

S I L V E R M A S T E R
C P - 6 1 0 S

SERVICE MANUAL

SCREEN

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ELECTRICAL SYSTEM

ELECTRICAL WIRING DIAGRAM

1. INTRODUCTION

This Manual is intended to be used for after-sale service of CP-610S.
For operation of unit and other details, refer to CP-610S OPERATION MANUAL and TECHNICAL GUIDE and other related documents.

Bear in mind that with modification of specifications and/or machine structure, contents of this manual may be changed without notice.

When ordering parts or for consultation, always give the following information.
Refer to CP-610S PARTS LIST.

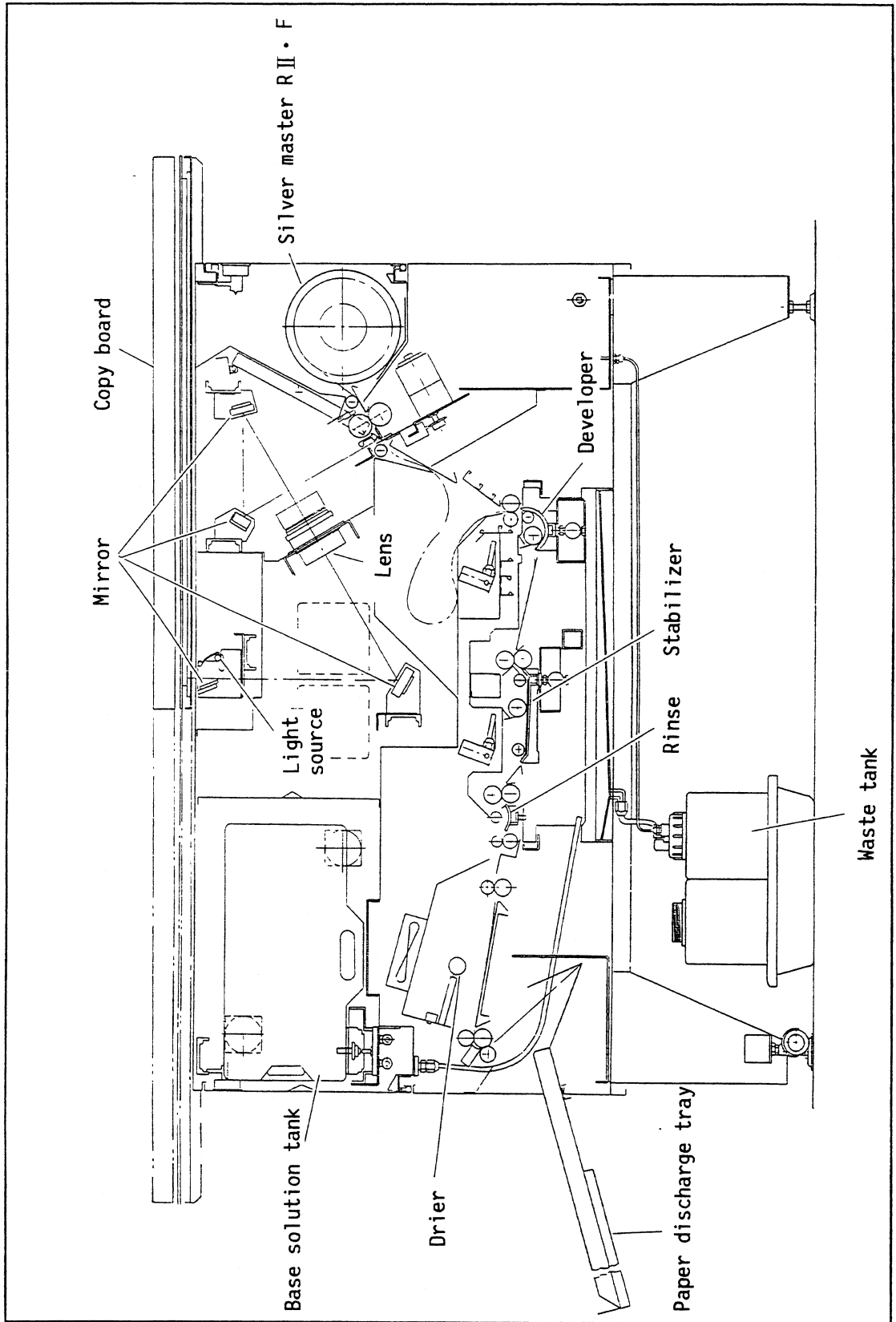
- * Model name C P - 6 1 0 S
- * Serial number
- * Reference numbers and description of parts
- * Required quantity
- * Date of delivery

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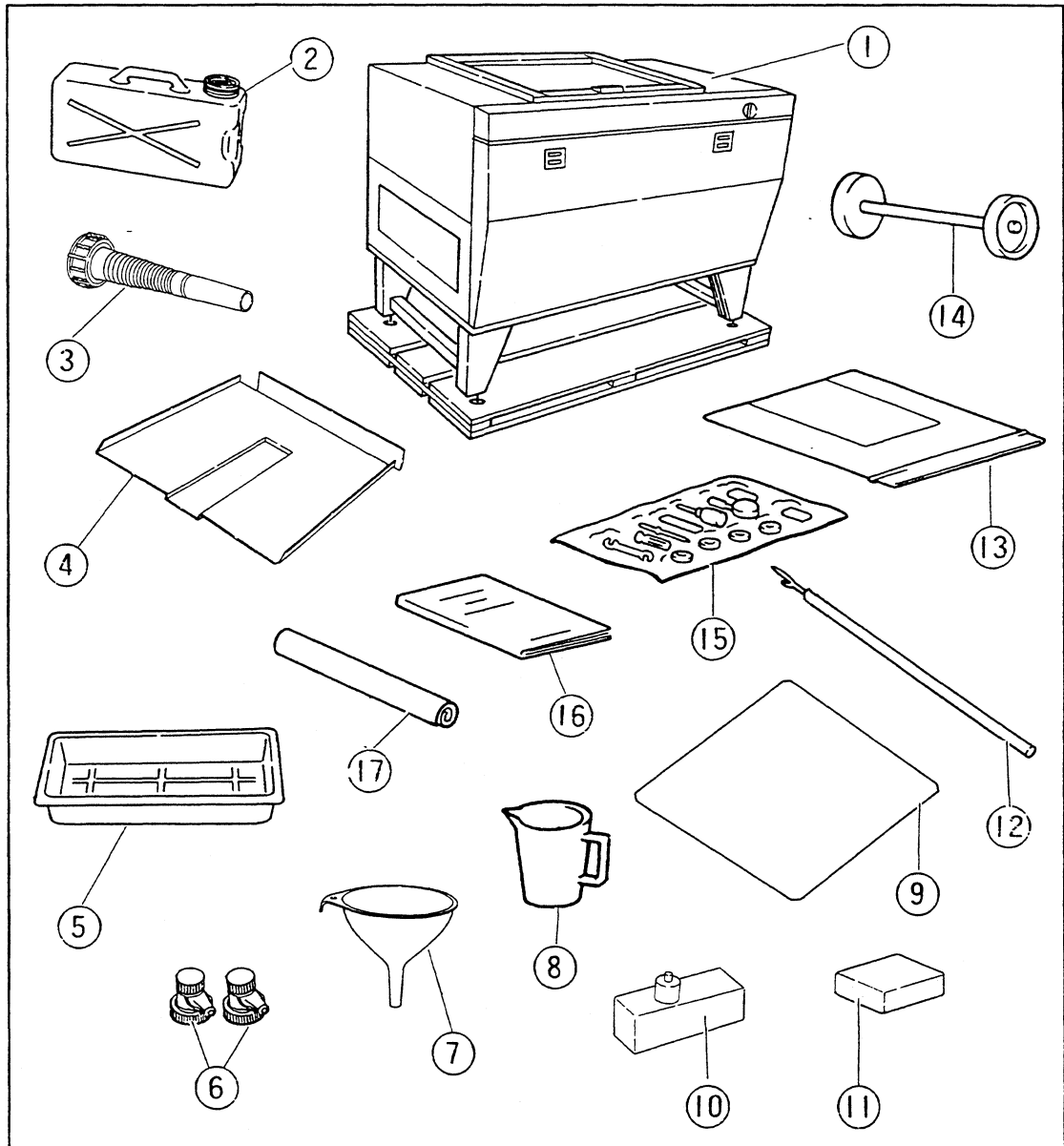
2. SPECIFICATIONS

No.	Item	Description
1	Master	1 roll SLM-RII, SLM-F
2	Master width (cm)	22.9(9"), 25.4(10"), 27.9(11"), 30.5(12") 31.0(12 1/5"), 32.4(12 3/4"), 37.0(14 9/16") 40.4(15 7/8"), 41.4(16 3/10"), 50.8(20") 55.0(21 21/32"), 57.0(22 7/16"), 61.0(24 1/64")
3	Master feed length (cm)	37.0 - 82.0 (setting in 1mm increments)
4	Effective exposure size (cm)	55.0×79.0
5	Max. exposure size (cm)	61.0×82.0
6	Max. copy board size (cm)	65.5×84.0
7	Magnification	100% (fixed at actual size)
8	Light source	Halogen lamp (1)
9	Control panel	Flat panel, interactive input
10	Copy setting	Copy facing down, with 400m/m pin bar
11	Exposure method	Movable copy and master slit exposure system
12	Divided exposure	Automatic exposure (twice), Automatic multiple exposure, Multiple exposure
13	Exposure adjustment	Digital illumination adjustment 0-99
14	Cutter	Slide cutting system
15	Master joint detection	Display message, alarm buzzer, auto. over cutting
16	Master temperature control	60W heater, thermal control system
17	Processor	Small solution quantity method
18	Tub capacity	Developer 280cc, stabilizer 700cc
19	Base solution tank capacity	Developer 10 ℓ, stabilizer 10 ℓ
20	Cistern Tank capacity	Developer 570cc, stabilizer 570cc
21	Solution temperature control	Tub: 80W heater 29.5°C±1.5 Cistern Tank: 80W heater 29°C±3
22	Rinse tub capacity	500cc, replenisher tank 1 ℓ
23	Drier	1000W fin heater (upper), 275W heater (lower) thermal control system
24	Initial processing time	104 seconds (at 66.0cm feed)
25	Cycle time	50 seconds (at 66.0cm feed)
26	Power supply	1 φ 200/220/240V, 3.8kw
27	Dimensions (W×D×H)	137.5×92.0×110.0 (cm)
28	Weight (without solutions)	275kg

3. PROCESS DRAWING



◆ Packaging List



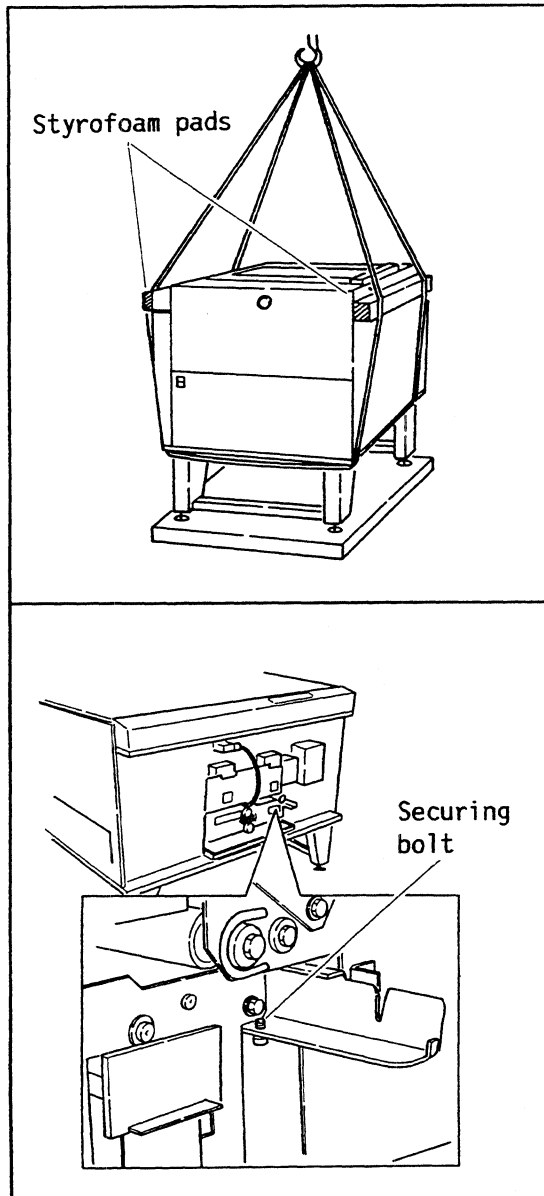
【Packaging List】 Check parts with packaging list when unpacking.

DESCRIPTION	QTY.	DESCRIPTION	QTY.
1 Body	1	10 Replenisher tank	1
2 Tank	4	11 Sponge	1
3 Waste liquid nozzle	1	12 Cutter bar	1
4 Paper discharge tray	1	13 Test chart, Photographic sample	1 set
5 Tray	1	14 Spools(2), Spool shaft	1 set
6 Threaded screw cap with cock	2	15 Spare parts	1 set
7 Funnel	1	16 Instruction Manual, Technical Guide	1 set
8 Measuring cup	1	17 Wall Instruction Manual	1
9 Vinyl sheet	1		

◆ Spare Parts List

	DESCRIPTION	QTY.		DESCRIPTION	QTY.
1	Screwdriver set	1 set	8	Glass fuses 1A - 250V 2A - 250V 3A - 250V 5A - 250V 10A - 250V 2A - 125V 4A - 125V	2 each
2	Leg bases	4			
3	Spanner	1			
4	Cutter knife	1 case			
5	Lubricator	1	9	Ceramic fuses 15A - 250V	2
6	Blower brush	1	10	Thermal fuses: For dryer with round tip For light source with connector	1 each
7	Screws & bolts etc.	1 set			

◆ Installation



<Procedure>

1. Remove packing materials.
2. Remove four bolts securing body to packing base.
3. Place square styrofoam pads on both sides of body and lift body with two nylon slings.

Place styrofoam pads at about 50mm lower than cover screws on rear face.

- * Nylon slings must be more than 6m in length.
- * Place nylon slings outside of legs.

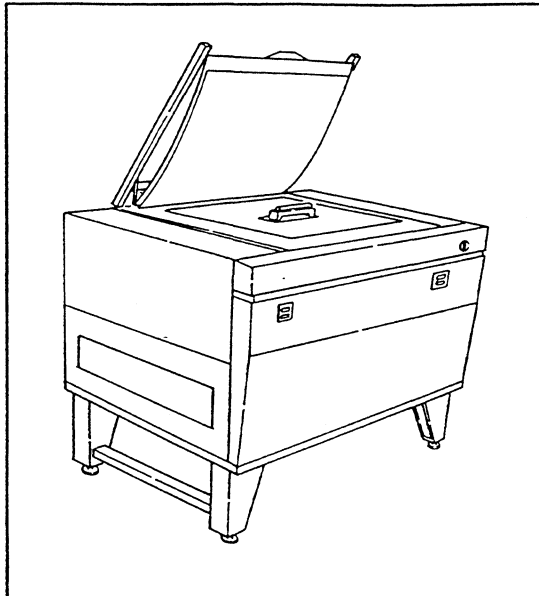
4. Carry unit to installation site and place on leg bases.

Be careful not to accidentally move copy table.

- * Unit has castors under body for easy-carrying. Use casters when conducting fine adjustment.

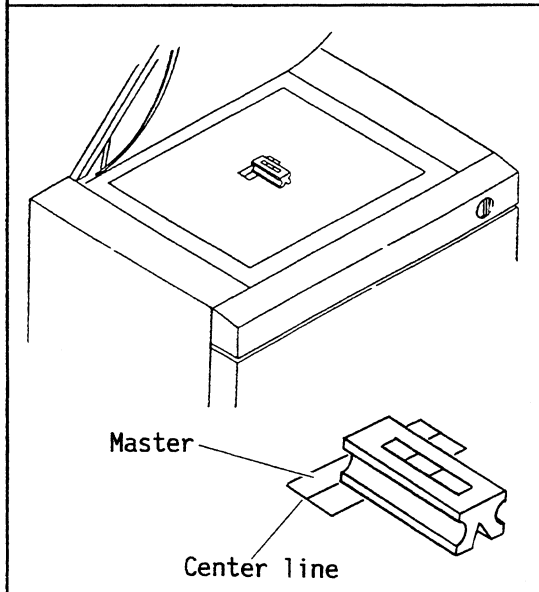
5. Open front cover. Remove bolts securing processor.

- * Securing bolts are on both sides.

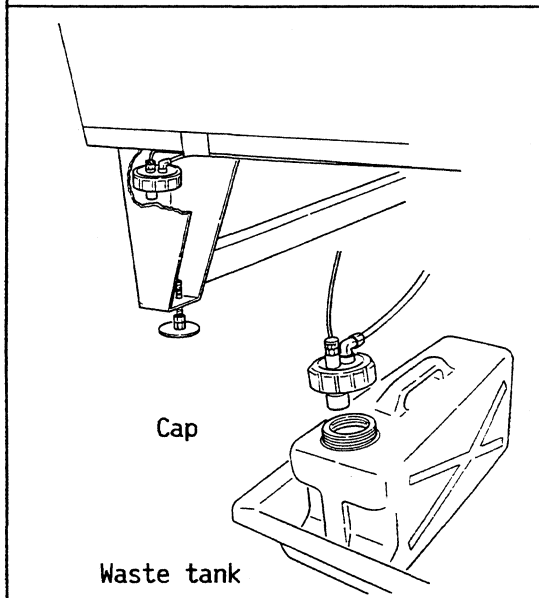


6. Place sheet of clean paper on copy glass. Place level on paper and adjust adjustable leg bolts so that body is completely level.
(Horizontality : within $\pm 0.2\text{mm/m}$)

Appropriate level gauge is 150mm in length and has 0.1mm/m graduations.



7. Place level gauge lengthwise. Insert a master paper (0.2mm thickness $\times 50\text{mm} \times 10\text{mm}$) under far side end of level gauge as shown in left figure and adjust adjustable leg bolts.
(Horizontality : within $\pm 0.2\text{mm/m}$)
* Draw a straight line in center of master paper. Insert master paper under level gauge to center line.



8. Install cutter blade.
9. Take out cap placed in a front leg.
10. Place waste tank under body and install cap to tank.

◆ Solution Preparation

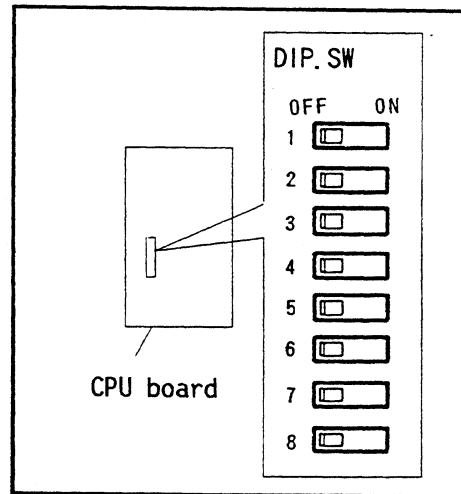
1. Mix developer and stabilizer (separately) with water according to details given in Instruction Manual and pour each solution into each tank.
2. Put tanks containing solutions into body correctly.
3. Fill rinse container with water.

◆ Power Supply Connection

1. Turn power switch OFF.
2. After turning power switch OFF, connect input lead to outlet (ground-fault circuit interrupter type).

Power supply is 1 ϕ 200/220/240V.

3. Open front cover of body.
Remove CPU board cover on right side.
4. Turn DIP.SW8 ON.
5. Turn power switch ON.
* RAM CLEAR or DATA ERROR
↓
POWER OFF will be displayed.
6. Turn power switch OFF.
7. Turn DIP.SW8 OFF.



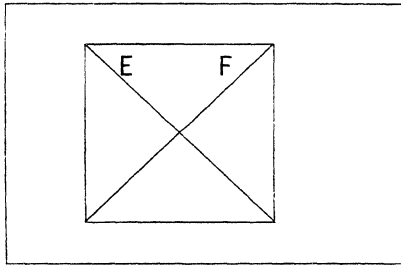
◆ Check and Adjustment

1. Following adjustments can be performed with DIP switches on CPU board.

<Functions of DIP switches >

	Item	Use	Normal setting
1	Data input	Used with DIP.SW5 for inputting or changing data of each compensation mode.	OFF
2	Not used		OFF
3	Inch/millimeter Selection	Selects unit system for feeding master. ON: inch OFF: millimeter	ON/OFF
4	Repeated running	For repeated running of series of operations. Start by <input type="checkbox"/> key. Stop by <input type="checkbox"/> key.	OFF
5	Data display	Used to display and check presently input basic data.	OFF
6	English/Japanese Selection	Selects display format. ON: English OFF: Japanese	ON/OFF
7	Not used		OFF
8	Initial reset	<ul style="list-style-type: none"> • After setting DIP.SW8 to ON and turning power ON, value of exposure and max. output size will reset. • After setting DIP.SW1 and DIP.SW 8 to ON and turning power ON, compensation value will reset. 	OFF

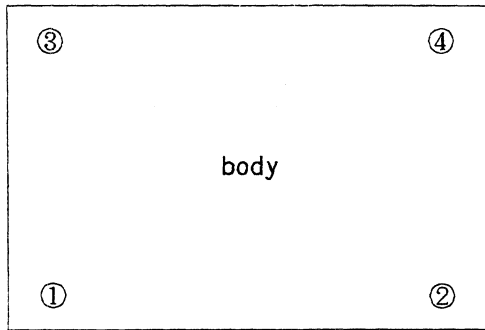
2. Select system of measurement.
 - Inch: Set DIP.SW3 to ON
 - Millimeter: Set DIP.SW3 to OFF
3. Turn power switch ON.
4. Set master in place in accordance with Instruction Manual.
5. Final assembly and check.
 - 1) Replace covers.
 - 2) Check series of operations in accordance with Instruction Manual.
 - 3) Carry out test exposure using test chart.
 - 4) Check distance between diagonally opposite corners.
6. Check and adjust distance between diagonally opposite corners.
Adjustment has been conducted thoroughly before shipment.
However, if one distance between diagonally opposite corners is greater, check and make adjustments following below procedure.



<Procedure>

1. Place suitable original — such as test chart — (drawn with grid lines) or scale on copy glass.
2. Expose and measure distance E and F between diagonally opposite corners.

Tolerance is within 0.5mm.



If E is greater than F:

- Either lower adjustable leg bolt ① at base of body, or raise adjustable leg bolt ②.







If F is less than E:


- Either raise adjustable leg bolt ① at the base of body, or lower adjustable leg bolt ②.

* Height of body can be increased or decreased about 1mm by one full turn of adjustable leg bolts.

◆ Compensation of Replenished Flow of Solutions

Measure solution flow per 1 minute and input measured value using compensation mode.

1. Press STANDBY key  to set unit into standby.
Pull out processor.
2. Replenish developer(stabilizer) for 1 minute, and collect solution from replenishment solenoid valve in separate vessel.
 +  (Developer replenishment),  +  (Stabilizer replenishment)
* Second counter will be displayed on display panel. Press  key when counter reaches "60" to stop replenishment.
3. Measure received solution with measuring cup.
4. Input measured value with compensation mode.




- 1) Turn DIP.SW1, 5 on CPU board ON.
- 2) Turn power switch OFF. Turn power switch ON again.
- 3) Press dehumidifier key  and select desired compensation mode.

FLOW REPLE. DEV

Compensation mode for replenishment flow of the developer.

FLOW REPLE. ST.

Compensation mode for replenishment flow of the stabilizer.

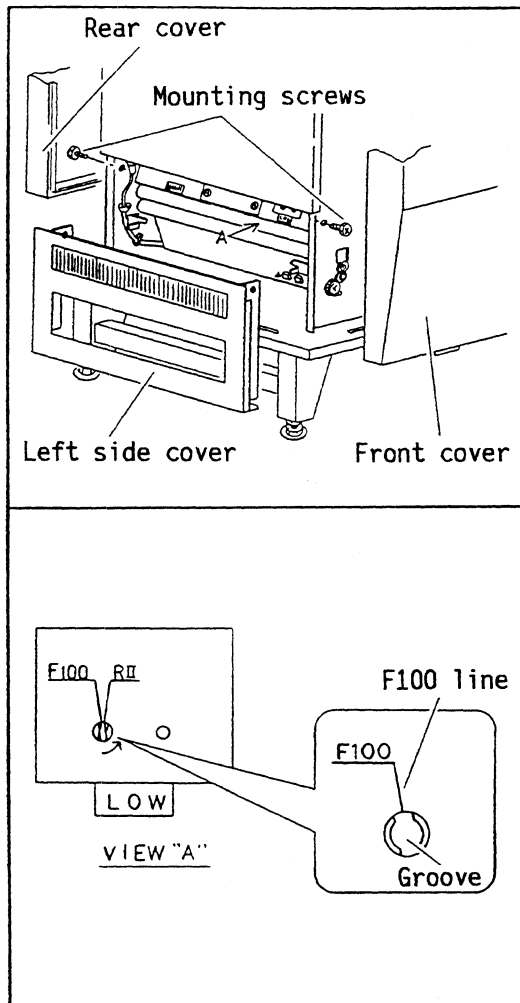
- 4) Change data with numerical keys  ~ .
 - 5) Press dehumidifier key  and input data.
 - 6) Turn DIP.SW1, 5 OFF.
 - 7) Turn power switch OFF. Turn power switch ON again.
5. Write down input values on compensation data table on rear side of CPU board cover.

[Note]

- When measuring compensation flow, if any solution remains in base solution tray correct value will not be obtained.
- When measured value is less than 160cc, remove any clogs from solution tray filter or air in hose and remeasure.

◆ Usage of F100 Film





When F100 Film is used, drier controller setting must be changed.



1. Turn power switch OFF.
2. Remove front cover, rear cover and paper discharge tray.
3. Remove mounting screws on left side cover and remove left side cover.
4. Turn thermostat groove to F100 line using screwdriver.
* F100 line must be in line with center of the groove.
5. Replace all covers.

5. COMPENSATION MODE

Use following procedure when inputing compensation values.

1. Turn DIP.SW ①, ⑤ on CPU board to ON.
2. Turn power switch OFF. Turn power switch ON again.
3. Press dehumidifier key  and select desired compensation mode.
4. Change data with numerical keys  - .
5. Press dehumidifier key  and input data.
6. Turn DIP.SW ①, ⑤ OFF.
7. Turn power switch OFF. Turn power switch ON again.

	COMPENSATION MODE	USE	INITIAL VALUE	RANGE of VALUE
1	MASTER LENGTH (mm)	Master-feed-length compensation	20 mm	0-40
2	STEP LENGTH (mm)	Master-step-length compensation	0.10 mm	0.00-10.00
3	FLOW REPLE. DEV. (cc)	Replenished-Developer-fluid compensation	200.0 cc/min	50.0-500.0
4	FLOW REPLE. ST. (cc)	Replenished-stabilizer-fluid compensation	200.0 cc/min	50.0-500.0
5	FLOW DRAIN DEV. (cc)	Drained-developer-fluid Compensation	300.0 cc/min	50.0-500.0
6	FLOW DRAIN ST. (cc)	Drained-stabilizer-fluid compensation	300.0 cc/min	50.0-500.0
7	AREA REPLE. DEV. (cc)	Compensation of automatic replenishment of developer fluid for film area	100.0 cc/ m ²	50.0-280.0

8	AREA REPLE. ST. (cc)	Compensation of automatic replenishment of stabilizer fluid for film area	150.0 cc/m ²	50.0-700.0
9	USED AREA for change (m ²)	Compensation of automatic replenishment of used film area	50.0m ²	1.0-100.0
10	CHANGE DEV. (CC)	Compensation of changed developer fluid at start-up	400.0 cc	0.0-400.0
11	CHANGE ST. (cc)	Compensation of changed stabilizer fluid at start-up	700.0 cc	0.0-700.0

【Note】 When CPU board has been exchanged, all data must be re-input.
(Duplicate copy of data is attached to rear face of CPU board)

◆ Master Length Compensation

Master length compensation.
Set coefficient of master feed length to 0-40.
When coefficient is changed by 1, master feed length will change by 0.5mm per 1000mm.
Standard value is 20. When value becomes smaller, master feed length will decrease.
When value become larger, master feed length will increase.
Maximum compensation value is ±10mm.
Coefficient value will be applied to every master feed length.

< Correct value: measured value is 2mm longer than set value. >

【EX】 ① Assuming that setting for most frequently used master feed length will be used. (819mm at 820mm of master feed length)

② Execute compensation in accordance to following formula:

$$\begin{aligned} \text{New CV} &= \text{Current CV} + \frac{\text{SV} - (\text{MV} - 2)}{\text{SV} \times 0.0005} \\ &= 20 + \frac{820 - (819 - 2)}{820 \times 0.0005} = 20 + 7 = \underline{27} \end{aligned}$$

where CV: Compensation value
SV: Master feed length set value
MV: Master feed length measured value

◆ Master Step Length Compensation

【EX】① Set 820mm of master feed length.

② Execute multiple-exposure (10 times)

③ Measure exposed plate length.

.... assuming that measured value is 819.5mm.

④ If measured value is smaller than master feed length (820mm), execute compensation of shortage in accordance to following formula:
(shortage only)

















$$\begin{aligned}\text{Compensation value} &= \frac{\text{master feed length} - (\text{measured value} - 2)}{10} \\ &= \frac{820 - (819.5 - 2)}{10} = 0.25\end{aligned}$$











Compensate value by 0.25mm

6. MAINTENANCE MODE

Maintenance mode key is used when checking operations of each section and/or for ordinary maintenance.

* Use maintenance mode at STAND BY.

	ITEM	KEY OPERATION	PURPOSE & ACTION
1	Independent - cutter movement	 +  press numerical key 1 while pressing count key.	* Cutter operation check • Cutter will move forward. (cutting direction) Cutter will stop at return sensor and return to original position. "MAINTENANCE CUTTER" will be displayed.
2	Independent copy board movement.	 +  Press numerical key 2 while pressing count key.  +  Press numerical key 4 while pressing count key.	* Halogen lamp replacement. * Copy glass cleaning. • Copy board will move left and stop at end sensor. "MAINTENANCE ORIG. LEFT" will be displayed. • Copy board will move right and stop at origin sensor. "MAINTENANCE ORIG. RIGHT" will be displayed.
3	Halogen lamp Independent turn on.	 +  Press numerical key 3 while pressing count key.	* Halogen lamp check. • Halogen lamp will turn on for three seconds and turn off automatically. "MAINTENANCE LIGHT" will be displayed.
4	Independent processor motor drive	 +  Press numerical key 6 while pressing count key.	* Processor motor drive check. "MAINTENANCE PROCESSOR MOTOR" will be displayed.
5	Developer replenishment	 +  Press numerical key 7 while pressing count key.	• Developer will be replenished. Press  key to STOP. "MAINTENANCE REPLE. DEV." will be displayed.
6	Stabilizer replenishment	 +  Press numerical key 8 while pressing count key.	• Stabilizer will be replenished. Press  key to STOP. "MAINTENANCE REPLE. ST." will be displayed.

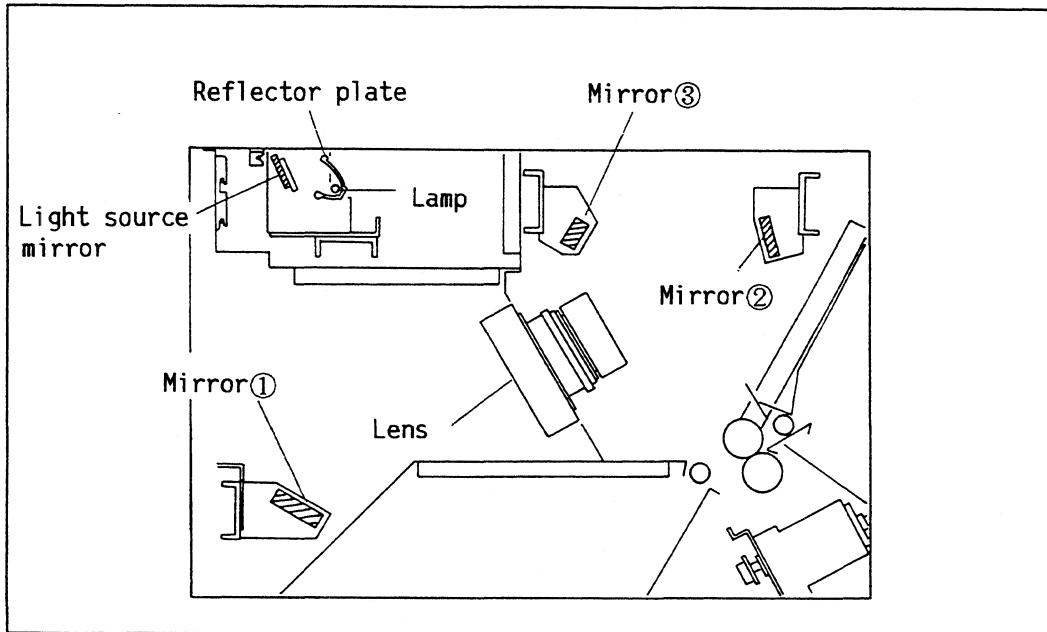
7	Developer draining	 +  Press numerical key 9 while pressing count key.	* Developer will be drained. Press  key to STOP. "MAINTENANCE DRAIN DEV." will be displayed.
8	Stabilizer draining	 +  Press numerical key 0 while pressing count key.	* Stabilizer will be drained. Press  key to STOP. "MAINTENANCE DRAIN ST." will be displayed.
9	Independent copy board movement to center	 +  Press numerical key • while pressing count key.	* During body movement. • Copy board will move to center. "MAINTENANCE ORIG. CENTER" will be displayed.
10	Independent Back light turn on (option)	 +  Press numerical key 5 while pressing count key.	* Back-light-turn-on check. • Back light will turn on for three seconds and turn off automatically. "MAINTENANCE BACK LIGHT" will be displayed.

7. OPTICAL SYSTEM CHECK AND ADJUSTMENT

Focus and magnification have been adjusted carefully before shipment.
However, if they seem to be faulty, adjust according to following procedure.

◆ Check and Adjustment Procedure

1. Adjustment of distortion:
Right/left movement of mirror ① in optical system.
2. Adjustment of focus:
Right/left movement of mirror ① in optical system.
3. Adjustment of magnification:
Right/left movement of lens.



Distance between original surface(C) and lens(L): $A = f(1 + \frac{1}{m})$

Distance between lens(L) and exposure surface(P): $B = f(1+m)$

f: focal distance of lens

m: magnification

《Proper Focus》

Theoretical positional relationship between original surface, lens exposure surface is as follows:

$$A = B$$

$$f(1 + \frac{1}{m}) = f(1+m)$$

【EX】 f: 330mm m : 1 (100%)

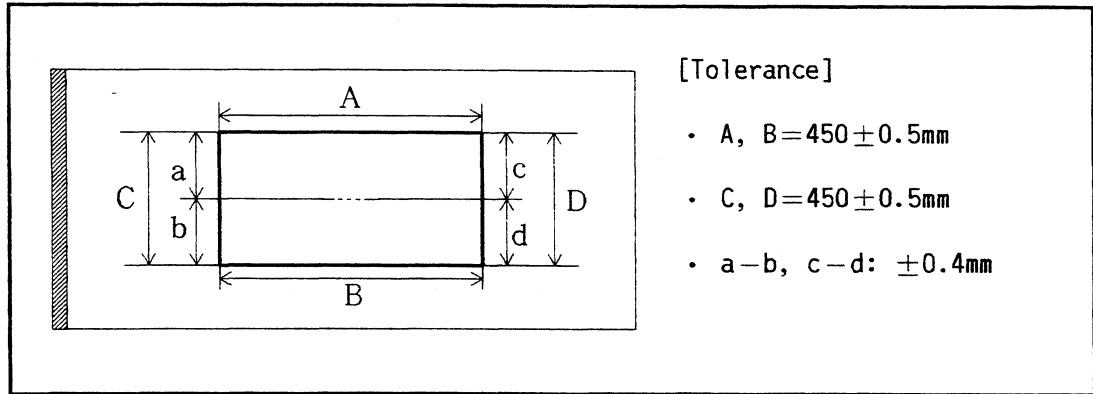
$$330 \times (1 + \frac{1}{1}) = 330(1+1)$$

$$\therefore A+B = 660$$

In actual use, different lenses have different focus values.
So, value of 《f》 is not always 660mm.

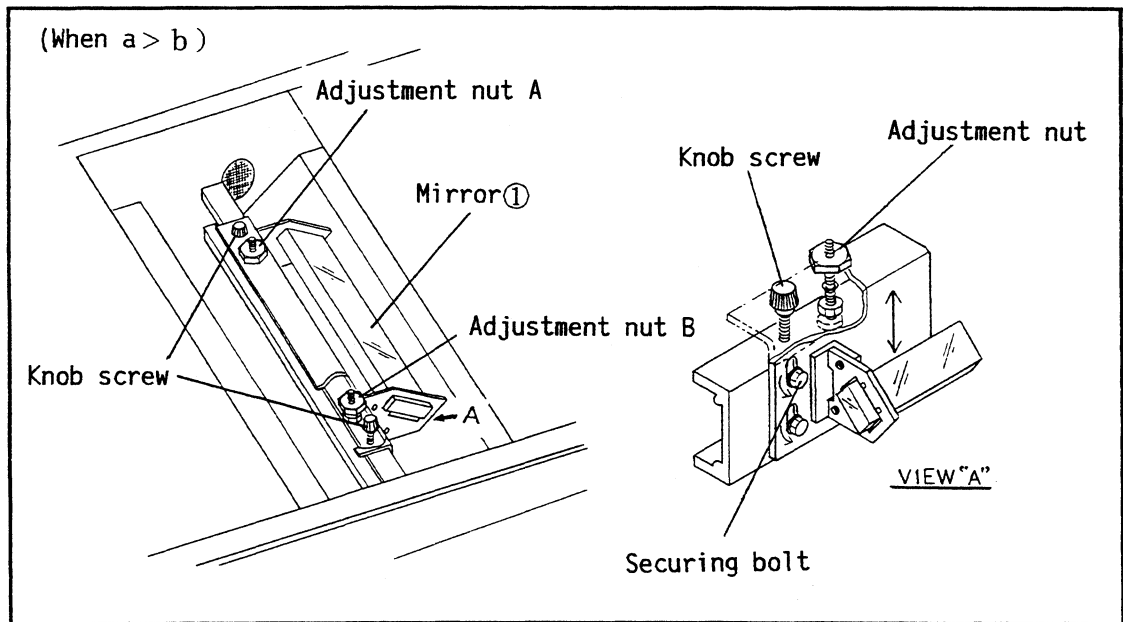
◆ Distortion and Magnification Check and Adjustment

- Set test chart or original (i.e. graph paper or scale) suitable for checking distortion and magnification on copy board.
- Make exposure with master feed length set at about 820mm. Determine dimensions A, B, C, D and check dimensional difference of a, b, c, d.



- * Dimensions A and B in feed length direction are maintained mechanically and cannot be adjusted.
- * Due to characteristics of slit exposure system of CP-610S, measure dimensions C, D first, then measure a, b, c, d.

[Adjustment procedure] ⇒ Move optical system mirror ① to right/left and adjust.



1. Loosen securing bolts on adjusting plate.
2. Loosen two knob screws.
3. Check in which direction optical system mirror ① should be moved.
(See Focus Adjustment Procedure P.20)

4. Adjustment nut ① is turned clockwise, adjustment nut ② is turned counter-clockwise.

* For repeated repositioning, make mark on top of hexagon nuts before moving mirror.

<Guideline for adjustment>
Adjustment nuts will move about 0.7mm for each full turn.

5. Tighten knob screws.

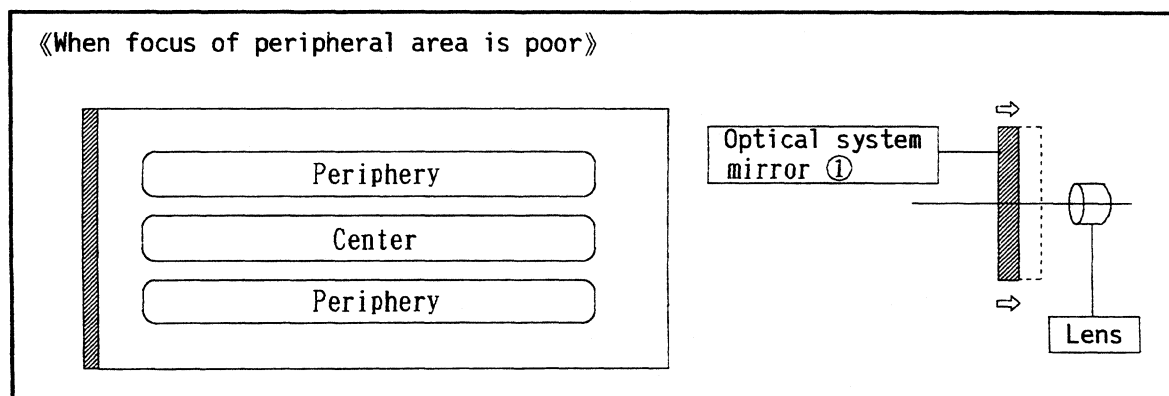
6. Tighten securing bolts.

7. Readjust when dimensions are over tolerance.

◆ Focus Check

- Using expose test chart (resolution chart) or standard chart (Mitsubishi CO., LTD.) increase correct exposure in two steps.
- Focus is correct if resolution of more than 12.5 lines/mm is obtained. If more than 12.5 lines/mm is not obtained, adjust focus.

[Adjustment procedure] ⇒ Move optical system mirror ① to right/left and adjust.



* For repeated repositioning, make mark on top of hexagon nuts.

1. Loosen securing bolt on adjustment plate.

2. Loosen two knob screws.

3. Rotate adjusting nuts clockwise to bring optical mirror ① closer to lens.

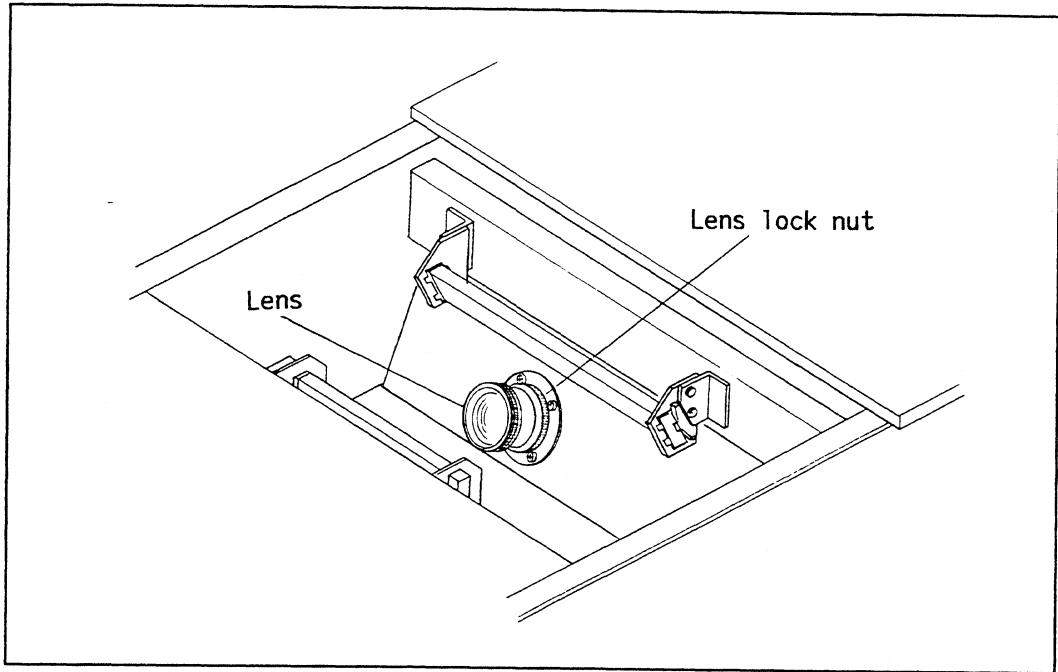
4. Tighten knob screws.

5. Tighten securing bolt and check exposure.

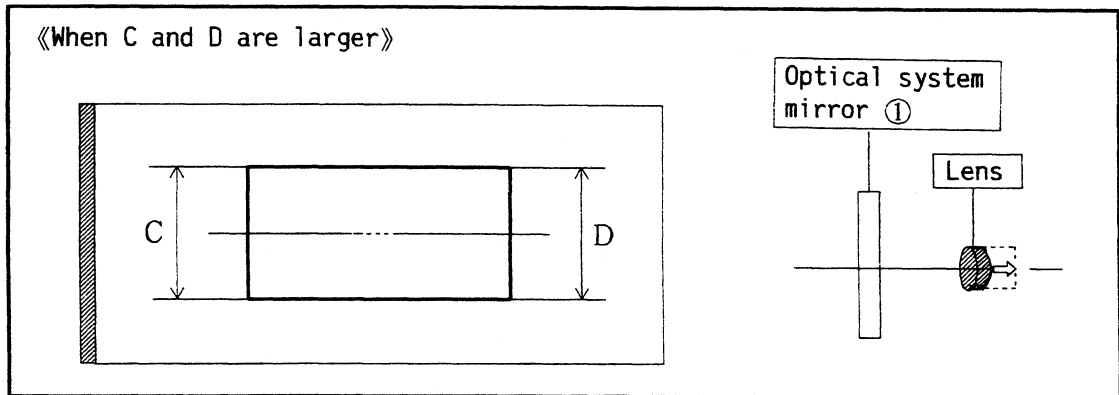
6. Readjust if dimensions are over tolerance.

◆ Magnification Check

- Refer to "Distortion and magnification Check and adjustment". (P.16)



【Adjustment procedure】 ⇒ Move lens in optical system to right/left and adjust.



* For repeated repositioning, before adjusting magnification, measure distance between tip of lens and lock nut.

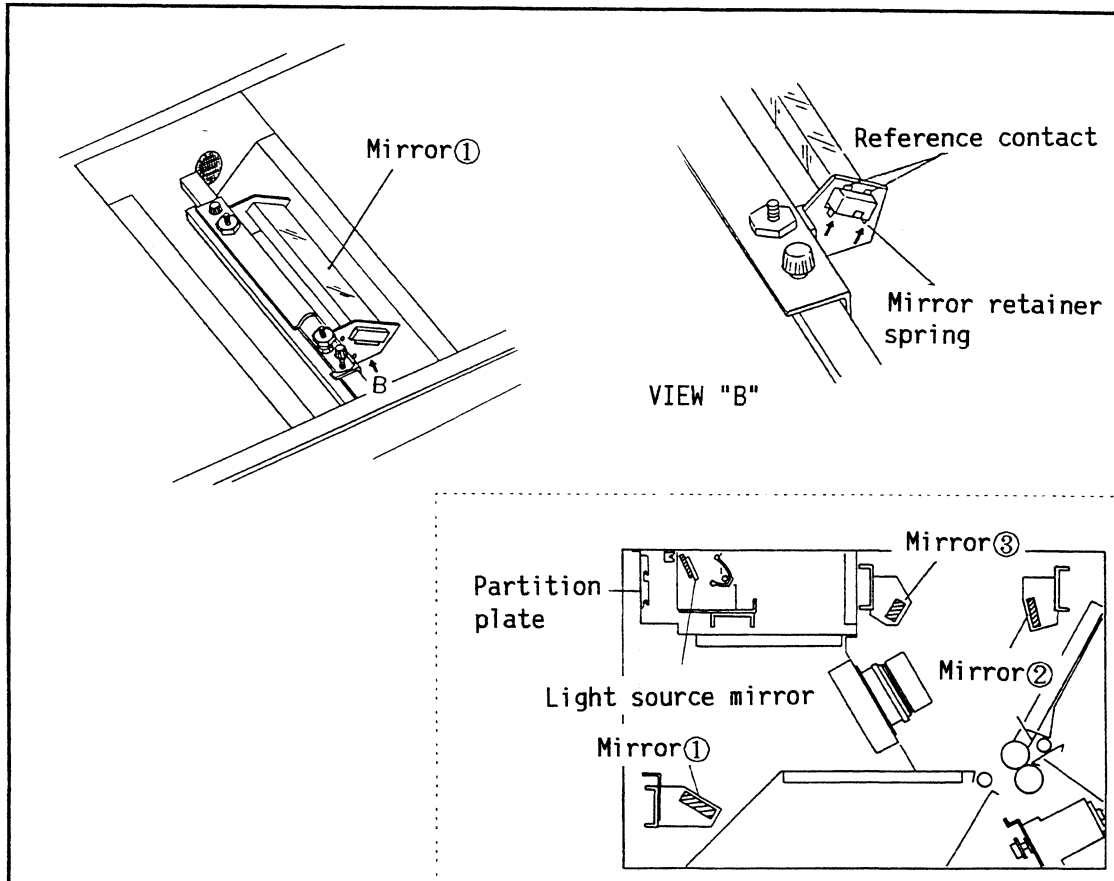
1. Hold lens securely and rotate lens lock nut counterclockwise to loosen.
2. Rotate lens counterclockwise (lens moves closer to mirror②), and tighten lock nut.
3. Make exposure and measure dimensions of C and D.

<Guidelines for adjustment>

Exposure dimension will change by about 1.5mm per each full turn of lens.

8. MIRROR REPLACEMENT PROCEDURE

Scratches on lens have negative effect on image quality.
Replace scratched lens.



* At installation section of optical system mirrors, three reference points or contacts are installed to prevent mirrors from twisting.
(two at mirror reflection surface side, one at opposite side)

【Removal】

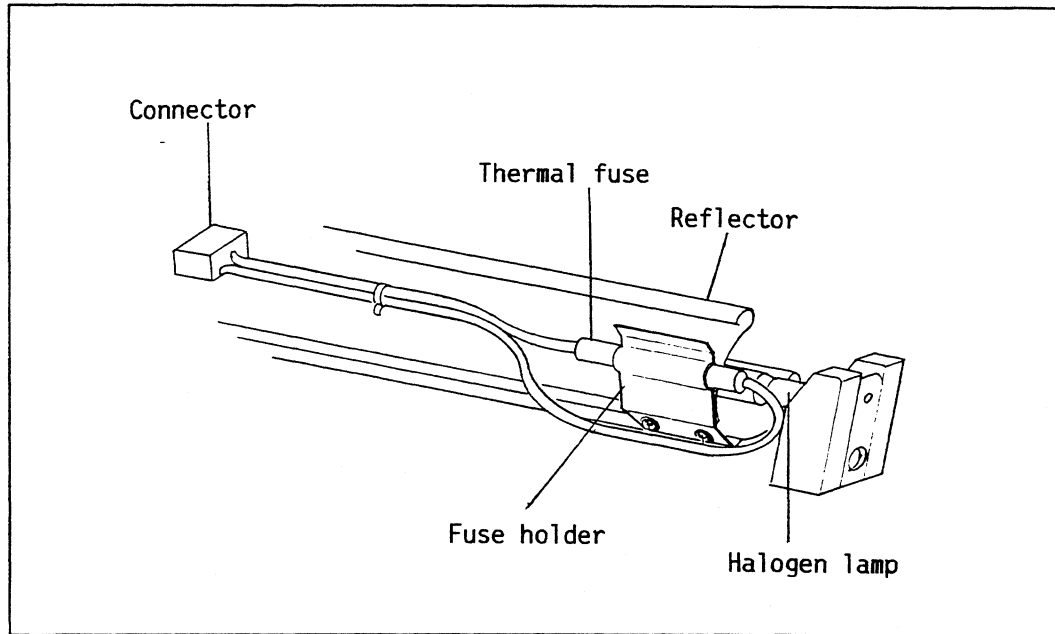
1. Turn power switch OFF.
2. Remove top left cover from body.
3. Push mirror retainer spring in arrow direction and remove.
(slide toward outside and spring will come off)
4. Remove mirror.
 - * If partition plate is removed, mirror ① can be removed easily.
 - * Retainer spring is installed at reflection surface side of light source mirror.

【Installation】

1. Install new mirror.
 - * Be careful not to dirty or scratch mirror.
 - * Make sure that retainer spring is working properly.
2. Follow reverse removal procedure to reassemble unit.
3. Make exposure and check focus and magnification.

9. THERMAL FUSE REPLACEMENT PROCEDURE

— Light-source-unit-fuse —

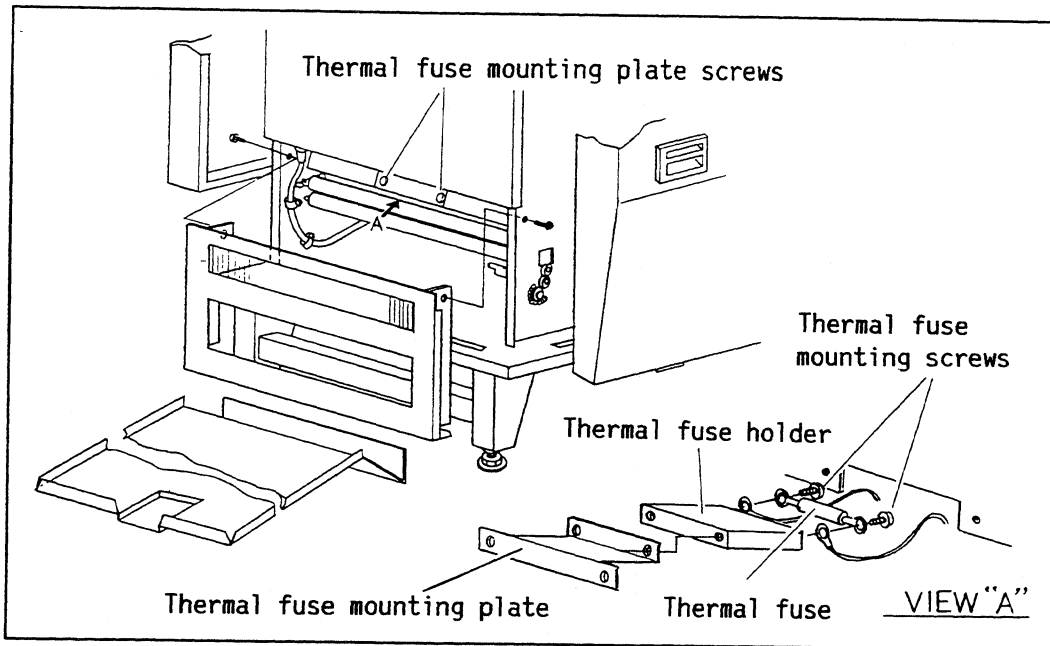


【Removal】

1. Press key and key to set unit into STAND BY mode and move copy board to left.
2. Turn power switch OFF.
3. Remove upper right cover from body.
4. Remove fuse connector (J1).
5. Remove fuse from fuse connector.

【Installation】

1. Install new thermal fuse.
2. Follow reverse removal procedure to reassemble unit.
3. Turn power switch ON.
4. Press key and key to set unit into STAND BY mode and move copy board to right.



[Removal]

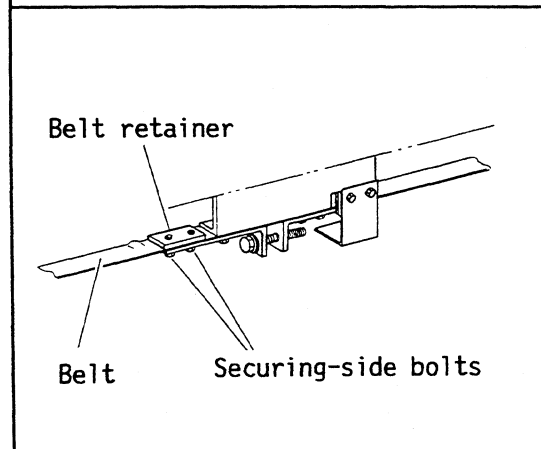
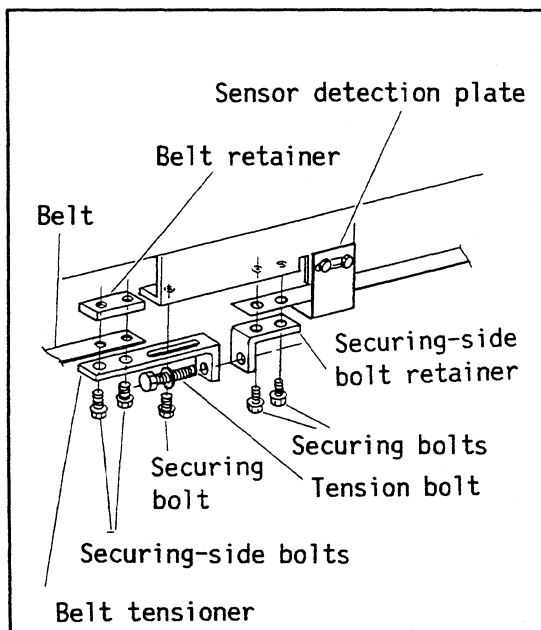
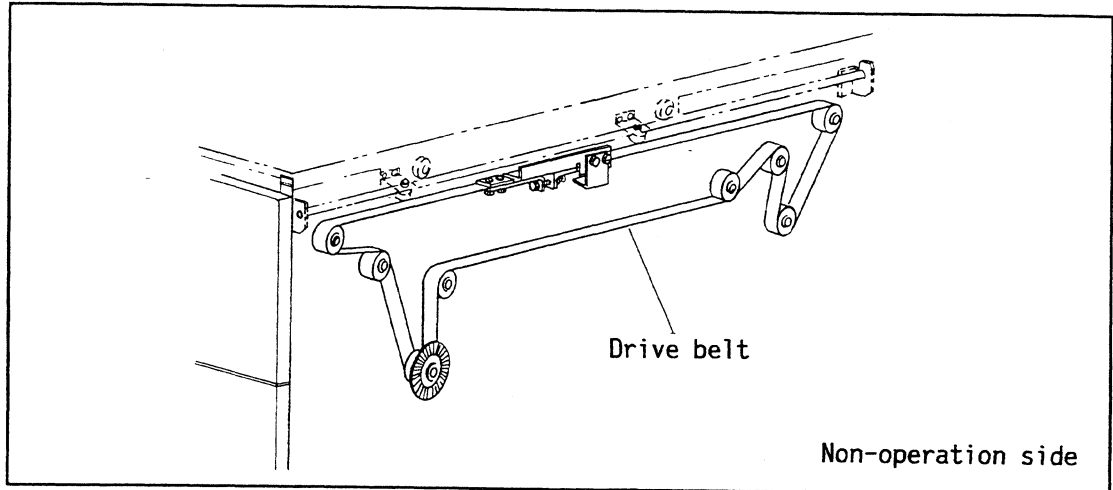
1. Turn power switch OFF.
2. Remove front cover and rear cover.
3. Remove paper discharge tray and left side cover.
4. Remove screws from thermal fuse mounting plate.
5. Pull out fuse holder.
6. Loosen thermal fuse mounting screws and remove thermal fuse.

[Installation]



1. Install new thermal fuse.
2. Follow reverse removal procedure to reassemble unit.

10. DRIVE BELT REPLACEMENT PROCEDURE

◆ Rear Drive Belt Replacement





【Removal】

1. Press  key and  key to set unit into STAND BY mode. Move copy board to discharge side.
2. Turn power switch OFF.
3. Remove rear cover from body.
4. Remove belt tensioner securing bolts and tension bolt.
5. Remove securing bolts from securing side belt retainer and from belt retainer.
6. Remove drive belt from pulleys.

【Installation】

1. Install new drive belt onto belt connector bracket following reverse removal procedure.
- * When installing new drive belt, keep copy board toward discharge side.
 - * Mount drive belt in center of pulleys.
 - * Mount drive belt end parallel to belt retainer end.
 - * Leave belt tensioner securing bolt temporarily fastened.

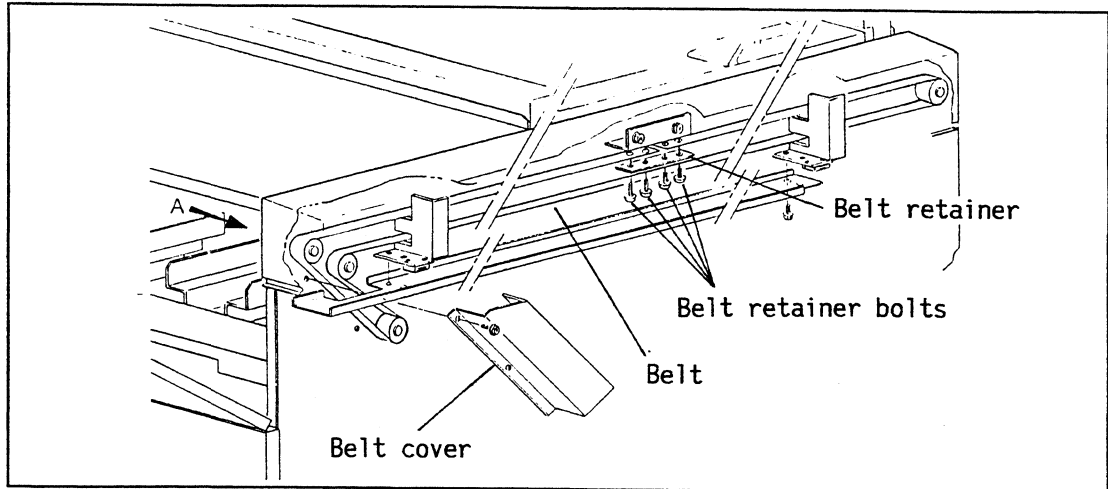
2. Turn power switch ON and press  key and  key.

* Tighten tension bolts until copy board begins to move. When copy board begins to move, tighten tension bolt two more turns.

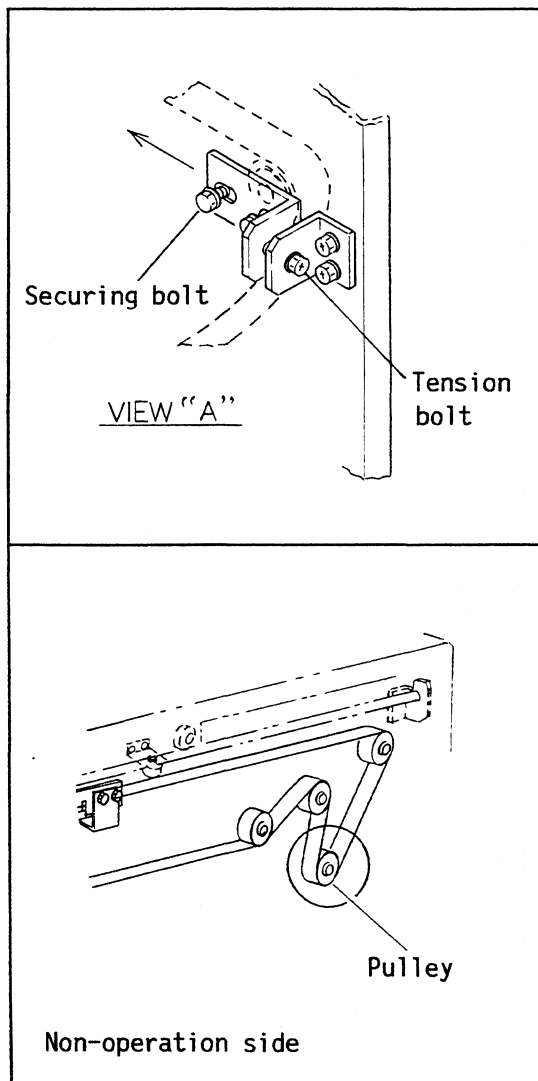
3. Tighten belt-tensioner-securing-bolt.

* If belt tension is uneven, loosen belt retainer securing bolt and refasten.

◆ Front Drive Belt Replacement



【Removal】



1. Press **[OFF]** key and **[2]** key to set unit into STAND BY mode.
Move copy board to discharge side.
2. Turn power switch OFF.
3. Remove rear cover from body.
4. Loosen belt-tensioner-securing-bolt and tension bolt on rear side.
Loosen rear drive belt.
(See "Rear Drive Belt Replacement" P.25)
5. Remove discharge tray and front cover.
6. Remove belt cover and control-panel-rear-side-cover.
7. Open base-solution-tank-mounting-door and loosen front-drive-belt-securing-bolt and tension bolt.
8. Loosen belt-retainer-bolts and remove belt retainer.
Remove front-drive-belt from pulleys.

【Installation】

1. Install new drive belt.
- * Mount drive belt so that belt end is parallel to belt retainer end.
 - * Mount drive belt in center of pulleys.

2. Tighten tension bolt while turning rear drive belt pulley.

- * Tighten tension bolt until copy board begins to move.
Tighten tension bolt 1/2 turn.

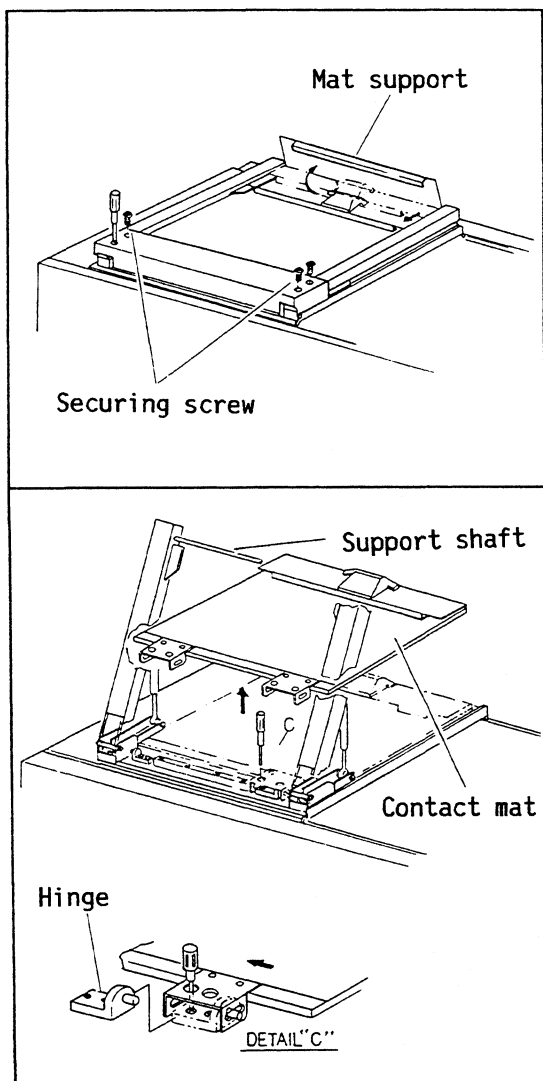
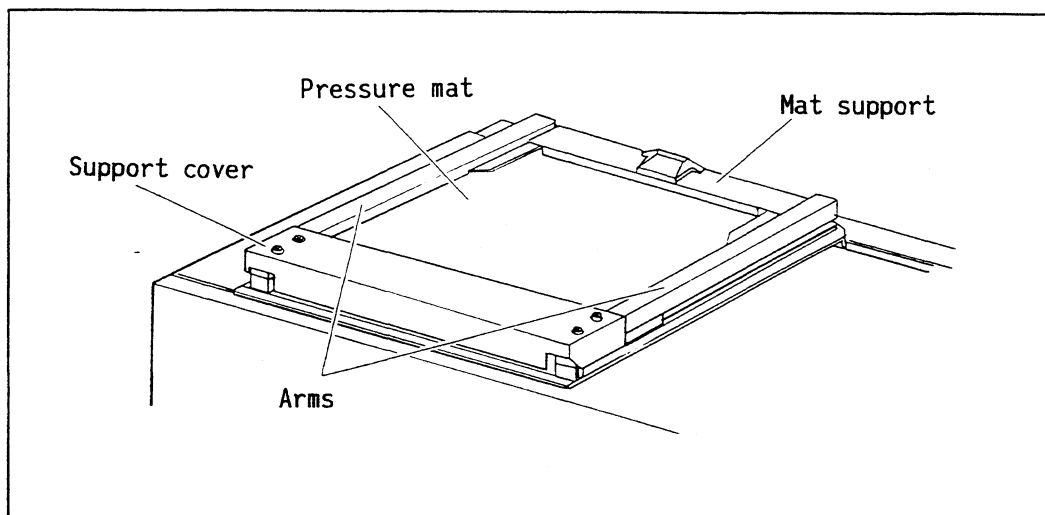
3. Tighten securing bolt.

- * If belt tension is uneven, loosen belt-retainer-securing-bolt and retighten.

4. Tense rear drive belt.

(See "Rear drive belt replacement" P.25)

11. ORIGINAL-PRESSURE-MAT REPLACEMENT PROCEDURE



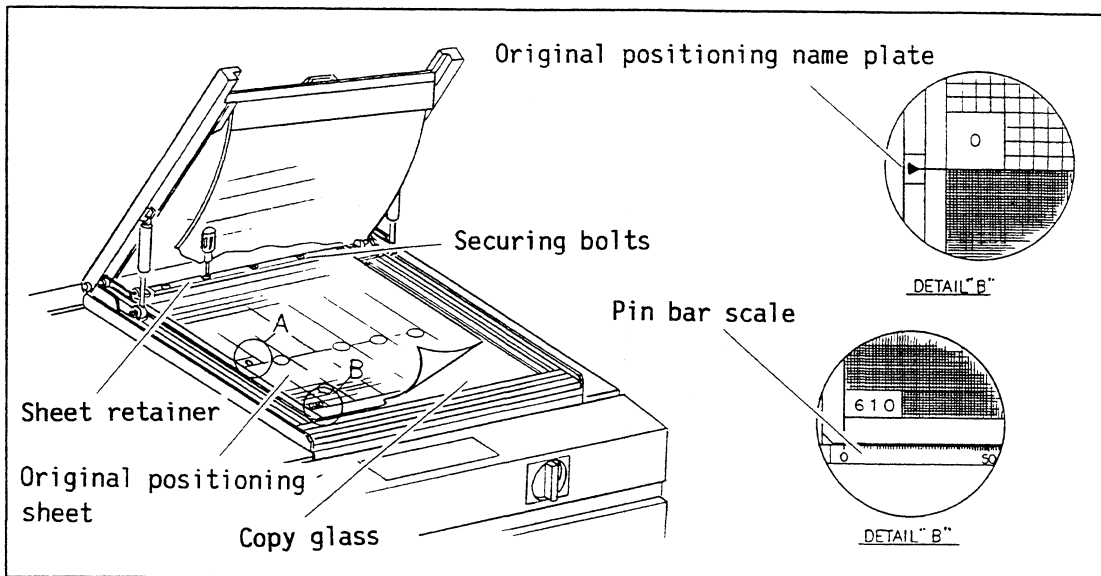
【Removal】

1. Turn power switch OFF.
2. Remove mat support from support shaft and lift arms slowly.
3. Loosen securing screws on support cover and remove cover.
4. Remove hinge from one side of Pressure mat.

【Installation】

1. Put new mat in place.
2. Tighten hinge screws.
3. Install remaining parts following reverse removal procedure.

12. ORIGINAL-POSITIONING-SHEET REPLACEMENT PROCEDURE



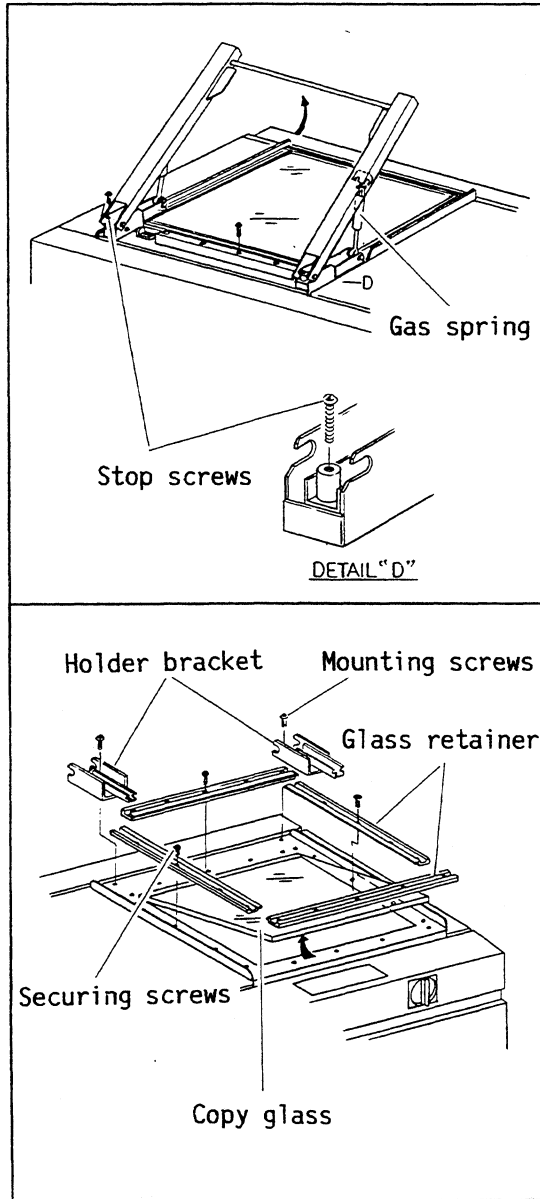
【Removal】

1. Turn power switch OFF.
2. Open contact mat and keep open.
3. Remove support cover.
4. Loosen original-positioning-sheet-securing-bolt and remove sheet retainer.
5. Remove original-positioning-sheet.

【Installation】

1. Place new original-positioning-sheet on copy glass and align sheet using original-positioning-name-plate and pin-bar-scale as guides.
2. Secure original-positioning-sheet onto original-positioning-sheet retainer using retainer securing bolts.
* If sheet tension is uneven, loosen securing bolts and resecure sheet.
3. Place black sheet on copy glass and make exposure of original-positioning-sheet.
4. If original-positioning-sheet is correctly positioned, replace support cover.

13. COPY GLASS REPLACEMENT PROCEDURE



【Removal】

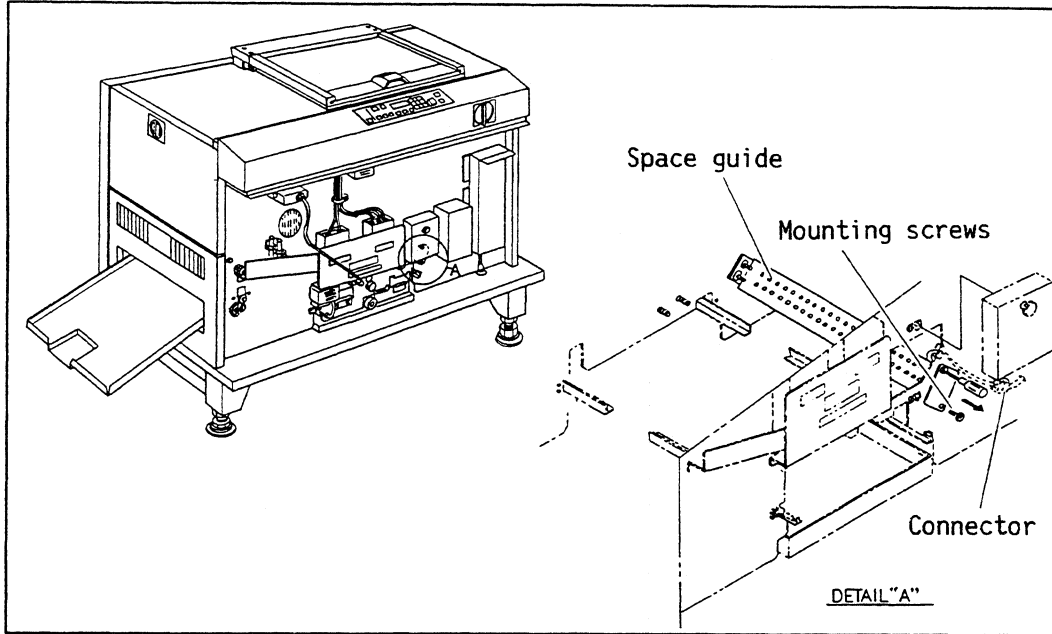
1. Turn power switch OFF.
2. Remove contact mat and original-positioning-sheet. (See P.29-30)
 - * When removing original-positioning-sheet, for easy repositioning, note and mark parts that don't need to be removed.
3. Remove stop screws. (right and left)
4. Remove gas spring. (right and left)
5. Remove arms from holder bracket.
6. Loosen mounting screws. Remove holder bracket.
7. Loosen glass-retaining-securing-screws. Remove glass retainer.
8. Remove copy glass.

【Installation】

1. Place new copy glass in position.
2. Install glass retainer.
3. Install remaining parts following reverse removal procedure.
 - * Place original-positioning-sheet on copy glass and align sheet using copy plate and pin-bar-scale as guides. Make exposure and check for correct copy positioning.

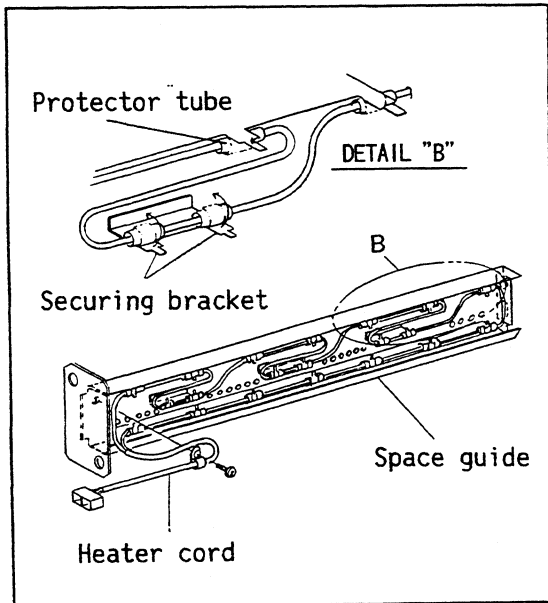
14. HEATER REPLACEMENT PROCEDURE

◆ Space Heater Replacement



— Space-Guide-Heater Replacement —

[Removal]

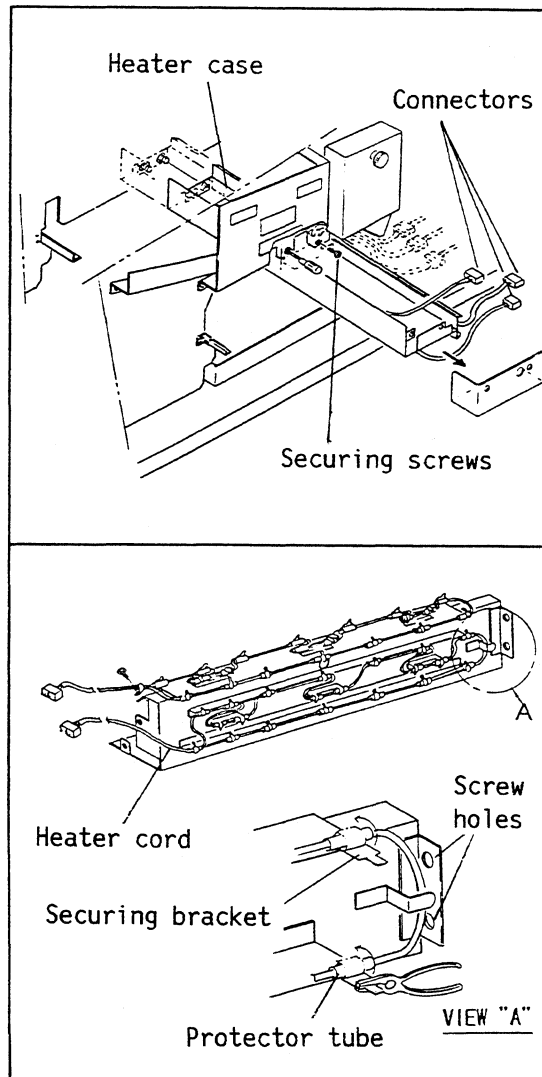


1. Drain solution from processing solution tank.
 - * Press **A** key twice. Press **START** key. (remove solution manually)
2. Remove replenisher tank. Drain solution from rinse tank using drainage hose.
3. Turn power switch OFF.
4. Remove front cover.
5. Disconnect and remove processors.
 - * After removal, place processors on clean vinyl sheet.
6. Remove space cover.
7. Disconnect (J7) connector from space guide.
8. Remove space-guide-mounting-screws and pull out space guide.
9. Open all heater-cord-securing-brackets and remove heater cord.

【Installation】

1. Place new heater cord in securing brackets; close all.
* When closing securing brackets, close brackets on ONLY heater cord protector tubes.
2. Place space guide into body.
* At this point, be sure that 2 inner body screws fit into screw holes in back side of space guide.
3. Install remaining parts following reverse removal procedure.

Space Heater Cord Replacement



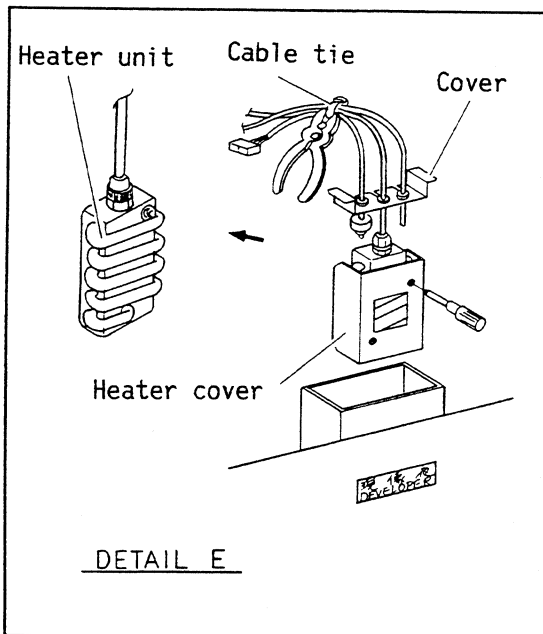
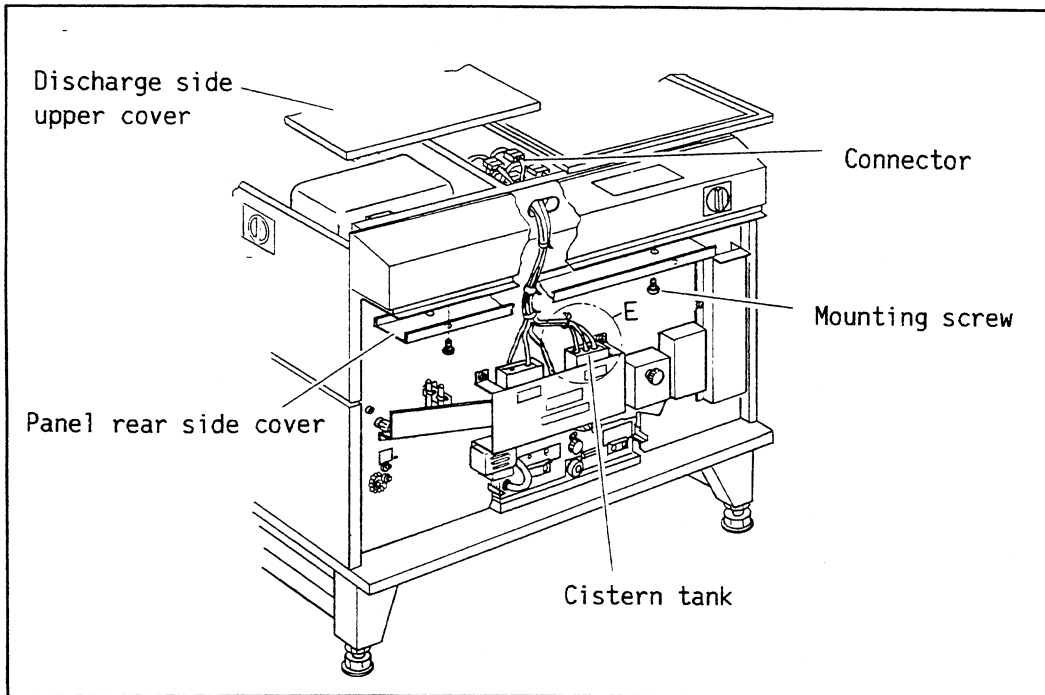
【Removal】

1. Drain solution from processing solution tank.
* Press **A** key twice. Press **START** key. (drain solution manually)
2. Remove replenisher tank. Drain solution from rinse tank using drainage hose.
3. Turn power switch OFF.
4. Remove front cover.
5. Disconnect and remove processors.
* After removal, place processors on clean vinyl sheet.
6. Disconnect (J8, J9, J10) connectors from heater case cover.
7. Remove heater case cover.
8. Remove mounting screws from heater case. Remove heater case.
9. Open all heater-cord-securing-brackets for heater case being changed, and remove both heater cords.

【Installation】

1. Place new heater cords in securing brackets; close all.
* When closing securing brackets, close brackets on ONLY heater-cord-protector-tubes.
2. Install heater case into body.
* At this point, be sure that 2 inner body screws fit into screw holes in back side of space guide.
3. Install remaining parts following reverse removal procedure.

◆ Cistern-Tank-Heater Replacement



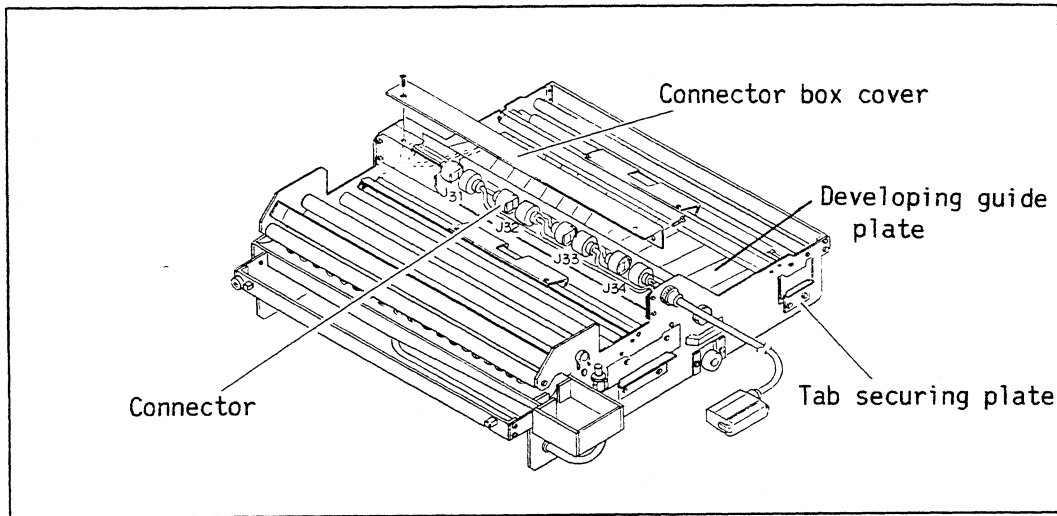
【Removal】

1. Turn power switch OFF.
2. Open front cover.
Remove discharge-side-upper-cover.
3. Loosen panel-rear-side-cover-mounting-screws. Remove panel-rear-side-cover.
4. Disconnect (J22) connector from cistern tank. Also remove cable ties.
5. Take heater out of cistern tank.
Remove heater from cistern-tank-cover.
6. Remove heater cover from heater.

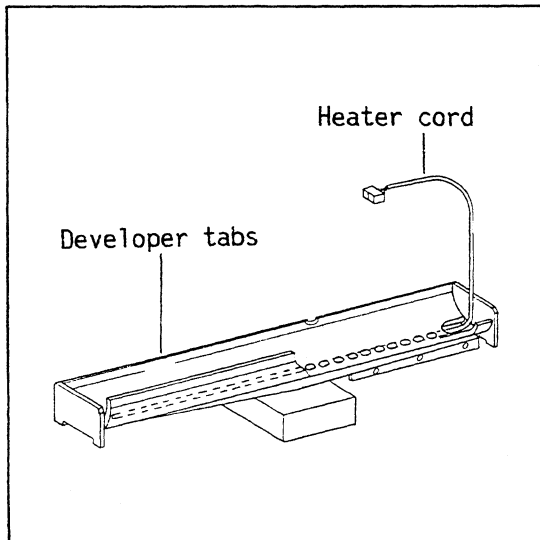
【Installation】

1. Install new heater.
2. Install remaining parts following reverse removal procedure.

◆ Processor Heater Replacement



【Removal】

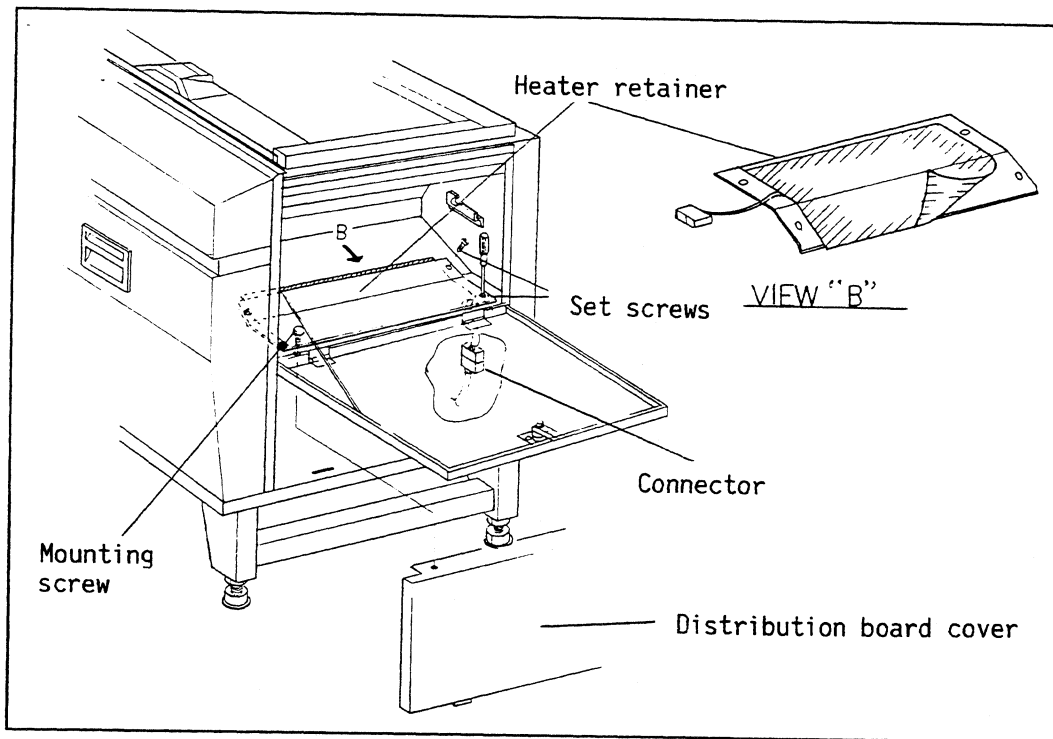


1. Drain solution from processing solution tank.
* Press **A** key twice. Press **START** key. (Drain solution manually)
2. Drain replenisher tank. Drain solution from rinse tank using drainage hose.
3. Turn power switch OFF. Remove front cover.
4. Disconnect and remove processors.
* After removal, place processors on clean vinyl sheet.
5. Remove connector-box-cover.
6. Disconnect (J32) connector from processor heater.
* Remove developing-guide-plate and cable ties.
7. Remove tab-securing-plate.
8. Pull out developer tab. Pull out heater from developer tab.

【Installation】

1. Insert new heater into developer tab securely.
2. Install remaining parts following reverse removal procedure.

◆ Master Heater Replacement



[Removal]

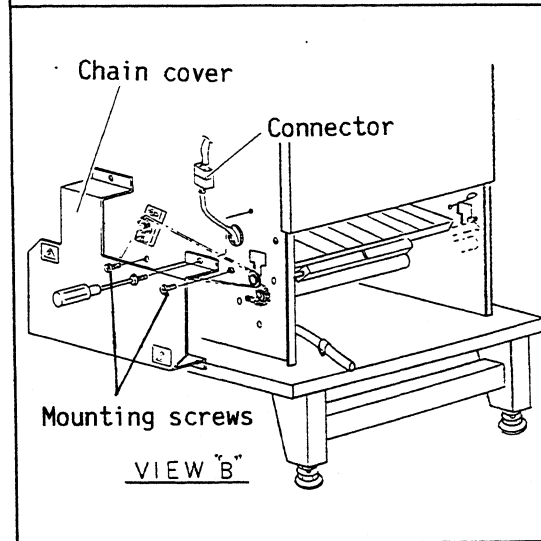
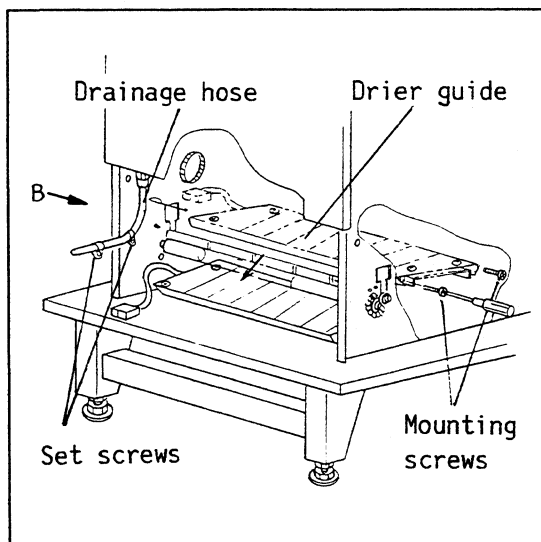
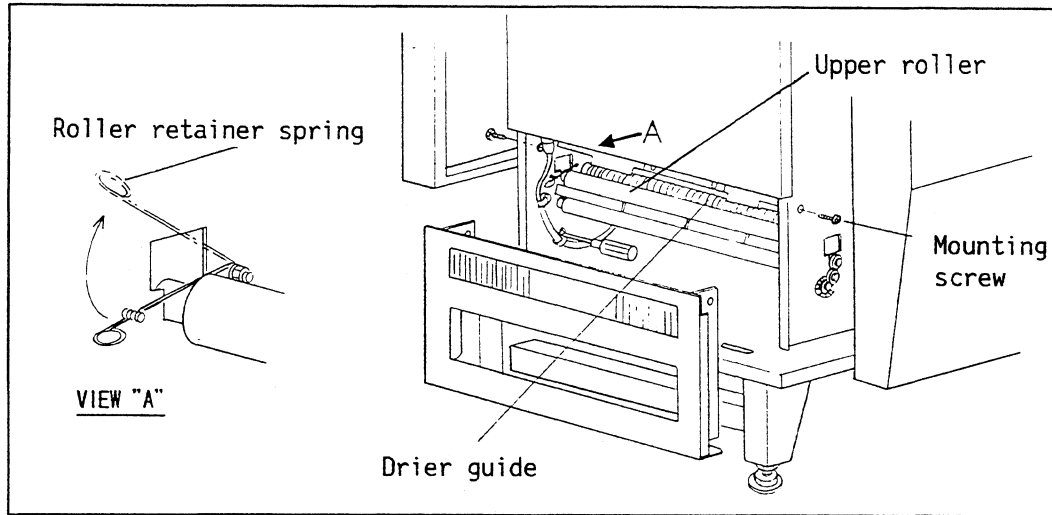
1. Turn power switch OFF.
2. Open master setting door. Loosen distribution-board-cover-mounting-screws and remove cover.
3. Disconnect (J6) connector from master heater.
4. Loosen heater-retainer-set-screws. Remove heater retainer.

* Master heater is attached to heater retainer. Remove master heater with heater retainer.

[Installation]

1. Install new heater retainer.
2. Install remaining parts following reverse removal procedure.

◆ Drier Heater Replacement



【Removal】

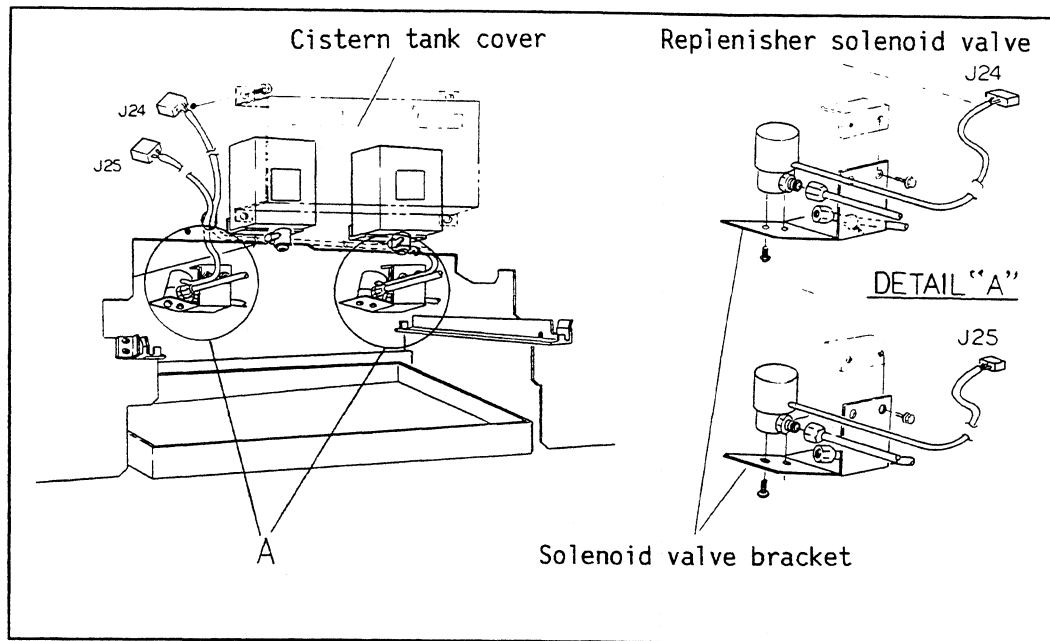
1. Turn power switch OFF.
2. Remove front and rear cover.
3. Loosen discharge-side-cover-mounting-screws. Remove discharge-side-cover.
4. Remove roller-retainer-spring. Remove upper roller.
5. Remove drainage-hose-set-screws. Pull out hose from body.
6. Remove chain cover on rear side of body.
7. Disconnect connector.(J4)
8. Loosen drier guide-mounting-screws. Remove drier guide from underside of roller.

* Drier heater is attached to drier guide.
Replace both at same time.

【Installation】

1. Install new drier guide.
2. Install remaining parts following reverse removal procedure.

15. SOLENOID VALVE REPLACEMENT PROCEDURE



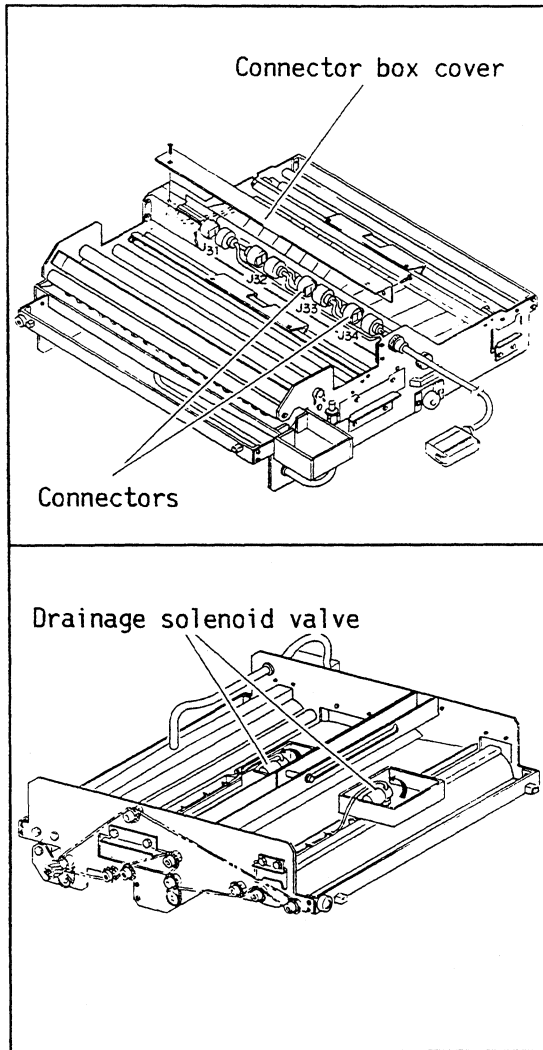
— Replenisher Solenoid Valve Replacement —

[Removal]

1. Drain solution from processing solution tank.
* Press key twice. Press key. (drain solution manually)
2. Remove replenisher tank. Drain solution from rinse tank using drainage hose.
3. Turn power switch OFF.
4. Open front cover.
5. Disconnect and remove processors.
* After removal, place processors on clean vinyl sheet.
6. Remove space-heater-case (when replacing developer side-solenoid-valve).
* See "Space Heater Cord Replacement". (P.33)
7. Remove cistern tank cover.
8. Remove discharge-side-upper-cover. Remove panel-rear-side-cover.
9. Disconnect connectors from solenoid valve. J24: Developer side.
J25: Stabilizer side.
10. Loosen solenoid-valve-bracket-screws and hose connector. Remove solenoid valve.

[Installation]

1. Install new solenoid valve.
2. Install remaining parts following reverse removal procedure.



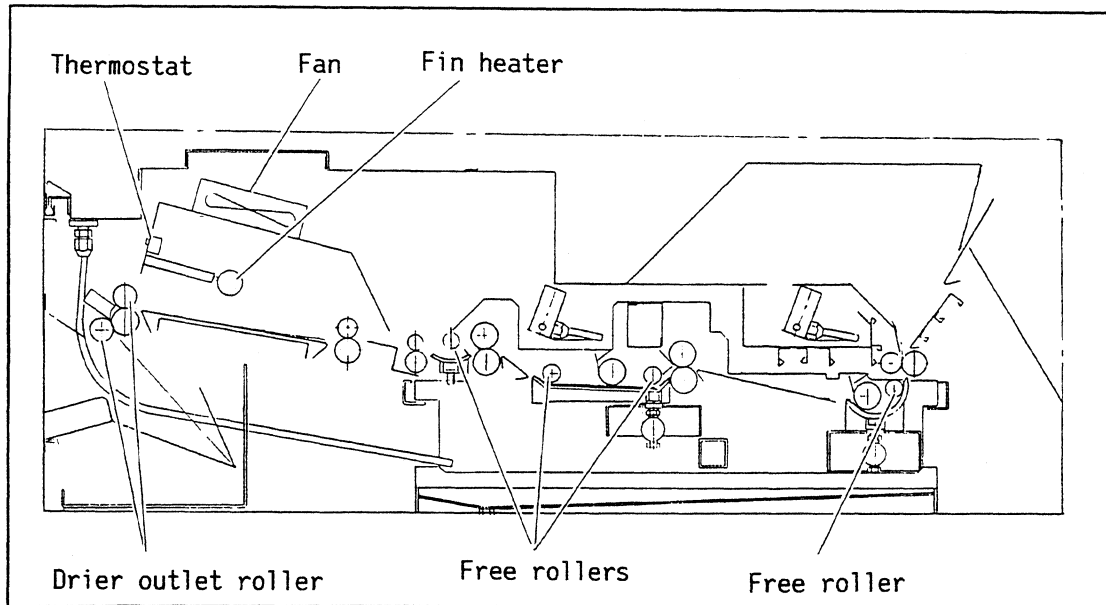
【Removal】

1. Drain solution from processing solution tank.
 - * Press **A** key twice. Press **START** key. (Drain solution manually)
2. Remove replenisher tank.
Drain solution from rinse tank using drainage hose.
3. Turn power switch OFF.
4. Open front cover.
5. Disconnect and remove processors.
 - * After removal, place processors on clean vinyl sheet.
6. Remove connector box cover.
7. Disconnect connectors from solenoid valve. J33: Developer side.
J34: Stabilizer side.
 - * At this point, also remove cable ties.
8. Turn processor up-side-down.
9. Turn solenoid valve in direction of arrow. Remove solenoid valve.

【Installation】

1. Install new solenoid valve.
2. Install remaining parts following reverse removal procedure.

16. PROCESSOR DRIER



[When master becomes scratched in processor drier unit]

General causes —

- Free rollers are dirty and do not rotate smoothly.
⇒ Wash and clean
- Drier fan does not activate.
⇒ Check electrical system

[When master becomes wrinkled in processor drier unit]

- Master worming due to faulty positioning in loading section.
⇒ Check and load master properly
 - Cutter blade is dull.
⇒ Replace cutter blade
 - Adhesive on parts (rollers, etc.) in exposure section and transfer unit slow down master feed and cause warping.
⇒ Clean
 - Nip pressure spring at drier outlet roller is out of place.
⇒ Put spring back into correct position
 - Drain temperature too high
⇒ Adjust thermostat. (Turn counterclockwise to lower temperature)
- * Thoroughly determine at which process trouble is occurring and take necessary measures.

ELECTRICAL SYSTEM

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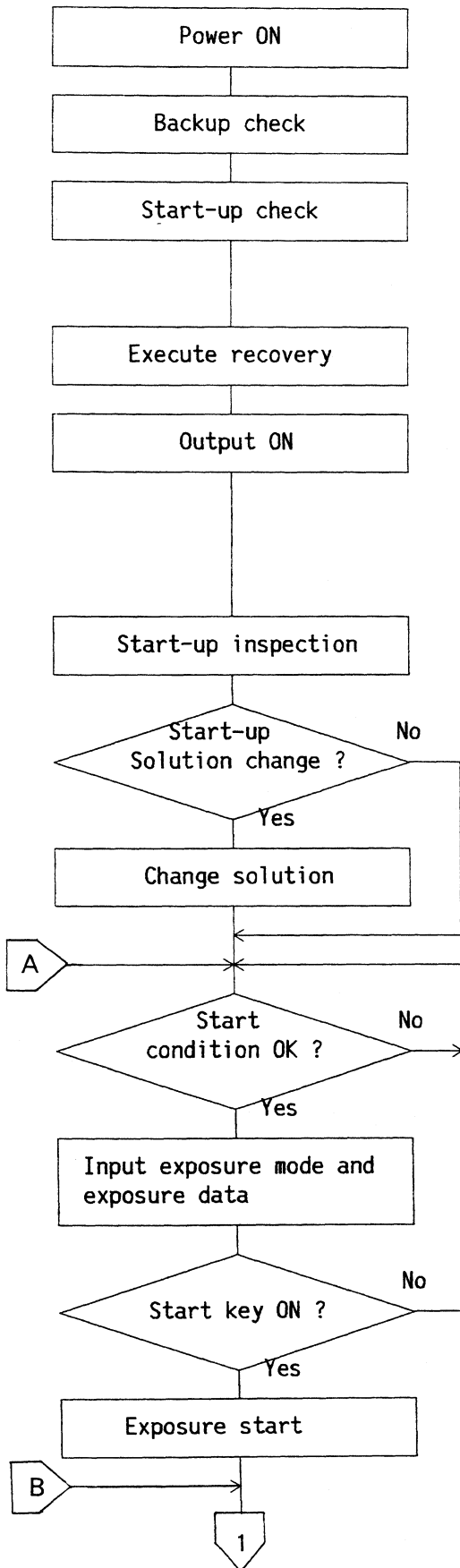
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4. ERROR/CORRECTIVE MEASURE LIST

35

1. OPERATION FLOWCHART



Software version E S 0 1 2 1-□□

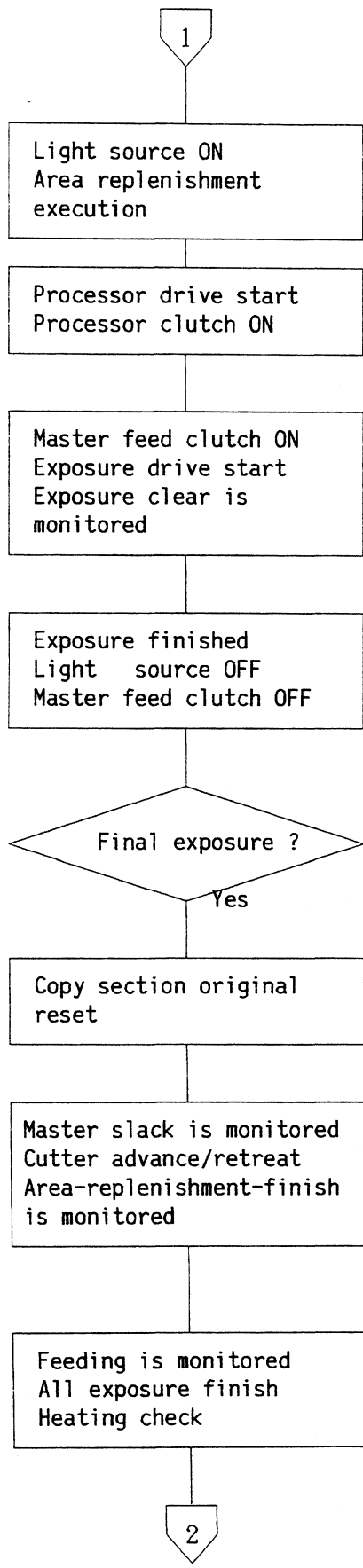
When data error occurs, clear RAM.
 ----Turn Power OFF. Reset operation mode with DIP switch.(compensation mode etc)
 If error exists from start, stop operation.
 ----Turn Power OFF.
 (open door)
 Check cutter and/or copy section.
 Check for remaining master paper.
 Check for master jam.
 Return copy section to original position.
 Return cutter to original position.

- Drier heater ON (hard control)
- Drier fan ON
- Cooling fan ON
- Master heater ON (hard control)
- Cistern heater ON (hard control)
- Tab heater ON (hard control)

Each item will be displayed for five seconds.

- Check items —
- Copy section origin return error
- Nip check
- Processing solution/Waste liquid check
- Heater setting error
- Master end

START OK will be displayed.



Drive will start after 0.5 second.
DEV. and ST. replenishment will start at same time.

PM3
For divided exposure,
during 260mm-290mm feeding
processor clutch ON

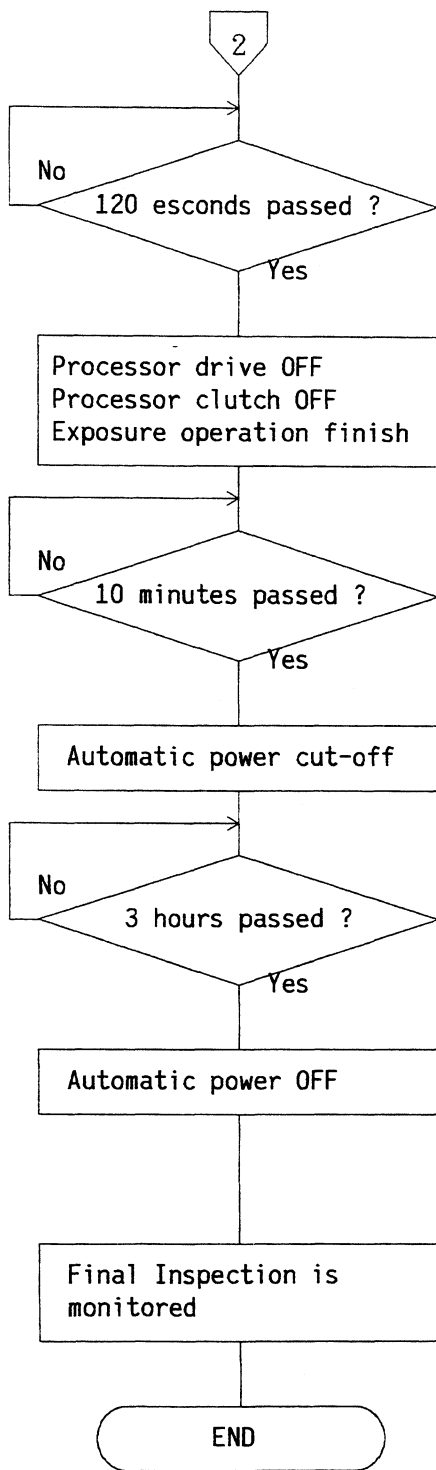
PM2
Master feed error
Copy section over run

PM2

For multiple exposure, divided exposure clear is monitored,
Copy section moves to next exposure position,
Auto 2-divided
Exposure/multiple exposure --- to B
Manual multiple exposure ---- to A

If slack is less than 200mm
master will be cut.
PM1
Cutter origin error
Cutter advance/retreat error
When master slack is cleared
cutter cut error will be checked.

Start OK check
If exposure state changes,
check temperature each time.



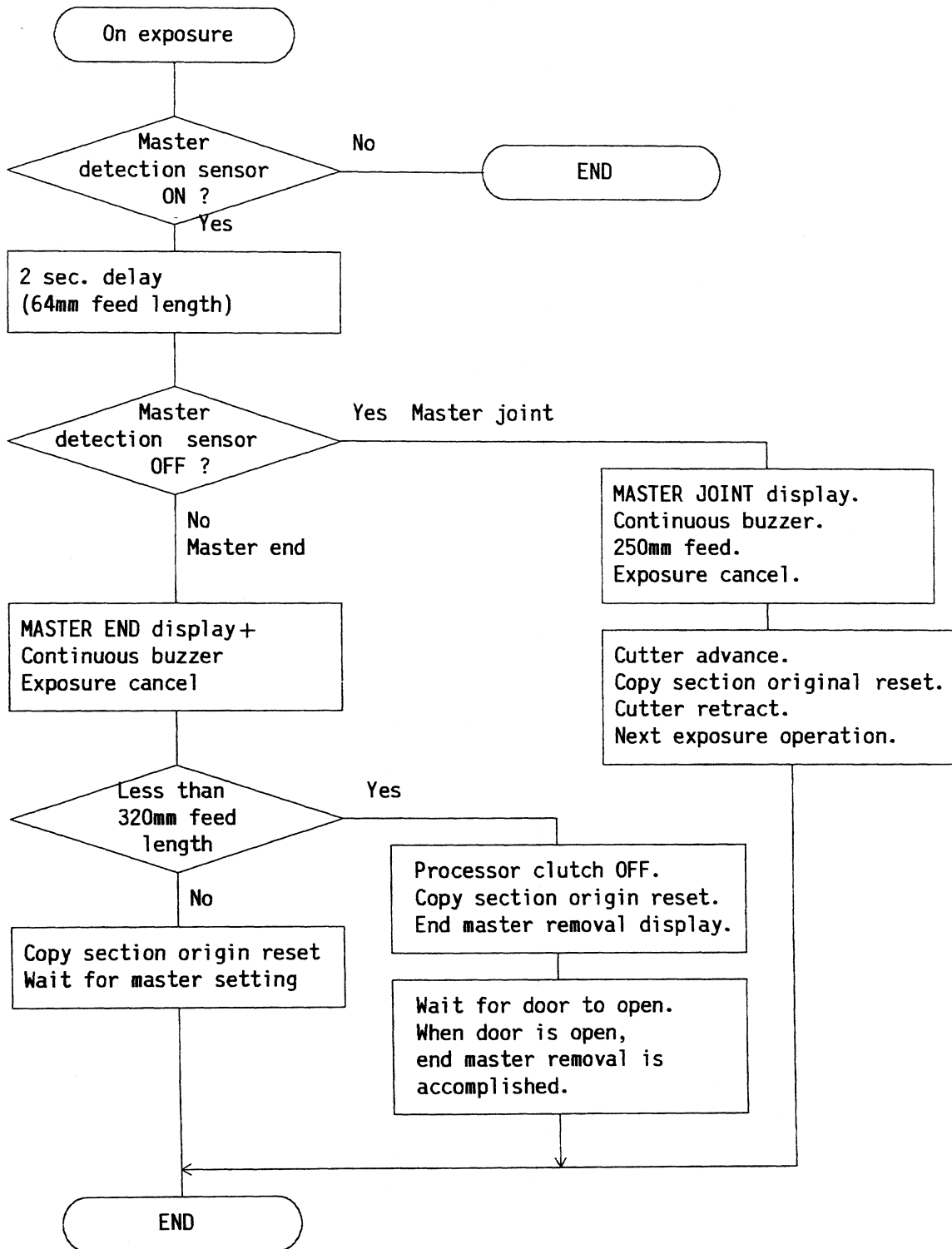
Master jam

Power will be cut-off
except: cistern, tab and space heater

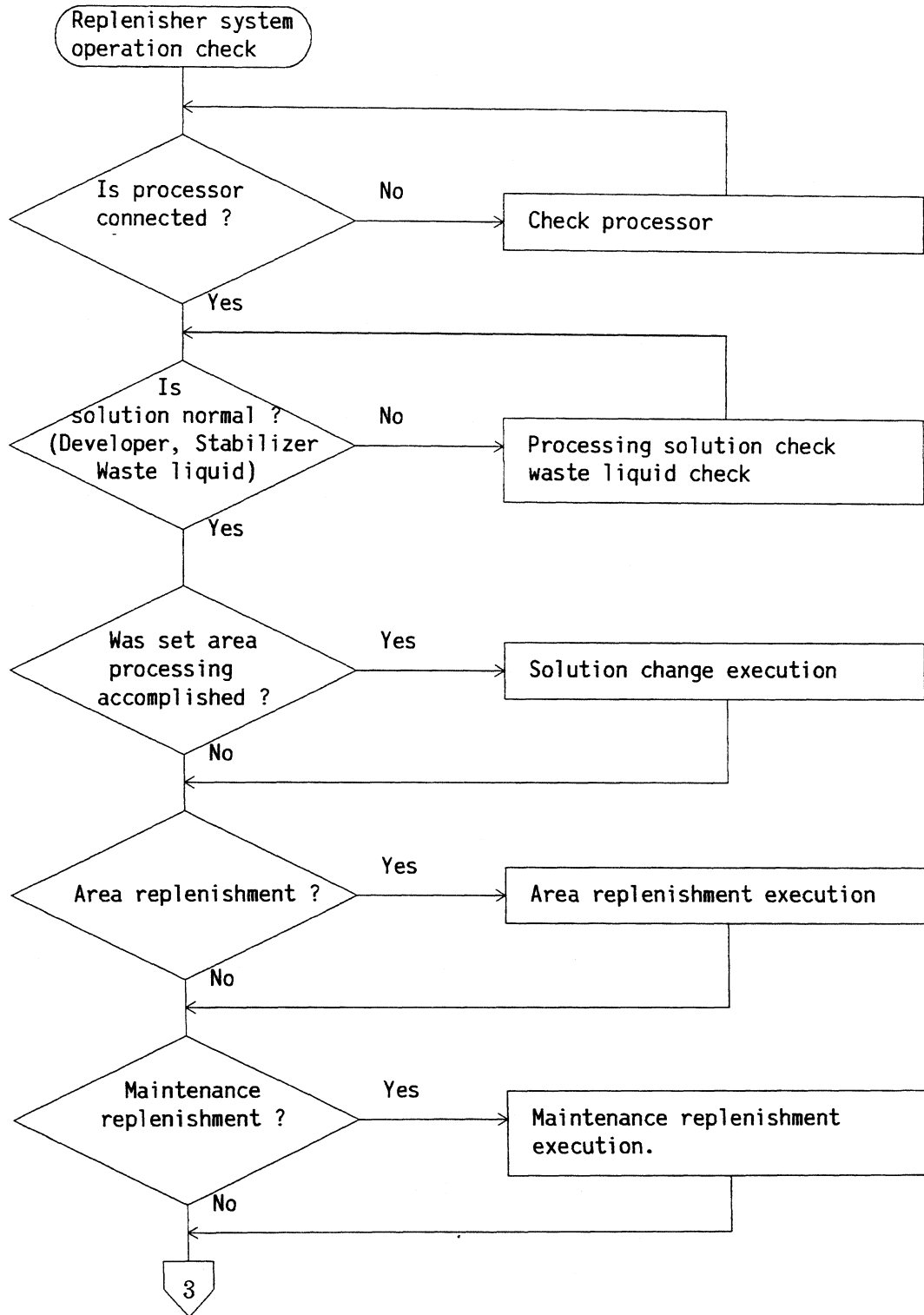
All output OFF
Master heater will be used as
dehumidifier heater.
Input ON/OFF with dehumidify key

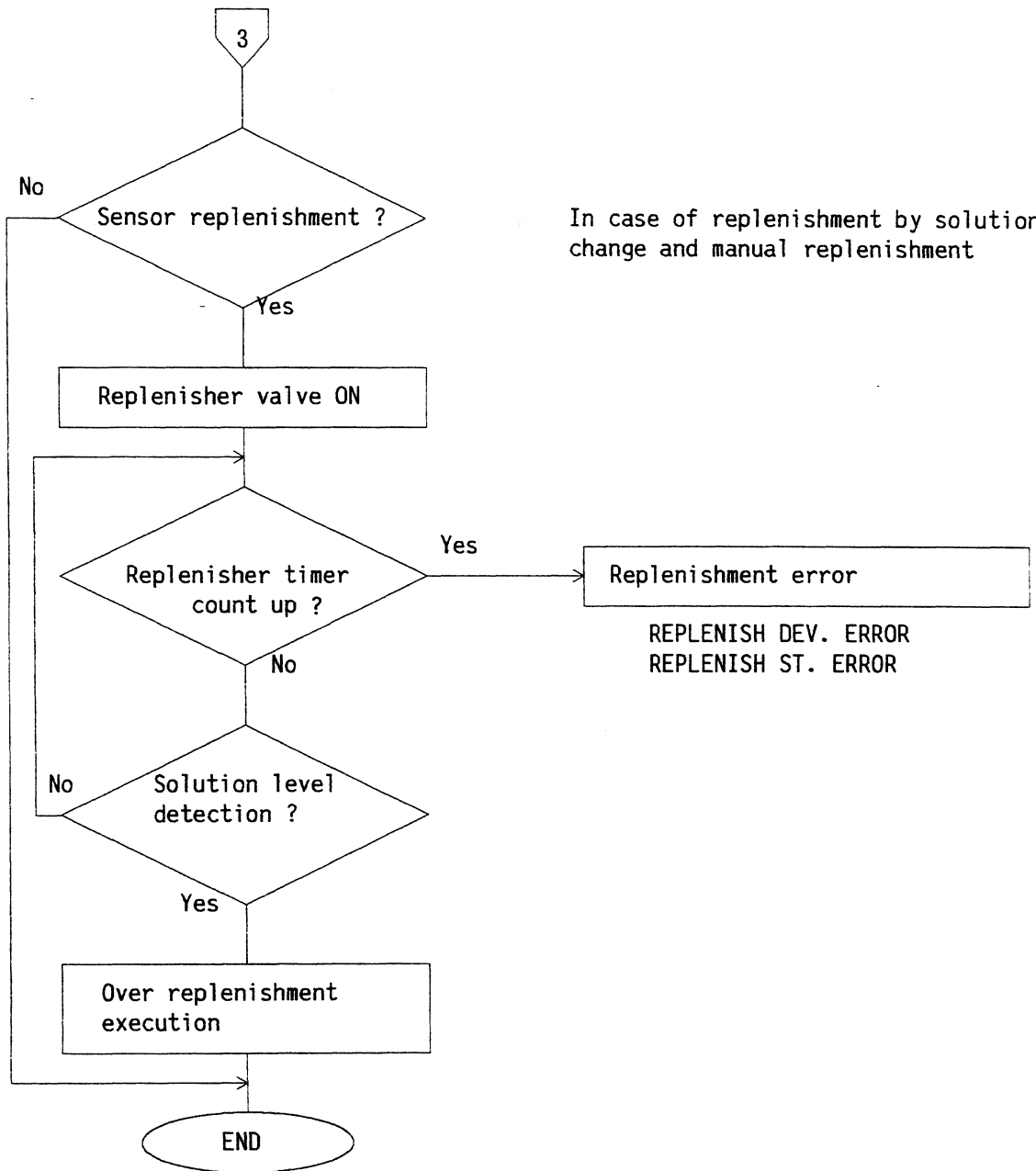
Each item will be displayed for
five seconds.

■ Master end/Master joint process



■ Replenisher system operation check

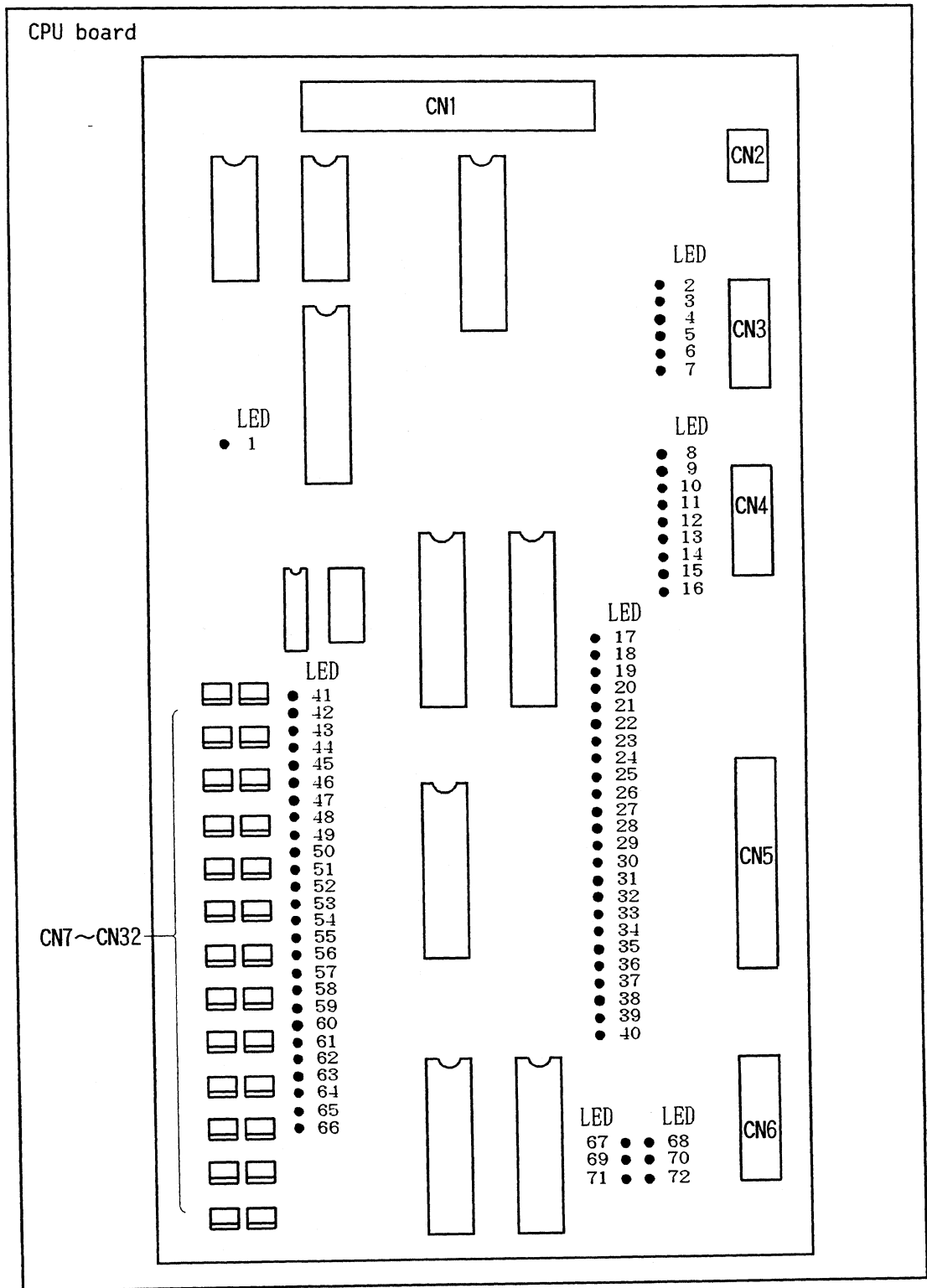




In case of replenishment by solution change and manual replenishment

◆ LED display for verifying CPU board signals

- Status of board input/output signals can be verified with LED display on CPU board.



◆ Description of CPU board input/output and related LED display

L E D		Illumination/Flash Timing
No.	Name	
1	ON CPU function	While CPU is functioning
8	Light source ON	While Light source is illuminated
9 { 16	Light intensity adjustment data Output	Binary display (0-255)
17	Drier HI	While drier HI relay is ON (RY1)
18	Drier LO	While drier LOW relay is ON (RY2)
19	Master heater	While master heater relay is ON (RY3)
20	Back light (option)	While back light relay is ON (RY4)
21	Cistern heater	While cistern heater relay is ON (RY5)
22	Tab heater	While tab heater relay is ON (RY6)
23	Space heater	While space heater relay is ON (RY7)
24	Cutter selection	While cutter section relay is ON (RY8)
25	Drier fan Cooling fan	While fan relay is ON (RY9)
26	Processor clutch	While processor clutch relay is ON (RY10)
27	Developer replenisher valve	While developer-replenisher-valve relay is ON (RY11)
28	Stabilizer replenisher valve	While stabilizer-replenisher-valve relay is ON (RY12)
29	Developer drain valve	While developer-drain-valve relay is ON (RY13)
30	Stabilizer drain valve	While Stabilizer-drain-valve relay is ON (RY14)

L E D		Illumination/Flash Timing
No.	Name	
31	Master feed clutch	While master-feed-clutch-relay is ON (RY15)
41	Master feed pulse	When detector plate is not at master feed pulse sensor (PS1)
43	Nip lock	When detector plate is not at nip sensor (PS2)
44	Copy board origin	When detector plate is not at copy-board-origin sensor (PS3)
45	Copy board end point	When detector plate is not at copy-board-end-point sensor (PS4)
46	Cutter origin	When detector plate is not at cutter-origin sensor (PS5)
47	Cutter end point	When detector plate is not at cutter-end-point sensor (PS6)
48	Cistern developer level low	When solution level is too low, end switch turns ON (FS1)
49	cistern stabilizer level low	When solution level is too low, end switch turns ON (FS2)
50	Drain tank overflow	When solution level is too low, end switch turns ON (FS3)
51	Cistern heater ON	While heater is operating, but desired temperature is not yet obtained (THC1)
52	Tab heater ON	While heater is operating, but desired temperature is not yet obtained (THC2)
53	Space heater ON	While heater is operating, but desired temperature is not yet obtained (THC3)
54	Tab developer level low	When solution level sensor does not detect solution level (SLS1)
55	Tab stabilizer level low	When solution level sensor does not detect solution level (SLS2)
59	Master set 1	When master is not at master set sensor 1 (PS7)
60	Master set 2	When master is not at master set sensor 2 (PS8)

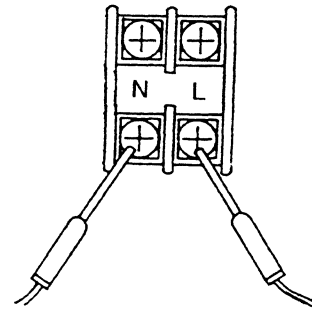
L E D		Illumination/Flash Timing
No.	Name	
65	Processor connection	When processor is connected
66	Door	When door is closed
67	Low power (cutter/exposure motor)	When low power signal is output
68	Low Power (processor motor)	When low power signal is output
69	Forward rotation pulse (cutter/exposure motor)	When forward rotation pulse signal is output
71	Reverse rotation pulse (cutter/exposure motor)	When reverse rotation pulse signal is output
72	Drive pulse (processor motor)	When drive pulse signal is output

2. DISTRIBUTION BOARD FUNCTION CHECK

◆ Installation site power voltage check

- Measured value between terminals **N** — **L** on the distribution board must be within $\pm 10\%$ of basic voltage.

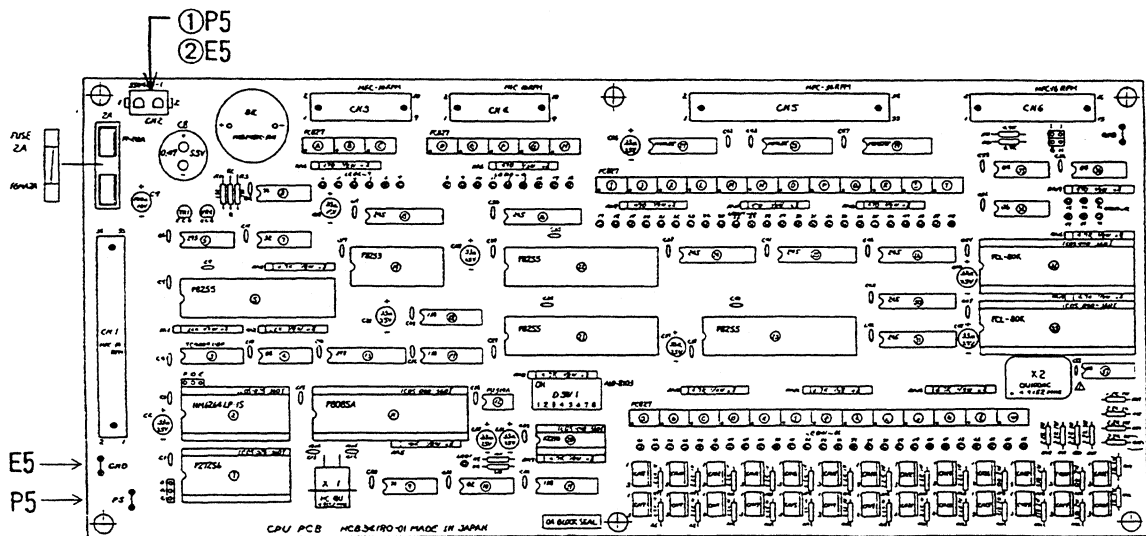
Same at full load



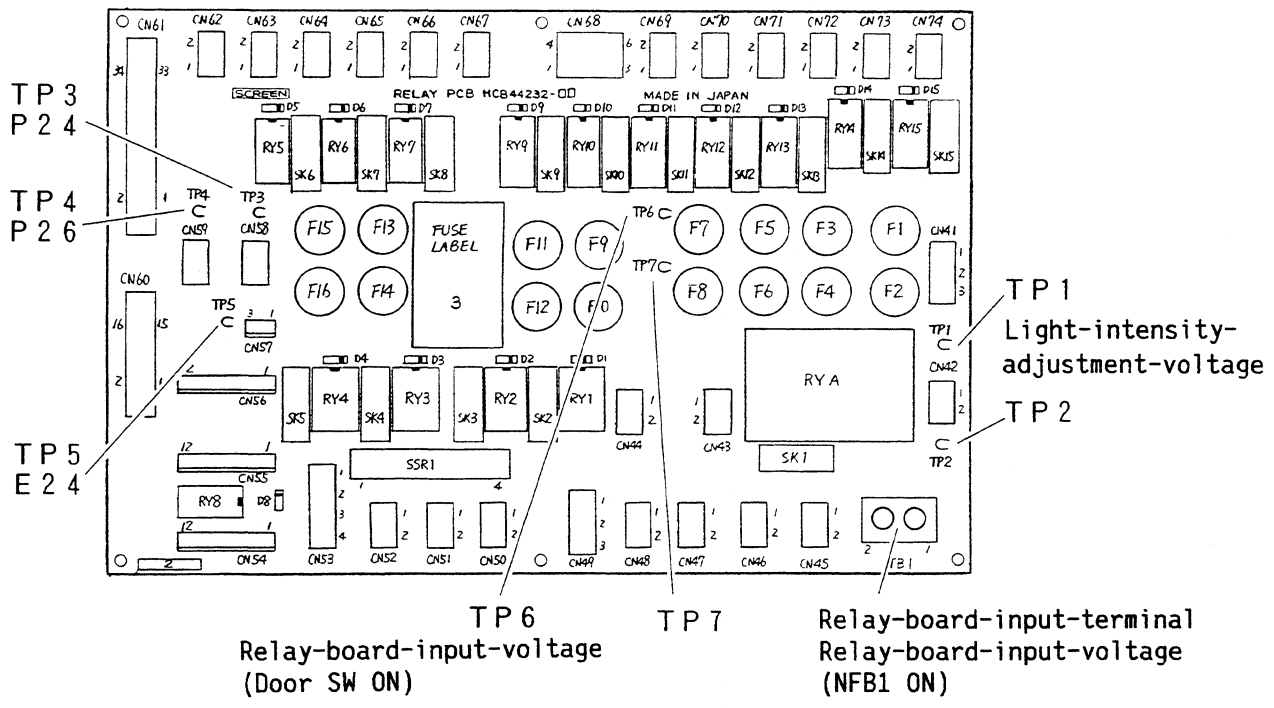
◆ CPU board/relay board power supply voltage check

- Measure at each point on board.

CPU board

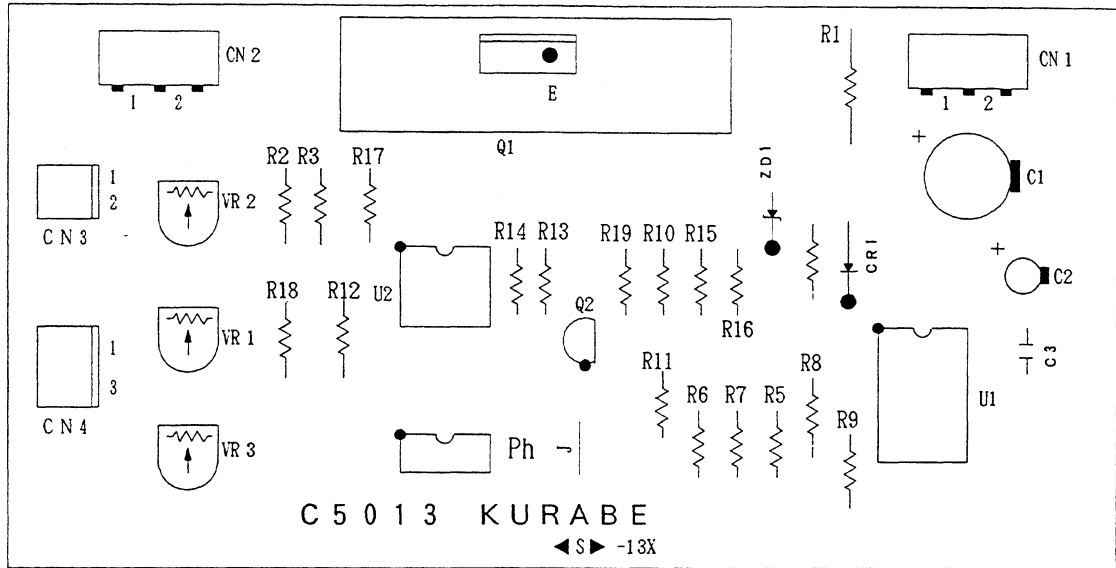


Relay board



◆ Board adjustment method

- Temperature controller C5013



THC1-3 adjustment method

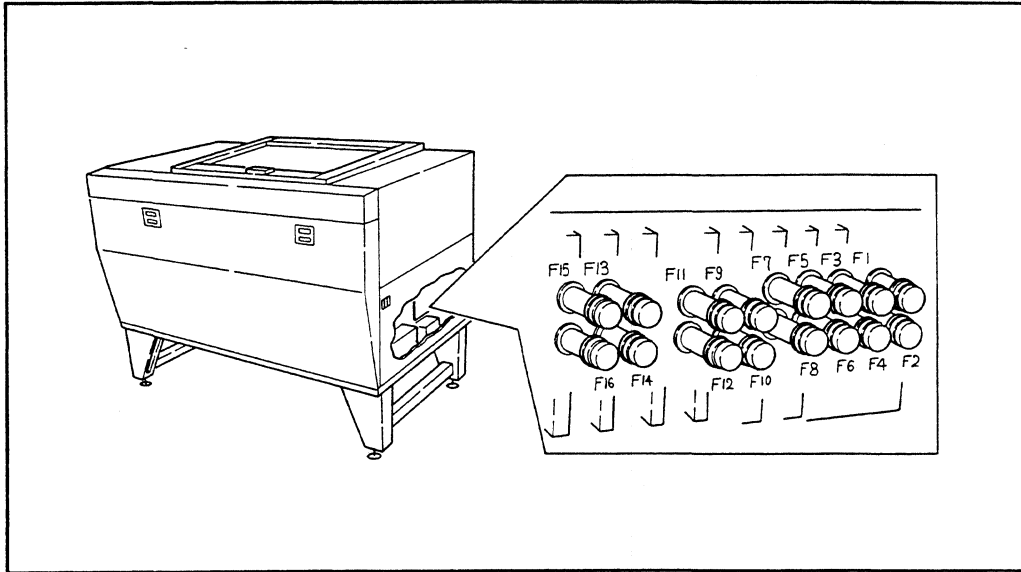
Name	Adjustment
VR 1 temperature setting	<ol style="list-style-type: none"> ① Make sure that thermistor for solution temperature detection is installed correctly before adjustment. ② Turn adjustment screw (VR1) and adjust temperature. <ul style="list-style-type: none"> * VR1 temperature adjustment range: 24-32°C. * White adjustment screw ... clockwise to raise temperature, counterclockwise to lower temperature. * Black/yellow adjustment screw ... counterclockwise to raise temperature, clockwise to lower temperature. ③ When desired temperature is obtained, turn adjustment screw — stop turning at point where LED's(51-53) corresponding to CPU go off. ④ After operating for 5 or 6 minutes, make sure that temperature is correct. Fine-adjust if necessary.
VR 2	DO NOT ADJUST
VR 3	DO NOT ADJUST

THC4, 5 adjustment method

Name	Adjustment
VR 1	When processing solution reaches overflow level, adjust VR1 so that LEDs (54, 55, corresponding to CPU) turn off. Drain solution and check LED display.
VR 2	DO NOT ADJUST
VR 3	DO NOT ADJUST

◆ Fuse function

- Distribution board is located under master setting section on right side of body. Distribution board consists of various electrical instruments.
- When exchanging fuses/checking electrical circuit, turn POWER switch and main power supply OFF.
- ALWAYS use same rating/type fuses.
(Different rating/type fuses will cause damage to machine.)



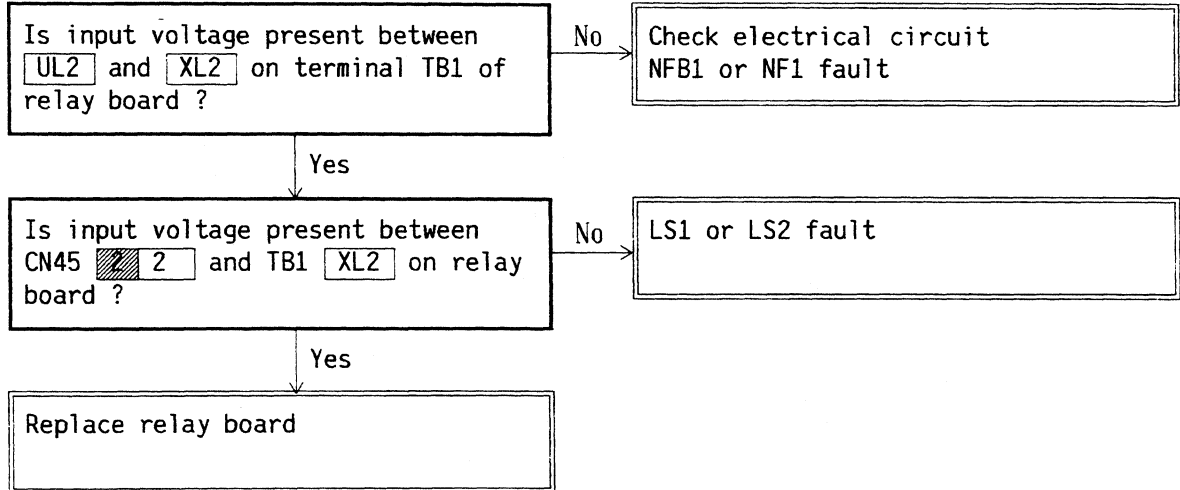
Fuse No.	Rating			Parts protected by fuse
F1, 2	250V	1A	Φ5.2 × 20	DC 5V power supply (for CPU, PMD)
F3, 4	250V	15A	Φ6.35 × 31.8 CERAMIC	Light source
F5, 6	250V	3A	Φ5.2 × 20	Light source control, DC24V power supply, DC26V power supply
F7, 8	250V	10A	Φ6.35 × 31.8	Transformer
F9	250V	10A	Φ6.35 × 31.8	Drier heater
F10	250V	2A	Φ5.2 × 20	Master heater, Space heater
F11	250V	5A	Φ6.35 × 31.8	Transformer for back light
F12	250V	10A	Φ6.35 × 31.8	Back light
F13	125V	4A	Φ5.2 × 20	Developer cistern heater
F14	125V	4A	Φ5.2 × 20	Developer tab heater
F15	125V	2A	Φ5.2 × 20	Clutch, Solenoid valve, Control circuit
F16	125V	4A	Φ5.2 × 20	Pulse motor, Fan

3. TROUBLESHOOTING

Power does not come on even when door is closed

- Check fuses F1, F2

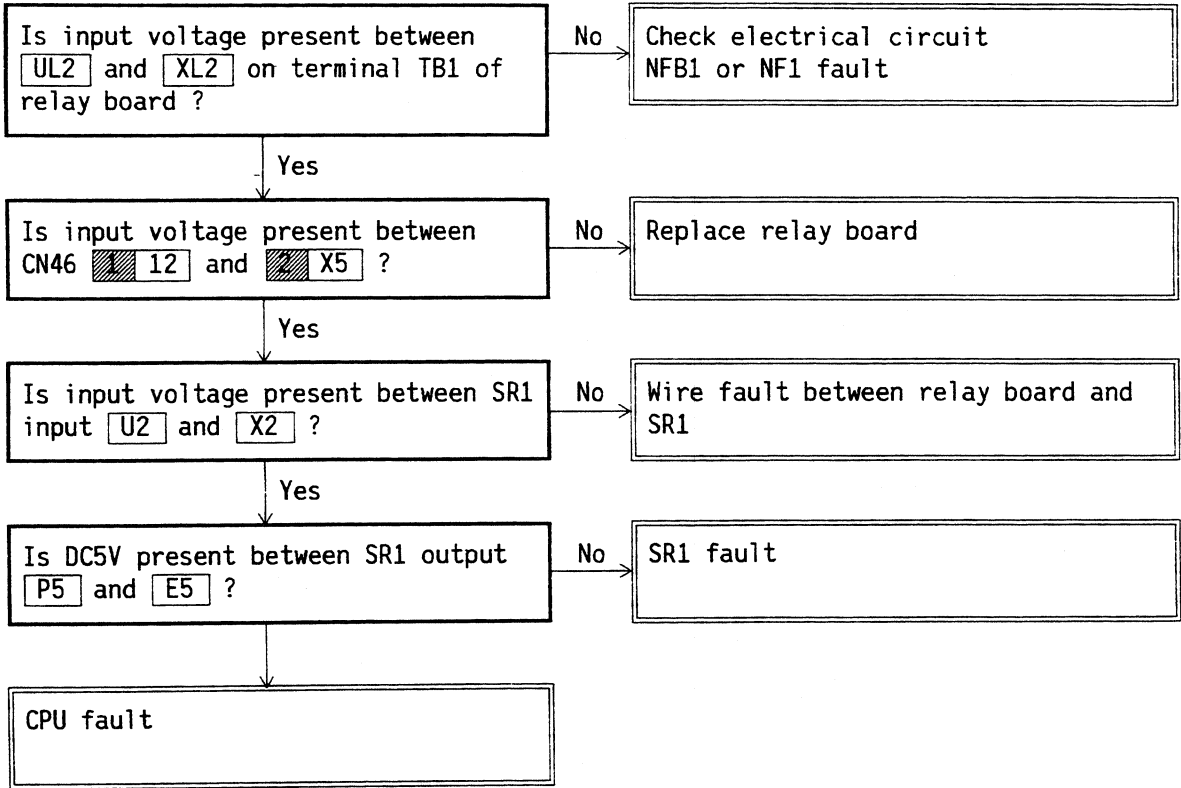
With LS1, LS2 status ON.



[Note] Power is supplied to CPU with door open or closed.

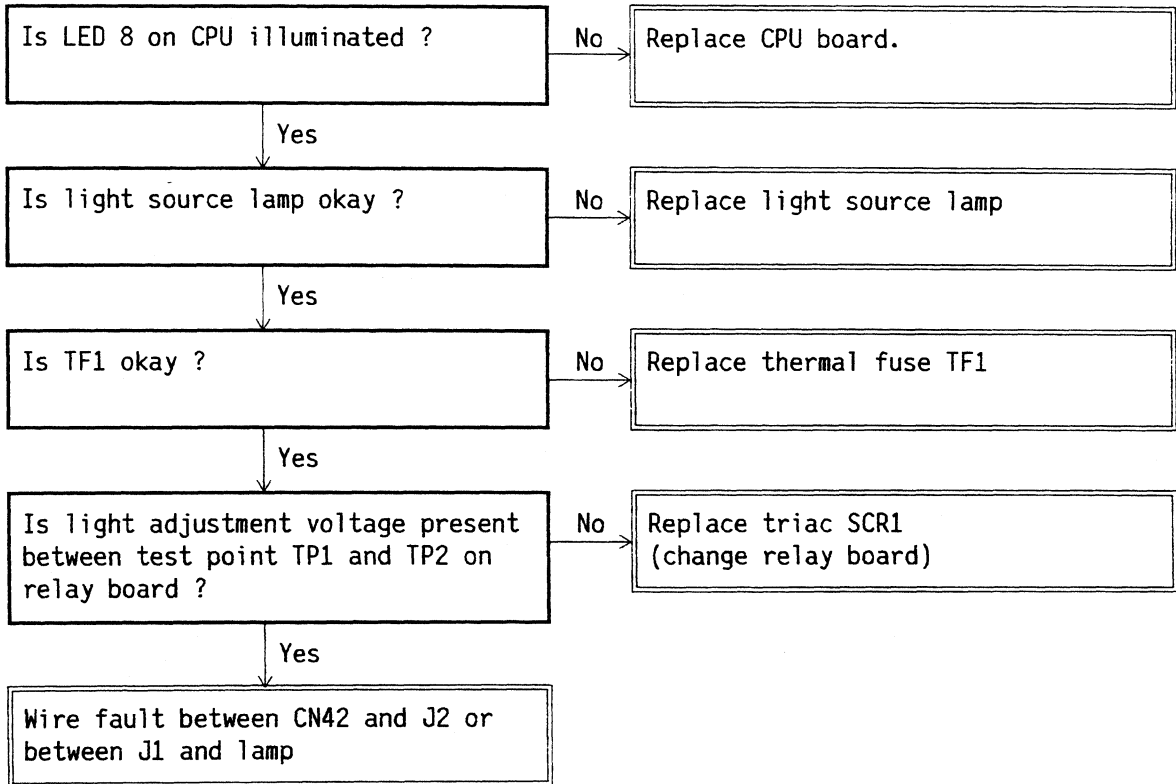
CPU does not function

• Check fuses F1, F2



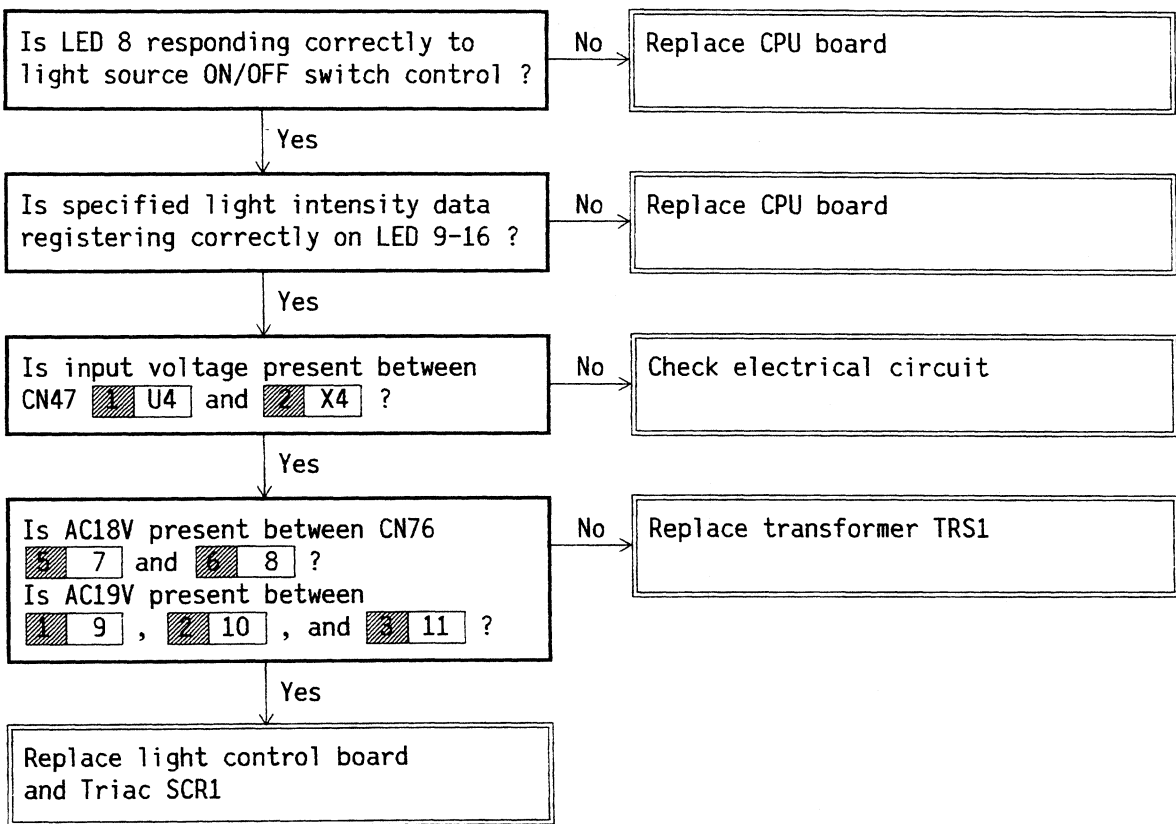
Light source does not illuminate

- Check fuses F3, F4, F5 and F6



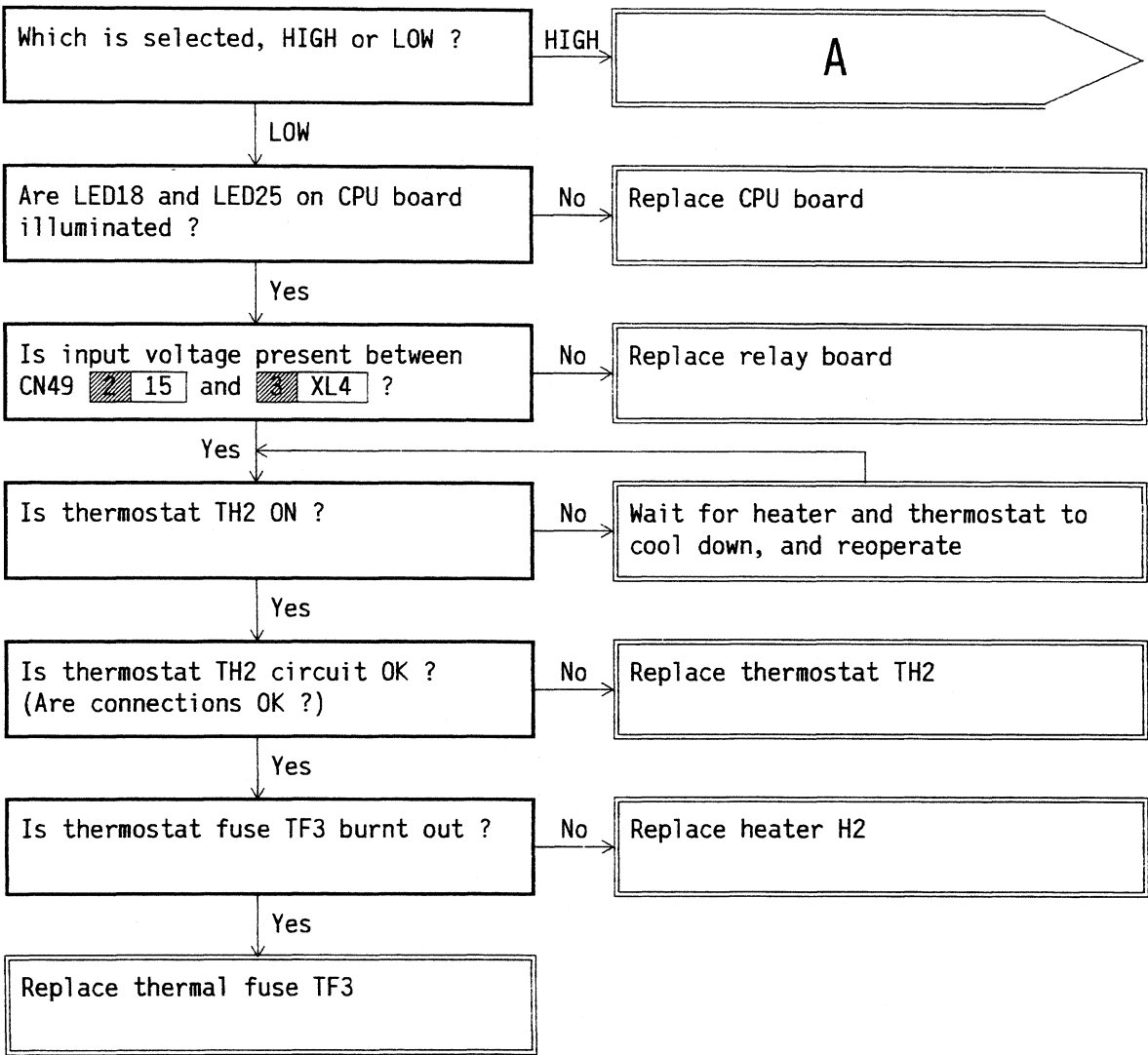
Light control does not function or does not go off when not in use

• Check fuses F5, F6

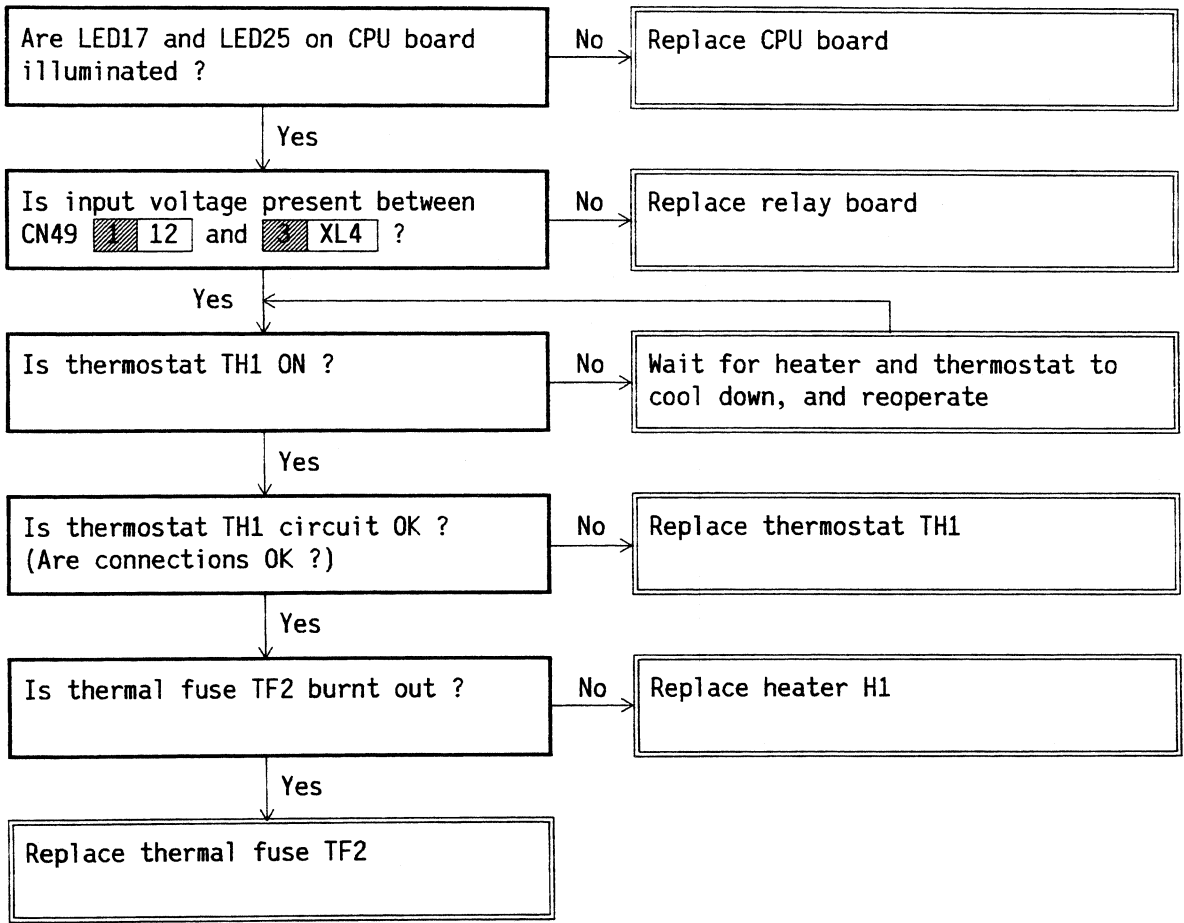


Drier heater does not function

• Check fuses F7, F8 and F9

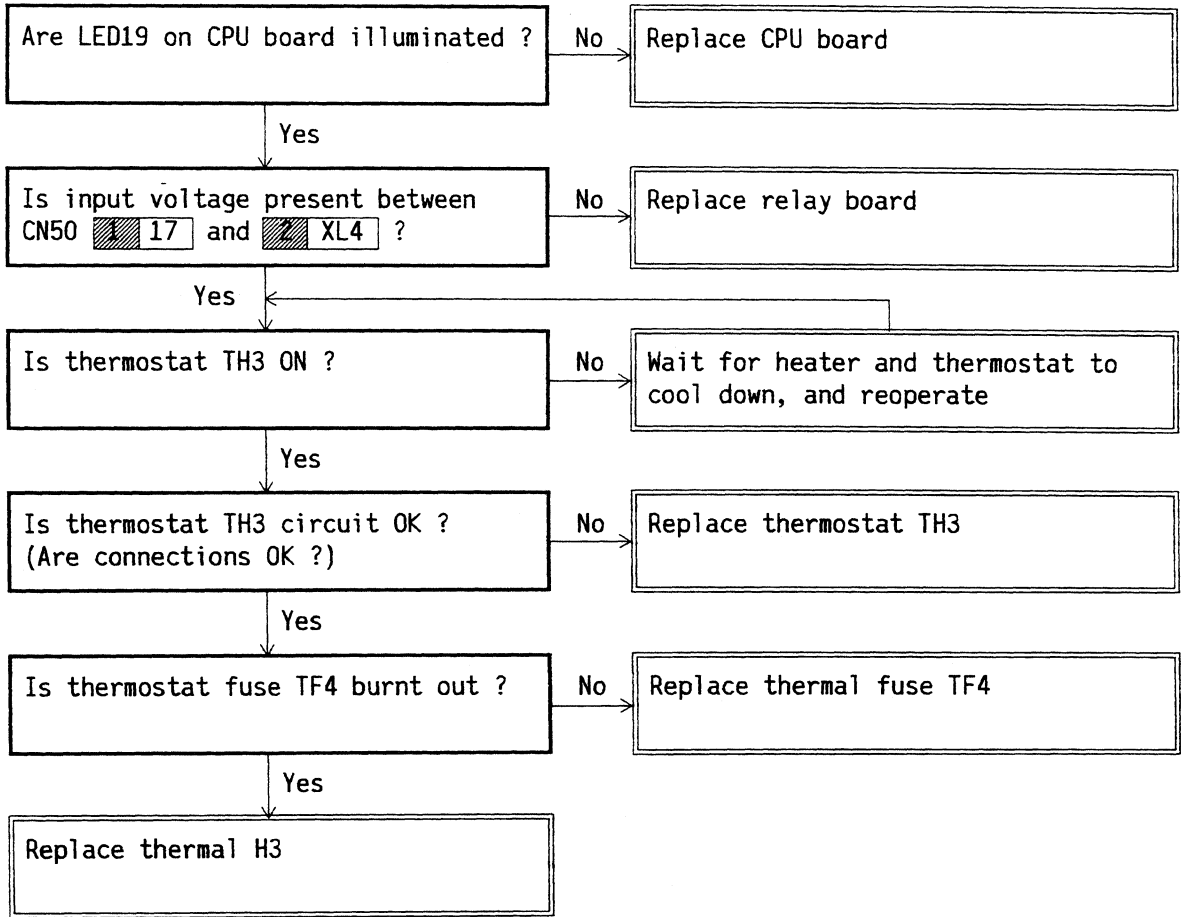


A



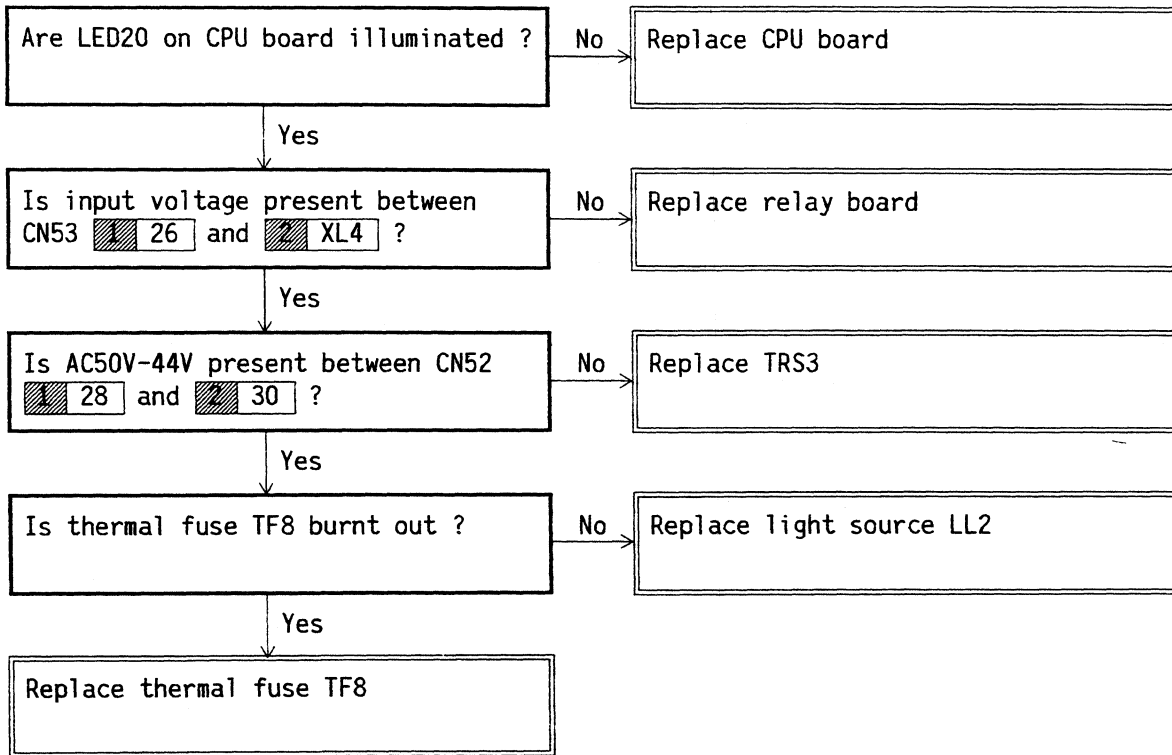
Master heater does not function

• Check fuses F7, F8 and F10



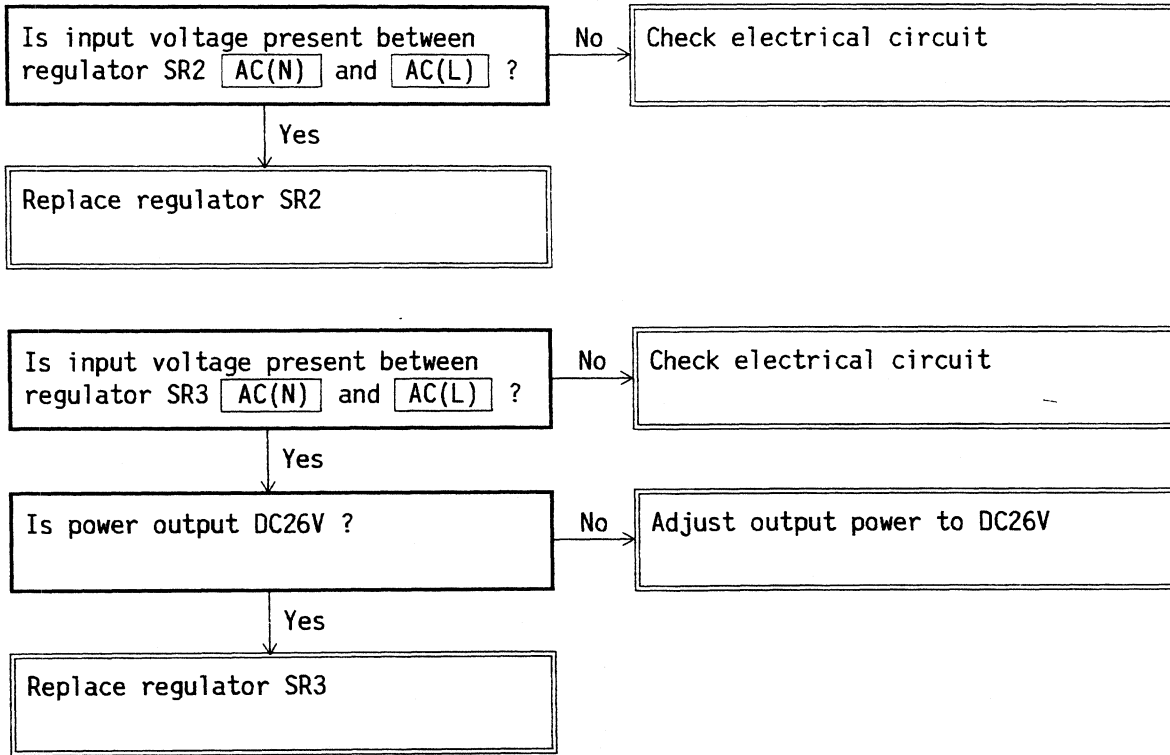
Back light does not illuminate

• Check fuse F11, F12



DC24V power regulator does not function

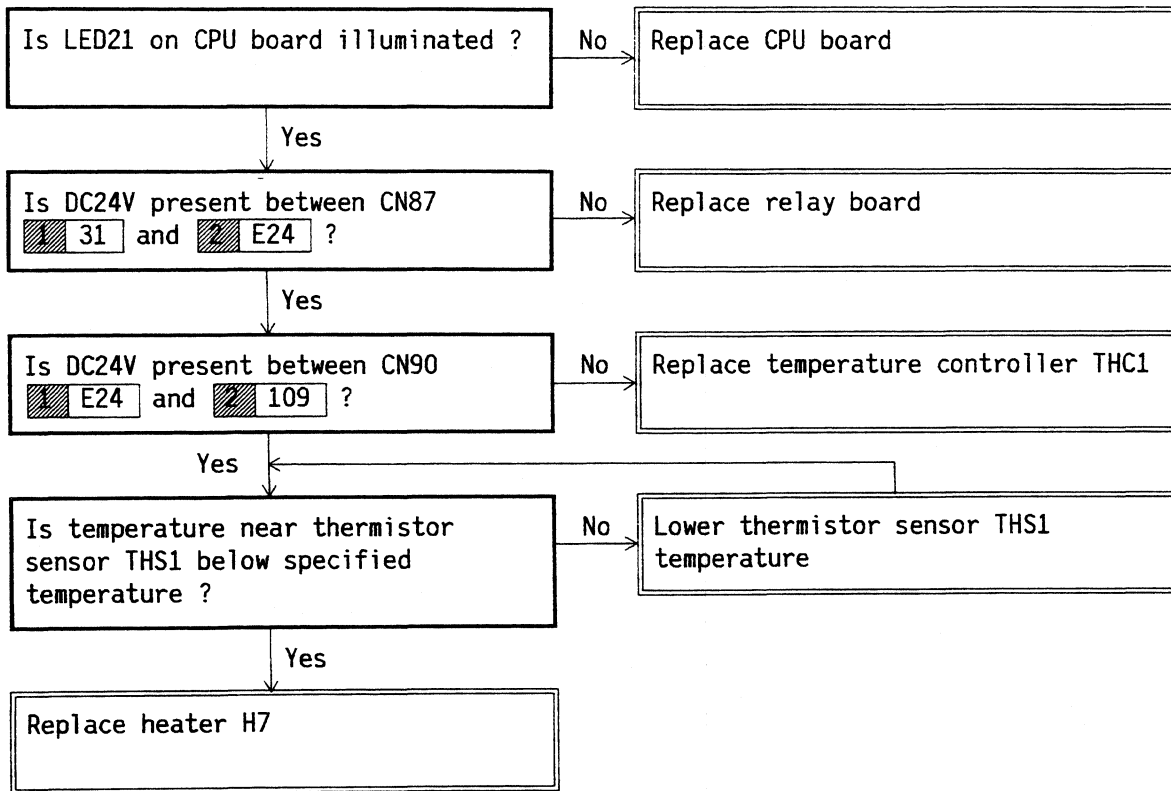
- Check fuses F5, F6



【Note】 SR3 has been set to DC26.0V output power.

Cistern heater does not function

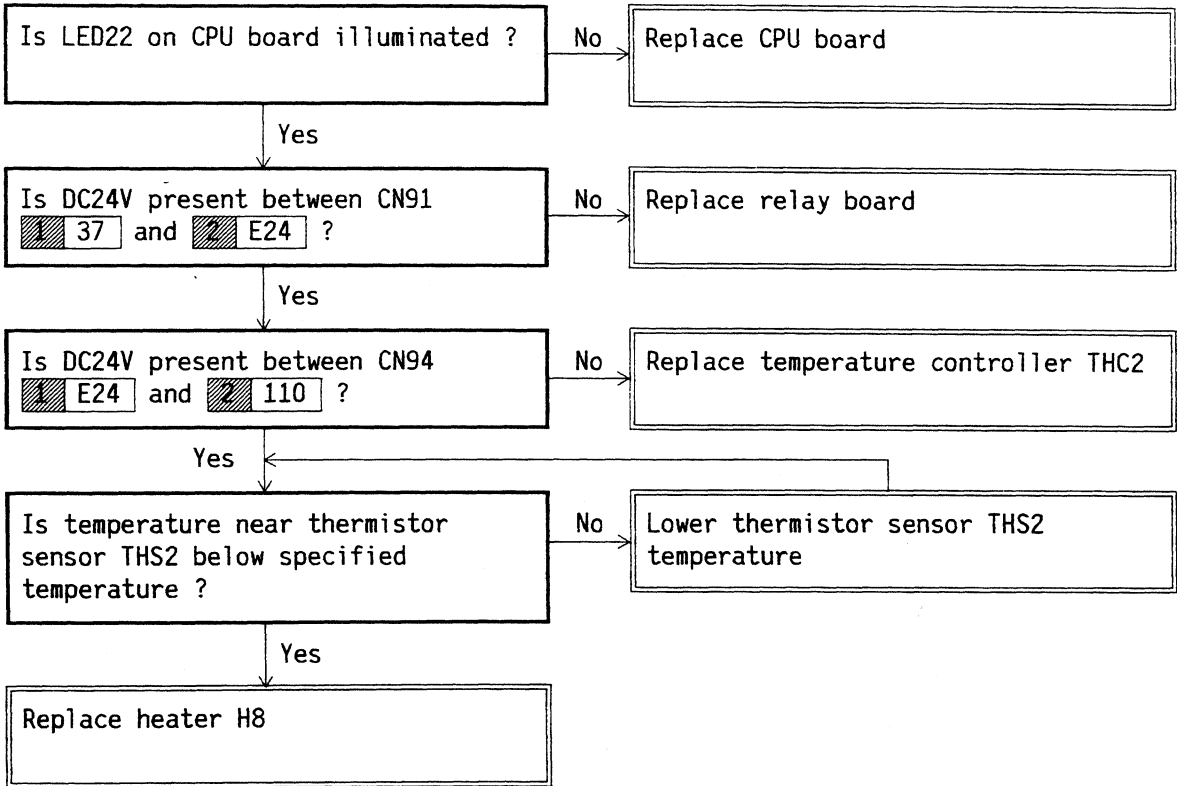
• Check fuse F13



[Note] Cistern heater turns ON/OFF responding to float sensor. FS1 (solution level)

Tab heater does not function

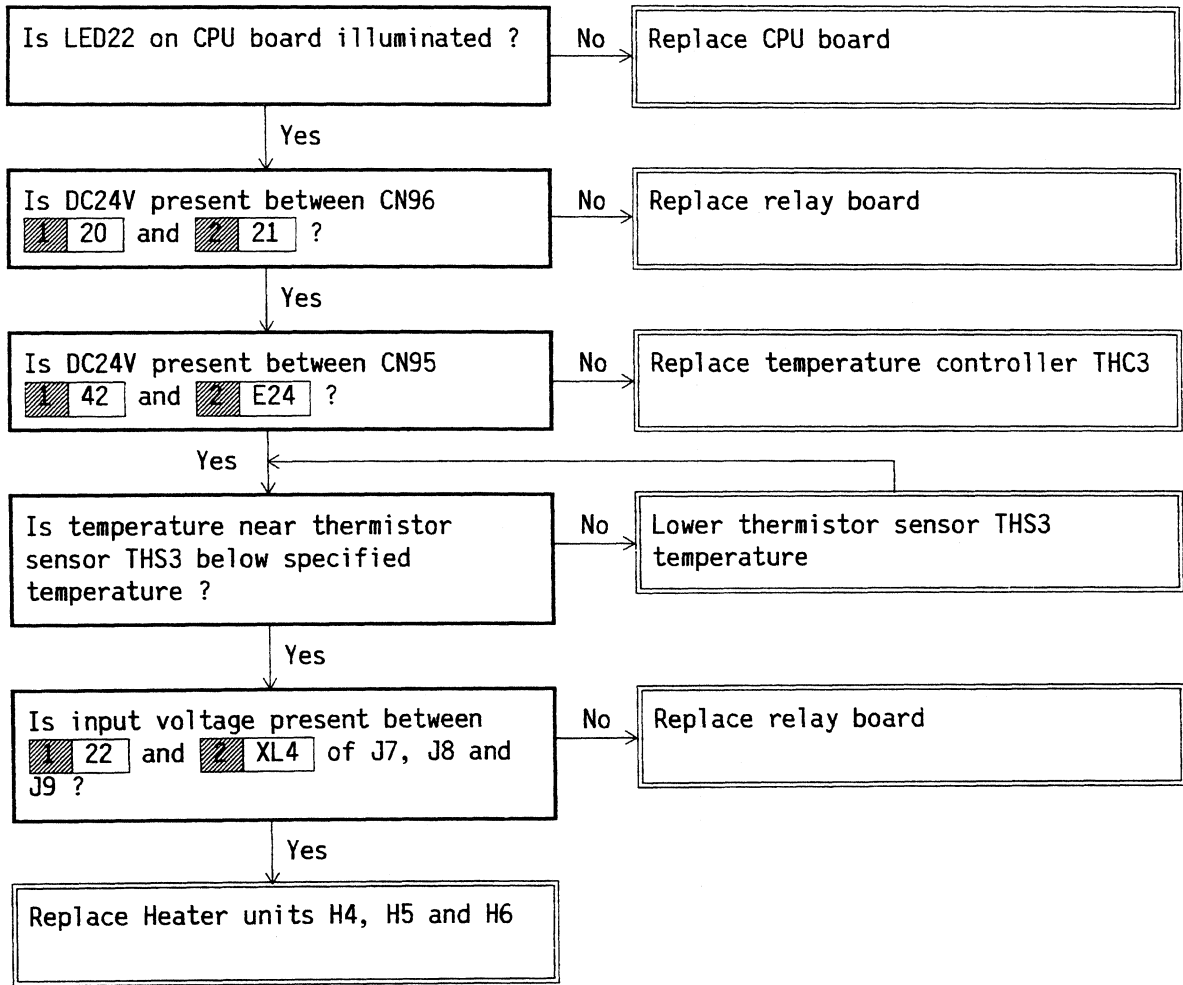
• Check fuse F14



[Note] Tab heater turns ON/OFF responding to float sensor. SLS1 (solution level)

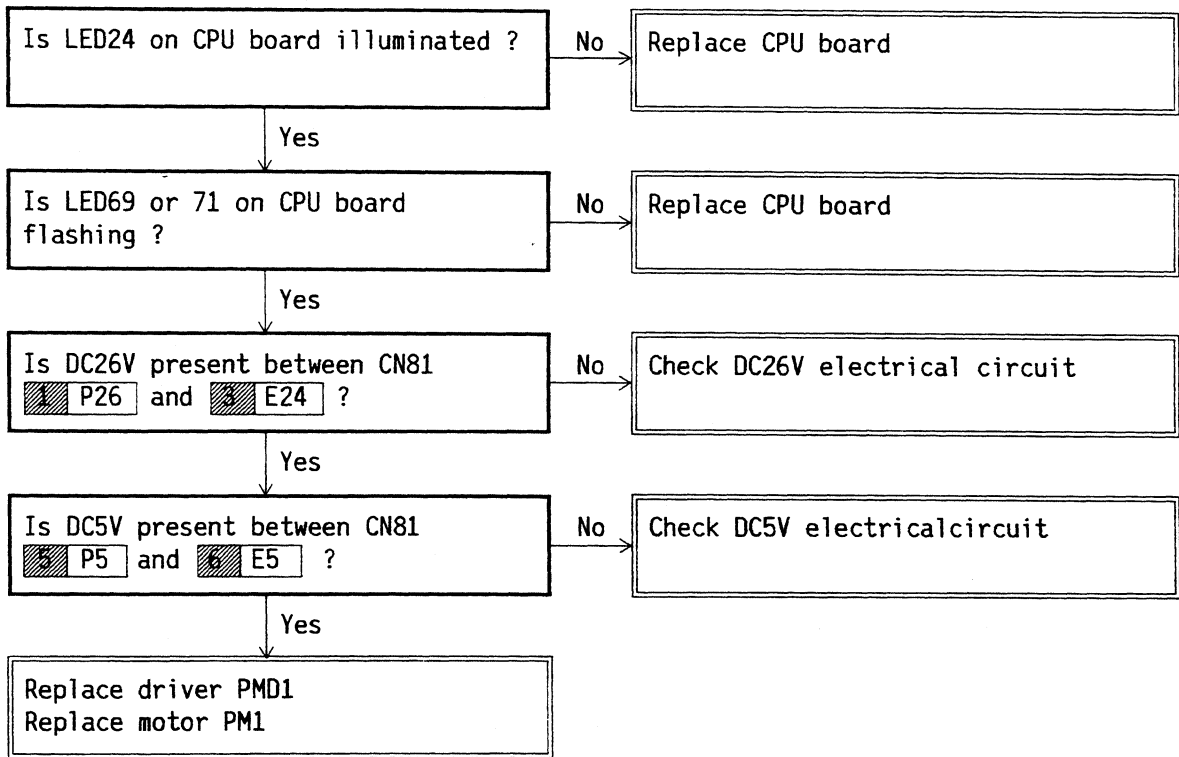
Space heater does not function

• Check fuse F10, F15



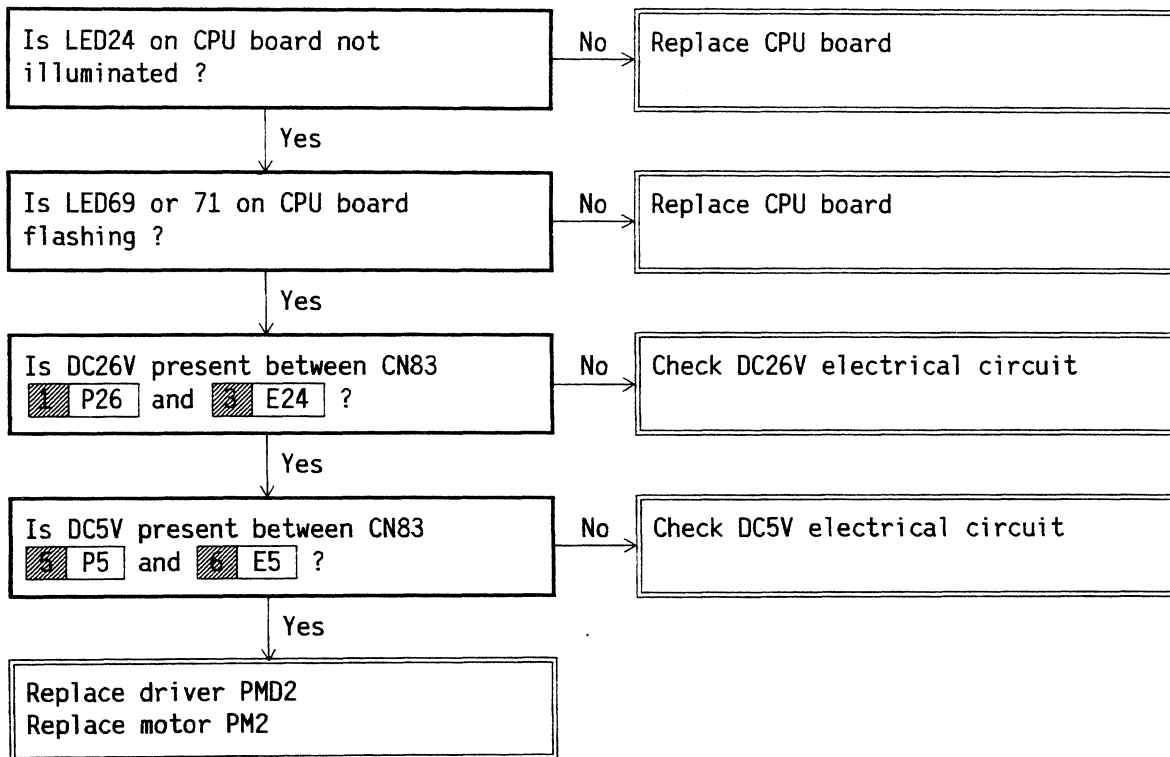
Cutter motor does not operate

• Check fuse F16



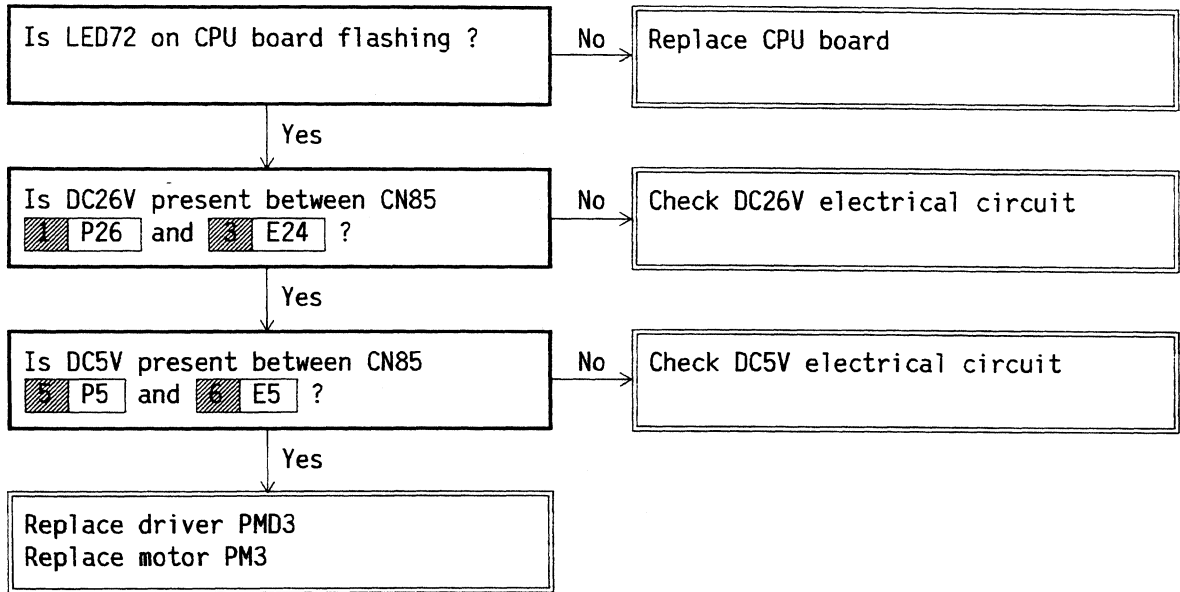
Exposure motor does not operate

Check fuse F16



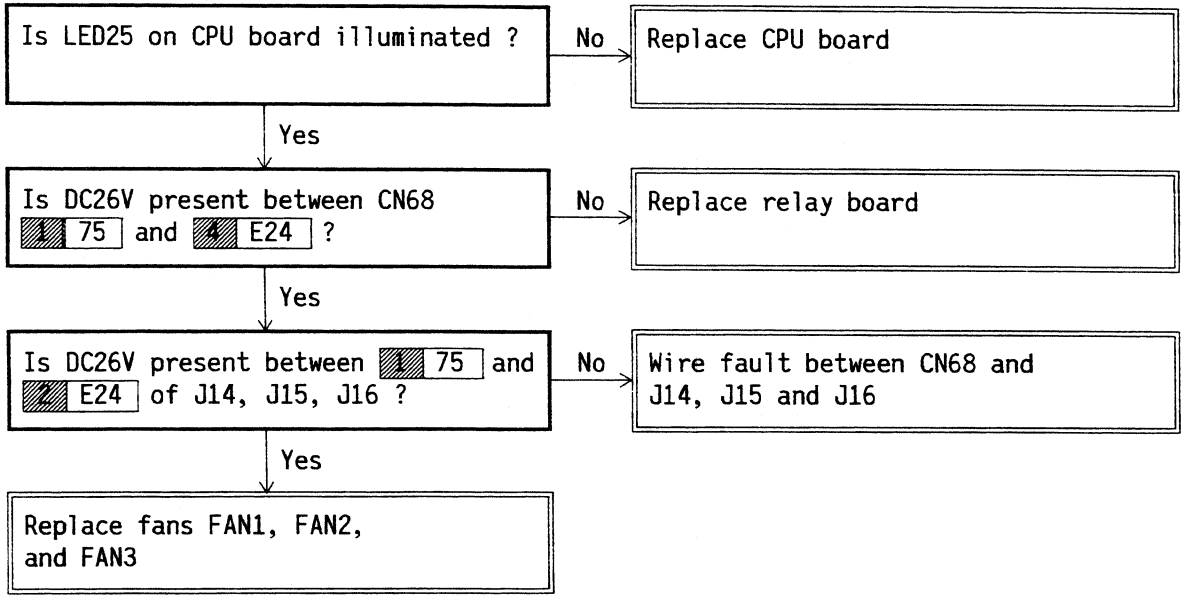
Processor motor does not operate

• Check fuse F16



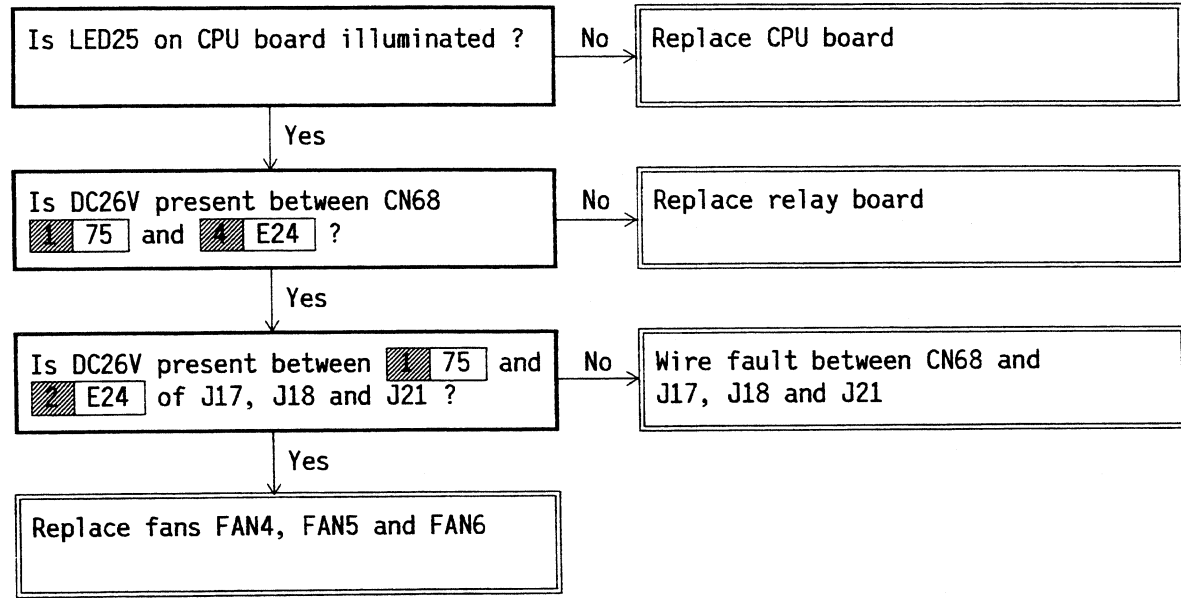
Drier fan does not operate

• Check fuse F16



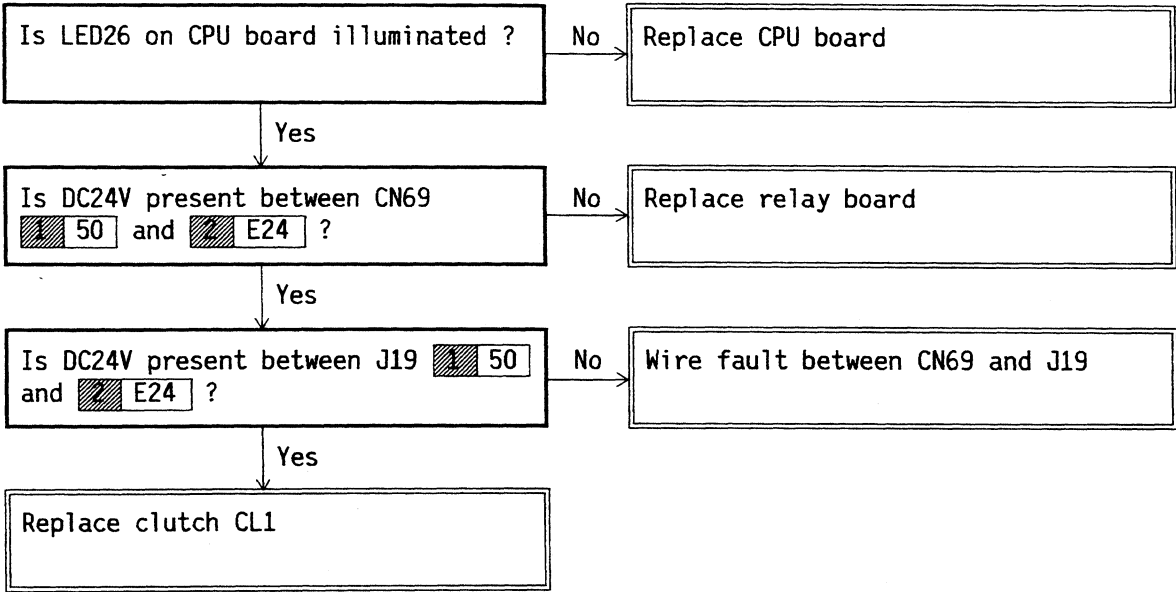
Cooling fan does not operate

Check fuse F16



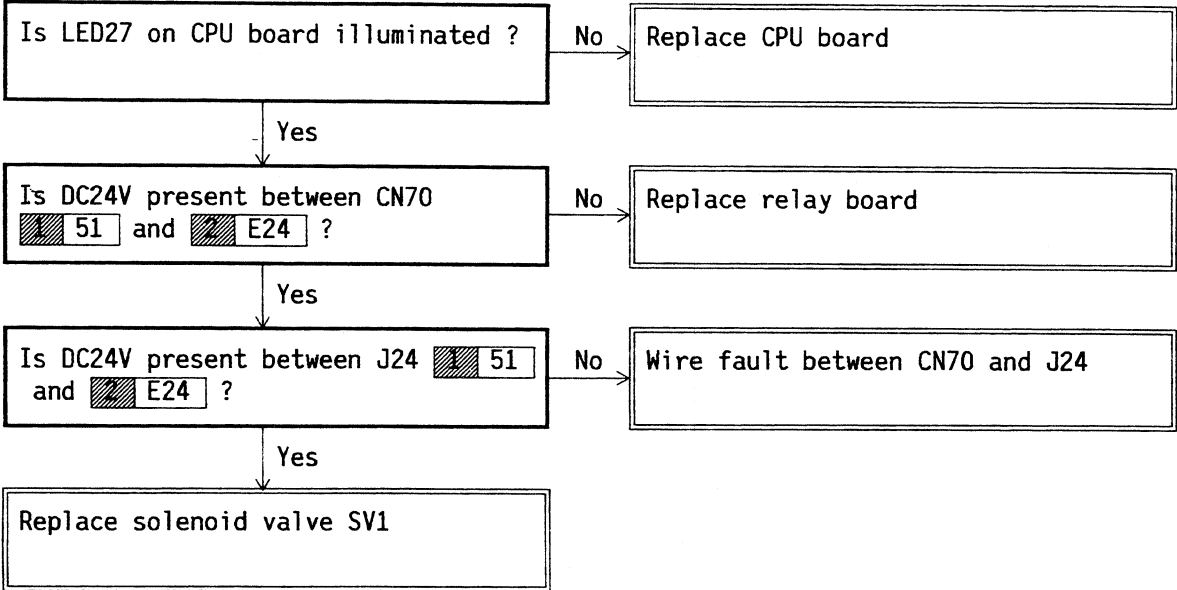
Processor clutch does not operate

• Check fuse F15



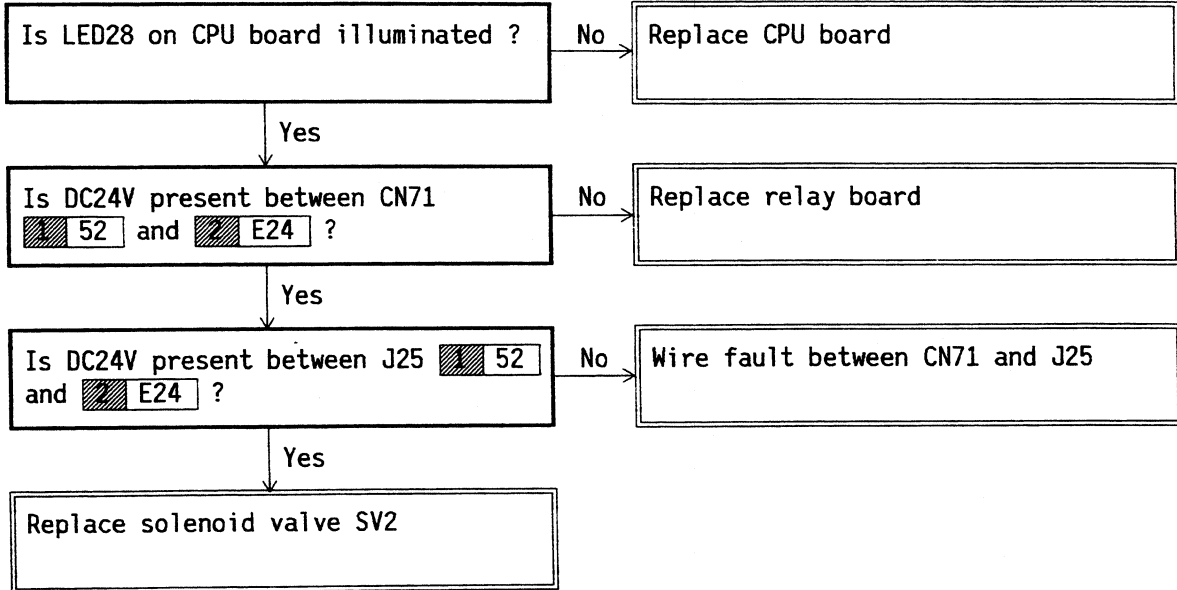
Developer replenisher valve does not operate

• Check fuse F15



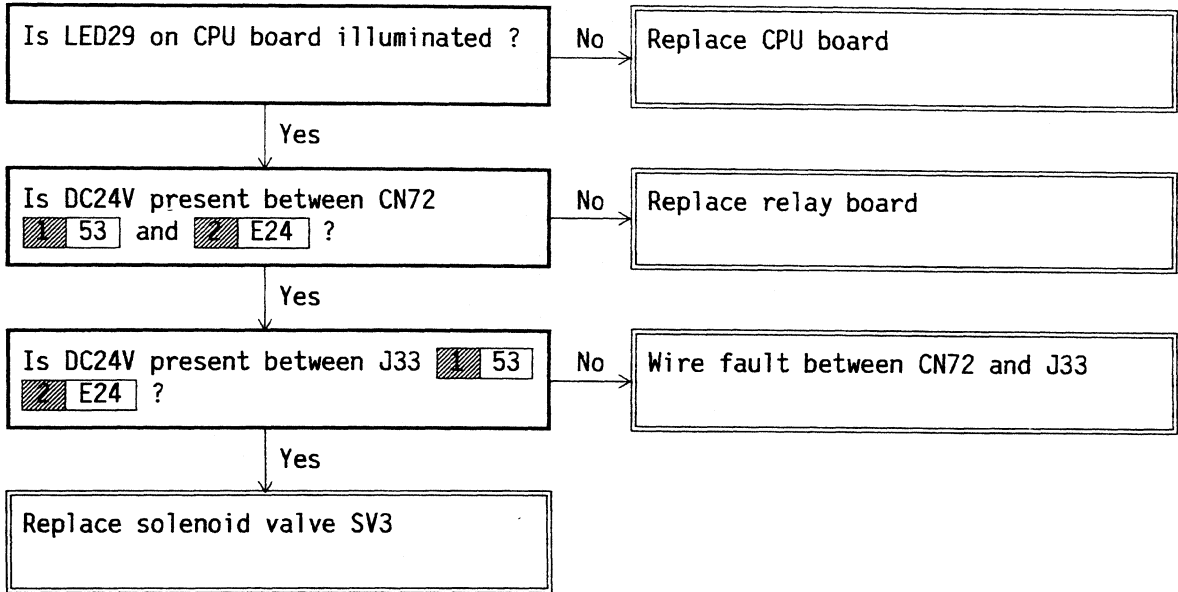
Stabilizer replenisher valve does not operate

• Check fuse F15



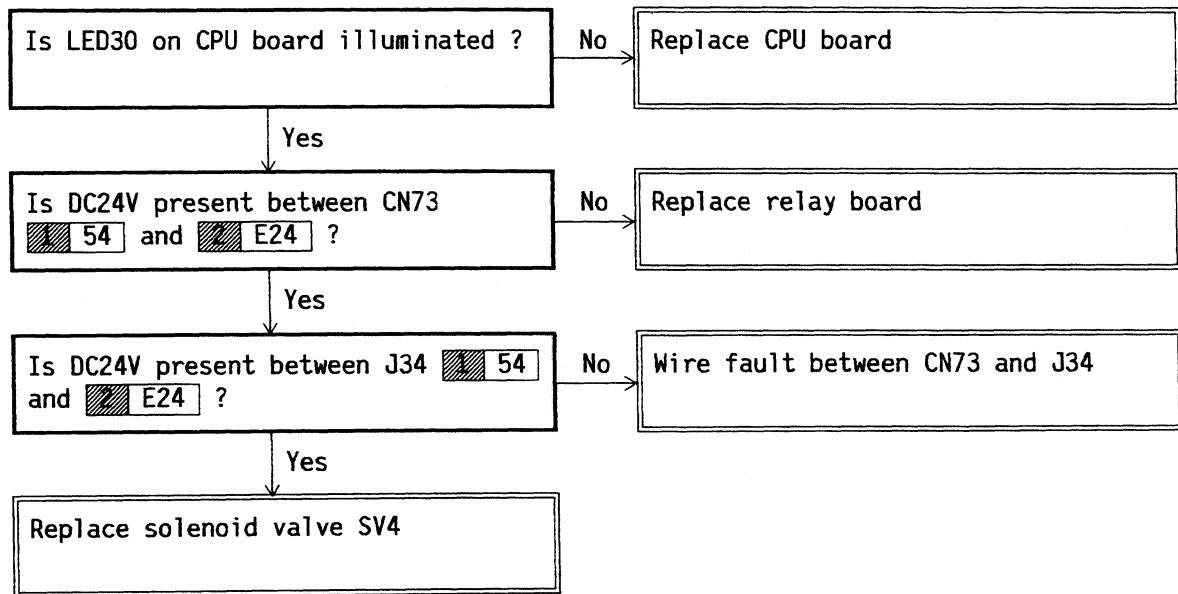
Developer drain valve does not operate

• Check fuse F15



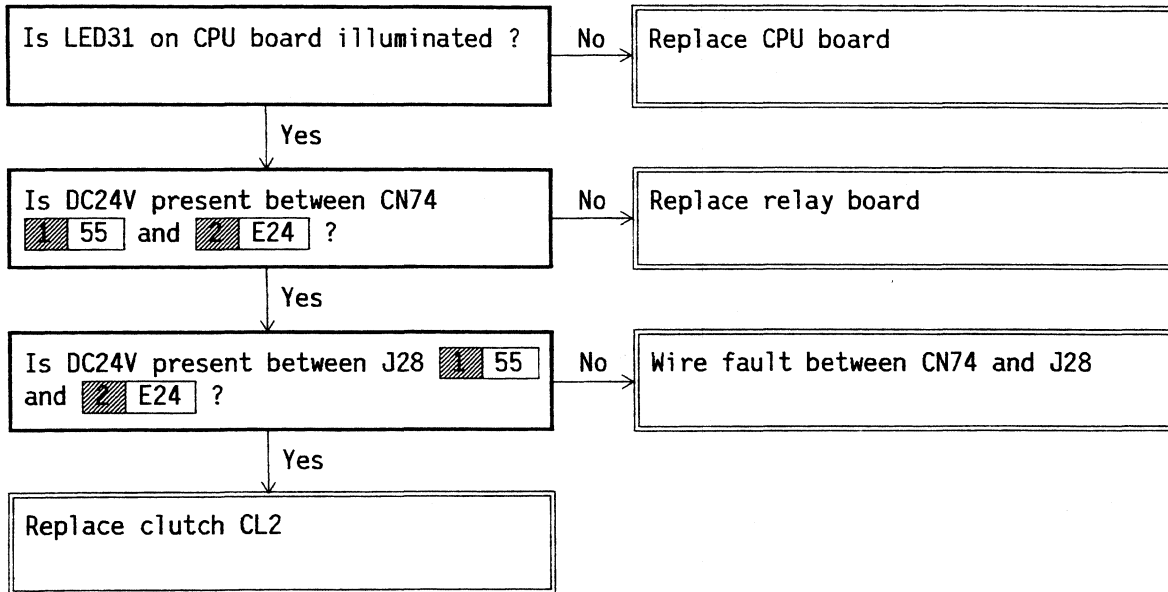
Stabilizer drain valve does not operate

• Check fuse F15



Master feed clutch does not operate

- Check fuse F15



[Note] When function is slow, clutch assembly status (clutch plate distance etc.) must be checked.

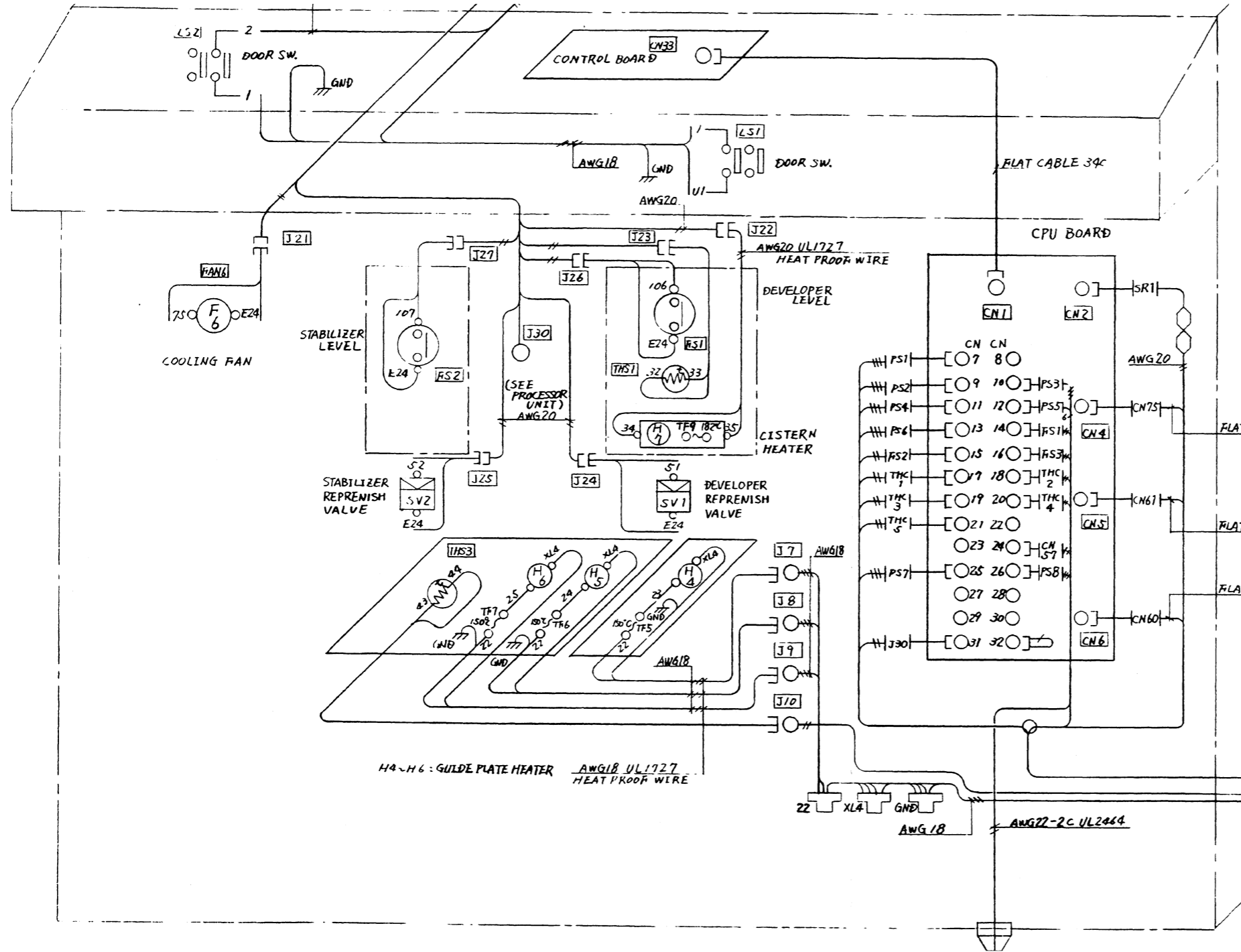
4. ERROR CORRECTIVE MEASURE LIST

Display	Contents
DATA ERROR	<ul style="list-style-type: none"> • Input data back-up fault [Note] If machine is not operated for long period, internal battery will run down and RAM will clear automatically.
CUTTER FOW. ERROR	<ul style="list-style-type: none"> • When cutting time exceeds 5 sec. <li style="padding-left: 20px;">* When cutter motor stays ON more than 5 sec. [Corrective measures] <li style="padding-left: 20px;">Check for paper jam. <li style="padding-left: 20px;">Cut master with cutting bar. <li style="padding-left: 20px;">Check sensor mounting bracket. <li style="padding-left: 20px;">Check independent cutter forward operation.
CUTTER REW. ERROR	<ul style="list-style-type: none"> • When cutter retreat time exceeds 5 sec. <li style="padding-left: 20px;">* When cutter motor stays ON more than 5 sec. [Corrective measures] <li style="padding-left: 20px;">Check for paper jam. <li style="padding-left: 20px;">Check independent cutter forward operation. <li style="padding-left: 20px;">Check sensor mounting bracket.
CUTTER CUT ERROR	<ul style="list-style-type: none"> • Master is fed after cutting <li style="padding-left: 20px;">* After cutting, master is pulled and master feed pulses are input more than 30. [Corrective measure] <li style="padding-left: 20px;">Cut master with cutting bar. <li style="padding-left: 20px;">Check cutter blade mounting status. <li style="padding-left: 20px;">Check for malfunction of master feed pulse/sensor. <li style="padding-left: 20px;">Make sure that master is set correctly and fed normally.
CUTTER O.P. ERROR	<ul style="list-style-type: none"> • When cutter should be located at original position, but is not. [Corrective measures] <li style="padding-left: 20px;">Check cutter sensor detector plate. <li style="padding-left: 20px;">Check cutter original position sensor operation.
CUTTER check	<ul style="list-style-type: none"> • Both original position sensor and end point sensor operate (OFF) during cutter check at start up. [Corrective measures] <li style="padding-left: 20px;">Make sure that both cutter original position sensor and end point sensor operate normally.
MASTER FEED ERROR	<ul style="list-style-type: none"> • Master is not fed even after exposure starts <li style="padding-left: 20px;">* When master feed pulse is less than 3 pulse, after 1 sec. from start of master feed. <li style="padding-left: 40px;">(Ignore any feed within 1st second.) [Corrective measures] <li style="padding-left: 20px;">Rewind master. <li style="padding-left: 20px;">Check for paper jam. <li style="padding-left: 20px;">Check master feed pulse sensor. <li style="padding-left: 20px;">Check nip roller.

Display	Contents
ORIG. OVER RUN	<ul style="list-style-type: none"> • During exposure, copy section returns to original position. <p>[Corrective measures]</p> <ul style="list-style-type: none"> Copy section will be reset automatically. Make sure that data is normal.
ORIG. O.P. ERROR	<ul style="list-style-type: none"> • When copy section should be located at original position, but is not. <p>[Corrective measures]</p> <ul style="list-style-type: none"> Check copy section detector plate mounting status. Check exposure motor.
ORIG. check	<ul style="list-style-type: none"> • Both original position sensor and end point sensor operate (OFF) during copy-section-original-position check at start up. <p>* When copy section running time exceeds 30 sec.</p> <p>[Corrective measures]</p> <ul style="list-style-type: none"> Make sure both copy section original position sensor and end point sensor operate normally. Check copy section original position detector plate mounting status. Check copy section drive belt tension status. Check exposure motor.
REPLENISH ST. ERROR	<ul style="list-style-type: none"> • Solution level sensor does not function even when developer tub is full. <p>[Corrective measures]</p> <ul style="list-style-type: none"> Check solution level sensor operation during replenishment/drainage in maintenance mode. Make sure that replenish flow is correct.
WASTER JAM	<ul style="list-style-type: none"> • Power supply was cut or door was opened during master exposure. <p>[Corrective measures]</p> <ul style="list-style-type: none"> Remove master jam.

- [Caution] ① Because sensor power turns OFF at moment door opens, instrument/sensor may become unstable and cause detection malfunction.
In this case, turn power supply ON again.
- ② Error will clear when power is turned OFF. Check error display before turning power OFF.

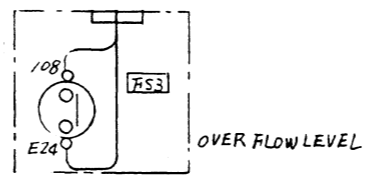
HCZ31778



9		CN1, CN33		19		29		33							
PS	3C0	3C2	3C4	3C6	3A0	3A2	3A4	3A6	3B0	3B2	3B4	3B6	7M	E24	E24
PS	3C1	3C3	3C5	3C7	3A1	3A3	3A5	3A7	3B1	3B3	3B5	3B7	7M	E24	E24
10		20		30		34									
NZ 2		1		CN4		9									
ES		PSB		1A1		1A3		1A5		1A7					
		1A0		1A2		1A4		1A6		1A0					
9		CN5		19		29		33							
P24	80	82	84	86	88	90	92	94					E24	E24	E24
P24	81	83	85	87	89	91	93						E24	E24	E24
10		20		30		34									
PLS3	PLS5	PLS7	PLS9	PLS11	PLS13	PLS15	PLS17	PLS19	PLS21	PLS23	PLS25	PLS27	PLS29	PLS31	PLS33
PLS4	PLS6	PLS8	PLS10	PLS12	PLS14	PLS16	PLS18	PLS20	PLS22	PLS24	PLS26	PLS28	PLS30	PLS32	PLS34
CN7		CN8		CN9		CN10		CN11		CN12		CN13		CN14	
10	100	P24			E24	101	P4		E24	102	P24		E24	103	P24
CN11		CN12		CN13		CN14		CN15		CN16		CN17		CN18	
10	103	P24			E24	104	P24		E24	105	P24		E24	106	P24
CN15		CN16		CN17		CN18		CN19		CN20		CN21		CN22	
10	107				E24	108			E24	109			E24	110	
CN19		CN20		CN21		CN22		CN23		CN24		CN25		CN26	
10	111				E24	112			E24	113			E24	114	
CN23		CN24		CN25		CN26		CN27		CN28		CN29		CN30	
					E24		P24		E24	119	118		E24	121	120
CN31		CN32		CN33		CN34		CN35		CN36		CN37		CN38	
10	122				E24	123			E24	124			E24	125	
J22		J23		J24		J25		J26		J27		J28		J29	
5	E24				34	35			32	33			51	E24	
J25		J26		J27		J28		J29		J30		J31		J32	
2	E24				106	E24			107	E24					
J30		J31		J32		J33		J34		J35		J36		J37	
					38	40	53	54	122	E24	114				
					39	41	E24	E24	GND	E24	117				
J37		J38		J39		J40		J41		J42		J43		J44	
					22	XL4	GND		22	XL4	GND		43	44	
J39		J40		J41		J42		J43		J44		J45		J46	
					22	XL4	GND								

- CPU : #E0474-□□
- F6 : #MMR-12C24DM-F00
- SV1.2 : #USB3-6-3-D-BC24V
- LS1.2 : #AV-12253
- H7.8 : #SP4456M-X
- THS~1 : #MT4300A 150°C 10A
- THS : #MT4358A 182°C 10A
- THS1.3 : #SP6143D-X
- H4~6 : #SP4456P-X

ELECTRICAL WIRES UNLESS SPECIFIED
 AWG14~AWG18 : UL1015, AWG20, 22 : UL1007

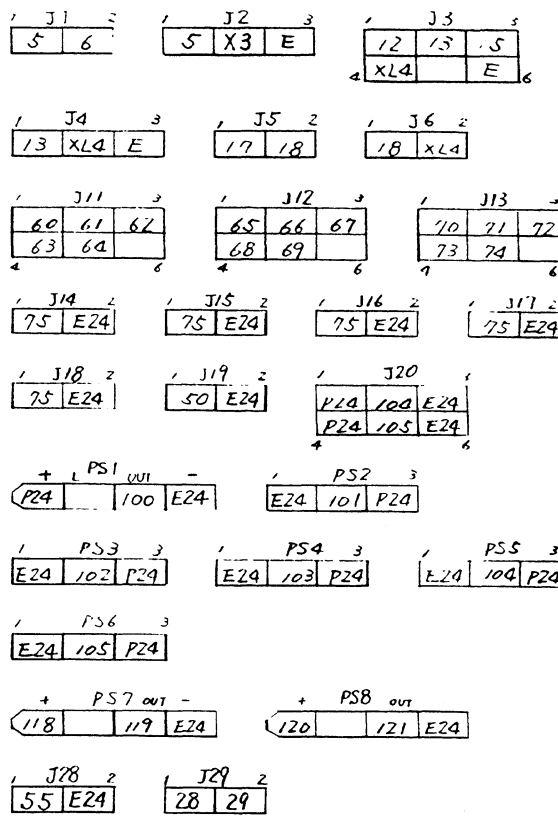
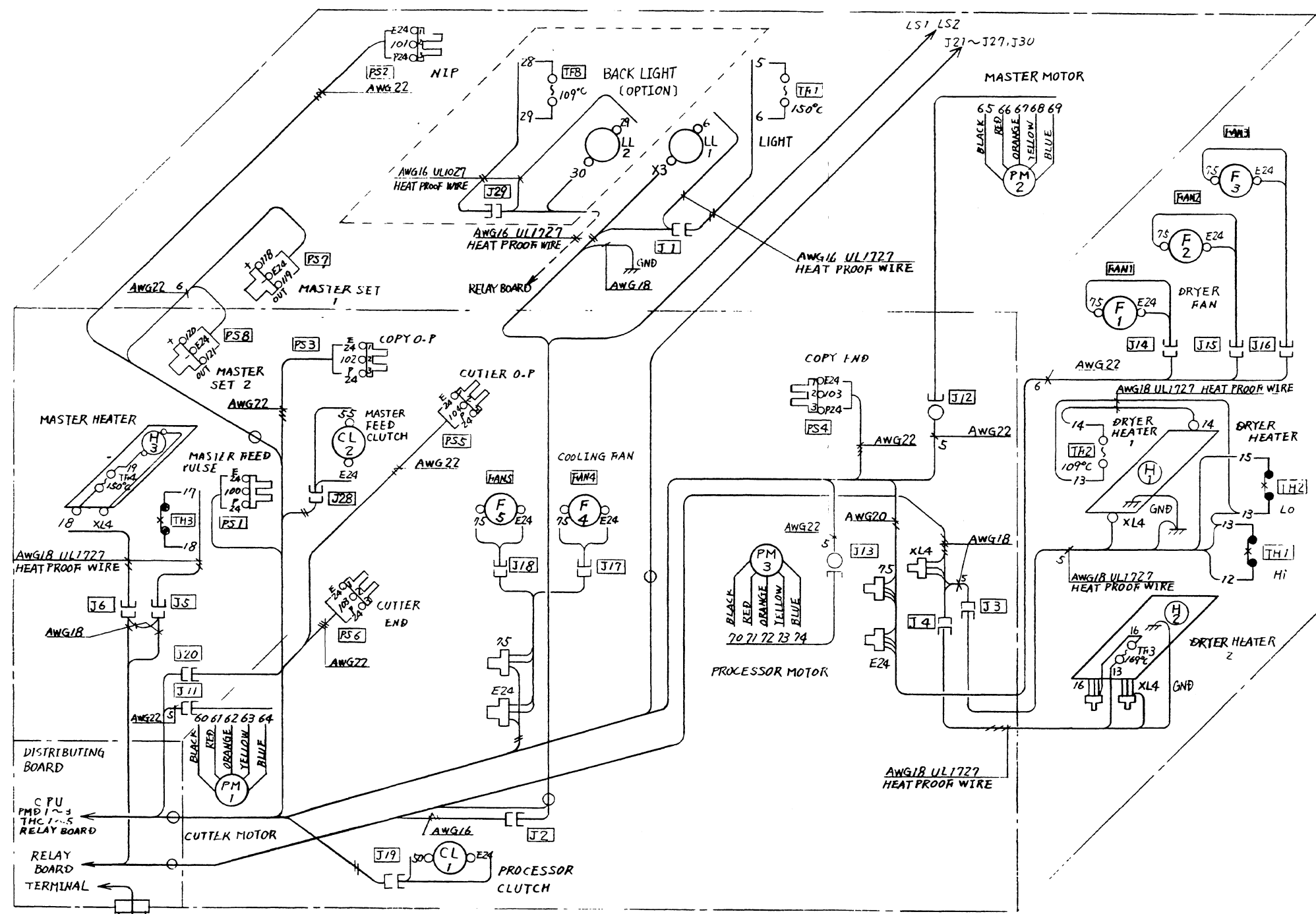


NOTES) 1 指定なき電線は AWG 22 (UL1007) を用いること
 UNLESS OTHERWISE SPECIFIED BE SURE TO USE AWG22(UL1007) FOR THE ELECTRICAL WIRES.

DESIGN	H. Tomijima	TITLE	FRONT VIEW
DRAWING	Y. Hirohata		CONNECTION DIA.
CHECKED			
APPROVED			
DATE	1991. 10. 22		
MODEL	CP-611-SS	DWG NO.	HCZ31778
SYM	REVISION	DATE	APPROVED

D.W.G. NO. H1231777

(SEE FRONT VIEW CONNECTION DIA.)



- TH 1 : # MT93001 150°C 15A
- TH 2, 8 : # MT4227A 109°C 10A
- TH 3 : # MT4333A 169°C 10A
- TH 4 : # MT9300A 150°C 10A

- FAN1-5 : # MMF-12C24DM-F08
- PM 1 : # 103-7501-70G2
- PM 2 : # RH-1F50-PM-SP
- PM 3 : # 103-7501-70G2
- CL 1 : # KKA-SN-001

- PS 1 : # EF-SX670
- PS 2, 5, 6 : # GP1A26LC
- PS 3, 4 : # GP1A10
- PS 7, 8 : # EE-SB5M

- TH1, 2 : # US-2031x4HM
- H1 : # 200V 1KW
- H2 : # SP4456N-X
- H3 : # SP4456P-X

ELECTRICAL WIRES AWG14~18: UL1015 AWG22: UL1007

for UL/CSA	for VDE
BLACK	BROWN
WHITE	SKY-BLUE
GREEN/YELLOW	

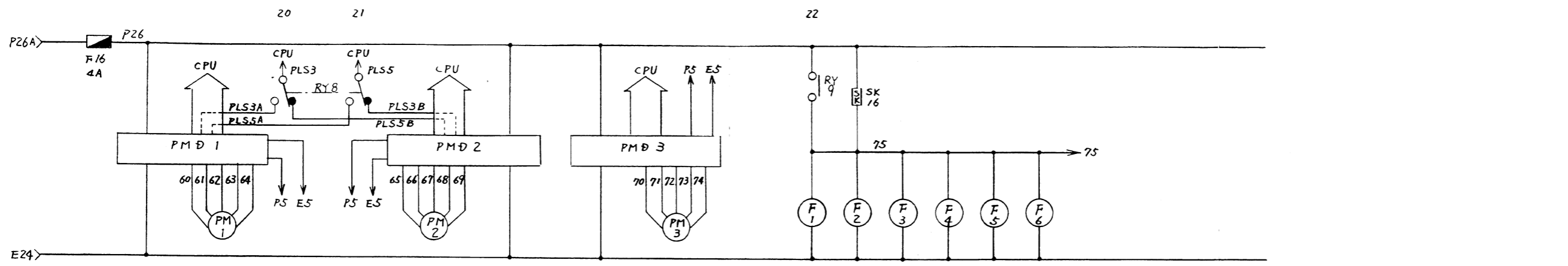
AWG14 3C SJT UL/CSA
ES-302-2-50 VDE

NOTES) 1. 指定なき電線は、AWG20 (UL1007) を用い、
UNLESS OTHERWISE SPECIFIED BE SURE TO USE AWG20 (UL1007) FOR THE ELECTRICAL WIRES.

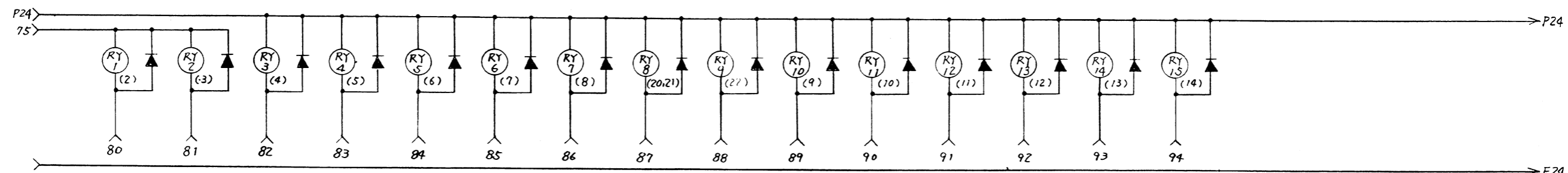
△				
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SYM	REVISION	DATE	APPROVED	

DESIGN	H. Tsujino	TITLE	
DRAWING	G. Suwabe	BACK VIEW	
CHECKED		CONNECTION DIA.	
APPROVED			
DATE	1991.10.22		
MODEL	CP-611-SS	DWG NO.	H1231777

DRAWING NO. HCS32468

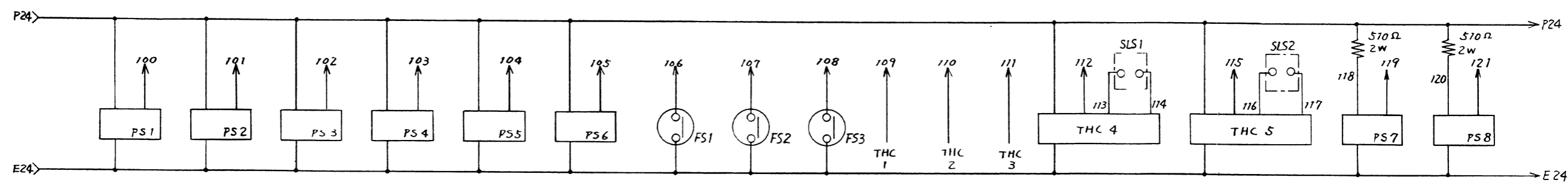


CUTTER MOTOR MASTER MOTOR PROCESSOR MOTOR DRYER FAN FAN1~FAN3 COOLING FAN FAN4~FAN6



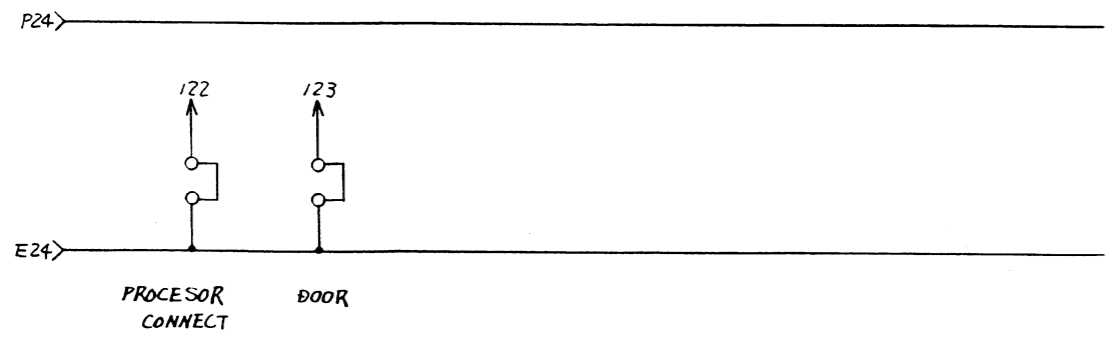
RY1 (2) RY2 (3) RY3 (4) RY4 (5) RY5 (6) RY6 (7) RY7 (8) RY8 (20,21) RY9 (9) RY10 (10) RY11 (11) RY12 (12) RY13 (13) RY14 (14) RY15 (14)

DRYER HEATER HI MASTER HEATER Lo LIGHT (OPTION) CISTERN HEATER TUB HEATER GUIDE PLATE HEATER CUTTER SELLECT FAN1~6 PRCESSOR CLUTCH DEVELOPER REPRENISH VALVE STABILIZER REPRENISH VALVE DEVELOPER DRAIN VALVE STABILIZER DRAIN VALVE MASTER FEED CLUTCH



PS1 PS2 PS3 PS4 PS5 PS6 FS1 FS2 FS3 THC1 THC2 THC3 THC4 SLS1 SLS2 PS7 PS8

MASTER HEED PULSE NIP COPY O.P COPY END CUTTER O.P CUTTER END DEVELOPER LEVEL STABILIZER LEVEL OVERFLOW LEVEL CISTERN HEATER HEATUP TUB HEATER HEATUP GUIDE PLATE HEATER HEATUP DEVELOPER TUB SOLUTION LEVEL STABILIZER TUB SOLUTION LEVEL MASTER SET 1 MASTER SET 2

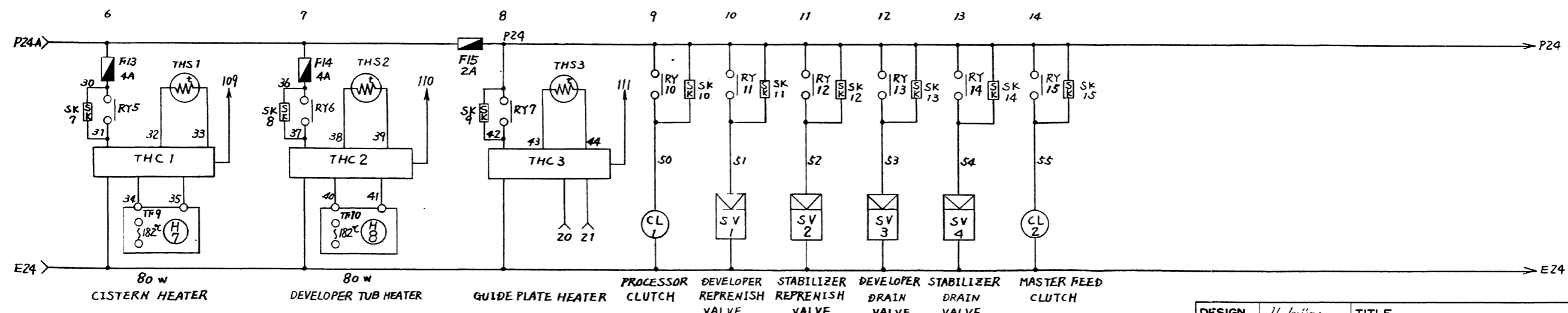
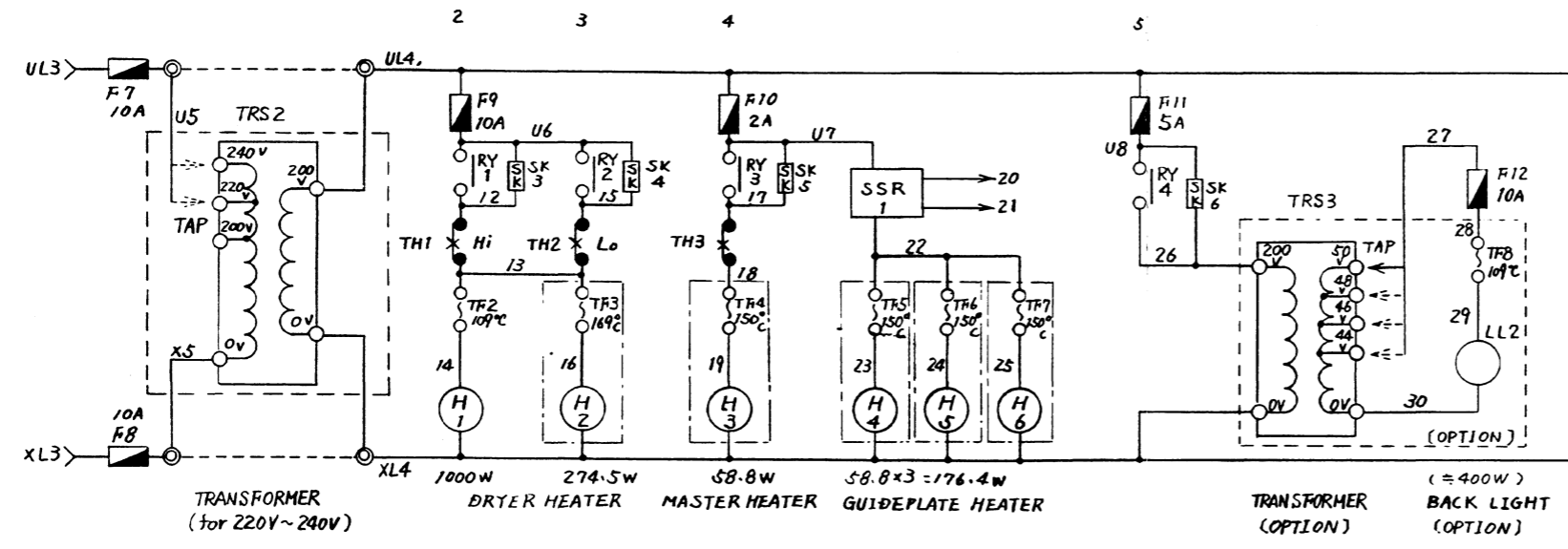
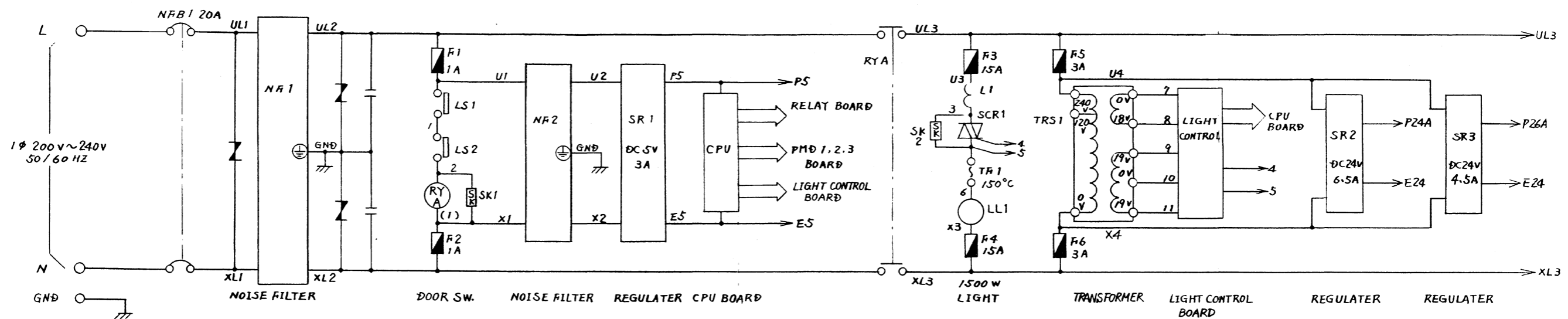


PROCESSOR CONNECT DOOR

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△			
SYM	REVISION	DATE	APPROVED

DESIGN *H. Inoue* TITLE
 DRAWING *G. Hirohata* WIRING SYSTEM DIA.
 CHECKED
 APPROVED
 DATE 1997.10.20
 MODEL CP-611 SS D.WG NO. HCS32468

DWG NO. HCS32467

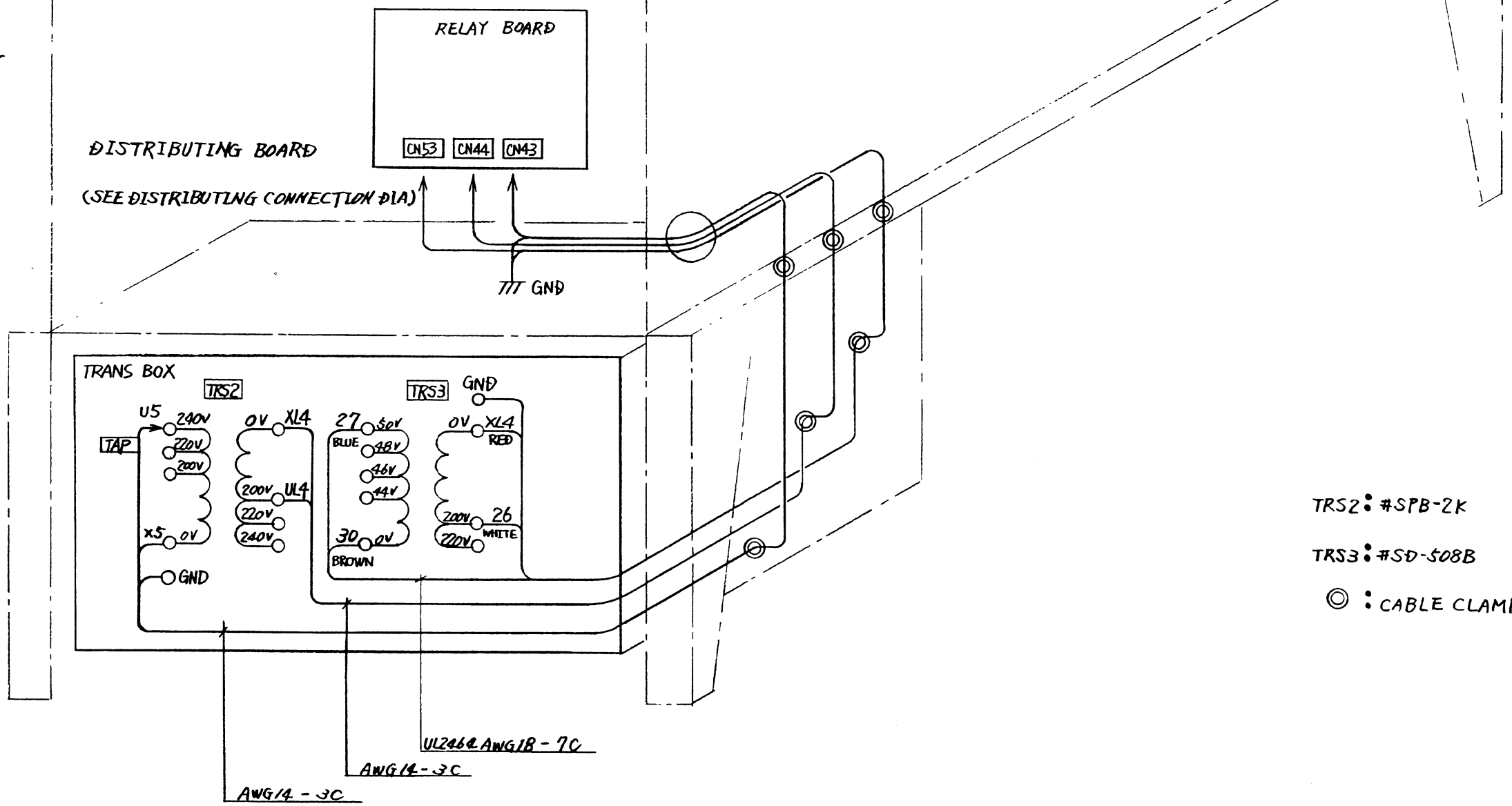


DESIGN	H. Imijima	TITLE	WIRING SYSTEM DIA. 1/2
DRAWING	Y. Iizubata		
CHECKED			
APPROVED			
DATE	1991.10.31		
MODEL	CP-611-SS	DWG NO.	HCS32467

SYM	REVISION	DATE	APPROVED

DWG NO. HZ41793

FRONT

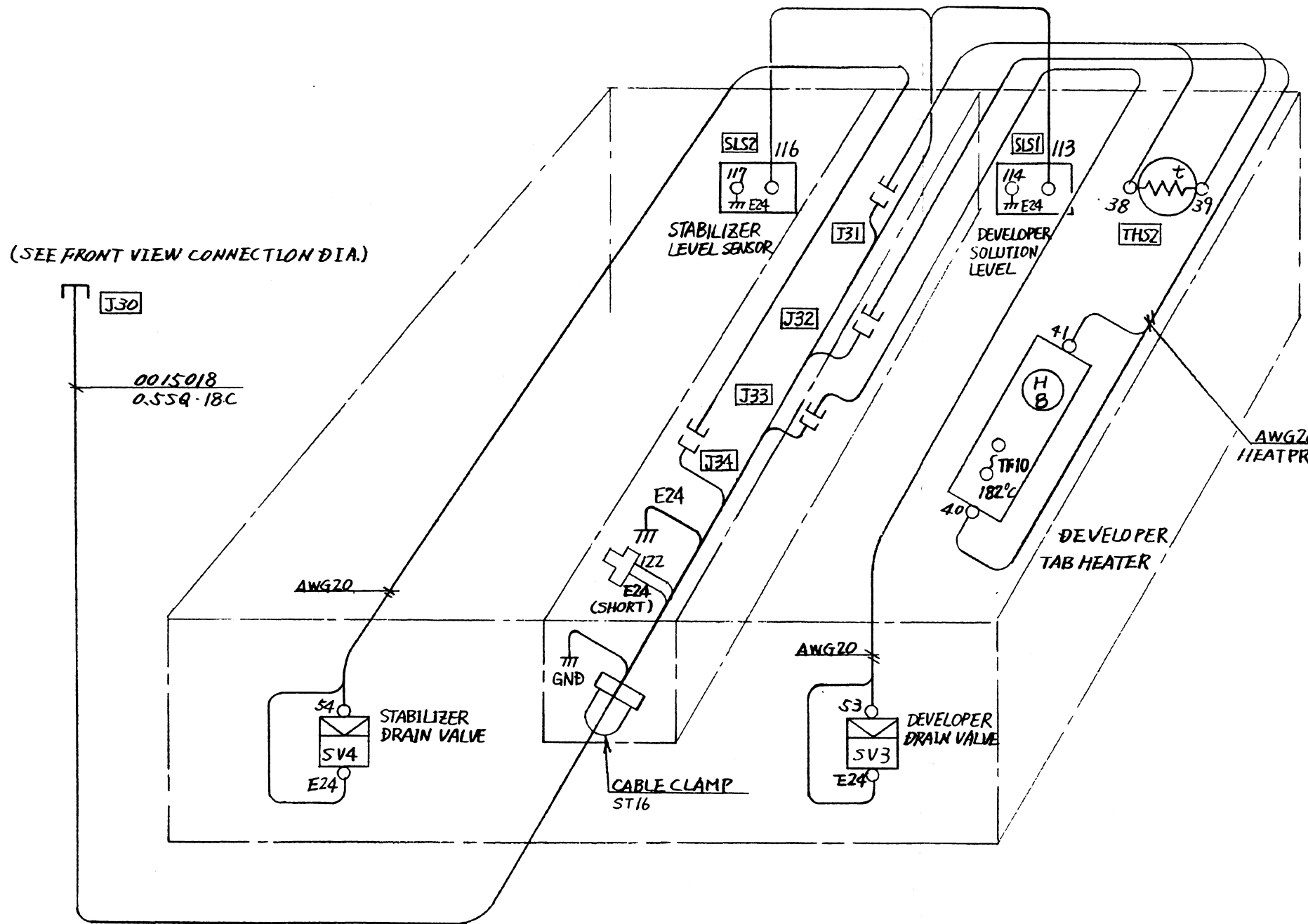


TRS2 : #SPB-2K
 TRS3 : #SD-508B
 ◎ : CABLE CLAMP

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△			
SYM	REVISION	DATE	APPROVED

DESIGN	<i>H. Tsujino</i>	TITLE	TRANS BOX CONNECTION DIA
DRAWING	<i>Y. Hirohata</i>		
CHECKED			
APPROVED			
DATE	1991.11.26		
MODEL	(CP-610S) CP-611-SS	DWG NO.	HZ41793

変圧BOX 結線図



1	J31	2	1	J32	2	1	J33	2
	38	39		40	41		53	E24
1	J34	2						
	54	E24						

Be sure to cover the connector J31~J34 with waterproof cover.

1	J30						7
	38	40	53	54	122	E24	113
	39	41	E24	E24	GND	E24	116
8							14

- RECEPTACLE :#10.4911 STA14
- PLUG CONNECTOR :#10.4931 STA14
- BASE :#10.4420 H-A10AG
- HOOD :#10.4450 H-A10TS PG16
- PROTECTIVE COVER :#10.4576
- CABLE CLAMP :#ST16

- H8 :#SP4456T-X
- TF9 :#MT4358A 182°C 10A
- SV3.4 :#USB3-6-3-D-DC24V
- THS2 :#SP6143D-X

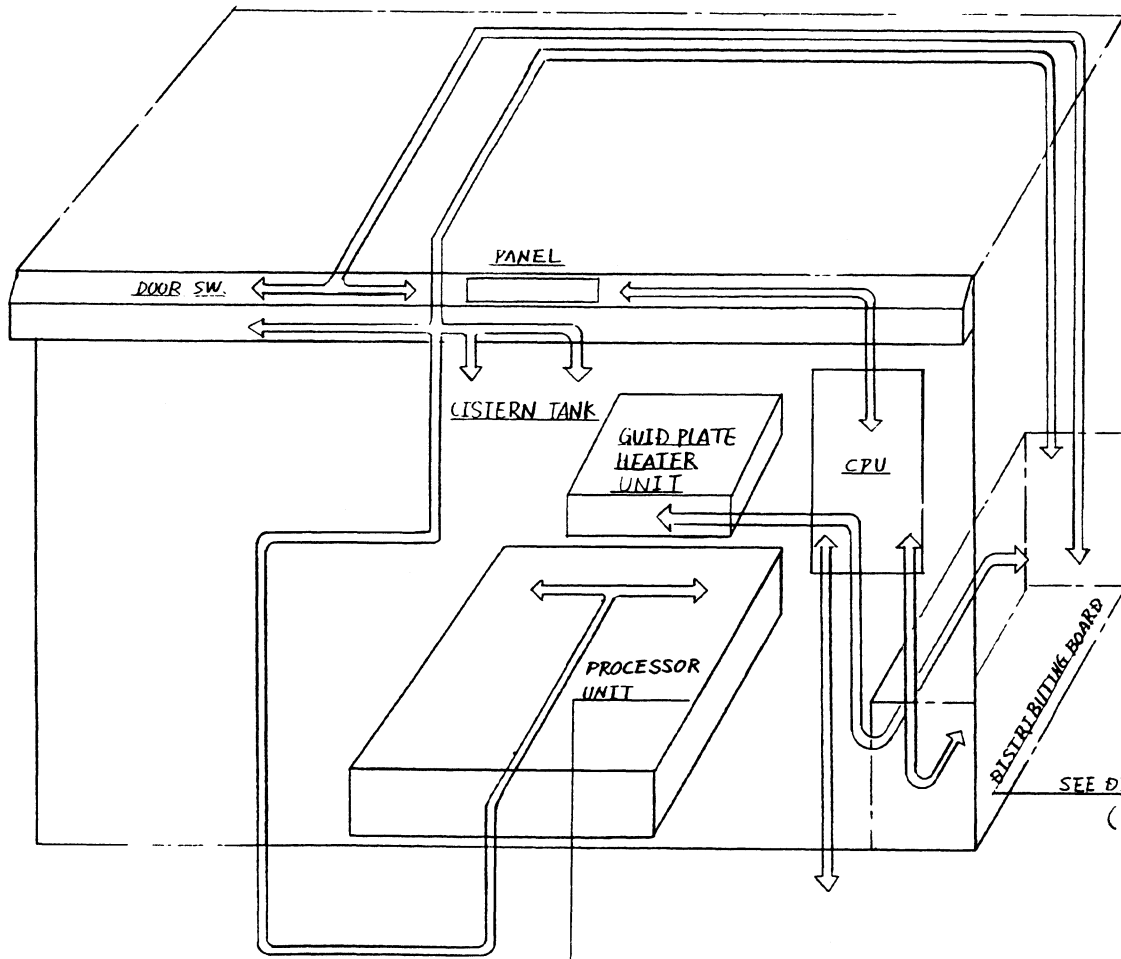
(SEE FRONT VIEW CONNECTION DIA.)

J30
0015018
0.559-18C

AWG20 UL1727
HEATPROOF WIRE

DESIGN	H. Tsujino	TITLE	PROCESSOR UNIT CONNECTION DIA.
DRAWING	Y. Hirohata		
CHECKED			
APPROVED			
DATE	1991.10.23		
MODEL	CP-611-SS	DWG NO.	HCZ41779

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△			
SYM	REVISION	DATE	APPROVED

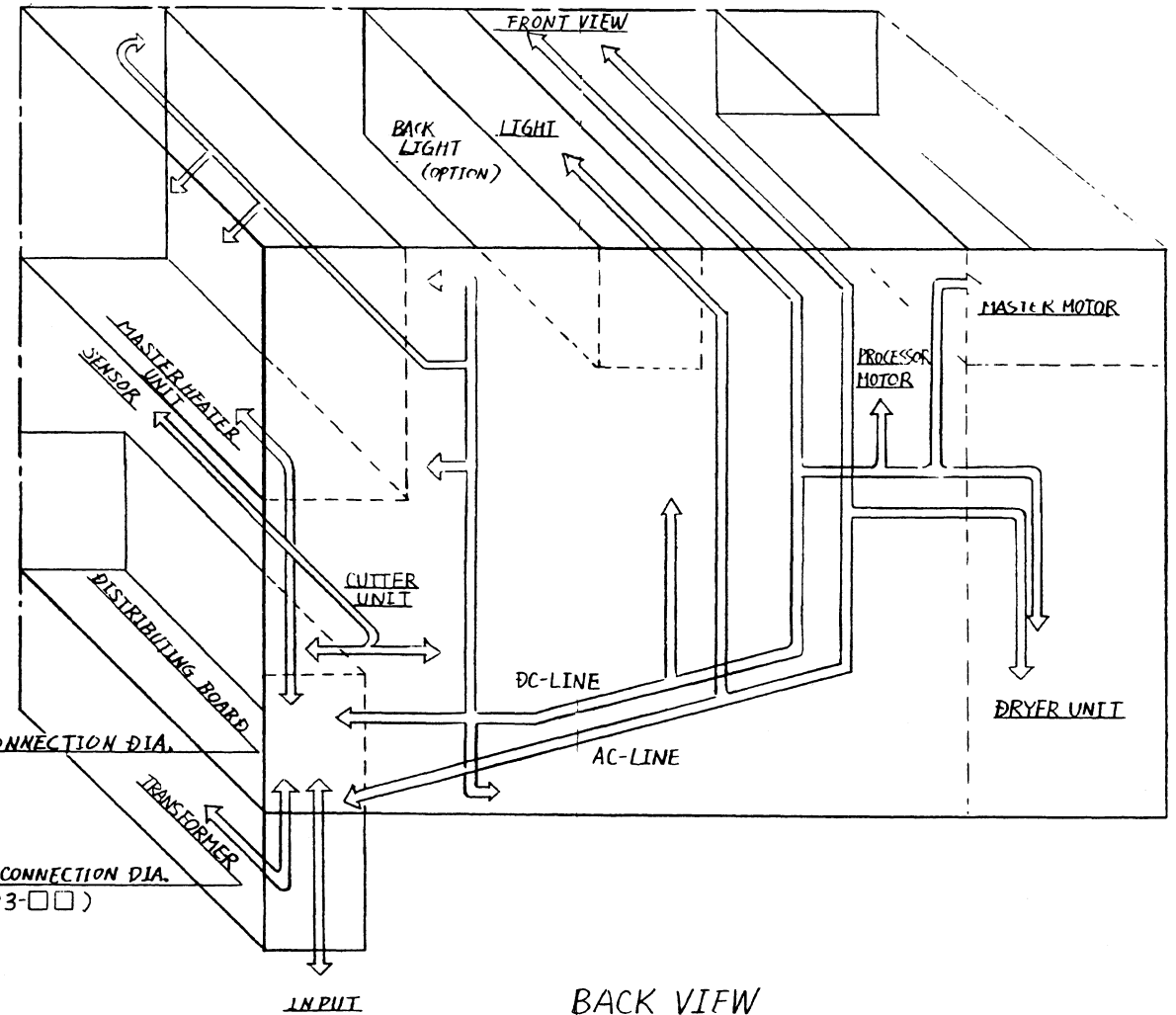


FRONT VIEW

SEE FRONT VIEW CONNECTION DIA.
(HCZ31778-□□)

SEE PROCESSOR UNIT CONNECTION DIA.
(HCZ41779-□□)

SEE DISTRIBUTING BOARD CONNECTION DIA.
(HCM31323-□□)



BACK VIEW

SEE BACK VIEW CONNECTION DIA.
(HCZ31777-□□)

SEE TRANS BOX CONNECTION DIA.
(HCZ41793-□□)

DESIGN	H. Toyjima	TITLE	WIRING DIA.
DRAWING	Y. Hirohata		
CHECKED			EG0213
APPROVED			
DATE	1991.10.24		
MODEL	CP-611-SS	DWG NO.	HCW31950

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△			
SYM	REVISION	DATE	APPROVED