

SERVICE MANUAL

Electrical information

HAMADA ***B452 Series***

Before Installation of Machine

Power Supply

Supply voltage and current must meet the following requirements:

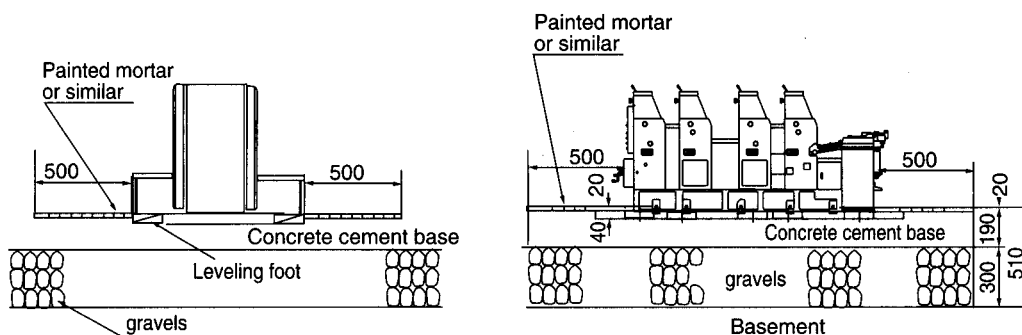
- Supply voltage must be within $\pm 10\%$ of the rating. In case the supply voltage is unstable, use a stabilizer.
- Avoid multiple wiring from a single outlet.
- Use the service of a reputable electrical contractor for installation.

Installation Precautions

Be sure to follow the points below when installing the press.

- Never operate the press while a cover or protector is removed.
- Never tamper with safety components.
- Keep your hands away from the inching switches when you clean a unit by using inching operation.
- When you are operating the press with another person(s), always confirm both verbally and visually the other person is clear before starting the press.
- Turn OFF the power when you check electric circuits.
- Rotate the press by inching to confirm nothing is wrong. Periodically oil the specified locations.
- Clean the components according to the maintenance procedure at the end of the day.
- Install the press on a solid foundation to prevent movement and possible accidents.

Example of foundation work



- Water circulation device requires additional 800mm where it is installed

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Note: NON-OPERATION SIDE that describe in this manual means
"MOTOR DRIVE SIDE"

1. ELECTRICAL INFORMATION

[1] Electrical Specifications

Electric capacity 12 KVA

Main motor 5.5KW

Pump motor 1.5KW

Inverter T200/220V (Yaskawa Electric: VS-616G5)

NOTE: This inverter is a low noise type inverter. Malfunction may occur if a ground fault circuit breaker produced prior to 1982 is used. Use the following products to prevent higher harmonic problems.

* Mitsubishi Electric Corp.: NV series (Produced after 1988)

NV100-CP(100A)

NV100-SP(100A)

NV100-HP(100A)

NV100-SEP(100A)

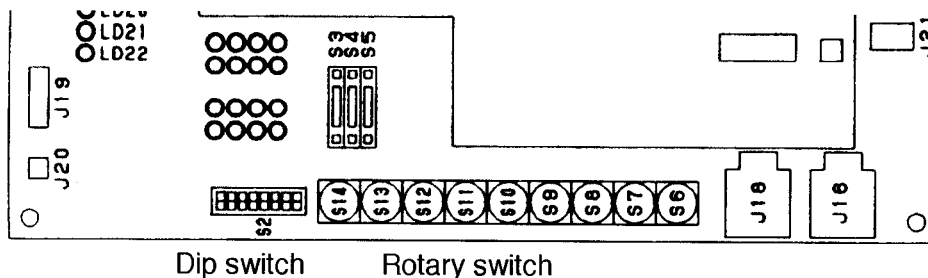
NV100-HEP(100A)

* Fuji Electric Co.: EG, SG series (Produced after 1988)

* Matsushita Electric Works Co.: Ground fault circuit breaker (Produced after 1988)

Standard power source 3-phase 200V, 220V

[2] Adjustment of rotary switches and dip switches on main board



Rotary Switch

Rotary SW No.	No.	Description	Functions
S 6	0	Standard	Used to set the switch to this position in normal conditions.
	1	Skew detection invalid mode	Set to invalidate the skew detection in case the skew detection fiber is failed.
	2	Paper detection sensor invalid mode	Set to invalidate the paper detection sensor and substitute with the skew detection fiber in case the front lay sensor is failed.
	3	Swing jam invalid mode	Set to invalidate the swing jam.
	4	Blanket jam invalid mode	Set to invalidate the blanket jam.
	5	Delivery table lowering invalid mode	Set to stop lowering of delivery table automatically.
S 7	0	B452	Specification for B452
	1	B452A	Specification for B452A
S 8	0	Standard	Normal printing condition
	1	Program check	Set to check the relay number of the program.
	2	Data input mode	Set to set to this position before entering data.

Dip Switch

Dip SW No.	Statement	B452 data	B452A data
1	Speed of communication with sub CPU board	OFF	OFF
2		OFF	OFF
3		ON	ON
4	Speed on high speed side	ON	ON
5		OFF	OFF
6	Mode	OFF	ON
7		OFF	ON
8	Start mode	OFF	OFF

[3] Program check mode

I/O board can be checked from the main CPU board

1. Method of operation

- (1) Set the rotary switch S8 to 1.
- (2) Set the 3-digit digital switch.
- (3) Check ON/OFF with the yellow LED on the left side.

2. Communication error check

Set the 3-digit digital switch to 250 and verify that the yellow LEDs 10 to 15 are illuminated. If not, check the following.

- 250-10 3/4P NOP-S CONTROL BOX
 250-11 3/4P OP-S CONTROL BOX
 250-12 1/2P NOP-S CONTROL BOX
 250-13 1/2P OP-S CONTROL BOX
 250-14 DELIVERY NOP-S OPERATION PANEL
 250-15 DELIVERY OP-S OPERATION PANEL

INPUT

Digital SW	Yellow LED	Description	Wire No.	Remark	LED on CPU board
107	0	EMERGENCY STOP	X009		CPU L9
	1	PUMP THERMAL	X010		CPU L10
	2	INVERTER TRIP	X011		CPU L11
	3	4P PLATE CYLINDER BASE SENSOR	X012	Only EPS attached	CPU L12
110	0	1P PLATE CYLINDER BASE SENSOR	X023	Only EPS attached	CPU SUB L25
	1	PAPER BASE SENSOR	X024		CPU SUB L26
	2	2P PLATE CYLINDER BASE SENSOR	X025	Only EPS attached	CPU SUB L27
	3	3P PLATE CYLINDER BASE SENSOR	X026	Only EPS attached	CPU SUB L28
	4	DOUBLE SHEET DETECTION (ELECTRIC)	X027		CPU SUB L29
	5	PAPER DETECT SIGNAL	X028		CPU SUB L30
	6	SKEWED DETECTOR 1	X029		CPU SUB L31
	7	SKEWED DETECTOR 2	X030		CPU SUB L32
003	6	COUNT KEY	X092		
	7	STOP KEY	X091		
002	0	TEN KEY 7	X090		
	1	TEN KEY 8	X089		
	2	TEN KEY 9	X088		
	3	TEN KEY 4	X087		
	4	TEN KEY 5	X086		
	5	TEN KEY 6	X085		
	6	TEN KEY 1	X084		
	7	TEN KEY 2	X083		
008	0	TEN KEY 3	X082		
	1	TEN KEY 0	X081		
	2	TEN KEY CLEAR	X080		
	3	TEN KEY ENTRY	X079		

008	4	WASH SET KEY	X078		
	5	DRY SET KEY	X077		
	6	1P DAMPENING FEED MANUAL KEY	X076		
	7	2P DAMPENING FEED MANUAL KEY	X075		
009	0	3P DAMPENING FEED MANUAL KEY	X074		
	1	4P DAMPENING FEED MANUAL KEY	X073		
	2	1P DAMPENING FEED MANUAL KEY	X072		
	3	2P DAMPENING FEED MANUAL KEY	X071		
	4	3P DAMPENING FEED MANUAL KEY	X070		
	5	4P DAMPENING FEED AUTO KEY	X069		
	6	1P INK DUCTOR MANUAL KEY	X068		
	7	2P INK DUCTOR MANUAL KEY	X067		
006	4	3P INK DUCTOR MANUAL KEY	X066		
	3	4P INK DUCTOR MANUAL KEY	X065		
	2	1P INK DUCTOR AUTO KEY	X064		
	1	2P INK DUCTOR AUTO KEY	X063		
007	5	3P INK DUCTOR AUTO KEY	X062		
005	7	4P INK DUCTOR AUTO KEY	X061		
	6	SPRAY TIMING KEY	X093		
	5	DAMPENING FEED AUTO SPEED UP SETTING KEY	X094		
	3	1P DAMPENING FEED SPEED UP KEY	X095		
	2	2P DAMPENING FEED SPEED UP KEY	X096		
	1	3P DAMPENING FEED SPEED UP KEY	X097		
	0	4P DAMPENING FEED SPEED UP KEY	X098		
113	2	STOP SW (FEEDER)	X001		CPU L1
	3	START SW (FEEDER)	X002		CPU L2
114	2	PREPARATION SW (FEEDER)	X003		CPU L3
	3	POSITION SW (FEEDER)	X004		CPU L4
	4	FORWARD INCHING SW (FEEDER)	X005		CPU L5
	5	BACKWARD INCHING SW (FEEDER)	X006		CPU L6
115	5	FEEDER TABLE UP KEY	X008		CPU L8
116	0	PAPER TABLE STOP KEY	X015		CPU L15
	1	PAPER TABLE DOWN KEY	X016		CPU L16
	2	AUTO FEED KEY	X017		CPU L17
	3	FRONT LAY KEY	X018		CPU L18
	4	CLUTCH KEY (FEEDER)	X019		CPU L19
	5	DOUBLE SHEET DETECTION KEY	X020		CPU L20
	6	FEED KEY (FEEDER)	X021		CPU L21
	7	PUMP KEY (FEEDER)	X022		CPU L22
015	0	PREPARATION SW (DELIVERY)	X060		
	1	START SW (DELIVERY)	X059		

1. ELECTRICAL DATA

015	2	STOP SW (DELIVERY)	X058		
	3	FORWARD INCHING SW (DELIVERY)	X057		
	4	BACKWARD INCHING SW (DELIVERY)	X056		
	5	SPEED UP KEY	X055		
	6	SPEED DOWN KEY	X054		
	7	TEST COPY KEY	X053		
012	7	INK WASH KEY	X031		
017	5	BLANKET WASH KEY	X032		
016	1	SPRAY KEY	X033		
	2	STATIC ELMINATOR KEY	X034		
	3	TEST KEY	X035		
	4	MANUAL KEY	X036		
018	0	PUMP KEY (DELIVERY)	X052		
	1	AUTO IMPRESSION KEY	X051		
	2	FEED KEY (DELIVERY)	X050		
	3	CLUTCH KEY (DELIVERY)	X049		
	4	1P SELECTION KEY	X048		
	5	2P SELECTION KEY	X047		
	6	3P SELECTION KEY	X046		
	7	4P SELECTION KEY	X045		
019	0	1P DAMPENING FORM ROLLER MANUAL KEY	X044		
	1	2P DAMPENING FORM ROLLER MANUAL KEY	X043		
	2	3P DAMPENING FORM ROLLER MANUAL KEY	X042		
	3	4P DAMPENING FORM ROLLER MANUAL KEY	X041		
	4	1P INK FORM ROLLER MANUAL KEY	X040		
	5	2P INK FORM ROLLER MANUAL KEY	X039		
	6	3P INK FORM ROLLER MANUAL KEY	X038		
	7	4P INK FORM ROLLER MANUAL KEY	X037		
031	4	SWING JAM SENSOR	X105		1/2P OP-S L5
	5	CONVER COVER	X106		1/2P OP-S L6
	6	PROTRACTOR COVER	X107		1/2P OP-S L7
	7	HANDLE COVER	X108		1/2P OP-S L8
032	0	OP-S COVER 1	X109		1/2P OP-S L9
	1	OP-S COVER 2	X110		1/2P OP-S L10
	2	1P FEEDER SIDE COVER	X111		1/2P OP-S L11
	3	2P SAFETY COVER	X112		1/2P OP-S L12
	4	1P-2P IMPRESSION CYLINDER COVER	X113		1/2P OP-S L13
	5	1P DAMPENING WATER DETECTOR	X114		1/2P OP-S L14
	6	2P DAMPENING WATER DETECTOR	X115		1/2P OP-S L15
040	0	1P OP-S PREPARATION SW	X147		1/2P OP-S L67
	1	1P OP-S FORWARD INCHING SW	X148		1/2P OP-S L68

040	2	1P OP-S BACKWARD INCHING SW	X149		1/2P OP-S L69
	3	1P INK DUCTOR MANUAL SW	X150		1/2P OP-S L70
	4	1P DAMPENING FEED MANUAL SW	X151		1/2P OP-S L71
	5	2P OP-S PREPARATION SW	X152		1/2P OP-S L72
	6	2P OP-S FORWARD INCHING SW	X153		1/2P OP-S L73
	7	2P OP-S BACKWARD INCHING SW	X154		1/2P OP-S L74
039	2	2P INK DUCTOR MANUAL SW	X141		1/2P OP-S L61
	3	2P DAMPENING FEED MANUAL SW	X142		1/2P OP-S L62
	4	1P INK FORM ROLLER MANUAL SW	X143		1/2P OP-S L63
	5	1P DAMPENING FORM ROLLER MANUAL SW	X144		1/2P OP-S L64
	6	2P INK FORM ROLLER MANUAL SW	X145		1/2P OP-S L65
	7	2P DAMPENING FORM ROLLER MANUAL SW	X146		1/2P OP-S L66
051	0	DELIVERY TABLE HEIGHT SENSOR	X301		3/4P OP-S L1
	1	CD JAM	X302		3/4P OP-S L2
	2	FORK DETECTOR	X303	OPTION	3/4P OP-S L3
	3	OP-S COVER 3	X304		3/4P OP-S L4
	4	2P-3P COVER 1	X305		3/4P OP-S L5
	5	3P DAMPENING COVER	X306		3/4P OP-S L6
	6	3P-4P IMPRESSION CYLINDER COVER	X307		3/4P OP-S L7
052	0	4P SAFETY COVER	X309		3/4P OP-S L9
	5	3P DAMPENING WATER DETECTOR	X314		3/4P OP-S L14
	6	4P DAMPENING WATER DETECTOR	X315		3/4P OP-S L15
060	0	3P OP-S PREPARATION SW	X347		3/4P OP-S L67
	1	3P OP-S FORWARD INCHING SW	X348		3/4P OP-S L68
	2	3P OP-W BACKWARD INCHING SW	X349		3/4P OP-S L69
	3	3P INK DUCTOR MANUAL SW	X350		3/4P OP-S L70
	4	3P DAMPENING FEED MANUAL SW	X351		3/4P OP-S L71
	5	4P OP-S PREPARATION SW	X352		3/4P OP-S L72
	6	4P OP-S FORWARD INCHING SW	X353		3/4P OP-S L73
	7	4P OP-S BACKWARD INCHING SW	X354		3/4P OP-S L74
059	2	4P INK DUCTOR MANUAL SW	X341		3/4P OP-S L61
	3	4P DAMPENING FEED MANUAL SW	X342		3/4P OP-S L62
	4	3P INK FORM ROLLER MANUAL SW	X343		3/4P OP-S L63
	5	3P DAMPENING FORM ROLLER MANUAL SW	X344		3/4P OP-S L64
	6	4P INK FORM ROLLER MANUAL SW	X345		3/4P OP-S L65
	7	4P DAMPENING FORM ROLLER MANUAL SW	X346		3/4P OP-S L66
020	0	NOP-S COVER 1	X201		1/2P NOP-S L1
	1	2P BLANKET CYLINDER COVER	X202		1/2P NOP-S L2
	2	1P SAFETY BAR	X203		1/2P NOP-S L3
	3	1P INK UNIT COVER	X204		1/2P NOP-S L4
	4	1P PLATE CYLINDER COVER	X205		1/2P NOP-S L5

1. ELECTRICAL DATA

020	5	2P INK UNIT COVER	X206		1/2P NOP-S L6
	6	2P PLATE CYLINDER COVER	X207		1/2P NOP-S L7
021	0	FEEDER TABLE UP STOP	X209		1/2P NOP-S L9
	1	FEEDER TABLE UPPER LIMIT	X210		1/2P NOP-S L10
	2	FEEDER TABLE BOTTOM LIMIT	X211		1/2P NOP-S L11
	3	FEEDER PAPER HEIGHT DETECTOR	X212		1/2P NOP-S L12
	4	DOUBLE SHEET DETECTOR (MECHANICAL)	X213		1/2P NOP-S L13
	5	FEEDER RISING LEVER OFF DETECTOR	X214		1/2P NOP-S L14
	6	POST CARD DETECTOR	X215	OPTION	1/2P NOP-S L15
030	0	1P NOP-S PREPARATION SW	X247		1/2P NOP-S L67
	1	1P NOP-S POSITION SW	X248		1/2P NOP-S L68
	2	1P NOP-S FORWARD INCHING SW	X249		1/2P NOP-S L69
	3	1P NOP-S BACKWARD INCHING SW	X250		1/2P NOP-S L70
	4	1P MANUAL IMPRESSION SW	X251		1/2P NOP-S L71
	5	2P NOP-S PREPARATION SW	X252		1/2P NOP-S L72
	6	2P NOP-S POSITION SW	X253		1/2P NOP-S L73
	7	2P NOP-S FORWARD INCHING SW	X254		1/2P NOP-S L74
029	2	2P NOP-S BACKWARD INCHING SW	X241		1/2P NOP-S L61
	3	2P MANUAL IMPRESSION SW	X241		1/2P NOP-S L62
041	0	BLANKET JAM SENSOR	X401		3/4P NOP-S L1
	2	DELIVERY TABLE BOTTOM LIMIT	X403		3/4P NOP-S L3
	3	NOP-S COVER 2	X404		3/4P NOP-S L4
	4	NOP-S COVER 3	X405		3/4P NOP-S L5
	5	CD COVER	X406		3/4P NOP-S L6
	6	3P SAFETY BAR 1	X407		3/4P NOP-S L7
	7	3P SAFETY BAR 2	X408		3/4P NOP-S L8
042	0	3P INK UNIT COVER	X409		3/4P NOP-S L9
	1	3P PLATE CYLINDER COVER	X410		3/4P NOP-S L10
	2	4P INK UNIT COVER	X411		3/4P NOP-S L11
	3	4P PLATE CYLINDER COVER	X412		3/4P NOP-S L12
	4	2P-3P COVER 2	X413		3/4P NOP-S L13
050	0	3P NOP-S PREPARATION SW	X447		3/4P NOP-S L67
	1	3P POSITION SW	X448		3/4P NOP-S L68
	2	3P NOP-S FORWARD INCHING SW	X449		3/4P NOP-S L69
	3	3P NOP-S BACKWARD INCHING SW	X450		3/4P NOP-S L70
	4	3P MANUAL IMPRESSION SW	X451		3/4P NOP-S L71
	5	4P NOP-S PREPARATION SW	X452		3/4P NOP-S L72
	6	4P POSITION SW	X453		3/4P NOP-S L73
	7	P NOP-S FORWARD INCHING SW	X454		3/4P NOP-S L74
049	2	4P NOP-S BACKWARD INCHING SW	X441		3/4P NOP-S L61
	3	4P MANUAL IMPRESSION SW	X442		3/4P NOP-S L62

OUTPUT

DigitalSW	Yellow LED	Description	Wire No.	Remark	LED on CPU board
108	0	FRONTLAY SOL	Y01		CPU L23
	1	GRIPPER OPEN/CLOSE SOL	Y02		CPU L24
	4	1P DAMPENING MOTOR	STR1		CPU L92
	5	2P DAMPENING MOTOR	STR2		CPU L93
	6	3P DAMPENING MOTOR	STR3		CPU L94
	7	4P DAMPENING MOTOR	STR4		CPU L95
109	0	PUMP MAGNET	Y015		CPU SUB L17
	1	FEEDER TABLE UP MAGNET SW	Y016		CPU SUB L18
	2	FEEDER TABLE DOWN MAGNET SW	Y017		CPU SUB L19
	3	BUZZER	Y018		CPU SUB L20
	4	COUNTER 1	Y019		CPU SUB L21
	5	COUNTER 2	Y020		CPU SUB L22
	6	COUNTER OUTPUT	Y021	OPTION	CPU SUB L23
111	6	DOUBLE SHEET TIMING	Y007		CPU SUB L7
	7	DOUBLE SHEET RESET	Y008		CPU SUB L8
117	0	FORWARD (INV)	Y023		CPU L31
	1	BACKWARD (INV)	Y024		CPU L32
	2	MULTI SPEED 1 (INV)	Y025		CPU L33
	3	MULTI SPEED 2 (INV)	Y026		CPU L34
	4	MULTI SPEED 3 (INV)	Y027		CPU L35
010	1	START SW LED (DELIVERY)	Y079		
	2	PREPARATION SW LED (DELIVERY)	Y078		
	4	SPEED UP KEY LED	Y076		
	5	TEST COPY KEY LED	Y075		
	6	PUMP KEY LED (DELIVERY)	Y074		
	7	AUTO IMPRESSION KEY LED	Y073		
011	0	FEED KEY LED (DELIVERY)	Y072		
	1	CLUTCH KEY LED (DELIVERY)	Y071		
	2	1P SELECTOR KEY LED	Y070		
	3	2P SELECTOR KEY LED	Y069		
	4	3P SELECTOR KEY LED	Y068		
	5	4P SELECTOR KEY LED	Y067		
	6	1P MANUAL DAMPENING FORM ROLLER KEY LED	Y066		
	7	2P MANUAL DAMPENING FORM ROLLER KEY LED	Y065		
014	0	3P MANUAL DAMPENING FORM ROLLER KEY LED	Y064		
	1	4P MANUAL DAMPENING FORM ROLLER KEY LED	Y063		
	2	1P MANUAL INK FORM ROLLER KEY LED	Y062		
	3	2P MANUAL INK FORM ROLLER KEY LED	Y061		

1. ELECTRICAL DATA

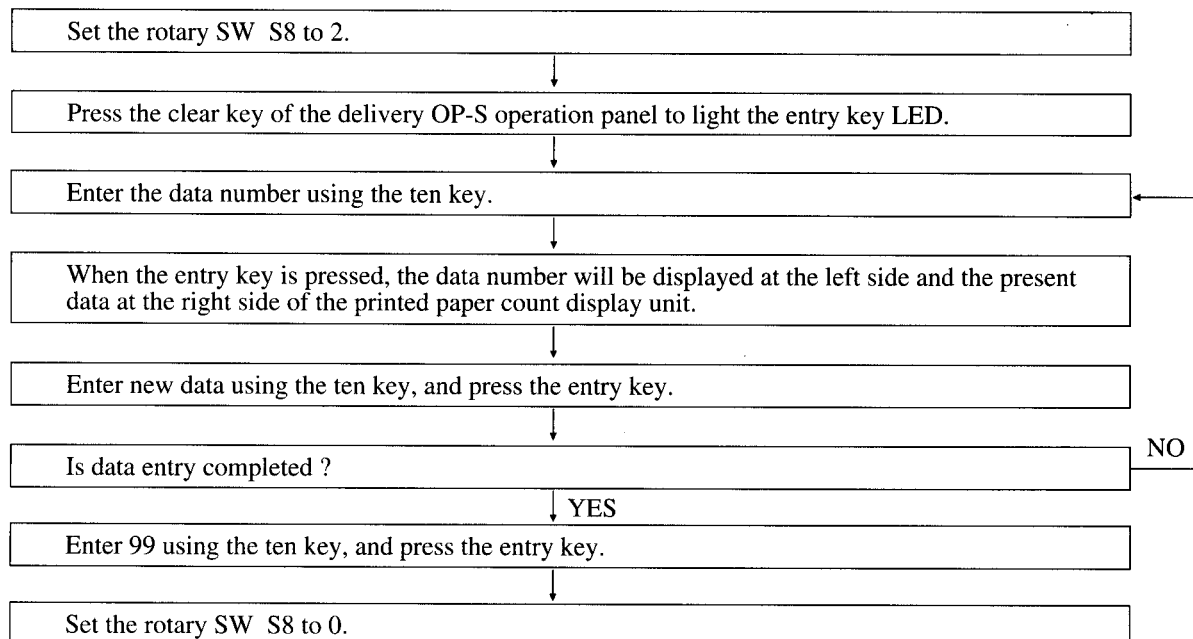
013	0	3P MANUAL INK FORM ROLLER KEY LED	Y060		
	1	4P MANUAL INK FORM ROLLER KEY LED	Y059		
	2	MANUAL KEY LED	Y058		
	3	TEST KEY LED	Y057		
	4	STATIC ELIMINATOR KEY LED	Y056		
	5	SPRAY KEY LED	Y055		
	6	BLANKET WASH KEY LED	Y054		
	7	INK WASH KEY LED	Y053		
104	0	START SW LED (FEEDER)	Y047		CPU L55
	1	PREPARATION SW LED (FEEDER)	Y048		CPU L56
	2	POSITION SW LED (FEEDER)	Y049		CPU L57
105	0	7 seg 1 (Feeder)	Y031		CPU L39
	1	7 seg 2 (Feeder)	Y032		CPU L40
	2	7 seg 4 (Feeder)	Y033		CPU L41
	3	7 seg 8 (Feeder)	Y034		CPU L42
	4	7 seg 10 (Feeder)	Y035		CPU L43
	5	7 seg 20 (Feeder)	Y036		CPU L44
	6	7 seg 40 (Feeder)	Y037		CPU L45
	7	7 seg 80 (Feeder)	Y038		CPU L46
106	0	7 seg B1 (Feeder)	Y039		CPU L47
	1	FEEDER TABLE STOP KEY LED	Y040		CPU L48
	2	AUTO FEED KEY LED	Y041		CPU L49
	3	FRONTLAY KEY LED	Y042		CPU L50
	4	CLUTCH KEY LED (FEEDER)	Y043		CPU L51
	5	DOUBLE SHEET KEY LED	Y044		CPU L52
	6	FEED KEY LED (FEEDER)	Y045		CPU L53
	7	PUMP KEY LED (FEEDER)	Y046		CPU L54
000	0	COUNT KEY LED	Y100		
	1	STOP KEY LED	Y099		
	2	TEN KEY ENTRY LED	Y098		
	3	WASH SET KEY LED	Y097		
	4	DRY SET KEY LED	Y096		
	5	1P MANUAL DAMPENING FEED KEY LED	Y095		
	6	2P MANUAL DAMPENING FEED KEY LED	Y094		
	7	3P MANUAL DAMPENING FEED KEY LED	Y093		
001	0	4P MANUAL DAMPENING FEED KEY LED	Y092		
	1	1P AUTO DAMPENING FEED KEY LED	Y091		
	2	2P AUTO DAMPENING FEED KEY LED	Y090		
	3	3P AUTO DAMPENING FEED KEY LED	Y089		
	4	4P AUTO DAMPENING FEED KEY LED	Y088		
	5	1P MANUAL INK DUCTOR KEY LED	Y087		

001	6	2P MANUAL INK DUCTOR KEY LED	Y086		
	7	3P MANUAL INK DUCTOR KEY LED	Y085		
004	0	4P MANUAL INK DUCTOR KEY LED	Y084		
	1	1P AUTO INK DUCTOR KEY LED	Y083		
	2	2P AUTO INK DUCTOR KEY LED	Y082		
	3	3P AUTO INK DUCTOR KEY LED	Y081		
	4	4P AUTO INK DUCTOR KEY LED	Y080		
	5	SPRAY TIMING KEY LED	Y100A		
	6	DAMPENING AUTO SPEED UP SET KEY LED	Y100B		
033	0	1P INK DUCTOR SOL	Y101		1/2P OP-S L33
	1	2P INK DUCTOR SOL	Y102		1/2P OP-S L34
	4	1P MANUAL DAMPENING FEED SW LED	Y127		1/2P OP-S L78
	5	2P MANUAL DAMPENING FEED SW LED	Y128		1/2P OP-S L79
034	0	1P OP-S PREPARATION SW LED	Y109		1/2P OP-S L41
	1	1P MANUAL INK DUCTOR SW LED	Y110		1/2P OP-S L42
	2	2P OP-S PREPARATION SW LED	Y111		1/2P OP-S L43
	3	2P MANUAL INK DUCTOR SW LED	Y112		1/2P OP-S L44
	4	FEEDER CLUTCH VALVE	Y113		1/2P OP-S L45
	5	FEEDER TABLE UP VALVE	Y114		1/2P OP-S L46
	6	1P INK FORM ROLLER ON/OFF VALVE	Y115		1/2P OP-S L47
	7	1P DAMPENING FORM ROLLER ON/OFF VALVE	Y116		1/2P OP-S L48
035	0	2P INK FORM ROLLER ON/OFF VALVE	Y117		1/2P OP-S L49
	1	2P DAMPENING FORM ROLLER ON/OFF VALVE	Y118		1/2P OP-S L50
	2	1P BLANKET WASH VALVE	Y119		1/2P OP-S L51
	3	2P BLANKET WASH VALVE	Y120		1/2P OP-S L52
111	0	1P P-B VALVE	Y001		CPU SUB L1
	1	1P B-1 VALVE	Y002		CPU SUB L2
	2	2P P-B VALVE	Y003		CPU SUB L3
	3	2P B-1 VALVE	Y004		CPU SUB L4
023	2	FEEDER SOL	Y203		1/2P NOP-S L35
024	0	1P NOP-S PREPARATION SW LED	Y209		1/2P NOP-S L41
	1	1P POSITION SW LED	Y210		1/2P NOP-S L42
	2	2P POSITION SW LED	Y211		1/2P NOP-S L43
	3	2P POSITION SW LED	Y212		1/2P NOP-S L44
	7	1P/2P BLANKET WASH PUMP	Y216		1/2P NOP-S L48
053	0	3P INK DUCTOR SOL	Y301		3/4P OP-S L33
	1	4P INK DUCTOR SOL	Y302		3/4P OP-S L34
	2	STATIC ELIMINATOR	Y303		3/4P OP-S L35
	3	SPRAY VALVE	Y304		3/4P OP-S L36
	4	3P MANUAL DAMPENING FEED SW LED	Y327		3/4P OP-S L78
	5	4P MANUAL DAMPENING FEED SW LED	Y328		3/4P OP-S L79

054	0	3P OP-S PREPARATION SW LED	Y309		3/4P OP-S L41
	1	3P MANUAL INK DUCTOR SW LED	Y310		3/4P OP-S L42
	2	4P OP-S PREPARATION SW LED	Y311		3/4P OP-S L43
	3	4P MANUAL INK DUCTOR SW LED	Y312		3/4P OP-S L44
	4	AIR BLOW VALVE	Y313		3/4P OP-S L45
	5	DELIVERY TABLE LOWER VALVE	Y314		3/4P OP-S L46
	6	3P INK FORM ROLLER ON/OFF VALVE	Y315		3/4P OP-S L47
	7	3P DAMPENING FORM ROLLER ON/OFF VALVE	Y316		3/4P OP-S L48
055	0	4P INK FORM ROLLER ON/OFF VALVE	Y317		3/4P OP-S L49
	1	4P DAMPENING FORM ROLLER ON/OFF VALVE	Y318		3/4P OP-S L50
	2	3P BLANKET WASH VALVE	Y319		3/4P OP-S L51
	3	4P BLANKET WASH VALVE	Y320		3/4P OP-S L52
112	0	3P P-B VALVE	Y005		CPU SUB L9
	1	3P B-1 VALVE	Y006		CPU SUB L10
	2	4P P-B VALVE	Y007		CPU SUB L11
	3	4P B-1 VALVE	Y008		CPU SUB L12
044	0	3P NOP-S PREPARATION SW LED	Y409		3/4P NOP-S L41
	1	3P POSITION SW LED	Y410		3/4P NOP-S L42
	2	4P NOP-S PREPARATION SW LED	Y411		3/4P NOP-S L43
	3	4P POSITION SW LED	Y412		3/4P NOP-S L44
	7	3P/4P BLANKET WASH PUMP	Y416		3/4P NOP-S L48

[4] Timing data setting

Data input method



DATA TABLE

Data No.	Description	Data
5	1P P-B TIMING	313
6	1P B-1 TIMING	150
7	1P DAMPENING FORM ROLLER TIMING	100
8	1P INK FORM ROLLER TIMING	180
9	1P BLANKET WASH TIMING	336
10	2P P-B TIMING	300
11	2P B-1 TIMING	115
12	2P DAMPENING FORM ROLLER TIMING	70
13	2P INK FORM ROLLER TIMING	125
14	2P BLANKET WASH TIMING	247
15	3P P-B TIMING	273
16	3P B-1 TIMING	175
17	3P DAMPENING FORM ROLLER TIMING	165
18	3P INK FORM ROLLER TIMING	20
19	3P BLANKET WASH TIMING	343
20	4P P-B TIMING	281
21	4P B-1 TIMING	130
22	4P DAMPENING FORM ROLLER TIMING	30
23	4P INK FORM ROLLER TIMING	90
24	4P BLANKET WASH TIMING	212
25	FEEDER TABLE UP TIMING	40
26	PAPER FEED TIMING	180
27	SWING JAM TIMING	165
28	DOUBLE SHEET TIMING	285
29	SKEWED DETECT TIMING	285
30	PAPER DETECT TIMING	200
31	BLANKET JAM TIMING	195
32	PAPER SET POSITION (CONVEYOR)	290
33	PAPER SET POSITION (FRONT LAY)	250
34	PAPER SET POSITION (SIDE JOGGER)	140
35	PAPER SET POSITION (BACK JOGGER)	100
36	CLUTCH TIMING	210
37	PLATE CYLINDER POSITION STOP (1P LEADING EDGE)	335
38	PLATE CYLINDER POSITION STOP (1P TAIL EDGE)	240
39	PLATE CYLINDER POSITION STOP (2P LEADING EDGE)	300
40	PLATE CYLINDER POSITION STOP (2P TAIL EDGE)	195
41	PLATE CYLINDER POSITION STOP (3P LEADING EDGE)	300
42	PLATE CYLINDER POSITION STOP (3P TAIL EDGE)	210
43	PLATE CYLINDER POSITION STOP (4P LEADING EDGE)	260
44	SPRAY ON TIMING	340
45	SPRAY OFF TIMING	270
48	PAPER FEED STOP COUNT	12

70	AUTO DAMPENING SPEED UP (4000)	10 *1
71	AUTO DAMPENING SPEED UP (5000)	20 *1
72	AUTO DAMPENING SPEED UP (6000)	30 *1
73	AUTO DAMPENING SPEED UP (7000)	40 *1
74	AUTO DAMPENING SPEED UP (8000)	50 *1
75	AUTO DAMPENING SPEED UP (9000)	60 *1
76	AUTO DAMPENING SPEED UP (10000)	70 *1
77	EPS 1P LEADING EDGE POSITION STOP	— *2
78	EPS 1P TAIL EDGE POSITION STOP	— *2
79	EPS 1P BACKWARD LEADING EDGE POSITION STOP	— *2
80	EPS 2P LEADING EDGE POSITION STOP	— *2
81	EPS 2P TAIL EDGE POSITION STOP	— *2
82	EPS 2P BACKWARD LEADING EDGE POSITION STOP	— *2
83	EPS 3P LEADING EDGE POSITION STOP	— *2
84	EPS 3P TAIL EDGE POSITION STOP	— *2
85	EPS 3P BACKWARD LEADING EDGE POSITION STOP	— *2
86	EPS 4P LEADING EDGE POSITION STOP	— *2
87	EPS 4P TAIL EDGE POSITION STOP	— *2
88	EPS 4P BACKWARD LEADING EDGE POSITION	— *2

Note:

*1 : AUTOMATIC ACCELERATION RATIO(70~76) OF F. ROLLER CAN BE SET AS OPTIONALLY ACCORDING TO PRINTING CONDITIONS.

*2 : DATE VALUE OF EPS PLATE CYLINDER POSITIONS(77~88) DIFFERS DEPEND ON THE MACHINE. (REFER TO THE MECHANICAL VERSION OF SERVICE MANUAL)

[5] Wiring of the unit control box

The connecting on the Inside of the unit control box, the bottom two figures of the connector No, show the connector No, on the I/O board.

For example, **J 202 — J#02 (connector No,)**

The third figure shows the box No, of the I/O board.

For example, **J 202 — J2## (Box No,)**

J1## — The box of OP-side for 1/2 units

J2## — The box of NOP-side for 1/2 units

J3## — The box of OP-side for 3/4 units

J4## — The box of NOP-side for 3/4 units

Note: There are connectors which have been not using depend on the box.

The two micro cables can connect whichever the connector.

The position of the rotary switch (S4) are as show below,

The box of OP-side for 1/2 units: S4=7

The box of NOP-side for 1/2 units: S4=5

The box of OP-side for 3/4 units: S4=B

The box of OP-side for 3/4 units: S4=9

2. INVERTER SETTING (Yaskawa Electric Corp.: VS-616G5)

[1] Environment setting (A1-**)

Operation procedure

(1) Press the [MENU] key.	... Mode selection screen will be displayed.	G5* Mode selection * Drive mode.
(2) Press the [^] key once.	... Select the environment setting mode. (Display unit displays the environment setting mode.)	G* Mode selection * Set the environment.
(3) Press the [DATA/ENTER] key.	... Language selection screen will be displayed.	Language Japanese
(4) Press the [^] key once (twice).	... The present access level will be displayed. (When pressed twice, the control mode will be displayed.)	Constant access level QUICK-START
(5) Press the [DATA/ENTER] key.	... The constant change screen will be displayed.	A1-01=2 *** QUICK-START
(6) Press the [^] key twice.	... Select the constant.	A1-01= 4 ADVANCED
(7) Press the [DATA/ENTER] key.	... Write the set value.	Constant write ?
(8) Press the [MENU] key.	... Display (1) Mode selection screen.	G5* Mode selection * Drive mode
(9) Press the [DATA/ENTER] key.	... The frequency monitor screen will be displayed.	Output frequency ?? U1-01=00.00HZ

* If the inverter is in the initial state, parameters that can be set are restricted. Be sure to set the access level (A1-01) in the beginning.

* When the control mode is changed, some parameters will be changed accordingly. Be sure to set the control mode (A1-02) in the beginning.

[2] Setting and changing parameters (Setting other than A1-**)

Operation procedure



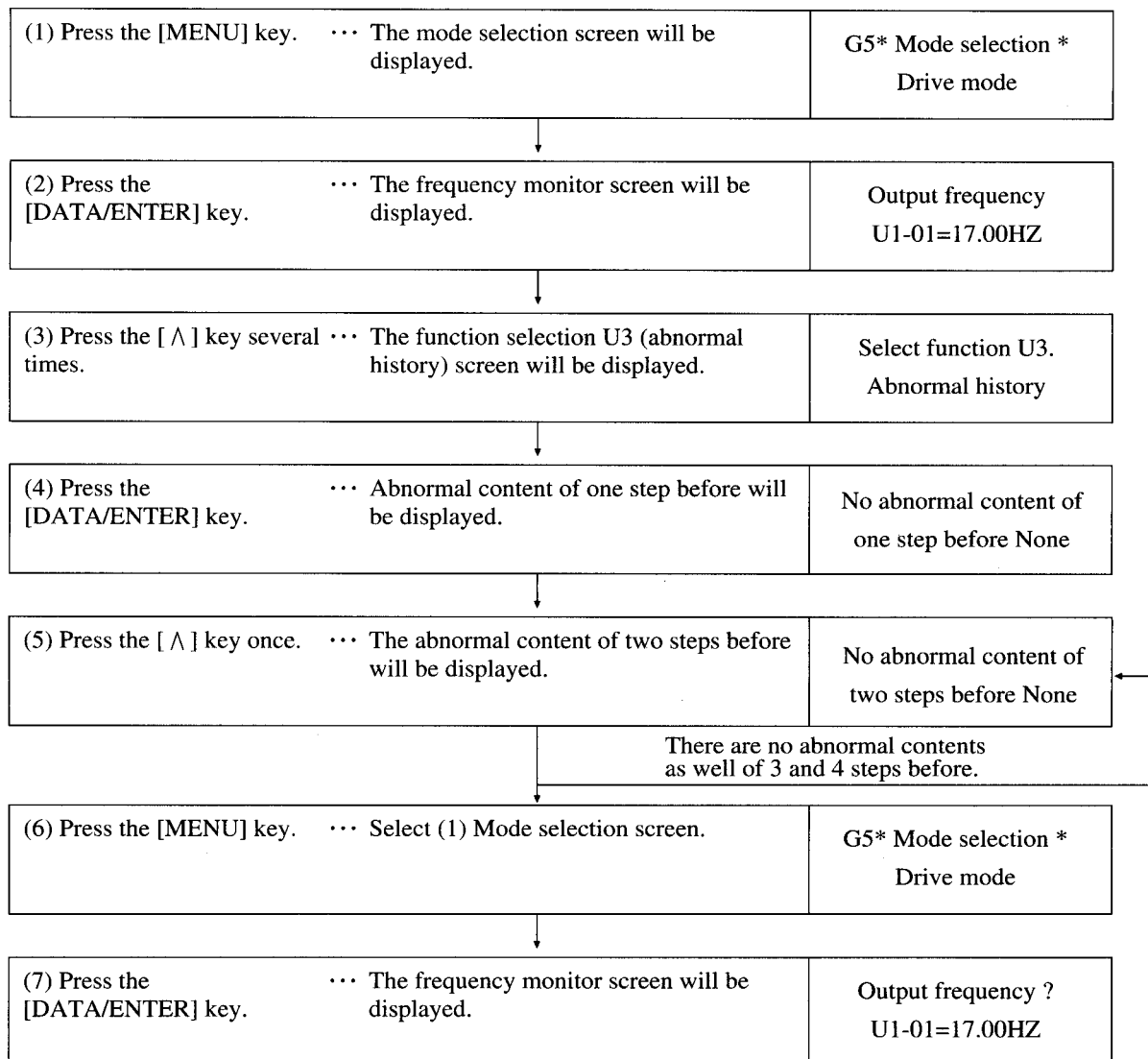
[3] Initializing the set value

Operation procedure

(1) Press the [MENU] key.	... The mode selection screen will be displayed.	G5* Mode selection * Drive mode
(2) Press the [Λ] key once.	... Select the environment setting mode. ("Environment setting mode" will be displayed in the display unit.)	G5* Mode selection * Set the environment.
(3) Press the [DATA/ENTER] key.	... The language selection screen will be displayed.	Language Japanese
(4) Press the [Λ] key three times.	... The initialize selection screen will be displayed.	Select initialize.
(5) Press the [DATA/ENTER] key.	... The initialize change screen will be displayed.	Select A1-03= ***
(6) Press the [Λ] key once.	... Select the constant.	A1-01=2220 Initialize 2WIRE.
(7) Press the [DATA/ENTER] key.	... Write the set value.	Constant write ?
(8) Press the [MENU] key.	... Select (1) Mode selection screen.	G5* Mode selection * Drive mode
(9) Press the [DATA/ENTER] key.	... The frequency monitor screen will be displayed.	Output frequency ?? U1-01=17.00Hz

[4] Inverter trip display**1) Display and contents of inverter trip**

Display	Content	Check point
OC	Overcurrent	Check for sudden change in load.
OV	Overvoltage	Check for sudden change in load.
OL1	Overload (motor)	Check for overload.
OL2	Overload (inverter)	Check for overload.
CPF01 CPF05	CPU abnormal	Inverter abnormal

2) History of abnormal content**Operation procedure**

[5] Operation by operator

Operation procedure

(1) Press the [LOCAL/REMOTE] key.	... (REMOTE LED (SEQ,REF) will go out and DRIVE, FWD will light.)	Frequency command U1-01=0.00HZ
(2) Press the [DATA/ENTER] key.	... The frequency change screen will be displayed.	Frequency command 000.00HZ
(3) Press the [>RESET] Press the [^] key several times. (Example: 15Hz)	... Moving of digits ... Changing numeric values (The portion that flickers is the portion to be changed.)	Frequency command 015.00HZ
(4) Press the [DATA/ENTER] key.	... Write the set value.	Constant write ?
(5) Press the [ESC] key.	... The frequency monitor screen will be displayed.	Frequency command U1-01=15.00HZ
(6) Press the [RUN] key.	... The machine runs at the frequency set by the motor.	Frequency command U1-01=15.00HZ
(7) Press the [STOP] key.	... Motor stops.	Frequency command U1-01=15.00HZ
(8) Press the [DATA/ENTER] key.	... The frequency change screen will be displayed.	Frequency command 015.00HZ
(9) Press the [>RESET] key. Press the [^] key several times.	... Moving of digits ... Changing numeric values (change to 0) (The portion that flickers is the portion to be changed.)	Frequency command 000.00HZ
(10) Press the [DATA/ENTER] key.	... Write the set value.	Constant write ?
(11) Press the [ESC] key.	... The frequency monitor display screen will be displayed.	Frequency command U1-01=0.00HZ
(12) Press the [LOCAL/REMOTE] key.	... (REMOTE LED (SEQ, REF) light and DRIVE, FWD go out.)	Frequency command U1-01=17.00HZ

[6] Data

Functions		Parameters	Description	Setting range	Minimum setting	Plant setting	Hamada setting
		No.			Unit	Set value	B452
ENVIRONMENT SETTING	Environment setting	A1-00	Language selection	0,1	1	1	1
		A1-01	Constant access level	0~4	1	2	4
		A1-02	Control mode selection	0~3	1	2	2
		A1-03	Initialize	0000~3333	1	0000	0000
		A1-04	Password 1	0000~9999	1	0000	0000
		A1-05	Password 2	0000~9999	1	0000	0000
	Use constant setting	A2-01					
		~	Use constant setting	—	—	—	—
		A2-32					
APPLICATION	Selection of operation modes	b1-01	Selection of frequency command	0~3	1	1	1
		b1-02	Selection of operation command	0~3	1	1	1
		b1-03	Selection of method of stopping	0~3	1	0	0
		b1-04	Selection of forbidden reverse operation	0,1	1	0	0
		b1-05	Selection of operation under E1-09	0~3	1	0	0
		b1-06	Selection of reading sequence twice	0,1	1	1	0
		b1-07	Operation after changing to REMOTE mode	0,1	1	0	0
	DC braking	b2-01	0 speed level	0.0~10.00	0.1Hz	0.5	0.5
		b2-02	DC braking current	0~100	1%	50	30
		b2-03	DC braking time at start	0.00~10.00	0.01sec	0.00	0.10
		b2-04	DC braking time at stop	0.00~10.00	0.01sec	0.50	0.50
		b2-08	Amount of magnetic flux				180
	Speed research	b3-01	Selection of searching at start	0,1	1	0	0
		b3-02	Speed searching operation current	0~200	1%	150	150
		b3-03	Speed searching deceleration time	0.1~10.0	0.1sec	2.0	2.0
	Timer function	b4-01	Timer function ON side delay time	0.0~300.0	0.1sec	0.0	0.0
		b4-02	Timer function OFF side delay time	0.0~300.0	0.1sec	0.0	0.0
	PID control	b5-01	Selection of PID control mode	0,1,2	1	0	0
		b5-02	Relative gain	0.00~25.00	0.01	1.00	1.00
		b5-03	Integrating time	0.0~360.0	0.1sec	1.0	1.0
		b5-04	Integration upper limit value	0.0~100.0	0.1%	100.0	100.0
		b5-05	Differentiating time	0.0~10.0	0.01sec	0.00	0.00
		b5-06	Upper limit value of PID	0.00~100.0	0.1%	100.0	100.0
		b5-07	Offset adjustment of PID	-100.0~100.0	0.1%	0.0	0.0
		b5-08	Primary delay time constant of PID	0.00~10.00	0.01sec	0.00	0.00
	DWEELL function	b6-01	Dwell frequency at start	0.0~400.0	0.1Hz	0.0	0.0
		b6-02	Dwell time at start	0.0~10.0	0.1sec	0.0	0.0
		b6-03	Dwell frequency at stop	0.0~400.0	0.1Hz	0.0	0.0
		b6-04	Dwell time at stop	0.0~10.0	0.1sec	0.0	0.0
	DROP control	b7-01	Drop control gain	0.0~100.0	0.1%	0.0	0.0
		b7-02	Drop control delay time	0.03~2.00	0.01sec	0.05	0.05

APPLI- CATION	Energy saving control	b8-01	Energy saving level gain	0~100	1%	80	80
		b8-02	Energy saving frequency	0.0~400.0	0.1Hz	0.0	0.0
	Zero servo	b9-01	Zero servo gain	0~100	1	5	5
		b9-02	Zero servo completion range	0~16383	1	10	10
TUNING	Acceleration and deceleration time	C1-01	Acceleration time 1	0.0~6000.0	0.1sec	10.0	5.0
		C1-02	Deceleration time 1	0.0~6000.0	0.1sec	10.0	3.0
		C1-03	Acceleration time 2	0.0~6000.0	0.1sec	10.0	10.0
		C1-04	Deceleration time 2	0.0~6000.0	0.1sec	10.0	10.0
		C1-05	Acceleration time 3	0.0~6000.0	0.1sec	10.0	10.0
		C1-06	Deceleration time 3	0.0~6000.0	0.1sec	10.0	10.0
		C1-07	Acceleration time 4	0.0~6000.0	0.1sec	10.0	10.0
		C1-08	Deceleration time 4	0.0~6000.0	0.1sec	10.0	10.0
		C1-09	Emergency stop time	0.0~6000.0	0.1sec	10.0	10.0
		C1-10	Setting unit of acceleration and deceleration time	0.1	1	1	1
		C1-11	Switching frequency of acceleration and deceleration time	0.0~400.0	0.1Hz	0.0	0.0
	Characteristic of letter S	C2-01	Letter S characteristic time at start of acceleration	0.00~2.50	0.01sec	0.20	0.20
		C2-02	Letter S characteristic time at completion of acceleration	0.00~2.50	0.01sec	0.20	0.20
		C2-03	Letter S characteristic time at start of deceleration	0.00~2.50	0.01sec	0.20	0.20
		C2-04	Letter S characteristic time at completion of deceleration	0.00~2.50	0.01sec	0.00	0.00
	Slip compensation	C3-01	Gain of slip correction	0.0~2.5	0.1	0.0	0.0
		C3-02	Primary delay time of slip correction	0~10000	1msec	2000	2000
		C3-03	Slip correction limit	0~250	1%	200	200
		C3-04	Selection of slip correction during regenerative operation	0,1	1	0	0
		C3-05	Selection of magnetic flux characteristic	0,1	1	0	0
	Torque compensation	C4-01	Gain of torque compensation	0.00~2.50	0.01	1.00	1.1
		C4-02	Time constant of torque compensation	0~10000	1msec	200	50
		C4-03	Amount of starting torque compensation				30.0
		C4-05	Time constant of starting torque compensation				20
	ASR	C5-01	ASR proportional gain 1	0.00~300.00	0.01	20.00	20.00
		C5-02	ASR integration time 1	0.000~10.000	0.001sec	0.500	0.500
		C5-03	ASR proportional gain 2	0.00~300.00	0.01	20.00	20.00
		C5-04	ASR integration time 2	0.000~10.000	0.001sec	0.500	0.500
		C5-05	ASR limit	0.0~20.0	0.1%	5.0	5.0
		C5-06	ASR primary delay time	0.000~0.500	0.001sec	0.004	0.004
		C5-07	ASR switching frequency	0.0~400.0	0.1Hz	0.0	0.0
		C5-08	ASR integration limit	0~400%	1	400	400
	Carrier frequency	C6-01	Upper limit of carrier frequency	0.4~15.0	0.1Hz	15.0	15.0
		C6-02	Lower limit of carrier frequency	0.4~15.0	0.1Hz	15.0	15.0
		C6-03	Proportional gain of carrier frequency	00~99	1	00	00
	Antihunting function	C7-01	Selection of antihunting function	0,1	1	1	1
		C7-02	Antihunting gain	0.00~2.50	0.01	1.00	1.00

2. INVERTER SETTING

TUNING	Plant adjustment constant	C8-08	AFR gain	0.00~10.00	0.01	1.00	1.00
		C8-09	AFR time constant	0~1000	1msec	50	50
		C8-30	Tuning carrier frequency	0,1	1	0	0
Command related functions	Frequency command	d1-01	Frequency command 1	0.00~400.00	0.01Hz	0.00	0.00
		d1-02	Frequency command 2	0.00~400.00	0.01Hz	0.00	3.00
		d1-03	Frequency command 3	0.00~400.00	0.01Hz	0.00	30.00
		d1-04	Frequency command 4	0.00~400.00	0.01Hz	0.00	18.00
		d1-05	Frequency command 5	0.00~400.00	0.01Hz	0.00	2.00
		d1-06	Frequency command 6	0.00~400.00	0.01Hz	0.00	0.50
		d1-07	Frequency command 7	0.00~400.00	0.01Hz	0.00	6.00
		d1-08	Frequency command 8	0.00~400.00	0.01Hz	0.00	0.00
		d1-09	Inching frequency command	0.00~400.00	0.01Hz	0.00	0.00
	Limit	d2-01	Frequency command upper limit	0.0~110.0	0.1%	100.0	100.0
		d2-02	Frequency command lower limit	0.0~109.0	0.1%	0.0	0.0
	Forbidden setting frequency	d3-01	Forbidden setting frequency 1	0.0~400.0	0.1Hz	0.0	0.0
		d3-02	Forbidden setting frequency 2	0.0~400.0	0.1Hz	0.0	0.0
		d3-03	Forbidden setting frequency 3	0.0~400.0	0.1Hz	0.0	0.0
		d3-04	Forbidden setting frequency range	0.0~20.0	0.1Hz	1.0	1.0
	Sequence	d4-01	Selection of frequency command hold function	0,1	1	0	0
		d4-02	+ -SPEED limit	0~100	1%	25	25
	Torque command	d5-01	Selection of torque control	0,1	1	0	0
		d5-02	Delay time of torque command	0~1000	1msec	0	0
		d5-03	Selection of speed limit	1,2	1	1	1
		d5-04	Speed limit	-120~+120	1%	0	0
		d5-05	Speed limit bias	0~120	1%	10	10
		d5-06	Speed/torque control selector timer	0~1000	1msec	0	0
Motor constant	V/f characteristic	E1-01	Setting of input voltage	155~255	1V	200	200
		E1-02	Selection of motor	0,1	1	0	0
		E1-03	Selection of V/f pattern	00~0F	1	0F	0F
		E1-04	Maximum output frequency	40.0~400.0	0.1Hz	60.0	60.0
		E1-05	Maximum voltage	0.0~255.0	0.1V	200.0	200.0
		E1-06	Base frequency	0.0~400.0	0.1Hz	60.0	60.0
		E1-07	Intermediate output frequency	0.0~400.0	0.1Hz	3.0	3.0
		E1-08	Intermediate output frequency voltage	0.0~255.0	0.1V	14.0	13.0
		E1-09	Minimum output frequency	0.0~400.0	0.1Hz	1.5	1.5
		E1-10	Minimum output frequency voltage	0.0~255.0	0.1V	7.0	3.5
		E1-11	Intermediate output frequency 2	0.0~400.0	0.1Hz	0.0	0.0
		E1-12	Intermediate output frequency voltage 2	0.0~255.0	0.1V	0.0	0.0
		E1-13	Base voltage	0.0~255.0	0.1V	0.0	0.0
	Motor constant	E2-01	Motor rated current (60Hz (50Hz))	0.01~1500.0	0.1A	22.00	22.00
		E2-02	Motor rated slip	0.00~20.00	0.01Hz	2.90	1.36
		E2-03	Motor no-load current	0.00~1500.0	0.01A	3.00	8.95
		E2-04	Number of motor poles	2~48	2pole	4	4

Motor constant	Motor constant	E2-05	Resistance between motor wires	0.000~65.000	0.001Ω	1.601	0.312
		E2-06	Motor leakage inductance	0.0~30.0	0.1%	18.4	18.4
		E2-07	Motor iron core saturation coefficient 1	0.00~0.50	0.01	0.50	0.49
		E2-08	Motor iron core saturation coefficient 2	0.00~0.75	0.01	0.75	0.74
		E2-09	Motor mechanical loss	0.0~10.0	0.1%	0.0	0.0
OPTION	PG option	F1-01	PG constant	0~60000	1	600	600
		F1-02	Selection of operation upon finding PG disconnection	0~3	1	1	1
		F1-03	Selection of operation upon generation of overspeed	0~3	1	1	1
		F1-04	Selection of operation upon detecting excessive speed deviation	0~3	1	3	3
		F1-05	Direction of rotation of PG	0,1	1	0	0
		F1-06	Dividing ratio of PG	1~132	1	1	1
		F1-07	Selection of integrated control during acceleration and deceleration	0,1	1	0	0
		F1-08	Detection level of overspeed	0~120	1%	115	115
		F1-09	Delay time of overspeed detection	0.0~2.0	0.1sec	0.0	0.0
		F1-10	Detection level of excessive speed deviation	0~50	1%	10	10
		F1-11	Detection delay time of excessive speed deviation	0.0~10.0	0.1sec	0.5	0.5
		F1-12	Number of PG gear teeth 1	0~1000	1	0	0
		F1-13	Number of PG gear teeth 2	0~1000	1	0	0
		F1-14	PG0 detection time	0.0~10.0	0.1sec	2.0	2.0
	AI	F2-01	Selection of AI-14B input function	0,1	1	0	0
	DI	F3-01	Selection of frequency command setting	0~7	1	0	0
	AO-08.12	F4-01	Selection of channel 1 output item	1~33	1	2	2
		F4-02	Channel 1 output gain	0.00~2.50	0.01	1.00	1.00
		F4-03	Selection of channel 2 output item	1~33	1	3	3
		F4-04	Channel 2 output gain	0.00~2.50	0.01	0.50	0.50
	DO-02	F5-01	Selection of channel 1 output	00~37	1	0	0
		F5-02	Selection of channel 2 output	00~37	1	1	1
	DO-08	F6-01	Selection of output mode	0,1	1	0	0
	PO-36	F7-01	Selection of number of output pulses	0~4	1	1	1
CONTROL CIRCUIT TERMINAL FUNCTION	Sequence input	H1-01	Selection of function of terminal 3	00~77	1	24	24
		H1-02	Selection of function of terminal 4	00~77	1	14	14
		H1-03	Selection of function of terminal 5	00~77	1	3	3
		H1-04	Selection of function of terminal 6	00~77	1	4	4
		H1-05	Selection of function of terminal 7	00~77	1	6	5
		H1-06	Selection of function of terminal 8	00~77	1	8	8
	Sequence output	H2-01	Selection of function of terminals 9-10	00~37	1	0	0
		H2-02	Selection of function of terminal 25	00~37	1	1	1
		H2-03	Selection of function of terminal 26	00~37	1	2	2
	Analog input	H3-01	Selection of signal level of terminal 13	0,1	1	0	0
		H3-02	Input gain of terminal 13	0.0~1000.0	0.1%	100.0	100.0
		H3-03	Input bias of terminal 13	-100.0~+100.0	0.1%	0.0	28.0
		H3-04	Selection of signal level of terminal 16	0,1	1	0	0
		H3-05	Selection of function of terminal 16	0~1F	1	0	1F

2. INVERTER SETTING

CONTROL CIRCUIT TERMINAL FUNCTION	Analog input	H3-06	Input gain of terminal 16	0.0~1000.0	0.1%	100.0	100.0
		H3-07	Input bias of terminal 16	-100.0~+100.0	0.1%	0.0	0.0
		H3-08	Selection of signal level of terminal 14	0,1,2	1	2	2
		H3-09	Selection of function of terminal 14	1~1F	1	1F	1F
		H3-10	Input gain of terminal 14	0.0~1000.0	0.1%	100.0	100.0
		H3-11	Input bias of terminal 14	-100.0~+100.0	0.1%	0.0	0.0
		H3-12	Filter time constant of analog input	0.00~2.00	0.01sec	0.00	0.00
	Analog output	H4-01	Selection of monitor output of terminal 21	1~33	1	2	2
		H4-02	Output gain of terminal 21	0.00~2.50	0.01	1.00	1.00
		H4-03	Output bias of terminal 21	-10.0~+10.0	0.0%	0.0	0.0
		H4-04	Selection of monitor output of terminal 23	1~33	1	3	3
		H4-05	Output gain of terminal 23	0.00~2.50	0.01	0.50	0.50
		H4-06	Output bias of terminal 23	-10.0~+10.0	0.1%	0.0	0.0
		H4-07	Selection of signal level of analog output	0,1	1	0	0
	MEMOBUS COMMUNI- CATION	H5-01	Station address	0~20	1	1F	1F
		H5-02	Selection of transmission speed	0~3	1	3	3
		H5-03	Selection of transmission parity	0,1,2	1	0	0
		H5-04	Selection of operation upon detection of transmission	0~3	1	3	3
		H5-05	Time over detection	0,1	1	1	1
PROTEC- TIVE FUNCTION	Motor protection	L1-01	Selection of motor protection	0,1	1	1	1
		L1-02	Motor protection time	0.1~5.0	0.1min	1.0	1.0
	Compensa- tion of momentary service interruption	L2-01	Selection of operation upon generation of momentary service interruption	0,1,2	1	0	0
		L2-02	Compensation time of momentary service interruption	0.0~2.0	0.1sec	1.0	1.0
		L2-03	Minimum base block time	0.0~5.0	0.1sec	0.5	0.5
		L2-04	Voltage resetting time	0.0~5.0	0.1sec	0.3	0.3
		L2-05	Low voltage detection level	150~210	1V	190	190
		L2-06	KEB deceleration rate	0.0~100.0	0.1%	0.0	0.0
	Stall preventive function	L3-01	Selection of stall preventive function during acceleration	0,1,2	1	1	1
		L3-02	Stall prevention level during acceleration	0~200	1%	150	150
		L3-03	Stall prevention limit during acceleration	0~100	1%	50	50
		L3-04	Selection of stall preventive function during deceleration	0,1,2	1	1	1
		L3-05	Selection of stall preventive function during operation	0,1,2	1	1	1
		L3-06	Stall prevention level during operation	30~200	1%	160	160
	Frequency detection	L4-01	Frequency detection level	0.0~400.0	0.1Hz	0.0	0.0
		L4-02	Frequency detection range	0.0~20.0	0.1Hz	2.0	2.0
		L4-03	Frequency detection level (+/-)	-400~+400.0	0.1Hz	0.0	0.0
		L4-04	Frequency detection range (+/-)	0.0~20.0	0.1Hz	2.0	2.0
		L4-05	Selection of operation upon loss of frequency command	0,1	1	0.0	0.0
	Abnormal retry	L5-01	Number of abnormal retries	0~10	Once	0	0
		L5-02	Selection of contact operation during abnormal retry	0,1	1	0	0
	Over torque detection	L6-01	Selection 1 of over torque detecting operation	0~4	1	0	0
		L6-02	Over torque detection level 1	0~300	1%	150	150
		L6-03	Over torque detection time 1	1.0~10.0	0.1sec	0.1	0.1

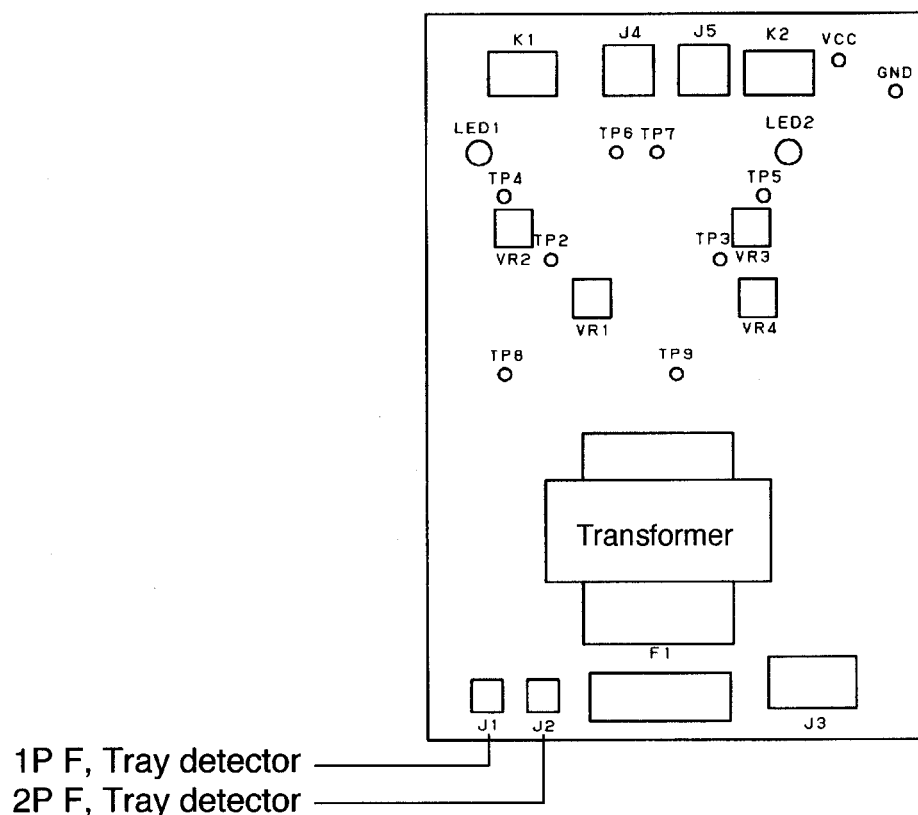
PROTECTIVE FUNCTION	Over torque detection	L6-04	Selection 2 of over torque detecting operation	0~4	1	0	0
		L6-05	Over torque detection level 2	0~300	1%	150	150
		L6-06	Over torque detection time 2	0.0~10.0	0.1sec	0.1	0.1
	Torque limit	L7-01	Torque limit on forward motor drive side	0~300	1%	200	200
		L7-02	Torque limit on reverse motor drive side	0~300	1%	200	200
		L7-03	Torque limit during forward regeneration	0~300	1%	200	200
		L7-04	Torque limit during reverse regeneration	0~300	1%	200	200
	Protection of hardware	L8-01	Protection of built-in braking resistance	0,1	1	0	0
		L8-02	Level of OH pre-alarm	50~110	1°C	95	95
		L8-03	Selection of operation after OH pre-alarm	0~3	1	3	3
		L8-05	Selection of input phase loss protection	0,1	1	0	0
		L8-07	Selection of output phase loss protection	0,1	1	0	0
		L8-12	Selection of AVR function	0,1	1	1	1
OPERATOR	Selection of display	o1-01	Selection of items displayed in monitor mode	4~33	1	6	6
		o1-02	Selection of items monitored upon supply power	1~4	1	1	1
		o1-03	Frequency command display unit	0~39999	1	0	0
		o1-04	Setting unit of constant related to frequency	0,1	1	0	0
		o1-05	Selection of display of constant number	0,1	1	0	0
	Operation	o2-01	Selection of LOCAL/REMOTE function	0,1	1	1	1
		o2-02	Selection of STOP key function	0,1	1	1	1
		o2-03	Selection of initial value defined by user	0,1,2	1	0	0
		o2-04	Selection of inverter capacity	0~FF	1	3	3
		o2-05	Selection of frequency command setting method	0,1	1	0	0
		o2-06	Selection of operation upon operator disconnection	0,1	1	0	0
		o2-07	Setting of accumulated operation time	0~65535	1hour	-	-
		o2-08	Selection of accumulated operation time	0,1	1	0	0
		o2-09	Selection of mode during initialization	0,1,2	1	0	0

[7] INVERTER DATA TABLE

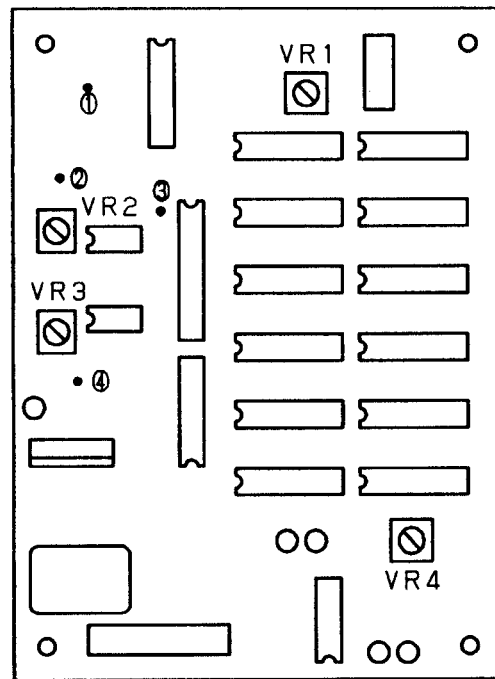
Parameter No.	Description	Plant setting	Hamada setting	Remark
A1-01	Access level of constant	2	4	
b1-06	Selection of reading sequence twice	1	0	
b2-02	DC braking current	50	30	
b2-03	DC braking time at start	0.00	0.10	
b2-08	Magnetic flux compensation		180	
C1-01	Acceleration time 1	10.0	5.0	
C1-02	Deceleration time 1	10.0	3.0	
C4-01	Gain for torque compensation	1.00	1.1	
C4-02	Time constant for torque compensation	200	50	
C4-03	Starting torque compensation		30.0	
C4-05	Time constant for starting torque compensation		20	
d1-02	Frequency command 2	0.00	3.00	Inching speed
d1-03	Frequency command 3	0.00	30.00	Blanket washing speed
d1-04	Frequency command 4	0.00	18.00	3000 (creep speed)
d1-05	Frequency command 5	0.00	2.00	EPS speed 1
d1-06	Frequency command 6	0.00	0.50	EPS speed 2
d1-07	Frequency command 7	0.00	6.00	Paper setting speed
E1-08	Intermediate output frequency voltage	14.0	13.0	Torque for inching
E1-10	Minimum output frequency voltage	7.0	3.5	Torque for inching
E2-02	Motor rated slip	2.90	1.38	
E2-03	Motor no-load current	3.00	8.95	
E2-05	Resistance between motor wires	1.601	0.312	
E2-07	Motor iron core saturation factor 1	0.50	0.49	
E2-08	Motor iron core saturation factor 2	0.75	0.74	
H1-05	Selection of function of terminal 7	6	5	
H3-03	Input bias of terminal 13	0.0	28.0	3000 (Minimum speed of volume)
H3-05	Selection of function of terminal 16	0	1F	

3. EACH SENSOR ADJUSTMENT

[1] Adjustment of dampening water detection board



- (1) Adjust VR2 to generate 2.0V between TP4 pin and GND pin.
- (2) Adjust VR3 to generate 2.0V between TP5 pin and GND pin.
- (3) Adjust VR1 to generate 2.5V between TP2 and GND pin when water is filled into the water pan.
- (4) Adjust VR4 to generate 2.5V between TP3 pin and GND pin when water is filled into the water pan.

[2] Adjustment of double sheet detection

- (1) 0V check pin
- (2) Paper detection judgment voltage check pin
- (3) Analog unit voltage check pin
- (4) Paper thickness selection voltage check pin
- VR1 Sensitivity volume
- VR2 Paper detect judgment voltage adjustment volume
- VR3 Paper thickness selection voltage adjustment volume
- VR4 Abnormal output ?? adjustment volume

Method of adjustment

1. Put the minus side to the check pin of (1) and put the plus side on the check pin of (2), and measure the voltage. If the voltage is not 6.5VDC, turn VR2 to adjust the voltage to 6.5V.
2. Put the minus side to the check pin of (1) and put the plus side to the check pin of (4), and measure the voltage. If the voltage is not 0.5VDC, turn VR3 to adjust the voltage to 0.5V.
3. Insert a sheet of tracing paper into the sensor unit, put the minus side to the check pin of (1) and put the plus side to the check pin of (3), and measure the voltage. If the voltage is not 6VDC, turn VR1 to adjust the voltage to 6V.

Note 1) A piece of transparent paper or film cannot be detected. A piece of deep black paper which does not pass the light can be detected but double sheet of such paper cannot be detected.

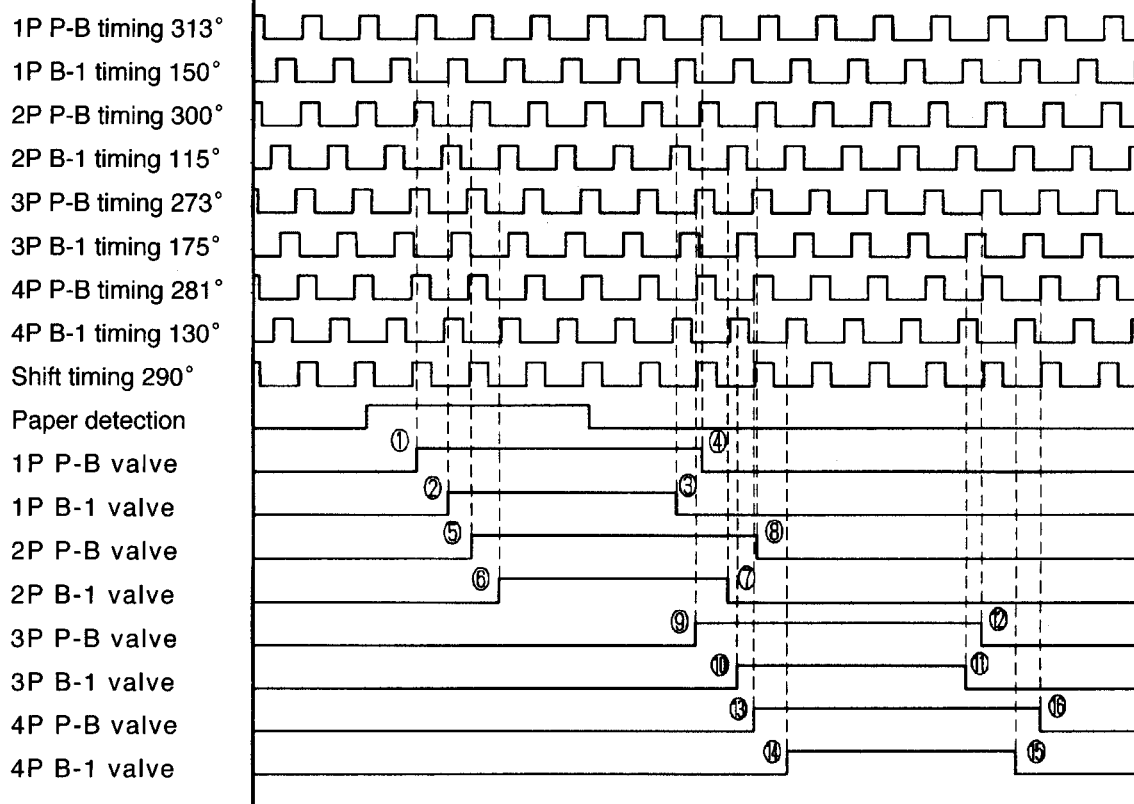
Note 2) When a projector or photo receptor is replaced, use a tester to find and fix a position where the voltage is maximum between the check pin (1) and (3) on the board when there is no paper on the conveyor. If this voltage is low, misalignment of optical axis or contaminated head is considered. In the worst case, it may not be possible to adjust the base voltage.

[3] Adjustment of skew detection sensor

Model E3X-NT	Model E3X-NM	Operation
		Set the optical fiber within the detecting distance.
		Set the mode setting selector switch to the TEACH side.
		Since the super flashing function will actuate, align the optical axis so that the optical fiber tip for projector is illuminated. (If the optical axis is not aligned, the optical fiber tip will flicker and buzzer sounds.)
		Place a sheet at the specified position, and press the teaching button (first time). For the model E3X-NM, select the channel with the channel selector button, and press the teaching button. Then, the stability pilot lamp of the selected channel will flicker. When the transmissive optical fiber is used: Light is shielded. When the reflective optical fiber is used: Mark Ground When the reflective optical fiber is used: ↓ Teaching pilot lamp ... Red lamp lights. Buzzer (built-in) ... Buzzer sounding (1 time)
		Move the sheet and press the teaching button (2 times). When the transmissive optical fiber is used: Light is allowed to enter. When the reflective optical fiber is used: Mark Ground When the reflective optical fiber is used: ↓ When teaching is OK: Teaching pilot lamp ... Red lamp lights. → Green lamp lights. Buzzer (built-in) ... Buzzer sounding (1time) When teaching is NG: Teaching pilot lamp ... Red lamp lights. → Red lamp flickers. (For the model E3X-NMH, operation pilot lamp also flickers.) Buzzer (built-in) Buzzer sounding (3times) ↓ Change the sheet position and the set distance again, and make the setting in steps of 1 through 5. For the model E3X-NM, return to the step 4 to continue setting of other channels.
		Turn the mode setting selector switch to [RUN] side. This completes the sensitivity setting of the teach.
		Teaching pilot lamp ... Green lamp lights. → Goes out.
		Use the operation mode selector switch (L.ON / D.ON) to set the output to a desired theoretical output.

4. TIMING CHART

[1] Impression

**1P P-B and B-1 operation**

- (1) When the paper detection is ON and the 1P P-B timing is ON, the 1P B-1 valve will be ON.
- (2) Then, when the 1P B-1 timing is ON, the 1P B-1 valve will be ON. (The paper detection will be ON and the valve will be ON according to the 1P B-1 timing of the second rotation.)
- (3) When the paper detection is OFF and the 1P B-1 timing of the second rotation is ON, the 1P B-1 valve will be OFF.
- (4) When the next 1P P-B timing is ON, the 1P P-B valve will be OFF.

2P P-B and B-1 operation

- (5) When the paper detection is ON and the 2P P-B timing of the second rotation is ON, the 2P P-B valve will be ON.
- (6) When the next 2P B-1 timing is ON, the 2P B-1 valve will be ON. (The paper detection will be ON and the valve will be ON according to the 2P B-1 timing of the third rotation.)
- (7) When the paper detection is OFF and the 2P B-1 timing of the third rotation is ON, the 2P B-1 valve will be OFF.
- (8) When the next 2P P-B timing is ON, the 2P P-B valve will be OFF.

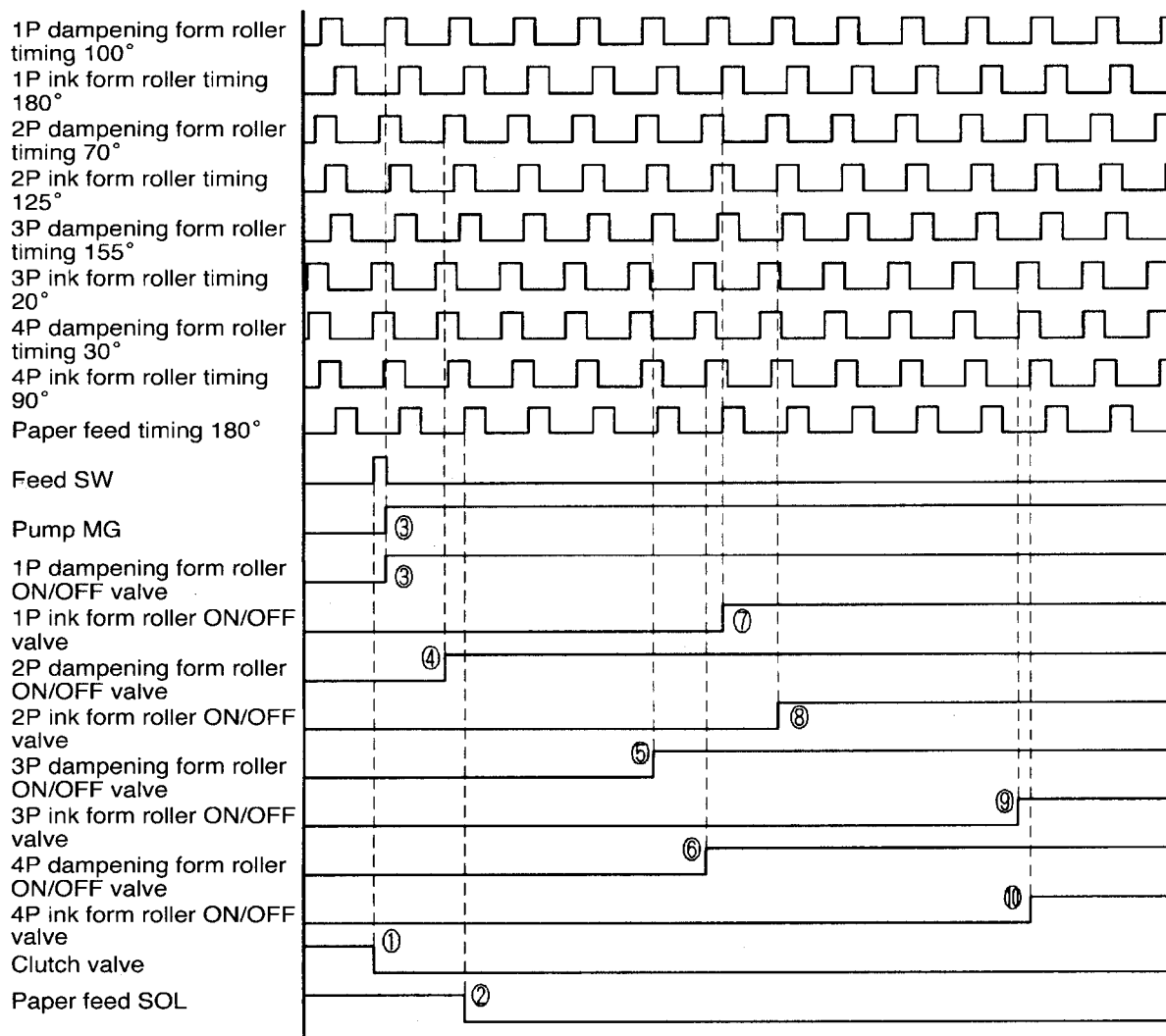
3P P-B and B-1 operation

- (9) When the paper detection is ON and the 3P P-B timing of the fifth rotation is ON, the 3P P-B valve will be ON.
- (10) When the next 3P B-1 timing is ON, the 3P B-1 valve will be ON. (The paper detection will be ON and the valve will be ON according to the 3P B-1 timing of the sixth rotation.)
- (11) When the paper detection is OFF and the 3P B-1 timing of the sixth rotation is ON, the 3P B-1 valve will be OFF.
- (12) When the next 3P P-B timing is ON, the 3P P-B valve will be OFF.

4P P-B and B-1 operation

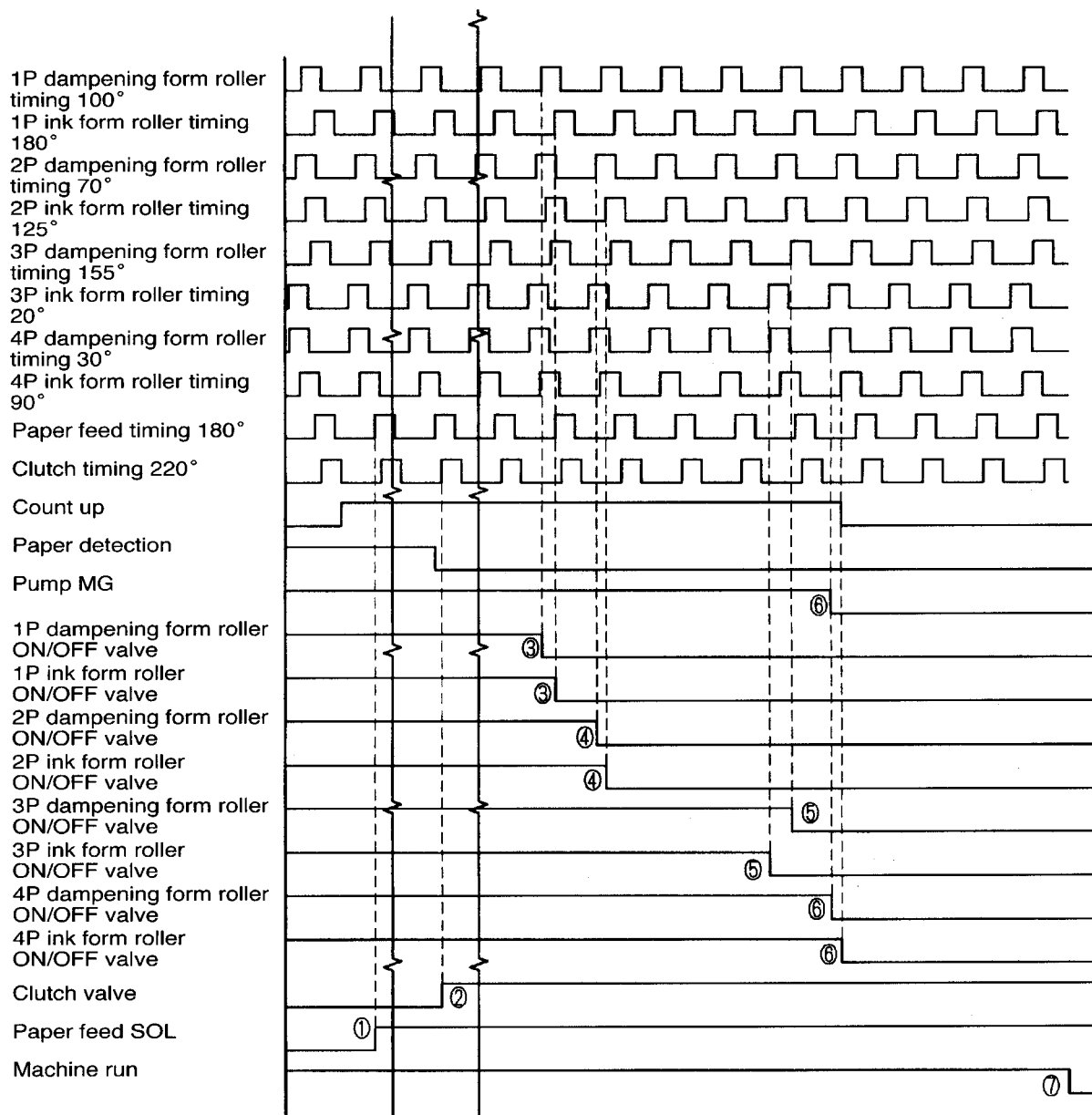
- (13) When the paper detection is ON and the 4P P-B timing of the sixth rotation is ON, the 4P P-B valve will be ON.
- (14) When the next 4P B-1 timing is ON, the 4P B-1 valve will be ON. (The paper detection will be ON and the valve will be ON according to the 4P B-1 timing of the seventh rotation.)
- (15) When the paper detection is OFF and the 3P B-1 timing of the sixth rotation is ON, the 3P B-1 valve will be OFF.
- (16) When the next 3P P-B timing is ON, the 3P P-B valve will be OFF.

[2] Form roller function and sheet feeding start during automatic operation



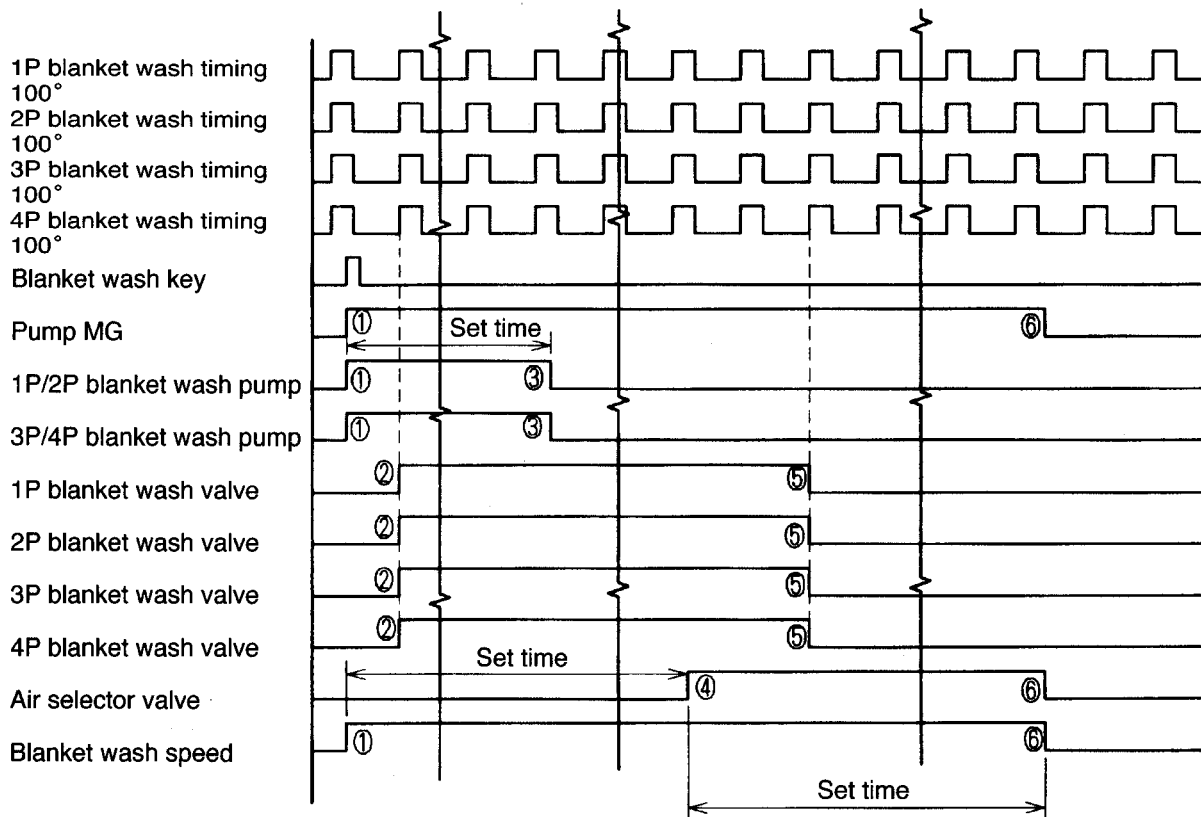
- (1) When the feed key is set to ON position, the clutch valve will be OFF and the conveyor starts.
- (2) After it has been confirmed that the clutch valve is OFF and the feeder table is raised, the feeder SOL will be OFF and paper feeding will start.
- (3) When the feed key is ON and the 1P dampening form roller timing is ON, the 1P dampening form roller ON/OFF valve will be ON.
- (4) When the feed key is ON and the 2P dampening form roller timing of the second rotation is ON, the 2P dampening form roller ON/OFF valve will be ON.
- (5) When the feed key is ON and the 3P dampening form roller timing of the fifth rotation is ON, the 3P dampening form roller ON/OFF valve will be ON.
- (6) When the feed key is ON and the 4P dampening form roller timing of the sixth rotation is ON, the 4P dampening form roller ON/OFF valve will be ON.
- (7) When the 1P dampening form roller ON/OFF valve is ON and the 1P ink form roller timing after 5 rotations is ON, the 1P ink form roller ON/OFF valve will be ON.
- (8) When the 2P dampening form roller ON/OFF valve is ON and the 2P ink form roller timing after five rotations is ON, the 2P ink form roller ON/OFF valve will be ON.
- (9) When the 3P dampening form roller ON/OFF valve is ON and the 3P ink form roller timing after five rotations is ON, the 3P ink form roller ON/OFF valve will be ON.
- (10) When the 4P dampening form roller ON/OFF valve is turned ON and the 4P ink form roller timing is ON, the 4P ink form roller ON/OFF valve will be ON.

[3] Feeding stop and form roller function after count-up during automatic operation

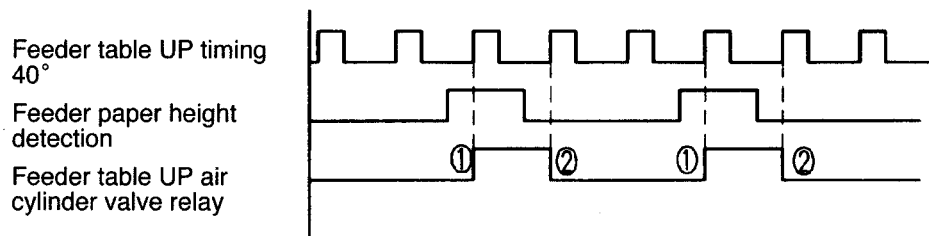


- (1) When the pre-set counting is completed and the paper feed timing is ON, the paper feed SOL will be ON and the paper feed will stop.
- (2) When the paper detection is OFF and the clutch timing is ON, the clutch valve will be ON and the conveyor will stop.
- (3) When paper passes through and the 1P dampening form roller timing and the 1P ink form roller timing are ON, the 1P dampening form roller ON/OFF valve and the 1P ink form roller ON/OFF valve will be OFF according to respective timing.
- (4) When the pressure is released and the 2P dampening form roller timing and the 2P ink form roller timing are ON after two rotations, the 2P dampening form roller ON/OFF valve and the 2P ink form roller ON/OFF valve will be OFF.
- (5) When the pressure is released and the 3P dampening form roller timing and the 3P ink form roller timing are ON after five rotations, the 3P dampening form roller ON/OFF valve and the 3P ink form roller ON/OFF valve will be OFF according to respective timing.
- (6) When the pressure is released and the 4P dampening form roller timing and the 4P ink form roller timing are ON, the 4P dampening form roller ON/OFF valve and the 4P ink form roller ON/OFF valve will be OFF according to respective timing, and the air pump will be OFF.
- (7) When all form rollers are OFF, the machine will rotate three times and then stop.

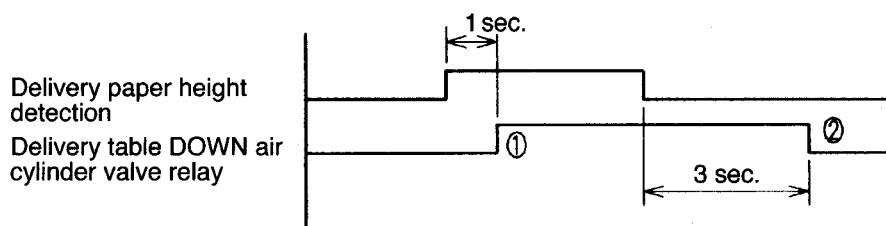
[4] Blanket washing



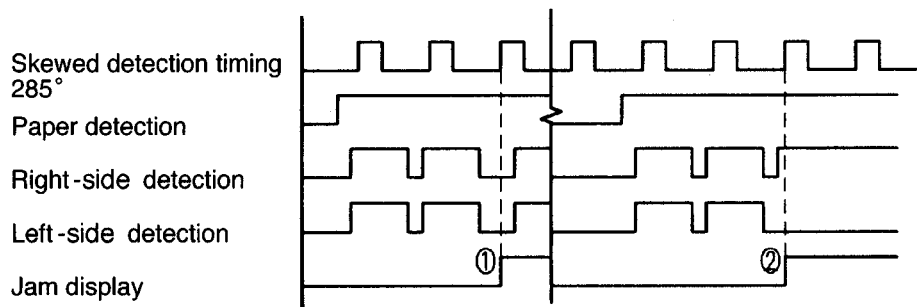
- (1) When the blanket wash key is ON, the machine speed will reach 5000rph, the pump magnet will be ON, and the blanket wash pump will be ON.
- (2) When the blanket wash key is ON and each blanket wash timing is ON, each blanket wash valve will be ON.
- (3) When the blanket wash pump is ON and the time set on the operation panel (setting of blanket washing solution flowing time) has passed, the blanket wash pump will be OFF.
- (4) When the blanket wash key is pressed and the time set on the operation panel (setting of blanket washing time) has passed, the air selector valve will be ON.
- (5) In 2 seconds after the air selector valve is ON, each blanket wash valve will be OFF according to each blanket wash timing.
- (6) When the air selector valve is ON and the time set on the operation panel (setting of drying time) has passed, the pump magnet will be OFF and the machine speed will be returned to the original speed.

[5] Feeder table UP air cylinder valve relay

- (1) If the feeder paper height detection is ON when the feeder table UP timing is turned ON when the conveyor is in operation, the feeder table UP valve will be ON.
- (2) If the feeder paper height detection is turned OFF when the feeder table UP timing is turned ON, the feeder table UP valve will be OFF.

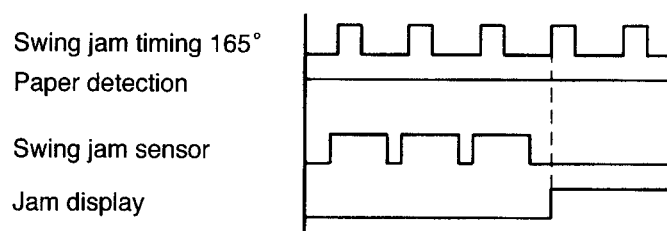
[6] Delivery table DOWN air cylinder valve relay

- (1) When the delivery paper height detection is ON for 1 second or longer, the delivery table DOWN valve will be ON.
- (2) Three seconds after the delivery paper height detection is OFF, the delivery table DOWN valve will be OFF.

[7] Skewed detection (Display 01)

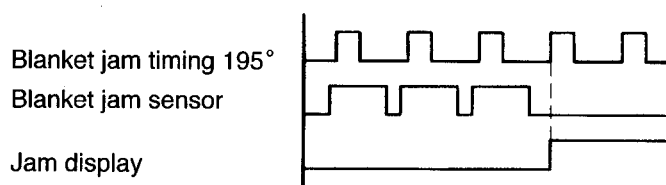
- (1) If both the right-side detection and the left-side detection are OFF when the paper detection is turned ON and the skewed detection timing is turned ON, the conveyor will stop and 01 will be displayed.
- (2) If either of the right-side detection or the left-side detection is turned OFF when the paper detection is turned ON and the skewed detection timing is turned ON, the conveyor will stop and 01 will be displayed.

[8] Swing jam (Display 02)



When the swing jam timing is turned ON while running paper or printing and the swing jam sensor is OFF, the machine will stop and 02 will be displayed.

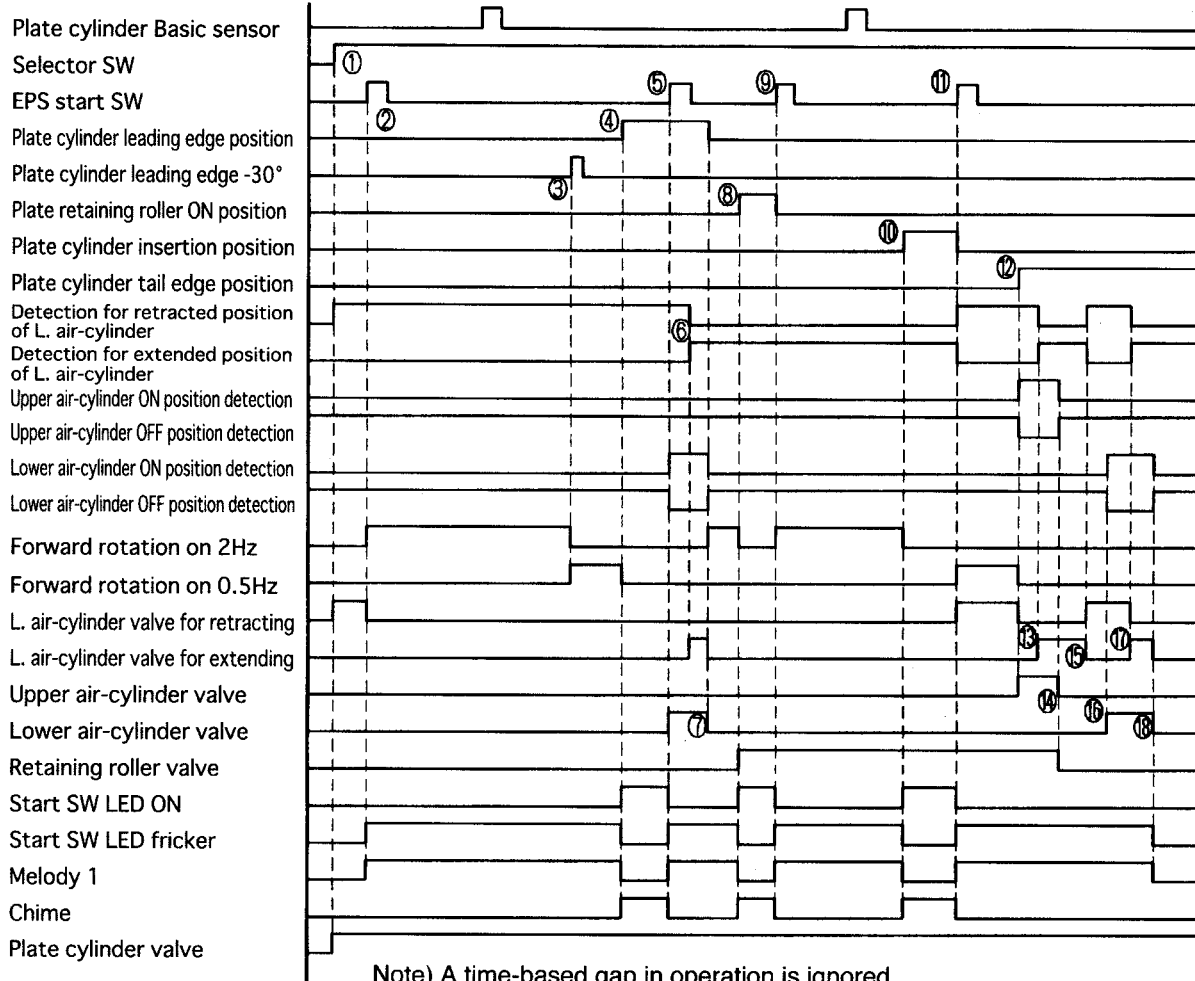
[9] Blanket jam (Display 03)



When the blanket jam timing is turned ON while running paper or printing and the blanket jam sensor is OFF, the machine will stop and 03 will be displayed.

5. EPS TIMING CHART

[1] Plate mounting

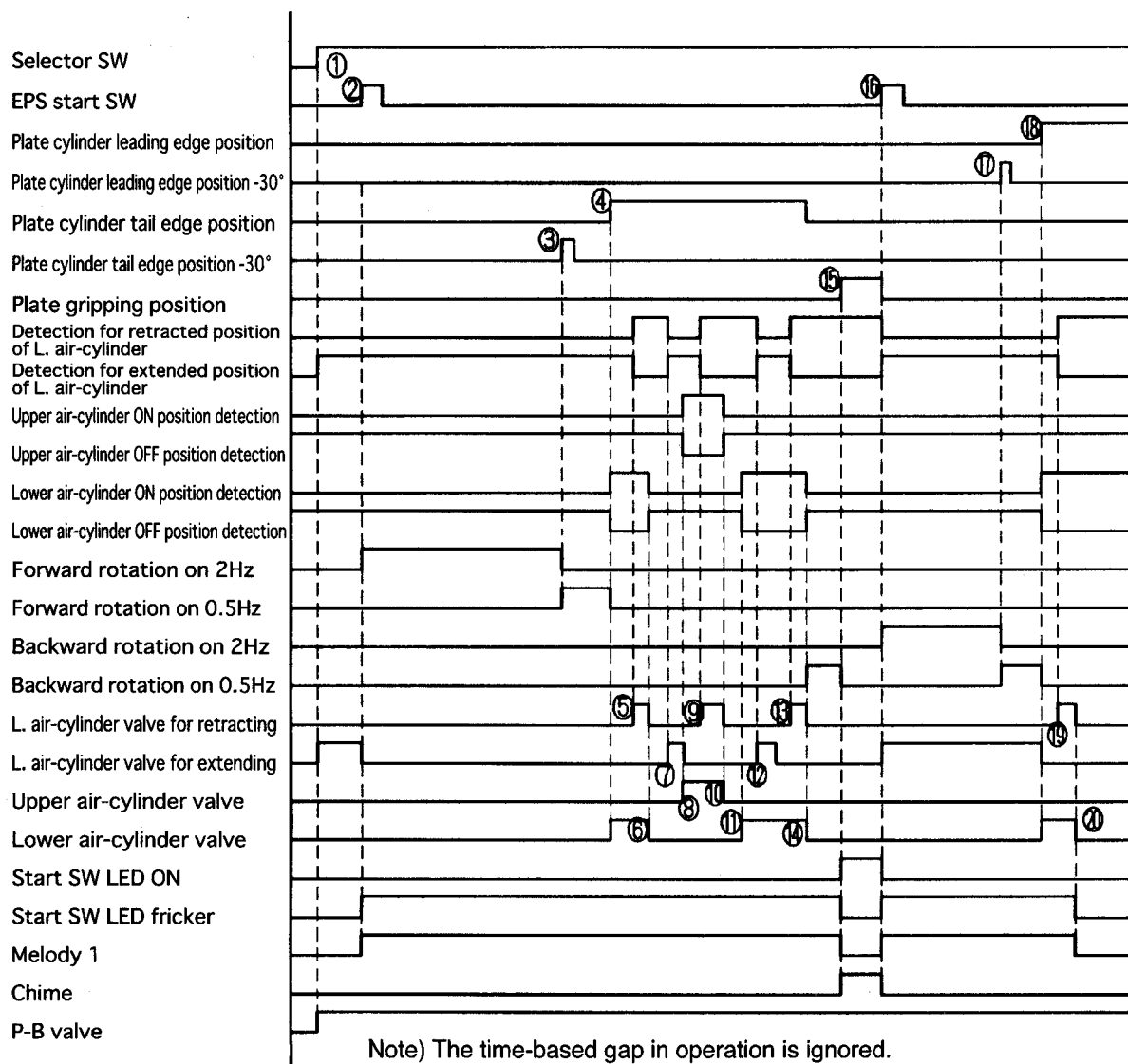


Note) A time-based gap in operation is ignored.

- (1) When the selector switch sets to the plate mounting position, the turn large air-cylinder valve will be ON and detection for retracted position of L.air-cylinder will be ON. The P-B valve will also be ON.
- (2) When the ESP start SW is turned ON, the L.air-cylinder valve will be OFF. The machine runs forward on 2 Hz. The ESP start SW will flicker, and the melody 1 will be ON.
- (3) When the plate cylinder is 30 degrees before the plate cylinder leading edge position, the machine will run at the reduced speed on 0.5 Hz.
- (4) When the plate cylinder reaches the plate cylinder leading edge position, the machine will stop, and the flickering LED of the EPS start SW will remain lit. The melody 1 will be changed to the chime.
- (5) When the EPS start SW is pressed after the plate is inserted into the leading edge side clamp, the lit LED of the ESP start SW will start flickering. The chime will be changed to the melody 1. The lower air-cylinder valve will be ON and the lower air-cylinder ON detection will be ON.
- (6) When the lower air-cylinder ON detection is turned ON, the L.air-cylinder valve will be ON and detection for extended position of L.air-cylinder will be ON. (Leading edge side clamp closes.)
- (7) When detection for extended position of L.air-cylinder is turned ON, the lower air-cylinder valve will be OFF, and the L.air-cylinder valve will be OFF. When the lower air-cylinder OFF detection is turned ON, the machine runs forward on 2 Hz.
- (8) When the retaining roller ON position is detected, the retaining roller valve will be ON, and the machine will stop. The flickering LED of the EPS start SW will remain lit. The melody 1 will be changed to the chime.
- (9) When the EPS start SW is pressed, the lit LED of the EPS start SW will start flickering, and the machine runs forward on 2 Hz. The chime will be changed to the melody 1.
- (10) When the plate tail edge insertion position is detected, the machine will stop and the flickering LED of the EPS start SW will remain lit. The melody 1 will be changed to the chime.

- (11) When the plate tail edge is inserted into the clamp and the EPS start SW is pressed, the lit LED of the EPS start SW will start flickering and the machine will run forward on 0.5Hz. The chime will be changed to the melody 1, the L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON.
- (12) When the plate tail edge position is detected, the machine will stop and the L.air-cylinder valve will be OFF. The upper air-cylinder valve will be ON and the upper air-cylinder ON detection will be turned ON.
- (13) When the upper air-cylinder ON detection is turned ON, the L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will be ON. (Tail edge side clamp closes.)
- (14) When the detection for extended position of L.air-cylinder is turned ON, the upper air-cylinder valve will be OFF and the upper air-cylinder OFF detection will be ON. The retaining roller valve will be OFF.
- (15) When the upper air-cylinder OFF detection is turned ON, the L.air-cylinder valve will be OFF. The L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON.
- (16) When the detection for retracted position of L.air-cylinder is turned ON, the lower air-cylinder will be ON and the lower air-cylinder ON detection will be turned ON.
- (17) When the lower air-cylinder ON detection is turned ON, the L.air-cylinder valve will be OFF. The L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will be turned ON. (Tail edge side clamp moves backward.)
- (18) When the detection for extended position of L.air-cylinder is turned ON, the lower air-cylinder valve will be OFF and the L.air-cylinder valve will be turned OFF. When the lower air-cylinder OFF detection is turned ON, the LED of the EPS start SW goes out, the melody 1 will be turned OFF, and the plate setting will be completed.

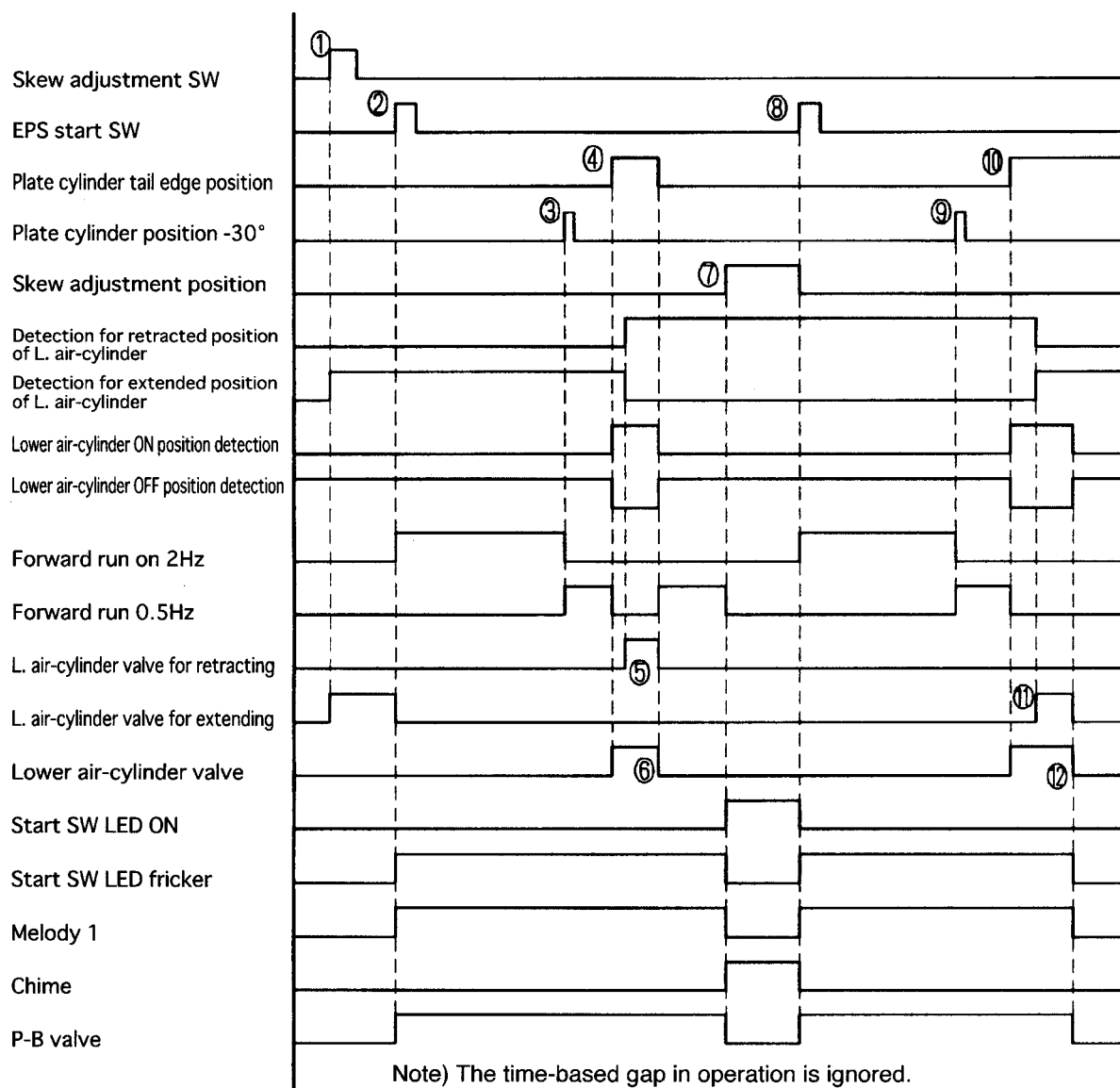
[2] Plate removing



5. EPS TIMING CHART

- (1) When the selection switch sets to the plate removing position, the L.air-cylinder valve will be ON, and the detection for extended position of L.air-cylinder will be turned ON. The P-B valve will be ON.
- (2) When the EPS start SW is turned ON, the L.air-cylinder valve will be OFF and the machine runs forward on 2Hz. The LED of the EPS start SW will start flickering, and the melody 2 will be ON.
- (3) When the plate cylinder is 30 degrees before the plate cylinder tail edge position, the machine will run at the reduced speed on 0.5Hz.
- (4) When the plate cylinder reaches the plate cylinder tail edge position, the machine will stop, the lower air-cylinder valve will be ON, and the lower air-cylinder ON detection will be ON.
- (5) When the lower air-cylinder ON detection is turned ON, the L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON. (Tail edge side clamp moves forward.)
- (6) When the detection for retracted position of L.air-cylinder is turned ON, the lower air-cylinder valve will be OFF, the lower air-cylinder OFF detection will be turned ON, and the L.air-cylinder valve will be OFF.
- (7) When the lower air-cylinder OFF detection is turned ON, the L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will be turned ON.
- (8) When the detection for extended position of L.air-cylinder is ON, the upper air-cylinder valve will be ON and the upper air-cylinder ON detection will be ON.
- (9) When the upper air-cylinder ON detection is ON, the L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON. (Open the tail edge side clamp.)
- (10) When the detection for retracted position of L.air-cylinder is ON, the upper air-cylinder valve will be OFF and the upper air-cylinder OFF detection will be ON. The L.air-cylinder valve will be OFF.
- (11) When the upper air-cylinder OFF detection is turned ON, the lower air-cylinder valve will be ON and the lower air-cylinder ON detection will be ON.
- (12) When the lower air-cylinder ON detection is turned ON, the L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will be ON. (Tail edge side clamp moves backward.)
- (13) When the detection for extended position of L.air-cylinder is ON, the L.air-cylinder valve will be OFF. The L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON. (Tail edge side clamp moves forward.)
- (14) When the detection for retracted position of L.air-cylinder is ON, the lower air-cylinder valve will be OFF and the lower air-cylinder OFF detection will be ON. The L.air-cylinder valve will be OFF and the machine runs backward on 0.5Hz.
- (15) When the plate cylinder reaches the plate removing position, the machine will stop and the flickering LED of the EPS start SW will remain lit. The melody 2 will be changed to the chime.
- (16) When the plate is held by hand and the EPS start SW pressed, the lit LED of the EPS start SW will start flickering and the machine runs backward on 2 Hz. The chime will be changed to the melody 2. The L.air-cylinder valve will be turned ON and the detection for extended position of L.air-cylinder will be ON.
- (17) When the plate cylinder reaches 30 degrees before the plate cylinder removing position, the machine runs at the reduced speed on 0.5Hz.
- (18) When the plate cylinder reaches the plate cylinder removing position, the machine will stop and the L.air-cylinder valve will be OFF. The lower air-cylinder valve will be turned ON and the lower air-cylinder ON detection will be ON.
- (19) When the lower air-cylinder ON detection is turned ON, the L.air-cylinder will be ON and the detection for retracted position of L.air-cylinder will be turned ON. (Open the leading edge side clamp.)
- (20) When the detection for retracted position of L.air-cylinder is turned ON, the lower air-cylinder valve will be OFF and the lower air-cylinder OFF detection will be ON. The L.air-cylinder valve will be OFF. The LED of the EPS start SW will go out and the melody 2 will be OFF. This will complete the plate removing.

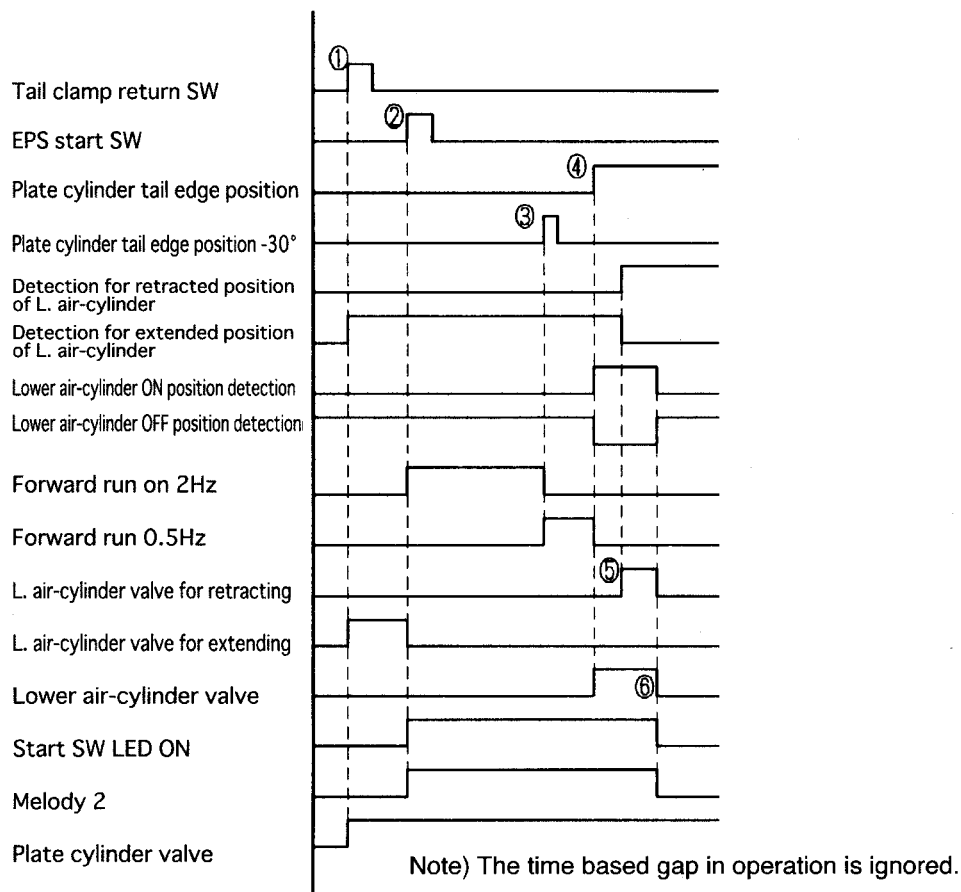
[3] Skew adjustment



- (1) When the skew adjustment SW is pressed, the L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will turn ON.
- (2) When the EPS start SW is pressed, the L.air-cylinder valve will be OFF and the P-B valve will be ON. The machine runs forward on 2Hz. The LED of the ESP start SW will flicker, and the melody 1 will be turn ON.
- (3) When the plate cylinder reaches 30 degrees before the plate cylinder tail edge position, the machine will run at the reduced speed on 0.5Hz.
- (4) When the plate cylinder reaches the plate cylinder tail edge position, the machine will stop. The lower air-cylinder valve will be ON and the lower air-cylinder ON detection will turn ON.
- (5) When the lower air-cylinder ON detection is turned ON, the L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON. (Tail edge side clamp moves forward.)
- (6) When the detection for retracted position of L.air-cylinder is turned ON, the lower air-cylinder valve will be OFF and the lower air-cylinder OFF detection will be ON. The detection for retracted position of L.air-cylinder will be OFF. When the lower air-cylinder is turned OFF, the machine runs forward on 0.5Hz.
- (7) When the plate cylinder reaches the skew adjustment position, the P-B valve will be OFF. The flickering LED of the start SW will remain lit. The melody 1 will be changed to the chime.
- (8) When the adjustment is made and the EPS start SW is pressed, the P-B valve will be ON. The lit LED of the EPS start SW will start flickering, and the machine runs forward on 2Hz. The chime will be changed to the melody 1.

- (9) When the plate cylinder reaches 30 degrees before the plate cylinder tail edge position, the machine will run at the reduced speed on 0.5Hz.
- (10) When the plate cylinder reaches the plate cylinder tail edge position, the machine will stop. The lower air-cylinder valve will be ON and the lower air-cylinder ON detection will be ON.
- (11) When the lower air-cylinder ON detection is ON, the L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will be ON. (Tail edge side clamp moves backward.)
- (12) When the detection for extended position of L.air-cylinder is ON, the lower air-cylinder valve will be OFF and the lower air-cylinder OFF detection will be ON. The L.air-cylinder valve will be OFF. When the lower air-cylinder OFF detection is ON, the P-B valve will be OFF. The lit LED of the EPS start SW will go out and the melody 1 will be OFF.

[4] Moving forward the tail edge side clamp



- (1) When the Tail clamp return SW is pressed, the L.air-cylinder valve will be ON and the detection for extended position of L.air-cylinder will be ON. The P-B valve will be ON.
- (2) When the ESP start SW is pressed, the LED of the ESP start SW will flicker and the machine will run forward on 2Hz. The melody 2 will be ON, and the L.air-cylinder will be OFF.
- (3) When the plate cylinder reaches 30 degrees before the plate cylinder tail edge position, the machine will run at the reduced speed on 0.5Hz.
- (4) When the plate cylinder reaches the plate cylinder tail edge position, the machine will stop. The lower air-cylinder valve will be ON and the lower air-cylinder ON detection will be ON.
- (5) When the lower air-cylinder ON detection is ON, the L.air-cylinder valve will be ON and the detection for retracted position of L.air-cylinder will be ON. (Tail edge side lamp moves forward.)
- (6) When the detection for retracted position of L.air-cylinder is ON, the lower air-cylinder valve will be OFF and the lower air-cylinder OFF detection will turn ON. The L.air-cylinder valve will be OFF. When the lower air-cylinder OFF detection is ON, the lit LED of the EPS start SW will go out and the melody 2 will be OFF.

6. TROUBLESHOOTING

[1] Phenomenon in case a fuse is blown.

1) In case the fuse FU1 is blown

All lamps (including those of fluorescent light and count display) go out. Inverter display does not function as well. All functions do not operate.

2) In case the fuse FU2 is blown

Inverter display does not function. Machine and pumps do not operate.

3) In case the fuse FU3 is blown

Inverter display will function, but the machine, pumps and monitor displays do not function.

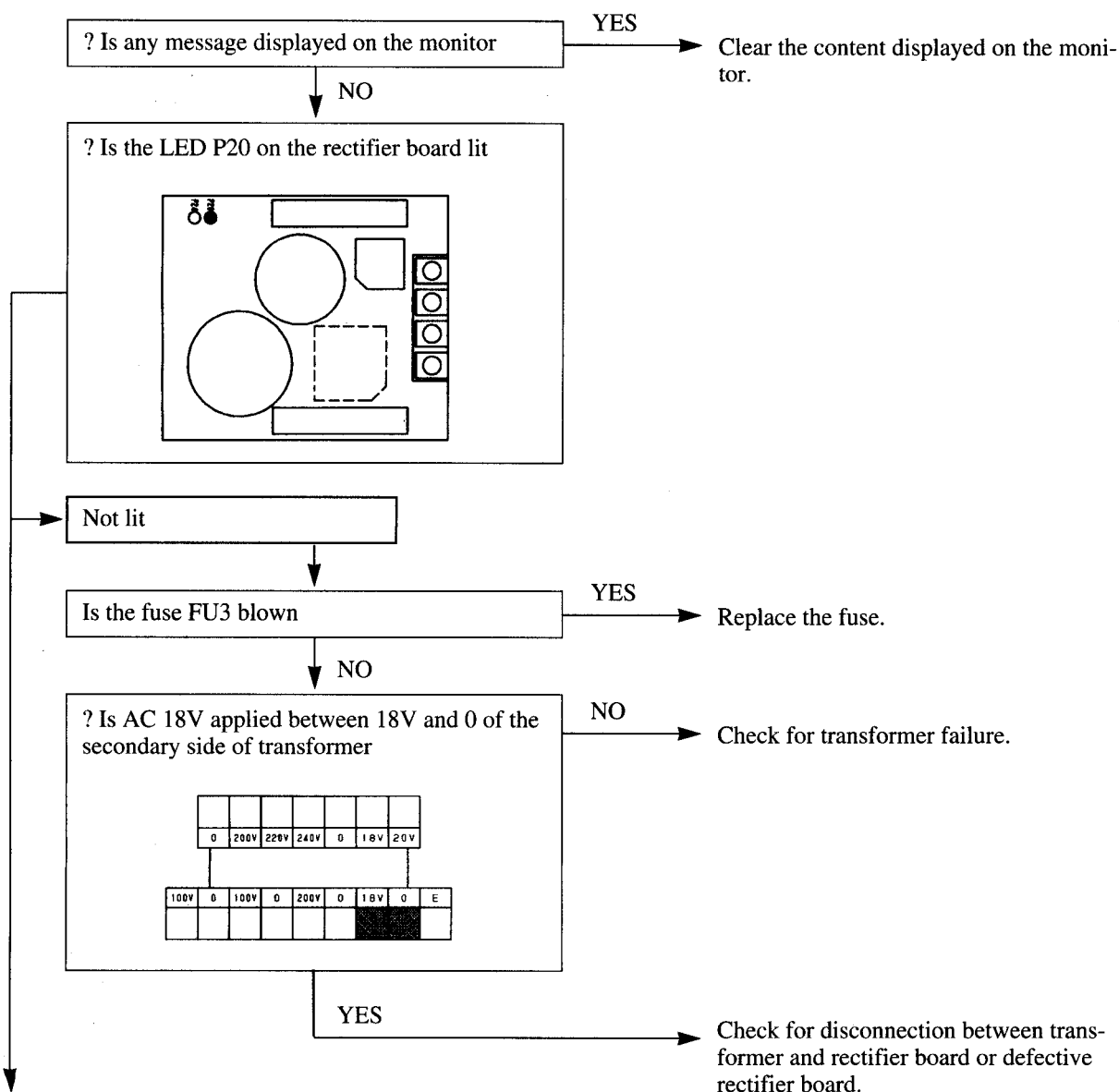
4) In case the FU4 is blown

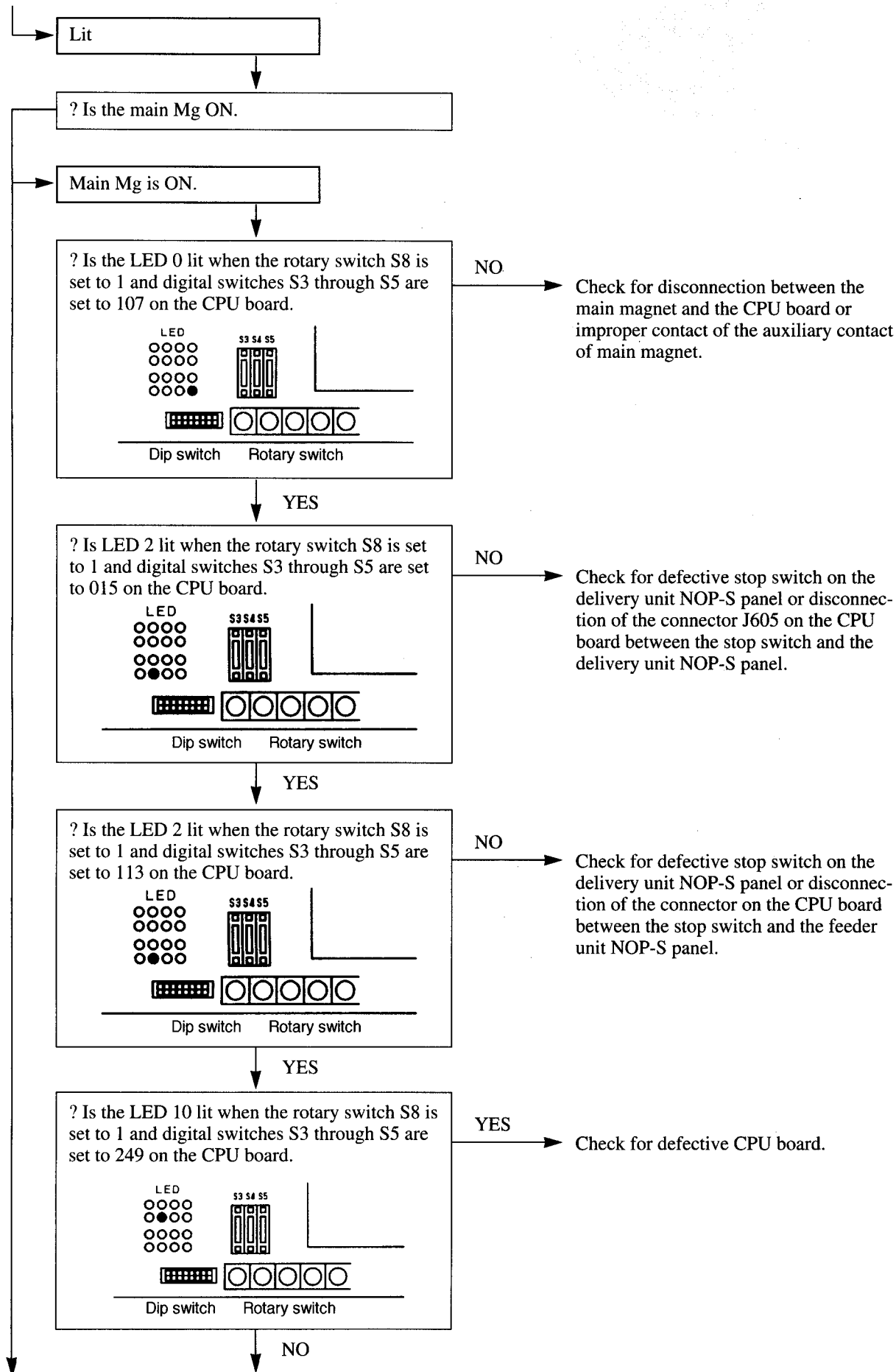
Incomprehensible messages are displayed on the delivery side counter display, and all functions do not operate.

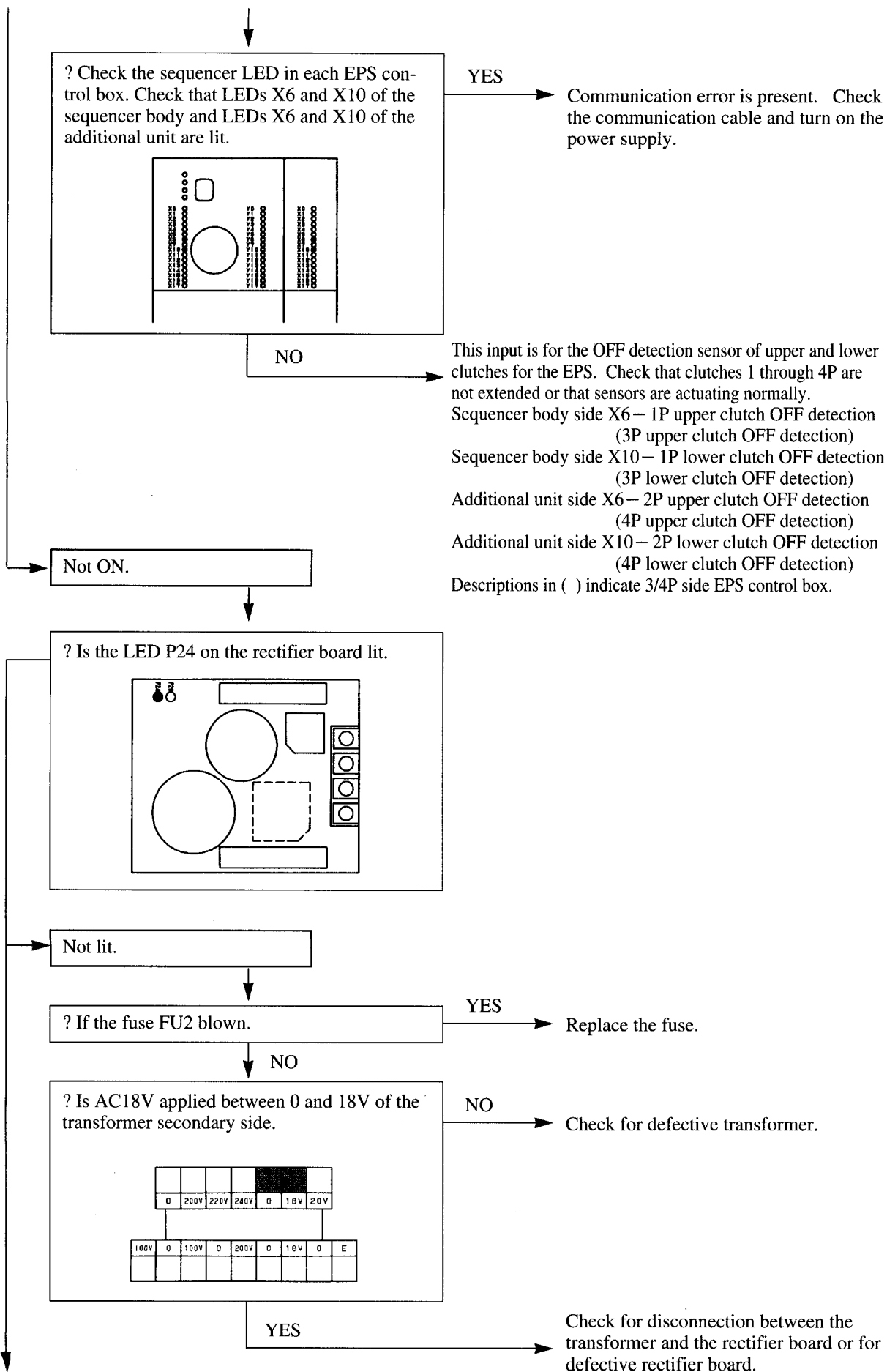
5) In case the fuse FU5 is blown

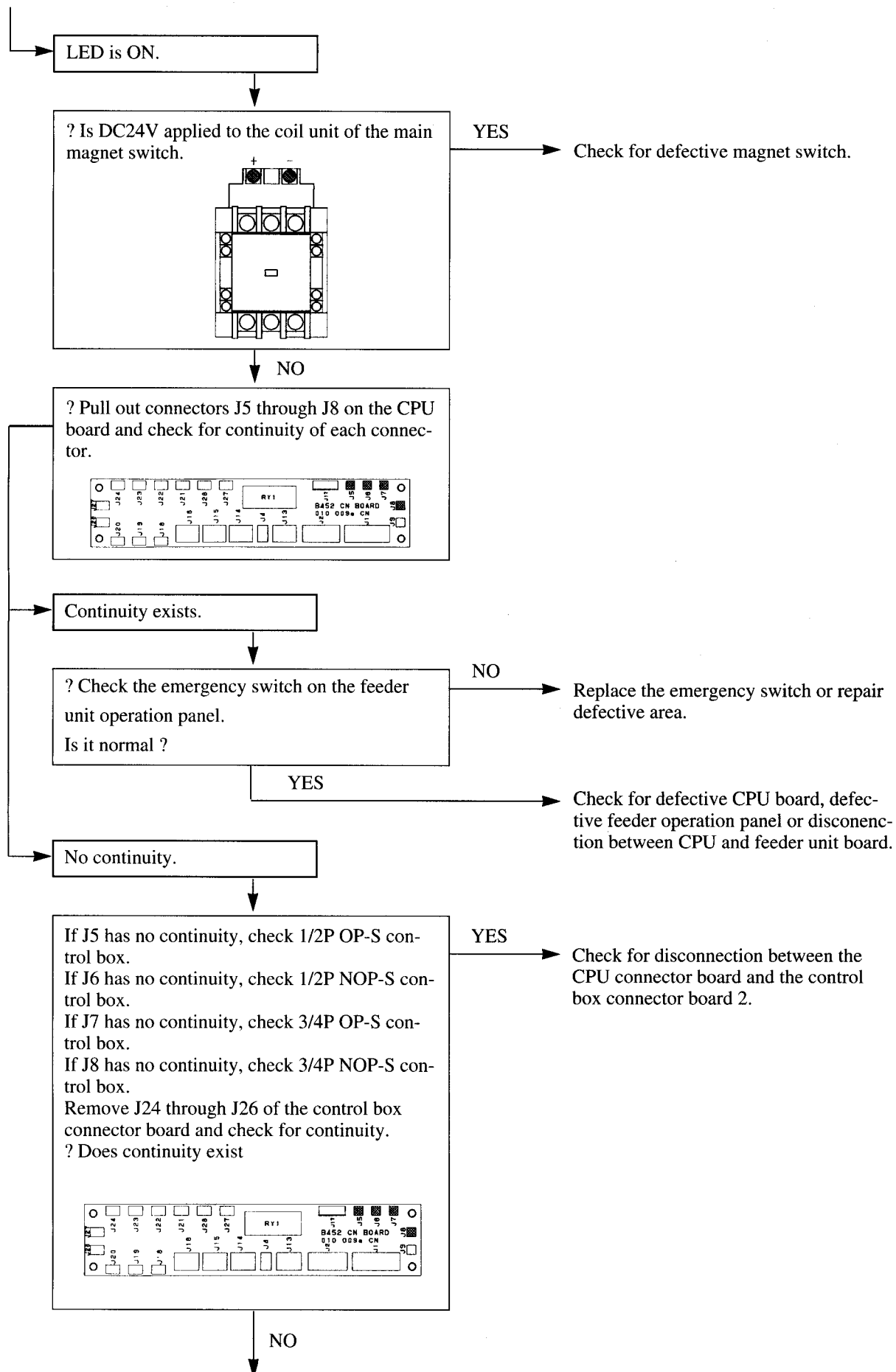
Fluorescent lamps do not light. Other lamps are normal.

[2] Preparation switch LED does not light.











For J5

If J24 has no continuity, check for defective emergency stop switch of the OP-S lower panel or disconnection between the emergency stop switch and the control box connector board 2.

If J25 has no continuity, check for defective emergency stop switch of the OP-S lower panel or disconnection between the emergency stop switch and the control box connector board 2.

For J6

If J24 has no continuity, check for defective emergency stop switch of the 1P NOP-S panel or disconnection between the emergency stop switch and the control box connector board 2.

If J2 has no continuity, check for defective emergency stop switch of the 2P NOP-S panel or disconnection between the emergency stop switch and the control box connector board 2.

For J7

If J24 has no continuity, check for defective emergency stop switch of the 3P OP-S lower panel or disconnection between the emergency stop switch and the control box connector board 2.

If J25 has no continuity, check for defective emergency stop switch of the 4P OP-S lower panel or disconnection between the emergency stop switch and the control box connector board 2.

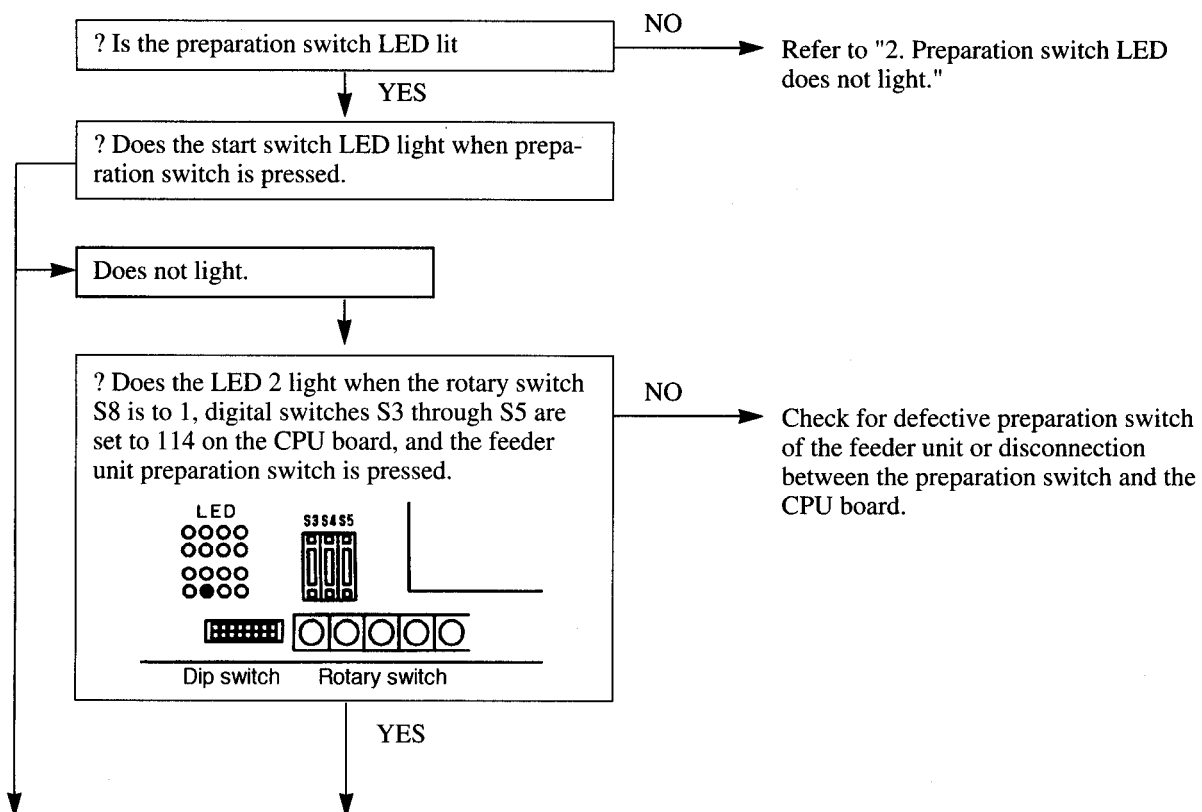
For J8

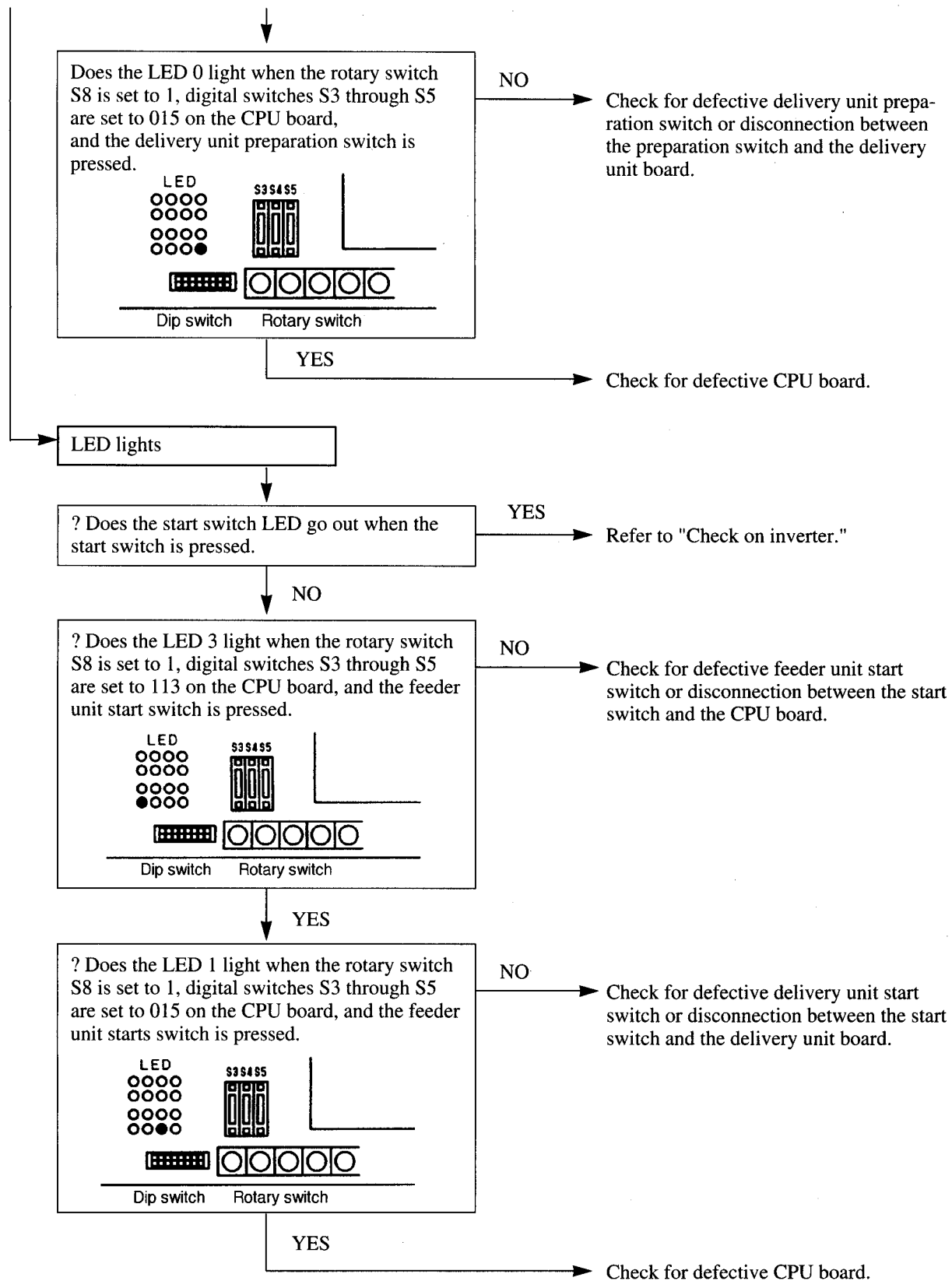
If J24 has no continuity, check for defective emergency stop switch of the 3P NOP-S panel or disconnection between the emergency stop switch and the control box connector board 2.

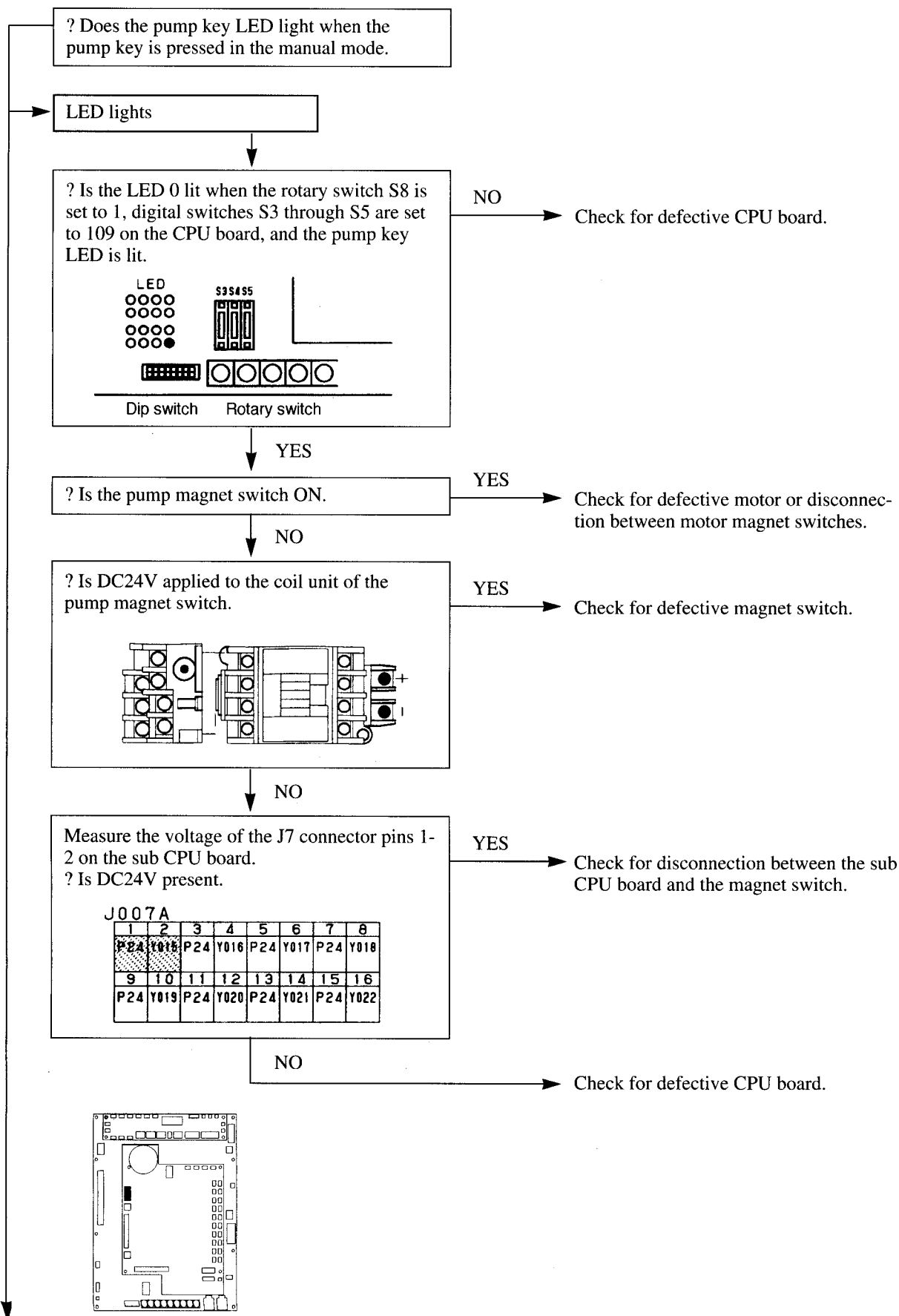
If J25 has no continuity, check for defective emergency stop switch of the 4P NOP-S panel or disconnection between the emergency stop switch and the control box connector board 2.

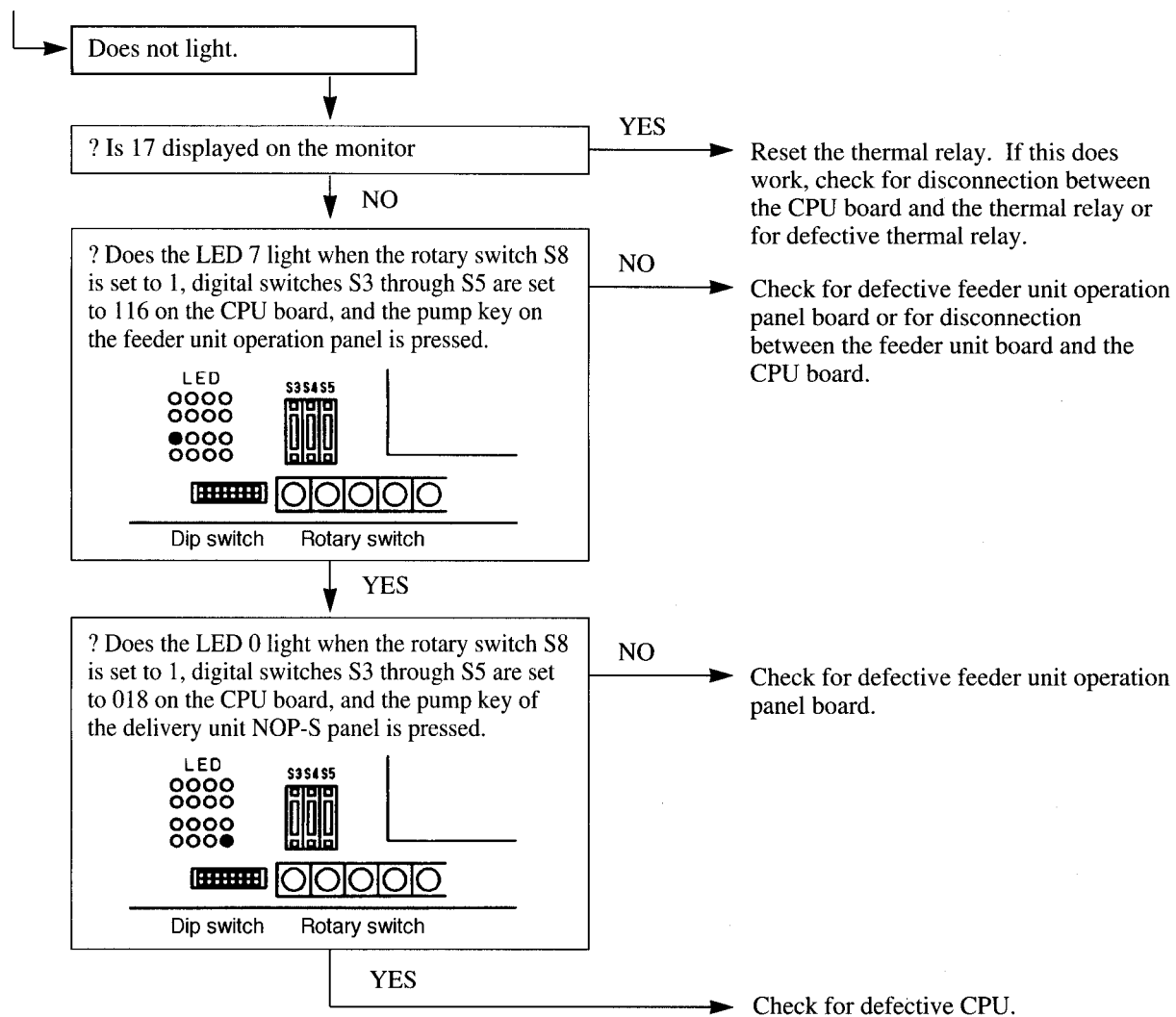
If J26 has no continuity, check for defective emergency stop switch of the delivery unit NOP-S panel or disconnection between the emergency stop switch and the control box connector board 2.

[3] Machine does not rotate.

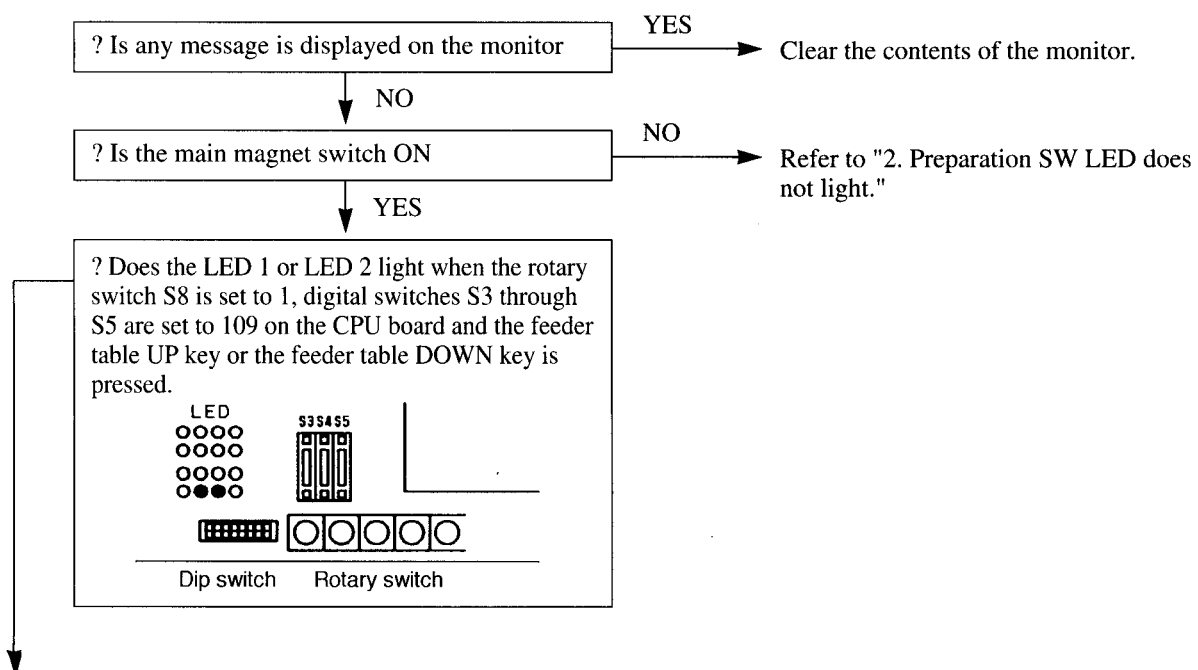


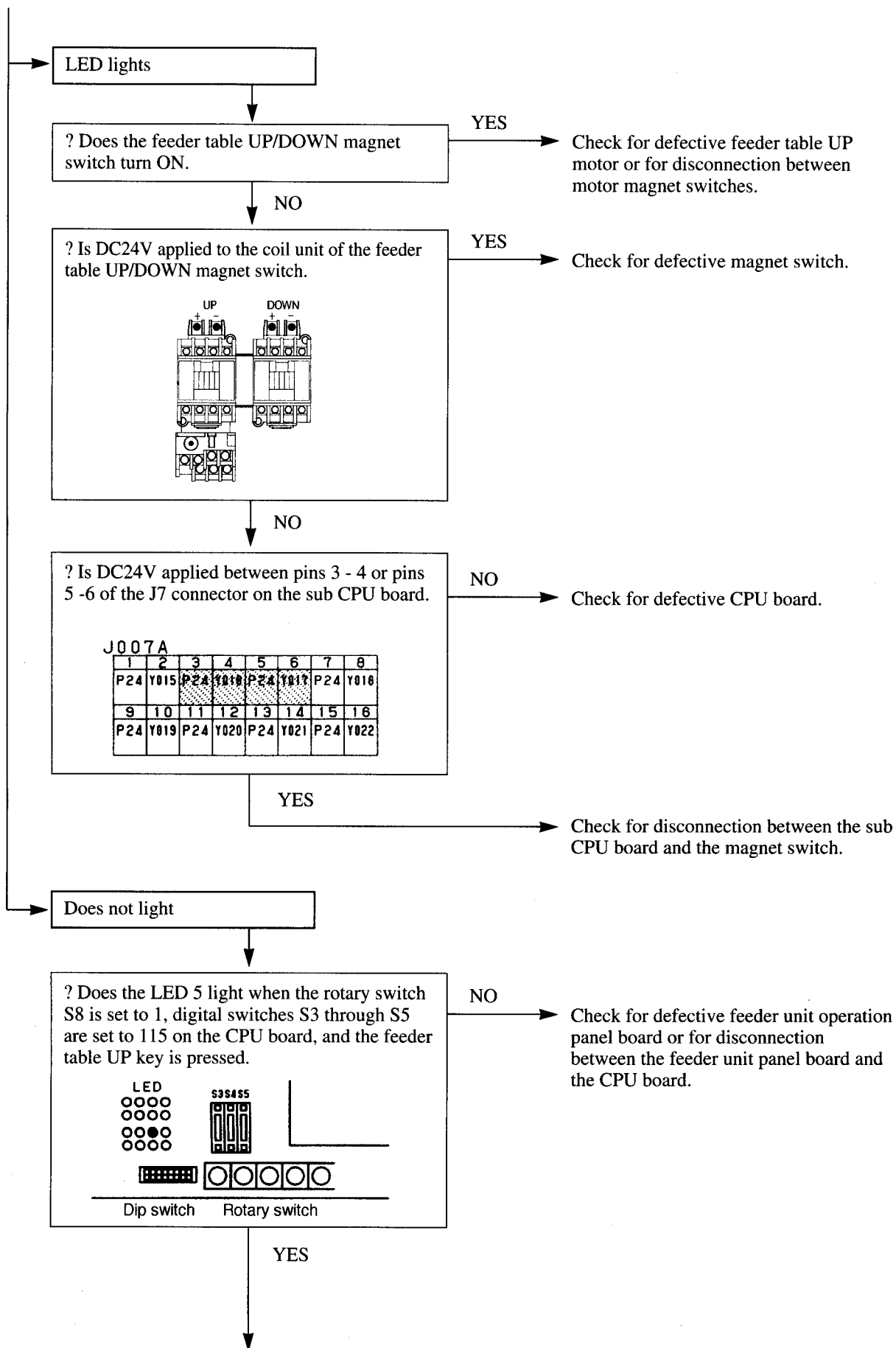


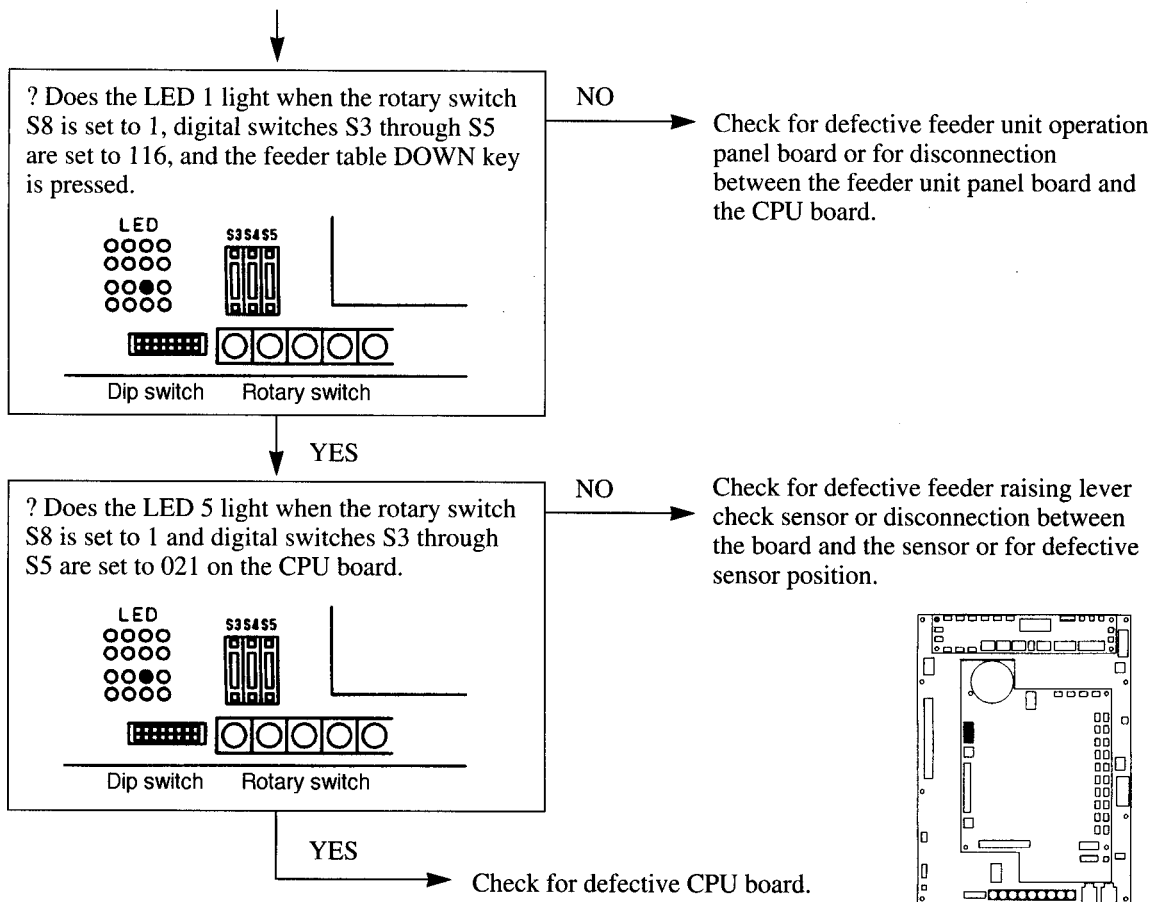
[4] Pump motor does not operate.



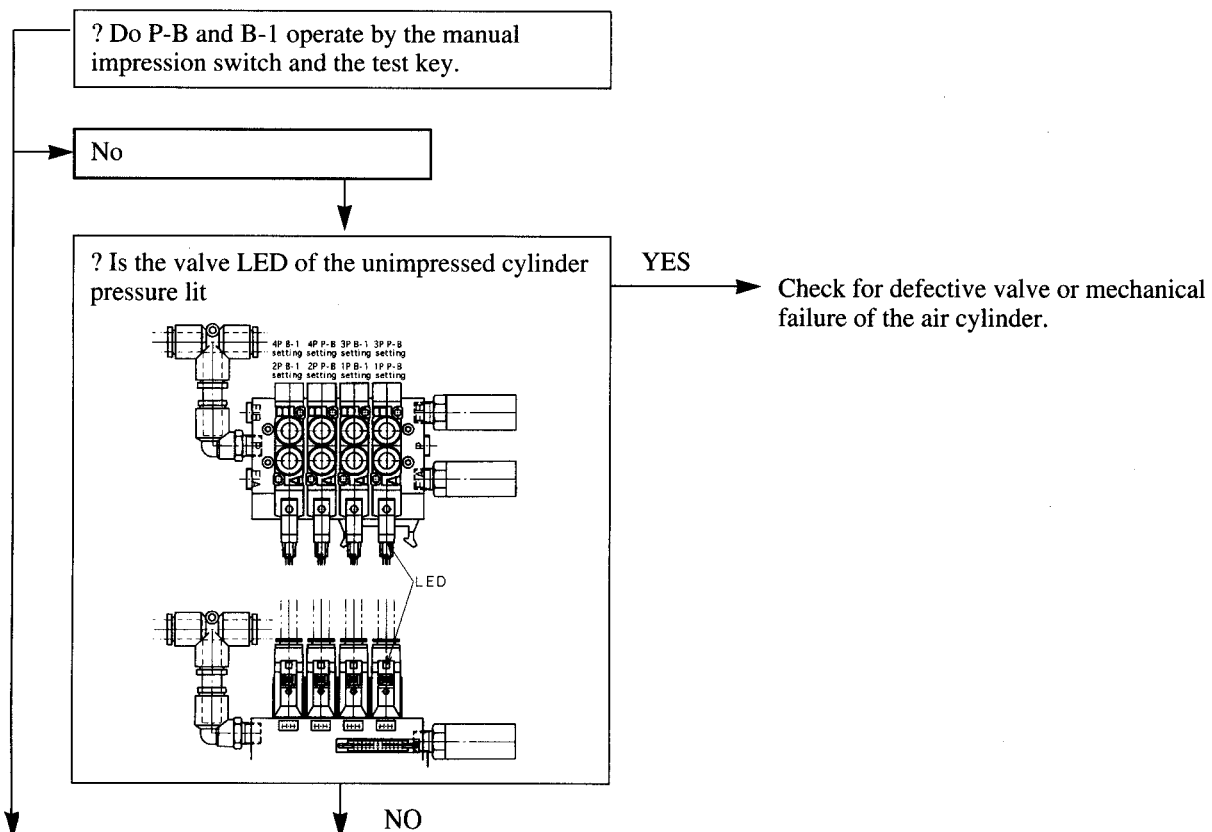
[5] Feeder table UP motor does not operate.





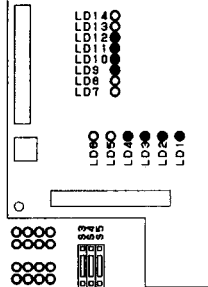


[6] P-B and B-1 impressions do not come on.



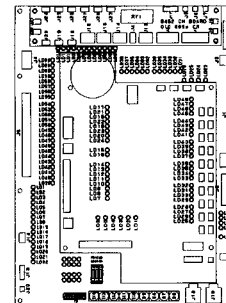
? Are LEDs L1 through L4 and L9 through L12 on the sub CPU board lit

L1	1P P-B valve	12	1P B-1 valve
L3	2P P-B valve	14	2P B-1 valve
L9	3P P-B valve	L10	3P B-1 valve
L11	4P P-B valve	L12	4P B-1 valve



YES

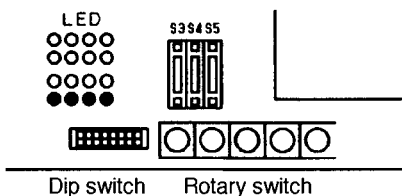
Check for disconnection between the CPU board and the control box and between the control box and the air cylinder valve.



NO

Set the rotary switch S8 to 1 and set digital switches S3 through S5 to the following and check LEDs.
? Are LEDs lit

	S3~S5	LED
1P P-B valve	111	0
1P B-1 valve	111	1
2P P-B valve	111	2
2P B-1 valve	111	3
3P P-B valve	112	0
3P B-1 valve	112	1
4P P-B valve	112	2
4P B-1 valve	112	3



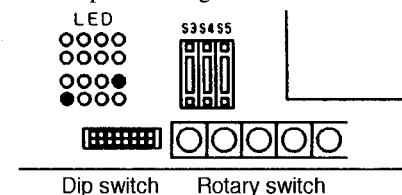
YES

Check for defective CPU board.

NO

? Do the following LEDs light when the rotary switch S8 is set to 1, digital switches S3 through S5 are set to the following, and each manual plate setting switch is turned ON.

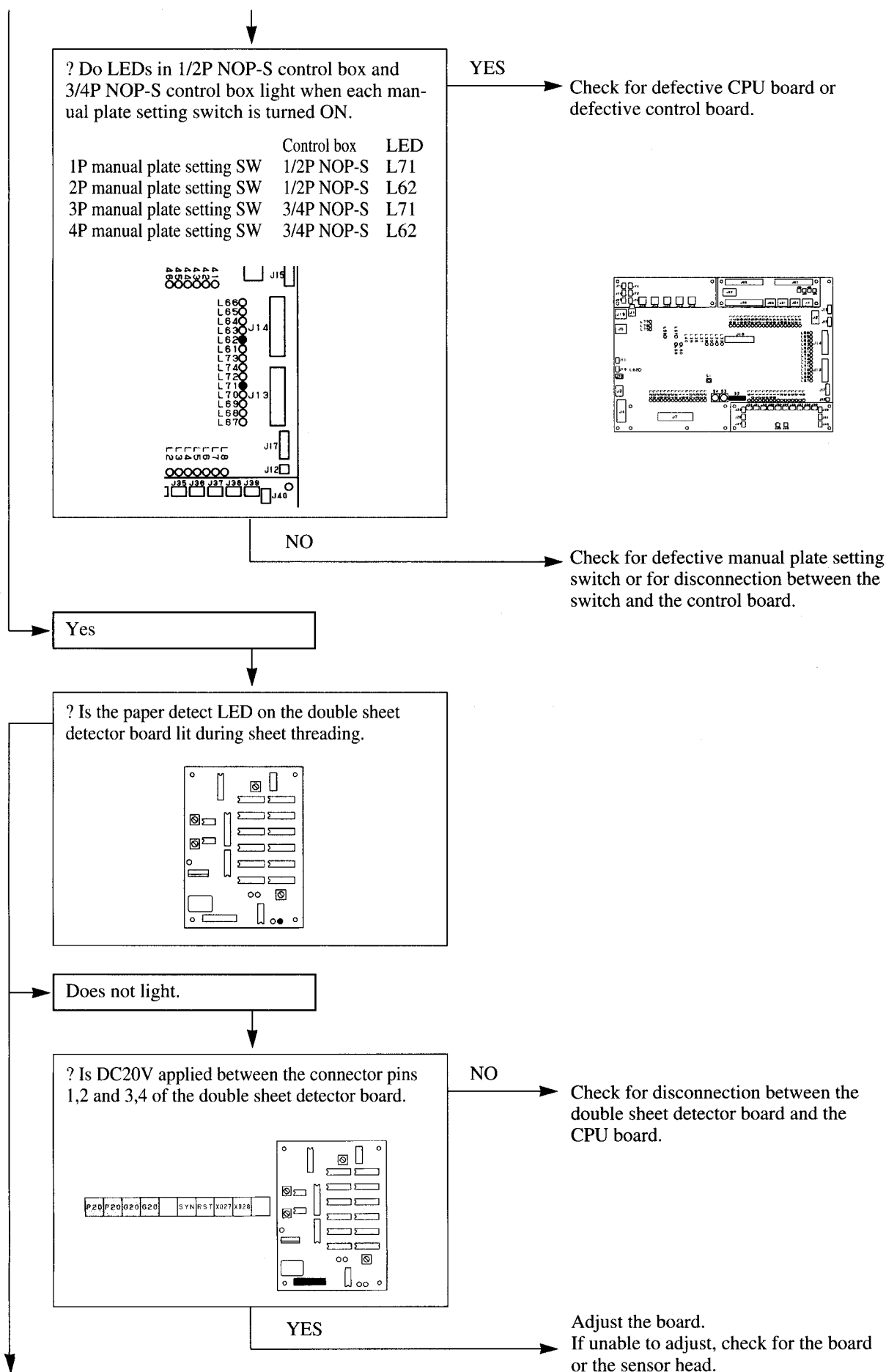
	S3~S5	LED
1P manual plate setting SW	030	4
2P manual plate setting SW	029	3
3P manual plate setting SW	050	4
4P manual plate setting SW	019	3

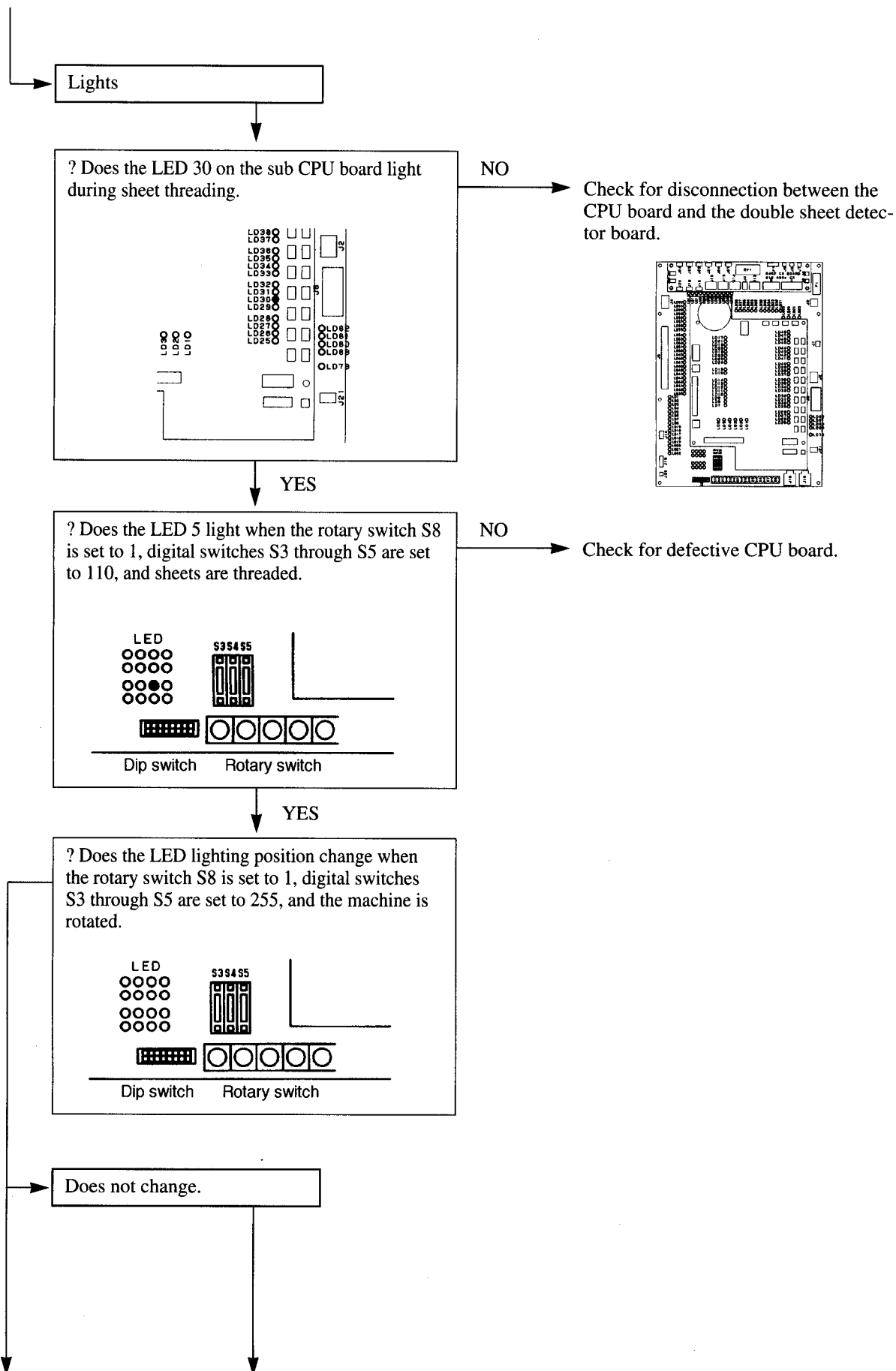


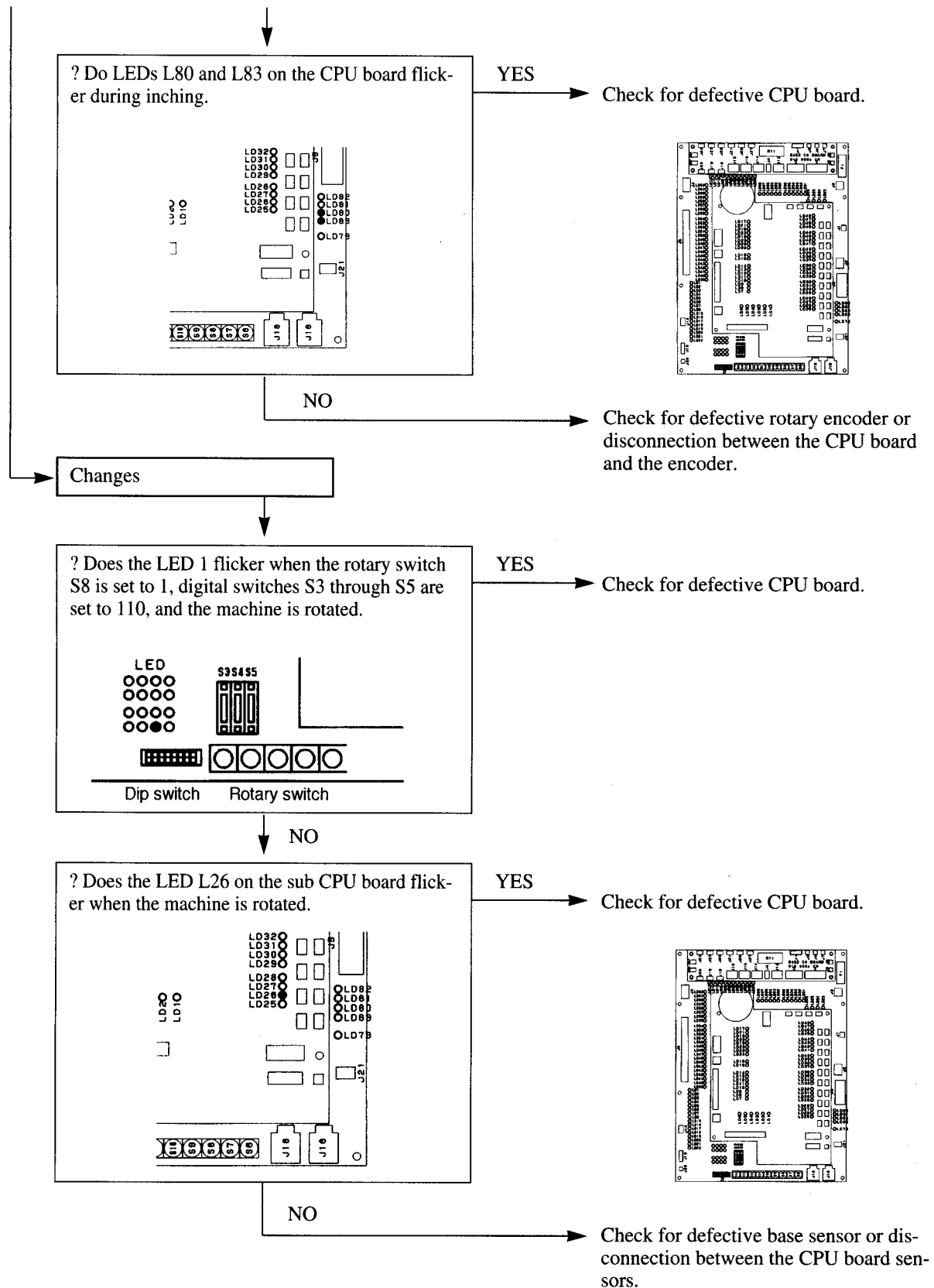
YES

Check for defective CPU board.

NO



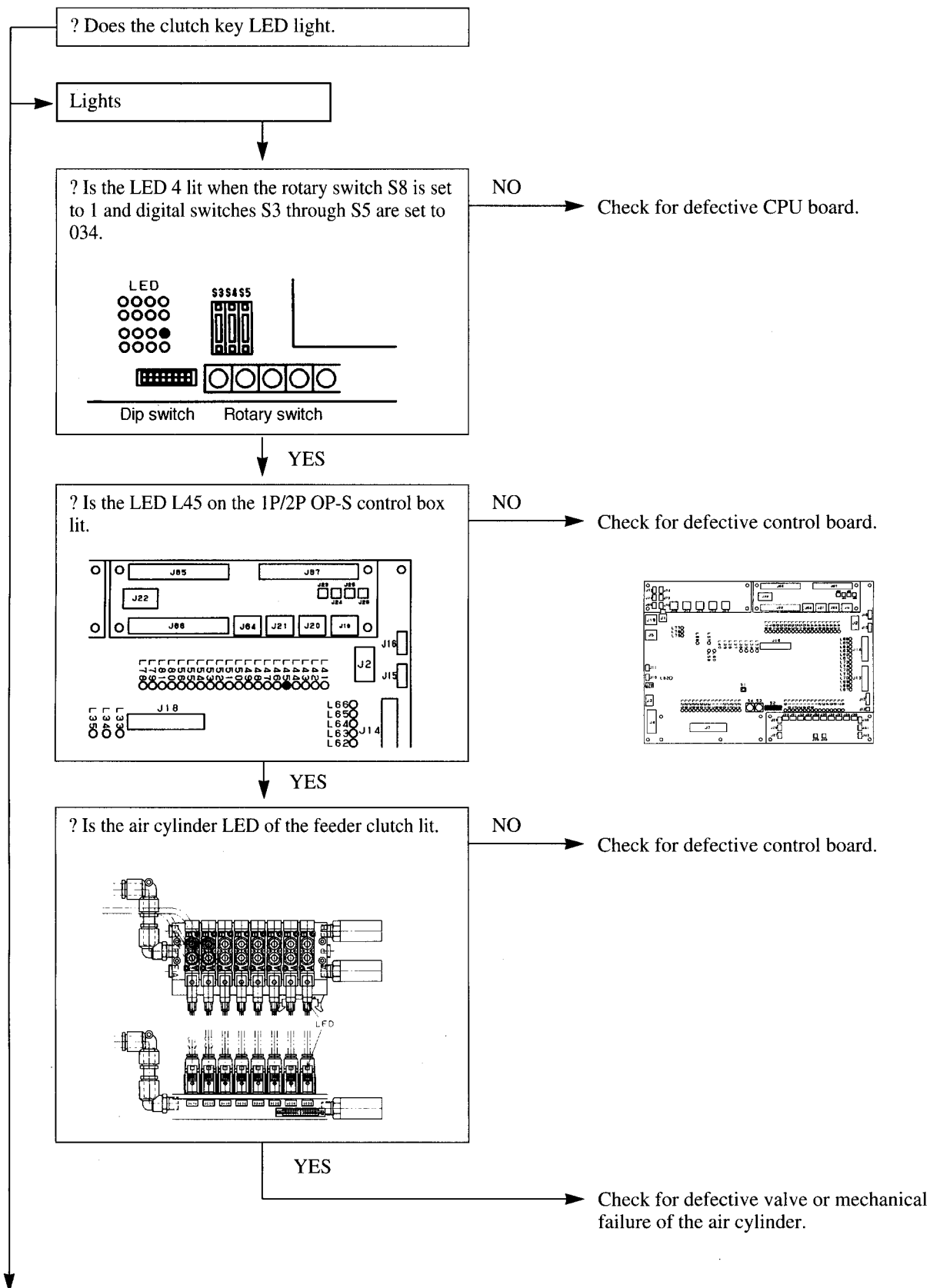


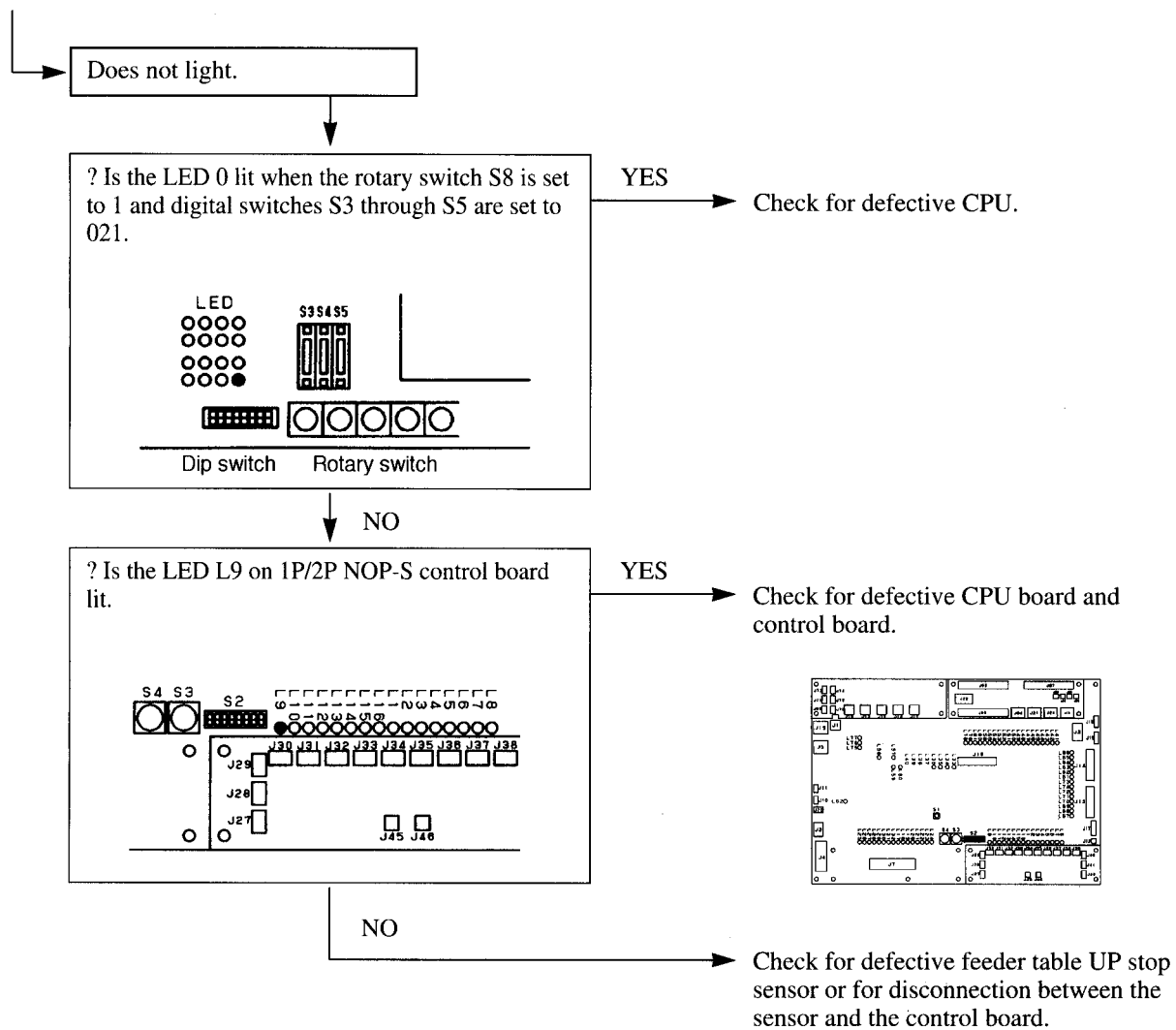


[7] Feeder clutch does not operate.

Conditions: Emergency stop switch and stop switch are not actuated.

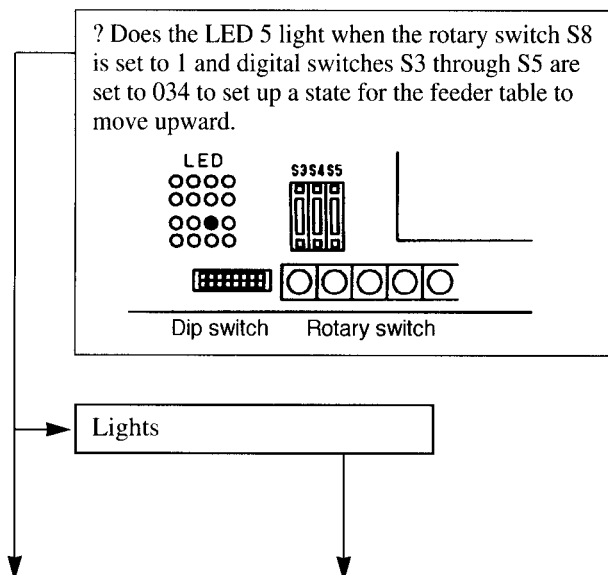
Jamming has not occurred.

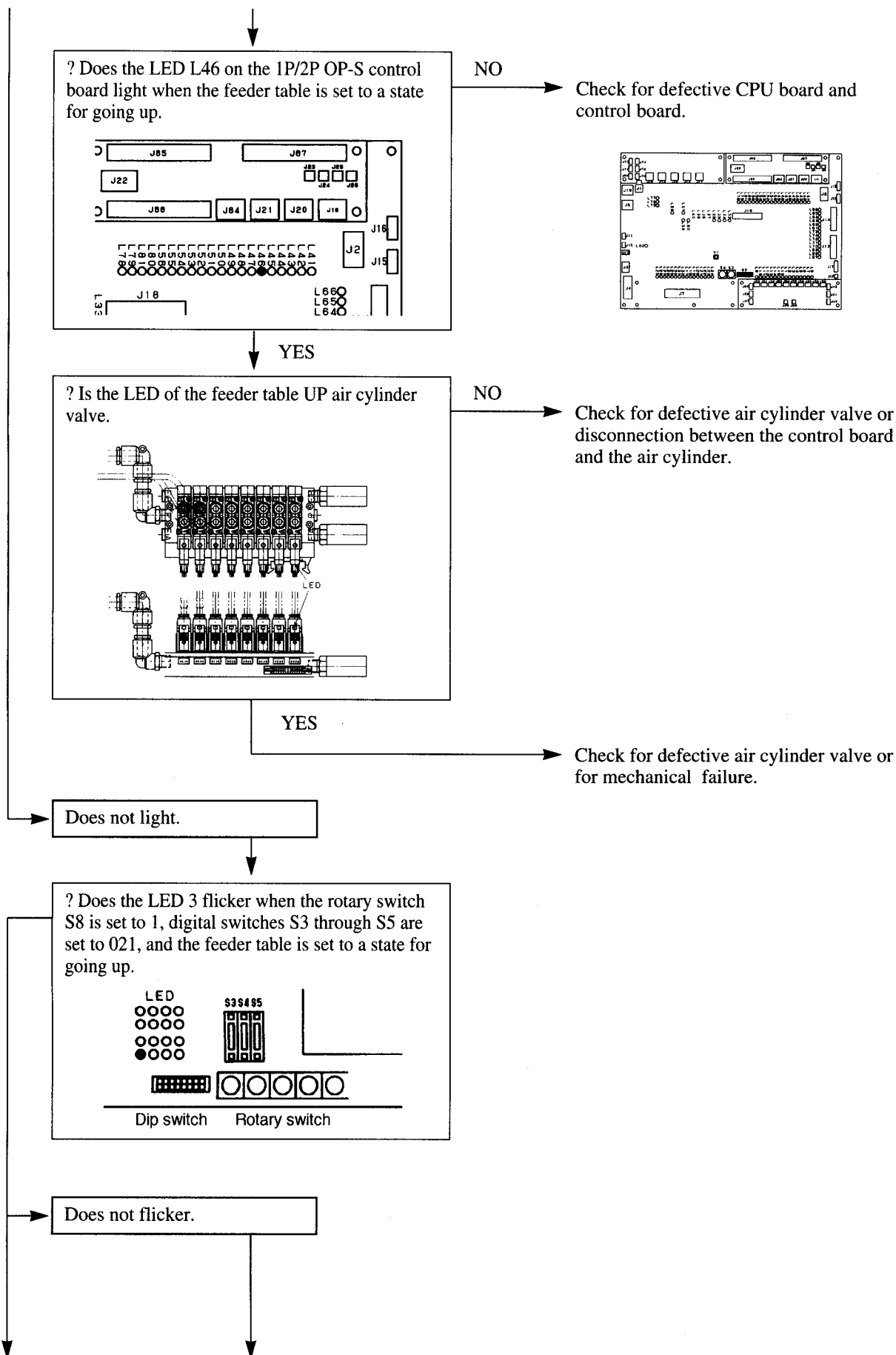


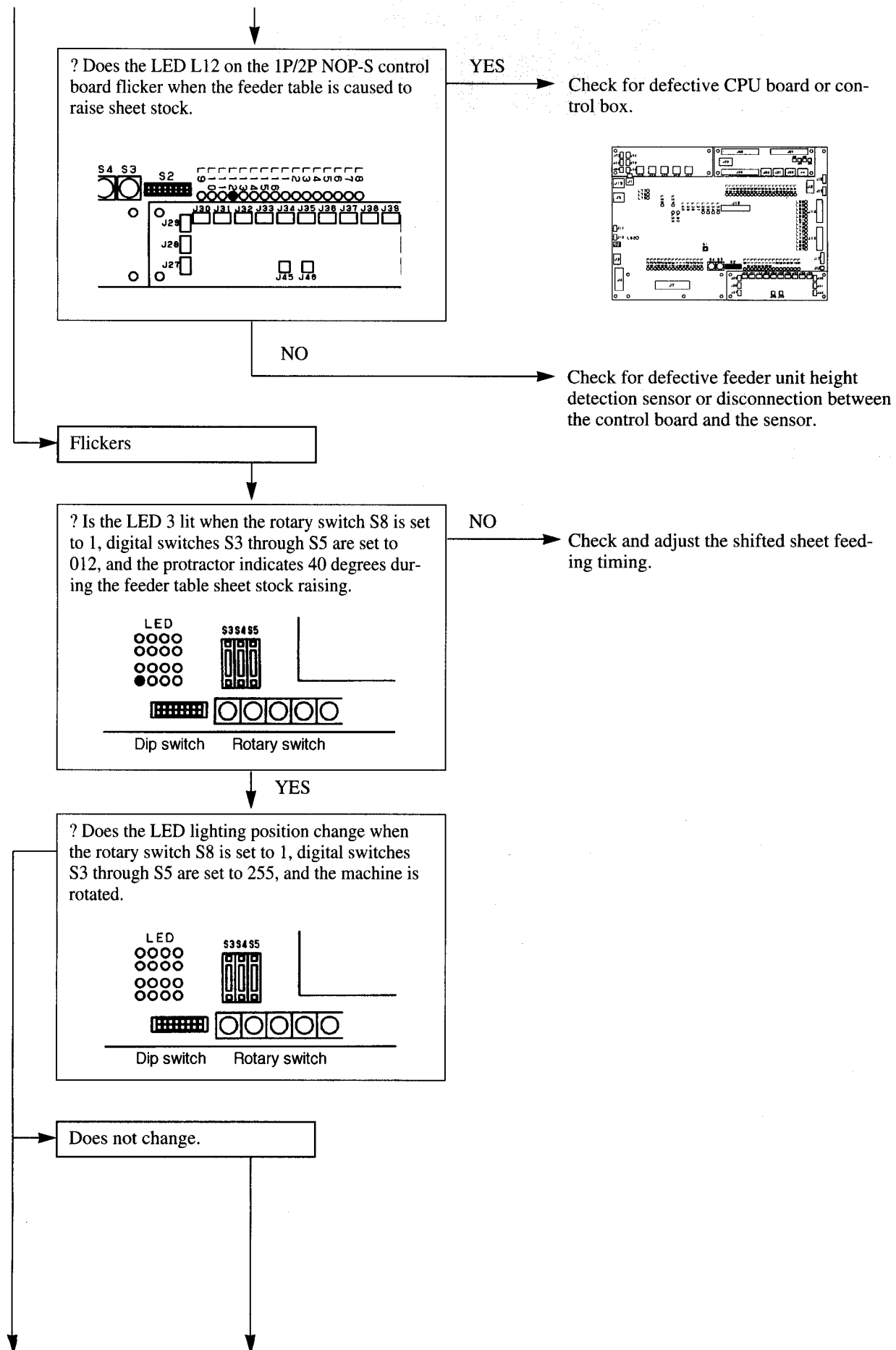


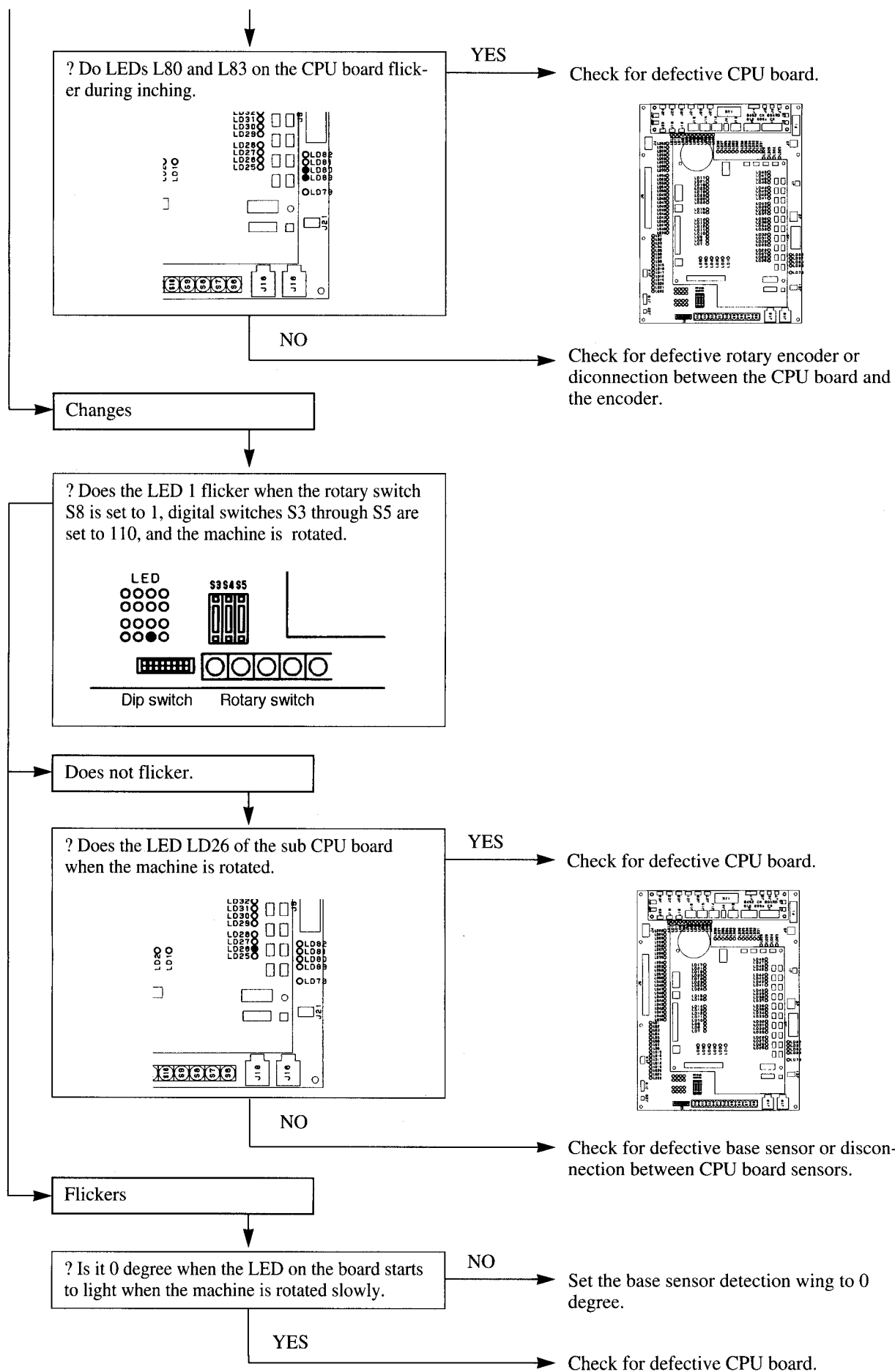
[8] Feeder table does not go up.

Clear the information displayed on the monitor, if any.

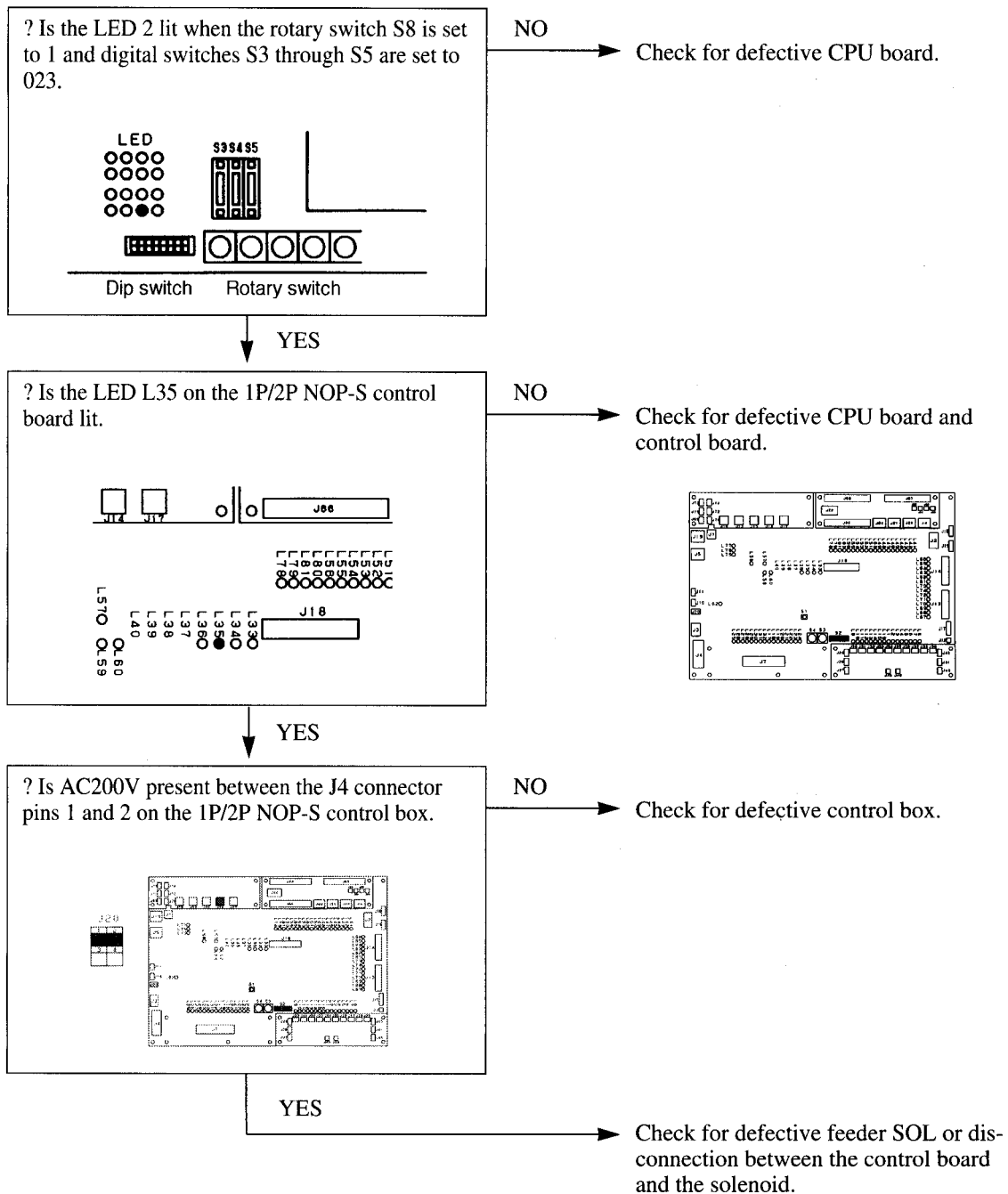






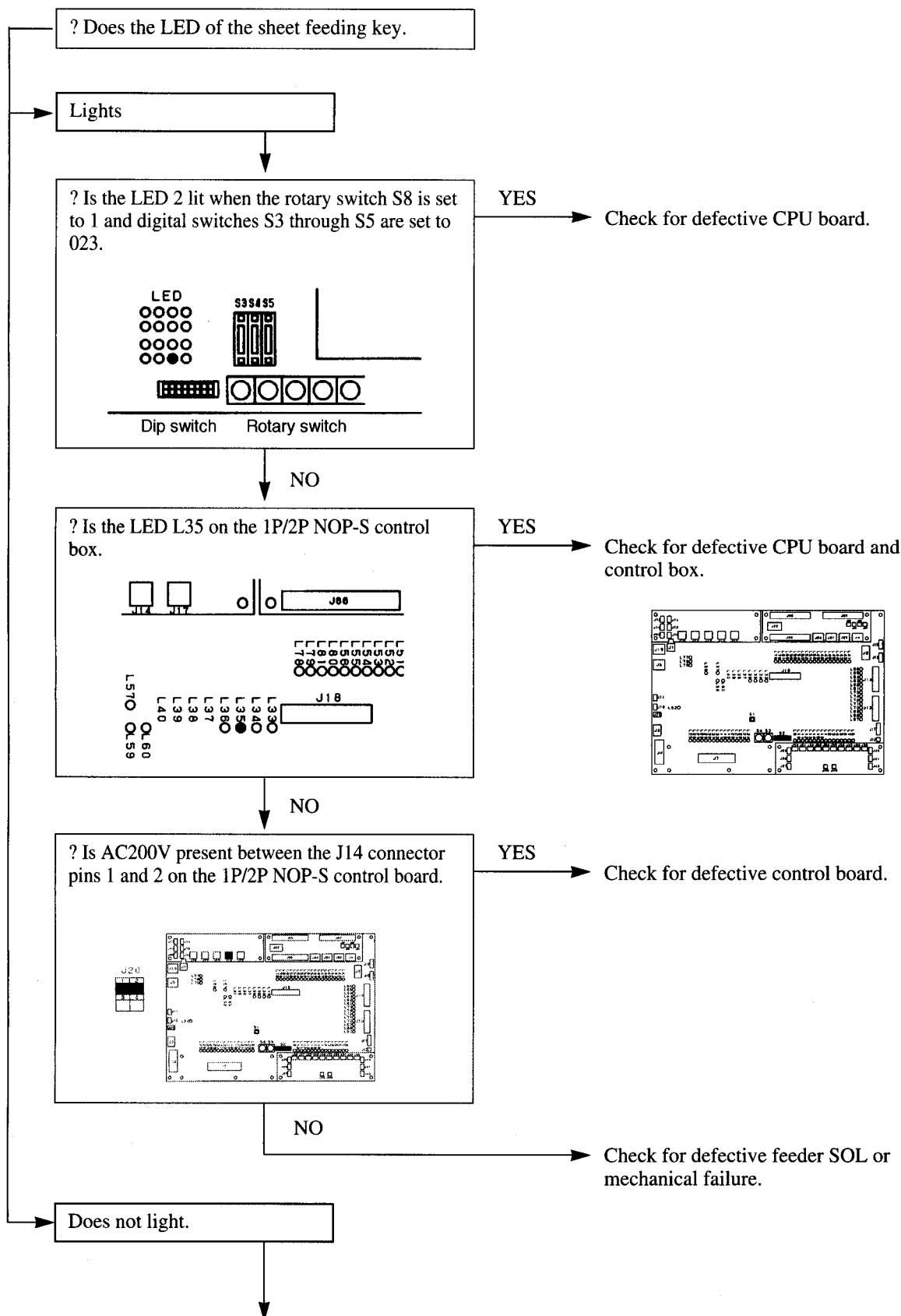


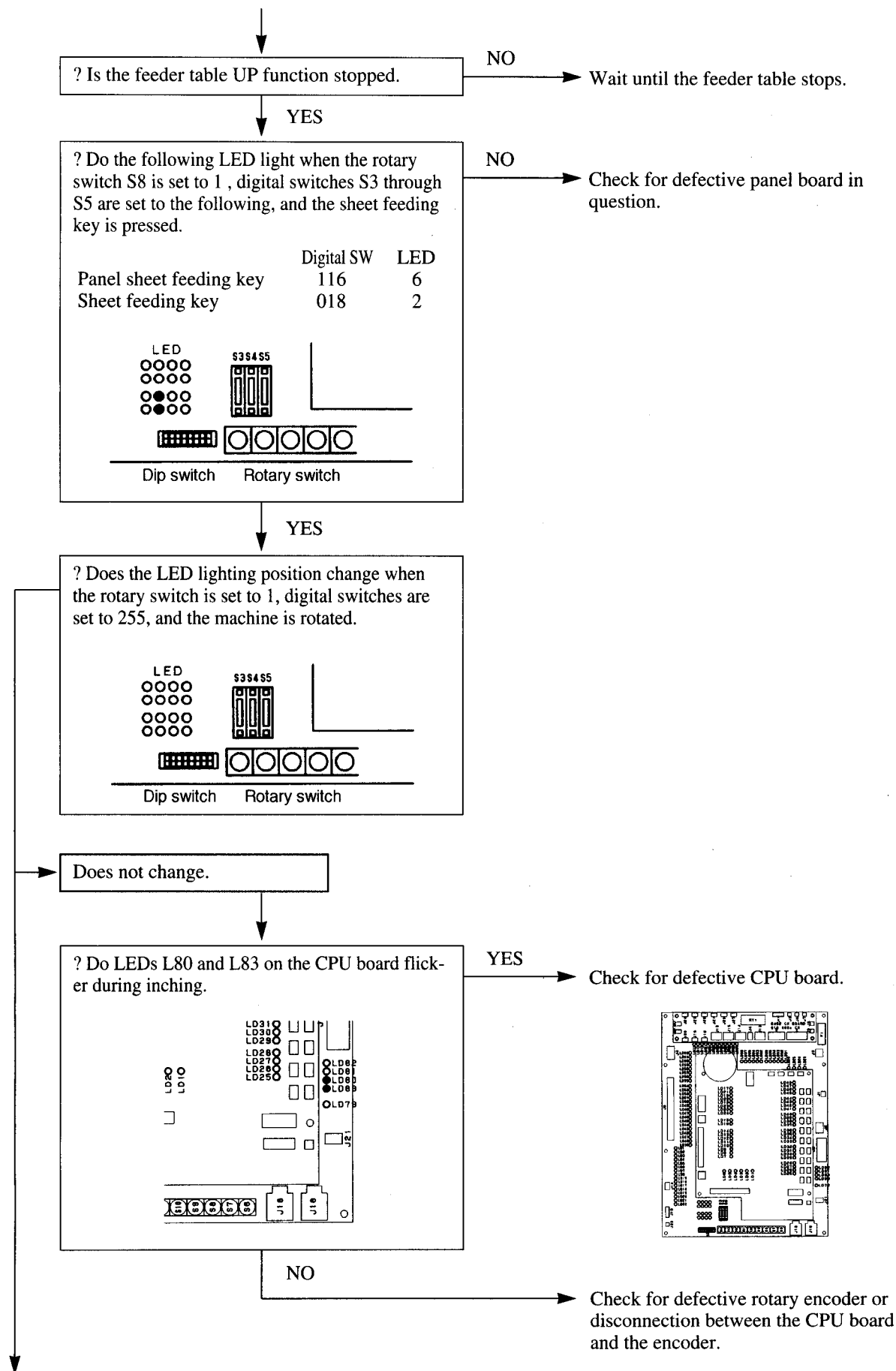
- [9] When the feeder clutch is engaged and the pump is started, sheet feeding starts and cannot be stopped.

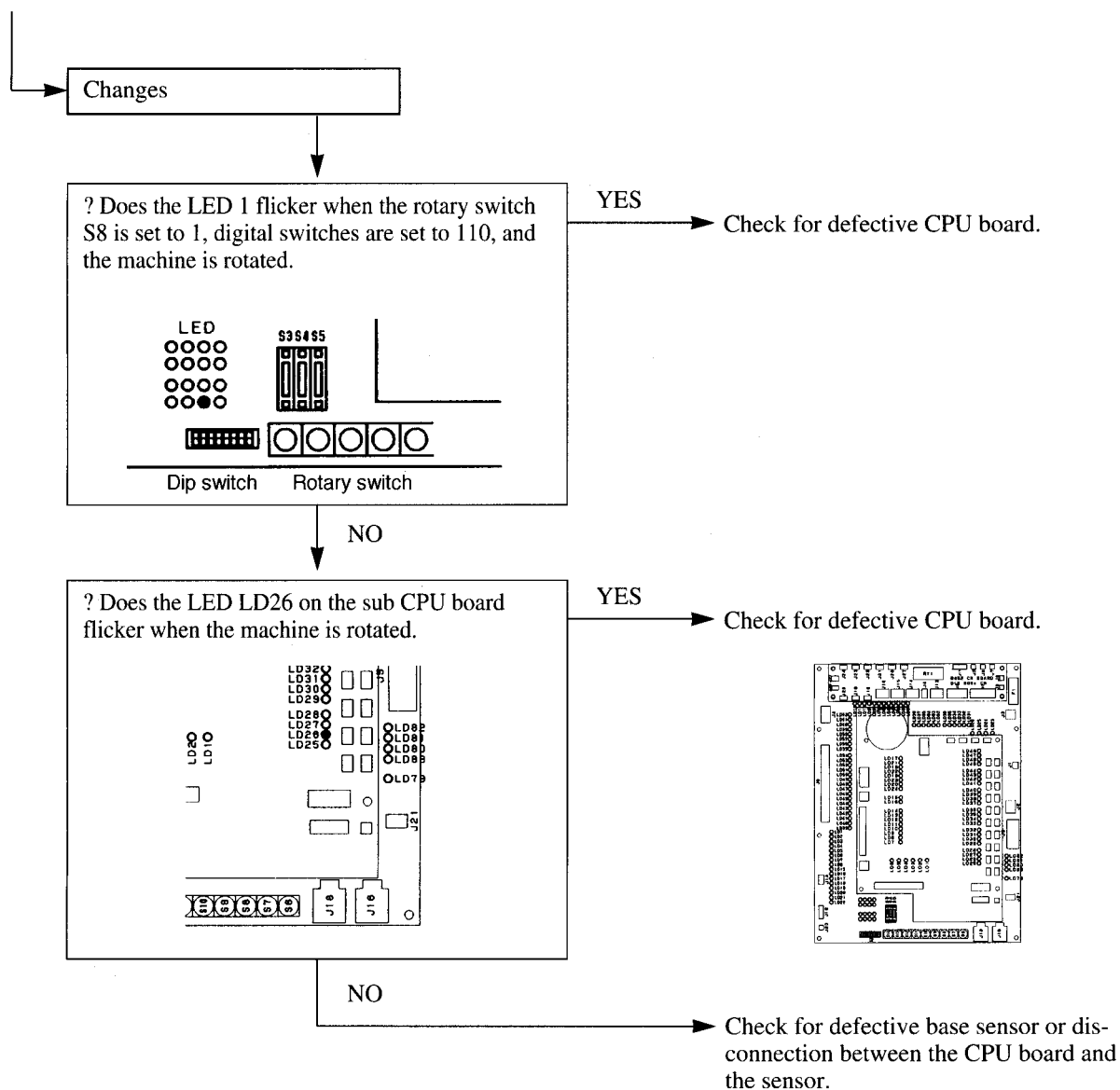


[10] Sheet feeding cannot be started.

Clear any message on the monitor, if any.

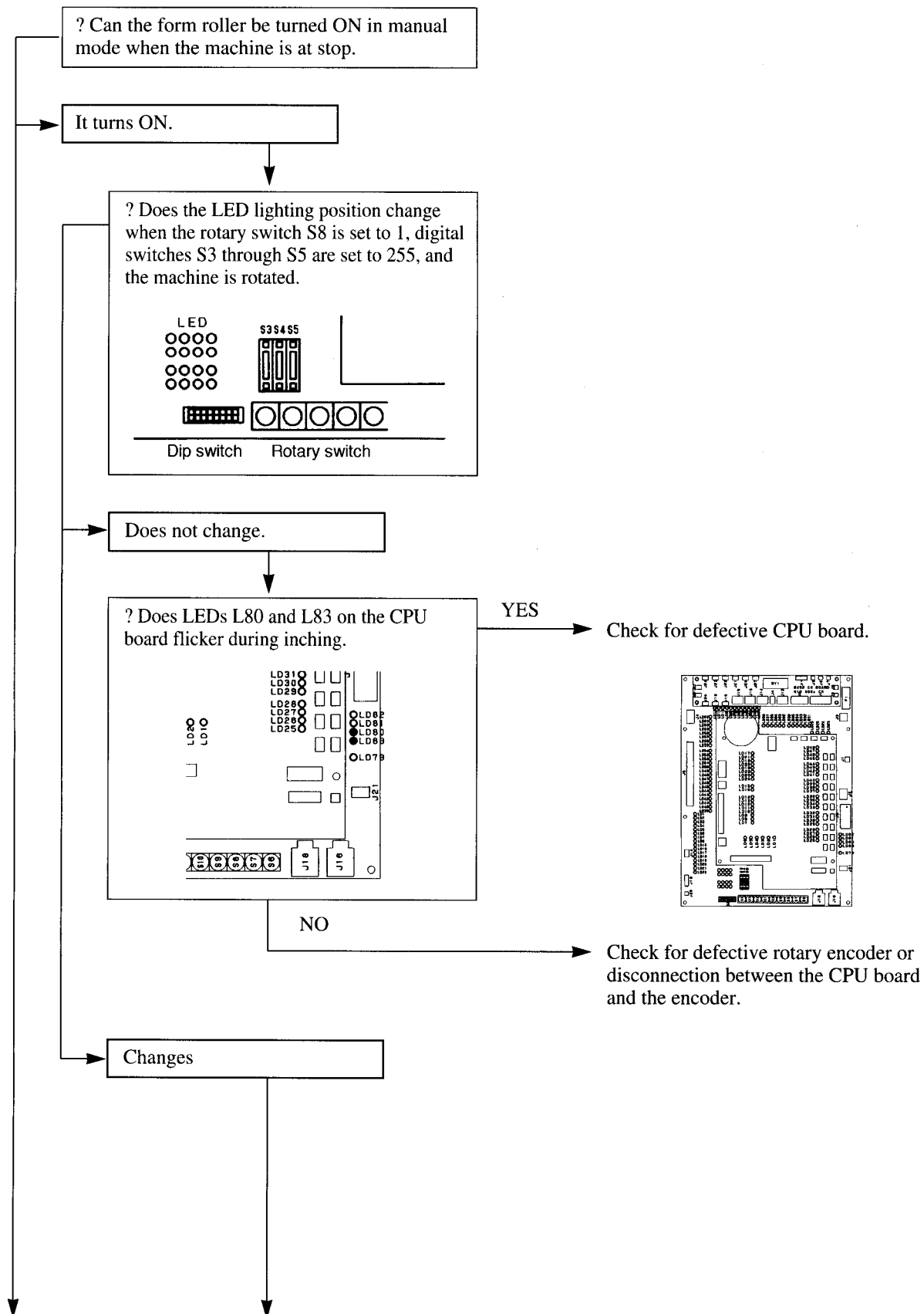


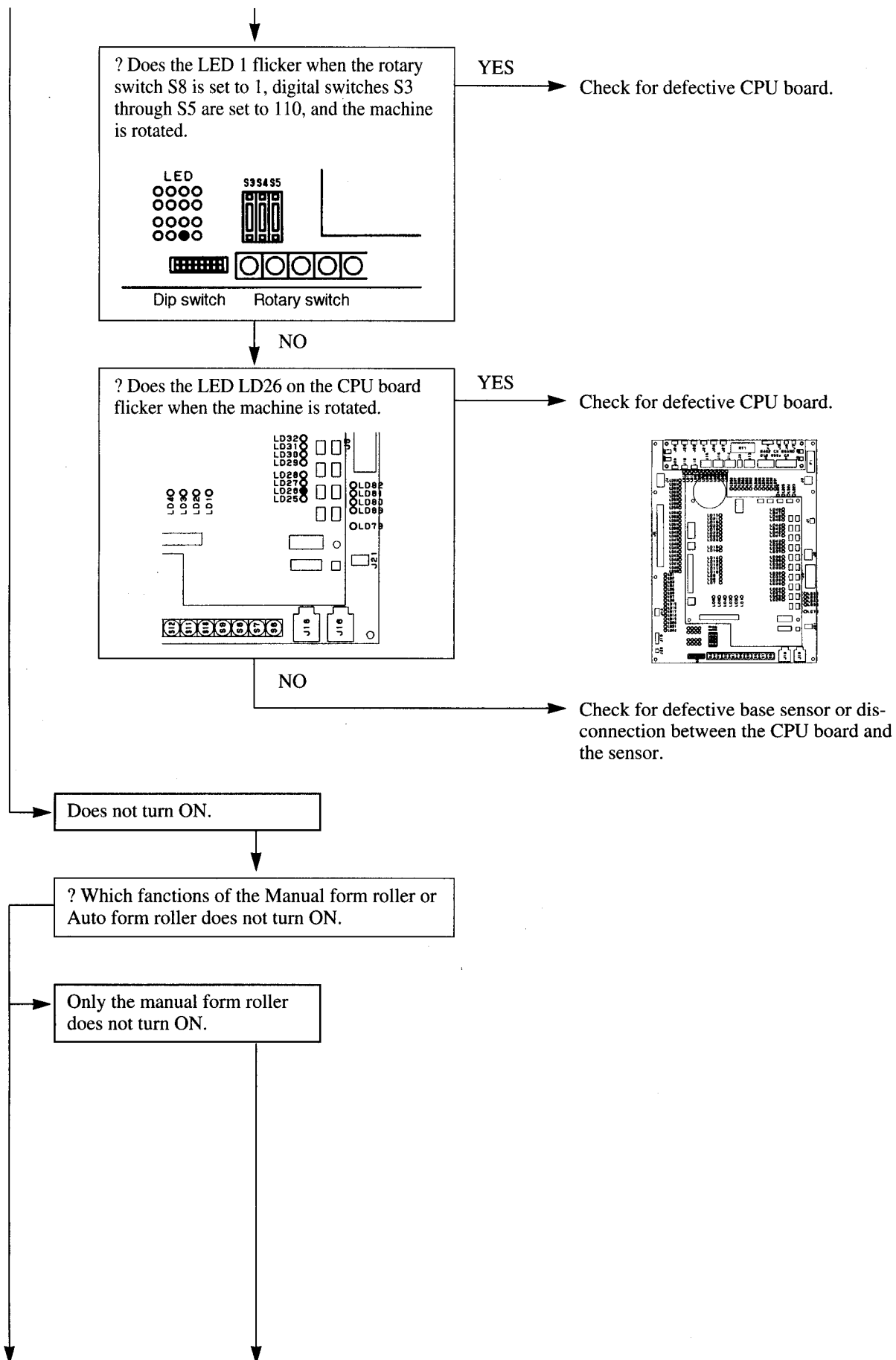




[11] Each form roller cannot be operated.

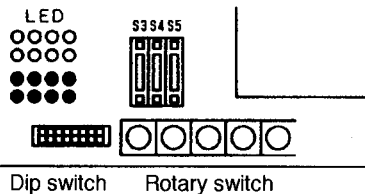
Auto impression, unit selector, manual/auto button shall be able to be turned ON and OFF.





? Does the following LED light when the rotary switch S8 is set to 1, digital switches S3 through S5 are set as follows, and the switch and key of each form roller is turned ON.

	Digital SW	LED
1P dampening form roller SW	039	5
1P ink form roller SW	039	4
2P dampening form roller SW	039	7
2P ink form roller SW	039	6
3P dampening form roller SW	059	5
3P ink form roller SW	059	4
4P dampening form roller SW	059	7
4P ink form roller SW	059	6
1P dampening form roller key	019	0
1P ink form roller key	019	1
2P dampening form roller key	019	2
2P ink form roller key	019	3
3P dampening form roller key	019	4
3P ink form roller key	019	5
4P dampening form roller key	019	6
4P Ink form roller key	019	7



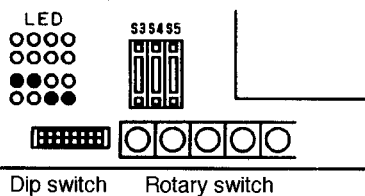
NO

Check for defective delivery unit panel or form roller SW of each unit or for disconnection between the switch and the control box.

Both manual and auto form rollers do not turn ON

? Do the following LEDs light when the rotary switch S8 is set to 1 and digital switches S3 through S5 are set as follows to set up a state for the form roller to turn ON.

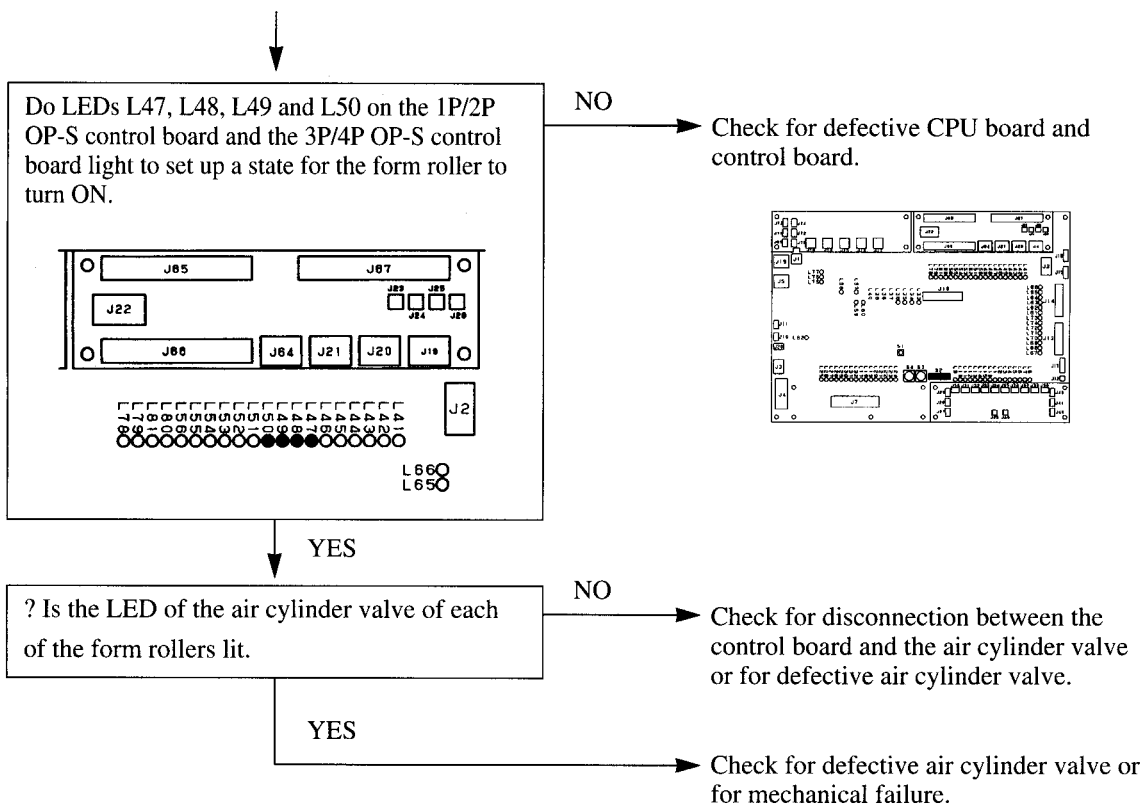
	Digital SW	LED
1P dampening form roller	034	7
1P ink form roller	034	6
2P dampening form roller	035	1
2P Ink form roller	035	0
3P Dampening form roller	054	7
3P Ink form roller	054	6
4P dampening form roller	055	1
4P ink form roller	055	0



NO

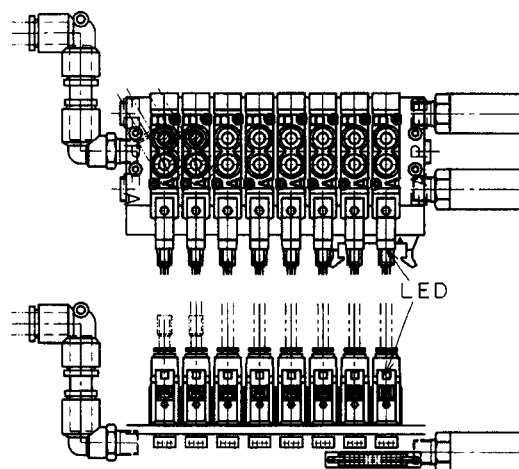
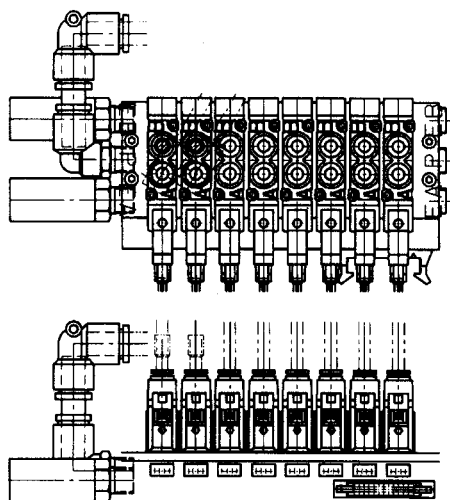
Check for defective CPU board.

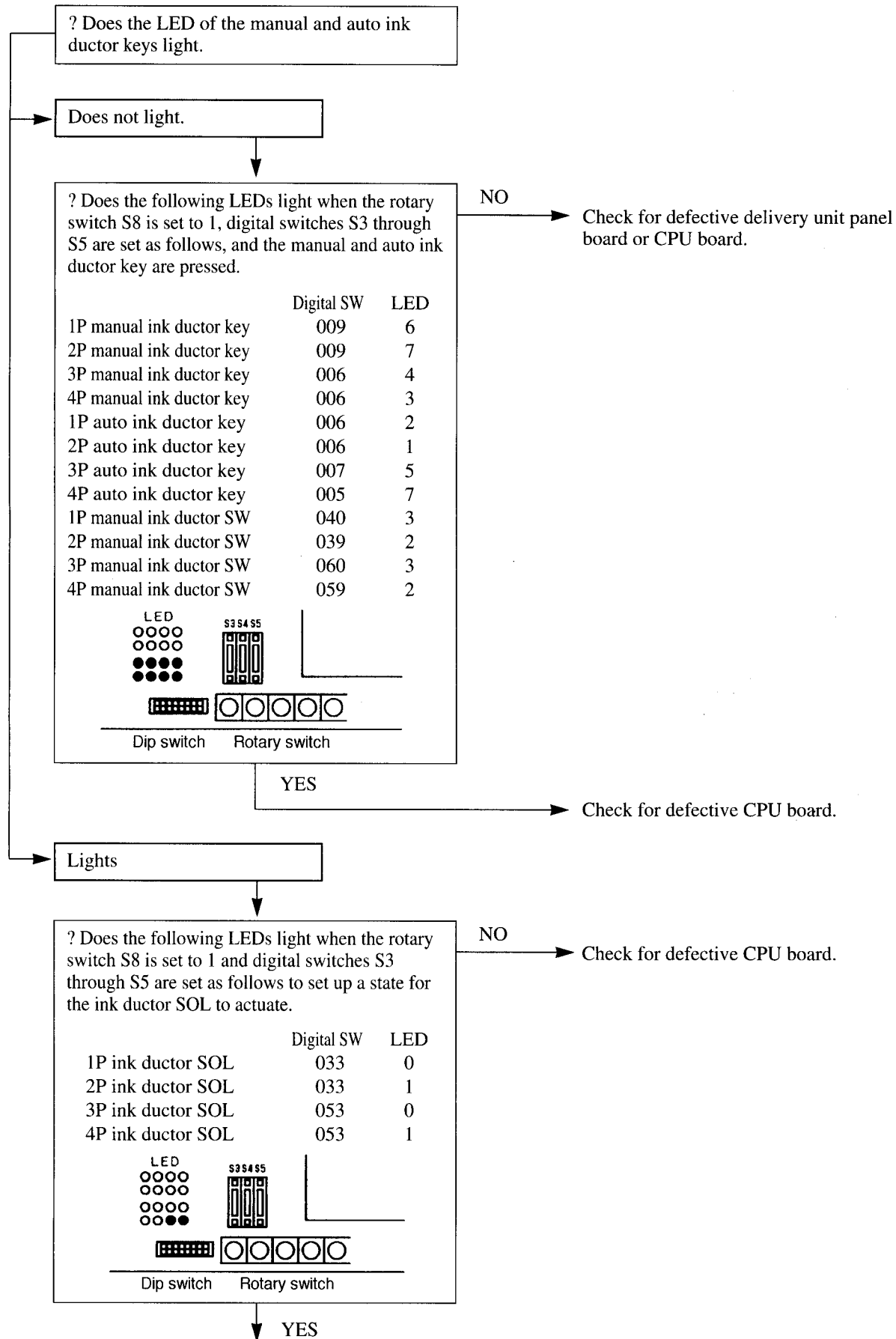
YES

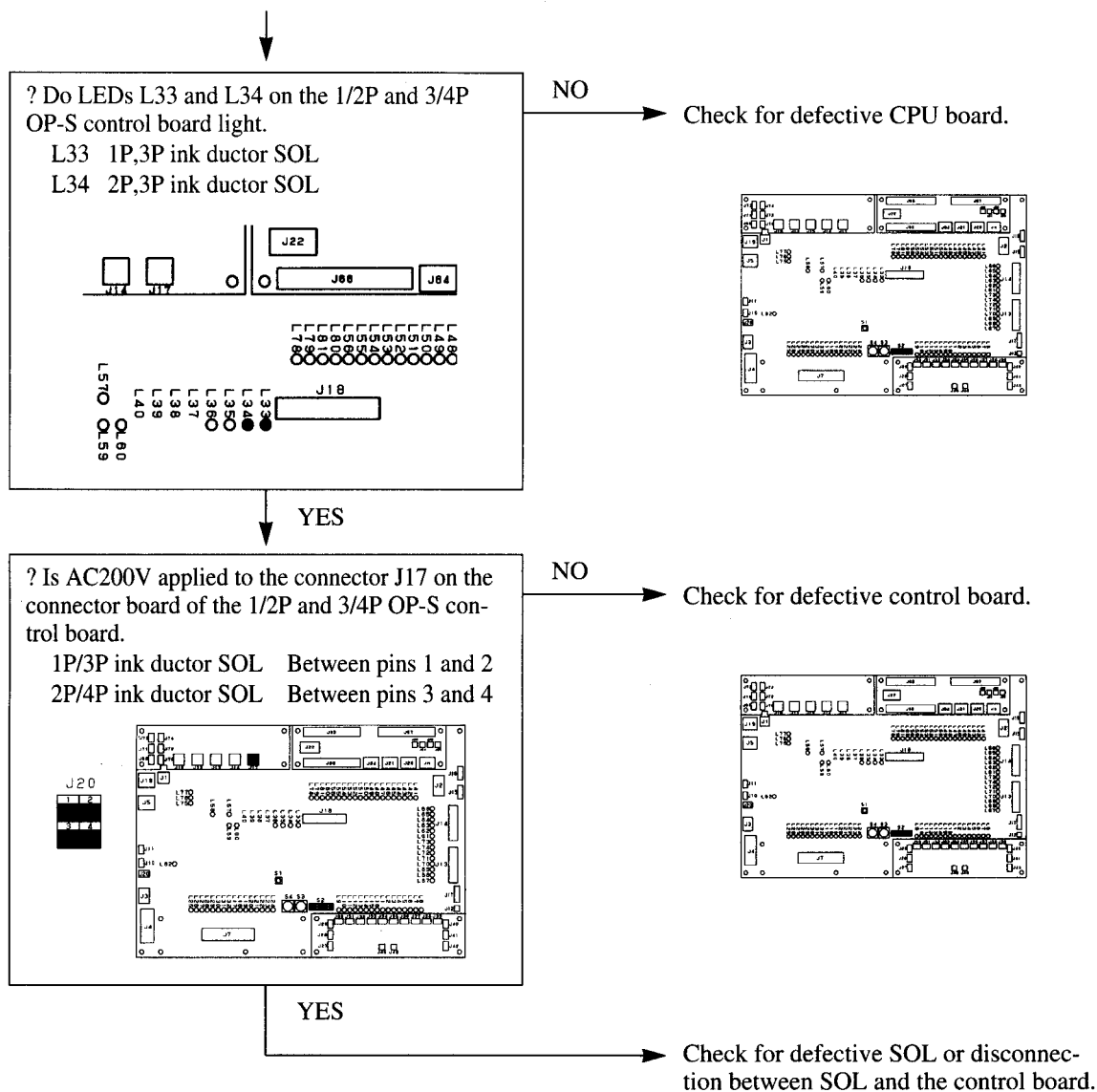


3P / 4P

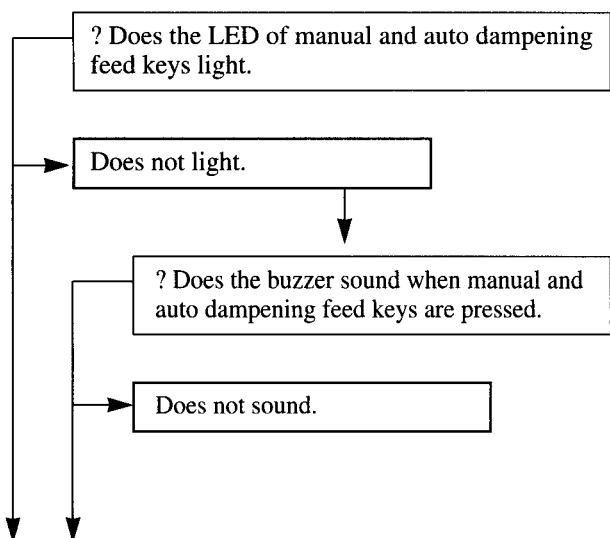
1P / 2P



[12] Each ink ductor SOL does not activate.

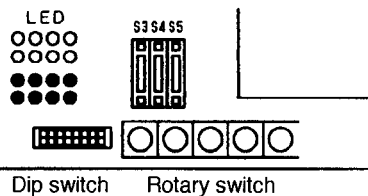


[13] Dampening motor does not operate.



? Does the following LED light when the rotary switch S8 is set to 1, digital switches S3 through S5 are set as follows, and each manual and auto dampening feed key is pressed.

	Digital SW	LED
1P manual dampening feed key	008	6
2P manual dampening feed key	008	7
3P manual dampening feed key	009	0
4P manual dampening feed key	009	1
1P auto dampening feed key	009	2
2P auto dampening feed key	009	3
3P auto dampening feed key	009	4
4P auto dampening feed key	009	5
1P manual dampening feed SW	040	4
2P manual dampening feed SW	039	3
3P manual dampening feed SW	060	4
4P manual dampening feed SW	059	3



NO

Check for defective delivery panel board or CPU board.

YES

Check for defective CPU board.

Sounds

? Is dampening water filled.

NO

Fill the dampening water.

YES

Is the connector of the dampening water detector set.

NO

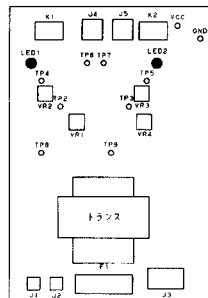
Set the connector.

YES

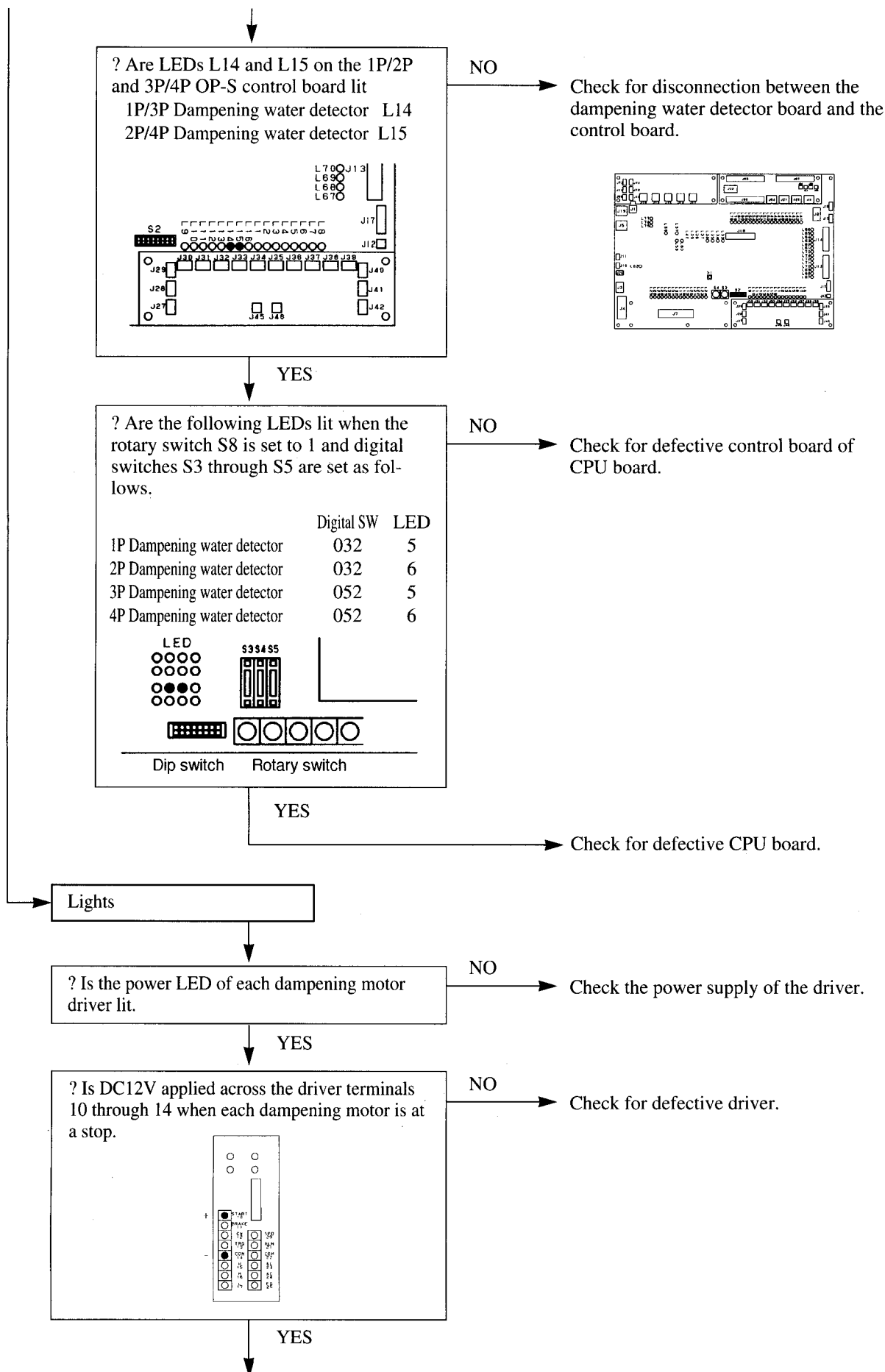
? Are LEDs 1 and 2 on the dampening water detector board in the control panel lit.

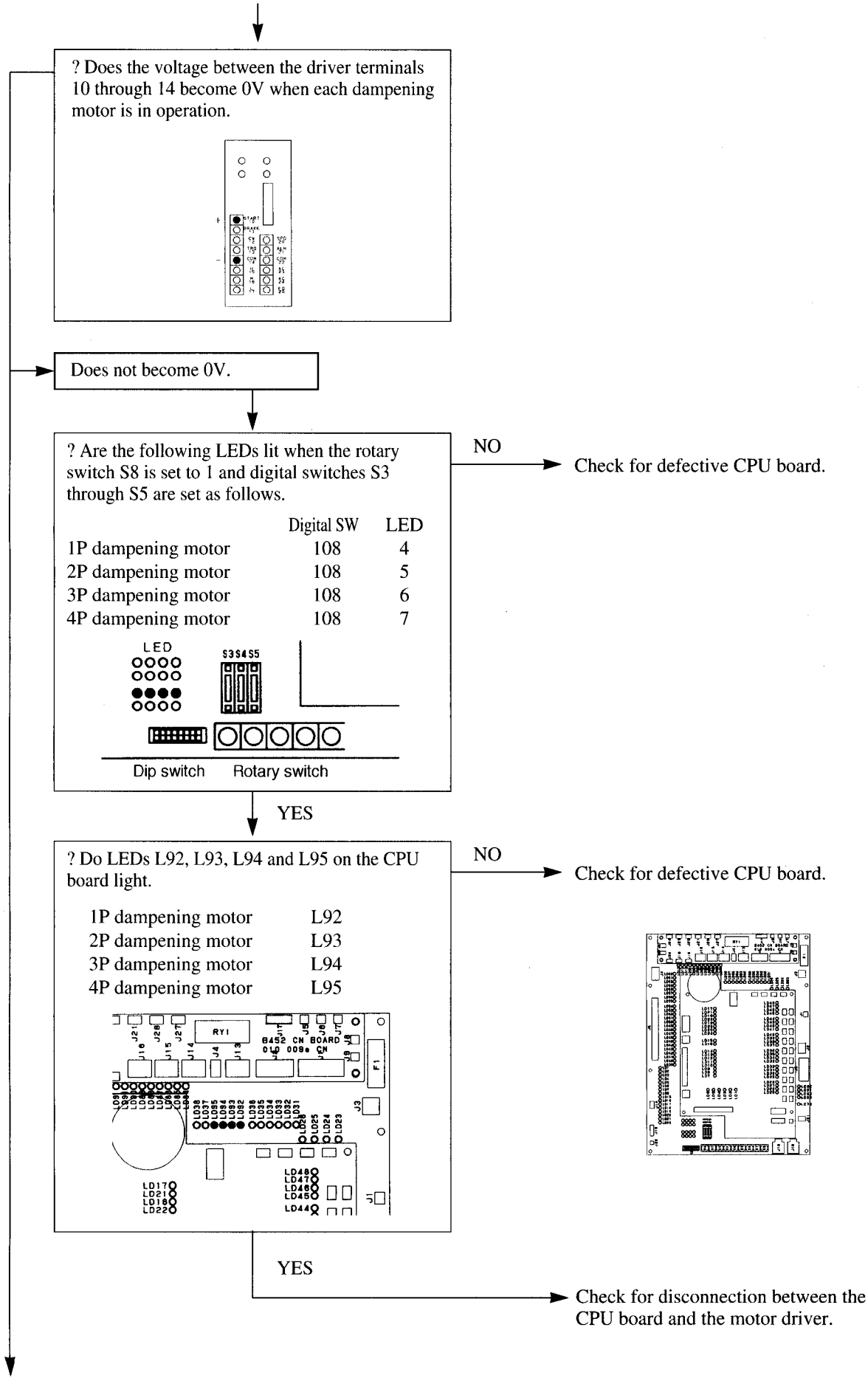
NO

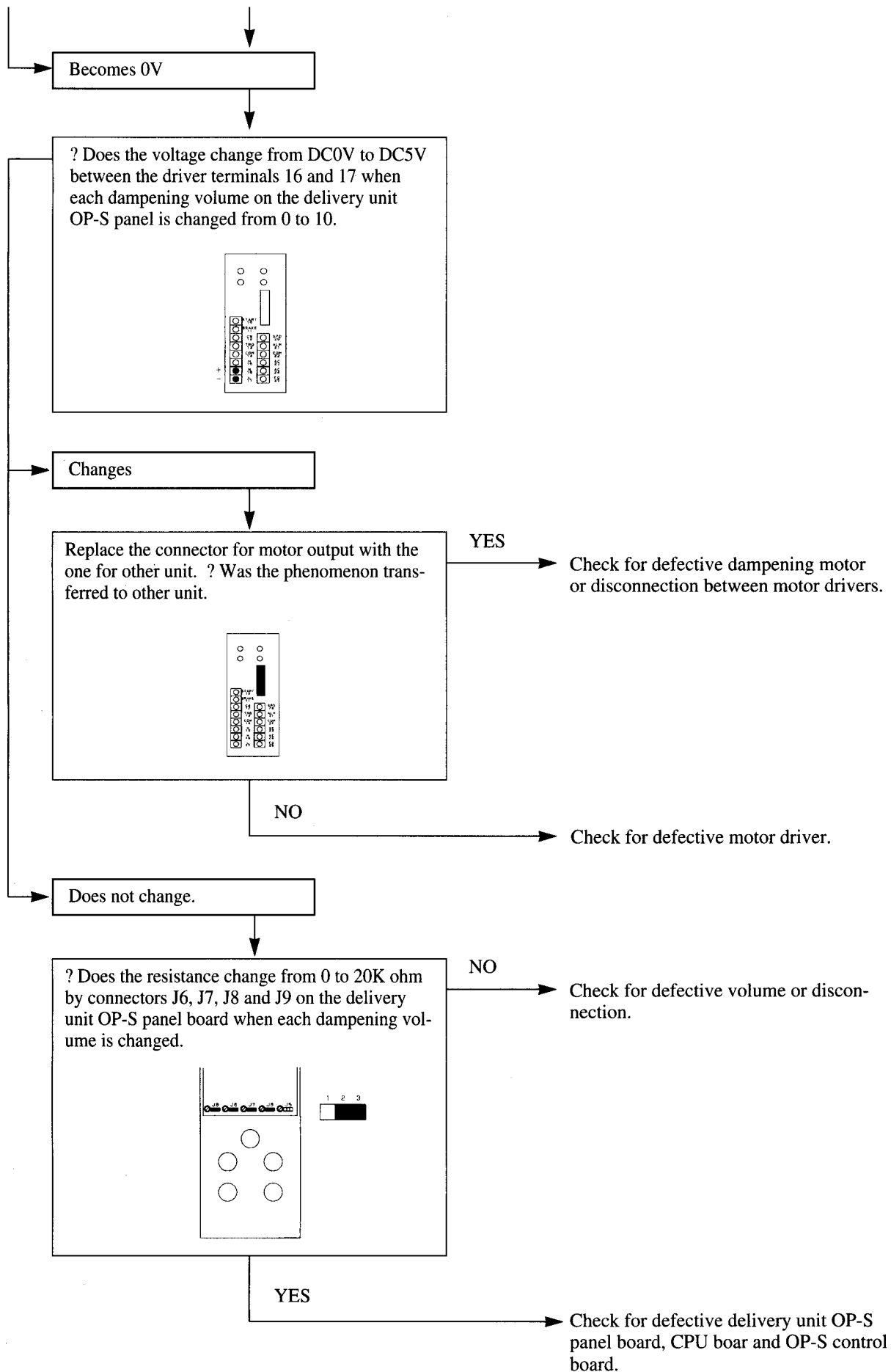
Adjust the board according to the adjustment of the water detection board of the Service Manual. If this does not work, check for disconnection between the water detector board and the dampening water detector.



YES

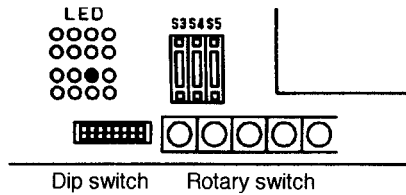






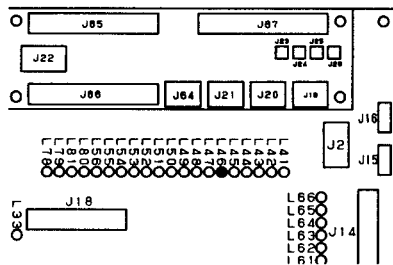
[14] Delivery table does not descend

? Does the LED 5 light when the rotary switch S8 is set to 1, digital switches S3 through S5 are set to 054, paper are stacked on the delivery table and the machine is rotated.



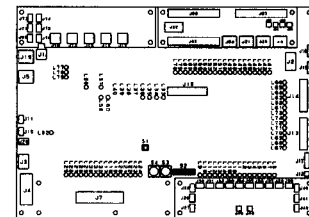
Lights

? Is the LED L46 on the 4P OP-S control board lit.



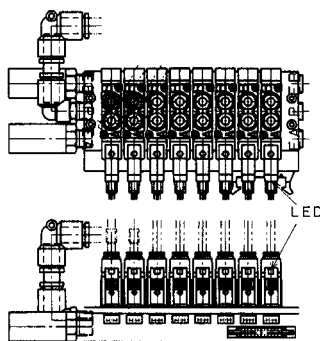
NO

Check for defective CPU board and control board.



YES

? Is the LED of the air cylinder valve for lowering the delivery table lit.



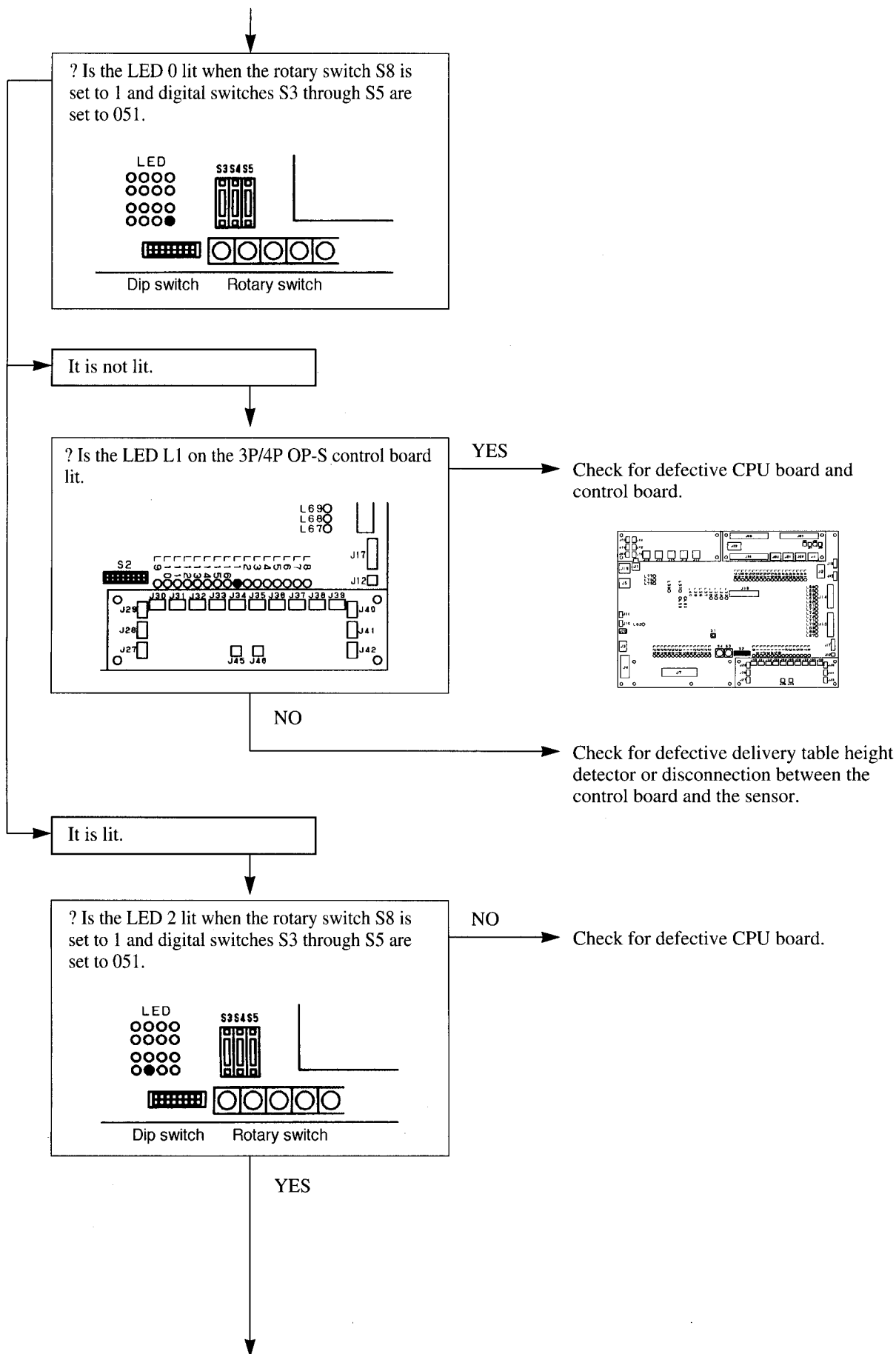
YES

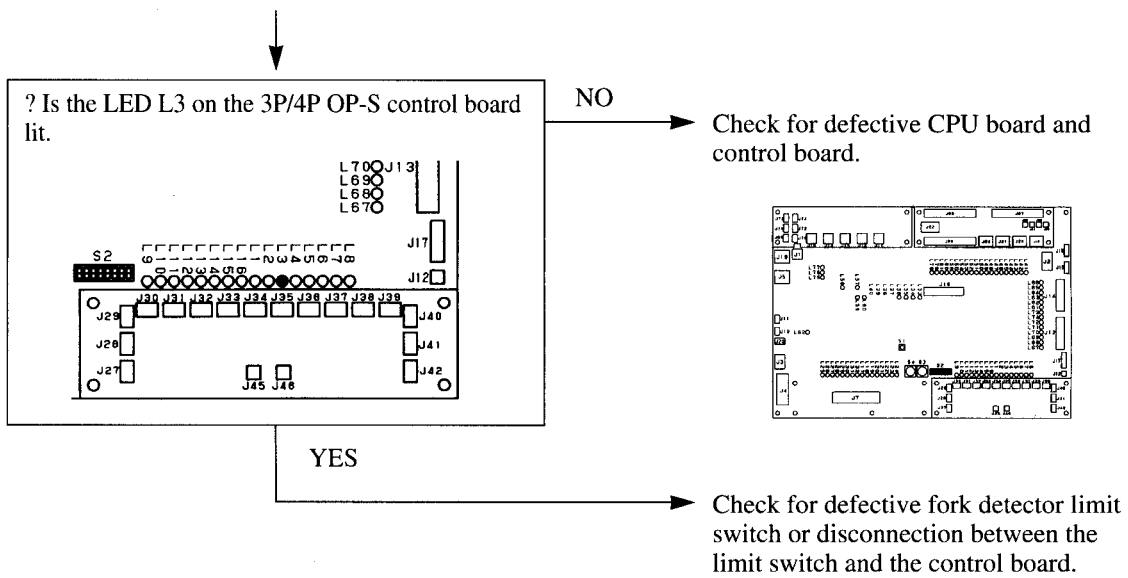
Check for defective air cylinder valve or mechanical failure.

NO

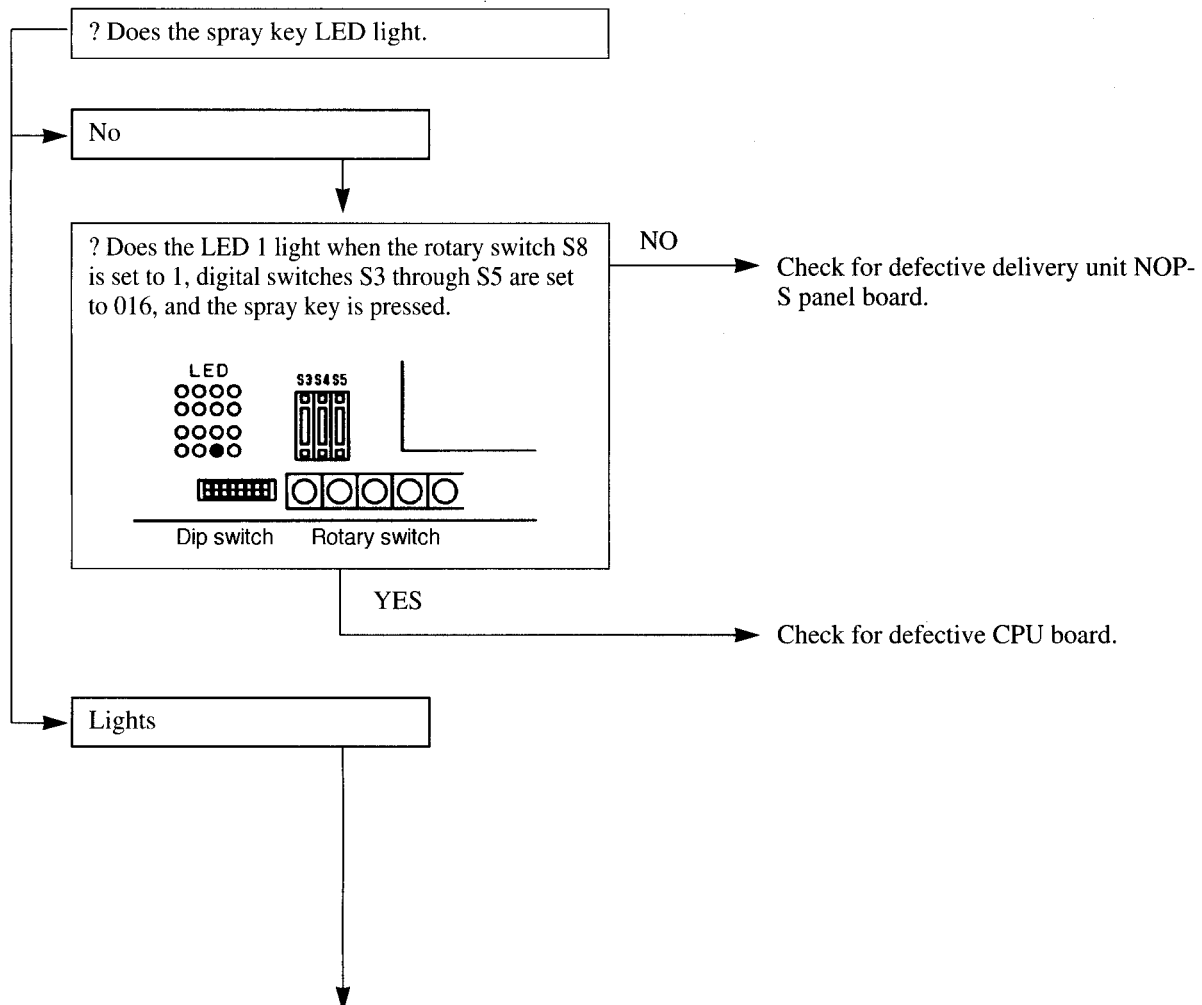
Check for defective air cylinder valve or disconnection between the valve and the control board.

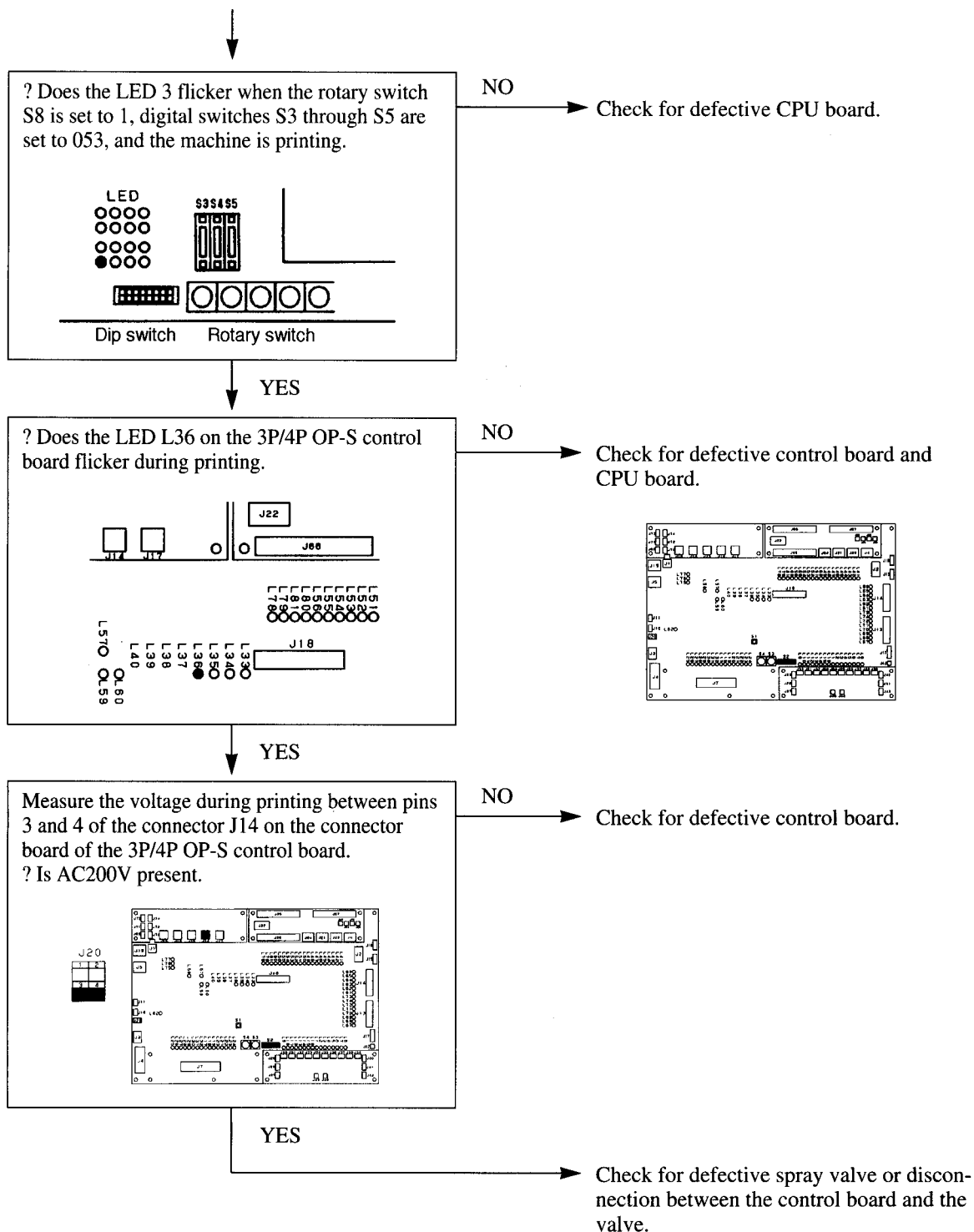
It does not light.



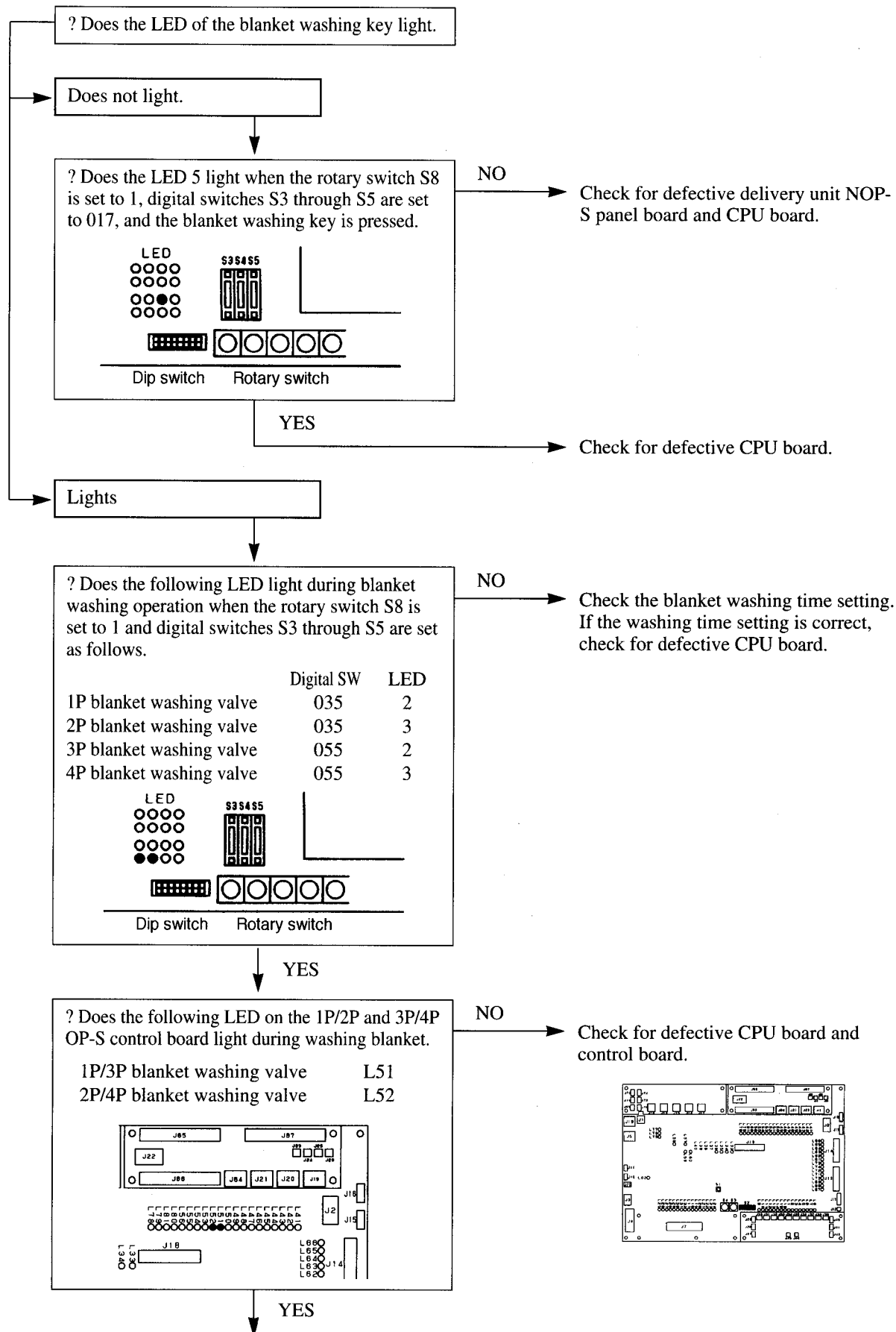


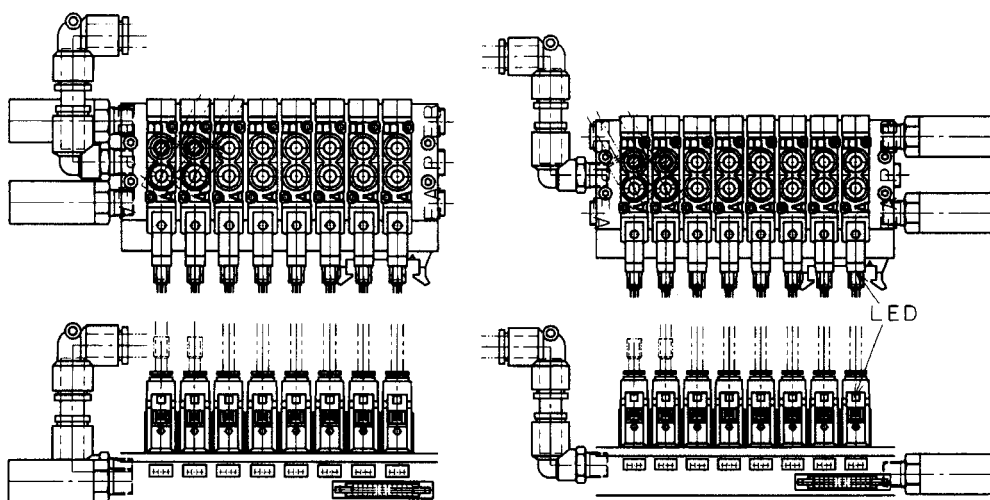
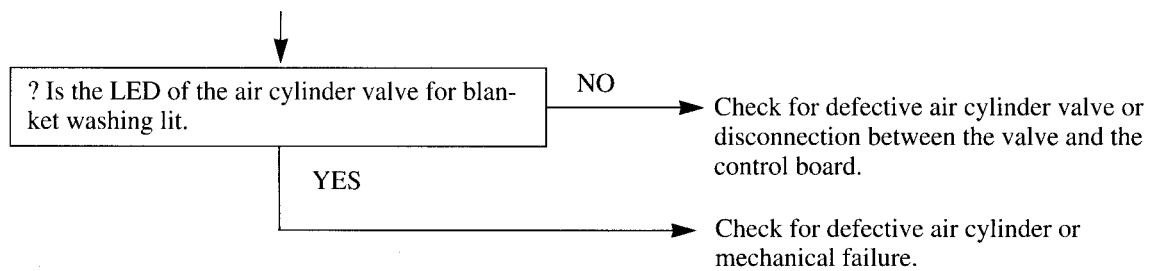
[15] Spray valve does not activate.





[16] Blanket washing valve does not activate.

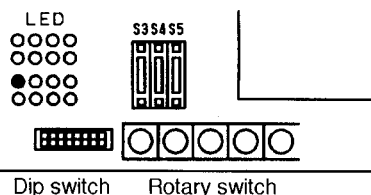




[17] Blanket washing pump does not operate.

? Does the following LED light during blanket washing when the rotary switch S8 is set to 1 and digital switches S3 through S5 are set as follows.

	Digital SW	LED
1P/2P blanket washing pump	024	7
2P/4P blanket washing pump	044	7

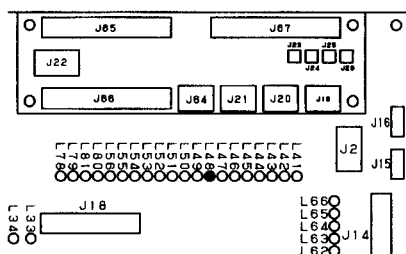


NO

Check the blanket washing solution flowing time. If the solution flowing time is correct, check for defective CPU board.

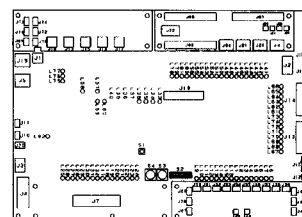
YES

? Is the LED L48 on the 1P/2P and 3P/4P NOP-S control board lit during blanket washing.



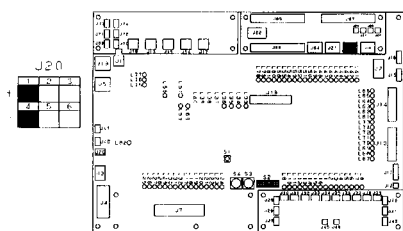
NO

Check for defective control board and CPU board.



YES

? Is DC24V applied between pins 1 through 4 of the connector J20 of the connector board on the 1P/2P and 3P/4P NOP-S control board during blanket washing.



NO

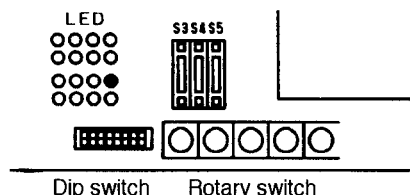
Check for defective control board.

YES

Check for defective blanket washing pump or disconnection between the control board and the pump.

[18] Air selector valve does not activate.

? Does the LED 4 light during blanket washing when the rotary switch S8 is set to 1 and digital switches S3 through S5 are set to 054.

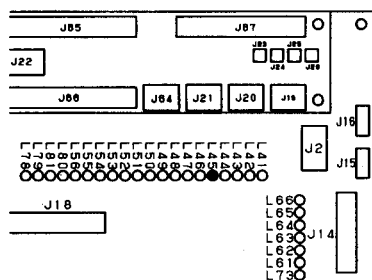


NO

Check the drying time setting. If the drying time setting is correct, check for defective CPU board.

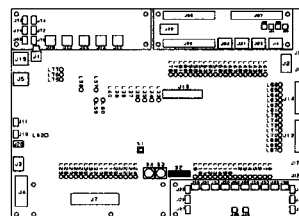
YES

? Does the LED L45 on the 3P/4P OP-S control board light during blanket washing.



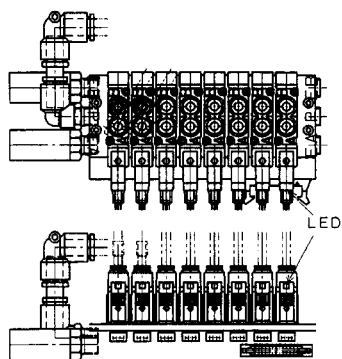
NO

Check for defective control board and CPU board.



YES

? Is the LED of the air selector air cylinder valve lit during blanket washing.



NO

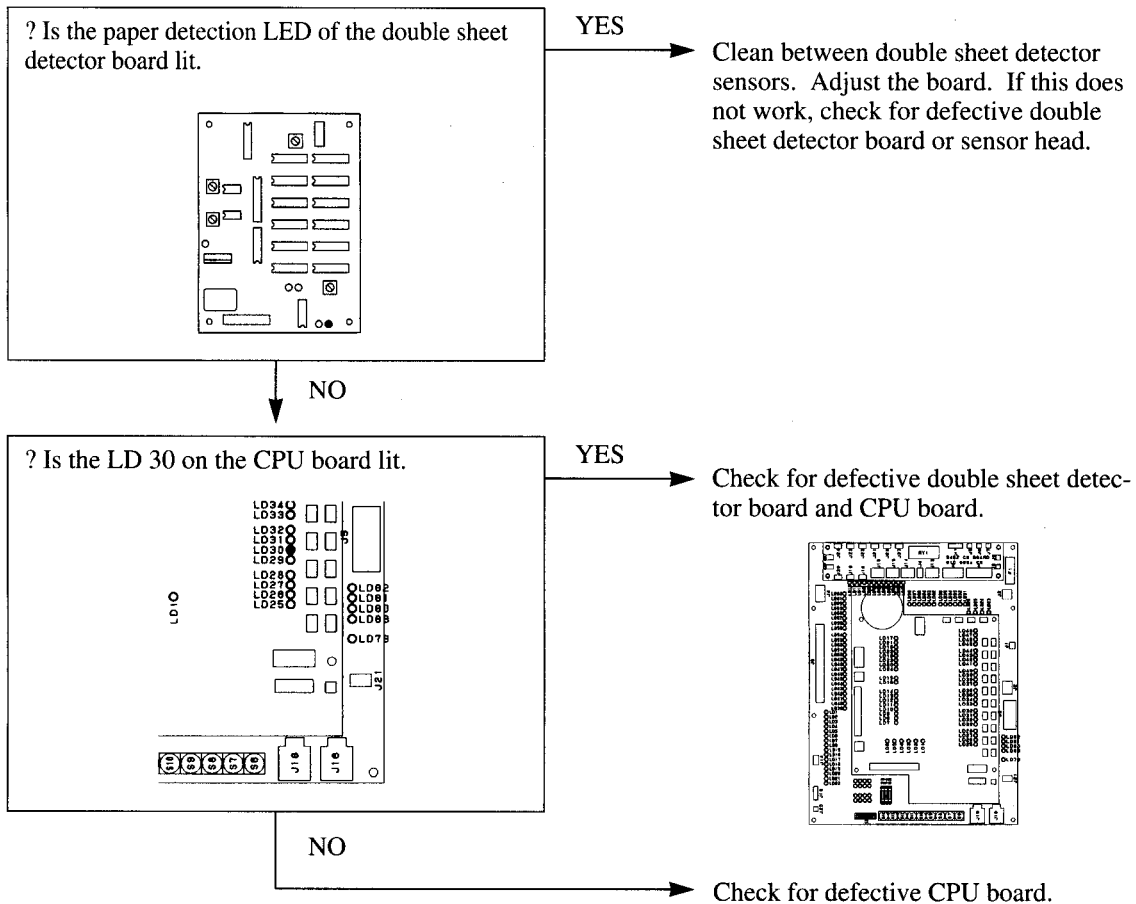
Check for defective air cylinder valve or disconnection between the valve and the control board.

YES

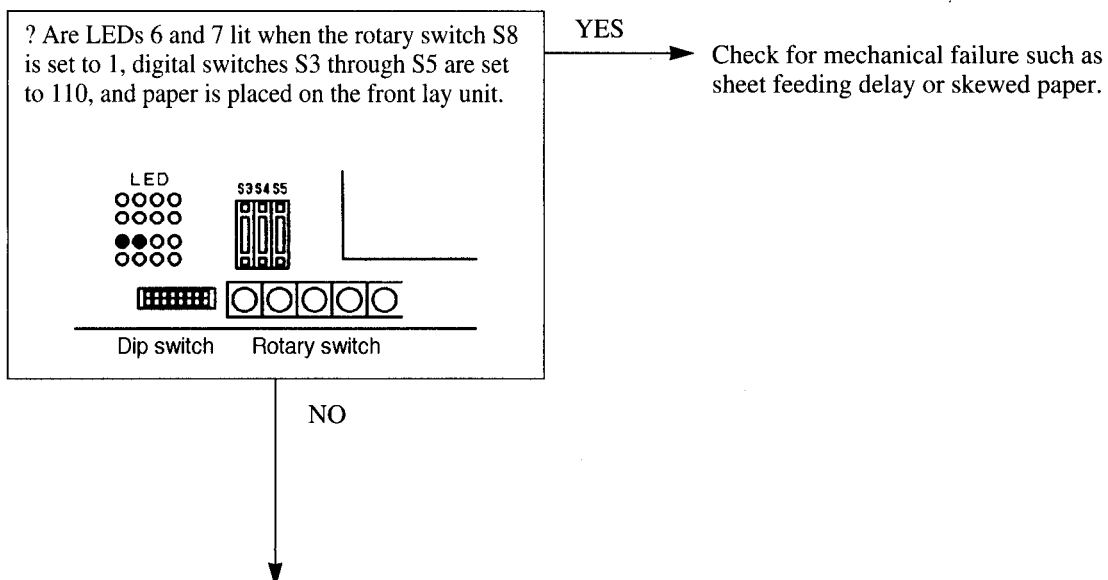
Check for defective air cylinder or mechanical failure.

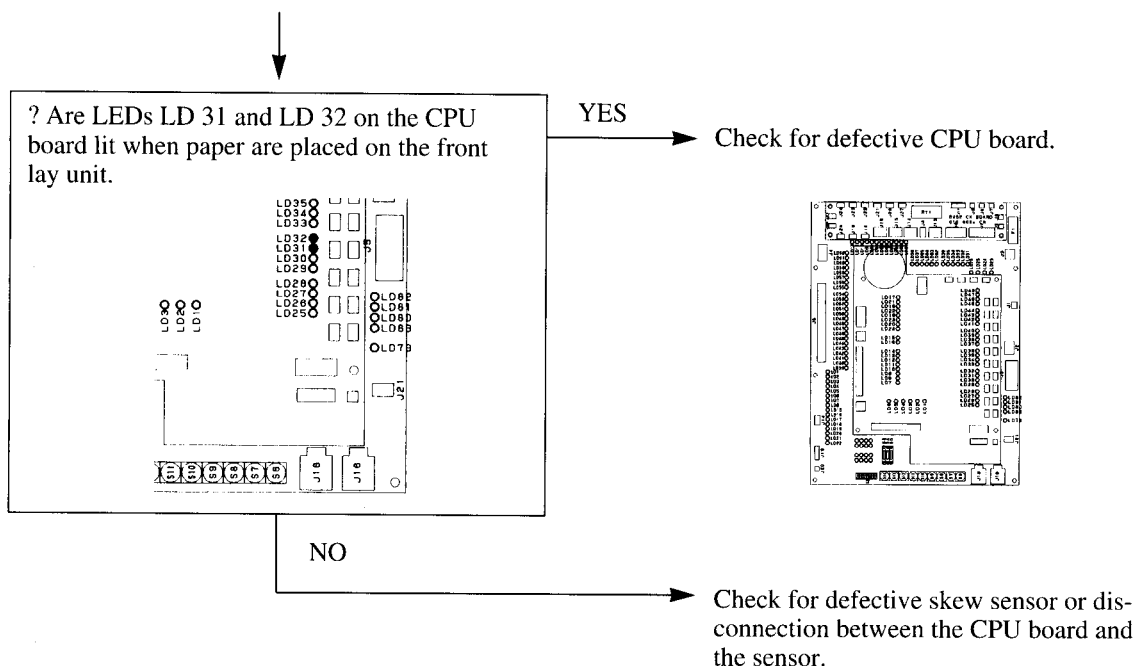
[19] Skewed (Distorted) jamming is displayed when a jamming is not present.

- 1) When the feeder clutch is ON, "01" will be displayed and the clutch will be OFF immediatery.

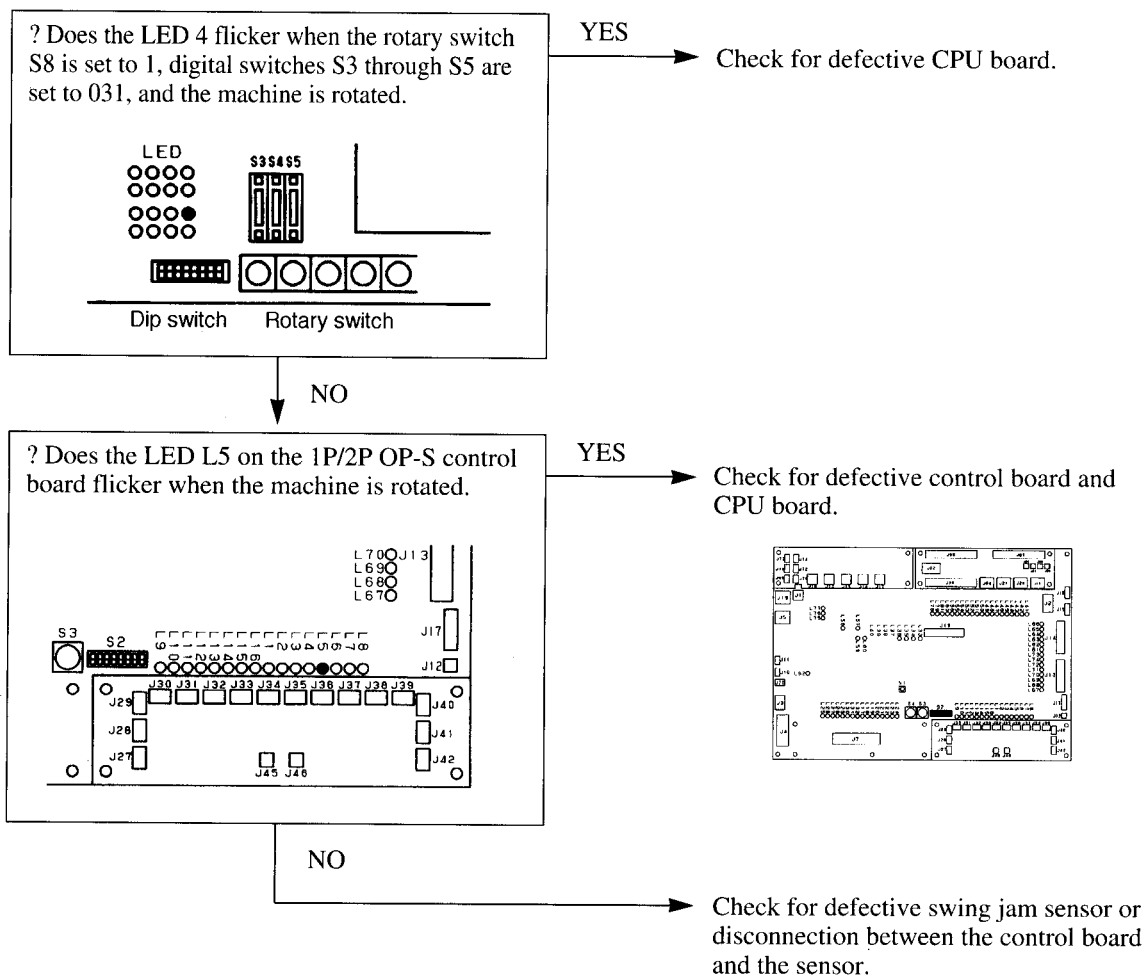


- 2) When the sheet feeding is started, "01" will be displayed from the first sheet, and the conveyor will stop.

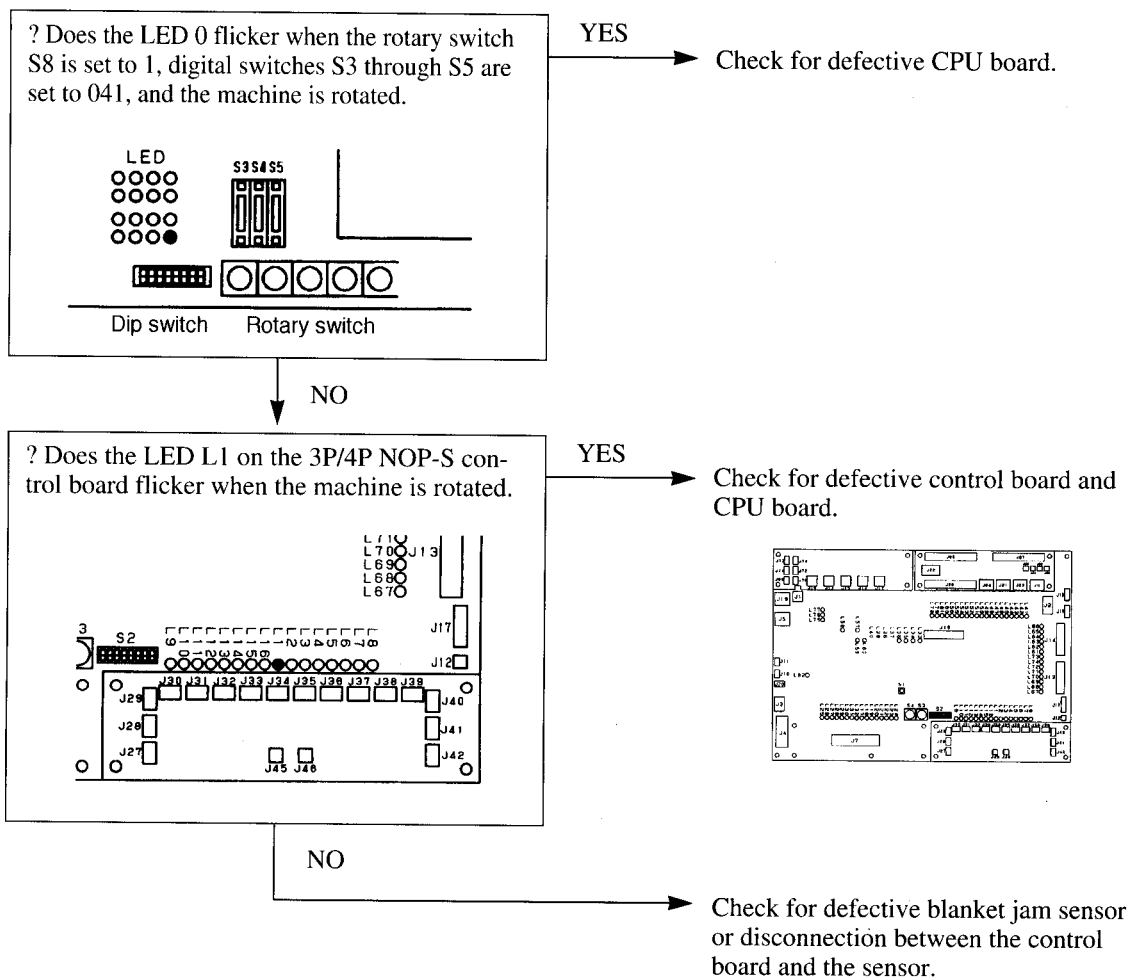


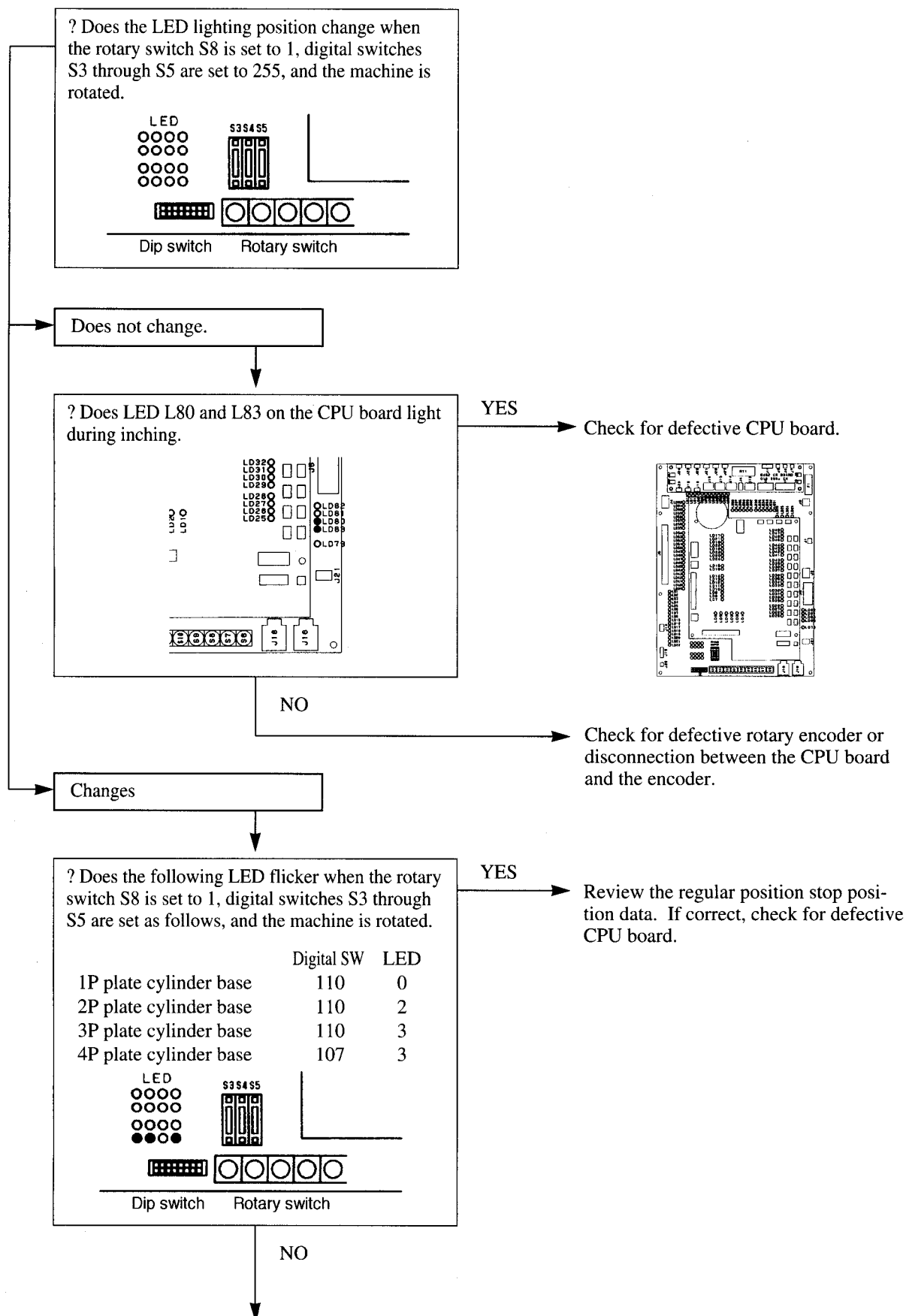


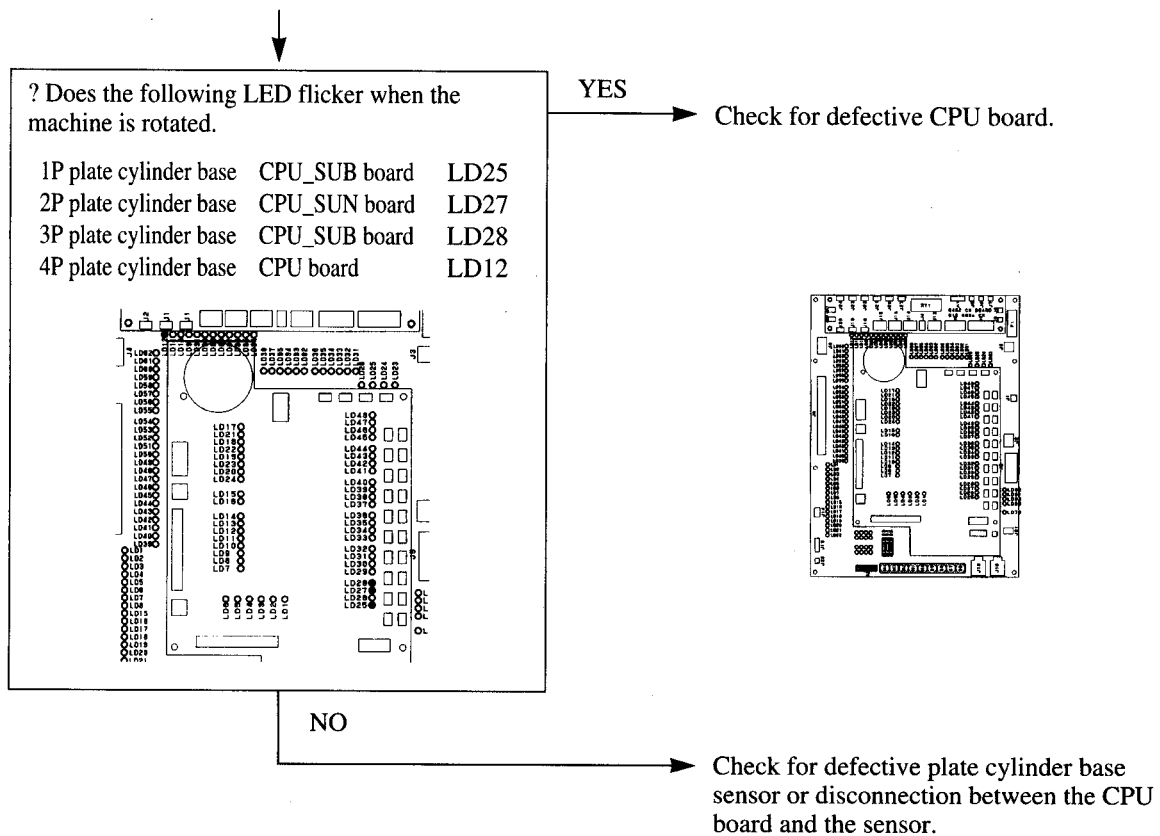
- 3) When the sheet feeding is started, "02" will be displayed from the first sheet, and the machine will stop.



- 4) When the sheet feeding is started,, "03" will be displayed from the first sheet, and the machine will stop.



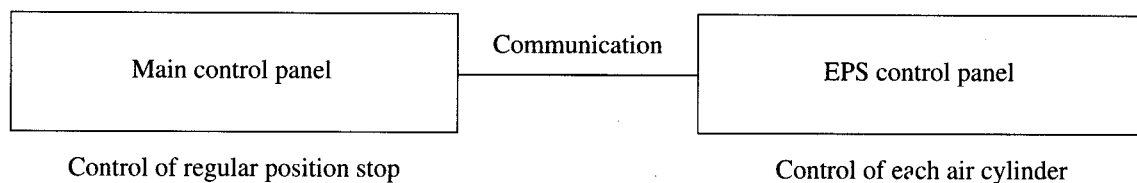
[20] EPS does not operate properly.**1) EPS does not stop at the regular position.**



2) EPS operation stops at a halfway point.

The following phenomena occur when the following three patterns are caused independently or complicatedly, thereby causing the EPS operation to stop at a halfway point.

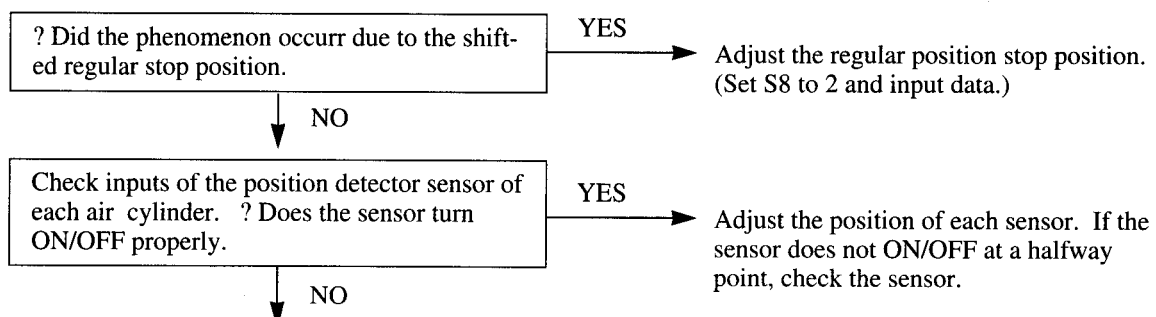
- * Regular position stop position is shifted.
- * The position detector sensor of each air cylinder does not turn ON.
- * Air cylinder does not operate.

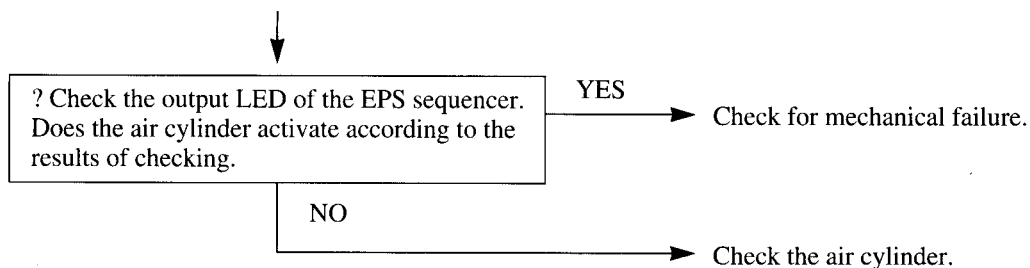


The regular position stop is controlled by the main control panel and each air cylinder is controlled by the EPS control panel.

Data are sent and received through communications between the main control panel and the EPS control panel.

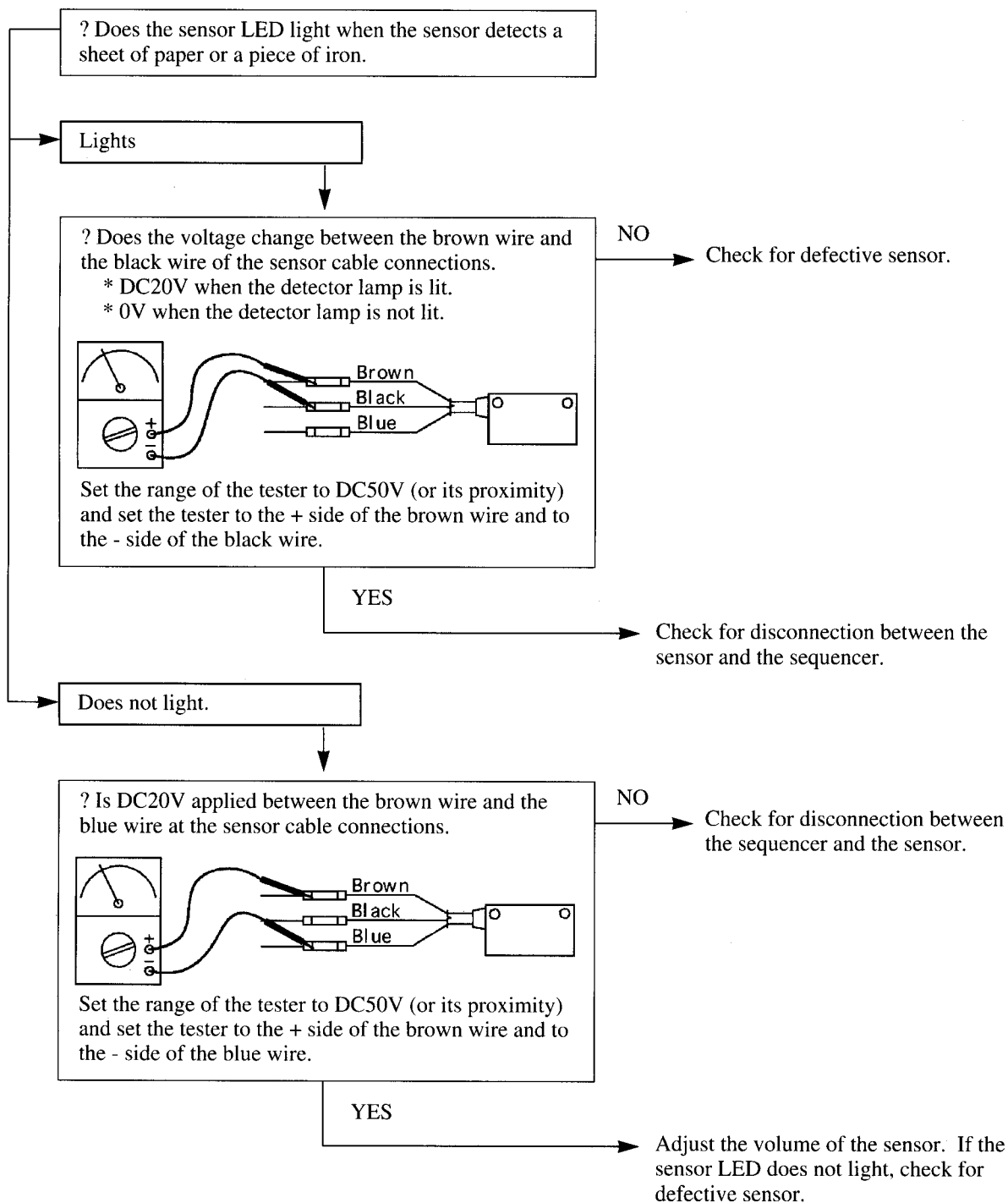
Checking procedure for troubleshooting





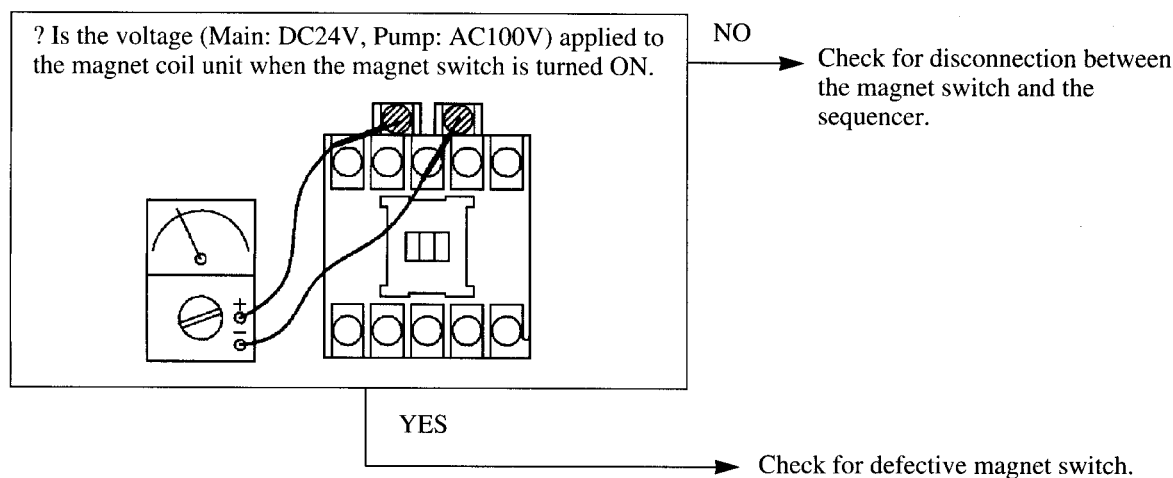
[21] Check on sensors

When the sensor input of the sequencer does not light, check the sensor according to the following procedure.

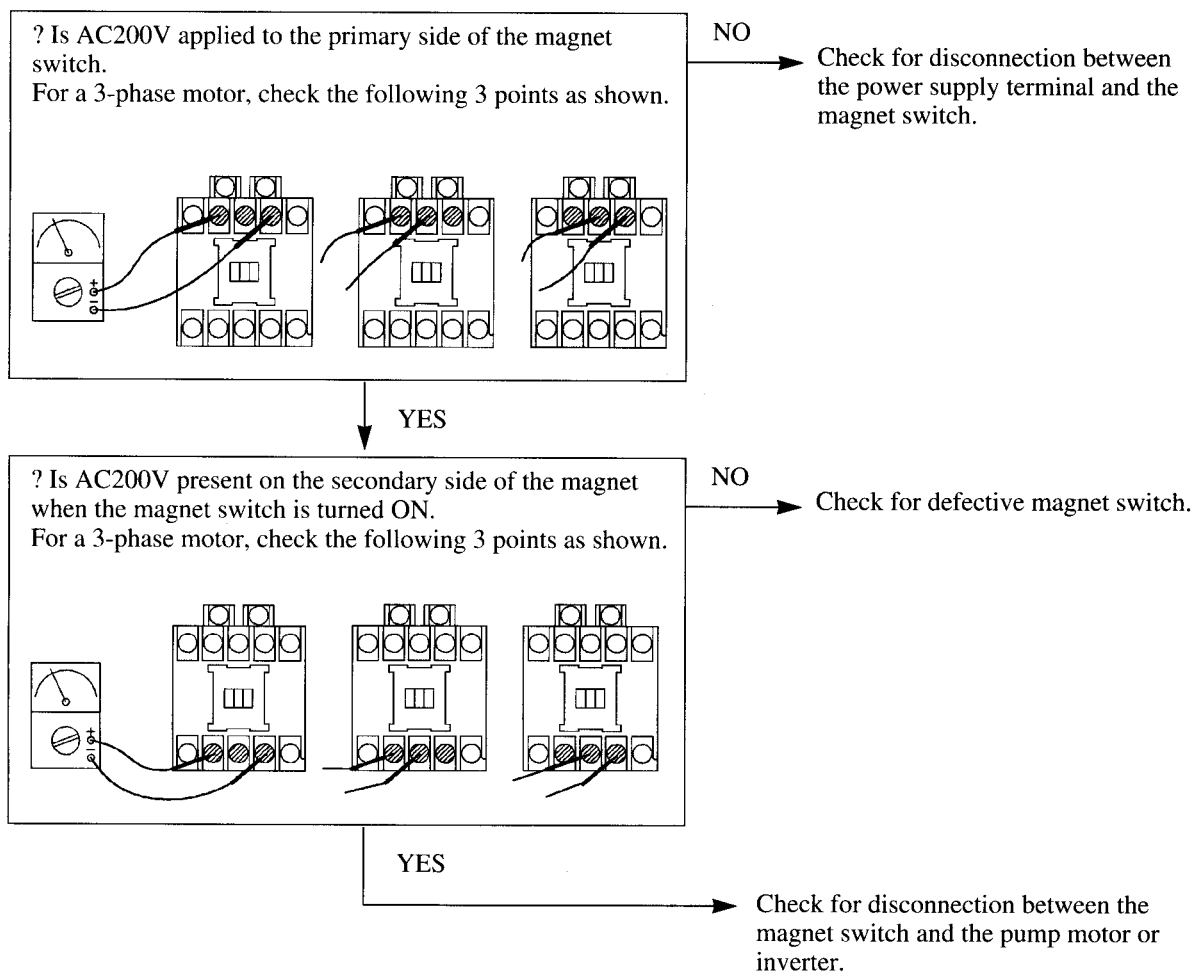


[22] Check on magnet switch**1) Check on coil unit**

If the magnet switch does not actuate even when the output signal to the magnet switch is turned ON, check as follows.

**2) Check on contact units**

If voltage is not applied to the pump motor or inverter when the magnet switch actuates, check as follows.



[23] Check on inverter

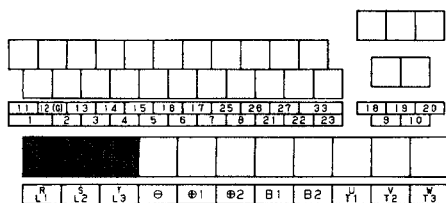
? Does the inverter panel display messages.

Does not display.

? Is AC200V applied between inverter power terminals R-S, S-T and T-S.

YES

Check for defective inverter.



NO

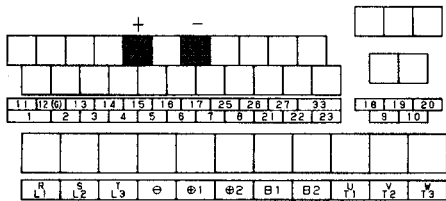
Check the power supply.

Displays

? Is DC12V present between the inverter control terminals 15 and 17.

NO

Check for defective inverter.

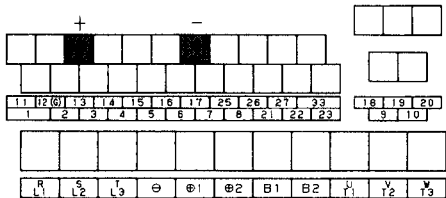


YES

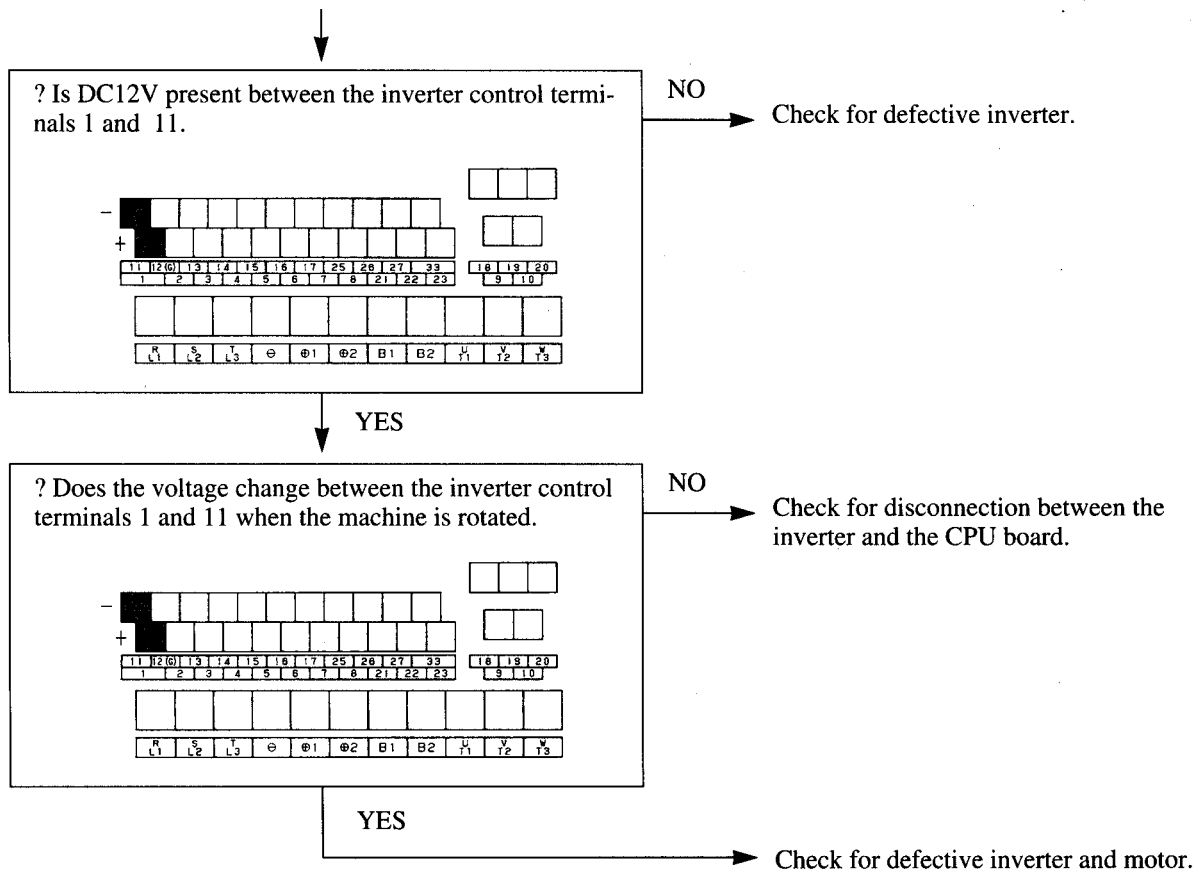
Measure the voltage between the inverter control terminals 13 and 17. ? Does the voltage change from DC0V to DC12V when the speed volume of the delivery unit OP-S panel from 3000 to 10000.

NO

Check for defective volume or disconnection between inverter volumes.

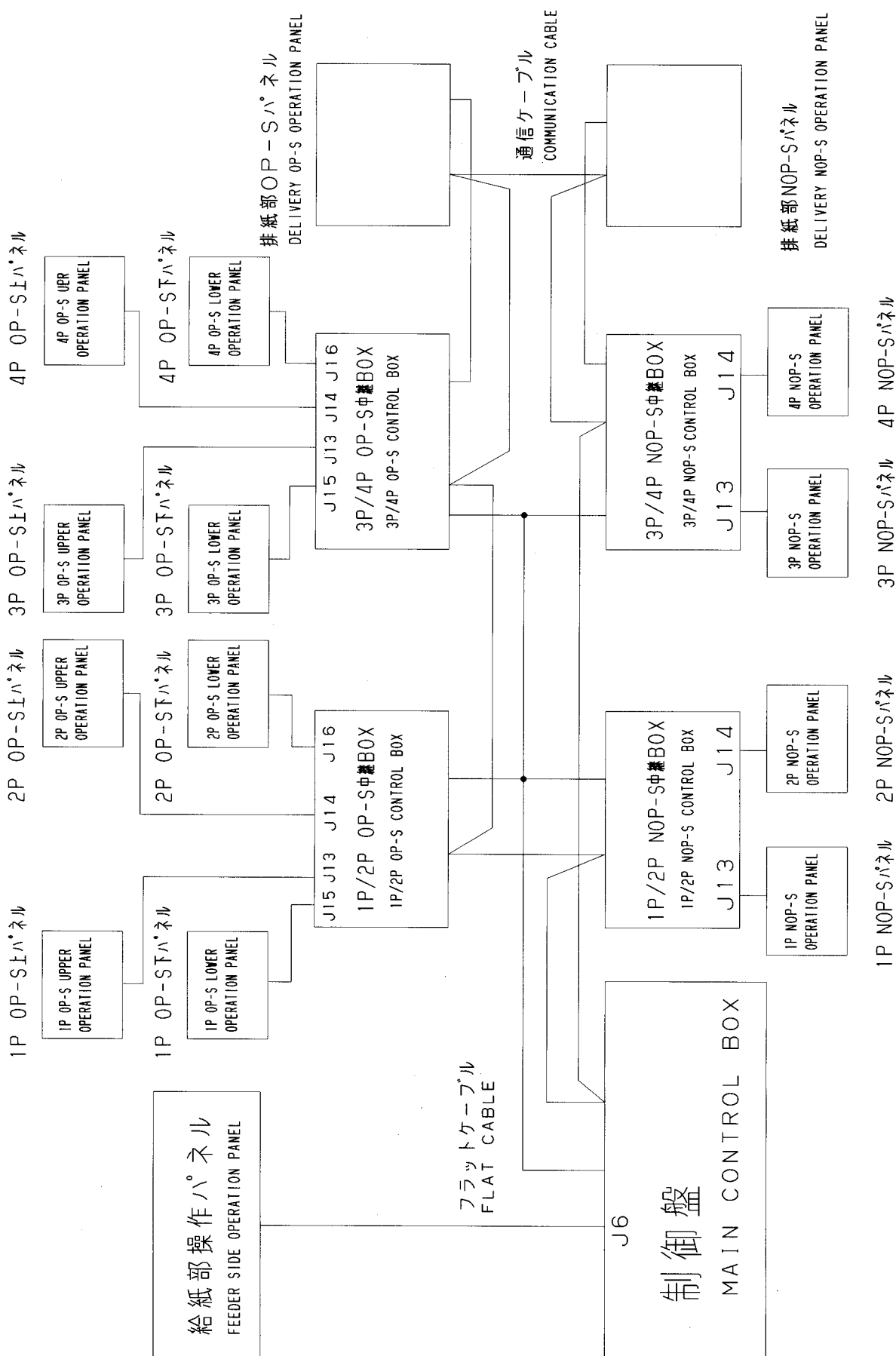


YES

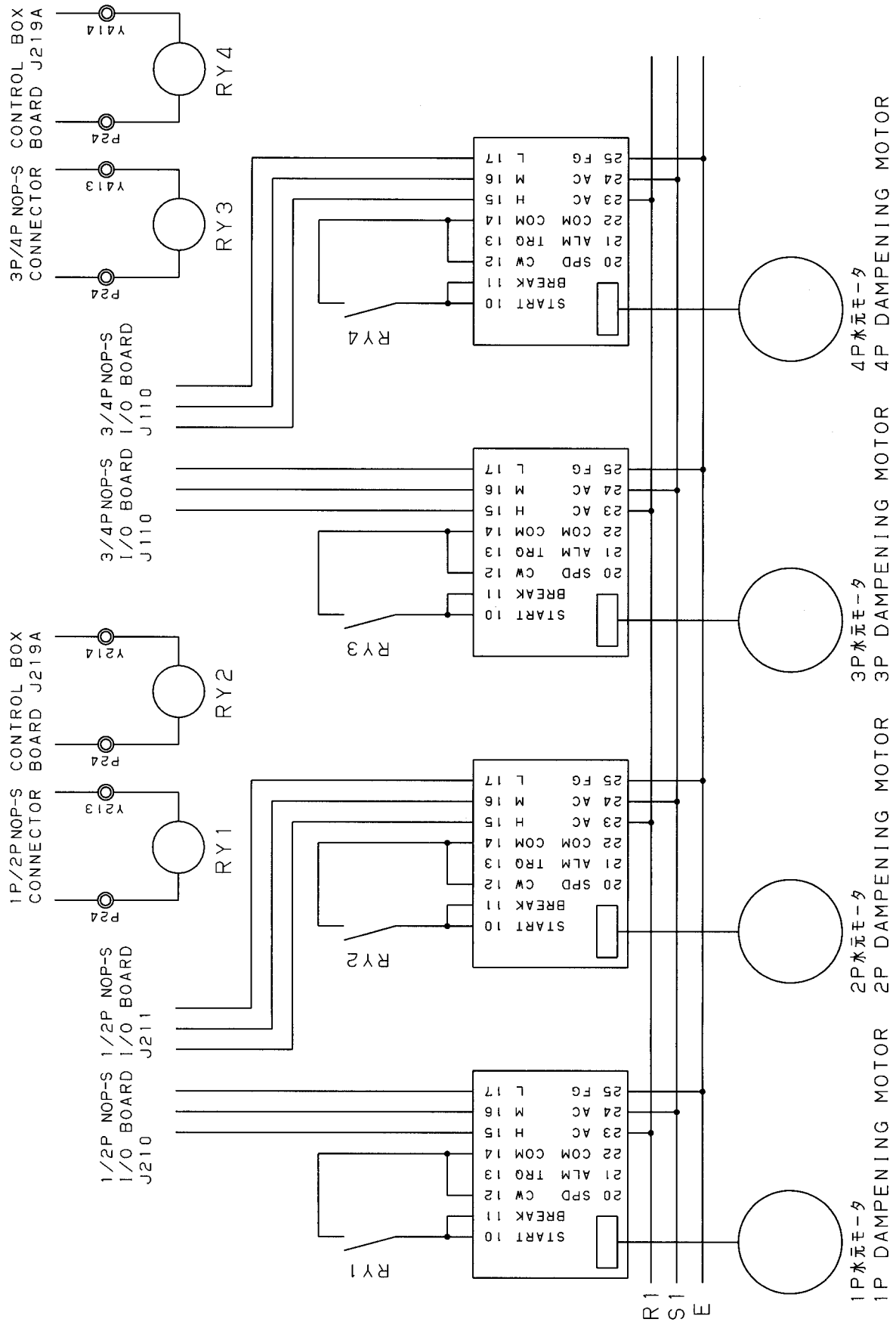


7. ELECTRIC WIRING DIAGRAM

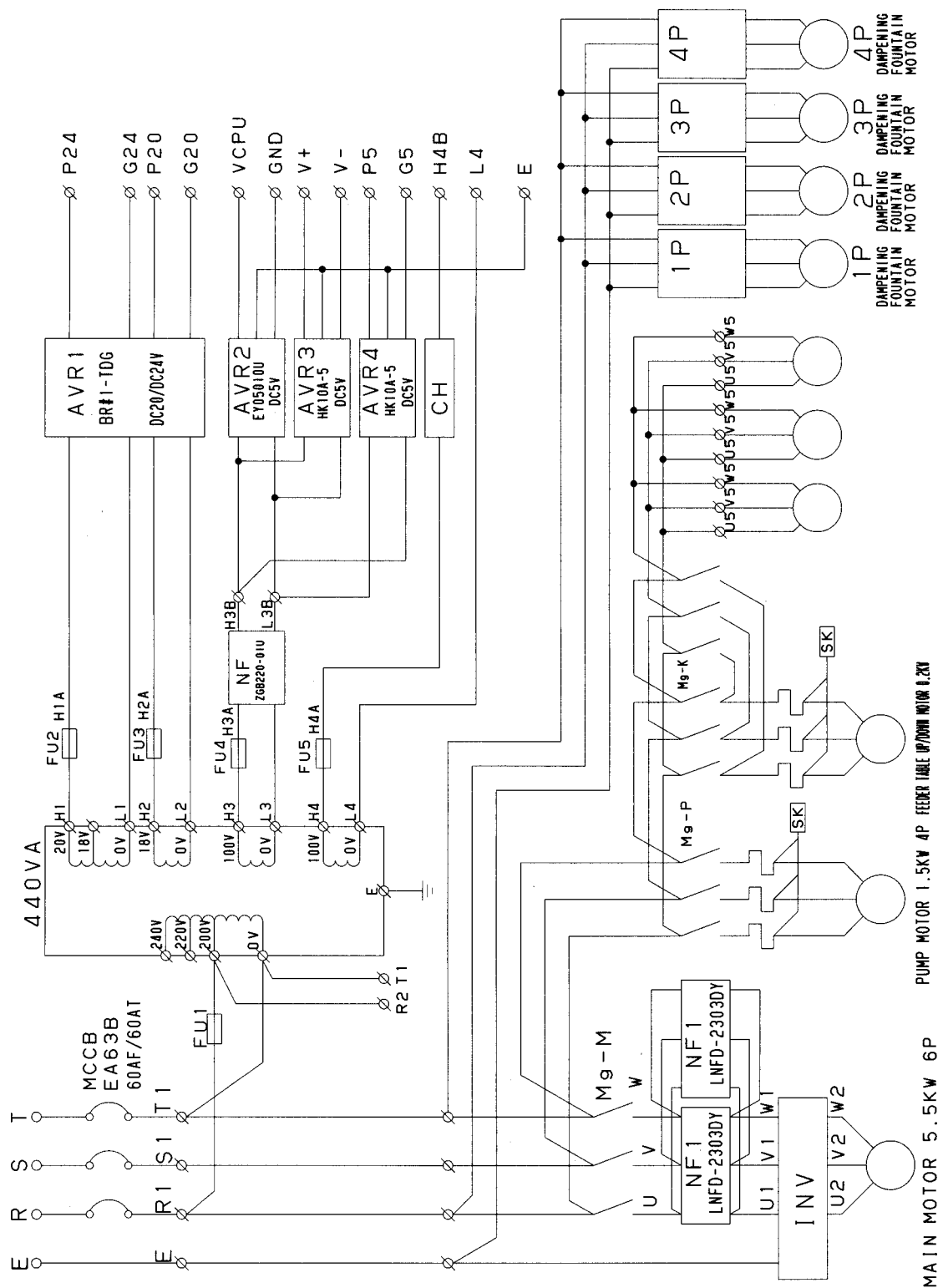
90 結線系統図 (ブロック図)
CONNECTIONS



水元モータ結線図
DAMPENING MOTOR CONNECTIONS

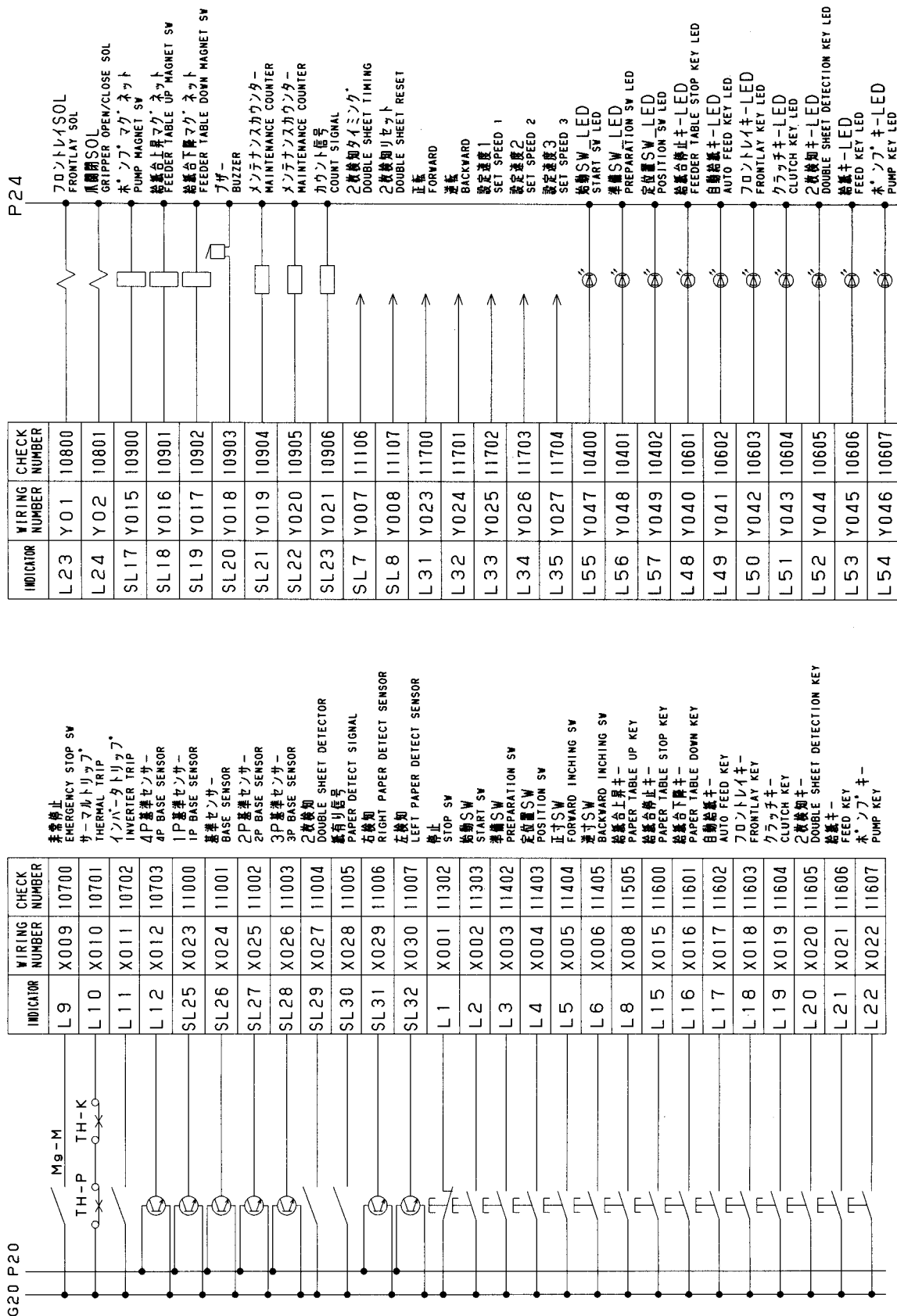


CONTROL BOX CONNECTIONS



制御盤内入出力回路図

MAIN BOARD INPUT/OUTPUT CONNECTIONS

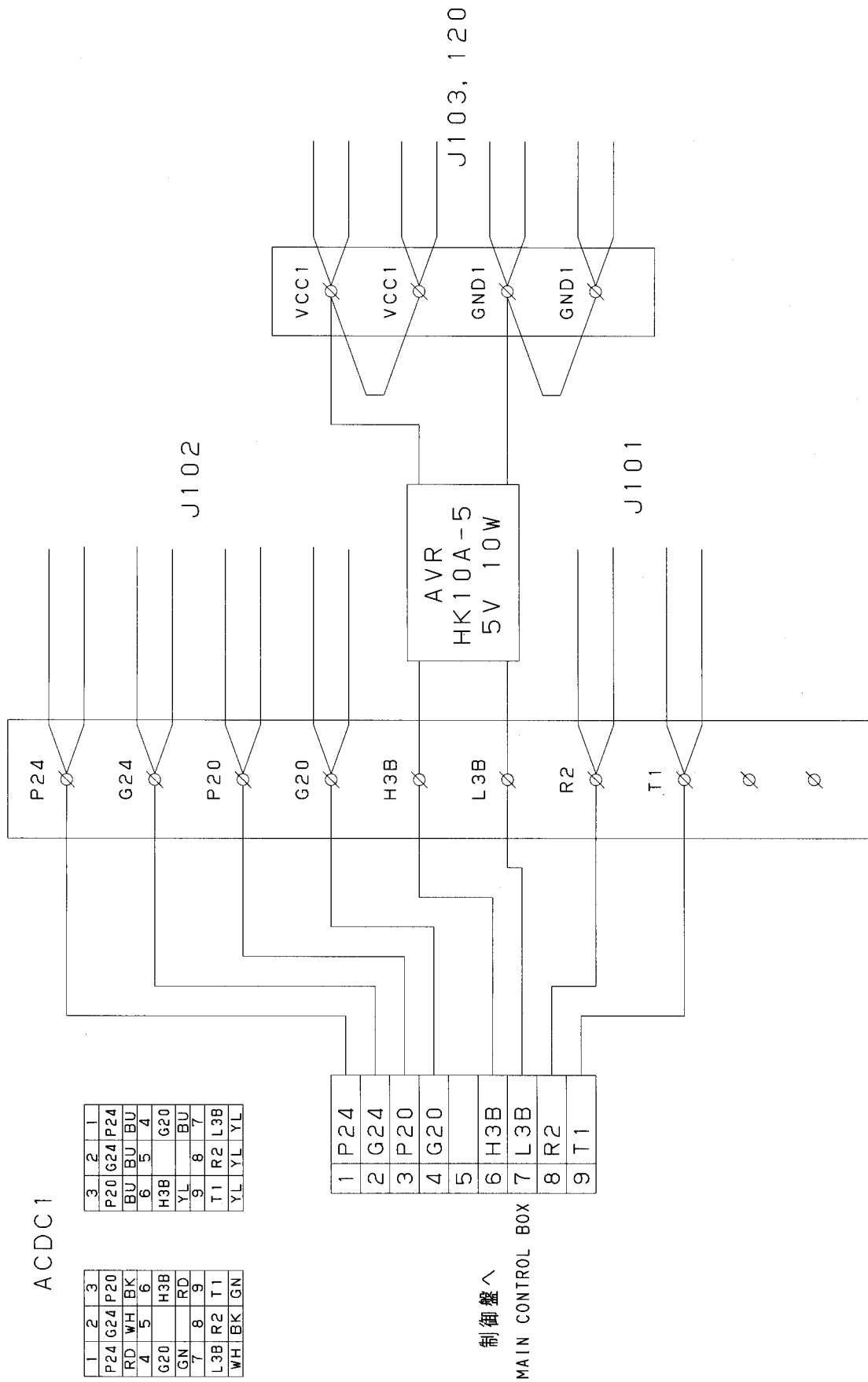


MAIN CPU BOARD

J008			J009			J010			J011			J014			J017			J019						J020			J021	
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	1	2	1	2	3	4	5	6	1	2	1	2
	X009	G20					X011	G20	P20	X012	G20	P5	G5	P24	P24A	P24	PLS	G24	P24	STD	G24				P24	G24	V	-
BU	BU	BU		BU	BU		WH	BK	RD	WH	BK	BU	BU	BU	BU	BU	RD	WH	BK	YL	BR	GN			BU	BU	BU	BU

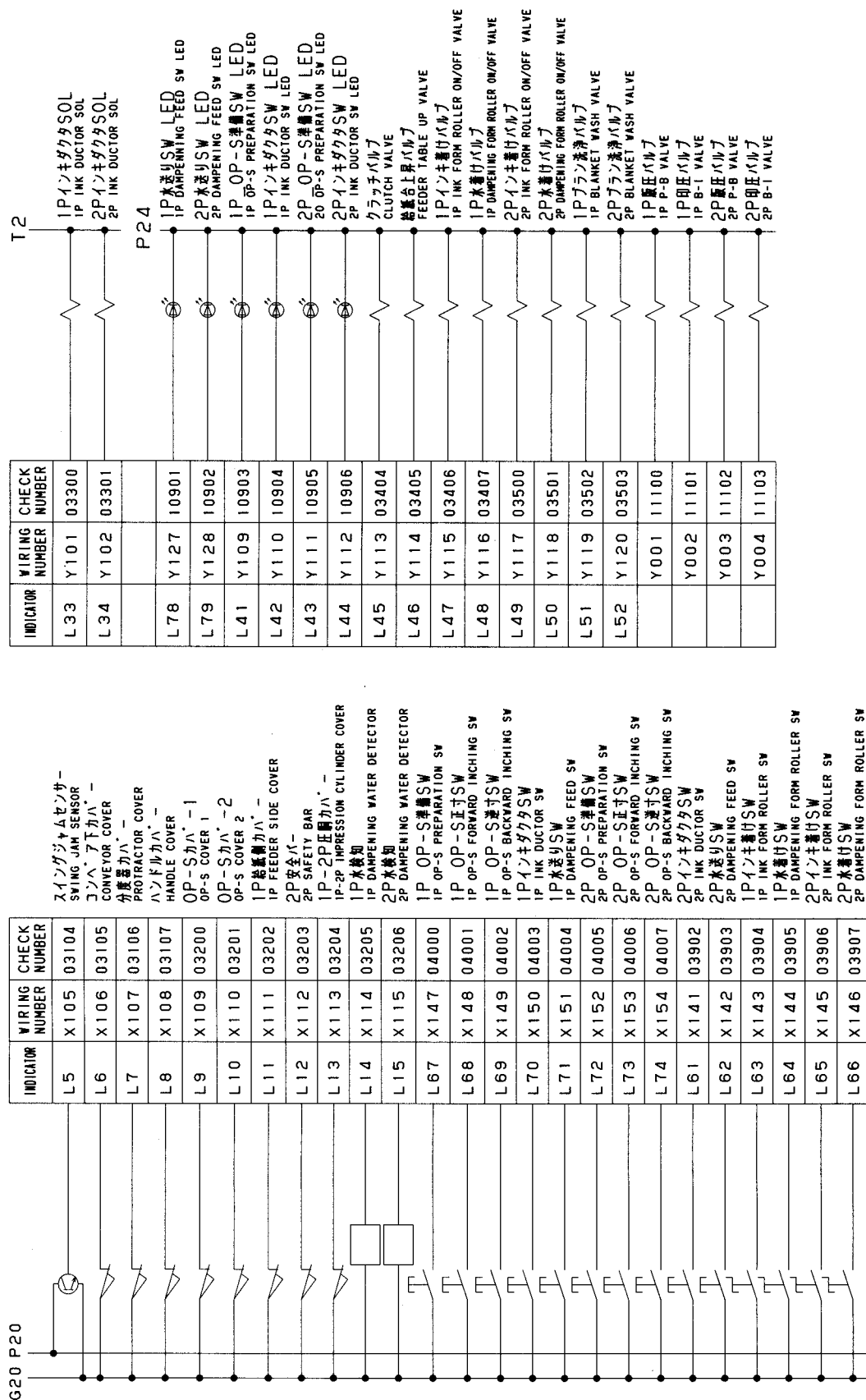
[illegible][illegible]

1P/2P OP-S 中継BOX 電源回路 1P/2P OP-S CONTROL BOX CONNECTIONS



※ 1P/2P OP-S 中継BOX 入出力表

1P/2P OP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



1P/2P OP-S 中継基板コネクター表

1P/2P OP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J101	J102	J103	J110	J111	J112	J113	J114
1 2 R2 R2 YL YL 3 4 T1 T1 YL YL	1 2 3 4 P24 P24 G24 G24 BU BU BU BU 5 6 7 8 P20 P20 G20 G20 BU BU BU BU	1 2 3 VCC1 VCC1 VCC1 BU BU BU 4 5 6 GND1 GND1 GND1 BU BU BU	1 2 3 DA04 AVSS WH BK	1 2 3 DA05 AVSS WH BK	1 2 P24 G24 BU BU	1 3 5 7 9 P24 Y110 X147 X149 X151 RD BK BU BR OR 2 4 6 8 10 Y109 Y127 X148 X150 G20 WH YL GN GY LB	1 3 5 7 9 P24 Y112 X152 X154 X142 RD BK BU BR OR 2 4 6 8 10 Y111 Y128 X153 X141 G20 WH YL GN GY LB

J115	J116	J120
1 2 3 4 5 X143 X144 G20 P24 G24 RD WH BK YL BU	1 2 3 4 5 X145 X146 G20 P24 G24 RD WH BK YL BU	1 2 VCC1 GND1 BU BU

CONNECTOR BOARD 1

J117A
1 2 Y101 T2 BK WH 3 4 Y102 T2 BK WH

CONNECTOR BOARD 2

J123A	J124A	J125A	J126A
1 2 P24A P24C WH BK	1 2 P24A P24B GN BR	1 2 P24B P24C GN BR	1 2 BU BU

J165A

1 3 5 7 9 11 13 15 17 19 21 23 25	Y001 Y002 Y003 Y004 Y005	P24
RD GY GN GY GY GY GN GY GY GN		
2 4 6 8 10 12 14 16 18 20 22 24 26		P24
GY GY GY GY GN GY GY GY GN GY GY		

J166A

1 3 5 7 9 11 13 15 17 19 21 23 25	Y001 Y002 Y003 Y004 Y005	P24
RD GY GN GY GY GY GN GY GY GN		
2 4 6 8 10 12 14 16 18 20 22 24 26		P24
GY GY GY GY GN GY GY GY GN GY GY		

J167A

1 3 5 7 9 11 13 15 17 19 21 23 25	Y113 Y114 Y115 Y116 Y117 Y118 Y119 Y120 Y121	P24
RD GY GN GY GY GY GN GY GY GN		
2 4 6 8 10 12 14 16 18 20 22 24 26		P24
GY GY GY GY GN GY GY GY GN GY GY		

CONNECTOR BOARD 3

J131A
1 2 3 P20 X105 G20 RD WH BK

J132A
1 2 3 X106 G20 WH BK

J133A
1 2 3 X107 G20 WH BK

J134A
1 2 3 X108 G20 WH BK

J135A
1 2 3 X109 G20 WH BK

J136A
1 2 3 X110 G20 WH BK

J137A
1 2 3 X111 G20 WH BK

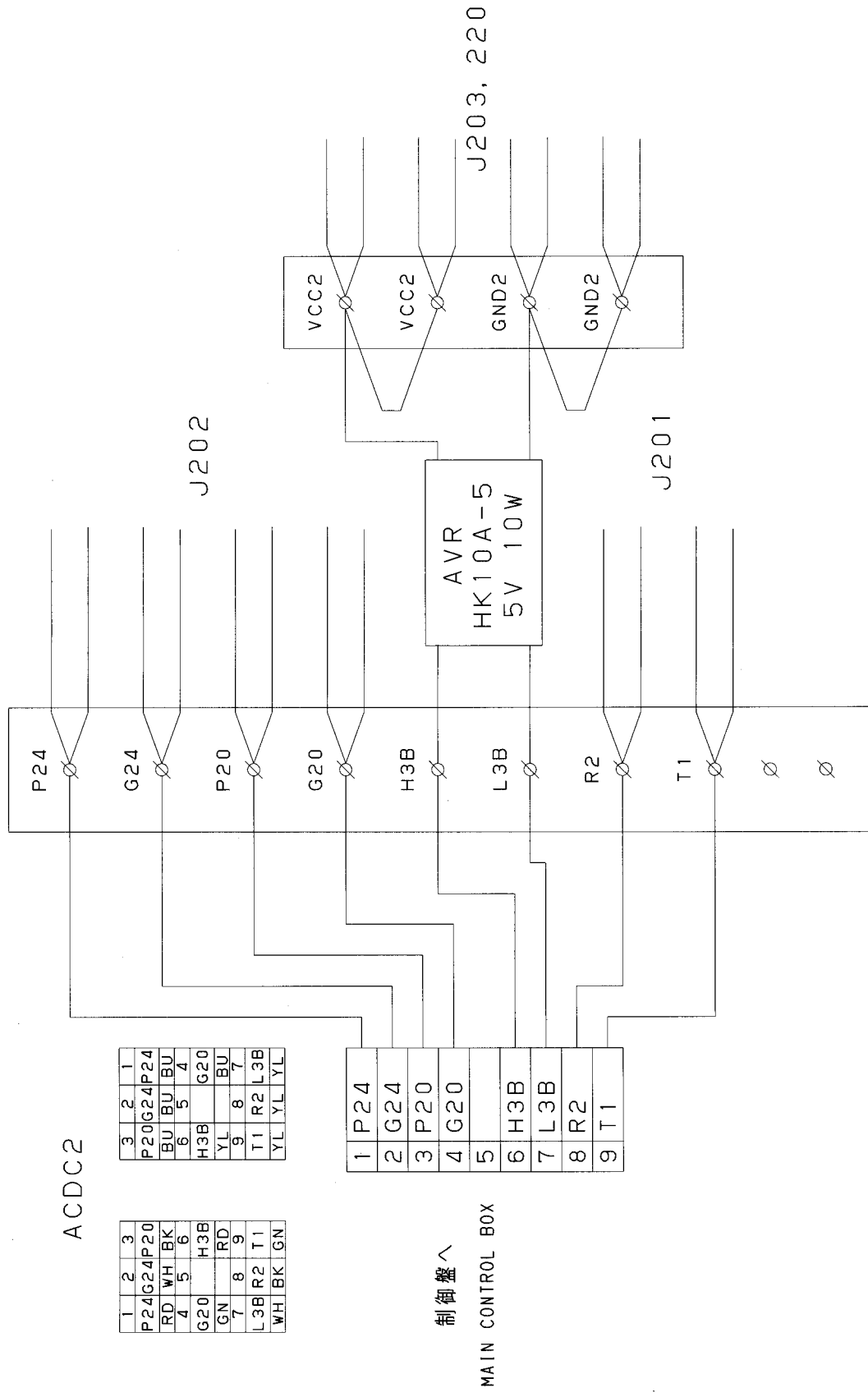
J138A
1 2 3 X112 G20 WH BK

J139A
1 2 3 X113 G20 WH BK

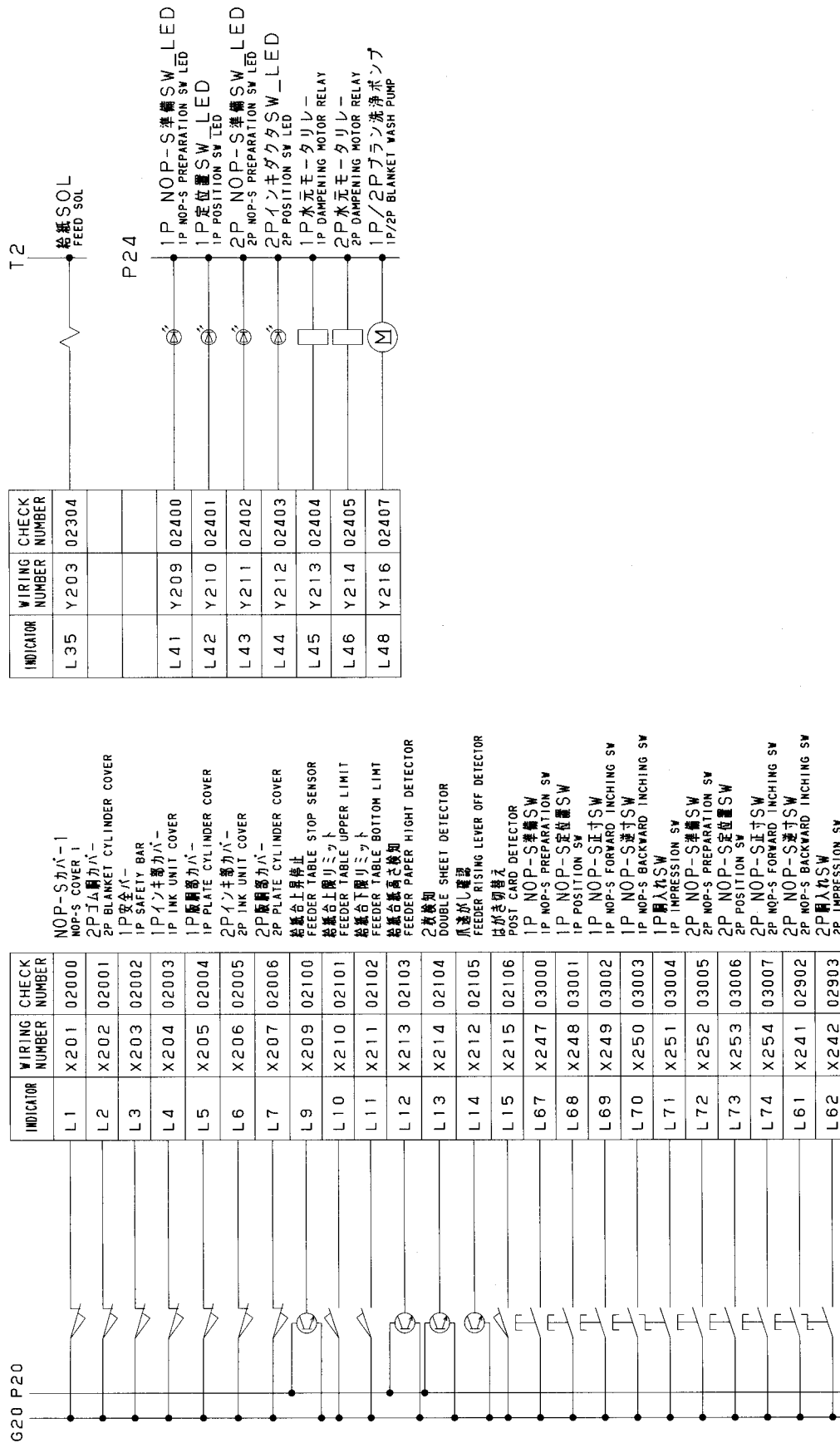
J140A
1 2 3 X114 G20 WH BK

J141A
1 2 3 X115 G20 WH BK

1 P/2P NOP-S 中継BOX 電源回路
1P/2P NOP-S CONTROL BOX CONNECTIONS



1P/2P NOP-S 中継BOX入出力表 1P/2P NOP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



1P/2P NOP-S 中継基板コネクター表 1P/2P NOP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J201	J202	J203	J210	J211	J212	J213	J214
1 2 R2 R2 YL YL 3 4 T1 T1 YL YL	1 2 3 4 P24 P24 G24 G24 BU BU BU BU 5 6 7 8 P20 P20 G20 G20 BU BU BU BU	1 2 3 VCC2 VCC2 VCC2 BU BU BU 4 5 6 GND2 GND2 GND2 BU BU BU	1 2 3 DA02 AVSS WH BK	1 2 3 DA03 AVSS WH BK	1 2 P24 G24 BU BU	1 3 5 7 9 P24 Y210 X247 X249 X251 RD BK BU BR OR 2 4 6 8 10 Y209 Y227 X248 X250 G20 WH YL GN GY LB	1 3 5 7 9 P24 Y212 X252 X254 X242 RD BK BU BR OR 2 4 6 8 10 Y211 Y228 X253 X241 G20 WH YL GN GY LB

J220
1 2 VCC2 GND2 BU BU

CONNECTOR BOARD 1

J214A
1 2 Y203 T2 BK WH 3 4

CONNECTOR BOARD 2

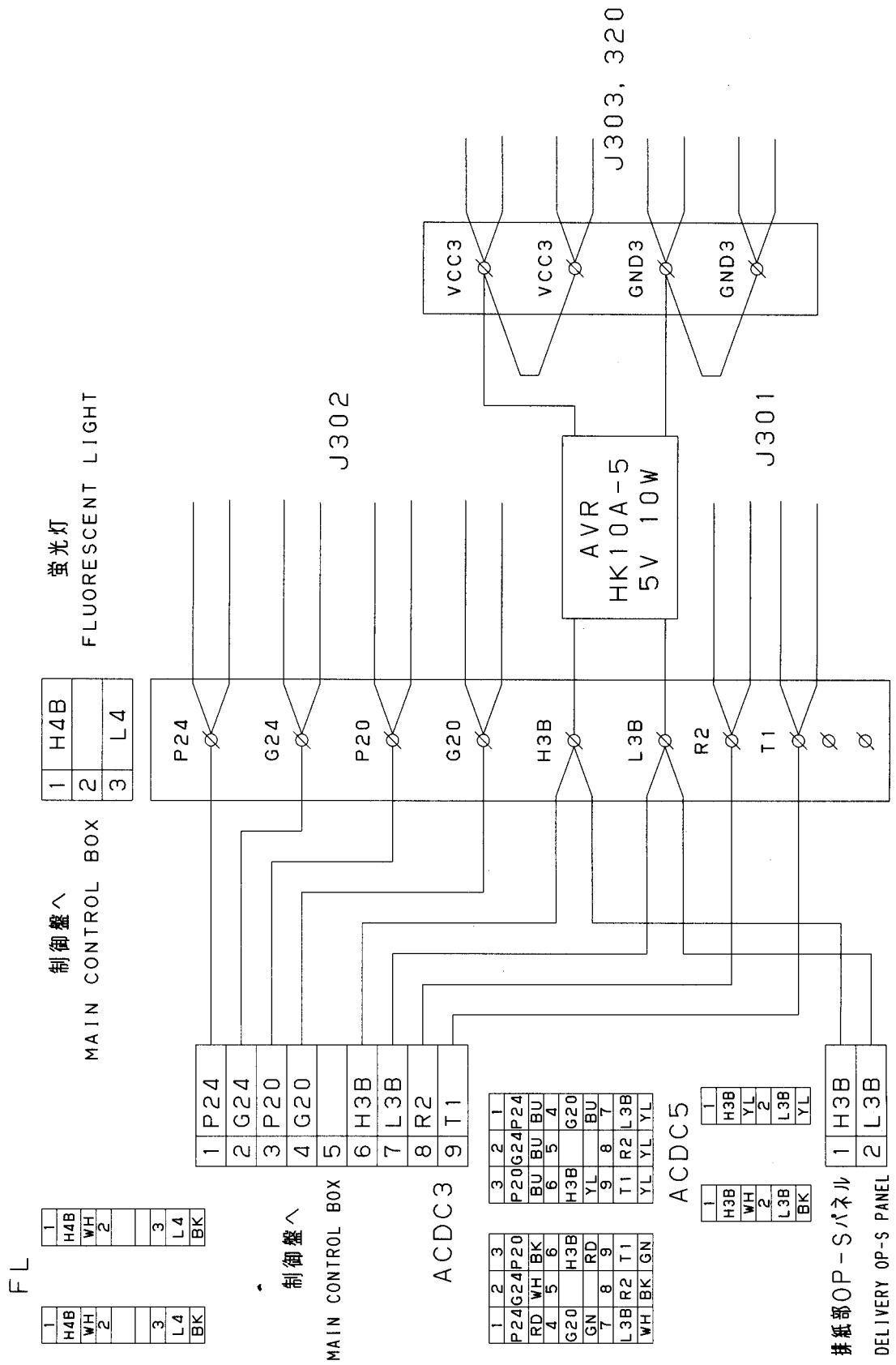
J219A	J220A	J223A	J224A	J225A	J226A
1 2 3 P24 P24 BK WH 4 5 6 Y213 Y214 RD GN	1 2 3 P24 BK 4 5 6 Y216 WH	1 2 P24C P24E WH BK	1 2 P24C P24D LG PK	1 2 P24D P24E LG PK	1 2 BU BU

CONNECTOR BOARD 3

J227A	J228A	J229A	J230A	J231A	J232A	J233A	J235A	J236A
1 2 3 X201 G20 WH BK	1 2 3 X202 G20 WH BK	1 2 3 X203 G20 WH BK	1 2 3 X204 G20 WH BK	1 2 3 X205 G20 WH BK	1 2 3 X206 G20 WH BK	1 2 3 X207 G20 WH BK	1 2 3 P20 X209 G20 RD WH BK	1 2 3 X210 G20 WH BK

J237A	J238A	J239A	J240A	J241A
1 2 3 X211 G20 WH BK	1 2 3 P20 X213 G20 RD WH BK	1 2 3 P20 X214 G20 WH BK	1 2 3 P20 X212 G20 RD WH BK	1 2 3 X215 G20 WH BK

3P/4P OP-S 中継BOX 電源回路 3P/4P OP-S CONTROL BOX CONNECTIONS



3P/4P OP-S 中継基板コネクター表 3P/4P OP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J301	1	2
R2	R2	
YL	YL	
3	4	
T1	T1	
YL	YL	

J302	1	2	3	4
P24	P24	G24	G24	
BU	BU	BU	BU	
5	6	7	8	
P20	P20	G20	G20	
BU	BU	BU	BU	

J303	1	2	3
VCC3	VCC3	VCC3	
BU	BU	BU	
4	5	6	
GND3	GND3	GND3	
BU	BU	BU	

J312	1	2
P24	G24	
BU	BU	

J313	1	3	5	7	9
P24	Y310	X347	X349	X351	
RD	BK	BU	BR	OR	
2	4	6	8	10	
Y309	Y327	X348	X350	G20	
WH	YL	GN	GY	LB	

J314	1	3	5	7	9
P24	Y312	X352	X354	X342	
RD	BK	BU	BR	OR	
2	4	6	8	10	
Y311	Y328	X353	X341	G20	
WH	YL	GN	GY	LB	

J315	1	2	3	4	5
X343	X344	G20	P24	G24	
RD	WH	BK	YL	BU	

J316	1	2	3	4	5
X345	X346	G20	P24	G24	
RD	WH	BK	YL	BU	

J320	1	2
VCC3	GND3	
BU	BU	

CONNECTOR BOARD 1

J314A	1	2
Y303	T2	
BK	WH	
3	4	
Y304	T2	
BK	WH	

J317A	1	2
Y301	T2	
BK	WH	
3	4	
Y302	T2	
BK	WH	

CONNECTOR BOARD 2

J323A	1	2
P24E	P24G	
WH	BK	

J324A	1	2
P24E	P24F	
GN	BR	

J325A	1	2
P24F	P24G	
GN	BR	

J326A	1	2
BU	BU	

CONNECTOR BOARD 3

J365A	1	3	5	7	9	11	13	15	17	19	21	23	25
Y009	Y010	Y011	Y012	Y013	Y014								P24
RD	GY	GN	GY	GY	GN	GY	GN	GY	GY	GN	GY	GY	GN
2	4	6	8	10	12	14	16	18	20	22	24	26	
													P24
GY	GY	GY	GY	GN	GY	GY	GY	GY	GN	GY	GY	GY	GY

J366A	1	3	5	7	9	11	13	15	17	19	21	23	25
Y009	Y010	Y011	Y012	Y013	Y014								P24
RD	GY	GN	GY	GY	GN	GY	GN	GY	GY	GN	GY	GY	GN
2	4	6	8	10	12	14	16	18	20	22	24	26	
													P24
GY	GY	GY	GY	GN	GY	GY	GY	GY	GN	GY	GY	GY	GY

J367A	1	3	5	7	9	11	13	15	17	19	21	23	25
Y313	Y314	Y315	Y316	Y317	Y318	Y319	Y320						P24
RD	GY	GN	GY	GY	GN	GY	GN	GY	GY	GN	GY	GY	GN
2	4	6	8	10	12	14	16	18	20	22	24	26	
													P24
GY	GY	GY	GY	GN	GY	GY	GY	GY	GN	GY	GY	GY	GY

CONNECTOR BOARD 3

J327A	1	2	3
P20	X301	G20	
RD	WH	BK	

J328A	1	2	3
	X302	G20	
	WH	BK	

J329A	1	2	3
	X303	G20	
	WH	BK	

J330A	1	2	3
	X304	G20	
	WH	BK	

J331A	1	2	3
	X305	G20	
	WH	BK	

J332A	1	2	3
	X306	G20	
	WH	BK	

J333A	1	2	3
	X307	G20	
	WH	BK	

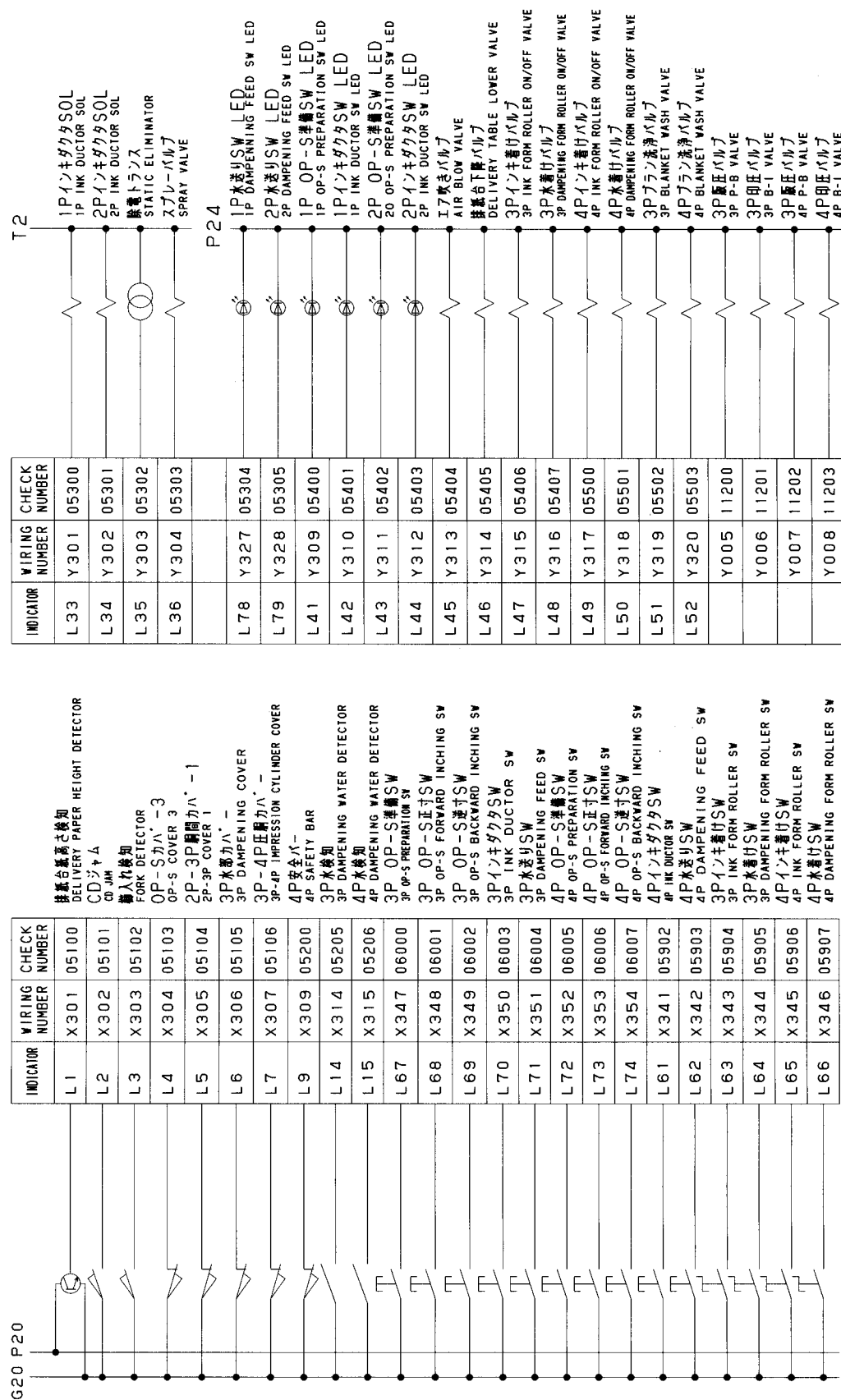
J335A	1	2	3
	X309	G20	
	WH	BK	

J340A	1	2	3
	X314	G20	
	WH	BK	

J341A	1	2	3
	X315	G20	
	WH	BK	

3/4P OP-S 中継BOX入出力表

3P/4P OP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS

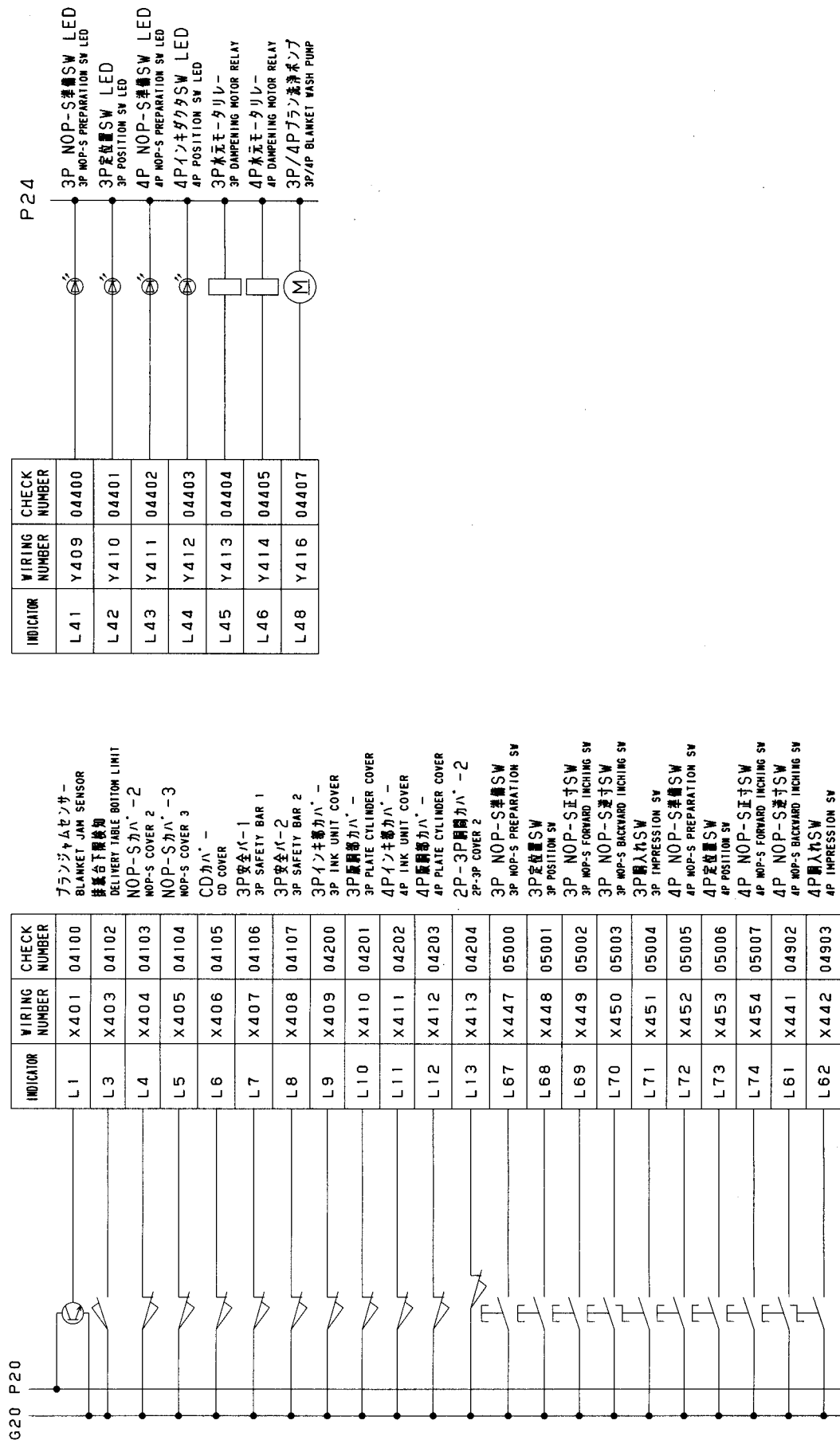


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3/4P NOP-S中継BOX入出力表

3P/4P NOP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



3P/4P NOP-S 中継基板コネクター表 3P/4P NOP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J401	J402	J403	J412	J413	J414
1 2 R2 R2 YL YL 3 4 T1 T1 YL YL	1 2 3 4 P24 P24 G24 G24 BU BU BU BU 5 6 7 8 P20 P20 G20 G20 BU BU BU BU	1 2 3 VCC4 VCC4 VCC4 BU BU BU 4 5 6 GND4 GND4 GND4 BU BU BU	1 2 P24 G24 BU BU	1 3 5 7 9 P24 Y410 X447 X449 X451 RD BK BU BR OR 2 4 6 8 10 Y409 Y427 X448 X450 G20 WH YL GN GY LB	1 3 5 7 9 P24 Y412 X452 X454 X442 RD BK BU BR OR 2 4 6 8 10 Y411 Y428 X453 X441 G20 WH YL GN GY LB

J420
1 2 VCC4 GND4 BU BU

CONNECTOR BOARD 2

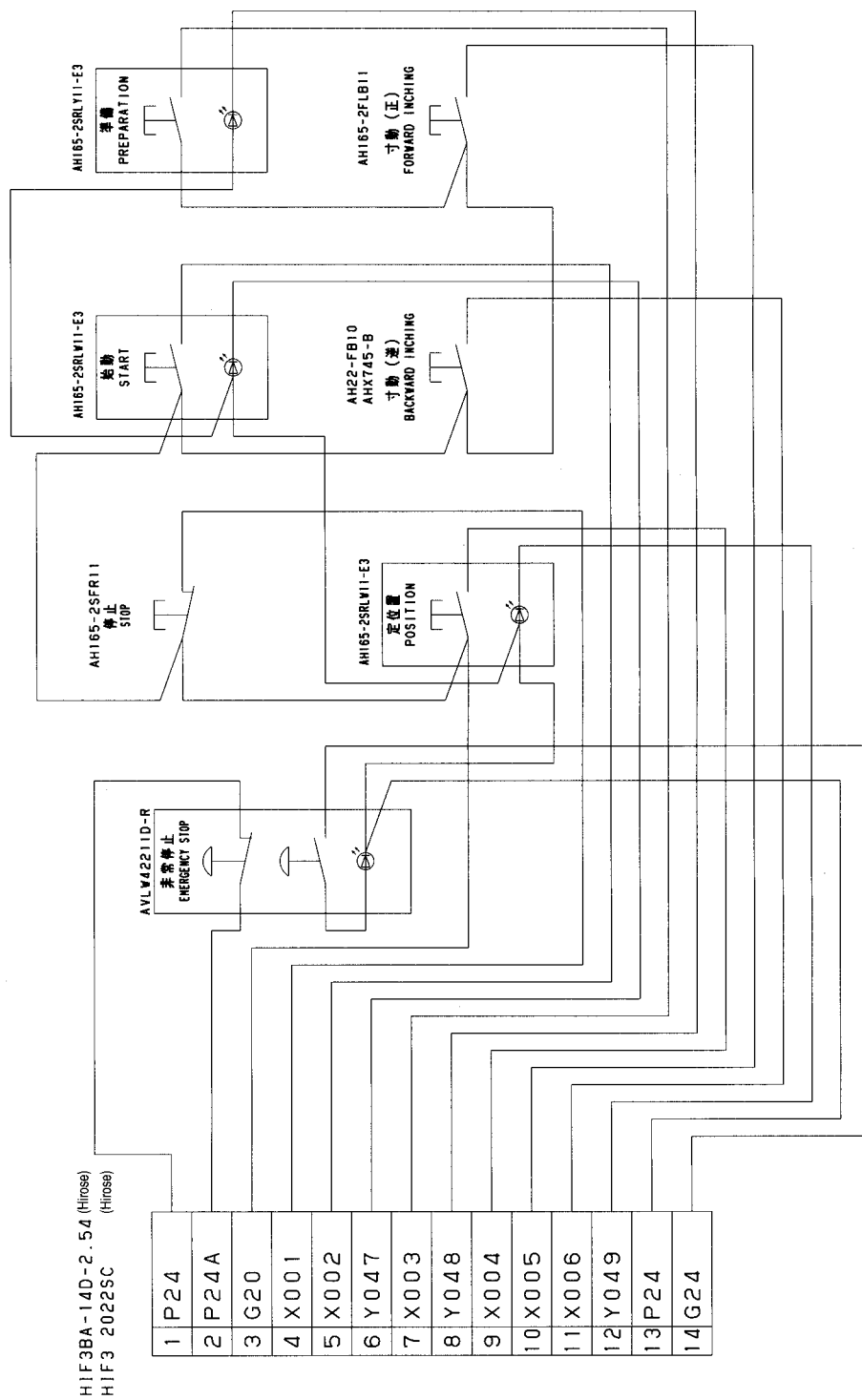
J419A	J420A	J423A	J424A	J425A	J426A
1 2 3 P24 P24 BK WH 4 5 6 Y413 Y414 RD GN	1 2 3 P24 BK 4 5 6 Y416 WH	1 2 P24G P24J WH BK	1 2 P24G P24H LG PK	1 2 P24H P24I LG PK	1 2 P24I P24J WH BK

CONNECTOR BOARD 3

J427A	J429A	J430A	J431A	J432A	J433A	J434A	J435A	J436A
1 2 3 P20 X201 G20 RD WH BK	1 2 3 X403 G20 WH BK	1 2 3 X404 G20 WH BK	1 2 3 X405 G20 WH BK	1 2 3 X406 G20 WH BK	1 2 3 X407 G20 WH BK	1 2 3 X408 G20 WH BK	1 2 3 X409 G20 WH BK	1 2 3 X410 G20 WH BK

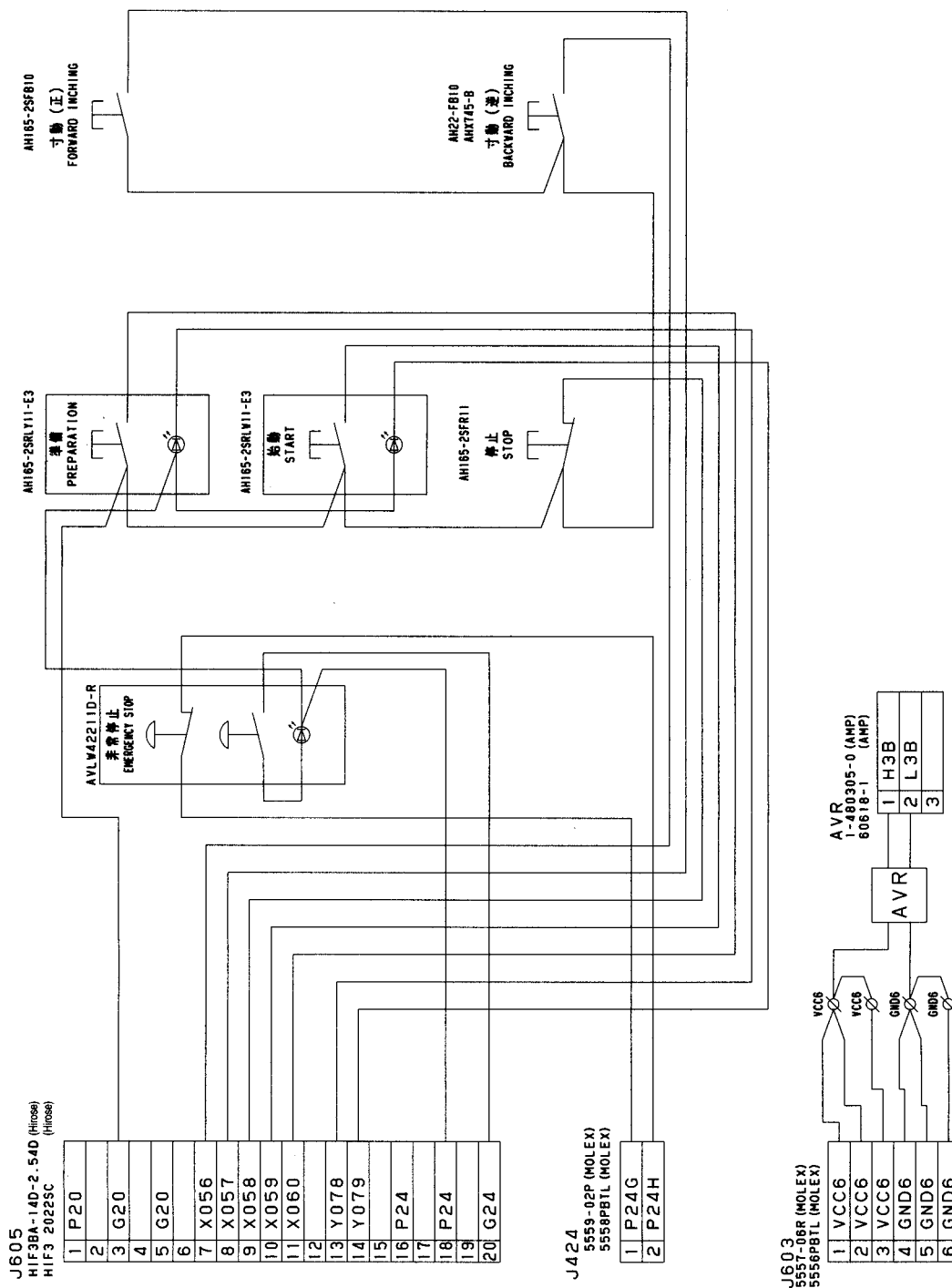
J437A	J438A	J439A
1 2 3 X411 G20 WH BK	1 2 3 X412 G20 WH BK	1 2 3 X413 G20 WH BK

給紙部操作パネル
FEEDER SIDE OPERATION PANEL CONNECTIONS

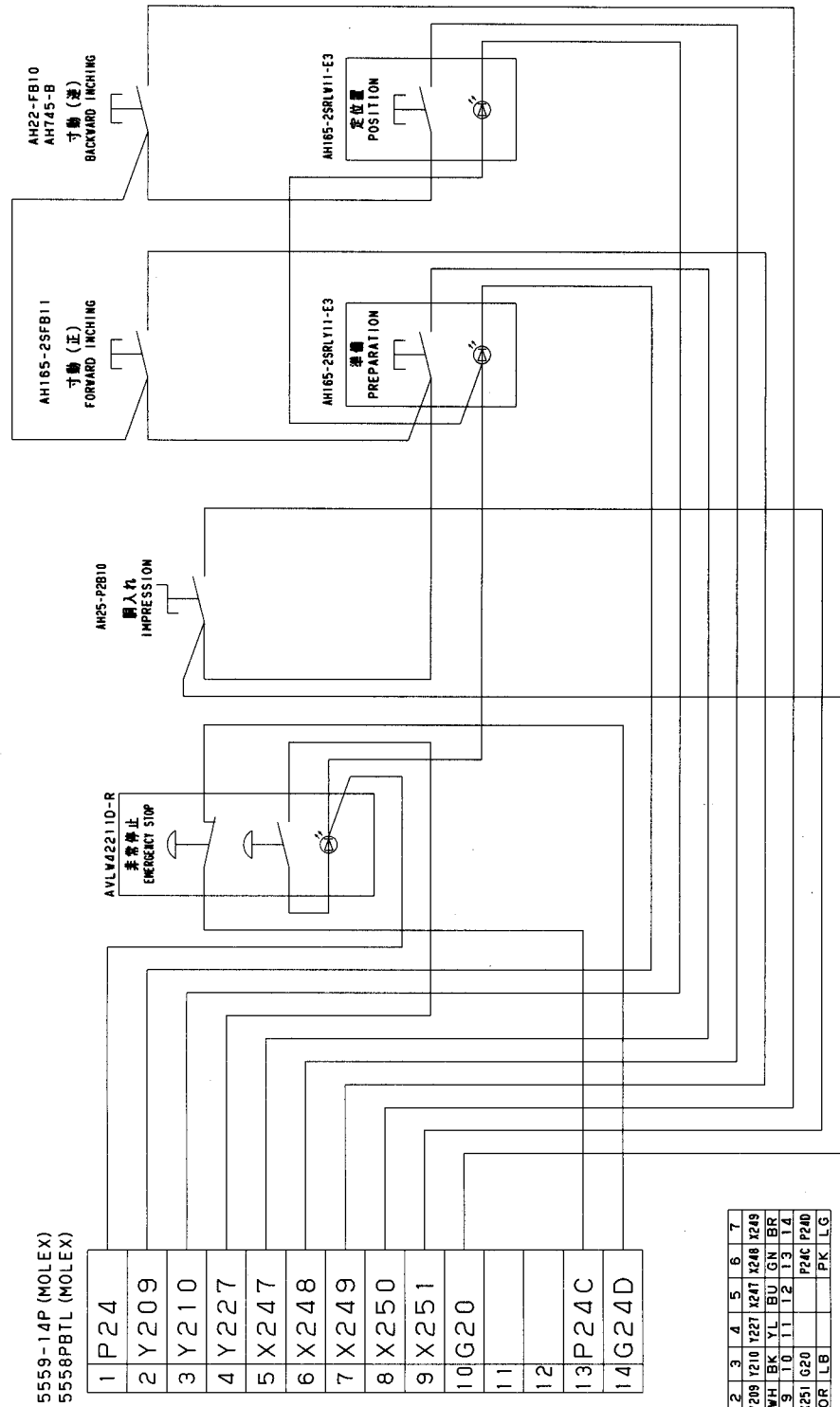


排紙部NOP-Sパネル

DELIVERY NOP-S OPERATION PANEL CONNECTIONS

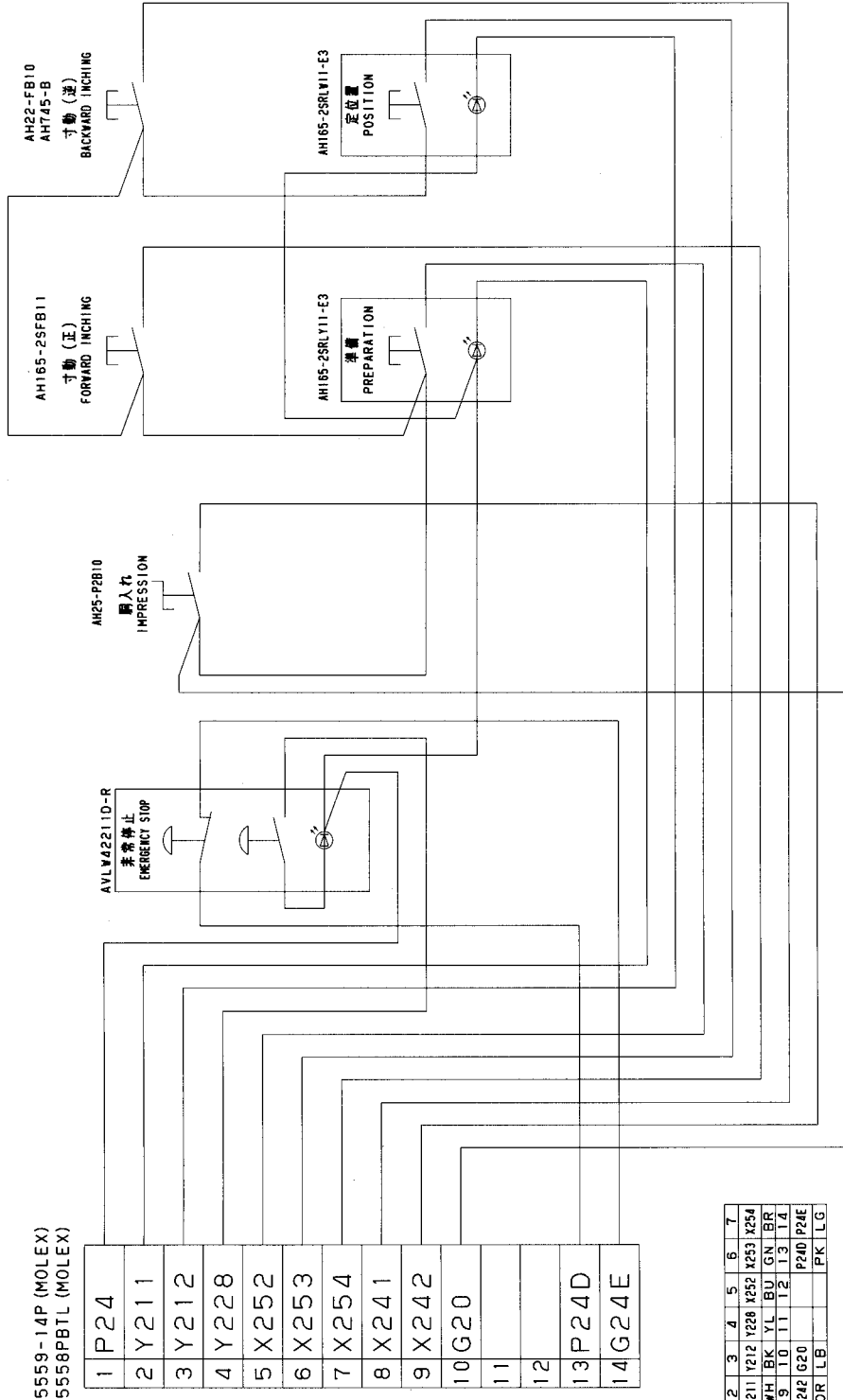


1P NOP-S パネル
1P NOP-S OPERATION PANEL CONNECTIONS



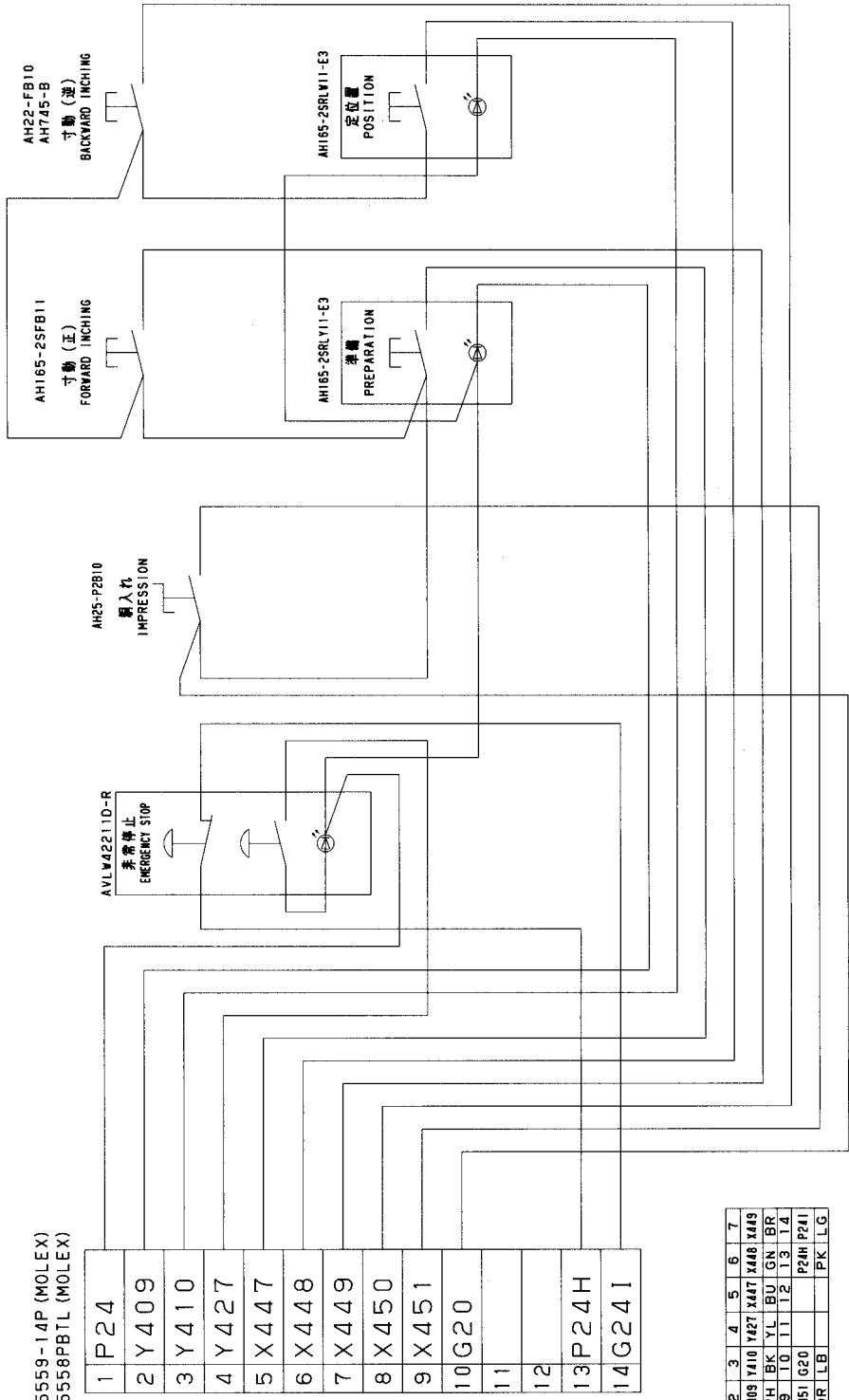
1	2	3	4	5	6	7
P24	Y209	Y210	Y227	Y247	Y248	Y249
RD	WH	BK	YL	BU	GN	BR
8	10	11	12	13	14	
X250	X251	G20		P24C	P24D	
GY	OR	LB		PK	LG	

2P NOP-S パネル
2P NOP-S OPERATION PANEL CONNECTIONS



1	2	3	4	5	6	7
P24	Y211	Y212	Y228	X252	X253	X254
RD	WH	BK	YL	BU	GN	BR
8	9	10	11	12	13	14
X241	X242	G20		P24D	P24E	
GY	OR	LB		PK	LG	

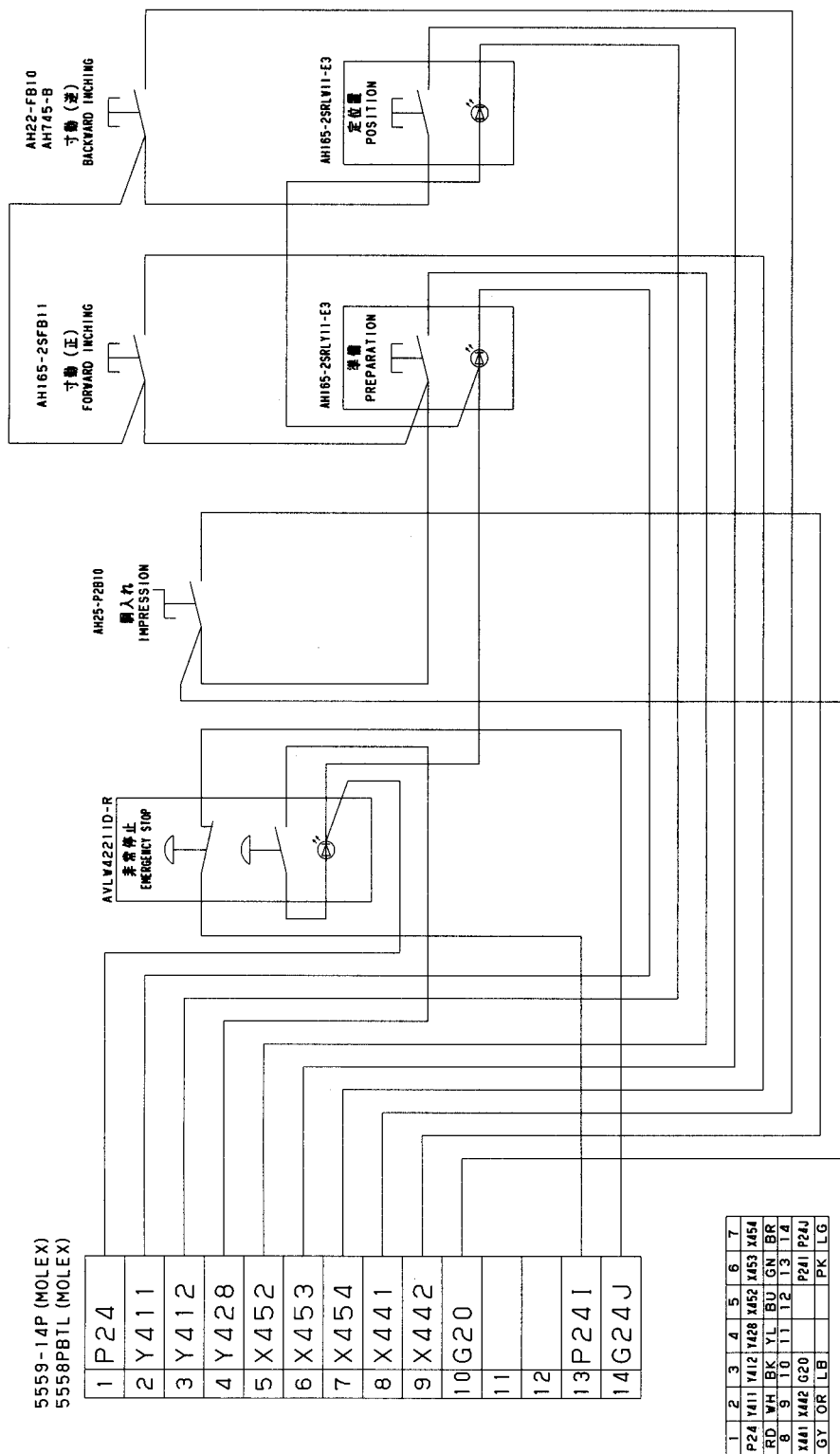
3P NOP-S パネル
3P NOP-S OPERATION PANEL CONNECTIONS



1	2	3	4	5	6	7
P24	Y409	Y410	Y427	X447	X448	X449
RD	WH	BK	YL	BU	GN	BR
8	9	10	11	12	13	14
X450	X451	G20			P24H	P24I
GY	OR	LB			PK	LG

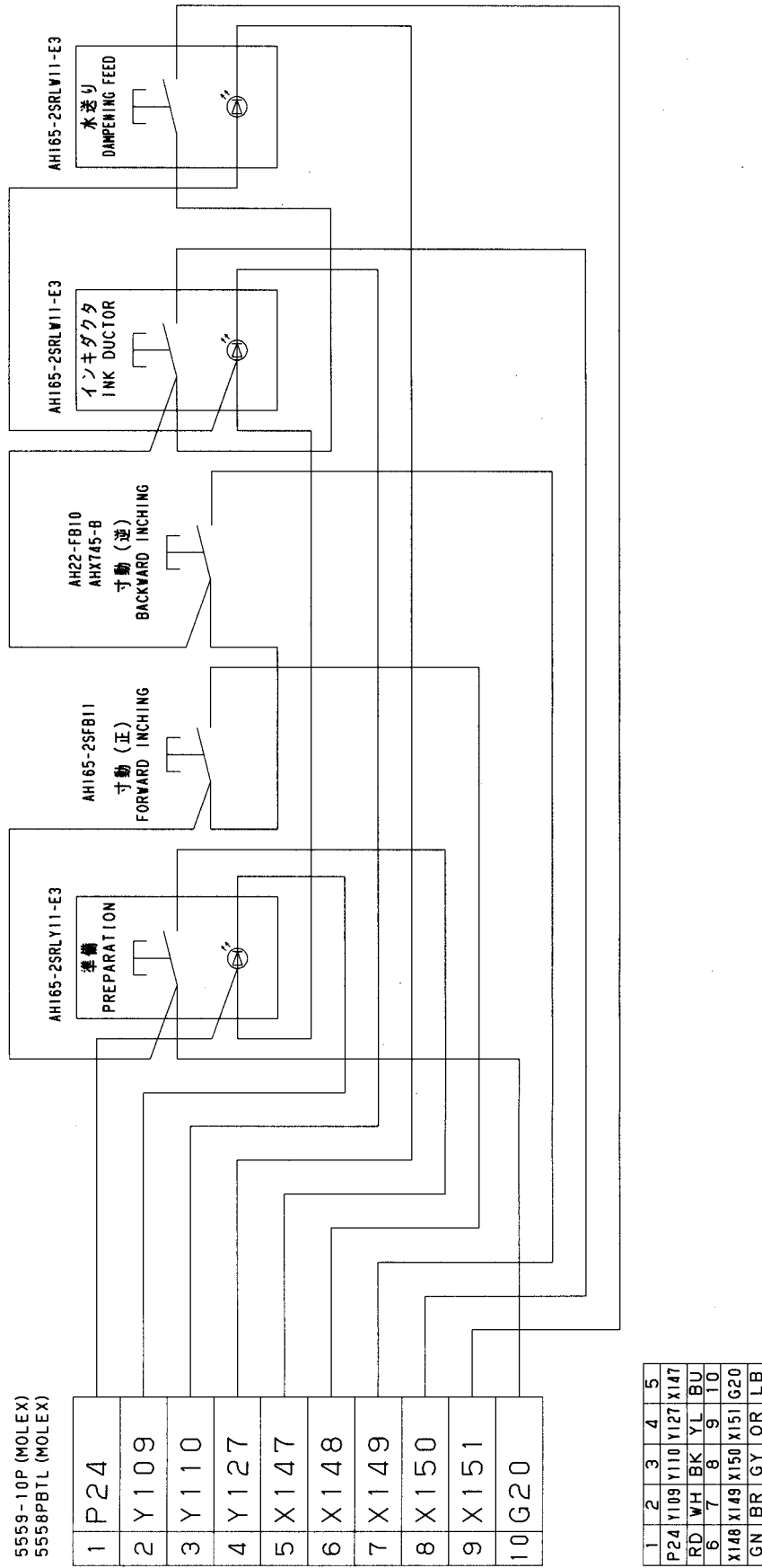
4P NOP-S パネル

4P NOP-S OPERATION PANEL CONNECTIONS

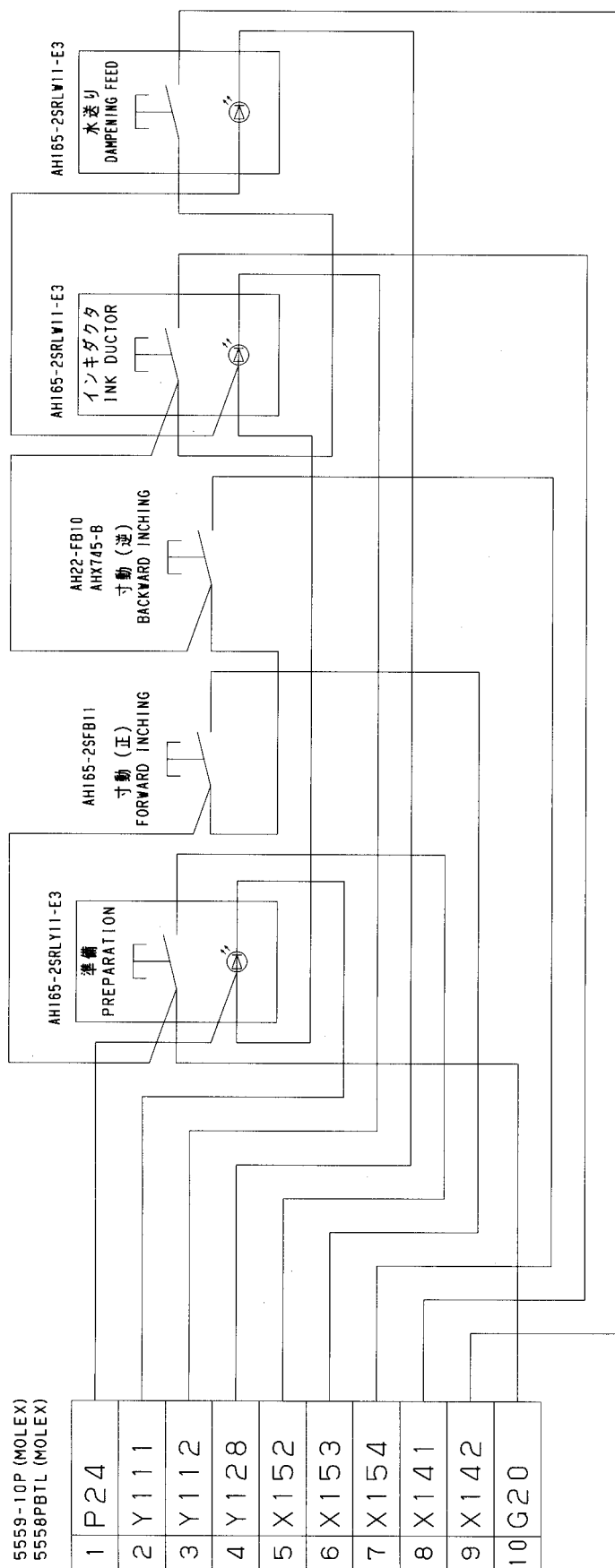


1	2	3	4	5	6	7
P24	Y411	Y412	Y428	X452	X453	X454
RD	WH	BK	YL	BU	GN	BR
8	S	10	11	12	T3	T4
X441	X442	G20		P24I	P24J	
GY	OR	LB		PK	LG	

1P OP-S上パネル
1P OP-S UPPER SIDE PANEL CONNECTIONS



2P OP-S上パネル 2P OP-S UPPER SIDE OPERATION PANEL CONNECTIONS



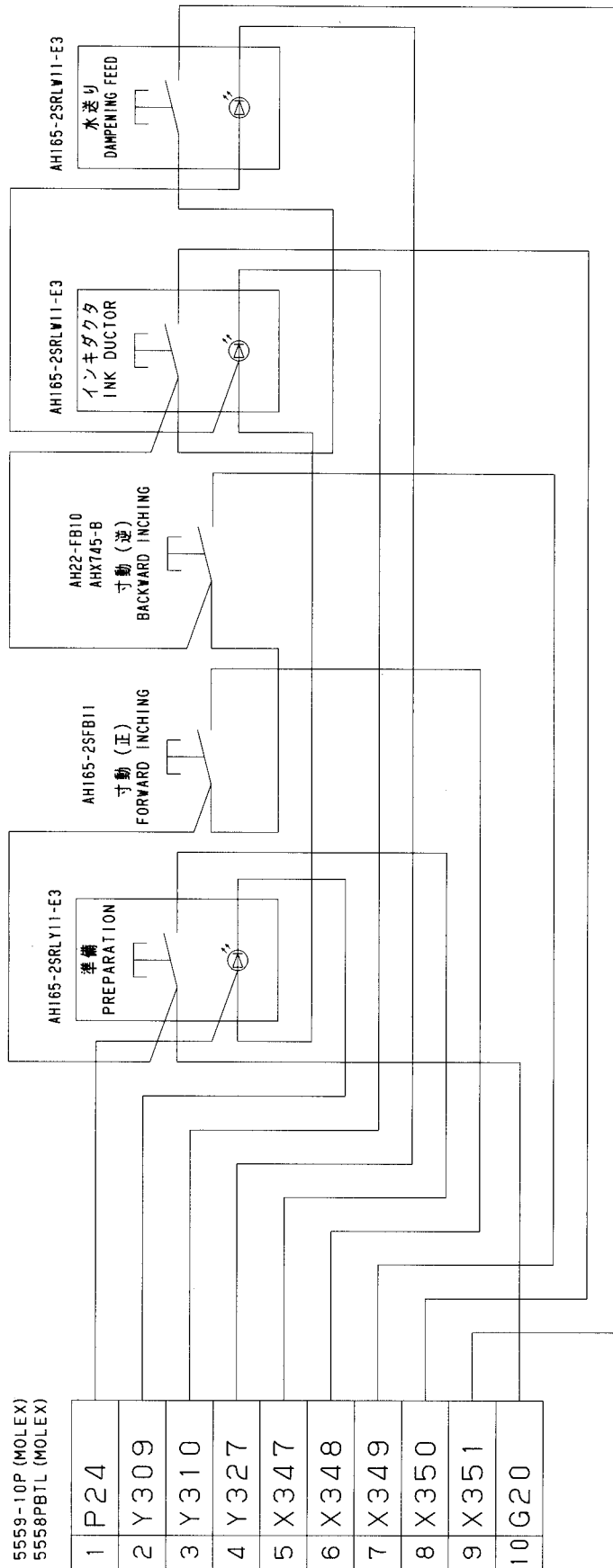
1	2	3	4	5
P24 Y111	Y112	Y128	X152	
RD WH	BK	YL	BU	
6	7	8	9	10
X153	X154	X141	X142	G20
GN	BR	GY	OR	LB

⌋

⌋

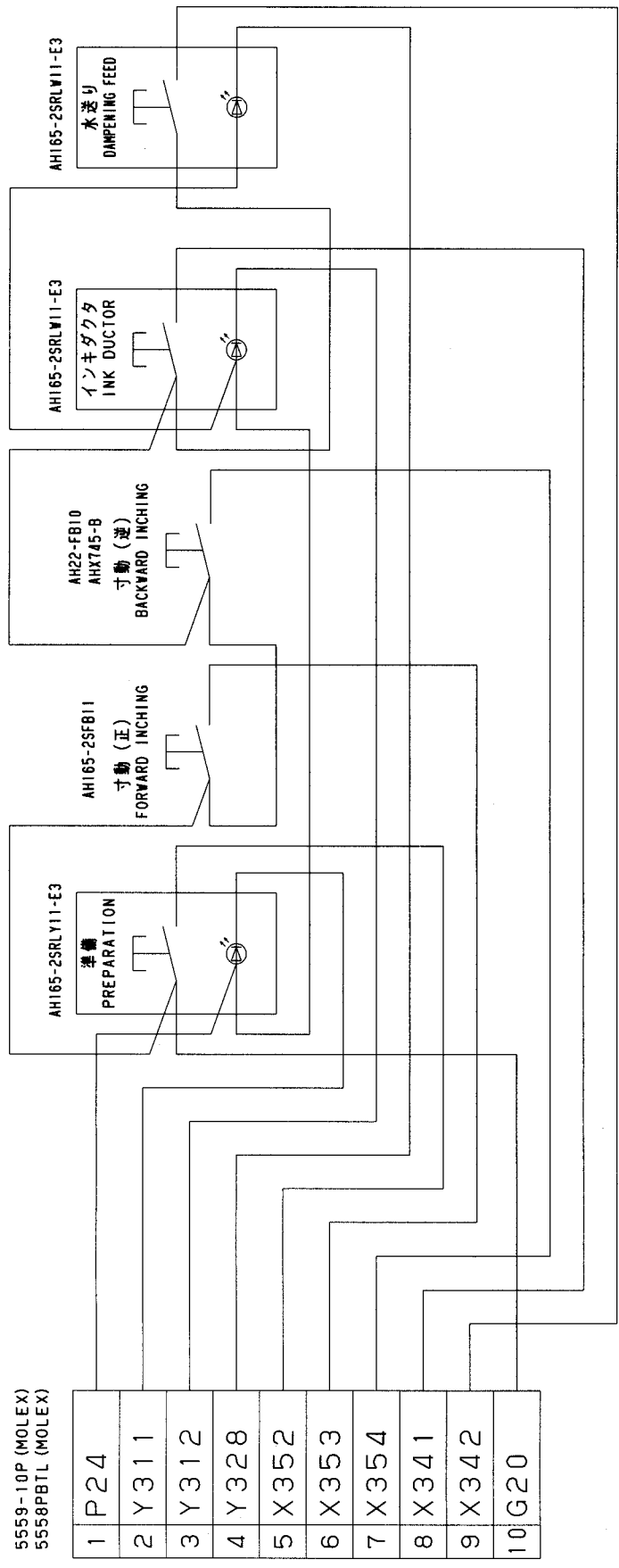
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3P OP-S上パネル
3P OP-S UPPER SIDE OPERATION PANEL CONNECTIONS



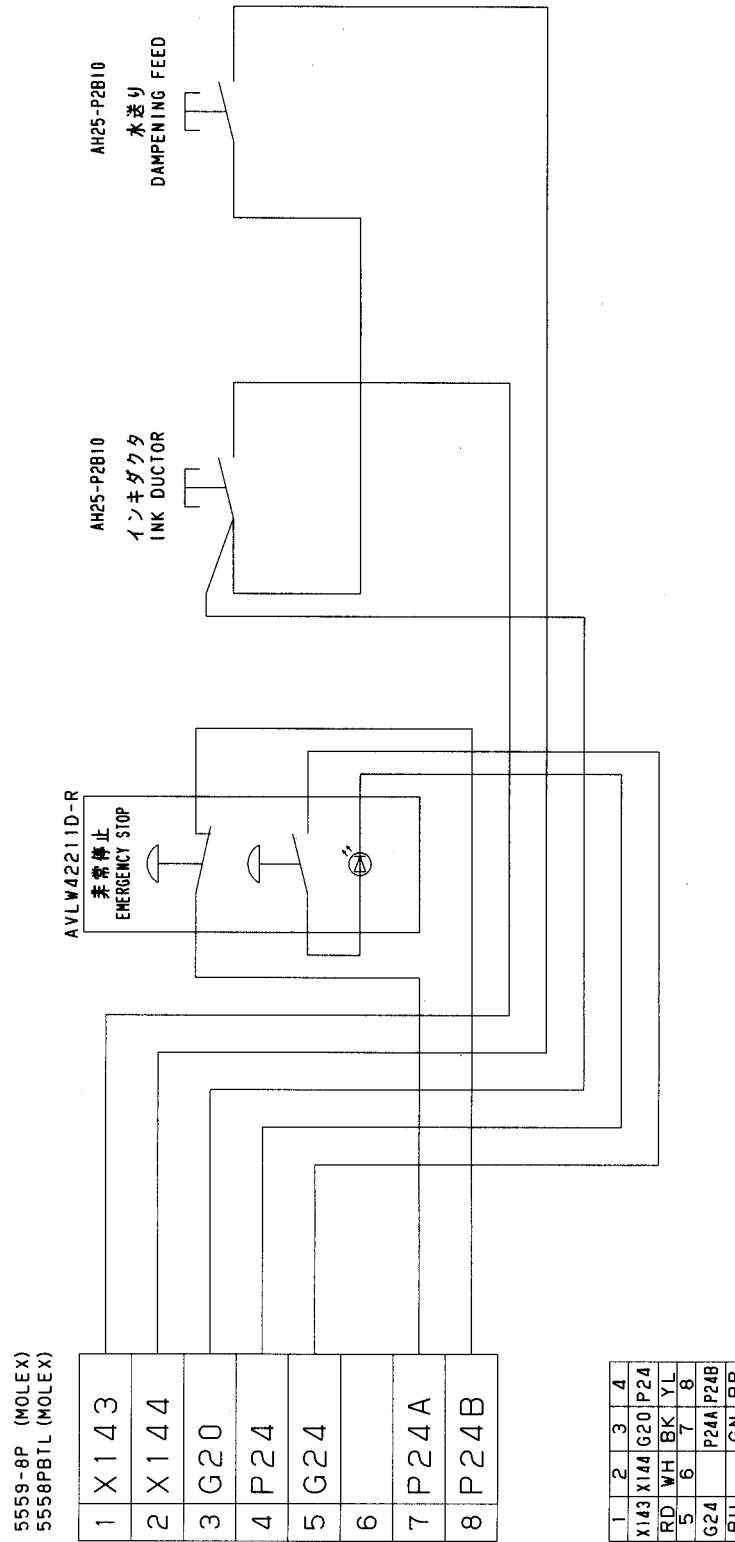
1	2	3	4	5
P24	Y309	Y310	Y327	X347
RD	WH	BK	YL	BU
6	7	8	9	10
X348	X349	X350	X351	G20
GN	BR	GY	OR	LB

4P OP-S上パネル
4P OP-S UPPER SIDE OPERATION PANEL CONNECTIONS



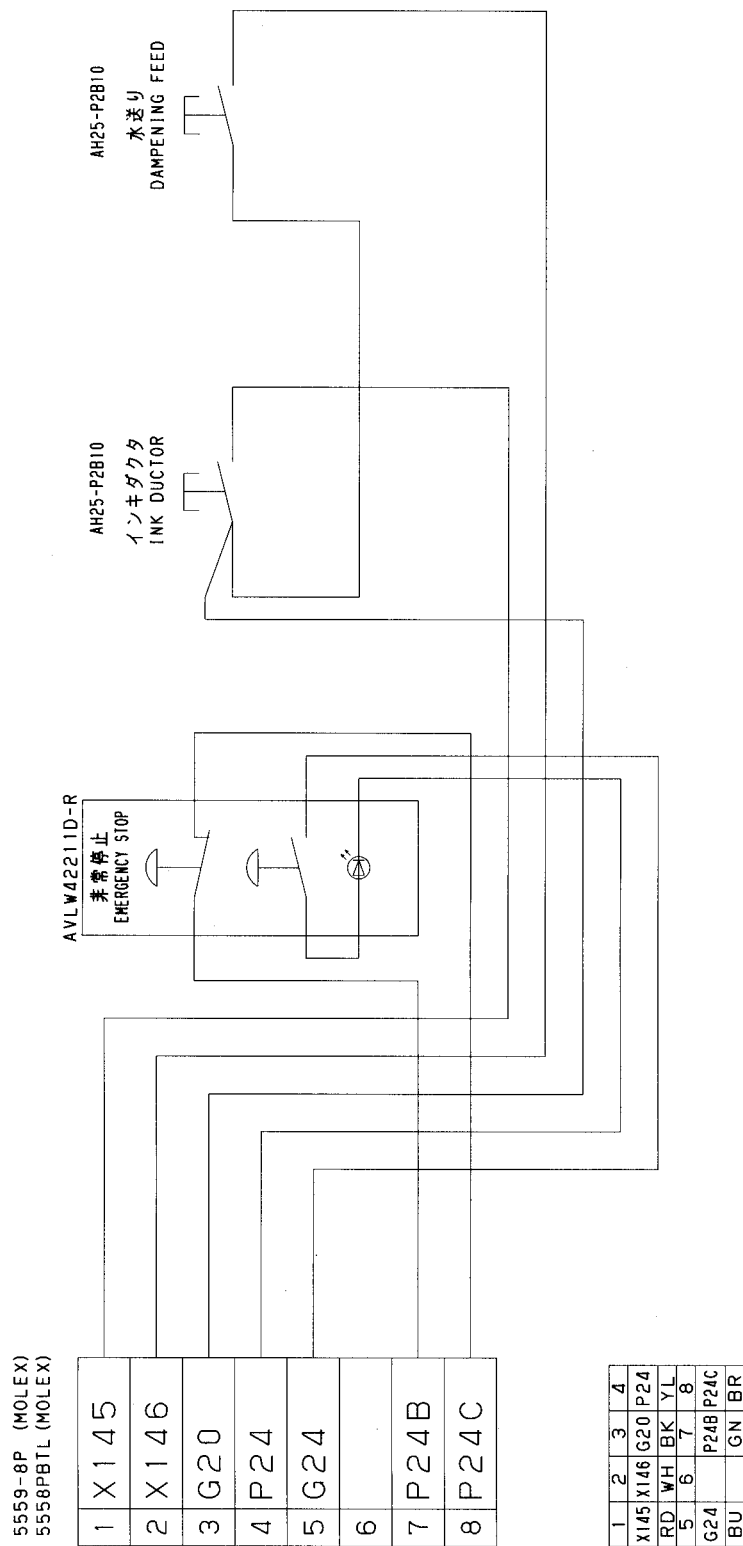
1	2	3	4	5
P24	Y311	Y312	Y328	X352
RD	WH	BK	YL	BU
6	7	8	9	10
X353	X354	X341	X342	G20
GN	BR	GY	OR	LB

1P OP-S下パネル
1P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS

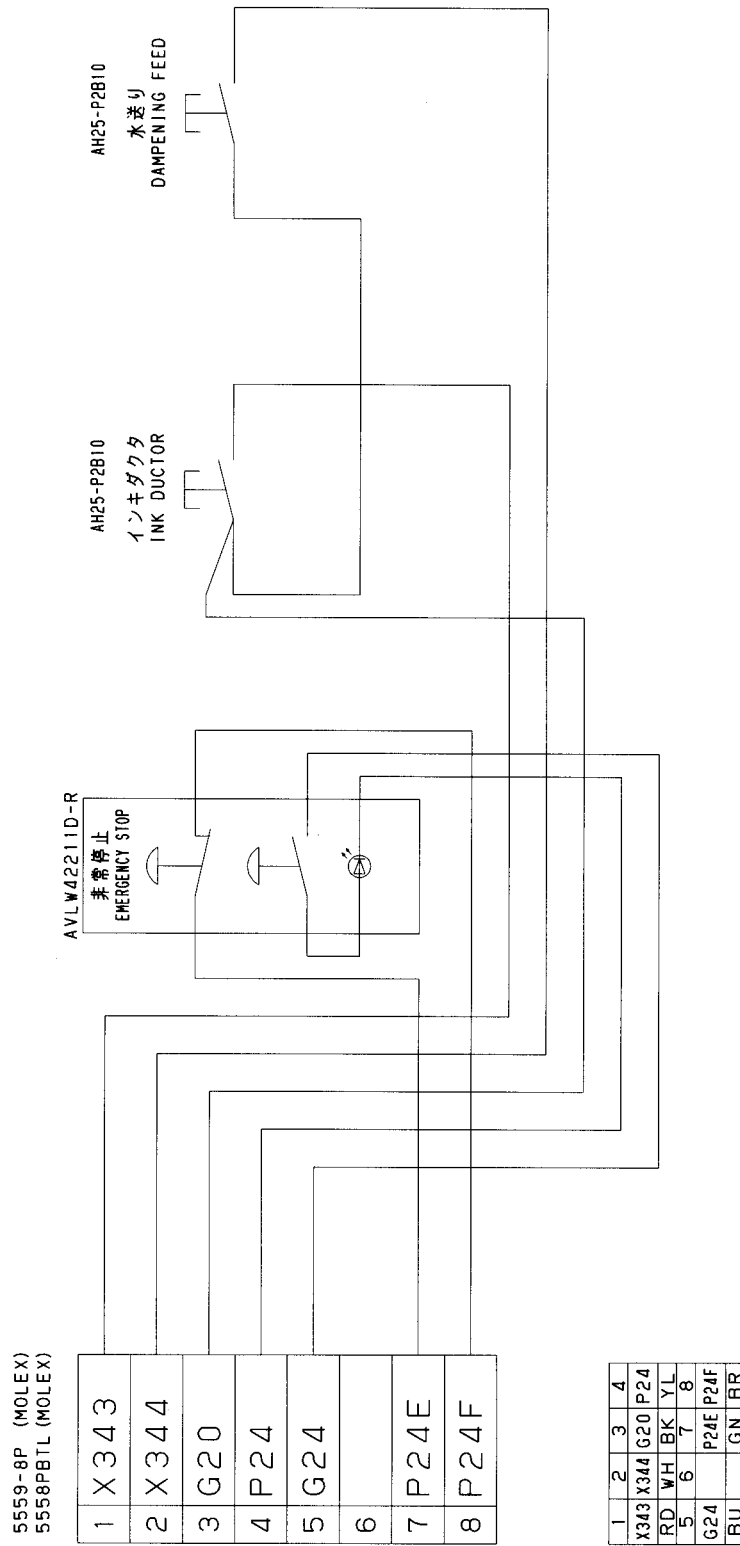


2P OP-S下パネル

2P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS

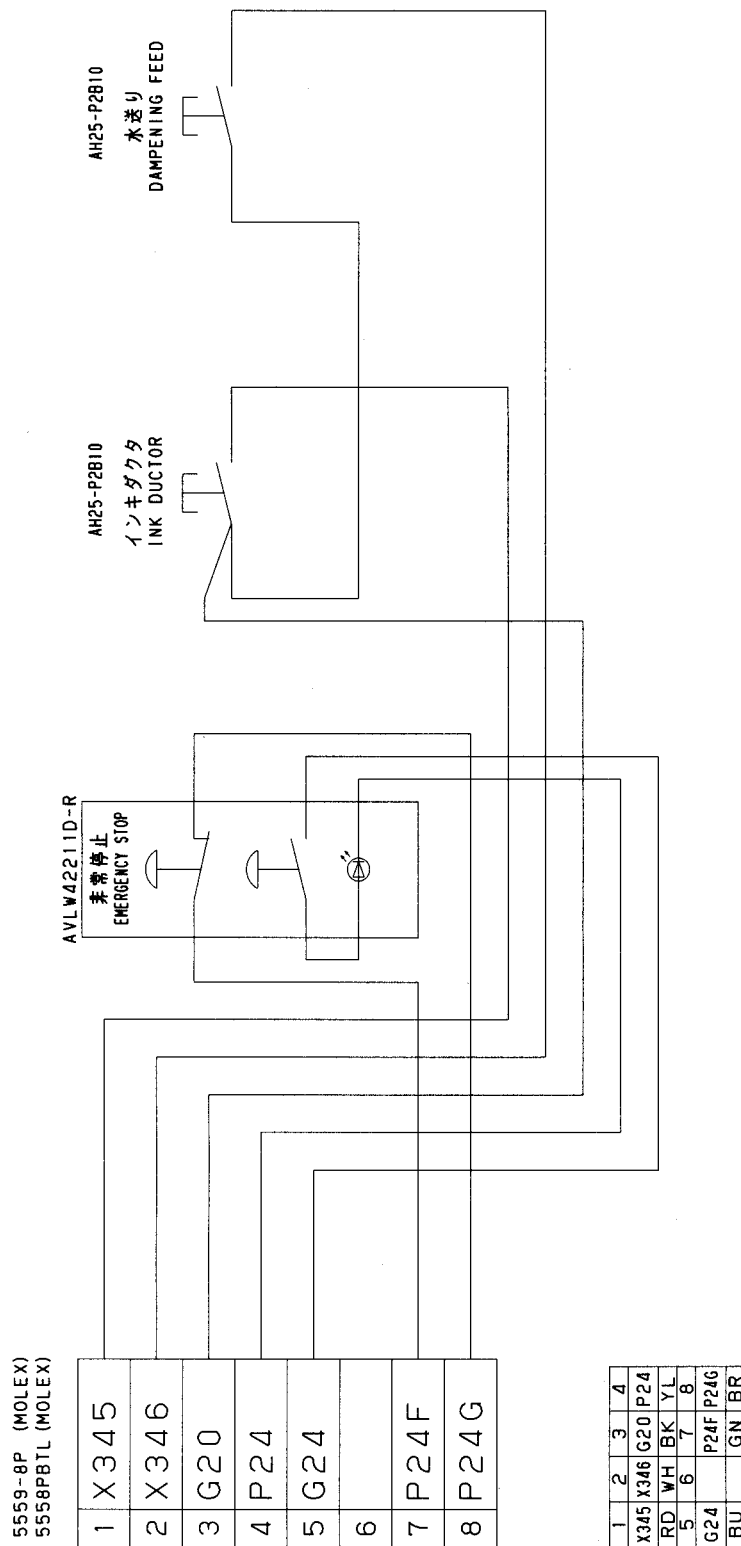


3P OP-STOPパネル
3P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS



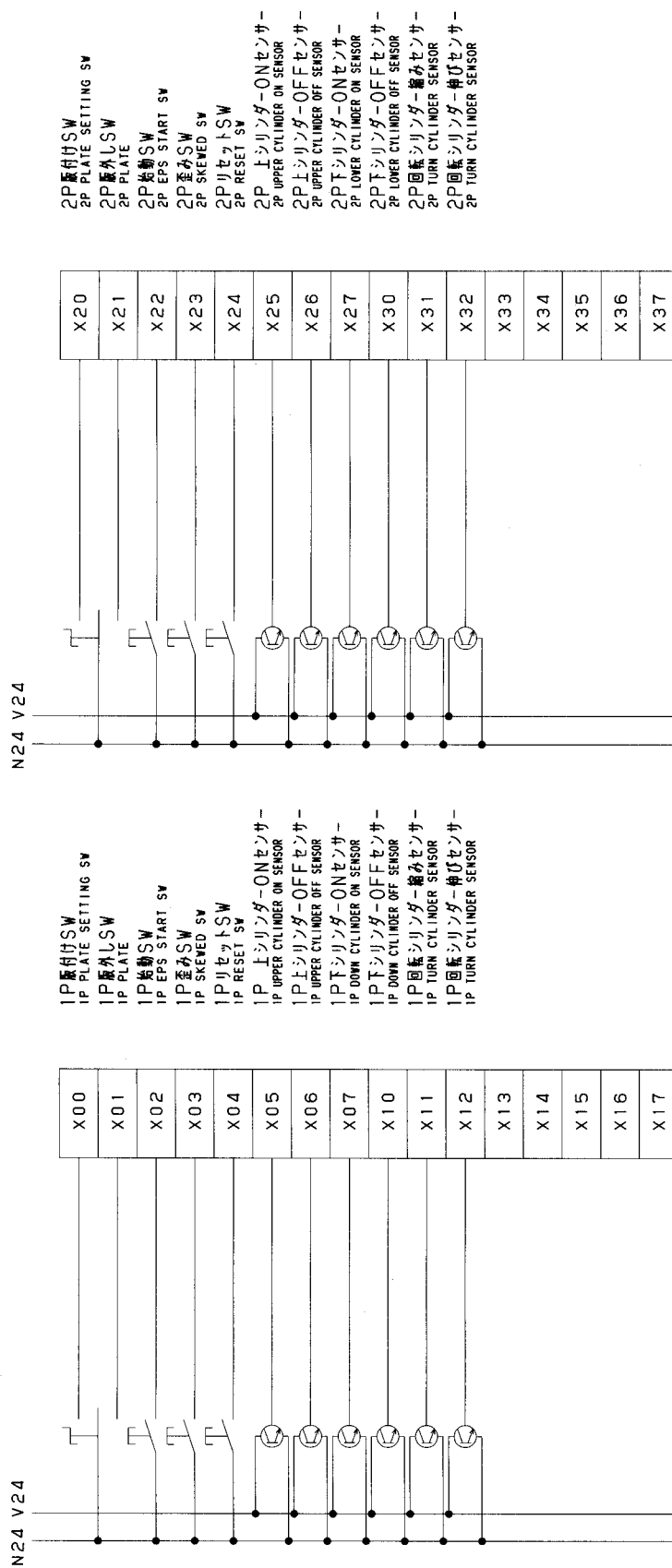
4P OP-S 下パネル

4P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS





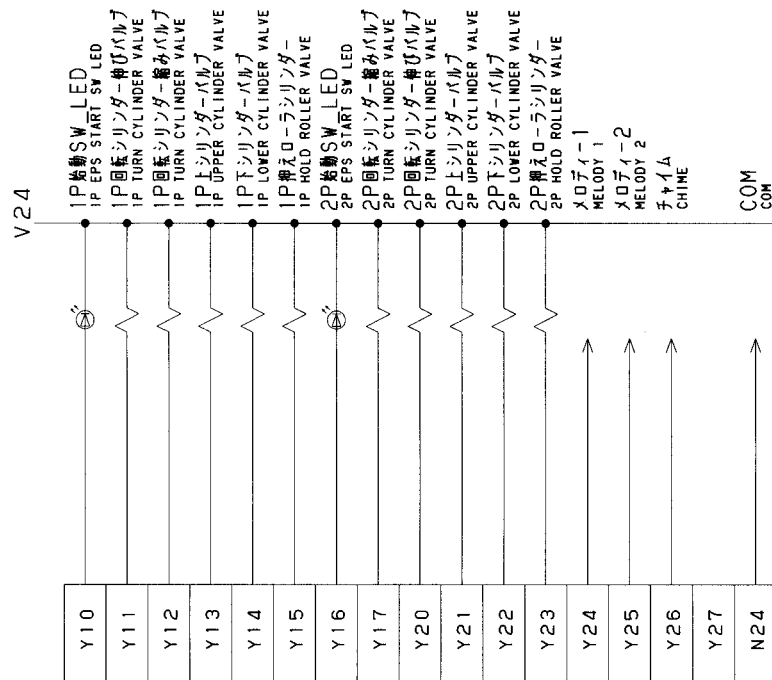
EPS NO.1 CONTROL BOX INPUT CONNECTIONS



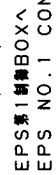
	10	9	8	7	6	5	4	3	2	1
CN13		BK	X27	X26	X25	X24	X23	X22	X21	X20
		BK	WH	WH	WH	BR	GN	BU	YL	WH
	20	19	18	17	16	15	14	13	12	11
		N24	X37	X36	X35	X34	X33	X32	X31	X30
		FLZ						X32	X31	X30

[illegible]

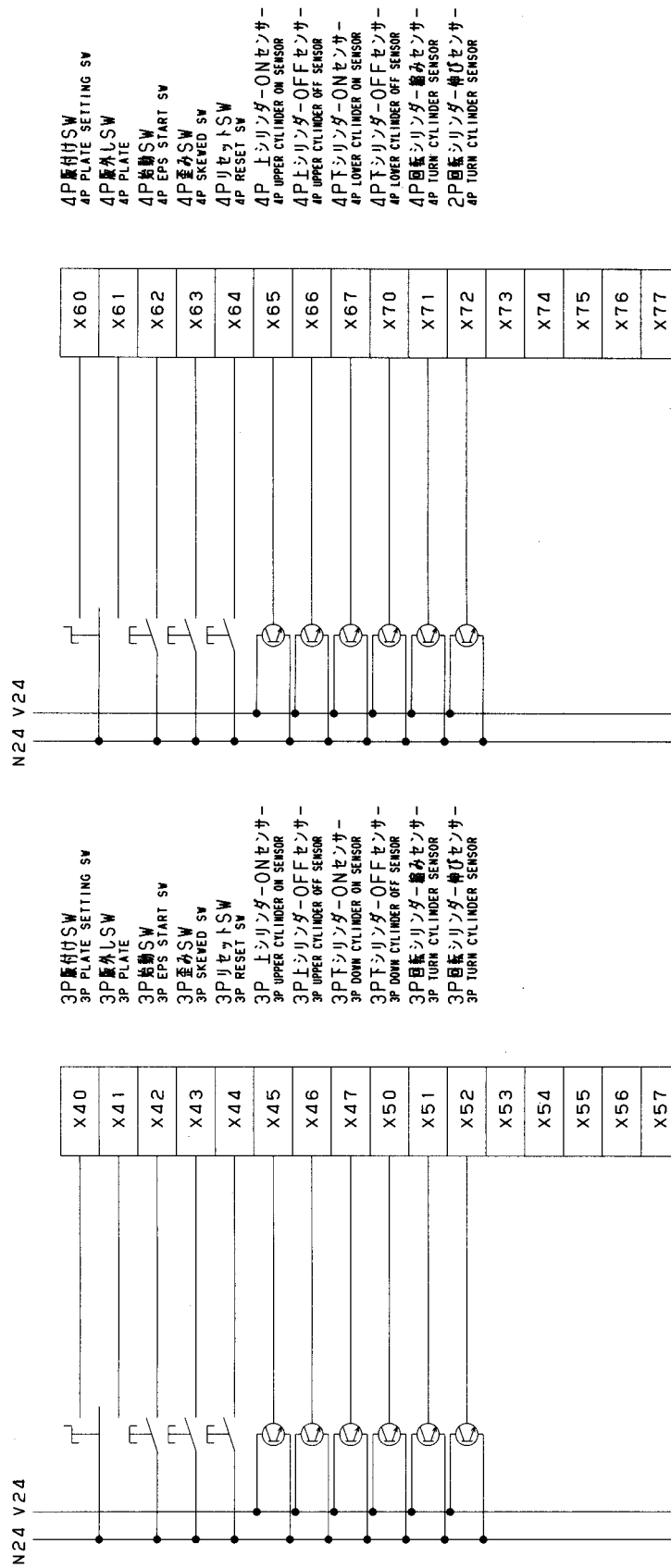
EPS第1制御BOX出力表
EPS NO.1 CONTROL BOX OUTPUT CONNECTIONS



CN12											
10	9	8	7	6	5	4	3	2	1		
		N24	Y17	Y16	Y15	Y14	Y13	Y12	Y11	Y10	
		BK	GY	GY	GN	GY	GY	RD	GY		
20	19	18	17	16	15	14	13	12	11		
		N24	Y27	Y26	Y25	Y24	Y23	Y22	Y21	Y20	
		BK		GN	WH	RD	GN	GY	GY	GN	



EPS第2制御BOX入力表 EPS NO.2 CONTROL BOX INPUT CONNECTIONS



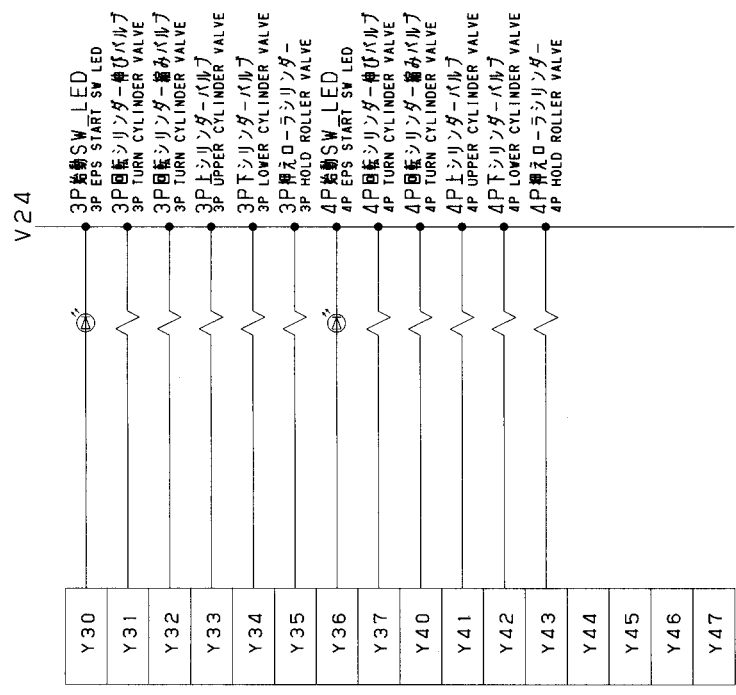
CN13

10	9	8	7	6	5	4	3	2	1
N24	X67	X66	X65	X64	X63	X62	X61	X60	
BK	WH	WH	WH	BR	GN	BU	YL	WH	
20	19	18	17	16	15	14	13	12	11
N24	X77	X76	X75	X74	X73	X72	X71	X70	
BK							WH	WH	WH

CN11

10	9	8	7	6	5	4	3	2	1
N24	X47	X46	X45	X44	X43	X42	X41	X40	
BK	WH	WH	WH	BR	GN	BU	YL	WH	
20	19	18	17	16	15	14	13	12	11
N24	X57	X56	X55	X54	X53	X52	X51	X50	
BK							WH	WH	WH

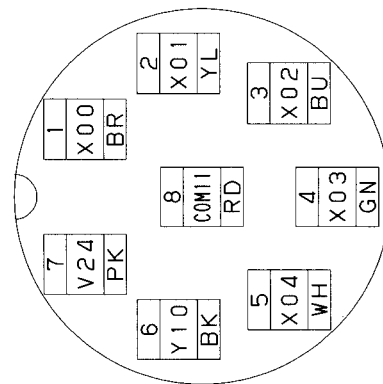
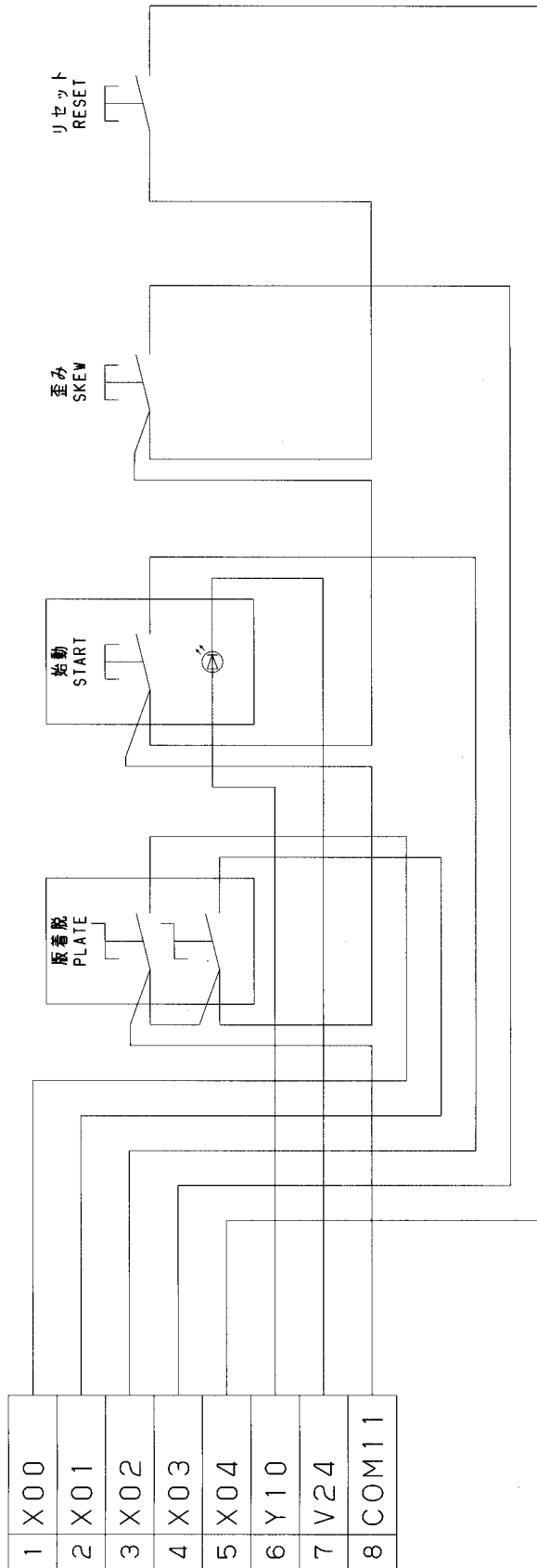
126 EPS第2制御BOX出力表
EPS NO.2 CONTROL BOX OUTPUT CONNECTIONS



CN12

10	9	8	7	6	5	4	3	2	1
N24	X37	Y36	Y35	Y34	X33	Y32	Y31	Y30	
BK	GY	GY	GY	GN	GY	GY	RD	GY	
20	19	18	17	16	15	14	13	12	11
N24	Y47	Y46	Y45	Y44	Y43	Y42	Y41	Y40	
BK					GN	GY	GY	GN	

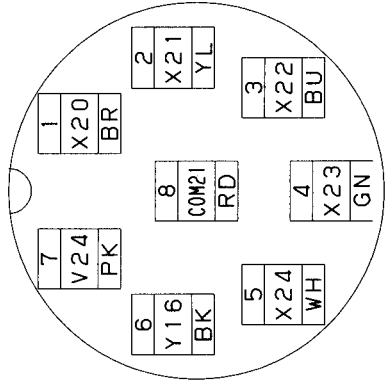
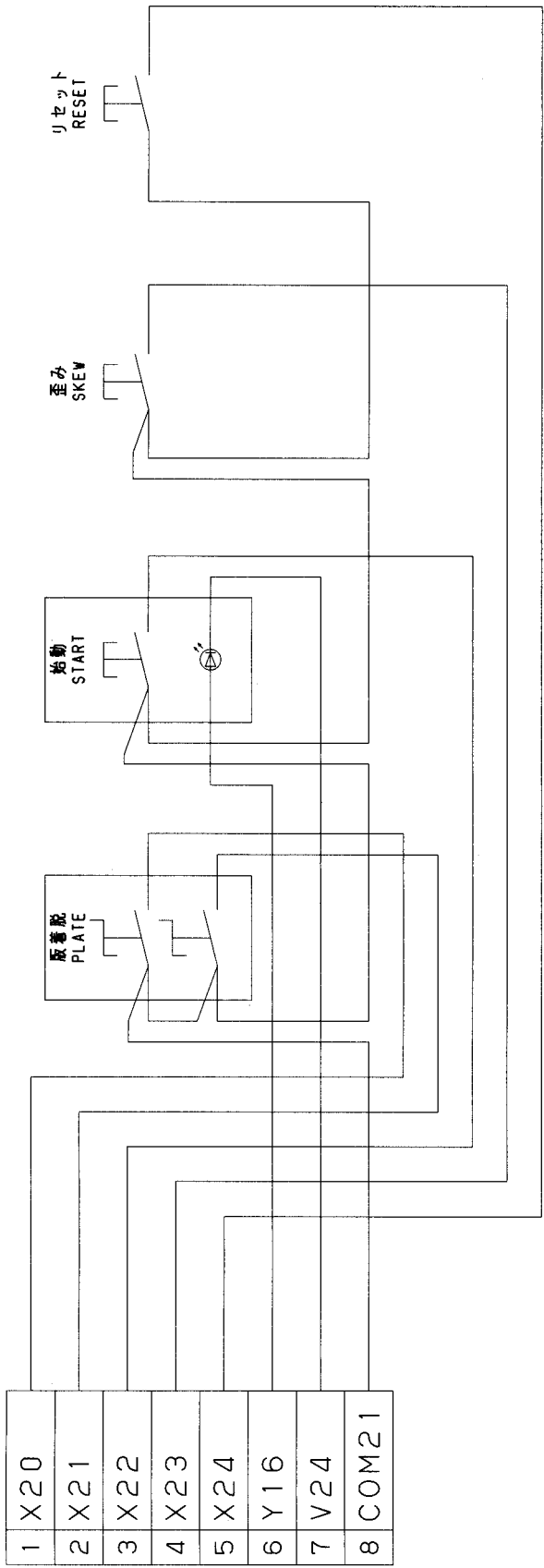
1P EPSハネル
1P EPS OPERATION PANEL CONNECTIONS
RT25-P8M



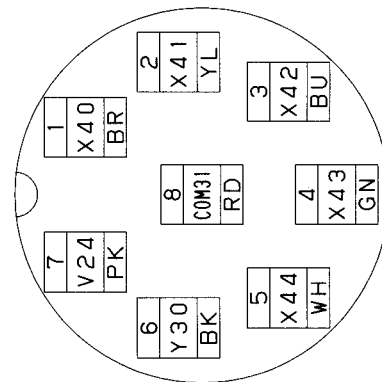
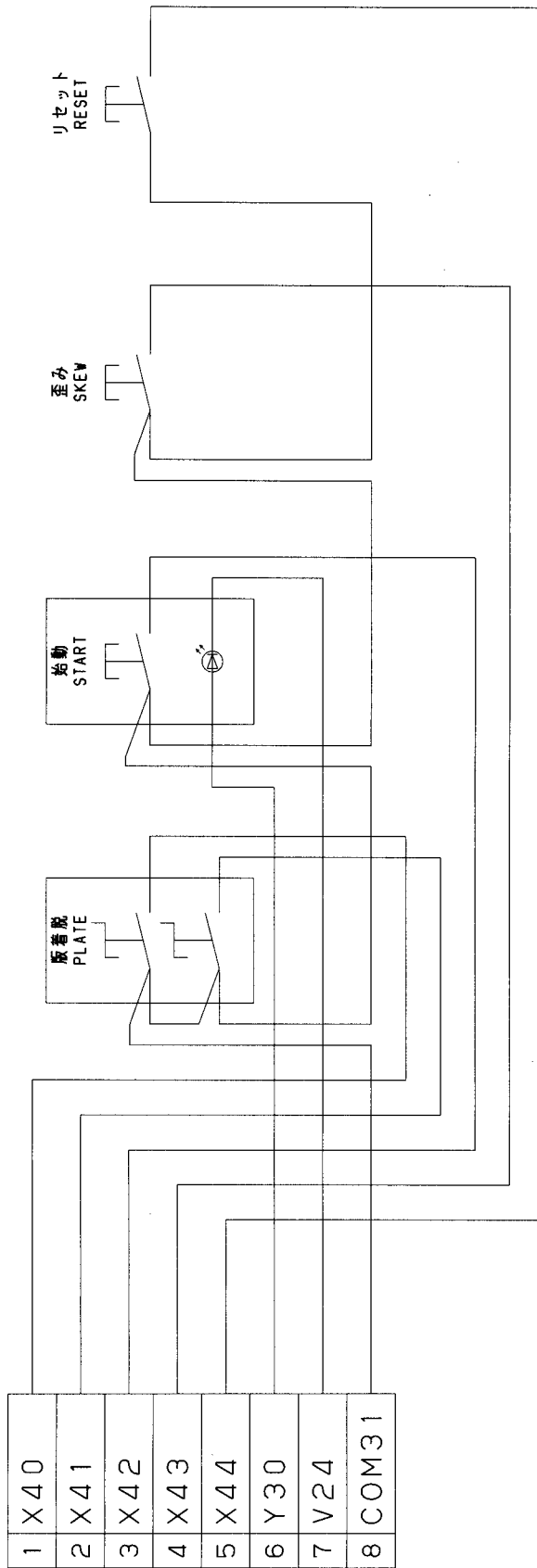
2P EPSハ°ネル

2P EPS OPERATION PANEL CONNECTIONS

RT25-P8M



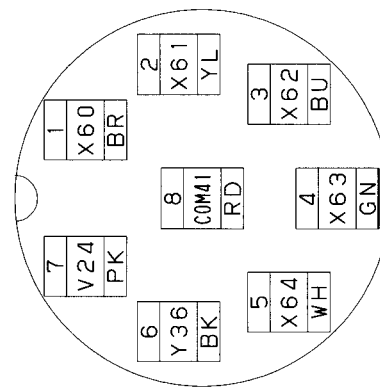
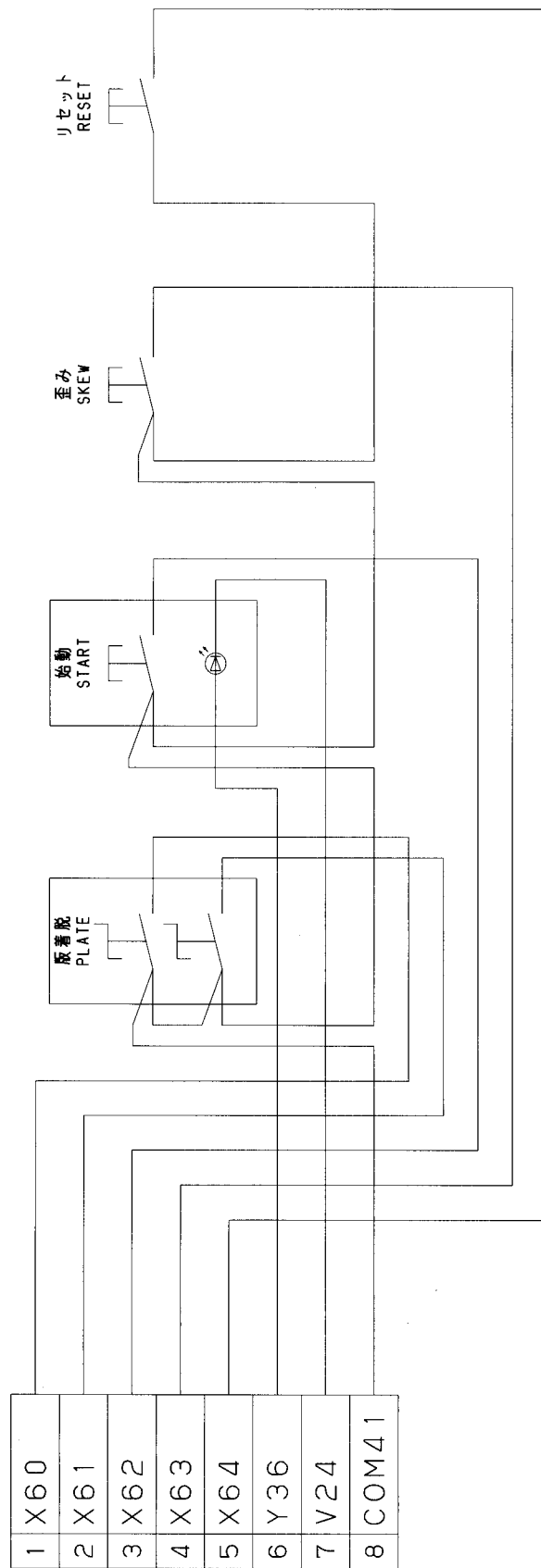
3P EPSハ°ネル
3P EPS OPERATION PANEL CONNECTIONS
RT25-P8M



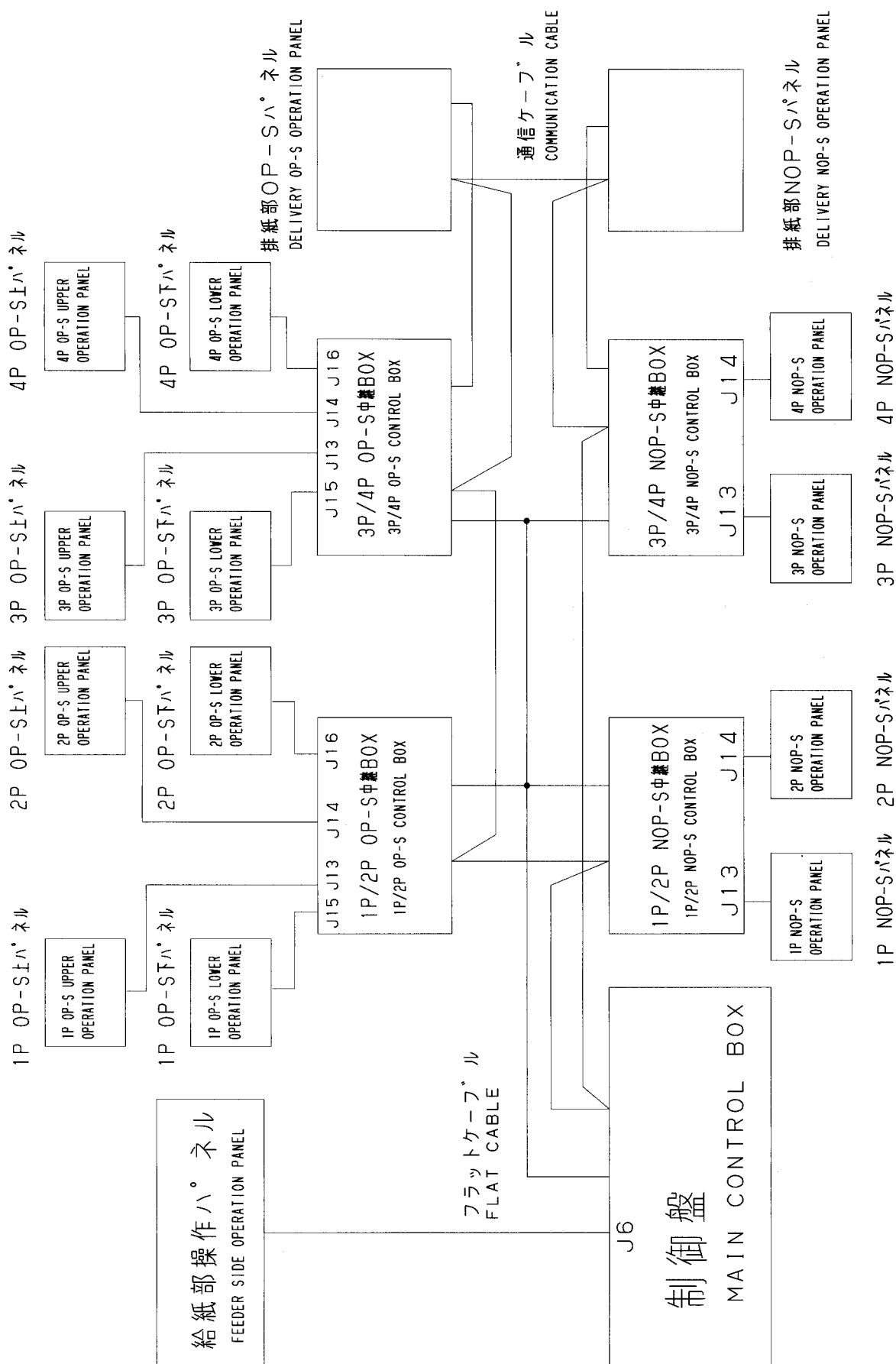
4P EPSハ°ネル

4P EPS OPERATION PANEL CONNECTIONS

RT25-P8M

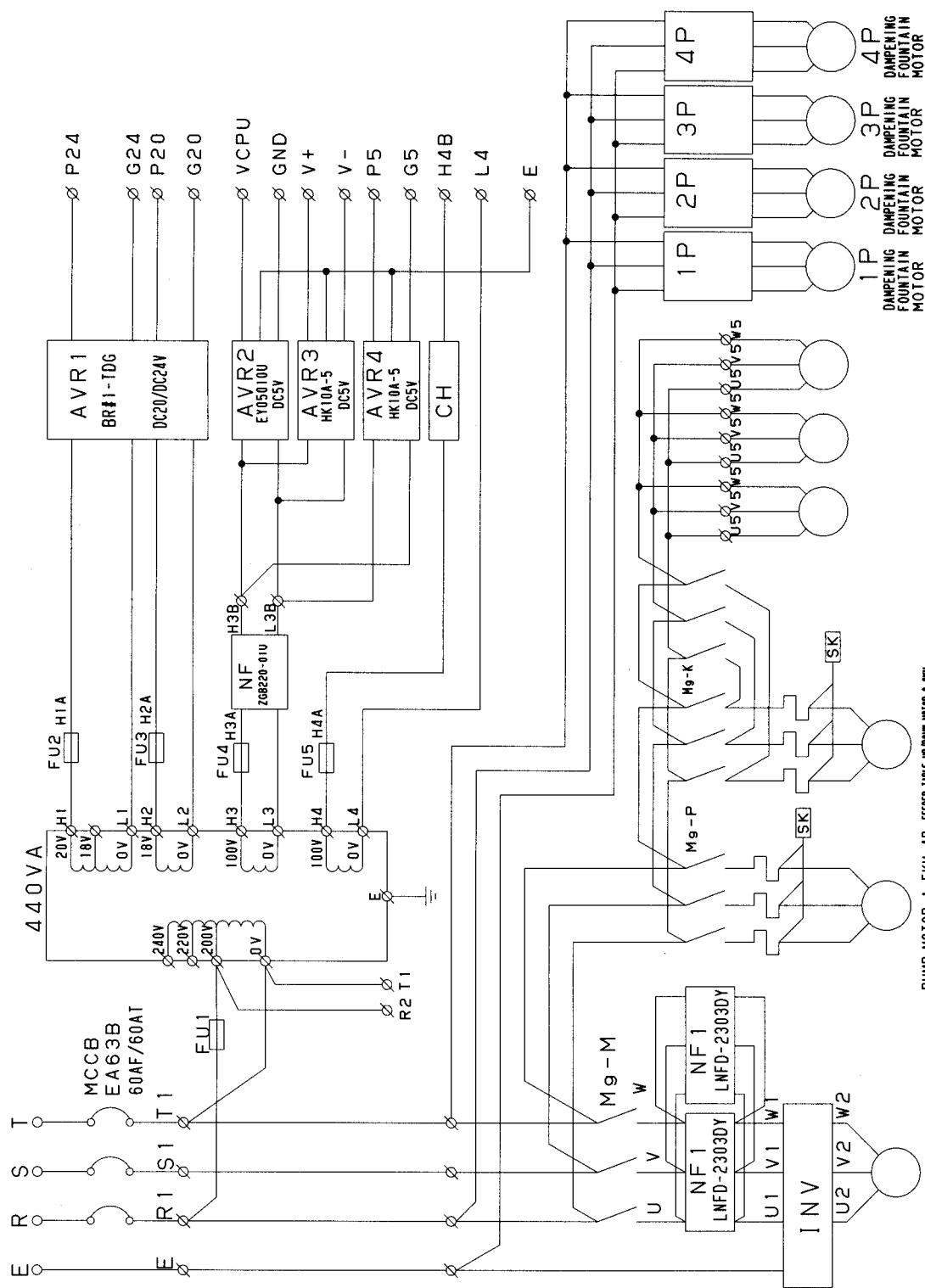


結線系統図 (ブロック図) (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
CONNECTIONS

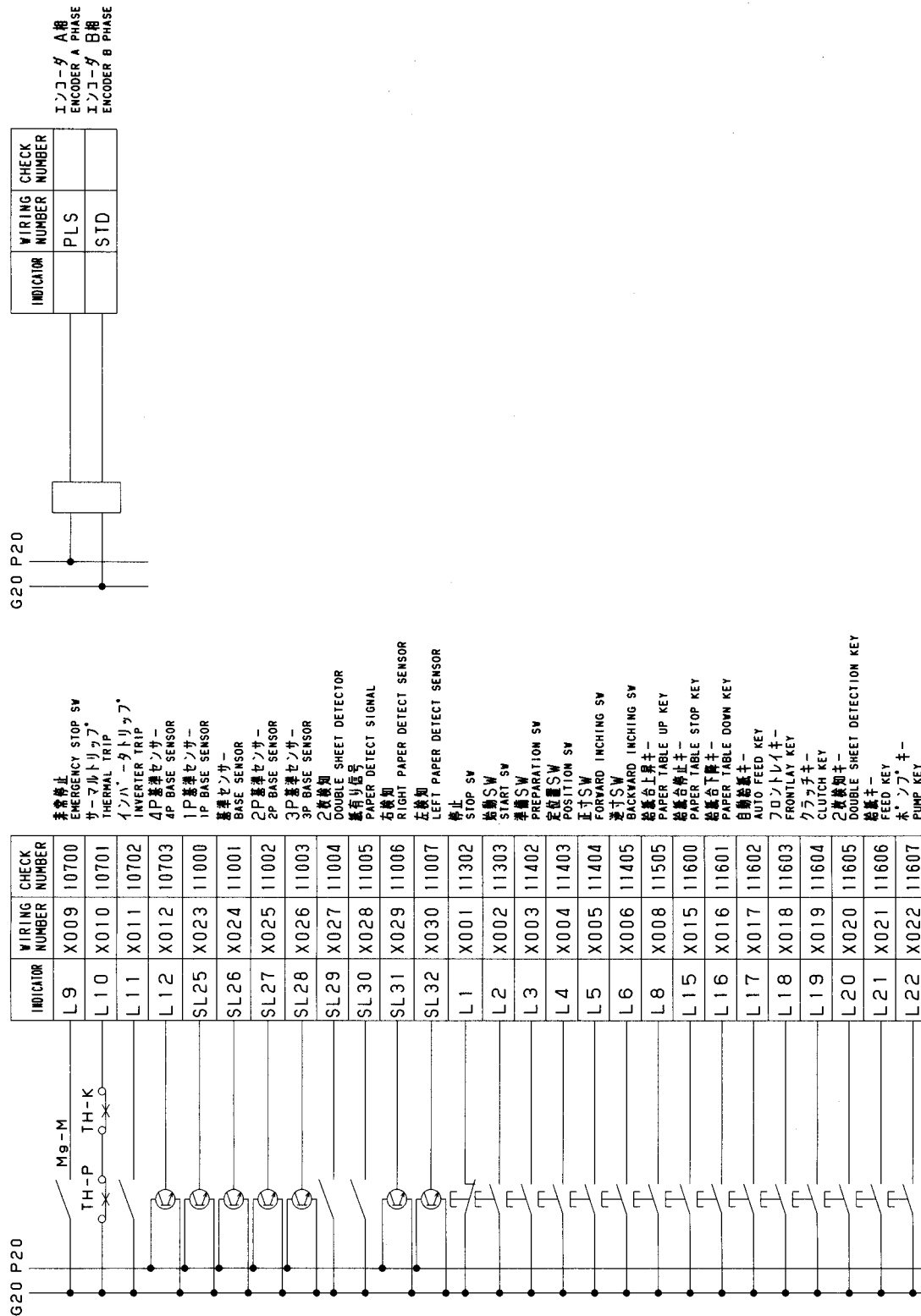


制御盤内回路図 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)

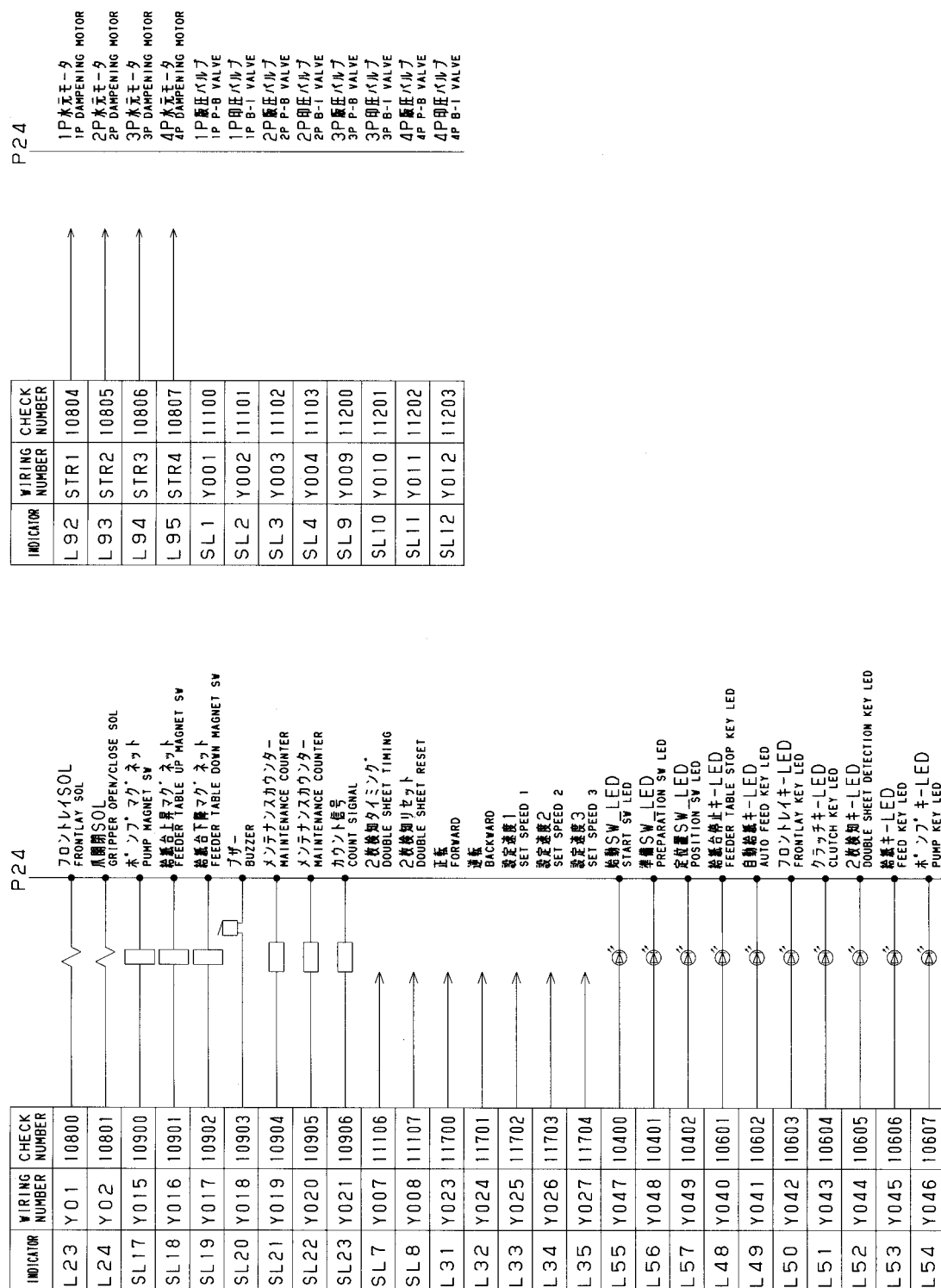
CONTROL BOX CONNECTIONS



制御盤内入力回路図 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)



MAIN BOARD OUTPUT CONNECTIONS



24

P 24

メイン基板コネクタ一表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BW-8L037, BW-8L038~)

MAIN CPU BOARD

J001			J002			J003			J004			J006			J020			J021			J014																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
1			1	2	3	1	2		1	2	3	4	1	3	5	1	2		1	2		1	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			VCPU	VCPU	VCPU	R2	R2		P24	P24	G24	G24	X001	X002	X003	X004	X005	X006	X007	X008	G20	P5	Y031	Y032	Y033	Y034	Y035	Y036	Y037	Y038	G5	G24	P24	P24	G24	Y047	Y048	Y049	Y050																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			BU	BU	BU	YL	YL	BU	BU	BU	BU	BU	RD	GY	GN	GY	GY	GY	GY	GN	GY	GY	GY	GY	GY	GY	GY	GY	GN	GY	GY	GN	GY	GN	GY	GN	GY	GN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			4	5	6	4	3	7	5	6	7	8	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
			GND	GND	GND	T1	T1		P20	P20	G20	G20	X015	X016	X017	X018	X019	X020	X021	X022	G20	P5	Y039	Y040	Y041	Y042	Y043	Y044	Y045	Y046	G5	G24	P24	P24	Y051	Y052	P24	P24A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			BU	BU	BU	YL	YL		BU	BU	BU	BU	GY	GY	GN	GY	GY	GY	GY	GY	GY	GY	GN	GY	GN	GY	GY	GN	GY	GN	GY	GN	GY	GN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
J019			J020			J003			J004			J006			J020			J021			J014																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
1	5	G5	1	2	3	1	2		1	2		1	2		1	2		1	2		1	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			P24	PLS	G24	P24	STD	G24	P24	G24		V+	V-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
			RD	WH	BK	YL	BR	GN	BU	BU		BU	BU																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

SUB CPU BOARD

J002A

1	2	3	4
P24	P24	G24	G24
BU	BU	BU	BU
5	6	7	8
P20	P20	G20	G20
BU	BU	BU	BU

J003A

1	3	5	7	9	11	13	15	17	19	21	23	25
Y001	Y002	Y003	Y004	Y005	Y006							P24
RD	GY	GN	GY	GY	GY	GY	GN	GY	GY	GY	GY	GN
2	4	6	8	10	12	14	16	18	20	22	24	26
GY	GY	GY	GY	GN	GY	GY	GY	GY	GN	GY	GY	P24
												GY

J004A

1	3	5	7	9	11	13	15	17	19	21	23	25
Y009	Y010	Y011	Y012	Y013	Y014							P24
RD	GY	GN	GY	GY	GY	GY	GN	GY	GY	GY	GY	GN
2	4	6	8	10	12	14	16	18	20	22	24	26
GY	GY	GY	GY	GY	GN	GY	GY	GY	GN	GY	GY	GY

J005A

1	2
G20	Y007
BU	BU
3	4
G20	Y008
BU	BU

J007A

1	2	3	4	5	6	7	8
P24	Y015	P24	Y016	P24	Y017	P24	Y018
BU	BU	BU	BU	BU	BU	BU	BU
9	10	11	12	13	14	15	16
P24	Y019	P24	Y020	P24	Y021	P24	Y022
BU	BU	BU	BU	BU	BU	BU	BU

J008A

1	2	3
P20	X023	G20
RD	WH	BK

J009A

1	2	3
P20	X024	G20
RD	WH	BK

J010A

1	2	3
P20	X025	G20
RD	WH	BK

J011A

1	2	3
P20	X026	G20
RD	WH	BK

J012A

1	2	3
P20	X027	G20
	BU	

J013A

1	2	3
P20	X028	G20
	BU	

J014A

1	2	3
P20	X029	G20
RD	WH	BK

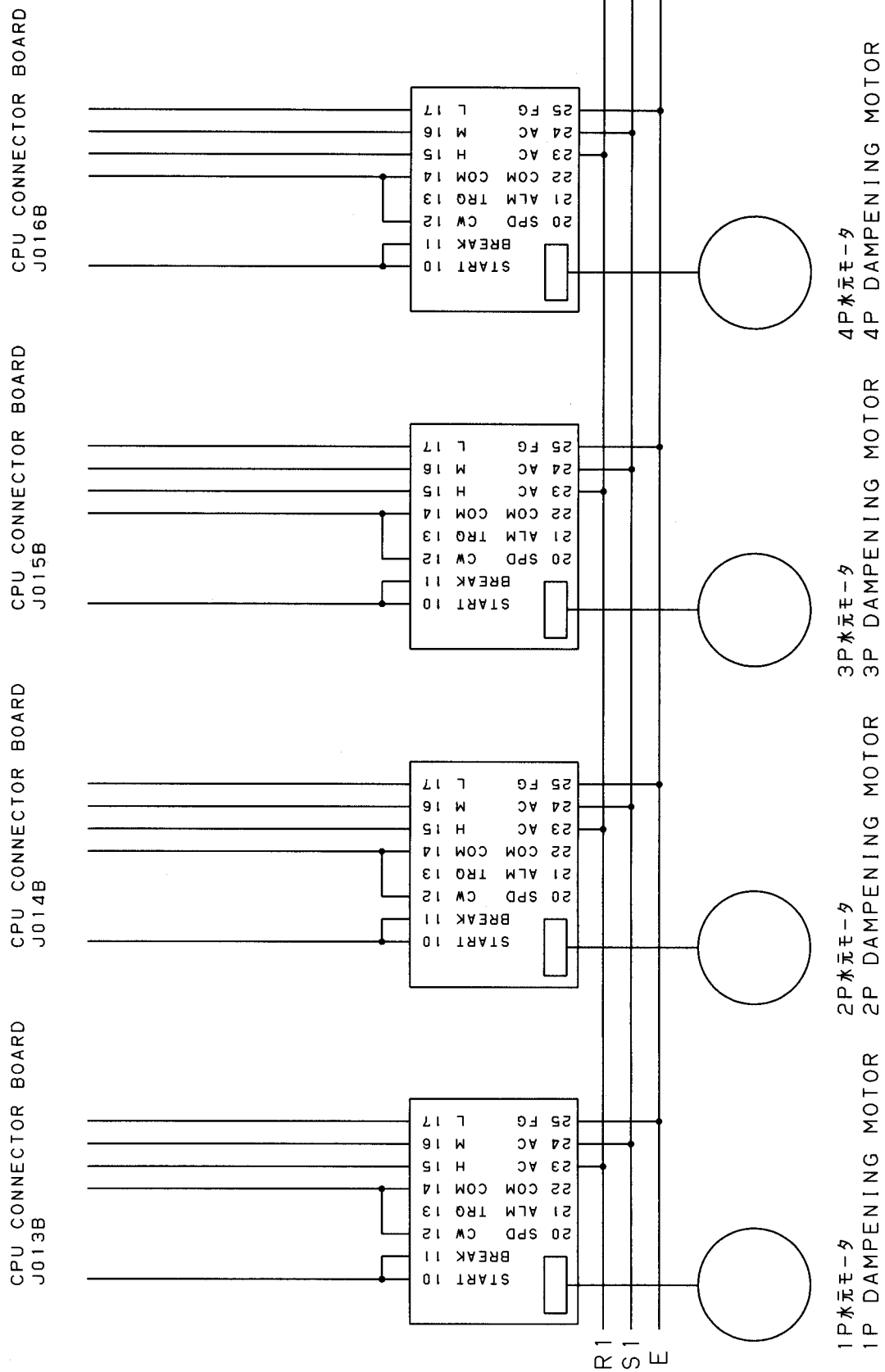
J015A

1	2	3
P20	X030	G20
	GN	

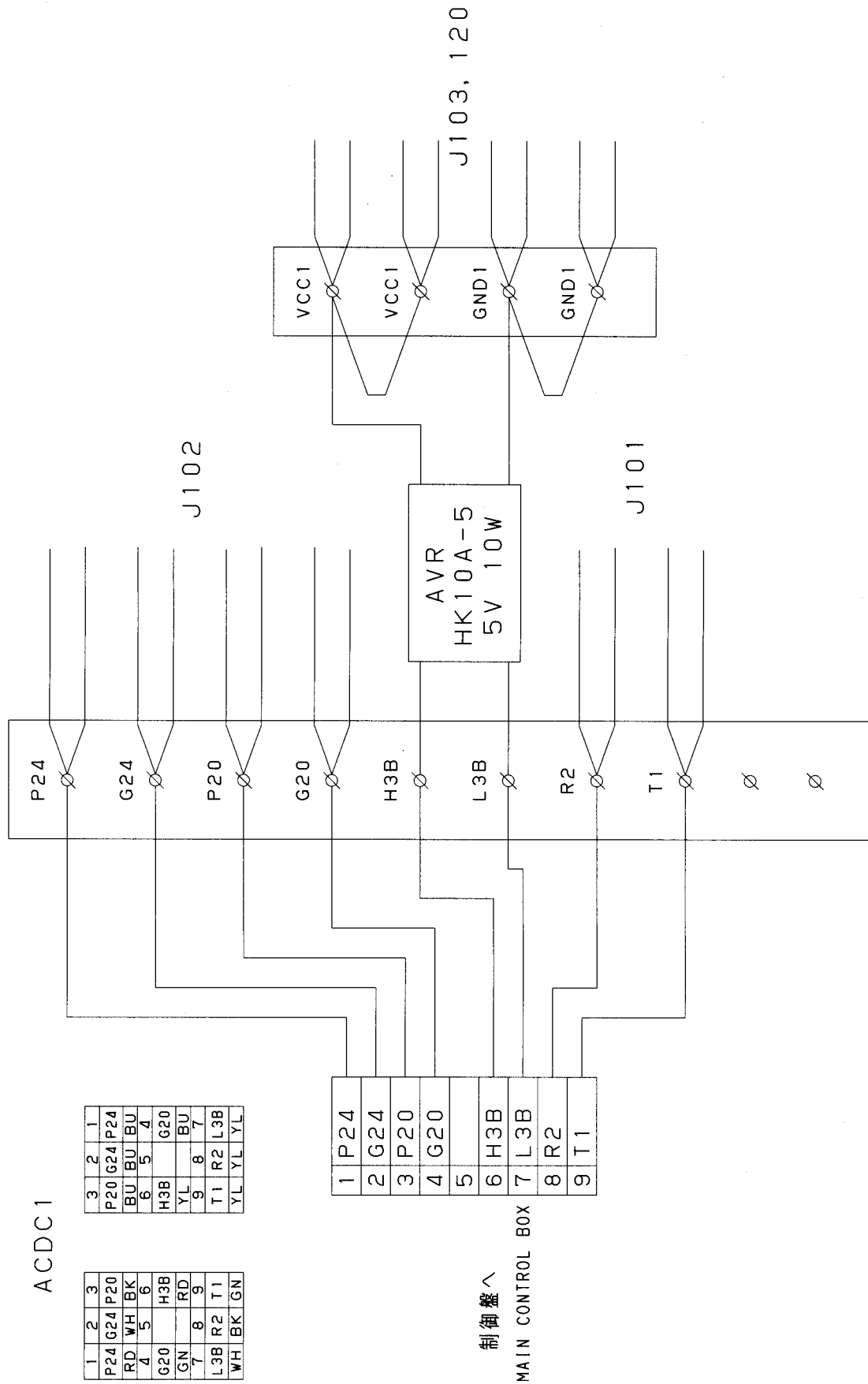
CPU CONNECTOR BOARD

[illegible]

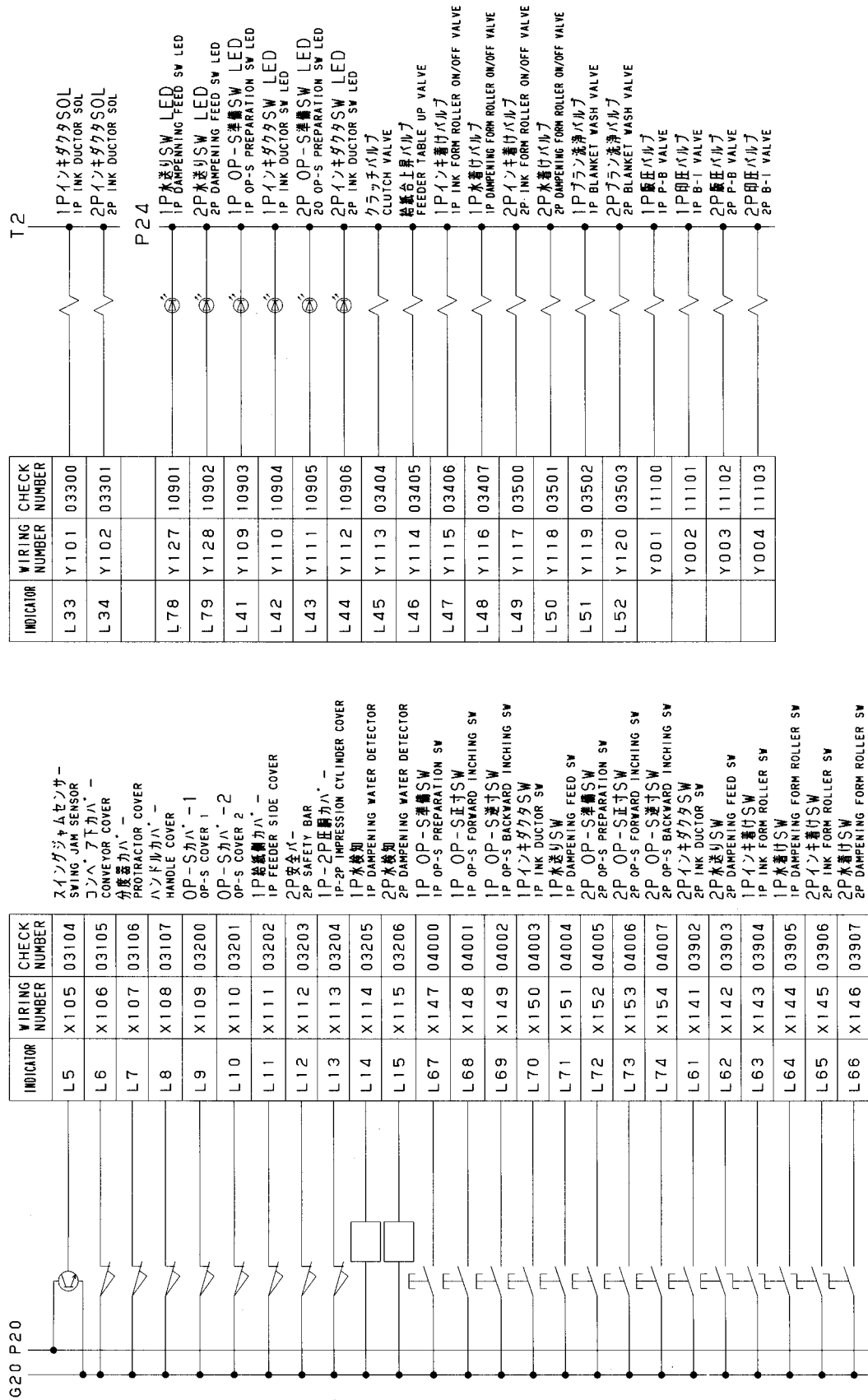
水元モータ結線図
DAMPENING MOTOR CONNECTIONS



1P/2P OP-S 中継BOX 電源回路 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 1P/2P OP-S CONTROL BOX CONNECTIONS



1P/2P OP-S 中継BOX 入出力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
1P/2P OP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



1P/2P OP-S 中継基板コネクタ一表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)

1P/2P OP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J101				J102				J103				J112				J113				J114				
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
R2	R2	P24	P24	P24	P24	G24	G24	VCC1	VCC1	VCC1	VCC1	P24	G24	P24	G24	P24	Y110	X147	X149	X151	P24	Y112	X152	X154
YL	YL	BU	BU	BU	BU	BU	BU	BU	BU	BU	BU	BU	BU	RD	BK	BU	BR	OR	RD	BK	BU	BR	OR	
3	4	5	6	7	8	9	10	4	5	6	7	2	4	6	8	10	2	4	6	8	10	2	4	6
T1	T1	P20	P20	P20	P20	G20	G20	GND1	GND1	GND1	GND1	Y109	Y127	X148	X150	G20	Y109	Y127	X148	X150	G20	Y111	Y128	X153
YL	YL	BU	BU	BU	BU	BU	BU	BU	BU	BU	BU	WH	YL	GN	GY	LB	WH	YL	GN	GY	LB	WH	YL	GN

J115				J116				J117			
1	2	3	4	5	1	2	3	4	5	1	2
X143	X144	G20	P24	G24	X145	X146	G20	P24	G24	VCC1	GND1
RD	WH	BK	YL	BU	RD	WH	BK	YL	BU	BU	BU

CONNECTOR BOARD 1

J117A				J123A				J124A				J125A				J126A			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Y101	T2	BK	WH	Y102	T2	BK	WH	P24A	P24C	P24B	P24B	P24B	P24C	GN	BR	BU	BU	BU	BU
3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

CONNECTOR BOARD 2

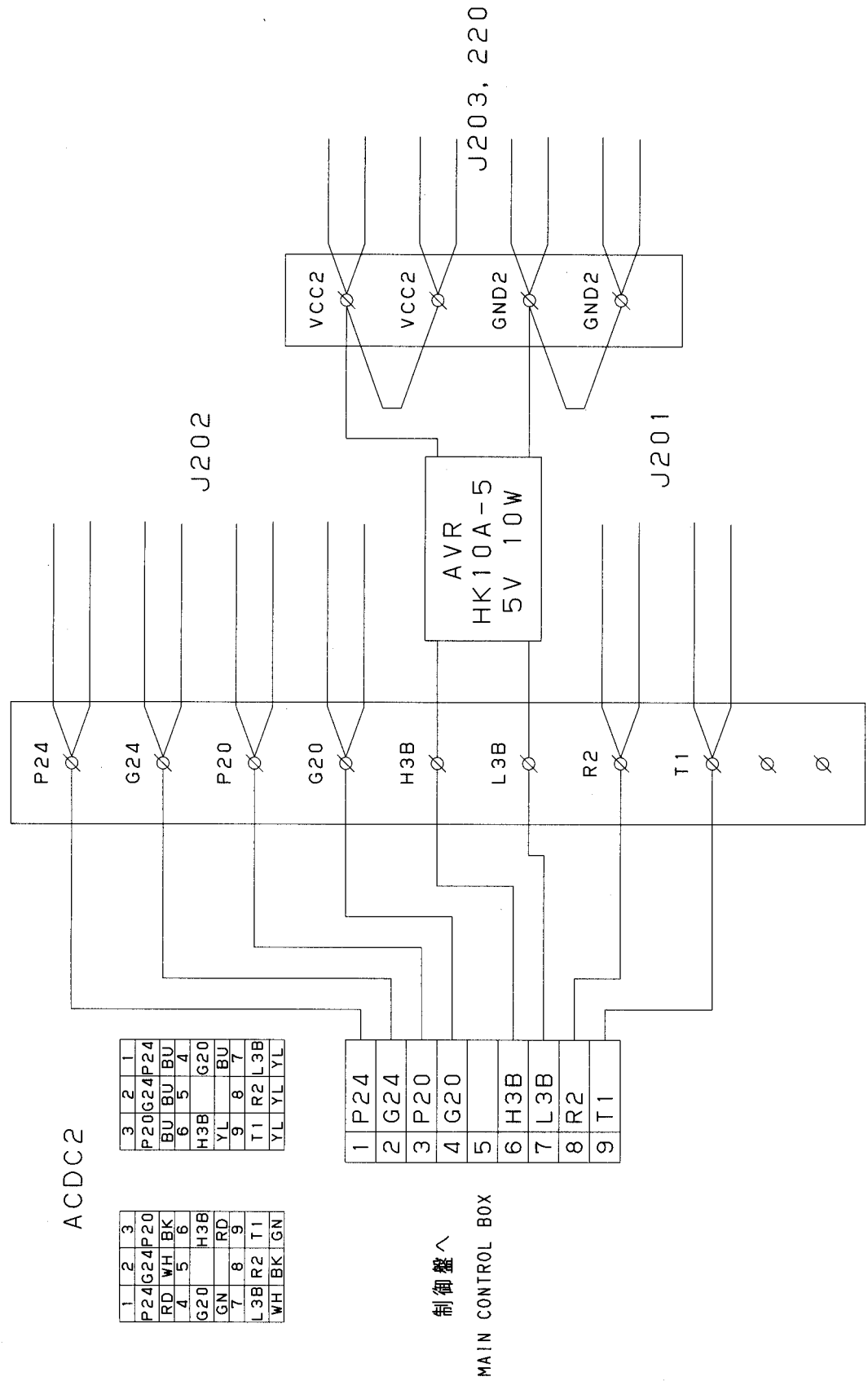
J165A				J166A				J167A			
1	2	3	4	1	2	3	4	1	2	3	4
Y001	Y002	Y003	Y004	Y005	Y001	Y002	Y003	Y004	Y005	Y113	Y114
RD	GY	GN	GY	GY	RD	GY	GN	GY	GY	RD	GY
2	4	6	8	10	2	4	6	8	10	2	4
GY	GY	GY	GN	GN	GY	GY	GN	GN	GY	GY	GY
25	26	27	28	29	25	26	27	28	29	25	26
GY	GY	GY	GN	GN	GY	GY	GN	GN	GY	GY	GY

CONNECTOR BOARD 3

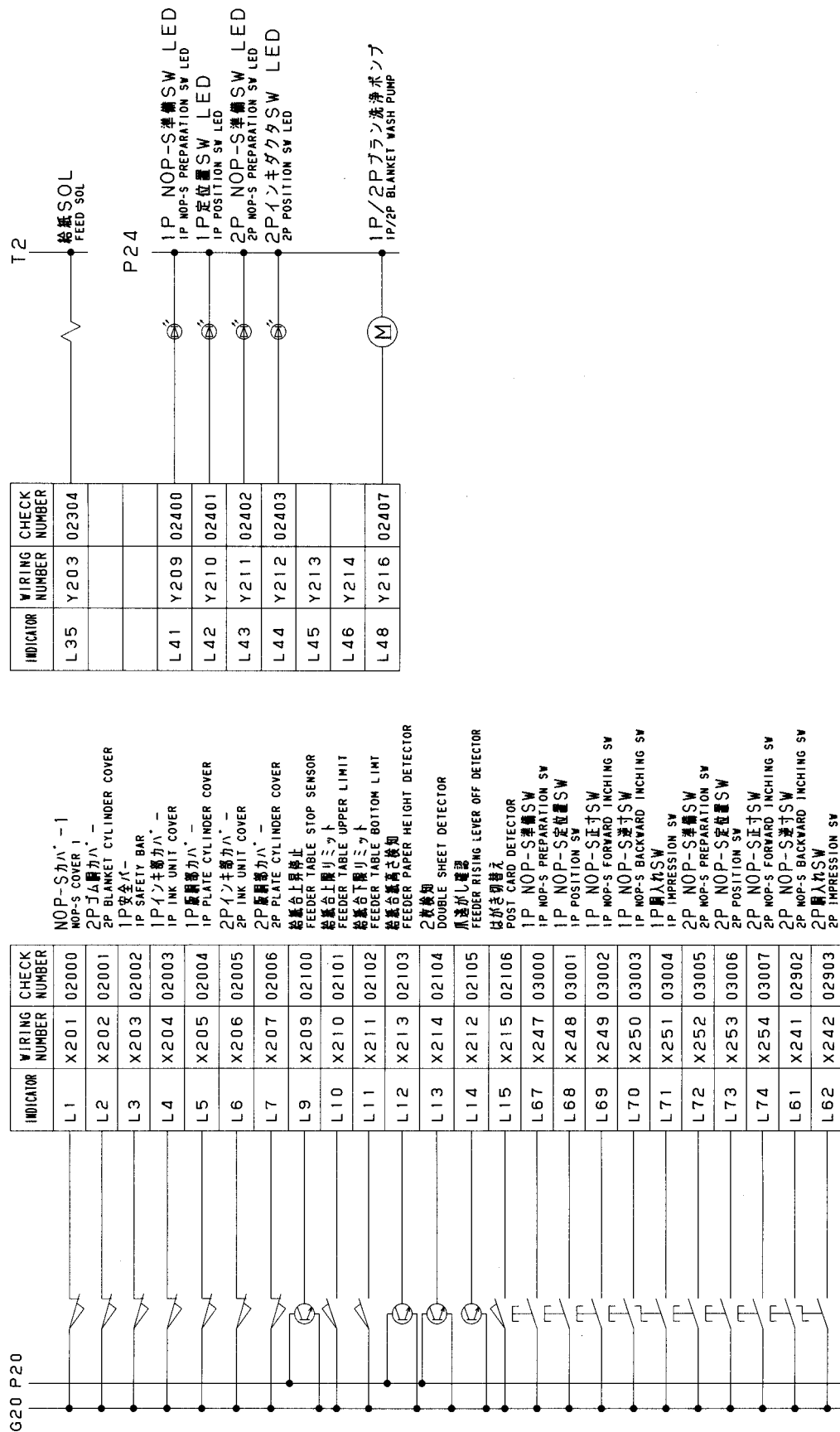
J131A				J132A				J133A				J134A				J135A				J136A				J137A				J138A				J139A			
1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3		1	2	3					
P20	X105	G20		X106	G20		X107	G20		X108	G20		X109	G20		X110	G20		X111	G20		X112	G20		X113	G20		WH	BK						
RD	WH	BK					WH	BK					WH	BK					WH	BK															

J140A				J141A			
1	2	3		1	2	3	
		X114	G20			X115	G20
		WH	BK			WH	BK

1P/2P NOP-S 中継BOX電源回路 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
1P/2P NOP-S CONTROL BOX CONNECTIONS



1P/2P NOP-S 中継BOX 入出力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) 1P/2P NOP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



1P/2P NOP-S 中継基板コネクタ一表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)

1P/2P NOP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J201	J202	J203	J212	J213	J214
1 2 R2 R2 YL YL 3 4 T1 T1 YL YL	1 2 3 4 P24 P24 G24 G24 BU BU BU BU 5 6 7 8 P20 P20 G20 G20 BU BU BU BU	1 2 3 VCC2 VCC2 VCC2 BU BU BU 4 5 6 GND2 GND2 GND2 BU BU BU	1 2 P24 G24 BU BU	1 3 5 7 9 P24 Y212 X252 X254 X242 RD BK BU BR OR 2 4 6 8 10 Y211 Y228 X253 X241 G20 WH YL GN GY LB	1 3 5 7 9 P24 Y212 X252 X254 X242 RD BK BU BR OR 2 4 6 8 10 Y211 Y228 X253 X241 G20 WH YL GN GY LB

J220

1 2
VCC2 GND2
BU BU

CONNECTOR BOARD 1

J214A

1 2
Y203 T2
BK WH
3 4

CONNECTOR BOARD 2

J220A
1 2 3
P24
BK
4 5 6
Y216
WH

J223A
1 2
P24C P24E
WH BK

J224A
1 2
P24C P24D
LG PK

J225A
1 2
P24C P24E
LG PK

J226A
1 2
BU BU

CONNECTOR BOARD 3

J227A
1 2 3
X201 G20
WH BK

J228A
1 2 3
X202 G20
WH BK

J229A
1 2 3
X203 G20
WH BK

J230A
1 2 3
X204 G20
WH BK

J231A
1 2 3
X205 G20
WH BK

J232A
1 2 3
X206 G20
WH BK

J233A
1 2 3
X207 G20
WH BK

J235A
1 2 3
P20 X209 G20
RD WH BK

J236A
1 2 3
X210 G20
WH BK

J237A
1 2 3
X211 G20
WH BK

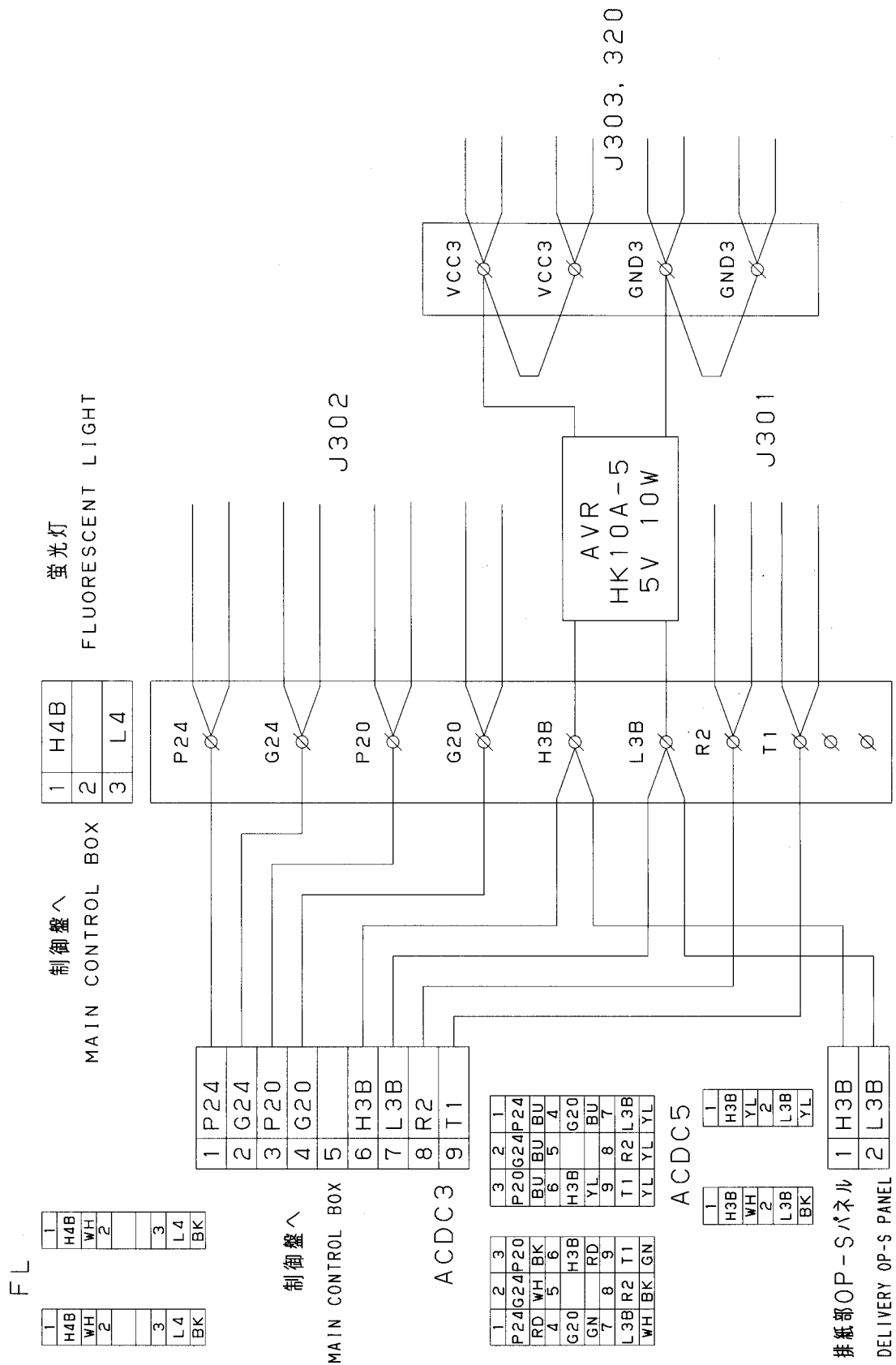
J238A
1 2 3
P20 X213 G20
RD WH BK

J239A
1 2 3
P20 X214 G20
WH BK

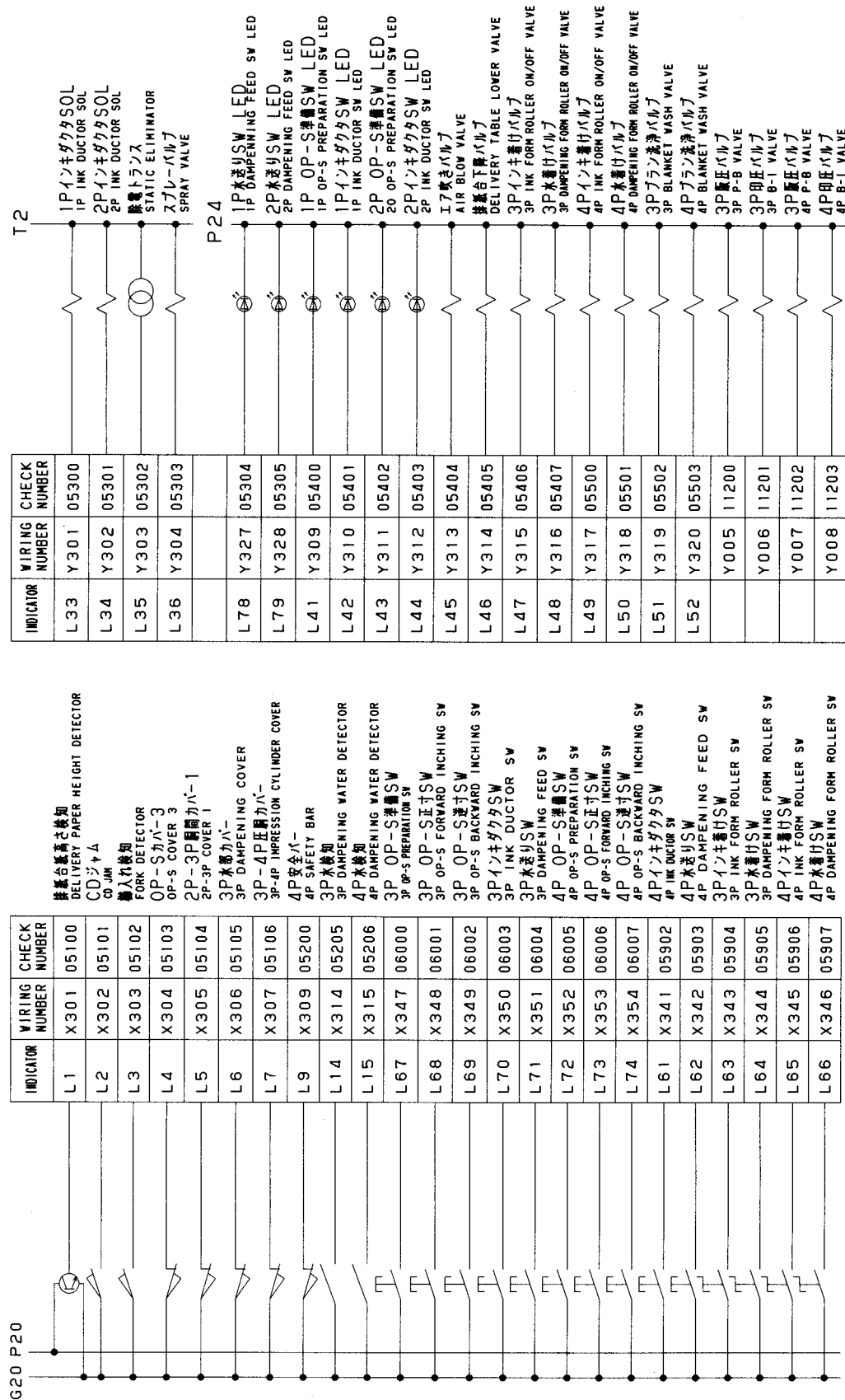
J240A
1 2 3
P20 X212 G20
RD WH BK

J241A
1 2 3
X215 G20
WH BK

3P/4P OP-S 中継BOX 電源回路 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) 3P/4P OP-S CONTROL BOX CONNECTIONS



3/4P OP-S 中継BOX 入出力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) 3P/4P OP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



3P/4P OP-S 中継基板コネクタ一表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
3P/4P OP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J301	J302	J303	J312	J313	J314
1 2 R2 R2 YL YL T1 T1 YL YL	1 2 3 4 P24 P24 G24 G24 BU BU BU BU 5 6 7 8 P20 P20 G20 G20 BU BU BU BU	1 2 3 VCC3 VCC3 VCC3 BU BU BU 4 5 6 GND3 GND3 GND3 BU BU BU	1 2 P24 G24 BU BU	1 3 5 7 9 P24 Y310 X347 X349 X351 RD BK BU BR OR 2 4 6 8 10 Y309 Y327 X348 X350 G20 WH YL GN GY LB	1 3 5 7 9 P24 Y312 X352 X354 X342 RD BK BU BR OR 2 4 6 8 10 Y311 Y328 X353 X341 G20 WH YL GN GY LB

J315	J316	J320
1 2 3 4 5 X343 X344 G20 P24 G24 RD WH BK YL BU	1 2 3 4 5 X345 X346 G20 P24 G24 RD WH BK YL BU	1 2 VCC3 GND3 BU BU

CONNECTOR BOARD 1

J314A	J317A
1 2 Y303 T2 BK WH 3 4 Y304 T2 BK WH	1 2 Y301 T2 BK WH 3 4 Y302 T2 BK WH

CONNECTOR BOARD 2

J323A	J324A	J325A	J326A
1 2 P24E P24G WH BK	1 2 P24E P24F GN BR	1 2 P24F P24G GN BR	1 2 BU BU

J365A

1 3 5 7 9 11 13 15 17 19 21 23 25 Y009 Y010 Y011 Y012 Y013 Y014 RD GY GN GY GY GN GY GY GN 2 4 6 8 10 12 14 16 18 20 22 24 26 GY GY GY GY GN GY GY GY GY P24	
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J366A

1 3 5 7 9 11 13 15 17 19 21 23 25 Y009 Y010 Y011 Y012 Y013 Y014 RD GY GN GY GY GN GY GY GN 2 4 6 8 10 12 14 16 18 20 22 24 26 GY GY GY GY GN GY GY GY GY P24	
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J367A

1 3 5 7 9 11 13 15 17 19 21 23 25 Y313 Y314 Y315 Y316 Y317 Y318 Y319 Y320 RD GY GN GY GY GN GY GY GN 2 4 6 8 10 12 14 16 18 20 22 24 26 GY GY GY GY GN GY GY GY GY P24	
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CONNECTOR BOARD 3

J327A
1 2 3 P20 X301 G20 RD WH BK

J328A
1 2 3 X302 G20 WH BK

J329A
1 2 3 X303 G20 WH BK

J330A
1 2 3 X304 G20 WH BK

J331A
1 2 3 X305 G20 WH BK

J332A
1 2 3 X306 G20 WH BK

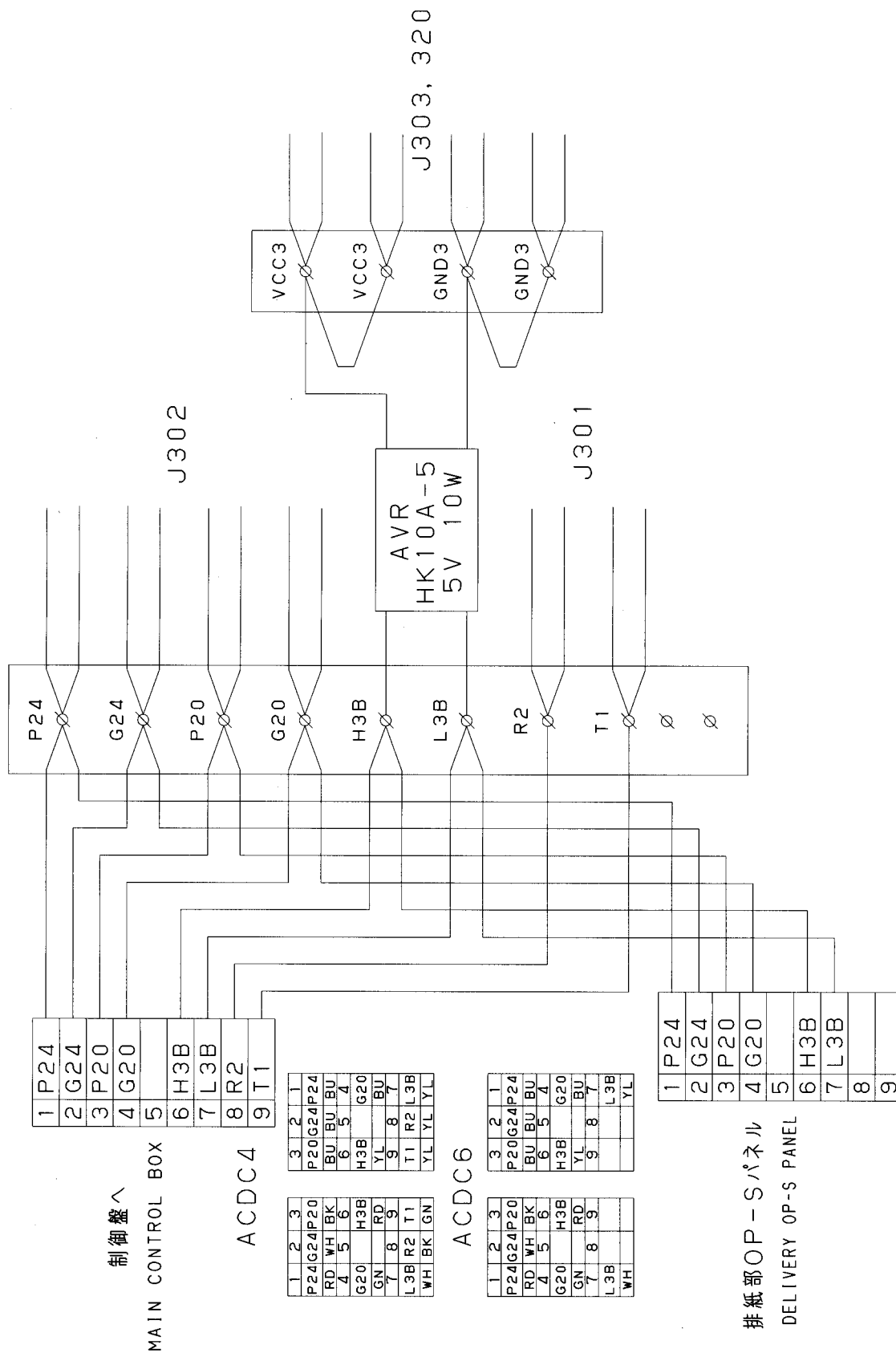
J333A
1 2 3 X307 G20 WH BK

J335A
1 2 3 X309 G20 WH BK

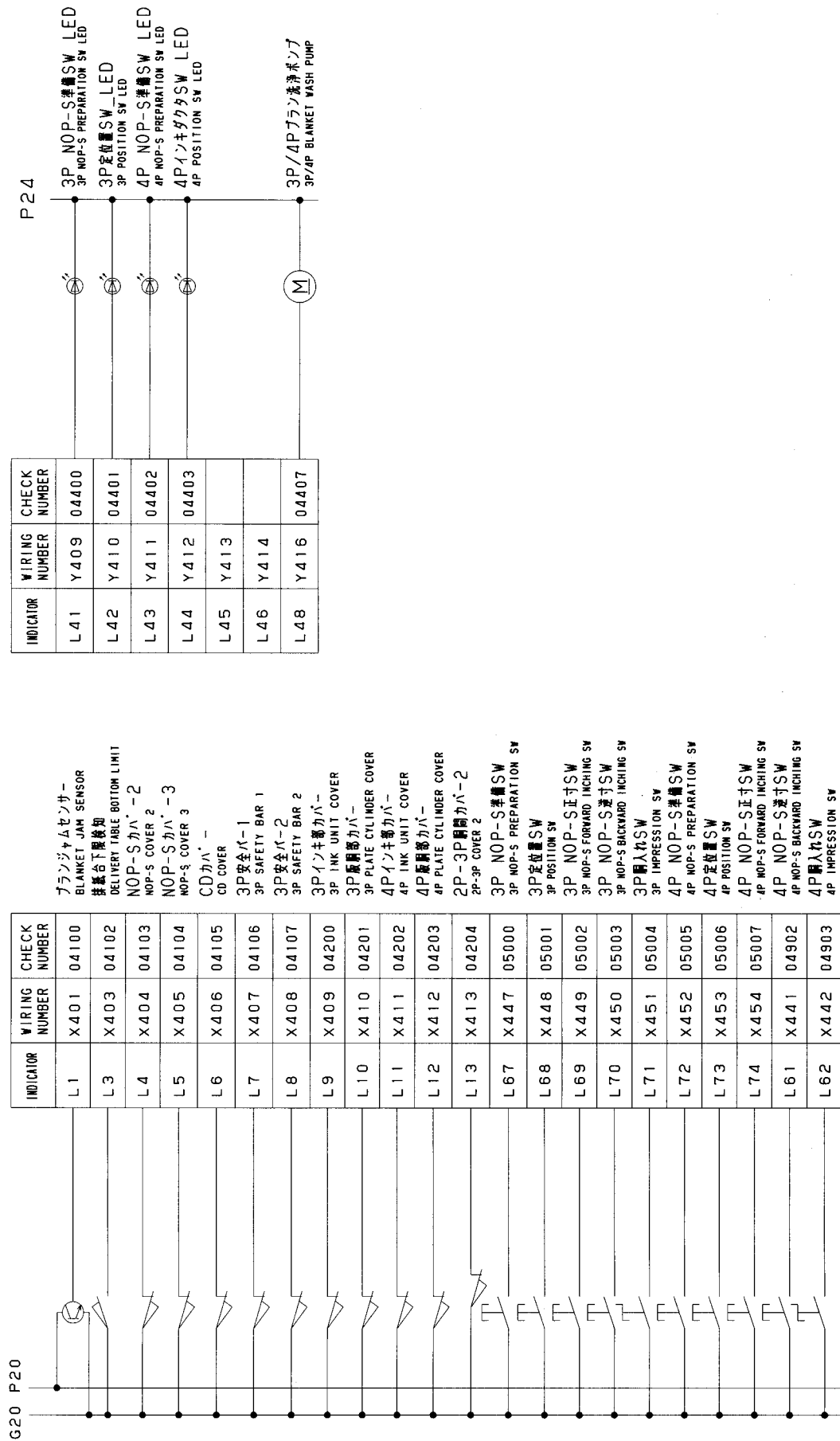
J340A
1 2 3 X314 G20 WH BK

J341A
1 2 3 X315 G20 WH BK

146 3P/4P NOP-S 中継BOX 電源回路 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
3P/4P NOP-S CONTROL BOX CONNECTIONS



3/4P NOP-S中継BOX入出力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) 3P/4P NOP-S CONTROL BOX INPUT/OUTPUT CONNECTIONS



3P/4P NOP-S 中継基板コネクター表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) 3P/4P NOP-S CONTROL BOARD CONNECTOR TABLE

MAIN BOARD

J401	J402	J403	J412	J413	J414
1 2 R2 R2 YL YL 3 4 T1 T1 YL YL	1 2 3 4 P24 P24 G24 G24 BU BU BU BU 5 6 7 8 P20 P20 G20 G20 BU BU BU BU	1 2 3 VCC4 VCC4 VCC4 BU BU BU 4 5 6 GND4 GND4 GND4 BU BU BU	1 2 P24 G24 BU BU	1 3 5 7 9 P24 Y410 X447 X449 X451 RD BK BU BR OR 2 4 6 8 10 Y409 Y427 X448 X450 G20 WH YL GN GY LB	1 3 5 7 9 P24 Y412 X452 X454 X442 RD BK BU BR OR 2 4 6 8 10 Y411 Y428 X453 X441 G20 WH YL GN GY LB

J420
1 2 VCC4 GND4 BU BU

CONNECTOR BOARD 2

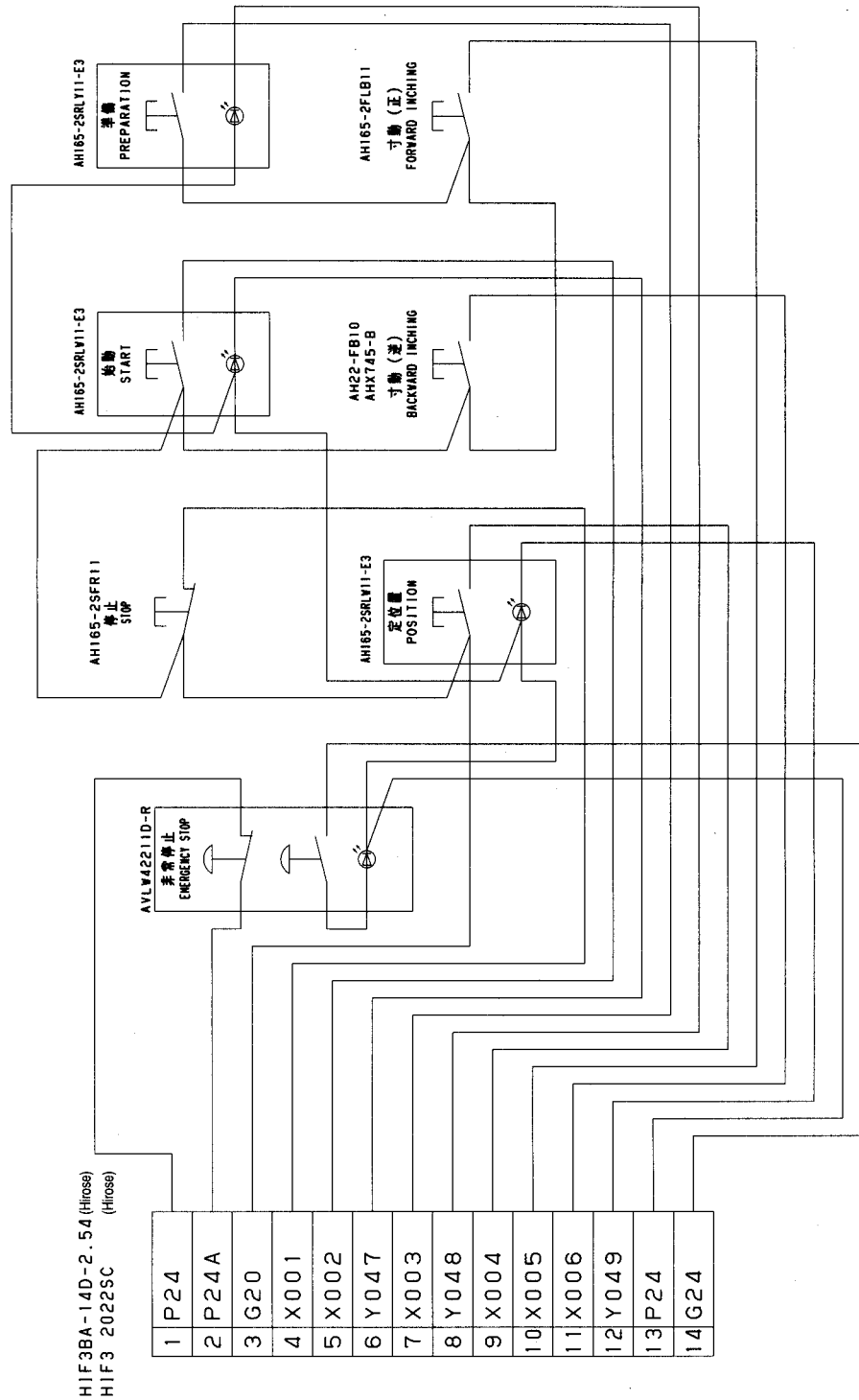
J420A	J423A	J424A	J425A	J426A
1 2 3 P24 BK 4 5 6 Y416 WH	1 2 P24G P24J WH BK	1 2 P24G P24H LG PK	1 2 P24H P24I LG PK	1 2 P24I P24J WH BK

CONNECTOR BOARD 3

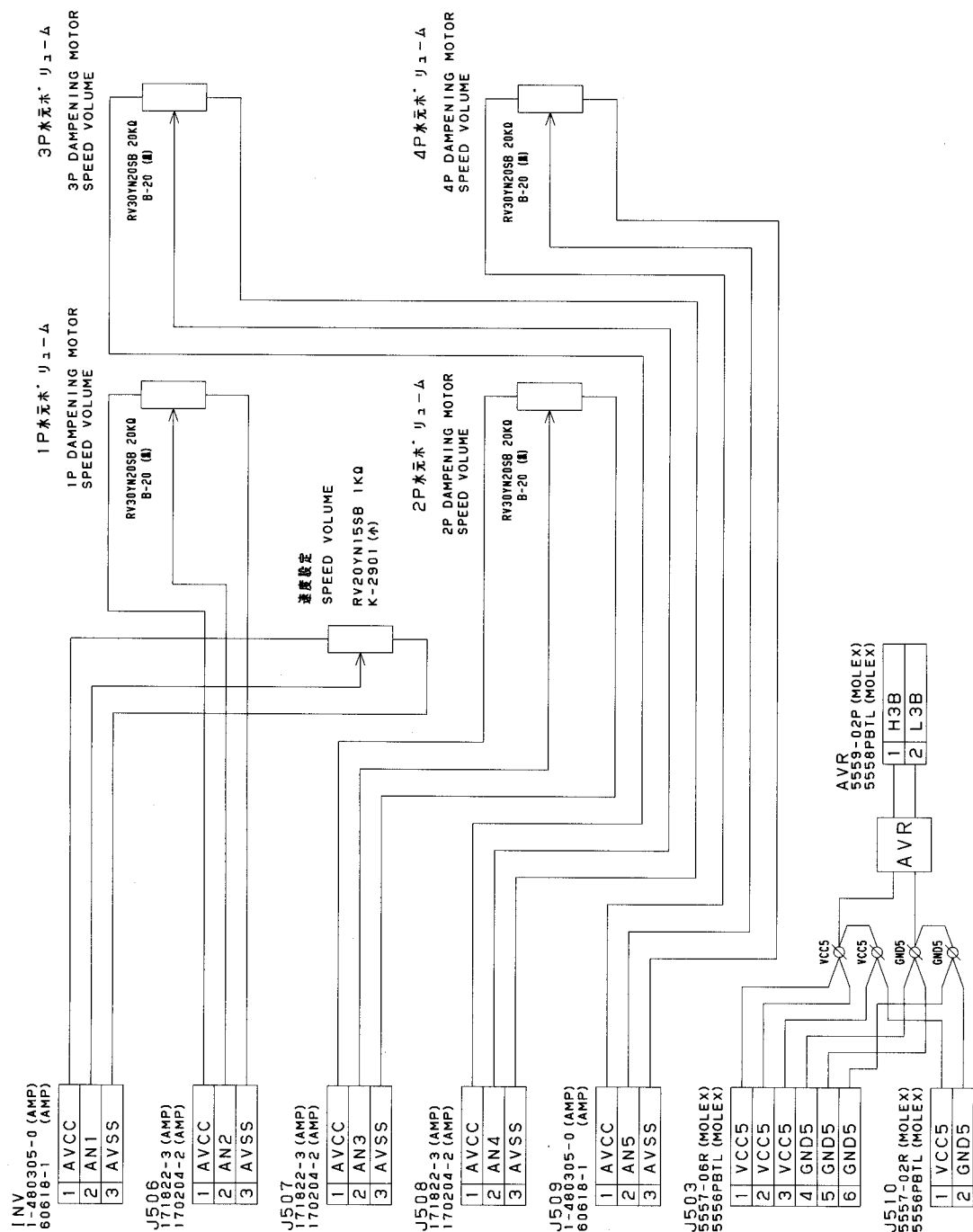
J427A	J429A	J430A	J431A	J432A	J433A	J434A	J435A	J436A
1 2 3 P20 X201 G20 RD WH BK	1 2 3 X403 G20 WH BK	1 2 3 X404 G20 WH BK	1 2 3 X405 G20 WH BK	1 2 3 X406 G20 WH BK	1 2 3 X407 G20 WH BK	1 2 3 X408 G20 WH BK	1 2 3 X409 G20 WH BK	1 2 3 X410 G20 WH BK

J437A	J438A	J439A
1 2 3 X411 G20 WH BK	1 2 3 X412 G20 WH BK	1 2 3 X413 G20 WH BK

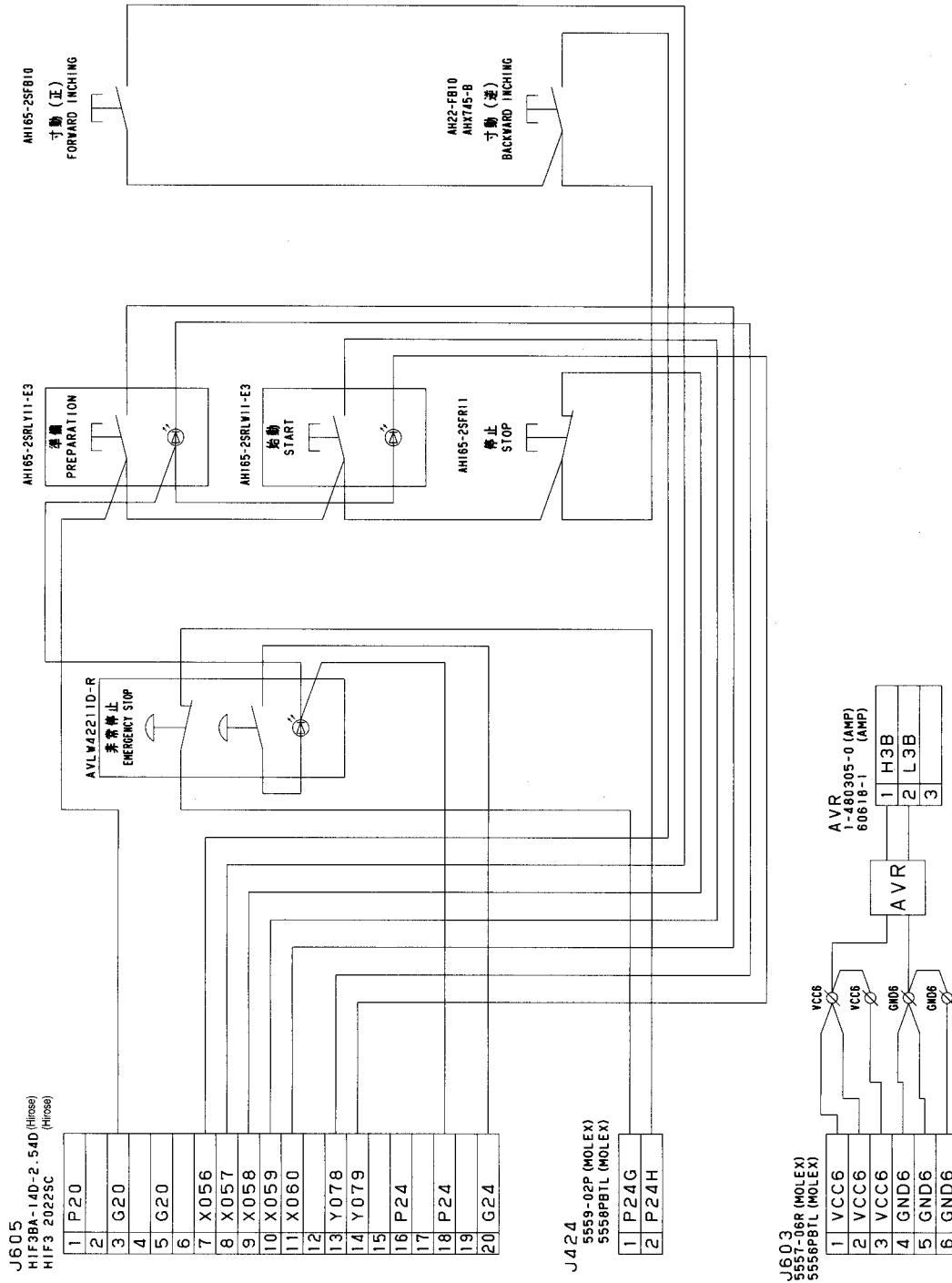
給紙部操作パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
FEEDER SIDE OPERATION PANEL CONNECTIONS



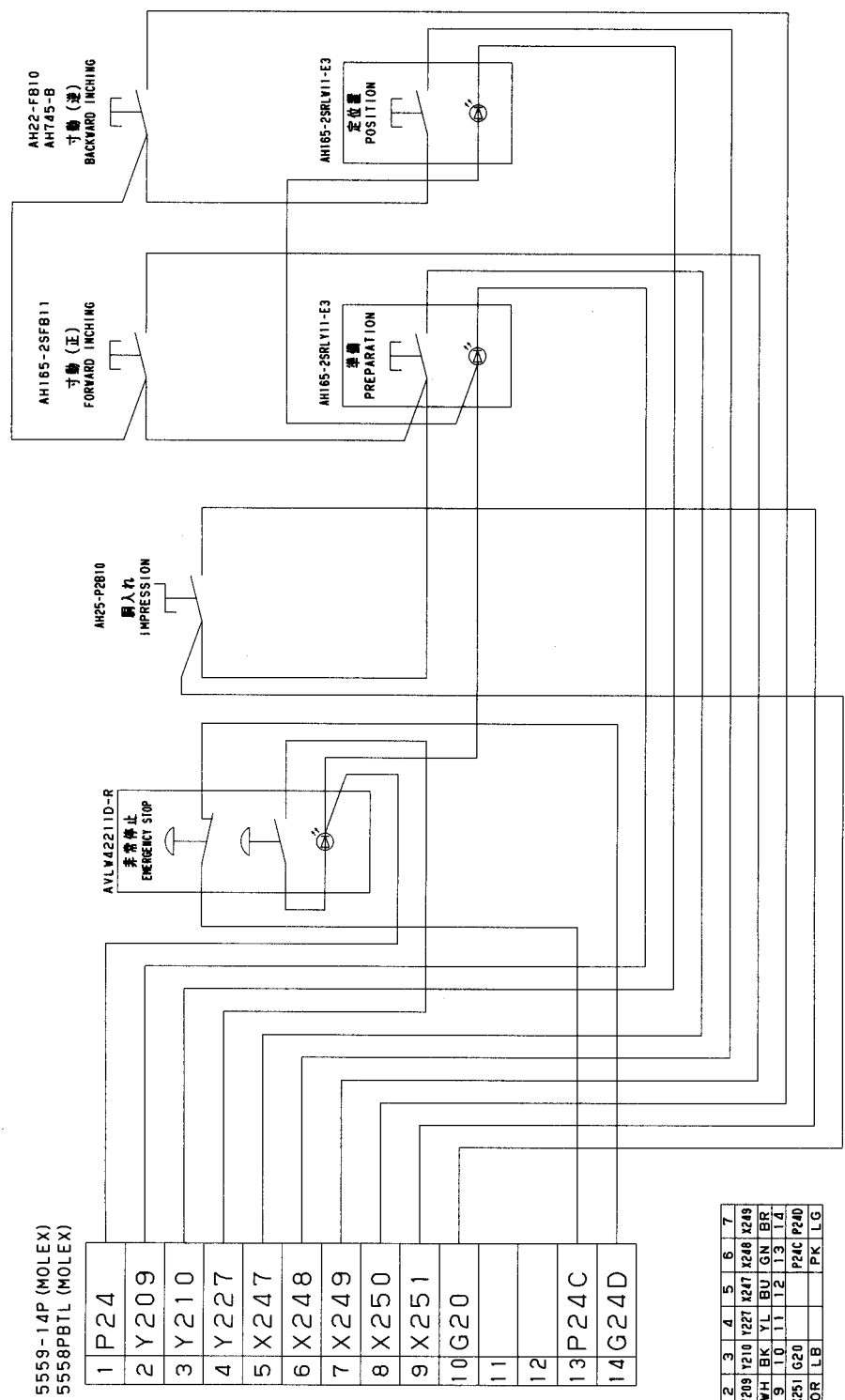
排紙部OP-Sパネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) DELIVERY OP-S OPERATION PANEL CONNECTIONS



排紙部NOP-Sパネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
DELIVERY NOP-S OPERATION PANEL CONNECTIONS

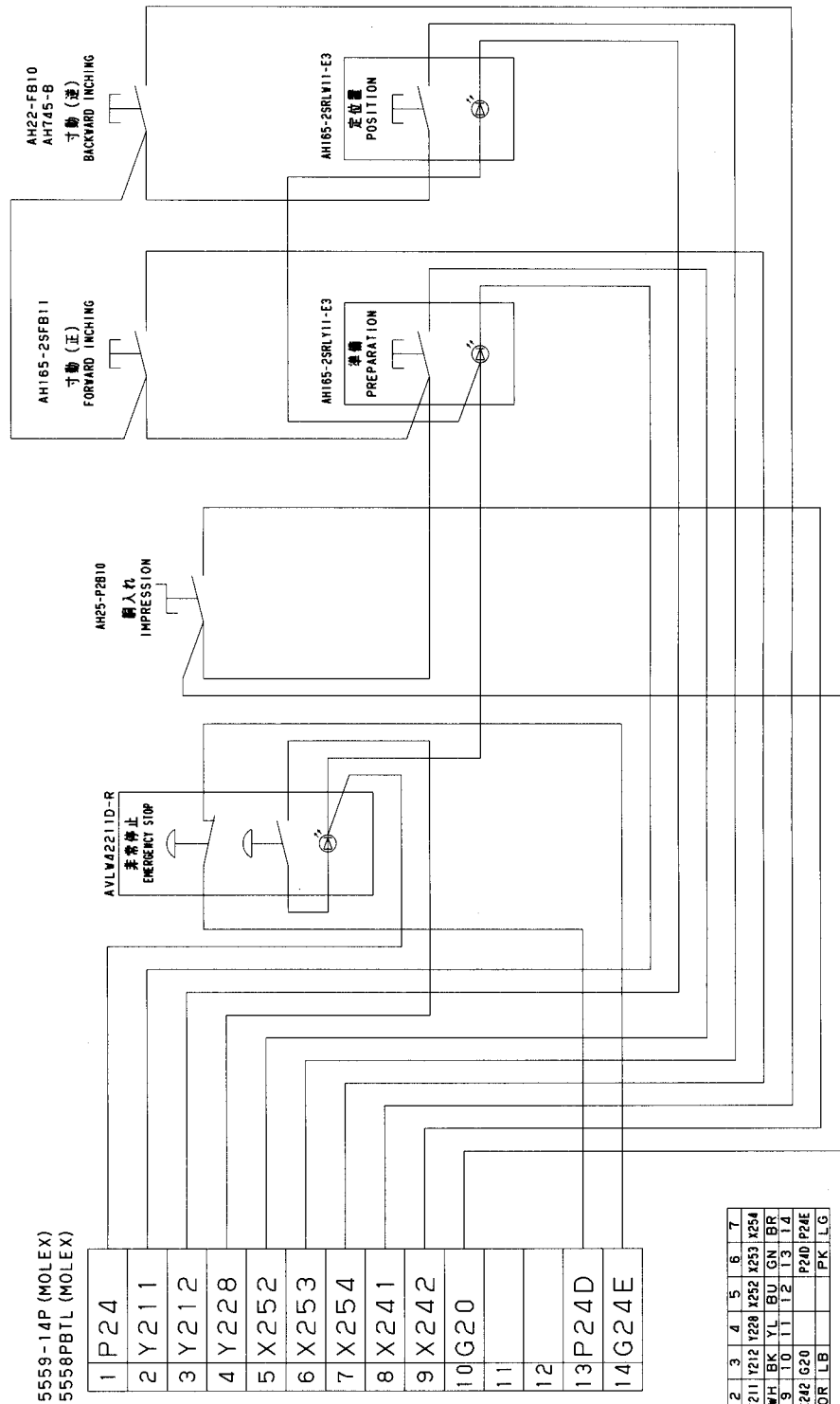


1P NOP-S パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
1P NOP-S OPERATION PANEL CONNECTIONS



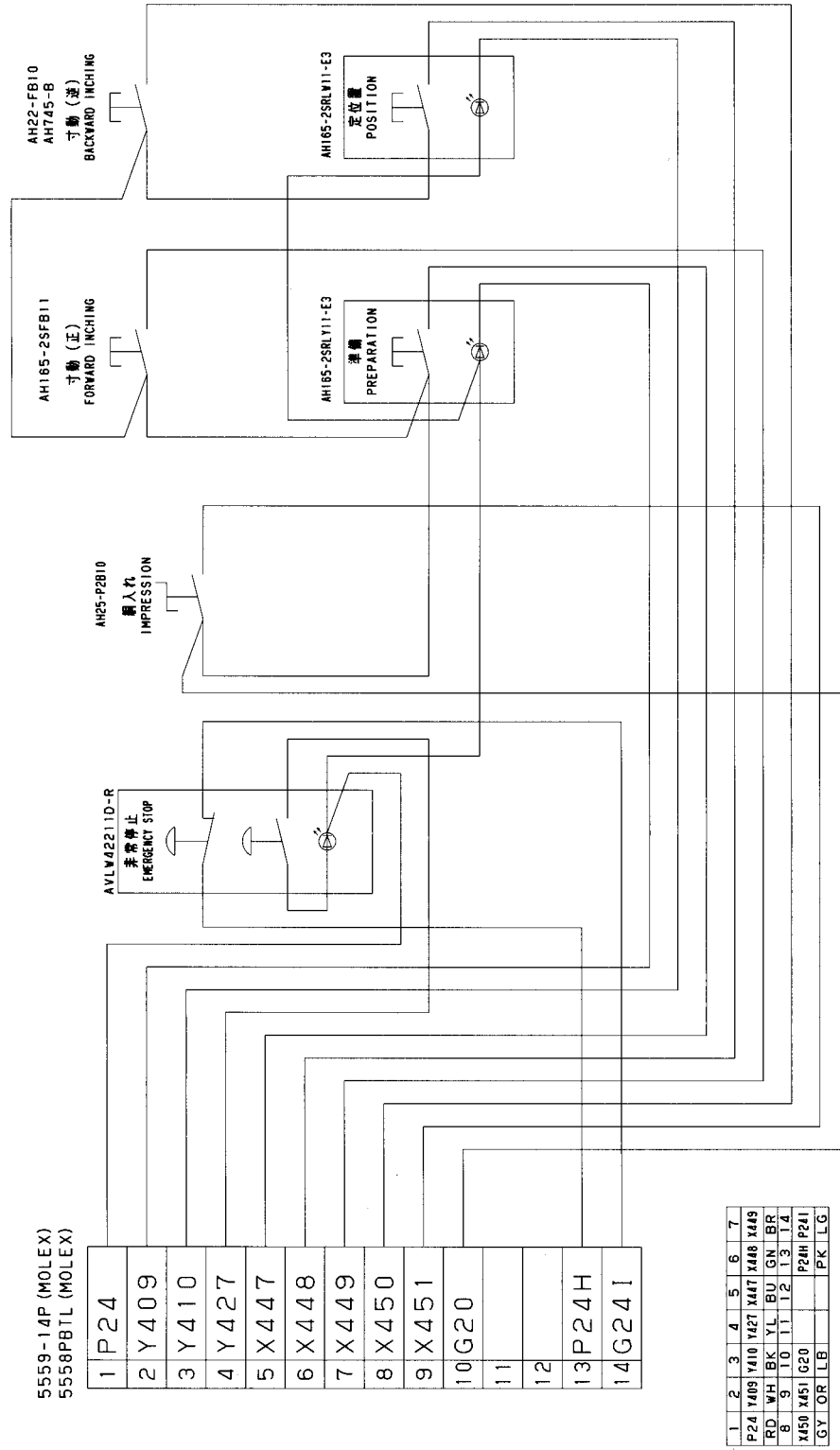
1	2	3	4	5	6	7
P24	Y209	Y210	Y227	X247	X248	X249
RD	WH	BK	YL	BU	GN	BR
8	9	10	11	12	13	14
X250	X251	G20			P24C	P24D
GY	OR	LB			PK	LG

2P NOP-S パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 2P NOP-S OPERATION PANEL CONNECTIONS

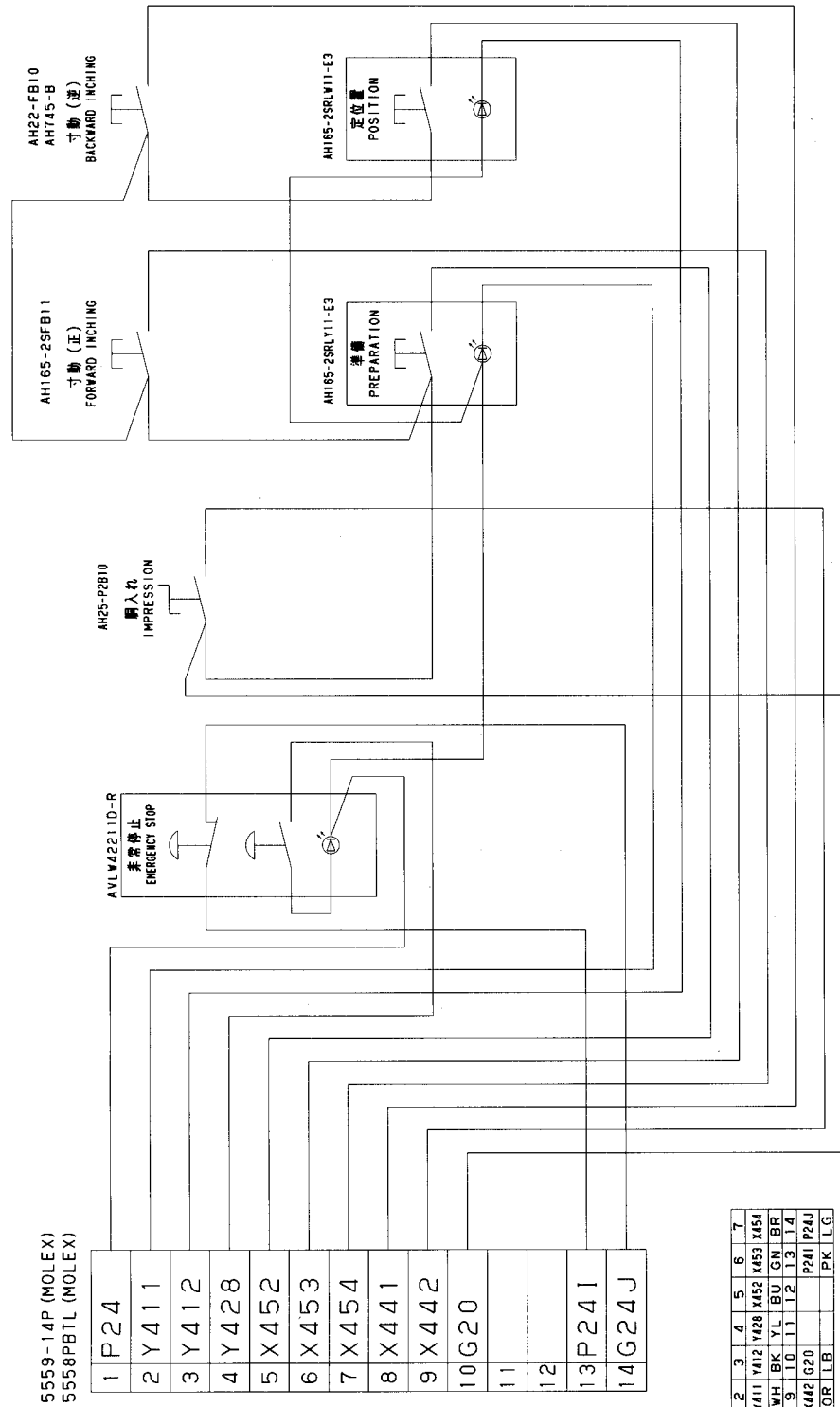


1	2	3	4	5	6	7
P24	Y211	Y212	X252	X253	X254	
RD	WH	BK	YL	BU	GN	BR
8	9	10	11	12	13	14
X241	X242	G20		P24D	P24E	
GY	OR	LB		PK	LG	

154 3P NOP-S パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
3P NOP-S OPERATION PANEL CONNECTIONS

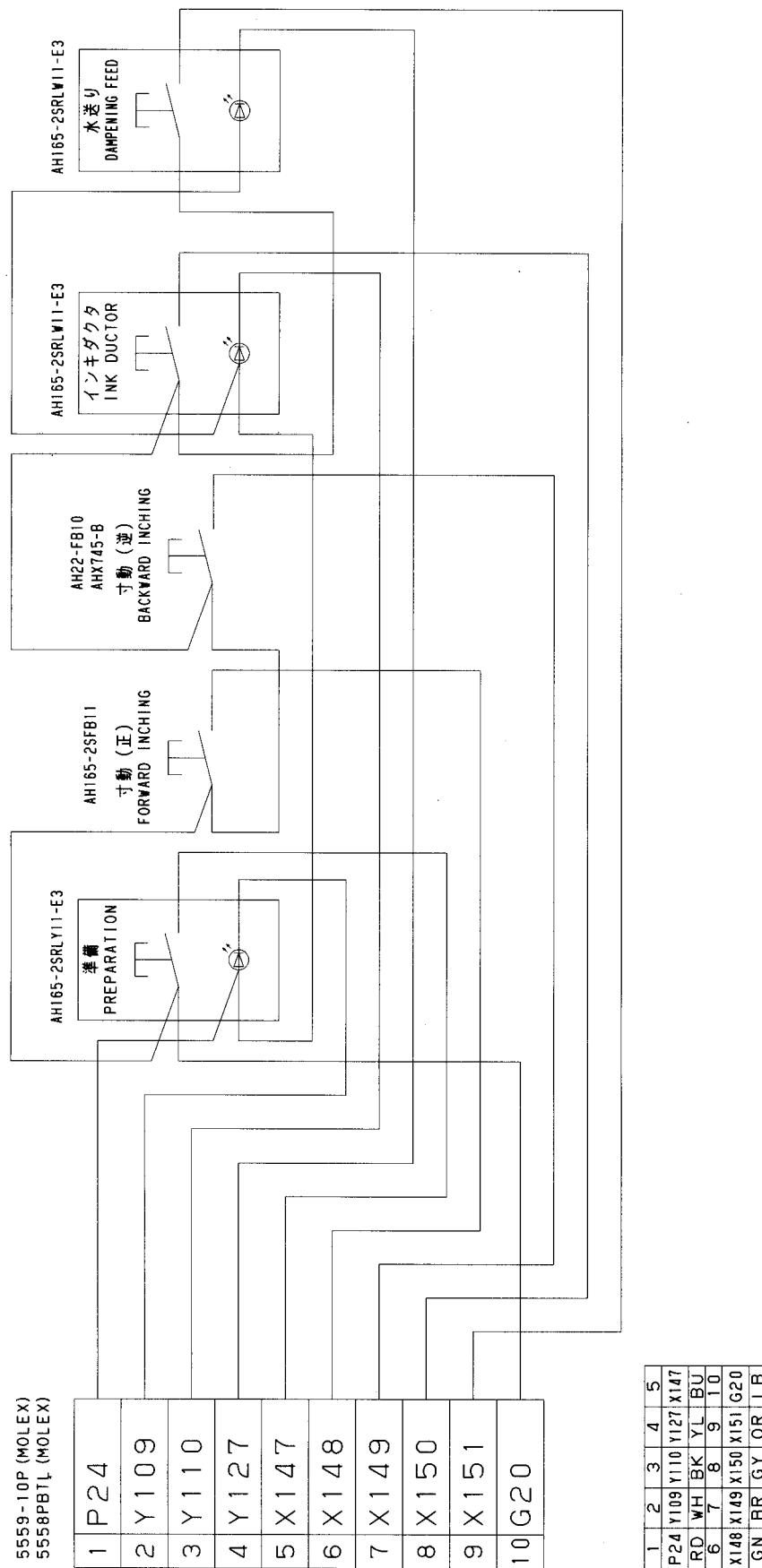


4P NOP-S パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 4P NOP-S OPERATION PANEL CONNECTIONS

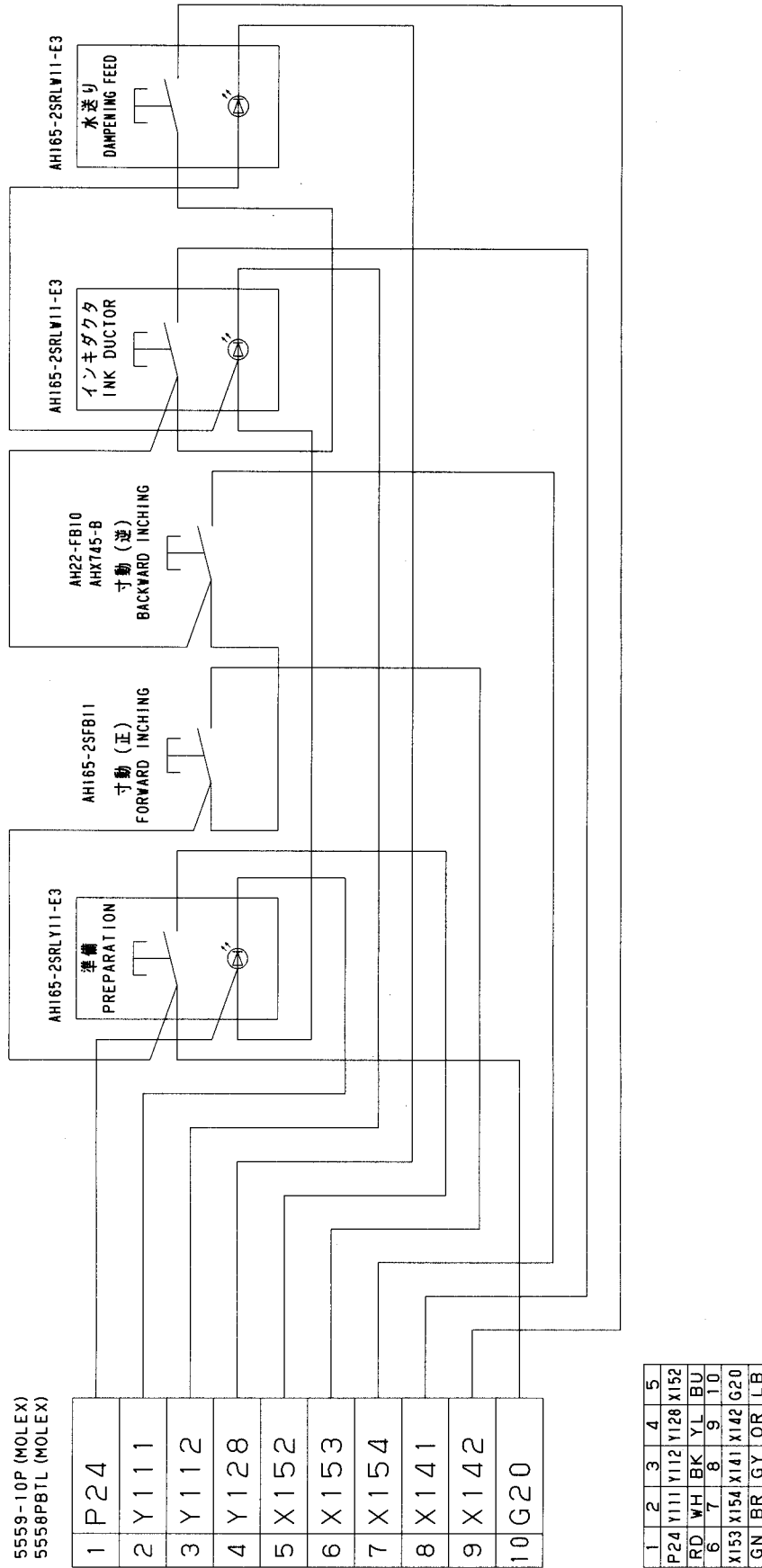


1	2	3	4	5	6	7
P24	Y411	Y412	Y428	X452	X453	X454
RD	WH	BK	YL	BU	GN	BR
8	9	10	11	12	13	14
X441	X442	G20		P24I	P24J	
GY	OR	LB		PK	LG	

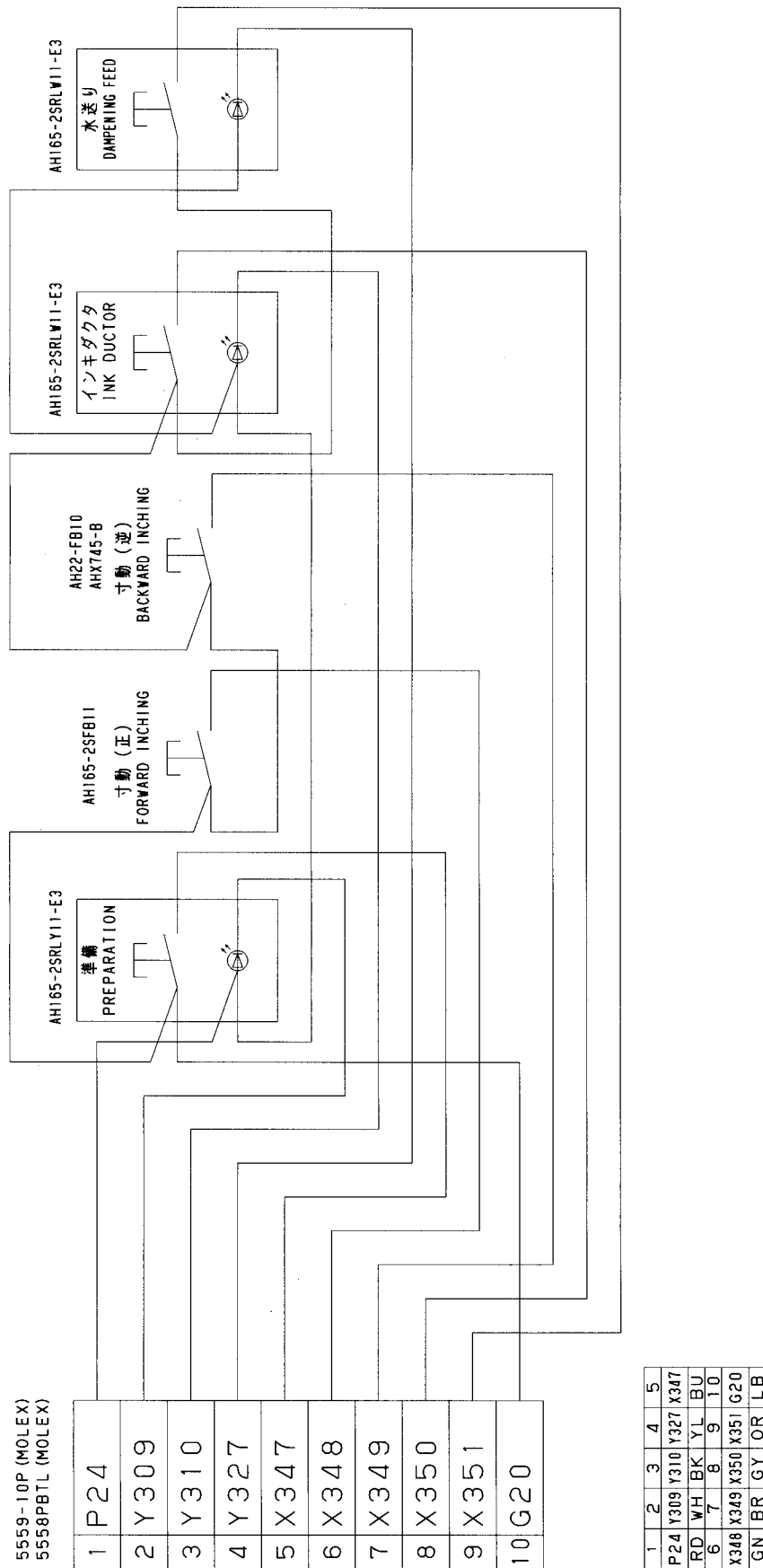
1P OP-S上パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
1P OP-S UPPER SIDE PANEL CONNECTIONS



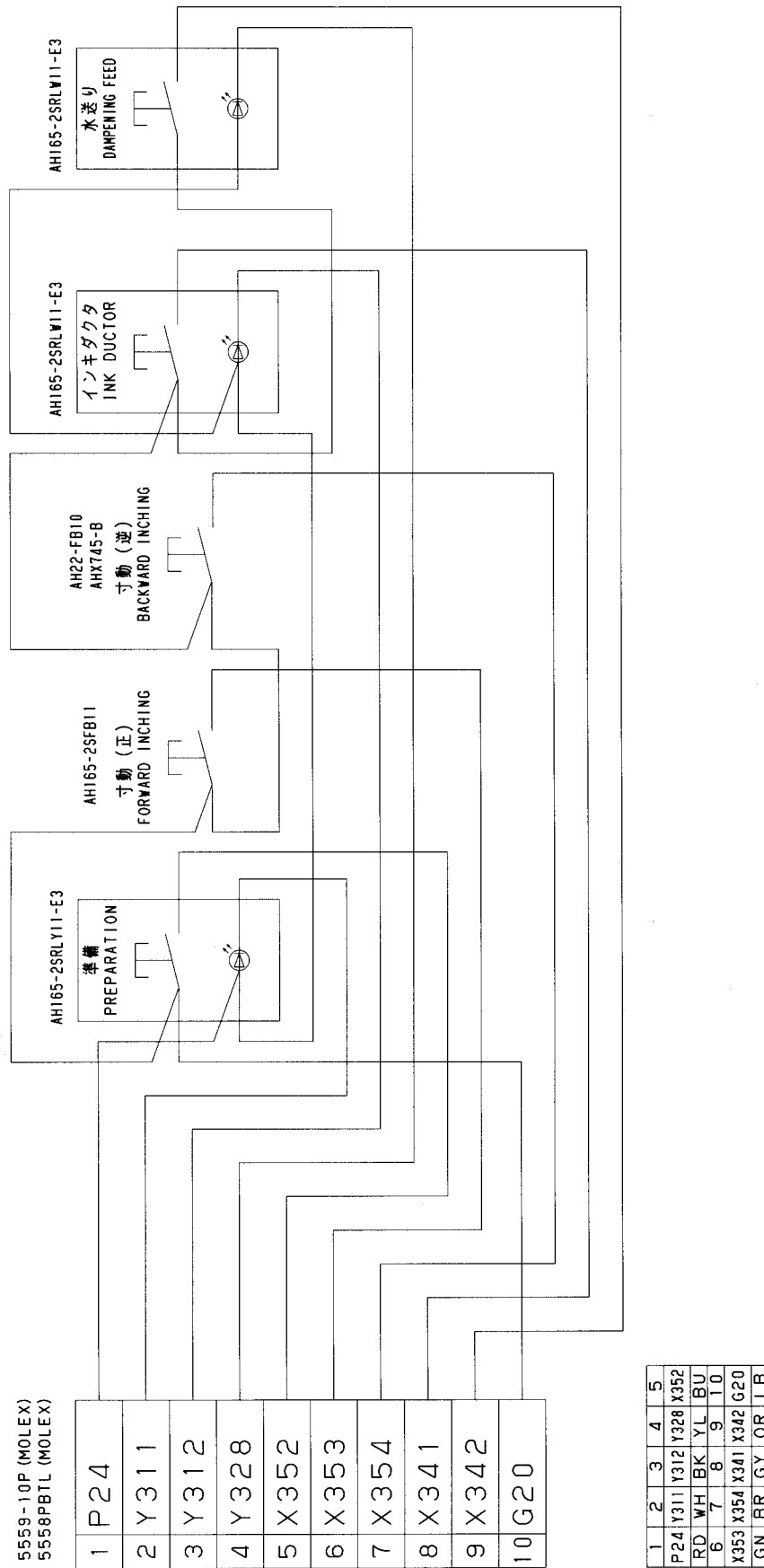
2P OP-S上パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 2P OP-S UPPER SIDE OPERATION PANEL CONNECTIONS



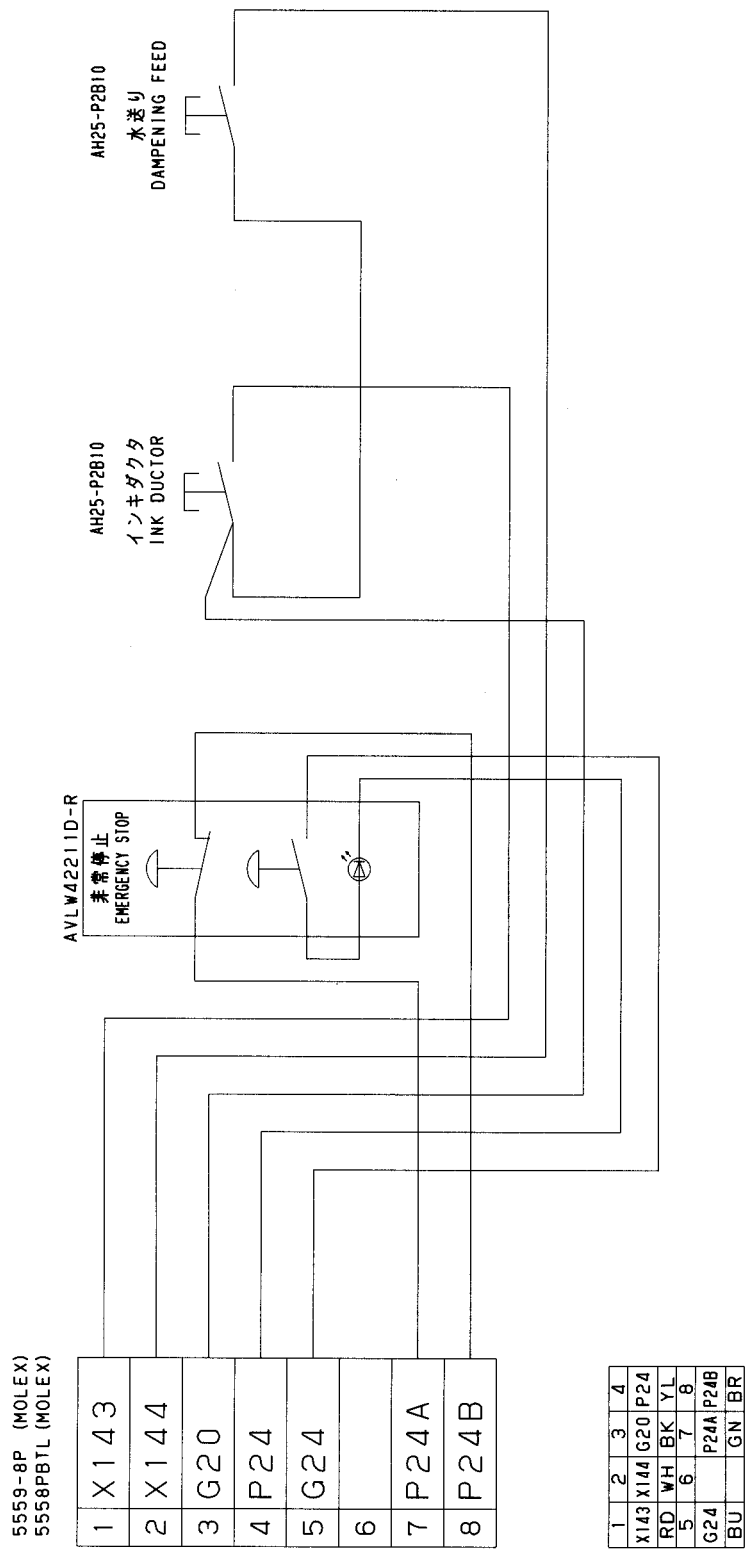
3P OP-S上パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
3P OP-S UPPER SIDE OPERATION PANEL CONNECTIONS



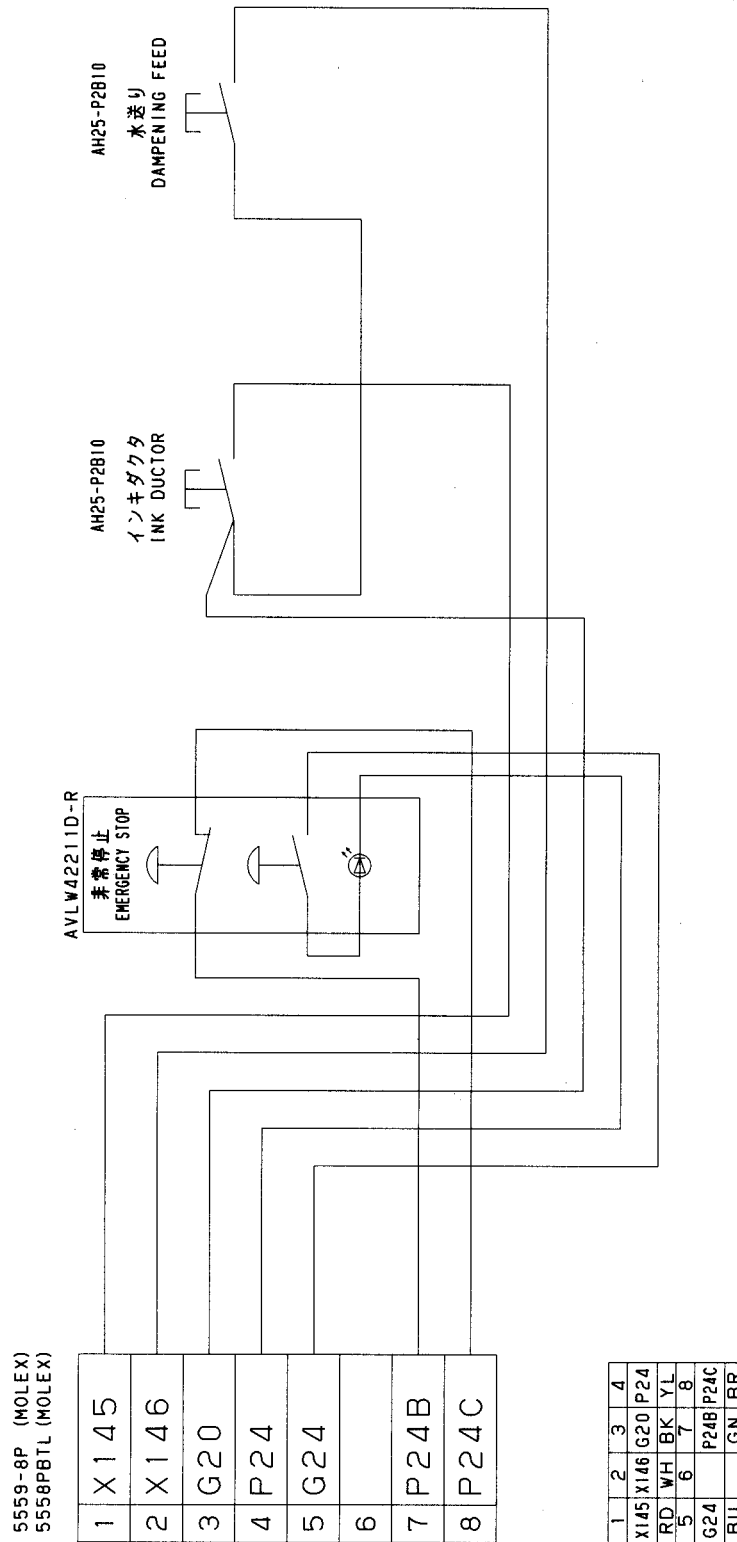
4P OP-S上パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 4P OP-S UPPER SIDE OPERATION PANEL CONNECTIONS



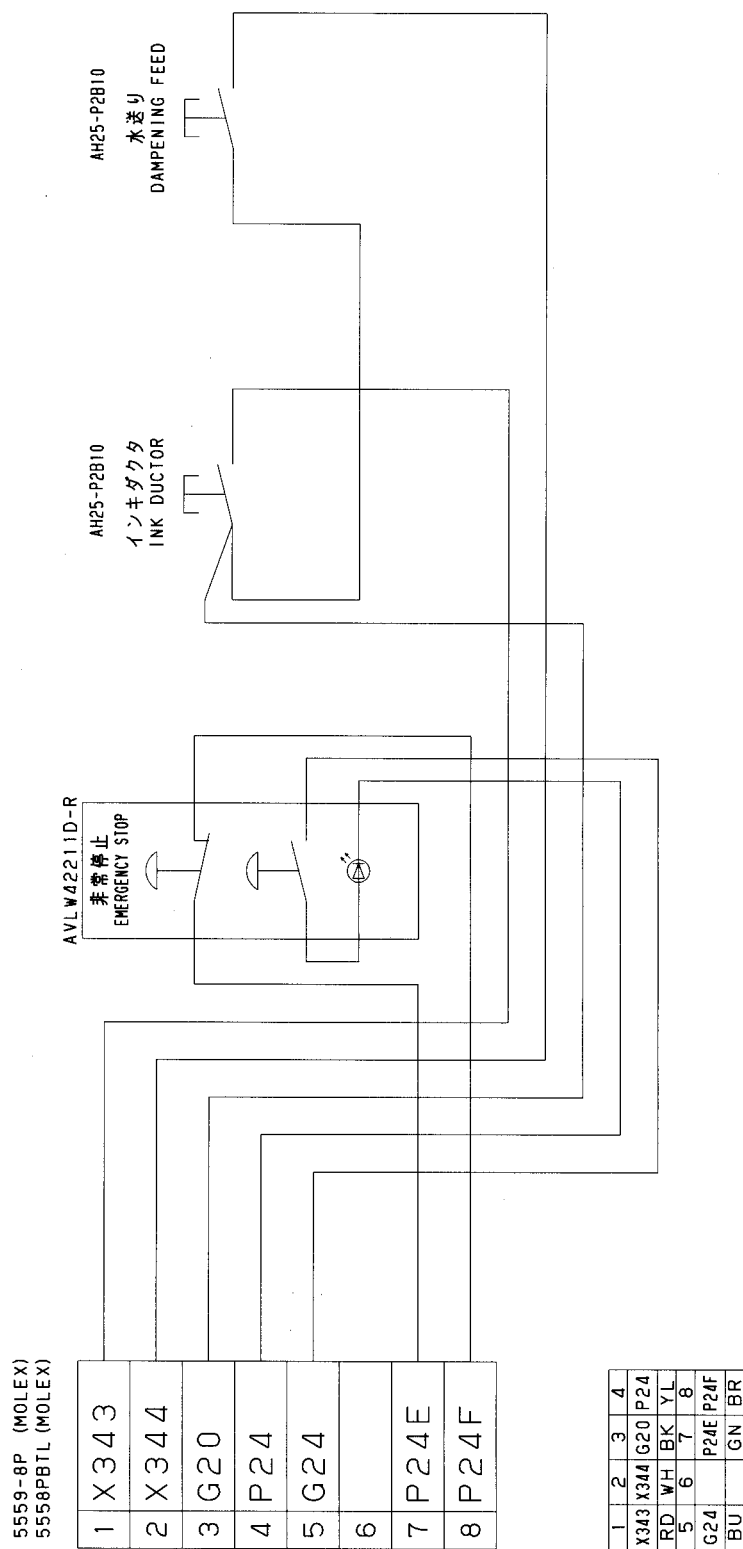
1P OP-S 下パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
1P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS



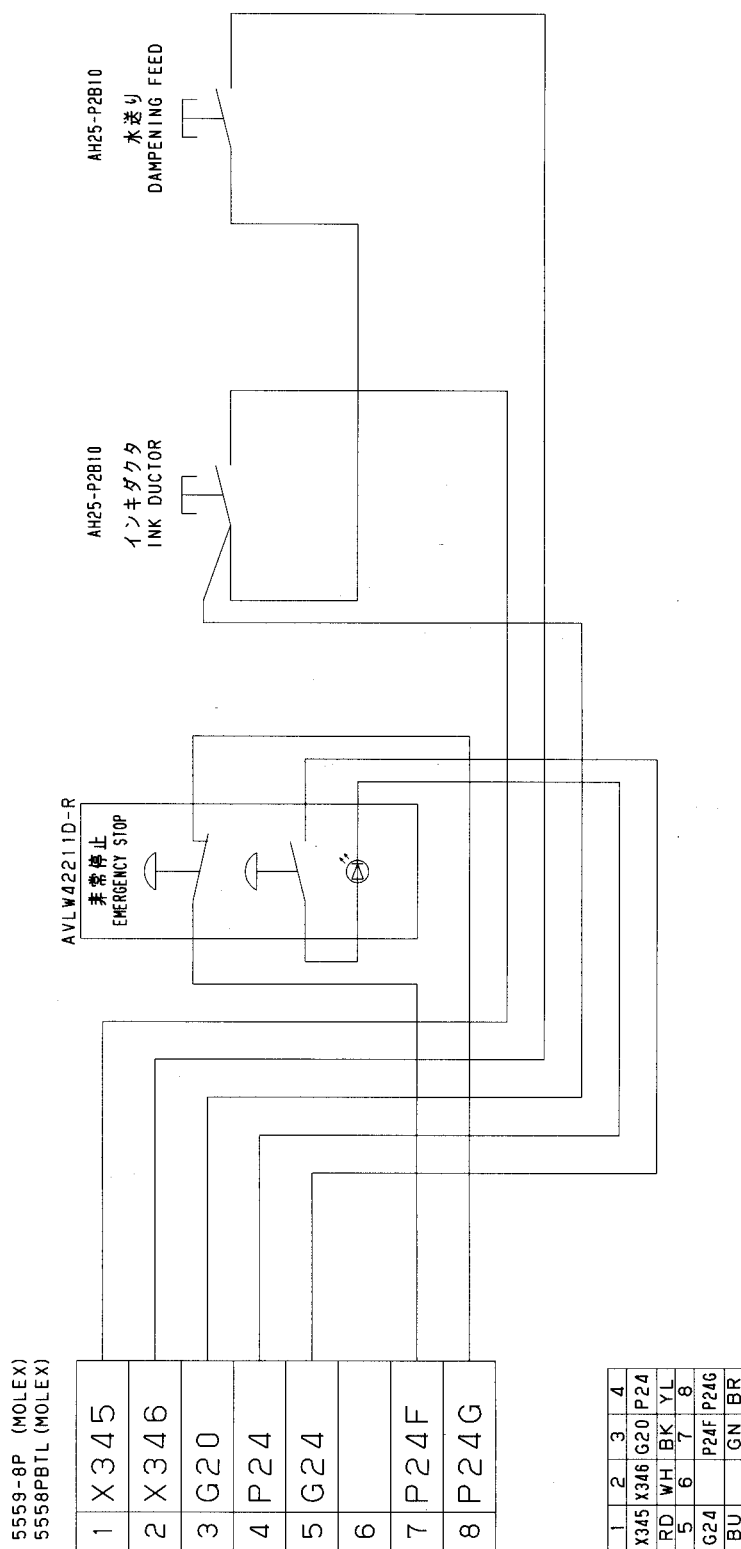
2P OP-STOPパネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 2P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS

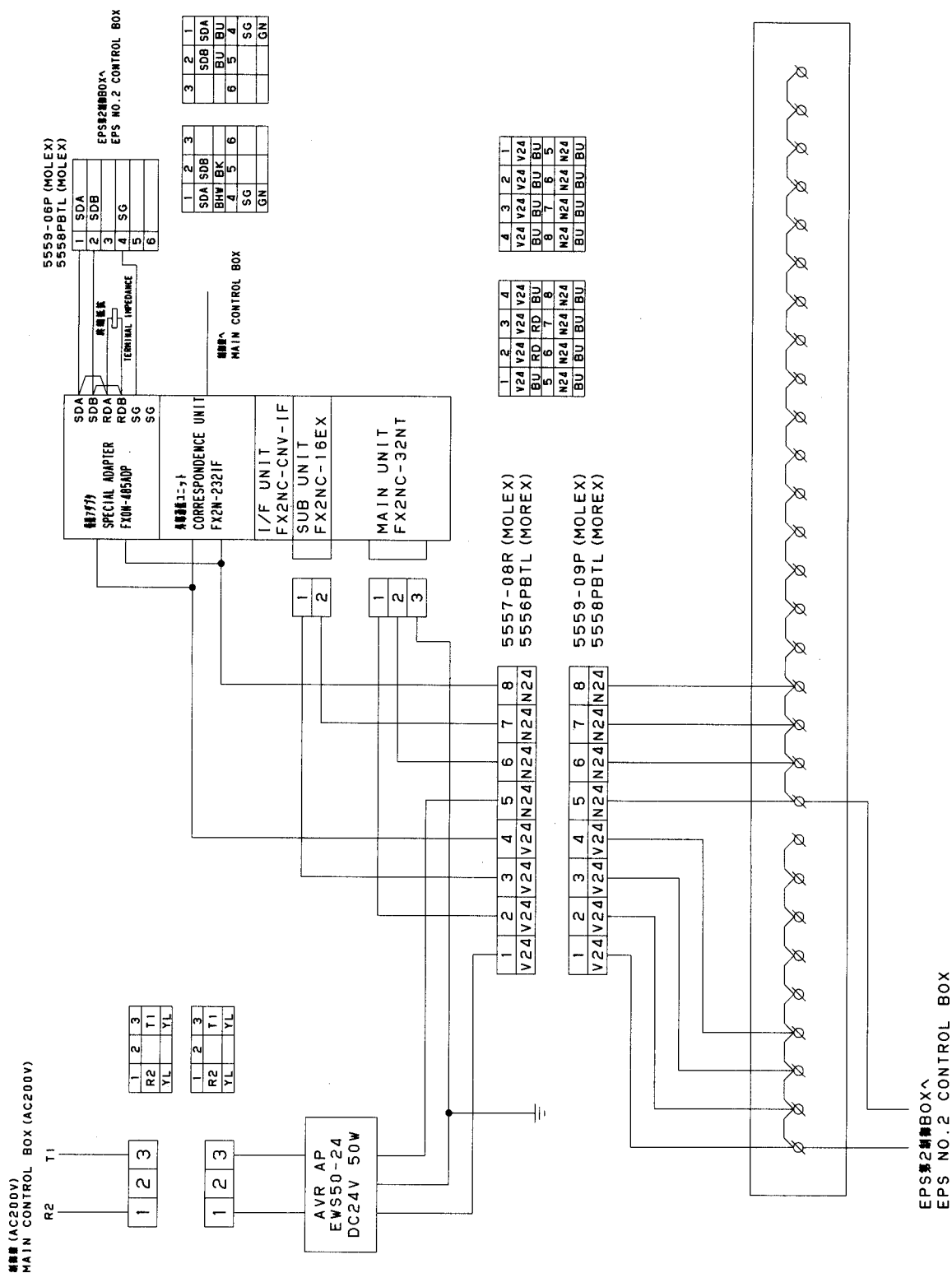


3P OP-S下パネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~) 3P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS

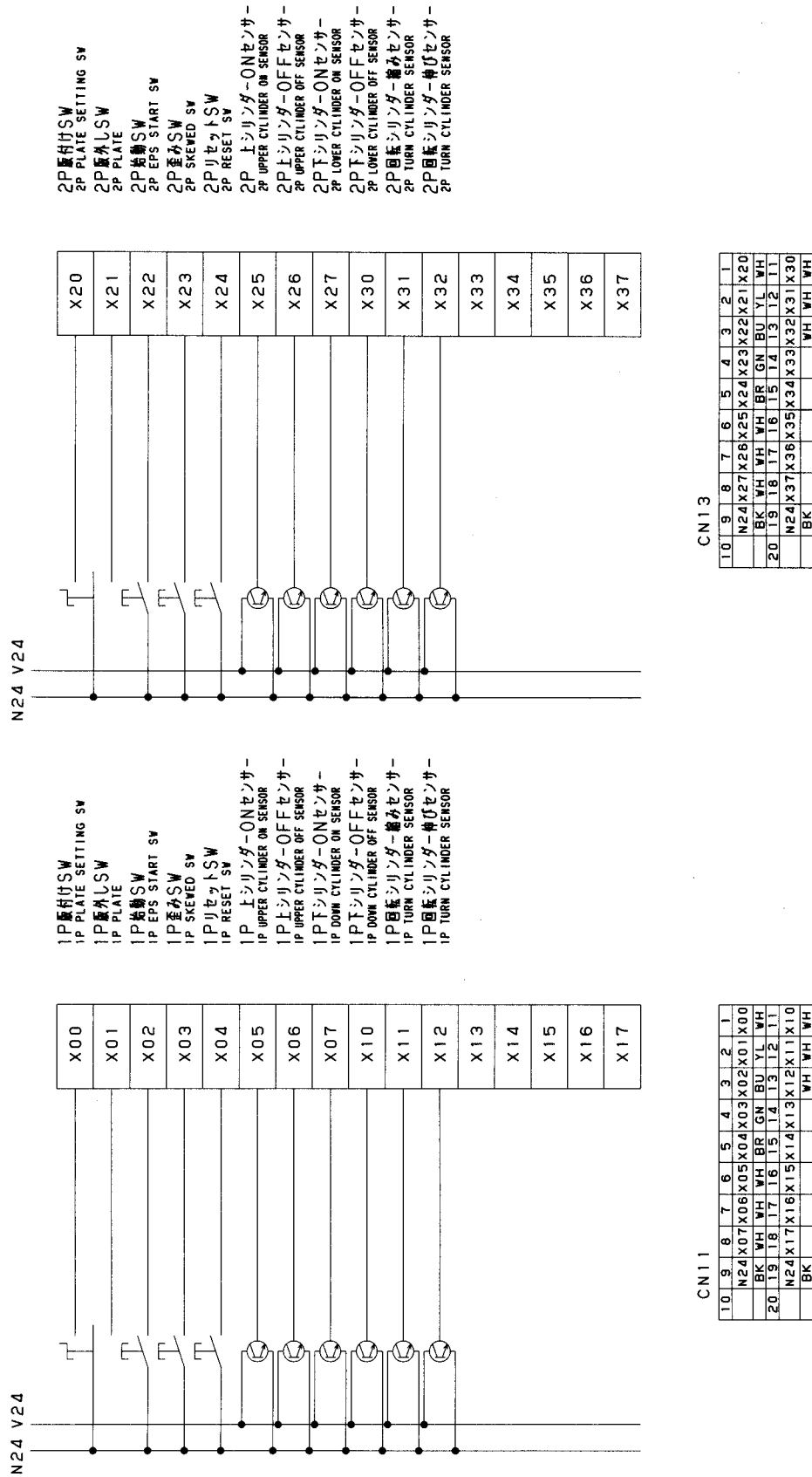


4P OP-STパネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 4P OP-S LOWER SIDE OPERATION PANEL CONNECTIONS

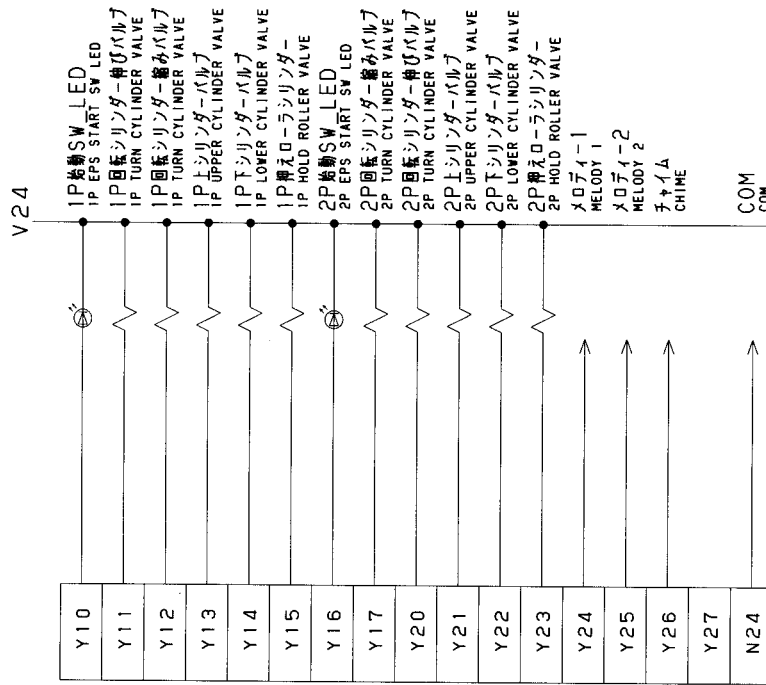




EPS第1制御BOX入力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
EPS NO.1 CONTROL BOX INPUT CONNECTIONS



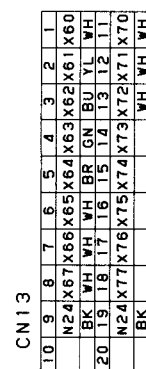
166 E P S 第 1 制御BOX出力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
EPS NO.1 CONTROL BOX OUTPUT CONNECTIONS



CN12

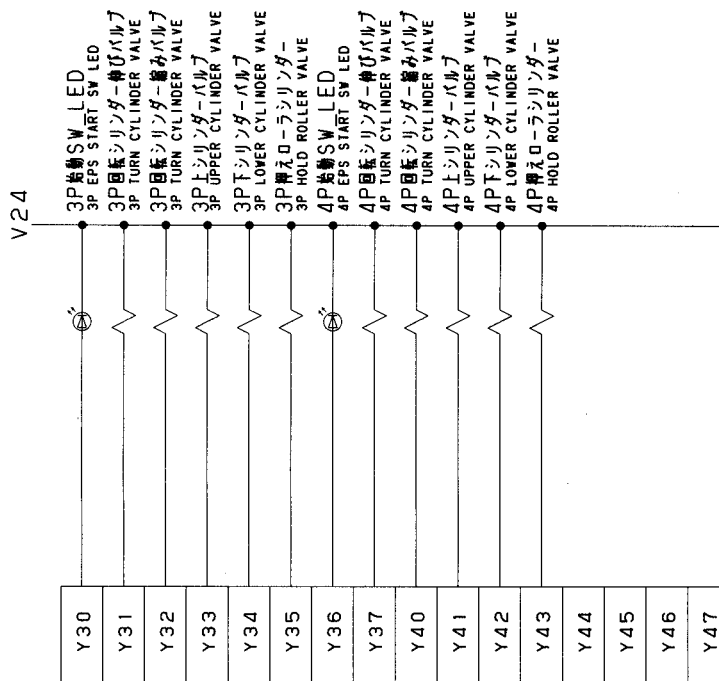
10	9	8	7	6	5	4	3	2	1
N24	Y17	Y16	Y15	Y14	Y13	Y12	Y11	Y10	
BK	GY	GY	GY	GN	GY	GY	RD	GY	
20	19	18	17	16	15	14	13	12	11
N24	Y27	Y26	Y25	Y24	Y23	Y22	Y21	Y20	
BK		GN	WH	RD	GN	GY	GY	GN	





CN11	10	9	8	7	6	5	4	3	2	1
		N24	X47	X46	X45	X44	X43	X42	X41	X40
		BK	WH	WH	WH	BB	CN	BU	YL	WH
	20	19	18	17	16	15	14	13	12	11
		N24	X57	X56	X55	X54	X53	X52	X51	X50
		BK	WH	WH	WH	WH	WH	WH	WH	WH

EPS第2制御BOX出力表 (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
EPS NO.2 CONTROL BOX OUTPUT CONNECTIONS

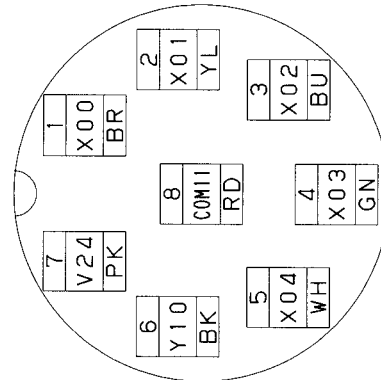
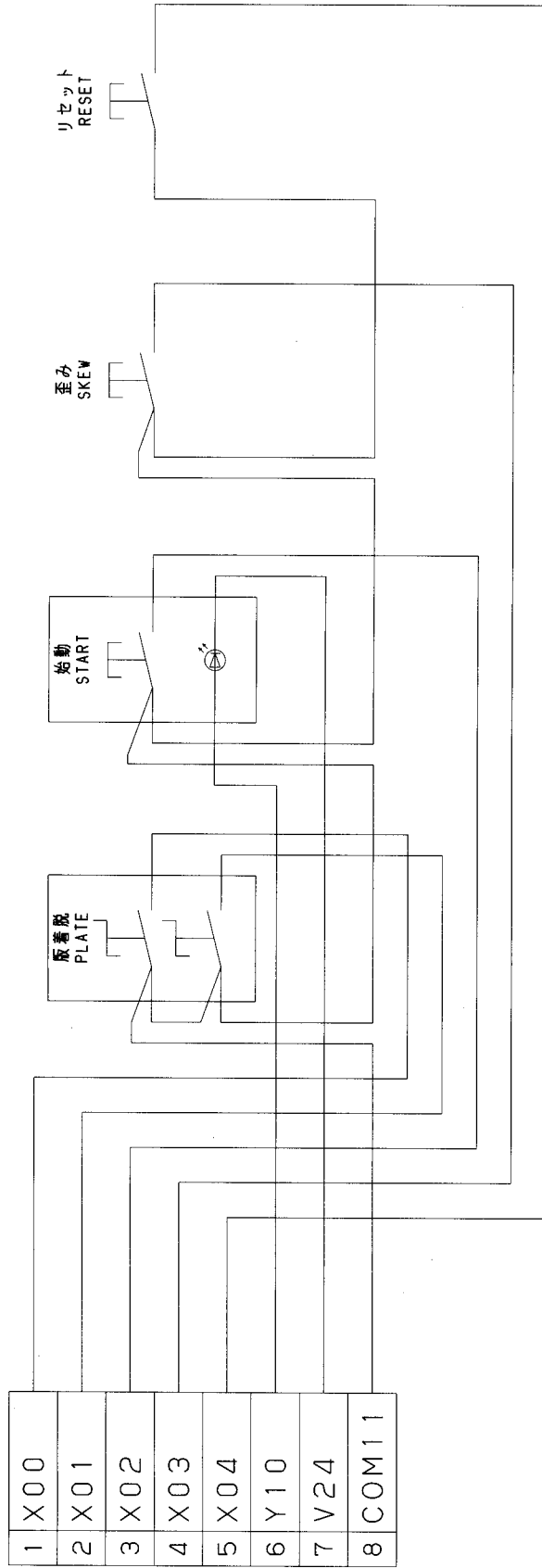


CN12

10	9	8	7	6	5	4	3	2	1
N24	Y37	Y36	Y35	Y34	Y33	Y32	Y31	Y30	
BK	GY	GY	GY	GN	GY	GY	RD	GY	
20	19	18	17	16	15	14	13	12	11
N24	Y47	Y46	Y45	Y44	Y43	Y42	Y41	Y40	
BK				GN	GY	GY	GN		

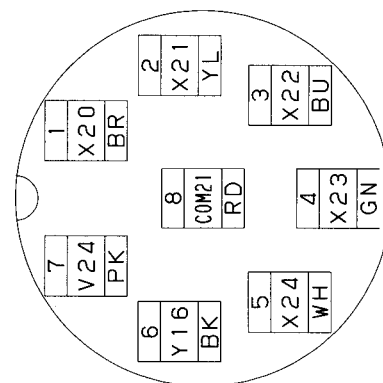
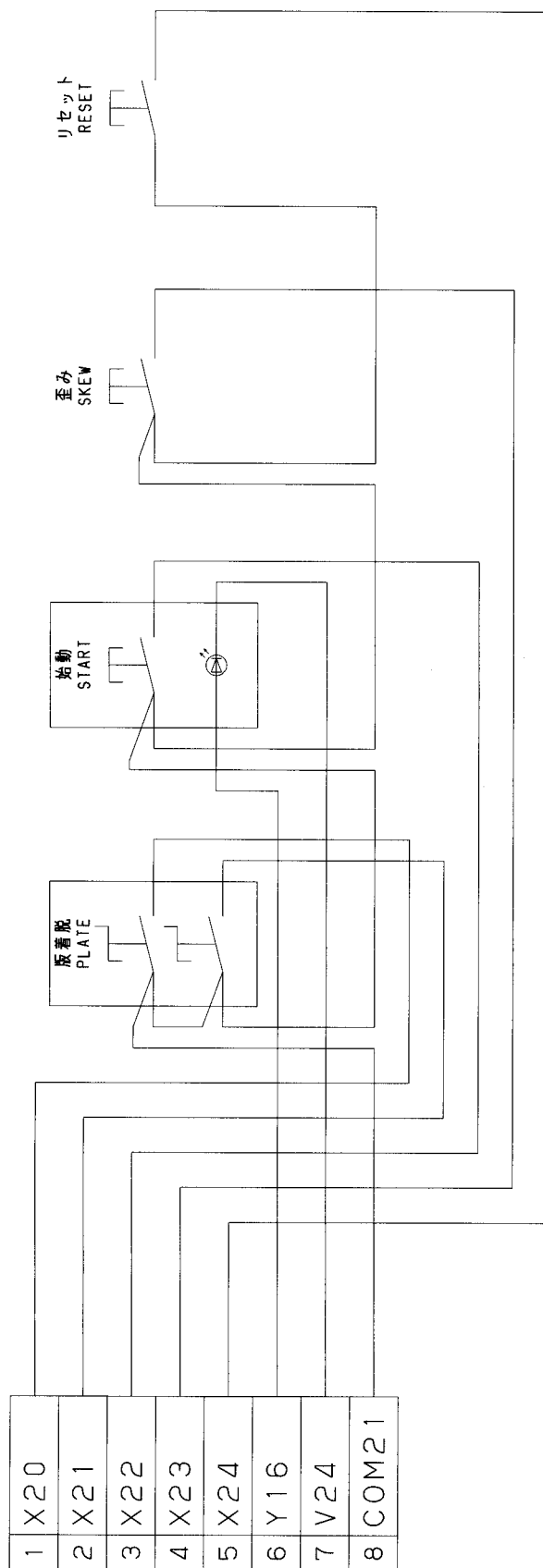
170 1P EPSハ°ネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
1P EPS OPERATION PANEL CONNECTIONS

RT25-P8M



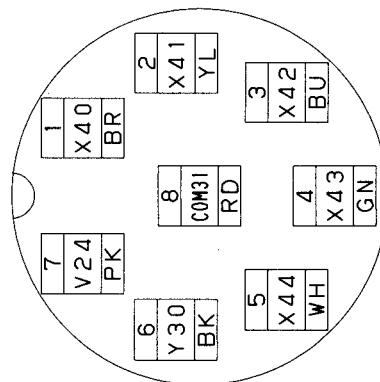
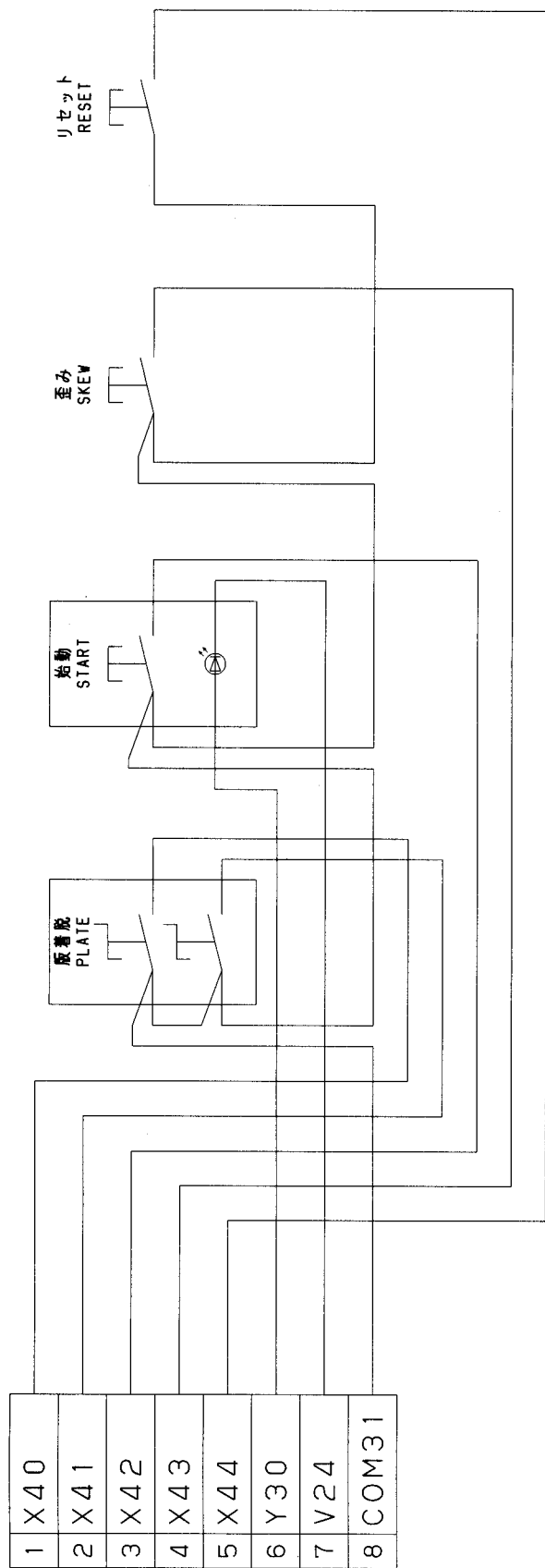
2P EPSハ°ネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 2P EPS OPERATION PANEL CONNECTIONS

RT25-P8M



17 3P EPSハ°ネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
3P EPS OPERATION PANEL CONNECTIONS

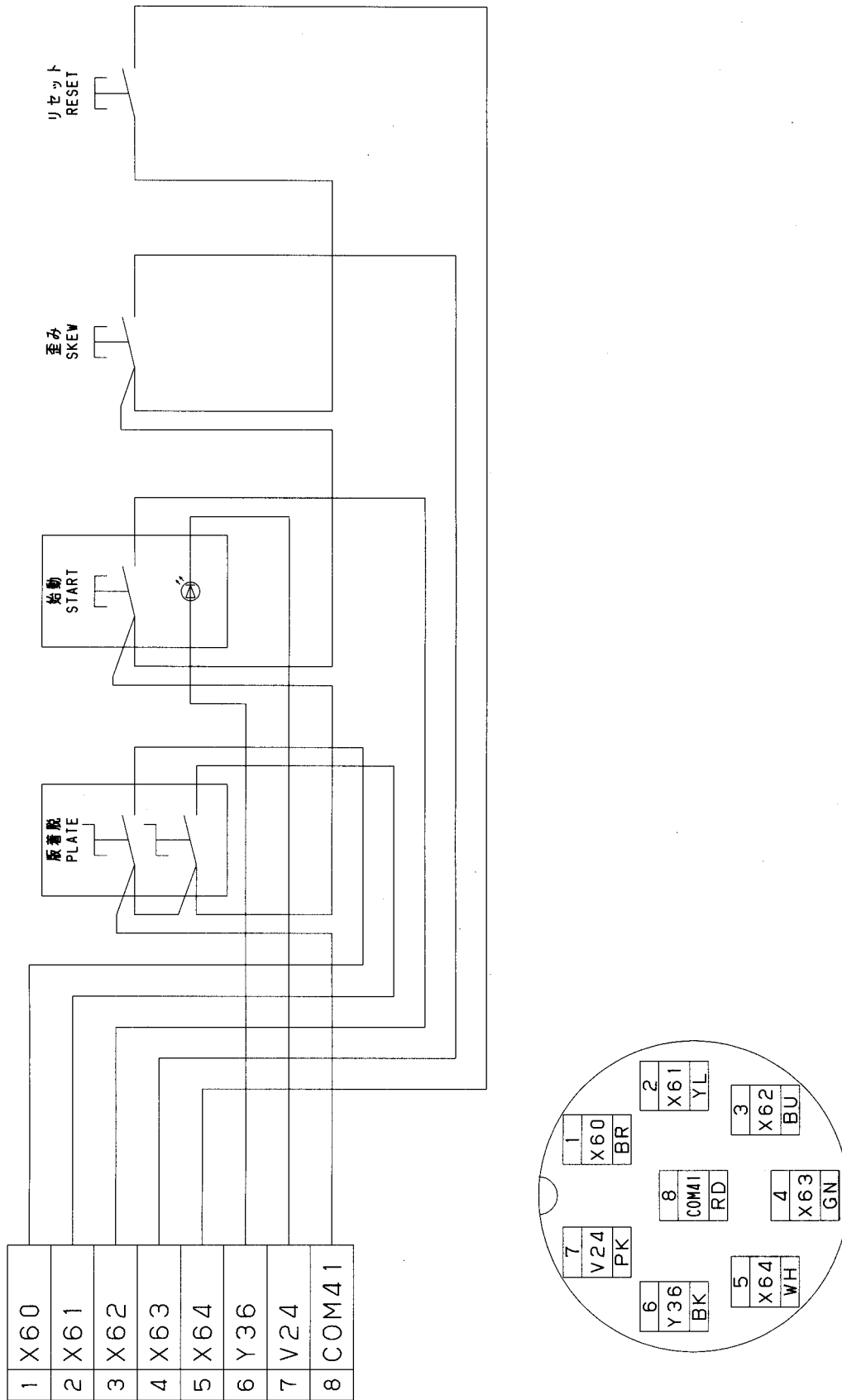
RT25-P8M



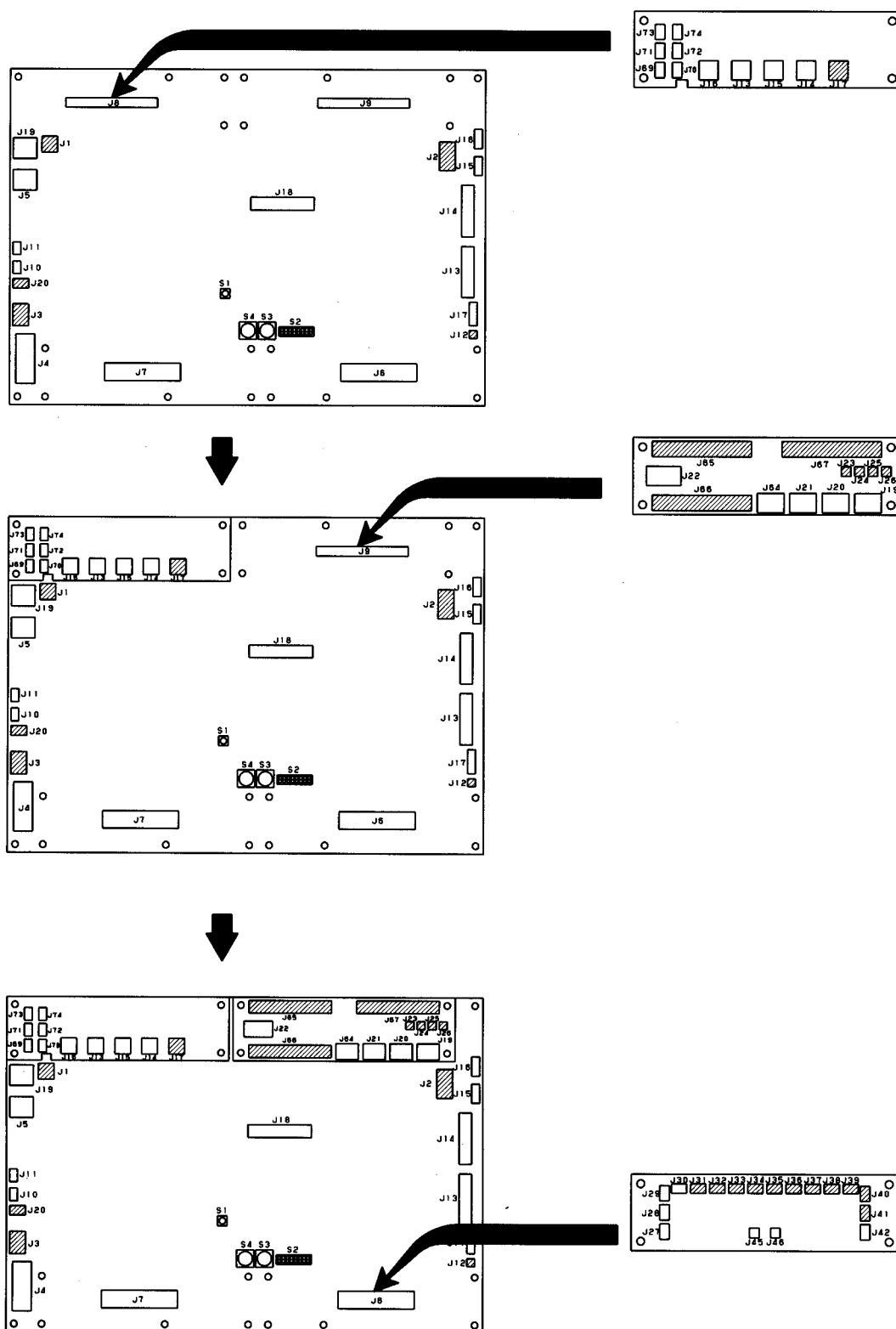
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4P EPSハ° ネル (BV-8J021, BV-8J024, BW-8L034, BW-8L036, BWP-8L037, BW-8L038~)
 4P EPS OPERATION PANEL CONNECTIONS

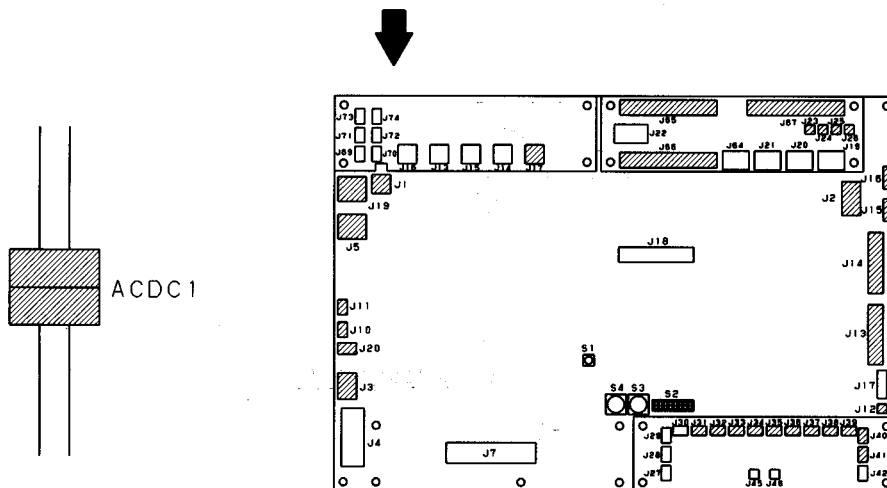
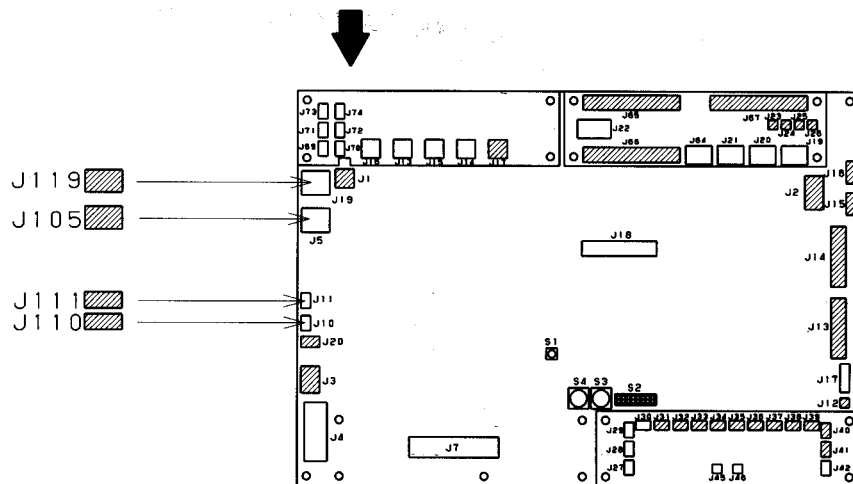
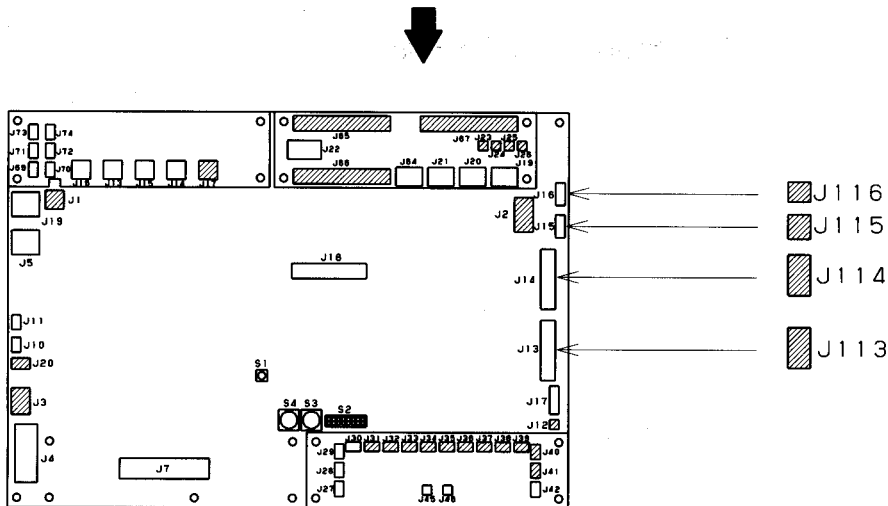
RT25-P8M



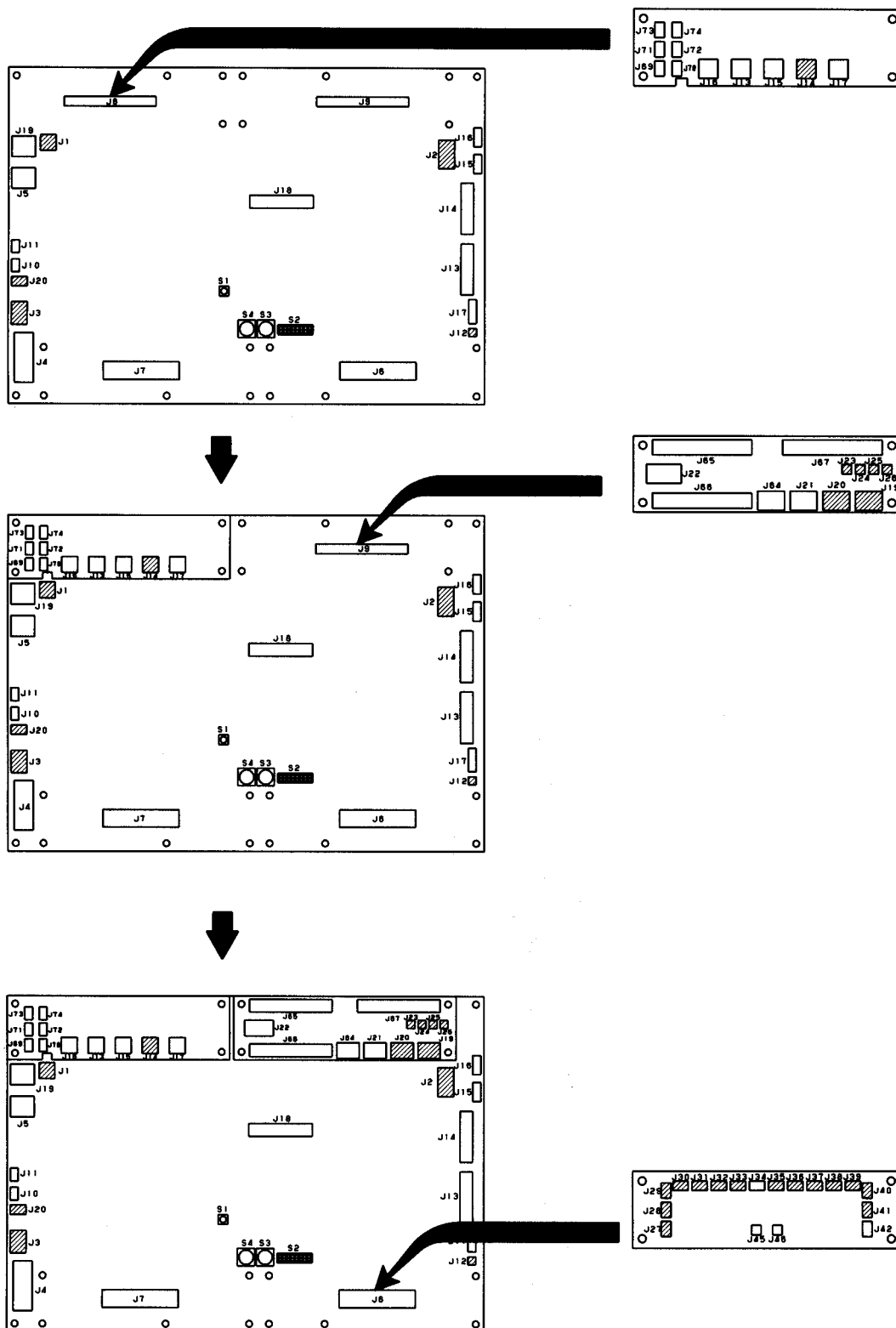
1P/2P OP-S CONTROL BOX CONNECTIONS(~BW - 8K028)



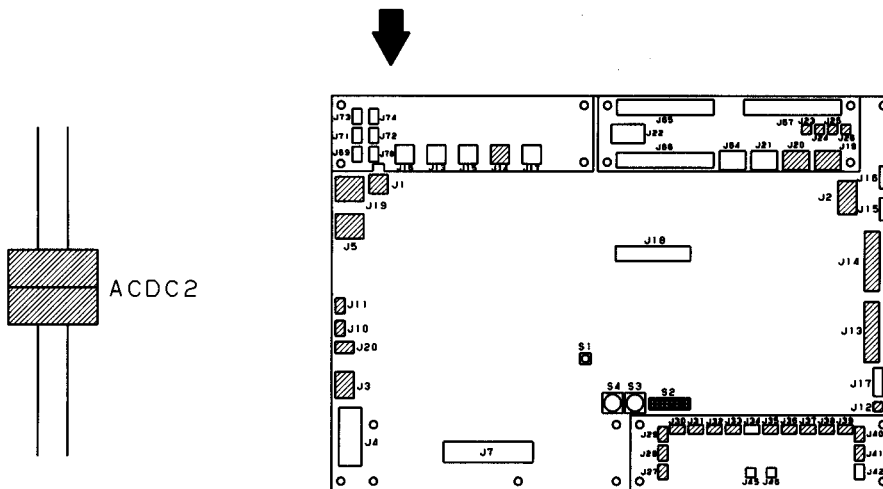
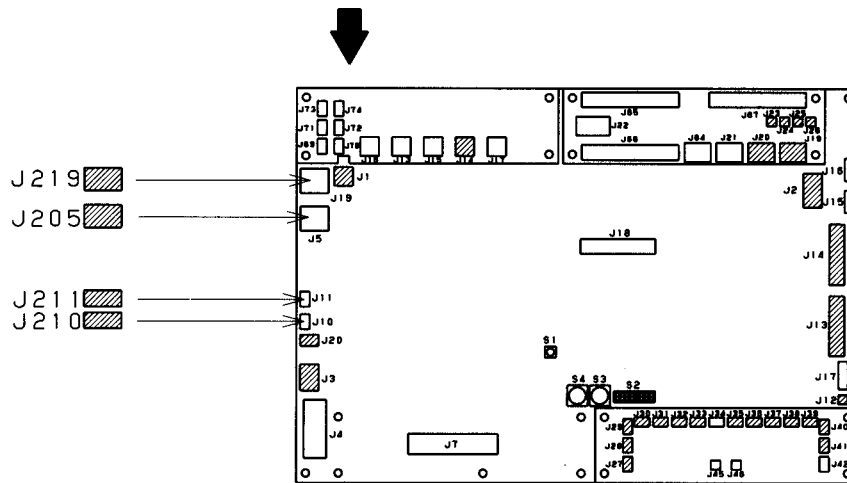
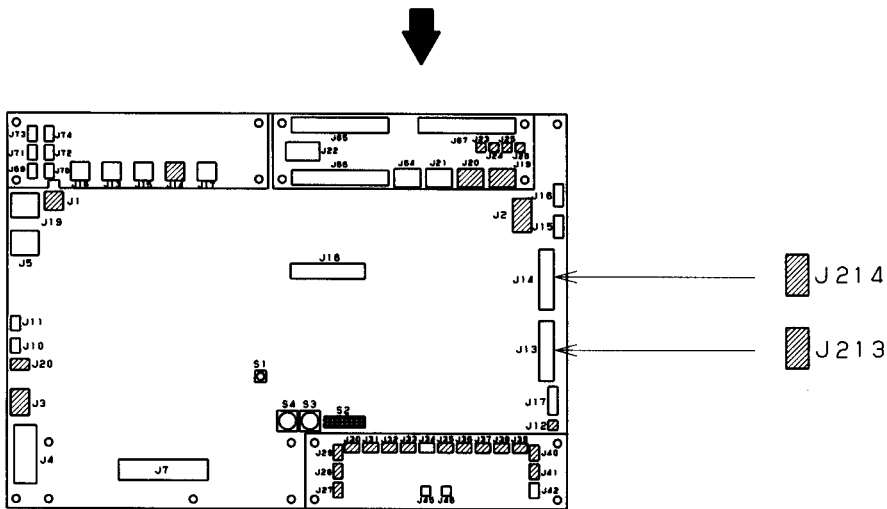
7. ELECTRIC WIRING DIAGRAM



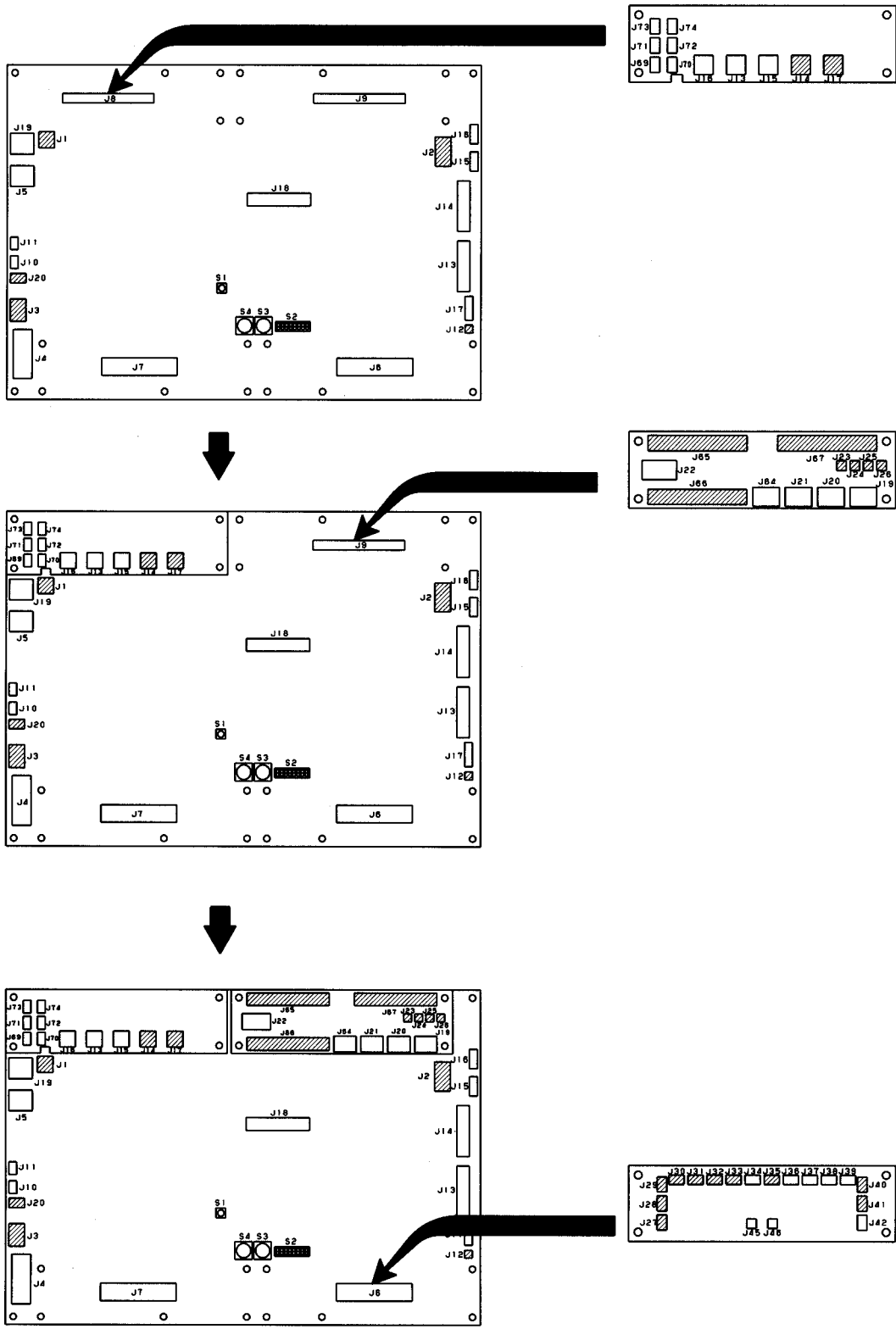
1P/2P NOP-S CONTROL BOX CONNECTIONS(~BW - 8K028)



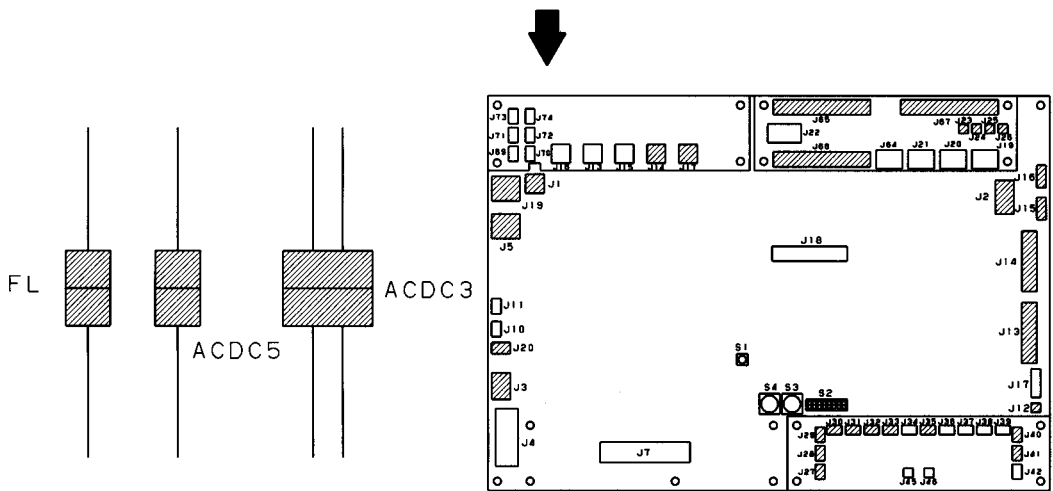
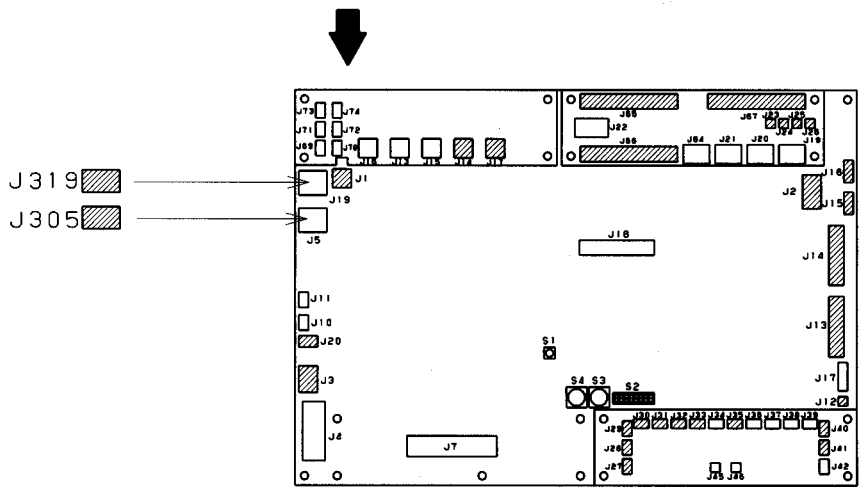
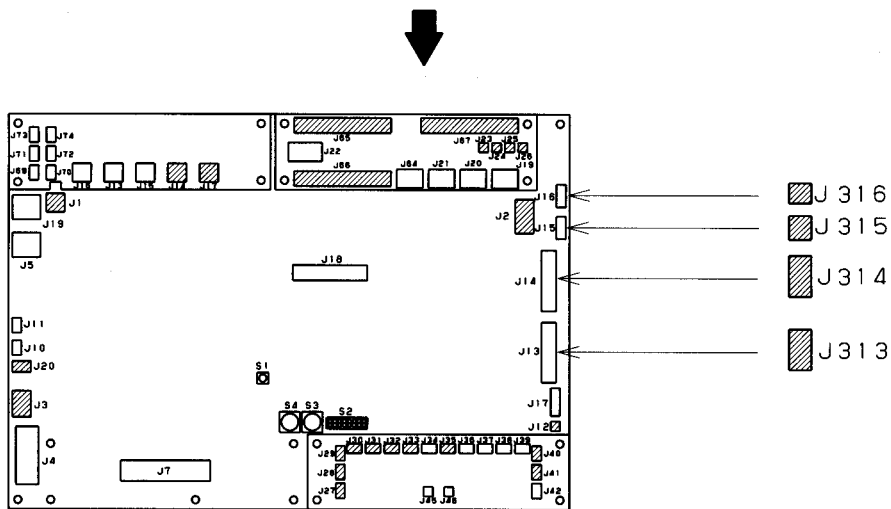
7. ELECTRIC WIRING DIAGRAM



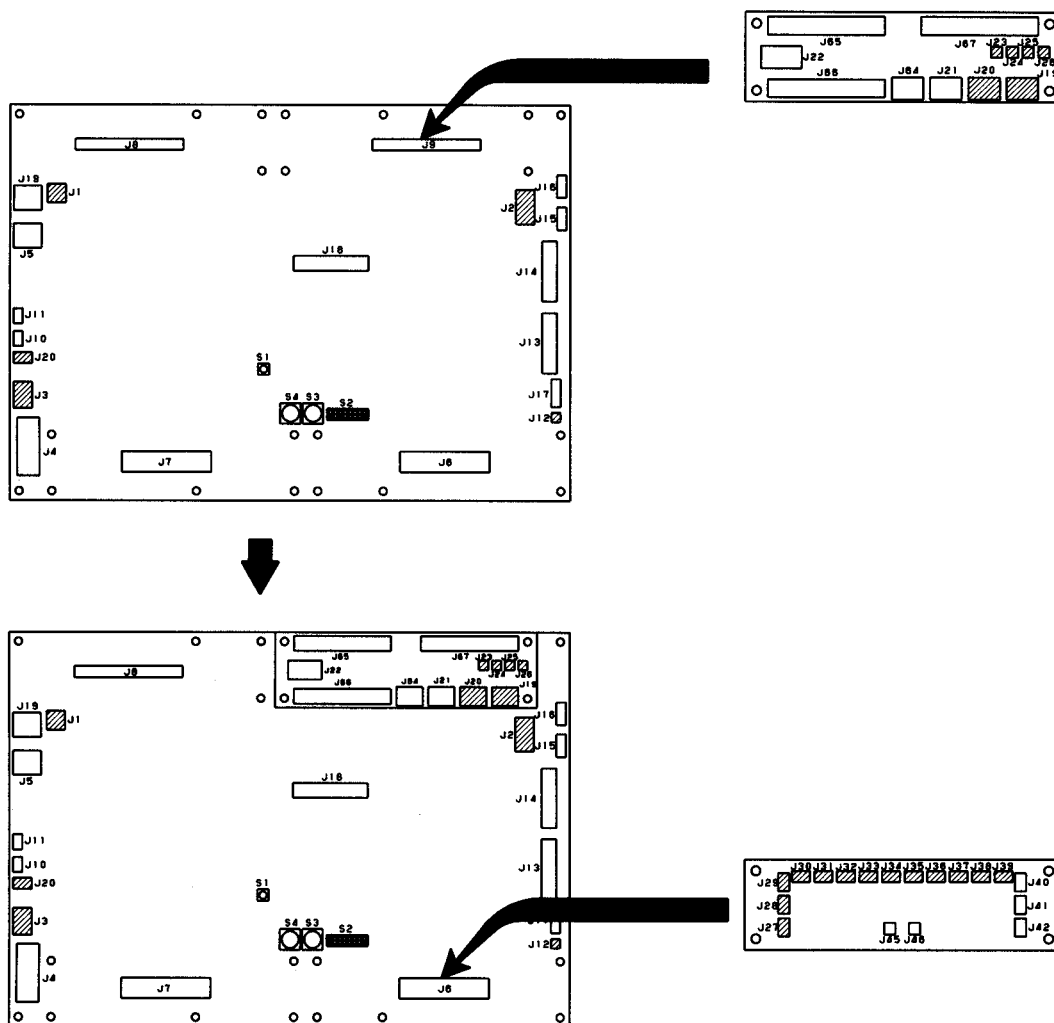
3P/4P OP-S CONTROL BOX CONNECTIONS(~BW - 8K028)



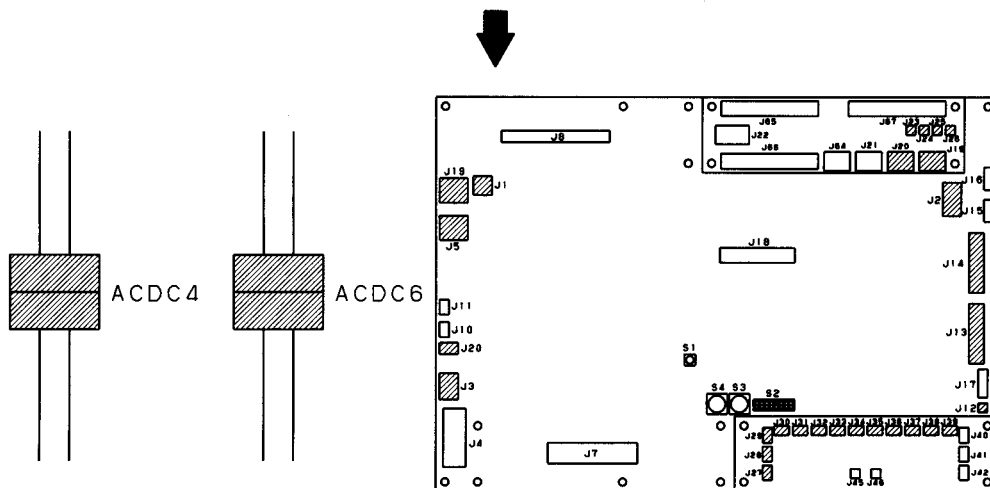
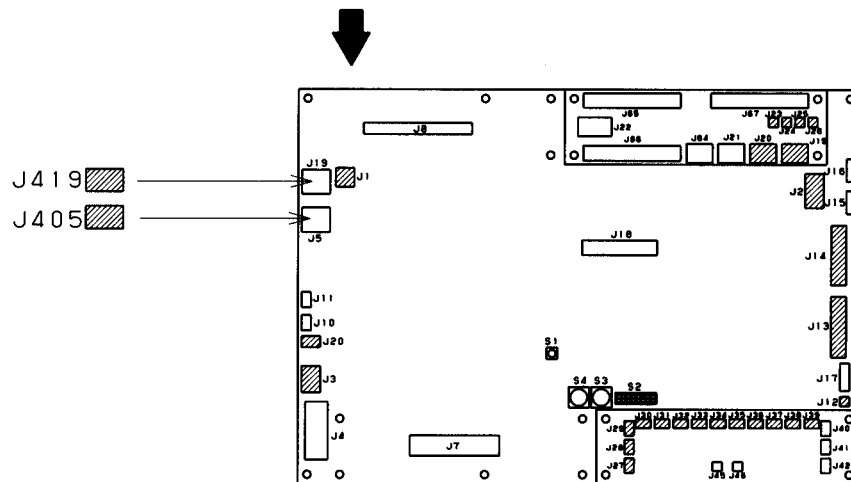
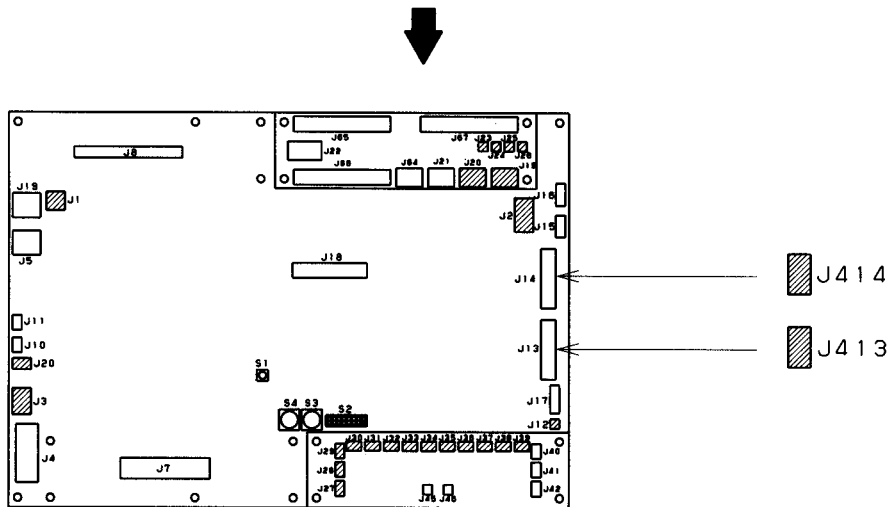
7. ELECTRIC WIRING DIAGRAM



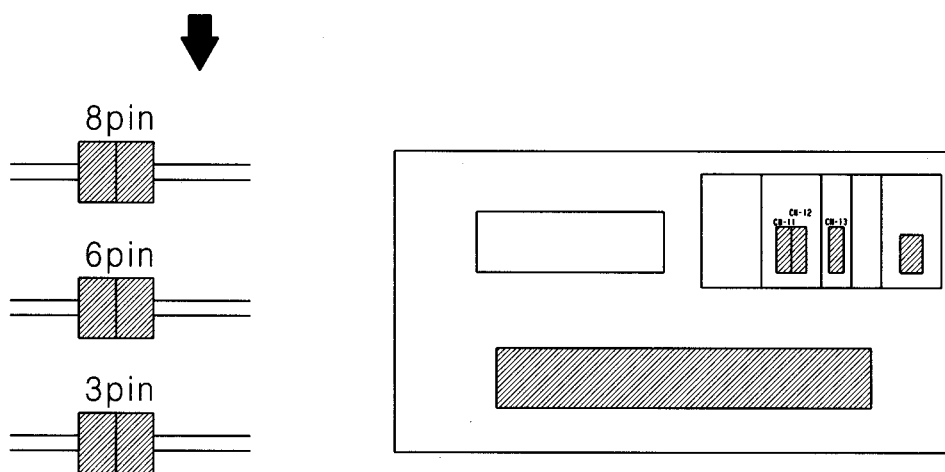
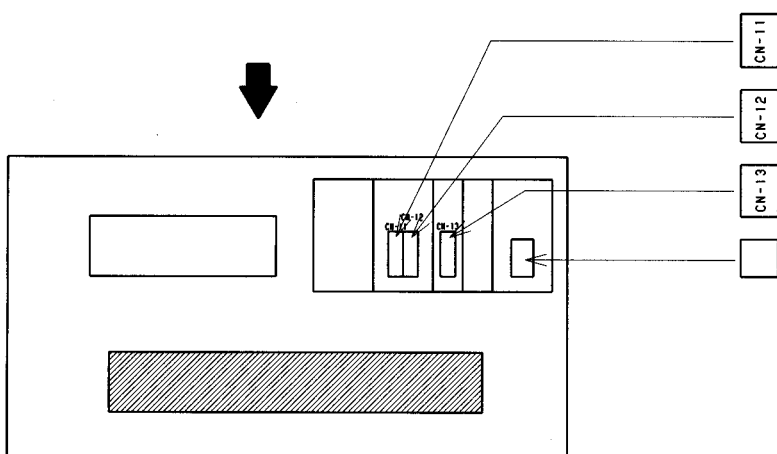
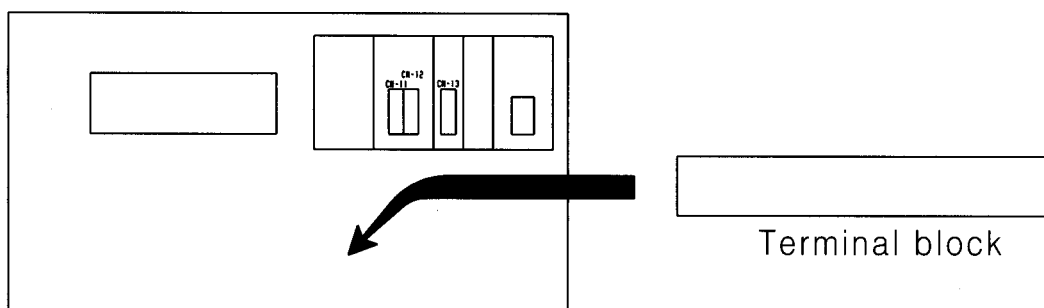
3P/4P NOP-S CONTROL BOX CONNECTIONS(~BW - 8K028)



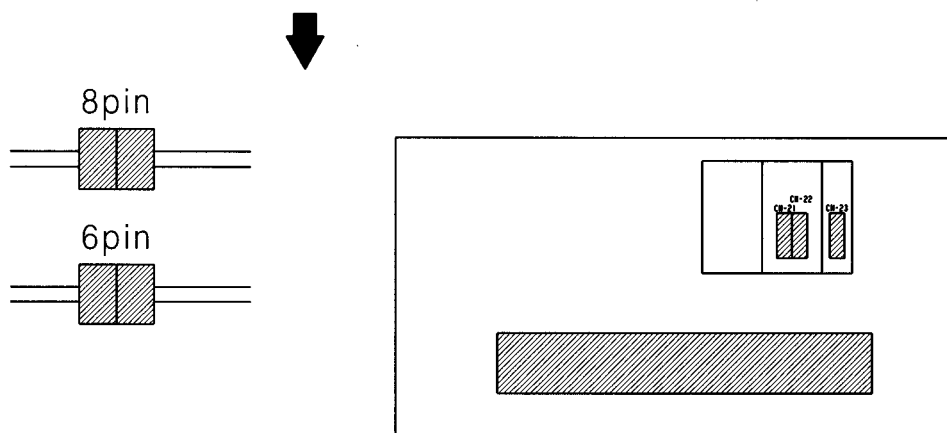
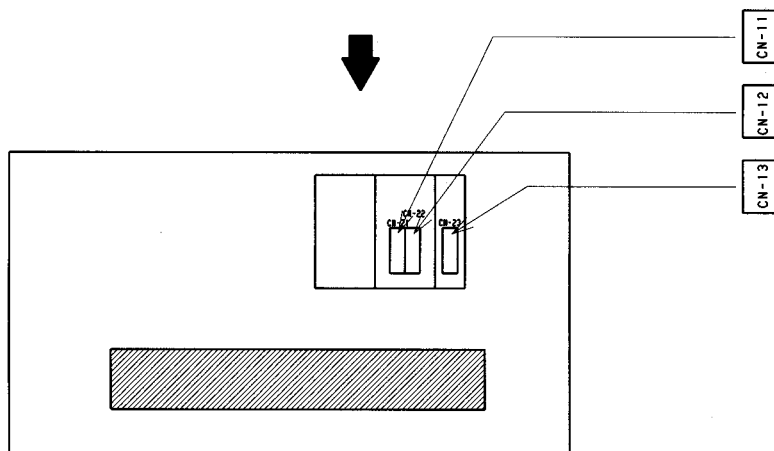
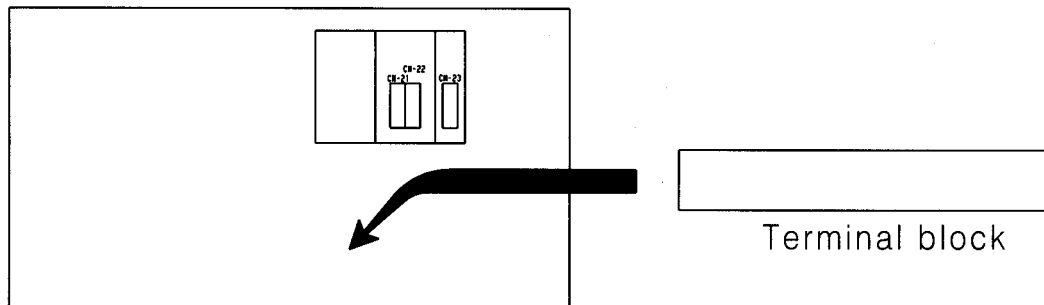
7. ELECTRIC WIRING DIAGRAM



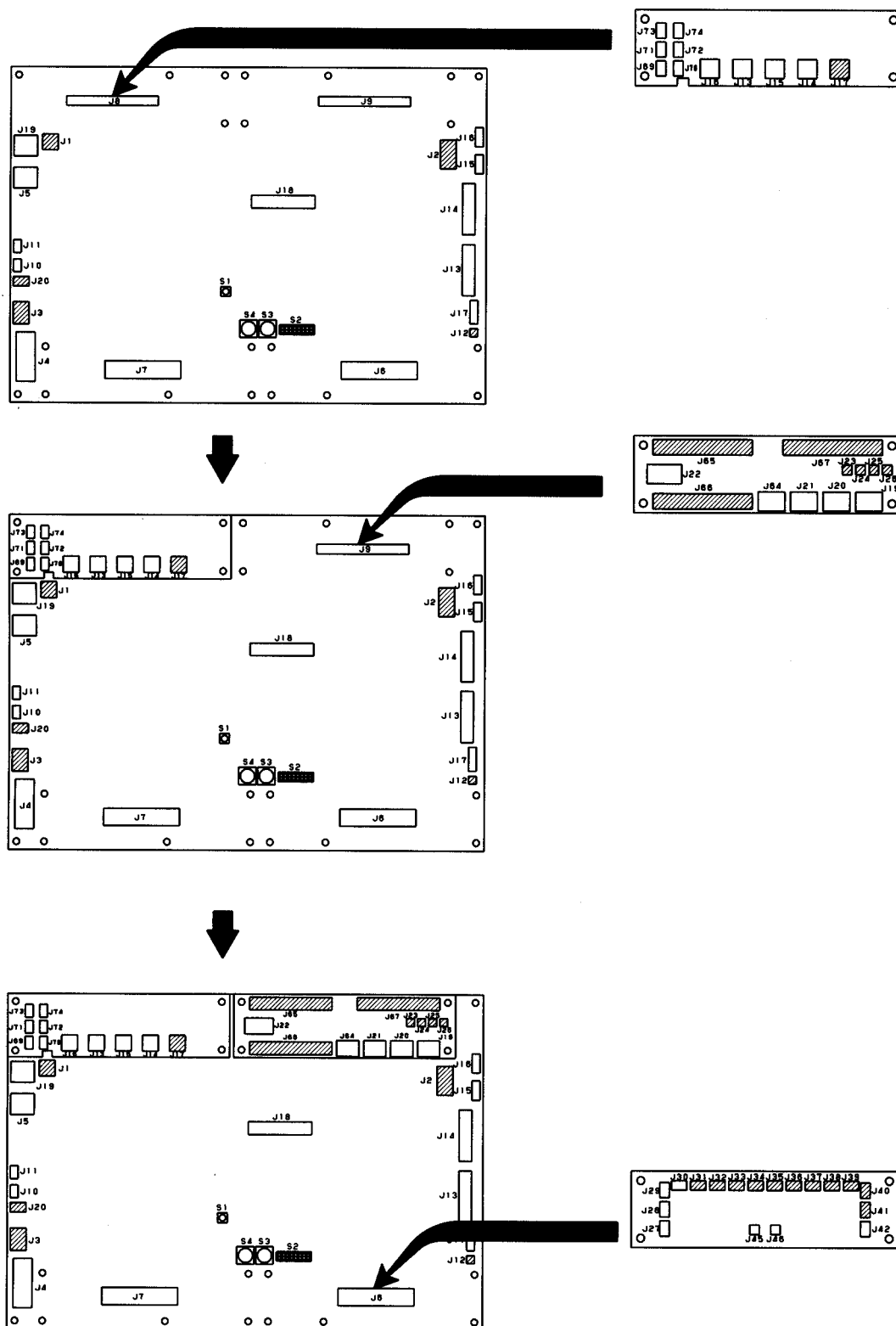
1P/2P EPS CONTROL BOX CONNECTIONS(~BW - 8K028)



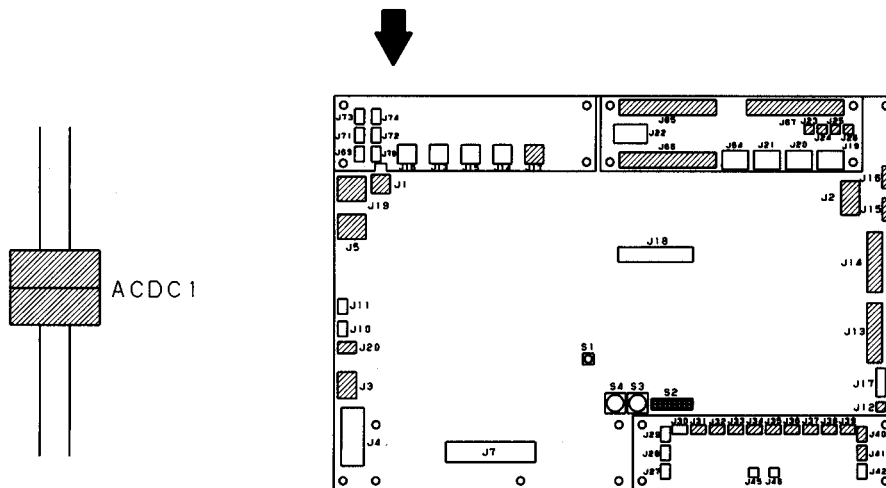
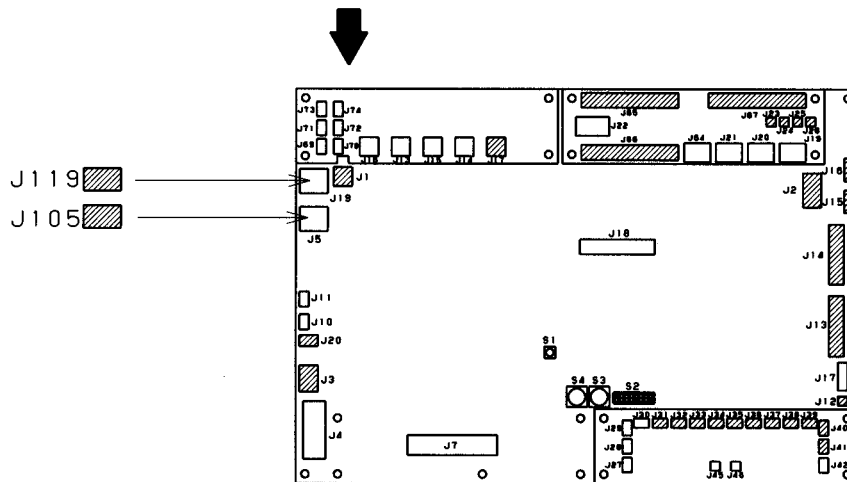
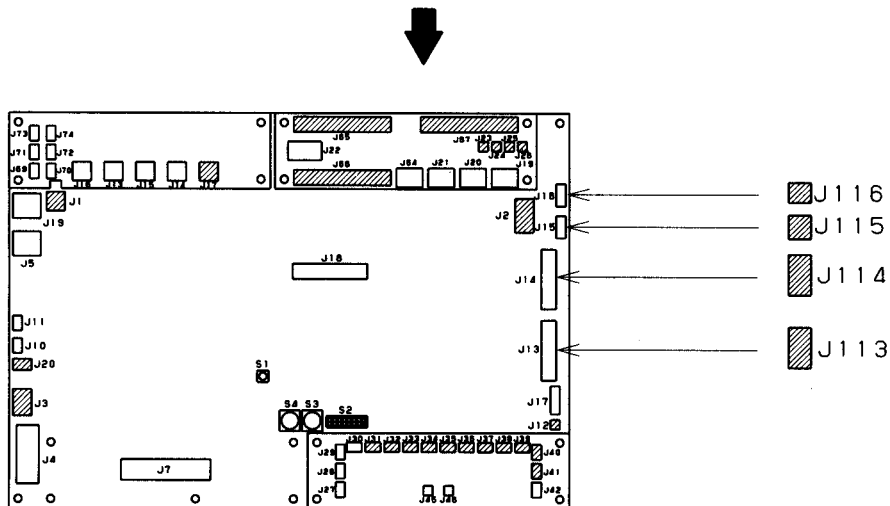
3P/4P EPS CONTROL BOX CONNECTIONS



1P/2P OP-S CONTROL BOX CONNECTIONS (BV-8J021,BV-8J024,BW-8L034,BW-8L036 to BW-8L038, after 1999)

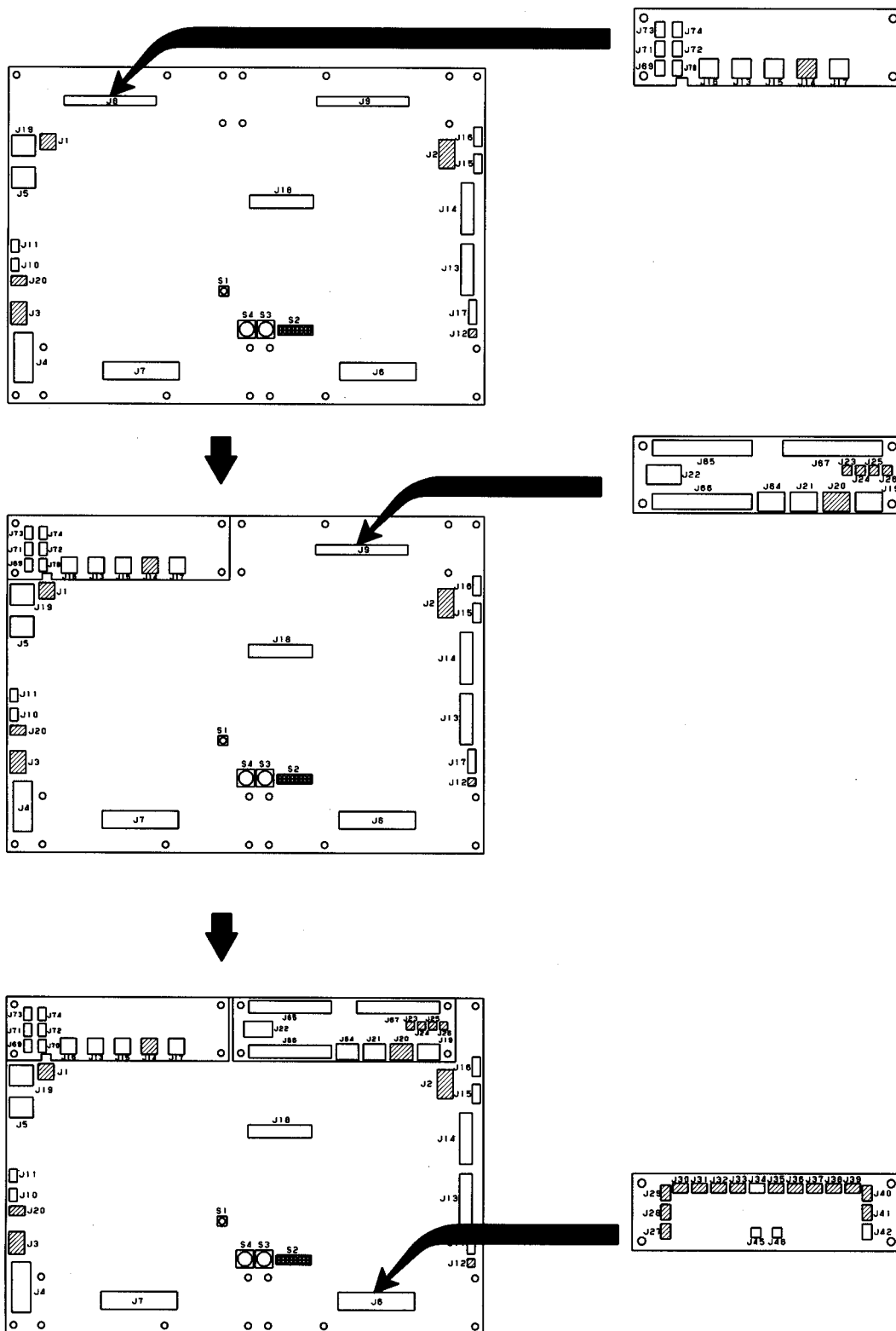


7. ELECTRIC WIRING DIAGRAM

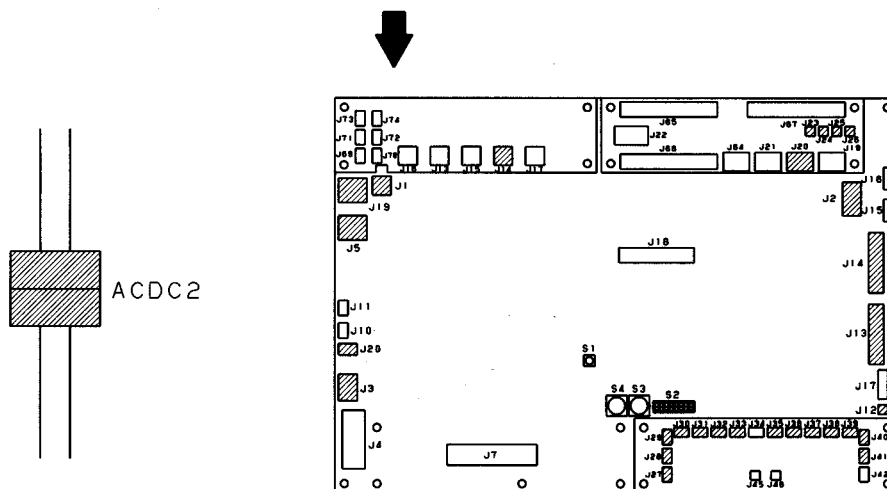
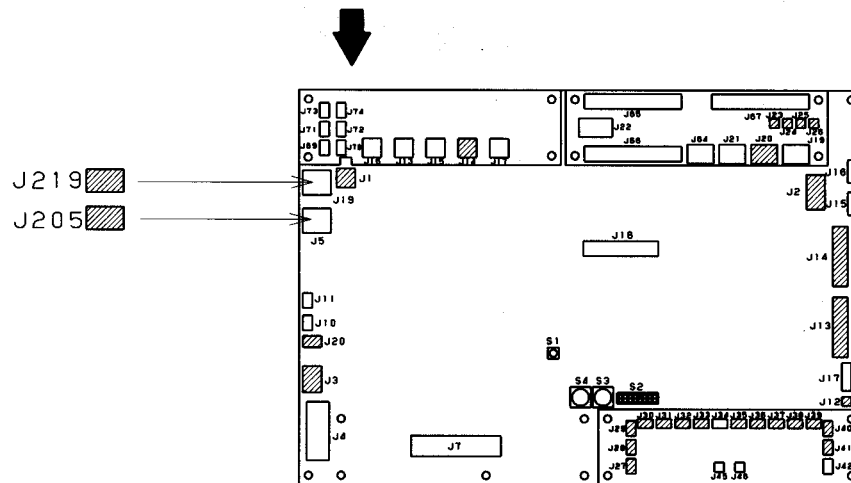
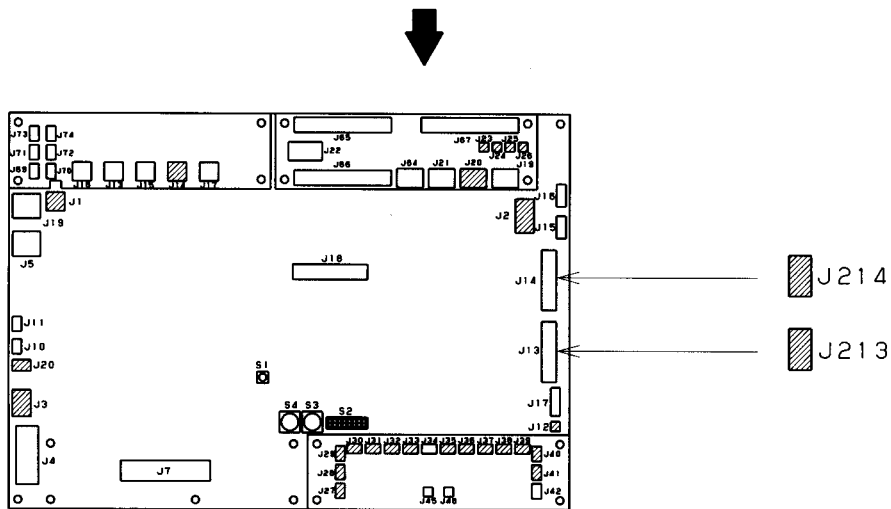


1P/2P NOP-S CONTROL BOX CONNECTIONS

(BV-8J021,BV-8J024,BW-8L034,BW-8L036 to BW-8L038, after 1999)

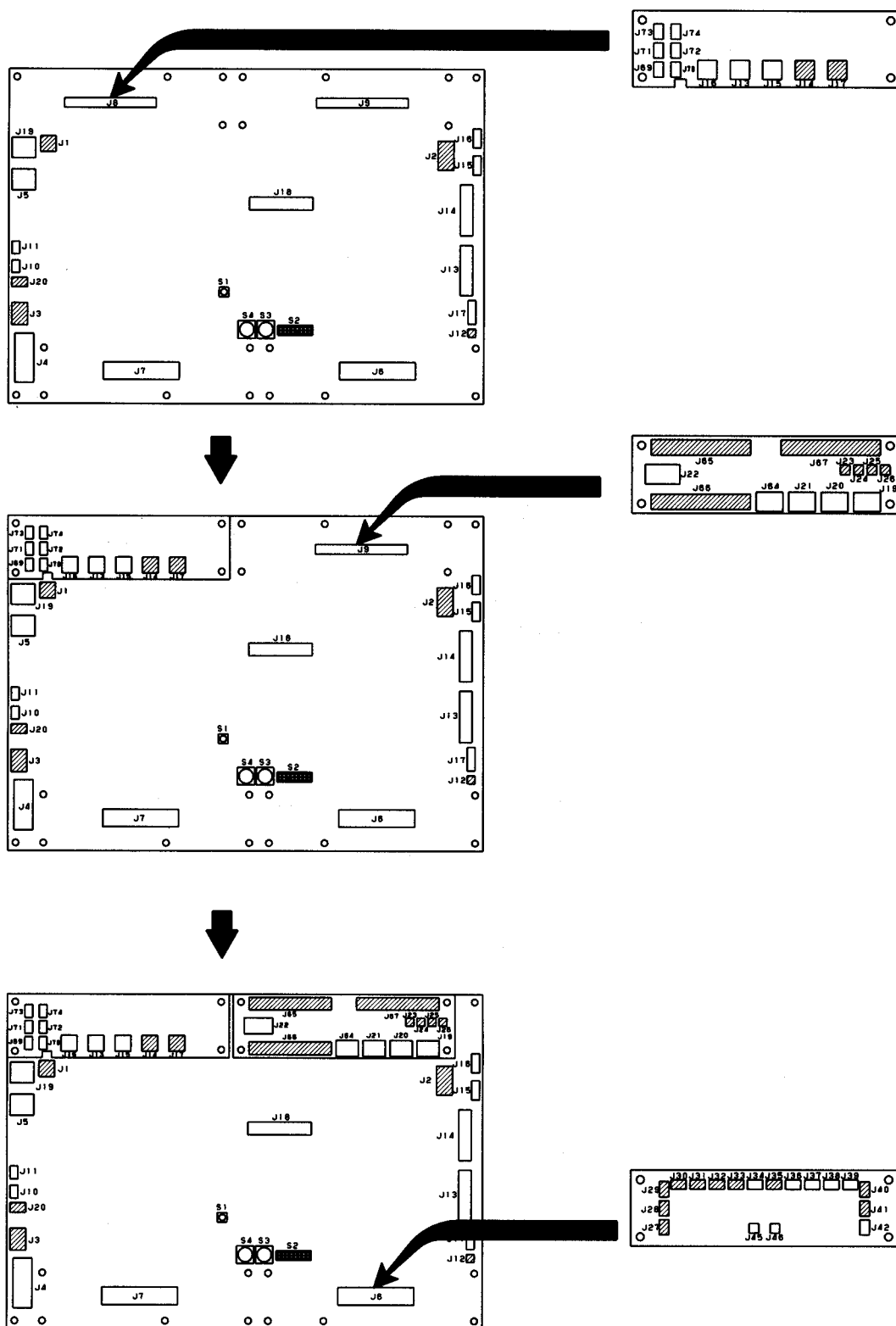


7. ELECTRIC WIRING DIAGRAM

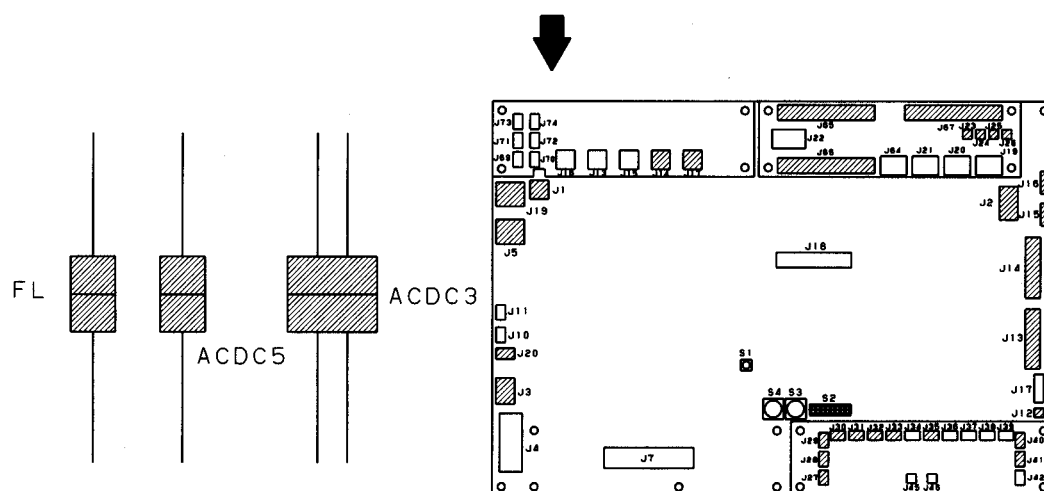
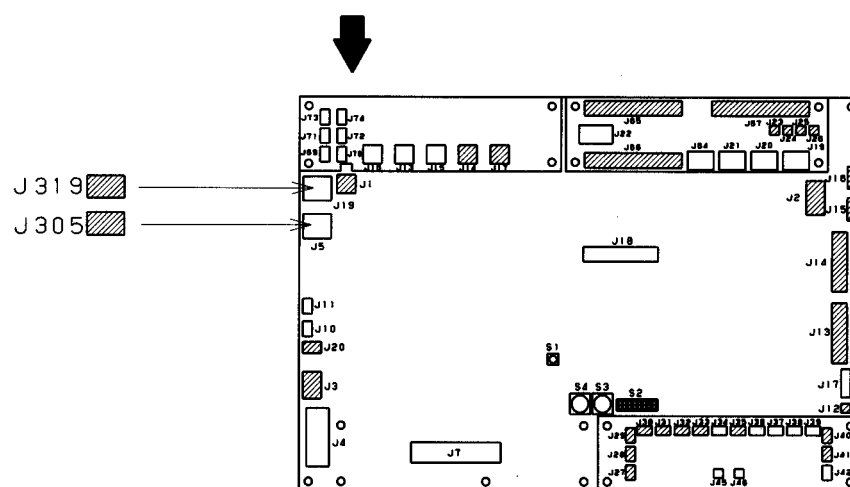
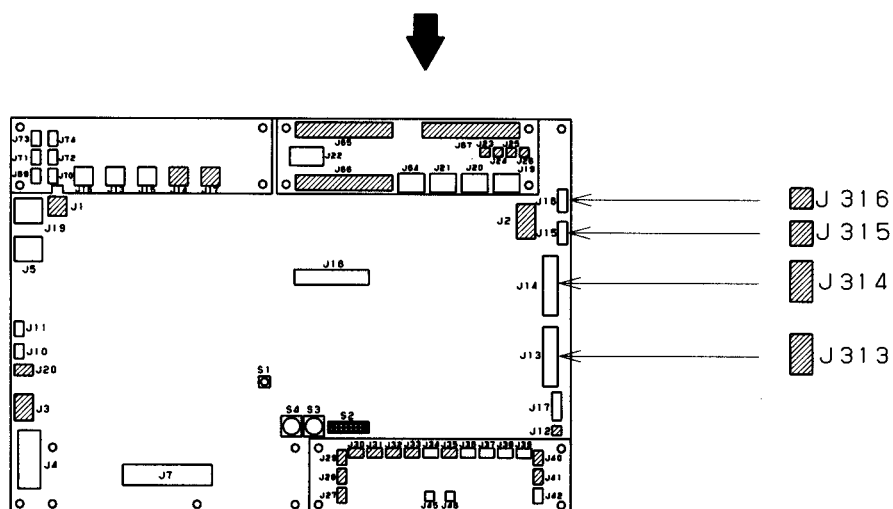


3P/4P OP-S CONTROL BOX CONNECTIONS

(BV-8J021,BV-8J024,BW-8L034,BW-8L036 ,BW-8L037, BW-8L038~)

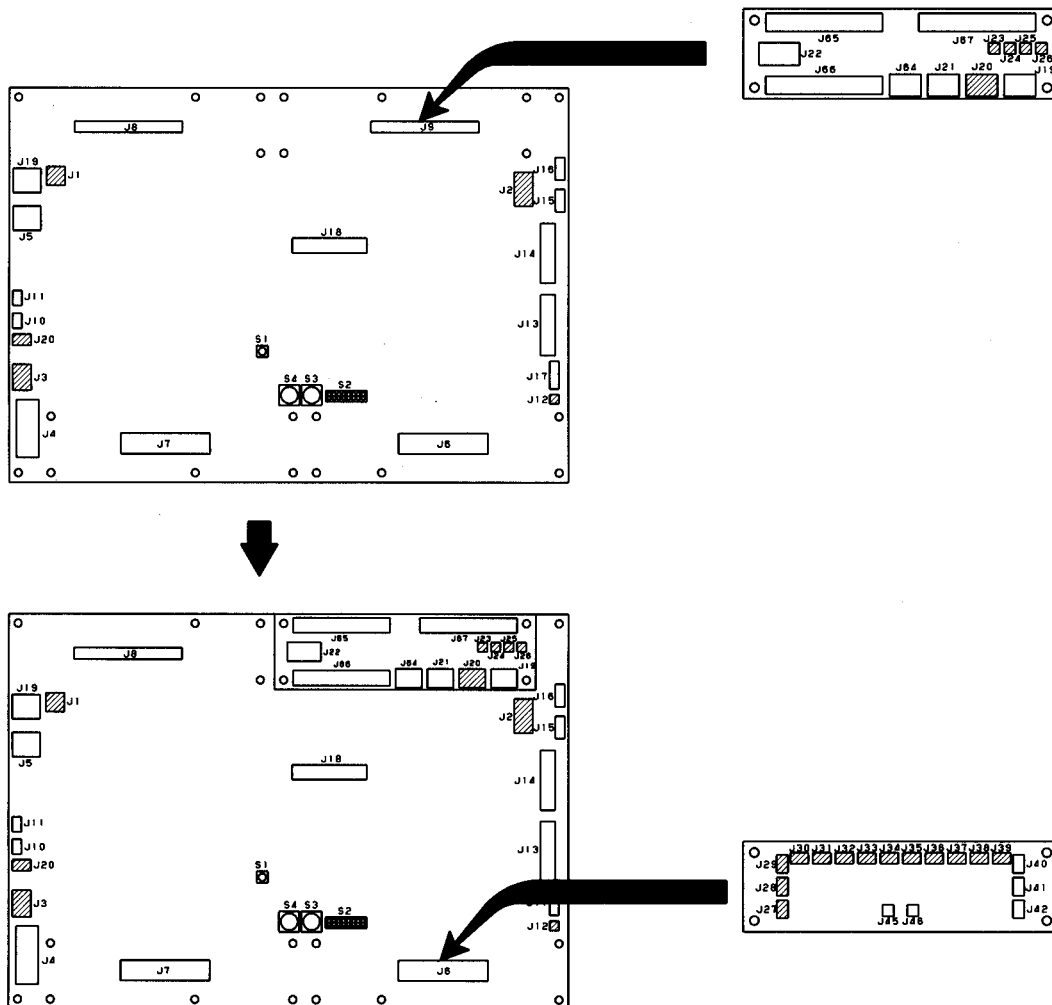


7. ELECTRIC WIRING DIAGRAM

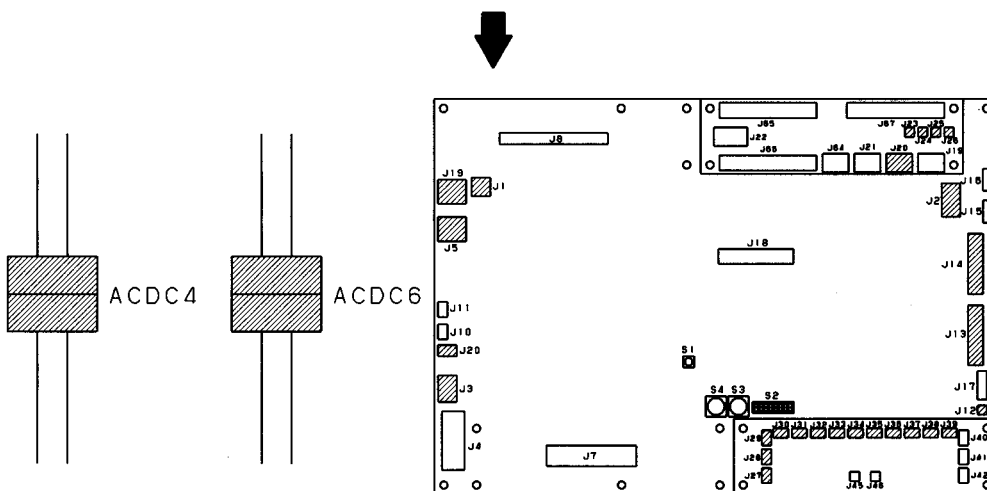
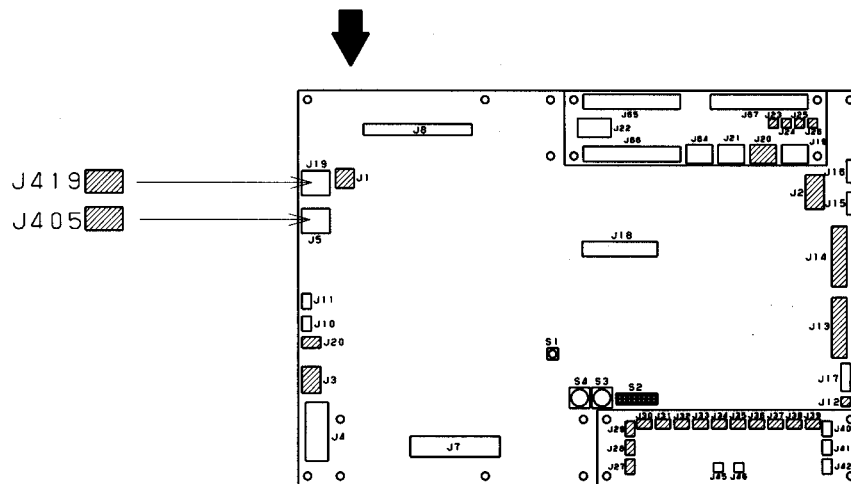
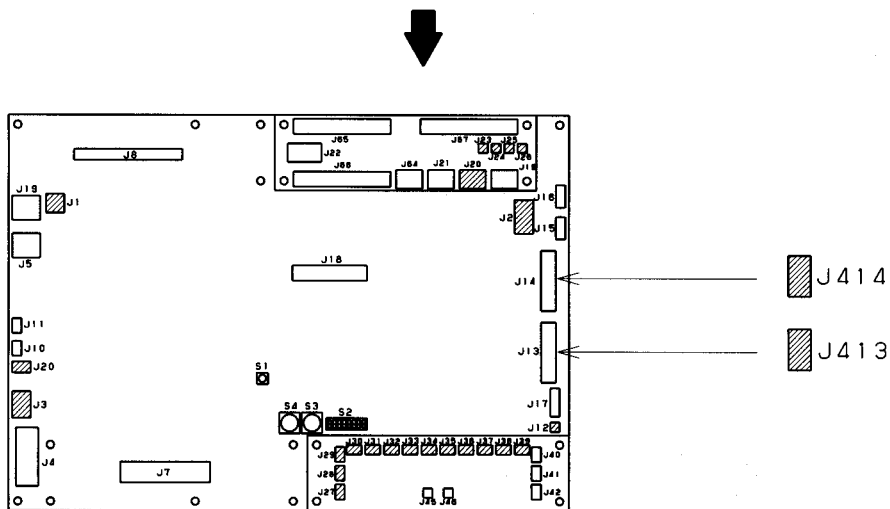


3P/4P NOP-S CONTROL BOX CONNECTIONS

(BV-8J021,BV-8J024,BW-8L034, BW-8L036 to BW-8L038, after 1999)

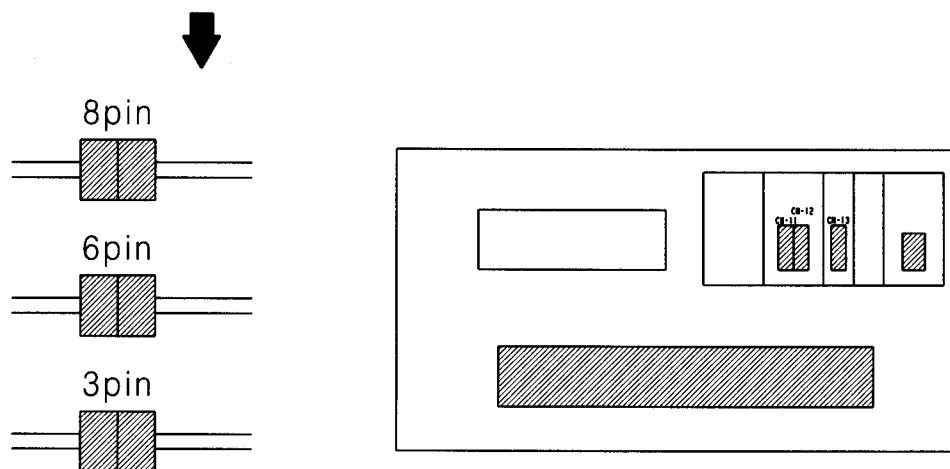
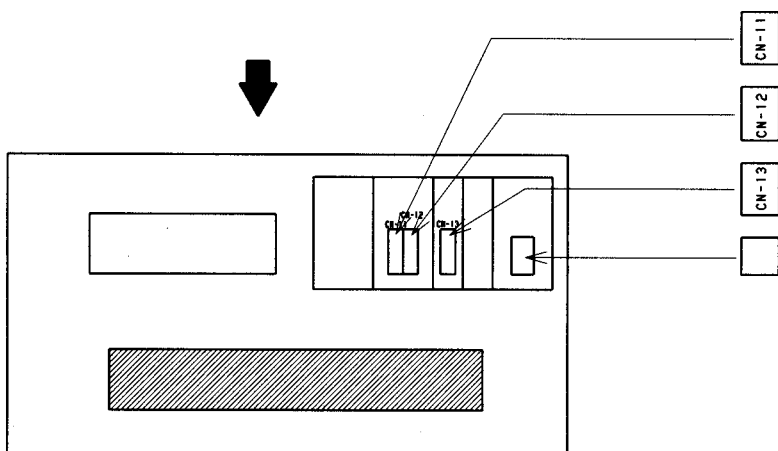
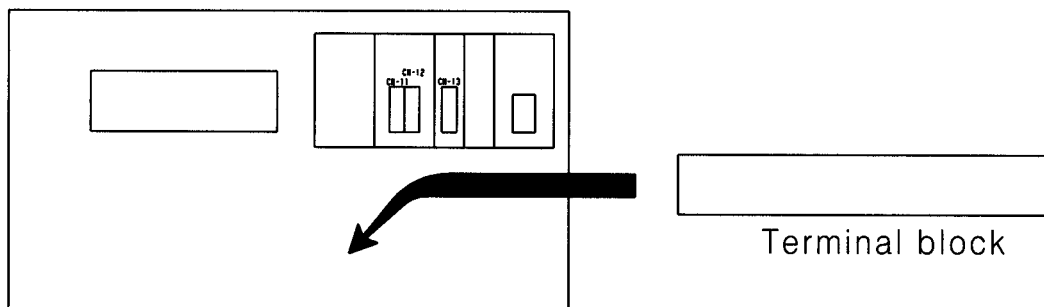


7. ELECTRIC WIRING DIAGRAM

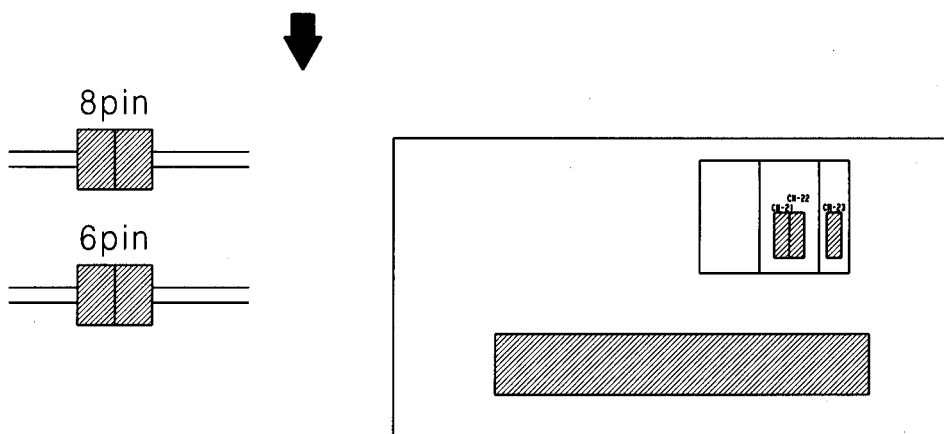
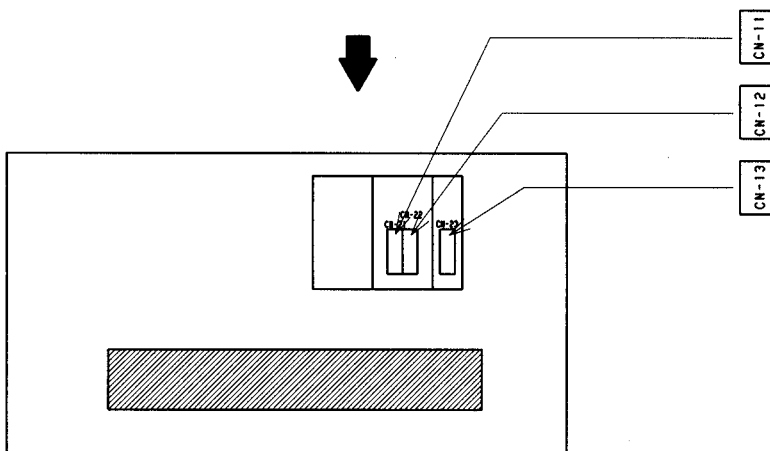
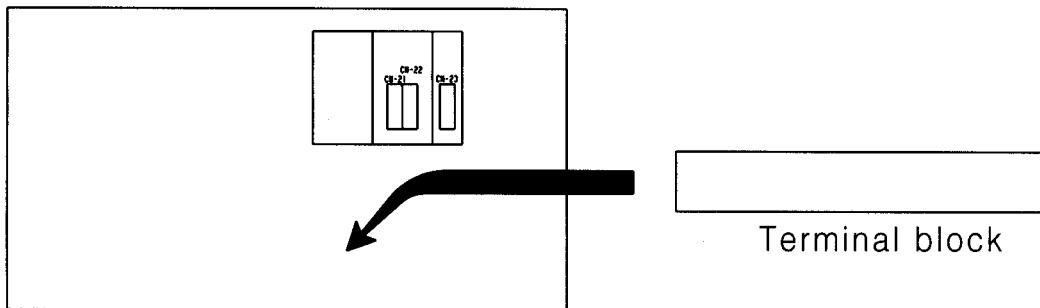


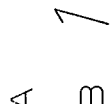
1P/2P EPS CONTROL BOX CONNECTIONS

(BV-8J021,BV-8J024,BW-8L034,BW-8L036 ,BW-8L037, BW-8L038~)

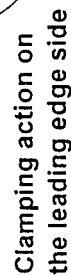


3P/4P EPS CONTROL BOX CONNECTIONS





Conformation of EPS clamp status:
 [Clamp on the lead edge side: Opened]
 [Clamp on the tail edge side: Opened]
 [Clamp position of the tail edge side: Advanced position]



1. The bottom male-clutch activates toward to the plate cylinder for engaging with female clutch.
2. The engaged clutch rotates to count-clockwise the clamp shaft for clamping.
3. The male clutch disengages to back the original position.

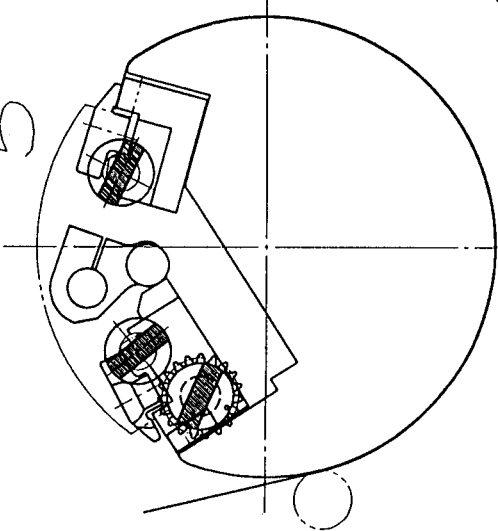
The press rotates 20° into forward direction at low speed.

**The retaining roller retains the plate.
Press the start switch "B".**

[illegible]

3. The male clutch disengages to back the or

5

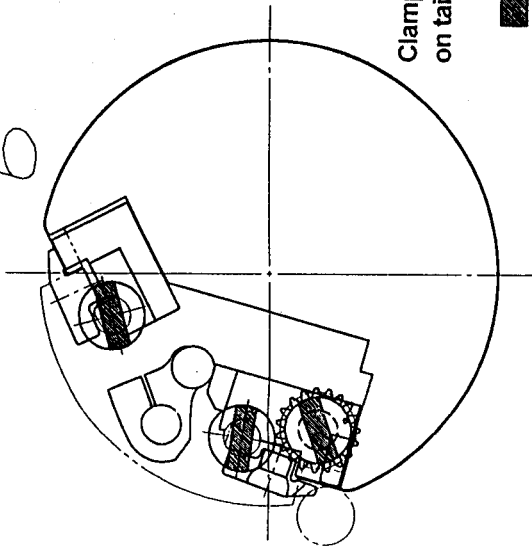


The press rotates 205°
into forward direction at low speed.



Insert the plate into the tail clamp.
Press the start switch "B".
The press rotates by the standard
position on tail edge side.

6

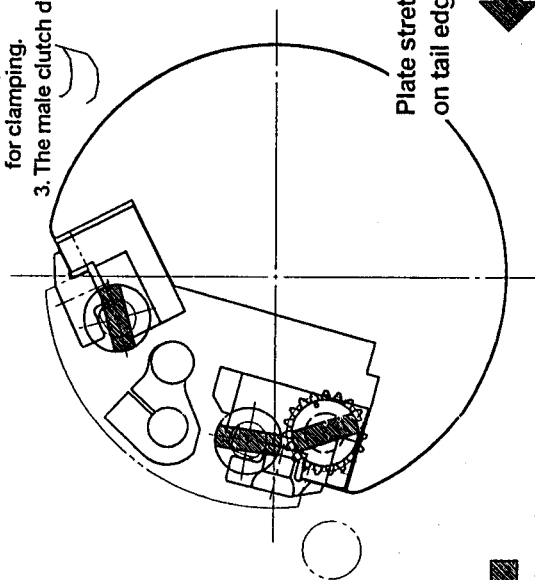


Clamping action
on tail edge side.

1. The upper male clutch activates to toward the plate cylinder for engaging with the female clutch.
2. The engaged clutch rotates to clockwise the clamp shaft for clamping.
3. The male clutch disengages to back the original position.



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Start the printing.



Close the safety cover.
(P-B impression comes off automatically)



1. The bottom male clutch activates toward to the plate cylinder for engaging with the female clutch which has a small gear.
2. The engaged clutch rotates to count-clockwise to turn the lever with gear for moving the tail clamp reverse.
3. The male clutch disengages to back the original position.



Plate stretching action
on tail edge side.on

The retaining roller comes off.



Open the safety cover on the plate cylinder side.
Set the selector switch "A" to "removing position".
(P-B impression comes on automatically)
Press the start switch "B".
The press runs at low speed and stops at the standard
on the tail edge side for plate removing.

Conformation of EPS clamp status:
 [Clamp on the lead edge: closed]
 [Clamp on the tail edge: closed]
 [Clamp position on the tail edge side: closed]

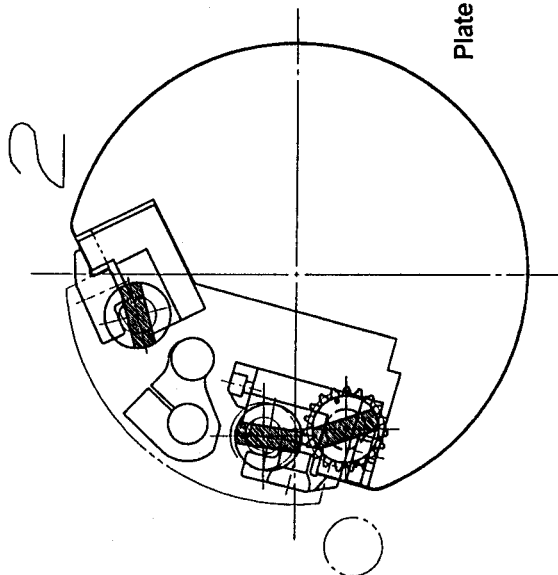
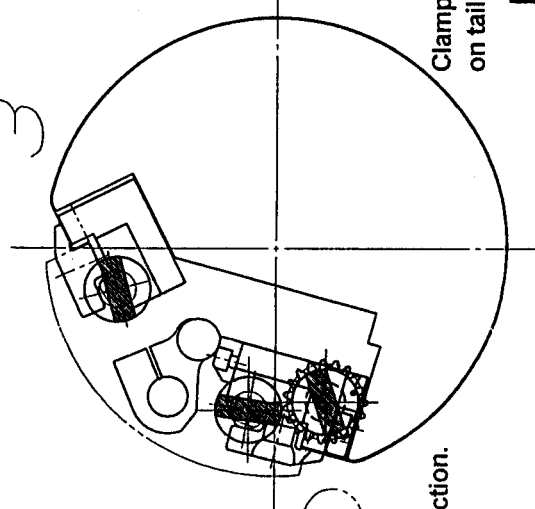


Plate loosening action.



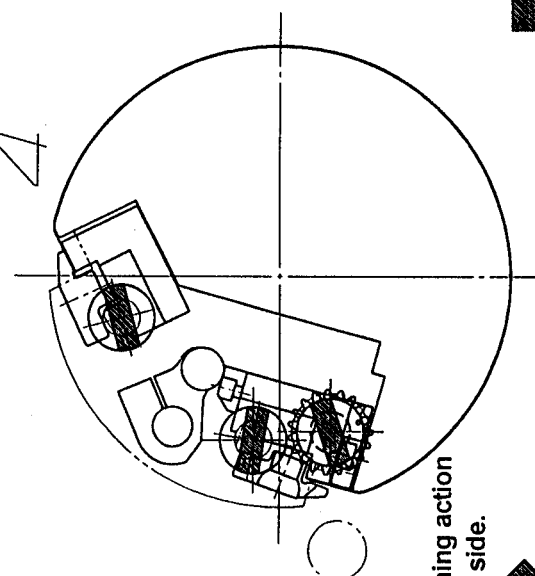
1. The bottom male clutch activates toward the plate cylinder for engaging with the female clutch which has a small gear.
2. The engaged clutch rotates to clockwise to turn the lever with gear for moving the tail clamp forward.
3. The male clutch disengages to back the original position.



**Clamp opening action
on tail edge side.**



1. The upper male clutch activates toward the plate cylinder for engaging with the female clutch.
2. The engaged clutch rotates to count-clockwise the clamp shaft for clamping.



**Clamp opening action
on tail edge side.**



1. The upper male clutch activates toward the plate cylinder for engaging with the female clutch.
2. The engaged clutch rotates to count-clockwise the clamp shaft for clamping.

5

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Plate discharging action
(Moving clamp backward)

Plate discharging action
(Moving clamp forward)

The press rotates 20° into reverse
direction at low speed.

1. The bottom male clutch activates toward to the plate cylinder for engaging with the female clutch which has a gear.
2. The engaged clutch rotates to count-clockwise to turn the lever with gear for moving the tail clamp reverse.

1. The bottom male clutch activates toward to the plate cylinder for engaging with the female clutch which has a gear.
2. The bottom clutch rotates to clockwise to turn the lever with gear for moving the tail clamp forward.

Hold the tail edge of the plate by hand.
Press the start switch "B".
The press runs into reverse direction at low speed and stops at the standard position on the lead edge side for plate removing.

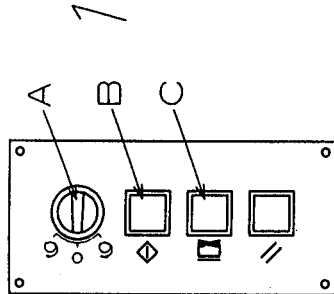
Clamp opening action
on the lead edge side.

Remove the plate.

Close the safety cover.
(P-B impression comes off automatically)

END

1. The bottom male clutch activated toward to the plate cylinder for engaging with the female clutch.
2. The engaged clutch rotates to clockwise to turn the clamp shaft for opening.
3. The male clutch disengages to back the original position.



Open the safety cover on the plate cylinder side.
Set the selector switch "A" to "reset position".
Press the skew switch "C".
(P-B impression comes on automatically)
Press the start switch "B".
The press runs at low speed and stops at the standard position on the tail edge side for the plate loosening.

Conformation of EPS clamp status:
[Clamp on the lead edge: Closed]
[Clamp on the tail edge: Closed]
[Clamp position on the tail edge: stretched position]

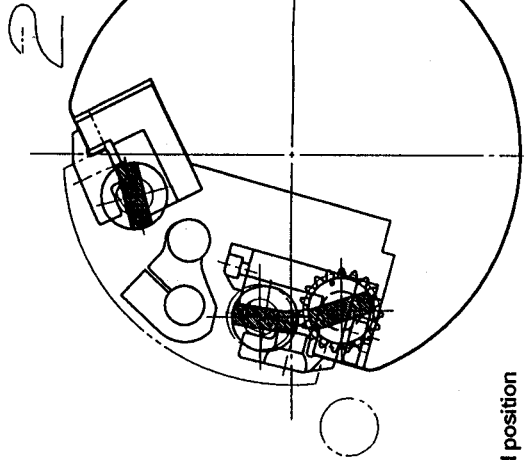
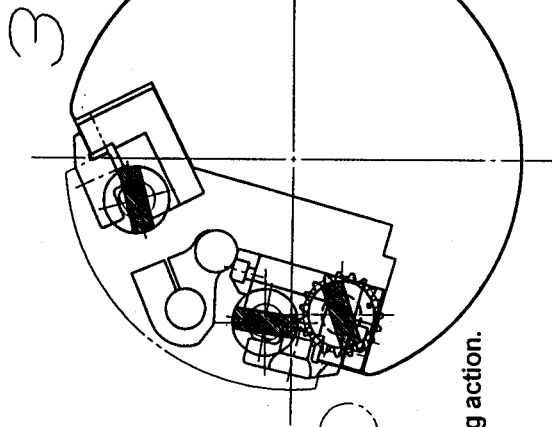


Plate loosening action.

1. The bottom male clutch activates toward the plate cylinder for engaging with the female clutch which has a gear.
2. The engaged clutch rotates to clockwise to turn the lever with gear for moving the tail clamp forward.
3. The clutch disengages to back the original position.



The press rotates 45 into the forward direction at low speed.

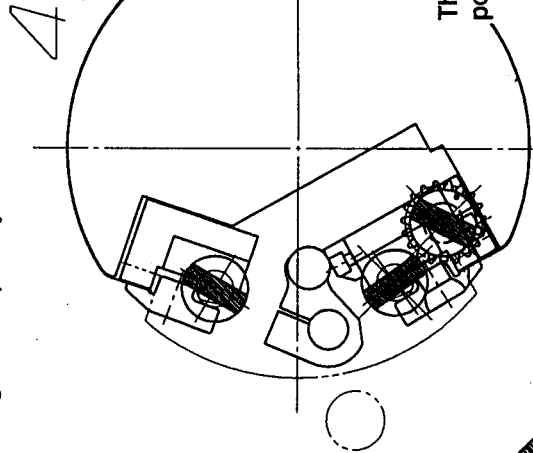


Plate skewing adjustment

1. The bottom male clutch activates toward the plate cylinder for engaging with the female clutch which has a gear.
2. The engaged clutch rotates to count-clockwise to turn the lever with gear for moving the tail clamp reverse.
3. The male clutch disengages to back the original position. (P-B impression comes off automatically)

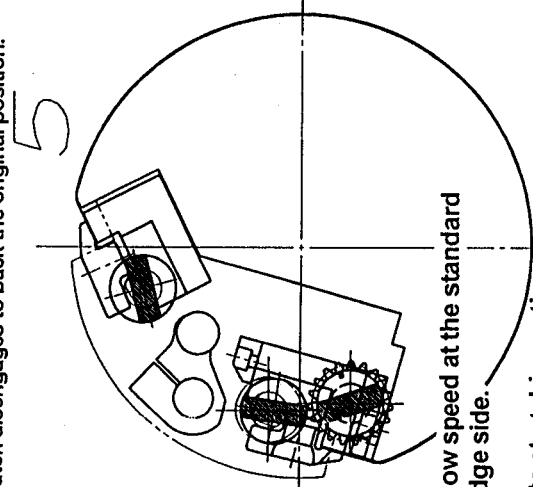


Plate stretching action.

1. The bottom male clutch activates toward the plate cylinder for engaging with the female clutch which has a gear.
2. The engaged clutch rotates to count-clockwise to turn the lever with gear for moving the tail clamp reverse.
3. The male clutch disengages to back the original position. (P-B impression comes off automatically)

Close the safety cover.

End.