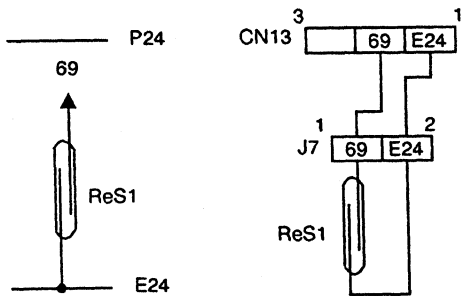
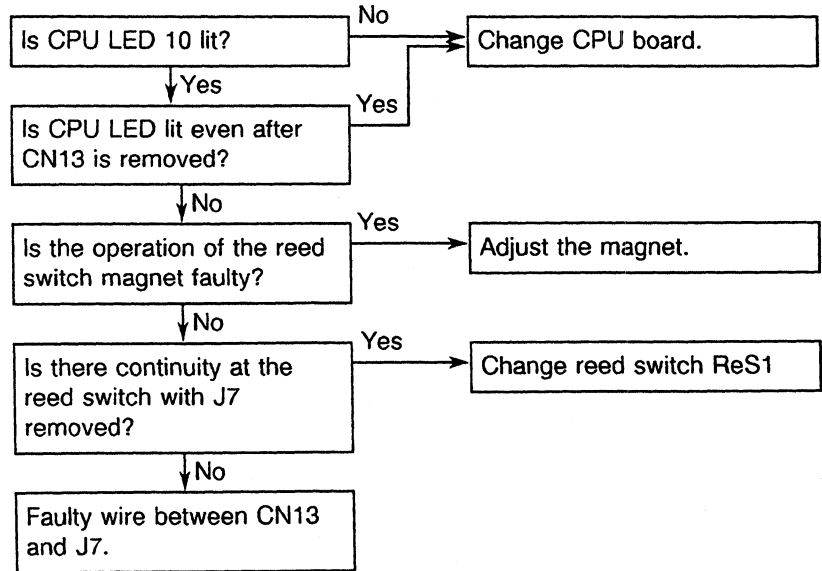
"DOOR" displayed despite cover being shut

Faulty cover SW.
With LS1, LS2 in ON status



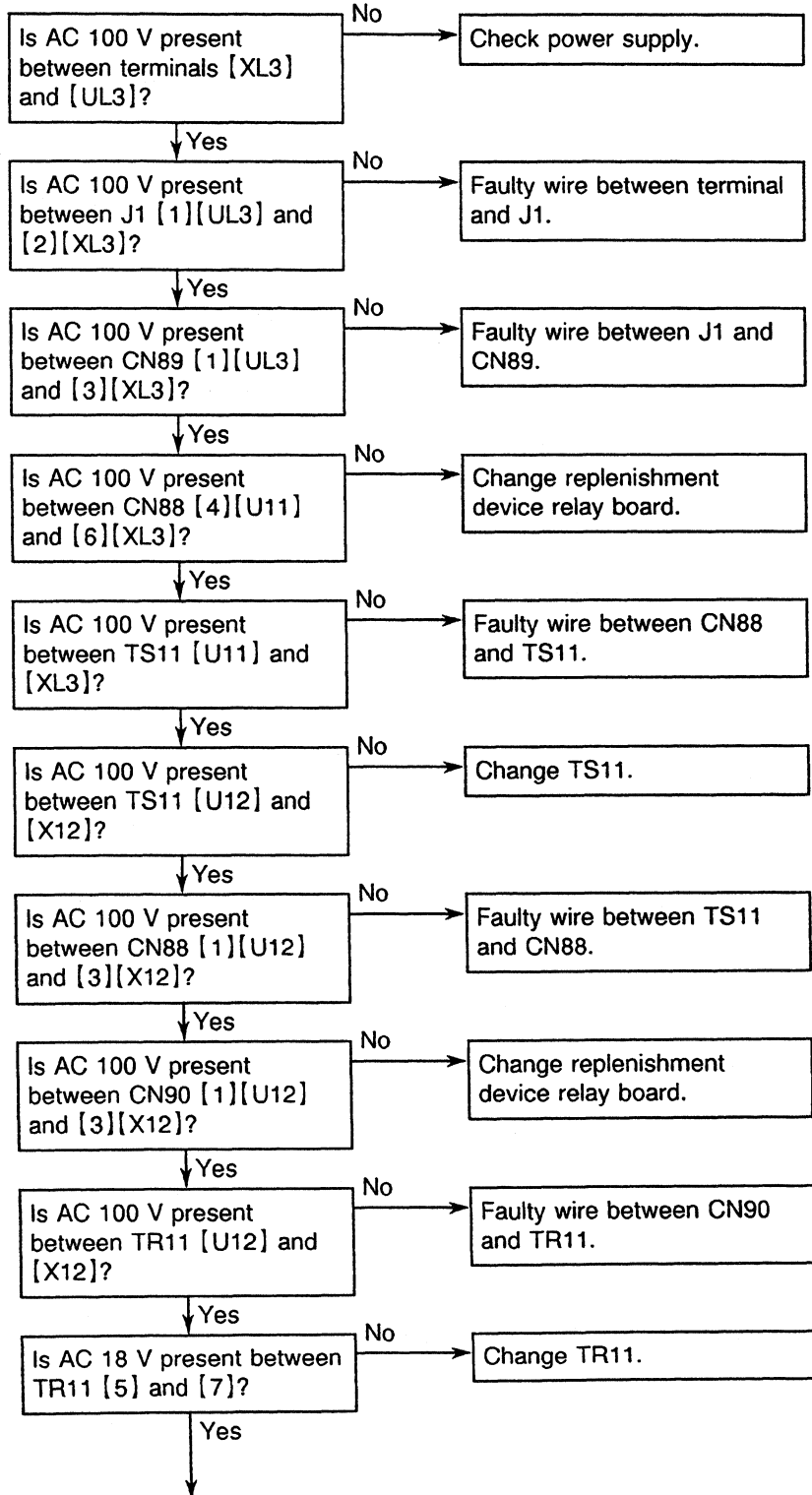
Reduction in developer fluid cannot be detected

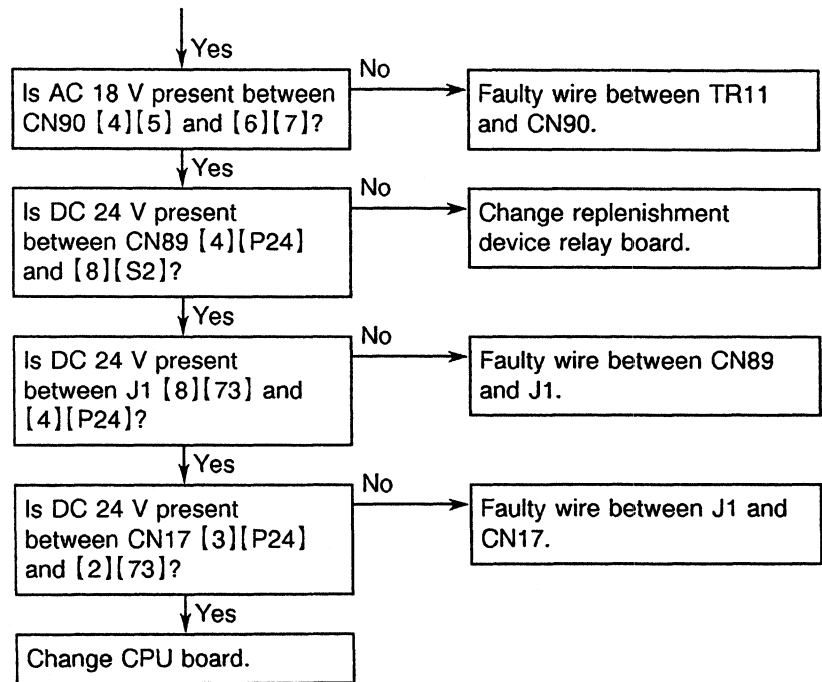
Developer fluid level reed switch ReS1 is faulty.

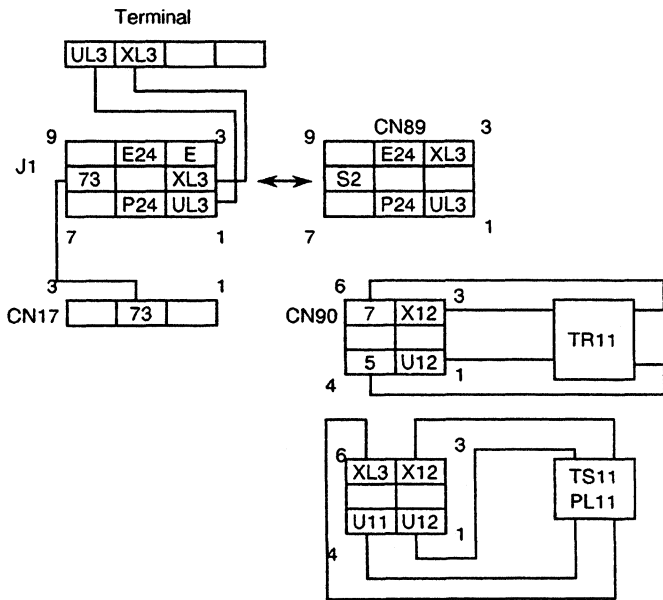
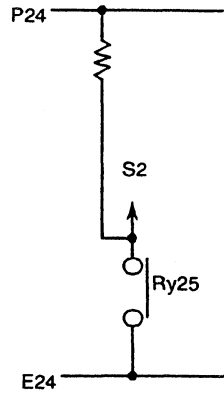
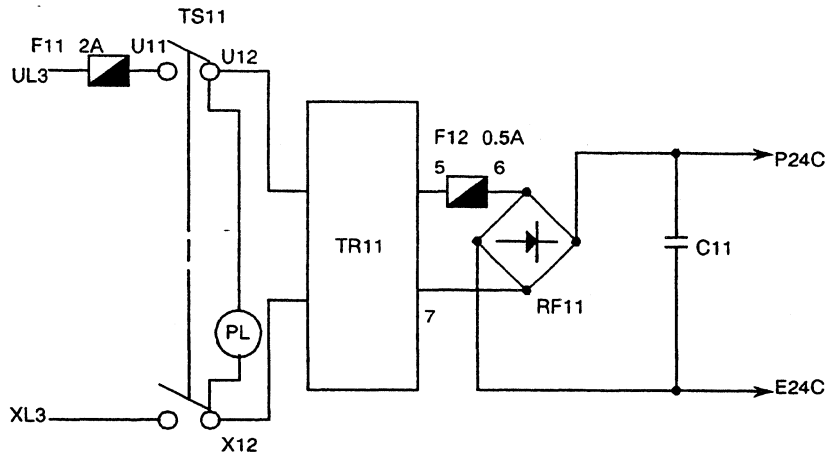


Power does not come ON even when the replenishment unit power is switched ON.

Check fuses F11 and F12.

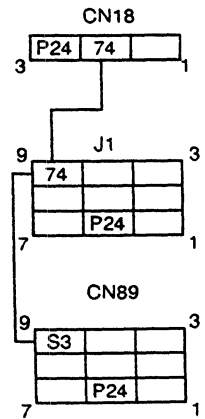
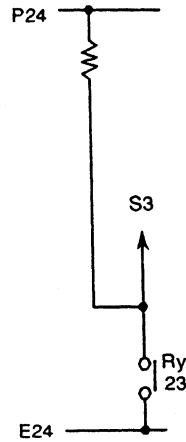
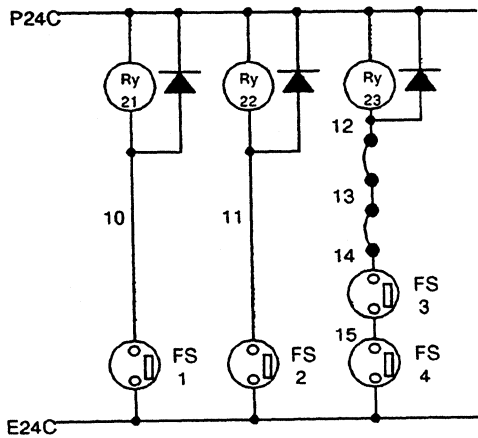
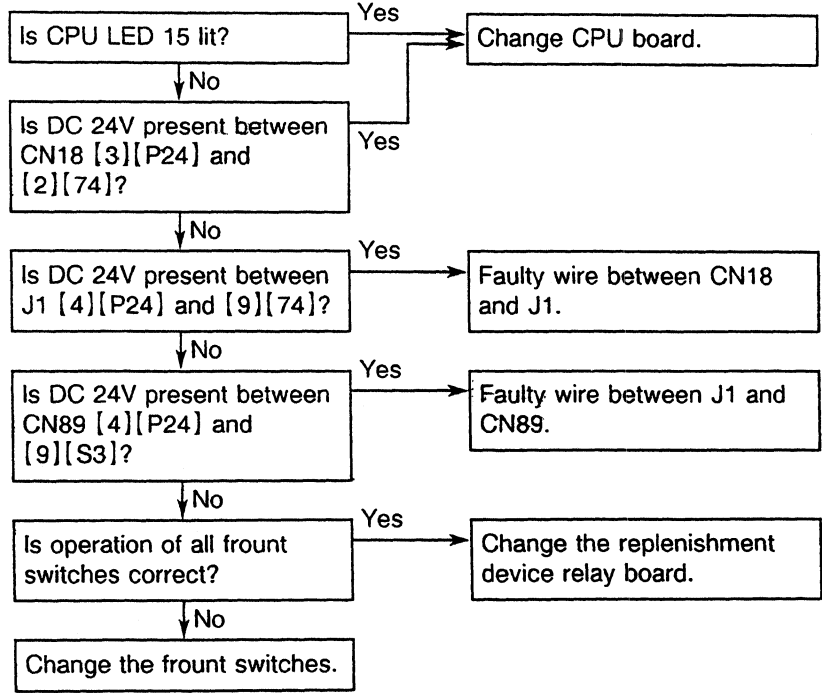






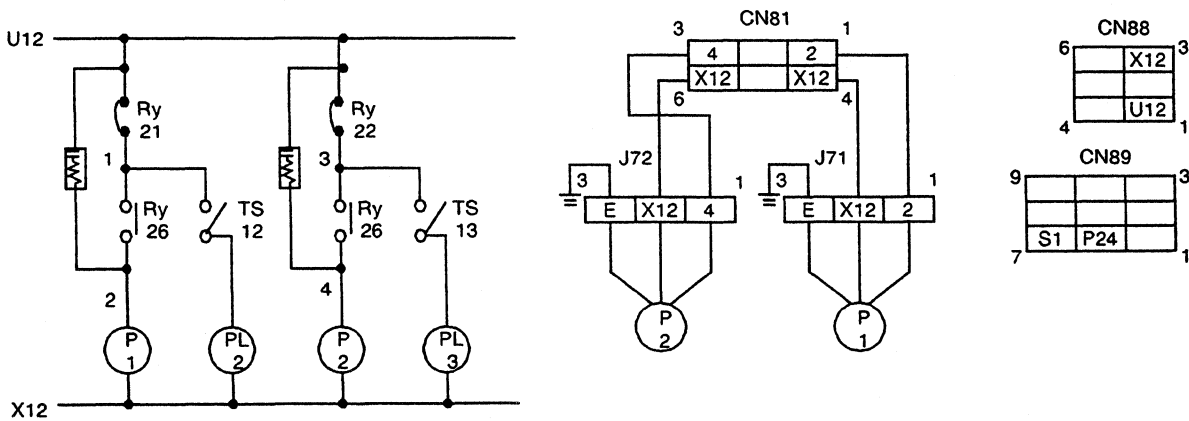
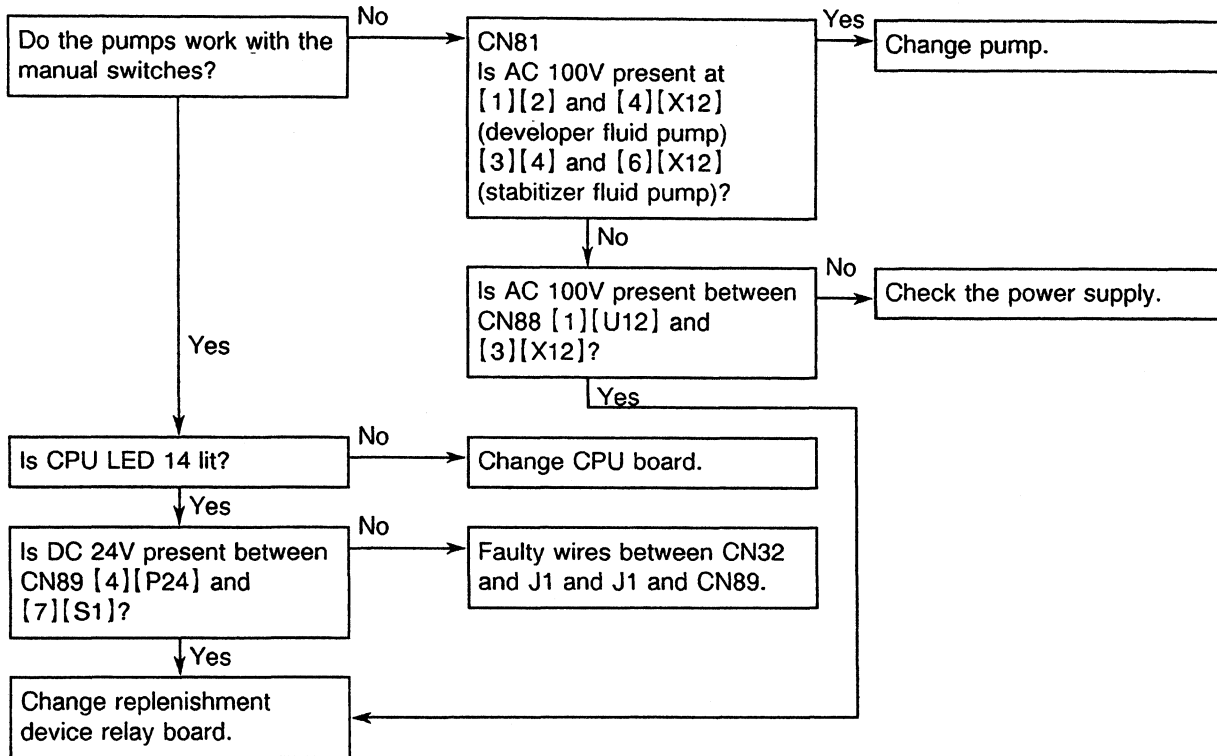
"CHECK REPL" is displayed despite normal amounts of replenishing and discharge fluids

Check fuses F11 and F12



Replenishment pump does not operate

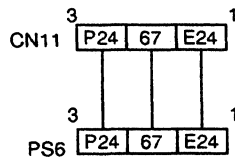
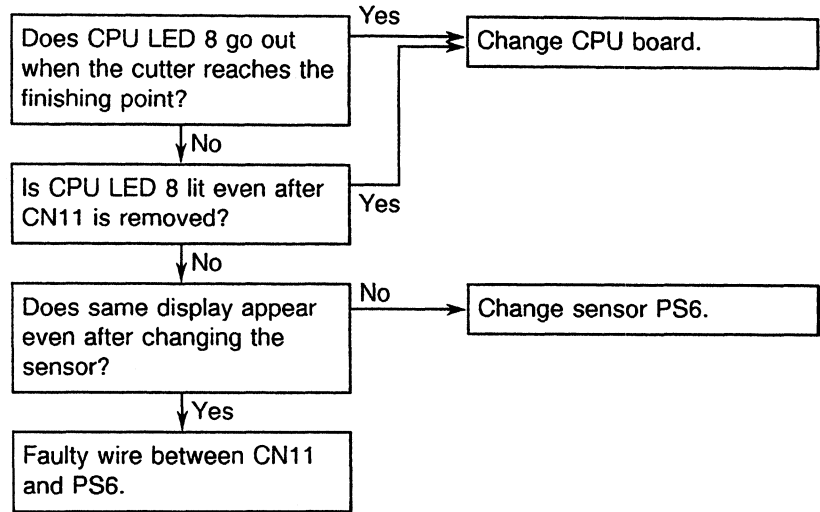
Check fuses F11 and F12.



"ERR 1" occurs

Faulty cutter finishing point sensor PS6.

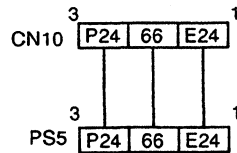
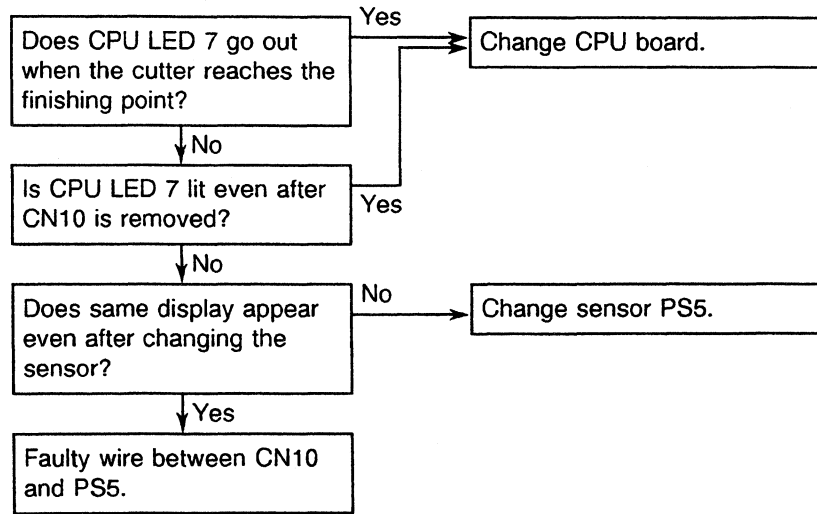
Cutter returned to front after prescribed time without stopping because of faulty cutter finishing point sensor.



"ERR 2" occurs

Faulty cutter starting point sensor PS5.

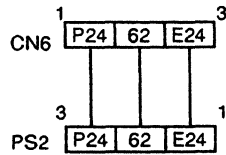
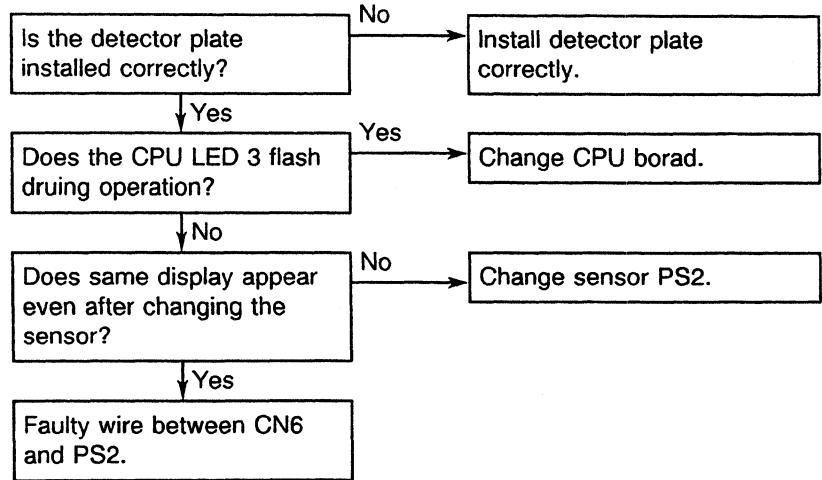
Although the finishing cutter reversed after cutting the master the cutter motor stopped after a prescribed time because of a faulty cutter starting point sensor.



"ERR 3" occurs

Faulty master feed pulse sensor PS2.

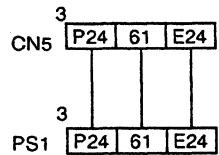
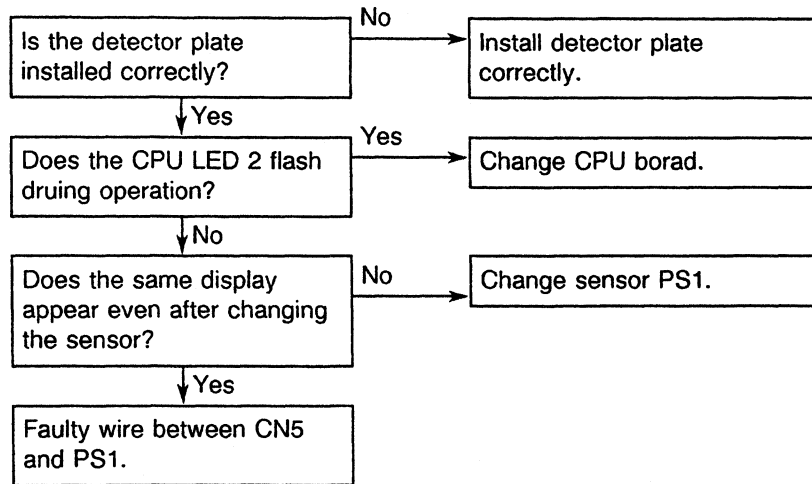
Pressing the start switch, the original mount fed, however, without stopping at first, it eventually stopped with the edge sensor or after a prescribed time.

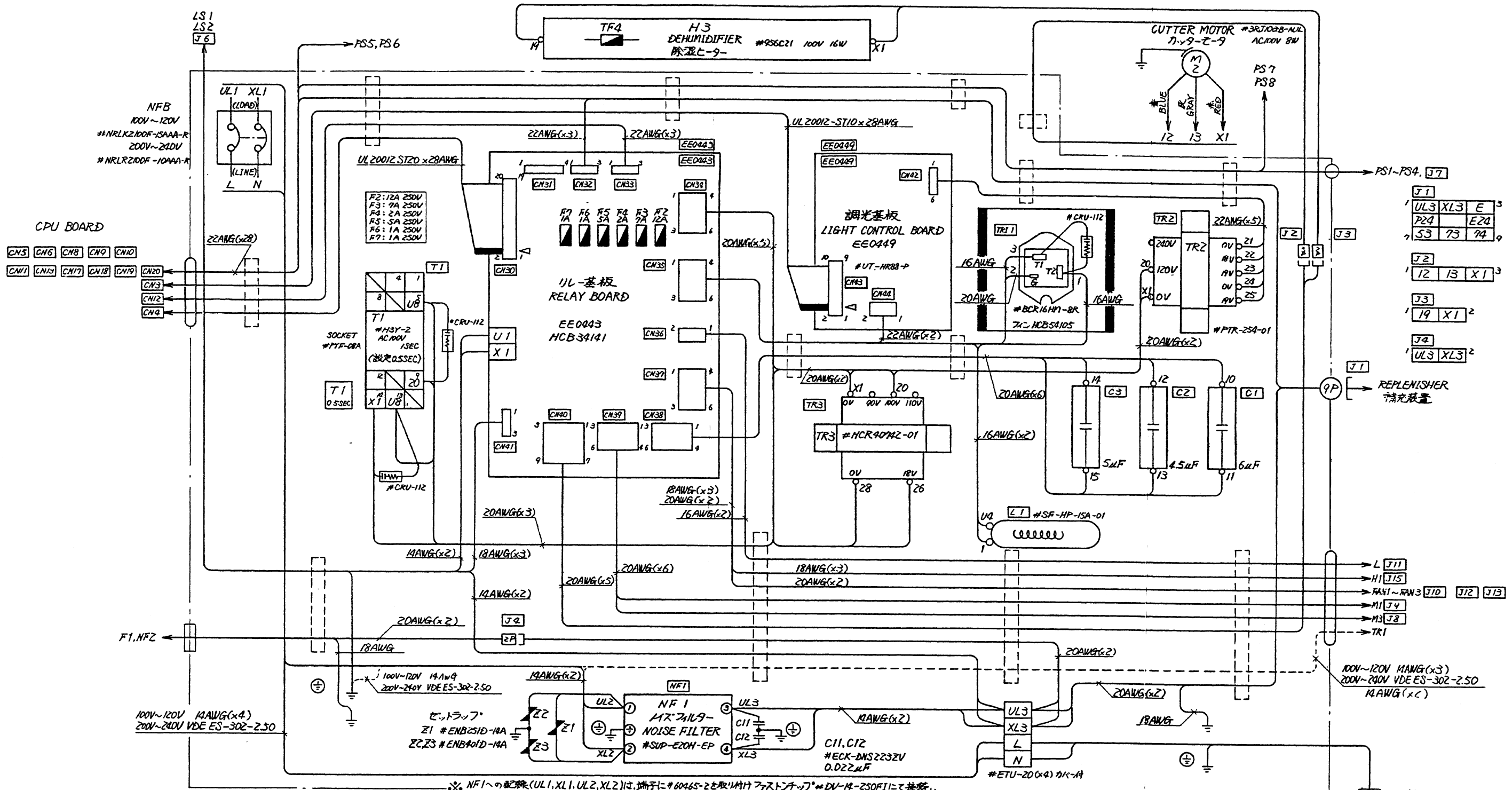


"ERR 4" occurs

Faulty master return pulse sensor PS1.

During 2 division mode, the original frame goes back after the first plate copy to prepare for the second plate copy, however, nothing happens after the prescribed time because of the faulty master return pulse sensor.





RELAY BOARD UL-基板

CN NO.	PIN NO.	WIRE NO.	行先	CN NO.	PIN NO.	WIRE NO.	行先			
CN 30	1-3	P24	CPU CN4	CN 31	1	E24	CN 35	1	U4	L1
	2-6	E24			2	S1		2	Z	TR11
	7	21			3	S2		3	3	
	8	42			4	P24		4		
	9	43			5	E24		5	2	CN34
	10	44			2	S3		6	3	
CN 31	11	45	CPU CN12	CN 32	1	E24	CN 36	1	X1	L
	12	46			2	S3		2	X1	
	13	47			3	P24		1	5	H1
	14	48			4	E24		2	6	
	15	49			1	S3		3	9	FAN1-3
	16	50			2	U8		4	X1	H1
CN 32	17	51	CPU CN12	CN 33	3	U8	CN 37	5	X1	T1
	18	52			1	S3		3	X1	FAN1-3
	19	53			2	U8		4	X1	H1
	20				3	U8		5	X1	T1

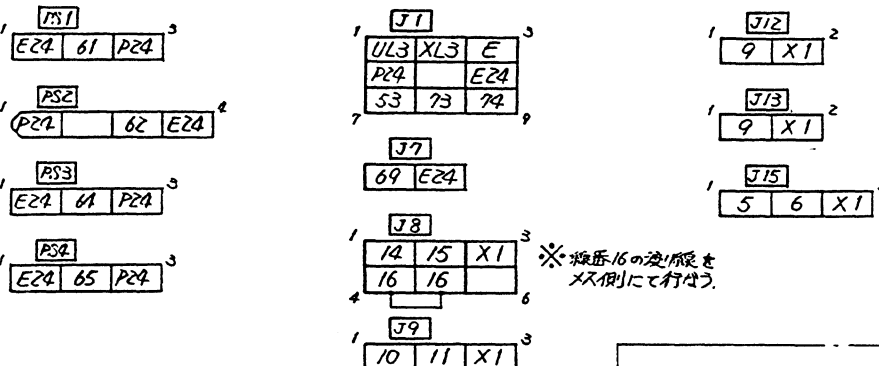
LIGHT CONTROL BOARD 調光基板

CN NO.	PIN NO.	WIRE NO.	行先	CN NO.	PIN NO.	WIRE NO.	行先
CN 38	1	12	C2	CN 40	1	12	M2
	2	11	C1		2	19	
	3	10			3	19	
	4	13	C2		4	13	M2
	5	14	C3		5	19	H3
	6	15			6	X1	
CN 39	1	10		CN 41	1	10	M2
	2	11	M1		2	11	
	3	X1			3	X1	H3
CN 41	4	15		CN 42	4	15	M2
	5	14	M3		5	19	H3
	6	X1			6	22	

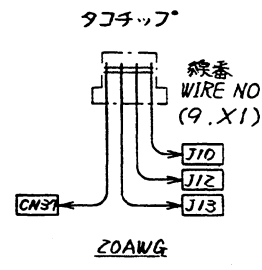
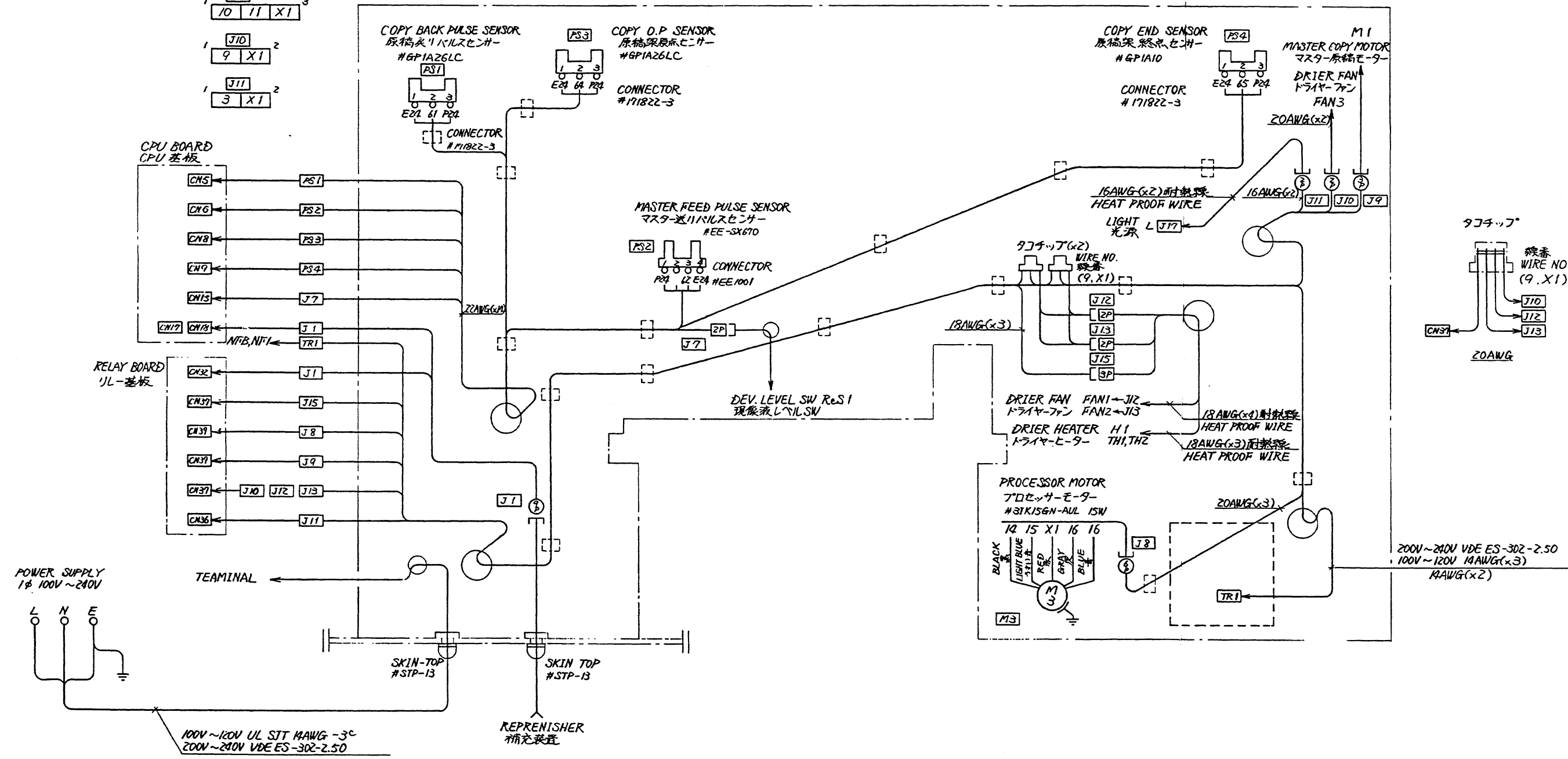
※ 14AWG~18AWG — UL1015 105°C 600V
 20AWG~24AWG — UL1007 80°C 300V
 HEAT PROOF WIRE — UL1727 TETRAFLUOROETHYLENE WIRE (耐熱線)
 → #TA158
 ⊕ → アースマーク

NOTES) 1. トランス TR1 が付かない場合は、NFB → NF1 に配線 (UL1-UL2, XL1-XL2) をポート
 2. トランス TR1 付きの場合は、NFB → TR1 → NF1 に配線
 3. トランス1次側 (L, N, UL1, XL1) の配線は、2重絶縁とする。

配電盤系統図
 DISTRIBUTING BOARD
 CONNECTION DIA



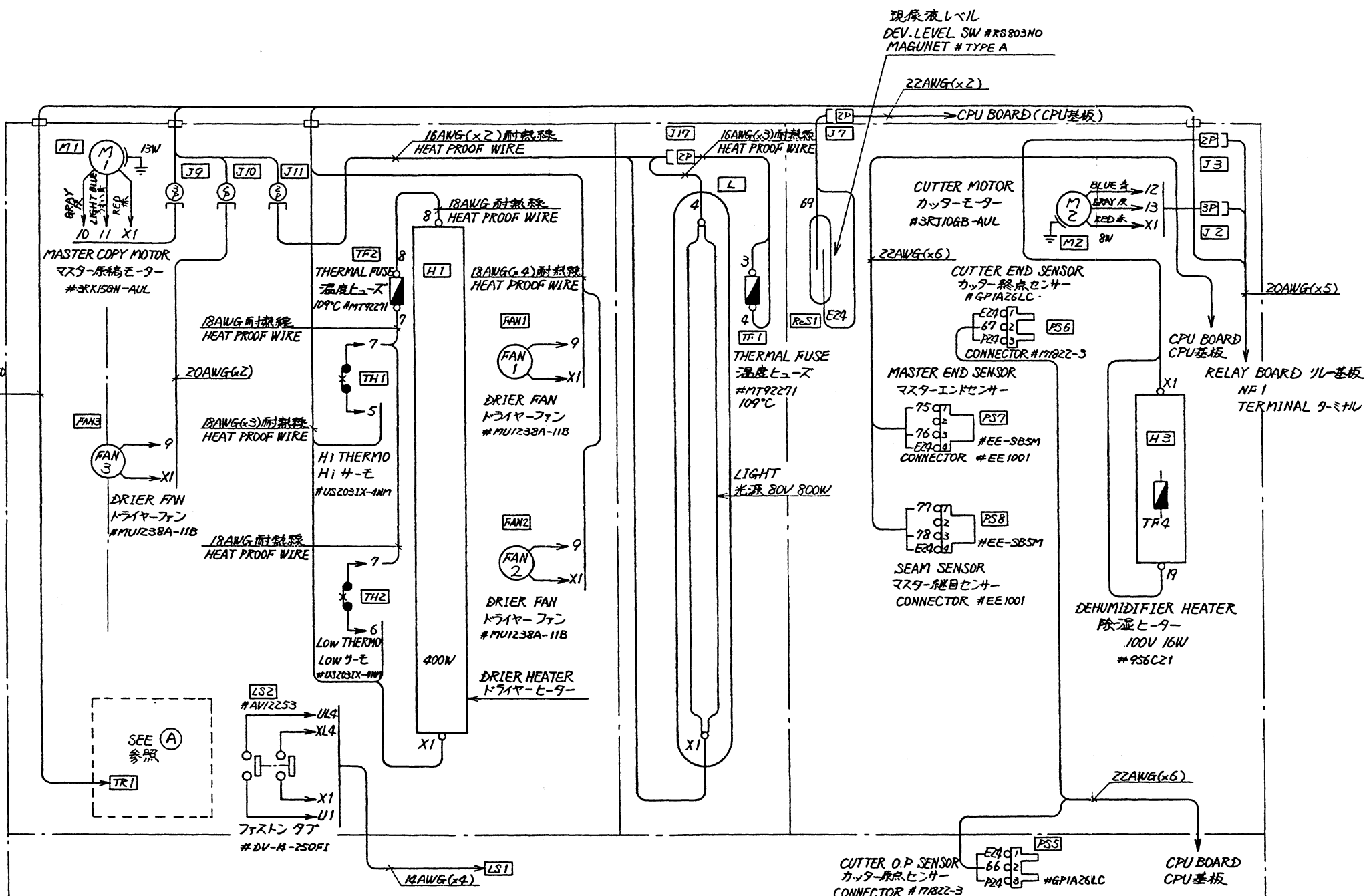
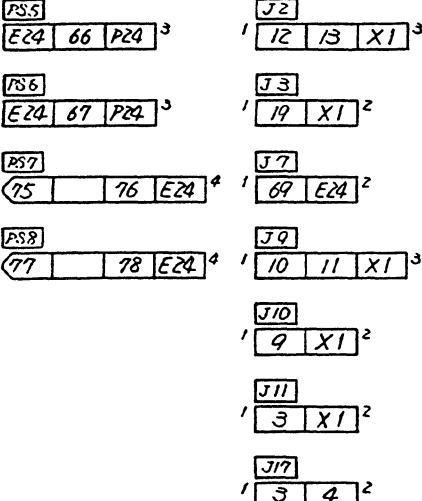
※ 順番16の交換線
を
X1例にて行う。



---#TA1S8

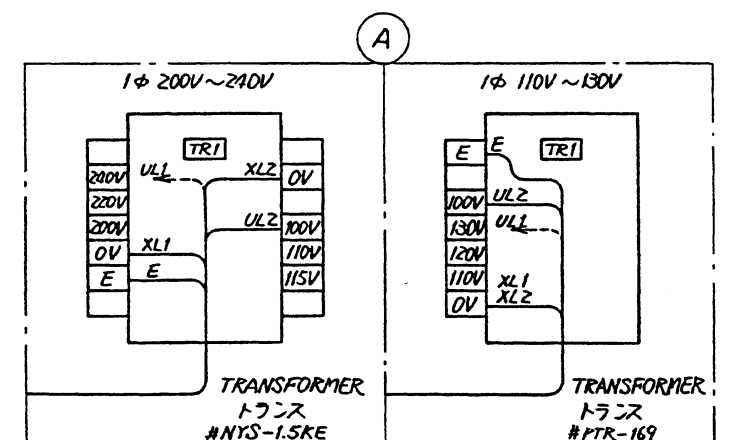
※ 14~18AWG UL1015 105°C 600V
20~24AWG UL1007 80°C 300V
HEAT PROOF WIRE—UL1127 TETRAFLUOROETHYLENE WIRE
(耐熱線) (7AD電線)

後部結線図
BACK VIEW
CONNECTION DIA.



CN. NO. コネクタ-NO.	RELAY BOARD CN NO. リレー基板コネクタ-NO.
J 2	CN 40
J 3	CN 40
J 7	CPU基板 CN 13
J 9	CN 39
J 10	CN 37
J 11	CN 36
J 12	CN 37
J 13	CN 37
J 15	CN 37

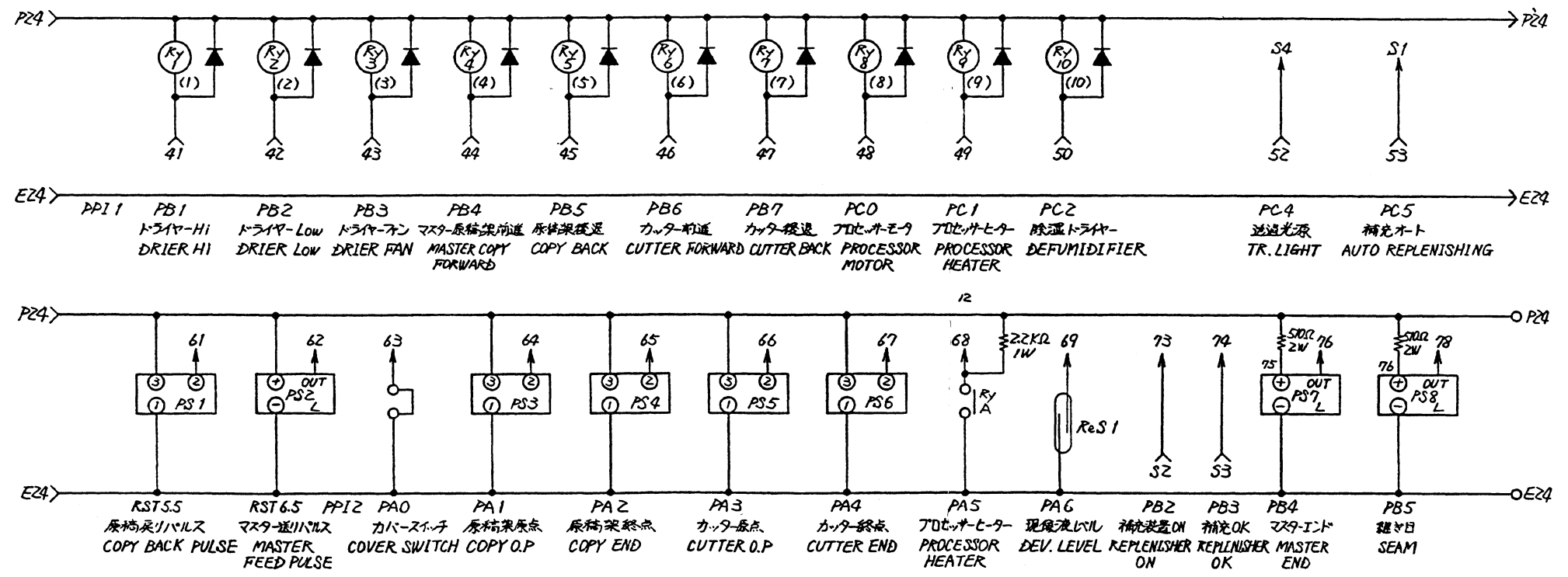
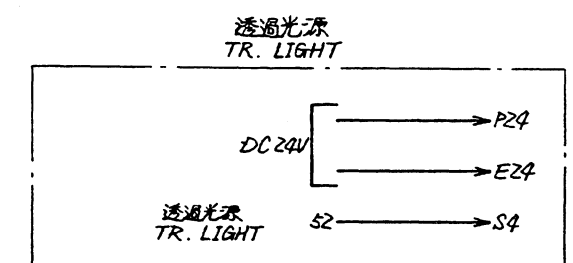
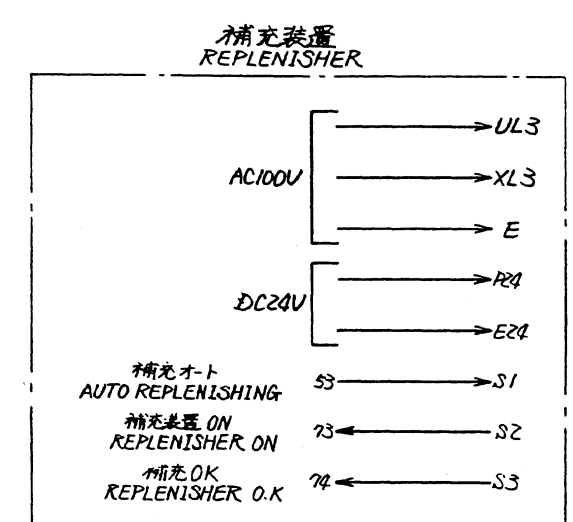
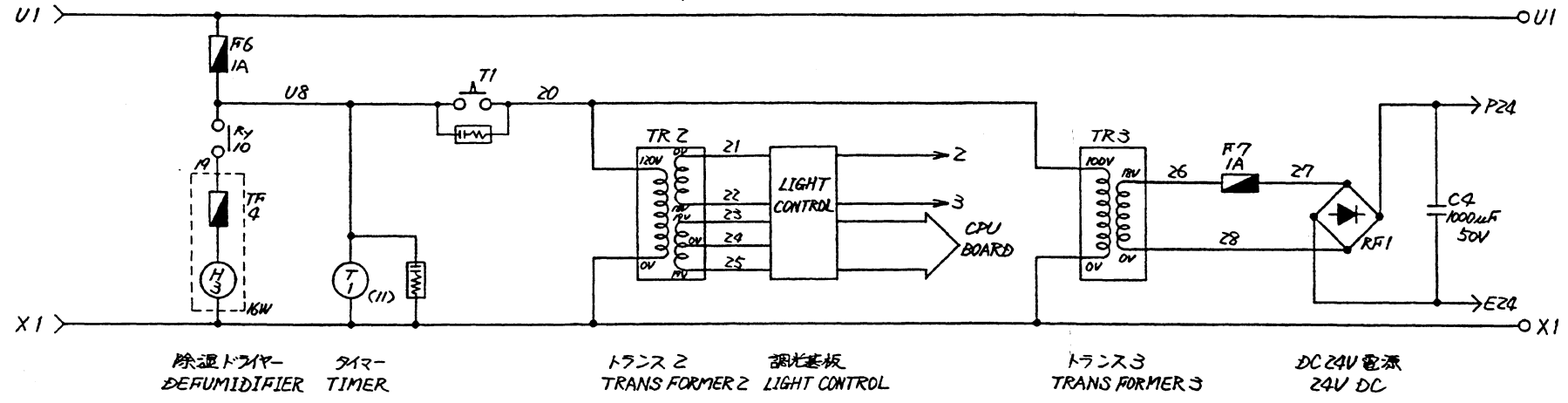
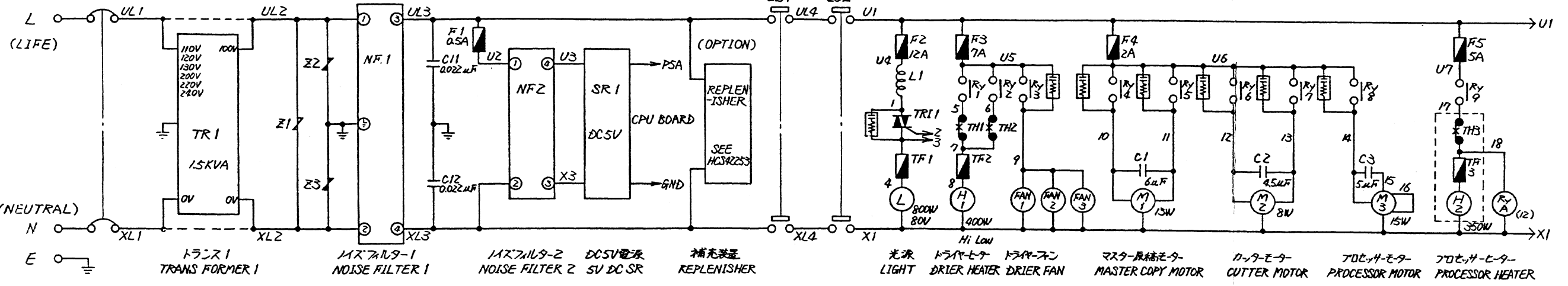
SENSOR NO. センサー-NO.	CPU BOARD CN NO. CPU基板コネクタ-NO.
PS 5	CN 10
PS 6	CN 11
PS 7	CN 19
PS 8	CN 20



※ 14~18AWG — UL1015 105°C 600V
 20~22AWG — UL1007 80°C 300V
 HEAT PROOF WIRE — UL1727 TETRAFLUOROETHYLENE WIRE (耐熱線)
 (テフロン電線)

上部結線図
 TOP VIEW
 CONNECTION DIA.

100~120V 15A
200~240V 10A
NFB



系統図
WIRING SYSTEM DIA

PIN NO.	WIRE NO.	PIN NO.	WIRE NO.
1	PS	2	PS
3	PS	4	PS
5	3C8	6	3C1
7	3C2	8	3C3
9	3C4	10	3C5
11	3C6	12	3C7
13	3A8	14	3A1
15	3A2	16	3A3
17	3A4	18	3A5
19	3A6	20	3A7
21	3B8	22	3B1
23	3B2	24	3B3
25	3B4	26	3B5
27	3B6	28	3B7
29	TM	30	
31	GND	32	GND
33	GND	34	GND

CN NO.	WIRE NO.	WIRE NO.	WIRE NO.
CN2	E2A	GND	
CN5	E2A	61	P24
CN6	E2A	62	P24
CN7	E2A	63	
CN8	E2A	64	P24
CN9	E2A	65	P24
CN10	E2A	66	P24
CN11	E2A	67	P24
CN12	E2A	68	P24
CN13	E2A	69	
CN17		73	
CN18		74	
CN19	E2A	76	75
CN20	E2A	78	77

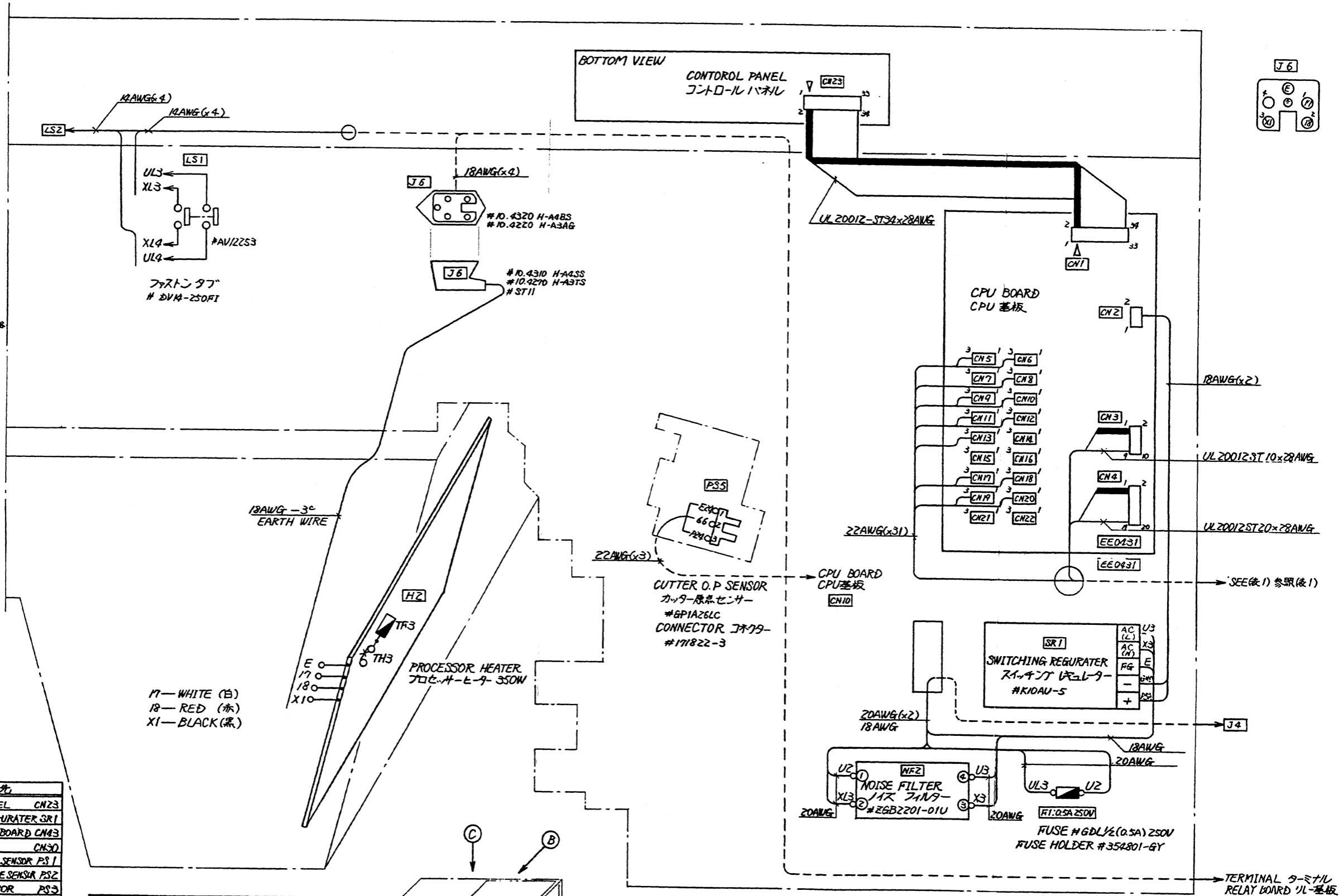
PIN NO.	WIRE NO.	PIN NO.	WIRE NO.
1	PSB	2	1A8
3	1A1	4	1A2
5	1A3	6	1A4
7	1A5	8	1A6
4	1A7	10	1B8

PIN NO.	WIRE NO.	PIN NO.	WIRE NO.
1	E24	2	P24
3	P24	4	E24
5	E24	6	E24
7	41	8	42
9	43	10	44
11	45	12	46
13	47	14	48
15	49	16	50
17	51	18	52
19	53	20	

(表1)

CPU CN NO.	行先
CN 1	CONTROL PANEL CN23
CN 2	SWITCHING REGURATER SR1
CN 3	LIGHT CONTROL BOARD CN43
CN 4	RELAY BOARD CN50
CN 5	COPY BACK PULSE SENSOR PS1
CN 6	MASTER FEED PULSE SENSOR PS2
CN 8	COPY O.P SENSOR PS3
CN 10	COPY END SENSOR PS4
CN 11	CUTTER O.P SENSOR PS5
CN 12	CUTTER END SENSOR PS6
CN 13	RELAY BOARD CN33
CN 15	REV.LEVEL SW A.S1 J7
CN 17	REPLENISHER J1
CN 18	REPLENISHER J1
CN 19	MASTER END SENSOR PS7
CN 20	MASTER SEAM SENSOR PS8

(A)	DISTRIBUTING BOARD CONNECTION DIA 配電盤結線図	HCM 31263
(B)	BACK VIEW CONNECTION DIA 後部結線図	HCZ 31653
(C)	TOP VIEW CONNECTION DIA 上部結線図	HCZ 31652
	WIRING SYSTEM DIA 系統図	HCS 32323

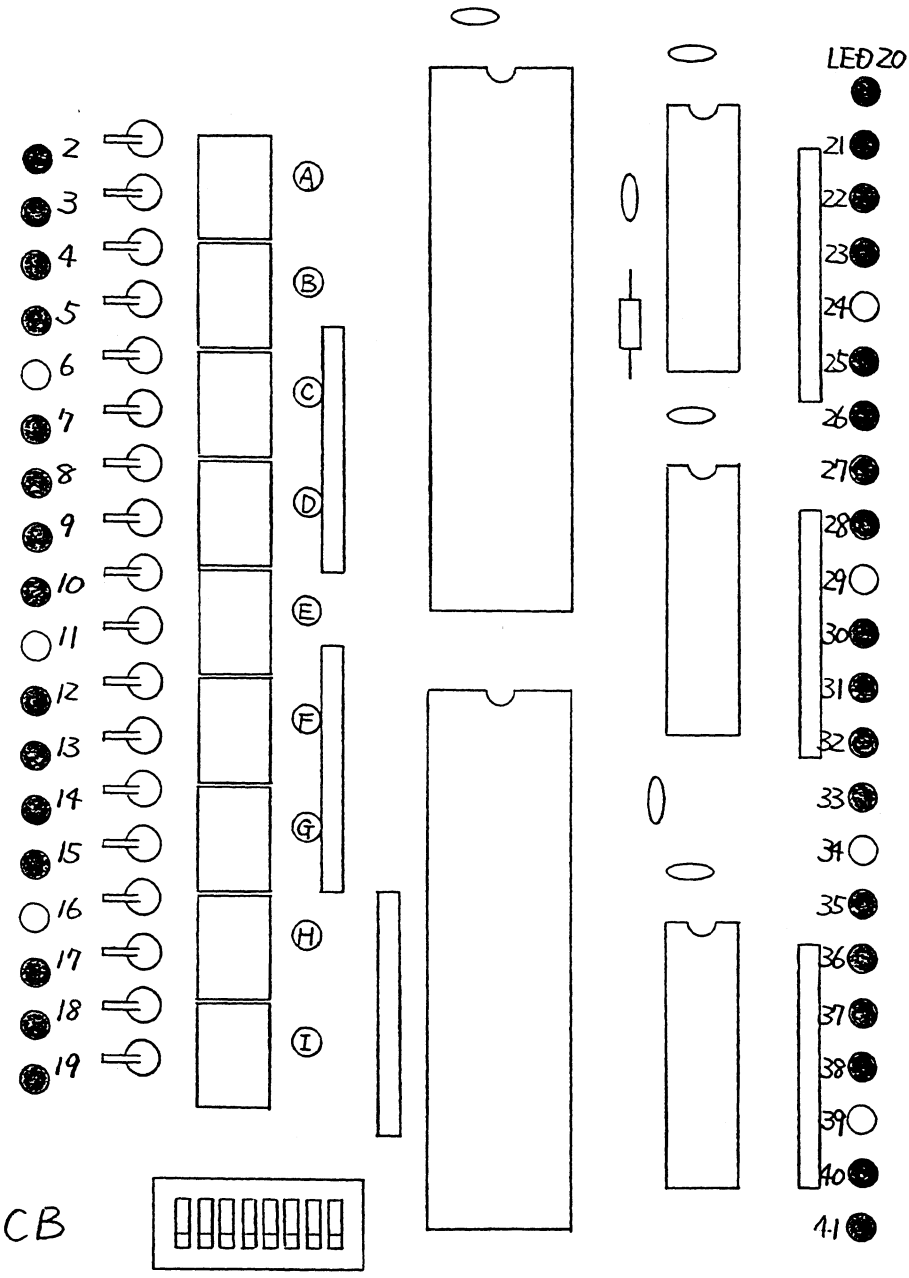


※ HEAT PROOF WIRE — UL1727 TETRAFLUOROETHYLENE WIRE (耐熱線) (770℃電線)
 19~18 AWG UL1015 105°C 600V
 20~22 AWG UL1007 80°C 300V

配線図
WIRING DIA

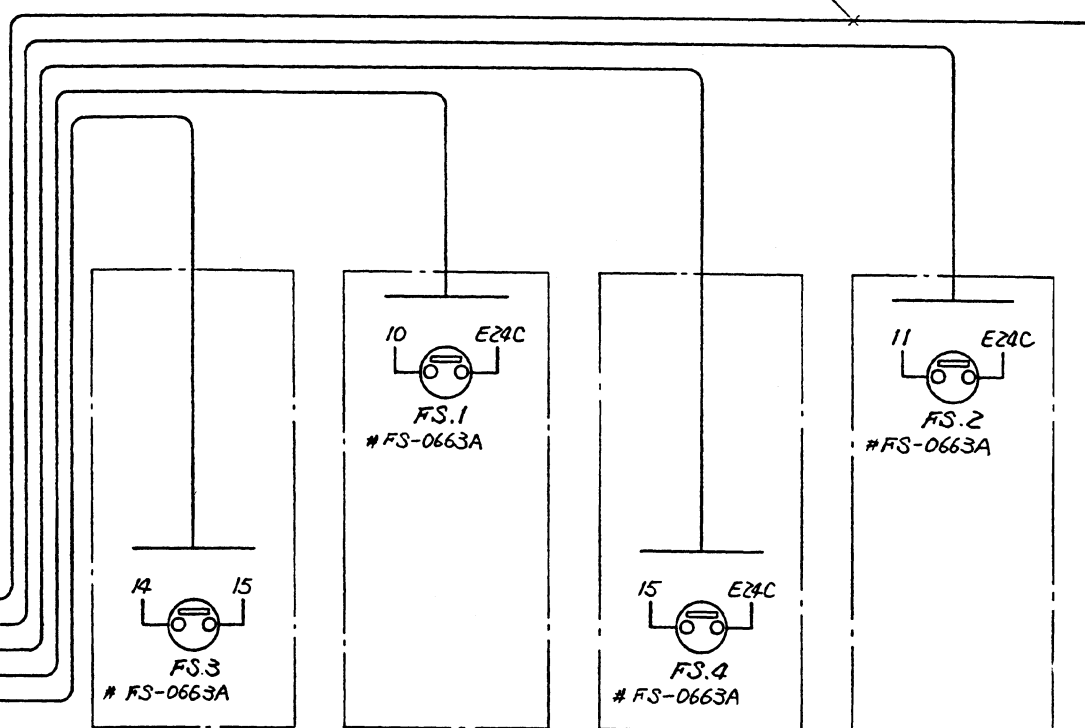
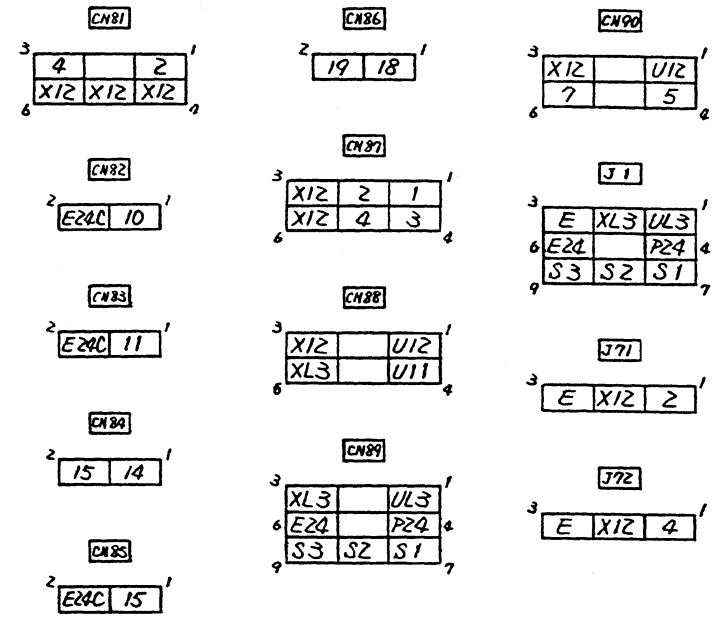
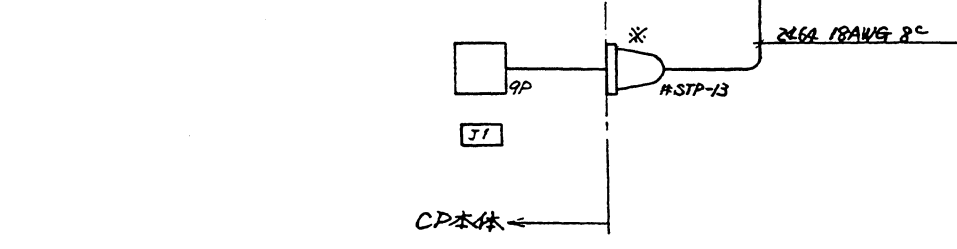
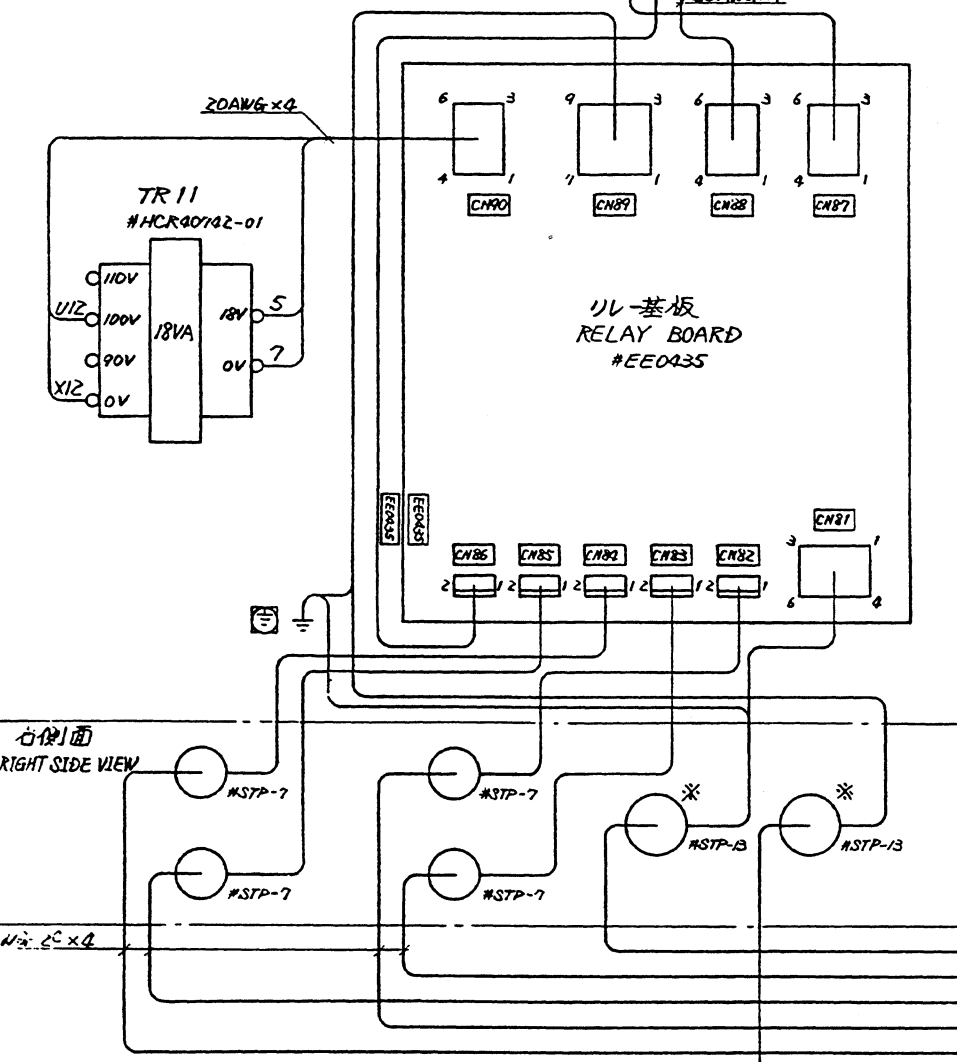
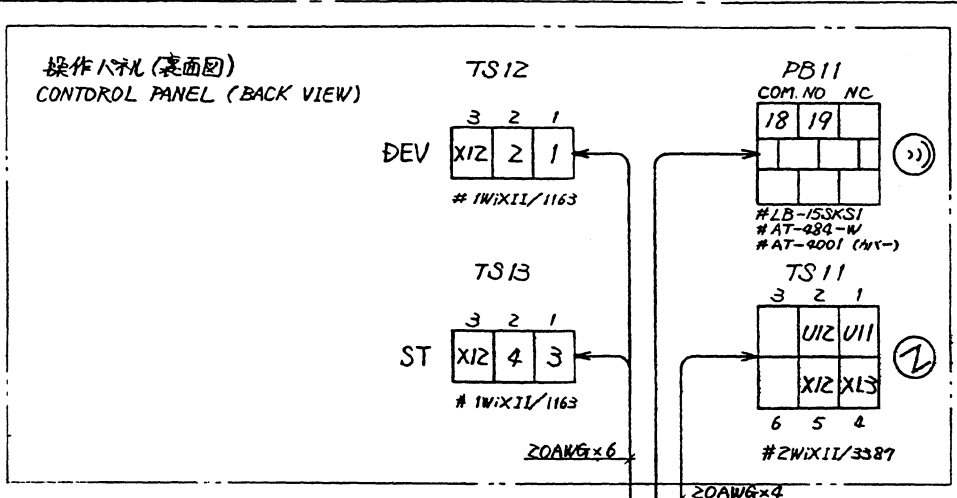
- 原稿戻りパルス COPY BACK PULSE (PS1)
- マスター送りパルス MASTER FEED PULSE (PS2)
- カバースイッチ COVER SWITCH (LS1)
- 原稿架原点 COPY ORIGINAL POINT (PS3)
- 原稿架終点 COPY END POINT (PS4)
- カッター原点 CUTTER ORIGINAL POINT (PS5)
- カッター終点 CUTTER END POINT (PS6)
- プロセッサヒータ PROCESSOR HEATER (RyA)
- △ 現像液レベル DEV. LEVEL (ReS1)

- 補充装置 ON REPLENISHER ON
- 補充 OK REPLENISH OK
- マスターエンド MASTER END (PS7)
- 継ぎ目 SEAM (PS8)

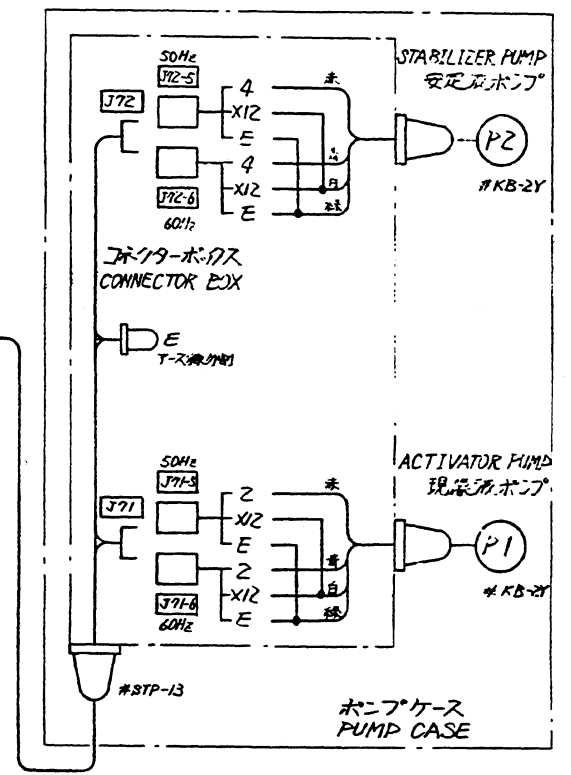


- ① LSB
- ② 調光データ LIGHT CONTROL DATA
- ③ MSB
- ④ 反射光源 REFLECTION LIGHT
- ⑤ ドライヤー H DRIER H (Ry1)
- ⑥ ドライヤー L DRIER L (Ry2)
- ⑦ ドライヤーファン DRIER FAN (Ry3)
- ⑧ マスター、原稿架前進 MASTER, COPY FORWARD (Ry4)
- ⑨ 原稿架後退 COPY BACK (Ry5)
- ⑩ カッター前進 CUTTER FORWARD (Ry6)
- ⑪ カッター後退 CUTTER BACK (Ry7)
- ⑫ プロセッサモータ PROCESSOR MOTOR (Ry8)
- ⑬ プロセッサヒータ PROCESSOR HEATER (Ry9)
- ⑭ 除湿ドライヤー DEHUMIDIFIER (Ry10)
- ⑮ 透過光源 TRANSPARENCY LIGHT
- ⑯ 補充オート AUTO REPLENISH

CPU BOARD
LED CHECK DIA.



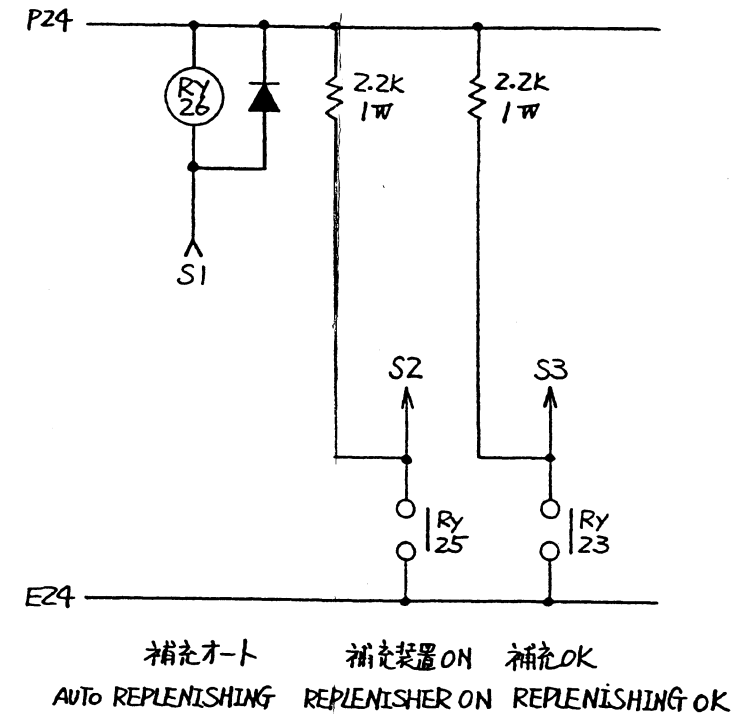
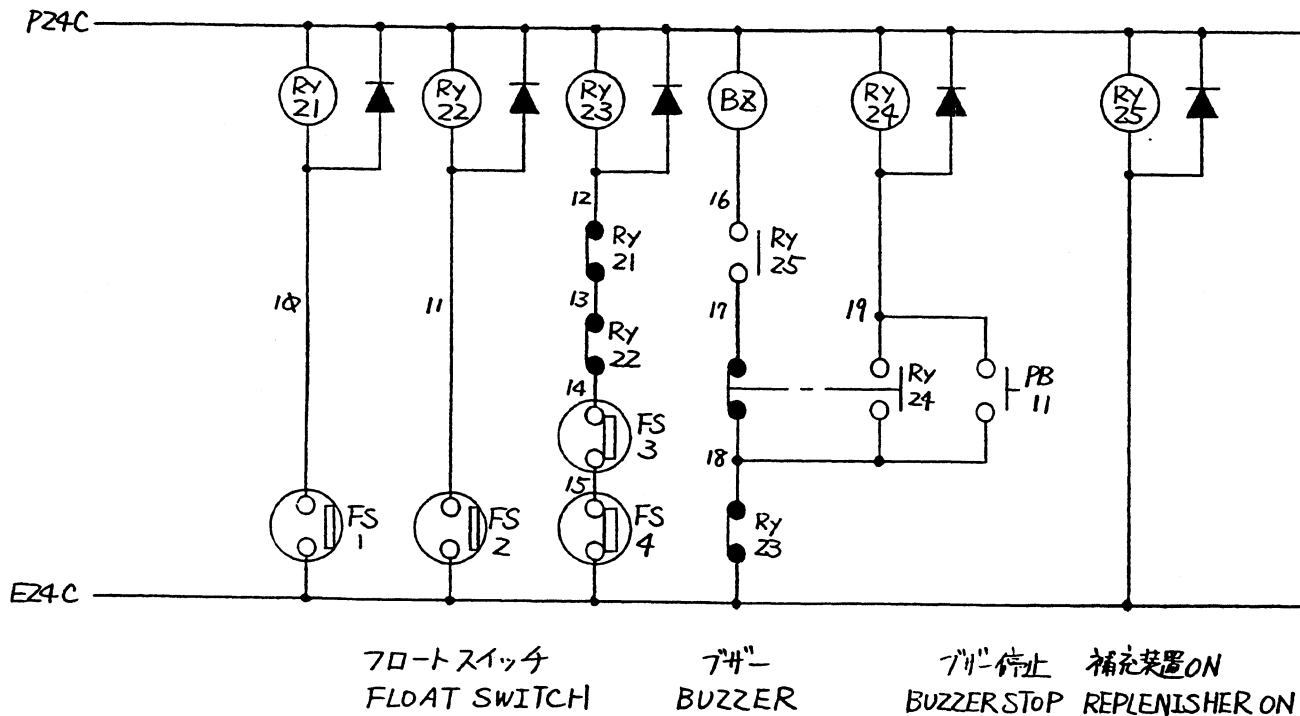
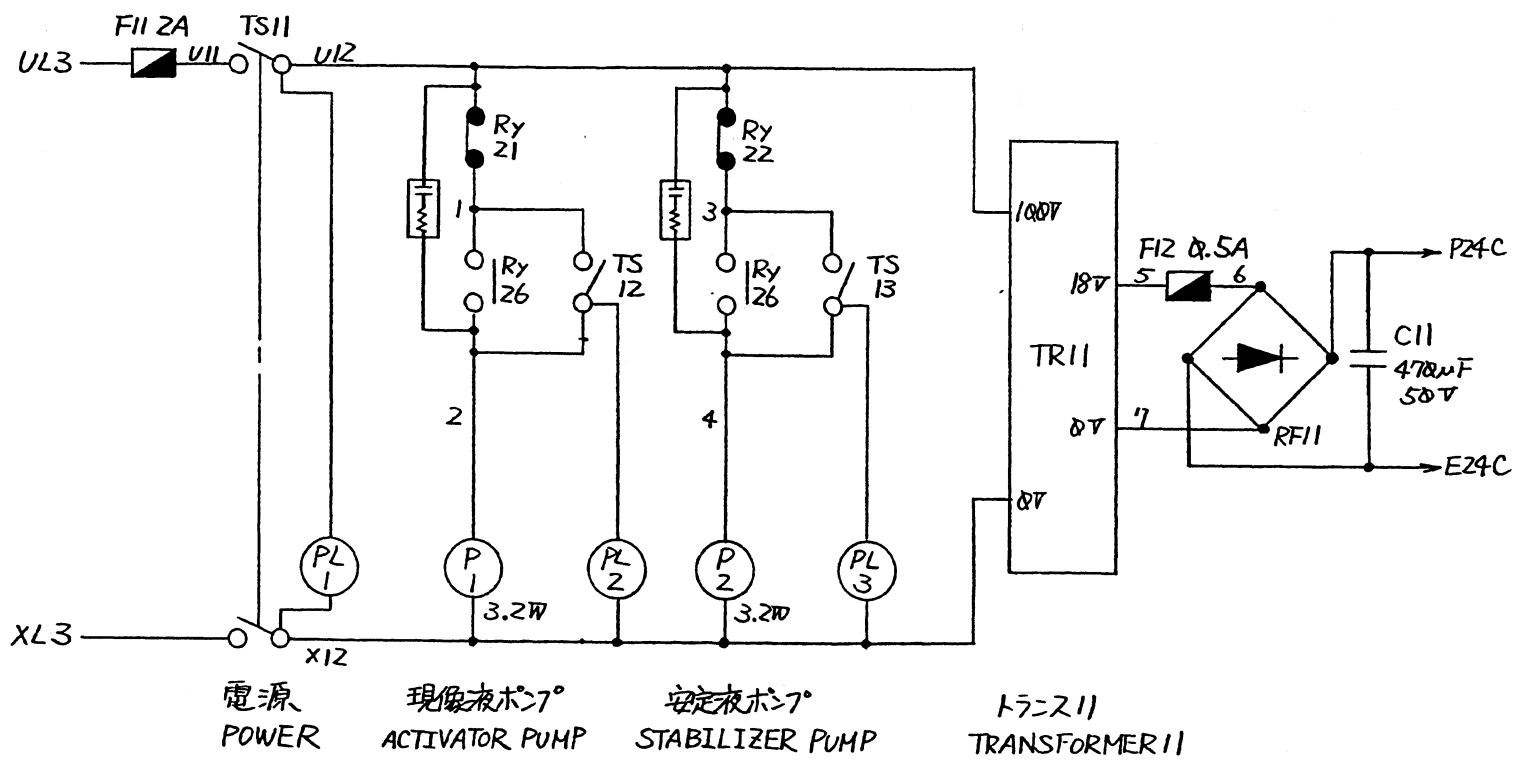
ACTIVATOR REPLENISHING TANK
ACTIVATOR OVER FLOW TANK
STABILIZER REPLENISHING TANK
STABILIZER OVER FLOW TANK
現像液補充タンク
現像液オーバーフロータンク
安定液補充タンク
安定液オーバーフロータンク



注) 指定端子線は22AWGを使用のこと
18AWG—UL 1015 105°C 600V
20.22AWG—UL 1007 80°C 300V
・J1, J71, J72はユニバーサルメテンドックコネクタを使用のこと
・CN82~86はEIシリーズコネクタを使用のこと
・※印は取り外し可能な箇所を示す。

参照図面 HCS42253 : 補充装置系統図
REPLENISHER WIRING SYSTEM DIA.

西己線図
WIRING DIA.



- 70-トスイッチ FLOAT SWITCH
- FS1 : 現像液オーバータンク
ACTIVATOR OVERFLOW TANK
 - FS2 : 安定液オーバータンク
STABILIZER OVERFLOW TANK
 - FS3 : 現像液補充タンク
ACTIVATOR REPLENISHING TANK
 - FS4 : 安定液補充タンク
STABILIZER REPLENISHING TANK

補充装置 系統図
REPLENISHER
WIRING SYSTEM DIA.