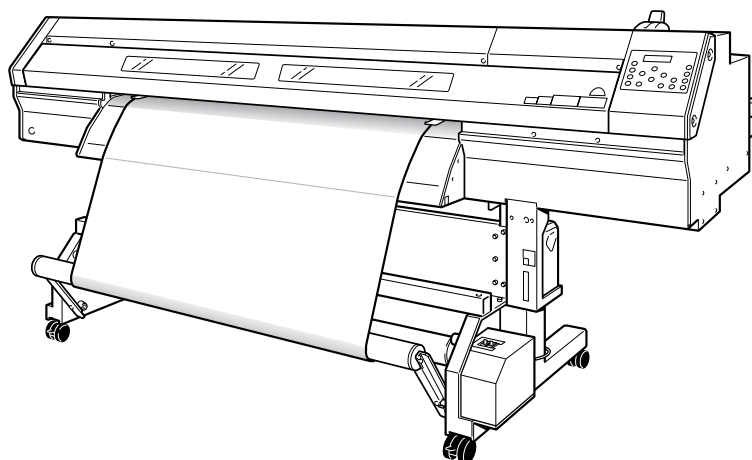


# SOLJET PRO III XC-540

SIGN MAKER BY ROLAND DG CORPORATION



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**Fourth Edition**

XC-540 '06.Dec.

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# Revision Record




Revision No.	Date	Description of Changes	Approval	Issued
0	2006.9.13	First Edition	Kato	Sato
1	2006.10.3	3-8 : BOARD REPLACEMENT_MAIN BOARD REPLACEMENT, SW POWER SUPPLY REPLACEMENT Procedures have been revised. 3-10 : CARRIAGE BELT REPLACEMENT Procedures have been revised. 4-3 : HOW TO UPGRADE/INSTALL FIRMWARE Procedures have been revised and added. 4-16 : BELT POSITION ADJUSTMENT Procedures have been revised and added.	Kato	Mabuchi
2	2006.11.2	1-7: Parts have been revised.	Kato	Misako
3	2006.12.26	3-3:CAP TOP REPLACEMENT, 3-4:TOOL CARRIAGE REPLACEMENT, 3-5:CARRIAGE MOTOR REPLACEMENT, 3-6:PPUMP REPLACEMENT, 3-9:BATTERY REPLACEMENT Procedures have been revised. 4-5: HEAD ALIGNMENT Procedures have been revised. 6-18: SERVICE CALL has been revised.	Kato	Saori

# To Ensure Safe Work

About ⚠️ **WARNING** and ⚠️ **CAUTION** Notices.

 <b>WARNING</b>	Used for instructions intended to alert the operator to the risk of death or severe injury should the unit be used improperly.
 <b>CAUTION</b>	Used for instructions intended to alert the operator to the risk of injury or material damage should the unit be used improperly. * material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

## About the Symbols

	The ⚠️ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. The symbol at left means “danger of electrocution”.
	The ⚡ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. The symbol at left means not to touch.
	The ⚡ symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. The symbol at left means the power-cord plug must be unplugged from the outlet.

In addition to the ⚠️ **WARNING** and ⚠️ **CAUTION** symbols, the symbols shown below are also used.

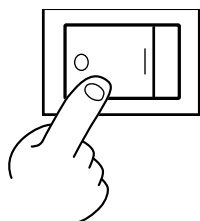


: Tips and advise before the adjustment.

## **WARNING**



**Turn off the primary power SW before servicing.**



**Do not recharge, short-circuit, disassemble the lithium battery, nor put it into fire.**

It may cause heat, explosion and fire.

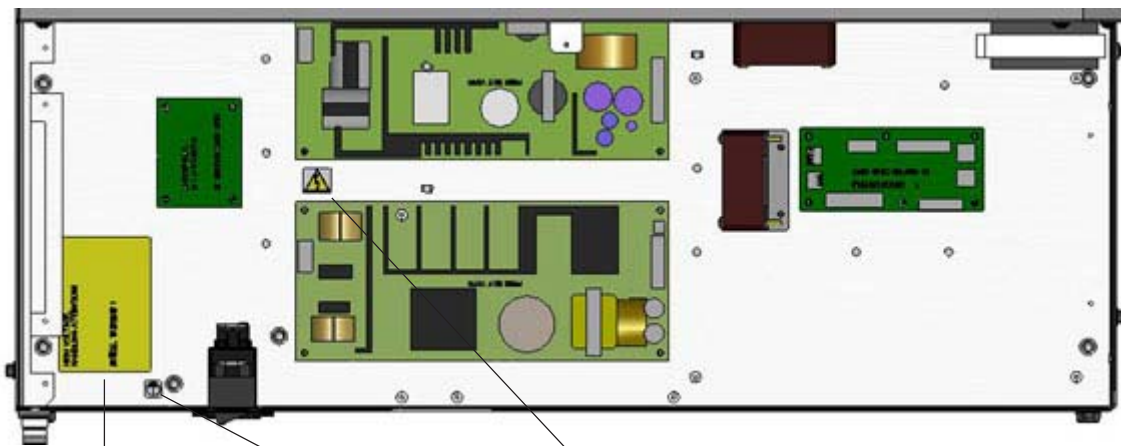


**Put tape around the lithium battery for insulation for disposal or preservation.**

It may cause heat, explosion and fire.

# About the Labels Affixed to the Unit

These labels are affixed to the body of this product.  
The following figure describes the location.



**Electric charge.**  
Do not touch when power is on.



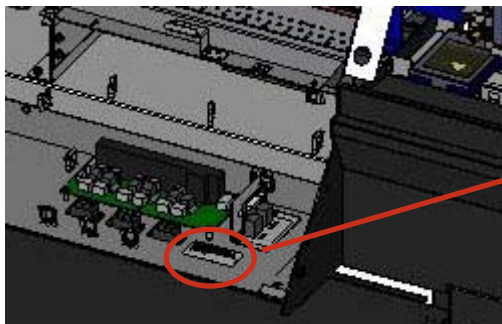
The wiring terminal intended for connection of the protective earthing conductor associated with the supply wiring.  
Do not disconnect the cable of this terminal except the time of replacement.

**HIGH VOLTAGE, HANDLING ATTENTION**

- Do not touch during power on
- Electric shock, Components damage
- Do not repair. Replace power unit.
- Do not replace fuse. Can not be recovered.

**高電圧、取扱注意！**

- 通電中接触不可。感電、部品破損あり。
- 修理不可。基板交換のこと。
- ヒューズ交換不可。復元不能。



**WARNING - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH FUSE OF THE SPECIFIED TYPE AND CURRENT RATING.**

**ATTENTION - AFIN D'EVITER TOUT RISQUE D'INCEMDIE, N'UTILISER QUE DES FUSIBLES DE LA TAILLE ET DU TYPE SPECIFIES.**

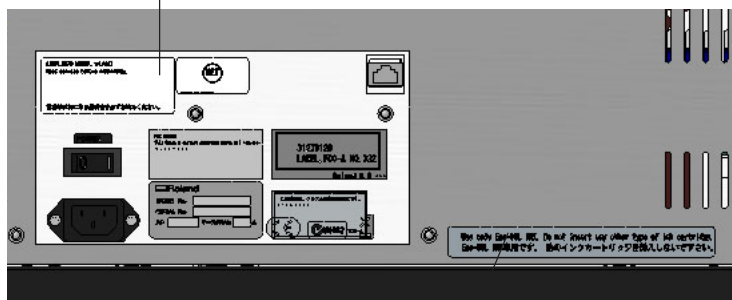


For service engineer / サービスマンの方へ

**CAUTION**

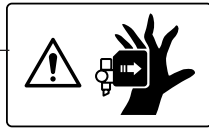
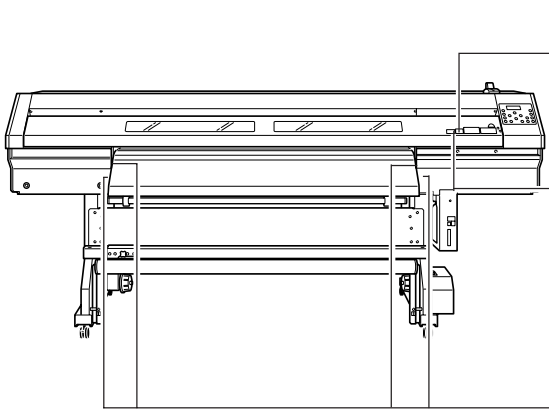
Read the service manual before any maintenance work.

注意  
保守点検作業を行う前に、必ずサービスマニュアルを読むこと。



Use only ECO-SOL MAX. Do not insert any other type of ink cartridge.  
ECO-SOL MAX専用です。他のインクカートリッジを挿入しないでください。





**Caution: Moving Print Heads**

The print heads inside the cover move at high speed and pose a hazard. Never insert the hand or fingers into the gap.



**Flammable**

Ink and discharged fluid are flammable. Keep away from open flame.



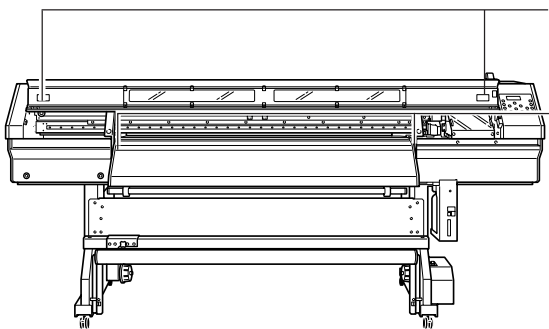
**Ink Is Toxic**

Ink and discharged fluid are toxic. Avoid contact with the body. Use only in a wellventilated area.



**Caution: High Temperature**

The platen and dryer become hot. Exercise caution to avoid fire or burns.



**Caution: Pinching Hazard**

Be careful not to allow the fingers to become pinched when loading media or closing covers.



**Caution: High Temperature**

The platen and dryer become hot. Exercise caution to avoid fire or burns.



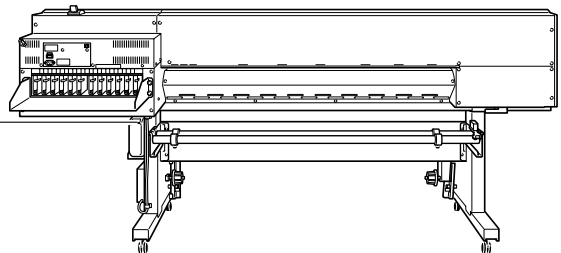
**Flammable**

Ink and discharged fluid are flammable. Keep away from open flame.



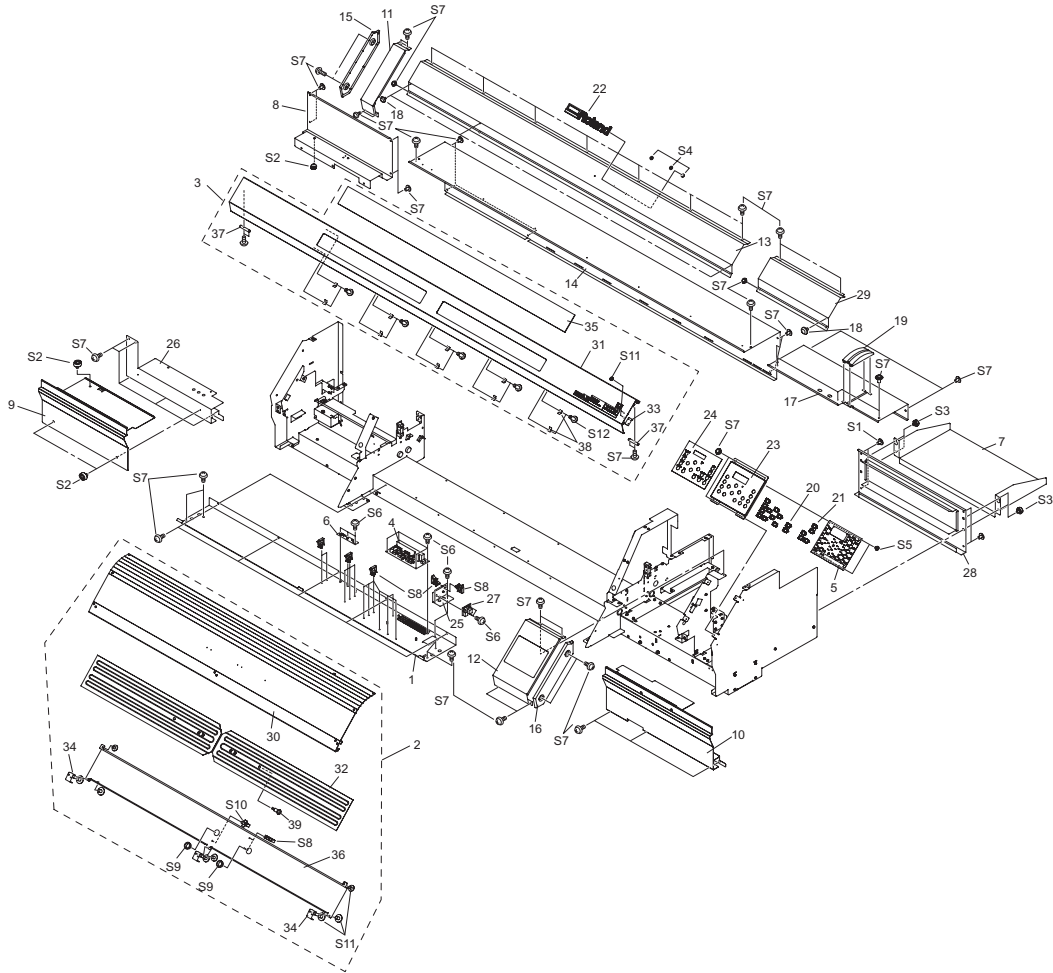
**Ink Is Toxic**

Ink and discharged fluid are toxic. Avoid contact with the body. Use only in a wellventilated area.



# 1 Structure & Spare Parts

## 1-1 COVER



### PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	1000001517	APRON,F UNDER XC-540
2	1000001616	ASSY,APRON F HEATER XC-540
3	1000001614	ASSY,COVER F XC-540
4	W700311411	ASSY,HEATER CONTROL BOARD XC-540
5	W700311370	ASSY,PANEL BOARD XC-540
6	W700311430	ASSY,THERMISTOR JUNC BOARD XC-540
7	1000001472	COVER,440CC I/C XC-540
8	1000001505	COVER,BACK XC-540
9	1000001503	COVER,I/S L XC-540
10	1000001502	COVER,I/S R XC-540
11	1000001501	COVER,L SUS XC-540
12	1000001500	COVER,PANEL SUS XC-540
13	1000001499	COVER,RAIL F SUS XC-540
14	1000001498	COVER,RAIL XC-540
15	W700310000	COVER,SIDE L XC-540
16	W700310001	COVER,SIDE R XC-540
17	1000001497	COVER,TOP R XC-540
18	12239406	CUSHION,TM-96-6
19	1000001600	ESCUTCHEON,XC-540
20	1000001029	KEY TOP,D14 DG AJ-1000
21	1000000111	KEY TOP,D14 WH AJ-1000
22	1000000953	LABEL,EMBLEM LOGO ROLAND
23	1000001565	PLATE,COVER PANEL XC-540
24	1000001578	SHEET,PANEL XC-540
25	1000001599	STAY,EXT JB XC-540
26	1000001504	SUPPORT,COVER I/S L XC-540
27	W700311450	ASSY,EXT JUNCTION BOARD XC-540

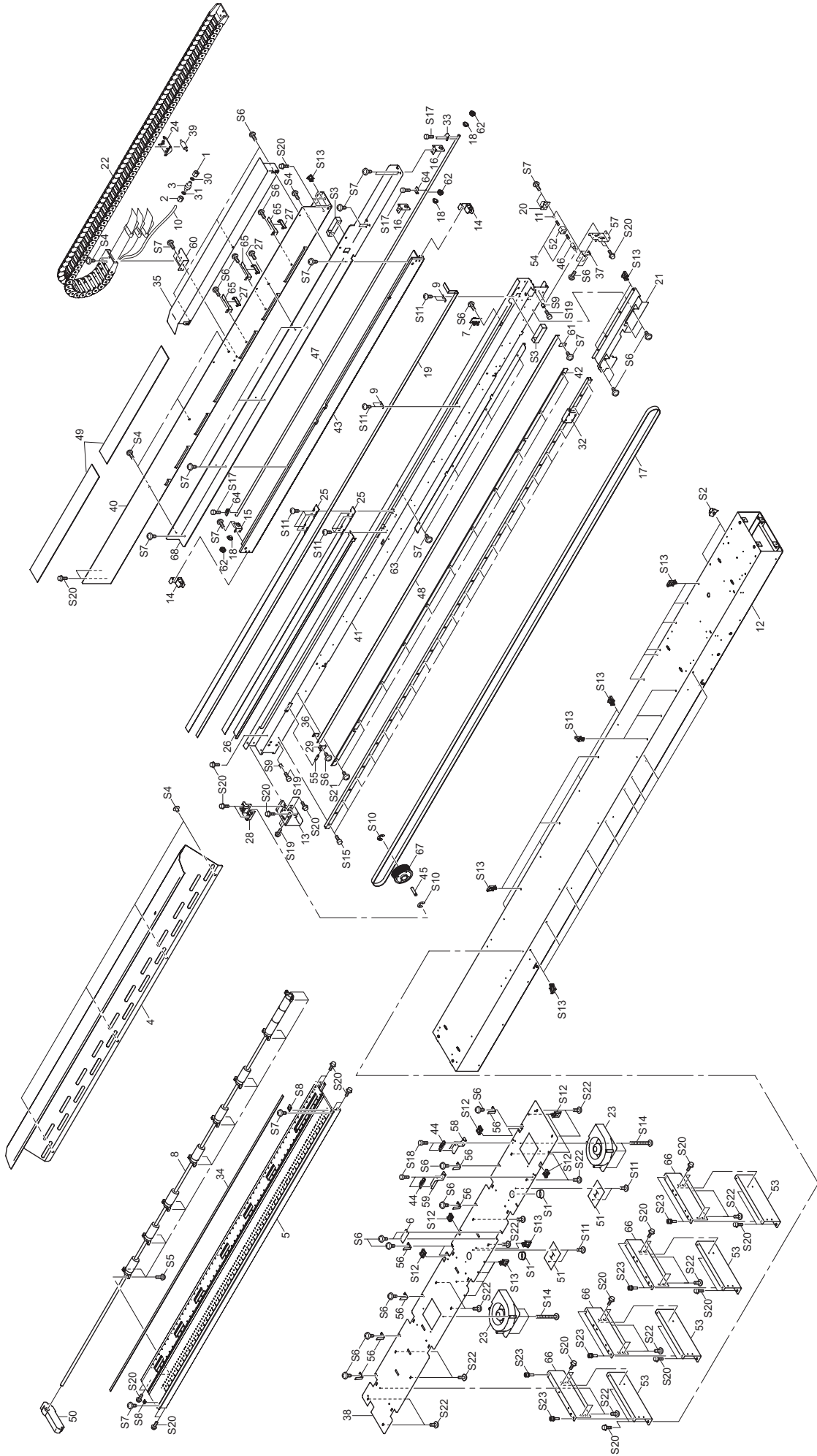
### PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
28	1000001539	COVER,I/C PCM XC-540
29	1000001496	COVER,TOP F SUS XC-540
30	1000002465	APRON,FRONT XC-540
31	1000002470	COVER,FRONT APRON XC-540
32	1000002466	DRYER,HEATER XC-540
33	1000002474	HOOK,INTERLOCK SW XC-540
34	1000002468	PLATE,APRON F BACK XC-540
35	1000002472	PLATE,COVER FRONT XC-540
36	1000002469	PLATE,HEATER COVER XC-540
37	1000002471	SHAFT,COVER FRONT XC-540
38	1000002473	SUPPORT,COVER FRONT XC-540
39	1000002467	THERMISTOR 103AT2 L430

### PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S2	31139103	PLAPOINT,FE4*6 WH
S3	31139104	SCREW,PLAPOINT M4*6 BK FE
S4	31149601	RING SET,PUSH-ON CS CSTW-3 100 PCS
S5	31289102	CUPSCREW SET,M3*6 NI 50 PCS.
S6	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S7	31289111	CUPSCREW SET, M4*6 NI 100 PCS.
S8	31409811	SADDLE,LOCKING WIRE LWS-1211Z 20PCS
S9	31029101	BUSH,NB-19
S10	31329501	CLAMP SET,PUSH MOUNT RT30SSF5 20P
S11	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S12	31019703	SCREW,BINDING P-TIGHT 3*8BC 100P

1-2 FRAME



# 1-2 FRAME

## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	11909133	ADAPTER,SCREW 2FAI FJ-50
2	11909167	ADAPTER,SCREW 3FAI FJ-540
3	1000001589	ADAPTER,TUBE 2-3FAI XC-540
4	1000001521	APRON,B XC-540
5	1000001615	ASSY,BED HEATER XC-540
6	W7003113B0	ASSY,FAN JUNCTION BOARD XC-540
7	W700311320	ASSY,CUT ORG BOARD XC-540
8	6700310330	ASSY,GRIT SHAFT XC-540
9	W7003113C0	ASSY,PLATE BOARD XC-540
10	1000002061	ASSY,TUBING 3*2170MM XC-540
11	11869103	BALL,4MM
12	1000001426	BASE,BOTTOM XC-540
13	1000001556	BASE,IDLE PULLEY XC-540
14	1000001522	ADAPTER,MEDIA CLAMP XC-540
15	1000001590	BASE,SHAFT SQUARE L XC-540
16	1000001533	BASE,SHAFT SQUARE R XC-540
17	1000001902	BELT,150S2M2500LW-C
18	12159508	BUSH,SHAFT OILES 80F-1206
19	1000001897	CABLE-CARD,12P1 2610L BB HIGH-V
20	21365103	CASE,LOCK CJ-70
21	1000001554	COVER,RAIL UNDER XC-540
22	1000001425	COVER,TKP0180-2B R100-084
23	1000000764	FAN,A35577-55ROL
24	1000000387	GUIDE,CABLE POM AJ-1000
25	22135656	GUIDE,FLEXIBLE CABLE CJ-540
26	1000001558	GUIDE,LINEAR SCALE XC-540
27	1000001566	GUIDE,TUBE XC-540
28	1000001555	HOLDER,IDLE PULLEY XC-540
29	21655131	HOLDER,LINEAR SCALE CJ-70
30	11659149	HOLDER,RING O 2FAI FJ-50
31	11659249	HOLDER,RING O 3FAI FJ-540
32	21895152	L-BEARING LWES15C3R2320QE
33	1000001538	LEVER,SHAFT XC-540
34	22635116	PAD,CUTTER CJ-540
35	1000001560	PLATE,GUIDE CABLE VEYOR XC-540
36	22055316	PLATE,LINEAR SCALE CJ-70
37	1000001511	PLATE,LOCK XC-540
38	1000001492	PLATE,SHUTTER BED XC-540
39	21565105	P-ROLLER FD8S3(B15L30)
40	1000001540	RAIL,CABLE XC-540
41	1000001464	RAIL,GUIDE XC-540
42	1000001901	RAIL,LINEAR SCALE XC-540
43	1000001353	RAIL,PINCHROLL XC-540
44	15099115	SENSOR-INTERRUPTER GP2A25NJ
45	1000001479	SHAFT,IDLE PULLEY XC-540
46	22295117	SHAFT,LOCK CJ-70
47	1000001532	SHAFT,SQUARE XC-540
48	22665275	SHEET,LINEAR SCALE FJ-540
49	21475141	SHEET,RAIL CABLE FJ-540
50	1000001567	SHUTTER,BED XC-540

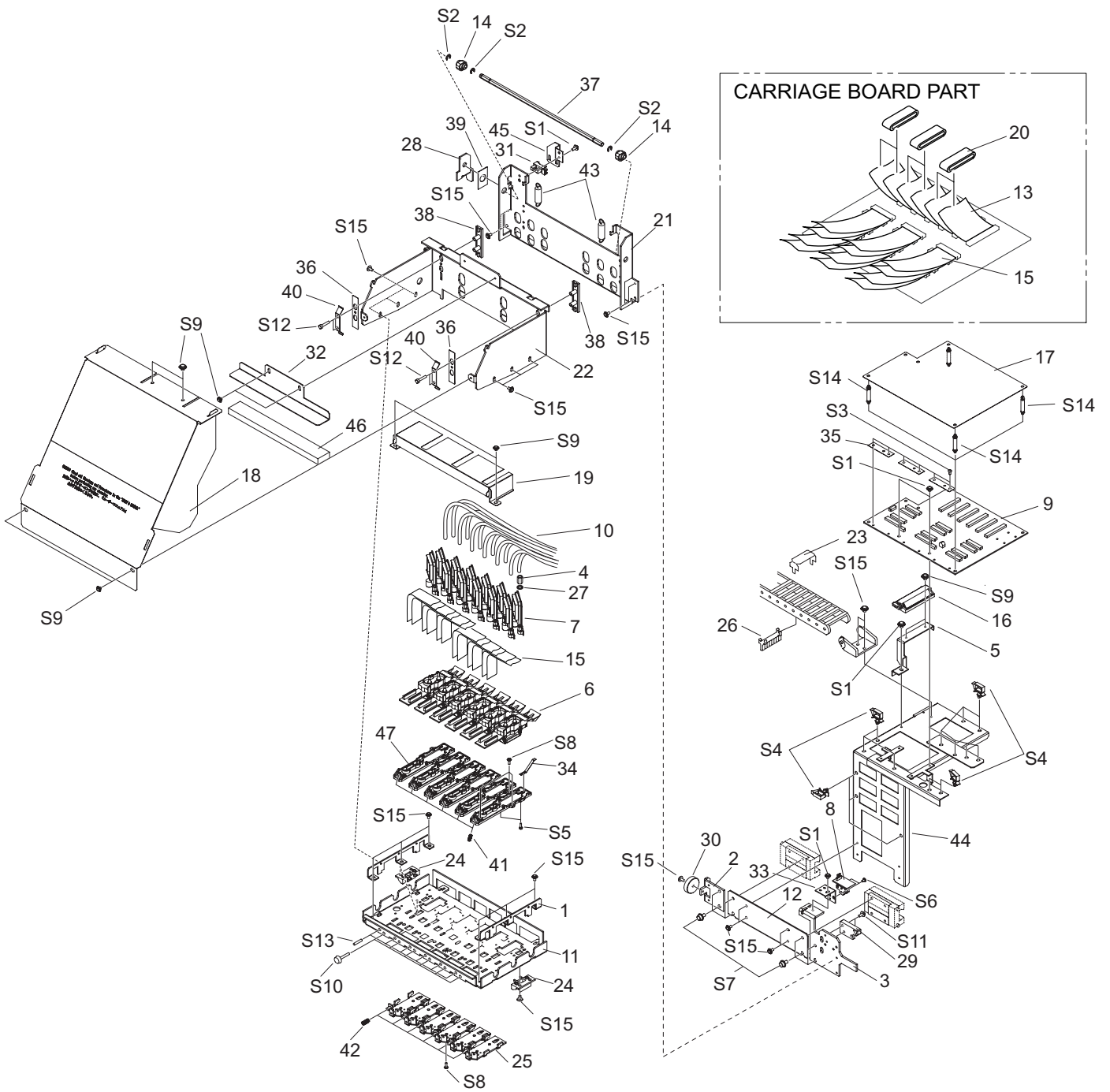
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
51	21625103	SHUTTER,HEATER CORD SP-300
52	22185101	SLIDER,LOCK CJ-70
53	1000001516	SPACER,BED LOWER XC-540
54	22175134	SPRING,A CJ-70
55	22175122	SPRING,BACK UP PNC-960
56	1000001576	SPRING,PRE HEATER XC-540
57	1000001512	STAY,LOCK XC-540
58	1000002064	STAY,P-SENSOR B XC-540
59	1000001493	STAY,P-SENSOR XC-540
60	1000001541	STAY,TUBE XC-540
61	22135441	STOPPER,LINEAR SCALE FJ-540
62	22135365	STOPPER,SHAFT SQUARE CX-24
63	22785115	SUPPORT,CABLE SP-540V
64	22785105	SUPPORT,SHAFT SQUARE FJ-540
65	1000001568	PLATE,TUBE GUIDE XC-540
66	1000001515	SPACER,BED UPPER XC-540
67	6700319030	ASSY,PULLEY XC-540
68	1000001531	FRAME,RAIL PINCHROLL XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31029101	BUSH,NB-19
S2	31379111	CLAMP,CABLE CKS-13-H
S3	31379101	CLAMP,FLAT CABLE FCS-50P
S4	31289111	CUPSCREW SET, M4*6 NI 100 PCS.
S5	31289112	CUPSCREW SET,M3*10 NI 100 PCS.
S6	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S7	31289102	CUPSCREW SET,M3*6 NI 50 PCS.
S8	31279106	LABEL,CAUTION HOT SURF NO.778
S9	31129102	PIPE,POLYCA 4*8*10
S10	31149704	RING SET,E-RING ETW-6 SUS 100 PCS
S11	31299102	RIVET SET,NYLON P2655B 20 PCS.
S12	31409702	SADDLE,LOCKING EDGE LES-1010
S13	31409811	SADDLE,LOCKING WIRE LWS-1211Z 20PCS
S14	31019124	SCREW SET,BINDING M3*35 NI 50 PCS
S15	31049155	SCREW SET,CAP M3*12 BC+PW 20 PCS.
S17	31049142	SCREW SET,CAP M3*6 NI MEC 20 PCS
S18	31049170	SCREW SET,CAP M3*8 NI 50 PCS.
S19	31049174	SCREW SET,CAP M4*15 NI 20 PCS.
S20	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S21	31239103	SCREW SET,W-SEMS M3*8 NI+PW 50 PCS
S22	31019703	SCREW,BINDING P-TIGHT 3*8BC 100P
S23	31179106	SCREW,JACK UP SP-540V

# 1-3 HEAD CARRIAGE



# 1-3 HEAD CARRIAGE

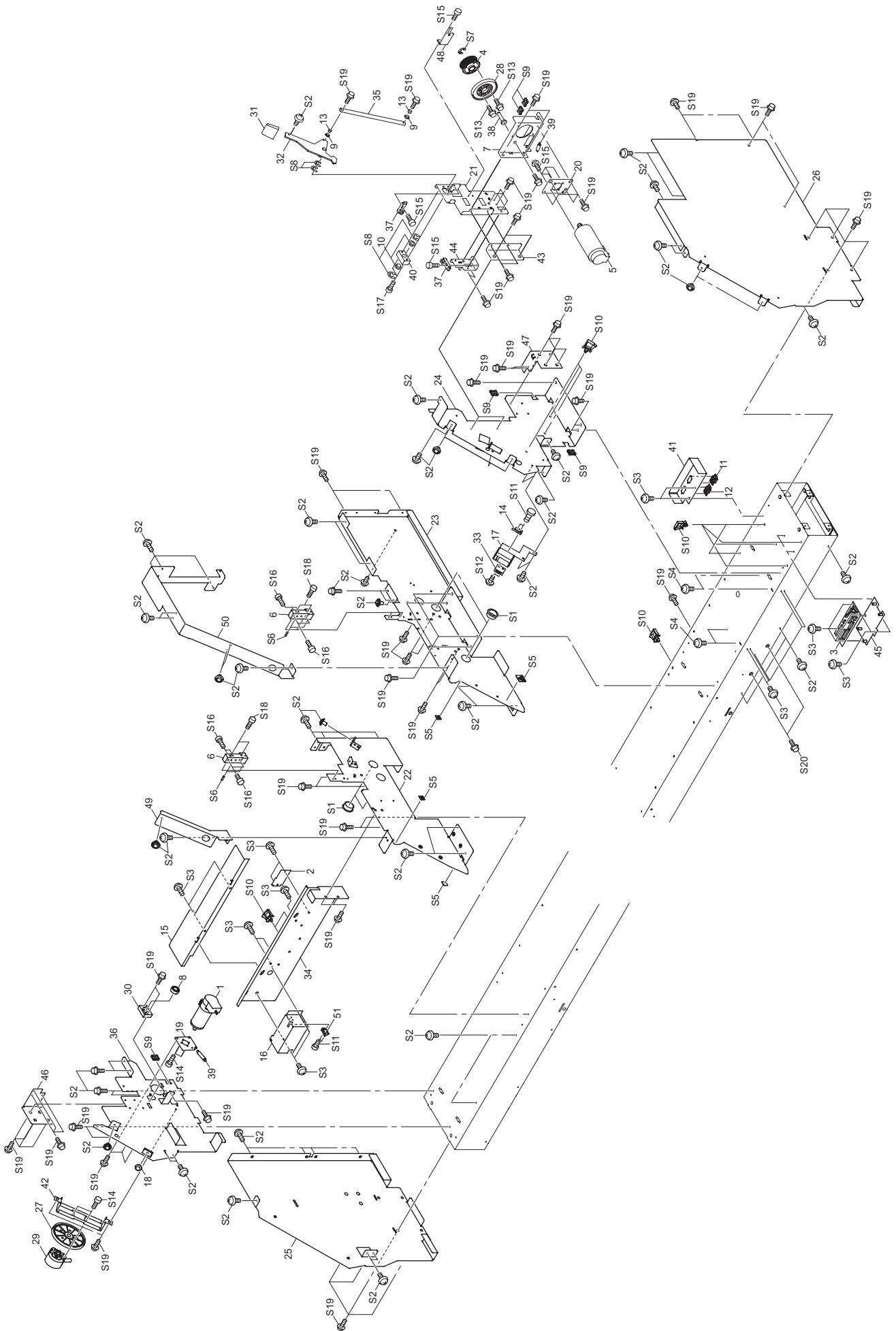
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	1000001461	ADAPTER,BASE CARRIAGE XC-540
2	1000001478	ADAPTER,CARRIAGE L XC-540
3	1000001453	ADAPTER,CARRIAGE R XC-540
4	11909167	ADAPTER,SCREW 3FAI FJ-540
5	1000001550	ADAPTER,STAY HOLDER XC-540
6	22805470	ASSY,HEAD INKJET SOL SJ-540
7	6085393800	ASSY,INK DAMPER L 3FAI 4 SJ-1000
8	W700311380	ASSY,LINEAR ENCODER BOARD XC-540
9	W700311310	ASSY,PRINT CARRIAGE BOARD XC-540
10	1000002061	ASSY,TUBING 3*2170MM XC-540
11	1000001448	BASE,CARRIAGE AL XC-540
12	1000001451	BASE,HOLDER CARRIAGE XC-540
13	23475198	CABLE-CARD 36P1 2940L BB
14	21775103	CAM,CARRIAGE FJ-540
15	23475232	CARD CABLE,21P1 385L BB HIGH-V
16	11769118	CLAMP,FCM2-S6-14
17	1000001520	COVER,CARRIAGE BOARD XC-540
18	1000001530	COVER,CARRIAGE XC-540
19	1000001529	COVER,HEAD BOARD XC-540
20	12399352	FILTER(E) FRC-45-12-6.5
21	1000001449	FRAME,CARRIAGE BASE XC-540
22	1000001450	FRAME,CARRIAGE U/D XC-540
23	22135602	GUIDE,CABLE FJ-500
24	22135618	GUIDE,CARRIAGE CAP FJ-540
25	22135440	GUIDE,HEAD AL FJ-540
26	1000001566	GUIDE,TUBE XC-540
27	11659249	HOLDER,RING O 3FAI FJ-540
28	1000001465	LEVER,CARRIAGE XC-540
29	21345105	LOCK,CJ-500
30	22395112	MAGNET,CJ-540
31	15229705	PHOTO INTERRUPTER GP1A71A1
32	1000001454	PLATE,DAMPER XC-540
33	22055557	PLATE,ENC SENS FJ-540
34	22055547	PLATE,GND FJ-540
35	22055486	PLATE,HOLD FILTER W11 CX-500
36	22055548	PLATE,SLIDER CARRIAGE FJ-540
37	22155960	SHAFT,HEXAGON CARRIAGE FJ-540
38	22185127	SLIDER,CARRIAGE FJ-540
39	22165216	SPACER,UD LEVER FJ-540
40	22175159	SPRING,CARRIAGE SIDE FJ-50
41	22175520	SPRING,HEAD ADJUST 500 FJ-540
42	22175519	SPRING,HEAD PRESS 500 FJ-540
43	22625109	SPRING,PULL CARRIAGE 3500 FJ-540
44	1000001452	STAY,HOLDER CARRIAGE XC-540
45	1000001466	STAY,SENSOR CARRIAGE XC-540
46	1000001597	SUPPORT,DAMPER XC-540
47	21905166	ADAPTER,HEAD FJ-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S2	31149703	RING SET,E-RING ETW-4 100 PCS.
S3	31299102	RIVET SET,NYLON P2655B 20 PCS.
S4	31409801	SADDLE,LOCKING WIRE LWS-0711Z 20
S5	31679902	SCREW SET C-SEMS M2*8 NI 100 PCS
S6	31019148	SCREW SET,BINDING M2.6*4 NI 100 PCS
S7	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S8	31089121	SCREW SET,PAN M2.3*8 NI+PW 100PCS
S9	31089110	SCREW SET,PAN M3*4 NI+PW 100 PCS
S10	31179908	SCREW SET,UREA M3*20 N-1 WH 50PCS
S11	31239102	SCREW SET,W-SEMS M3*8 3CBC 100 PCS
S12	31799103	SCREW,CAP M3*15 NI
S13	31199905	SCRW SET,SET CONE M3*16 NI 20 PCS
S14	3000000032	SPACER,WPCS-19S-4.0
S15	31289102	CUPSCREW SET,M3*6 NI 50 PCS.

# 1-4 DRIVE UNIT





# 1-4 DRIVE UNIT

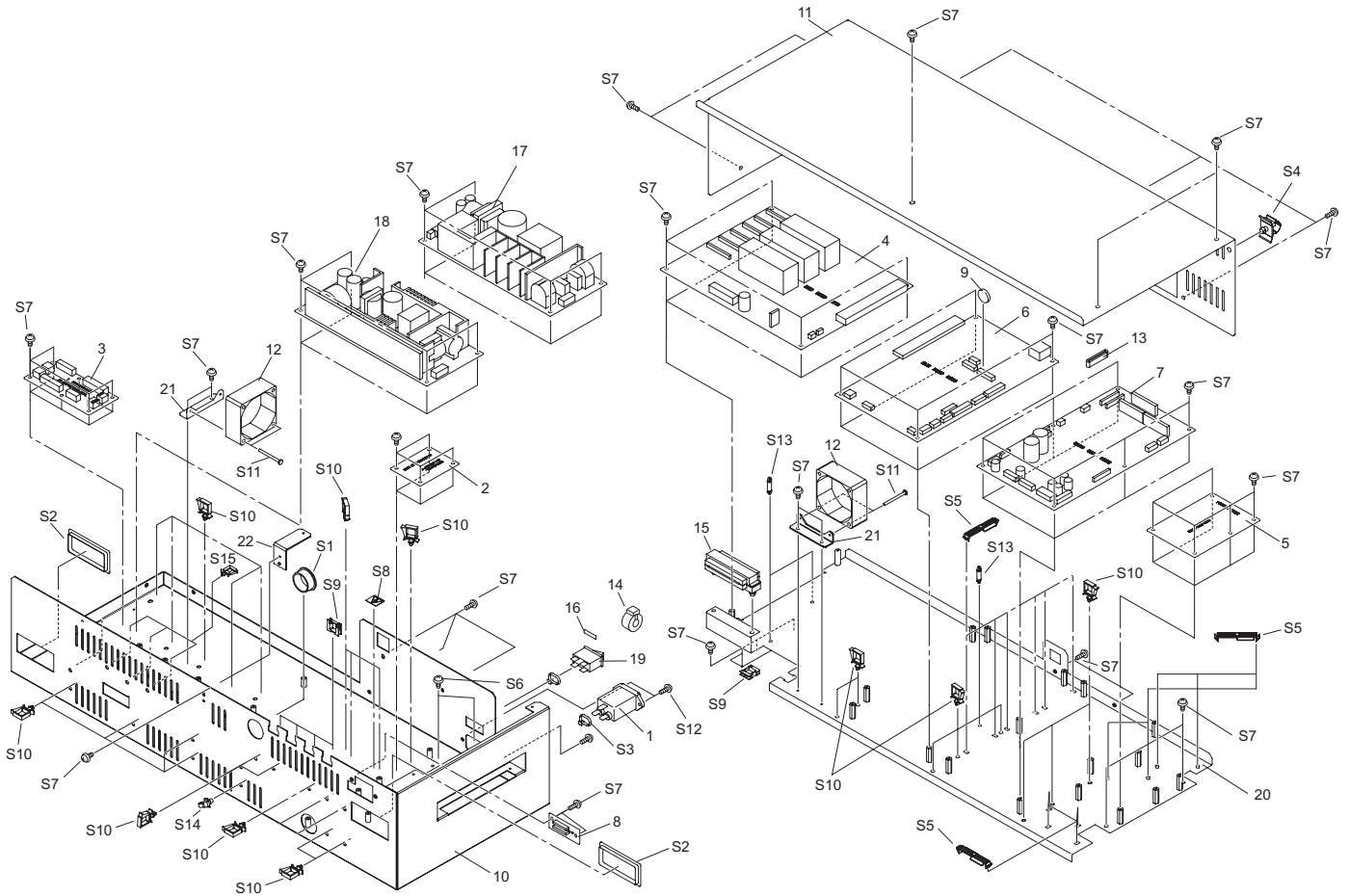
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	6700319020	ASSY,FEED MOTOR XC-540
2	W700311391	ASSY,GRIT ENCODER BOARD XC-540
3	W7003113A1	ASSY,MOTSENS JUNCTION BOARD XC-540
4	6700319030	ASSY,PULLEY XC-540
5	6700049030	ASSY,SCAN MOTOR SJ-1045EX
6	22355808	BASE,RAIL CJ-540
7	1000001513	BASE,SCAN MOTOR XC-540
8	22175870	BEARING 10-19ZZ
9	12159573	BUSH,80F-0603
10	12159563	BUSH,80F-1006
11	1000001712	CABLE-ASSY,FD IF INT XC-540
12	1000001706	CABLE-ASSY,TU IF INT XC-540
13	21745109	COLLAR,LEVER FJ-540
14	1000001698	CABLE-ASSY,F-COVER SW XC-540
15	1000001553	COVER,FEED MOTOR XC-540
16	1000001552	COVER,I/S SW XC-540
17	1000001526	COVER,INT SW XC-540
18	12239406	CUSHION,TM-96-6
19	21995124	FLANGE,MOTOR FEED FJ-540
20	1000001559	FLANGE,MOTOR SCAN XC-540
21	1000001514	FRAME,DRIVE PULLEY XC-540
22	1000001428	FRAME,MIDDLE L XC-540
23	1000001427	FRAME,MIDDLE R XC-540
24	1000001432	FRAME,SCAN MOTOR XC-540
25	1000001430	FRAME,SIDE L XC-540
26	1000001429	FRAME,SIDE R XC-540
27	21685128	GEAR H300 S10(B6C16POM)
28	21685149	GEAR,H235S20(B8)T2
29	25095120	GRIT ENCODER TS5217N561 FJ-540
30	1000001444	HOUSING,R-BEARING FRAME XC-540
31	1000001601	KNOB,XC-540
32	1000001536	LEVER,CAM PINCH XC-540
33	12399102	MAGNET CATCHER TL-105
34	1000001551	PLATE,AUTOCUT JOINT XC-540
35	1000001537	PLATE,LEVER LINK XC-540
36	1000001431	FRAME,FEED MOTOR XC-540
37	15229506	SENSOR INTERRUPTER,GP1A05A5
38	1000001480	SHAFT,DRIVE PULLEY XC-540
39	22175157	SPRING,C P-ROLLER CM-500
40	22035161	STAND,LEVER FJ-500
41	1000001598	STAY,D-SUB CONNECTOR XC-540
42	22715466	STAY,FA-CODER SP-540V
43	1000001557	STAY,FRAME SCAN MOTOR XC-540
44	1000001512	STAY,LOCK XC-540
45	1000001562	STAY,MOTOSENS XC-540
46	1000001564	STAY,RAIL GUIDE L XC-540
47	1000001563	STAY,RAIL GUIDE R XC-540
48	1000001569	STAY,SHAFT PULLEY XC-540
49	1000001495	SUPPORT,FRAME L XC-540
50	1000001494	SUPPORT,FRAME R XC-540
51	1000001702	CABLE-ASSY,M-COVER SW XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31029101	BUSH,NB-19
S2	31289111	CUPSCREW SET, M4*6 NI 100 PCS.
S3	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S4	31289102	CUPSCREW SET,M3*6 NI 50 PCS.
S5	31279106	LABEL,CAUTION HOT SURF NO.778
S6	31119904	PIN,SPRING 2.5*8 SUS STRAIGHT 50 PCS
S7	31149704	RING SET,E-RING ETW-6 SUS 100 PCS
S8	31149705	RING,E ETW-7 SUS
S9	31409702	SADDLE,LOCKING EDGE LES-1010
S10	31409811	SADDLE,LOCKING WIRE LWS-1211Z 20PCS
S11	31019149	SCREW SET,BINDING M2.3*8 3C 100PCS
S12	31019142	SCREW SET,BINDING M3*4 NI 100PCS.
S13	31049171	SCREW SET,CAP M3*12 NI 50 PCS.
S14	31049170	SCREW SET,CAP M3*8 NI 50 PCS.
S15	31049173	SCREW SET,CAP M4*10 NI 50 PCS.
S16	31049174	SCREW SET,CAP M4*15 NI 20 PCS.
S17	31049175	SCREW SET,CAP M4*20 NI 20 PCS.
S18	31049137	SCREW SET,CAP M4*25 3CBC 20 PCS
S19	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S20	31049157	SCREW,CAP M6*20 BC+PW+SW

# 1-5 CHASSIS



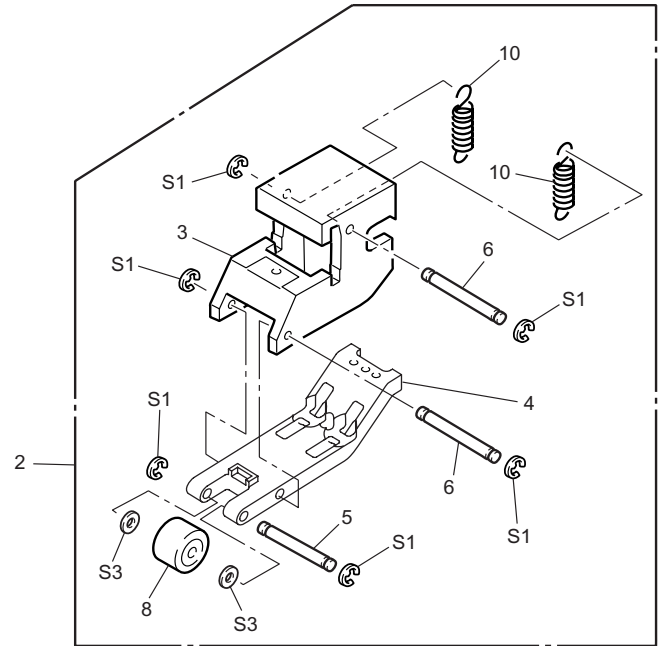
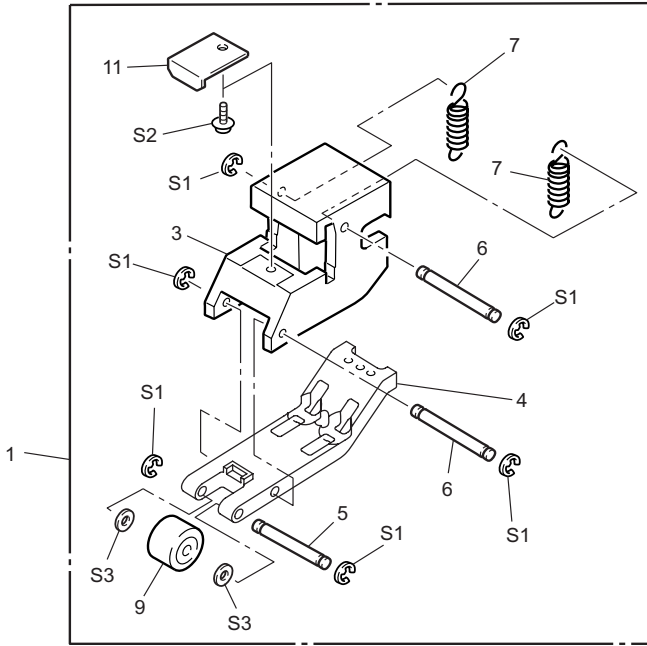
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	13429701	AC INLET SUP-J15G-E
2	W700311440	ASSY,AC JUNCTION BOARD XC-540
3	W700311360	ASSY,DC JUNCTION BOARD XC-540
4	6700311110	ASSY,HEAD BOARD XC-540
5	W700311421	ASSY,HEATER BOARD XC-540
6	6700319050	ASSY,MAIN BOARD XC-540
7	6700311000	ASSY,SERVO BOARD XC-540
8	W700311341	ASSY,TU JUNCTION BOARD XC-540
9	15009101	BATTERY CR2032
10	1000001506	CHASSIS,XC-540
11	1000001507	COVER,CHASSIS XC-540
12	1000000012	FAN,109R0624H459
13	12399351	FILTER(E) FRC-40-12-6.5 FJ-540
14	12399353	FILTER(E) TFT-081813N F-540
15	1000001748	FILTER(E),EFC-40-S
16	22535117	LABEL,POWER CM-500 NO.893
17	1000000538	POWER UNIT,ZWD225PAF-0524/J
18	1000000097	POWER UNIT,ZWS240PAF-36/J
19	13129171	POWER-SW AJ8201B
20	1000001549	STAY,BOARD XC-540
21	22715327	STAY,CHASSIS FAN FJ-540
22	1000001605	STAY,COVER CHASSIS XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31029101	BUSH,NB-19
S2	31029106	BUSH,SQUARE SB-6025
S3	31329601	CLAMP SET,INSULOK T-18S 100 PCS.
S4	31379111	CLAMP,CABLE CKS-13-H
S5	3000000033	CLAMP,WIRE PLESS RFC-45VO
S6	31289111	CUPSCREW SET, M4*6 NI 100 PCS.
S7	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S8	31279121	LABEL,FLASH-LIGHTING NO.E-582
S9	31409702	SADDLE,LOCKING EDGE LES-1010
S10	31409811	SADDLE,LOCKING WIRE LWS-1211Z 20PCS
S11	31019124	SCREW SET,BINDING M3*35 NI 50 PCS
S12	31019161	SCREW SET,BINDING M4*8 NI ETW 20PCS
S13	31209118	SPACER,WPCS-12S-4.0
S14	31329501	CLAMP SET,PUSH MOUNT RT30SSF5 20P
S15	31409801	SADDLE,LOCKING WIRE LWS-0711Z 20

# 1-6 PINCHROLLER



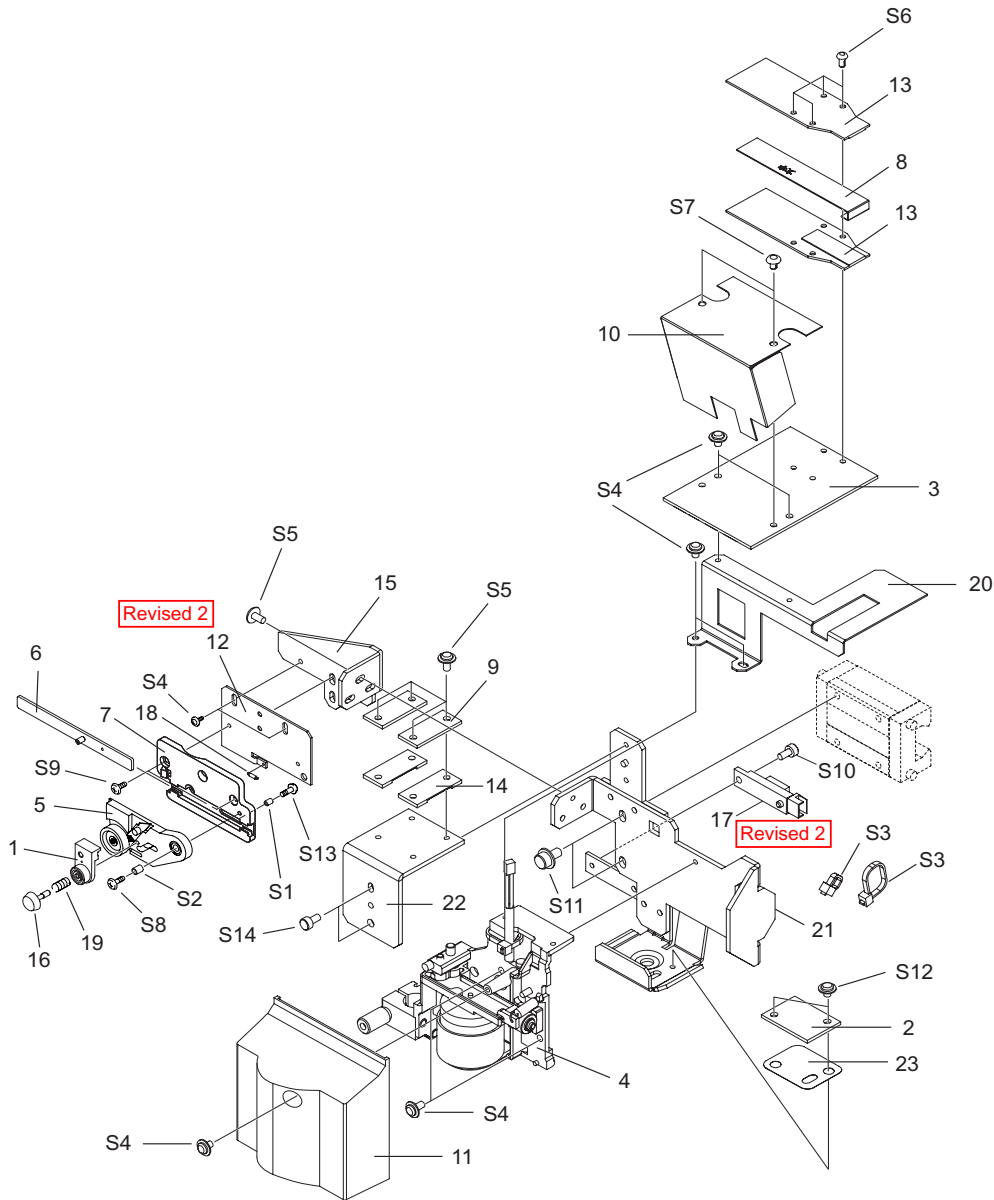
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	22805483	ASS'Y,P-ROLLER L/R CJ-540
2	22805482	ASS'Y,P-ROLLER M CJ-540
3	22115765	FRAME,P-ROLLER CJ-500
4	22145458	LEVER,P-ROLLER CJ-540
5	22145831	PIN NO.1 (214-831)
6	22145832	PIN NO.2 214-832
7	22175105	PINCH ROLL SPRING
8	21565103	P-ROLLER FD16S4(B10) TYPE2
9	21565102	P-ROLLER TD16S4(B10) TYPE2
10	22175157	SPRING,C P-ROLLER CM-500
11	22715332	STAY,SENSOR P-ROLLER CJ-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31149702AS	RING SET,E-RING ETW-3 100 PCS.
S2	31239102AS	SCREW SET,W-SEMS M3*8 BC 100 PCS.
S3	31249211AS	WASHER SET,PLAIN 4.3*7*0.5 C 100PCS.

# 1-7 TOOL CARRIADGE



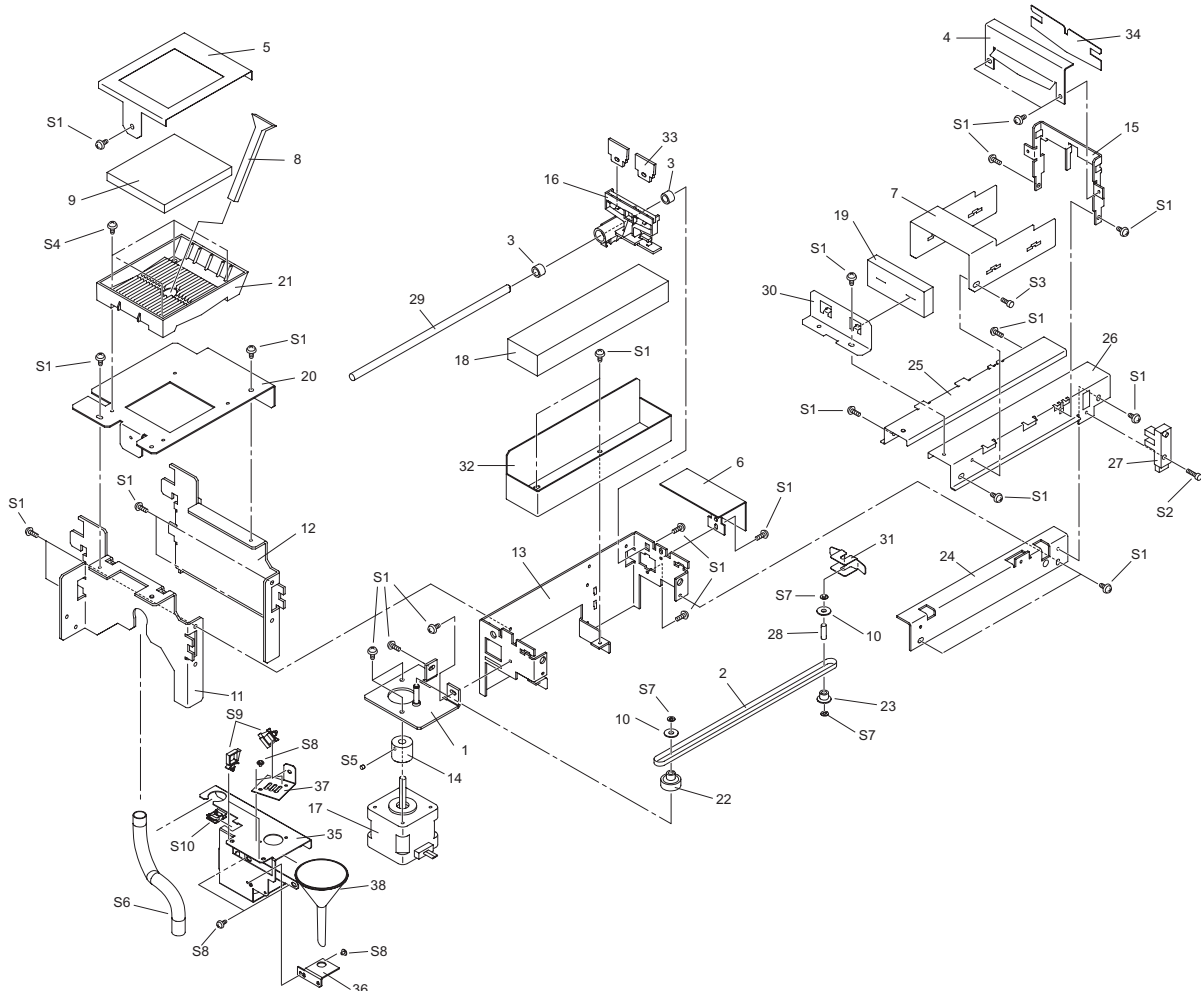
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	22805292	ASSY,CLAMP BLADE CM-500
2	W700311330	ASSY,CROP SENS BOARD XC-540
3	W700311350	ASSY,CUT CARRIAGE BOARD XC-540
4	6700310360	ASSY,CUT CARRIAGE XC-540
5	22805291	ASSY,HOLDER BLADE CM-500
6	22805396	ASSY,PLATE CAM SLIDE FJ-500
7	22355656	BASE,CUTTER CM-500
8	1000001897	CABLE-CARD,12P1 2610L BB HIGH-V
9	22025646	COVER,BELT HOLDER EGX-600
10	22025956	COVER,CARRIAGE BOARD CJ-540
11	22025404	COVER,CARRIAGE CX-24
12	22115798	FRAME,CUTTER FJ-500 <span style="border: 1px solid red; padding: 2px;">Revised 2</span>
13	22135656	GUIDE,FLEXIBLE CABLE CJ-540
14	21655232	HOLDER,BELT EGX-600
15	1000001474	HOLDER,CUTTER XC-540
16	21495115	SCREW,BLADE SET CM-500
17	15099115	SENSOR-INTERRUPTER GP2A25NJ <span style="border: 1px solid red; padding: 2px;">Revised 2</span>
18	22175154	SPRING,BLADE UP CM-500
19	22175155	SPRING,SCREW CM-500
20	1000001475	STAY,CUT CARRIAGE BOARD XC-540
21	1000001476	STAY,CUT CARRIAGE HOLD XC-540
22	1000001477	STAY,HOLDER BELT XC-540
23	21475148	SHEET,CROP SENSOR FILTER CJ-500

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31029801	BUSH SET,ROLL 2*4 100PCS
S2	31029803	BUSH SET,ROLL 3*5 20 PCS.
S3	31329601	CLAMP SET,INSULOK T-18S 100 PCS.
S4	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S5	31289102	CUPSCREW SET,M3*6 NI 50 PCS.
S6	31299102	RIVET SET,NYLON P2655B 20 PCS.
S7	31159901	RIVET SET,NYLON P3045W 20 PCS.
S8	31019118	SCREW SET,BINDING M3*10 3CBC 100PCS
S9	31019116	SCREW SET,BINDING M3*6 3CBC 100 PCS
S10	31049105	SCREW SET,CAP M3*6 3CBC 20 PCS
S11	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S12	31089110	SCREW SET,PAN M3*4 NI+PW 100 PCS
S13	31229103	SCREW SET,TRUSS M2*6 NI 100 PCS
S14	31049142	SCREW SET,CAP M3*6 NI MEC 20 PCS

# 1-8 WIPE SYSTEM



## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	1000001487	BASE,WIPER MOTOR XC-540
2	11929138	BELT,408P2M4-530
3	12159536	BUSH,B-S6-17
4	1000001595	COVER,SCRAPER XC-540
5	1000001609	COVER,SERGE MIST XC-540
6	1000001606	COVER,WIPE R XC-540
7	1000001491	COVER,WIPE XC-540
8	22275122	FILTER(M),INNER SERGEMIST SJ-540
9	1000000415	FILTER(M),SERGE MIST 3 SJ-540
10	21995104	FLANGE,PULLEY STX-7
11	1000001481	FRAME,FLUSH F XC-540
12	1000001482	FRAME,FLUSH R XC-540
13	1000001483	FRAME,WIPER XC-540
14	21685144	GEAR,S53S5(B15) FJ-540
15	1000001488	HOLDER,SCRAPER XC-540
16	21655245	HOLDER,WIPER FJ-540
17	22435106	MOTOR,103-593-1041
18	1000001508	PAD,WIPE TRAY XC-540
19	21545159	PAD,WIPE F SJ-540
20	1000001510	PLATE,FLUSH XC-540
21	22055537	PLATE,SERGE MIST FJ-540
22	21975124	PULLEY,T14P2S4 + GEAR,S53
23	21975123	PULLEY,WD6.94S9
24	1000001485	RAIL,GUIDE WIPER XC-540
25	1000001490	RAIL,WIPER L XC-540
26	1000001486	RAIL,WIPER R XC-540

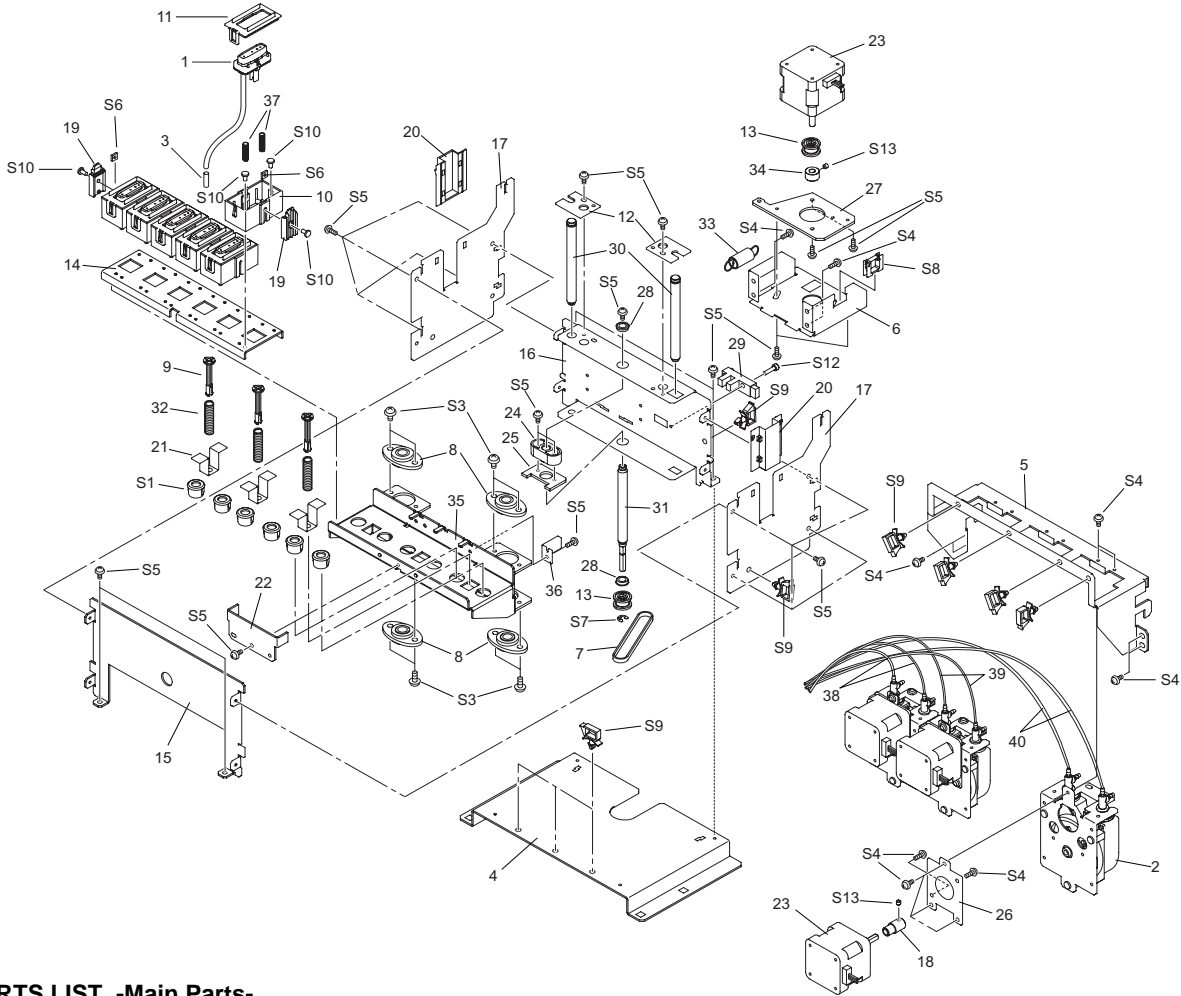
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
27	15229506	SENSOR INTERRUPTER,GP1A05A5
28	22295132	SHAFT,IDLE PULLEY STX-7
29	22155961	SHAFT,WIPER FJ-540
30	1000001489	SHUTTER,WIPE F XC-540
31	22175140	SPRING,TENSIONER STX-7
32	1000001484	TRAY,WIPE XC-540
33	11379105	WIPER,HEAD ASP FJ-50
34	1000001658	WIPER,SCRAPER XC-540
35	1000001527	HOLDER,INK TRASH XC-540
36	1000001528	HOLDER,GUIDE INK TRASH XC-540
37	1000001596	PLATE,INK TRASH XC-540
38	12139657	GUIDE,INK FUNNEL PE 6-316-03

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31289102	CUPSCREW SET,M3*6 NI 50 PCS.
S2	31049171	SCREW SET,CAP M3*12 NI 50 PCS.
S3	31049170	SCREW SET,CAP M3*8 NI 50 PCS.
S4	31089110	SCREW SET,PAN M3*4 NI+PW 100 PCS
S5	31199701	SCREW SET,SET WP M3*3 NI 20 PCS
S6	1000001066	TUBE,SILICONE 12*16 50M
S7	31249951	WASHER,POLYSLIDER 3*6*0.5 CUT
S8	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S9	31409811	SADDLE,LOCKING WIRE LWS-1211Z 20PCS
S10	31409702	SADDLE,LOCKING EDGE LES-1010

# 1-9 CAP SYSTEM



## PARTS LIST -Main Parts-

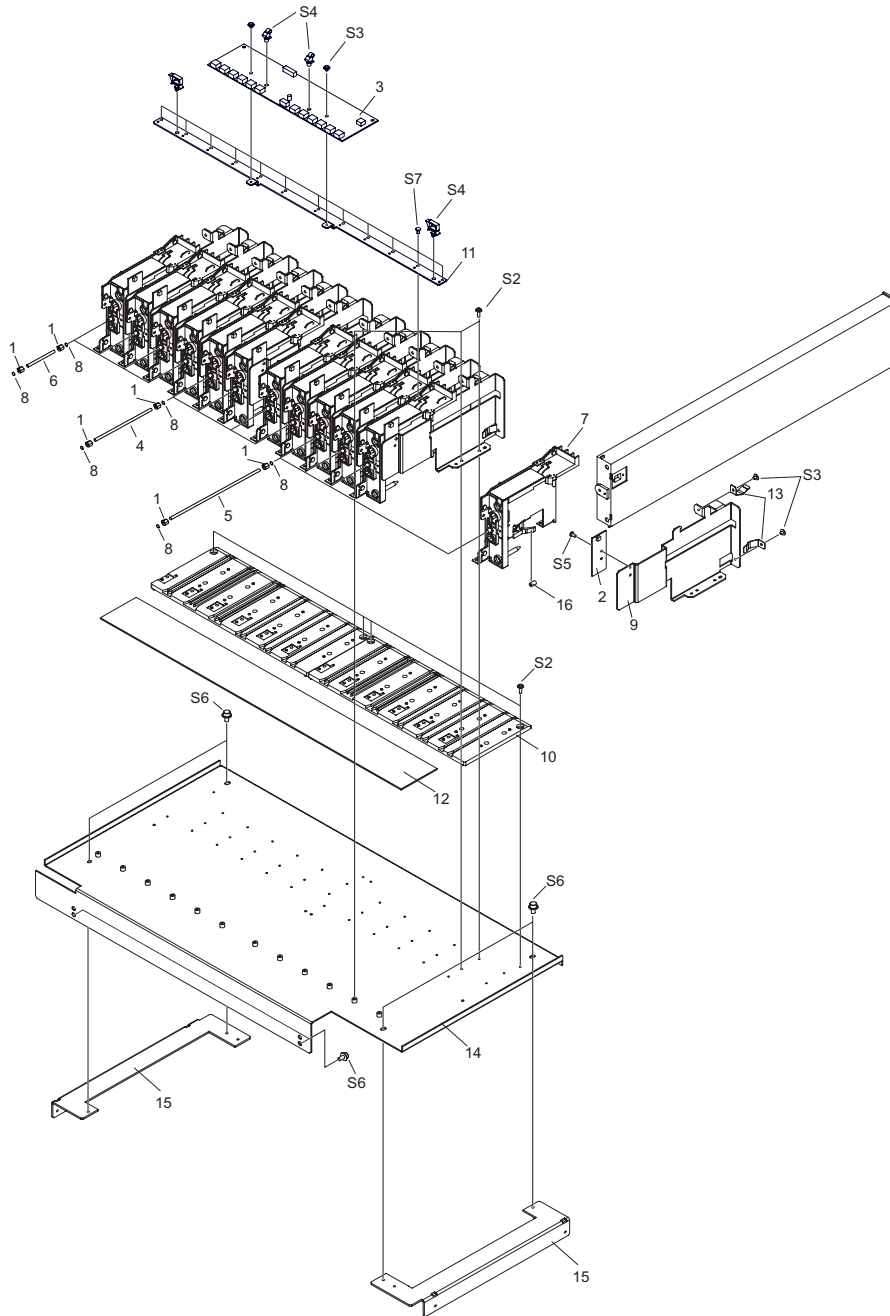
	Parts No.	Parts Name
1	12809448	ASSY,CAP-TOP FJ-540
2	6700319010	ASSY,PUMP SUB XC-540
3	22805572	ASSY,TUBING 2*80MM SP-540V
4	1000001437	BASE,BOTTOM CAP XC-540
5	1000001587	BASE,NEW PUMP XC-540
6	1000001588	BASE,T-MOTOR CAP XC-540
7	21925137	BELT,166P2M4-530
8	12529101	BUSH,80FL-08
9	22335146	CAP,TABLE SPRING FJ-540
10	21365121	CASE,CAP TOP FJ-540
11	22025671	COVER,CAP CASE FJ-540
12	1000001608	STOPPER,G-SHAFT XC-540
13	22565406	DRIVE PULLEY
14	1000001433	FRAME,BACK-UP XC-540
15	1000001438	FRAME,FRONT CAP XC-540
16	1000001435	FRAME,MAIN CAP XC-540
17	1000001436	FRAME,SIDE CAP XC-540
18	21685122	GEAR,S10S20
19	22135616	GUIDE,CAP CASE FJ-540
20	22135614	GUIDE,SIDE FRAME FJ-540
21	21655246	HOLDER,T-SPRING FJ-540
22	1000001439	HOOK,CAP-CASE XC-540
23	22435106	MOTOR,103-593-1041
24	21575126	NUT,TABLE FJ-540
25	22055542	PLATE,NUT FJ-540
26	1000001585	PLATE,P-MOTOR XC-540
27	1000001607	PLATE,T-MOTOR XC-540

	Parts No.	Parts Name
28	11889107	R-BEARING,D10S6(B3FL)
29	15229506	SENSOR INTERRUPTER,GP1A05A5
30	1000001591	SHAFT,GUIDE TABLE XC-540
31	22155957	SHAFT,SCREW M8 FJ-540
32	22175326	SPRING,TABLE FJ-540
33	22175324	SPRING,TABLE MOTOR FJ-540
34	1000001594	STOPPER,T-MOTOR CAP XC-540
35	1000001434	TABLE,CAP-CASE XC-540
36	1000001440	PLATE,SHUTTER TABLE CAP XC-540
37	22175334	SPRING,CAP HEAD FJ-540
38	1000002422	ASSY,TUBING 2*150MM XC-540
39	1000002423	ASSY,TUBING 2*210MM XC-540
40	1000002424	ASSY,TUBING 2*310MM XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31029105	BUSH,NB-8
S3	31289111	CUPSCREW SET, M4*6 NI 100 PCS.
S4	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S5	31289102	CUPSCREW SET,M3*6 NI 50 PCS.
S6	31109601	NUT SET,SQUARE M3*6*1.6 FE NI 100PCS
S7	31149703	RING SET,E-RING ETW-4 100 PCS.
S8	31409702	SADDLE,LOCKING EDGE LES-1010
S9	31409801	SADDLE,LOCKING WIRE LWS-0711Z 20
S10	31019103	SCREW SET,BINDING M3*6 C 100 PCS.
S12	31049171	SCREW SET,CAP M3*12 NI 50 PCS.
S13	31199701	SCREW SET,SET WP M3*3 NI 20 PCS

# 1-10 INK SYSTEM



## PARTS LIST -Main Parts-

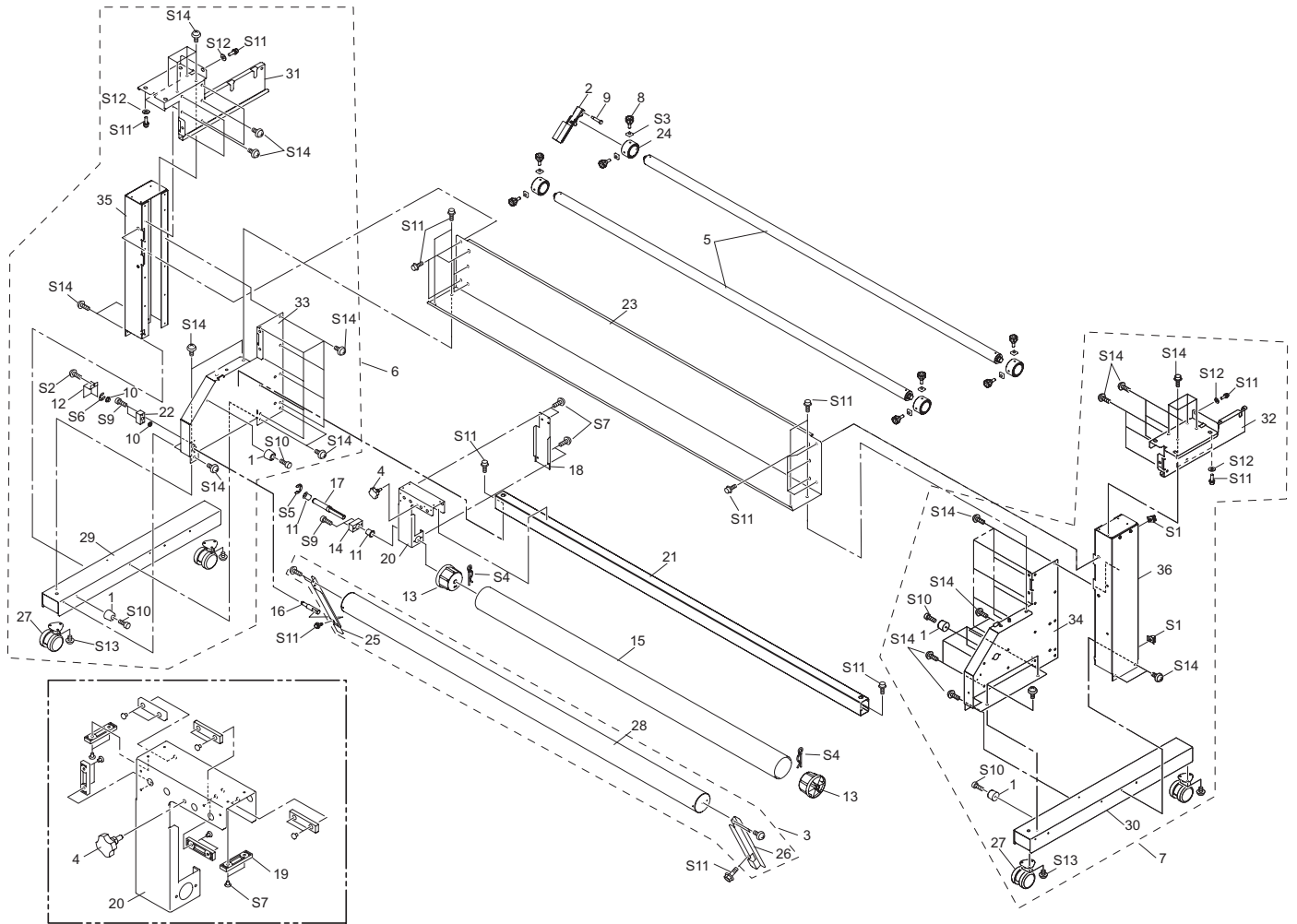
	Parts No.	Parts Name
1	11909133	ADAPTER,SCREW 2FAI FJ-50
2	W700311520	ASSY,CARTRIDGE IC BOARD XC-540
3	W700311511	ASSY,INK TANK BOARD XC-540
4	1000002058	ASSY,TUBING 2*1100MM XC-540
5	1000002059	ASSY,TUBING 2*1300MM XC-540
6	1000002060	ASSY,TUBING 2*900MM XC-540
7	11659218	HOLDER,IC SC-500
8	11659149	HOLDER,RING O 2FAI FJ-50
9	1000001473	PLATE,HOLDER I/C XC-540
10	1000001580	PLATE,INK CMCM XC-540
11	1000001509	PLATE,INK JOINT XC-540
12	21475141	SHEET,RAIL CABLE FJ-540
13	22625103	SPRING,PRESS CARTRIDGE SP-300
14	1000001471	STAND,INK CARTRIDGE XC-540
15	1000001542	STAY,I/C XC-540
16	21435109	TUBE,SILICONE 3*5*8 FJ-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S2	31289112	CUPSCREW SET,M3*10 NI 100 PCS.
S3	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S4	31409801	SADDLE,LOCKING WIRE LWS-0711Z 20
S5	31019103	SCREW SET,BINDING M3*6 C 100 PCS.
S6	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S7	31019801	SCREW,BINDING S-TIGHT M3*6 3C



# 1-11 STAND & TU



## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	11879108	ABSORBER TK-3225
2	7498804000	ASSY BRAKE PNS-501
3	1000001610	ASSY,DANCER BAR XC-540
4	22805230	ASSY,SCREW TUC-6070
5	1000001611	ASSY,SHAFT SHEET XC-540
6	1000001613	ASSY,STAND LEG L XC-540
7	1000001612	ASSY,STAND LEG R XC-540
8	6811509000	ASSY STOPPER SCREW PNS-501
9	21815106	BOLT,SHOULDER PNS-501
10	12159563	BUSH,80F-1006
11	1000001352	BUSH,80F-1620
12	1000001470	COVER,TU L XC-540
13	1000001584	FLANGE,GUIDE 3 XC-540
14	1000001592	HOUSING,80F-1620 XC-540
15	1000001457	PIPE,TAKE UP XC-540
16	1000001455	SHAFT,DANCER XC-540
17	1000001458	SHAFT,TU SLIDER XC-540
18	1000001460	SILDER,HOLDER PLATE XC-540
19	22185103	SLIDER,1 TUC-6070
20	1000001459	SLIDER,ARM XC-540
21	1000001463	SLIDER,RAIL XC-540
22	22035196	STAND,LEVER SP-300
23	1000001462	STAND,STAY XC-540
24	1000001579	STOPPER,SHAFT POM XC-540
25	1000002464	ARM,DANCER L XC-540
26	1000002463	ARM,DANCER R XC-540

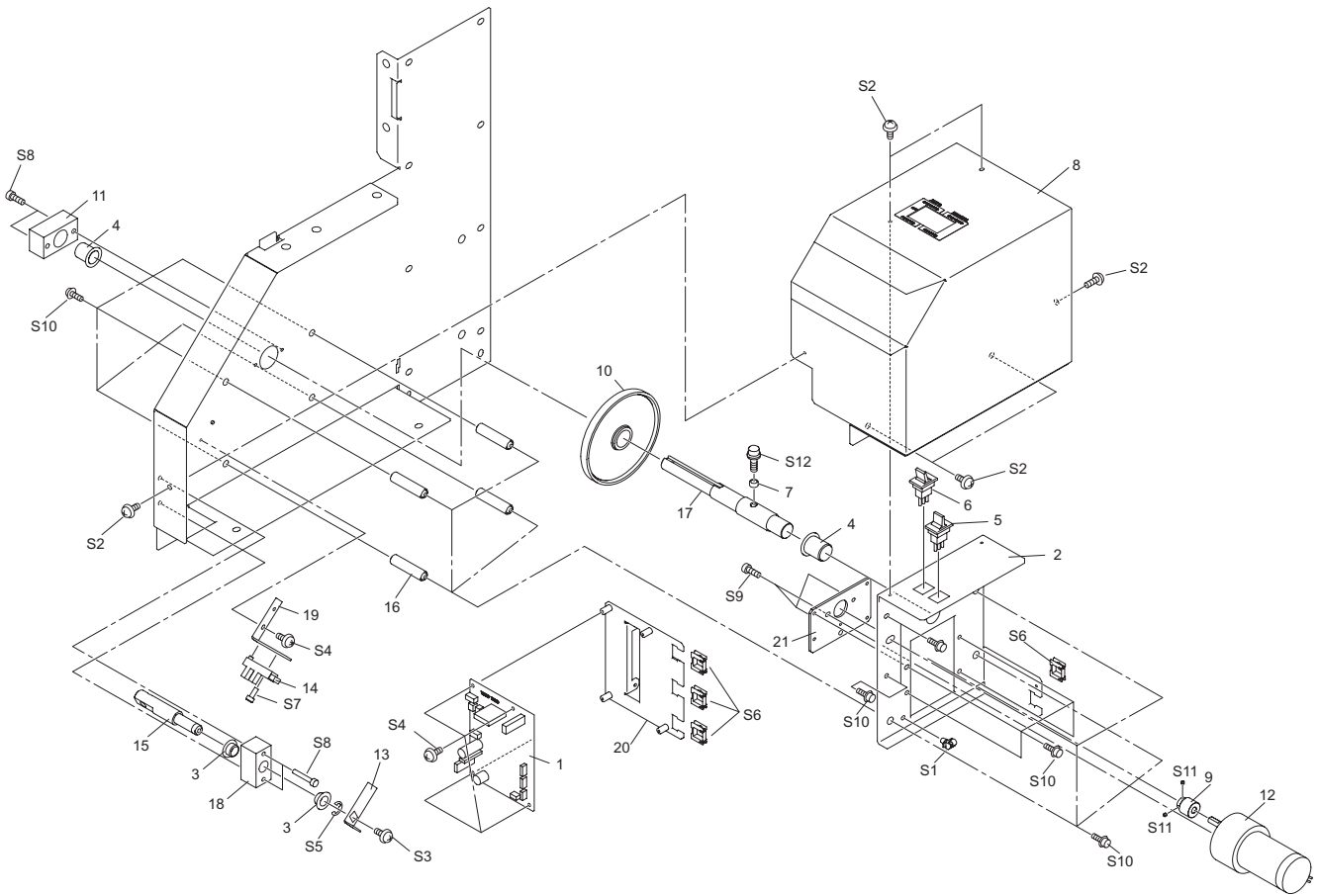
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
27	1000002515	CASTER,STAND XC-540
28	1000002462	DANCER BAR XC-540
29	1000002511	STAND,BASE L XC-540
30	1000002507	STAND,BASE R XC-540
31	1000002514	STAND,FRAME STAY L XC-540
32	1000002510	STAND,FRAME STAY R XC-540
33	1000002512	STAND,FRAME TU L XC-540
34	1000002508	STAND,FRAME TU R XC-540
35	1000002513	STAND,LEG L XC-540
36	1000002509	STAND,LEG R XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31379111	CLAMP,CABLE CKS-13-H
S2	31289109	CUPSCREW SET,M3*4 NI 100 PCS.
S3	3000000036	NUT,SQUARE M5 8.5*8.5*2.3 3C
S4	31119701	PIN,SNAP M14 SUS
S5	31149707	RING SET,E-RING ETW-12 SUS 20 PCS
S6	31149705	RING,E ETW-7 SUS
S7	31019115	SCREW SET,BINDING M3*4 3CBC 100 PCS
S9	31049137	SCREW SET,CAP M4*25 3CBC 20 PCS
S10	31799110	SCREW SET,CAP M5*20 NI 20PCS.
S11	31049157	SCREW,CAP M6*20 BC+PW+SW
S12	31249220	WASHER SET,PLAIN 6.5*16*1 NI 100PCS
S13	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S14	31239106	SCREW SET,W-SEMS M4*8 3CBC 50 PCS

# 1-12 TU CONTROLLER



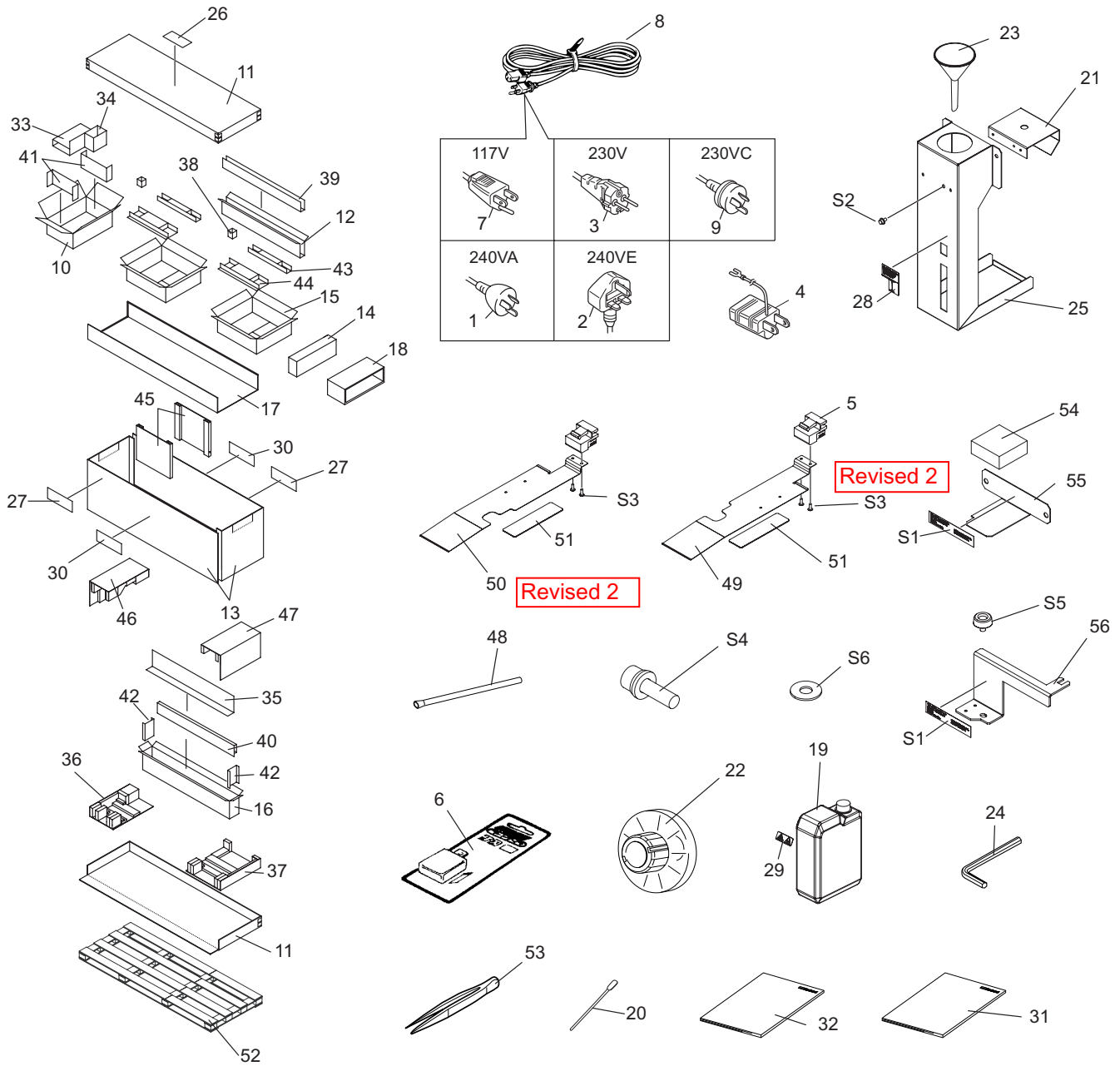
## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	6700311200	ASSY, TAKEUP BOARD XC-540
2	1000001446	BASE, TU MOTOR XC-540
3	12159563	BUSH, 80F-1006
4	1000001352	BUSH, 80F-1620
5	1000001710	CABLE-ASSY, TU MANUAL SW XC-540
6	1000001711	CABLE-ASSY, TU MODE SEL SW XC-540
7	1000001593	COLLAR, TU XC-540
8	1000001469	COVER, TU R XC-540
9	1000001441	GEAR, S14.4(B12M0.8) XC-540
10	1000001442	GEAR, S96(B8M0.8) XC-540
11	1000001592	HOUSING, 80F-1620 XC-540
12	1000001402	MOTOR, DME37K50G-128
13	1000001456	PLATE, SENSOR DANCER XC-540
14	15229506	SENSOR INTERRUPTER, GP1A05A5
15	1000001455	SHAFT, DANCER XC-540
16	1000001445	SHAFT, SPACER TU XC-540
17	1000001447	SHAFT, TU XC-540
18	22035196	STAND, LEVER SP-300
19	1000001467	STAY, DANCER SENS XC-540
20	1000001468	STAY, TU BOARD XC-540
21	1000001443	FLANGE, TU MOTOR XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31329501	CLAMP SET, PUSH MOUNT RT30SSF5 20P
S2	31289105	CUPSCREW SET, M3*6 3CBC 100 PCS
S3	31289111	CUPSCREW SET, M4*6 NI 100 PCS.
S4	31289109	CUPSCREW SET, M3*4 NI 100 PCS.
S5	31149705	RING, E ETW-7 SUS
S6	31409702	SADDLE, LOCKING EDGE LES-1010
S7	31049173	SCREW SET, CAP M4*10 NI 50 PCS.
S8	31049137	SCREW SET, CAP M4*25 3CBC 20 PCS
S9	31799107	SCREW SET, CAP M4*6NI 20pcs
S10	31049169	SCREW SET, CAP M4*8 3CBC+PW 20PCS
S11	31199701	SCREW SET, SET WP M3*3 NI 20 PCS
S12	31049157	SCREW, CAP M6*20 BC+PW+SW

# 1-13 ACCESSORIES



# 1-13 ACCESSORIES

## PARTS LIST -Main Parts-

	Parts No.	Parts Name
1	23495124	AC CORD 3ASL100 240VA 10A SAA
2	13499111	AC CORD H05VV-F 240VE 10A S
3	23495125	AC-CORD H05VV 230V 10A S
4	13499209	ADAPTER PLUG (100V)
5	22845112	BASE,MEDIA CLAMP SP-300
6	11849102	BLADE,OLFA AUTO CUTTER XB10
7	13499109	AC CORD SJT 117V 10A 3PVC
8	13499102	CABLE-AC 100/117V 15A 2.5M 3P
9	13439801	CABLE-AC 3P CHINA 10A250V S
10	1000001639	CARTON,ACCESSORY XC-540
11	1000001627	CARTON,COVER XC-540
12	1000001643	CARTON,SHAFT SHEET XC-540
13	1000001628	CARTON,SLEEVE XC-540
14	1000001650	CARTON,SPACER XC-540
15	1000001635	CARTON,STAND L/R XC-540
16	1000001645	CARTON,STAND STAY XC-540
17	1000001629	CARTON,STAND XC-540
18	1000001649	CARTON,VKIT XC-540
19	11369122	CASE,PE BOTTLE 5-038-03
20	11759105	CLEANER,STICK TX712A
21	1000001535	COVER,BOTTLE INK XC-540
22	21995112	FLANGE,GUIDE PNS-501
23	12139657	GUIDE,INK FUNNEL PE 6-316-03
24	22565682	HEXAGONAL WRENCH 5
25	1000001534	HOLDER,BOTTLE INK XC-540
26	22535532	LABEL,CARTON CARE#LA7622
27	1000001623	LABEL,CARTON XC-540#LA930
28	22535393	LABEL,DRAIN BOTTLE FJ-540 #LA501
29	1000001099	LABEL,HARMFUL FIRE #LA915
30	22535357	LABEL,USE FORKLIFT #LA435
31	1000001406	MANUAL,INS EN XC-540
	1000001404	MANUAL,INS JP XC-540
32	1000001405	MANUAL,USE EN XC-540
	1000001403	MANUAL,USE JP XC-540
33	1000001642	PAD,ACCESSORY B XC-540
34	1000001641	PAD,ACCESSORY S XC-540
35	1000001648	PAD,DANCER XC-540
36	1000001631	PAD,L-LEFT XC-540
37	1000001632	PAD,L-RIGHT XC-540
38	1000001638	PAD,SHAFT GUARD XC-540
39	1000001644	PAD,SHAFT SHEET XC-540
40	1000001647	PAD,SLIDER XC-540
41	1000001640	PAD,SPACER ACCESSORY XC-540
42	1000001646	PAD,SPACER STAND STAY XC-540
43	1000001637	PAD,STAND L/R BASE XC-540
44	1000001636	PAD,STAND L/R TOP XC-540
45	1000001630	PAD,SUPPORT STAND XC-540
46	1000001633	PAD,U-LEFT XC-540
47	1000001634	PAD,U-RIGHT XC-540
48	22155133	PIPE,TOOL D9*L150 FJ-540
49	1000001523	PLATE,CLAMP MEDIA L XC-540
50	1000001524	PLATE,CLAMP MEDIA R XC-540
51	1000001602	SHEET,CLAMP MEDIA XC-540

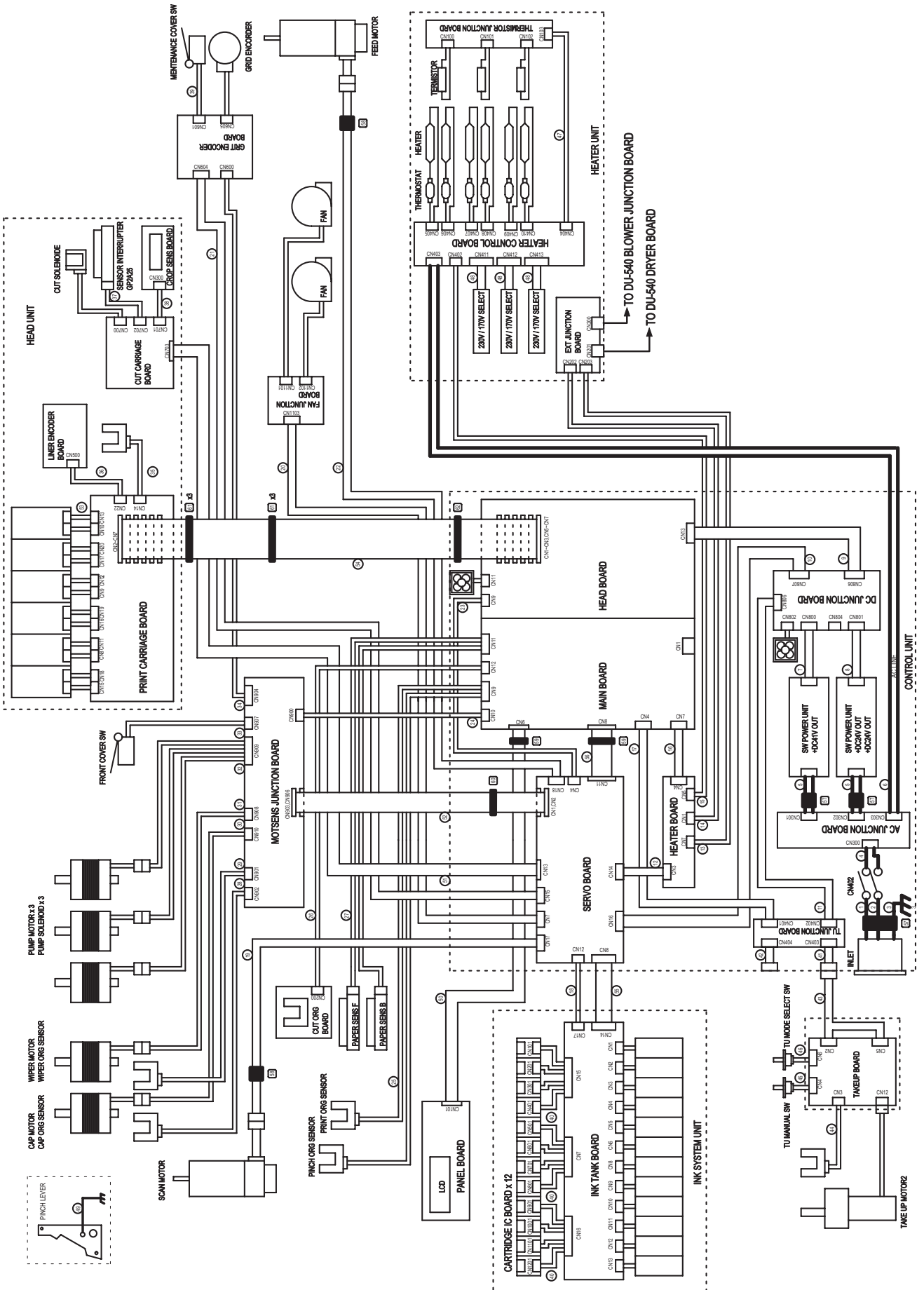
52	1000001626	TRAY,SKID XC-540
53	12569656	TWEEZERS PTS-01
54	1000001604	PAD,INK TRASH XC-540
55	1000001603	COVER,INK TRASH XC-540
56	1000001561	STOPPER,CARRIAGE XC-540

## PARTS LIST -Supplemental Parts-

	Parts No.	Parts Name
S1	31279201	LABEL,REPACKAGE #LA16
S2	31049169	SCREW SET,CAP M4*8 3CBC+PW 20PCS
S3	31229103	SCREW SET,TRUSS M2*6 NI 100 PCS
S4	31049157	SCREW,CAP M6*20 BC+PW+SW
S5	31139104	SCREW,PLAPOINT M4*6 BK FE
S6	31249220	WASHER SET,PLAIN 6.5*16*1 NI 100PCS

# 2 Electrical Section

## 2-1 WIRING MAP



## XC-540 WIRING MAP

### CABLE LIST

1	1000001668	CABLE-ASSY,POWER-AC-L XC-540
2	1000001669	CABLE-ASSY,POWER-AC-N XC-540
3	1000000574	CABLE-ASSY,GND AJ-1000
4	1000001670	CABLE-ASSY,POWER-AC-JUNC XC-540
5	1000001671	CABLE-ASSY,POWER-AC-DC XC-540
6	1000001672	CABLE-ASSY,POWER-DRYER XC-540
7	1000001673	CABLE-ASSY,POWER-DC-B XC-540
8	1000001674	CABLE-ASSY,POWER-DC-A XC-540
9	1000001675	CABLE-ASSY,POWER-HEAD XC-540
10	1000001676	CABLE-ASSY,POWER-SERVO XC-540
11	1000001704	CABLE-ASSY,POWER-TU XC-540
12	1000001677	CABLE-ASSY,POWER-HEATER XC-540
13	1000001678	CABLE-ASSY,OP.DRYER CONTROL XC-540
14	1000001679	CABLE-ASSY,POWER-BLOWER XC-540
15	1000001680	CABLE-ASSY,HEATER CONTROL XC-540
16	1000001681	CABLE-ASSY,HEATER SERIAL XC-540
17	1000001682	CABLE-ASSY,TU CONTROL XC-540
18	1000001683	CABLE-ASSY,INK SERIAL XC-540
19	1000001684	CABLE-ASSY,SCAN-M XC-540
20	1000001685	CABLE-ASSY,FAN JUNCTION XC-540
21	1000001686	CABLE-ASSY,G-ENCODER XC-540
22	1000001687	CABLE-ASSY,FEED-M XC-540
23	1000001688	CABLE-ASSY,HEAD FAN XC-540
24	1000001689	CABLE-ASSY,3-COVER SW XC-540
25	1000001690	CABLE-ASSY,PINCH-ORG XC-540
26	1000001691	CABLE-ASSY,CUT-CAR SENS XC-540
27	1000001692	CABLE-ASSY,PAPER-SENS XC-540
28	1000001693	CABLE-ASSY,CAP-SENS XC-540
29	1000001694	CABLE-ASSY,WIPER-SENS XC-540
30	1000001695	CABLE-ASSY,CAP-M XC-540
31	1000001696	CABLE-ASSY,WIPER-M XC-540
32	1000001697	CABLE-ASSY,PUMP-M XC-540
33	1000001698	CABLE-ASSY,F-COVER SW XC-540
34	1000001699	CABLE-ASSY,SW JUNCTION XC-540
35	1000001700	CABLE-ASSY,HEAD U/D SENS XC-540
36	1000001424	CABLE-ASSY,LINEAR ENC XC-540
37	1000001701	CABLE-ASSY,PINCH-SENS XC-540
38	1000001423	CABLE-ASSY,CROP SENS XC-540
39	1000001702	CABLE-ASSY,M-COVER SW XC-540
40	1000001703	CABLE-ASSY,INK CARTRIDGE XC-540
41	1000001706	CABLE-ASSY,TU IF INT XC-540
42	1000001712	CABLE-ASSY,FD IF INT XC-540
43	1000001707	CABLE-ASSY,TU IF EXT XC-540
44	1000001705	CABLE-ASSY,TU-SENS XC-540
45	1000001710	CABLE-ASSY,TU MANUAL SW XC-540
46	1000001711	CABLE-ASSY,TU MODE SEL SW XC-540
47	1000001708	CABLE-ASSY,THERM JUNCTION XC-540
48	1000002043	CABLE-ASSY,230V SELECTOR XC-540
48	1000002044	CABLE-ASSY,117V SELECTOR XC-540
49	23415266	CABLE-ASSY,ESD SJ-1000

50	23475196	CABLE-CARD,24P1 850L BB
51	1000001897	CABLE-CARD,12P1 2610L BB HIGH-V
52	1000001898	CABLE-CARD,26P1 880L BB HIGH-V
53	23475232	CABLE-CARD,21P1 385L BB HIGH-V
54	23475198	CABLE-CARD,36P1 2940L BB
55	1000001899	CABLE-CARD,6P1 420L BB HIGH-V
56	1000001900	CABLE-CARD,25P1 250L BB HIGH-V
57	12399353	FILTER(E) TFT-081813N
58	12399334	FILTER(E),TFC-16-8-13
59	12399331	FILTER(E),FPC-31-12
60	12399351	FILTER(E) FRC-40-12-6.5
61	12399352	FILTER(E) FRC-45-12-6.5
62	1000001748	FILTER(E),EFC-40-S

### HEAD & CARRIAGE FFC CONNECTION LIST

		Head	Print Carriage Board
53	CY	CN1	CN15
		CN2	CN18
	MG	CN1	CN8
		CN2	CN11
	YG	CN1	CN16
		CN2	CN19
	BK	CN1	CN9
		CN2	CN12
	LM	CN1	CN17
		CN2	CN20
	LC	CN1	CN10
		CN2	CN13

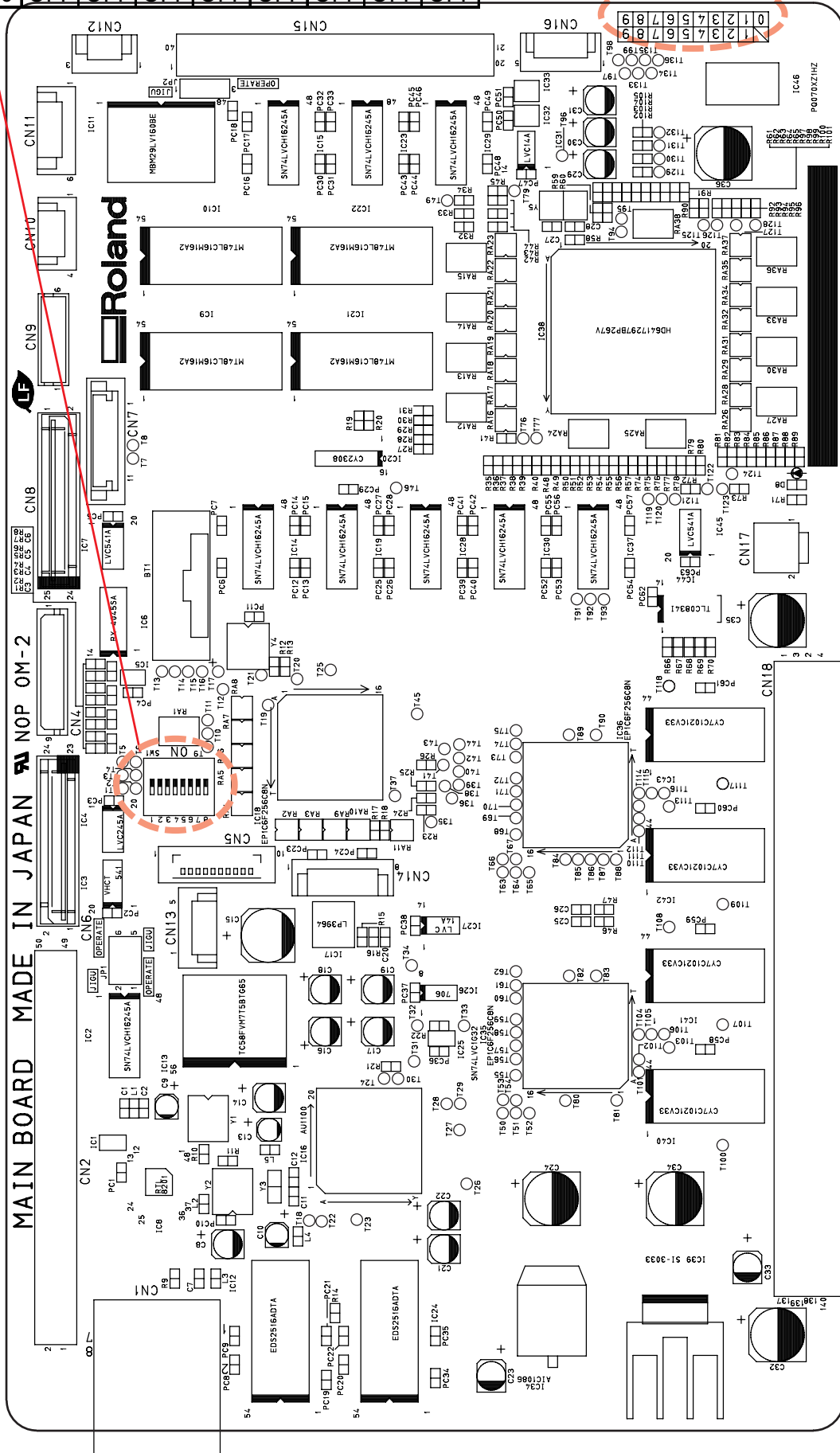
		Head Board	Print Carriage Board
54		CN1	CN2
		CN2	CN3
		CN3	CN4
		CN5	CN5
		CN6	CN6
		CN7	CN7

# 2-2 MAIN BOARD

## MAIN BOARD\_Arrangement Diagram (Component Side)

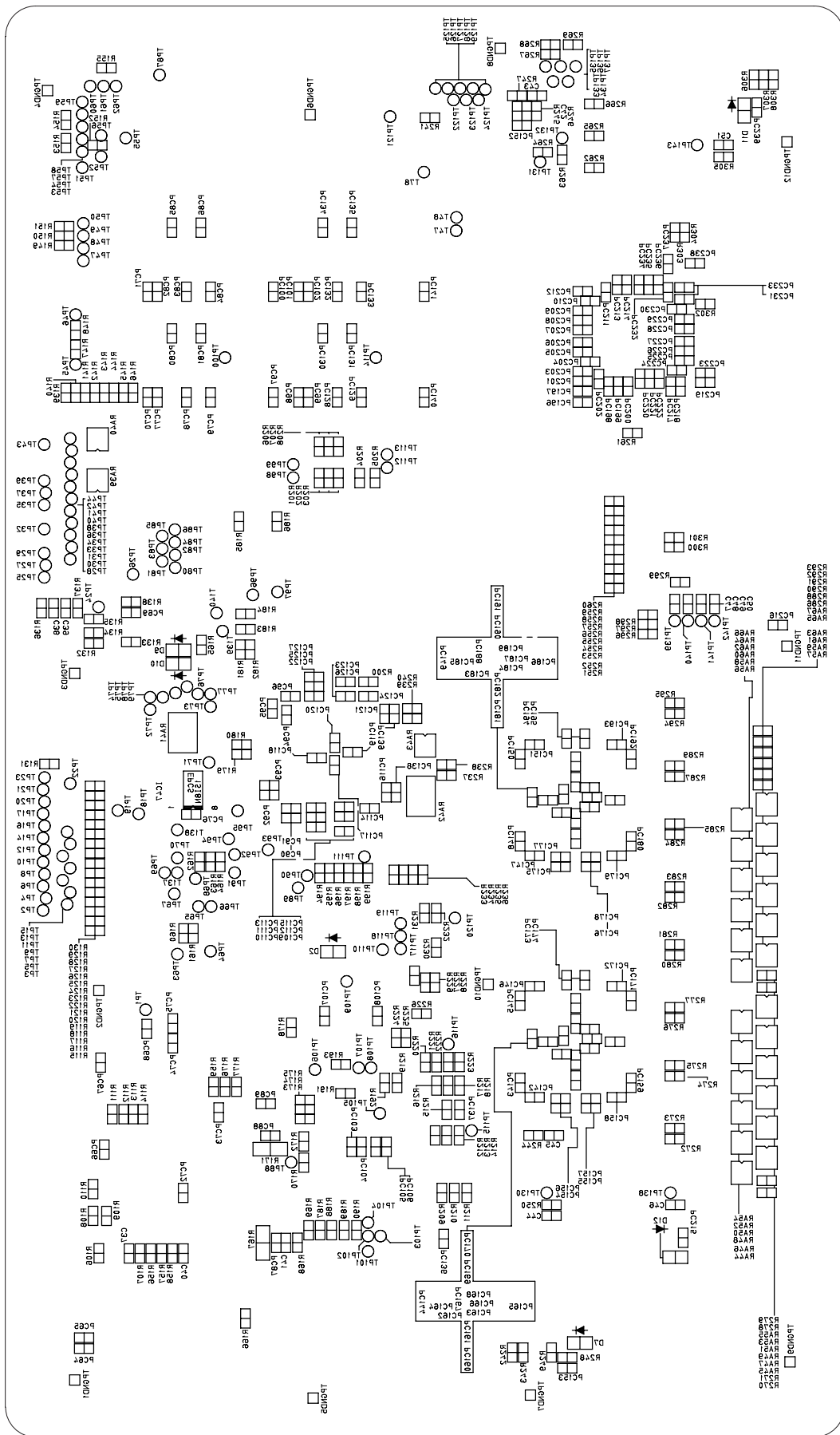
It indicates the version of the Main Board.

DIP SW	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	Bit7	Bit8
XC-540	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

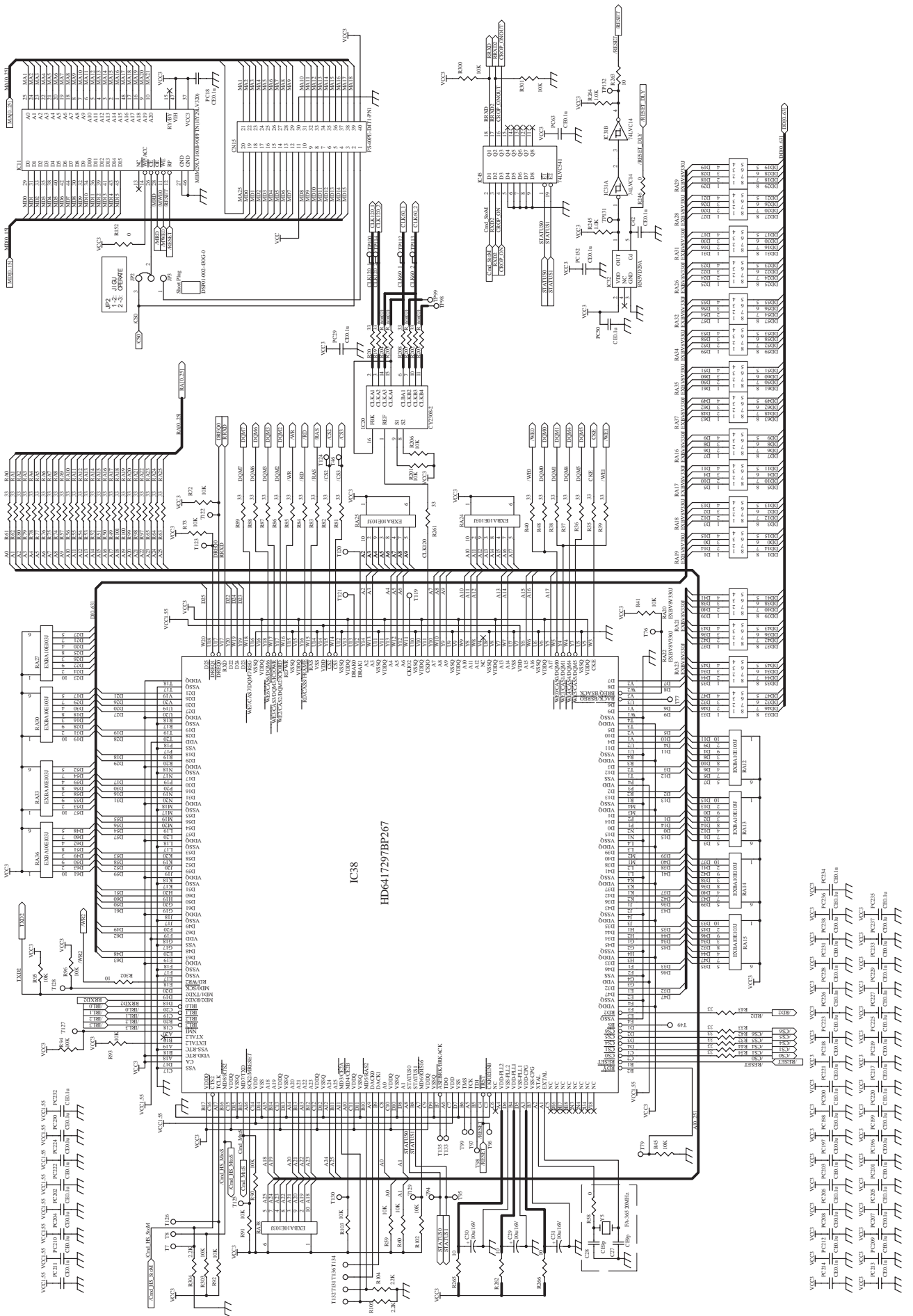




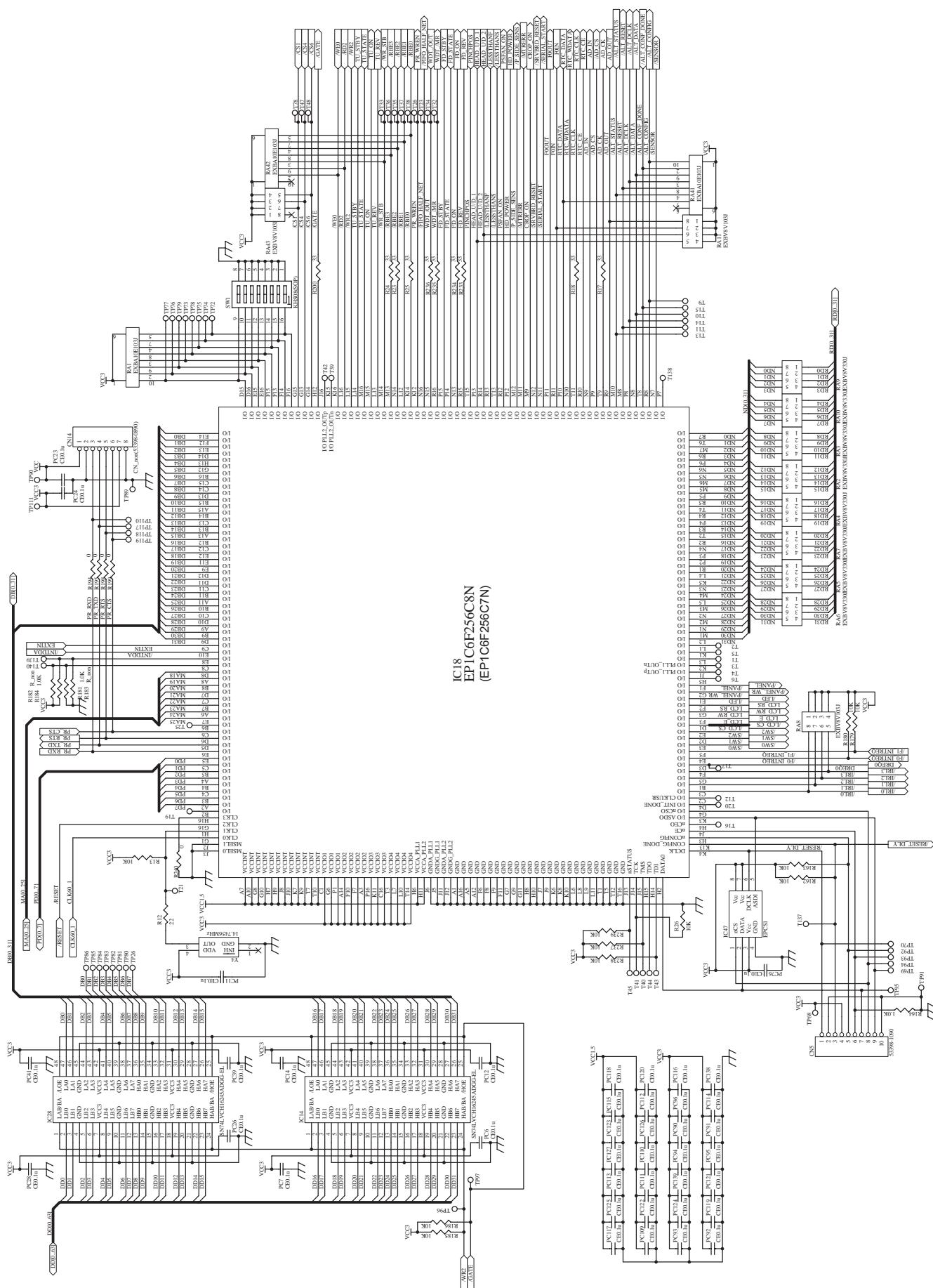
# MAIN BOARD\_Arrangement Diagram (Soldering Side)



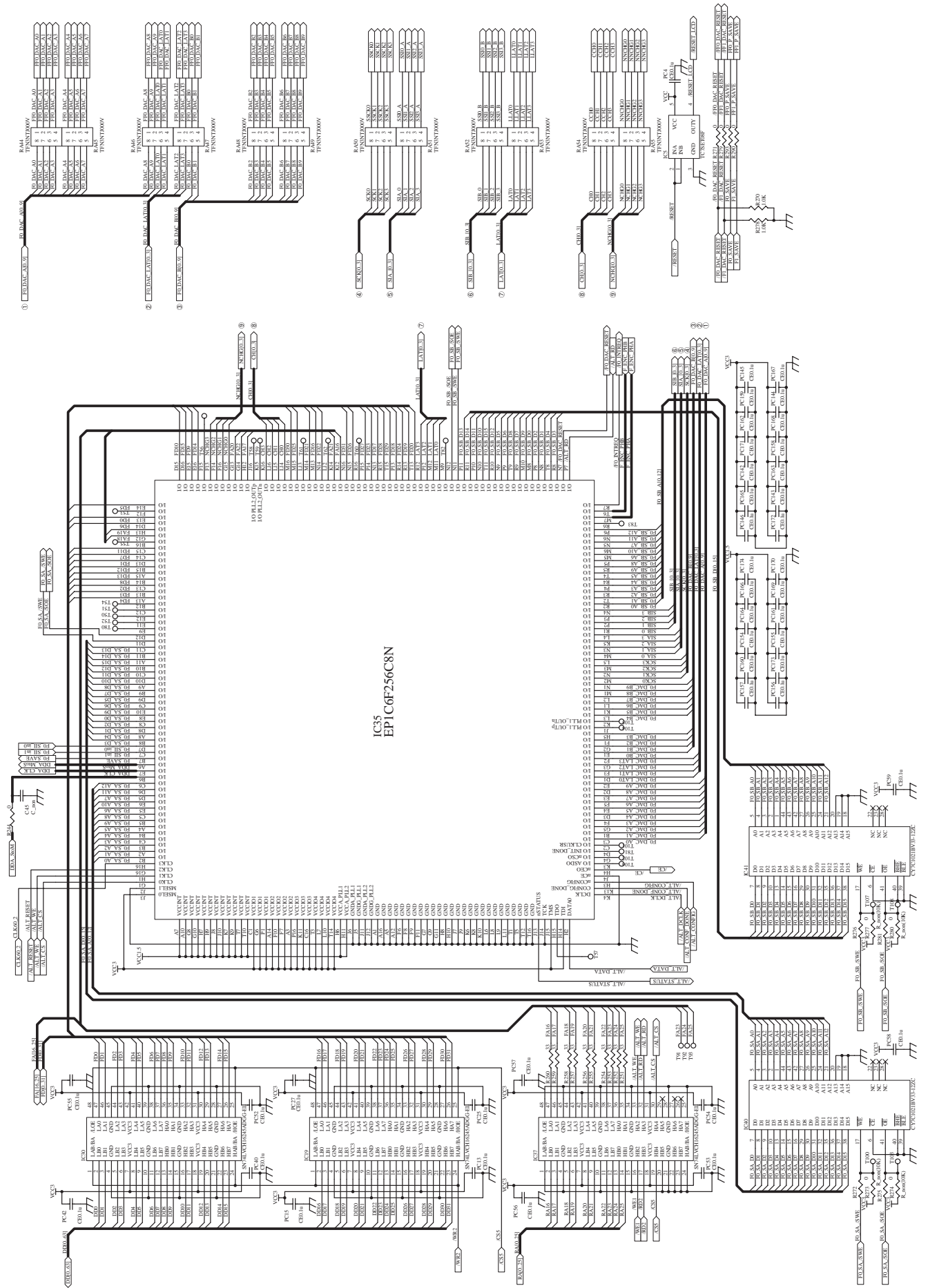
# MAIN BOARD\_Circuit Diagram 1/9



# MAIN BOARD\_Circuit Diagram 2/9

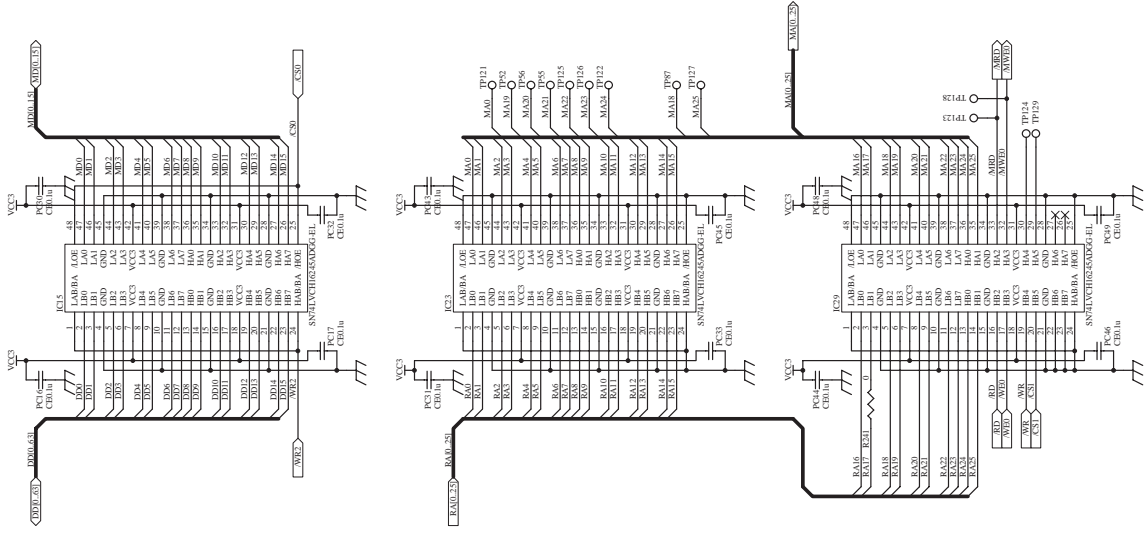
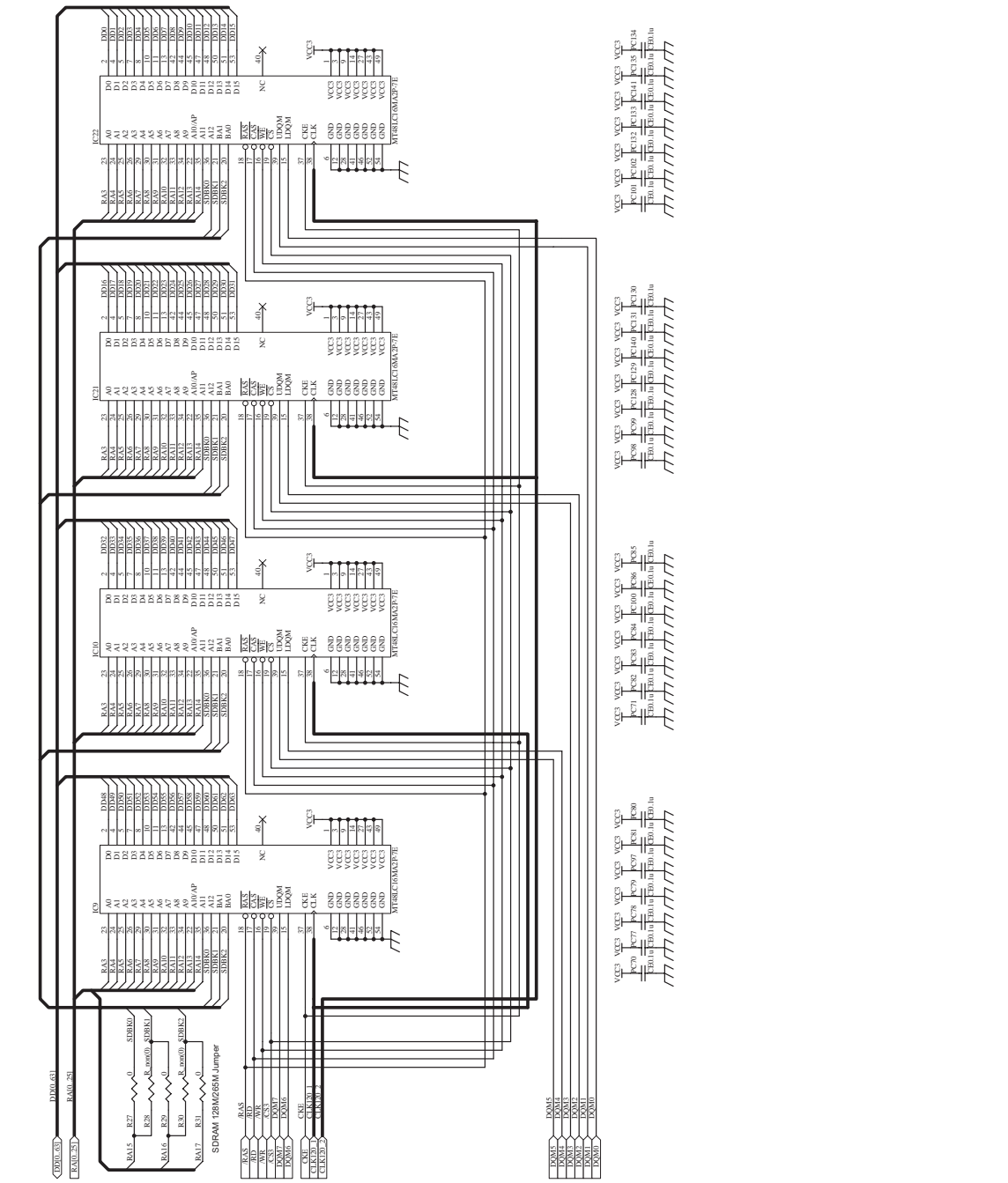


# MAIN BOARD\_Circuit Diagram 3/9

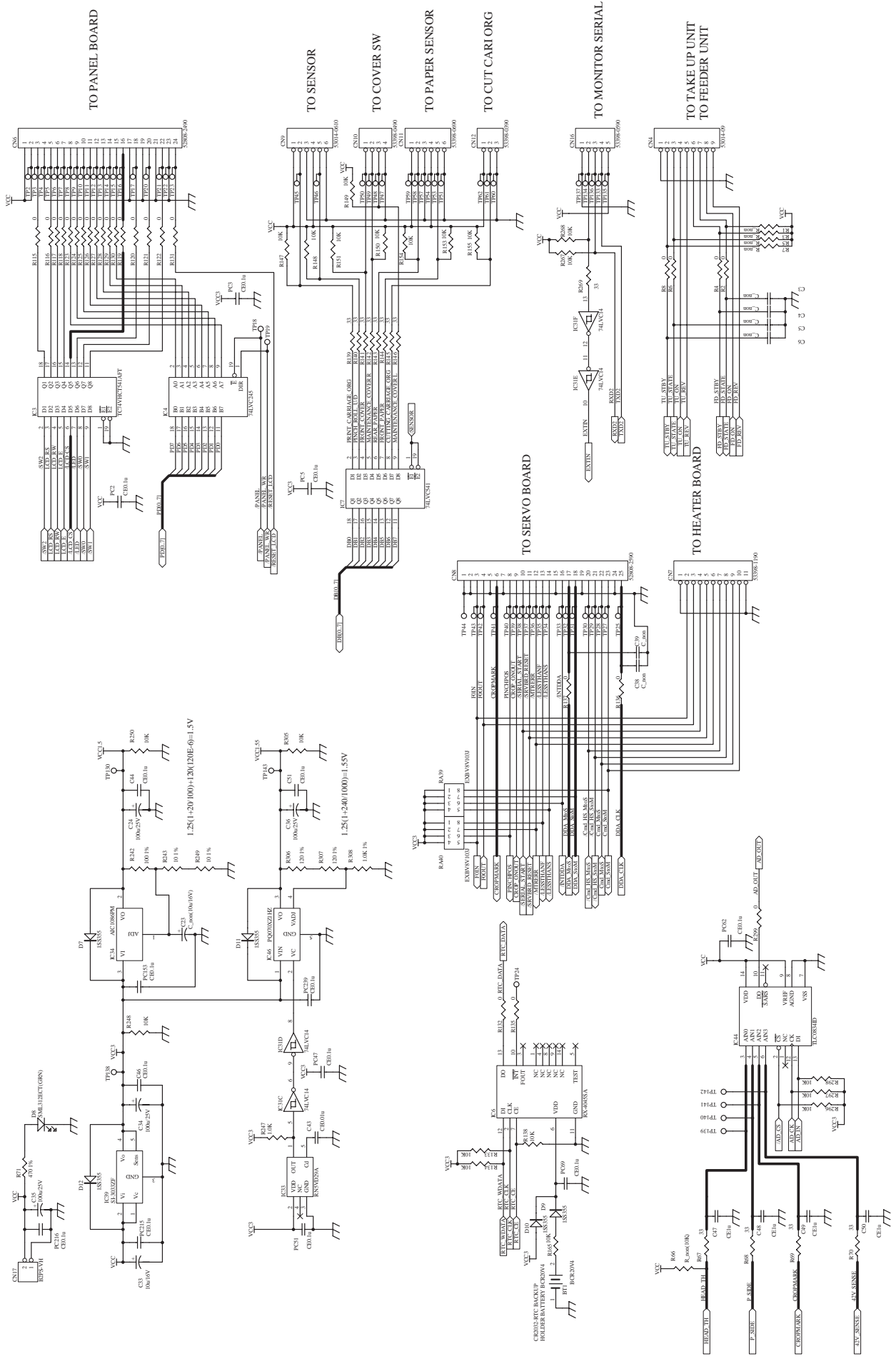




# MAIN BOARD\_Circuit Diagram 5/9

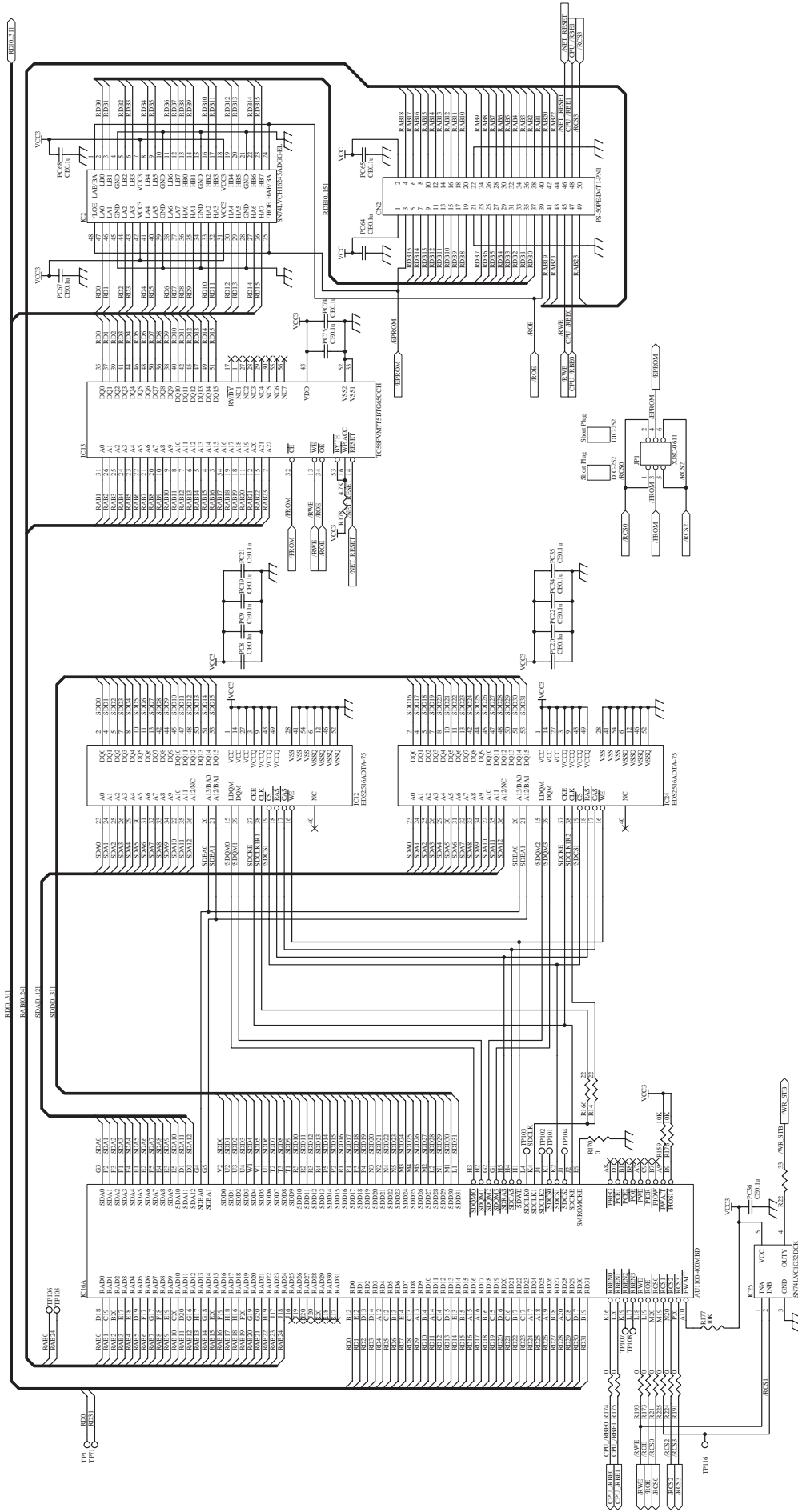


# MAIN BOARD\_Circuit Diagram 6/9

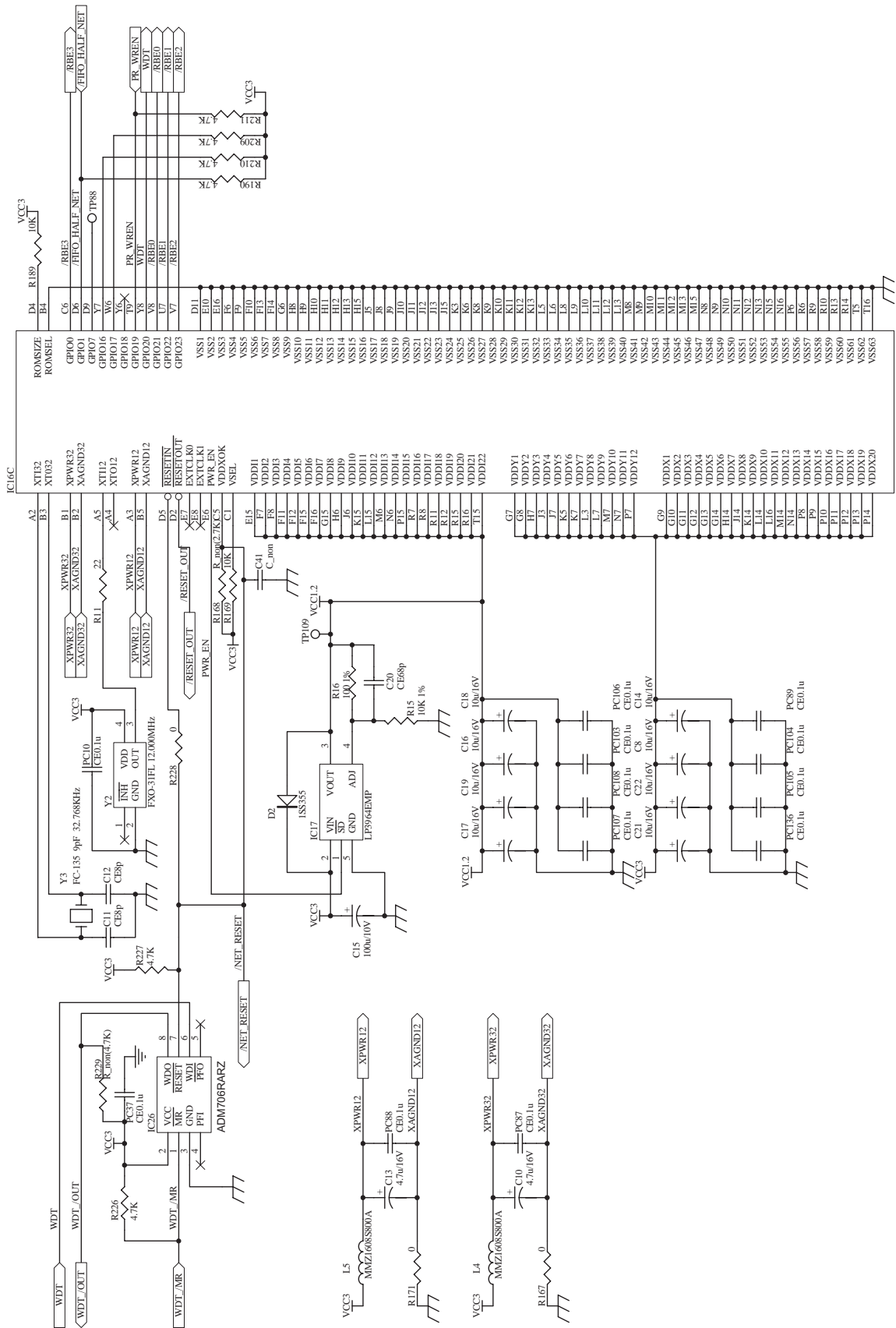




# MAIN BOARD\_Circuit Diagram 7/9

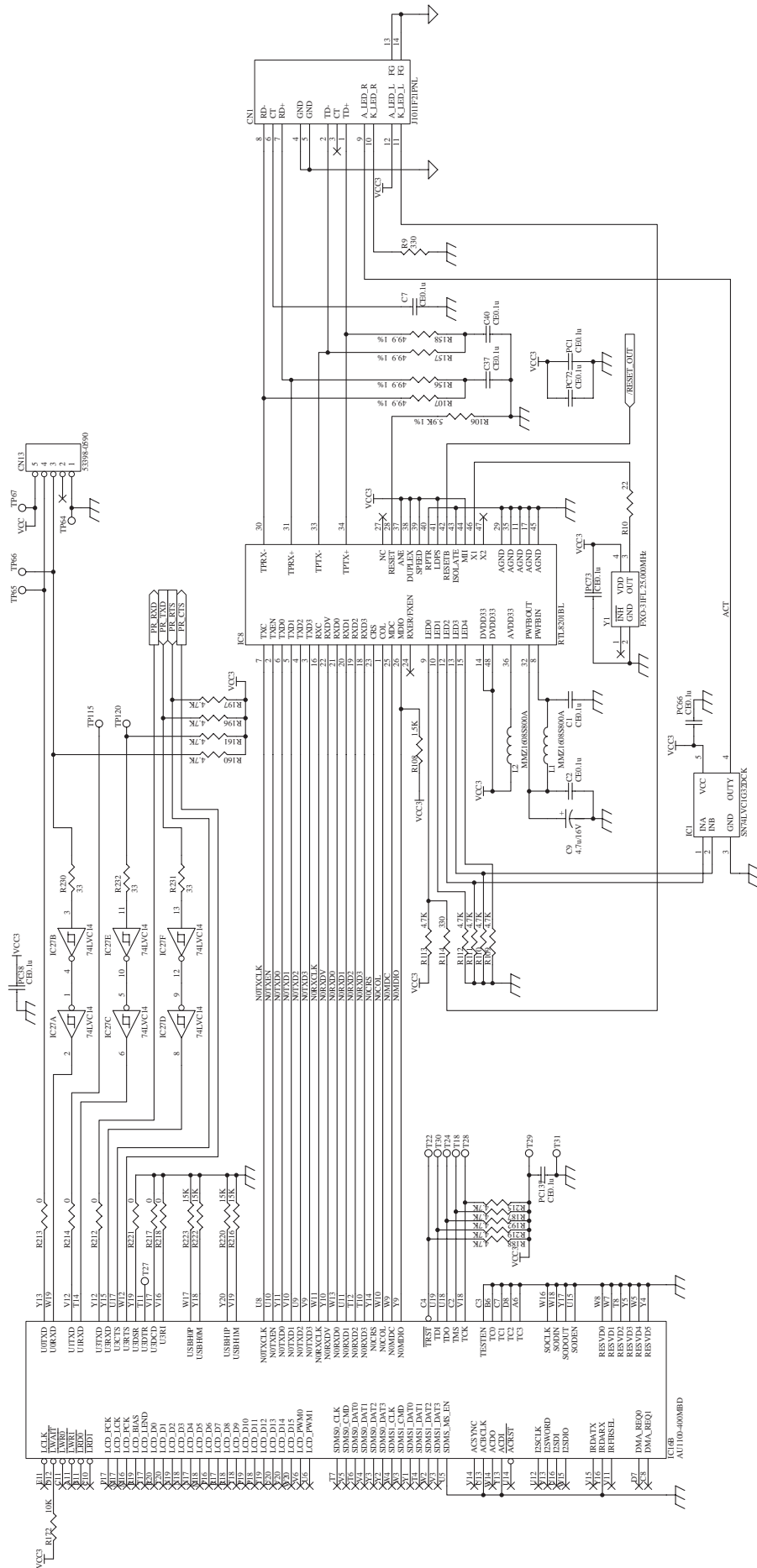
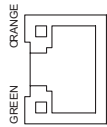


# MAIN BOARD\_Circuit Diagram 8/9



AU100-400MED

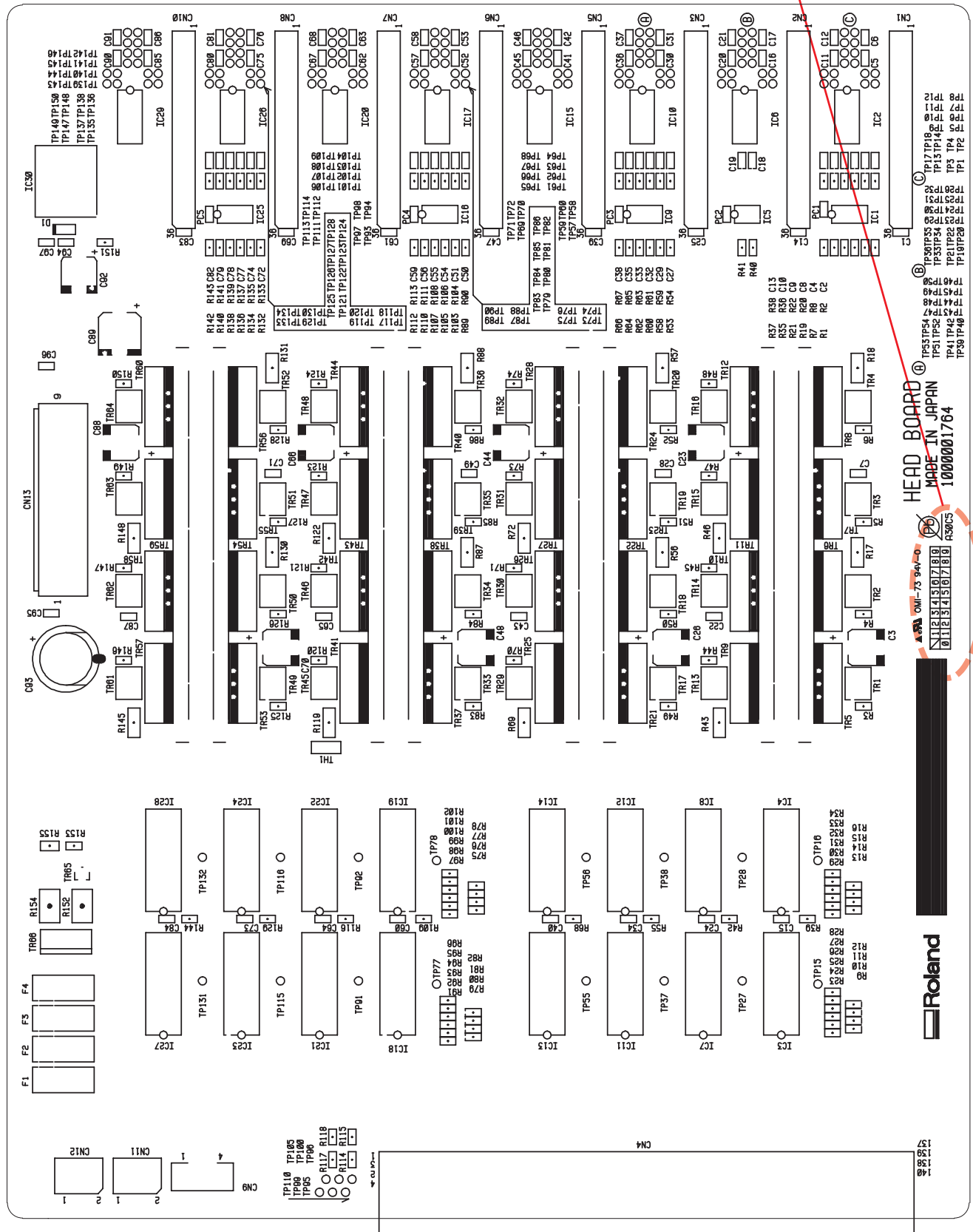
# MAIN BOARD\_Circuit Diagram 9/9



# 2-3 HEAD BOARD

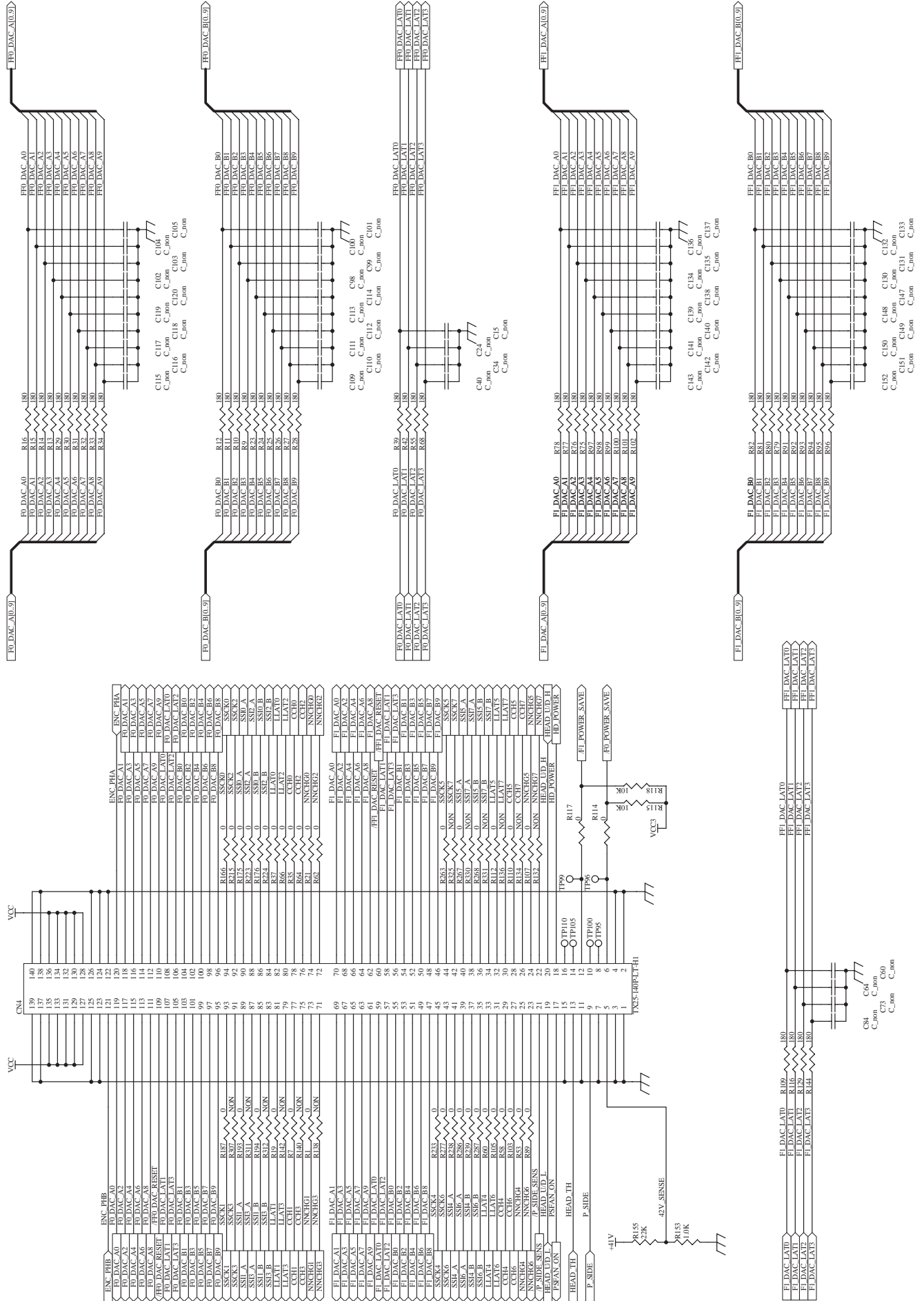
## HEAD BOARD\_Arrangement Diagram (Component Side)

It indicates the version of the Head Board.

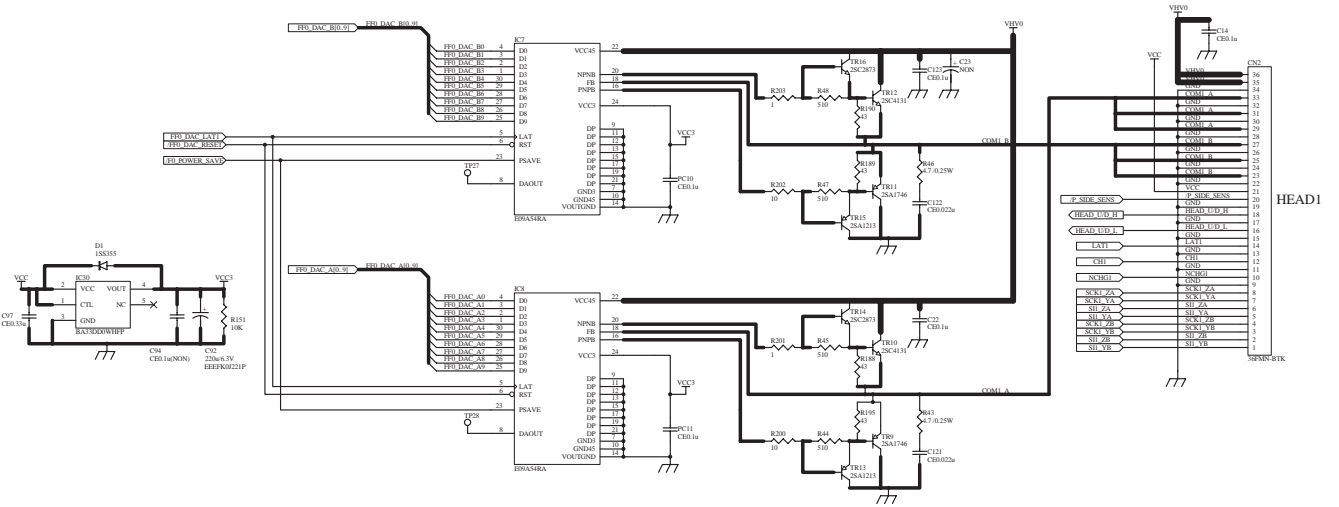
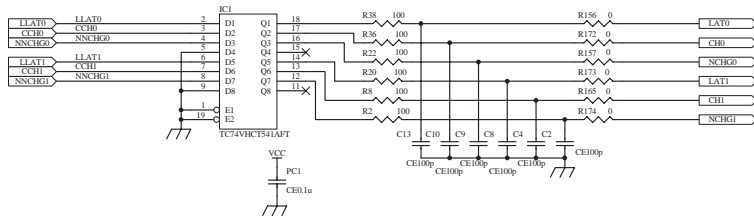
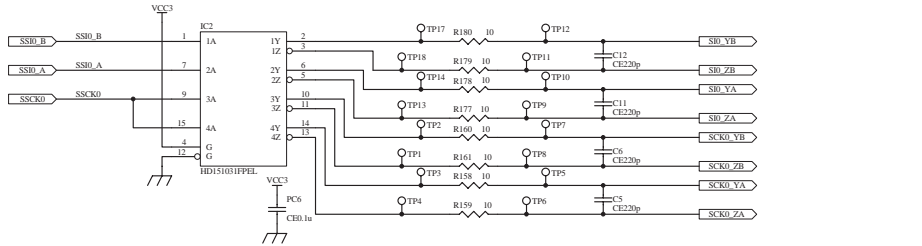
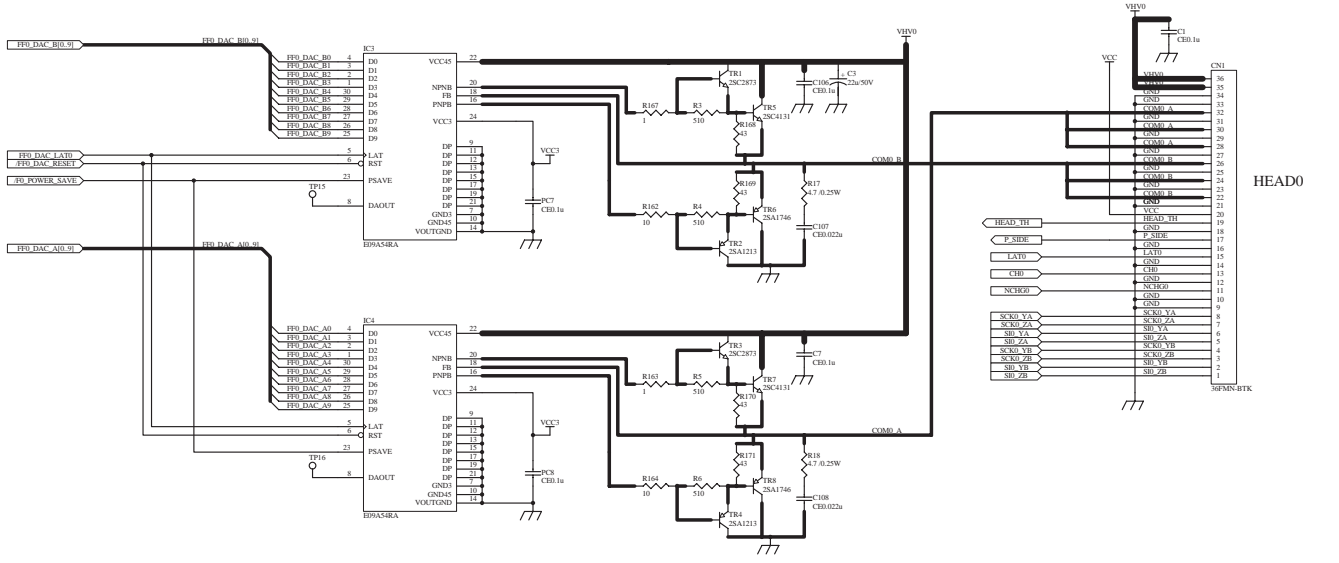




# HEAD BOARD\_Circuit Diagram 1/6

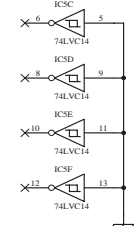
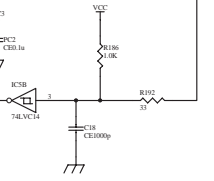
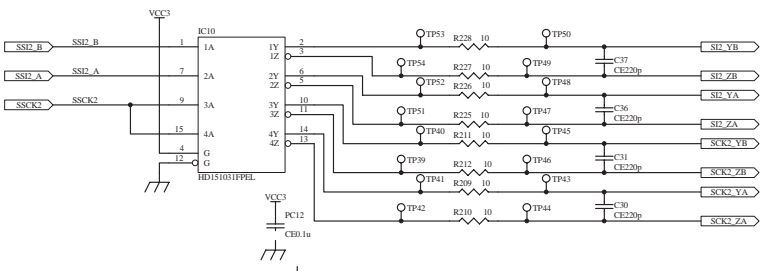
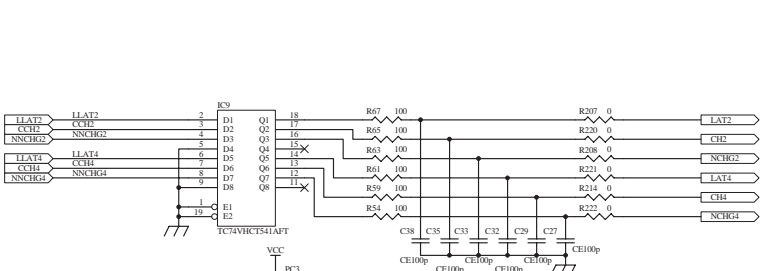
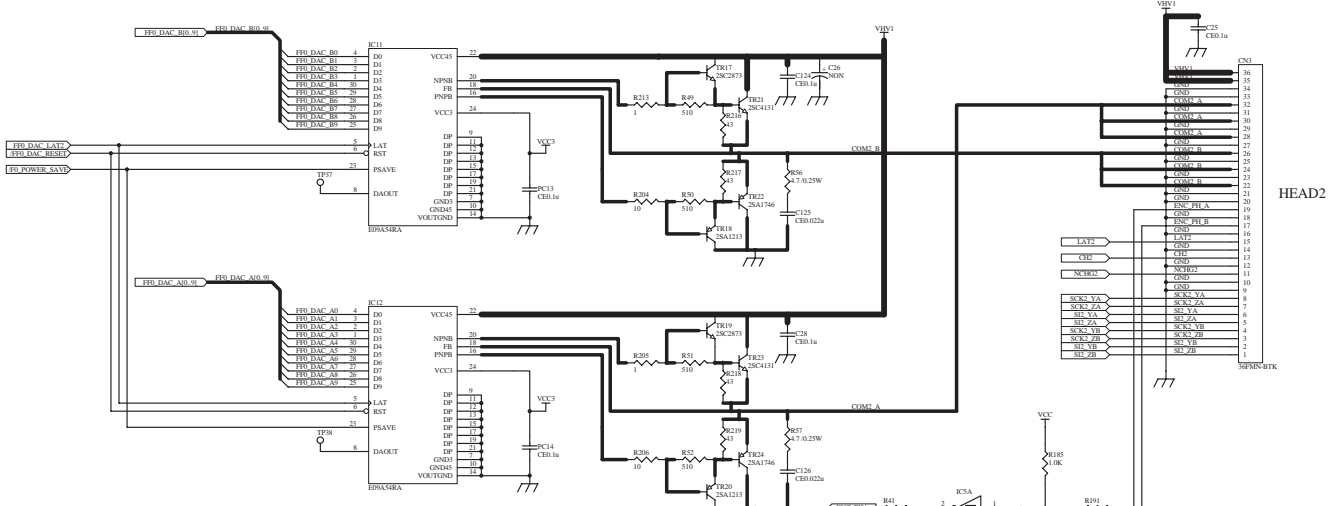
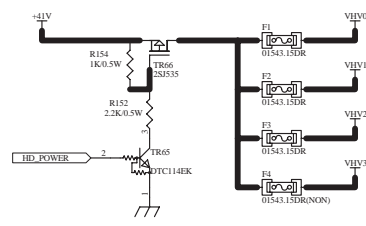
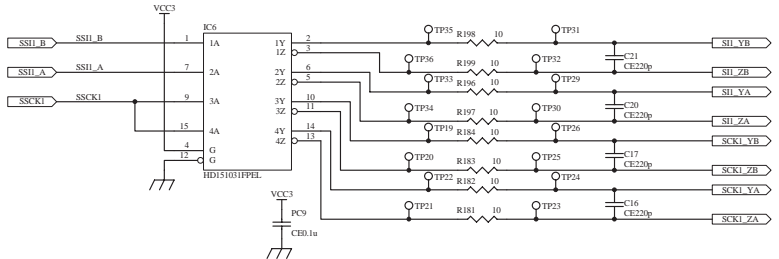
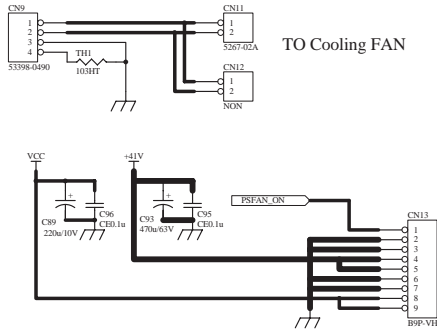


# HEAD BOARD\_Circuit Diagram 2/6

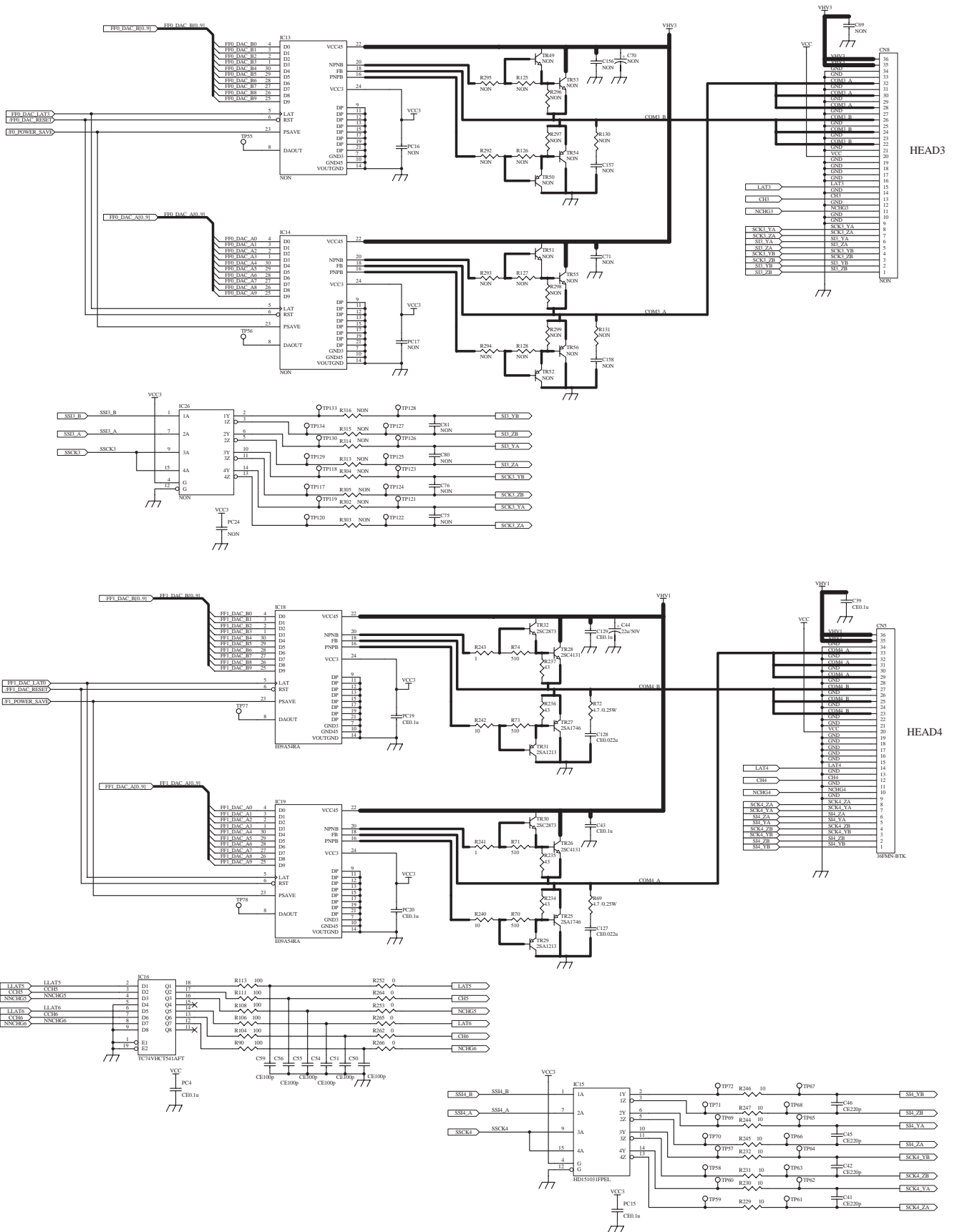




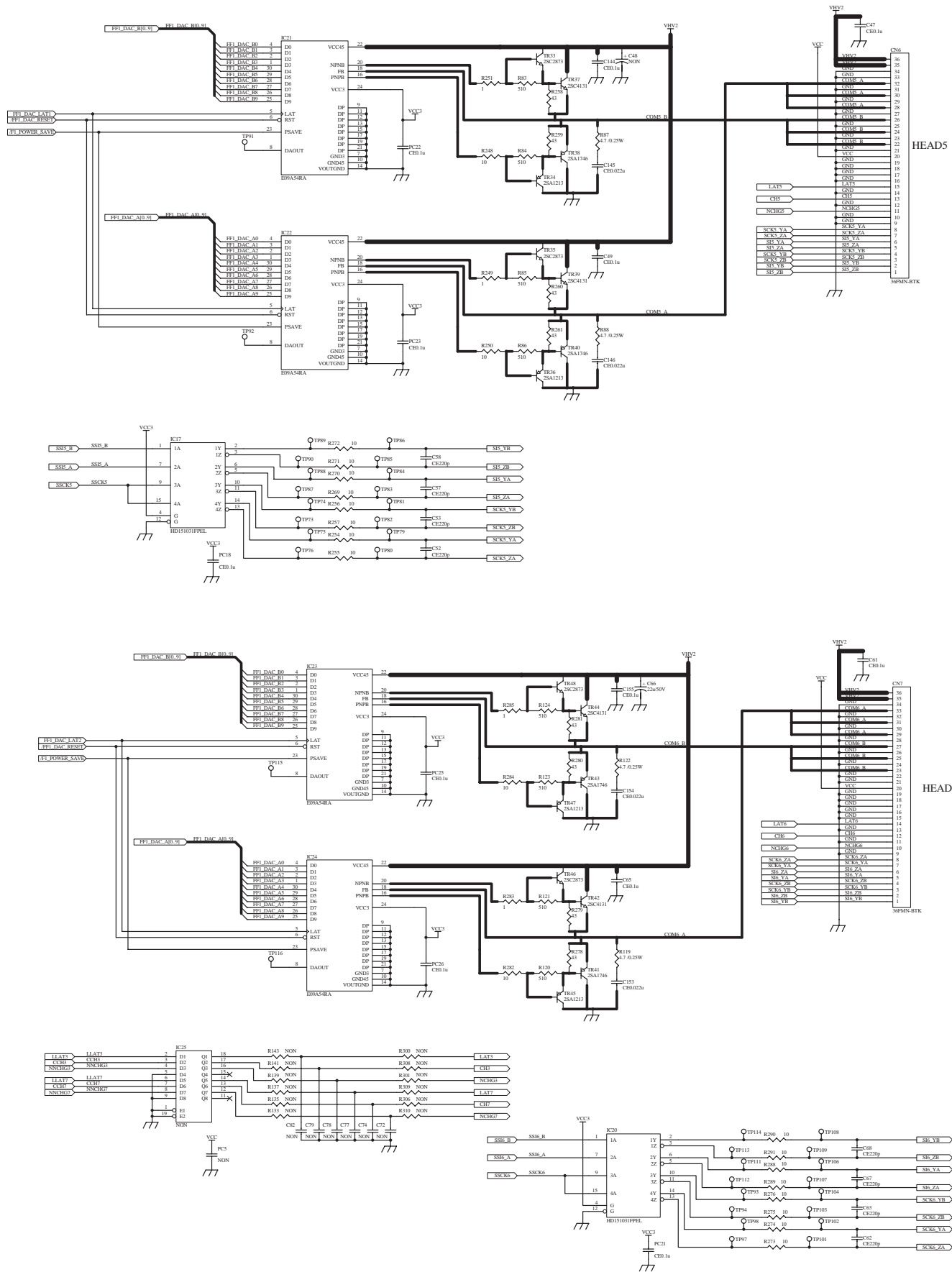
# HEAD BOARD\_Circuit Diagram 3/6



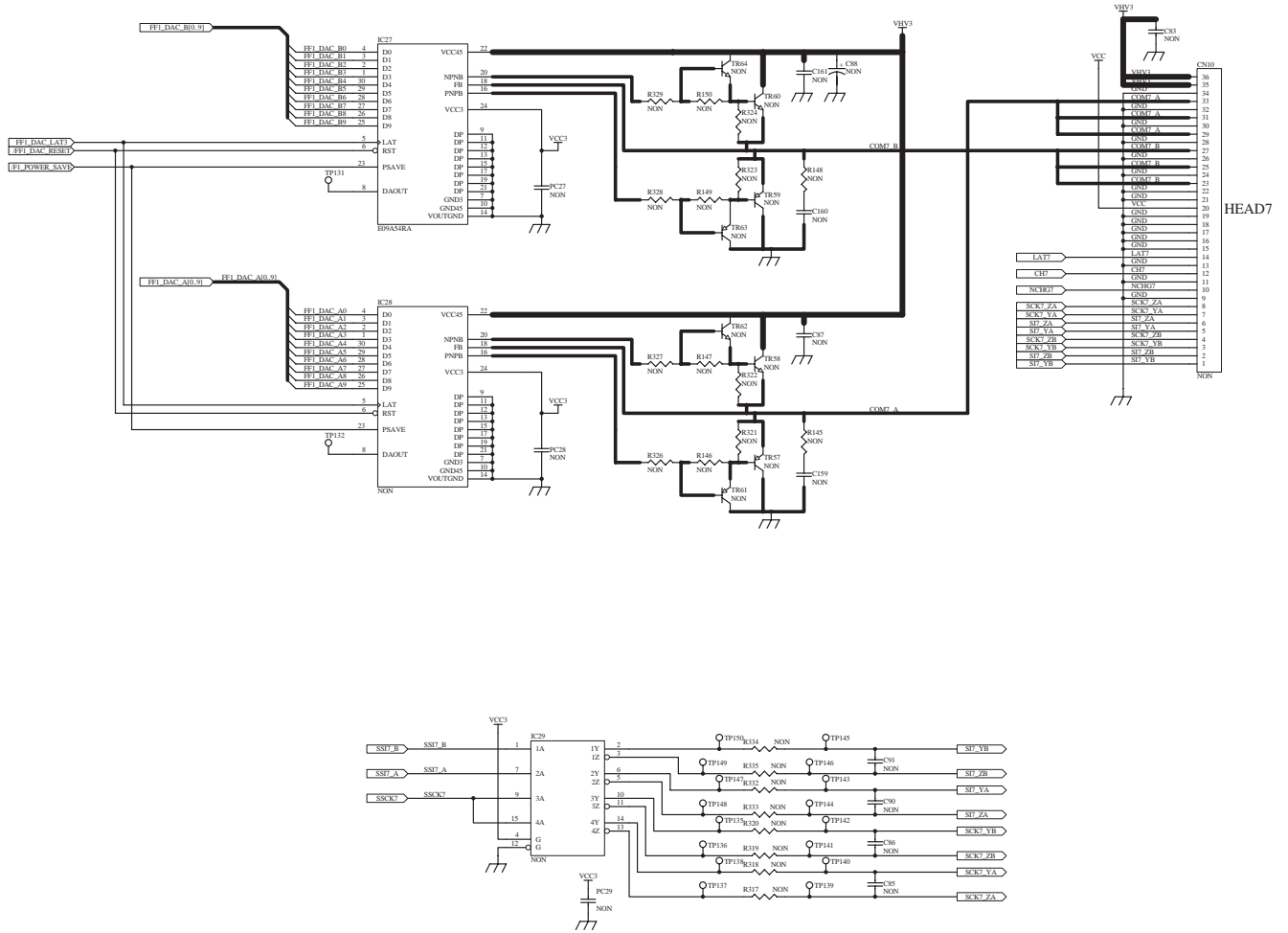
# HEAD BOARD\_Circuit Diagram 4/6



# HEAD BOARD\_Circuit Diagram 5/6

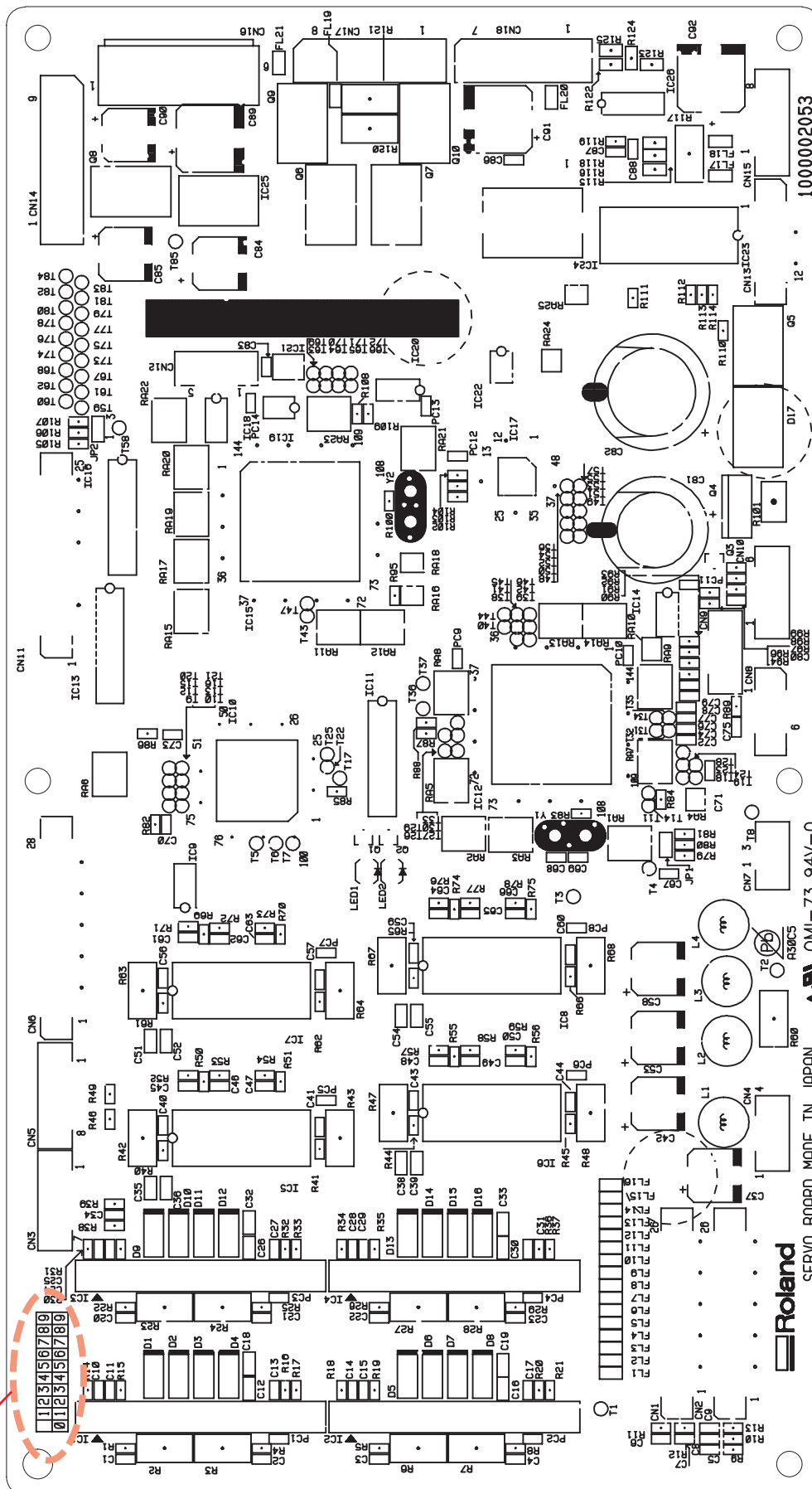


# HEAD BOARD\_Circuit Diagram 6/6



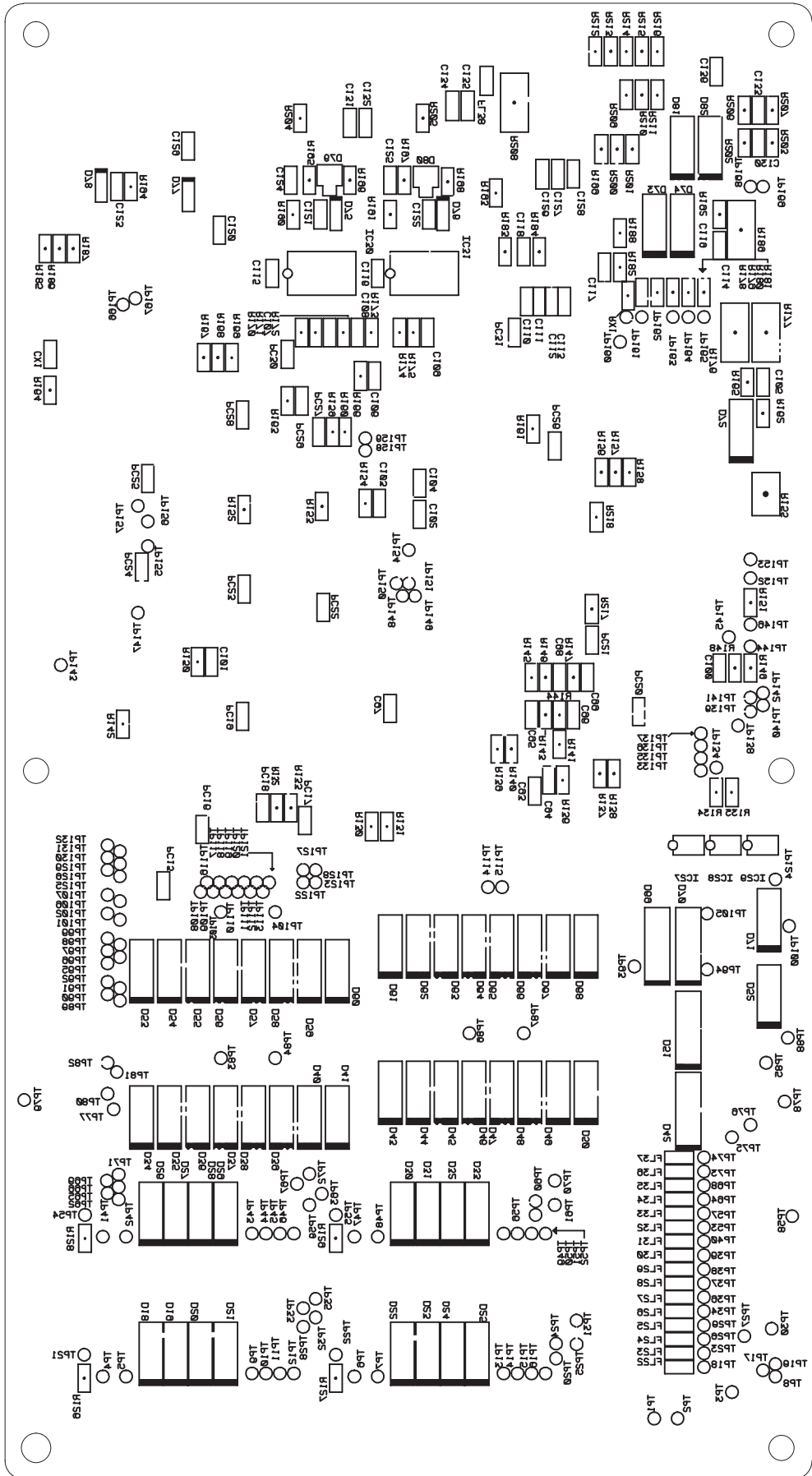
## 2-4 SERVO BOARD

### SERVO BOARD\_Arrangement Diagram (Component Side)

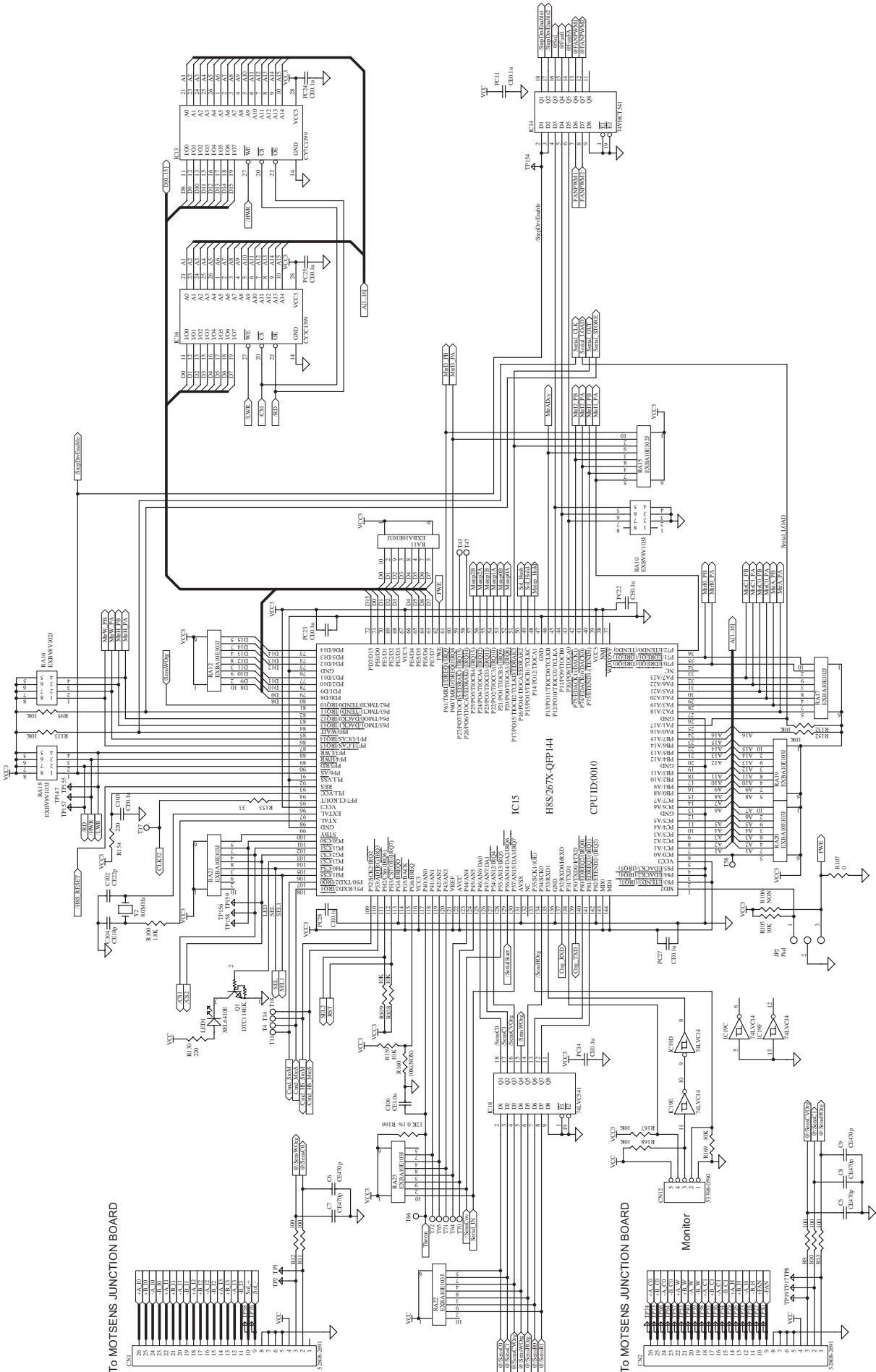


It indicates the version of the Servo Board.

# SERVO BOARD\_Arrangement Diagram (Soldering Side)

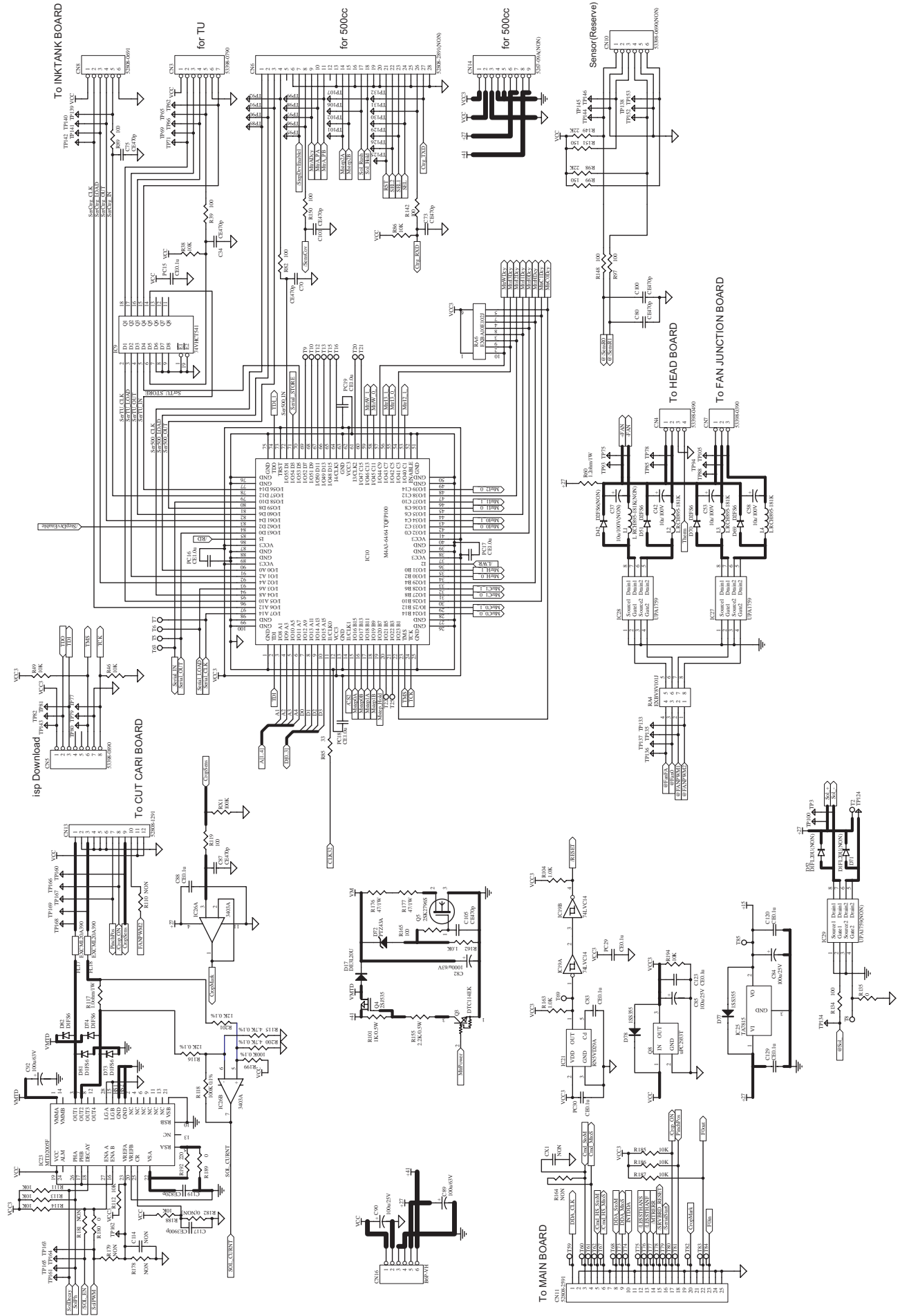


# SERVO BOARD\_Circuit Diagram 1/4

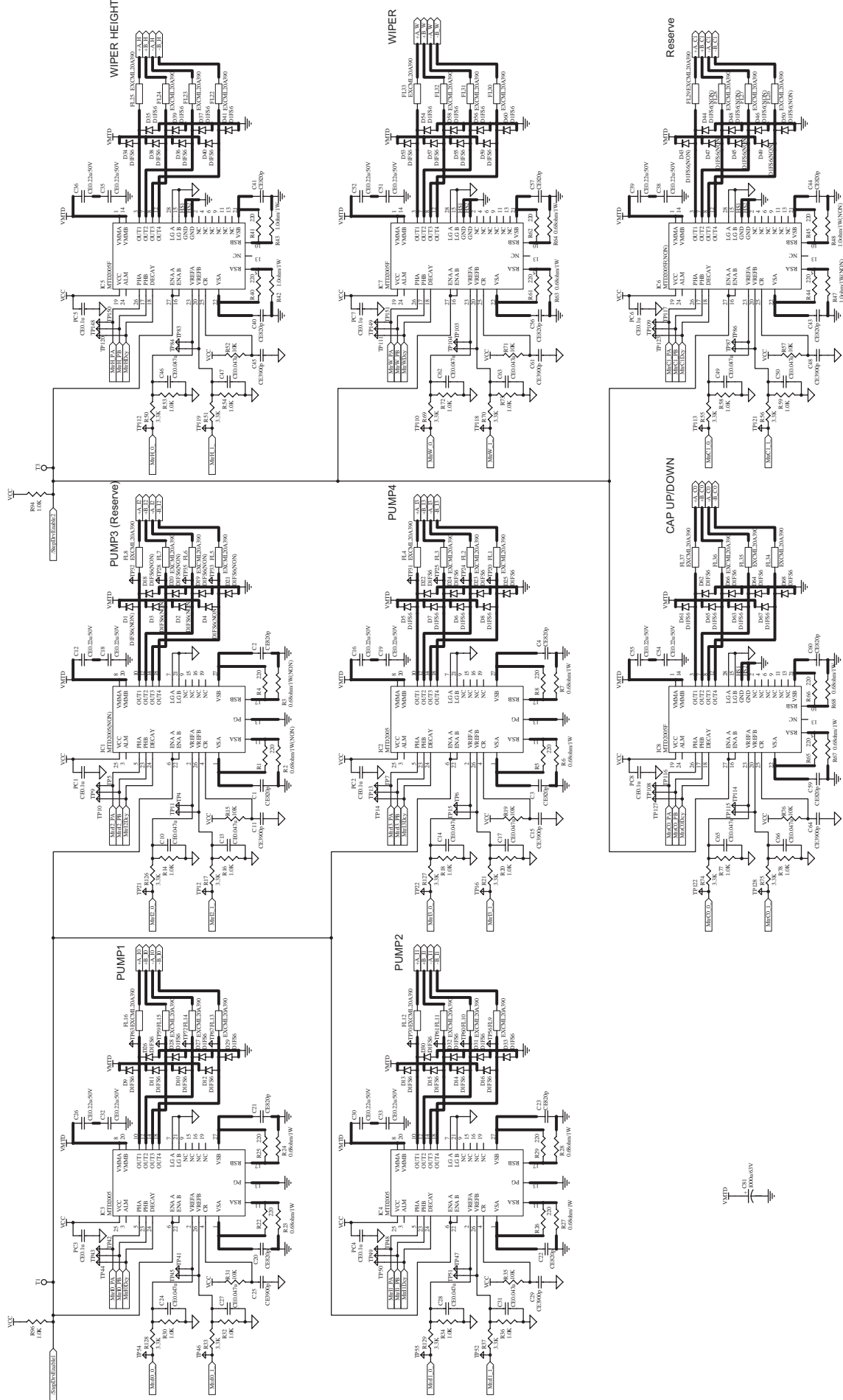




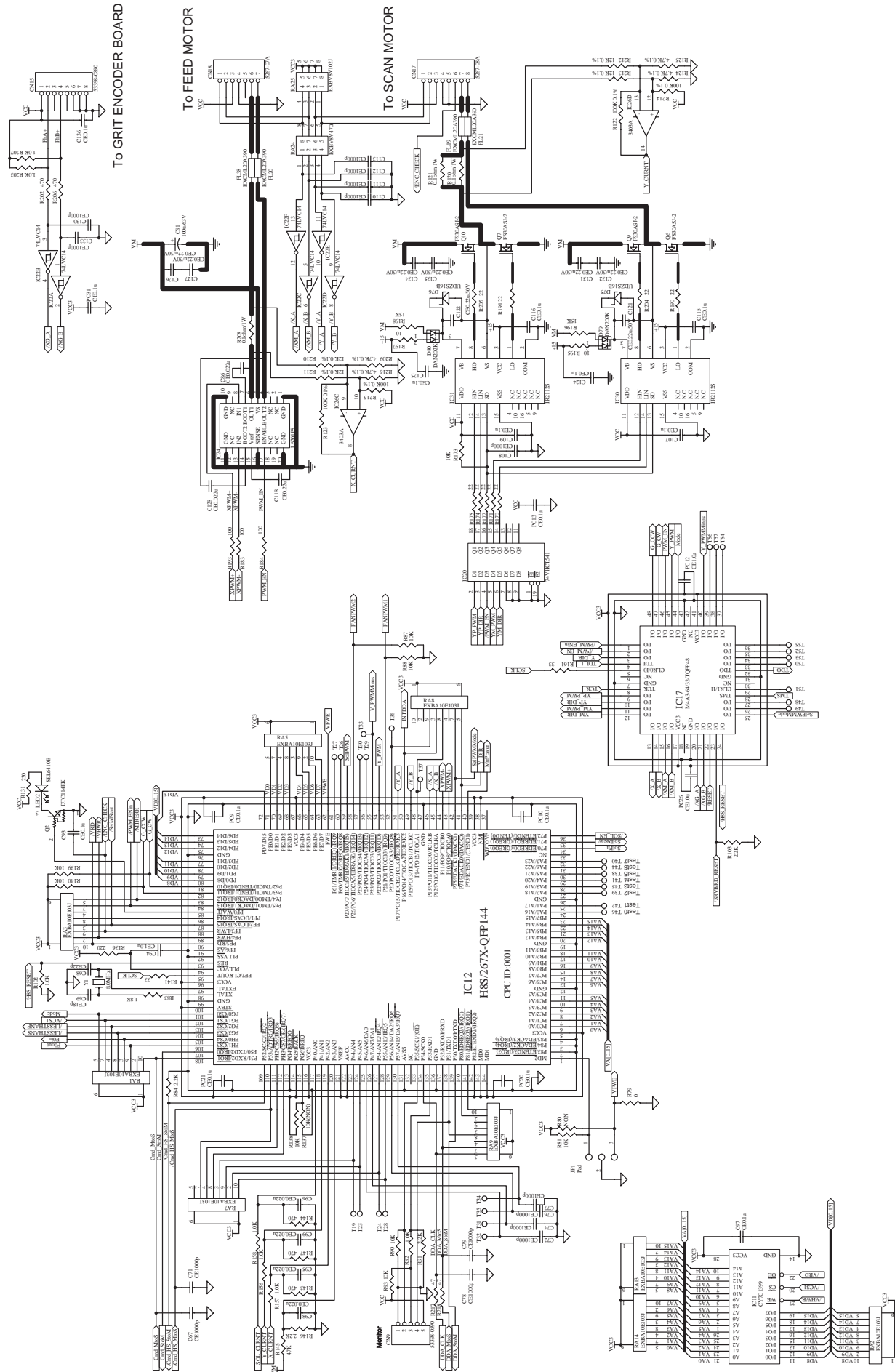
# SERVO BOARD\_Circuit Diagram 2/4



# SERVO BOARD\_Circuit Diagram 3/4



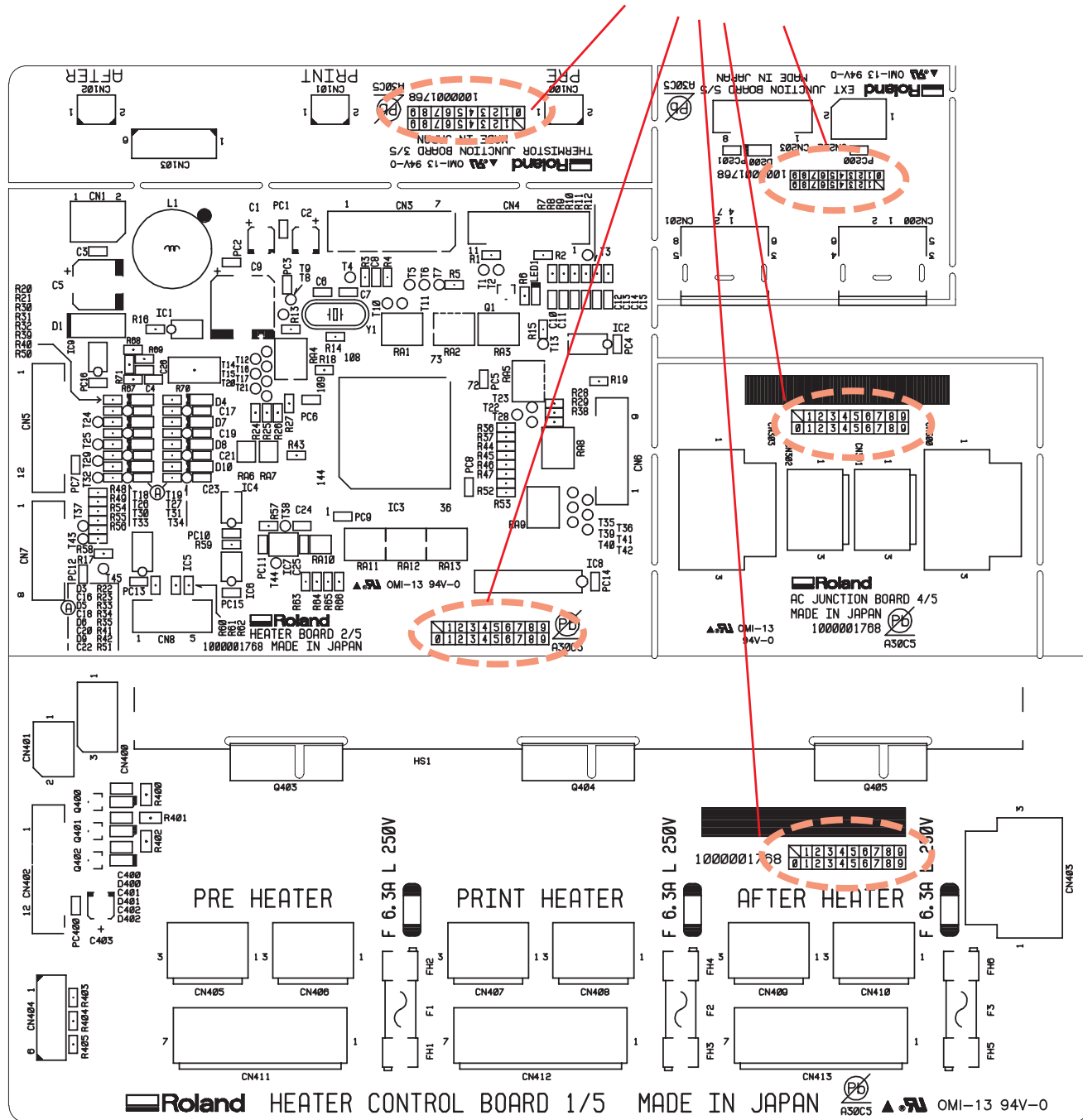
# SERVO BOARD\_Circuit Diagram 4/4



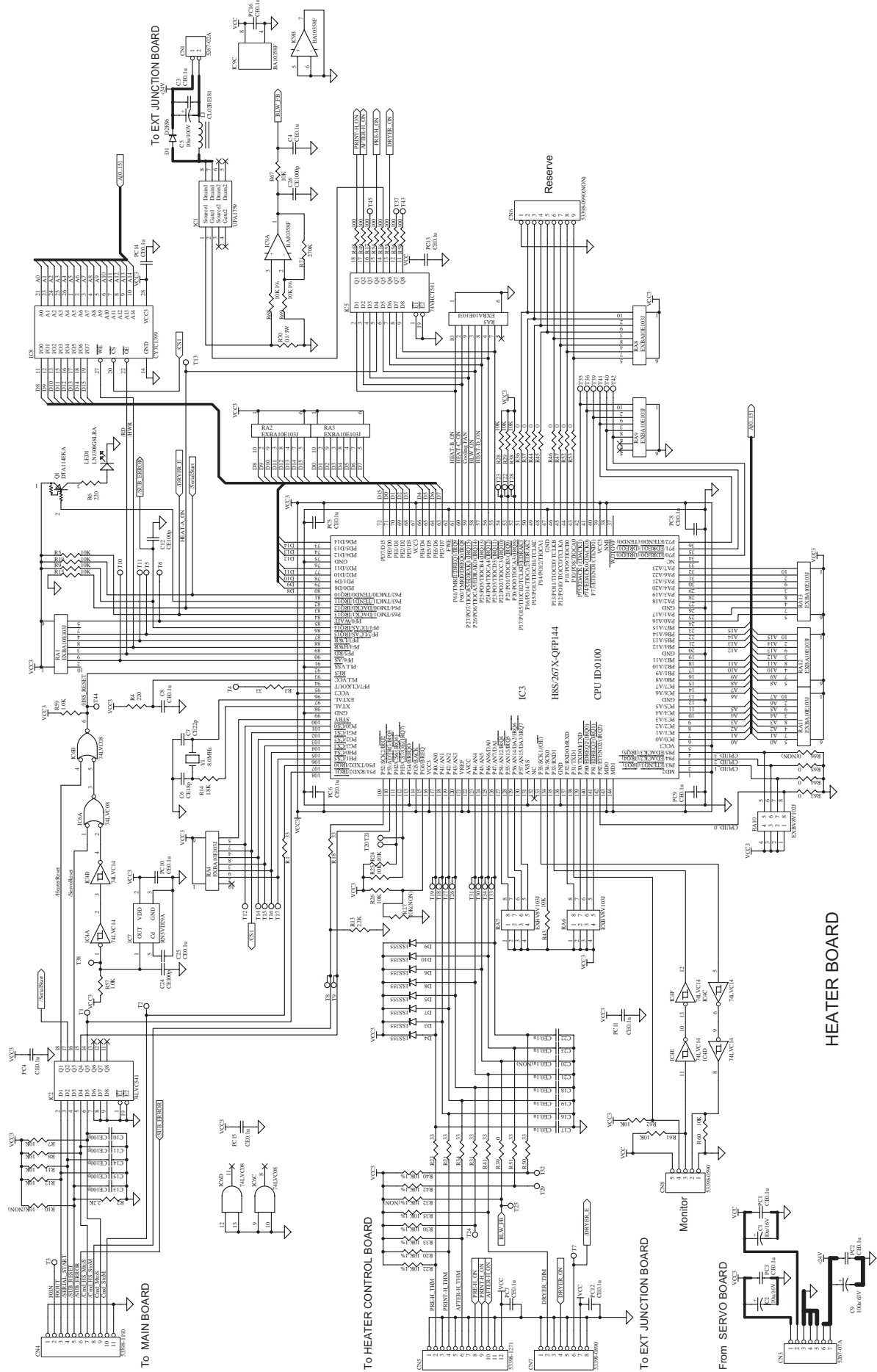
## 2-5 HEATER BOARD

### HEATER BOARD\_Arrangement Diagram (Component Side)

It indicates the version of the Board.

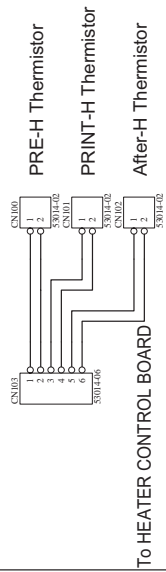


# HEATER BOARD\_Circuit Diagram 1/2

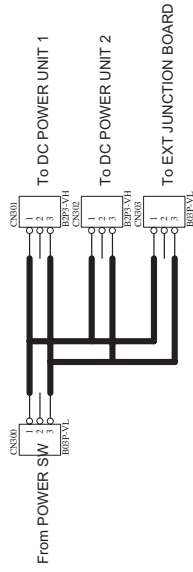


HEATER BOARD

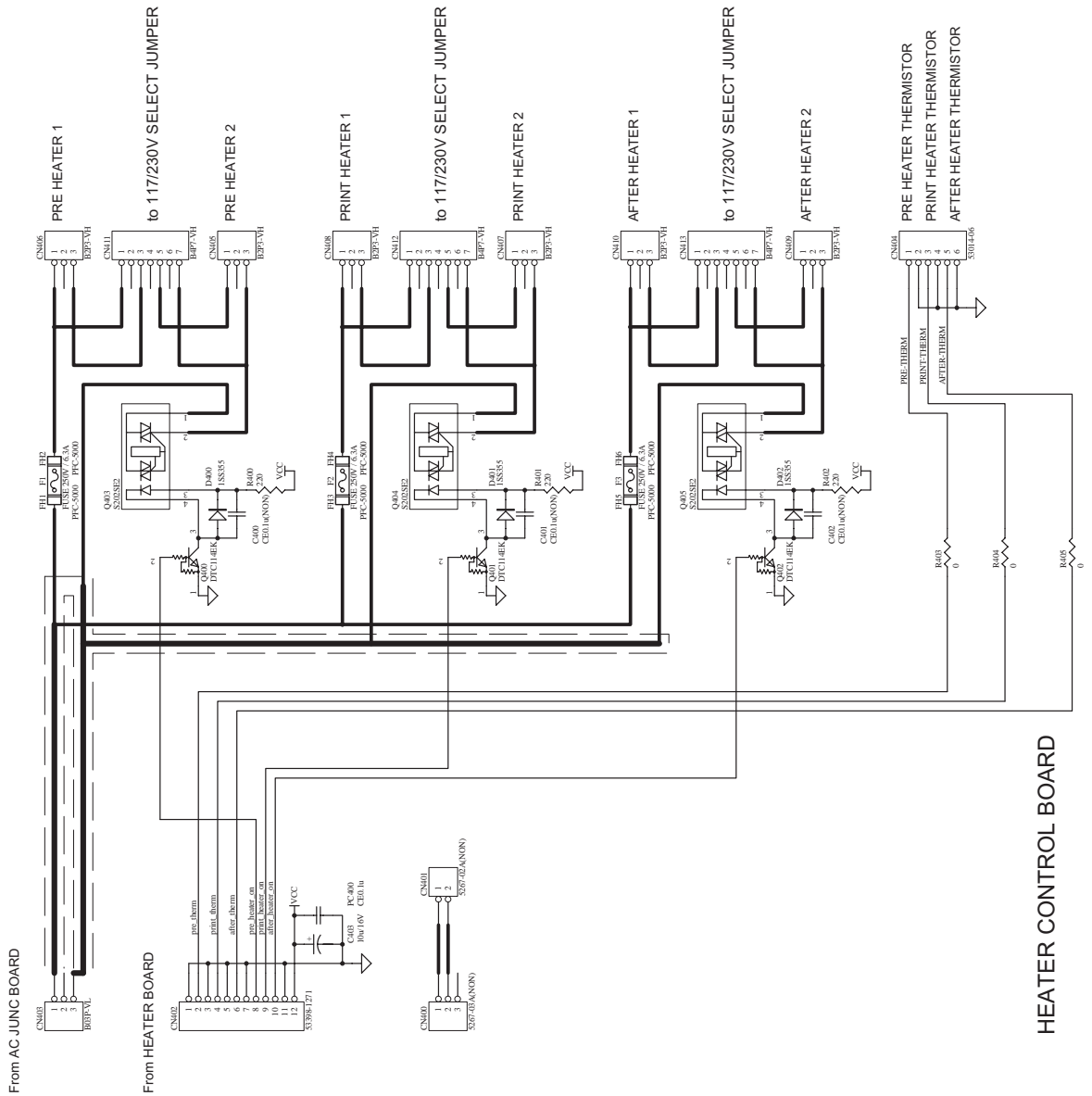
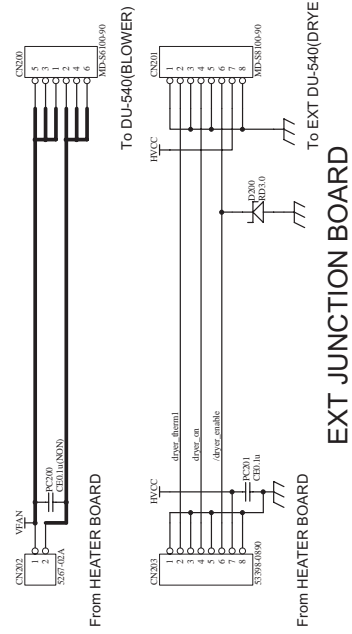
# HEATER BOARD\_Circuit Diagram 2/2



## THERMISTOR JUNCTION BOARD

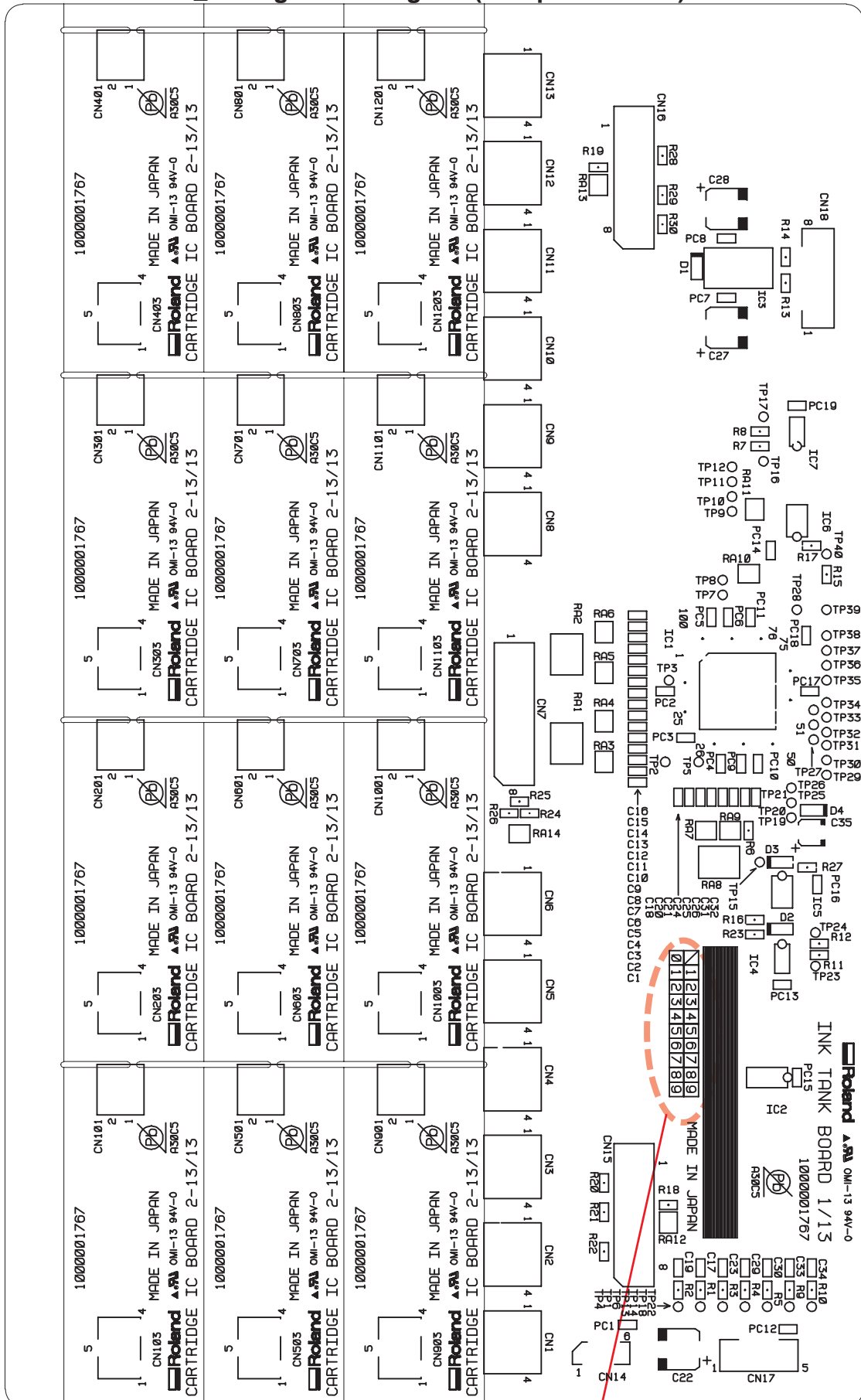


## AC JUNCTION BOARD



# 2-6 INK SYSTEM BOARD

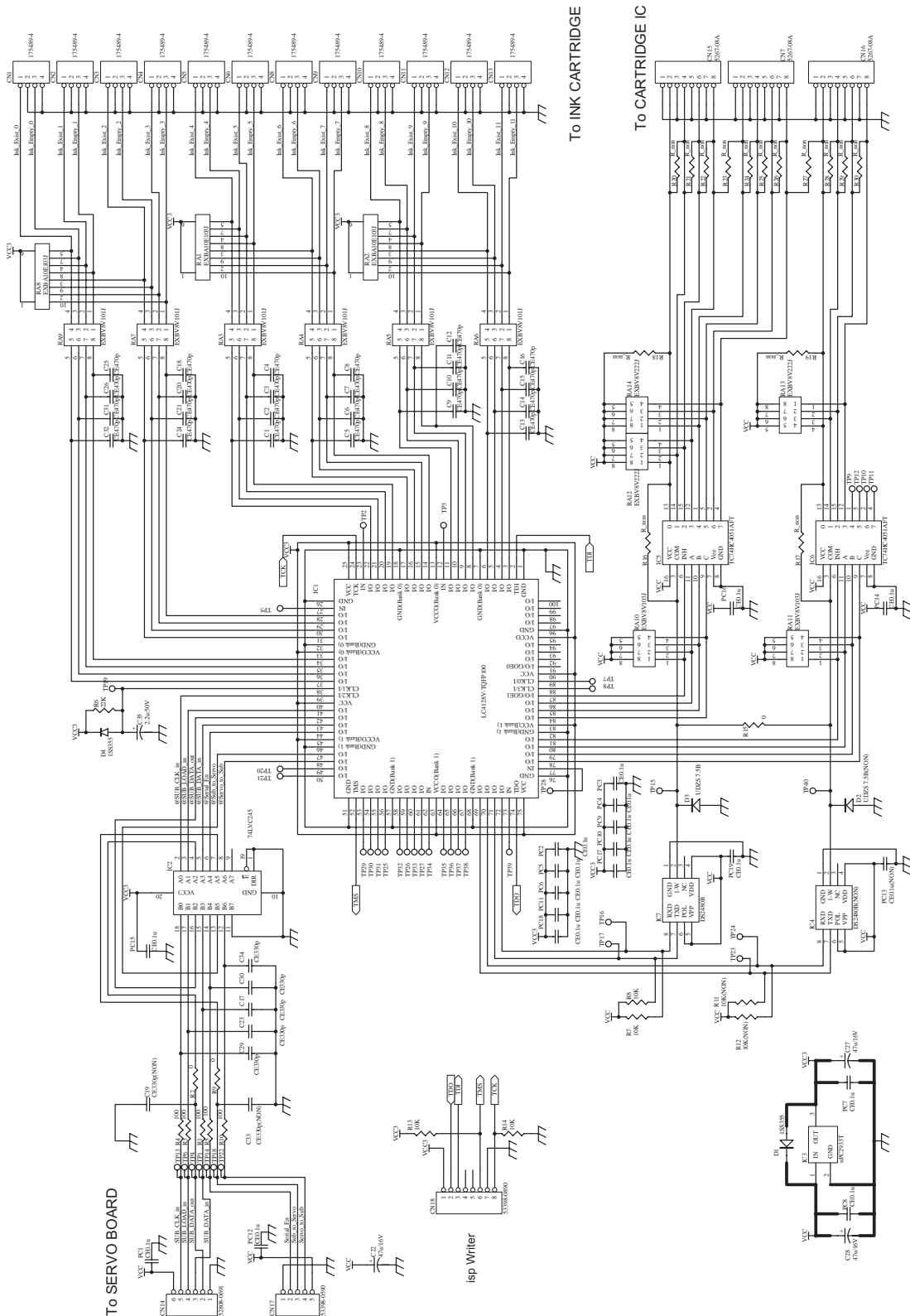
## INK SYSTEM BOARD Arrangement Diagram (Component Side)



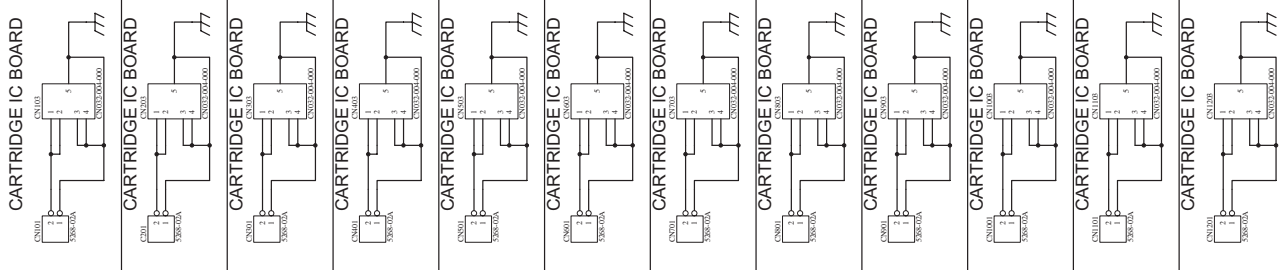
It indicates the version of the Board.



# INK SYSTEM BOARD\_Circuit Diagram

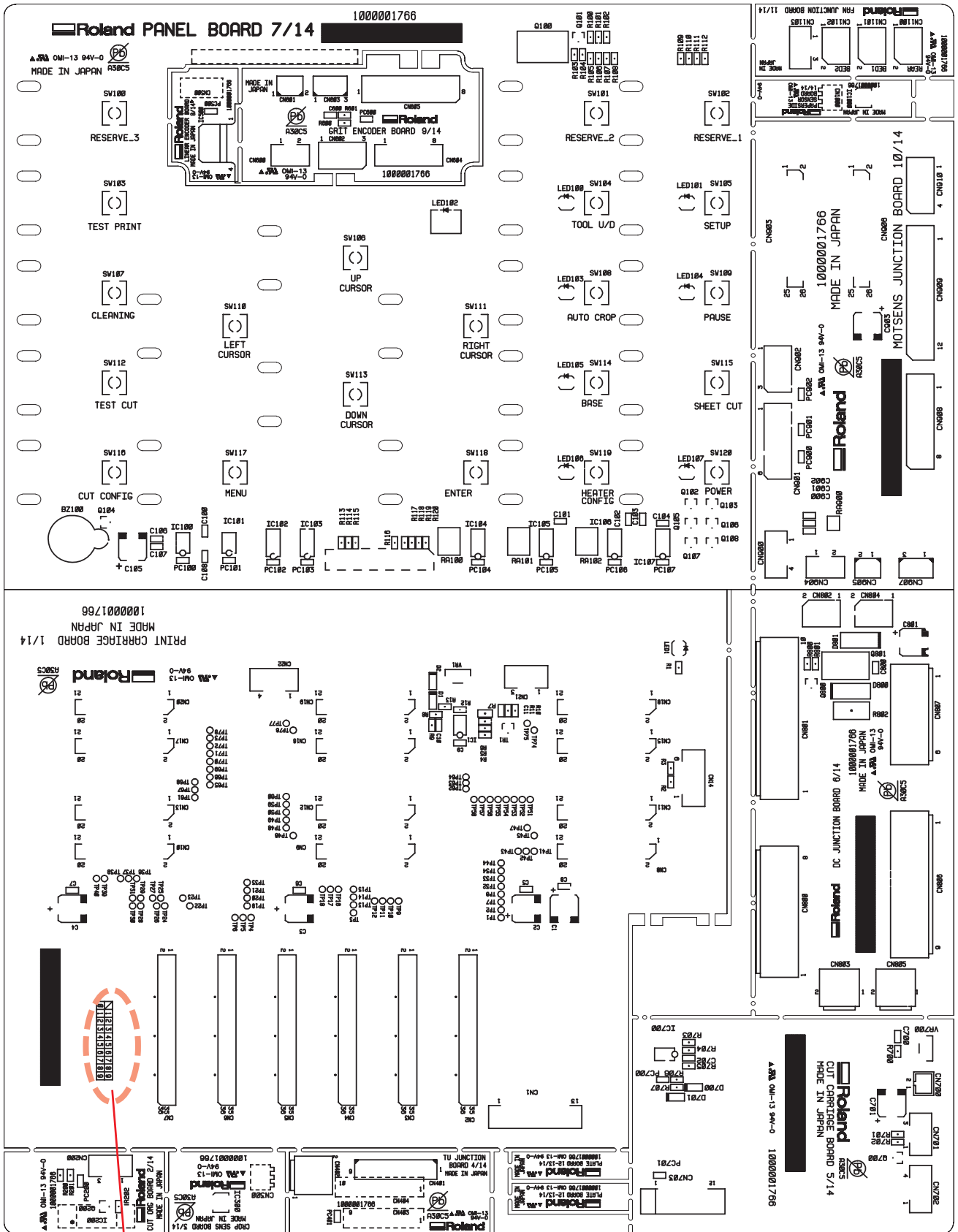


## INK TANK BOARD



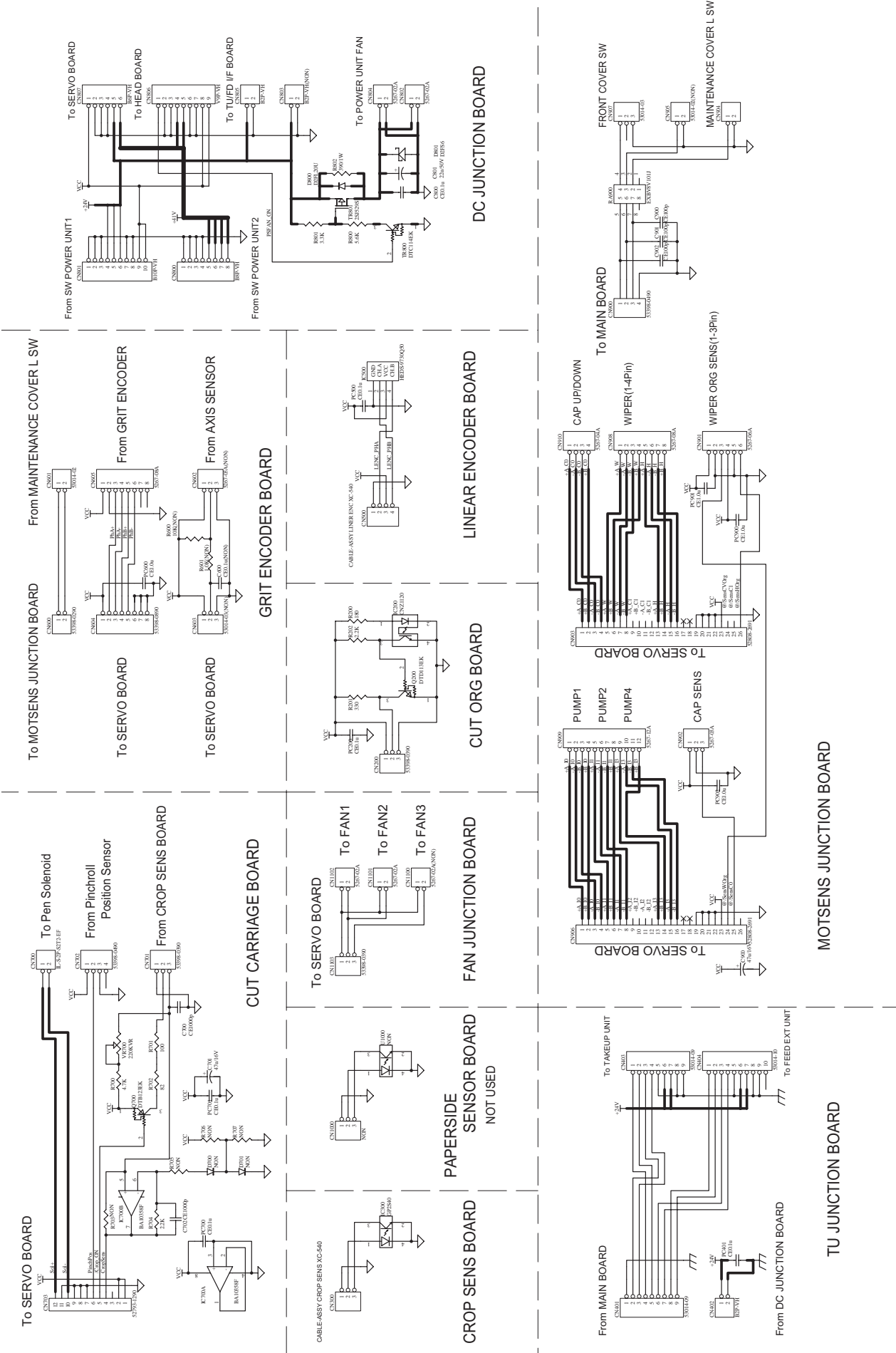
# 2-7 SUB BOARD

## SUB BOARD\_Arrangement Diagram (Component Side)



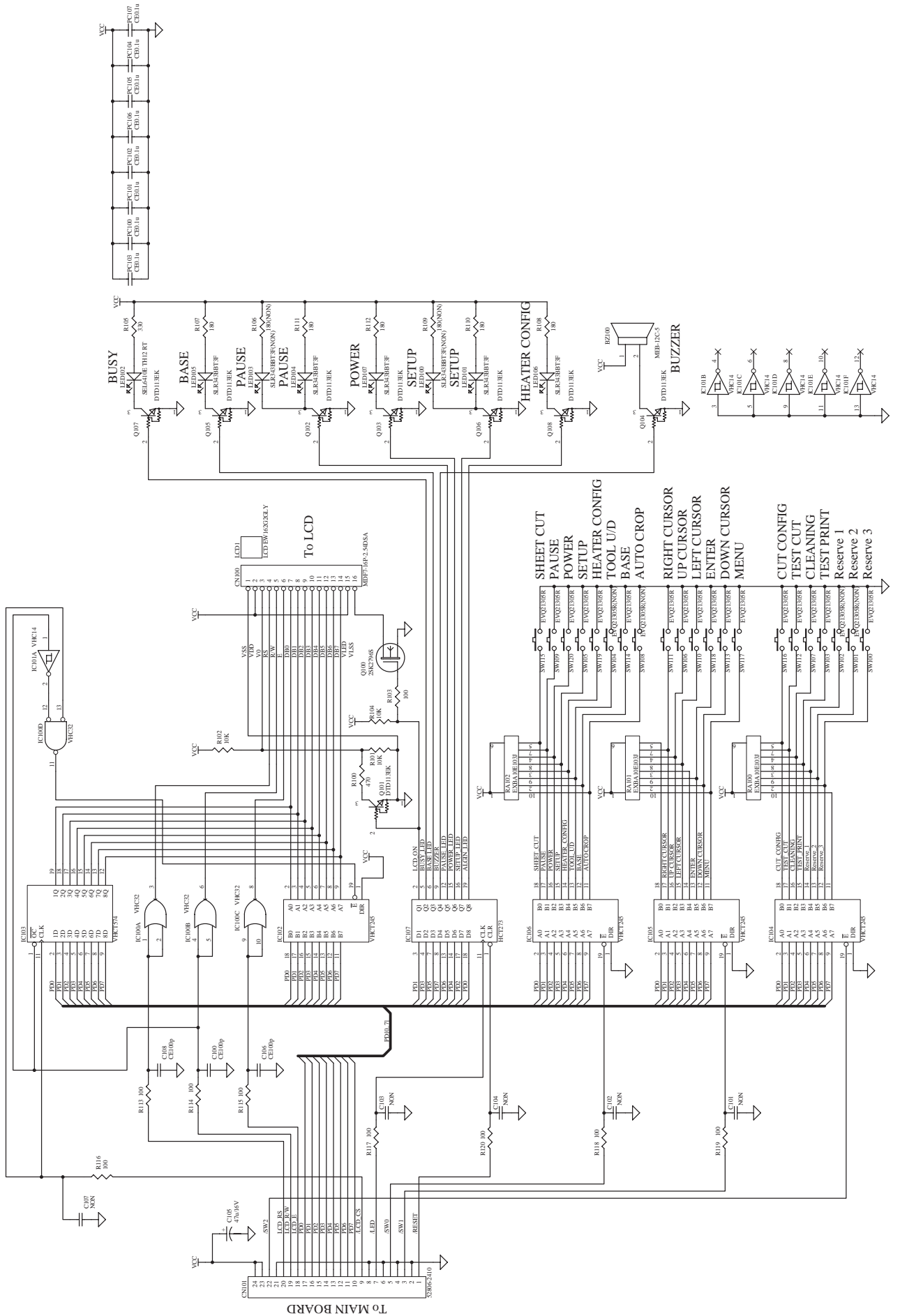
It indicates the version of the Board.

# SUB BOARD\_Circuit Diagram 1/4

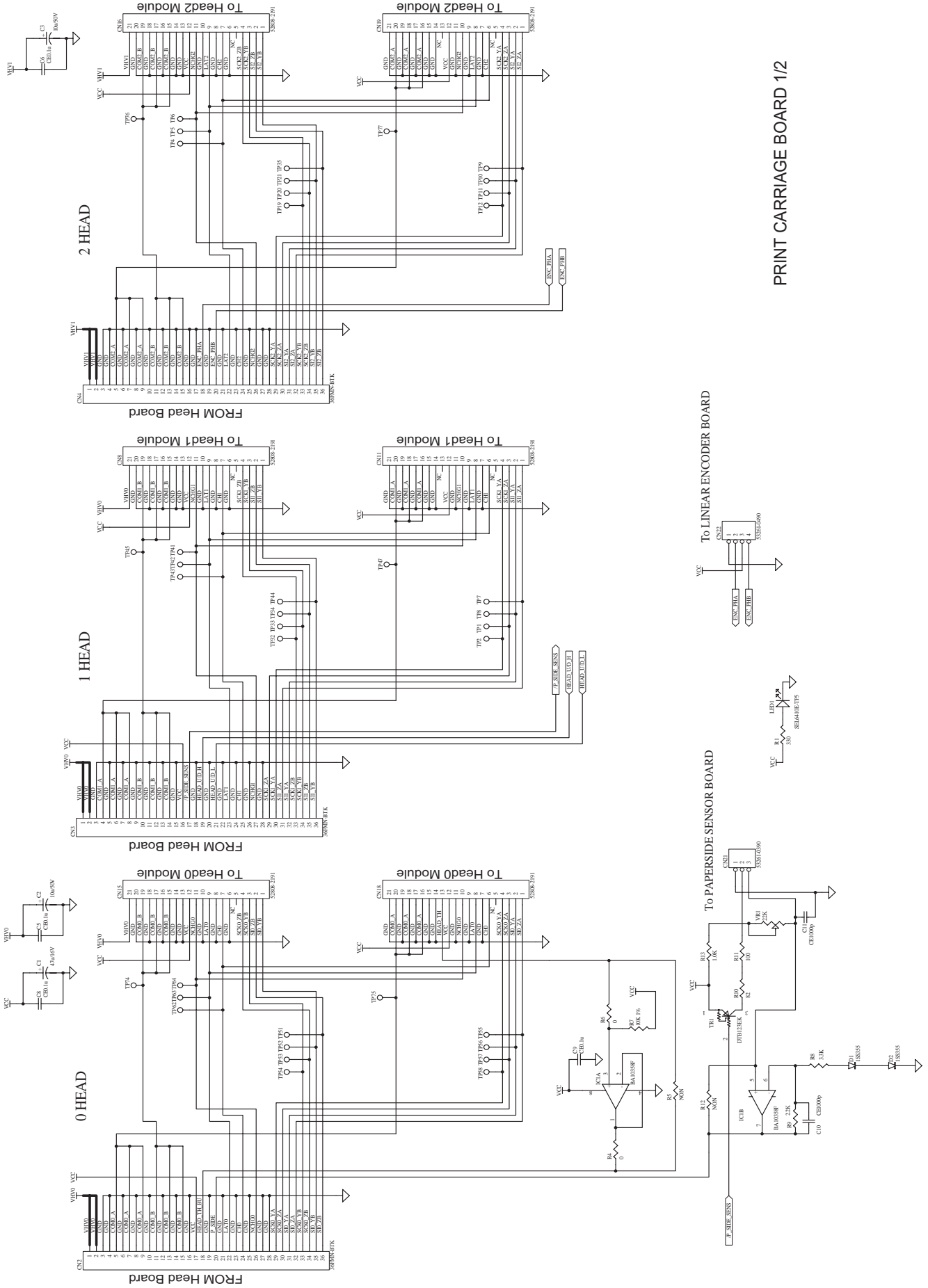


# SUB BOARD\_Circuit Diagram 2/4

## PANEL BOARD



# SUB BOARD\_Circuit Diagram 3/4



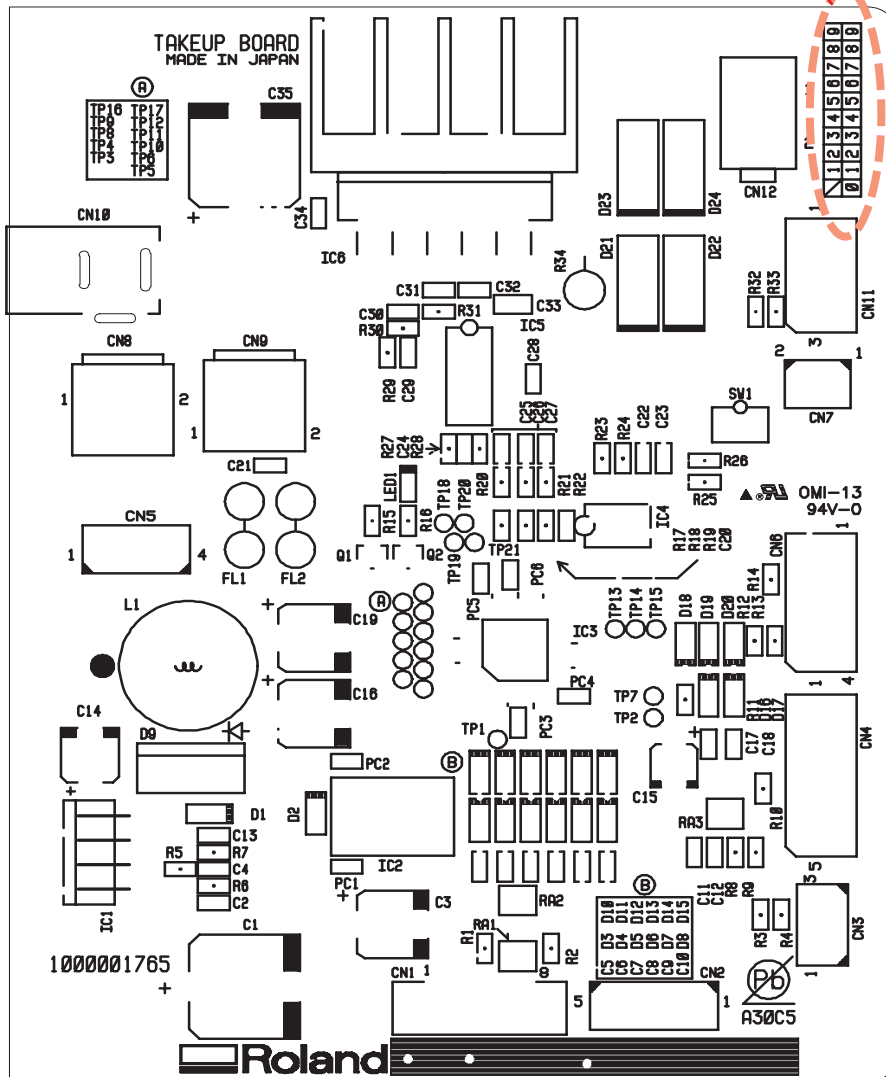
PRINT CARRIAGE BOARD 1/2



## 2-8 TAKEUP BOARD

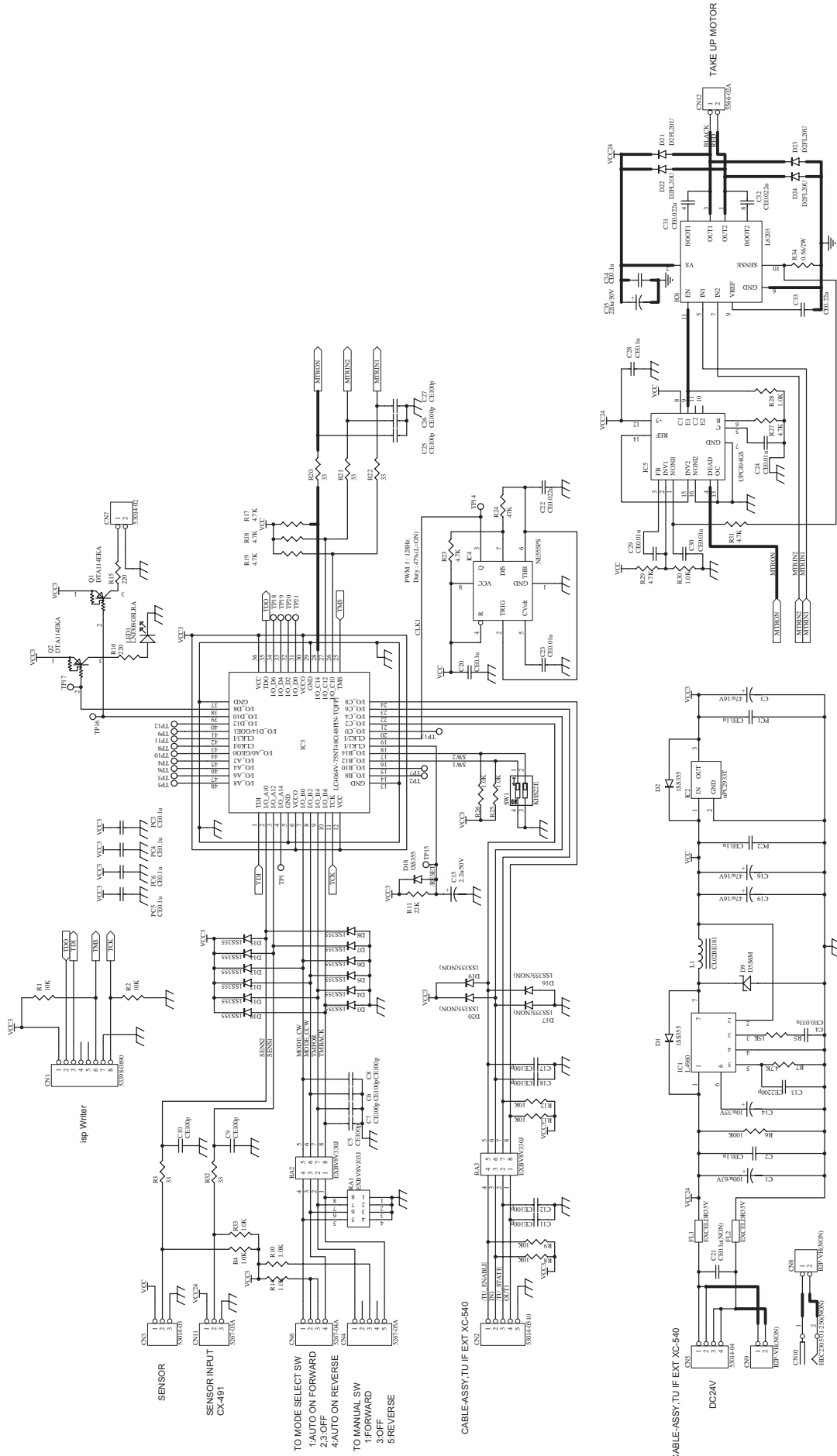
### TAKEUP BOARD\_Arrangement Diagram (Component Side)

It indicates the version of the Board.





# TAKEUP BOARD\_Circuit Diagram



TAKE UP BOARD

## 2-9 MAINTENANCE PARTS LIST \_ Electrical Parts

### SERVO BOARD

Reference No.	Parts No	Description	Function
Q4	15119122	TR,FET 2SJ535	MOTOR POWER SUPPLY
IC2	15189105	IC-LINEAR,MTD2005-7101	MOTOR DRIVER(Right PUMP)
IC3	15189105	IC-LINEAR,MTD2005-7101	MOTOR DRIVER(Left PUMP)
IC4	15189105	IC-LINEAR,MTD2005-7101	MOTOR DRIVER(Middle PUMP)

### HEAD BOARD

Reference No.	Parts No	Description	Function
TR6,TR8	15129121	TR, 2SA1746 OY	TRANSISTOR for HEAD DRIVER(CYAN)
TR5,TR7	15129122	TR, 2SC4131 GB	
TR9,TR11	15129121	TR, 2SA1746 OY	TRANSISTOR for HEAD DRIVER(MAGENTA)
TR10,TR12	15129122	TR, 2SC4131 GB	
TR22,TR24	15129121	TR, 2SA1746 OY	TRANSISTOR for HEAD DRIVER(YELLOW)
TR21,TR23	15129122	TR, 2SC4131 GB	
TR25,TR27	15129121	TR, 2SA1746 OY	TRANSISTOR for HEAD DRIVER(BLACK)
TR26,TR28	15129122	TR, 2SC4131 GB	
TR38,TR40	15129121	TR, 2SA1746 OY	TRANSISTOR for HEAD DRIVER(LIGHT MAGENTA)
TR37,TR39	15129122	TR, 2SC4131 GB	
TR41,TR43	15129121	TR, 2SA1746 OY	TRANSISTOR for HEAD DRIVER(LIGHT CYAN)
TR42,TR44	15129122	TR, 2SC4131 GB	
F1	1000001053	FUSE,01543.15DR	HEAD POWER FUSE (CYAN, MAGENTA)
F2	1000001053	FUSE,01543.15DR	HEAD POWER FUSE (YELLOW, BLACK)
F3	1000001053	FUSE,01543.15DR	HEAD POWER FUSE (LIGHT CYAN, LIGHT MAGENTA)
TR66	15119122	TR,FET 2SJ535	HEAD POWER SUPPLY

### TAKE UP BOARD

Reference No.	Parts No	Description	Function
D9	15019104	DI,D5S6M-7000	POWER SUPPLY
IC1	15199237	V.RGL L4960	SWITCHING REGULATOR
IC6	15199952	IC L6203	MOTOR DRIVER

### HEATER CONTROL BOARD

Reference No.	Parts No	Description	Function
Q403	1E+09	RELAY,S202SE2F	HEATER DRIVER (PRE HEATER)
Q404	1E+09	RELAY,S202SE2F	HEATER DRIVER (PRINT HEATER)
Q405	1E+09	RELAY,S202SE2F	HEATER DRIVER (DRYER HEATER)
F1	12559105	FUSE,5X20 021706.3MXP 6.3A/250V	FUSE (PRE HEATER)
F2	12559105	FUSE,5X20 021706.3MXP 6.3A/250V	FUSE (PRINT HEATER)
F3	12559105	FUSE,5X20 021706.3MXP 6.3A/250V	FUSE (DRYER HEATER)

### 3 Replacement of Main Parts

## To Ensure safe Work

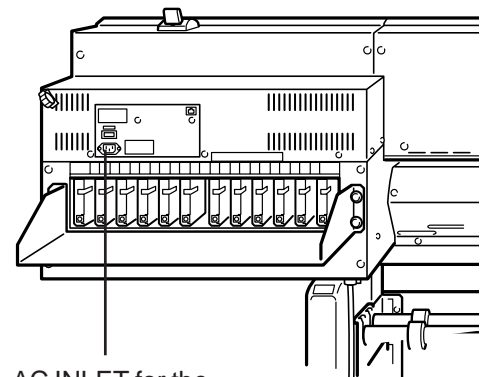
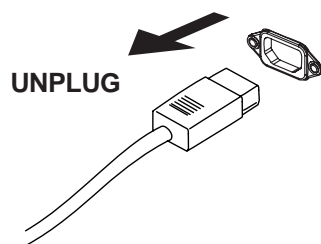
### **WARNING**



Turn off the Main Power SW, and unplug the power cable of the Printer before performing parts replacement.

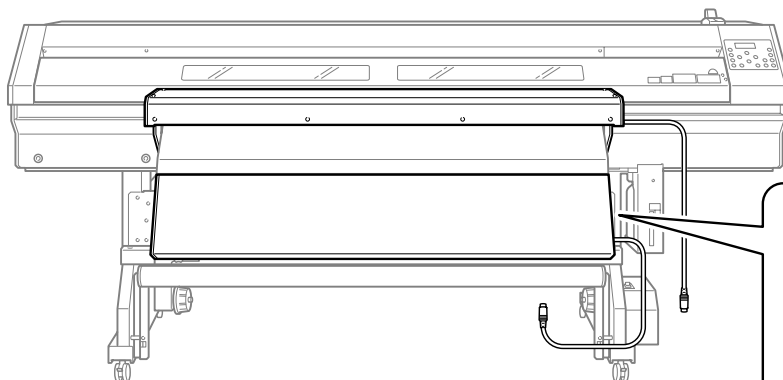
In case that the DU-540 (Option Dryer) is installed, unplug the power cables of both printer and DU-540 (Option Dryer) before performing parts replacement.

It is not possible to cut power of completely only by turning off the secondary power SWs.

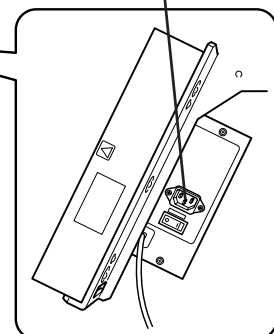


AC INLET for the  
Printer Unit.

- Rear View -



AC INLET for the  
Dryer Unit.



The necessary adjustments after the replacement of each part, and the referential time for each work are described as follows.

**HEAD REPLACEMENT : 20min.(1 Head)**

1. THERMISTOR CHECK
  2. HEAD ALIGNMENT
  3. HEAD INFORMATION CLEAR
  4. CAP HEIGHT CHECK \*7
  5. CROP-CUT ADJUSTMENT
  6. PRINT / CUT POSITION ADJUSTMENT Adj. Time : 60min.
- < Total Time : 80min. >

**WIPER REPLACEMENT : 5min.**

< Total Time : 5min. >

**TOOL CARRIAGE REPLACEMENT : 20min.**

1. LIMIT & CUT DOWN POSITION ADJUSTMENT
  2. TOOL HEIGHT ADJUSTMENT
  3. TOOL PRESSURE ADJUSTMENT
  4. CROP MARK SENSOR ADJUSTMENT
  5. CROP-CUT ADJUSTMENT
  6. PRINT / CUT POSITION ADJUSTMENT Adj. Time : 52min.
- < Total Time : 72min. >

**CAP TOP REPLACEMENT : 30min. (6 pcs.)**

1. CAP HEIGHT ADJUSTMENT Adj. Time : 2min.
- < Total Time : 32min. >

**CARRIAGE MOTOR REPLACEMENT : 20min.**

1. SERVO LOCK CHECK
  2. AGING
  3. MOTOR HOURS CLEAR Adj. Time : 5min.
- < Total Time : 25min. >

**PUMP REPLACEMENT : 25min. (3 pcs.)**

1. PUMP TIMES CLEAR
- < Total Time : 25min. >

**MAIN BOARD REPLACEMENT : 30min.**

1. DIP SW SETTING
  2. BATTERY INSTALLATION
  3. FIRMWARE INSTALLATION
  4. SYSTEM PARAMETER INITIALIZE
  5. IP ADDRESS SETTING
  6. NETWORK CONTROLLER OF FIRMWARE VERSION CONFIRMATION \*6
  7. HEAD RANK SETTING
  8. SERIAL NUMBER INPUT \*1
  9. CAP & WIPER CHECK \*2
  10. CAP HEIGHT CHECK \*7
  11. SENSOR CHECK
  12. LIMIT & CUT DOWN POSITION INITIALIZE
  13. LINEAR ENCODER SETUP
  14. TOOL PRESSURE ADJUSTMENT
  15. INK TYPE SETTING
  16. HEAD ALIGNMENT
  17. CALIBRATION
  18. CROP MARK SENSOR ADJUSTMENT
  19. CROP-CUT ADJUSTMENT
  20. PRINT/CUT POSITION ADJUSTMENT
  21. DRAIN BOTTLE COUNTER RESET \*8 Adj. Time : 90min.
- < Total Time : 120min. >

**HEAD BOARD REPLACEMENT : 10min.**

1. THERMISTOR CHECK
  2. HEAD UP/DOWN SENSOR CHECK \*5
  3. FAN ON THE HEAD BOARD CHECK Adj. Time : 13min.
- < Total Time : 23min. >

**CUTTING CARRIAGE BOARD REPLACEMENT : 7min.**

1. TOOL UP/DOWN CHECK
  2. TOOL UP/DOWN SENSOR CHECK \*5
  3. PINCH ROLLER SENSOR CHECK
  4. CROP MARK SENSOR ADJUSTMENT
  5. CROP-CUT ADJUSTMENT
  6. PRINT / CUT POSITION ADJUSTMENT Adj. Time:26min.
- < Total Time : 33min. >

**CARRIAGE BOARD REPLACEMENT : 15min.**

1. HEAD UP/DOWN SENSOR CHECK \*5
  2. THERMISTOR CHECK
  3. LINEAR ENCODER SETUP Adj. Time : 5min.
- <Total Time : 20min.>

**PANEL BOARD REPLACEMENT : 7min.**

1. LCD/LED/BUZ CHECK \*6
  2. KEY CHECK \*4 Adj. Time : 3min.
- < Total Time : 10min. >

**SERVO BOARD REPLACEMENT : 12min.**

1. PINCH ROLLER SENSOR CHECK
  2. AGING
  3. TOOL PRESSURE ADJUSTMENT
  4. CROP MARK SENSOR ADJUSTMENT
  5. CROP-CUT ADJUSTMENT
  6. PRINT / CUT POSITION ADJUSTMENT Adj. Time : 38min.
- <Total Time : 50min.>

**INK TUBE REPLACEMENT : 75min. (12pcs.)**

< Total Time : 75min. >

**CARRIAGE WIRE REPLACEMENT : 30min.**

1. BELT TENSION ADJUSTMENT
  2. BELT POSITION ADJUSTMENT
  3. LIMIT & CUT DOWN POSITION INITIALIZE
  4. CUTTING QUALITY CHECK Adj. Time : 20min.
- < Total Time : 50min. >

**ENCODER SCALE REPLACEMENT : 25min.**

1. LINEAR ENCODER SETUP Adj. Time : 3min.
- < Total Time : 28min. >

**TU BOARD REPLACEMENT : 15min.**

< Total Time : 15min. >

**FLEXIBLE CABLE REPLACEMENT : 40min.**

1. LINEAR ENCODER SETUP Adj. Time : 3min.
- < Total Time : 43min. >

**BATTERY REPLACEMENT : 7min.**

1. BATTERY FLAG CLEAR \*3
- < Total Time : 7min. >

\*1 Input the serial number in the [SERVICE MENU] > [SERIAL NO.].

\*2 It can be performed in the [SERVICE MENU] > [I/S CHECK].

\*3 It can be performed in the [SERVICE MENU] > [CLOCK CHECK].

\*4 It can be performed in the [SERVICE MENU] > [KEY CHECK].

\*5 It can be performed in the [SERVICE MENU] > [SENSOR CHECK ].

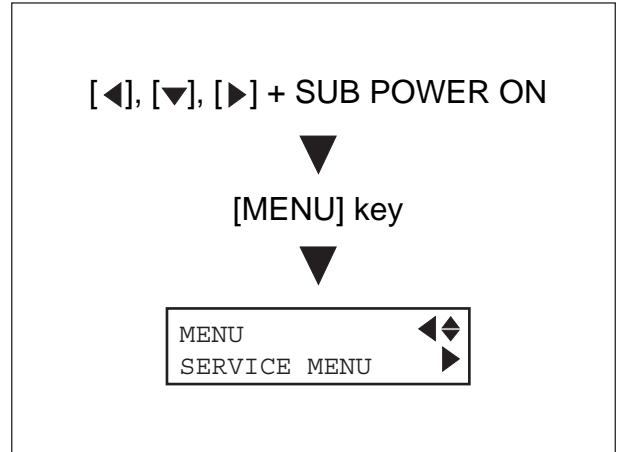
\*6 It can be performed in the [SERVICE MENU] > [LCD/LED/BUZ CHK].

\*7 It can be performed in the [SERVICE MENU] > [CAP ADJUST] >[CHECK GAP].

\*8 It can be performed in the [MENU] > [SUB MENU] >[MAINTENANCE] > [DRAIN BOTTLE] > [EMPTY DRAIN BOTTLE] > [RESET DRAIN COUNTER].

### 3-1 HEAD REPLACEMENT

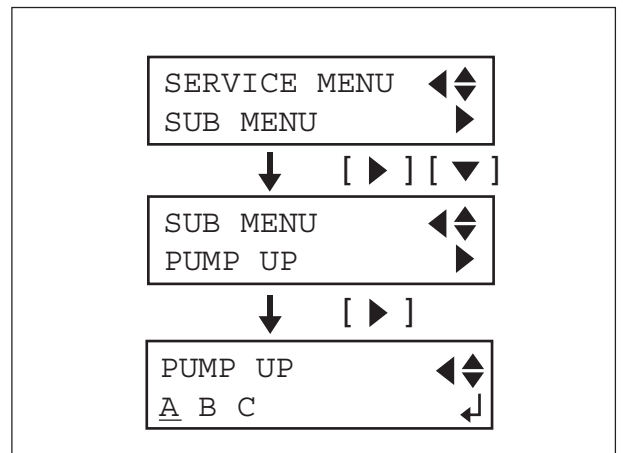
- 1 Turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



- 2 Select [SUB MENU] > [HEAD REPLACE], and select the group of the target Head.

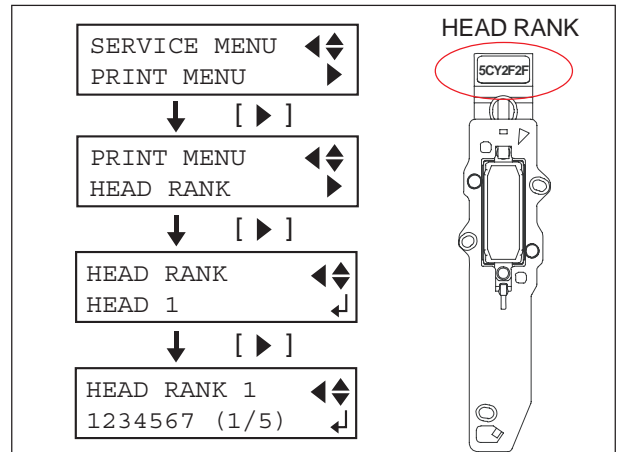


Check the ink amount in the Drain Bottle.



- 3 Select [PRINT MENU] > [HEAD RANK], and select the Head No. of the head that you are going to replace and input the Head Rank written on the new head. Input the Head Rank by selecting the digit with the Left and Right keys, and changing the parameters with the Up and Down keys. Press the [ENTER] key to save the settings.

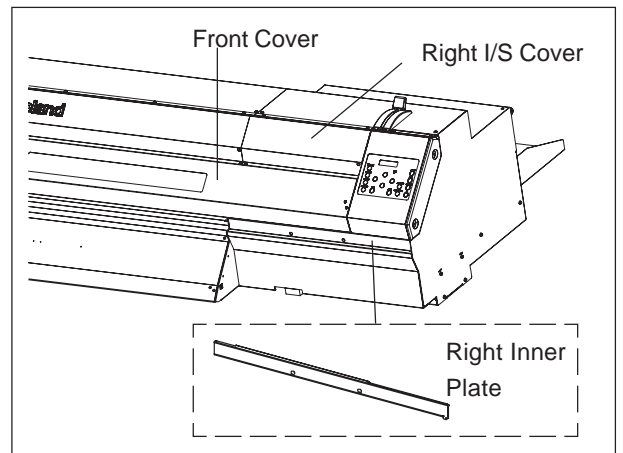
\* The Head No. becomes [HEAD1], [HEAD2], [HEAD3] from the Head at the left end in order.



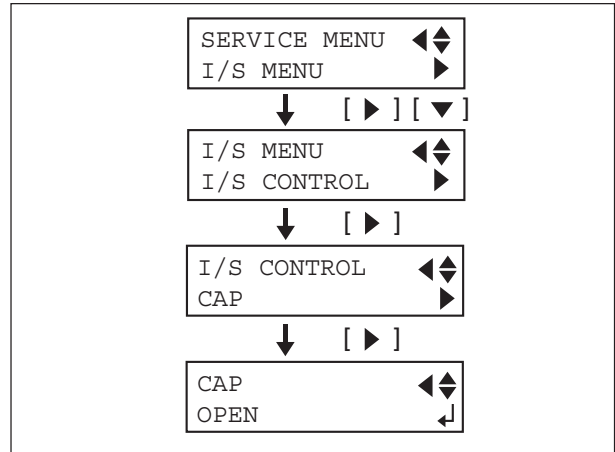
- 4 Remove the Front Cover, Right I/S Cover and Right Inner Plate.



Right Inner Plate has a small hook on its right bottom and it is inserted to the lower cover. Be cautious when removing it.



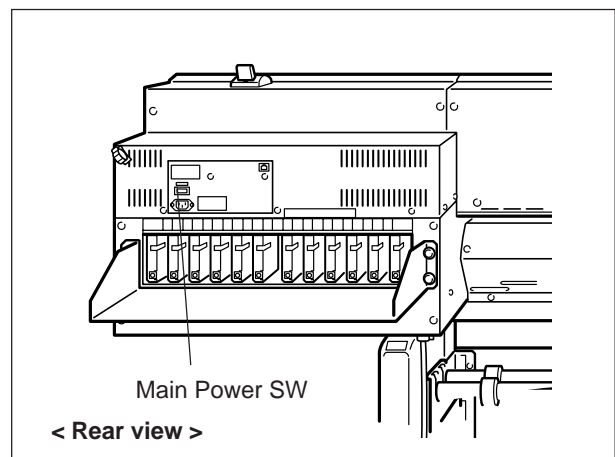
- 5** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN], and press the [ENTER] key. The Capping Unit moves down and allows you to move the Head Carriage by hand.



- 6** Turn off the Sub Power SW, and then turn off the Main Power SW.



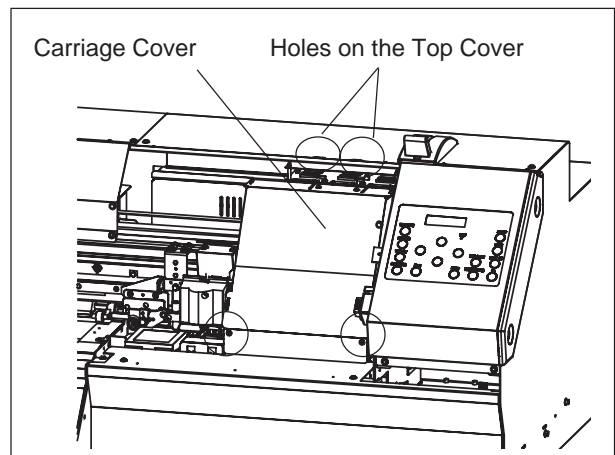
When replacing the Head, it is necessary to turn off the Main Power SW. If not, the Head of the Main Board could be broken. We recommend replacing the Head with plugging off the AC Cord.



- 7** Remove the 4 screws as shown in the figure to remove the Carriage Cover.



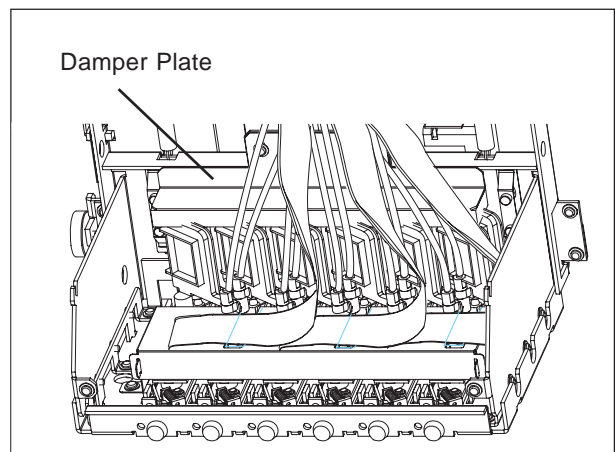
There are 2 holes on the Top Cover. 2 upper side screws can be removed from the Top Cover.



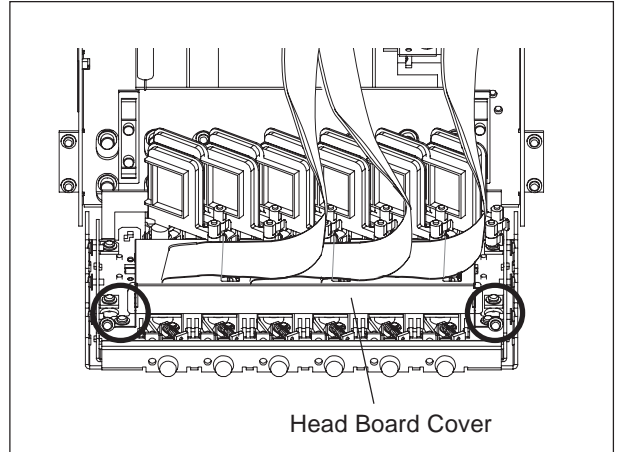
- 8** Remove the Damper Plate, and remove the 2 Ink Dampers from the Head which will be replaced.



Be sure to remove and fix the Ink Damper with the Head Board Cover fixed. It prevents the ink from dropping on the Head Board. If the ink drops on the Head Board, Head will be broken.



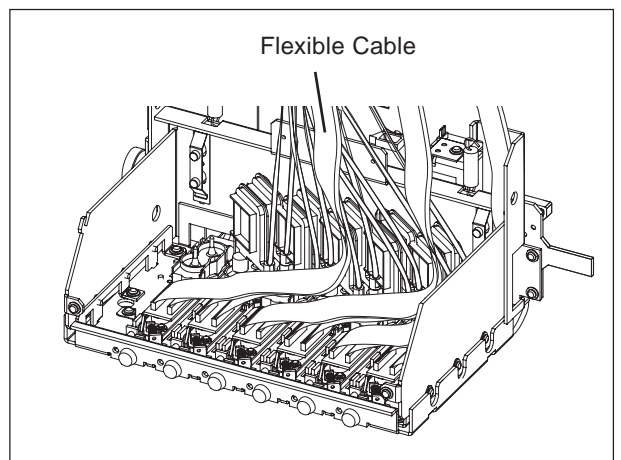
- 9** Remove the 2 screws as shown in the figure to remove the Head Board Cover.



- 10** Disconnect the 2 flexible cables from the Head.

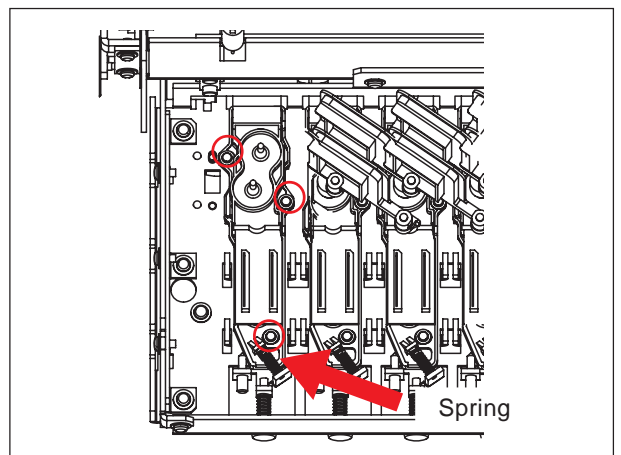


Make sure that LED on the Carriage Board is off when disconnecting the flexible cables.



- 11** Remove the Spring, and remove the 3 screws fixing the Head as shown in the figure.

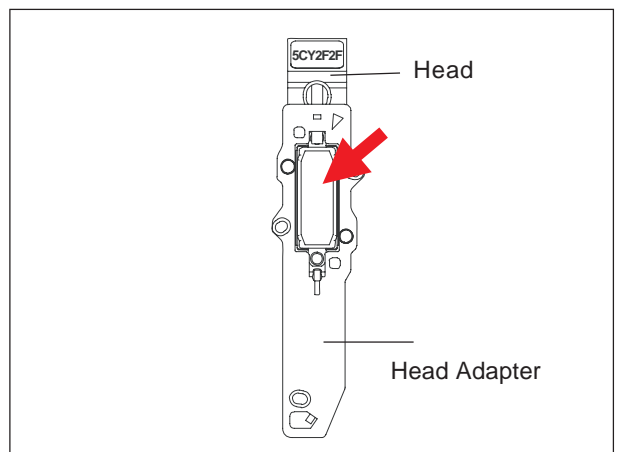
Then, pull the Head towards the front and pull it up to remove it.



- 12** Remove the Head from the Head Adapter and fix the new Head to the Head Adapter.



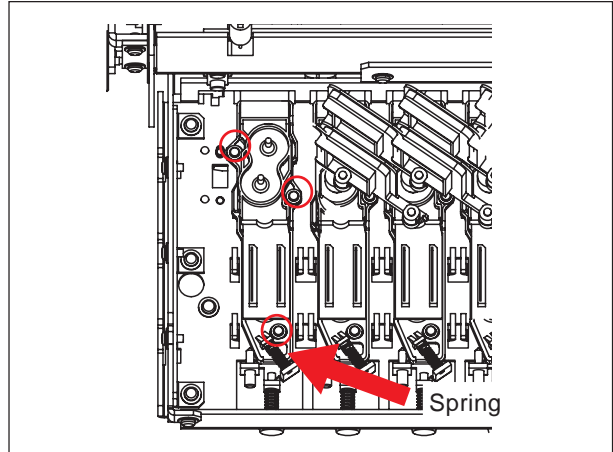
Make sure to fix the Head by pressing it to the bottom left corner of the Adapter. Use the 2kgf-cm torque driver (ST-056) to tighten up the screws.



- 13** Install the Head to the Head Carriage with the 3 screws temporarily. Then, fix the Spring and tighten up the 3 screws as shown in the figure.



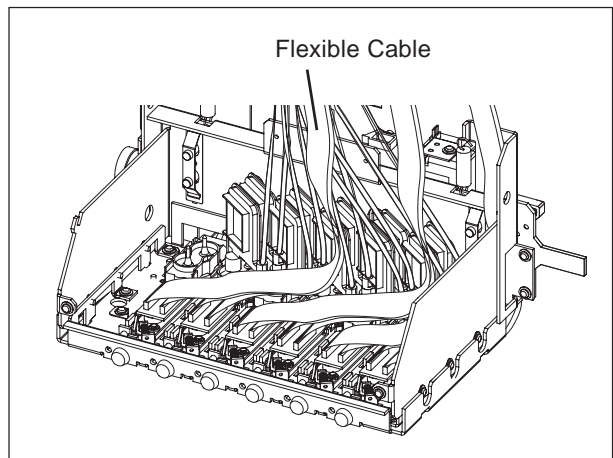
Use the 2kgf·cm torque driver (ST-056) to tighten up the screws.



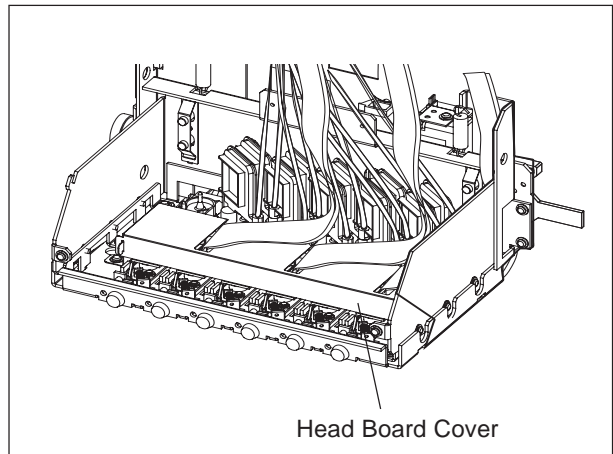
- 14** Connect the 2 flexible cables to the Head Board.



Be careful not to connect the wrong flexible cable.



- 15** Fix the Head Board Cover temporarily.



- 16** Replace the new 2 Ink Dampers, and fix to the Head.

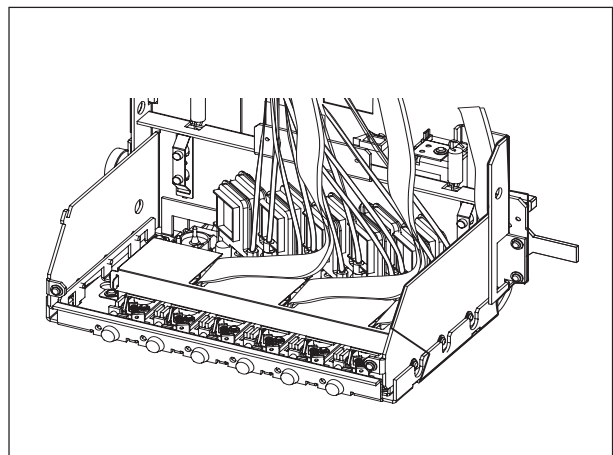


Make sure to replace the Dampers when the Head is replaced.



Do not hold both sides of the Ink Damper so hard. It could break.

You can connect either Ink Damper to the either connector on the Head, however, basically please connect the Ink Damper which has the Ink Tube with 2 lines to rear side and connect the Ink Damper which has the Ink Tube with 1 line to front side.

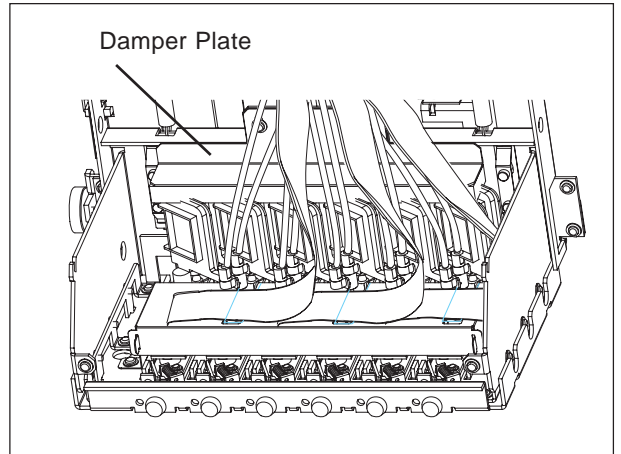
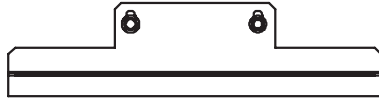




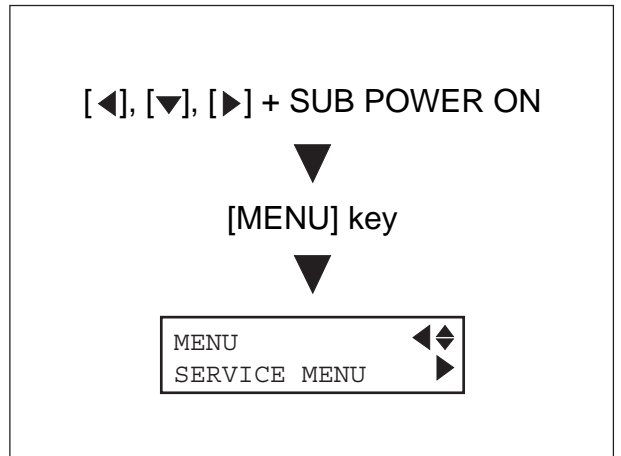
**17** Fix the Damper Plate.



Make sure not to press it down to the Dampers.  
Dampers could break.  
\* Fix the screws at the bottom of the long screw hole.



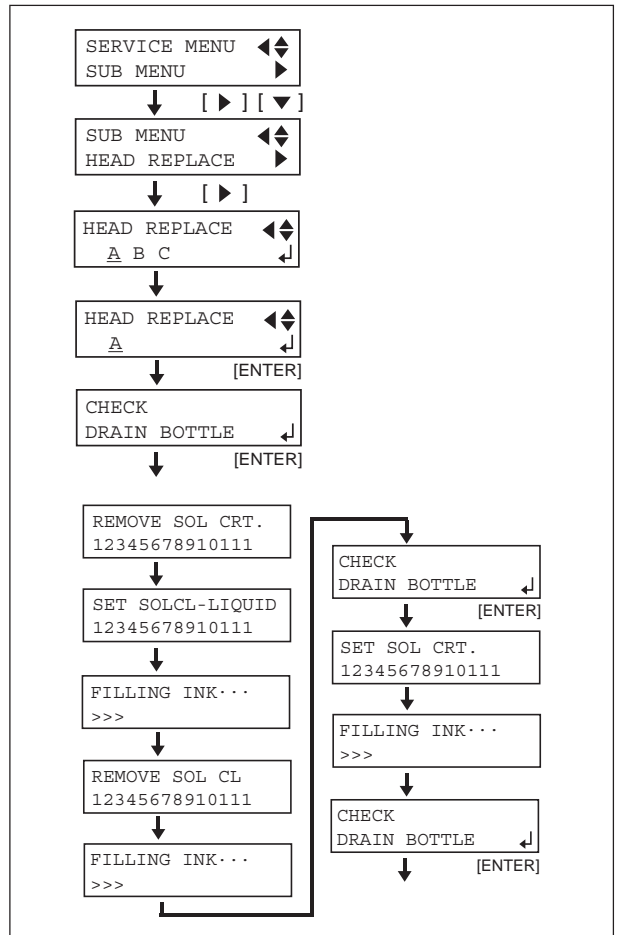
**18** After turning on the Main Power SW, turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



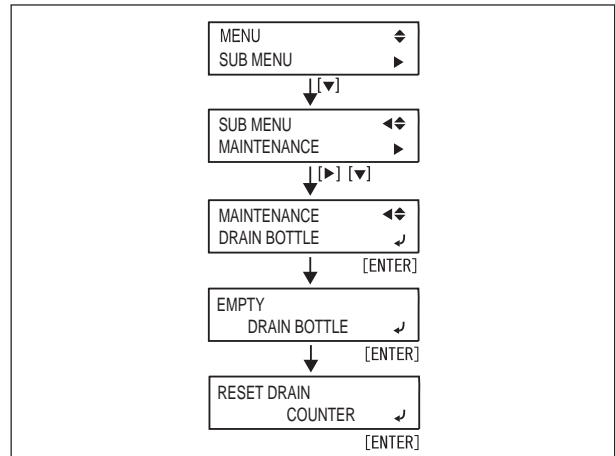
**19** Select [SUB MENU] > [HEAD REPLACE], and select the group of the target Head, and press the [ENTER] key.

Check the ink amount in the Drain Bottle, and press the [ENTER] key.

Go through the following sequences to perform the Head Cleaning and Ink Filling



If you dispose of the drained ink when performing [PUMP UP] at **2**, select [SUB MENU] > [MAINTENANCE] > [DRAIN BOTTLE] > [EMPTY DRAIN BOTTLE] > [RESET DRAIN COUNTER] in the User's menu, and press the [ENTER] key to reset the drain counter.



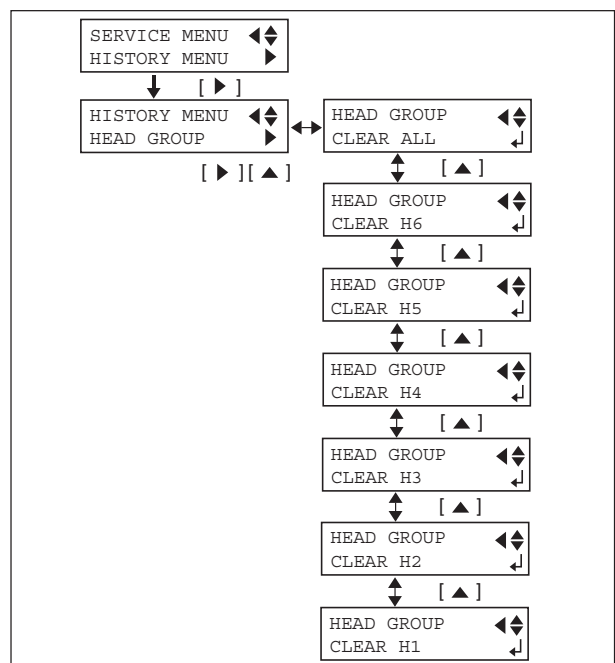
**20** Enter the Service Mode and perform the following adjustments.

1. THERMISTOR CHECK
2. [4-5 HEAD ALIGNMENT]
3. HEAD INFORMATION CLEAR
4. [4-8 CAP HEIGHT ADJUSTMENT]
5. [4-10 CROP-CUT ADJUSTMENT]
6. [4-11 PRINT / CUT POSITION ADJUSTMENT]

## HOW TO CLEAR THE HEAD INFORMATION

After THERMISTOR CHECK and HEAD ALIGNMENT, clear the HEAD INFORMATION from the [SERVICE MENU] > [HISTORY MENU] > [HEAD GROUP]. Select the Head you replaced and press the [ENTER] key.

\* The Head No. becomes [HEAD 1], [HEAD 2], [HEAD 3] from the Head at the left end in order.

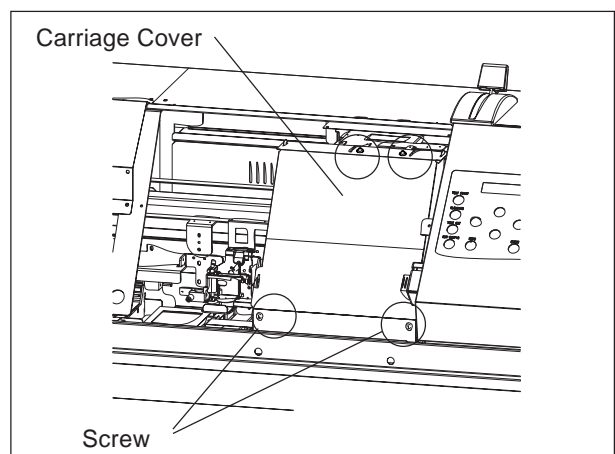


### < Note for fixing the Carriage Cover >

Fix the Carriage Cover with the 4 screws shown in the figure temporarily. And tighten them without distorting the Cover.

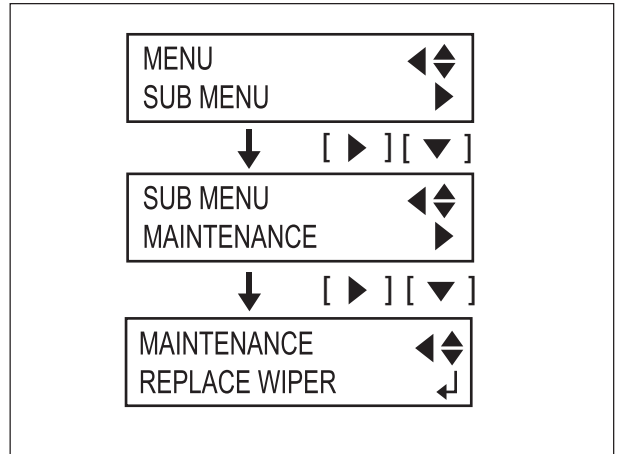


Be careful not to distort the Carriage Cover when tightening the 2 front screws.  
The Carriage is distorted and the Head position may shift.

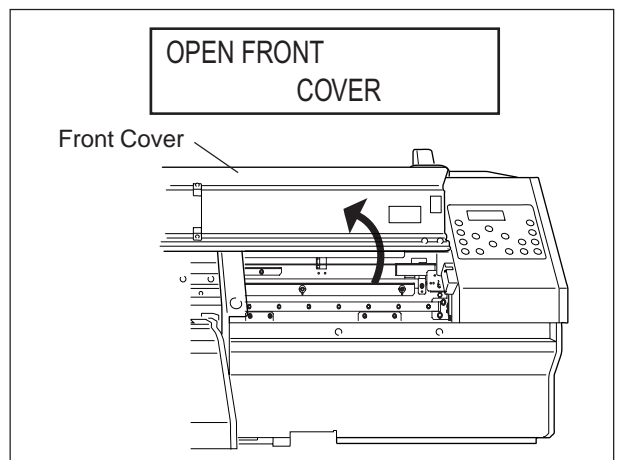


## 3-2 WIPER REPLACEMENT

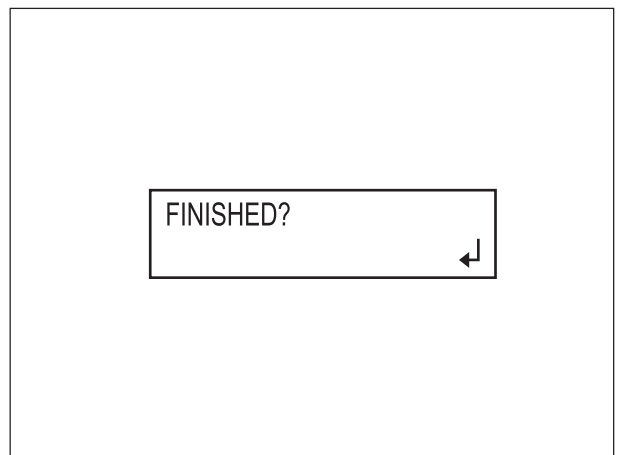
- 1 Select [SUB MENU] > [MAINTENANCE] > [REPLACE WIPER] in the User's Menu, and press the [ENTER] key.



- 2 The Head Carriage moves to a location permitting wiper replacement, and then the screen shown in the figure appears.  
Open the Front Cover.



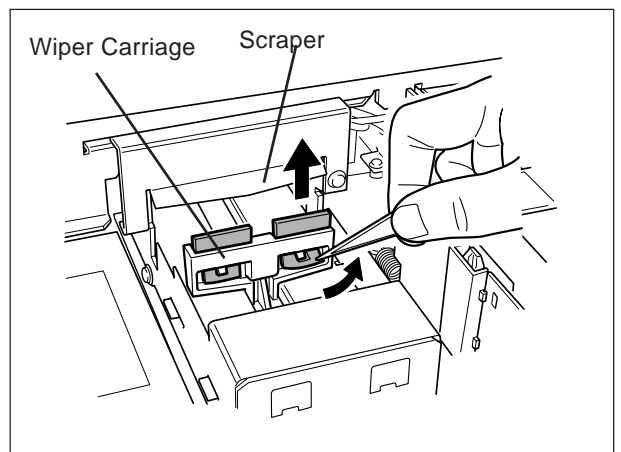
- 3 The screen shown in the figure appears.



- 4 Using tweezers, grasp the bottom portion of the Wiper and take it off the hook.



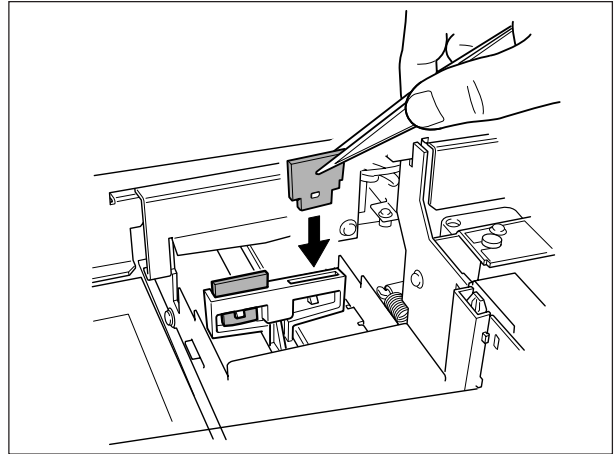
Clean the Wiper Carriage and Scraper using the Cleaning stick if they need to be cleaned.



**5** Remove the Wiper and install the new one.



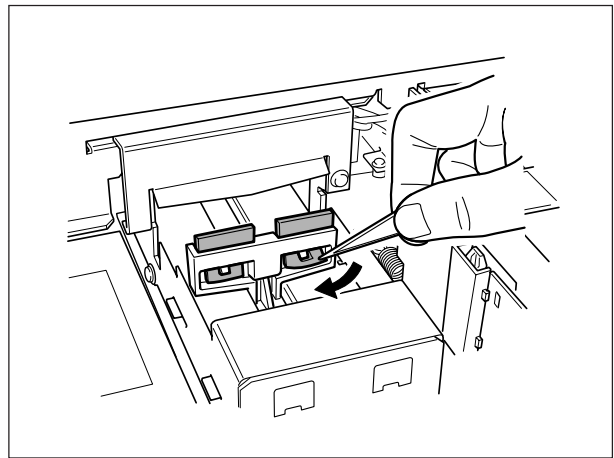
Make sure to fix the wiper so that the rubber side faces the front.



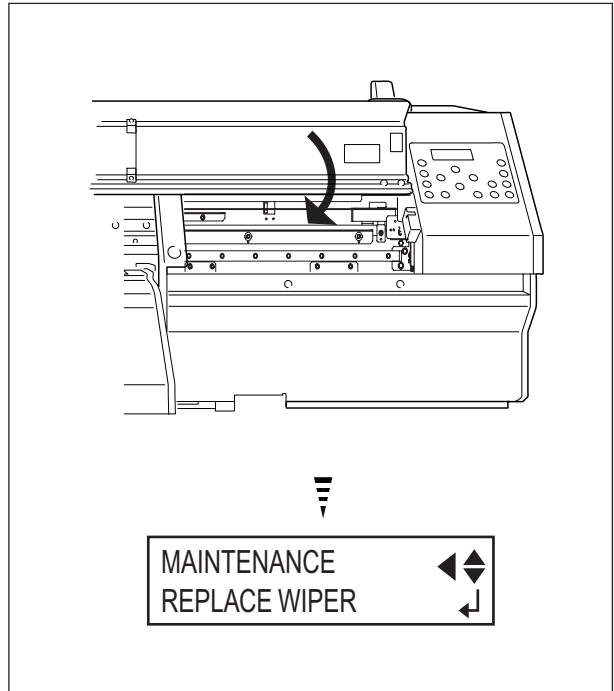
**6** Use the tweezers to press the area shown in the figure and engage the Wiper on the hook.



Make sure to engage it on the hook. If the Wiper is not hooked, it may fall off during use.

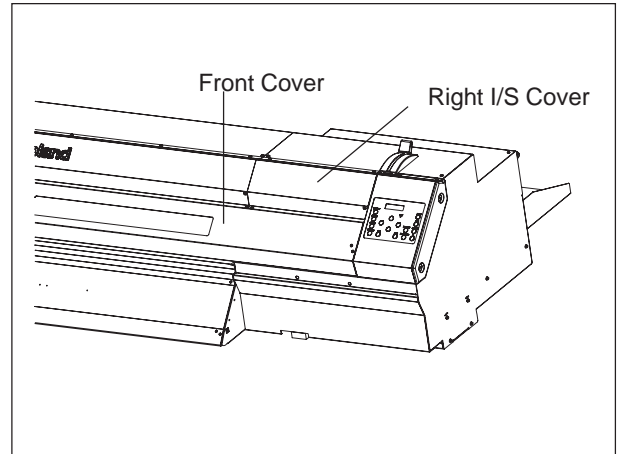


**7** Close the Front Cover, and press [ENTER] key.  
The Head Carriage moves back to the standby position and the head cleaning starts automatically. When the head cleaning finishes, the screen shown in the figure appears.

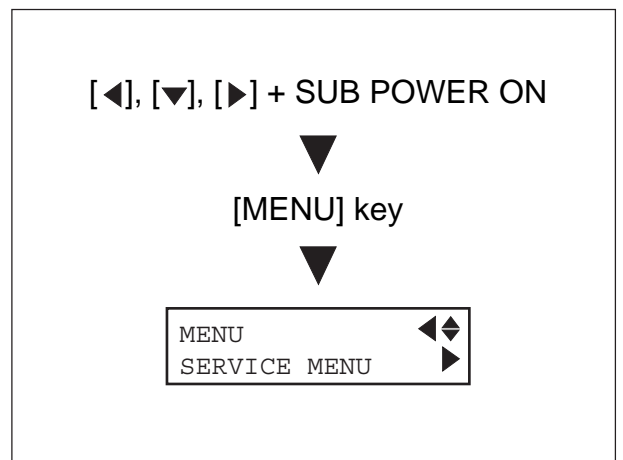


### 3-3 CAP TOP REPLACEMENT

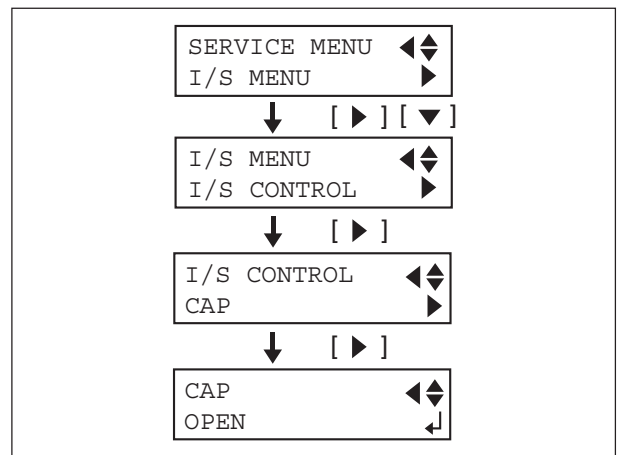
- 1 Remove the Front Cover and Right I/S Cover.



- 2 Turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



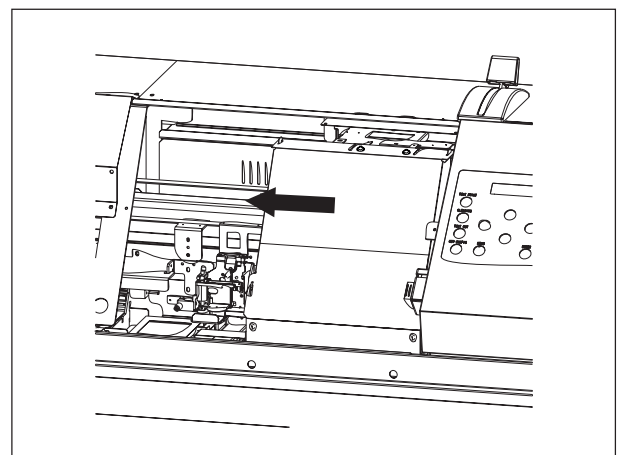
- 3 Select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN], and press the [ENTER] key. The Capping Unit moves down and allows you to move the Head Carriage by hand.



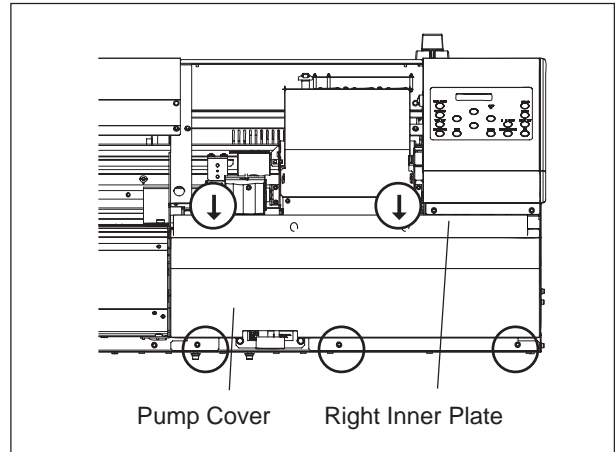
- 4 Move the Head Carriage slowly leftwards so that it is not above the Capping Unit.



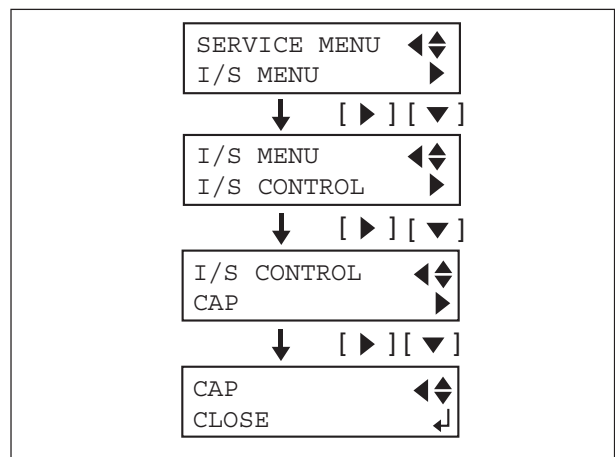
Remove the media if it is loaded.



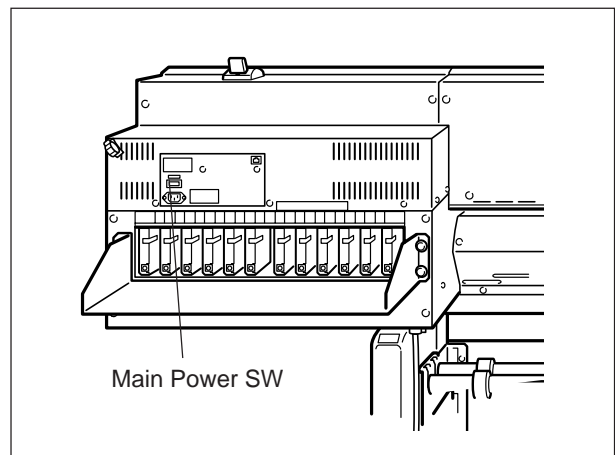
- 5** Remove the 5 screws shown in the figure to remove the Pump Cover together with the Right Inner Plate.



- 6** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [CLOSE], and press the [ENTER] key. The Capping Unit moves up. Press the [ENTER] key 3 times, because the Capping Unit moves up in 3 steps.



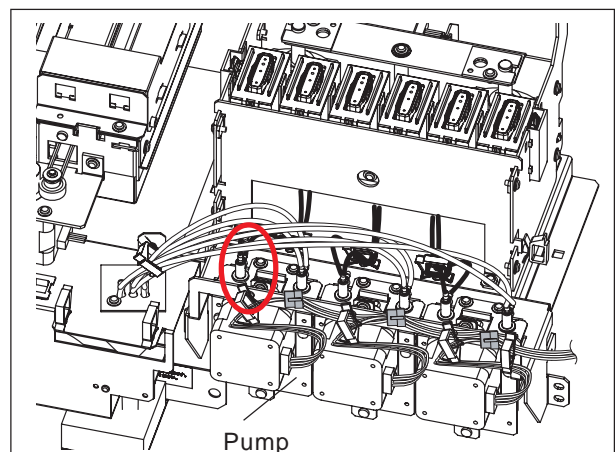
- 7** Turn off the Sub Power SW, and then turn off the Main Power SW.



- 8** Disconnect the tube (Black) of the Cap Top from the Pump.



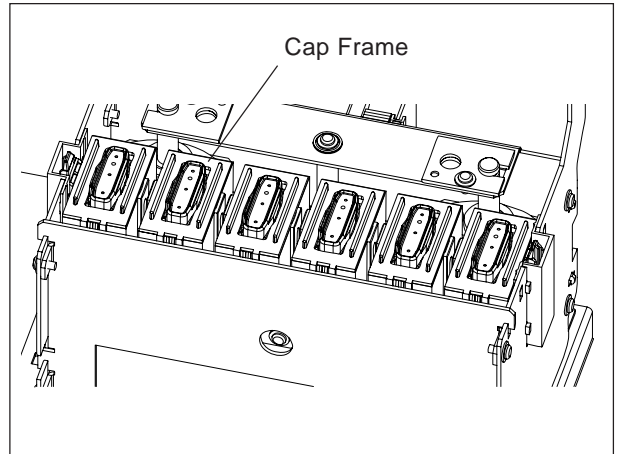
Make sure to replace the Cap Top one by one. If you disconnect the plural tubes at the same time, there is the risk of wrong connections.



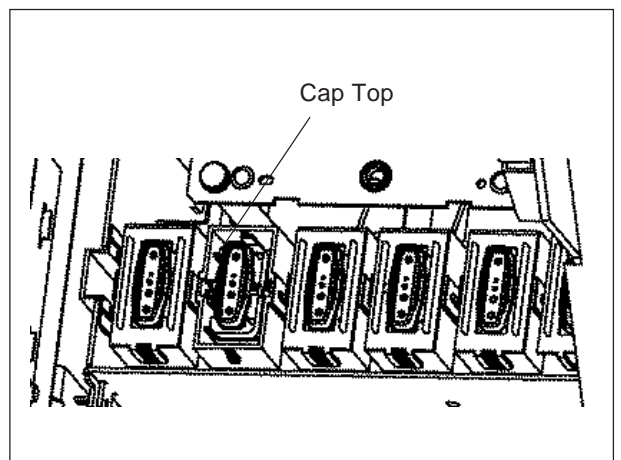
- 9** Unhook the Cap Frame with holding it by the other hand, and remove it.



Make sure to hold the Cap Frame. There is a Spring under the Cap Top. The Cap Top will jump out unless you hold the cap frame when removing it.



- 10** Remove the Cap Top together with the tube.

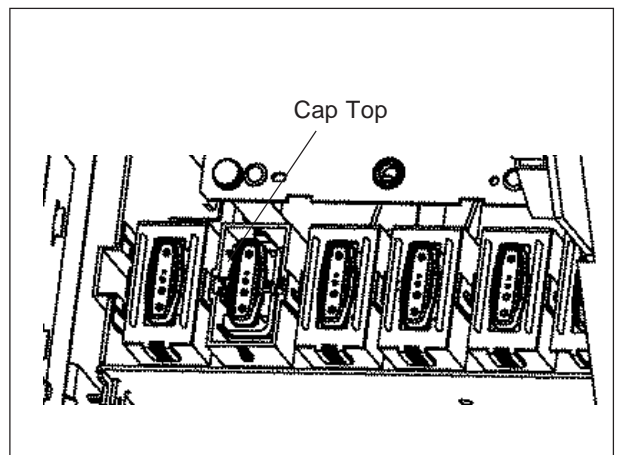


- 11** Fix the new Cap Top. Make sure to fix it so that the tube side faces the front.

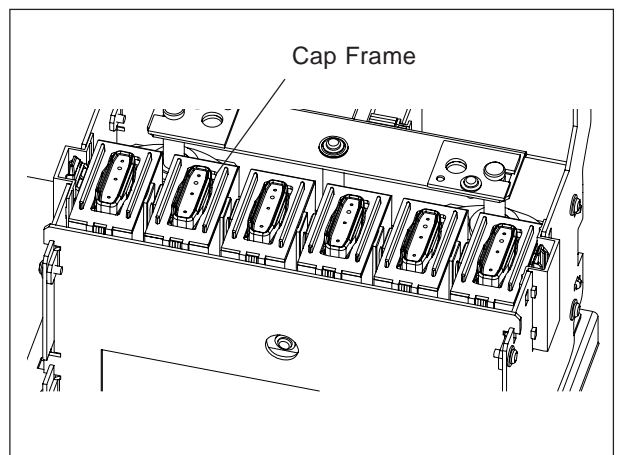


Note the following contents.

1. Do not touch the tip of rubber.
2. The Spring is properly fixed under the Cap Top.
3. Do not bend the tubes.

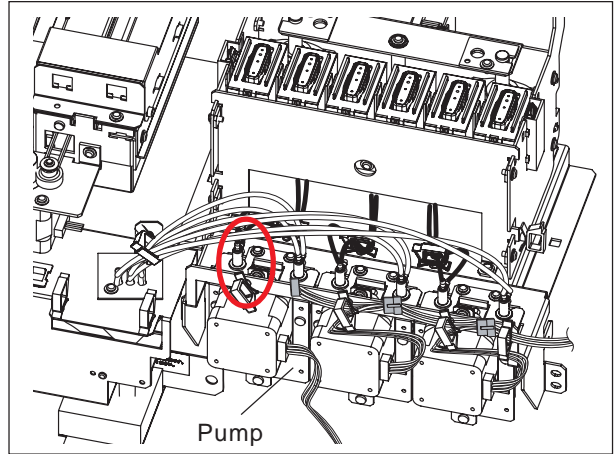
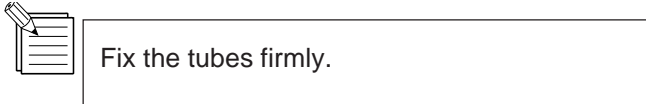
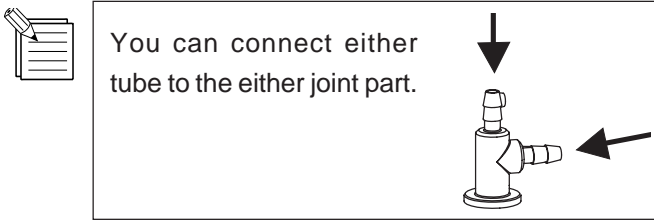


- 12** Fix the Cap Frame.

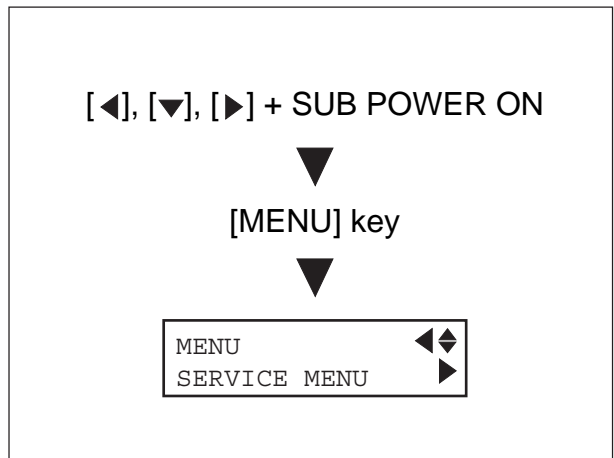


**13** Connect the tube of the Cap Top to the joint part of the Pump.

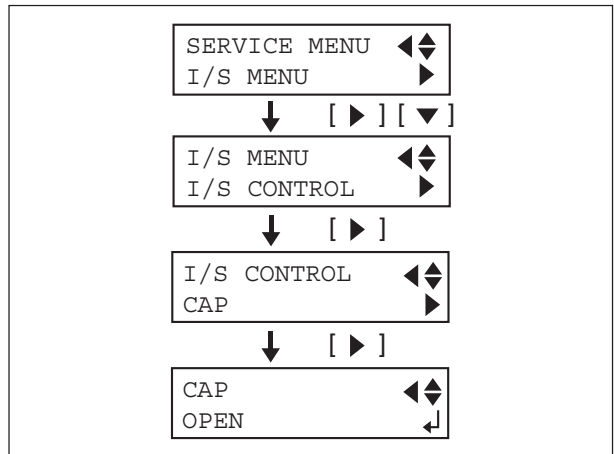
Then, replace the other Cap Tops in the same way.



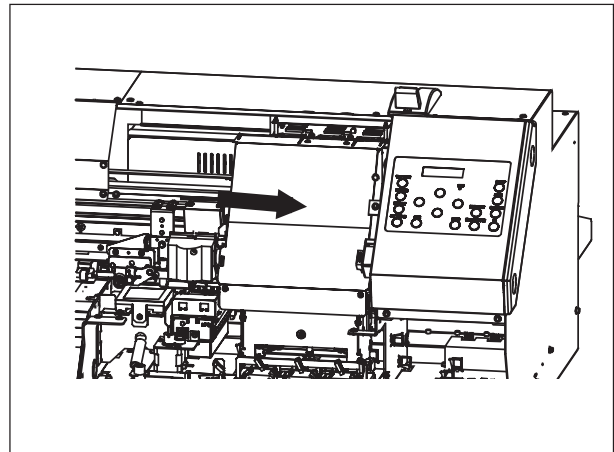
**14** Turn on the Main Power SW, then turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



**15** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN], and press the [ENTER] key. The Capping Unit moves down.

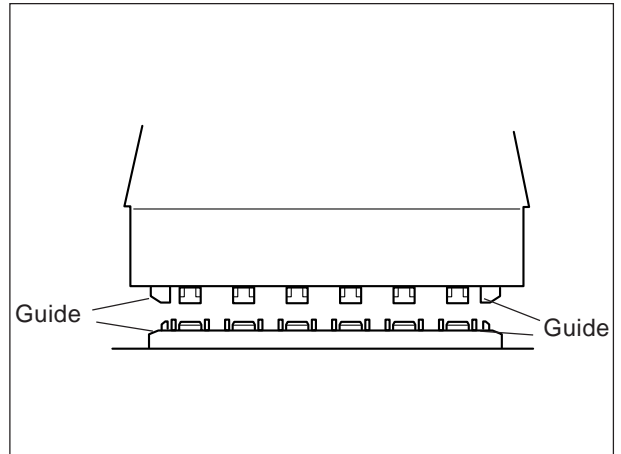


**16** Move the Head Carriage to lock it by hand to the lock position.

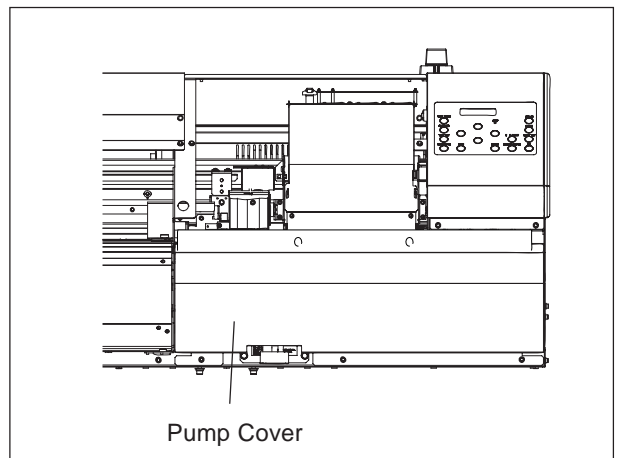




- 17** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [CLOSE], and press the [ENTER] key to move up the Capping Unit 1 step. Then press the [ENTER] key twice more to Cap the Heads with adjusting the position of the HeadCarriage.



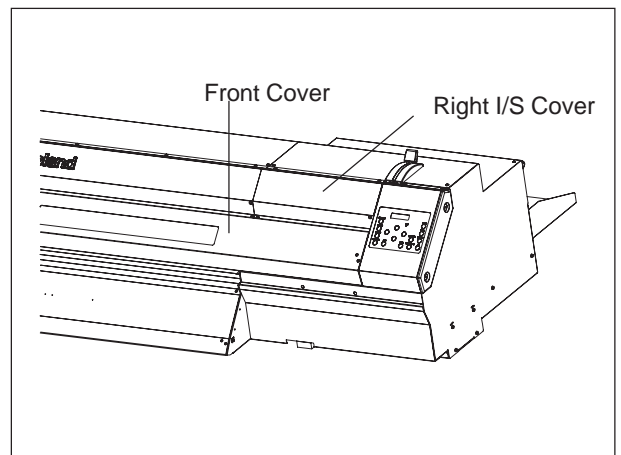
- Revised 3** **18** Fix the Pump Cover.



- 19** Fix the Front Cover and Right I/S Cover.

Enter the Service mode and perform the following adjustment.

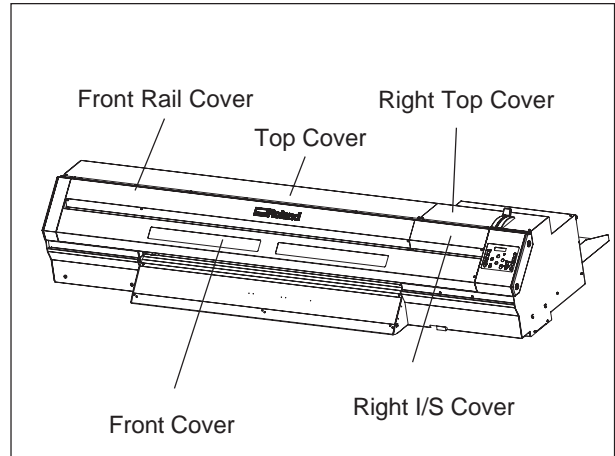
1. [4-8 CAP HEIGHT ADJUSTMENT]



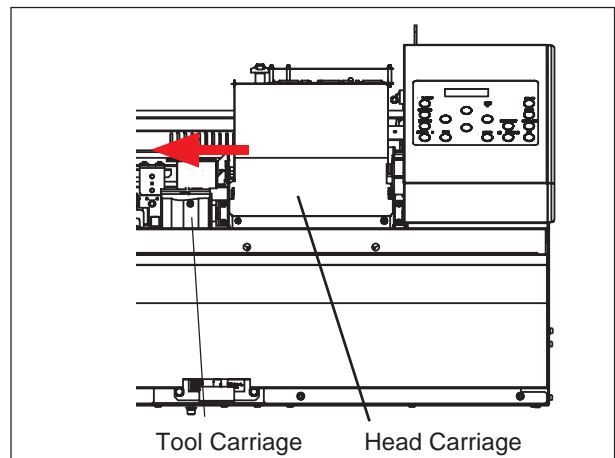
### 3-4 TOOL CARRIAGE REPLACEMENT

**Revised 3** 1 Remove the following covers.

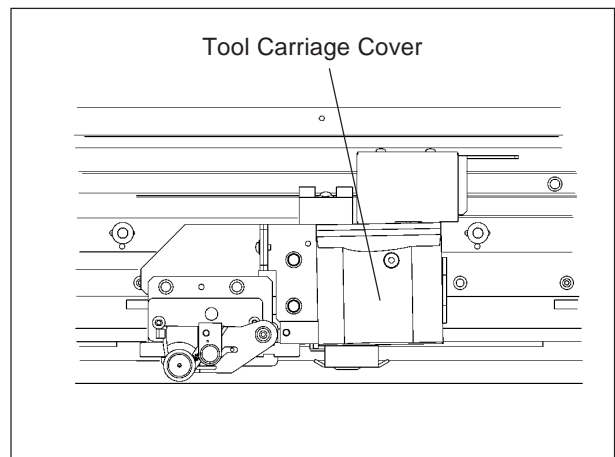
- Right I/S Cover
- Right Top Cover
- Front Rail Cover
- Front Cover
- Top Cover



2 Separate the Tool Carriage from the Head Carriage.

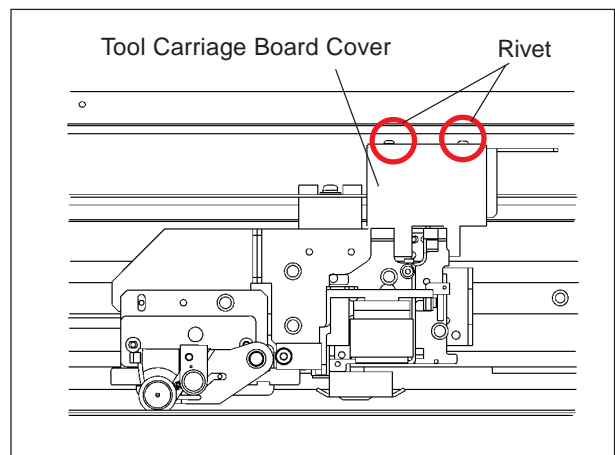


3 Remove the Tool Carriage Cover.

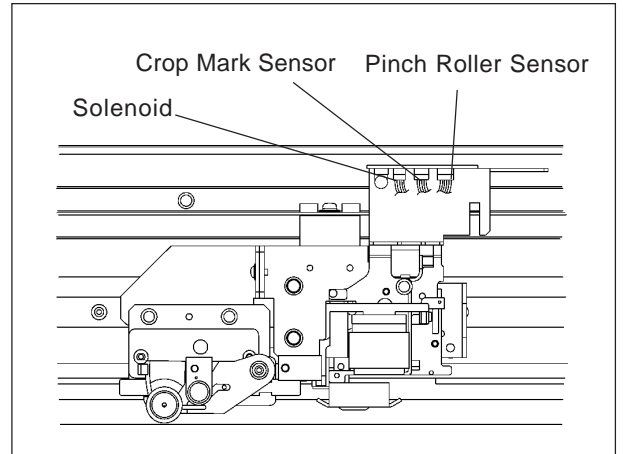


**Revised 3**

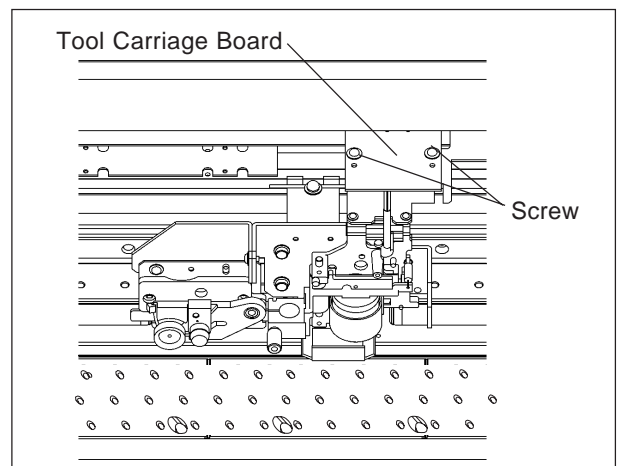
4 Remove the rivets as shown in the figure to remove the Tool Carriage Board Cover.



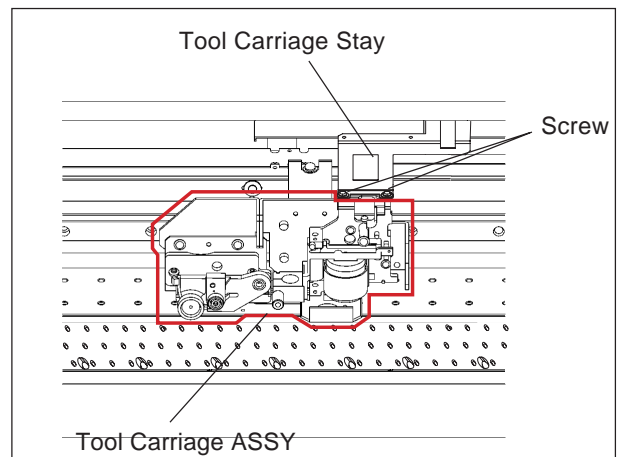
- 5 Disconnect the Crop Mark Sensor, Pinch Roller Sensor and Solenoid Wirings.



- 6 Remove the Tool Carriage Board.

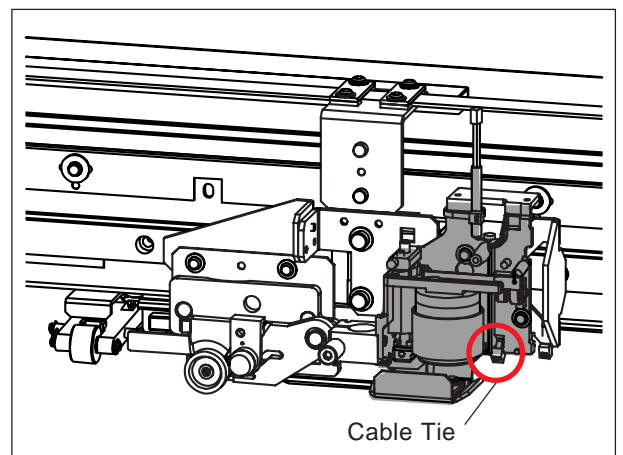


- 7 Remove the Tool Carriage Stay from the Tool Carriage ASSY.

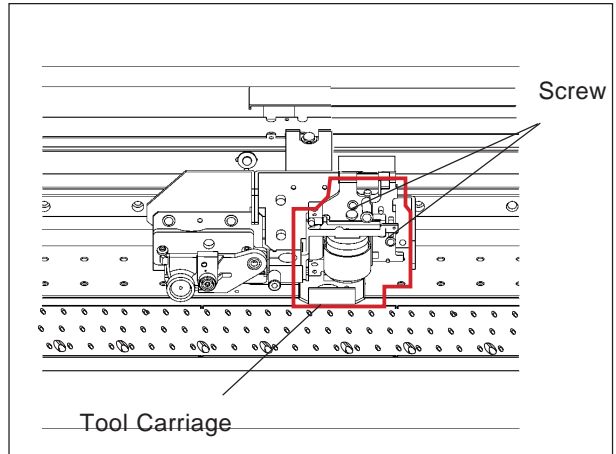


Revised 3

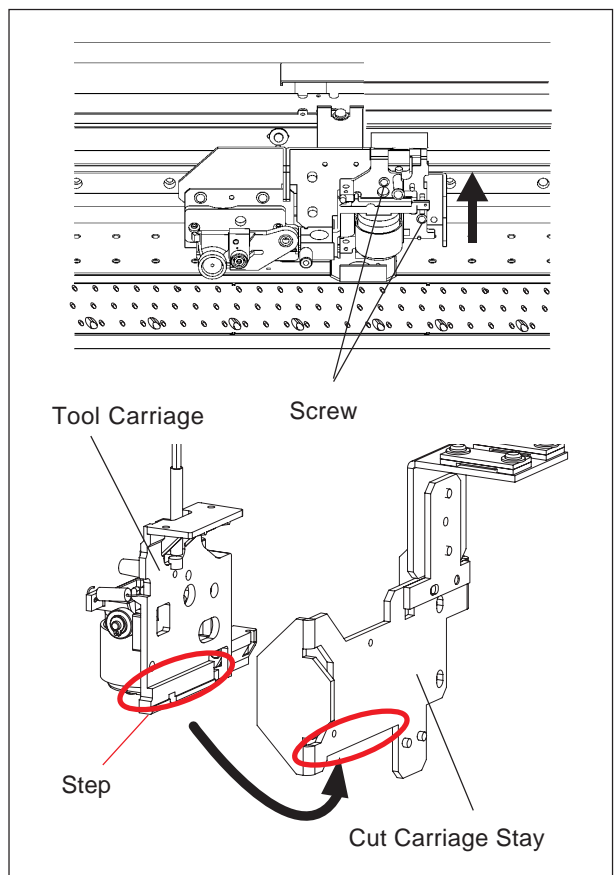
- 8 Cut the Cable Tie as shown in the figure.



**9** Remove the Tool Carriage.



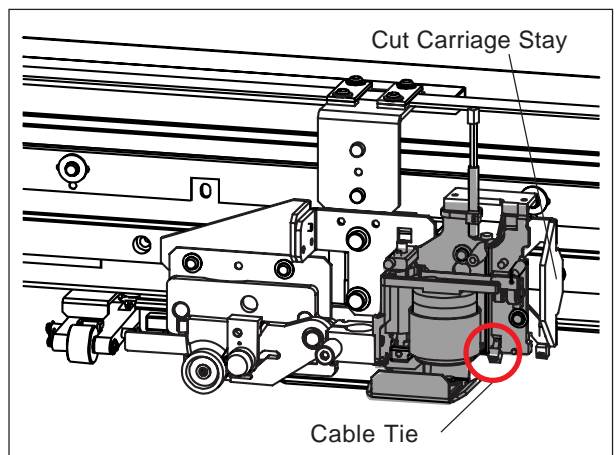
**10** Fix the new Tool Carriage by pushing it upwards.



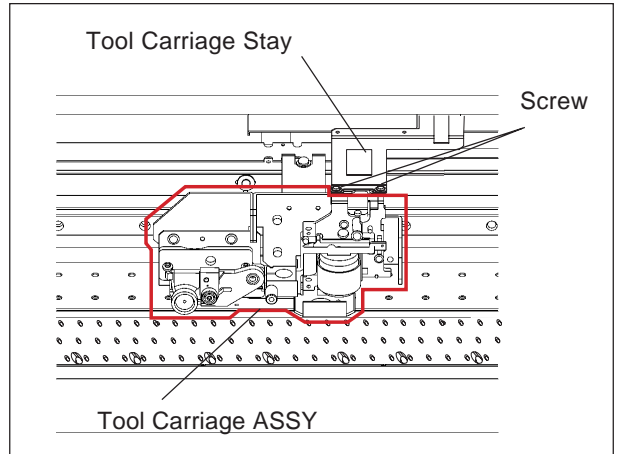
Fix the Tool Carriage by pushing it toward the step of the Cut Carriage Stay when fixing it.

**Revised 3**

**11** Fix the Tool Carriage and the Cut Carriage Stay with the Cable Tie.



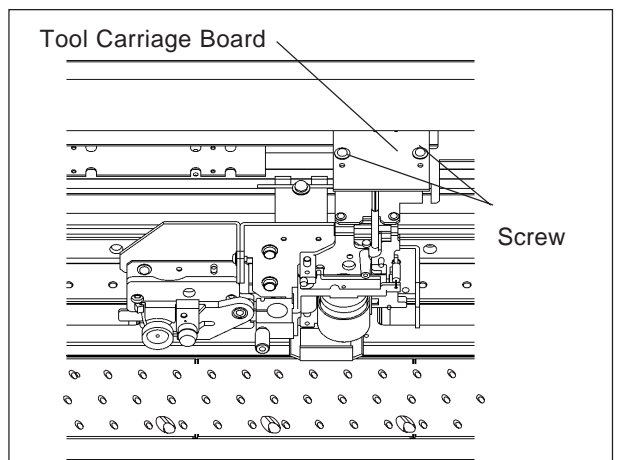
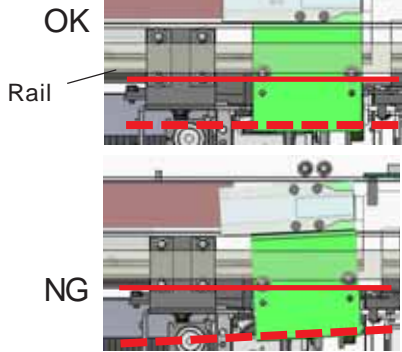
**12** Fix the Tool Carriage ASSY to the Tool Carriage Stay.



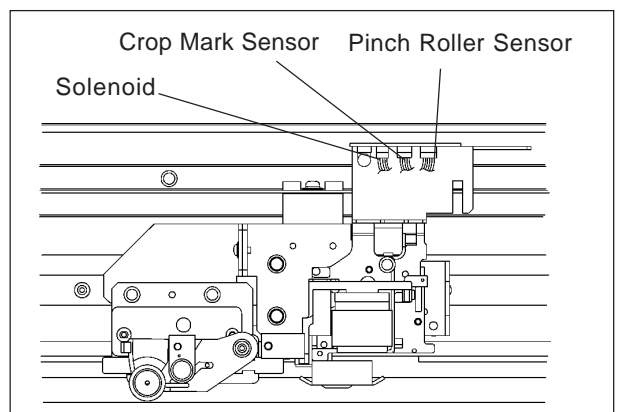
**13** Fix the Tool Carriage Board.



Fix the Tool Carriage Board so that it is parallel to the Rail.

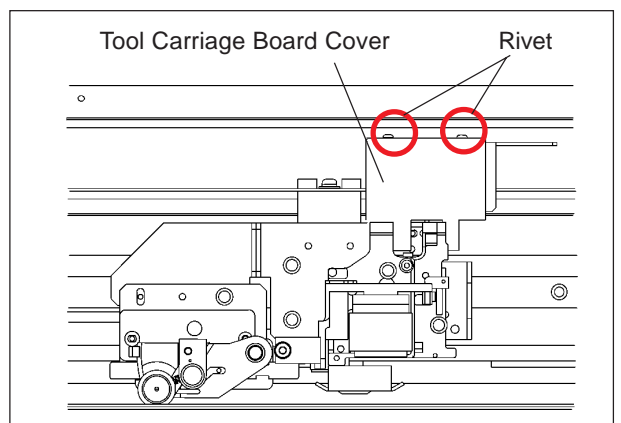


**14** Connect the Crop Mark Sensor, Pinch Roller Sensor and Solenoid Wirings.



Revised 3

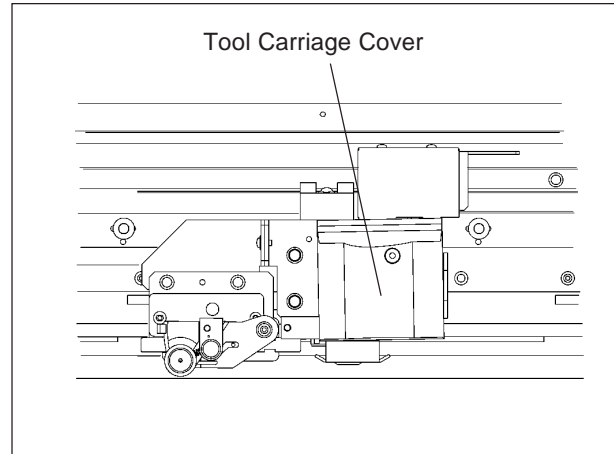
**15** Fix the Tool Carriage Board Cover with the rivets as shown in the figure.



**16** Fix the Tool Carriage Cover.



Be careful not to have a nip at the cable when fixing the Tool Carriage Cover.

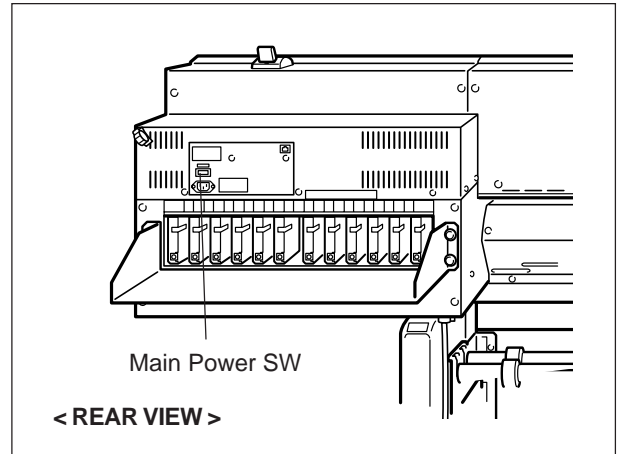


**17** Carry out the following adjustments and settings.

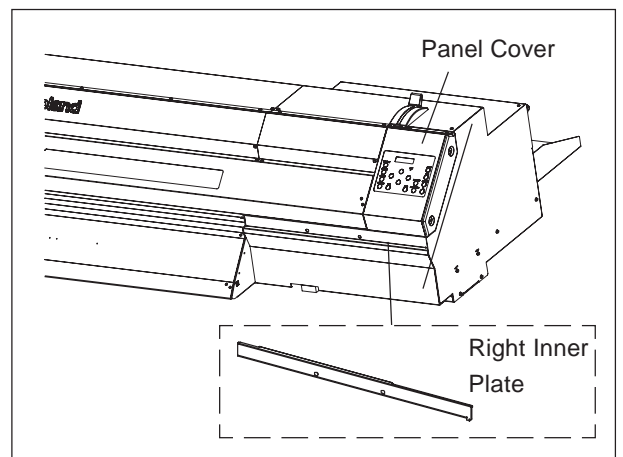
1. [4-6 LIMIT POSITION & CUT DOWN POSITION INITIALIZE]
2. [4-13 TOOL HEIGHT ADJUSTMENT]
3. [4-14 TOOL PRESSURE ADJUSTMENT]
4. [4-9 CROP MARK SENSOR ADJUSTMENT]
5. [4-10 CROP-CUT ADJUSTMENT]
6. [4-11 PRINT / CUT POSITION ADJUSTMENT]

### 3-5 CARRIAGE MOTOR REPLACEMENT

- 1 Turn off the Main Power SW.



- 2 Remove the Right Inner Plate and Panel Cover.

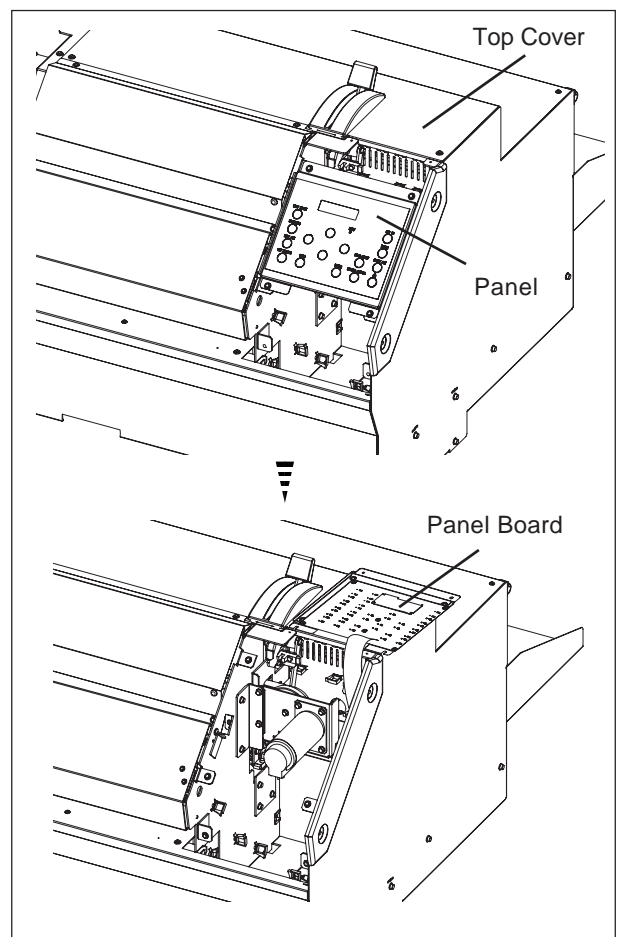


Revised 3

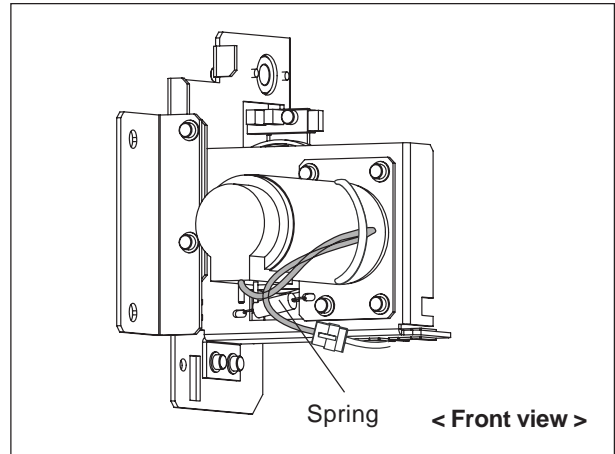
- 3 Remove the Panel and put it on the Top Cover.



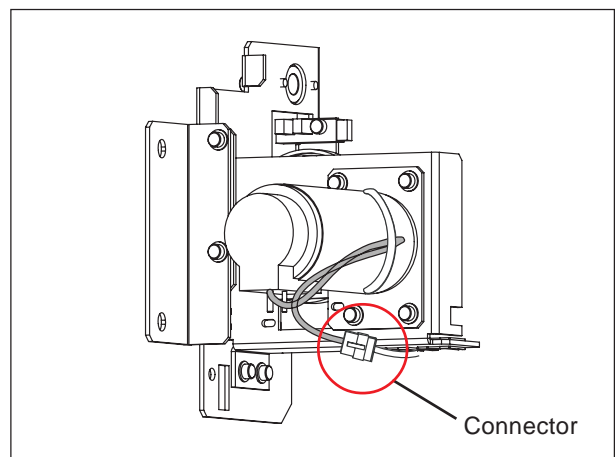
Flexible Cable is connected to the Panel Board. Do not disconnect the Flexible Cable.



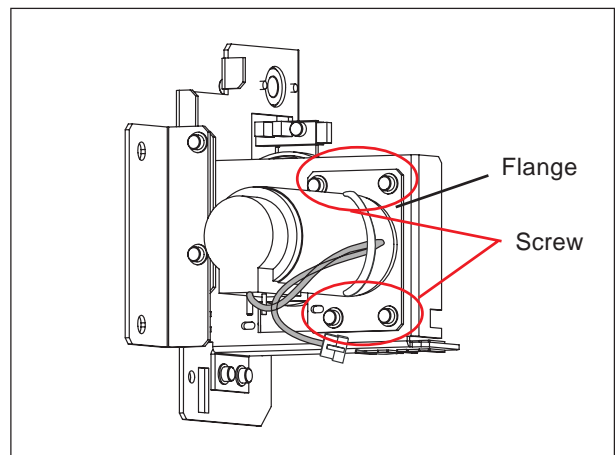
**4** Remove the Spring.



**5** Disconnect the connector of the motor cable.



**6** Remove the 4 screws as shown in the figure to remove the Motor together with the Flange.

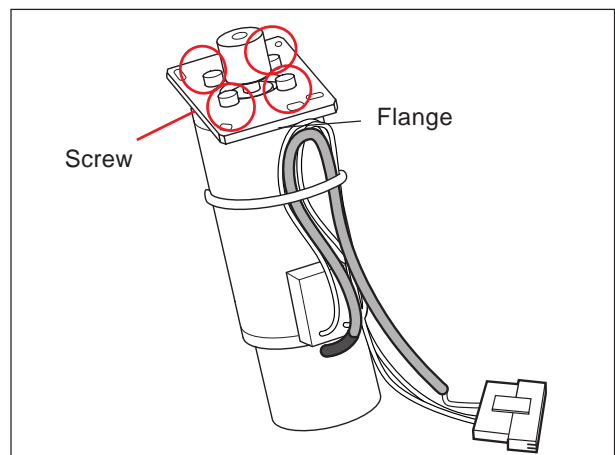


**7** Remove the 4 screws to remove the Motor from the Flange.

Fix the Motor Cable of a new Motor using a cable tie without bending the cable root, and then fix the new Motor to the Flange.

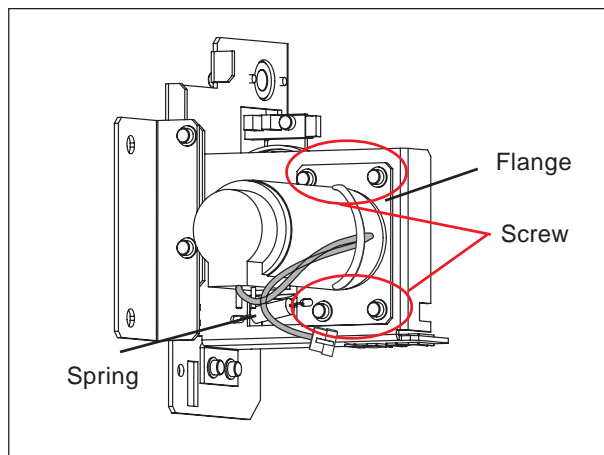


Be careful with the fixing direction of the Flange.





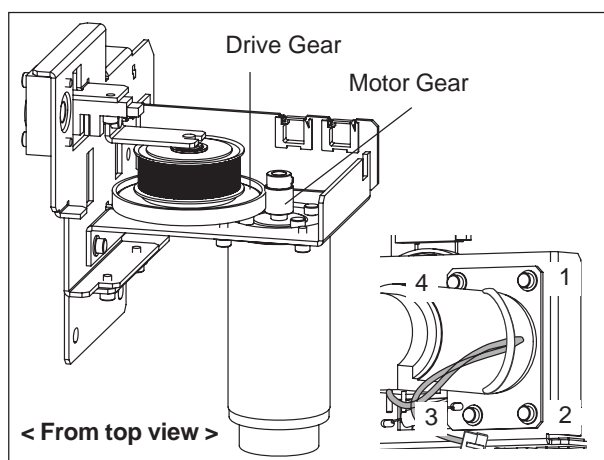
- 8** Fix the Flange temporarily.  
And Fix the Spring.



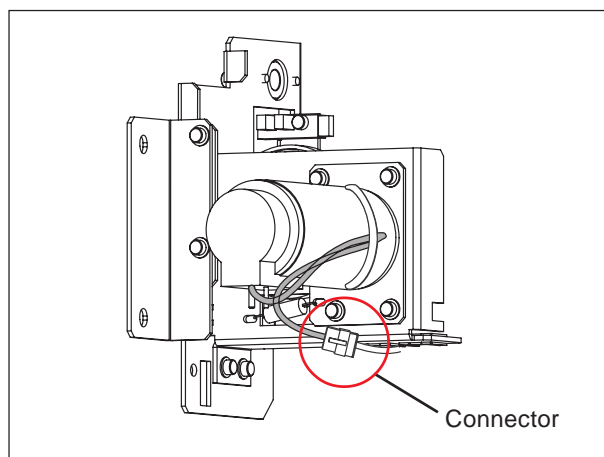
- Revised 3** **9** Then, tighten up the 4 screws to fix the Flange firmly in order as shown in the figure with checking the gears mesh without backlash.



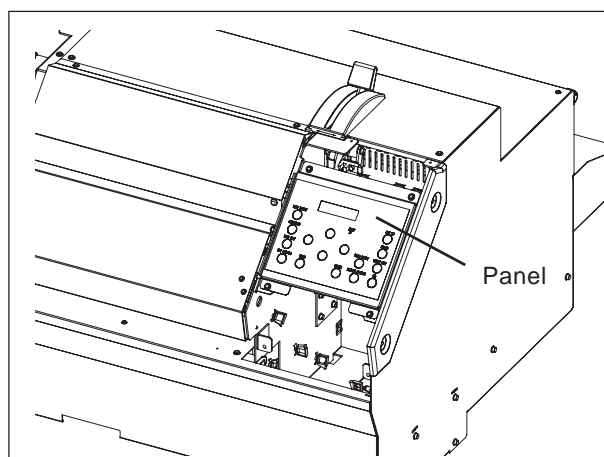
Apply a proper quantity of grease  
(P/# 21675101 FLOIL GE-676 BLACK 10ML)  
between gears.



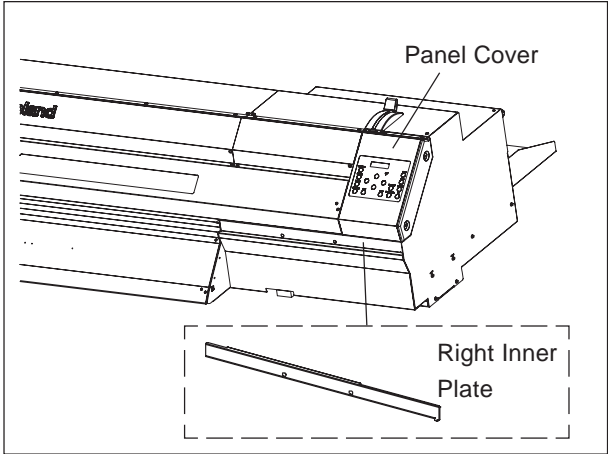
- Revised 3** **10** Connect the connector of the motor cable.



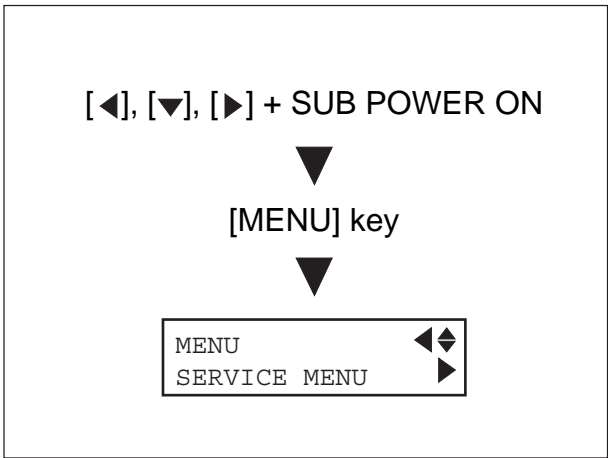
- 11** Fix the Panel.



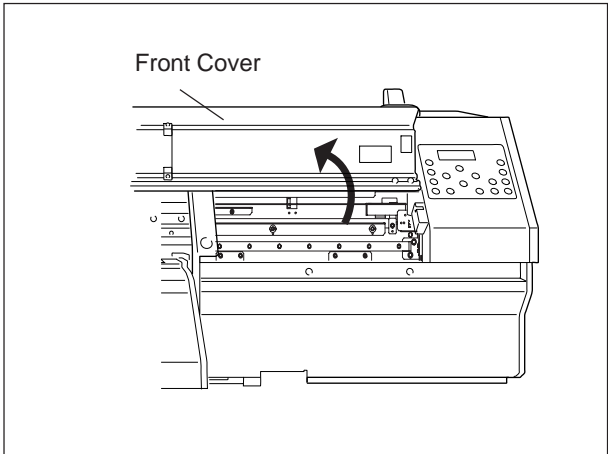
**12** Fix the Panel Cover and Right Inner Plate.



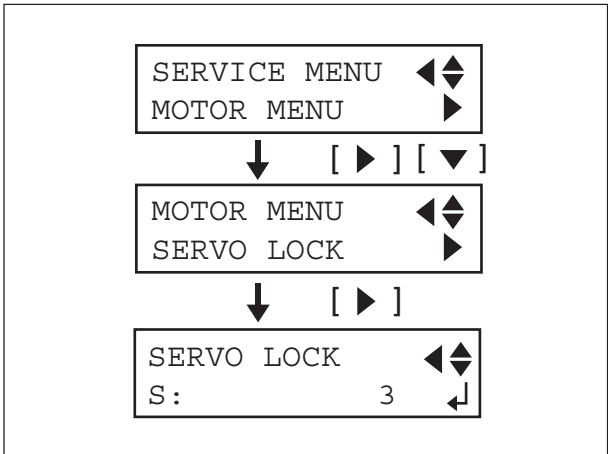
**13** Perform the SERVO LOCK CHECK.  
After turning on the Main Power SW, turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



**14** Open the Front Cover.

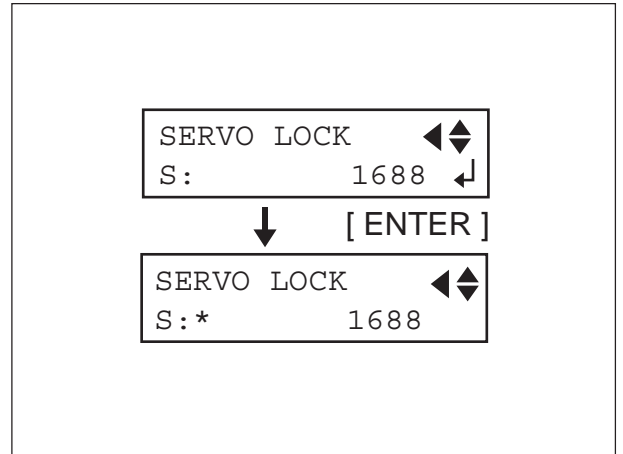


**15** In [MOTOR MENU] > [SERVO LOCK] menu, select [S]. Move the Head Carriage left and right by hand and make sure the value on the LCD changes depending on the Head position.



Revised 3

- 16** Press the [ENTER] key to excite the Motor.  
Check the Head Carriage can not be moved easily by hand.



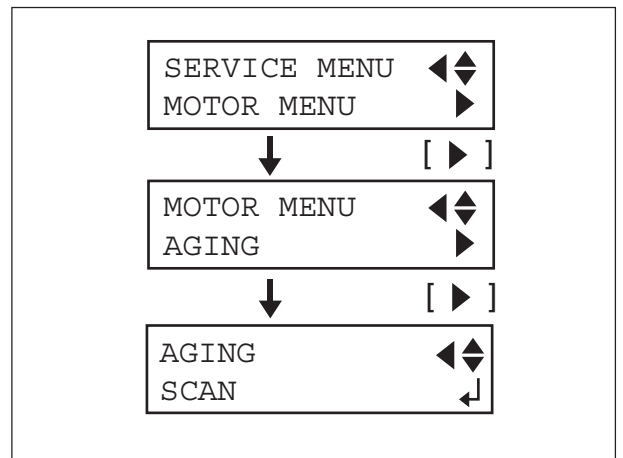
- 17** Check the AGING.  
Go back to the MOTOR MENU, and select [AGING] > [SCAN] > and press the [ENTER] key. Make sure the machine carries out the AGING and finish it.



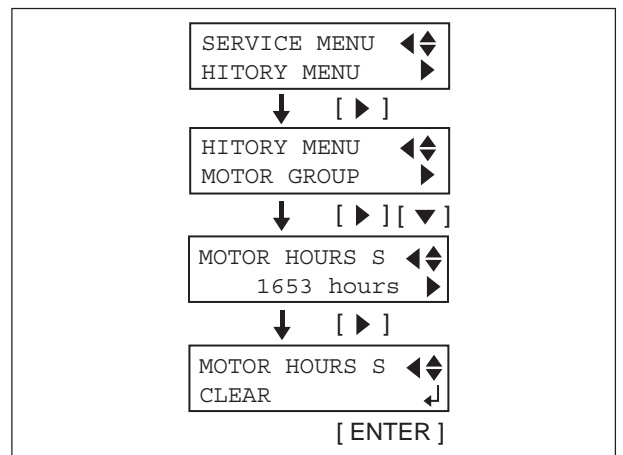
Do the AGING with the Head Height set at the HIGH position for its safety.



Do not load the media when performing [AGING].

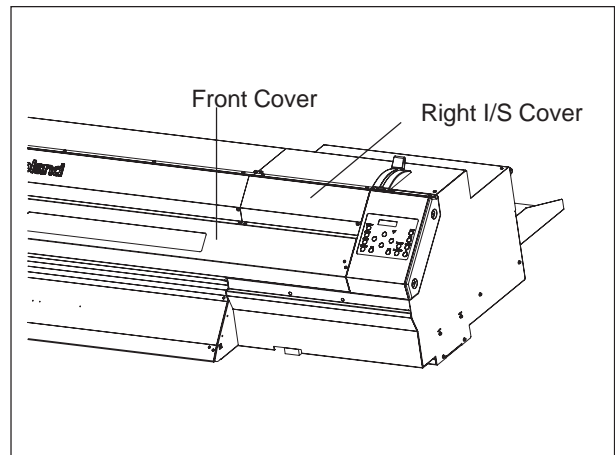


- 18** Clear the motor working hours.  
Go back the Service Menu, and select [HISTORY MENU] > [MOTOR GROUP] > [MOTOR HOURS S] > [CLEAR] and press the [ENTER] key. The motor working hours will be reset to 0.

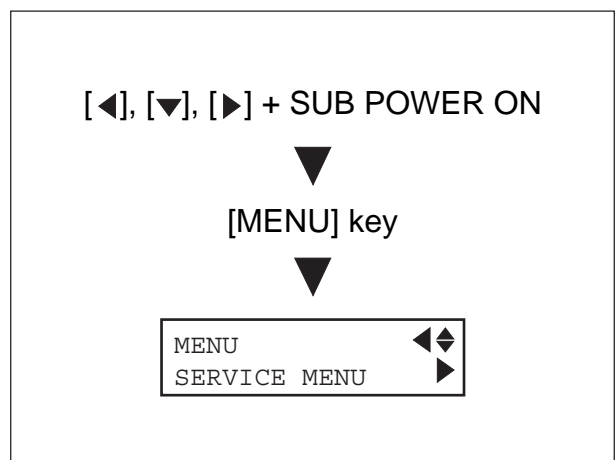


### 3-6 PUMP REPLACEMENT

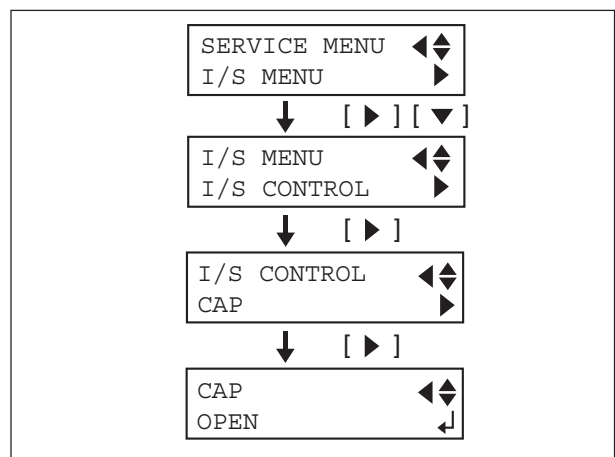
- 1 Remove the Front Cover and Right I/S Cover.



- 2 Turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



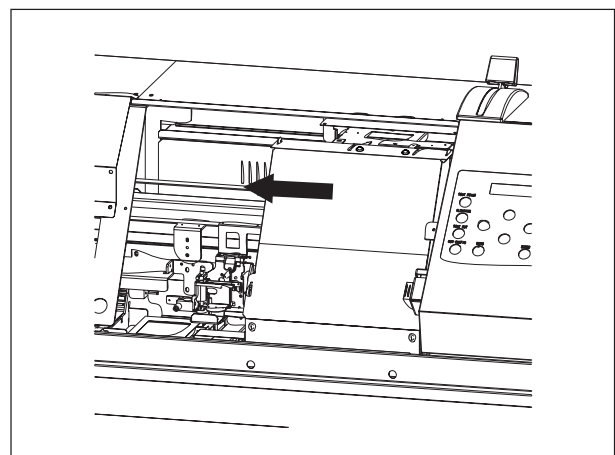
- 3 Select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN], and press the [ENTER] key. The Capping Unit moves down and allows you to move the Head Carriage by hand.



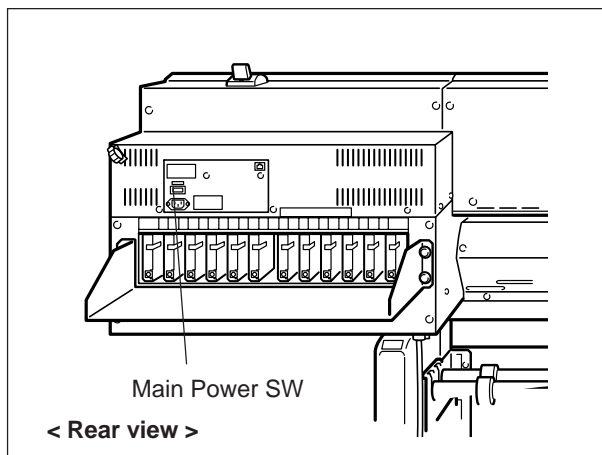
- 4 Move the Head Carriage slowly leftwards to the position where it is not above the Capping Unit.



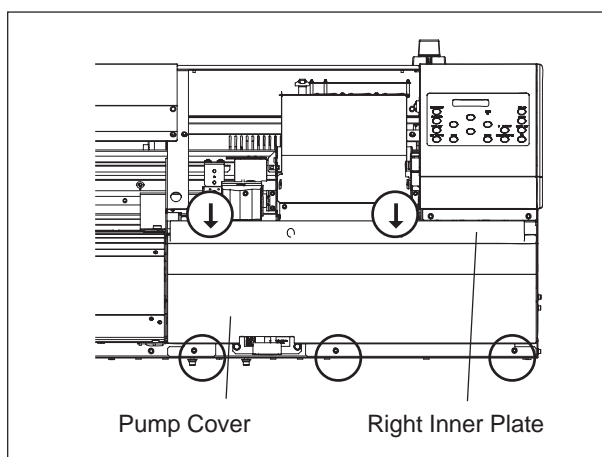
Remove the media if it is set.



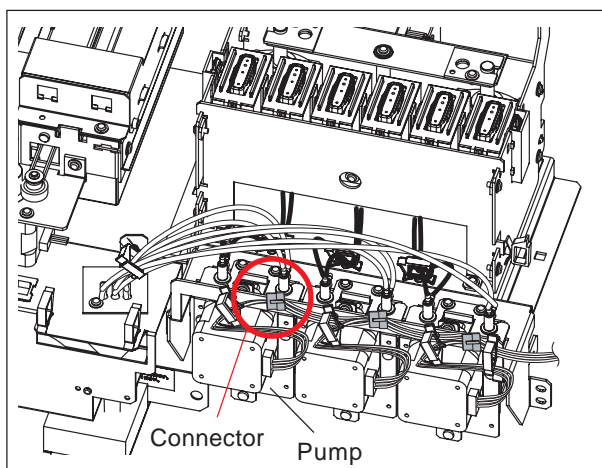
- 5 Turn off the Sub Power SW, and then turn off the Main Power SW.



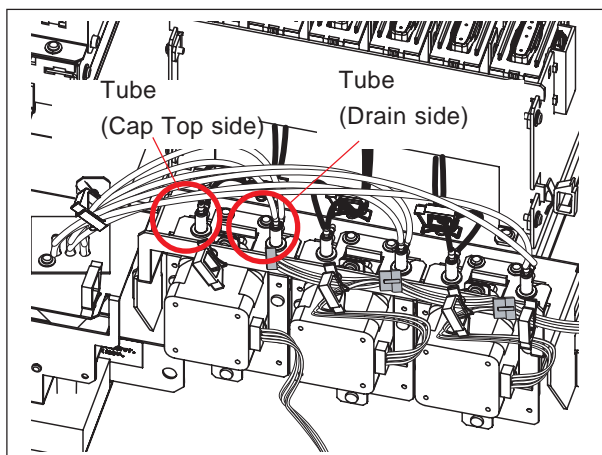
- 6 Remove the 5 screws shown in the figure to remove the Pump Cover together with the Right Inner Plate.



- 7 Disconnect the connector of the Pump Motor.

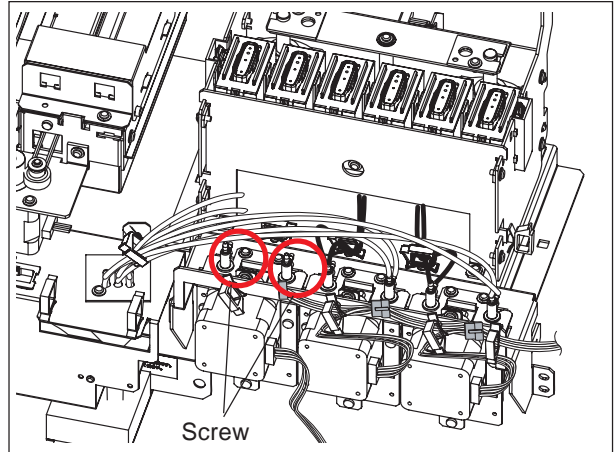


- 8 Disconnect the tube (Black) of the Cap Top and the tube (Transparence) of the Drain from the Pump.

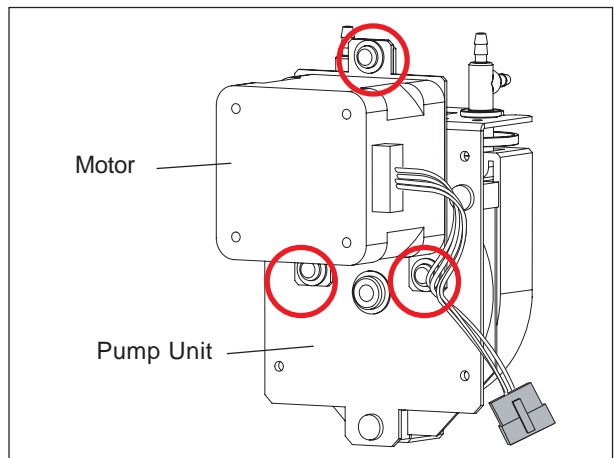


Make sure to replace the Pump one by one. If you disconnect the tubes of the plural Pumps at the same time, there is a danger of wrong connections.

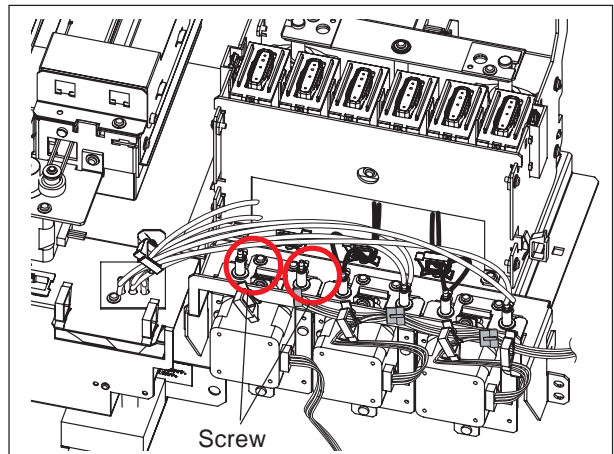
- 9** Remove the 2 screws as shown in the figure to remove the Pump Unit.



- 10** Remove the 3 screws shown in the figure to remove the Motor from the Pump Unit.  
Fix the new Pump Unit to the Motor.



- 11** Fix the Pump Unit with the 2 screws as shown in the figure.



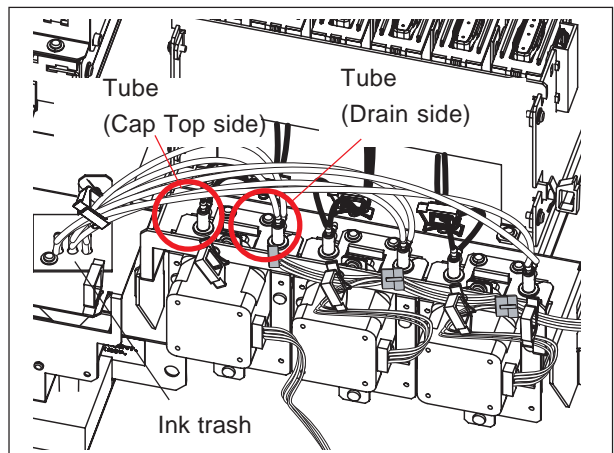
- 12** Connect the tube (Black) of the Cap Top and the tube (Transparence) of the Drain.  
Then, replace the other Pumps in the same way.



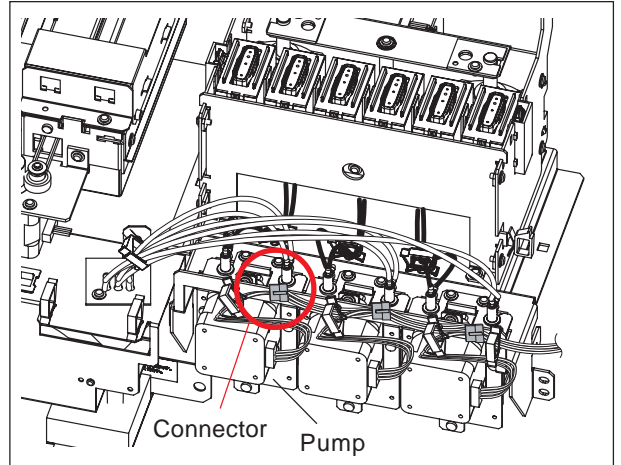
Connect the tubes of Cap Top side to the left joint, and connect the tubes of Drain side to the right joint.



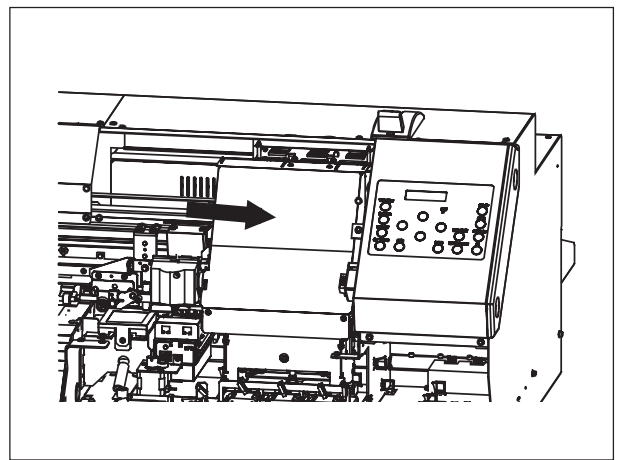
Fix the tubes firmly.  
Make sure that the tubes at the Drain side are inserted to the Ink trash.



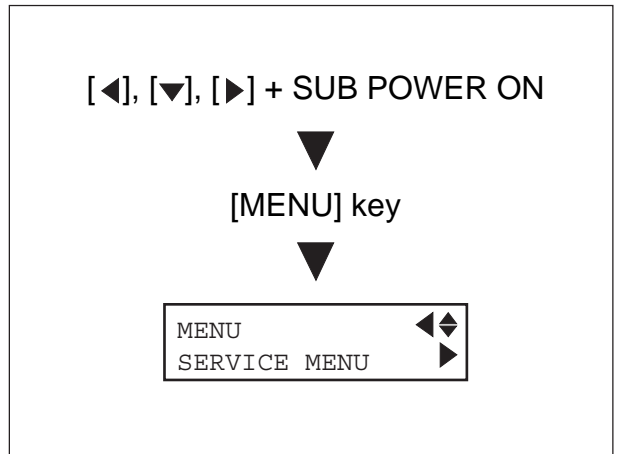
**13** Connect the connector of the Pump Motor.



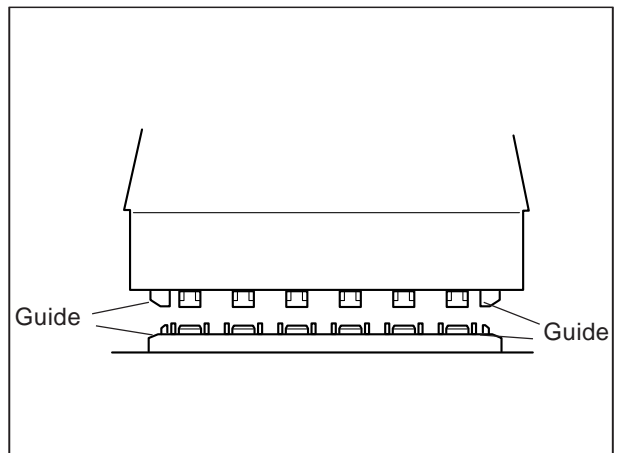
**14** Move the Head Carriage to lock it by hand to the lock position.



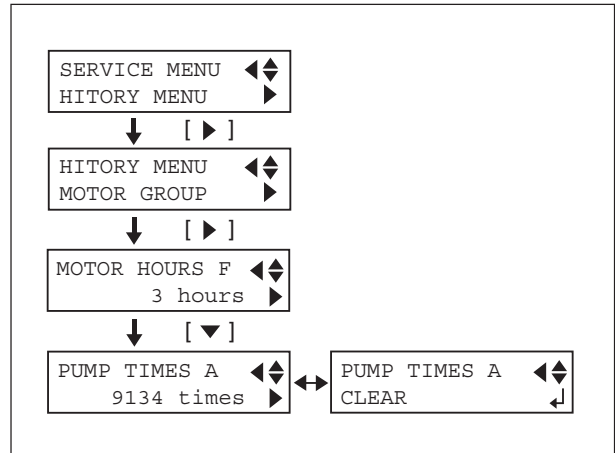
**15** After turning on the Main power SW, turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



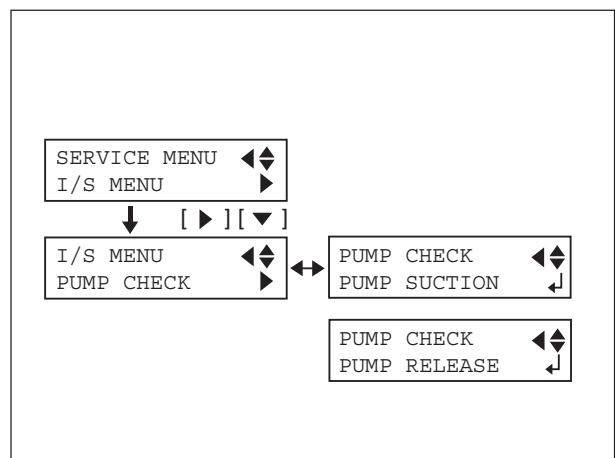
**16** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [CLOSE], and press the [ENTER] key to move up the Capping Unit 1 step. Align the Guides at the two ends of the Capping Unit with the Guides at the two ends of the Head Carriage by moving the Head Carriage by hand. Then press the [ENTER] key twice more to Cap the Heads with adjusting the position of the Head Carriage.



- 17** Clear the pump times.  
Go back to the Service Menu, and select [HISTORY MENU] > [MOTOR GROUP] > [PUMP TIMES A] > [CLEAR], and press the [ENTER] key.

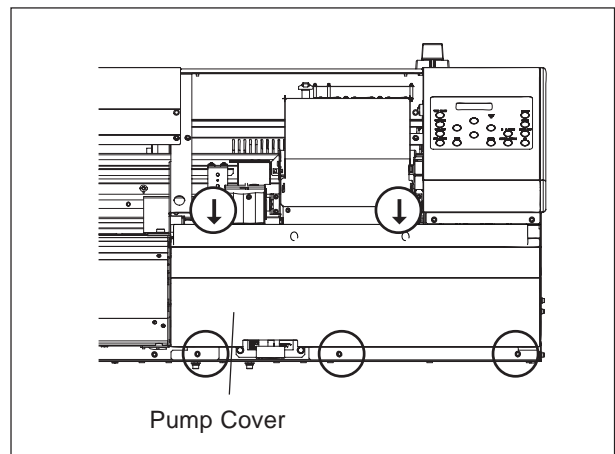


- 18** Select [SERVICE MENU] > [I/S MENU] > [PUMP CHECK], and perform [PUMP SUCTION] and [PUMP RELEASE] to check the Pumps work correctly.

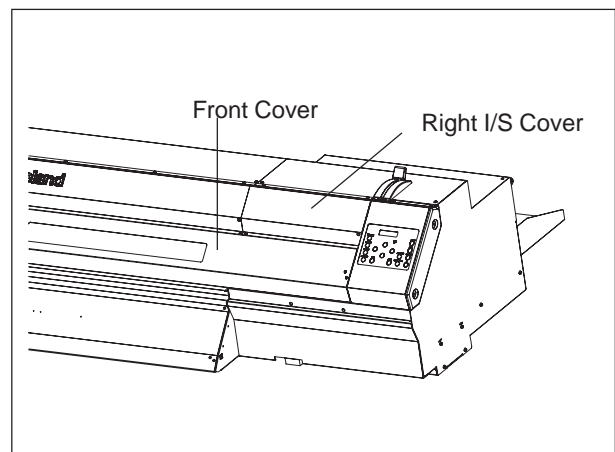


**Revised 3**

- 19** Fix the Pump Cover with the 5 screws shown in the figure.



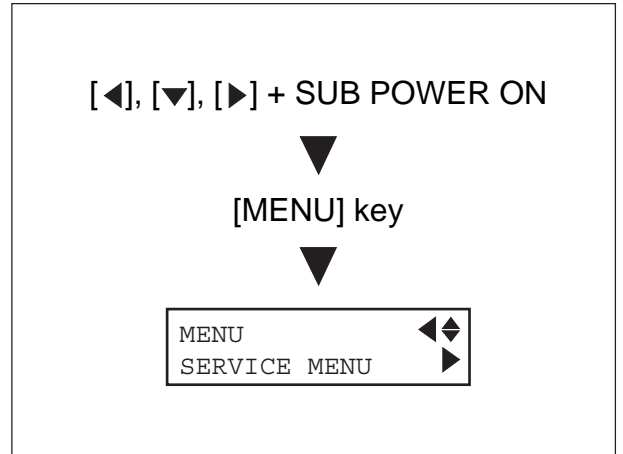
- 20** Fix the Front Cover and Right I/S Cover.



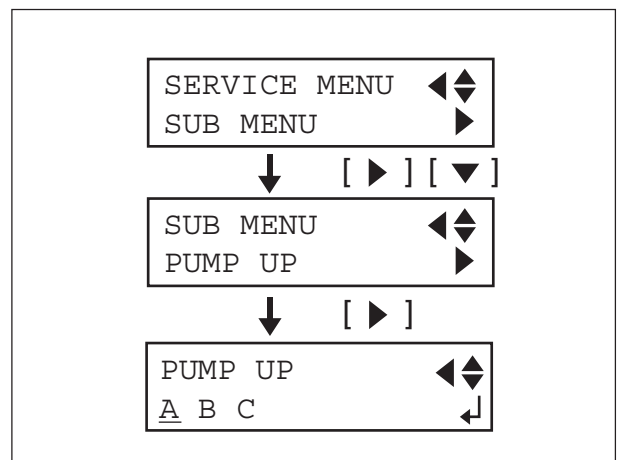


### 3-7 INK TUBE REPLACEMENT

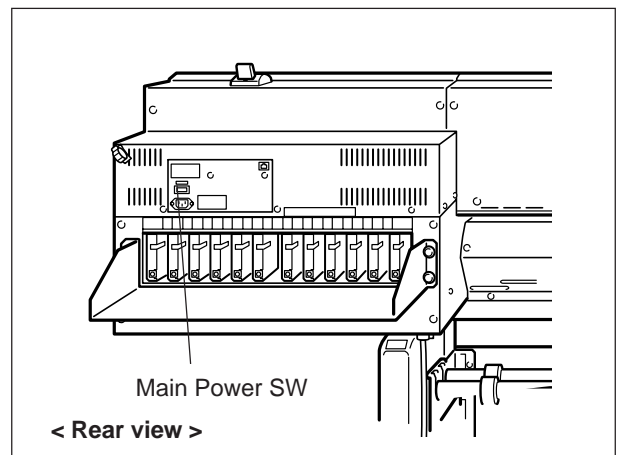
- 1 Turn on the Sub power SW while pressing the Left, Right and Down keys to enter the Service Mode.



- 2 Select [SUB MENU] > [PUMP UP], and select the group of the target tube.

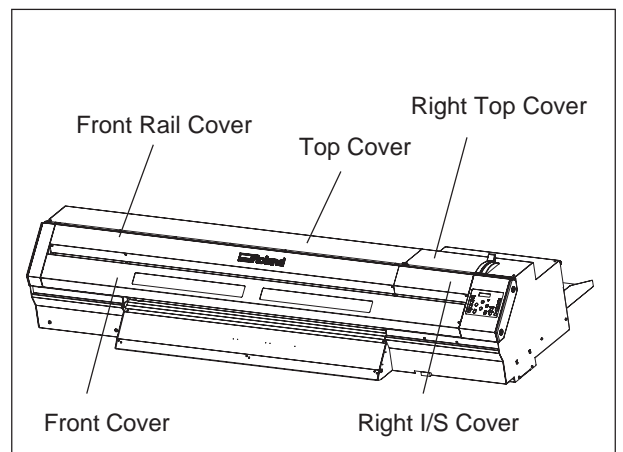


- 3 Turn off the Sub Power SW, and then turn off the Main Power SW.

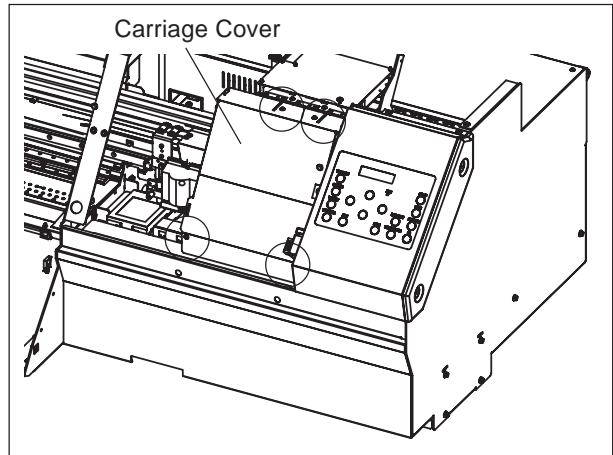


- 4 Remove the following covers.

Right I/S Cover  
 Top Cover  
 Right Top Cover  
 Front Rail Cover  
 Front Cover



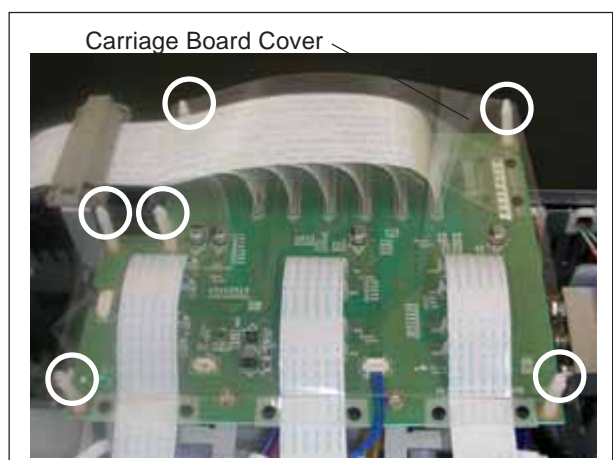
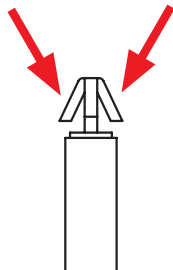
- 5** Remove the 4 screws as shown in the figure to remove the Carriage Cover.



- 6** Remove the Carriage Board Cover.



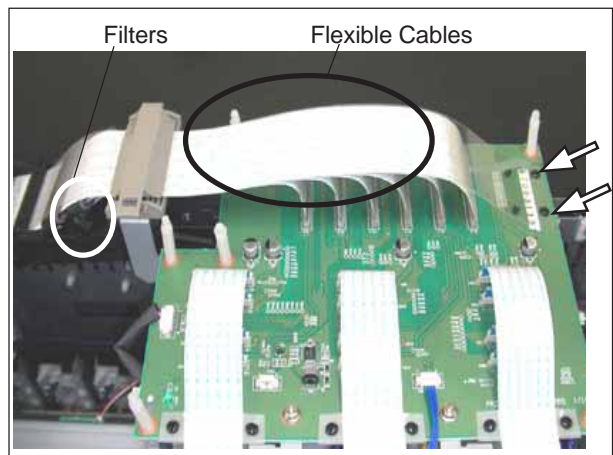
Remove the Carriage Board Cover by pushing the part indicated by the arrows because the top part of the support is easy to break.



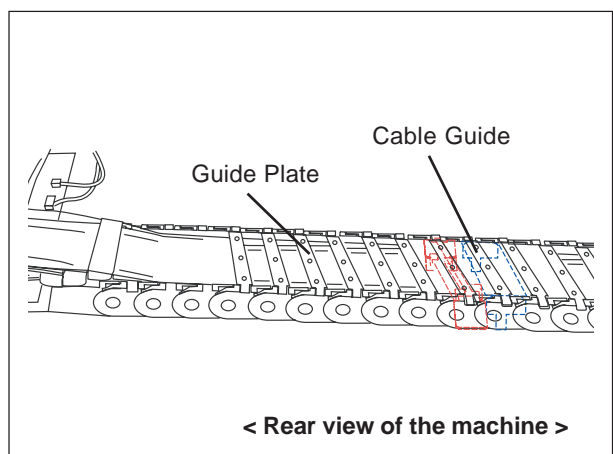
- 7** Remove the 2 Nylon Rivets fixing the clear plates. Then, disconnect all the 6 flexible cables that are coming from the Cable Vayor.



Handle the Filters with care.  
The Filters may break when dropped.



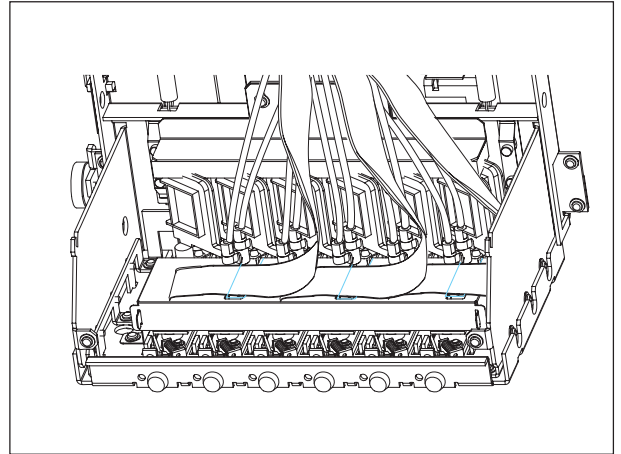
- 8** Remove the Guide Plates of the Cable Vayor and Cable Guides. Then, take out the flexible cables from the Cable Vayor.



- 9** Disconnect the Ink Tubes from the Ink Dampers, and put the scotch tape at the tip of the Ink Tube to prevent the ink from coming out.



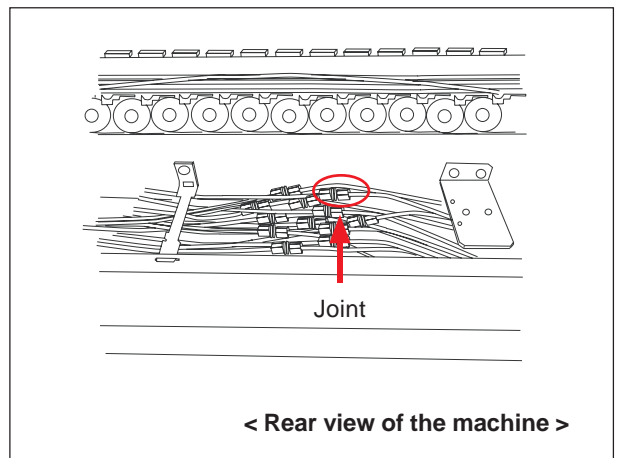
Make sure not to replace the Ink Tubes of the different colors at the same time. There is a danger of connecting wrongly when fixing the new ones.



- 10** Disconnect the Ink Tubes from the Joints, and put the scotch tape at the tip of the Ink Tubes to prevent the ink from coming out.



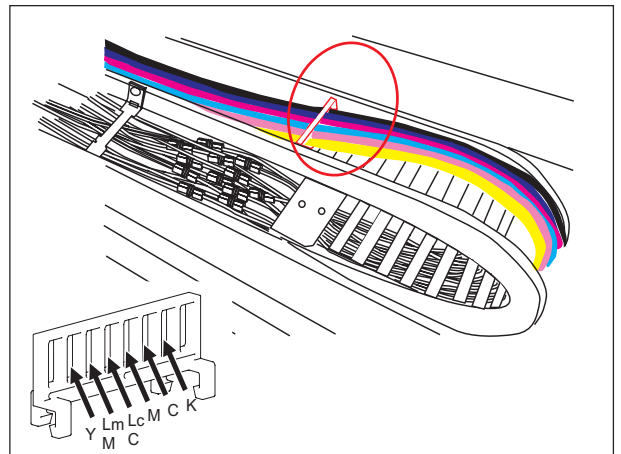
It is not necessary to replace the Ink Tubes of the other side (Ink Cartridge side) of the Joints.



- 11** Pull out the Ink Tubes from the Cable Vayor, and put the new Ink Tubes in the Cable Vayor.



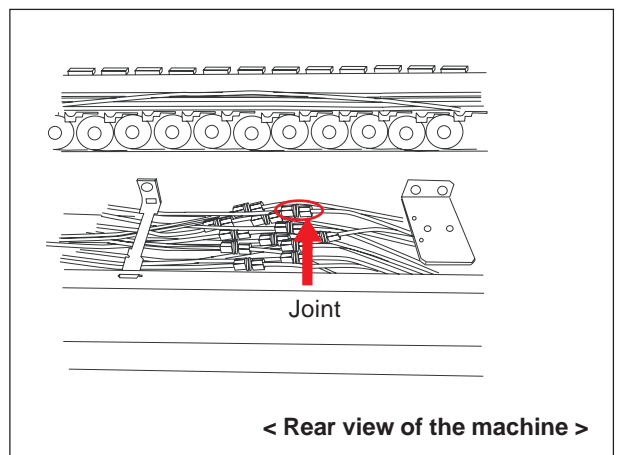
Be careful which hole of the Tube Guide should be used for each Ink Tube.



- 12** Connect the new Ink Tubes to the Joints, and mark the both ends of the Ink Tubes to indicate the color of the ink.

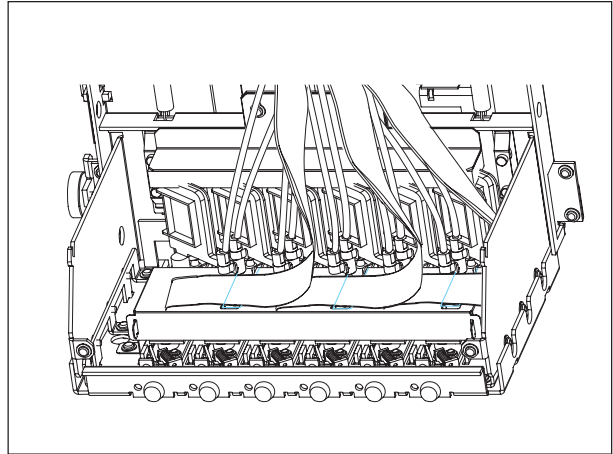


Be careful not to forget to fix the O rings. Make sure that the Tubes are connected firmly at the joint part.



**13** Cut the Ink Tubes at appropriate length and connect them to the Ink Dampers.

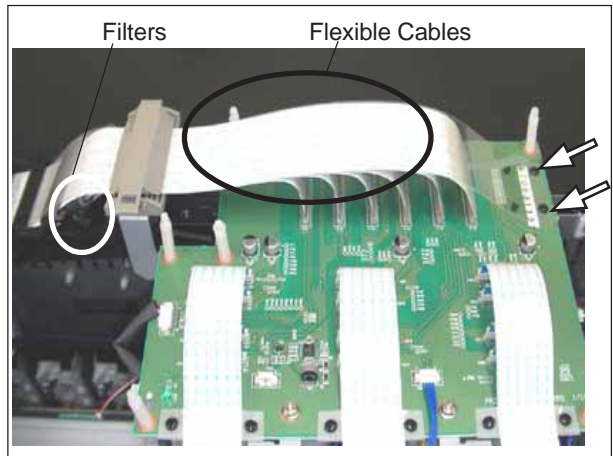
Then, replace the other Ink Tubes in the same way.



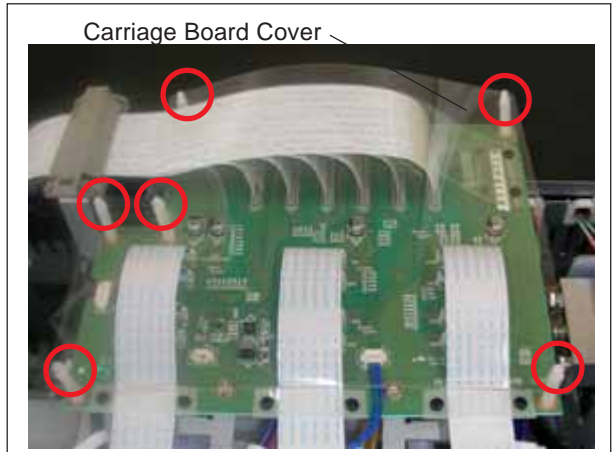
**14** Connect the 6 Flexible Cables to the Carriage Board and fix the Nylon Rivets to fix the Clear Plates.



Be careful not to forget to fix the Filters.



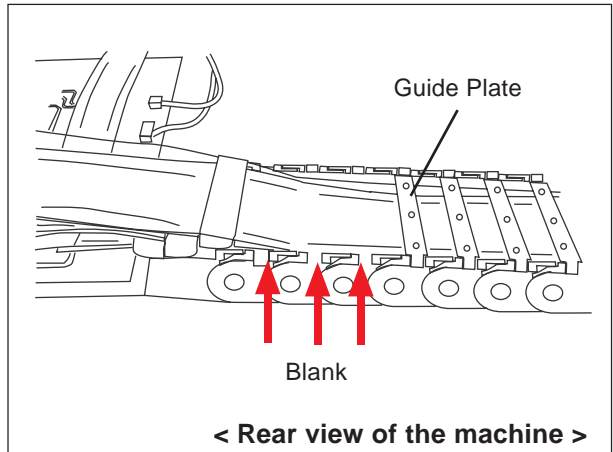
**15** Fix the Carriage Board Cover.



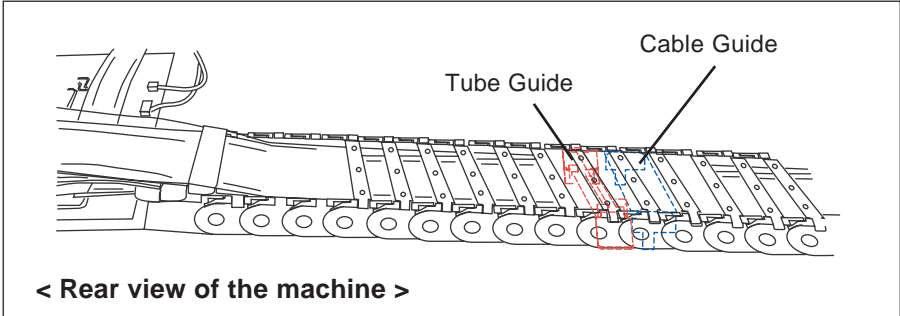
**16** Fix the Guide Plates and the Cable Guides.

Make 3 positions for the Guide Plate blank at the edge of the Cable Vayor.

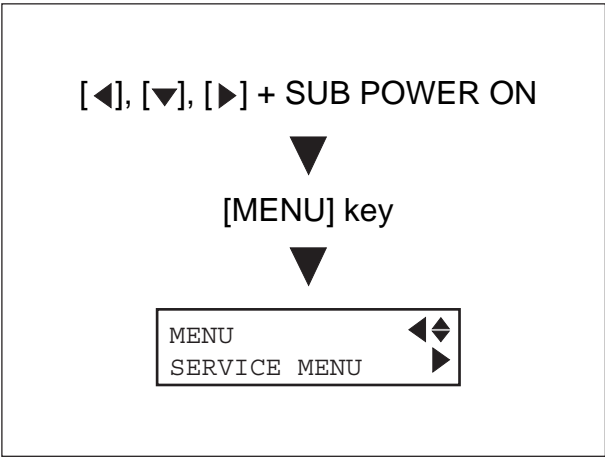
Fix the Cable Guide at the position shown in the figure.



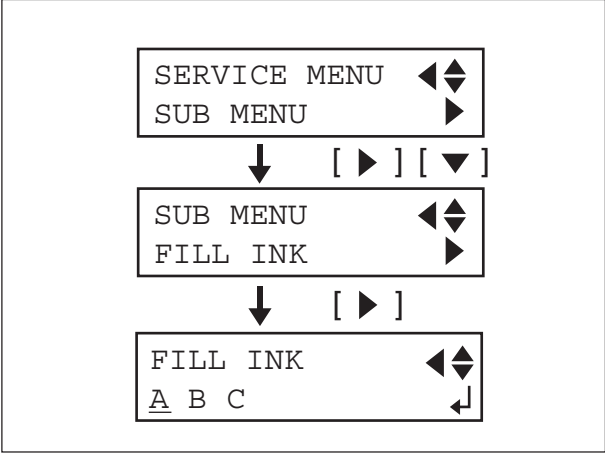
Cable Guides are fixed next to the Tube Guides.



17 Turn on the Sub power SW while pressing the Left, Right and Down keys to enter the Service Mode.



18 Select [SUB MENU] > [FILL INK], and select the group which you want to fill INK of, and press the [ENTER] key.

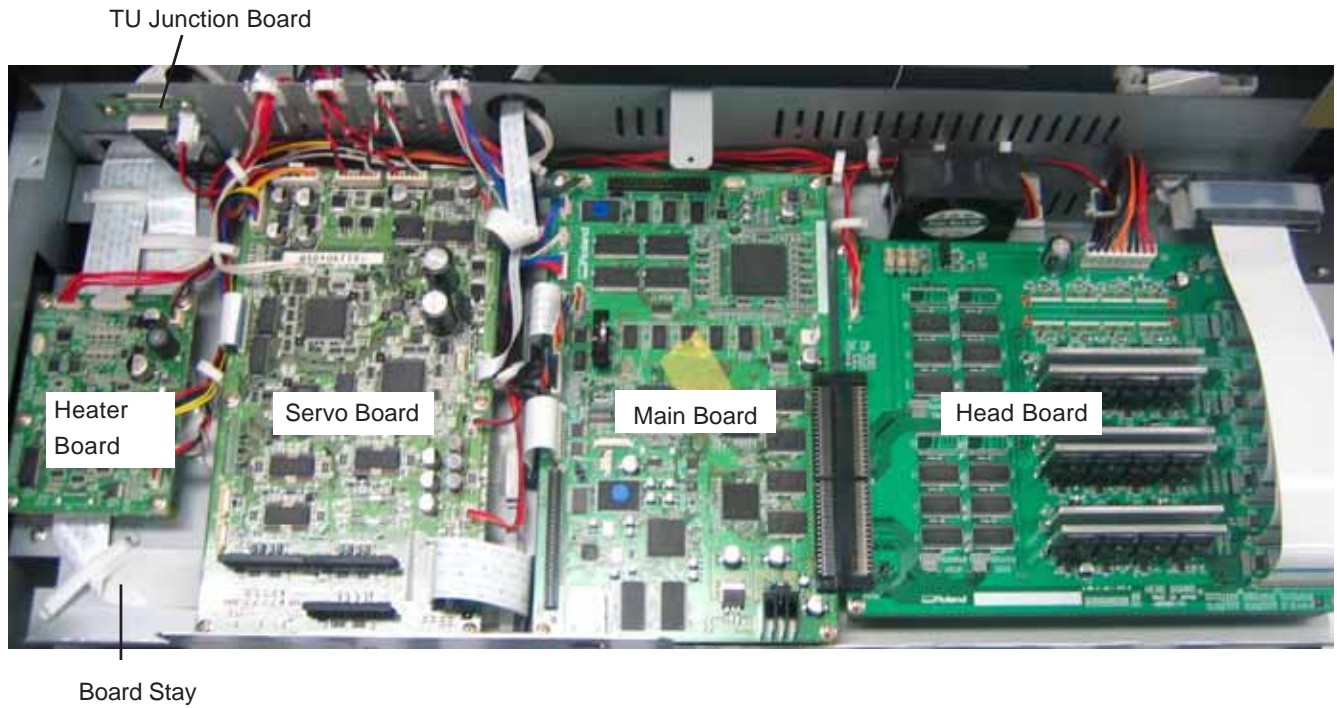




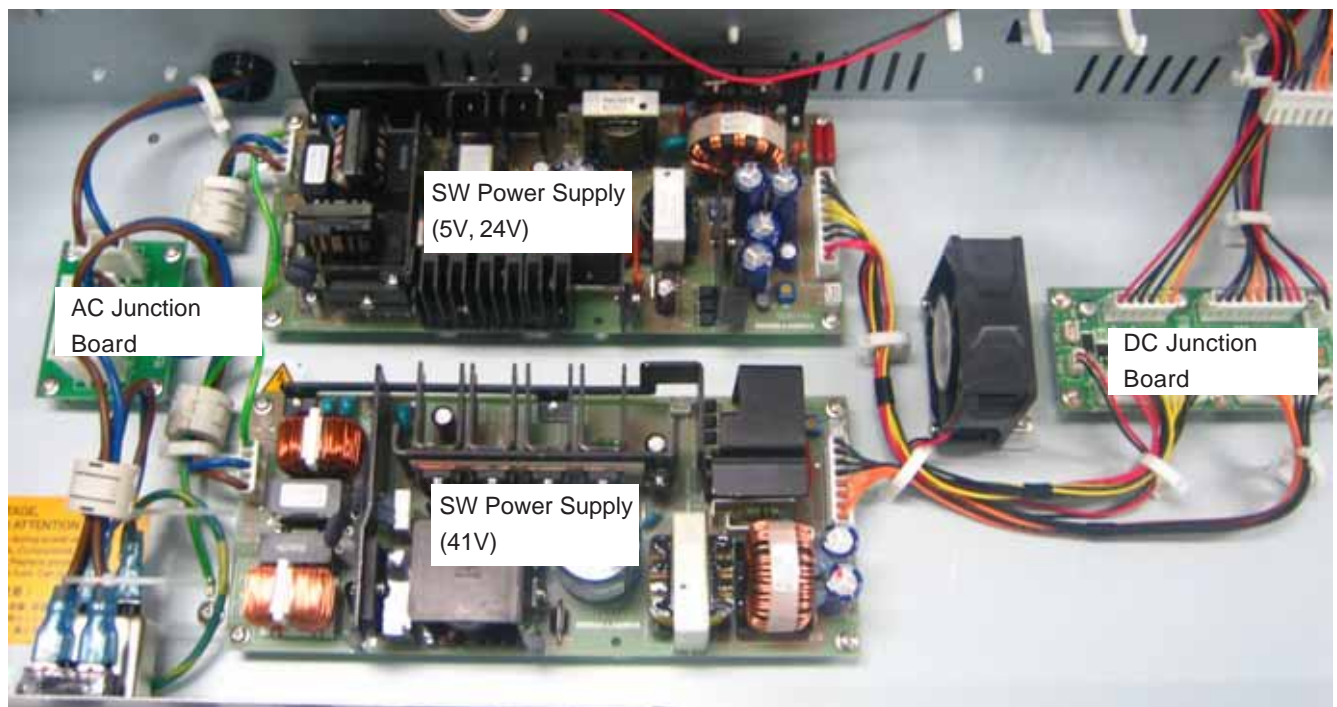
### 3-8 BOARDS REPLACEMENT (Head / Servo / Main / SW Power Supply)

#### BOARD LAYOUT (IN CHASSIS)

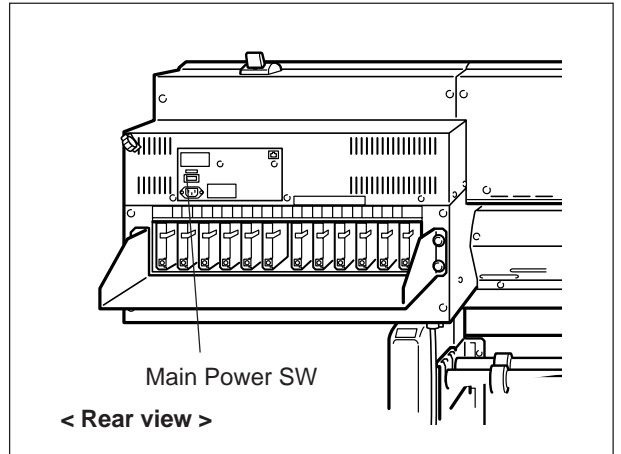
##### 1. When the Board Cover is opened



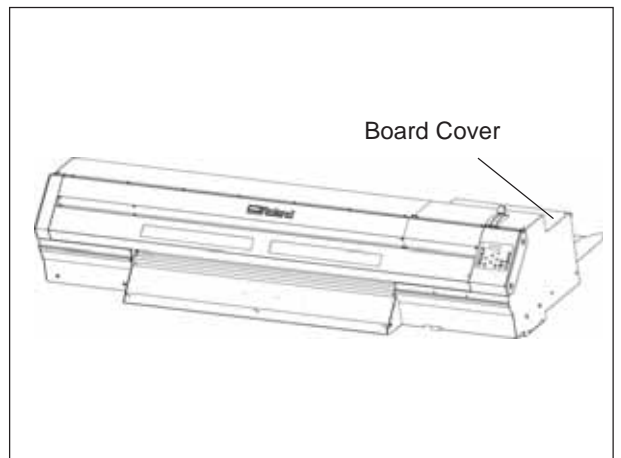
##### 2. When the Board Stay is removed



- 1 Turn off the Main Power SW and pull out the AC cord.

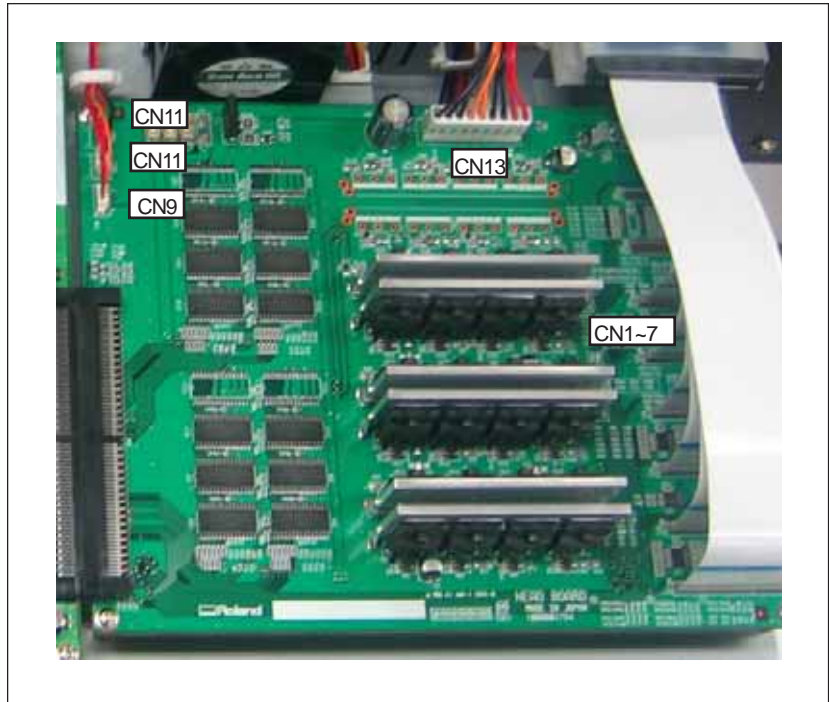


- 2 Remove the Board Cover.

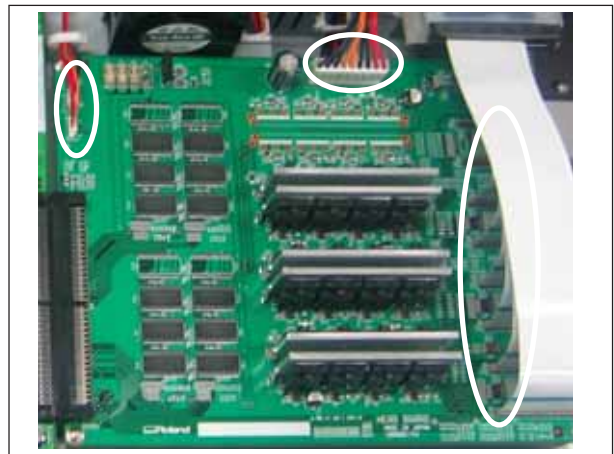


## HEAD BOARD REPLACEMENT

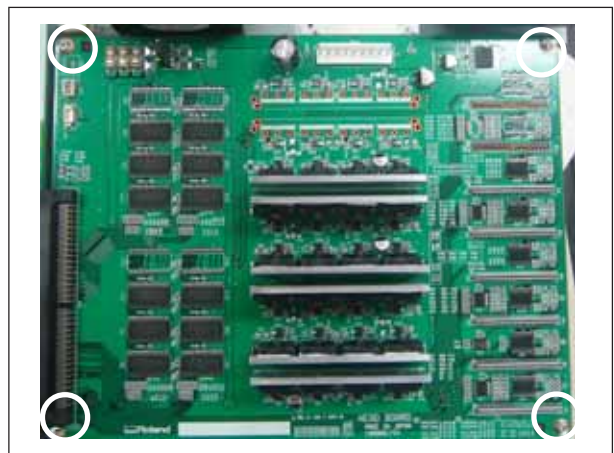
### HEAD BOARD CONNECTOR LAYOUT



- 1 Disconnect all the Cables from the Head Board.

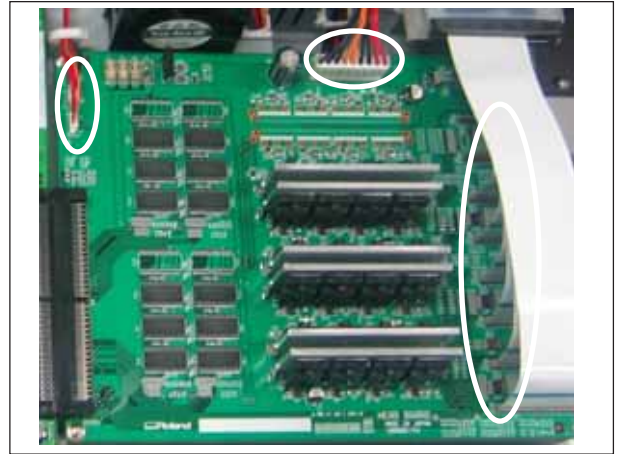


- 2 Remove the screws as shown in the figure to replace to the new Head Board.





**3** Connect all the Cables to the Head Board.

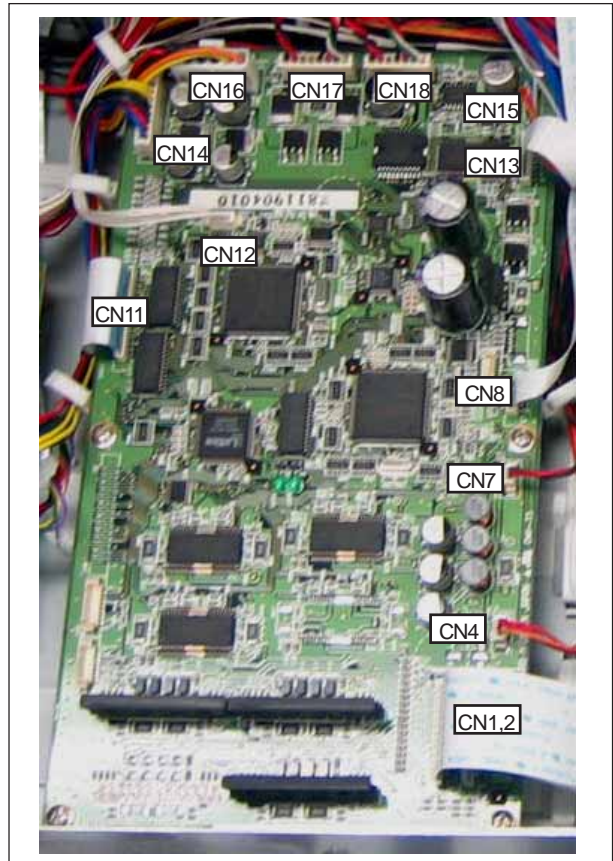


**4** Carry out the following checks.

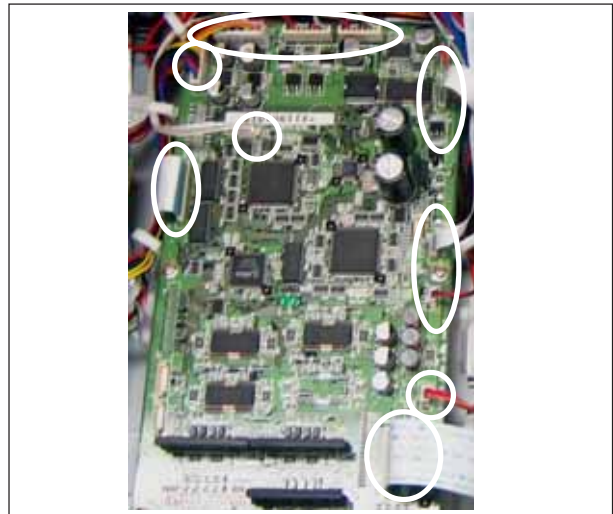
1. THERMISTOR CHECK
2. FAN ON THE HEAD BOARD

## SERVO BOARD REPLACEMENT

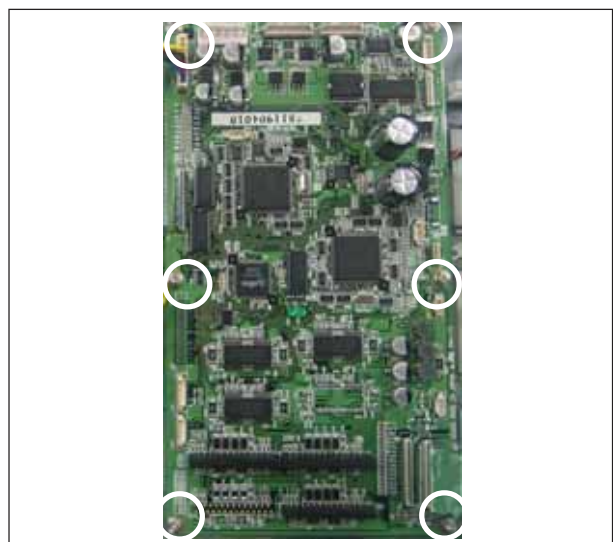
### SERVO BOARD CONNECTOR LAYOUT



- 1** Disconnect all the Cables from the Servo Board.



- 2** Remove the screws as shown in the figure to replace to the new Servo Board.



**3** Connect all the cables to the Servo Board.

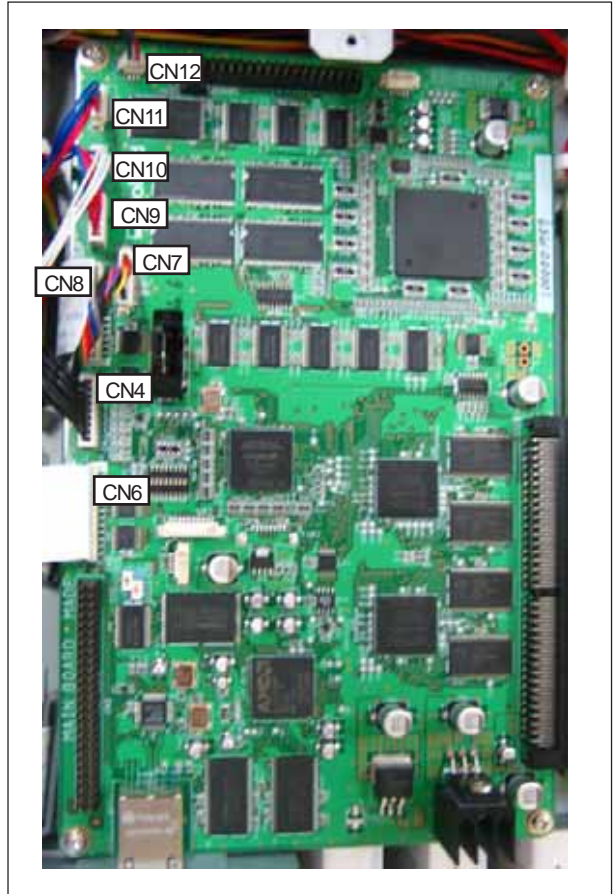


**4** Carry out the following adjustments and settings.

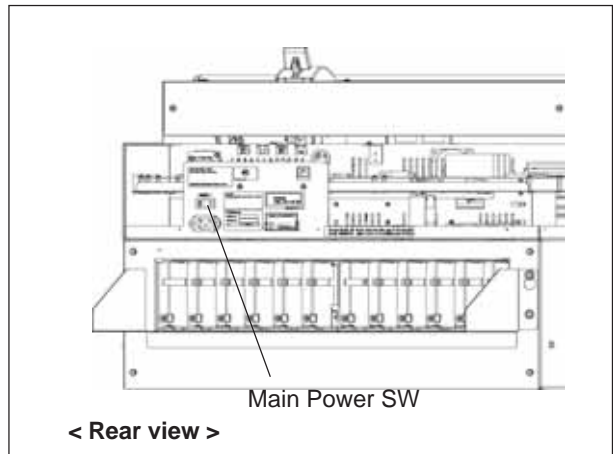
1. PINCH ROLLER SENSOR CHECK
2. AGING
3. TOOL PRESSURE ADJUSTMENT
4. [4-9 CROP MARK SENSOR ADJUSTMENT]
5. [4-10 CROP-CUT ADJUSTMENT]
6. [4-11 PRINT/CUT POSITION ADJUSTMENT]

# MAIN BOARD REPLACEMENT

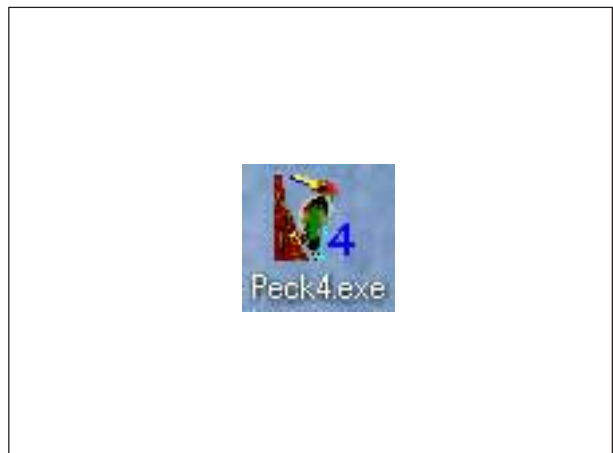
## MAIN BOARD CONNECTOR LAYOUT



**1** Turn on the Main Power SW.



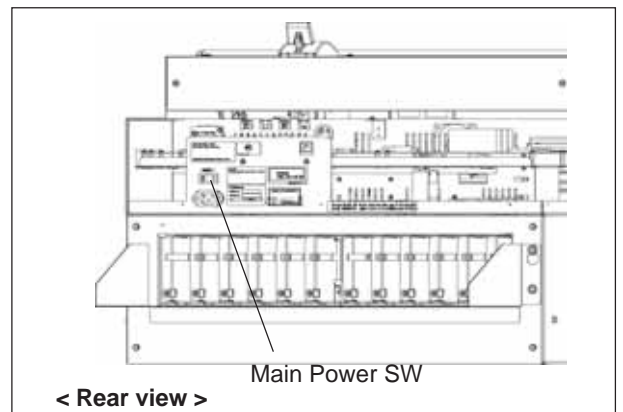
**2** Start the Peck.



- 3 Perform [Get Report] and [Get Parameters], and save them.



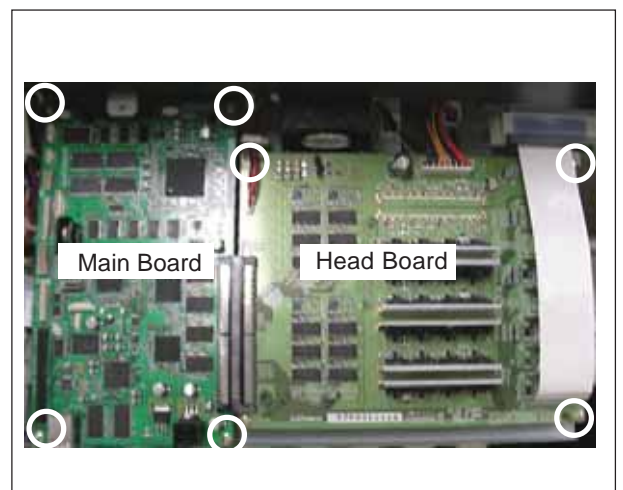
- 4 Turn off the Main Power SW and pull out the AC cord.



- 5 Disconnect all the Cables which are connected to the Main Board, Servo Board and Head Board.



- Revised 1 6 Remove the screws as shown in the figure fixing the head Board and Main Board, and replace with the new Main Board.





**7** Connect all the cables to the Head Board.



**8** Perform the following operations after replacement.

1. DIP SW SETTING
2. BATTERY INSTALLATION
3. FIRMWARE INSTALLATION
4. SYSTEM PARAMETER INITIALIZE
5. IP ADDRESS SETTING ( Turn on the power with the Service Mode and set IP Address in the User Menu.)
6. NETWORK CONTROLLER OF FIRMWARE VERSION CONFIRMATION \*6
7. SENSOR CHECK
8. CROP MARK SENSOR ADJUSTMENT
9. TIME AND DATE SETTING \*7

After performing these operations, perform [Put Parameters] with Peck and write the parameter that was saved before replacement to the Main Board.

Perform the following operations if it is not possible to transfer the parameters by Peck4.exe.

- |   |  |
|---|--|
| 1. DIP SW SETTING   | 11. SENSOR CHECK                         |
| 2. BATTERY INSTALLATION   | 12. LIMIT & CUT DOWN POSITION INITIALIZE |
| 3. FIRMWARE INSTALLATION  | 13. LINEAR ENCODER SETUP                 |
| 4. SYSTEM PARAMETER INITIALIZE  | 14. TOOL PRESSURE ADJUSTMENT *3          |
| 5. IP ADDRESS SETTING ( Turn on the power with the Service Mode and set IP Address in the User Menu.) | 15. INK TYPE SETTING                     |
| 6. NETWORK CONTROLLER OF FIRMWARE VERSION CONFIRMATION *6   | 16. HEAD ALIGNMENT                       |
| 7. HEAD RANK SETTING  | 17. CALIBRATION                          |
| 8. SERIAL NUMBER INPUT *1   | 18. CROP MARK SENSOR ADJUSTMENT          |
| 9. CAP & WIPER CHECK *2   | 19. CROP-CUT ADJUSTMENT                  |
| 10. CAP HEIGHT CHECK *4   | 20. PRINT / CUT POSITION ADJUSTMENT      |
|   | 21. DRAIN BOTTLE COUNTER RESET *5        |
|   | 22. TIME AND DATE SETTING *7             |

\*1 Input the serial number in the [SERVICE MENU] > [SERIAL NO.].

\*2 It can be performed in the [SERVICE MENU] > [CAP&WIPER CHECK].

\*3 If you can check the value set in the previous Main Board, you can input the value without adjustment.

\*4 It can be performed in the [SERVICE MENU] > [CAP ADJUST] > [CHECK GAP].

\*5 It can be performed in the [MENU] > [SUB MENU] > [MAINTENANCE] > [DRAIN BOTTLE] > [EMPTY DRAIN BOTTLE] > [RESET DRAIN COUNTER].

\*6 It can be checked in the [4-4 HOW TO UPGRADE FIRMWARE OF THE NETWORK CONTROLLER] Step **2**. Upgrade the Network controller of firmware in reference to [4-4 HOW TO UPGRADE FIRMWARE OF THE NETWORK CONTROLLER] if the version is not the latest one.

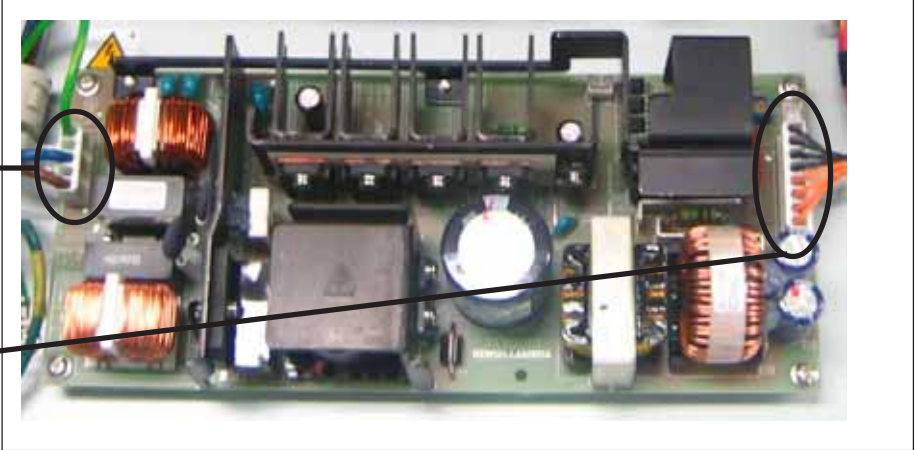
\*7 Set the date and time in the [SERVICE MENU] > [SUB MENU] > [CLOCK].

# SW POWER SUPPLY REPLACEMENT (41V)

## SW POWER SUPPLY CONNECTOR LAYOUT

Connected to the [CN301]  
on the AC Junction Board

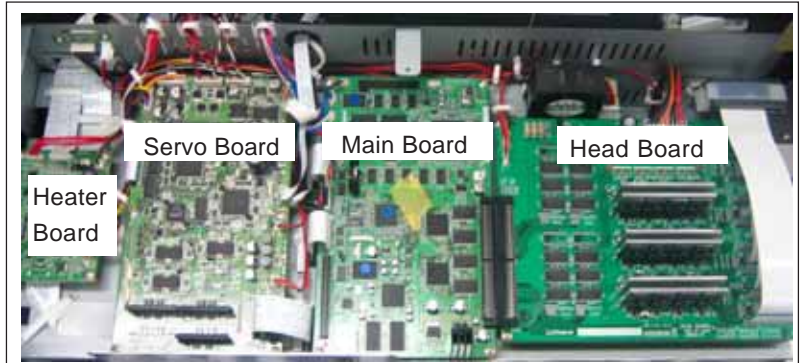
Connected to the [CN800]  
on the DC Junction Board



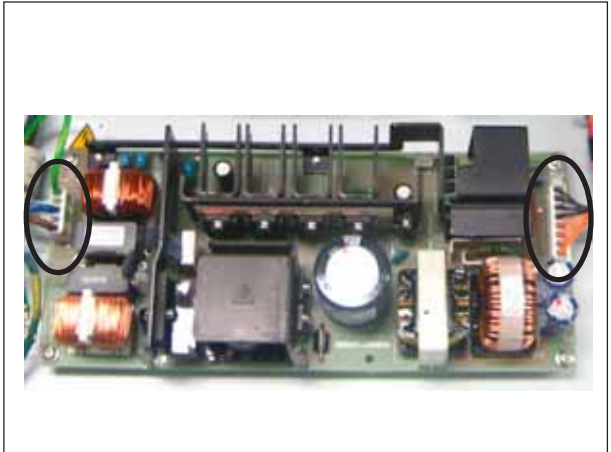
Revised 1

- 1 Disconnect the Cables from the following boards and remove them with the Stays.

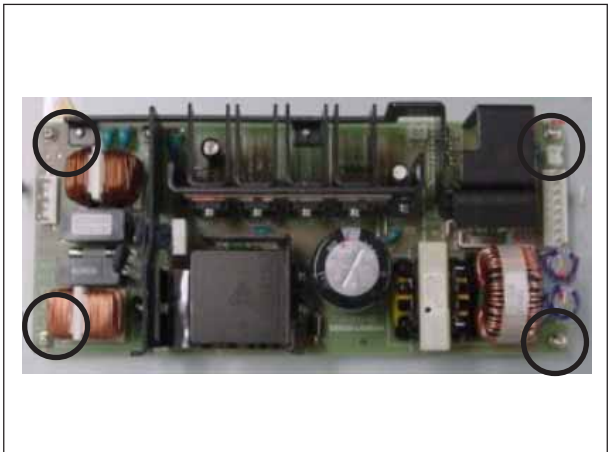
HEATER BOARD  
SERVO BOARD  
MAIN BOARD  
HEAD BOARD



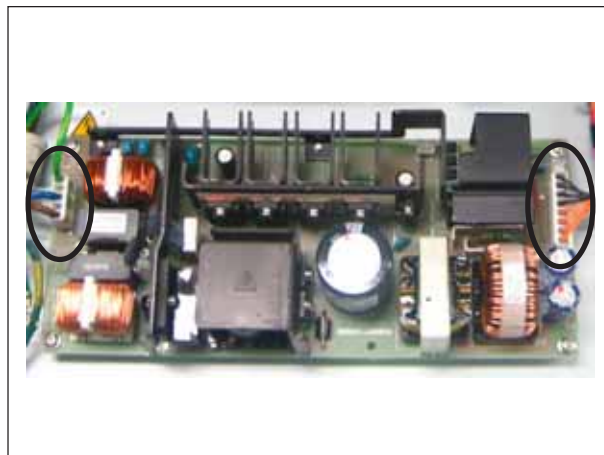
- 2 Disconnect all the cables connected to the SW Power Supply.



- 3 Remove the 4 screws as shown in the figure and replace the new SW Power Supply (41V).



**4** Connect all the Cables.

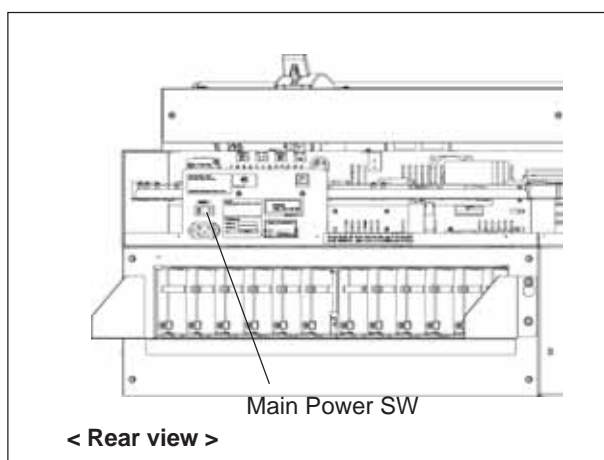


**5** Set the output voltage of SW Power Supply to + 41V.

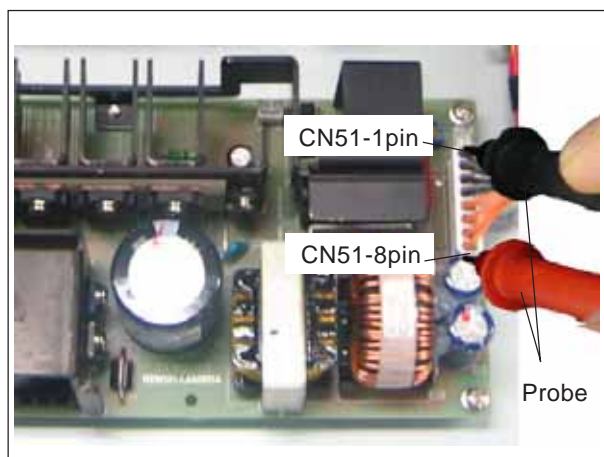
1. Turn on the Main Power SW.



Use the Digital multi-Meter that can measure the direct voltage.



2. Put the black probe into CN51-1pin (GND) and the red probe into CN51-8pin (Vout) on the SW Power Supply.

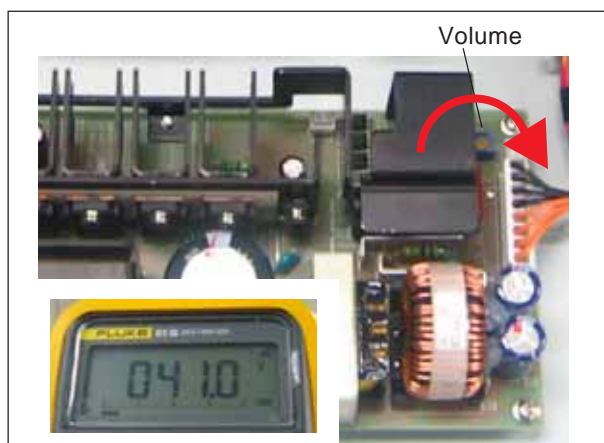


3. Rotate the volume clockwise using the screwdriver to adjust the output voltage value to  $+41V \pm 0.1$ .



When the output voltage exceeds the  $+41.4V$ , SW Power Supply does not output the voltage by the protection circuit on it.

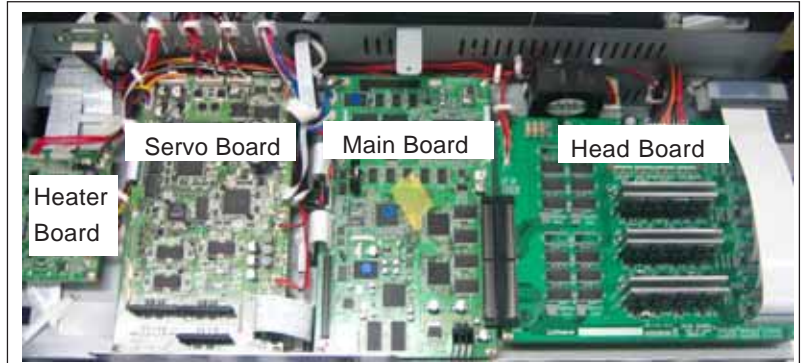
In this case, SW Power Supply will output the voltage by rotating the volume counterclockwise. When the protection circuit works, SW Power Supply may not output for a while. Measure the voltage some time later again.





Revised 1 **6** Fix the following boards.  
Connect all the Cables.

HEATER BOARD  
SERVO BOARD  
MAIN BOARD  
HEAD BOARD

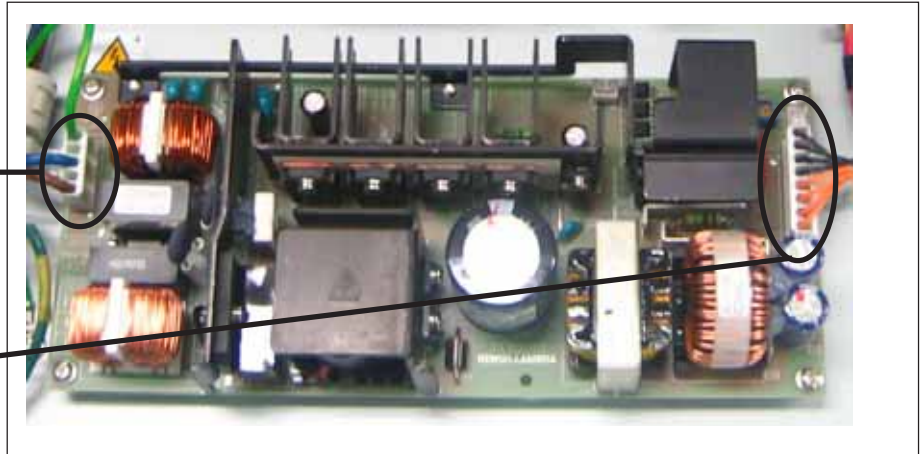


## SW POWER SUPPLY REPLACEMENT (5V, 24V)

### SW POWER SUPPLY CONNECTOR LAYOUT

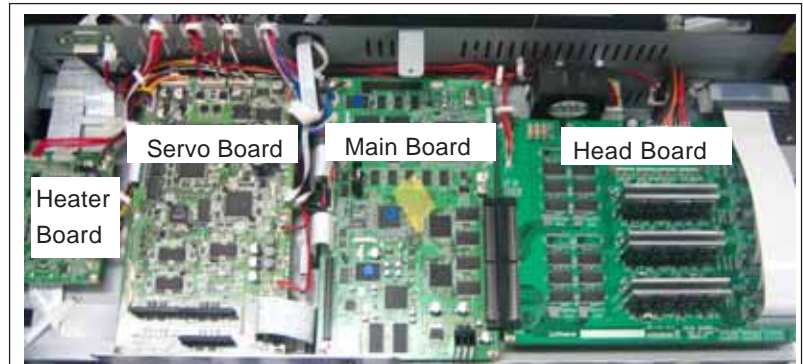
Connected to the [CN302]  
on the AC Junction Board

Connected to the [CN801]  
on the DC Junction Board

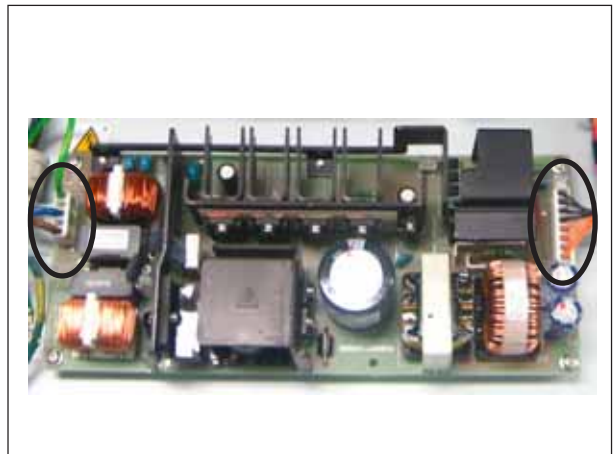


- 1 Disconnect the Cables from the following boards and remove them with the Stays.

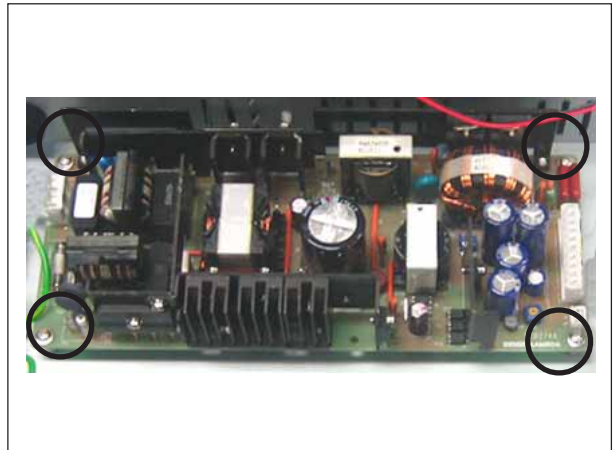
HEATER BOARD  
SERVO BOARD  
MAIN BOARD  
HEAD BOARD



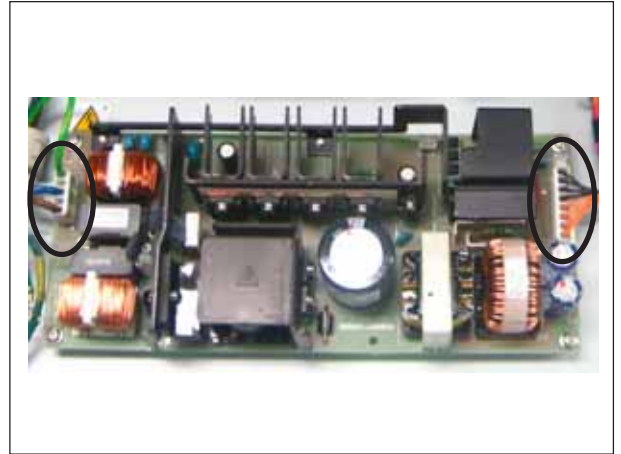
- 2 Disconnect all the cables which are connected to the SW Power Supply.



- 3 Remove the 4 screws as shown in the figure and replace the new SW Power Supply (5V, 24V).

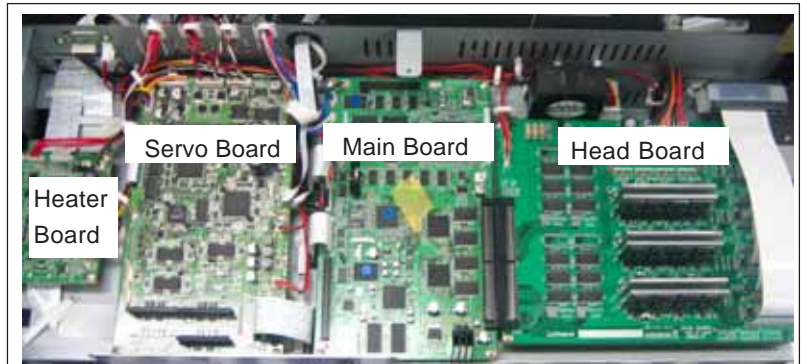


**4** Connect all the Cables.



**Revised 1** **5** Fix the following boards.  
Connect all the Cables.

HEATER BOARD  
SERVO BOARD  
MAIN BOARD  
HEAD BOARD



## 3-9 BATTERY REPLACEMENT

### ⚠ CAUTION

Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type recommended by the manufacturer.  
Dispose of used batteries according to the manufacturer's instructions.

### ⚠ ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.  
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.  
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

### ⚠ ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig handling.  
Udskiftning må kun ske med batteri af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandøren.

## ⚠ WARNING



**Do not recharge, short-circuit, disassembly the lithium battery, nor put it into fire.**

**It may cause heat, explosion and fire.**

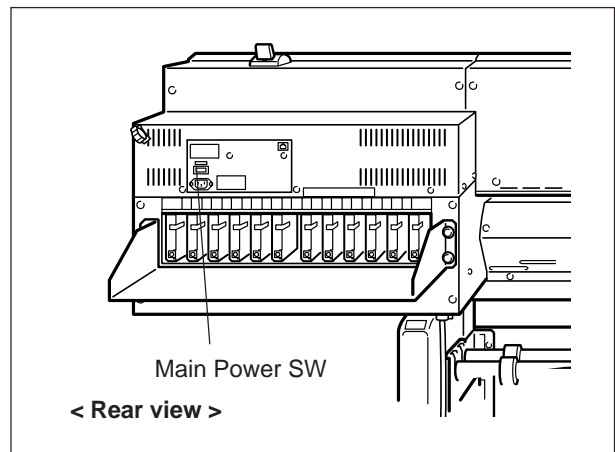


**Put tape around the lithium battery for insulation for disposal or preservation.**

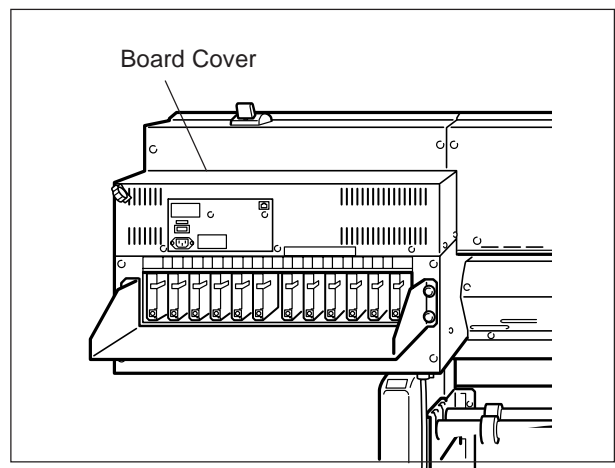
**It may cause heat, explosion and fire.**

Revised 3

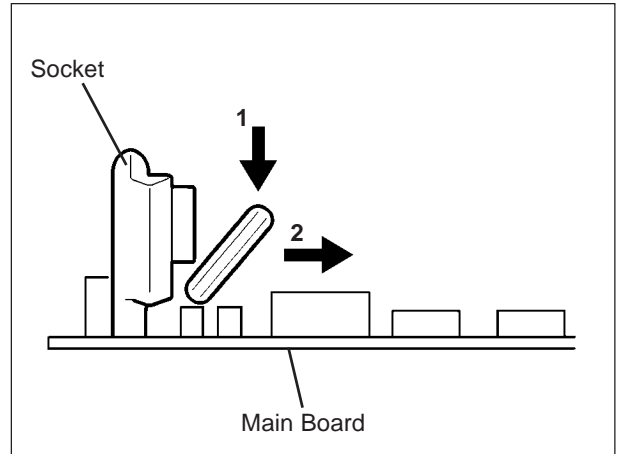
- 1 Turn off the Sub Power SW, and then turn off the Main Power SW.



- 2 Remove the Board Cover.



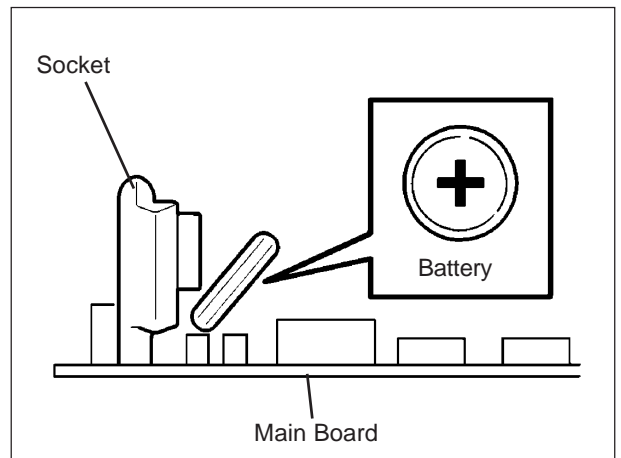
- 3** Remove the Battery on the Main Board by pushing it down and tilting towards right.



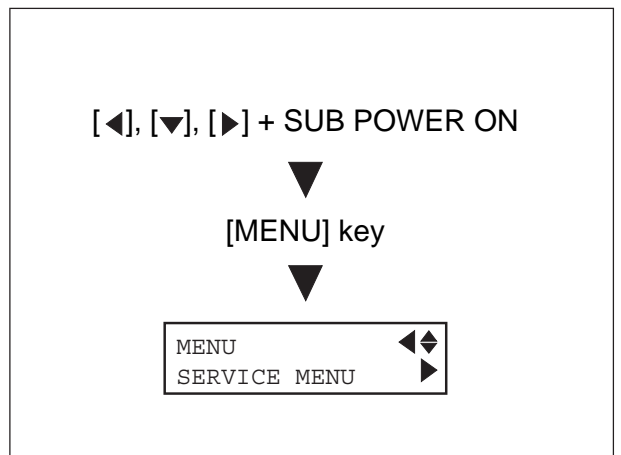
- 4** Replace the Battery with new one.



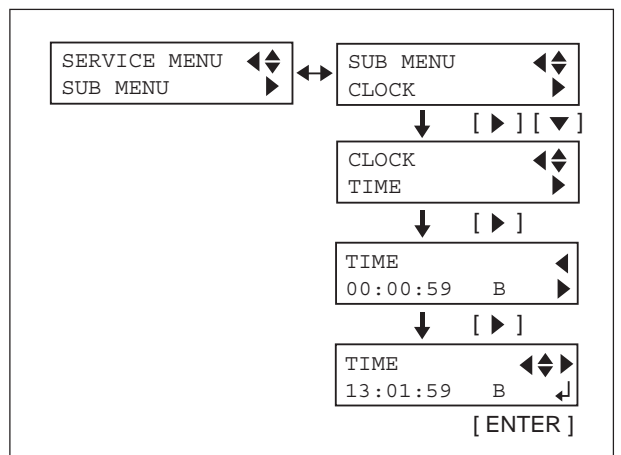
Be careful with the direction of the Battery.



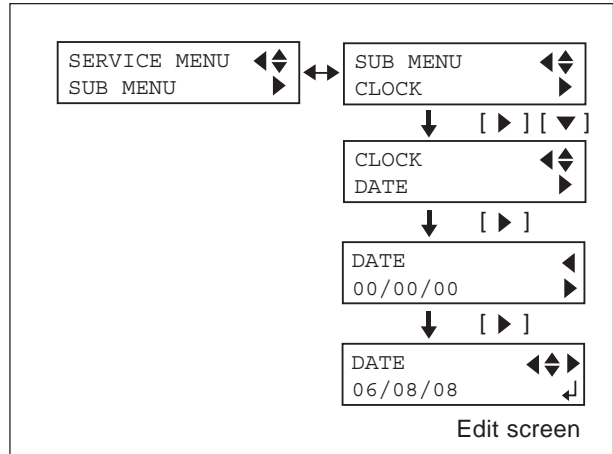
- 5** Turn on the Main Power SW and turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



- 6** Select [SUB MENU] > [CLOCK] > [TIME], and set the time and press [ENTER] key.

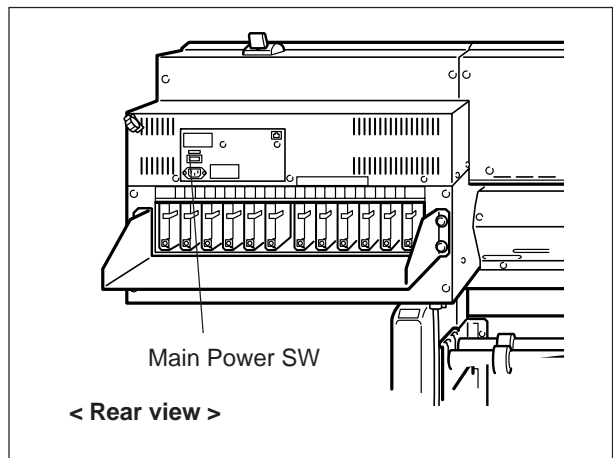


- 7 Select [SUB MENU] > [CLOCK] > [DATE], and set the date and press the [ENTER] key.

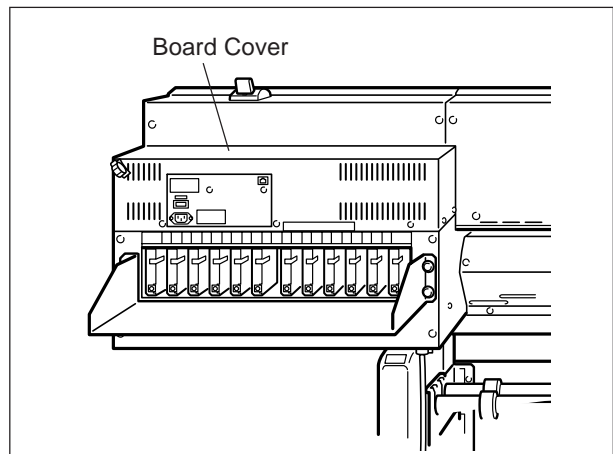


Revised 3

- 8 Turn off the Sub Power SW, and then turn off the Main Power SW.



- 9 Fix the Board Cover.



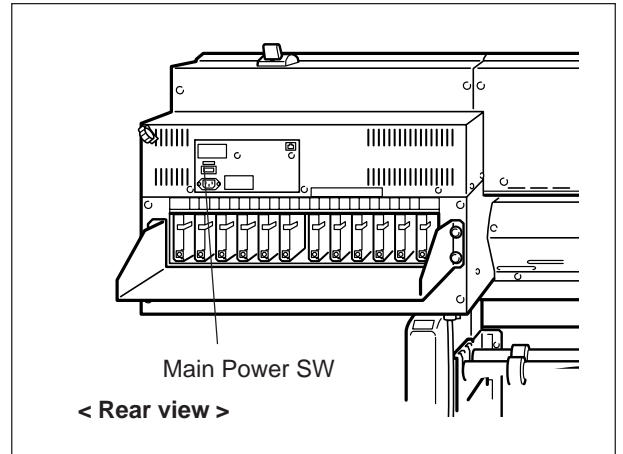
- 10 Dispose the Battery.



FOLLOWING MAY CAUSE EXPLOSION OF BATTERY.  
RECHARGE, SHORT-CIRCUIT, DISASSEMBLY, HEATING,  
PUTTING INTO FIRE.  
DON'T PUT BATTERY WITH OTHER METAL OR BATTERY.  
DISPOSE BATTERY WITHOUT INSULATION.

### 3-10 CARRIAGE BELT REPLACEMENT

**1** Turn off the Main Power SW.

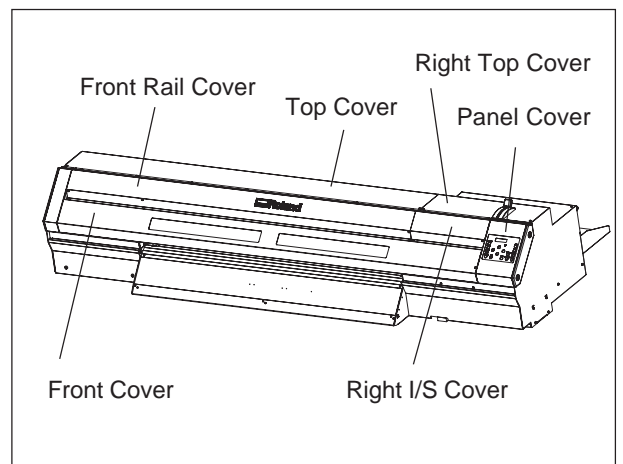


**2** Remove the following covers.

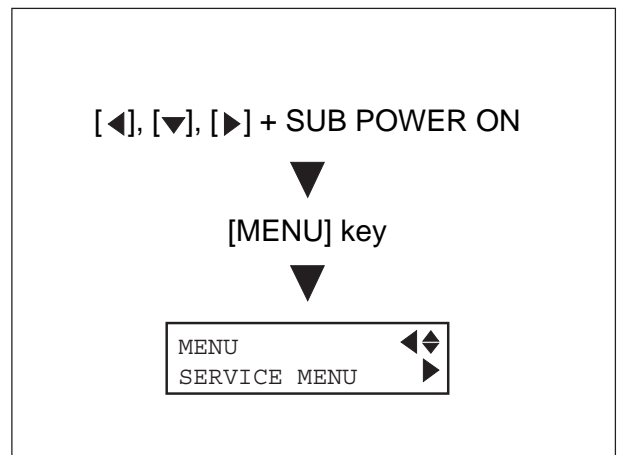
- Right I/S Cover
- Top Cover
- Right Top Cover
- Front Rail Cover
- Front Cover
- Panel Cover



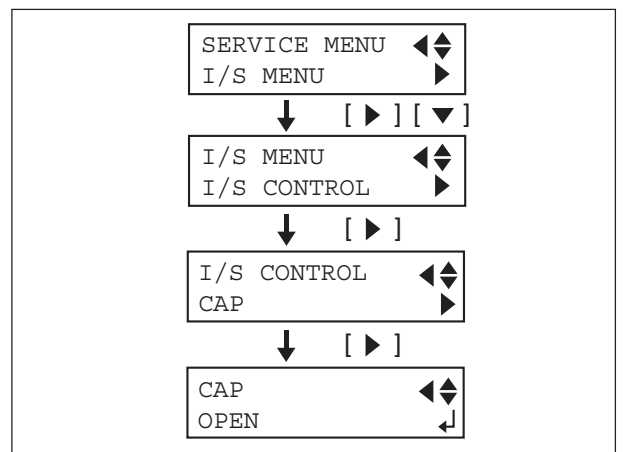
Flexible Cable is connected to the Panel Board. Do not disconnect the Flexible Cable.



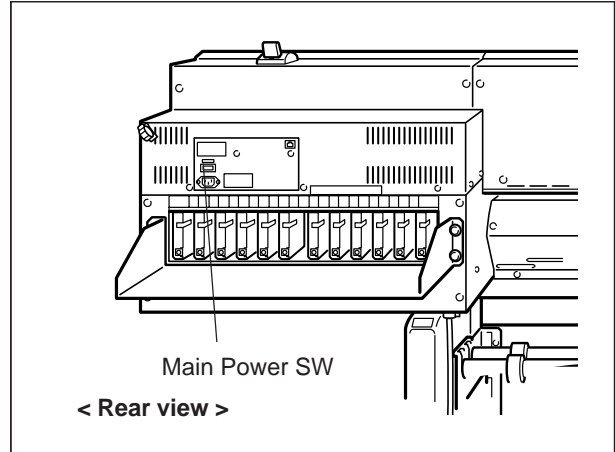
**3** After turning on the Main Power SW, turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



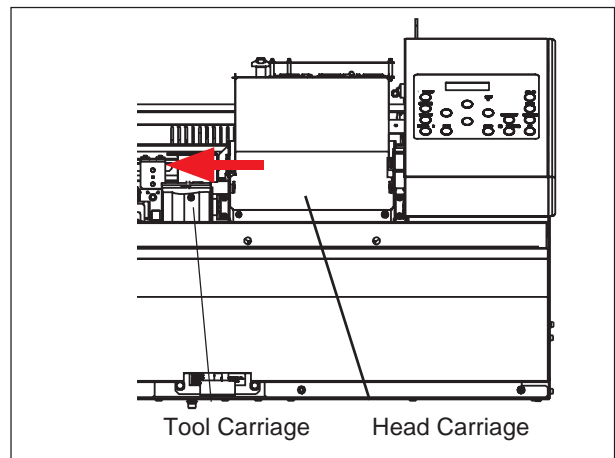
**4** To protect the Heads, select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN]. And press the [ENTER] key to move down the Capping Unit.



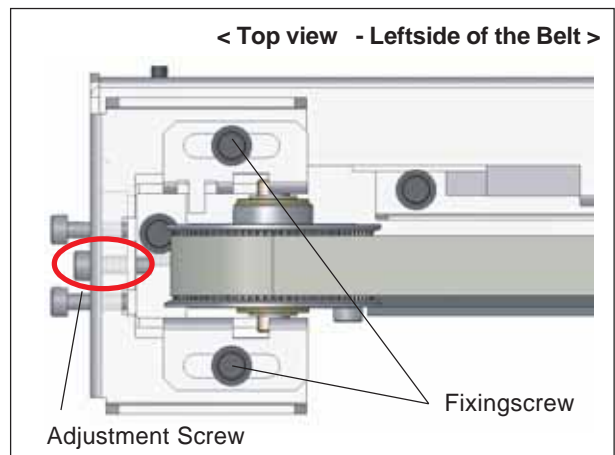
**5** Turn off the Sub Power SW and Main Power SW.



**6** Separate the Tool Carriage from the Head Carriage.

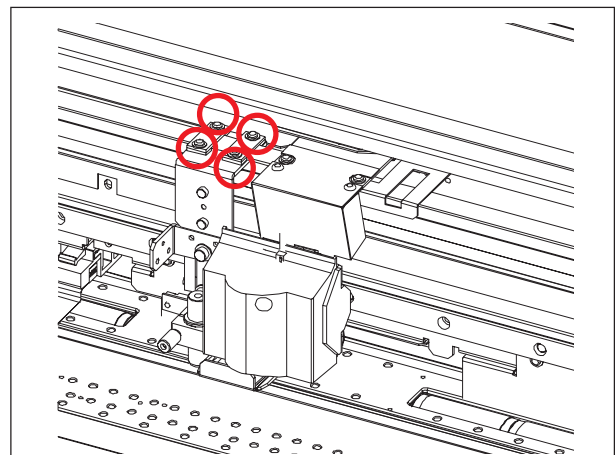


**7** Loosen the 2 Fixingscrews as shown in the figure located leftside of the Belt.  
And loosen the Adjustment Screw.



**8** Loosen the 4 screws as shown in the figure to remove the Carriage Belt.

Do not to scratch the Encoder Scale when replacing the Belt from the Carriage or move the Belt Holder.  
If the grease of the Belt adheres to the Encoder Scale, printing could be defective.





**9** Replace to the new Carriage Belt.



Check that the Belt is not twisted.

Put adequate quantity of grease (P/# : 39008297•FLOIL G902 14KG) between pulleys.

**10** Tighten the Screws shown in the figure to fix both edges of the Carriage Belt to the Belt Holder.



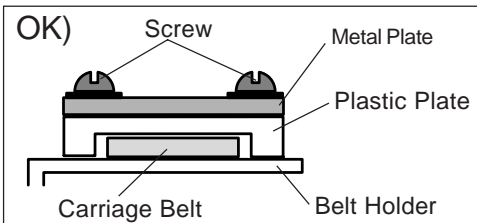
When fixing the Carriage Belt, make sure the end of the Belt are not overlapped.

Revised 1



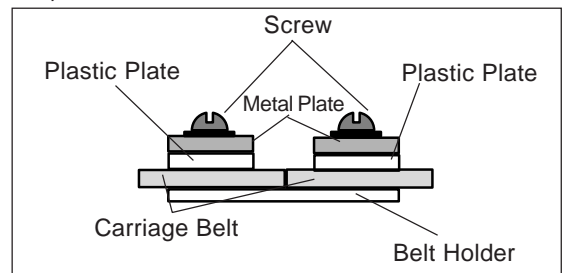
Be careful with fixing direction of the Plastic Plate and fixing order of the Plates.

< Cross-section diagram >

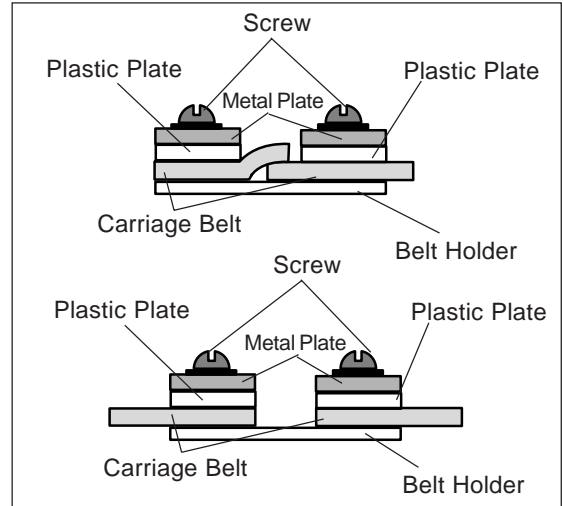


< Cross-section diagram >

OK)

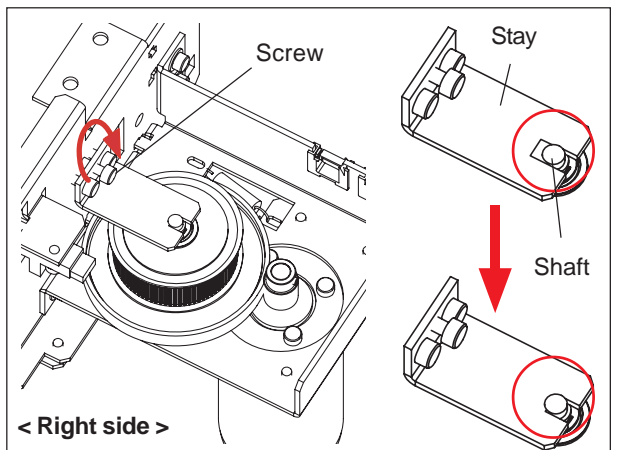


NG)

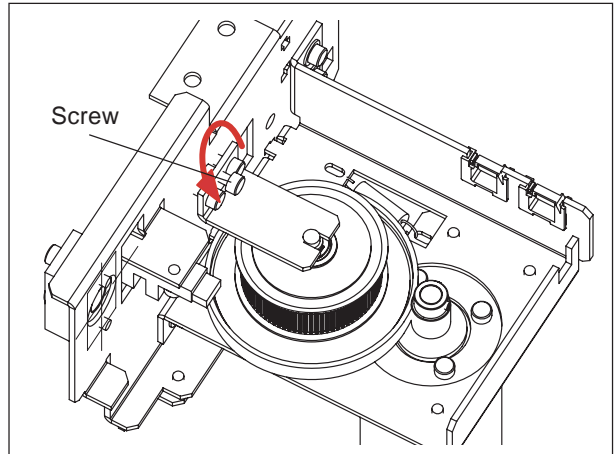


**11** Perform the followings to adjust the Pulley

1. Tighten the Screw shown in the figure until the Stay reaches to the Shaft.



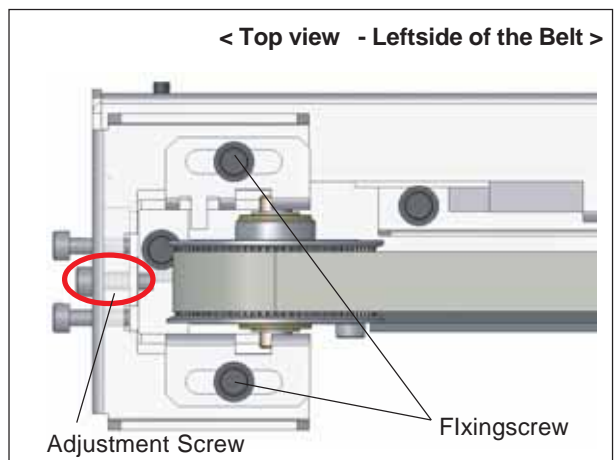
- Loosen the Screw half around to make a gap between the Stay and Shaft.



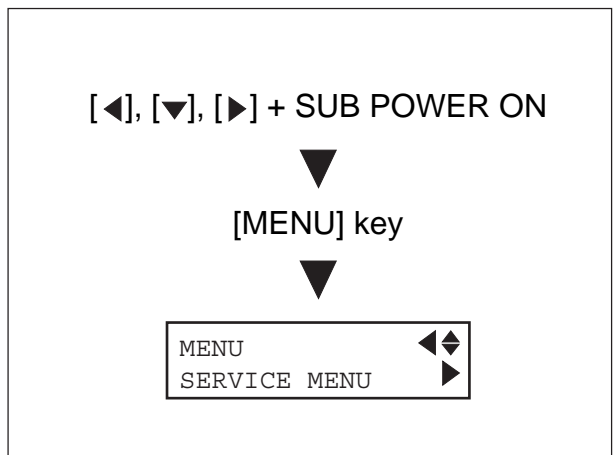
- Tighten the Adjustment Screw to have tension on the Belt. And tighten the 2 Fixingscrews as shown in the figure.



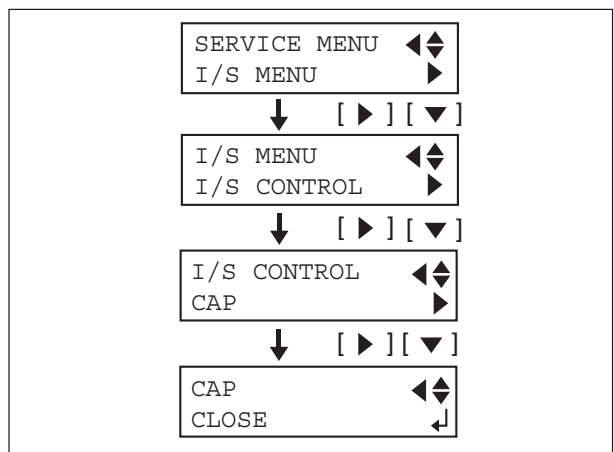
Do not tighten the Screws too hard.



- After turning on the Main Power SW, turn on the Sub Power SW while pressing the Left, Right and Down keys to enter the Service Mode.



- Select [I/S MENU] > [I/S CONTROL] > [CAP] > [CLOSE], and press the [ENTER] key. The Capping Unit moves up. Press the [ENTER] key 3 times, because the Capping Unit moves up in 3 steps.



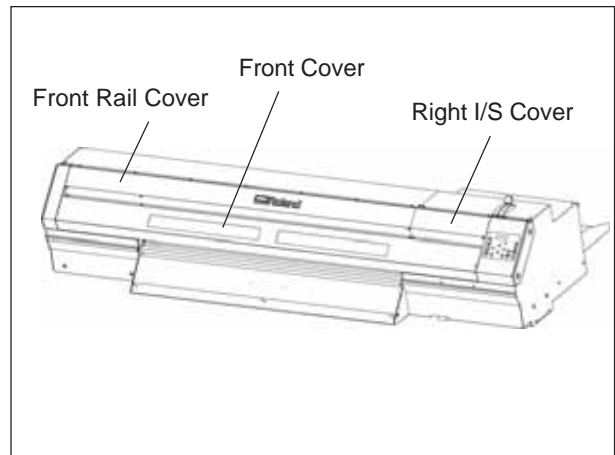
**15** Carry out the following adjustments and setting.

1. [4-15 Belt Tension Adjustment]
2. [4-16 Belt Position Adjustment]
3. [4-6 Limit Position & Max Scan Width Initialize]
4. Cutting quality check

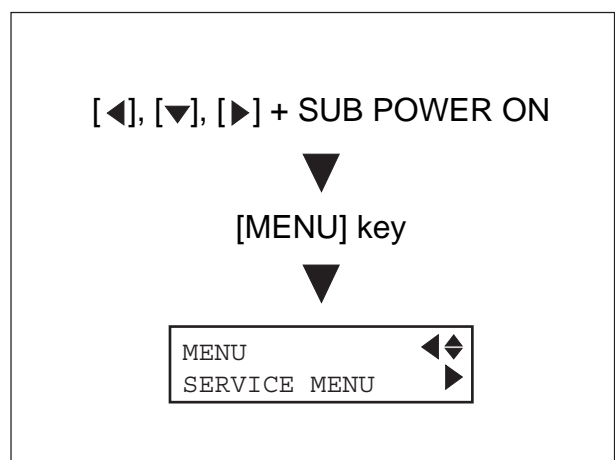
### 3-11 ENCODER SCALE REPLACEMENT

**1** Remove the following covers.

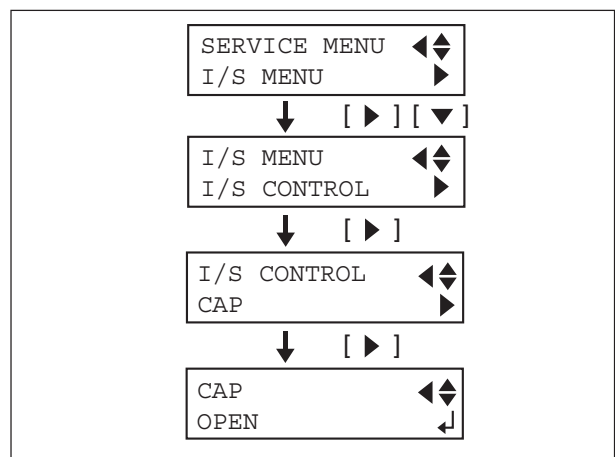
- Right I/S Cover
- Front Rail Cover
- Front Cover



**2** Turn on the Sub Power while pressing the Left, Right and Down keys to enter the Service Mode.



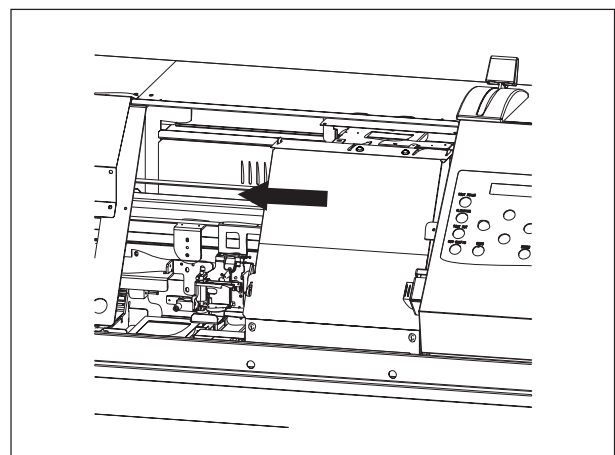
**3** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN], and press the [ENTER] key. The Capping Unit moves down and allows you to move the Head Carriage by hand.



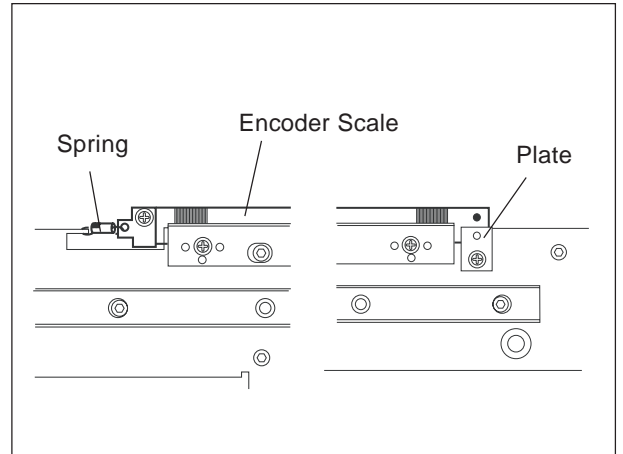
**4** Move the Head Carriage slowly leftwards so that it is not above the Capping Unit.



Remove the media if it is set.



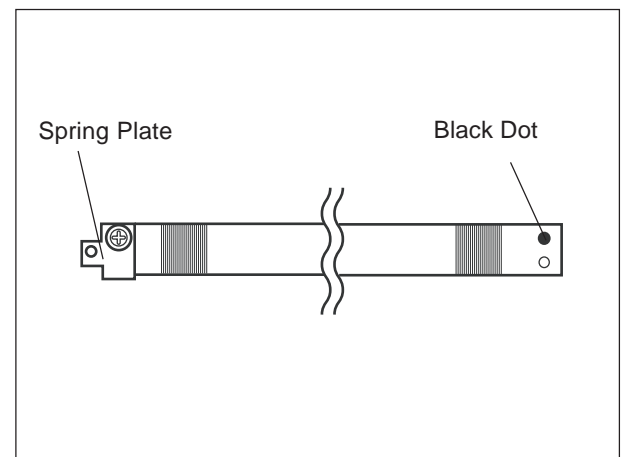
- 5** Remove the Encoder Scale by removing the Plate fixing the Encoder Scale at its right end and the Spring on its left end.



- 6** Remove the Spring Plate from the Encoder Scale and fix it to the Encoder Scale where there is no black dot written on it.



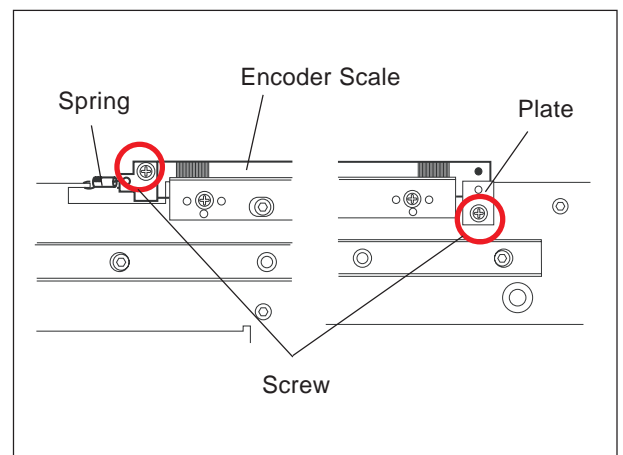
Make sure not make scratches or put grease on the Encoder Scale when fixing it.  
Do not touch the surface of the Encoder Scale.



- 7** Put the Encoder Scale in between the Encoder Plate and the Guide Rail.  
Then, fix the right end with the Plate and hook up the Spring on the left end.  
Make sure that the Encoder Scale its in place.



Do not loosen or tighten the screws fixing the Encoder Plate.



- 8** Move the Head Carriage in a whole width of the machine.  
Make sure that the Encoder Scale doesn't make contact with the Encoder Module and also Encoder Scale is between the slit of the Encoder Module.

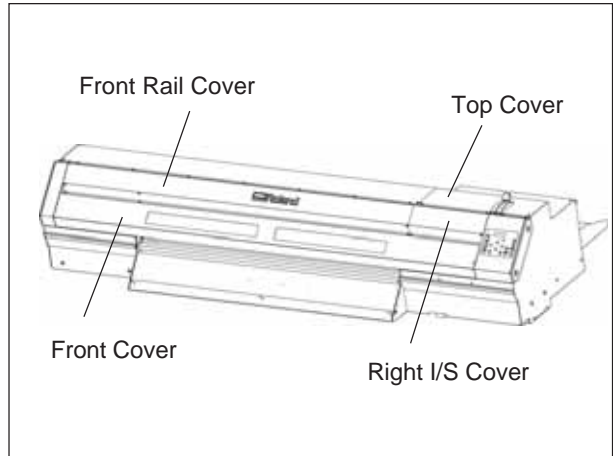
Carry out the [4-7 LINEAR ENCODER SETUP].

### 3-12 CUTTING FLEXIBLE CABLE REPLACEMENT

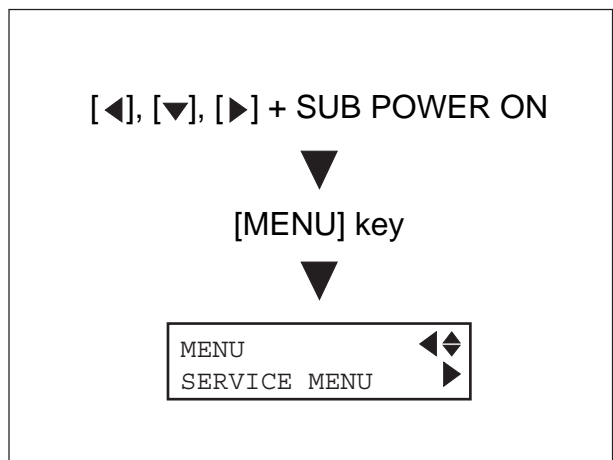
This is a procedure to replace the Cutting Flexible Cable between the Servo Board and Tool Carriage.

**1** Remove the following covers.

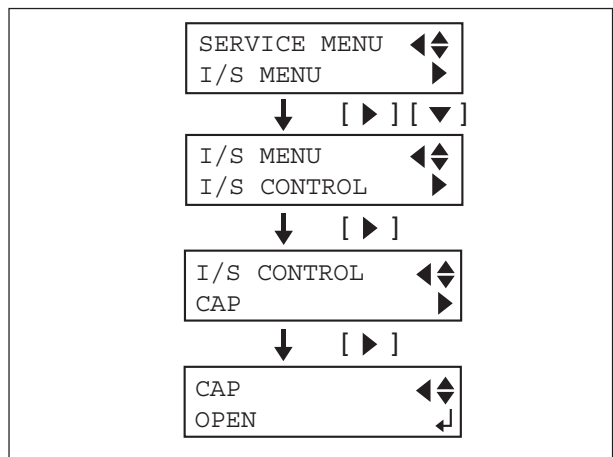
- Right I/S Cover
- Top Cover
- Front Rail Cover
- Front Cover



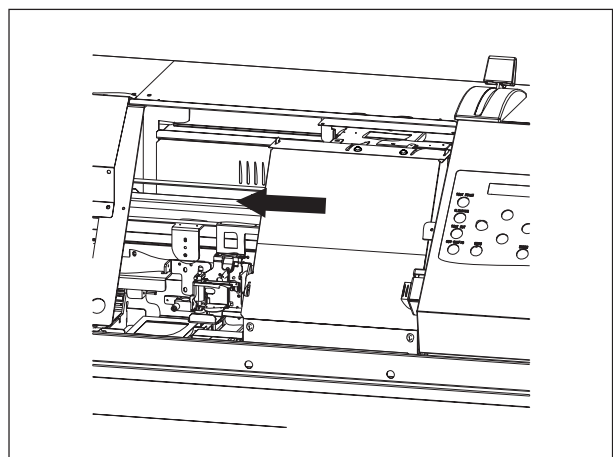
**2** Turn on the Sub Power while pressing the Left, Right and Down keys to enter the Service mode.



**3** Select [I/S MENU] > [I/S CONTROL] > [CAP] > [OPEN], and press the [ENTER] key. The Capping Unit moves down and allows you to move the Head Carriage by hand.



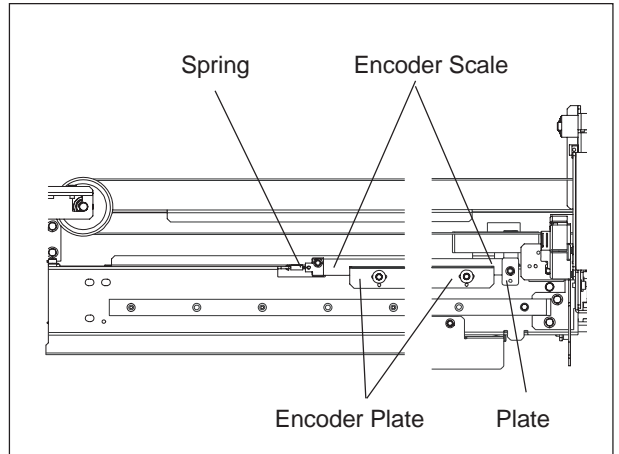
**4** Move the Head Carriage slowly leftwards so that it is not above the Capping Unit.



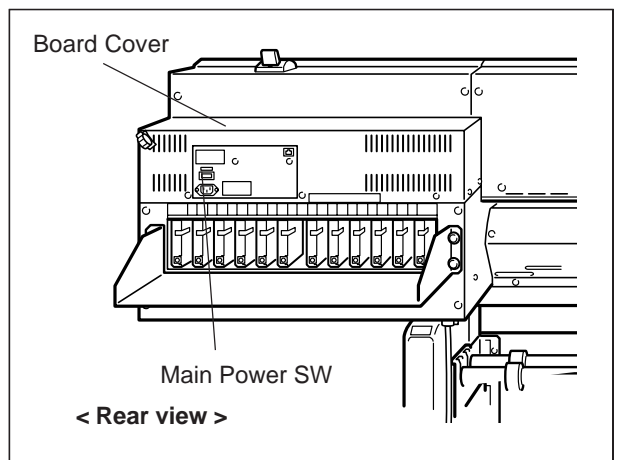
- 5** Remove the Encoder Scale by removing the Plate fixing the Encoder Scale at its right end and the Spring on its left end.



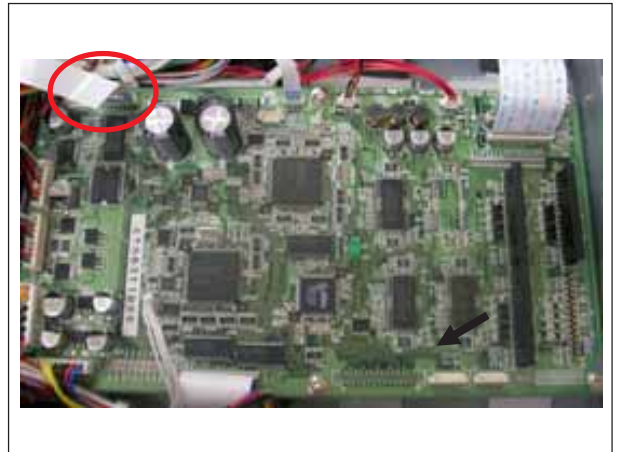
Remove the Encoder Scale to protect. Because there is a possibility to scratch or put grease on the Encoder Scale when replacing the Flexible Cable.



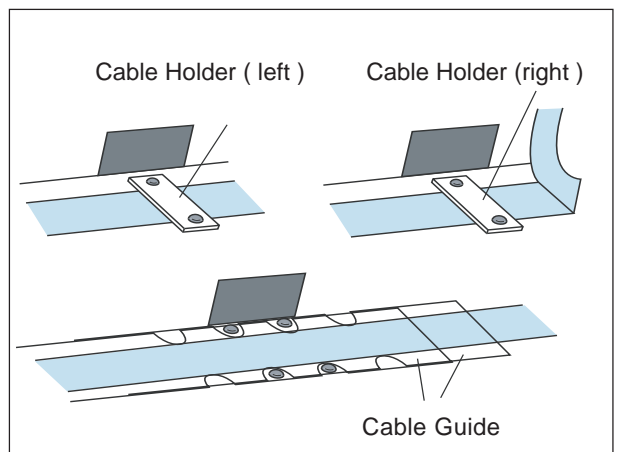
- 6** Turn off the Main Power SW and pull out the power cord. And remove the Board Cover.



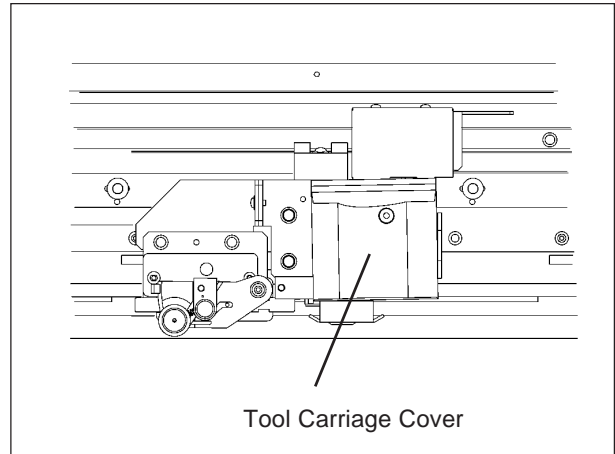
- 7** Disconnect the flexible cable connected to the CN13 on the Servo Board.



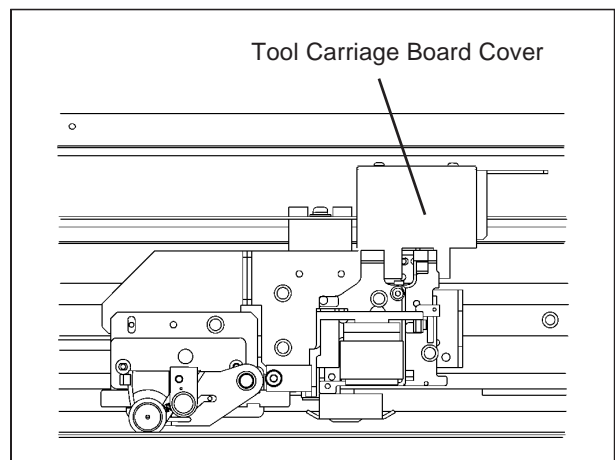
- 8** Remove the 2 Cable Holders that are holding the Flexible Cable on the Rail, and remove the rivets that are fixing the Cable Guides.



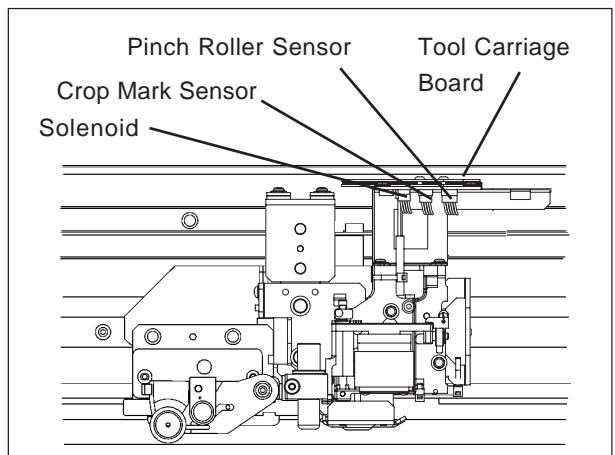
**9** Remove the Tool Carriage Cover.



**10** Remove the Tool Carriage Board Cover.



**11** Disconnect the Crop Mark sensor, Pinch Roller Sensor and Solenoid Wirings.  
And remove the Tool Carriage Board.



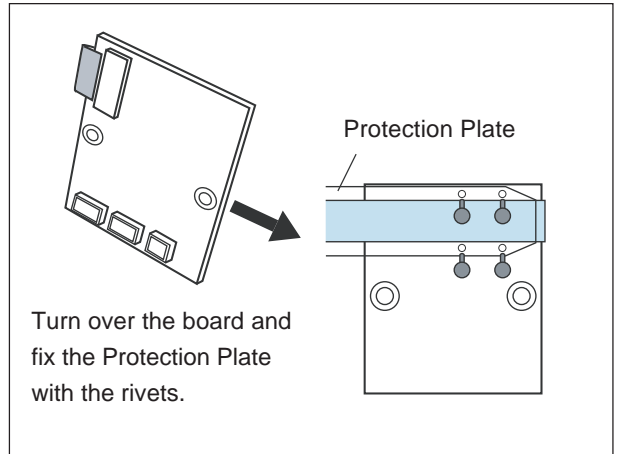
**12** Remove the Flexible cable and the Protection Plate from the Tool Carriage Board.



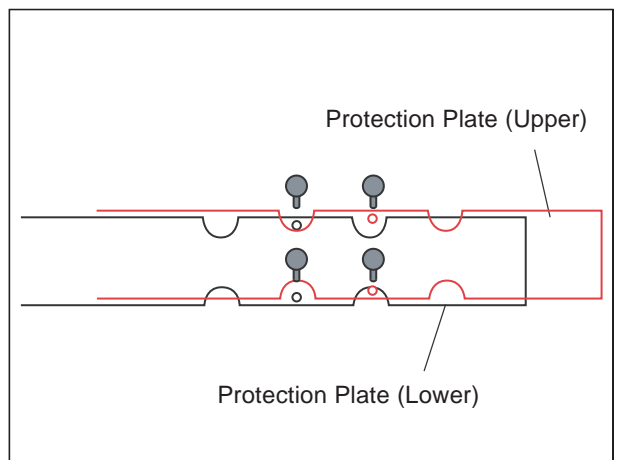
- 13** Connect the new Flexible Cable to the Tool Carriage Board. Then, fix the 2 new Protection Plate with putting the Flexible Cable between them.



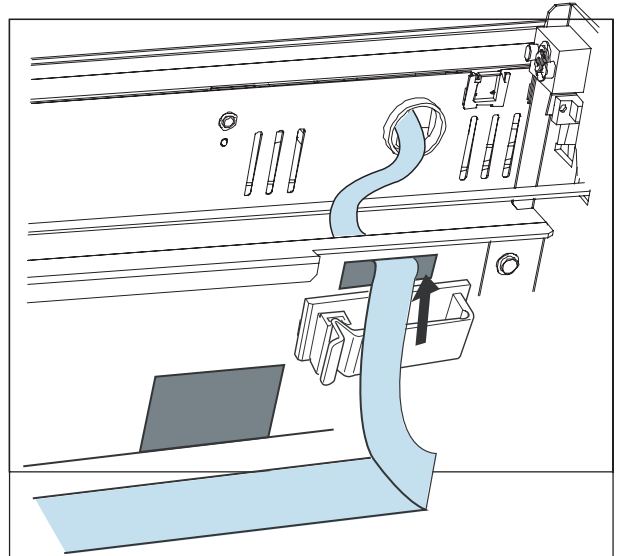
Be careful with the fixing direction of the Flexible Cable.



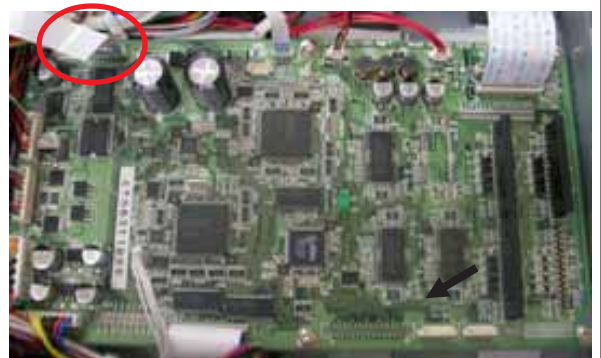
- 14** Fix the Protection Plate on the Rail with the rivets.



- 15** Lead the Flexible Cable as shown in the figure, and connect to CN13 on the Servo Board.

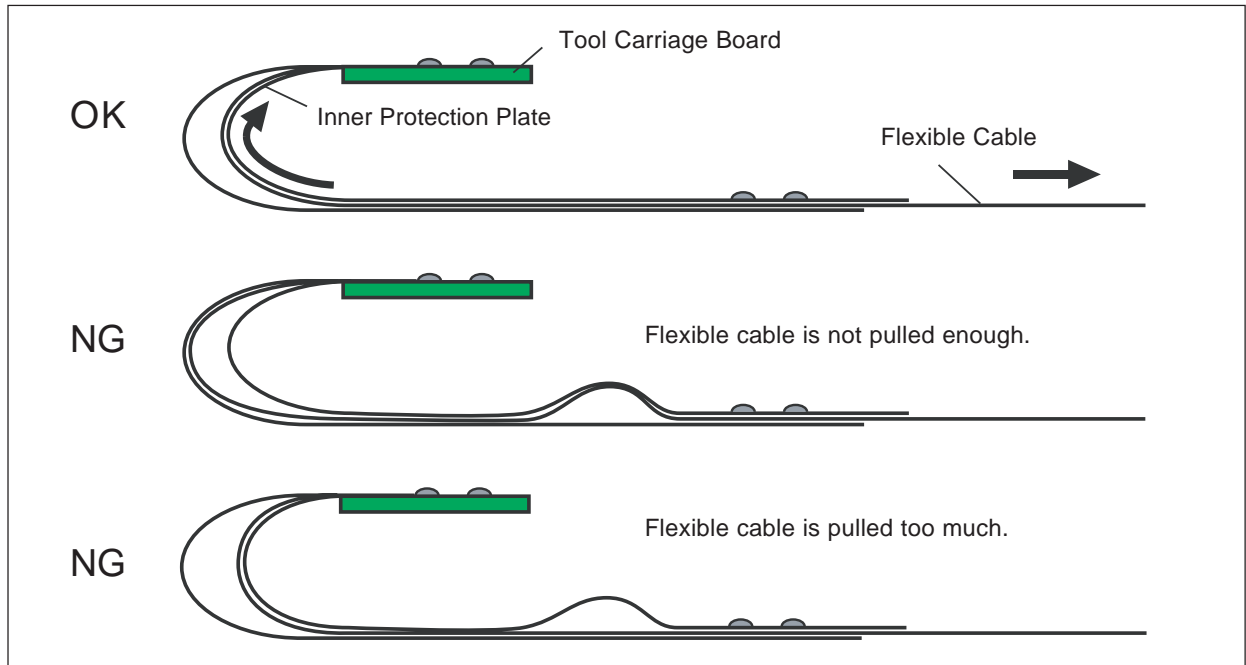


Connect the flexible Cable to the CN13 on the Servo Board.

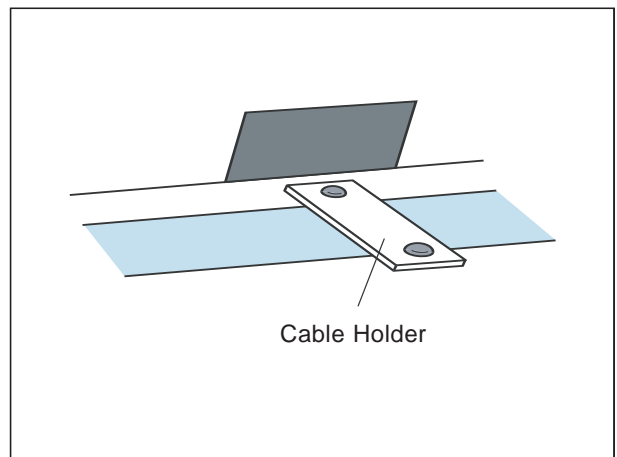


**16** Move the Tool Carriage Board to the far left. Pull the Flexible Cable rightward with holding the Inner Protection Plate at the left side so that the Flexible Cable fits to the Inner Protection Plate.

If the Flexible Cable is not pulled enough or pulled too much, there will be the slack in the Protection Plate.



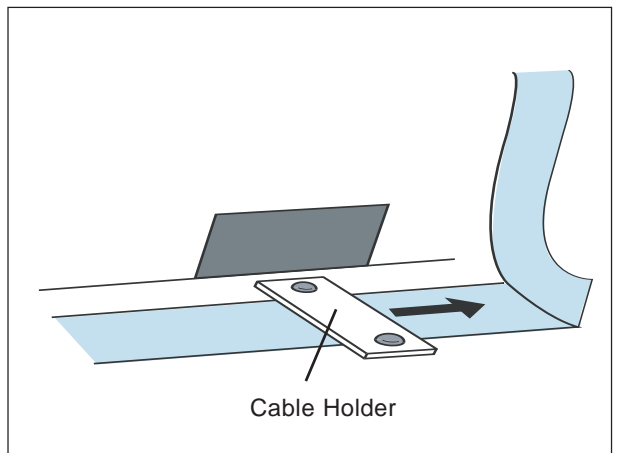
**17** Fix the Flexible Cable with the Cable Holder with keeping the condition of **16**.



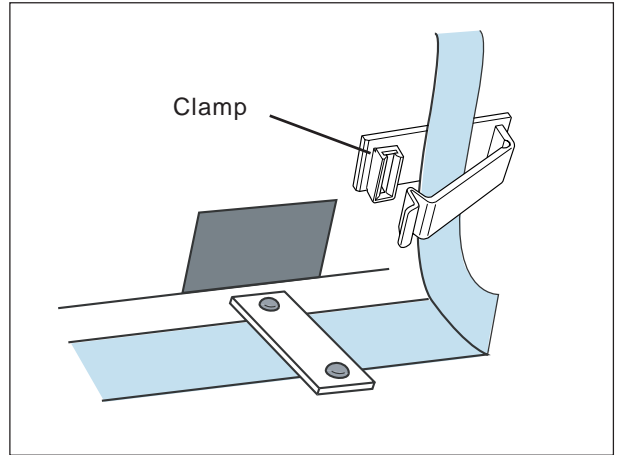
**18** Fix the Flexible Cable with the other Cable Holder.



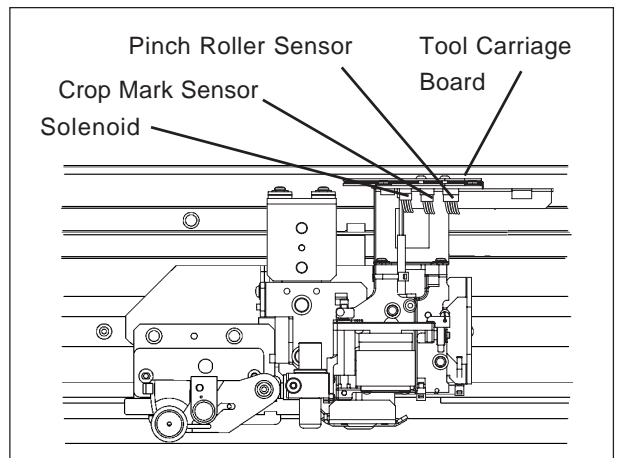
Fix the Cable Holder with pulling the Flexible Cable not to have the slack between the 2 Cable Holders.



**19** Fix the Flexible Cable with the Clamp.



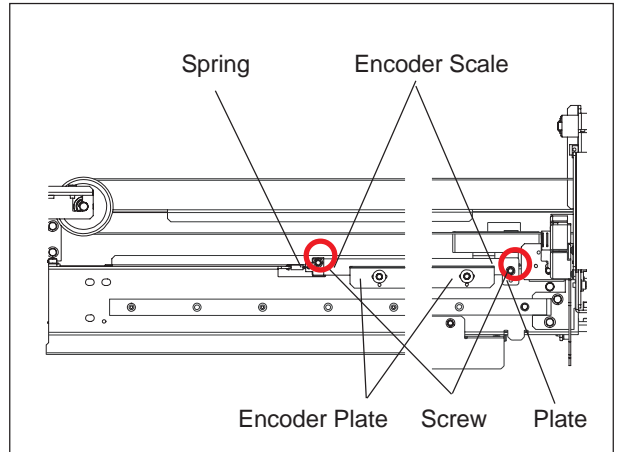
**20** Fix the Tool Carriage Board, and connect the Crop Mark Sensor, Pinch Roller Sensor and Solenoid Wirings.



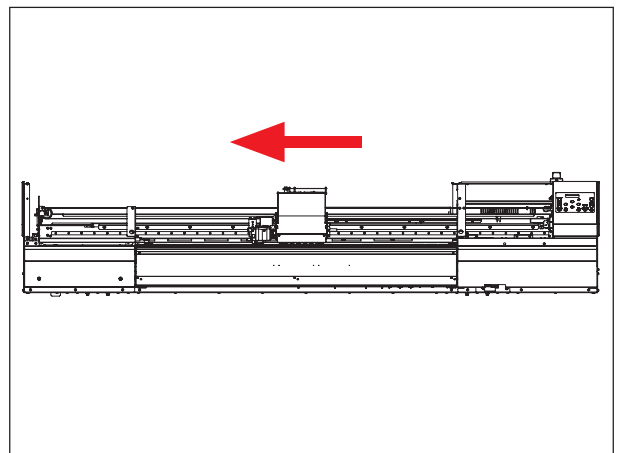
**21** Put the Encoder Scale in between the Encoder Plate and the Guide Rail.  
Then, fix the right end with the Plate and hook up the Spring on the left end.  
Make sure that the Encoder Scale is in place.



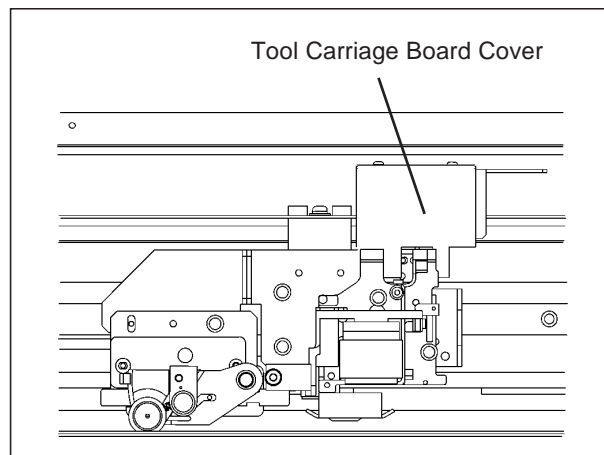
Do not loosen or tighten the screws fixing the Encoder Plate.



**22** Move the Head Carriage in a whole width of the machine.  
Make sure that the Encoder Scale doesn't make contact with the Encoder Module and also Encoder Scale is between the slit of the Encoder Module.



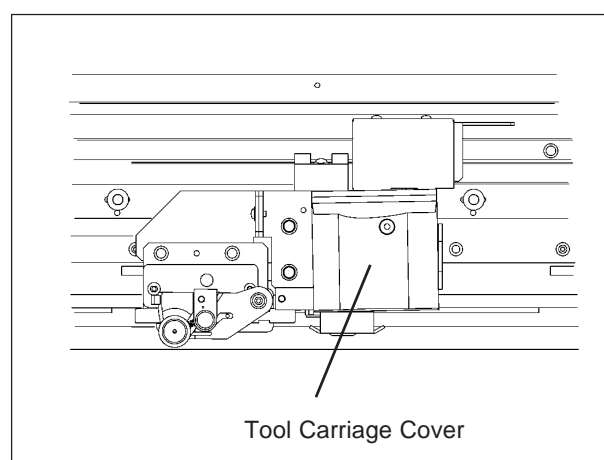
**23** Fix the Tool Carriage Board Cover.



**24** Fix the Tool Carriage Cover.



Be careful not to have a nip at the cable when fixing the Tool Carriage Cover.



**25** Carry out the following setup.

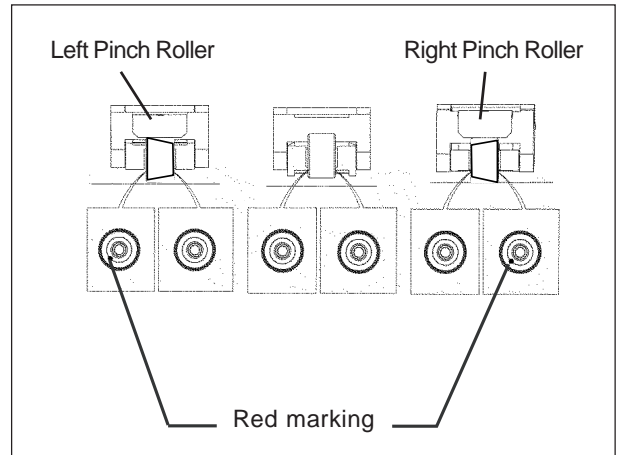
1. [4-7 Linear Encoder Setup].

### 3-13 PINCH ROLLER REPLACEMENT

- 1 Conical Type is used on both Left & Right Pinch Rollers and flat type is used for the Middle Pinch Rollers.



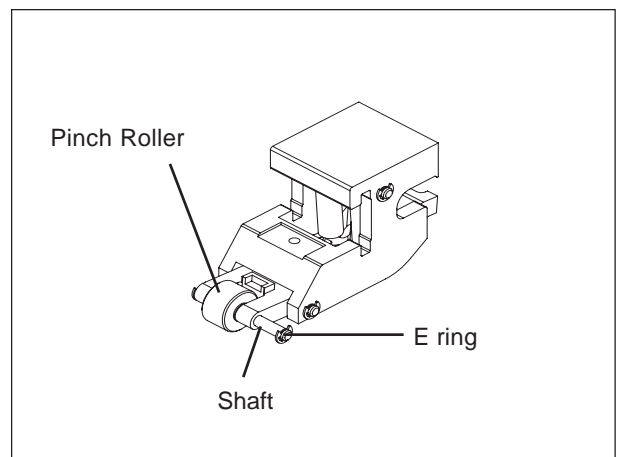
Red marking is done on the outer side of Left & Right Pinch Rollers so that .



- 2 Remove the E ring on one side of the Pinch Roller and pull out the Shaft.

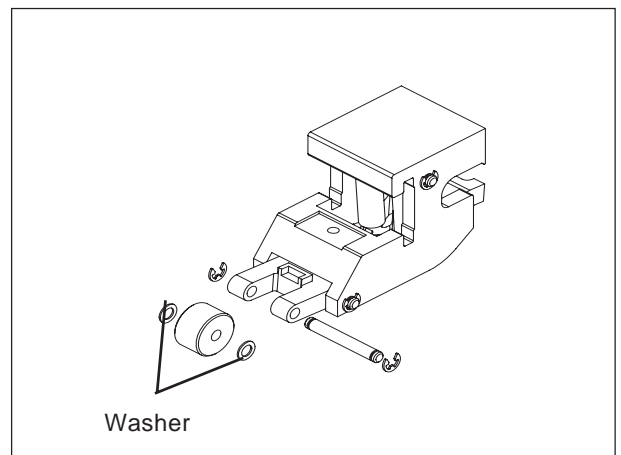


Replace the Washers on a paper not to lose them which are fixed at both sides of the Pinch Roller.

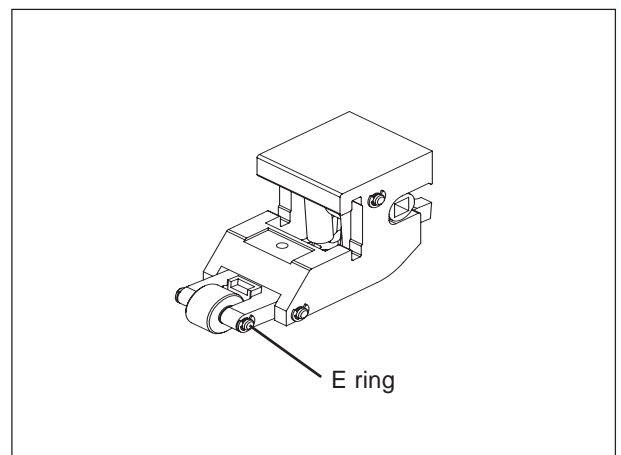


- 3 Put the new Pinch Roller with Washers and put the Shaft into the Pinch Roller.

Fixing operation becomes easy when you put the Washers to the Pinch Roller with grease.



- 4 Fix the E ring and make sure that the Pinch Roller rotates smoothly.

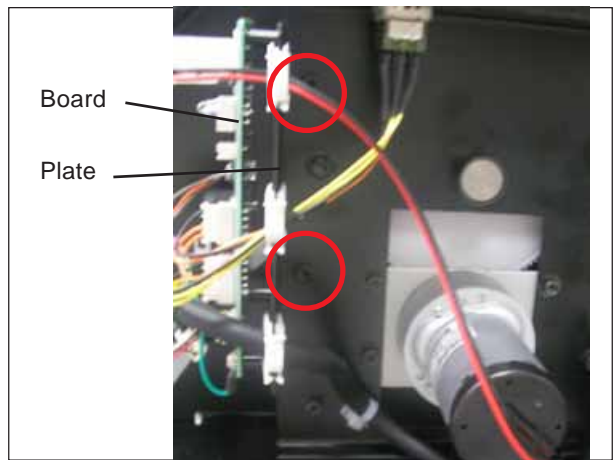


### 3-14 TAKE-UP BOARD REPLACEMENT

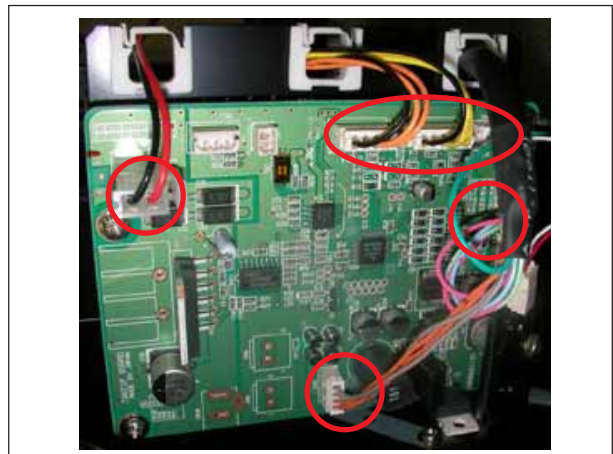
1 Remove the TU Cover.



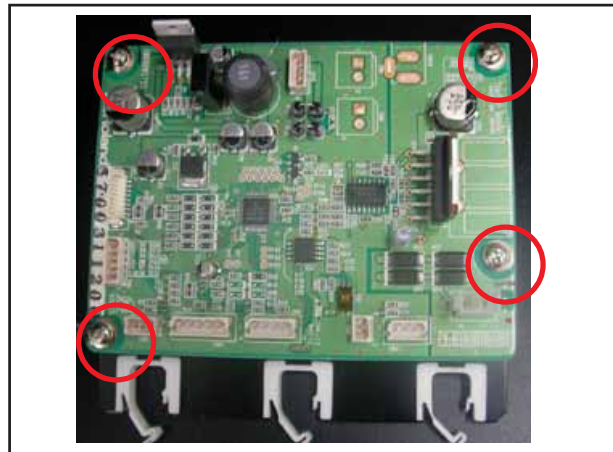
2 Remove the 2 screws as shown in the figure to remove the Plate fixing the Board.



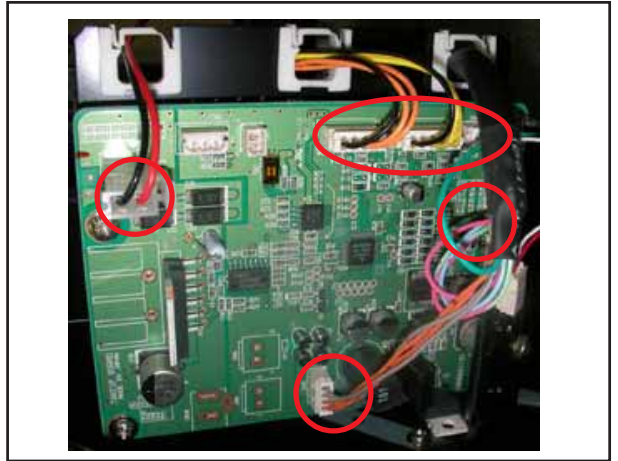
3 Remove all the cables that are connected to the Board.



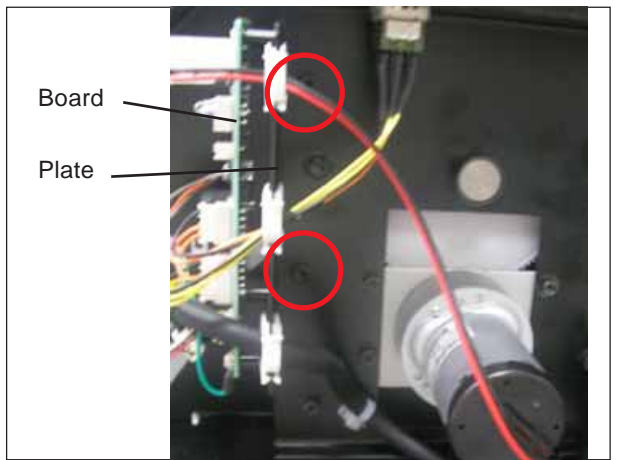
4 Remove the 4 screws to remove the Board from the Plate.  
Replace to the new Board.



**5** Connect all the cables to the Board.



**6** Fix the Plate.



**7** Fix the TU Cover.




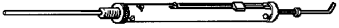
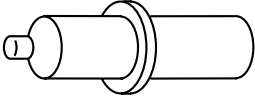
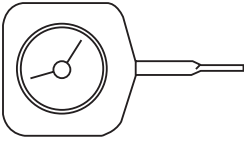


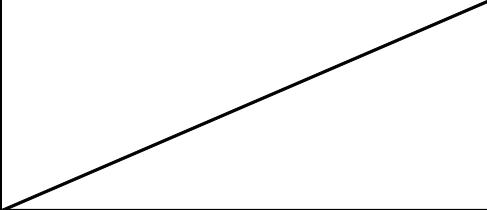
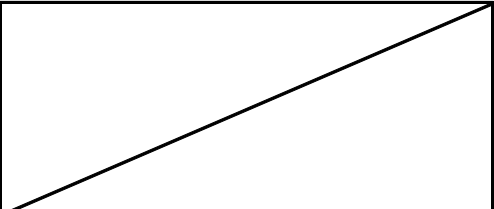
**8** Check the following.

1. [4-17 TAKE-UP UNIT OPERATION CHECK]

## 4 Adjustment

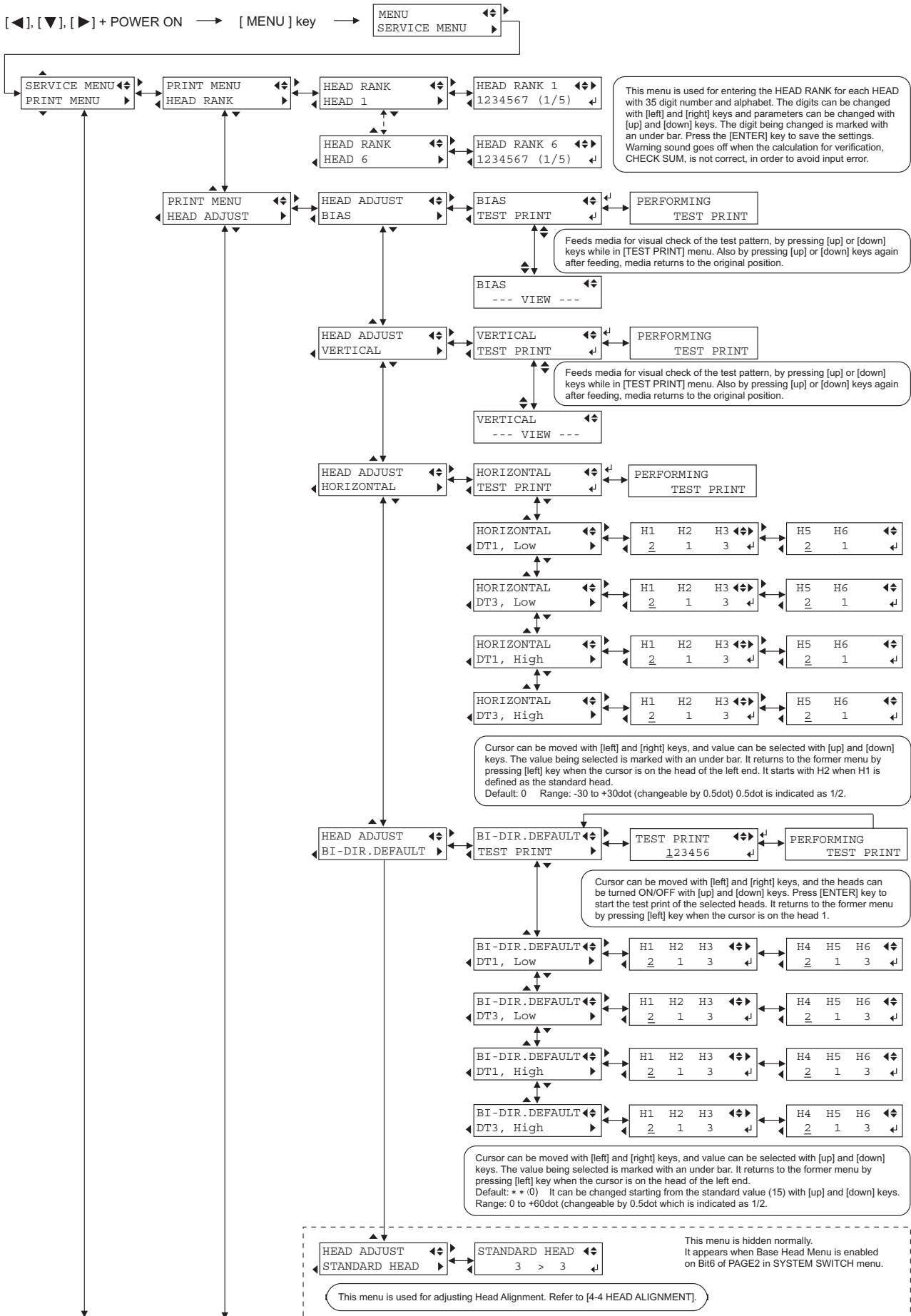
### 4-1 Special Tools

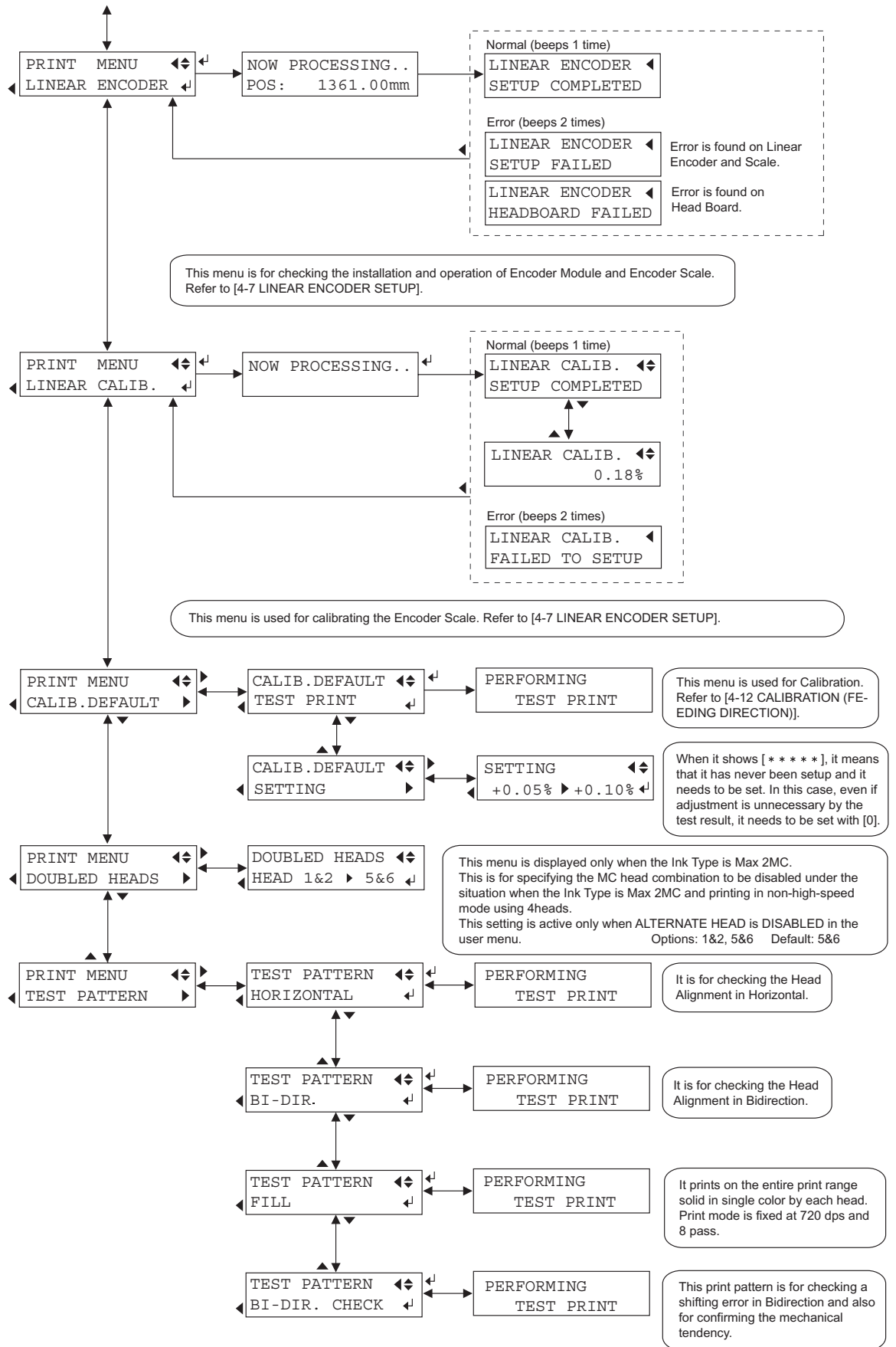
Table shows a list of special tools recommended by Roland DG Corp.

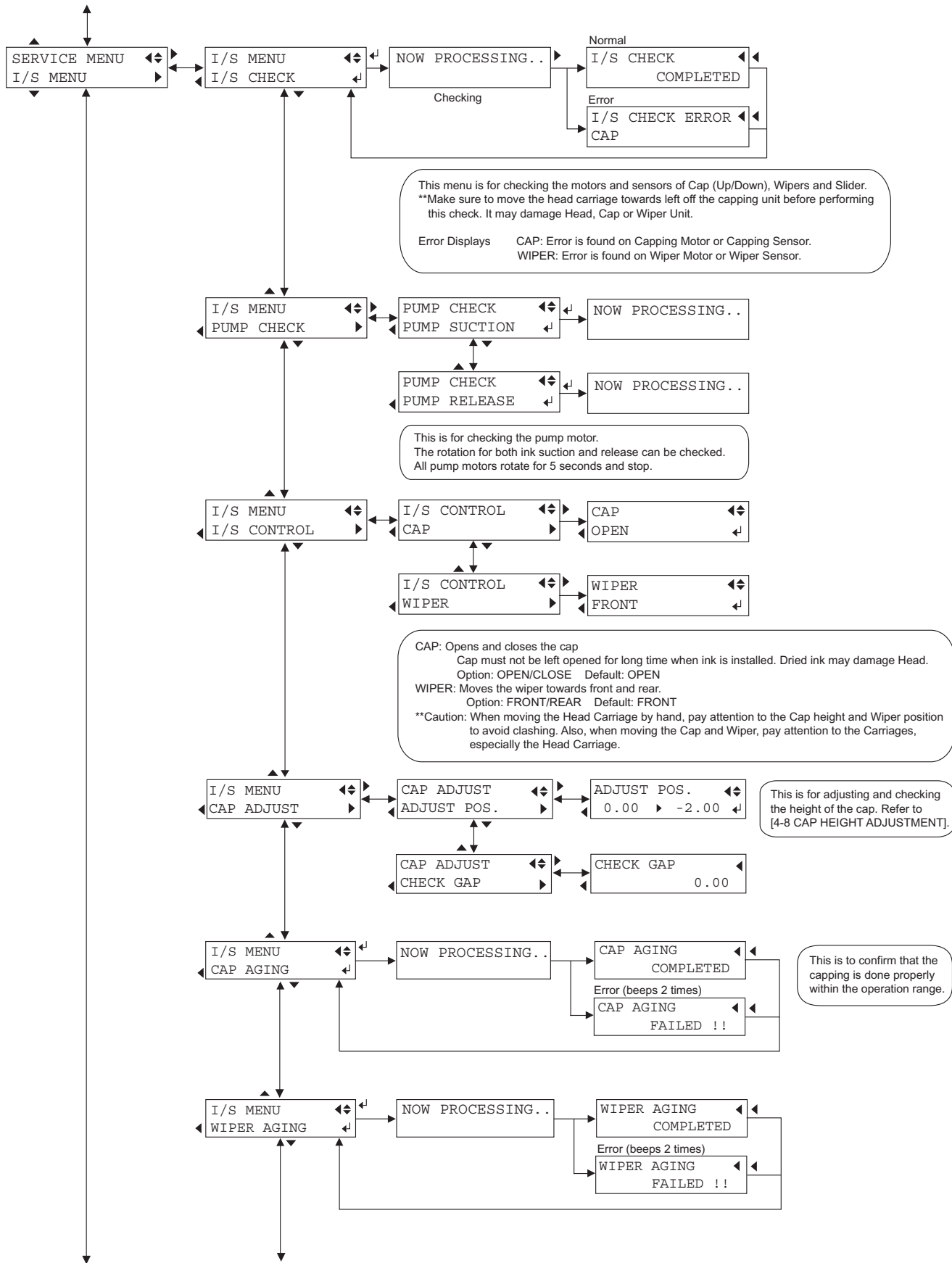
Tool No.	ST-056	
Tool Name	TORQUE DRIVER N6	
Purpose	HEAD ALIGNMENT	
Tool No.	ST-002	
Tool Name	TENSION GAUGE 300g (3N)	
Purpose	TOOL PRESSURE ADJUSTMENT	
Tool No.	ST-006	
Tool Name	WHITE DUMMY PEN	
Purpose	TOOL HEIGHT ADJUSTMENT TOOL PRESSURE ADJUSTMENT	
Tool No.	ST-013	
Tool Name	DIAL TENSION METER DT-100 (100g/1N)	
Purpose	TOOL PRESSURE ADJUSTMENT	
Tool No.	ST-001	
Tool Name	TENSION GAUGE 2000GF/2000CN	
Purpose	BELT TENSION ADJUSTMENT	
Tool No.	ST-037	
Tool Name	CLEAN STICK TX712A	
Purpose	HEAD CLEANING	
Tool No.	21755107	
Tool Name	CLEANING LIQUID (SL) 500ML	
Purpose	HEAD CLEANING (SOL)	
Tool No.	22085118	
Tool Name	KIT, CLEANING (SL)	
Purpose	HEAD CLEANING (SOL) *Cleaning Liquid + Cleaning Sticks 10 pcs.	

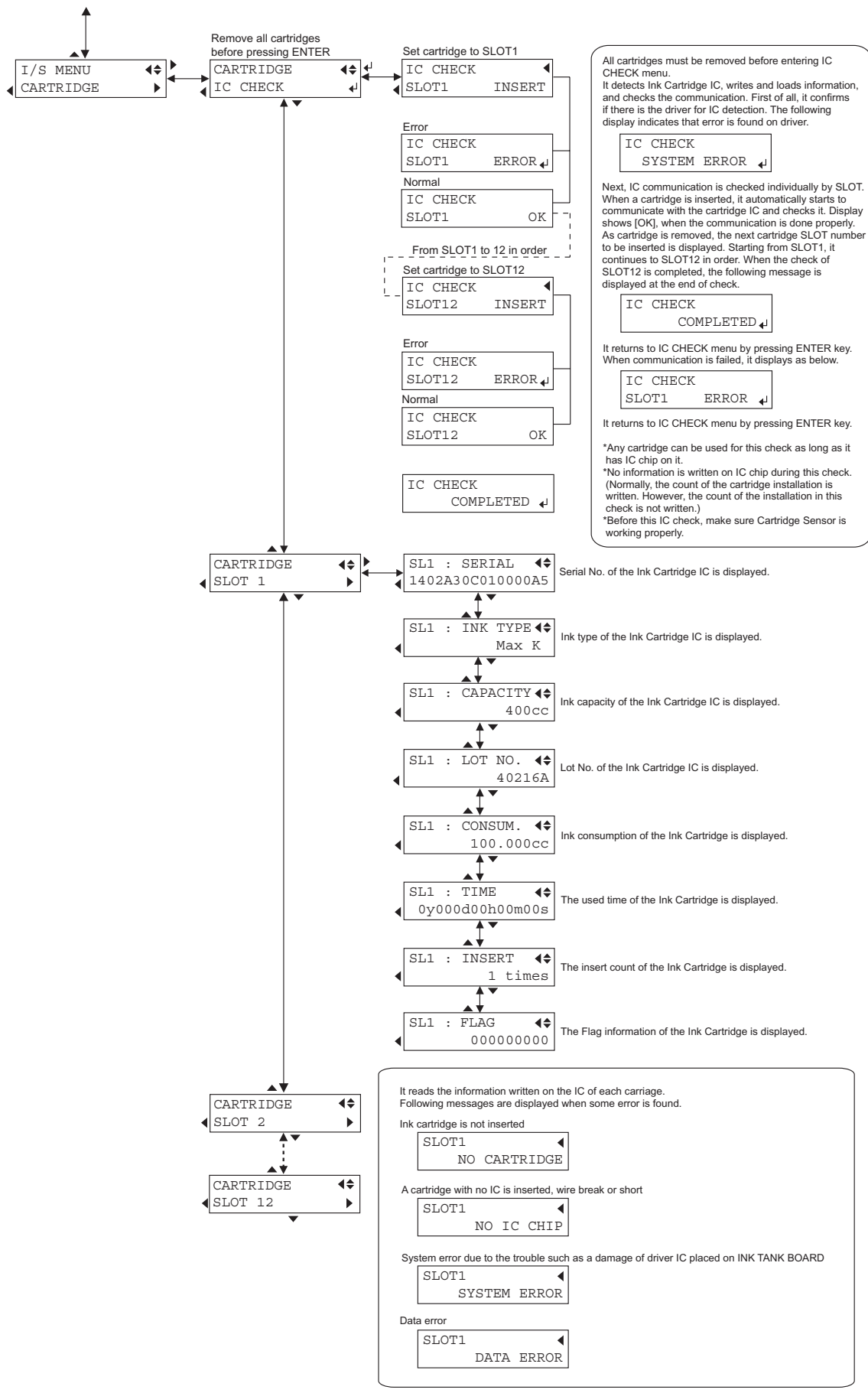


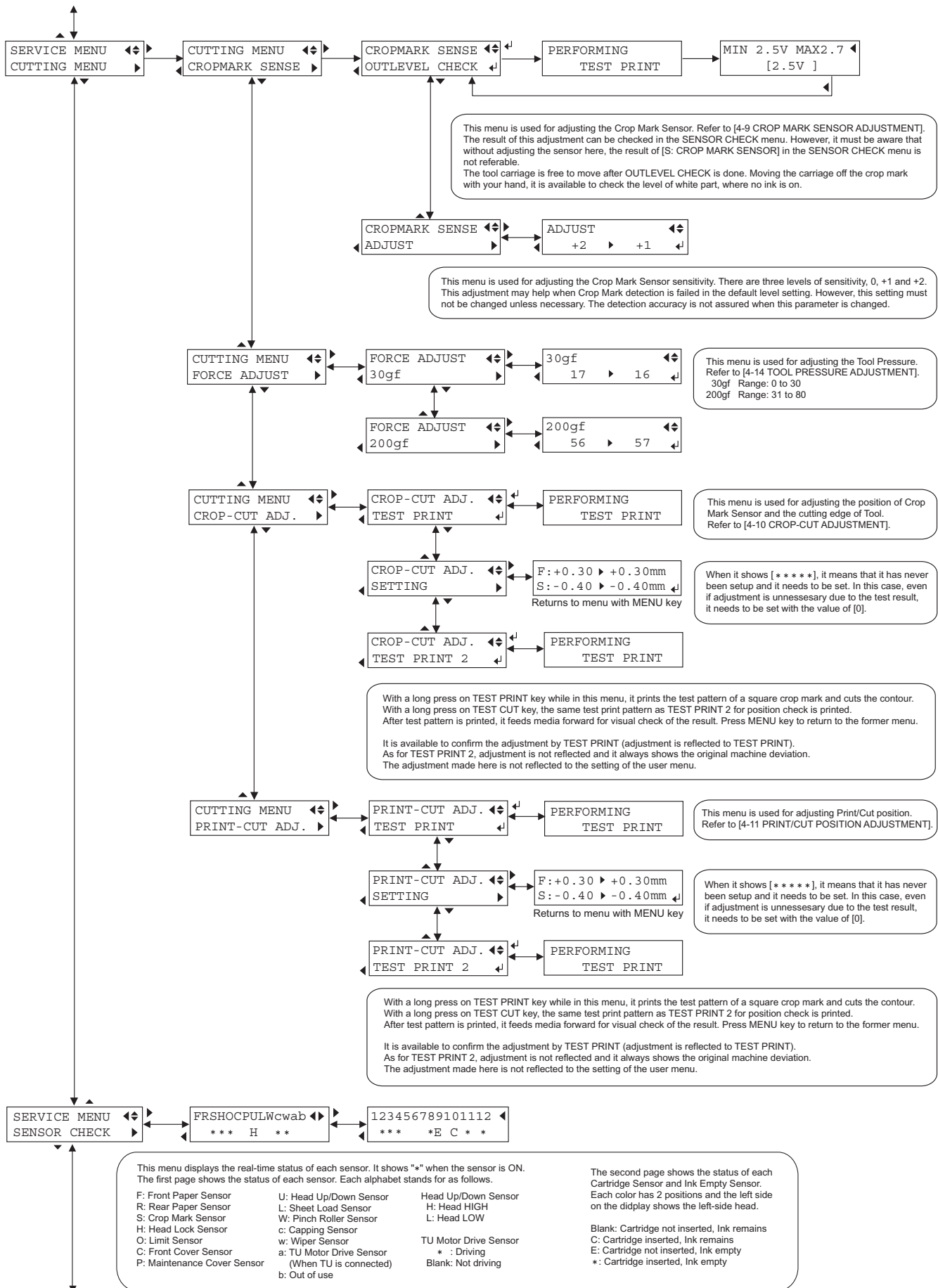
## 4-2 SERVICE MODE

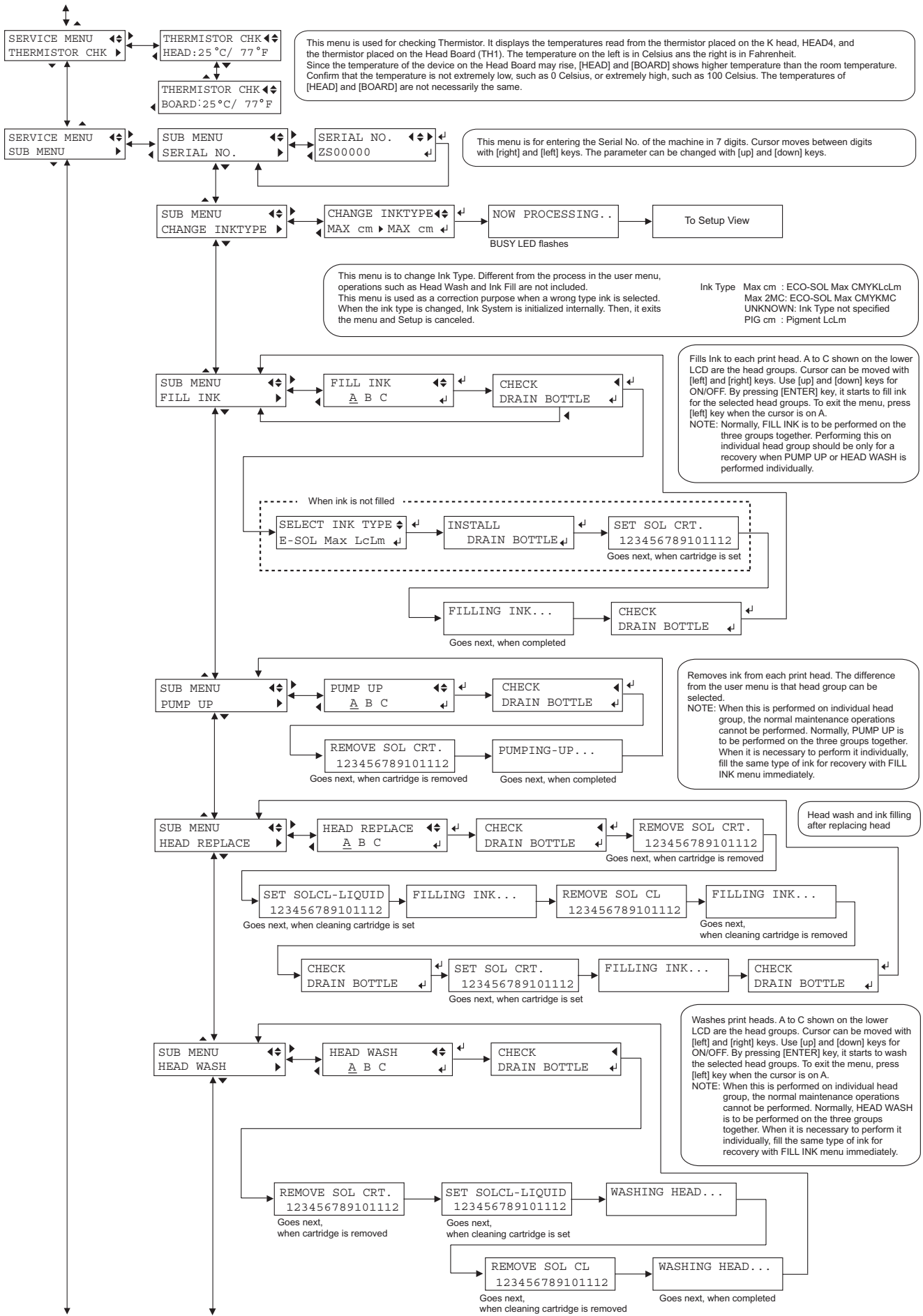


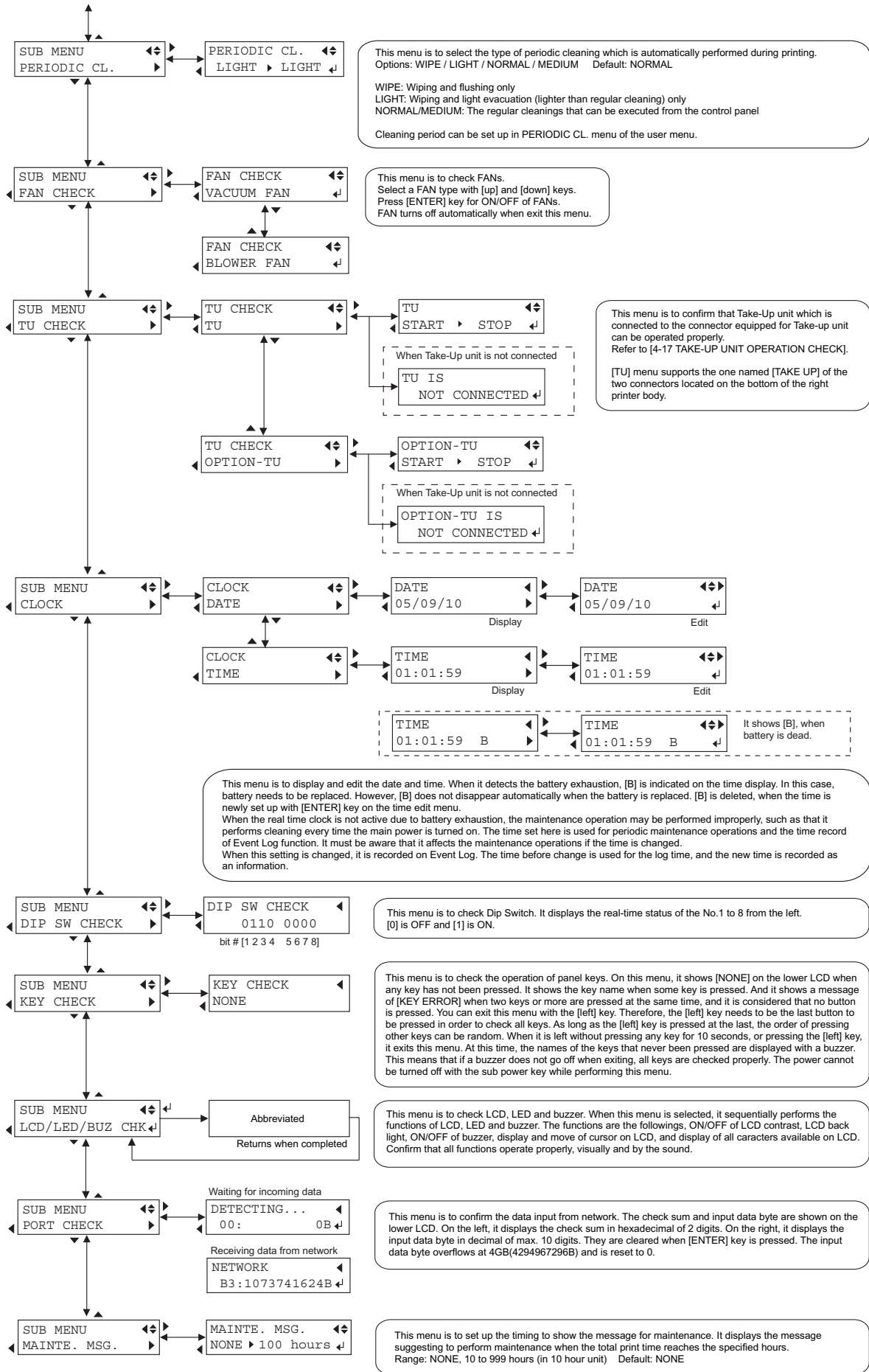


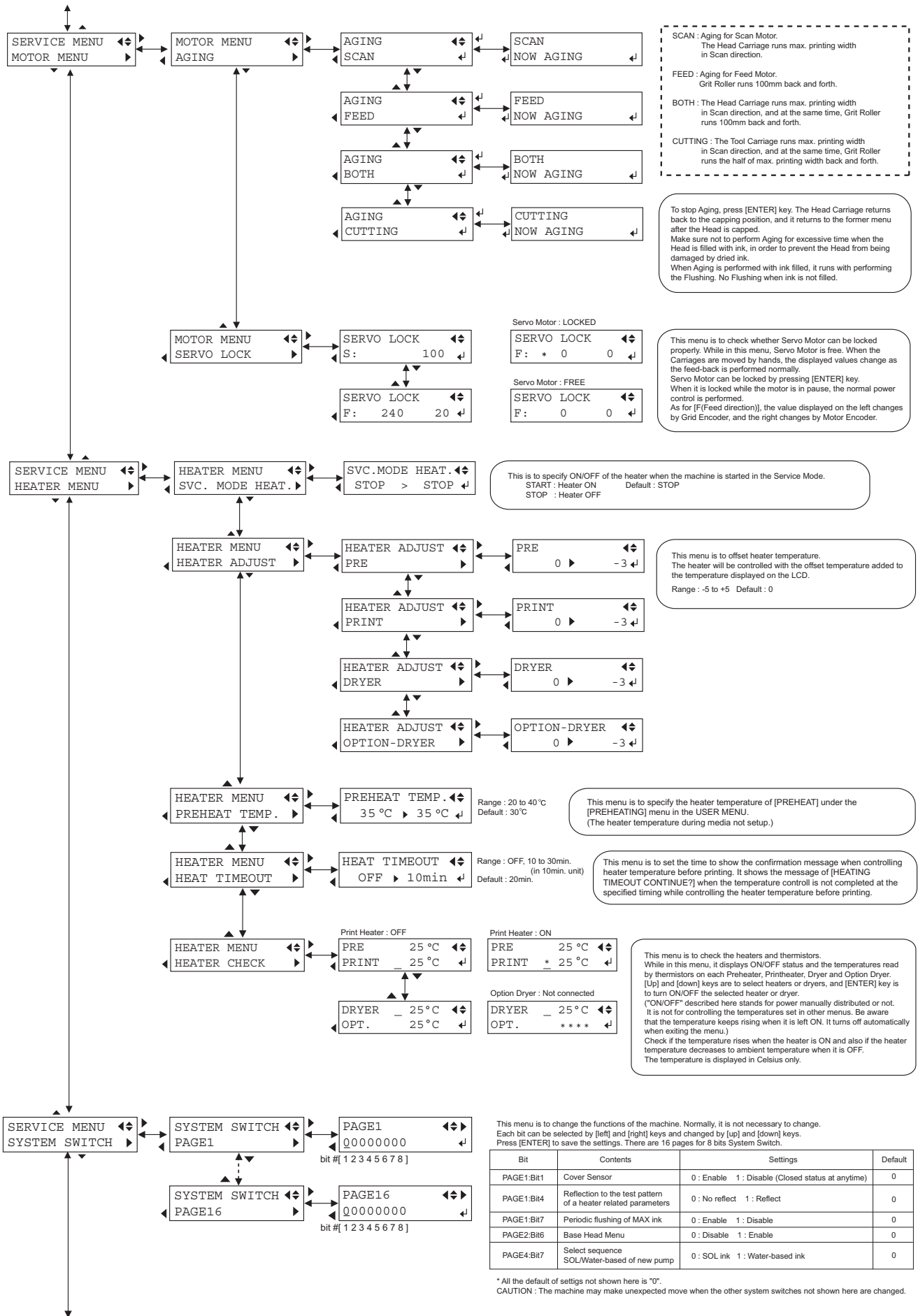












SCAN : Aging for Scan Motor.  
The Head Carriage runs max. printing width in Scan direction.

FEED : Aging for Feed Motor.  
Grit Roller runs 100mm back and forth.

BOTH : The Head Carriage runs max. printing width in Scan direction, and at the same time, Grit Roller runs 100mm back and forth.

CUTTING : The Tool Carriage runs max. printing width in Scan direction, and at the same time, Grit Roller runs the half of max. printing width back and forth.

To stop Aging, press [ENTER] key. The Head Carriage returns back to the capping position, and it returns to the former menu after the Head is capped.  
Make sure not to perform Aging for excessive time when the Head is filled with ink, in order to prevent the Head from being damaged by dried ink.  
When Aging is performed with ink filled, it runs with performing the Flushing. No Flushing when ink is not filled.

This menu is to check whether Servo Motor can be locked properly. While in this menu, Servo Motor is free. When the Carriages are moved by hands, the displayed values change as the feed-back is performed normally.  
Servo Motor can be locked by pressing [ENTER] key. When it is locked while the motor is in pause, the normal power control is performed.  
As for [F(Feed direction)], the value displayed on the left changes by Grid Encoder, and the right changes by Motor Encoder.

This is to specify ON/OFF of the heater when the machine is started in the Service Mode.  
START : Heater ON Default : STOP  
STOP : Heater OFF

This menu is to offset heater temperature.  
The heater will be controlled with the offset temperature added to the temperature displayed on the LCD.  
Range : -5 to +5 Default : 0

This menu is to specify the heater temperature of [PREHEAT] under the [PREHEATING] menu in the USER MENU.  
(The heater temperature during media not setup.)

This menu is to set the time to show the confirmation message when controlling heater temperature before printing. It shows the message of [HEATING TIMEOUT CONTINUE?] when the temperature controll is not completed at the specified timing while controlling the heater temperature before printing.

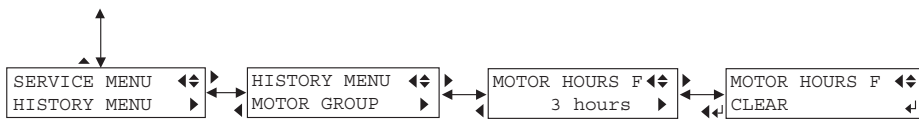
This menu is to check the heaters and thermistors.  
While in this menu, it displays ON/OFF status and the temperatures read by thermistors on each Preheater, Printhead, Dryer and Option Dryer. [Up] and [down] keys are to select heaters or dryers, and [ENTER] key is to turn ON/OFF the selected heater or dryer.  
("ON/OFF" described here stands for power manually distributed or not. It is not for controlling the temperatures set in other menus. Be aware that the temperature keeps rising when it is left ON. It turns off automatically when exiting the menu.)  
Check if the temperature rises when the heater is ON and also if the heater temperature decreases to ambient temperature when it is OFF.  
The temperature is displayed in Celsius only.

This menu is to change the functions of the machine. Normally, it is not necessary to change. Each bit can be selected by [left] and [right] keys and changed by [up] and [down] keys. Press [ENTER] to save the settings. There are 16 pages for 8 bits System Switch.

Bit	Contents	Settings	Default
PAGE1:Bit1	Cover Sensor	0 : Enable 1 : Disable (Closed status at anytime)	0
PAGE1:Bit4	Reflection to the test pattern of a heater related parameters	0 : No reflect 1 : Reflect	0
PAGE1:Bit7	Periodic flushing of MAX ink	0 : Enable 1 : Disable	0
PAGE2:Bit6	Base Head Menu	0 : Disable 1 : Enable	0
PAGE4:Bit7	Select sequence SOL/Water-based of new pump	0 : SOL ink 1 : Water-based ink	0

\* All the default of settings not shown here is "0".  
CAUTION : The machine may make unexpected move when the other system switches not shown here are changed.

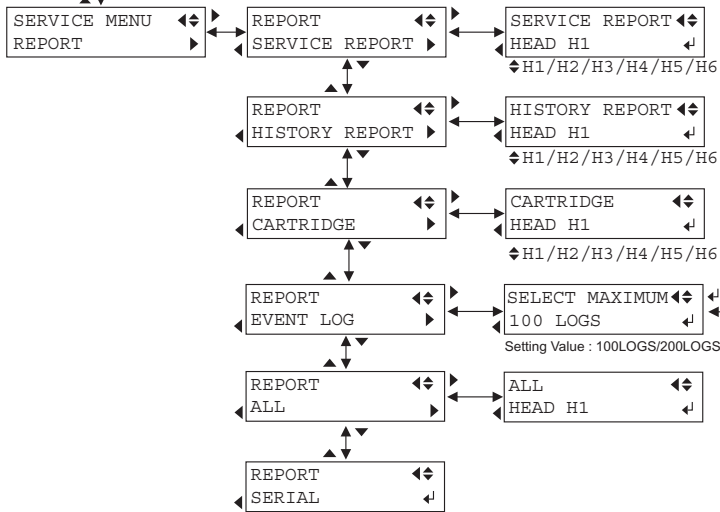




In History Menu, the parameters are separated in groups by categories. The parameters can be displayed or cleared by entering the menu of each groups.

CATEGORIES : MOTOR GROUP / HEAD GROUP / MAINTENANCE GROUP / WIPE GROUP / PRINT GROUP / CUTTING GROUP / INK GROUP / HEATER GROUP / ERROR GROUP / SYSTEM

The menu shown on the upper LCD can be changed with [up] and [down] keys. The corresponding parameter is shown on the lower LCD. Refer to the HISTORY MENU List on the following pages. Press [right] key to enter [CLEAR] menu, and parameter can be cleared by pressing [ENTER] key.



Reports can be printed. The Head to print the report is selectable considering the case of head trouble. Select a head with [up] and [down] key and press [ENTER] key to start printing.

SERVICE : Service Report is printed. It prints the System Report of the normal menu with additional Service Information.

HISTORY : History Report is printed.

CARTRIDGE : Ink Cartridge IC Report is printed.

EVENT LOG : Event Log Report is printed. The number of Event to be printed is selectable from 100/200/ALL(400).

ALL : All Reports are printed together. (System Report, Service Report, History Report, Ink Cartridge IC Report, Event Log Report).

SERIAL : Service Report and History Report can be sent to RS-232C Serial using special tool. (9600bps, N81, X : ON/OFF)

Required Printing Area

SERVICE : W350 L450mm  
 HISTORY : W250 L220mm  
 CARTRIDGE : W250 L100mm  
 EVENT LOG/100 LOGS : W350 L200mm  
 EVENT LOG/200 LOGS : W350 L330mm  
 EVENT LOG/ALL(400) : W350 L590mm  
 ALL : W800 L350mm

# HISTORY MENU

## MOTOR GROUP

Item	Contents	Unit	Reference
MOTOR FEED	Total time that the Feed Motor has been rotated	hour	
MOTOR SCAN	Total time that the Scan Motor has been rotated	hour	Life: 1500 hours
PUMP TIMES A	Total time that the Pump Motor A has been rotated	times	Life: 200,000 times
PUMP TIMES B	Total time that the Pump Motor B has been rotated	times	Life: 200,000 times
PUMP TIMES C	Total time that the Pump Motor C has been rotated	times	Life: 200,000 times
CLEAR ALL	Clear all the value in the Motor Group.		

## HEAD GROUP

Item	Contents	Unit	Reference
SHOT COUNT 1	Number of shots fired from the nozzle (H1 left)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT2
SHOT COUNT 2	Number of shots fired from the nozzle (H1 right)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT8
SHOT COUNT 3	Number of shots fired from the nozzle (H2 left)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT3
SHOT COUNT 4	Number of shots fired from the nozzle (H2 right)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT9
SHOT COUNT 5	Number of shots fired from the nozzle (H3 left)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT6
SHOT COUNT 6	Number of shots fired from the nozzle (H3 right)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT12
SHOT COUNT 7	Number of shots fired from the nozzle (H4 left)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT1
SHOT COUNT 8	Number of shots fired from the nozzle (H4 right)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT7
SHOT COUNT 9	Number of shots fired from the nozzle (H5 left)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT5
SHOT COUNT 10	Number of shots fired from the nozzle (H5 right)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT11
SHOT COUNT 11	Number of shots fired from the nozzle (H6 left)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT4
SHOT COUNT 12	Number of shots fired from the nozzle (H6 right)	Shots/1000	Life: 6 billion Shots/nozzle Ink from SLOT10
WIPE H1	Number of times the Wiping has been performed (H1)	times	
WIPE H2	Number of times the Wiping has been performed (H2)	times	
WIPE H3	Number of times the Wiping has been performed (H3)	times	
WIPE H4	Number of times the Wiping has been performed (H4)	times	
WIPE H5	Number of times the Wiping has been performed (H5)	times	
WIPE H6	Number of times the Wiping has been performed (H6)	times	
RUB H1	Number of times the Rubbing has been performed (H1)	times	
RUB H2	Number of times the Rubbing has been performed (H2)	times	
RUB H3	Number of times the Rubbing has been performed (H3)	times	
RUB H4	Number of times the Rubbing has been performed (H4)	times	
RUB H5	Number of times the Rubbing has been performed (H5)	times	
RUB H6	Number of times the Rubbing has been performed (H6)	times	
HEADRANK SET H1	Number of times the Headrank Setting has been performed (H1)	times	
HEADRANK SET H2	Number of times the Headrank Setting has been performed (H2)	times	
HEADRANK SET H3	Number of times the Headrank Setting has been performed (H3)	times	
HEADRANK SET H4	Number of times the Headrank Setting has been performed (H4)	times	
HEADRANK SET H5	Number of times the Headrank Setting has been performed (H5)	times	
HEADRANK SET H6	Number of times the Headrank Setting has been performed (H6)	times	
AUTO CL.H1	Number of times the Automatic Cleaning has been performed (H1)	times	
AUTO CL.H2	Number of times the Automatic Cleaning has been performed (H2)	times	
AUTO CL.H3	Number of times the Automatic Cleaning has been performed (H3)	times	
AUTO CL.H4	Number of times the Automatic Cleaning has been performed (H4)	times	
AUTO CL.H5	Number of times the Automatic Cleaning has been performed (H5)	times	
AUTO CL.H6	Number of times the Automatic Cleaning has been performed (H6)	times	
NORMAL CL. H1	Number of times the Normal Cleaning has been performed (H1)	times	
NORMAL CL. H2	Number of times the Normal Cleaning has been performed (H2)	times	
NORMAL CL. H3	Number of times the Normal Cleaning has been performed (H3)	times	
NORMAL CL. H4	Number of times the Normal Cleaning has been performed (H4)	times	
NORMAL CL. H5	Number of times the Normal Cleaning has been performed (H5)	times	
NORMAL CL. H6	Number of times the Normal Cleaning has been performed (H6)	times	
MEDIUM CL. H1	Number of times the Medium Cleaning has been performed (H1)	times	
MEDIUM CL. H2	Number of times the Medium Cleaning has been performed (H2)	times	
MEDIUM CL. H3	Number of times the Medium Cleaning has been performed (H3)	times	
MEDIUM CL. H4	Number of times the Medium Cleaning has been performed (H4)	times	
MEDIUM CL. H5	Number of times the Medium Cleaning has been performed (H5)	times	
MEDIUM CL. H6	Number of times the Medium Cleaning has been performed (H6)	times	
POWERFUL CL.H1	Number of times the Powerful Cleaning has been performed (H1)	times	
POWERFUL CL.H2	Number of times the Powerful Cleaning has been performed (H2)	times	
POWERFUL CL.H3	Number of times the Powerful Cleaning has been performed (H3)	times	
POWERFUL CL.H4	Number of times the Powerful Cleaning has been performed (H4)	times	
POWERFUL CL.H5	Number of times the Powerful Cleaning has been performed (H5)	times	
POWERFUL CL.H6	Number of times the Powerful Cleaning has been performed (H6)	times	
CLEAR H6	Clear all the value of the H6.		
CLEAR H5	Clear all the value of the H5.		
CLEAR H4	Clear all the value of the H4.		
CLEAR H3	Clear all the value of the H3.		
CLEAR H2	Clear all the value of the H2.		
CLEAR H1	Clear all the value of the H1.		
CLEAR ALL	Clear all the value of all the Head.		

MAINTENANCE GROUP

Item	Contents	Unit	Reference
MAINT. COUNT	Number of times the Head Maintenance has been performed	times	
TOTAL TIME	Lapsed time from the last Head maintenance	hour	This value is cleared automatically after carrying out the Head Maintenance.
PRINTING TIME	Printing time from the last Head Maintenance	hour	This value is cleared automatically after carrying out the Head Maintenance.
CLEAR ALL	Clear all the value in the MAINTENANCE GROUP.		

WIPER GROUP

Item	Contents	Unit	Reference
WIPING COUNT	Number of times the Wiping has been performed	times	This value is cleared automatically after replacing it.
RUBBING COUNT	Number of times the Rubbing has been performed	times	This value is cleared automatically after replacing it.
WIPE REPLACE	Number of times the Wipe has been replaced	times	
CLEAR ALL	Clear all the value in the WIPE GROUP.		

PRINT GROUP

Item	Contents	Unit	Reference
PRINTING TIME	Total time of printing performed	hours	Test print time is excluded.
PRINT PAGES	Number of pages printed	pages	
CLEAR ALL	Clear all the value in the PRINT GROUP.		

INK GROUP

Item	Contents	Unit	Reference
CARTRIDGE 1	Number of times the Ink Cartridge 1 has been changed	times	
CARTRIDGE 2	Number of times the Ink Cartridge 2 has been changed	times	
CARTRIDGE 3	Number of times the Ink Cartridge 3 has been changed	times	
CARTRIDGE 4	Number of times the Ink Cartridge 4 has been changed	times	
CARTRIDGE 5	Number of times the Ink Cartridge 5 has been changed	times	
CARTRIDGE 6	Number of times the Ink Cartridge 6 has been changed	times	
CARTRIDGE 7	Number of times the Ink Cartridge 7 has been changed	times	
CARTRIDGE 8	Number of times the Ink Cartridge 8 has been changed	times	
CARTRIDGE 9	Number of times the Ink Cartridge 9 has been changed	times	
CARTRIDGE 10	Number of times the Ink Cartridge 10 has been changed	times	
CARTRIDGE 11	Number of times the Ink Cartridge 11 has been changed	times	
CARTRIDGE 12	Number of times the Ink Cartridge 12 has been changed	times	
CHANGE INK TYPE	Number of times the Ink Type has been changed	times	
CLEAR ALL	Clear all the value in the INK GROUP.		

ERROR GROUP

Item	Contents	Unit	Reference
SERVICE CALL	Number of times the Service Call has occurred	times	
S-CALL HISTORY	Service Call Number of the last 5 Calls.	No.	
MOTOR ERROR F	Number of times the Feed Motor Error has occurred	times	
MOTOR ERROR S	Number of times the Scan Motor Error has occurred	times	
LOW TEMP.ERR	Number of times the Low Temperature Error has occurred	times	
HIGH TEMP.ERR	Number of times the High Temperature Error has occurred	times	
EMERG. CAPPING	Number of times the Emergency Capping Error has occurred	times	Number of times of forcible capping for Head dry prevention that works when cap is left open for 3 minutes or more due to cover open or other reasons.
START UNCAPPED	Number of times the machine has started uncapped	times	When cap is left open, it is detected when machine is started.
CLEAR ALL	Clear all the value in the ERROR GROUP.		

HEATER GROUP

Item	Contents	Unit	Reference
PRE USE TIME	Total time of PRE heater used	hour	
PRINT USE TIME	Total time of PRINT heater used	hour	
DRYER USE TIME	Total time of DRYER used	hour	
OPT. USE TIME	Total time of OPTION DRYER used	hour	
CLEAR ALL	Clear all the value in the HEATER GROUP.		

CUTTING GROUP

Item	Contents	Unit	Reference
CUTTING TIME	Total time of Cutting performed	hour	Test Print time is excluded.
DISCONNECT CARR.	Number of times the carriages has been disconnected	times	Disconnection of Tool Carriage and Head Carriage
CLEAR ALL	Clear all the value in the CUTTING GROUP.		

SYSTEM GROUP

Item	Contents	Unit	Reference
POWER ON COUNT	Number of times Subpower has been turned on	times	
POWER ON TIME	Total time of Subpower ON	hour	SLEEP time is excluded.
SLEEP TIME	Total time of the machine in Sleep Mode	hour	
SHEETCUT COUNT	Number of times the Sheet Cut has been performed	times	It counts Auto Sheet Cut performed by both command and oanel.
PECK USED COUNT	Number of times PECK has been used	times	
CLEAR ALL	Clear all the value in the SYSTEM GROUP.		

==== Roland SOL JET PRO III series =====

Model	: XC-540	IP Address	: 133, 111, 128, 060	Ink type	: E-SOL Max LcLm
Version	: 1.02	Subnet Mask	: 255, 255, 252, 000	Ink remain (1-6)	: 74/ 86/ 64/ 100/ 71/ 100
Serial No.	: XX00001	Gateway Address	: 000, 000, 000, 000	Ink remain(7-12)	: 100/ 100/ 97/ 72/ 100/ 100
Date	: 2006/06/25 16:24	MAC Address	: 00:40:AB:FF:01:30		

Head Temperature	: 28 °C / 82.4 °F	Heater temp. (PRE)	: 32 °C / 88 °F
On Board Temperature	: 35 °C / 95.0 °F	Heater temp. (PRINT)	: 34 °C / 92 °F
		Heater temp.(DRYER)	: 33 °C / 90 °F

Menu language	: Japanese	Scan interval	: 0.0 sec	Set remain at loading	: Disable
Length unit	: mm	Sleep	: Enable	Heater setting(PRE)	: 35°C / 94 °F
Temperature unit	: °C	Sleep interval	: 30 min	Heater setting (PRINT)	: 35°C / 94 °F
Head height	: High	Sheet remain	: 0.0m	Heater setting (DRYER)	: 50°C / 122 °F
Edge detection	: Enable	Periodic cleaning	: NONE	Feed for dry	: Disable
Empty mode	: Stop	Vacuum power	: Auto	Preheating	: PREHEAT
Calibration	: +2.20 %			Option Dryer	: Enable
Full width scanning	: FULL			Blower Fan	: Enable
Bi-dir. simple	: -4				
Bi-dir. adjust No. 1	: H1 H2 H3 H4 H5 H6				
	: -3.5 -2 -2 -2 -1 0	No. 3	: -3 -2.5 -2.5 -2 -2 -1.5		
No. 2	: -1 -1 -1 +0.5 -0.5 +1.5	No. 4	: -2 -1 -1 -1 -1 -0.5		

Tool parameter	:	Cutting calib. (F/S)	: 0.00/ 0.00%	Cutting priority	: Menu
Force	: 60 gf	Print-cut adjust (F/S)	: 0.00/ +0.10 mm	Prefeed	: Disable
Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm	Auto Env Match	: Enable
Offset	: 0.250 mm				
Up velocity	: 20 cm/s				

Preset name	: SV-GG	Feed for dry	: Disable	Preheating	: Preheat	Offset	: 0.250 mm
Bi-dir. simple	: -3	Scan interval	: 0.0 sec	Blower fan	: Disable	Up velocity	: 20 cm/s
Calibration	: -0.10 %	Edge detection	: Enable	Vacuum power	: Auto	Cutting calib. (F/S)	: 0.00/ 0.00%
Heater setting (PRE)	: 35 °C / 94 °F	Full width S	: FULL	Force	: 60 gf	Print-cut adjust (F/S)	: 0.00/ +0.10 mm
Heater setting (PRINT)	: 35 °C / 94 °F			Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (DRYER)	: 50 °C / 122 °F						
Bi-dir. adjust No. 1	: -3 / -3 / -3 / -2 / -0.5 / -0.5	No. 3	: -3.5 / -2.5 / -2.5 / -2 / -2.5 / -2.5	No. 4	: -2.5 / -2 / -2 / 0 / 0 / 0		
No. 2	: -2 / -1 / -1 / +1 / +1 / +2						

Preset name	: IKC 114XX	Feed for dry	: Disable	Preheating	: Preheat	Offset	: 0.250 mm
Bi-dir. simple	: -2	Scan interval	: 0.0 sec	Blower fan	: Disable	Up velocity	: 20 cm/s
Calibration	: +1.70 %	Edge detection	: Enable	Vacuum power	: Auto	Cutting calib. (F/S)	: 0.00/ 0.00%
Heater setting (PRE)	: 40 °C / 104 °F	Full width S	: FULL	Force	: 60 gf	Print-cut adjust (F/S)	: 0.00/ +0.10 mm
Heater setting (PRINT)	: 40 °C / 104 °F			Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (DRYER)	: 50 °C / 122 °F						
Bi-dir. adjust No. 1	: -4 / -3 / -3 / -3 / -2 / 0	No. 3	: -3 / -2.5 / -2.5 / -2 / -2 / -2	No. 4	: -2 / -1 / -1 / -1 / -1 / -0.5		
No. 2	: -2.5 / -1 / -1 / +0.5 / +0.5 / +1.5						

Preset name	: SVGG2	Feed for dry	: Disable	Preheating	: Preheat	Offset	: 0.250 mm
Bi-dir. simple	: -4	Scan interval	: 0.0 sec	Blower fan	: Enable	Up velocity	: 20 cm/s
Calibration	: +2.20 %	Edge detection	: Enable	Vacuum power	: Auto	Cutting calib. (F/S)	: 0.00/ 0.00%
Heater setting (PRE)	: 35 °C / 94 °F	Full width S	: FULL	Force	: 60 gf	Print-cut adjust (F/S)	: 0.00/ +0.10 mm
Heater setting (PRINT)	: 35 °C / 94 °F			Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (DRYER)	: 50 °C / 122 °F						
Bi-dir. adjust No. 1	: -4 / -3 / -3 / -3 / -2 / 0	No. 3	: -3 / -2.5 / -2.5 / -2 / -2 / -1.5	No. 4	: -2 / -1 / -1 / -1 / -1 / -0.5		
No. 2	: -2.5 / -1 / -1 / +0.5 / +0.5 / +1.5						

Preset name	: PRESETTING4	Feed for dry	: Disable	Preheating	: Preheat	Offset	: 0.250 mm
Bi-dir. simple	: 0	Scan interval	: 0.0 sec	Blower fan	: Disable	Up velocity	: 20 cm/s
Calibration	: 0.00 %	Edge detection	: Enable	Vacuum power	: Auto	Cutting calib. (F/S)	: 0.00/ 0.00%
Heater setting (PRE)	: 40 °C / 104 °F	Full width S	: FULL	Force	: 50 gf	Print-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (PRINT)	: 40 °C / 104 °F			Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (DRYER)	: 55 °C / 130 °F						
Bi-dir. adjust No. 1	: 0 / 0 / 0 / 0 / 0 / 0	No. 3	: 0 / 0 / 0 / 0 / 0 / 0	No. 4	: 0 / 0 / 0 / 0 / 0 / 0		
No. 2	: 0 / 0 / 0 / 0 / 0 / 0						

Preset name	: PRESETTING5	Feed for dry	: Disable	Preheating	: Preheat	Offset	: 0.250 mm
Bi-dir. simple	: 0	Scan interval	: 0.0 sec	Blower fan	: Disable	Up velocity	: 20 cm/s
Calibration	: 0.00 %	Edge detection	: Enable	Vacuum power	: Auto	Cutting calib. (F/S)	: 0.00/ 0.00%
Heater setting (PRE)	: 40 °C / 104 °F	Full width S	: FULL	Force	: 50 gf	Print-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (PRINT)	: 40 °C / 104 °F			Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (DRYER)	: 55 °C / 130 °F						
Bi-dir. adjust No. 1	: 0 / 0 / 0 / 0 / 0 / 0	No. 3	: 0 / 0 / 0 / 0 / 0 / 0	No. 4	: 0 / 0 / 0 / 0 / 0 / 0		
No. 2	: 0 / 0 / 0 / 0 / 0 / 0						

.....  
 (Abbreviated)  
 .....

Preset name	: PRESETTING8	Feed for dry	: Disable	Preheating	: Preheat	Offset	: 0.250 mm
Bi-dir. simple	: 0	Scan interval	: 0.0 sec	Blower fan	: Disable	Up velocity	: 20 cm/s
Calibration	: 0.00 %	Edge detection	: Enable	Vacuum power	: Auto	Cutting calib. (F/S)	: 0.00/ 0.00%
Heater setting (PRE)	: 40 °C / 104 °F	Full width S	: FULL	Force	: 50 gf	Print-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (PRINT)	: 40 °C / 104 °F			Velocity	: 20 cm/s	Crop-cut adjust (F/S)	: 0.00/ 0.00 mm
Heater setting (DRYER)	: 55 °C / 130 °F						
Bi-dir. adjust No. 1	: 0 / 0 / 0 / 0 / 0 / 0	No. 3	: 0 / 0 / 0 / 0 / 0 / 0	No. 4	: 0 / 0 / 0 / 0 / 0 / 0		
No. 2	: 0 / 0 / 0 / 0 / 0 / 0						

Service Report

```

Head rank H1 : 6CZ343CUYUOVVRT ----- 00B. .D
          H2 : 73V3739TVUXVVSU ----- 00C. .D
          H3 : 6FW3436TVUXWWST ----- 004. .D
          H4 : 6BV3230UTVWVWSU ----- 00D. .D
          H5 : 6DT332FUSWSVTT ----- 00P. .D
          H6 : 6ET3935TTVUVVTU ----- 00H. .D

Head hori. (DT1. Low) : +1 +2 -3 -2 +1
            (DT3. Low) : 0 +2 -2 -2 +2
            (DT1. High) : +1 +2 -3 -2 +1
            (DT3. High) : -2 +1 -3 -2 +3

Head bi (DT1. Low) : +23 +23 +23 +21 +22 +21
        (DT3. Low) : +22 +22 +22 +21 +21 +21
        (DT1. High) : +33 +32 +32 +31 +32 +30
        (DT3. High) : +31 +31 +32 +30 +30 +29

Dip SW : 0 0 0 0 0 0 0 0
System SW page ( 1 - 4 ) : 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
System SW page ( 5 - 8 ) : 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
System SW page ( 9 - 12 ) : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
System SW page ( 13 - 16 ) : 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Network I/F version : Print Server 1.1 (Tue May 30 14:46:26 JST 2006)
Maintenance request : NONE
Booter version : 0.70
Battery : Empty
Periodic CL. degree : Light
Limit position : 25.2 mm
Cutter down position : 1950.3 mm
Calibration default : -0.09 %
Encoder position (L) : 1642.7 mm
Encoder position (R) : 271.1 mm

Environment match : +0.097 %
Encoder calibration : +0.077 %
Force adjust 30gf : 22
Force adjust 200gf : 66

Heater adjust (PRE) : 0 °C
Heater adjust (PRINT) : 0 °C
Heater adjust (DRYER) : 0 °C
Preheat temperature : 30 °C
Heating timeout : 20 min
Cap adjust : 0.00 mm
Drain liquid volume : 589.9 cc
Standard head : 4

Crop-tool adjust (F/S) : 0.00 / 0.00 mm
Print-cut adjust (F/S) : -0.25 / -0.63 mm
Crop sensor adjust : 0
    
```

History Report

```

Model : XC-540
Version : 1.02
Serial No. : XX00001
Date : 2006/06/25 16:24

==== Motor group ====
Motor feed (trip / total [clear]) : 1 / 1 hours [0]
Motor scan (trip / total [clear]) : 3 / 3 hours [0]
Pump Times A (trip / total [clear]) : 5,829 / 5,829 times [0]
Pump Times B (trip / total [clear]) : 5,664 / 5,664 times [0]
Pump Times C (trip / total [clear]) : 5,461 / 5,461 times [0]

==== Maintenance group ====
Maintenance Count : 3 times
Total Time : 134 hours
Printing time : 10 hours

==== Wiper group ====
Wiping count : 42 times
Rubbing count : 0 times
Wiper replace count : 1 times

==== Head group ====
Shot Cnt. 1 (trip / total [clear]) : 4,277 / 4,277 times [0]
Shot Cnt. 2 (trip / total [clear]) : 4,260 / 4,260 times [0]
Shot Cnt. 3 (trip / total [clear]) : 12,387 / 12,387 times [0]
Shot Cnt. 4 (trip / total [clear]) : 12,408 / 12,408 times [0]
Shot Cnt. 5 (trip / total [clear]) : 7,287 / 7,287 times [0]
Shot Cnt. 6 (trip / total [clear]) : 7,285 / 7,285 times [0]
Shot Cnt. 7 (trip / total [clear]) : 2,026 / 2,026 times [0]
Shot Cnt. 8 (trip / total [clear]) : 2,021 / 2,021 times [0]
Shot Cnt. 9 (trip / total [clear]) : 6,873 / 6,873 times [0]
Shot Cnt. 10 (trip / total [clear]) : 6,883 / 6,883 times [0]
Shot Cnt. 11 (trip / total [clear]) : 5,518 / 5,518 times [0]
Shot Cnt. 12 (trip / total [clear]) : 5,529 / 5,529 times [0]

Wiping count for head : 62 62 60 60 62 62 times
Rubbing count for head : 6 6 6 6 0 0 times
Headrank set count : 0 0 0 0 0 0 times
Auto cleaning count : 6 6 6 6 6 6 times
Normal cleaning count : 10 10 9 9 10 10 times
Medium cleaning count : 4 4 4 4 6 6 times
Powerful cleaning count : 2 2 2 2 0 0 times

==== Print group ====
Printing time : 2 hours
Print pages : 39 pages

==== Ink group ====
Cartridge change (1-6) : 0 0 0 1 0 0 times
Cartridge change (7-12) : 0 1 0 0 1 0 times
Change ink type : 0 times

==== Error group ====
Service call count : 0 times
Service call history : **** **
Motor error (feed) : 0 times
Motor error (scan) : 1 times
Low temperature error : 0 times
High temperature error : 0 times
Emergency capping : 0 times
Start uncapped : 2 times

==== System group =====
Power on count : 197 times
Power on time : 45 hours
Sleep time : 5 hours
Sheet cut count : 34 hours
Peck used count : 0 times

==== Heater group =====
Heater used time : PRE 18 PRINT 18 DRYER 18 OPT. 16 hours

==== Cutting group =====
Cutting time : 1 hours
Disconnect carr. count : 70 times
    
```

## Ink Cartridge Report

No.:	SERIAL /	INK TYPE /	CAP. / LOT No/	CONSUM. /	TIME / INS. /	FLAG
1:	NO IC CHIP /					
2:	14f83740020000a6 /	eSOL C /	400 cc / 61002A /	55.526cc /	0y003d00h07m48s /	1 / 00000000
3:	1449ff3f070000b8 /	eSOL M /	400 cc / 60806A /	86.091cc /	0y001d05h19m20s /	1 / 00000000
4:	14e09c400200001f /	eSOL Lc /	400 cc / 60906A /	0.063cc /	0y000d13h14m59s /	2 / 00000000
5:	1442f14f060000fd /	eSOL Lm /	400 cc / 60807A /	43.356cc /	0y001d08h51m44s /	1 / 00000000
6:	148e3a85060000ef /	eSOL Y /	400 cc / ----- /	77.280cc /	0y001d00h10m01s /	0 / 00000000
7:	1449ff3f020000b8 /	eSOL K /	400 cc / 60911A /	0.841cc /	0y001d00h10m01s /	0 / 00000000
8:	1438f73f05000086 /	eSOL C /	400 cc / 61002A /	62.584cc /	0y003d00h36m21s /	1 / 00000000
9:	1442f53f020000fd /	eSOL M /	400 cc / 60806A /	11.978cc /	0y001d10h07m37s /	0 / 00000000
10:	14f82960050000a6 /	eSOL Lc /	400 cc / 60906A /	98.108cc /	0y000d18h52m14s /	2 / 00000000
11:	148e3a41020000ef /	eSOL Lm /	400 cc / 60807A /	0.892cc /	0y001d06h22m07s /	1 / 00000000
12:	1438f73f02000029 /	eSOL Y /	400 cc / 60911A /	0.748cc /	0y001d01h56m57s /	0 / 00000000

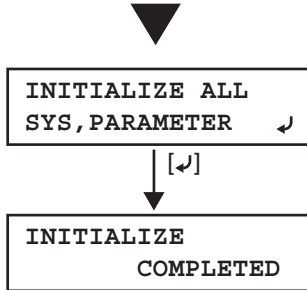
## Event Log

Model : XC-540		Serial No. : XX00001		Date : 2006/06/25 16:24	
Version : 1.02					
Date	Time	Temp.	Event	Information	Information
06/06/01	14:12	28	Print start	Testpattern	
06/06/01	14:09	28	Setup done	Width : 1204mm Env. : 0.097	
06/06/01	14:08	28	Cancel done		
06/06/01	14:08	28	Cancel start	User cancel	Normal
06/06/01	14:07	28	Setup done	Width : 1204mm Env. : 0.097	Normal
06/06/01	14:07	28	Cancel done		
06/06/01	14:07	28	Cancel start	User cancel	Power on cleaning
06/06/01	14:01	28	Setup done	Width : 1204mm Env. : 0.098	Normal
06/06/01	14:00	28	Sub power on	Service mode	
06/06/01	14:00	28	Sub power off		
06/06/01	13:56	28	Print done	Testpattern	
06/06/01	13:55	28	Print start	Testpattern	
06/06/01	13:55	28	Print done	Testpattern	
06/06/01	13:53	27	Print start	Testpattern	
06/06/01	13:53	27	Setup done	Width : 1204mm Env. : 0.100	
06/06/01	13:52	27	Sub power on	Service report mode	
06/06/01	13:52	27	Sub power off		
06/06/01	13:29	26	Print done	Testpattern	
06/06/01	13:28	26	Print start	Testpattern	Width : 1304mm Env. : 0.066
06/06/01	13:28	26	Print done	Testpattern	
06/06/01	13:28	26	Print done	Testpattern	
06/06/01	13:28	26	Print start	Testpattern	Cancel done
06/06/01	13:28	26	Print done	Testpattern	User cancel
06/06/01	13:28	26	Print done	Testpattern	Testpattern
06/06/01	13:27	26	Print start	Testpattern	Testpattern
06/06/01	13:27	26	Print done	Testpattern	Testpattern
06/06/01	13:26	26	Print start	Testpattern	Testpattern
06/06/01	13:26	26	Print done	Testpattern	Testpattern
06/06/01	13:26	26	Print start	Testpattern	Testpattern
06/06/01	13:25	26	Print done	Testpattern	Testpattern
06/06/01	13:25	26	Print start	Testpattern	Testpattern
06/06/01	13:25	26	Print done	Testpattern	Testpattern
06/06/01	13:24	26	Print start	Testpattern	Testpattern
06/06/01	13:24	26	Print done	Testpattern	Testpattern
06/06/01	13:24	26	Print start	Testpattern	Testpattern
06/06/01	13:22	26	Print done	Testpattern	Testpattern
06/06/01	13:22	26	Print start	Testpattern	Width : 1304mm Env. : 0.067
06/06/01	13:21	26	Print done	Testpattern	Cancel done
06/06/01	13:21	26	Print start	Testpattern	User cancel
06/06/01	13:18	26	Print start	Testpattern	
06/06/01	13:18	26	Setup done	Width : 1204mm Env. : 0.107	
06/06/01	13:17	26	Sub power on	Normal	
06/05/31	12:12	28	Sub power off		
06/05/31	11:52	28	Sleep out		Testpattern
06/05/31	08:09	29	Sleep in		Testpattern
06/05/31	07:39	28	Print done	Testpattern	
06/05/31	07:39	28	Print start	Testpattern	
06/05/31	07:38	28	Print done	Testpattern	
06/05/31	07:38	28	Print start	Testpattern	
06/05/31	07:26	28	Setup done	Width : 1204mm Env. : 0.092	
06/05/31	07:07	26	Sub power on	Normal	
06/05/31	07:07	26	Main power on	Normal	
06/05/31	03:53	28	Sub power off		

## Other Factory Mode

### SYSTEM PARAMETER INITIALIZE

[▲] , [▼] , [ENTER] + SUB POWER ON

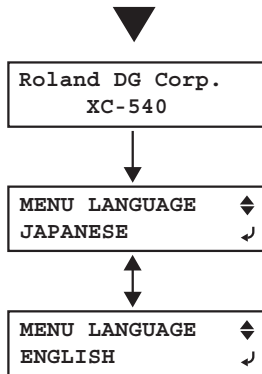


All parameters will be initialized. Turn on the sub power switch while pressing [ ▲ ], [ ▼ ] and [ENTER] keys to start the machine in SYSTEM PARAMETER INITIALIZE mode. Press [ENTER] key to initialize the SYSTEM PARAMETER or press [POWER] key to cancel when the confirmation message is displayed at first. The machine turns off automatically when the initialization is completed. All the parameters are reset to the default.

It is necessary to setup the LIMIT POSITION after the initialization. The error message [SERVICE CALL 0101] is displayed and the machine never starts before the LIMIT POSITION is set up.

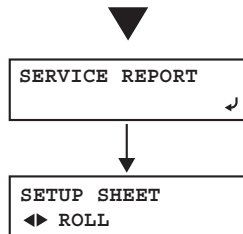
### DISPLAYED LANGUAGE

[MENU] + SUB POWER ON



### SERVICE REPORT PRINTING

[▼] + SUB POWER ON



Turn on the sub power switch while pressing [ ▼ ] key to start the machine in the SERVICE REPORT PRINTING mode.

[SERVICE REPORT] is displayed and it turns to be the normal mode after printing.

It starts printing automatically when media is setup. It requires a A4 size media and prints with Cyan ink.

\* Please print the [HISTORY REPORT] from the service mode.

## Key Combinations

Function for Service	Combination Key Selection	Comments
Service Mode	◀ ▼ ▶ + Sub Power	Press [MENU] and [▶] to enter Service Menu.
Upgrade F/W	◀ ▲ ▼ + Sub Power	[UPDATE FIRMWARE?] will be displayed. Press [ENTER] to upgrade F/W.
Installing F/W (At Main Board Change)	◀ ▲ ▼ + Main Power	Use this when the main board is replaced.
	Main Power → ENTER	[SUM-ERROR] will be displayed. Press [ENTER] to upgrade F/W.
System Parameter Initialize	▲ ▼ ENTER + Sub Power	All parameters will be initialized. Press [ENTER] to start initialize.
Limit/Cut Down Position	◀ ▲ ▶ + Sub Power	Press [▲] while aligning Carriage to cap Heads, and press [ENTER]. Set up Cut Down Pos., and press [ENTER].
History Report [REPORT]	▲1 time ▶ ▼ Service menu → Report → History Report	Select [HISTORY REPORT] and press [▶]. Then, select Head and press [ENTER] to print History Report.
Service Report	▼ + Sub Power	Service Report (Adjustment value) will be printed.

Function for Users	Combination Key Selection	Comments
Language	MENU + Sub Power	Press [▲] and [▼] to select Language.



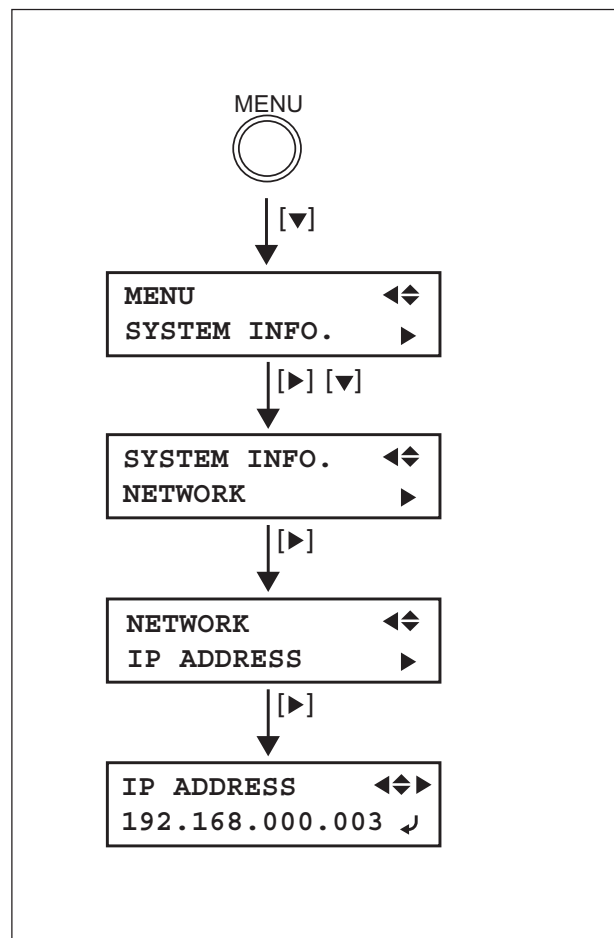
## 4-3 HOW TO UPGRADE/INSTALL FIRMWARE

It is necessary to prepare the followings to upgrade/install the firmware.

- 1.Firmware file
- 2.WindowsPC (Network port is required.)
- 3.Peck4.exe
- 4.Network cable (A cross cable is required when you connect XC-540 to PC directly.)

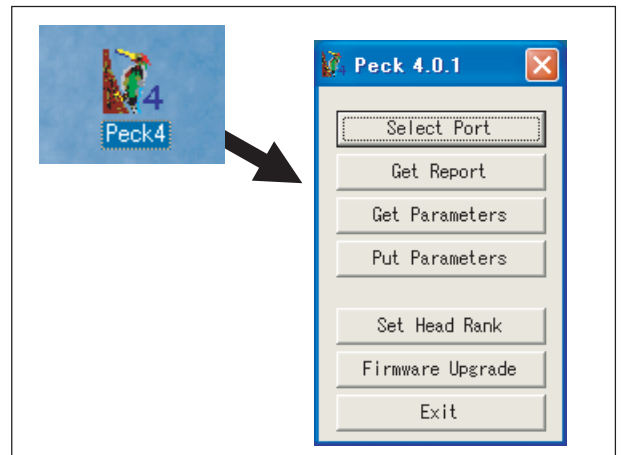
### HOW TO UPGRADE FIRMWARE (Referential Time : 5 min)

- 1** Check the IP address of XC-540.  
Turn on the main power switch and sub power switch, then press [MENU] key.  
Select [IP ADDRESS] under [NETWORK] menu in [SYSTEM INFO.].



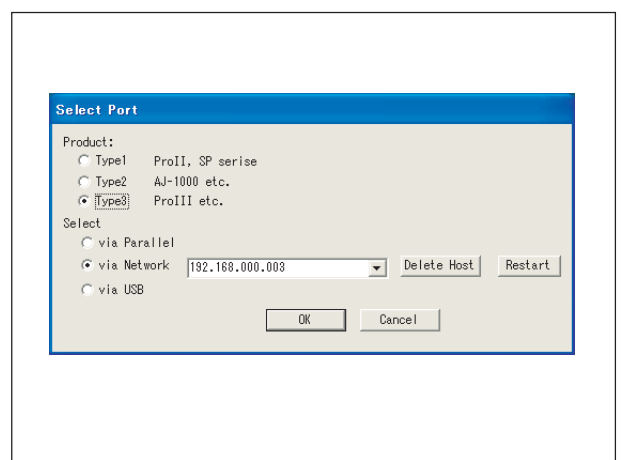
- 2** Turn off the sub power switch.

- 3** Start the Peck4 on PC.  
[Peck4] screen is displayed, and click [Select Port] button.

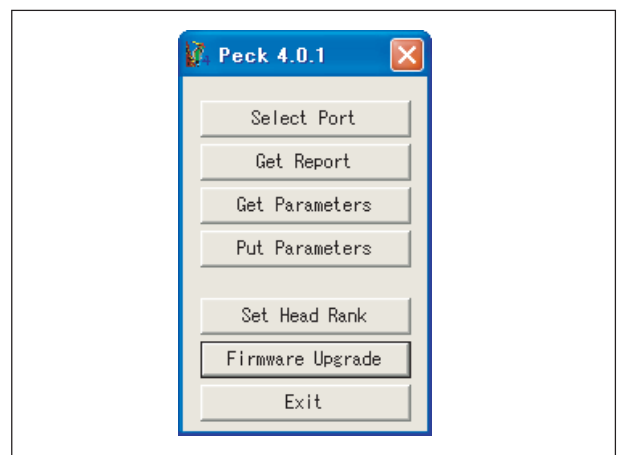


- 4** Select [Type 3] ProIII etc. from [Product].  
Also, select [Via Network] and input IP address of XC-540 specified earlier.

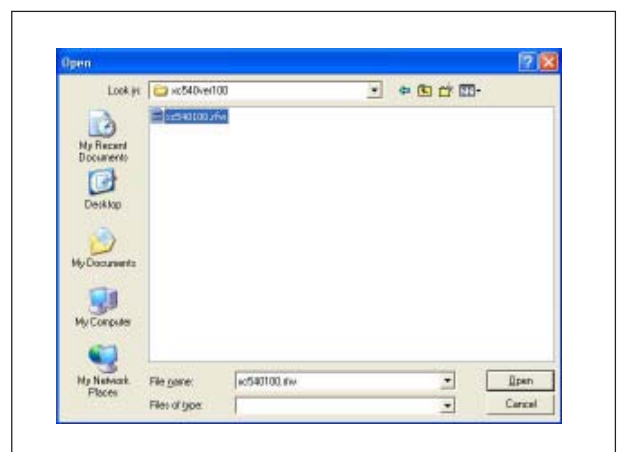
Click [OK] button.



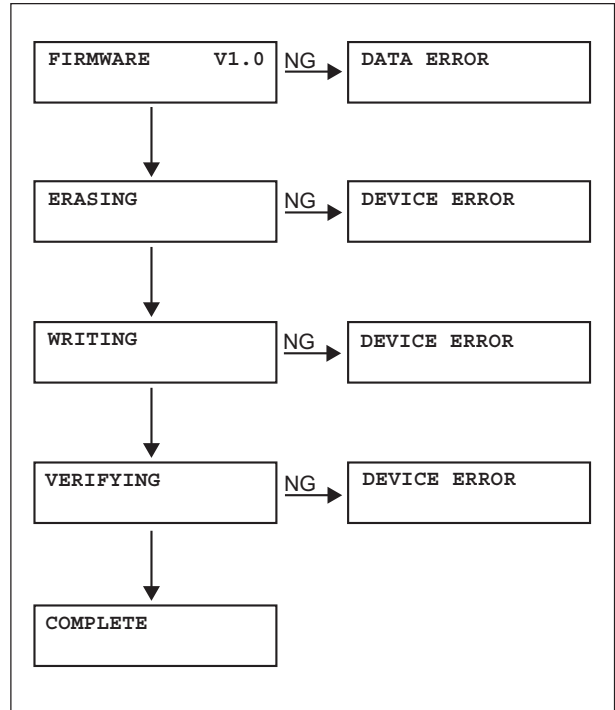
- 5** [Peck4] screen is displayed again.  
Click [Firmware Upgrade] button.



- 6** [OPEN] screen is displayed.  
Select the firmware file and click [Open].  
Peck4 starts to send the firmware to XC-540.



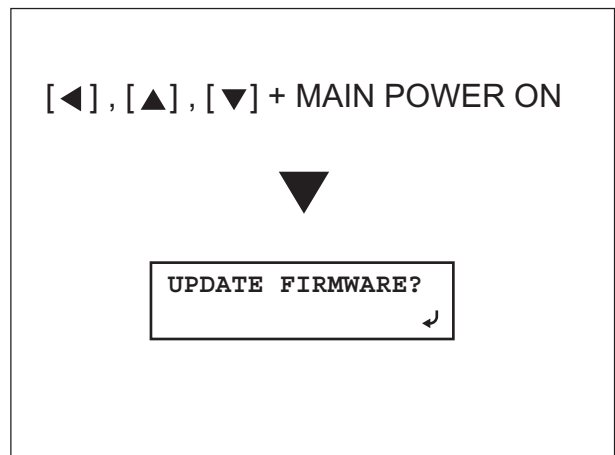
- 7** The machine goes into the Firmware Upgrade mode automatically.  
When upgrade is completed, the Sub Power switch turns off automatically.



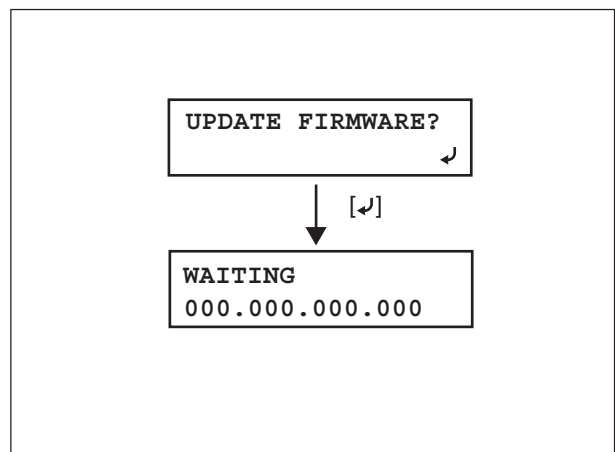
## HOW TO INSTALL FIRMWARE (Referential Time : 5 min)

This is required when a new Main Board without the firmware is installed.

- 1** Turn on the main power switch while pressing [◀], [▲], and [▼] keys.



- 2** Press [ENTER] key for the machine to be ready to receive the firmware.

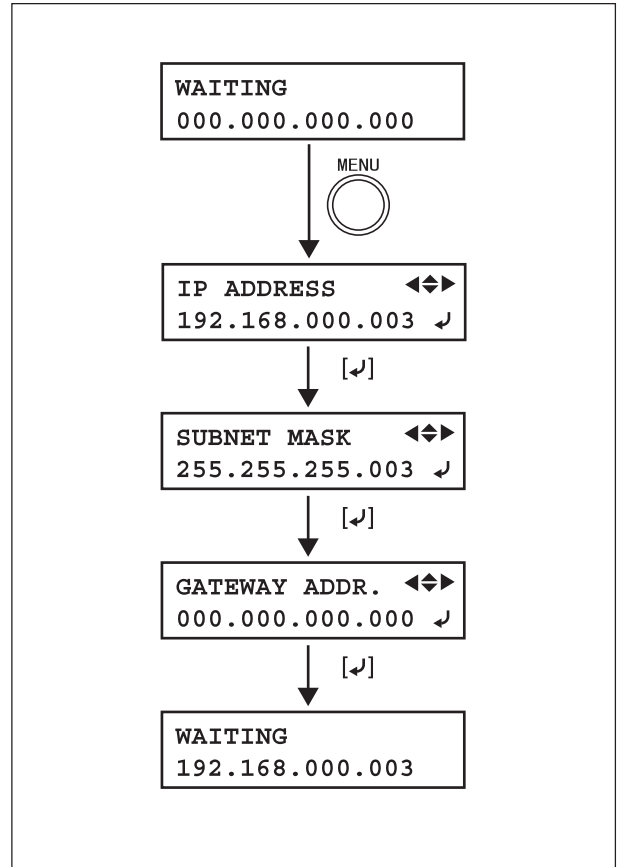


- 3** Press MENU key, and set [IP ADDRESS], [SUBNET MASK] and [GATEWAY ADDR.].

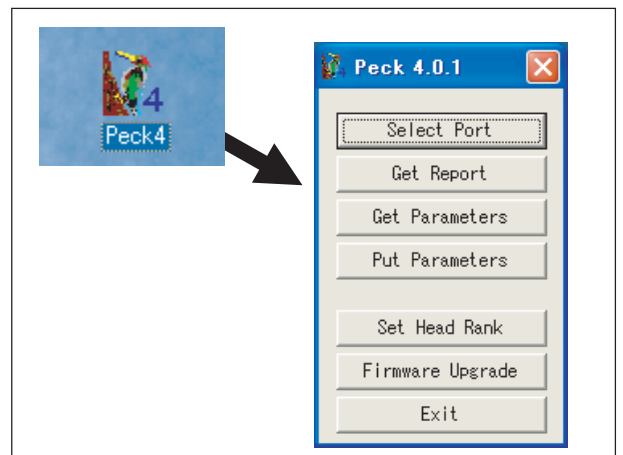
Press [◀] and [▶] keys for moving between digits, and [▲] and [▼] keys for selecting value. After setting an address, press ENTER key to go next address setting. When [GATEWAY ADDR.] is set, it returns to the waiting mode for receiving the firmware by pressing ENTER key.



The setting made here is only temporary for the firmware installation and it is not saved.

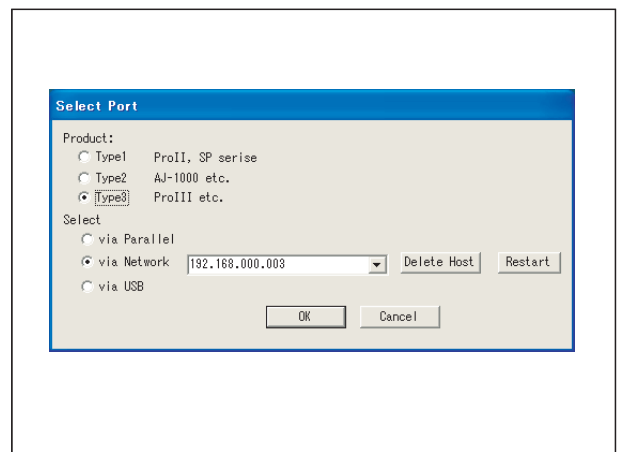


- 4** Start the Peck4 on PC.  
[Peck4] screen is displayed, and click [Select Port] button.

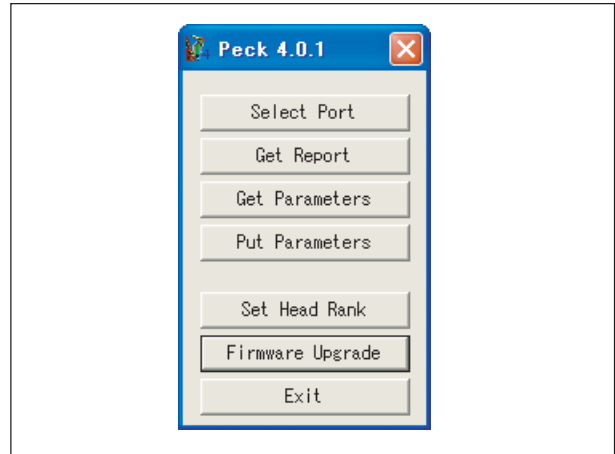


- 5** Select [Type 3] ProIII etc. from [Product].  
Also, Select [Via Network] and input IP address of XC-540 specified earlier.

Click [OK] button.



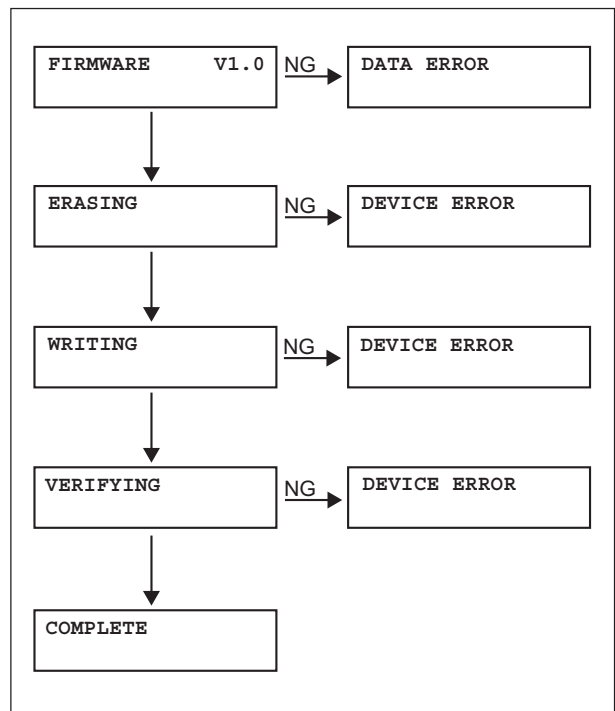
- 6 [Peck4] screen is displayed again.  
Click [Firmware Upgrade] button.



- 7 [OPEN] screen is displayed.  
Select the firmware file and click [Open].  
It starts to send the firmware to XC-540.

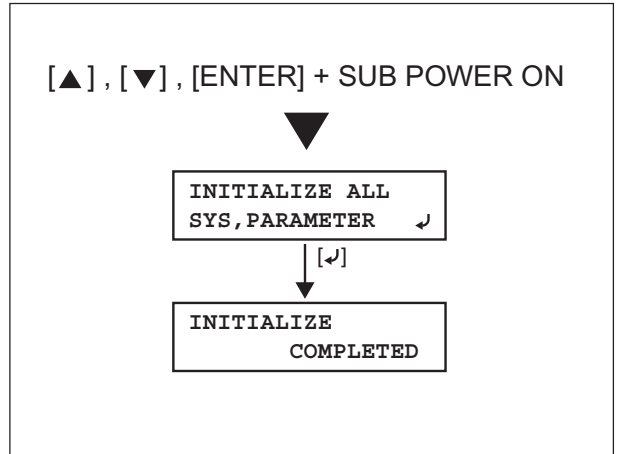


- 8 It starts loading the firmware.  
The firmware installation is done when [COMPLETE] message is displayed.  
Turn off the Sub Power when it is completed.

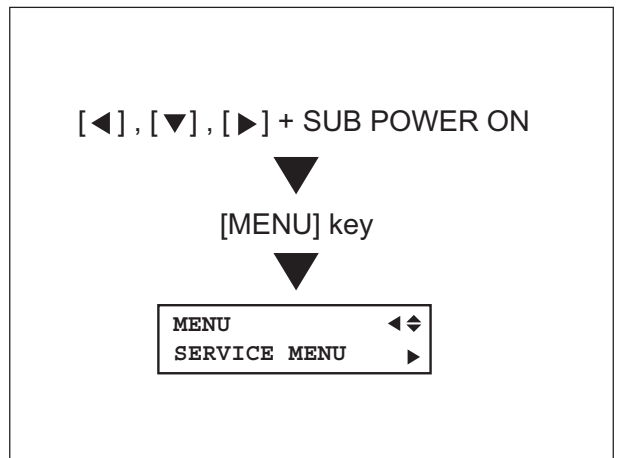


**9** Turn on the Sub Power switch while pressing [ ▲ ], [ ▼ ], and [ENTER] keys to enter [INITIALIZE ALL SYS.PARAMETER] menu.

Press [ENTER] key to start initialization. The Sub Power turns off automatically when it is completed.

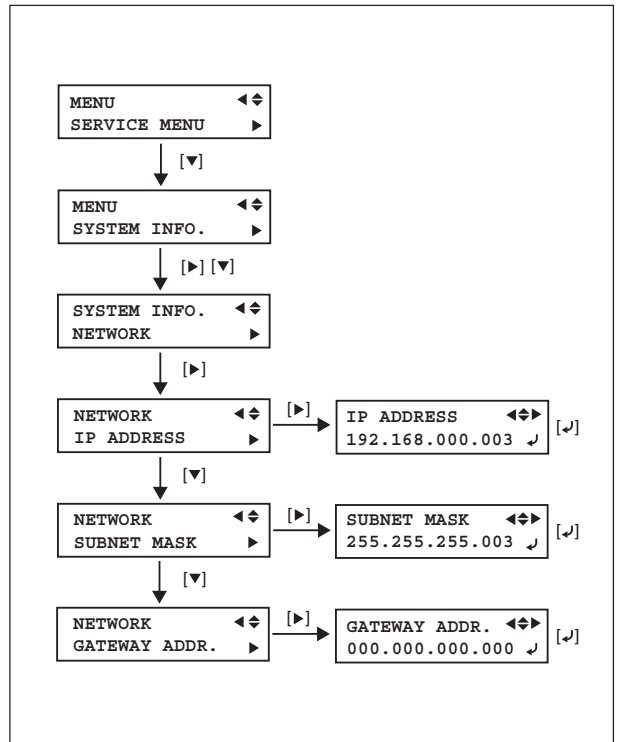


**10** Turn on the Sub Power switch while pressing [ ◀ ], [ ▼ ] and [ ▶ ] keys to enter the SERVICE MODE.

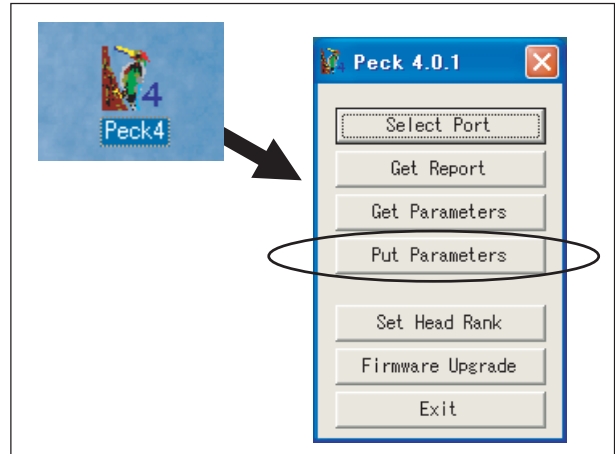


**11** Enter the [NETWORK] menu and input [IP ADDRESS], [SUBNET MASK] and [GATEWAY ADDR.].

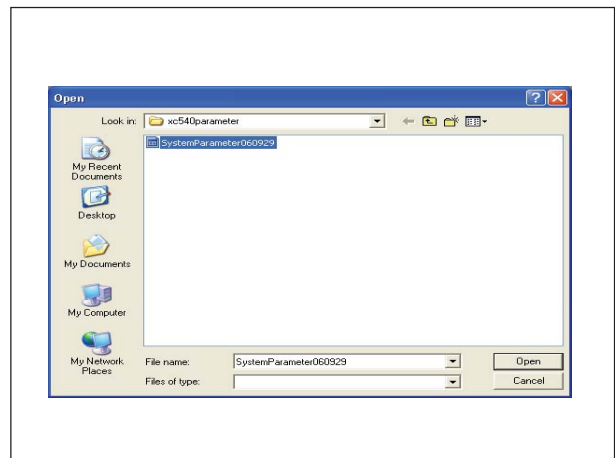
Turn off the Sub Power when the network setting is completed.



- 12** Start the Peck4 on PC.  
[Peck4] screen is displayed, and click [Put Parameters] button.



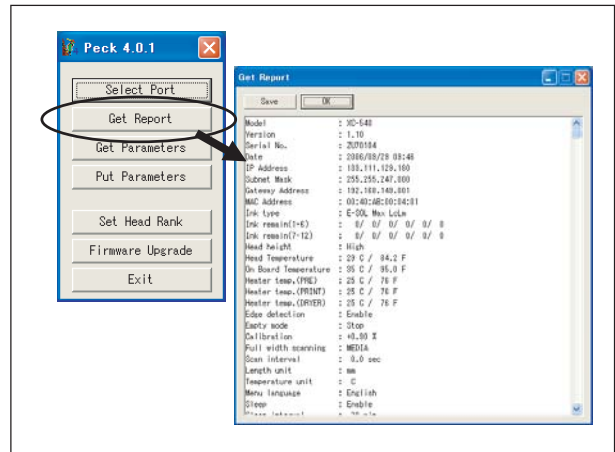
- 13** [OPEN] screen is displayed.  
Select the System Parameter file that is saved before the main board replacement.  
Click [Open]. Peck4 starts to send the System Parameter to XC-540.



- 14** Click [Get Report] button to import the System Report file.  
Confirm that the System Parameter is reloaded properly.



The addresses set at the step 11 are replaced with the addresses saved in the System Parameter as [Put Parameter] is executed.

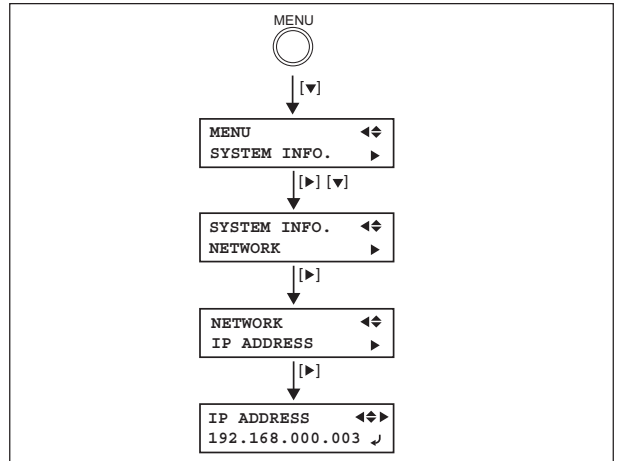


## 4-4 HOW TO UPGRADE FIRMWARE OF THE NETWORK CONTROLLER ( Referential Time : 5min.)

- 1 Turn on the Main Power SW and Sub Power SW. Select [SYSTEM INFO.] > [NETWORK] > [IP ADDRESS] in the User's Menu and set the IP address.



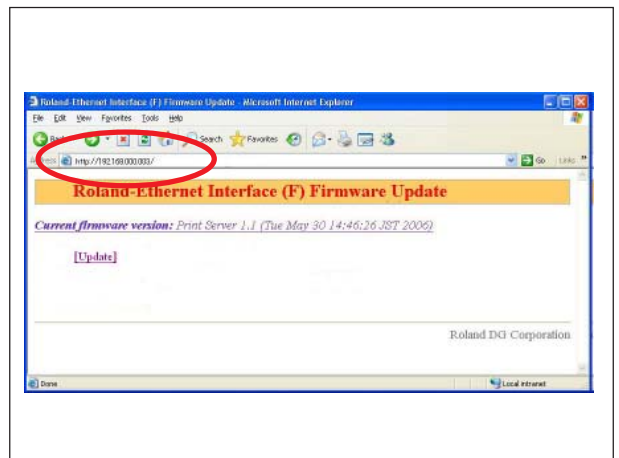
Cancel the RIP when the RIP is running.



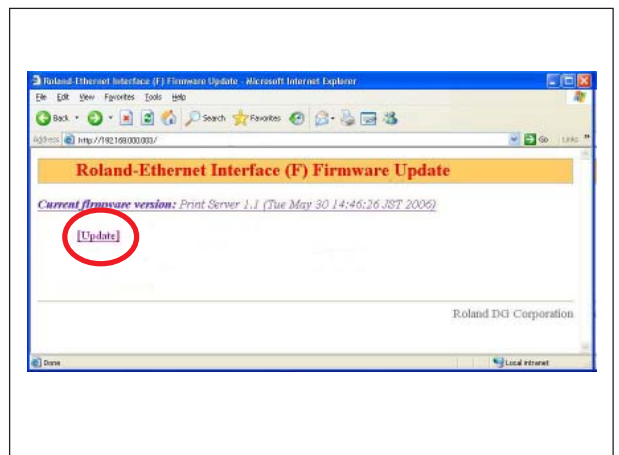
- 2 Open a browser on the PC and enter the IP address which is set at [1.].  
Current firmware version appears.



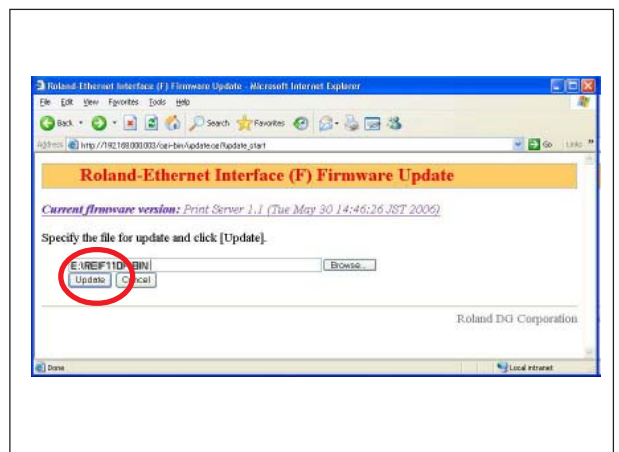
The Internet Explorer is recommended.



- 3 Click [Update].



- 4 Specify the target file for upgrade and click [Update].

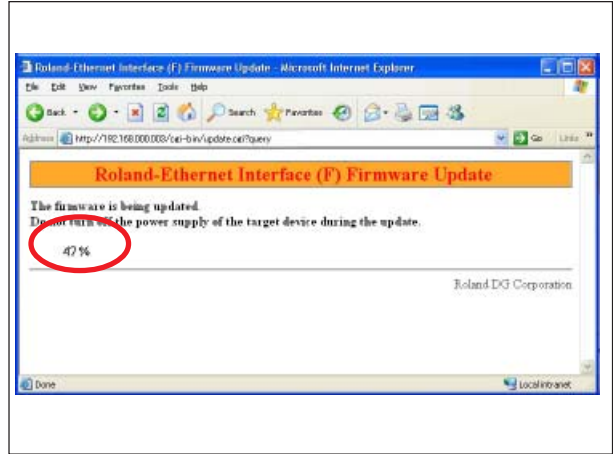




**5** The progress is shown in percentage while upgrading.

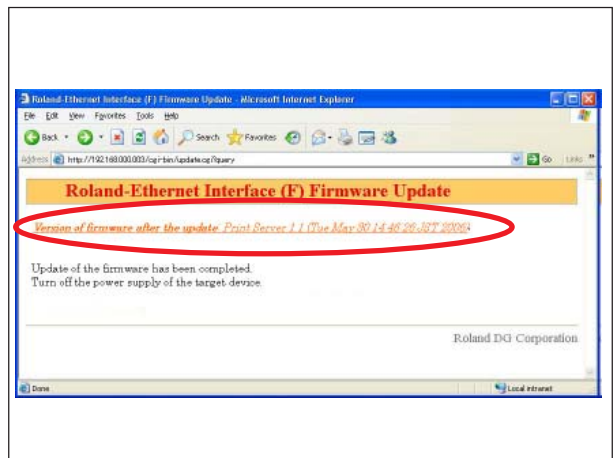


Do not turn off the power or press any keys during the upgrade.



**6** When upgrading is completed, the version of upgraded firmware appears.

Turn off the Sub power and Main power once.



**REVISED 3**

## 4-5 HEAD ALIGNMENT (Referential Time : 30 min.\_1 Head Alignment)

### [About HEAD ALIGNMENT]

HEAD ALIGNMENT is necessary to obtain the good printing quality.

Be sure to operate the HEAD ALIGNMENT when the HEAD is replaced.

If the heads are not aligned, printing problems such as banding, fine lines and gap between bands could occur.

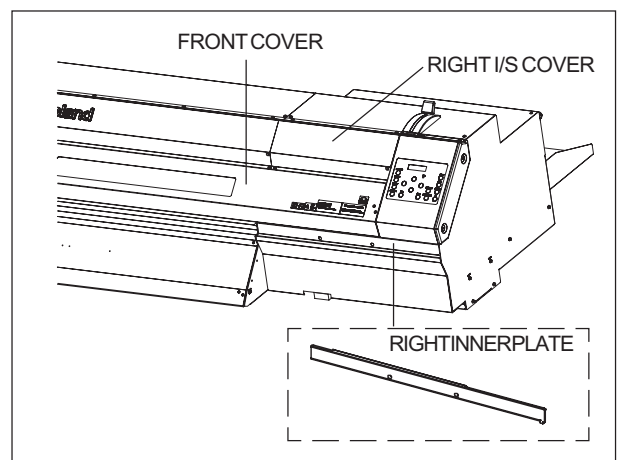
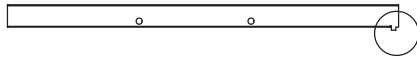
Please DO NOT use Take-Up device for this alignment.

The media tension changes during test printing and the result of alignment is not reliable.

- 1 Remove the FRONT COVER, RIGHT I/S COVER and INNER I/S COVER.



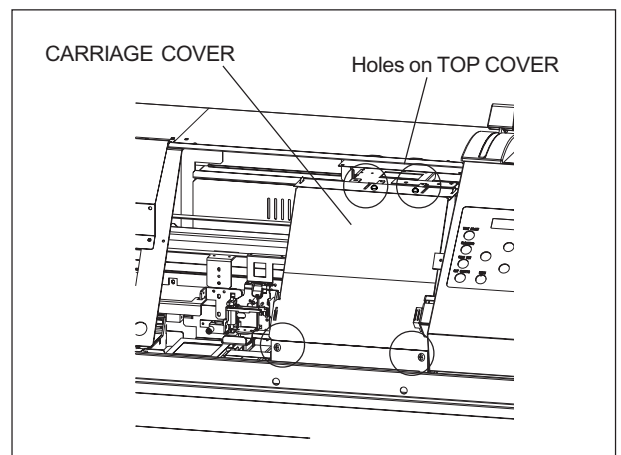
RIGHT INNER PLATE has a small hook on its right bottom and it is inserted to the lower cover. Be cautious when removing it.



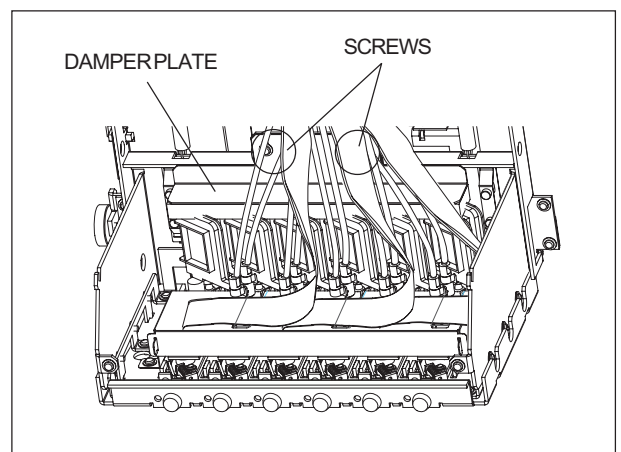
- 2 Remove the CARRIAGE COVER, removing the 4 screws shown in the figure.



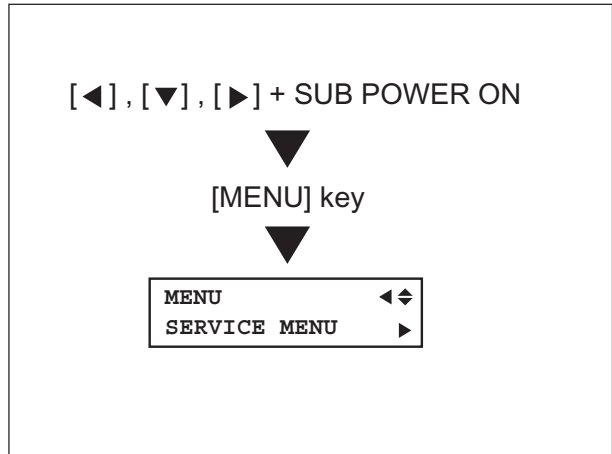
There are 2 holes on the TOP COVER. Upper 2 screws can be removed inserting a screwdriver through the TOP COVER.



- 3 Remove the DAMPER PLATE, removing the 2 screws shown in the figure.

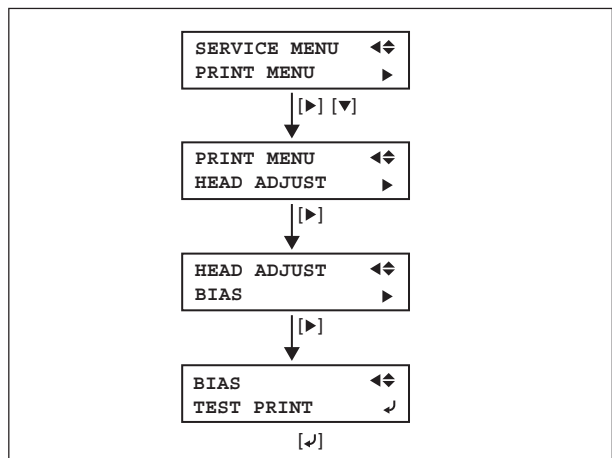


- 4** Turn on the SUB POWER SW while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.  
Setup the PET film on the machine.

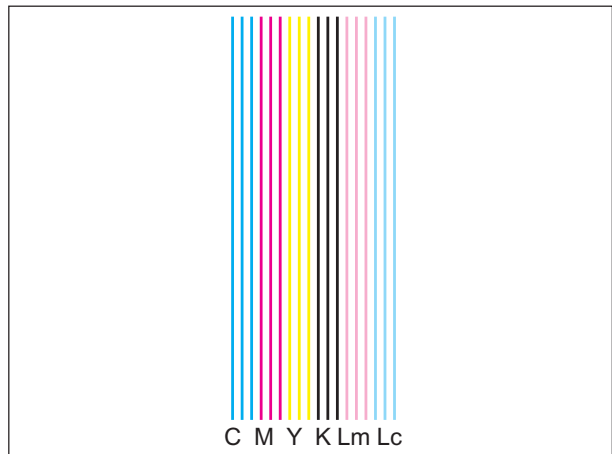


**[BIAS ADJUSTMENT]**

- 5** Select the [BIAS] > [TEST PRINT] menu under the [HEAD ADJUST] menu and press the [ENTER] key.



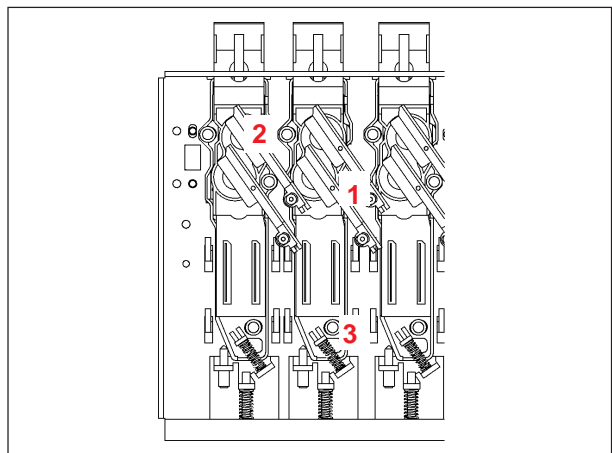
- 6** TEST PATTERN shown on the right will be printed.



- 7** Loosen the 3 screws fixing the Head in order as shown in the figure.



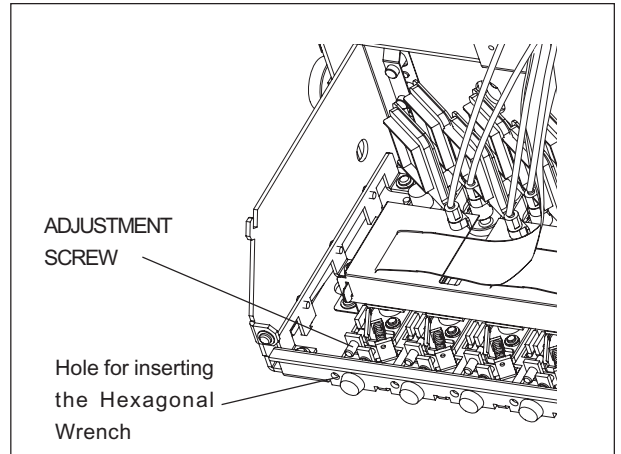
Loosen the screws fixing the Head for 1/2 turn. If the screws are too loose, it may affect the result of this alignment.



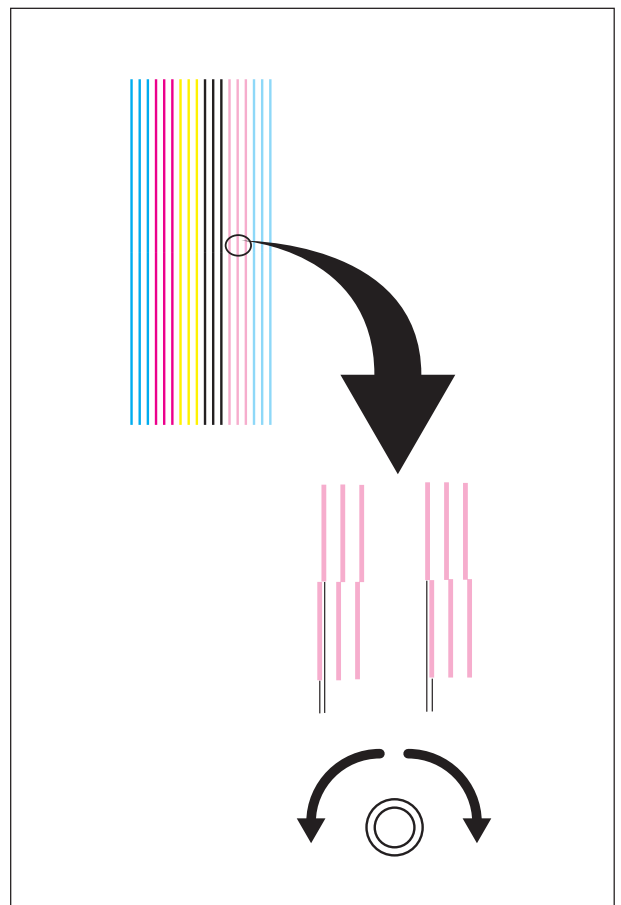
- 8** Insert the 1.5 mm Hexagonal Wrench through the hole of the HEAD CARRIAGE, then, turn the adjustment screw to make the lines of each color in the test pattern to be straight.

\*Reference\*

Position of the printing moves 1 line by turning the screw 3/4 turn.



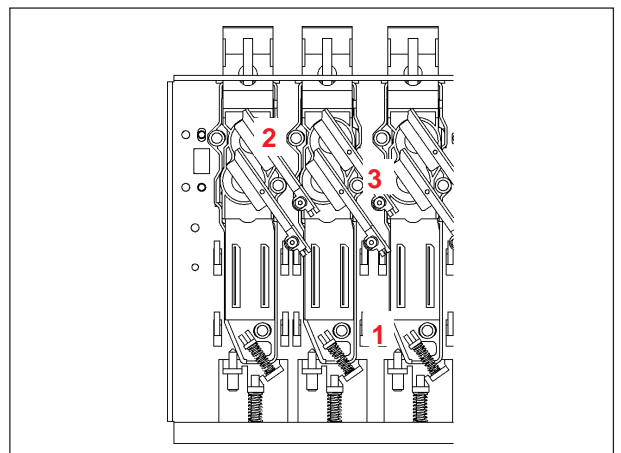
- When the upper lines are shifting towards the left of the lower lines, turn the screw CW.
- When the upper lines are shifting towards the right of the lower lines, turn the screw CCW.



- 9** Tighten the screws fixing the Head in the order reverse of loosening, using the TORQUE DRIVER (ST-056).



Torque for tightening is **2kgf • cm (20cNm)**.  
Make sure not to tighten the screws firmly.



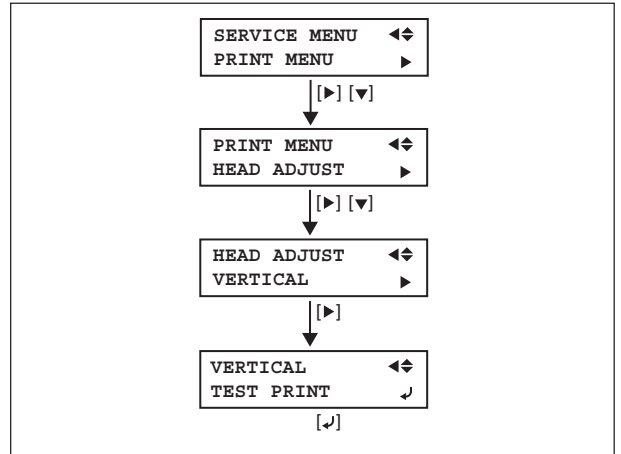
**10** Print the test pattern again.  
If the result is not satisfactory, repeat **5** to **9**.



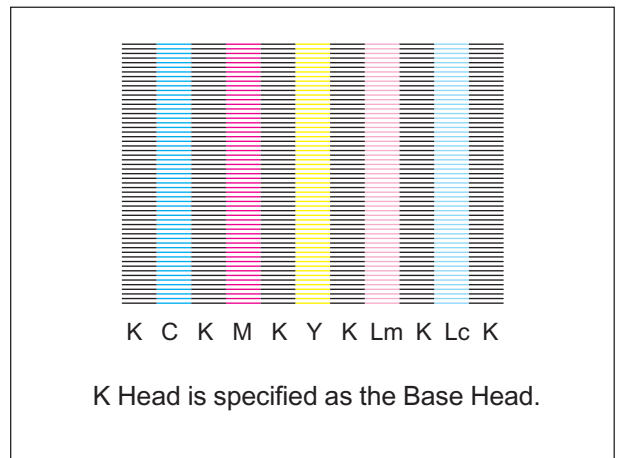
The shifting of lines should be less than 1/2 dot.

**[VERTICAL ADJUSTMENT]**

**11** Select the [VERTICAL] > [TEST PRINT] under the [HEAD ADJUST] menu and press the [ENTER] key.



**12** TEST PATTERN shown on the right will be printed.

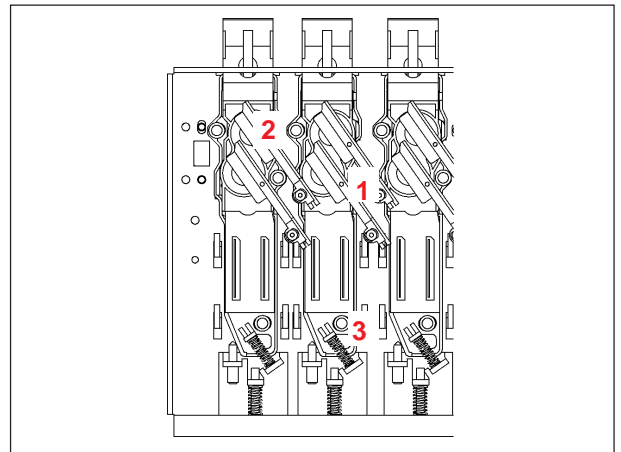


The test pattern changes if the Base Head is changed.

**13** Loosen the 3 screws fixing the Head in order as shown in the figure.



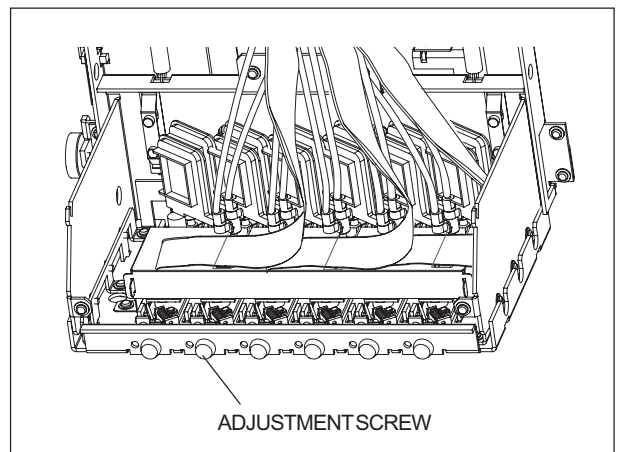
Loosen the screws fixing the Head for 1/2 turn. If the screws are too loose, it may affect the result of this alignment.



**14** Turn the ADJUSTMENT SCREW to make the lines of each color in the test pattern to be straight.

\*Reference\*

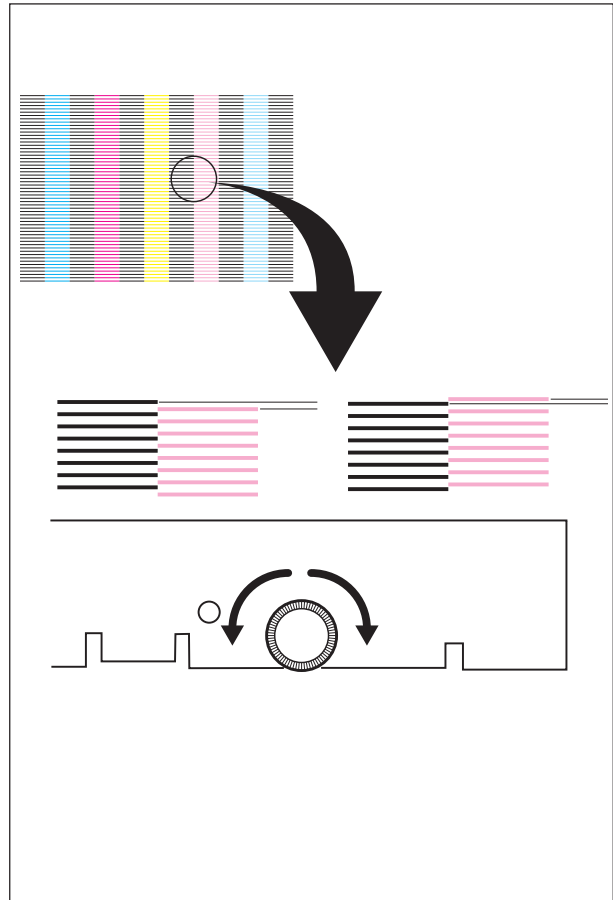
Position of the printing moves 1/2 line by turning the screw 30 degrees.



- When the lines other than K are above the K lines, turn the Adjustment Screw CW.
- When the lines other than K are below the K lines, turn the Adjustment Screw CCW.



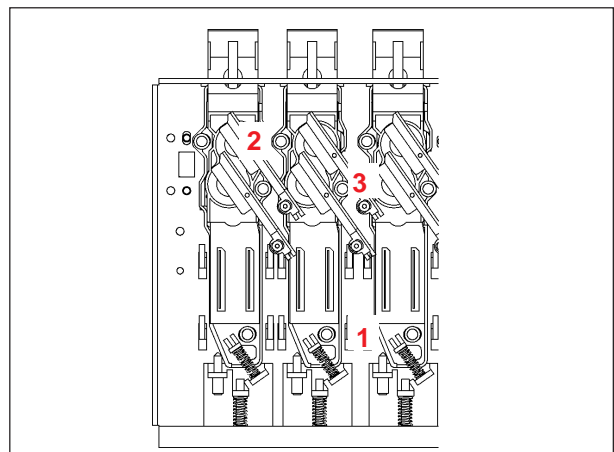
Adjust the Head positions referring to the left-end K head as the base position. The position of K head on the left end does not need to be adjusted.



- 15** Tighten the screws fixing the Head in the order reverse of loosening, using the TORQUE DRIVER (ST-056).



Torque for tightening is **2kgf • cm (20cNm)**.  
Make sure not to tighten the screws firmly.



- 16** Print the test pattern again.  
If the result is not satisfactory, repeat **11** to **15**.



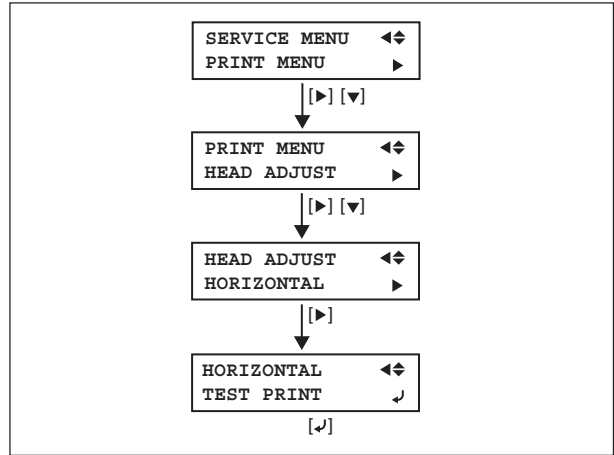
The shifting of lines should be less than 1/2 dot.

- 17 If the VERTICAL test print result is satisfactory, select the [BIAS] > [TEST PRINT] menu under the [HEAD ADJUST] menu and print the BIAS test pattern again.  
If the BIAS test print result is not satisfactory, repeat BIAS ADJUSTMENT.

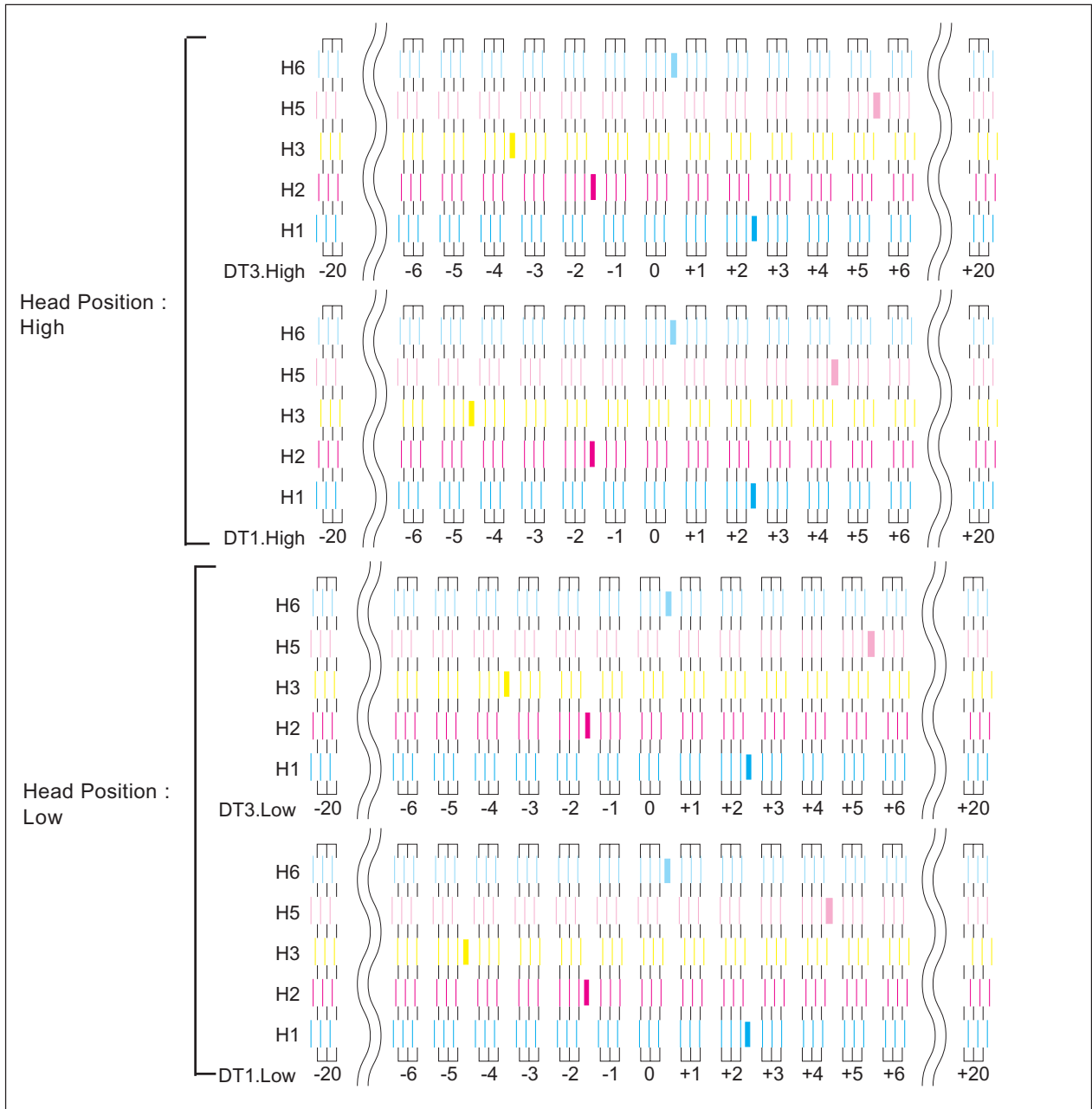


**[ HORIZONTAL ADJUSTMENT ]**

**18** Select the [HORIZONTAL] > [TEST PRINT] in the [HEAD ADJUST] menu and press the [ENTER] key.



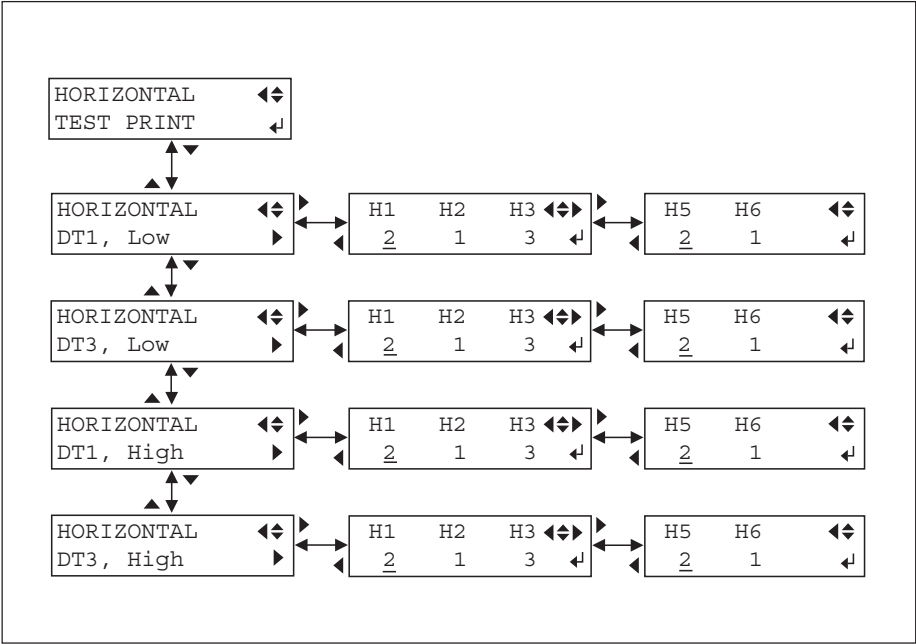
**19** Following TEST PATTERN will be printed.  
Find the position where the line of each color matches the K line and check the number.  
In case of having problem selecting one between two numbers, 1/2 is also available when setting up the value.  
The number with ■ is the current setting.



**20** Select [DT1, Low], [DT3, Low], [DT1, HIGH] and [DT3, HIGH] in the [HEAD ADJUST] menu and enter the parameters checked at **19** with [ ▲ ] and [ ▼ ] keys. Press the [ENTER] key to save the settings.

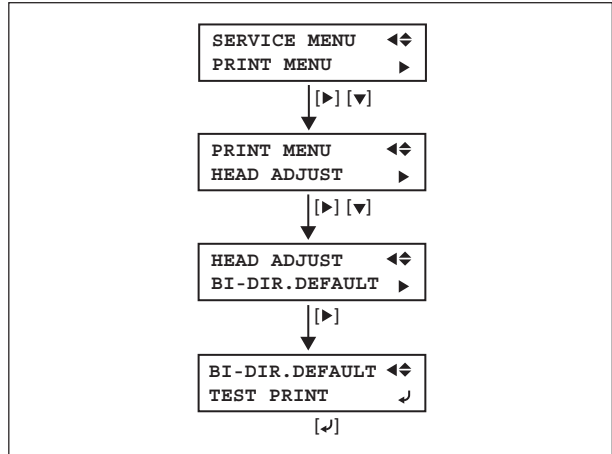


Parameters can be entered with an increment of 1/2.

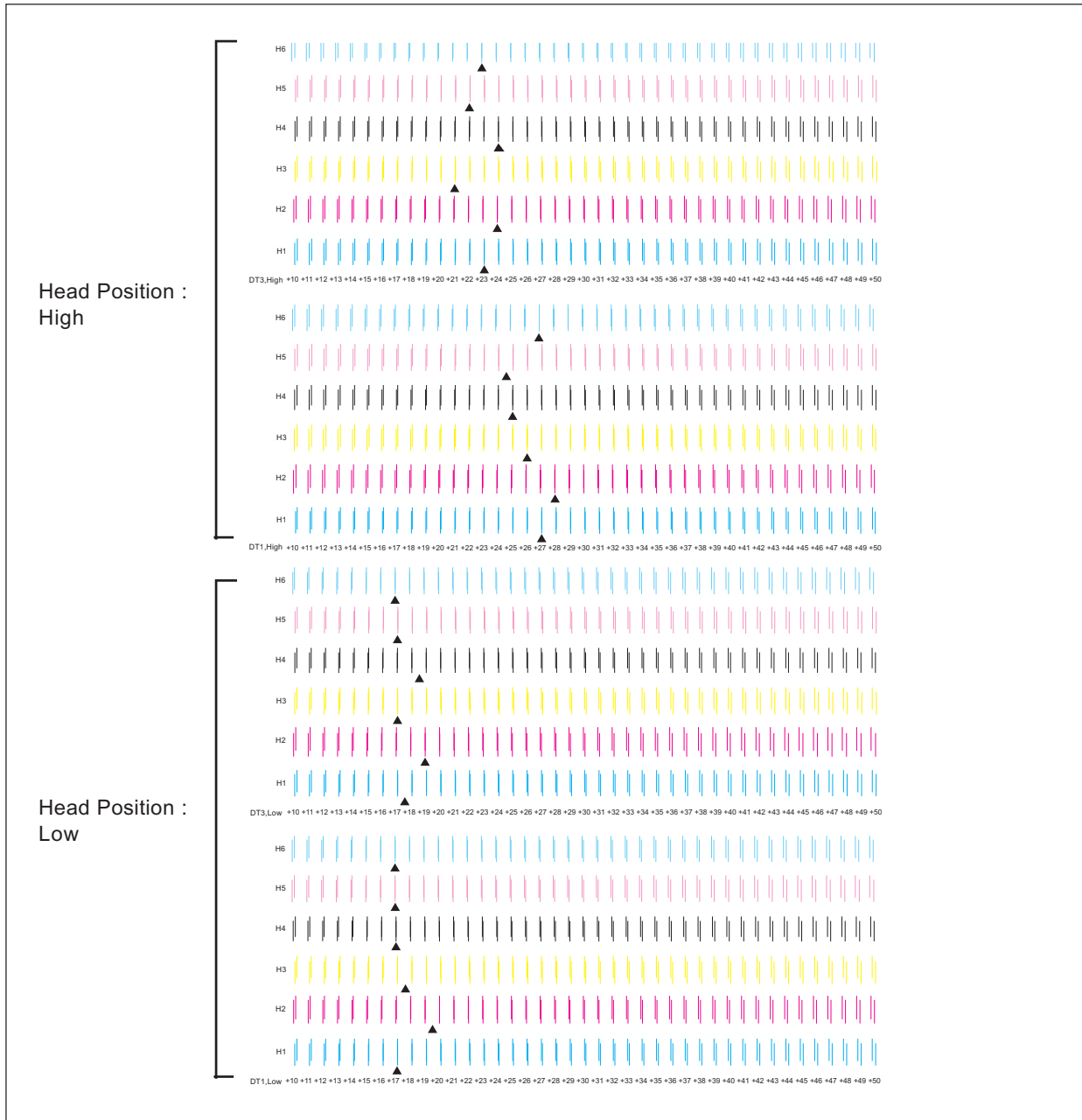


**[ BIDIRECTION ADJUSTMENT ]**

**21** Select [BI-DIR.DEFAULT] > [TEST PRINT] in the [HEAD ADJUST] menu and press the [ENTER] key.



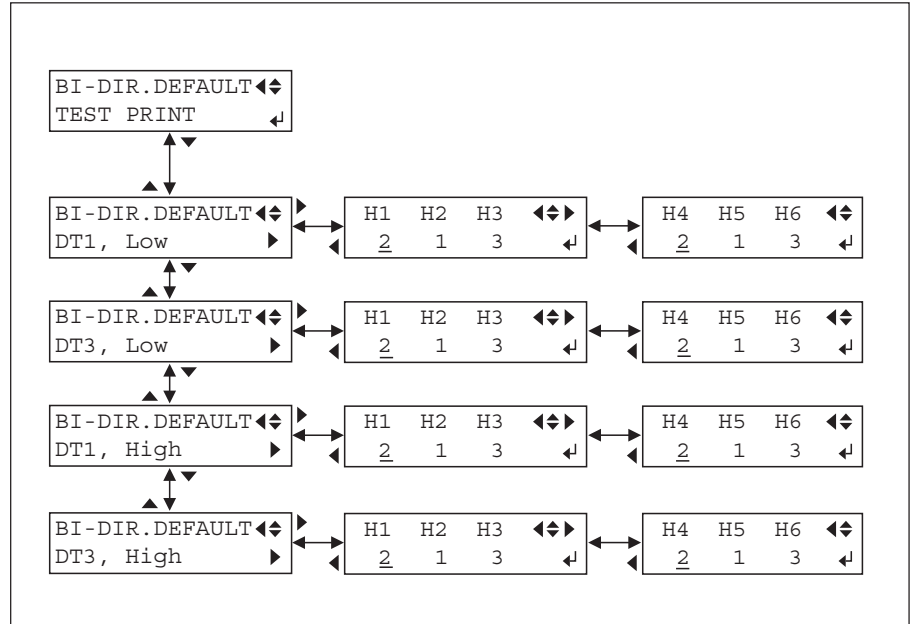
**22** Following TEST PATTERN will be printed.  
Find the position where the two lines are overlapping and check the number of each color.  
In case of having problem selecting one between two numbers, 1/2 is also available when setting up the value.  
The number with ▲ is the current setting.



- 23** Select [DT1, Low], [DT3, Low], [DT1, HIGH] and [DT3, HIGH] in the [HEAD ADJUST] menu and enter the parameters checked at **22** with [▲] and [▼] keys. Press the [ENTER] key to save the settings.



Parameters can be entered with an increment of 1/2.



- 24** Fix the DAMPER PLATE.

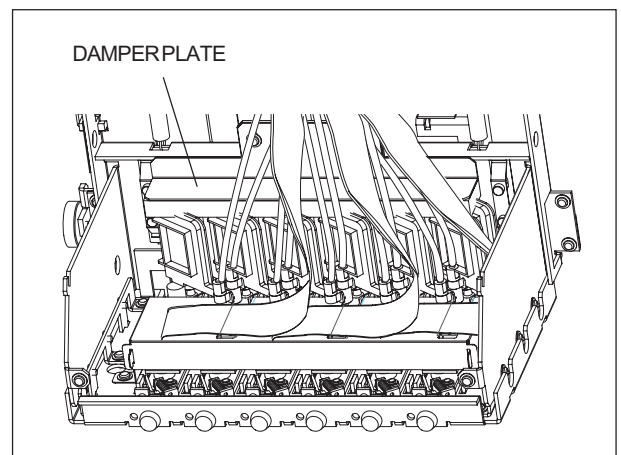


Make sure to press the Damper Plate downward lightly when fixing it.

\* Fix the screws at the bottom of the long hole.



If you press the Damper Plate strongly, the Damper may be damaged.



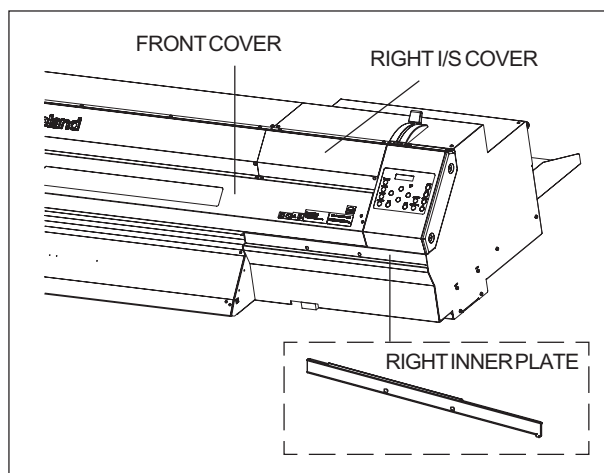
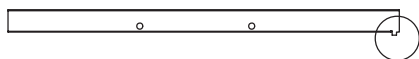
## 4-6 LIMIT POSITION & CUT DOWN POSITION INITIALIZE (Referential Time : 10min.)

This is for adjusting the relative distance between the Limit Sensor and the Capping Position, and also detecting the distance from the Cut Down Position to the Limit Sensor after completing the adjustment. When the Limit Position is not correctly set, it may cause some problems such as a head capping error, and also cause a cutter-down error when separating the sheet.

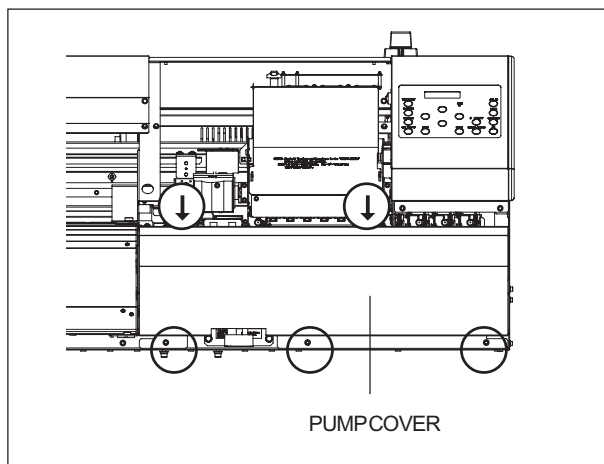
- 1 Remove the RIGHT I/S COVER, FRONT COVER and RIGHT INNER PLATE.



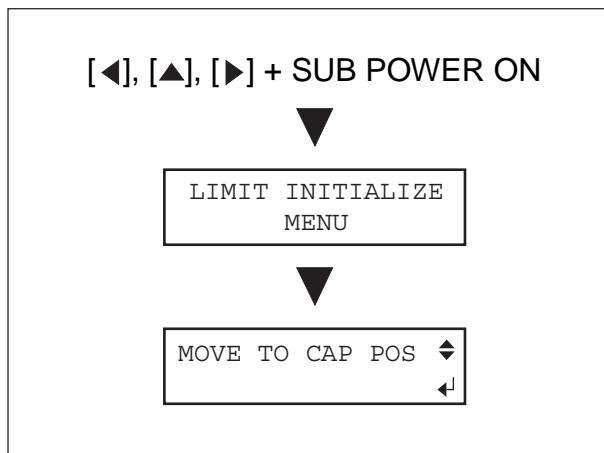
RIGHT INNER PLATE has a small hook on its right bottom and it is inserted to the lower cover. Be cautious when removing it.



- 2 Remove the PUMP COVER, removing the 5 screws shown in the figure.



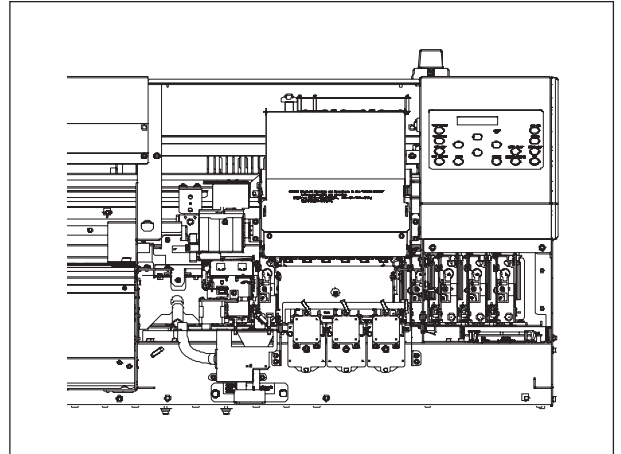
- 3 Turn on the SUB POWER SW while pressing [◀], [▲] and [▶] keys for LIMIT INITIALIZE mode.



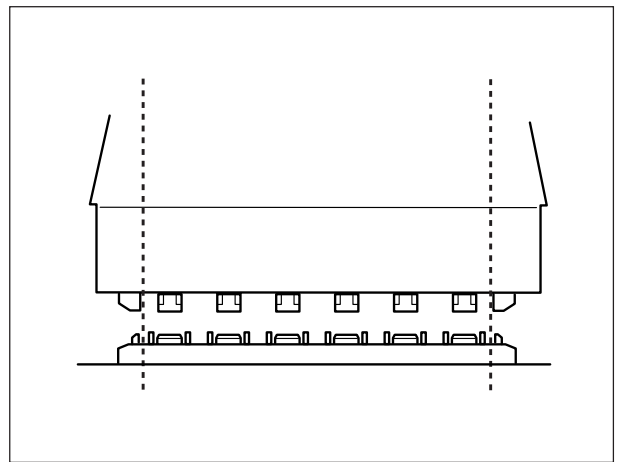
- 4** Confirm that HEAD CARRIAGE is connected to TOOL CARRIAGE. Also, lock the connected carriages if they are not locked.



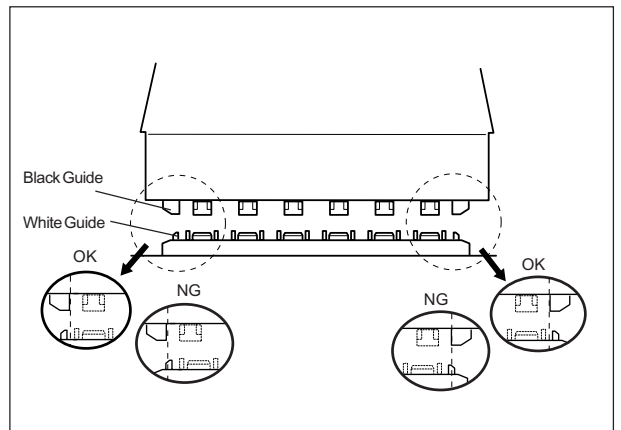
After locking the carriages, push them lightly towards left to confirm it is locked and also to eliminate looseness.



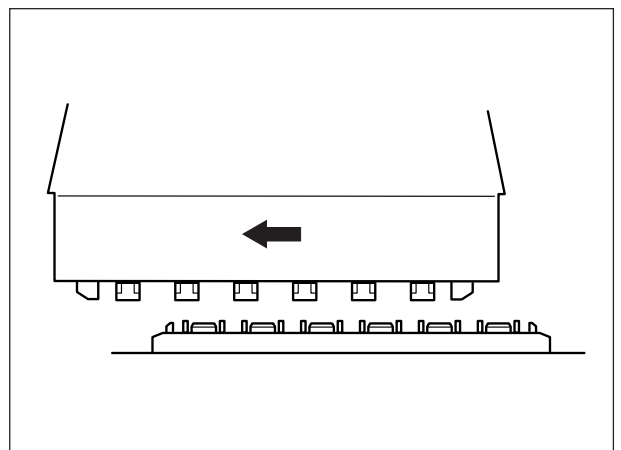
- 5** Confirm the relative positions of Head and Cap, moving the capping unit up and down with [▲] and [▼] keys.



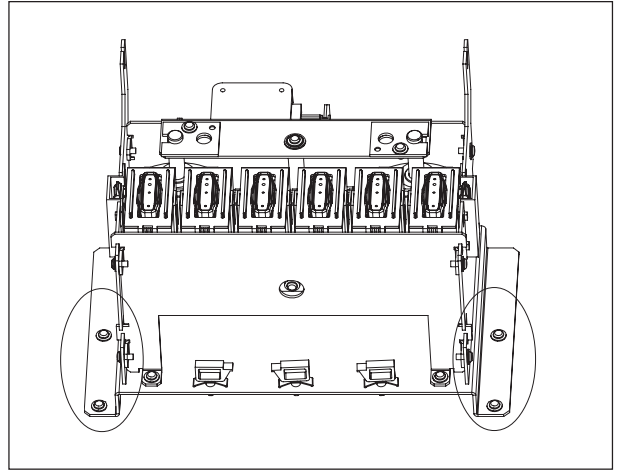
The position needs a correction when the white guide on the capping unit is not at the matching position with the black guide on the Head Carriage. When it needs a correction, perform the following adjustment procedure. Or, when it is in the proper position, press [ENTER] key and go to **11**.



- 6** Unlock the carriages and move them to the left, off of the capping unit.



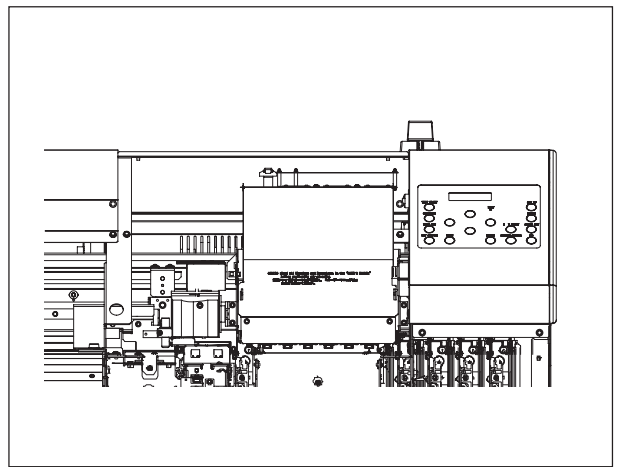
- 7** Loosen the 4 screws fixing the capping unit.



- 8** Return the carriages to the lock position.



After the carriages are locked, push them to the left lightly to eliminate the looseness.

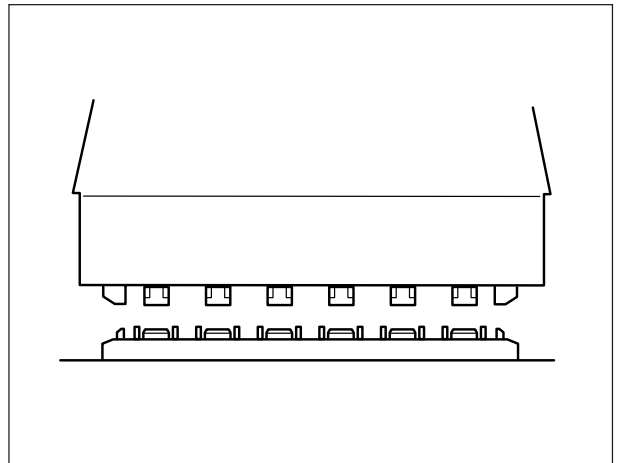


- 9** Adjust the position of the capping unit right and left to be located at the proper position under the Head, with your hands.

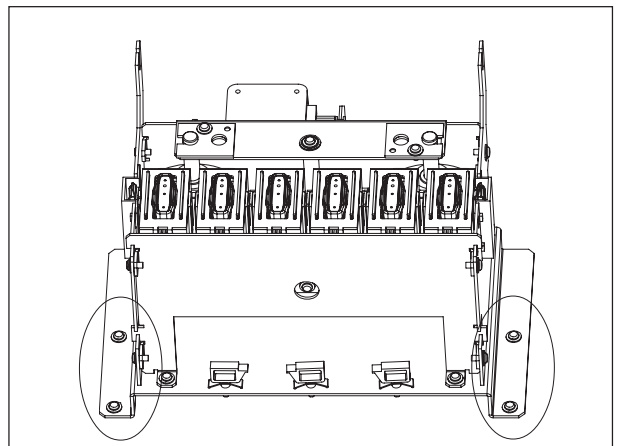
The capping unit can be moved up and down using [▲] and [▼] keys to help adjustment.



Make sure that the Cap does not bumps the Head.

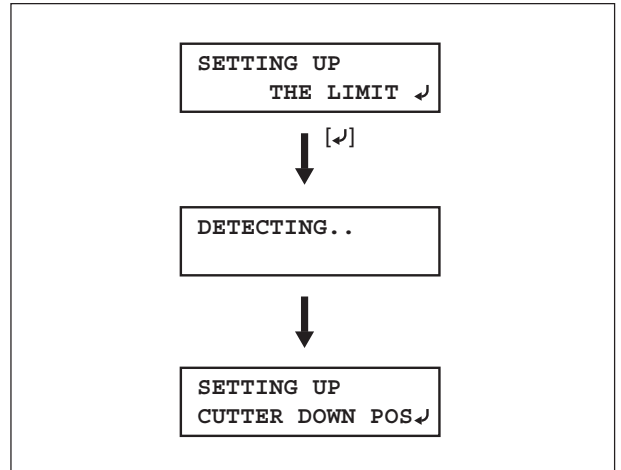


- 10** After adjusting the position, tighten the 4 screws fixing the capping unit. And then, press the [ENTER] key to confirm the position with an actual capping.

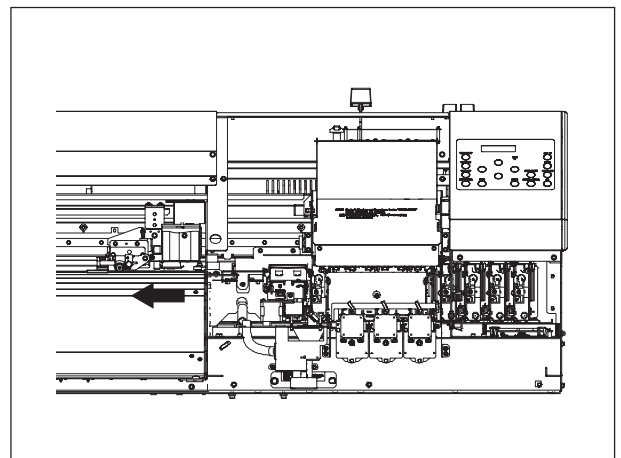


- 11** Confirm that the Head is certainly capped, and press the [ENTER] key again. The Tool Carriage automatically leaves the Head Carriage and it starts LIMIT POSITION INITIALIZE.

After the completion of the INITIALIZE, the message is indicated as shown on the right.

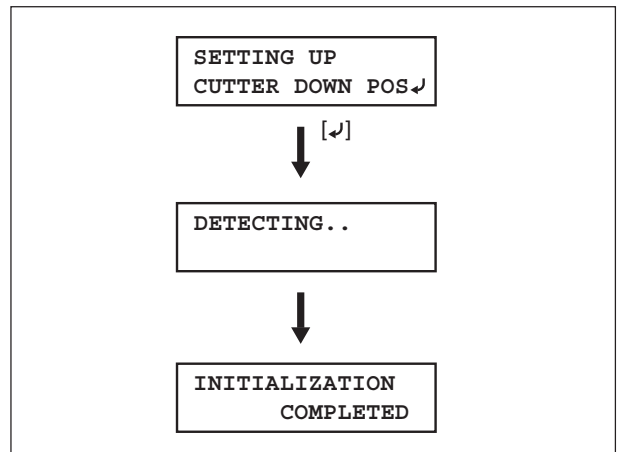


- 12** Move the TOOL CARRIAGE with your hand until it makes full contact with the LEFT FRAME with CUT DOWN status.



- 13** Carry out the CUT DOWN POSITION INITIALIZE by pressing [ENTER] key.

After the completion of the INITIALIZE, the message is indicated as shown on the right.

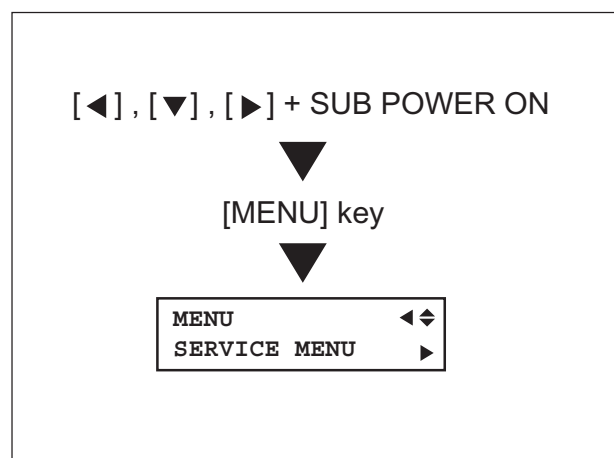




## 4-7 LINEAR ENCODER SETUP (Referential Time : 10min.)

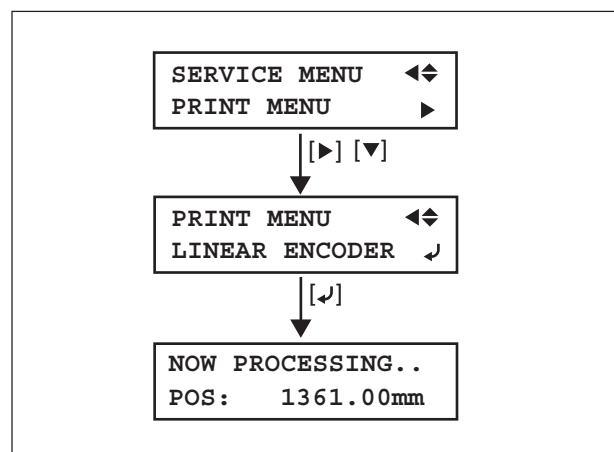
LINEAR ENCODER SETUP is performed to confirm that the installation of Linear Encoder is proper, and also to confirm that it properly reads and corrects the width of the scale, which is stretched or shrunk due to the operation environment, by the software coordinates. This operation is required when Limit Sensor, Encoder Scale or Encoder Module is replaced or the position is adjusted.

- 1 Turn on the SUB POWER SW while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.



- 2 Lower the Pinch Rollers.  
Make sure to unload the media when it is set on the machine.  
**Also, the media clamps must be removed.**

- 3 Select the [LINEAR ENCODER] menu in the SERVICE MENU and press the [ENTER] key.

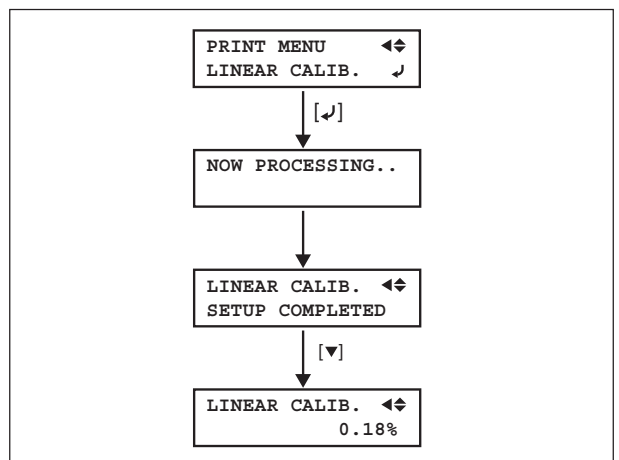
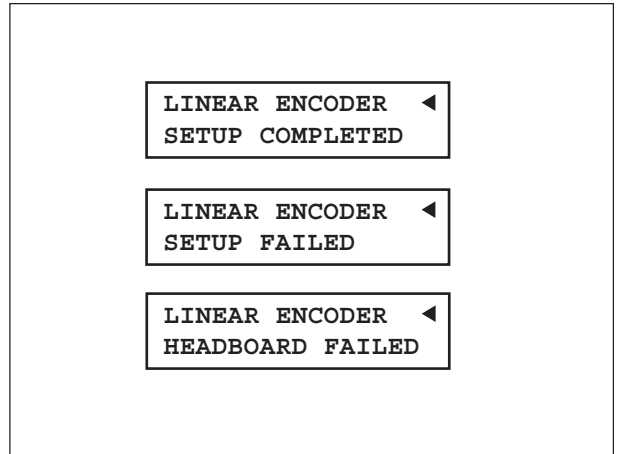


**4** One of the messages appears at the completion of the set up. In case of SETUP error, check the followings.

1. Dirt/Scratch on the ENCODER SCALE.
2. Dirt/Scratch on the ENCODER MODULE.
3. ENCODER SCALE is not between the ENCODER MODULE.
4. Backlash of the CARRIAGE MOTOR GEAR and the DRIVE GEAR.
5. Fixation between the CARRIAGE and the CARRIAGE BELT.
6. Bad Contact in the cables.

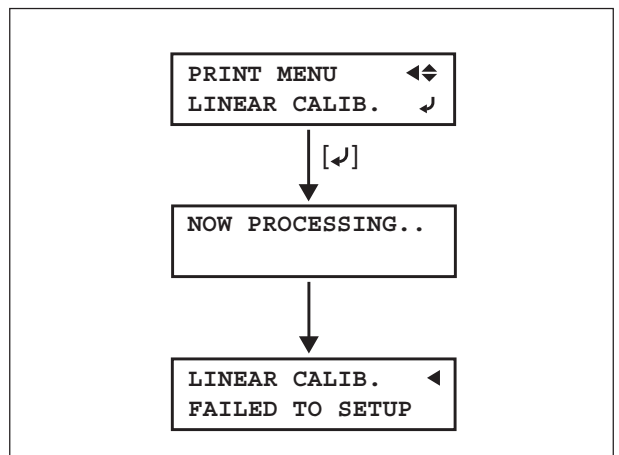
In case of [HEADBOARD FAILED], the Head Board is possibly defective.

**5** When Linear Encoder Setup is completed, carry out the [LINEAR CALIB.] in the Service Menu.



**6** In case of an error, check the followings.

1. Dirt/Scratch on the ENCODER SCALE.
2. Dirt/Scratch on the ENCODER MODULE.
3. ENCODER SCALE is not between the ENCODER MODULE.
4. Backlash of the CARRIAGE MOTOR GEAR and the DRIVE GEAR.
5. Fixation between the CARRIAGE and the CARRIAGE BELT.
6. Bad Contact in the cables.



## 4-8 CAP HEIGHT ADJUSTMENT (Referential Time : 5min.)

CAP HEIGHT ADJUSTMENT is to adjust the height of the cap.

This adjustment is required when the cap unit is removed or replaced.

Without this adjustment, the CAP EVACUATION\* may not be performed properly.

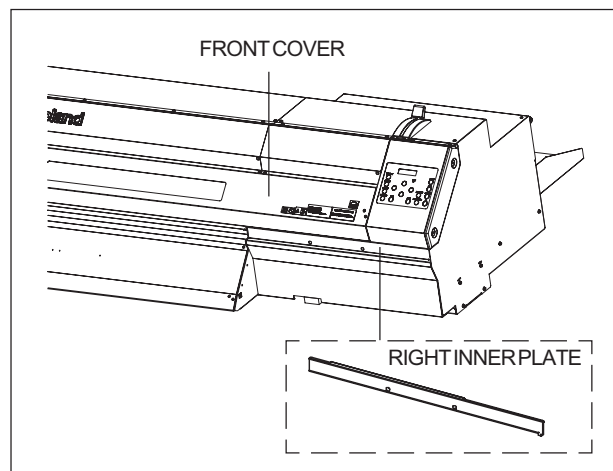
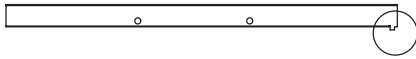
\* CAP EVACUATION is an operation of ink evacuation with the Heads uncapped. This removes the ink accumulated on the Cap surfaces.

For this adjustment, the Head height can be either HIGH or LOW. When it is adjusted with one of the Head heights, the setting for the other height is also changed automatically.

- 1 Open the FRONT COVER and remove the RIGHT INNER PLATE.



RIGHT INNER PLATE has a small hook on its right bottom and it is inserted to the lower cover. Be cautious when removing it.



- 2 Make sure to unload the media when it is set on the machine.

Then, turn on the SUB POWER SW while pressing [◀] [▼] and [▶] keys to enter the SERVICE MODE.

[◀] , [▼] , [▶] + SUB POWER ON

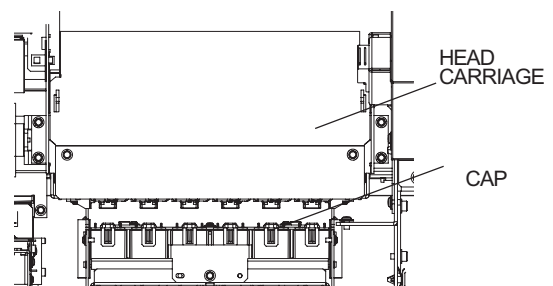
▼  
[MENU] key

▼  
MENU ◀▶  
SERVICE MENU ▶

- 3 Select the [CAP ADJUST] menu in the SERVICE MENU and select [ADJUST POS.].

When the carriage is not in the capping position, move it to the position with your hands. In advance, press [▼] key to move the cap lower in order to avoid a contact between Head and Cap.

SERVICE MENU ◀▶ (P) (V) I/S MENU ◀▶ (P) CAP ADJUST ◀▶  
I/S MENU ▶ CAP ADJUST ▶

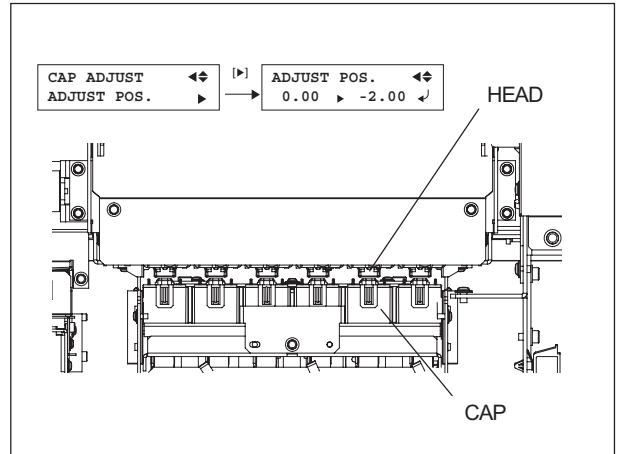


- 4** Move the cap upward to the position that the cap contacts exactly to the head, then press [ENTER] to update the adjustment value.

- When you press [▲] key, the cap moves upward in 0.25mm unit.
- When you press [▼] key, the cap moves to the position in the setting value -2.00mm.
- When you press [◀] key, the adjustment value is not updated and the capping is carried out, and then exiting the menu.



If it is difficult to see whether Head makes contact with Cap, irradiate the plate behind the Head Carriage with a penlight. Move the cap upward, and when the light on the back plate cannot be seen through the gap between Head and Cap, it means that Head makes contact with Cap.

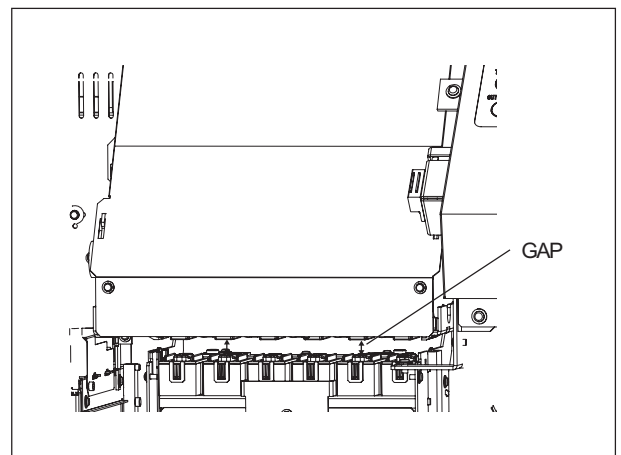


- 5** Check the adjusted Capping Position.  
Enter the [CHECK GAP.] menu.

The Cap moves to the the same position as the Cap Evacuation. Confirm that there is a gap between the Cap and all Heads.



[CHECK GAP.] menu is for checking the gap between the Cap and Head. For adjustment, use the [ADJUST POS.] menu.



## 4-9 CROP MARK SENSOR ADJUSTMENT (Referential Time : 10min.)

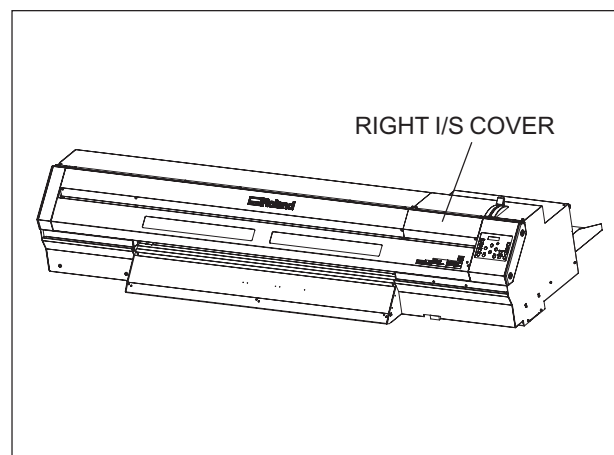
This adjustment is for adjusting the sensitivity of the CROP MARK SENSOR. If not adjusted, the crop marks cannot be read correctly and it results in a problem of the position error of the cut line to the print. This adjustment is required under following cases.

- CROP MARK SENSOR or TOOL CARRIAGE BOARD is replaced or adjusted.
- The VR for adjusting the voltage is unexpectedly moved.
- The distance between CROP MARK SENSOR and the bed surface is changed.

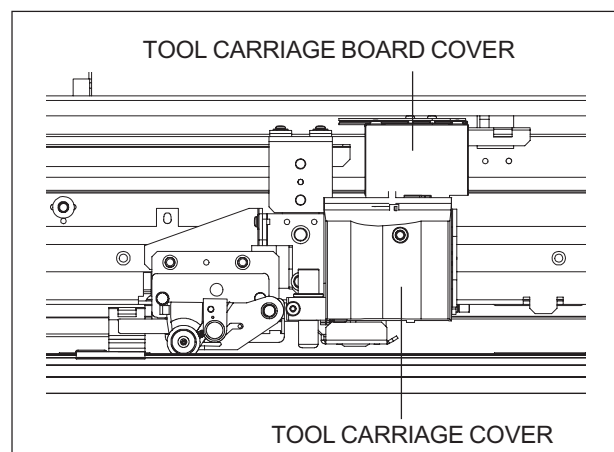
**The Pre-heater, Print Heater and Dryer must be off during this adjustment.**

When it needs to be adjusted for a user media, use the media instead of SV-G-1270G. However, in this case, the adjustment is to be optimized for the particular media and it may affect the crop mark detection on other media. The result of the crop mark recognition on Roland media is not assured, when any media other than SV-G-1270G is used for this adjustment.

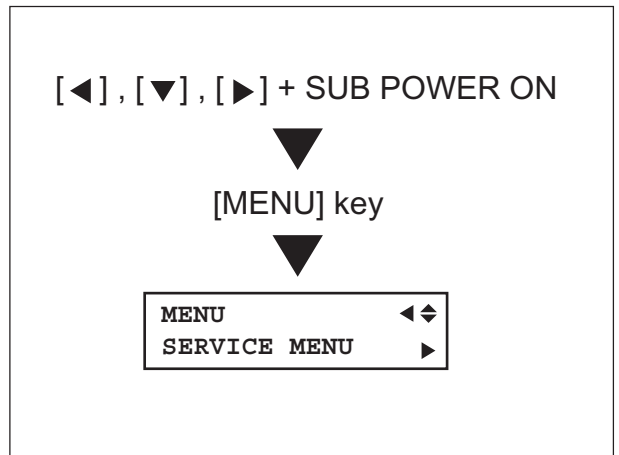
- 1 Remove the RIGHT I/S COVER.



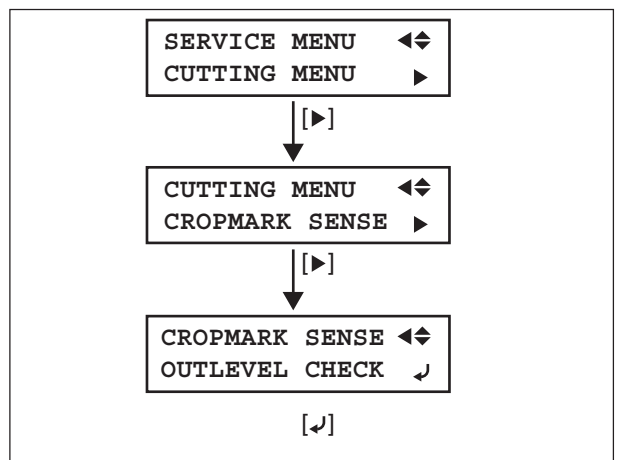
- 2 Remove the TOOL CARRIAGE COVER and TOOL CARRIAGE BOARD COVER.



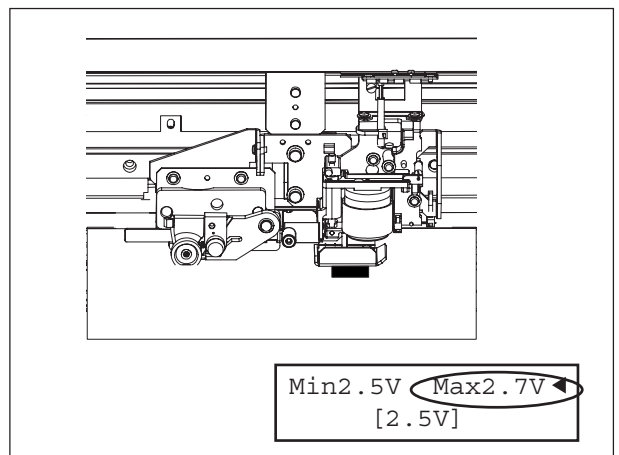
- 3** Turn on the sub power switch while pressing [**◀**], [**▼**] and [**▶**] keys to enter the SERVICE MODE. Setup the SV-G-1270G film on the machine.



- 4** Select [OUTLEVEL CHECK] under the [CROPMARK SENS] menu. Crop Mark will be printed when the [ENTER] key is pressed.



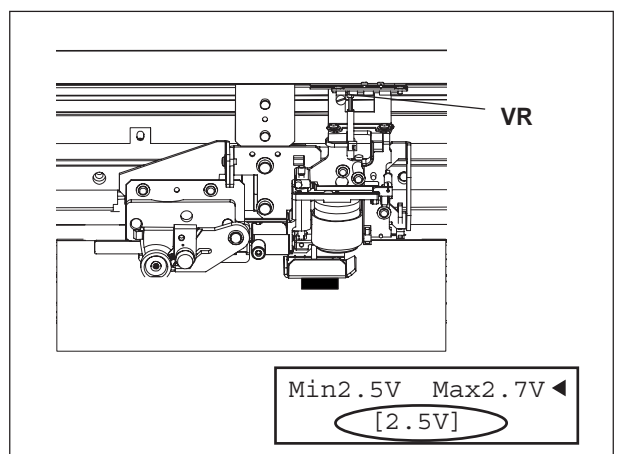
- 5** After printing a Crop Mark, the TOOL CARRIAGE moves to above the Crop Mark automatically. Adjustment is unnecessary when the displayed MAX voltage is 2.7 +/-0.2V.



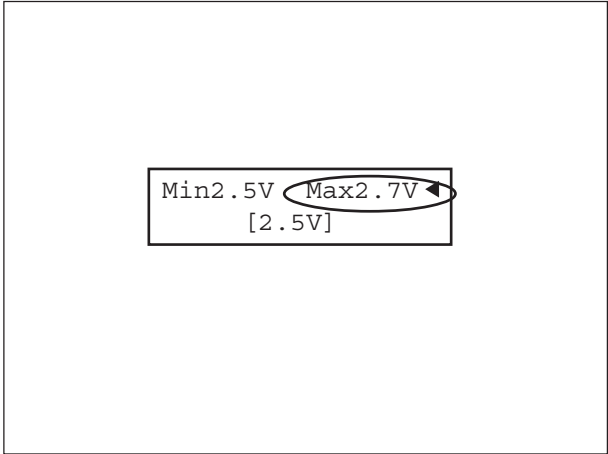
- 6** When the MAX voltage is not proper, see the voltage displayed with [ ] on the lower LCD. Adjust the VR on the TOOL CARRIAGE BOARD so that the voltage with [ ] changes to 2.7 +/-0.2V.



Due to the ink dry, the voltage displayed with [ ] decreases in time. This adjustment needs to be done quickly for smooth operation.



- 7** Perform [OUTLEVEL CHECK] again and confirm that the MAX voltage is proper.  
If it is out of range, repeat the adjustment.



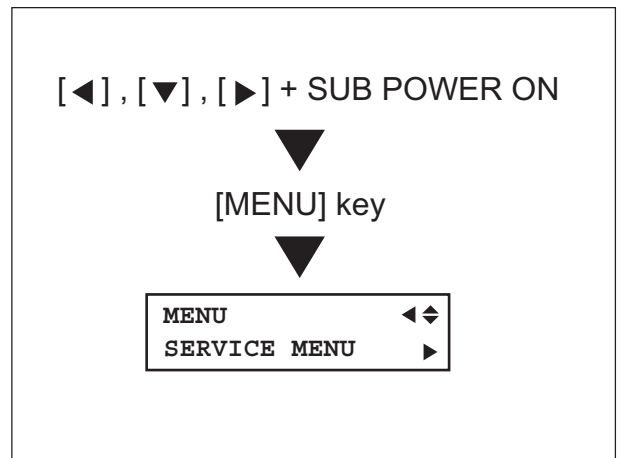
## 4-10 CROP-CUT ADJUSTMENT (Referential Time : 10min.)

This adjustment is for calibrating the relative positions of Tool and Crop Mark Sensor. If it is not adjusted, the cutting position based on the detected Crop Marks becomes wrong, and that results in the mis-alignment of the Print and Cut when performing the auto crop mark detection. This adjustment is required when Crop Mark Sensor or Tool Carriage is replaced or adjusted.

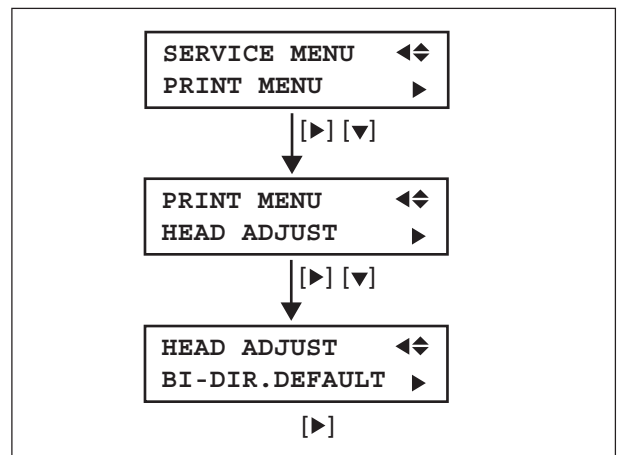
**Before this adjustment, it is necessary to confirm that [ENABLE] is selected for [AUTO ENV. MATCH].**

**Also, Take-up unit must not be used during this adjustment.**

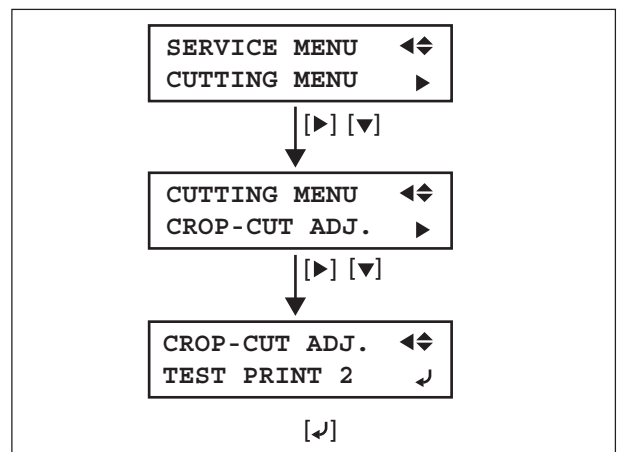
- 1 Turn on the sub power switch while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.



- 2 Perform BI-DIRECTION ADJUSTMENT. After the adjustment, leave the PET-G on the printer to use continuously for this CROP-CUT ADJUSTMENT.



- 3 Select [TEST PRINT 2] under the [CROP-CUT ADJ.] menu. Press [ENTER] key to start the test print.



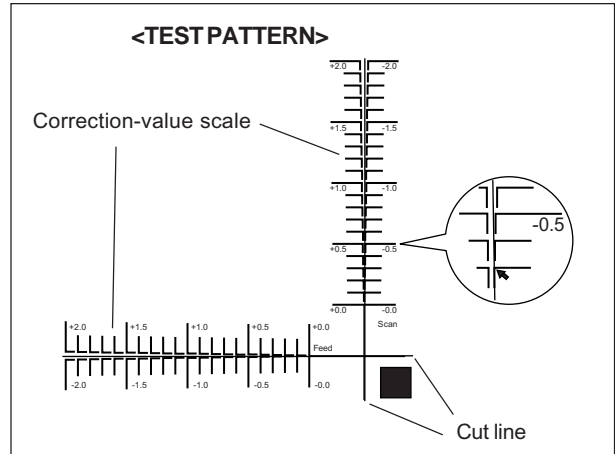


**4** From the Test Pattern, find the value where the print line matches the cut line.

In this case, the correction value for the scan direction is "-0.3".



When it is difficult to see the cut line visually, use a magnifier.



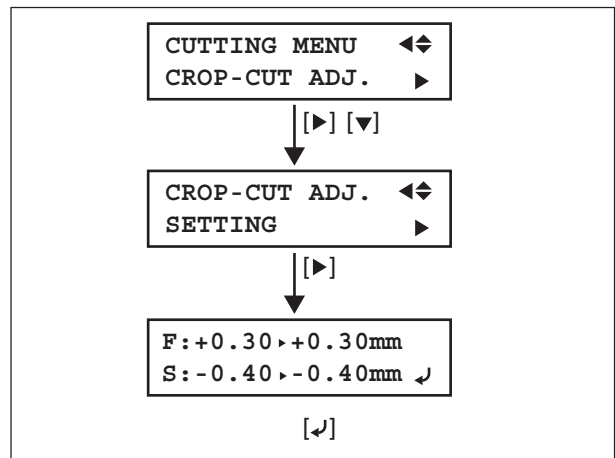
**5** Select [SETTING] from the [CROP-CUT ADJ.] menu and enter the correction-values found in the Test Pattern for both Feed and Scan.



F: Feed direction S: Scan direction  
 Left: Current value Right: New value  
 (Setting range: +/-2.00mm In 0.01mm unit)

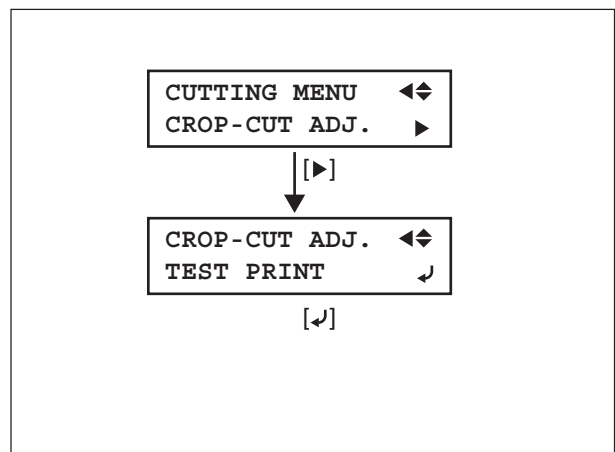
- ▼ key : Value of F, towards +
- ▲ key : Value of F, towards -
- ▶ key : Value of S, towards +
- ◀ key : Value of S, towards -

ENTER key : Saves new setting  
 MENU key : Moves out SETTING menu



**6** Select [TEST PRINT] under the [CROP-CUT ADJ.] menu.

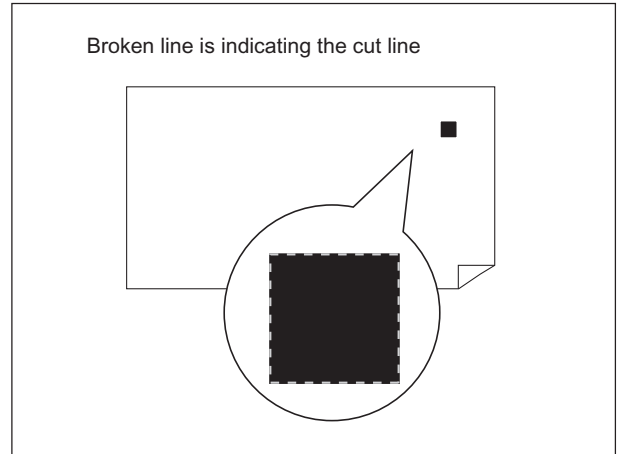
Press [ENTER] key to start the test print.



**7** A mark is printed, and detected by the crop mark sensor, and its contour is cut. Confirm the cut line position on the print visually.



When it is difficult to see the cut line visually, use a magnifier.



**8** Adjustment is completed if the position error of cut line is within +/-0.1mm. If not, select [SETTING] menu again for further adjustment.



- ▼ key : Moves cut position towards front
- ▲ key : Moves cut position towards rear
- ▶ key : Moves cut position towards right
- ◀ key : Moves cut position towards left
- ENTER key : Saves new setting
- MENU key : Moves out SETTING menu

CUTTING MENU ◀▶  
CROP-CUT ADJ. ▶

↓ [▶] [▼]

CROP-CUT ADJ. ◀▶  
SETTING ▶

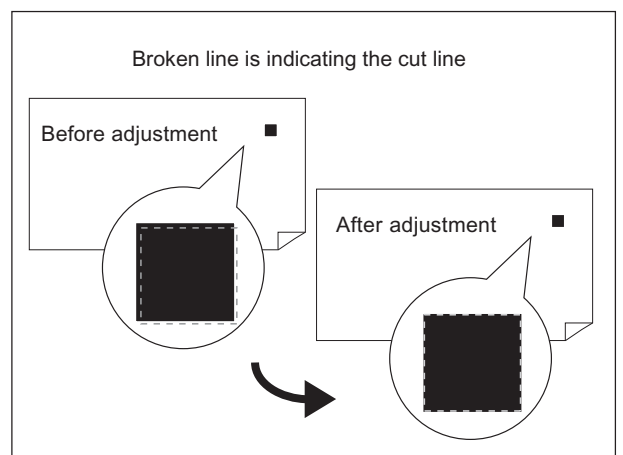
↓ [▶]

F: +0.30 ▶ +0.30mm  
S: -0.40 ▶ -0.40mm ↵

[↵]

[Fine Adjustment]

**9** Perform Test Print again for confirmation. Adjustment is completed if the position of cut line is satisfactory. If not, make an adjustment again.



## 4-11 PRINT / CUT POSITION ADJUSTMENT (Referential Time : 10min.)

This adjustment is for calibrating the relative positions of printing and cutting. If it is not adjusted, it may result in the mis-alignment of the printing and cutting.

This adjustment is required when Crop Mark Sensor, Tool Carriage or Print Head is replaced or adjusted, and also when the relative distance between Tool and Print Head is changed.

**Before this adjustment, it is necessary to confirm that [ENABLE] is selected for [AUTO ENV. MATCH].**

**Also, Take-up unit must not be used during this adjustment.**

- 1 Turn on the sub power switch while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.

[◀], [▼], [▶] + SUB POWER ON

[MENU] key

MENU	◀◆
SERVICE MENU	▶

- 2 Perform BI-DIRECTION ADJUSTMENT.  
After the adjustment, leave the PET-G on the printer to use continuously for this PRINT/CUT POSITION ADJUSTMENT.

SERVICE MENU	◀◆
PRINT MENU	▶

↓ [▶] [▼]

PRINT MENU	◀◆
HEAD ADJUST	▶

↓ [▶] [▼]

HEAD ADJUST	◀◆
BI-DIR.DEFAULT	▶

[▶]

- 3 Select [TEST PRINT 2] under the [PRINT-CUT ADJ.] menu.  
Press [ENTER] key to start the test print.

SERVICE MENU	◀◆
CUTTING MENU	▶

↓ [▶] [▼]

CUTTING MENU	◀◆
PRINT-CUT ADJ.	▶

↓ [▶] [▼]

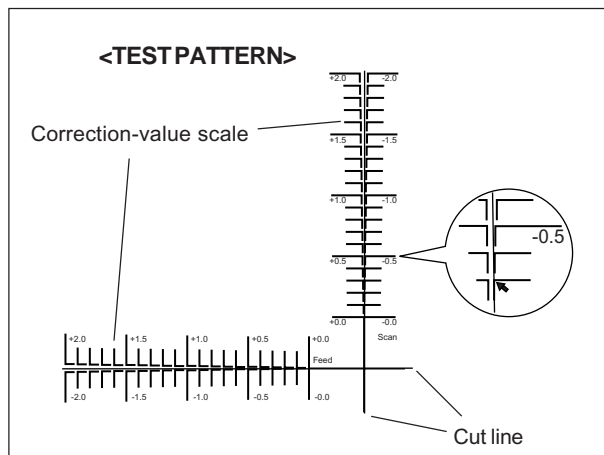
PRINT-CUT ADJ.	◀◆
TEST PRINT 2	↵

[↵]

- 4** From the Test Pattern, find the value where the print line matches the cut line.  
In this case, the correction value for the scan direction is "-0.3".



When it is difficult to see the cut line visually, use a magnifier.



- 5** Select [SETTING] under [PRINT-CUT ADJ.] menu and enter the correction-values found in the Test Pattern for both Feed and Scan.

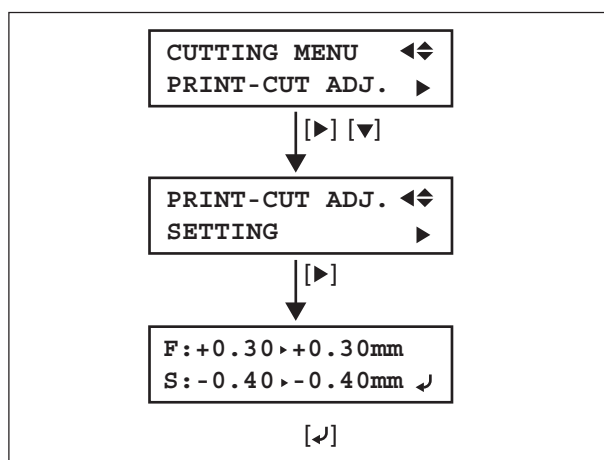


F: Feed direction S: Scan direction  
Left: Current value Right: New value  
(Setting range: +/-5.00mm In 0.01mm unit)

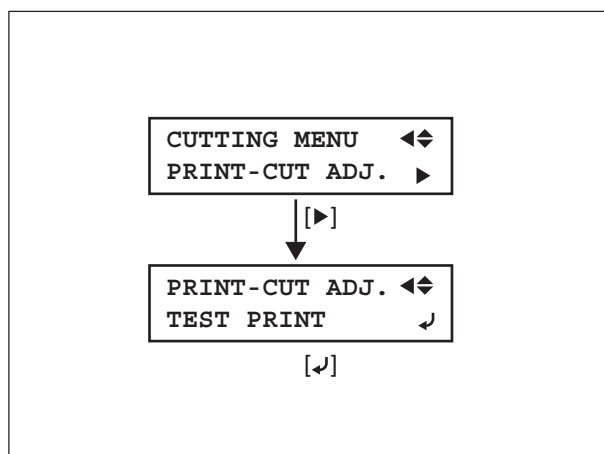
- ▼ key : Value of F, towards +
- ▲ key : Value of F, towards -
- ▶ key : Value of S, towards +
- ◀ key : Value of S, towards -

ENTER key : Saves new setting

MENU key : Moves out SETTING menu



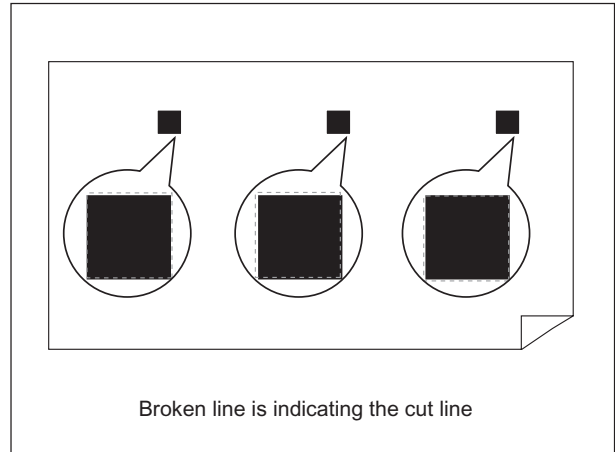
- 6** Select [TEST PRINT] under [PRINT-CUT ADJ.] menu.  
Press [ENTER] key to start the test print.



- 7** Three marks are printed at the left-end , right-end and the center of the media, and each mark is cut. Confirm the cut line positions on the marks visually.



When it is difficult to see the cut line visually, use a magnifier.



- 8** Adjustment is completed if the position error of cut line is within the range below. If not, select [SETTING] menu again for further adjustment.

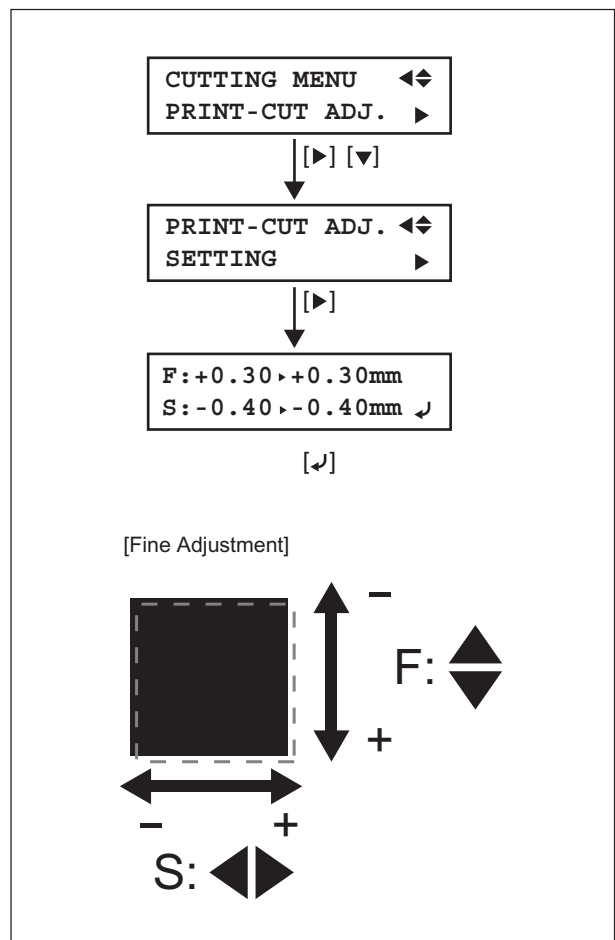
Mark on the right: Within +/-0.1mm

Mark on the left: Within +/-0.3mm

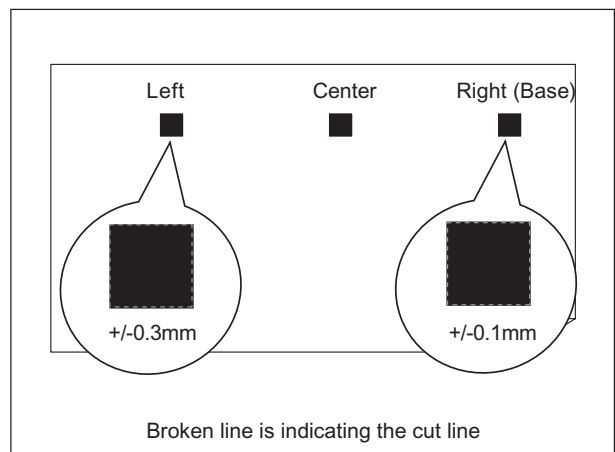
(Make adjustment based on the mark on the right)



- ▼ key : Moves cut position towards front
- ▲ key : Moves cut position towards rear
- ▶ key : Moves cut position towards right
- ◀ key : Moves cut position towards left
- ENTER key : Saves new setting
- MENU key : Moves out SETTING menu



- 9** Perform Test Print again for confirmation. Adjustment is completed if the position of cut line is satisfactory. If not, repeat adjustment.



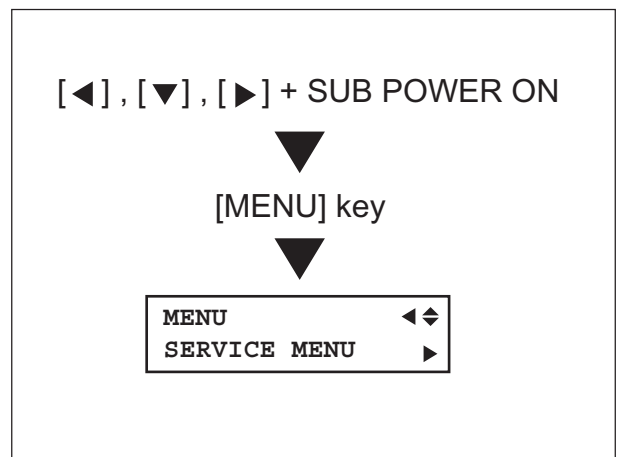
## 4-12 CALIBRATION (FEEDING DIRECTION) (Referential Time : 20 min.)

This adjustment is for calibrating the feed amount of media. It allows the media to be fed proper amount by calibrating the variation in Grit Roller diameter. Calibration is made based on the value in feeding media [PET-G].

Without proper calibration, it causes misalignment in the feed amount of media, and results in the problems such as white banding, banding of overlap or the dimension error of print result compared to the original data .

**Take-up unit must not be used during this adjustment.**

- 1 Turn on the sub power switch while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.

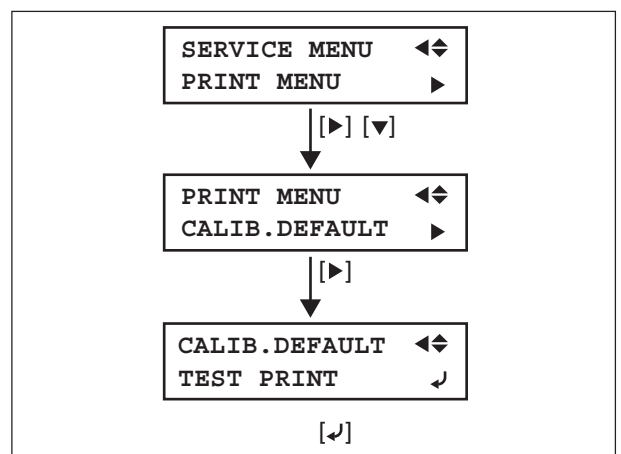


- 2 Set PET-G film on the machine.

- 3 Select [TEST PRINT] under [CALIB.DEFAULT] menu and press [ENTER] key.



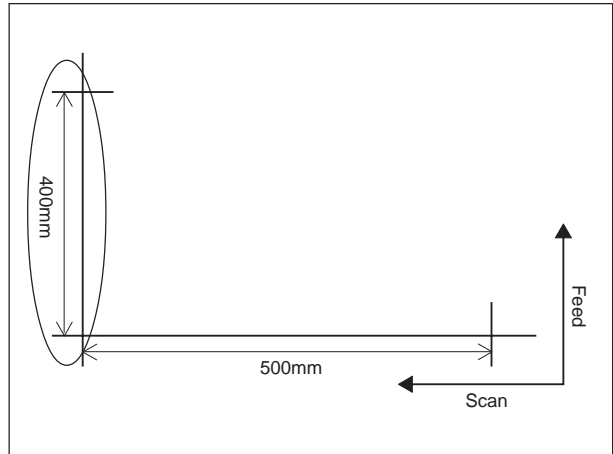
TEST PRINT requires 510mm or more of the media Setup width.



- 4** Test Pattern is printed.  
 Measure the length of the feed direction and use the value to calculate the calibration amount with the formula shown at **5**.



Test Pattern is always printed with offset 0.00%. Even if a correction is made in the [SETTING] menu, the Test Pattern is not changed.



- 5** Calculate the amount to be calibrated with the formula shown at the right figure.

CA = Calibration Amount  
 CL = Commanded Length (=400mm)  
 ML = Measured Length

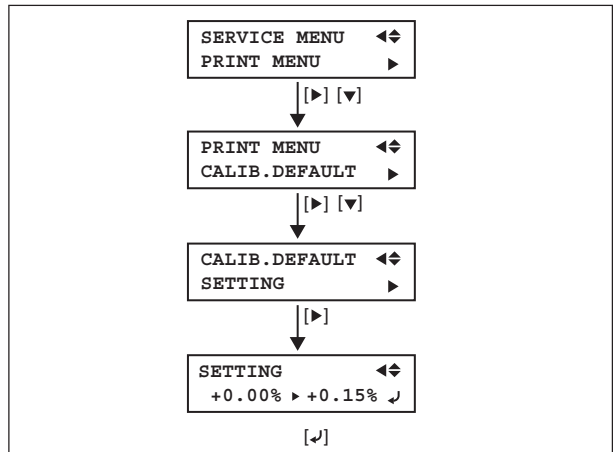
FORMULA

$$CA = \frac{CL - ML}{ML} \times 100$$

- 6** Select [SETTING] under [CALIB.DEFAULT] menu and enter the calibration value with [▲] and [▼] keys. Press [ENTER] key to save the setting.

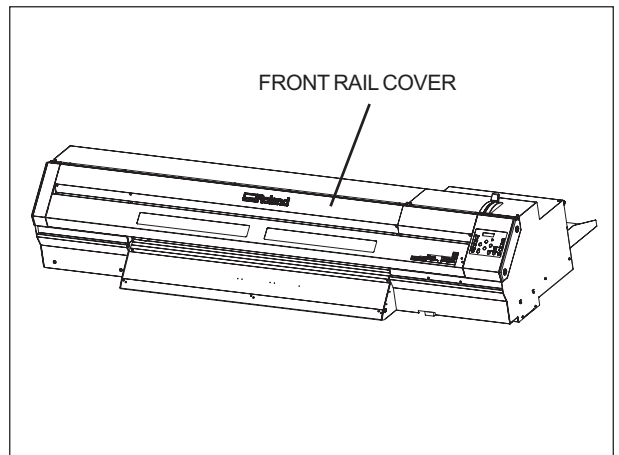


Parameters can be entered with an increment of 0.01%. (MAX. +2.00% to MIN. -2.00%)



## 4-13 TOOL HEIGHT ADJUSTMENT (Referential Time : 20min.)

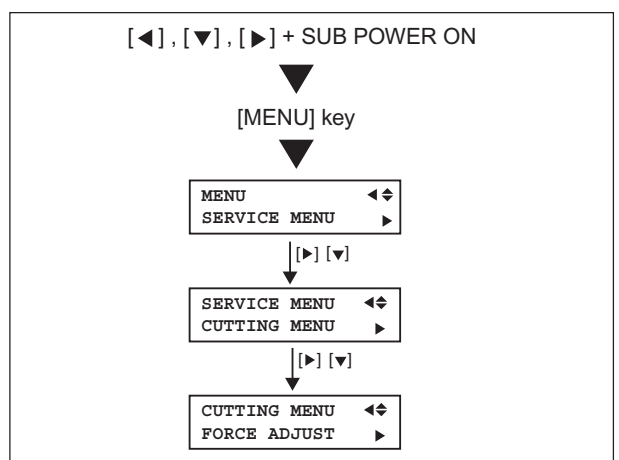
- 1** Remove the Front Rail Cover.



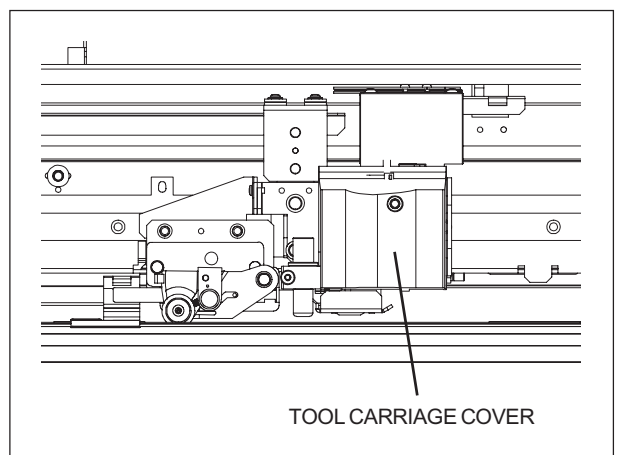
- 2** Turn on the sub power switch while pressing [ ◀ ], [ ▼ ] and [ ▶ ] keys to enter the SERVICE MODE. Select [FORCE ADJUST] menu.



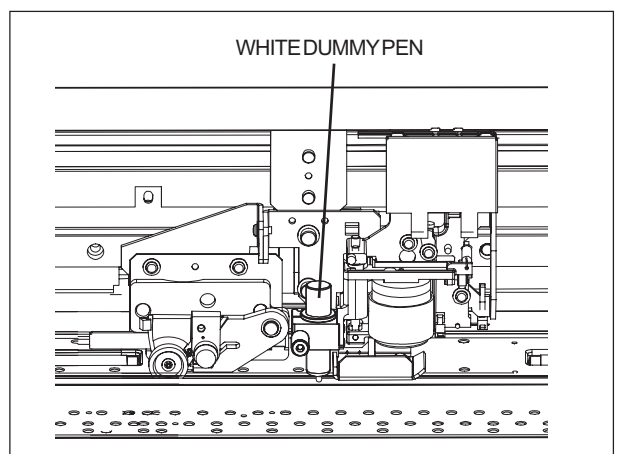
Only the Tool Carriage can be moved in [FORCE ADJUST] menu.



- 3** Remove the Tool Carriage Cover.

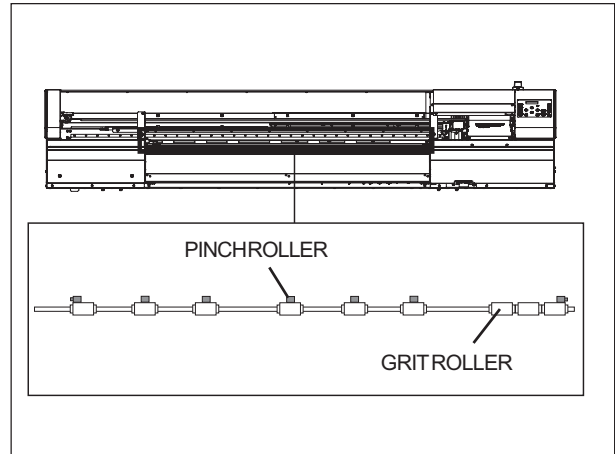


- 4** Put the White Dummy Pen (ST-006) on the Tool Carriage.





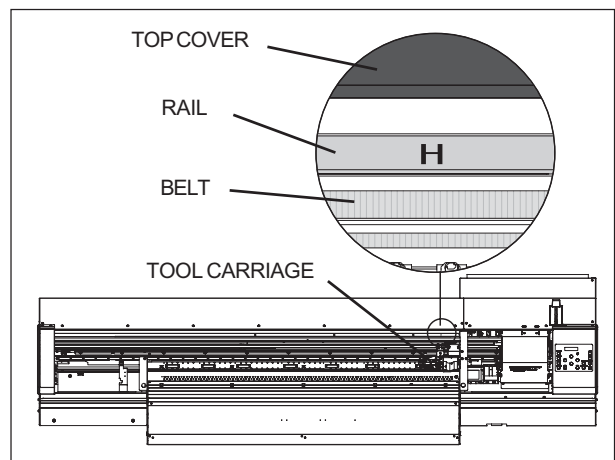
- 5** Move the Pinch Rollers at the positions shown in the figure, and lower them.



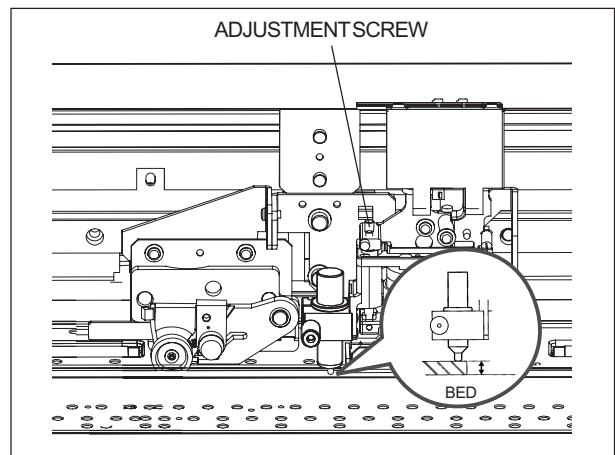
- 6** Move the Tool Carriage to the position under the H mark which is written on the rail.



The rail has an H mark at the point where Tool Height Adjustment is made during the production of the machine. H mark indicates the highest position of the bed. (The position where the space between the Head and Bed is the smallest.)



- 7** Turn the Adjustment Screw to adjust the space between the Pen end and Bed to be 2.5mm to 2.6mm.



- 8** Move on to the Tool Pressure Adjustment.

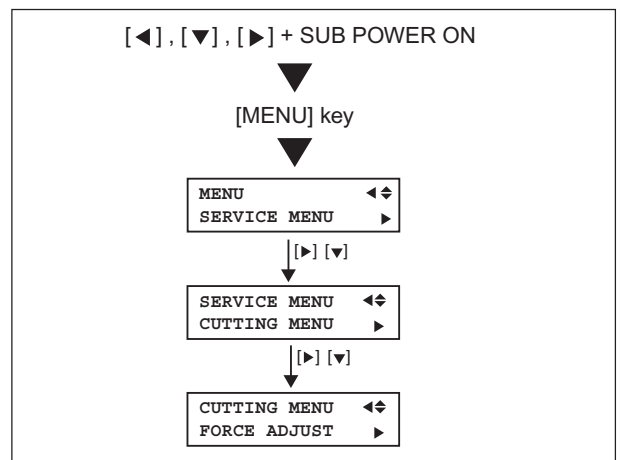
## 4-14 TOOL PRESSURE ADJUSTMENT (Referential Time : 15min)

This adjustment is to specify the tool pressure during Cutting.  
 Before this adjustment, it is necessary to carry out [4-13 TOOL HEIGHT ADJUSTMENT].

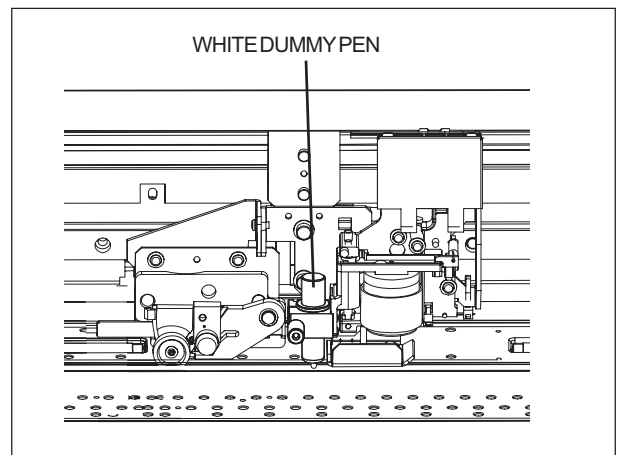
- 1 Turn on the sub power switch while pressing [ ◀ ], [ ▼ ] and [ ▶ ] keys to enter the SERVICE MODE. Select [FORCE ADJUST] menu.



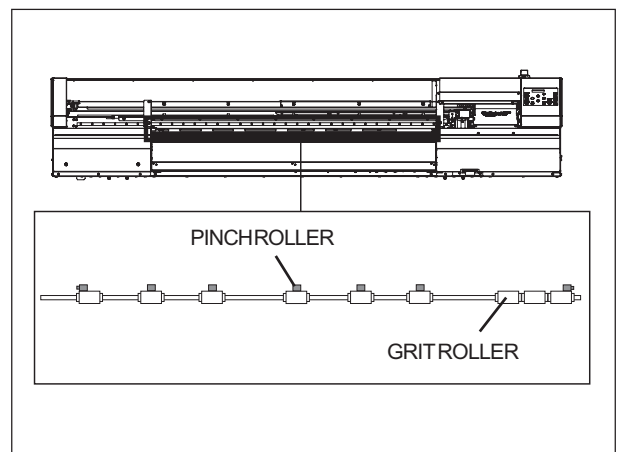
Only the Tool Carriage can be moved in [FORCE ADJUST] menu.



- 2 Put the White Dummy Pen(ST-006) on the Tool Carriage.



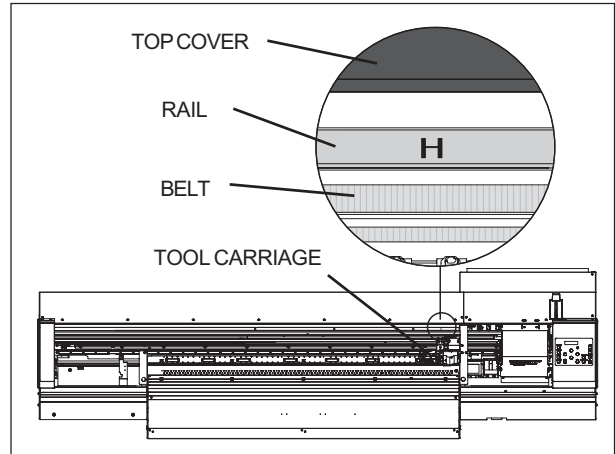
- 3 Move the Pinch Rollers at the positions shown in the figure, and lower them.



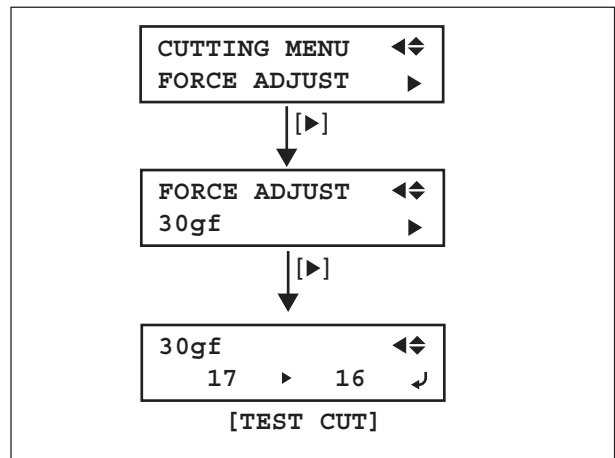
- 4** Move the Tool Carriage to the position under the H mark which is written on the rail.



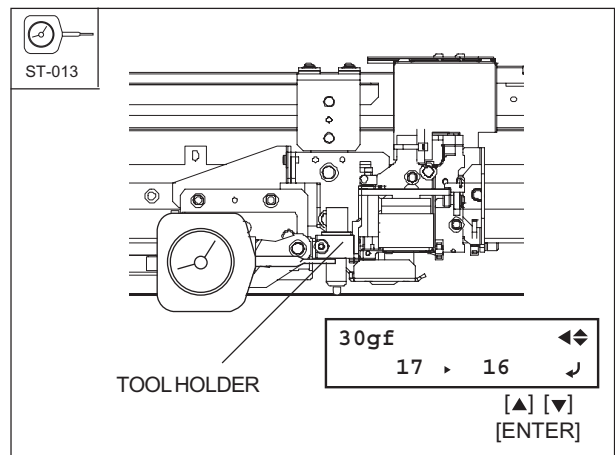
The rail has an H mark at the point where Tool Height Adjustment is made during the production of the machine. H mark indicates the highest position of the bed. (The position where the space between the Head and Bed is the smallest.)



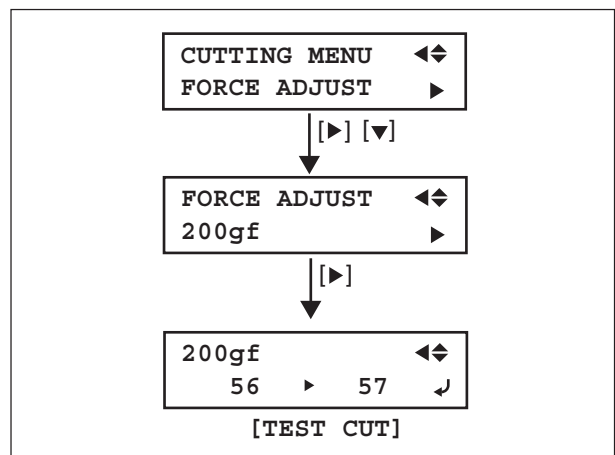
- 5** Select [30gf] under [FORCE ADJUST] menu.  
Press [TEST CUT] key to move the Tool Carriage down.



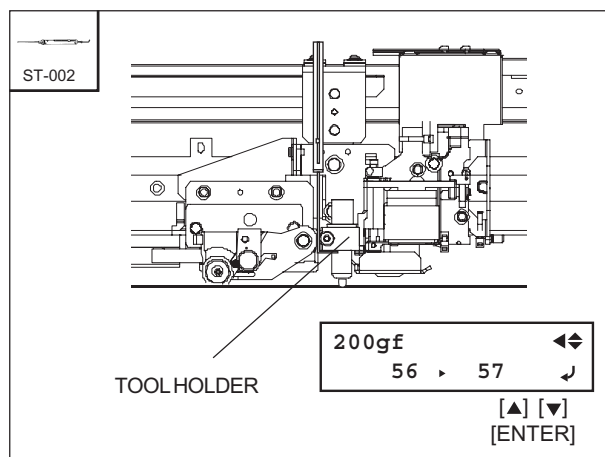
- 6** Pull up the handle part of the Tool Holder with the DIAL GAUGE(ST-013) and measure the pressure when the pen tip leaves the Bed.  
Adjust the parameter in the [30gf] menu with [▲] and [▼] keys for the pressure to be 25 to 35gf (0.25N to 0.35N).  
Press [ENTER] key to save the settings.



- 7** Select [200gf] under [FORCE ADJUST] menu.  
Press [TEST CUT] key to move the Tool Carriage down.

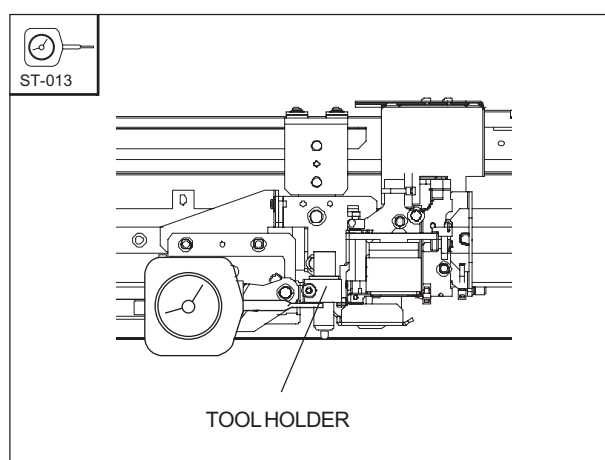


- 8** Pull up the handle part of the Tool Holder with the TENSION GAUGE(ST-002) and measure the pressure when the pen tip leaves the Bed.  
Adjust the parameter in the [200gf] menu with [▲] and [▼] keys for the pressure to be 195 to 205gf (1.9N to 2.0N).  
Press [ENTER] key to save the settings.



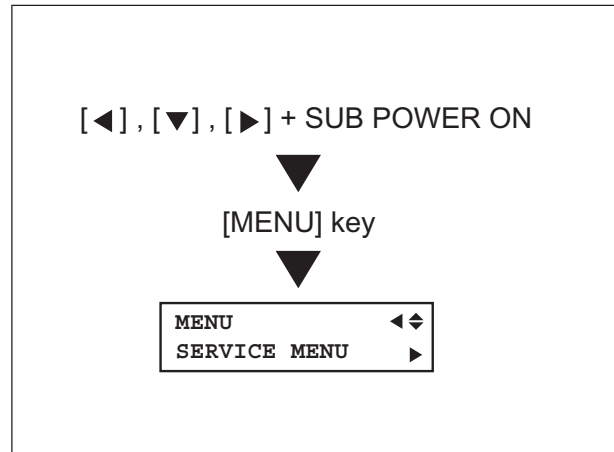
- 9** Select the [30gf] menu under [FORCE ADJUST] menu.  
Confirm that the force is 25 to 35gf (0.25N to 0.35N) when the tip of the pen leaves the Bed by lifting the handle part of the Tool Holder with the DIAL TENSION METER(ST-013).

When the value of the force is not proper, make an adjustment again.

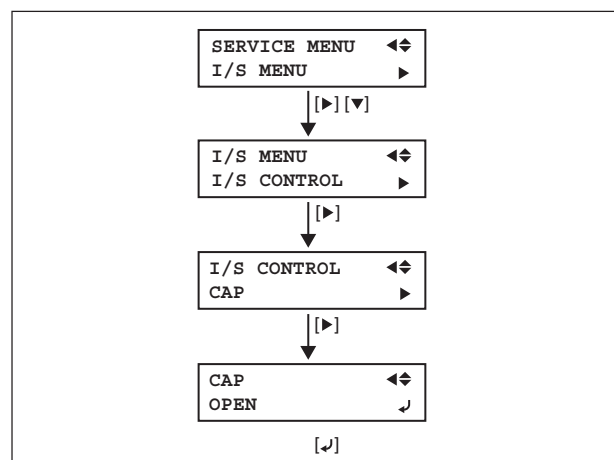


## 4-15 BELT TENSION ADJUSTMENT (Referential Time : 20min.)

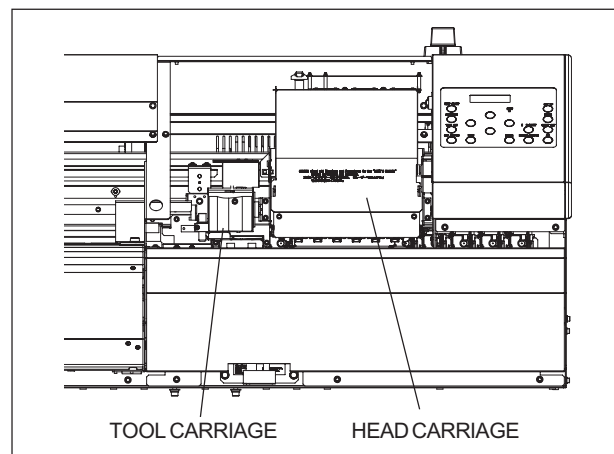
- 1 Turn on the sub power switch while pressing [ ◀ ], [ ▼ ] and [ ▶ ] keys to enter the SERVICE MODE.



- 2 Select [I/S MENU]>[I/S CONTROL]>[CAP]>[OPEN], and press [ENTER] key.  
The Cap Unit moves down and be free to move by hand.

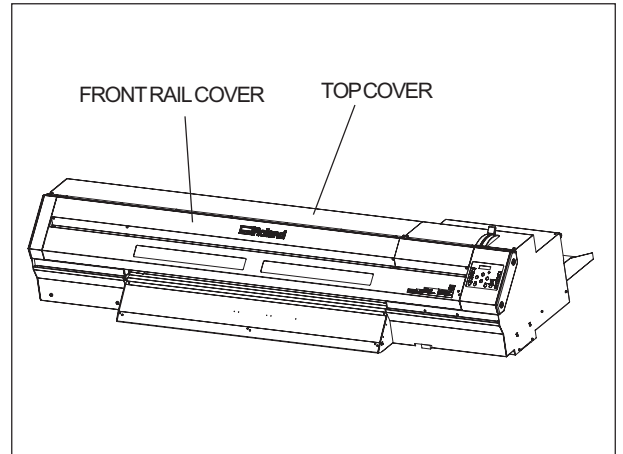


- 3 Connect the Tool Carriage to the Head Carriage and move them to the right in the lock position.



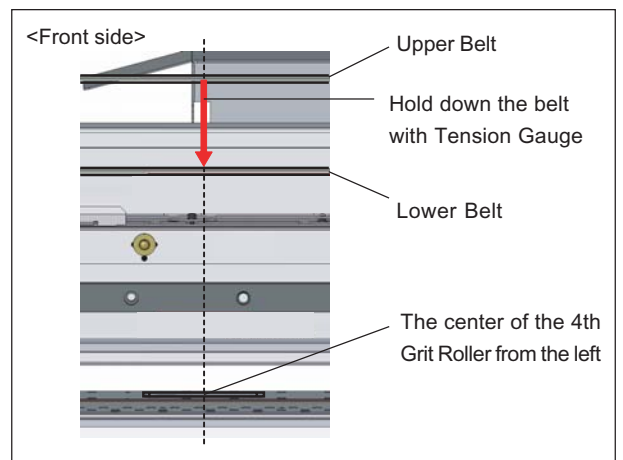
- 4 Turn off the sub power switch and main power switch.

- 5** Remove the Front Rail Cover and Top Cover.

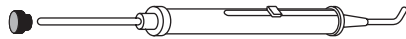


- 6** Measure the tension of the belt at the position above the center of the 4th grit roller from the left using TENSION GAUGE(ST-001).

Press the upper belt downward with the gauge to make slight contact with the lower belt. The tension is proper when the measured value is 0.96kgf to 1.18kgf. When the tension is not proper, move on to the next step and adjust the belt tension.



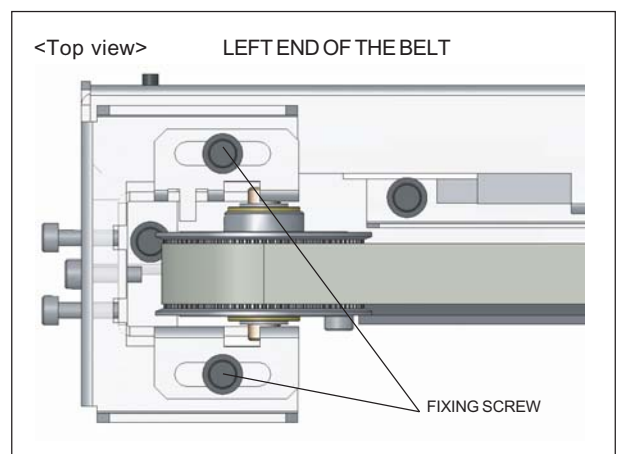
It is recommended to put the SOLENOID CUSHION(P/N 22265241) on the top of the ST-001 for easy measuring.



- 7** Loosen the two fixing screws which is located on the left end of the belt halfway round.



Be cautious with the sharp edges around the belt when loosening the screws. It may cause injury.

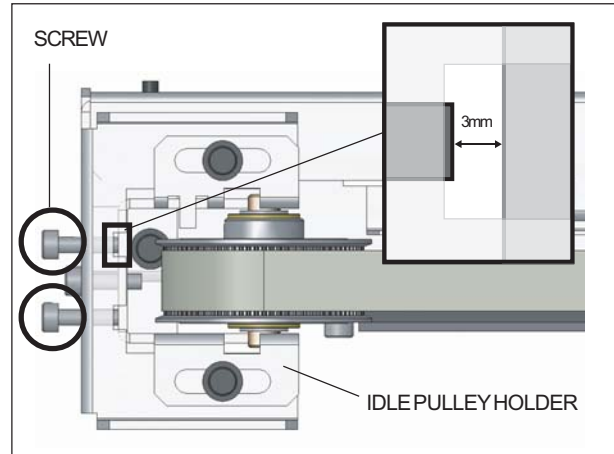


- 8** Insert a wrench through the holes on the side frame prepared for the adjustment, and loosen the two screws to make a gap of 3mm between the tip of the screw and Idle Pulley Holder.

(The belt tension cannot be adjusted higher when the screw contacts with Idle Pulley Holder.)



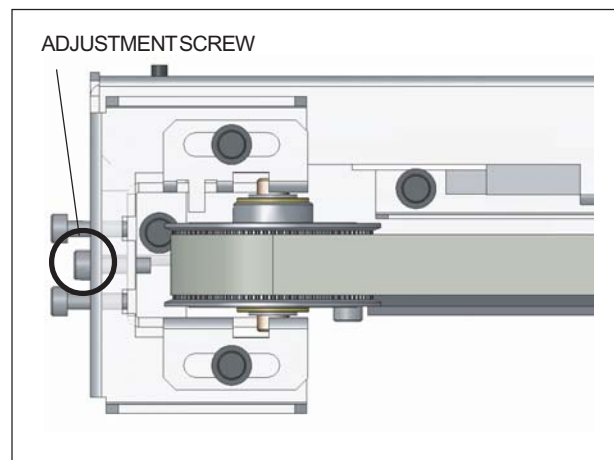
The gap between the screws and Idle Pulley Holder can be seen from both front side and rear side of the machine.



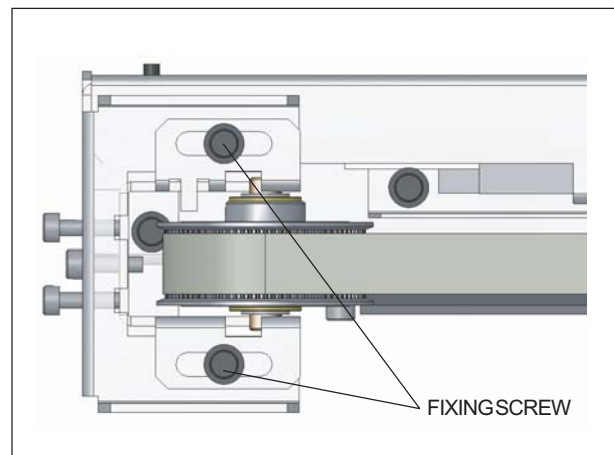
- 9** Turn the adjustment screw shown in the figure to adjust the value of the tension gauge to be around 1.05kgf with the procedure of **6**.



Turn the screw CW: Tension is increased  
Turn the screw CCW: Tension is decreased



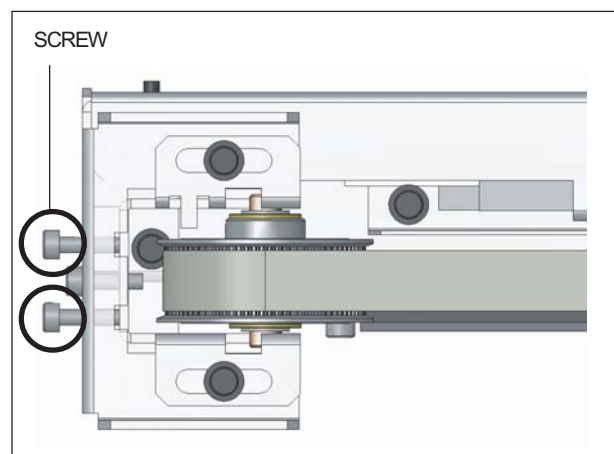
- 10** Tighten the two fixing screws shown in the figure, and again confirm that the tension is within the proper value.



- 11** Tighten the two screws shown in the figure to slightly contact with Idle Pulley Holder.



Make sure not to tighten the screws too tight. It may move the fixed Idle Pulley Holder accidentally.



Move on to [4-16 BELT POSITION ADJUSTMENT].

REVISED 1

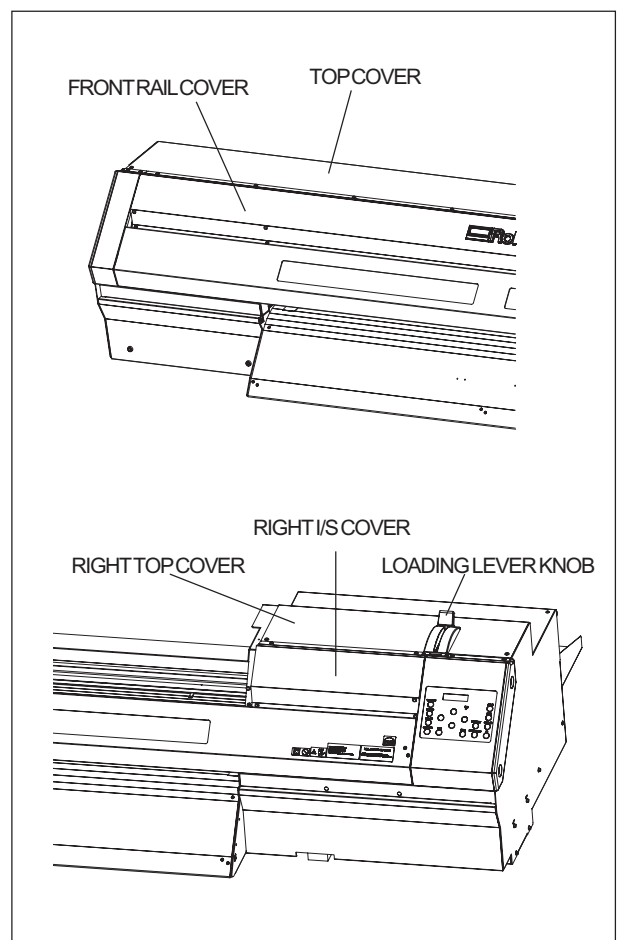
## 4-16 BELT POSITION ADJUSTMENT (Referential Time : 30min.)

This adjustment is to prevent the belt wear which is caused by the belt contacting with the pulley flanges excessively. The belt position needs to be confirmed after the Belt Tension Adjustment and adjusted if it is necessary.

- 1** Remove the 5 covers including a lever knob shown in the figure.

Remove them in the following order.

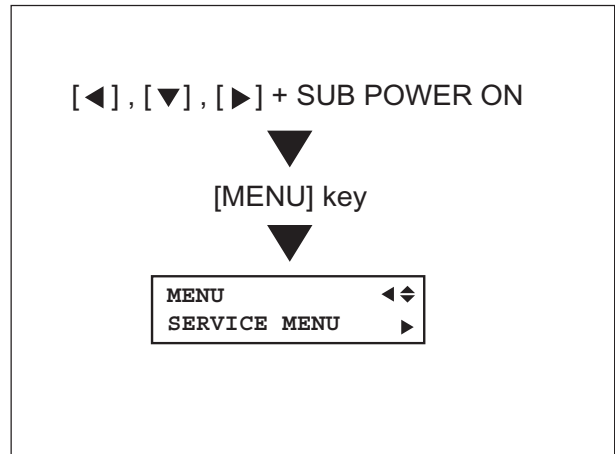
1. FRONT RAIL COVER
2. TOP COVER
3. RIGHT I/S COVER
4. LOADING LEVER KNOB
5. RIGHT TOP COVER



- 2** Confirm that the Belt Tension Adjustment is completed and turn on the Main Power switch.

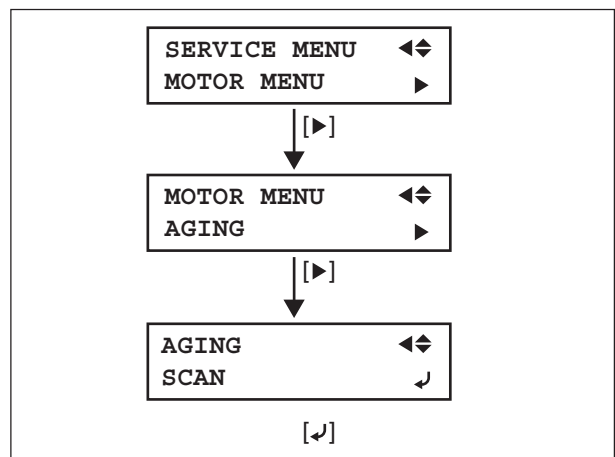


- 3** Turn on the Sub Power switch while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.



[ADJUSTMENT ON THE DRIVE PULLEY SIDE]

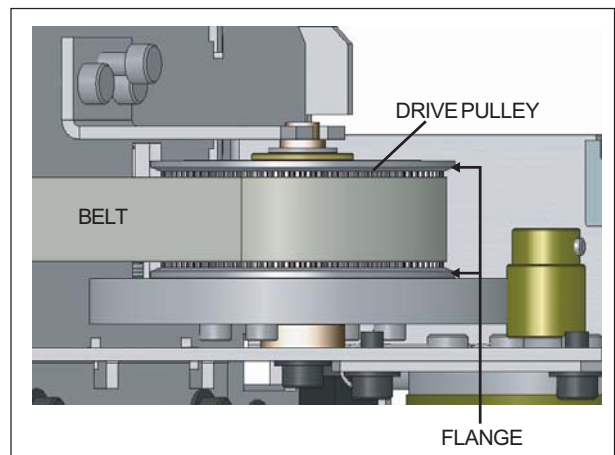
- 4** Carry out the AGING test for the belt. Select [MOTOR MENU]>[AGING]>[SCAN], and press [ENTER] key.



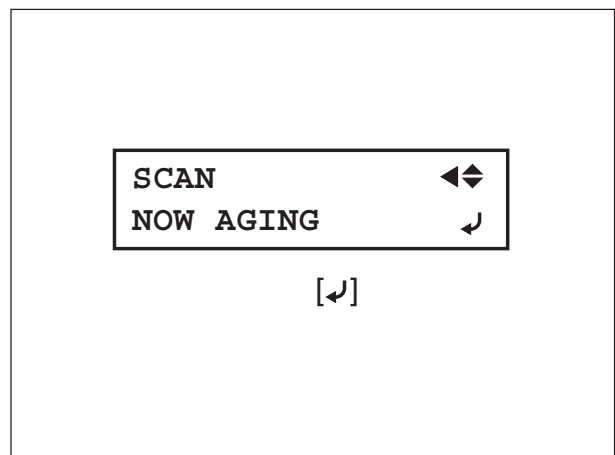
- 5** Confirm the belt position. The position is proper when the belt is not touching the flanges of the Drive Pulley excessively. When the position is proper, skip this adjustment and go to [ADJUSTMENT ON THE IDLE PULLEY SIDE] described in the later step of this adjustment leaving the belt aging on. When the position is improper, make adjustment as follows.



Belt partly touching the flange is acceptable.



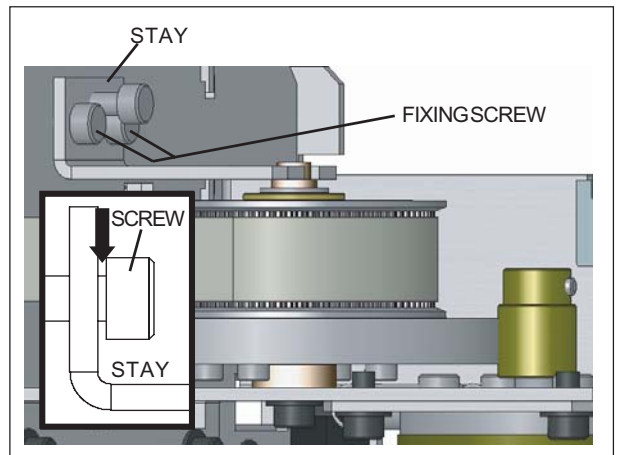
- 6** Press [ENTER] key to cancel AGING.



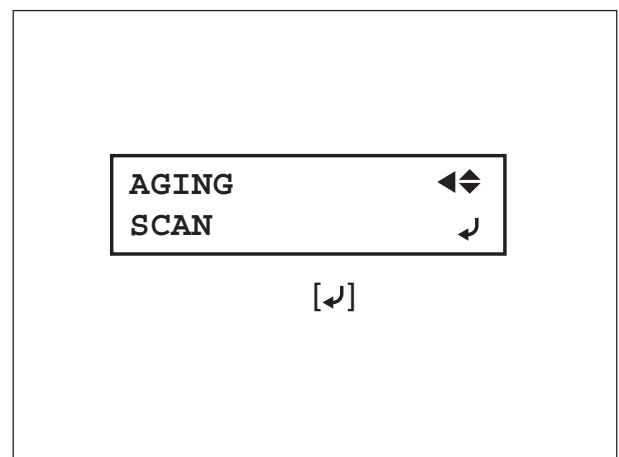
- 7** Loosen the two fixing screws located on the right end of the belt.



Loosen the screws about 3 rounds for the bottom of the screw head not to contact with the Stay.



- 8** Press [ENTER] key to restart AGING.

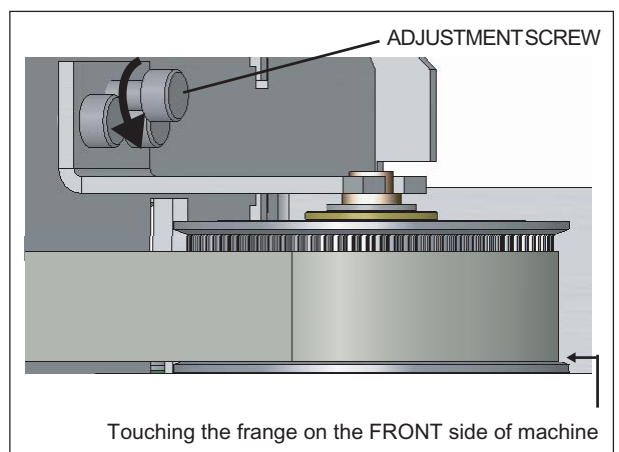


- 9** Adjust the belt position turning the Adjustment Screw as follows.

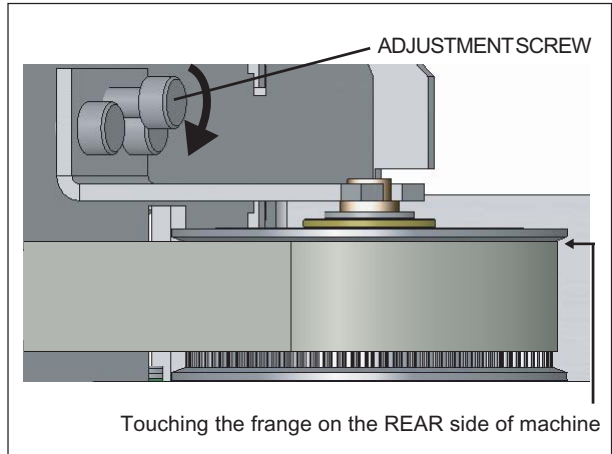


The work space is narrow. Be cautious and try not to touch the driving pulley and belt. Also, there are many mechanical parts around it. You need to work carefully with your tool not to touch them.

Belt leans to the front side of the machine  
-Turn the screw carefully in CCW (loosening).



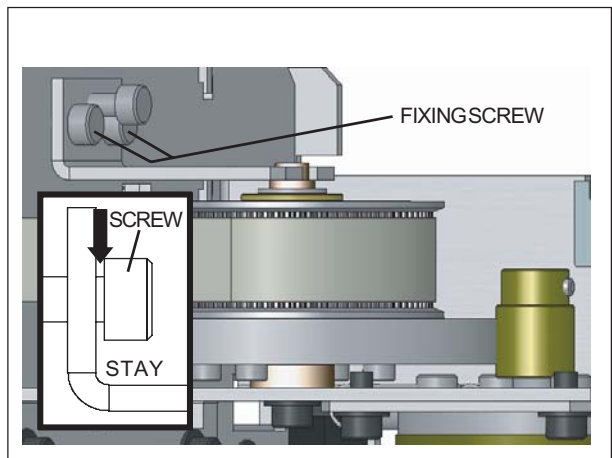
Belt leans to the rear side of the machine  
 -Turn the screw carefully in CW (tightening).



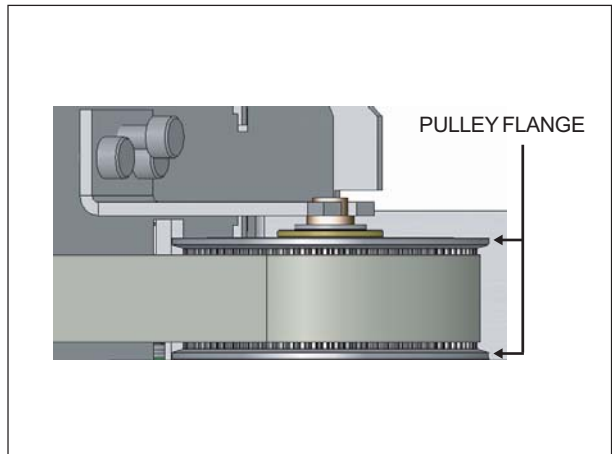
**10** Tighten the two fixing screws for the bottom of the screw head to slightly contact with the Stay.



Make sure not to tighten the screws too tight. It may move the fixed Drive Pulley Holder accidentally.



**11** Confirm that the belt is not touching the pulley flanges excessively while the carriages are in the printing area. When the belt is in improper position, adjust it again. When it is proper, leave the belt aging on, and go to the following [ADJUSTMENT ON THE IDLE PULLEY SIDE].

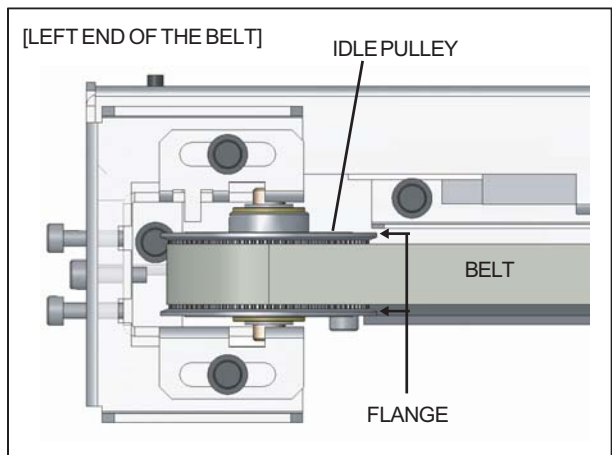


[ADJUSTMENT ON THE IDLE PULLEY SIDE]

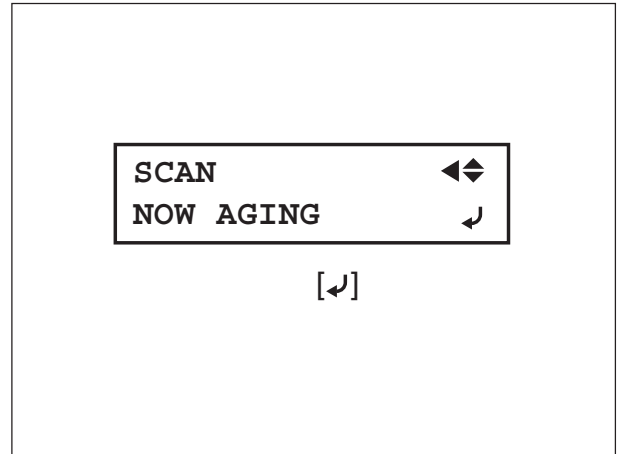
**12** Confirm the position of the belt. The position is proper when the belt is not touching the flanges excessively. When the position is proper, close this BELT POSITION ADJUSTMENT. When it is not proper, make adjustment as follows.



Belt partly touching the flange is acceptable.



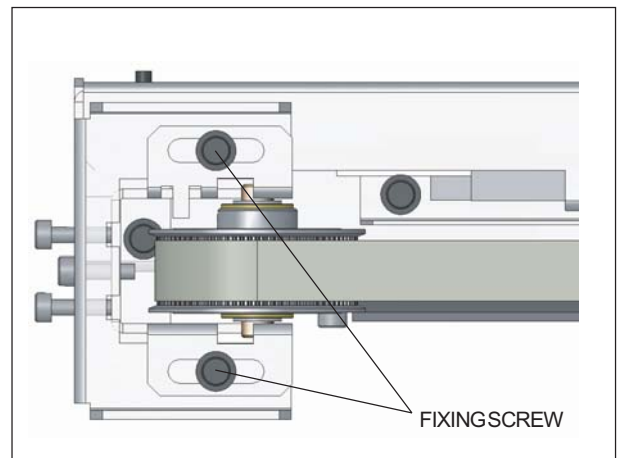
**13** Press [ENTER] key to cancel AGING.



**14** Loosen the two fixing screws located at the left end of the belt eighth to quarter round.



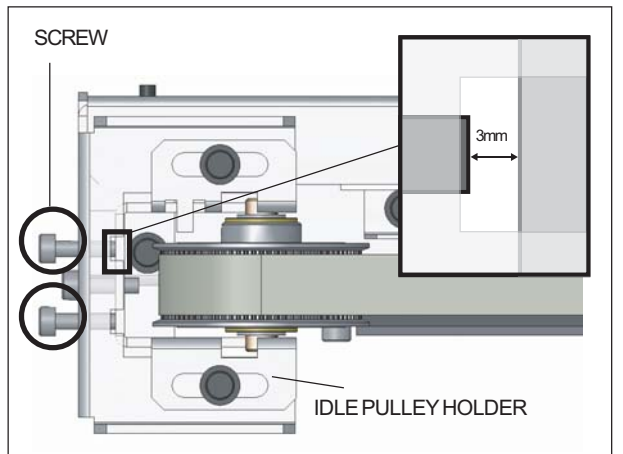
When the screw is loosen more than necessary, it gives difficulty in adjusting the belt. Also, you need to be cautious with the sharp edges around it when turning the screws. It may cause injury.



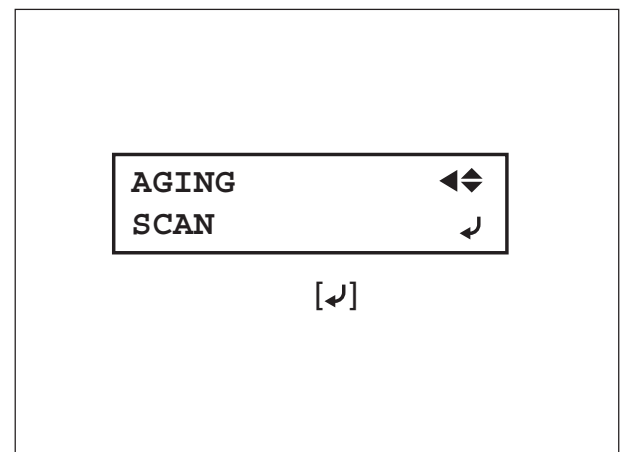
**15** Insert a wrench through the holes on the side frame prepared for the adjustment, and loosen the two screws to make a gap of 3mm between the tip of the screw and Idle Pulley Holder.



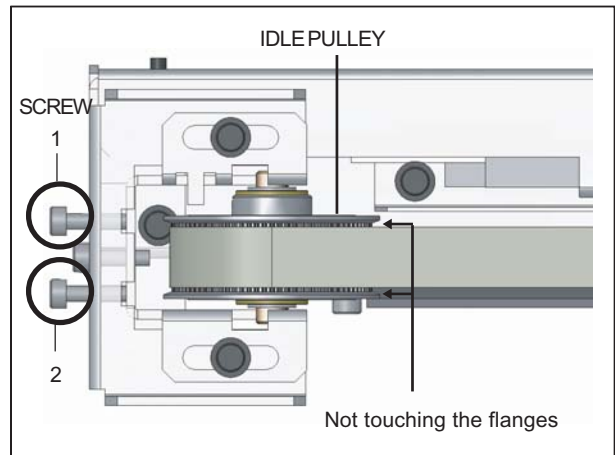
The gap between the screws and Idle Pulley Holder can be seen from both front side and rear side of the machine.



**16** Press [ENTER] key to restart AGING.



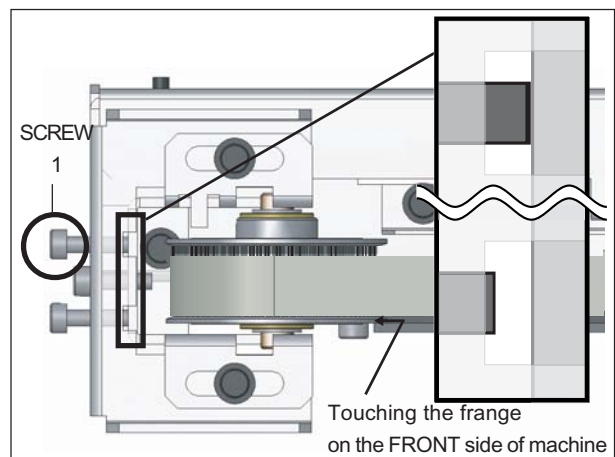
**17** Insert a wrench through the holes on the side frame and adjust the belt position turning the screw 1 and 2 as follows.



Belt leans to the front side of the machine

-Turn the screw 1 carefully in CW to press it to the Idle Pulley Holder.

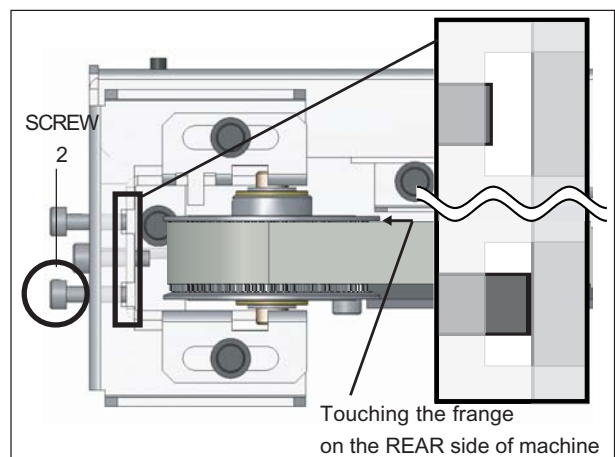
\* Make sure to have a gap of 3mm between the screw 2 and Idle Pulley Holder when turning the screw 1.



Belt leans to the rear side of the machine

-Turn the screw 2 carefully in CW to press it to the Idle Pulley Holder.

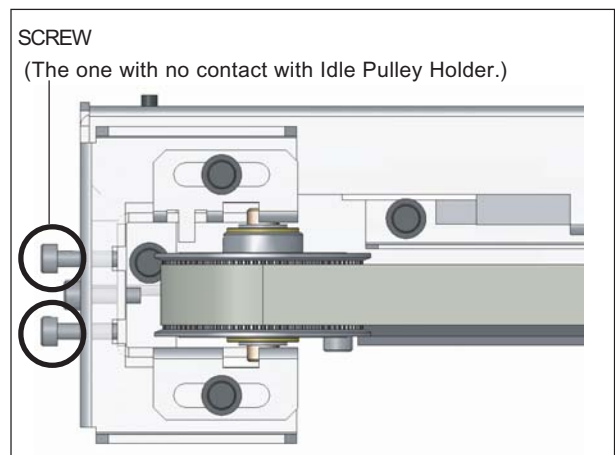
\* Make sure to have a gap of 3mm between the screw 1 and Idle Pulley Holder when turning the screw 2.



**18** Tighten one of the screws that has no contact with the Idle Pulley Holder to slightly touch the Idle Pulley Holder.



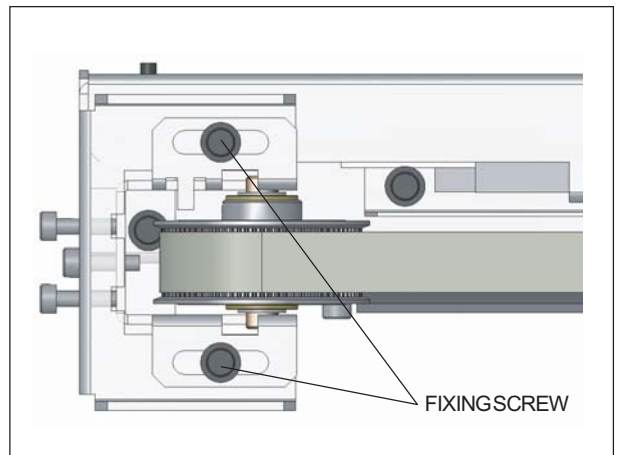
Make sure not to tighten the screws too tight. It may move the Idle Pulley Holder accidentally.



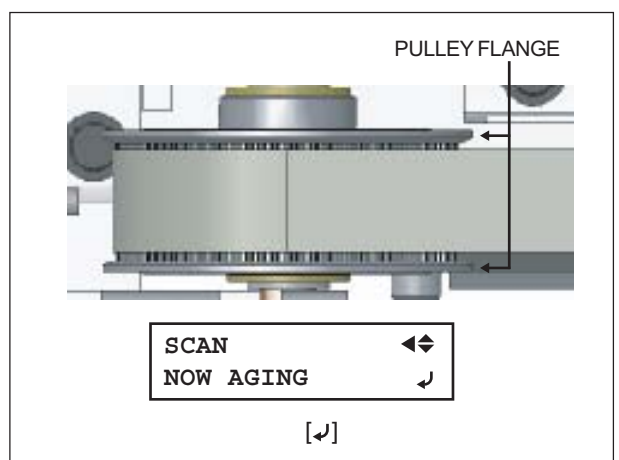
**19** Tighten the two fixing screws shown in the figure.



Be cautious with the moving Carriages and Cablebevor during the work, and also with the sharp edges of the mechanical parts around it.



**20** Confirm that the belt is not touching the pulley flanges excessively while the carriages are in the printing area. When the belt is in improper position, adjust it again. When it is proper, press [ENTER] key to cancel AGING.



## 4-17 TAKE-UP UNIT OPERATION CHECK (Referential Time : 2min.)

This is required when Take-up unit is installed or TU Junction Board is replaced.  
This is to check whether Take-up Unit operates properly.

- 1 Confirm that the cable is connected to the connector named [TAKE UP] and turn on the Main Power switch.

Undersurface of the right side of machine



- 2 Turn on the Sub Power switch while pressing [◀], [▼] and [▶] keys to enter the SERVICE MODE.

[◀], [▼], [▶] + SUB POWER ON

[MENU] key

MENU	◀▶
SERVICE MENU	▶

- 3 Select [TU] menu under [SUB MENU]>[TU CHECK].



[TU] menu supports the connector named [TAKE UP].  
Although [OPTION-TU] menu is for another connector with no name, it is not in use.

SERVICE MENU	◀▶
SUB MENU	▶

↓ [▶] [▼]

SUB MENU	◀▶
TU CHECK	▶

↓ [▶]

TU CHECK	◀▶
TU	▶

↓ [▶]

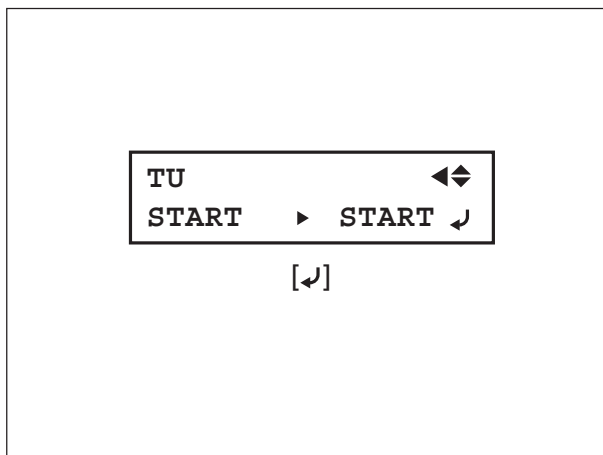
TU	◀▶
START	▶ START ↵

[↵]

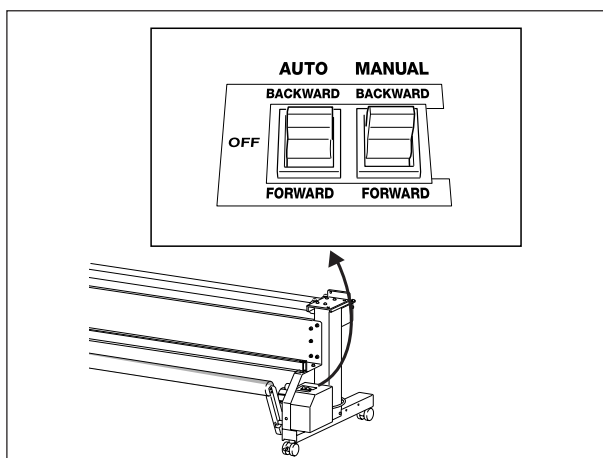
- 4 Confirm that [START] is selected, and press [ENTER] key to turn on the take-up unit.



[START] or [STOP] can be selected with [▲] and [▼] keys. The current setting is displayed on the left and the new setting is displayed on the right.



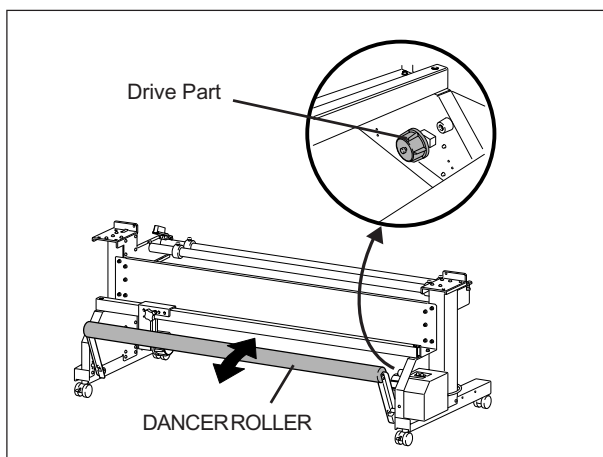
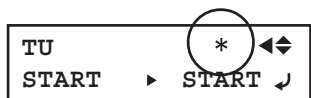
- 5 Set the AUTO switch of the Take-up Unit to either FORWARD or BACKWARD.



- 6 Move the Dancer Roller up and down by hand, and confirm that the drive part rotates.



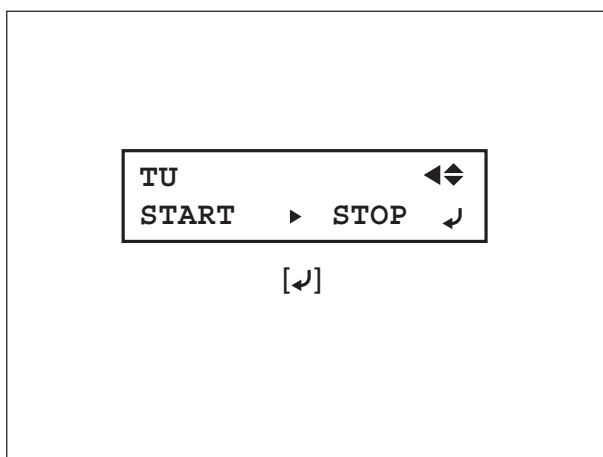
The operation status of Take-up Unit can be confirmed also on the LCD. [\*] is displayed on the right side of upper LCD while taking-up, and not displayed while not taking-up.



- 7 Select [STOP] with [▲] and [▼] keys, and press [ENTER] key.

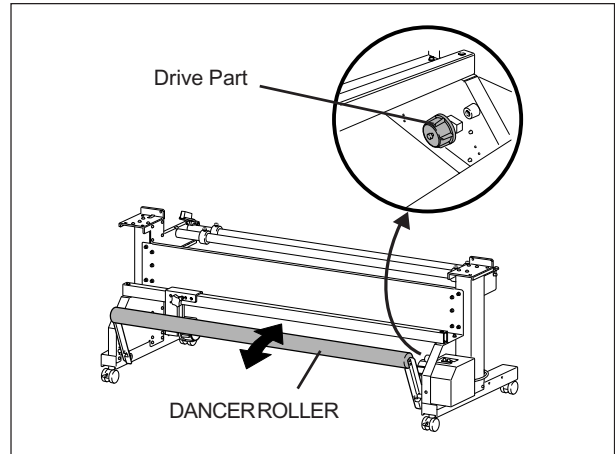


The setting of [STOP] is canceled when exiting the menu. The initial setting is [START] every time entering [TU] menu.





- 8** Move the Dancer Roller up and down by hand, and confirm that the drive part does not rotate.



## 5 Supplemental Information

### 5-1 SENSOR MAP

#### THERMOSTAT

If the Heater exceeds the limit temperature, it stops the power supply.

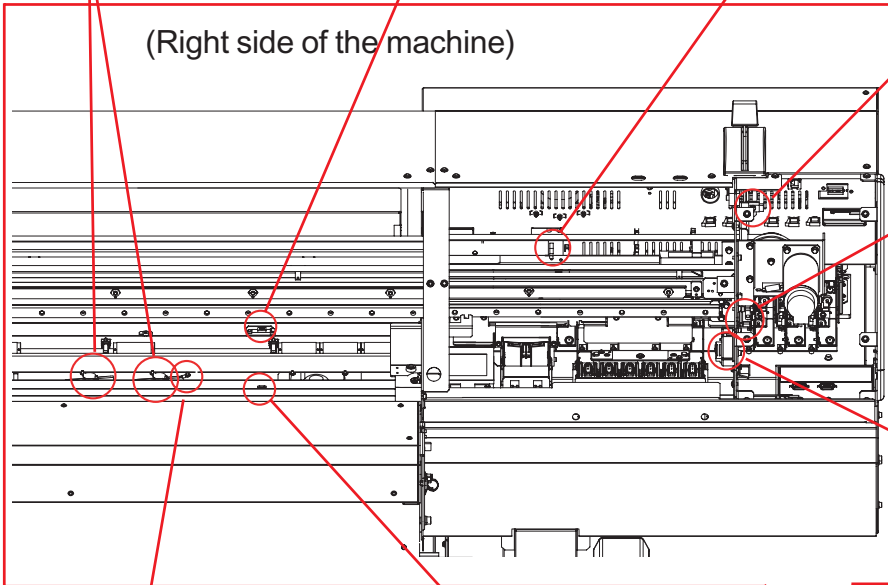
#### REAR PAPER SENSOR

It detects the rear edge of the media and also whether the media is loaded or not.

#### LIMIT SENSOR

It detects the origin of the carriage moving direction and the limit position.

(Right side of the machine)



#### SHEET LOAD SENSOR

It detects whether the Sheet Loading Lever is UP or DOWN.

#### HEAD LOCK SENSOR

It detects whether the HEAD CARRIAGE is at locking position or not.

#### FRONT COVER SENSOR

It detects whether the Front Cover is opened or closed.

#### THERMISTOR(HEATER)

It takes the temperature of the Heater.

#### FRONT PAPER SENSOR

It detects the front edge of the media

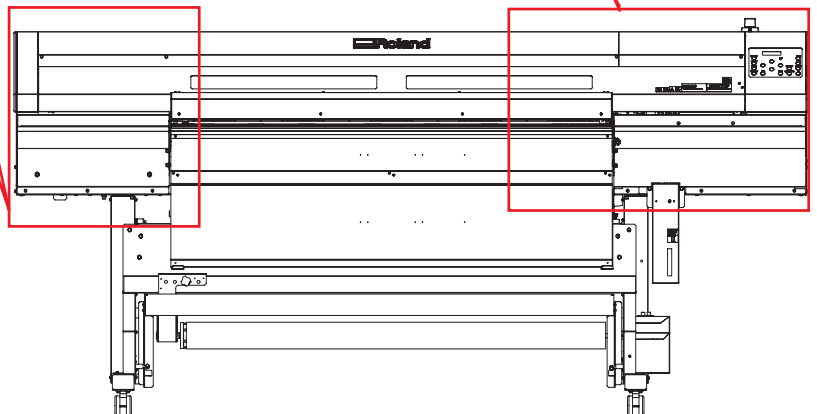
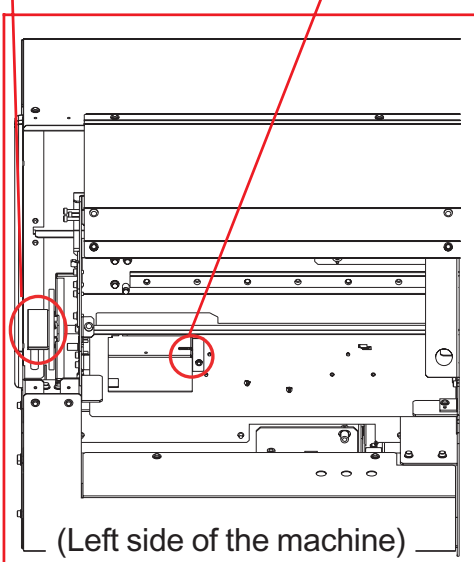
#### GRIT ENCODER

It detects rotation position of the Grit Roller.

#### MAINTENANCE COVER SENSOR

It detects whether the Maintenance Cover is set or not.

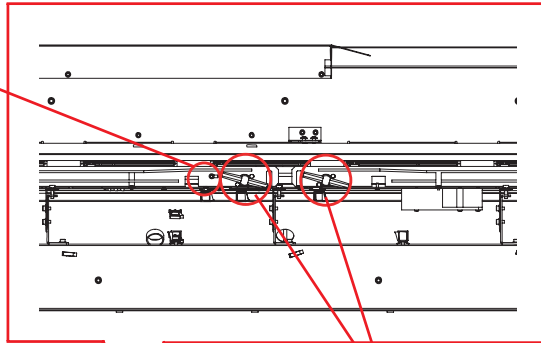
(Left side of the machine)



(Front side of the machine)

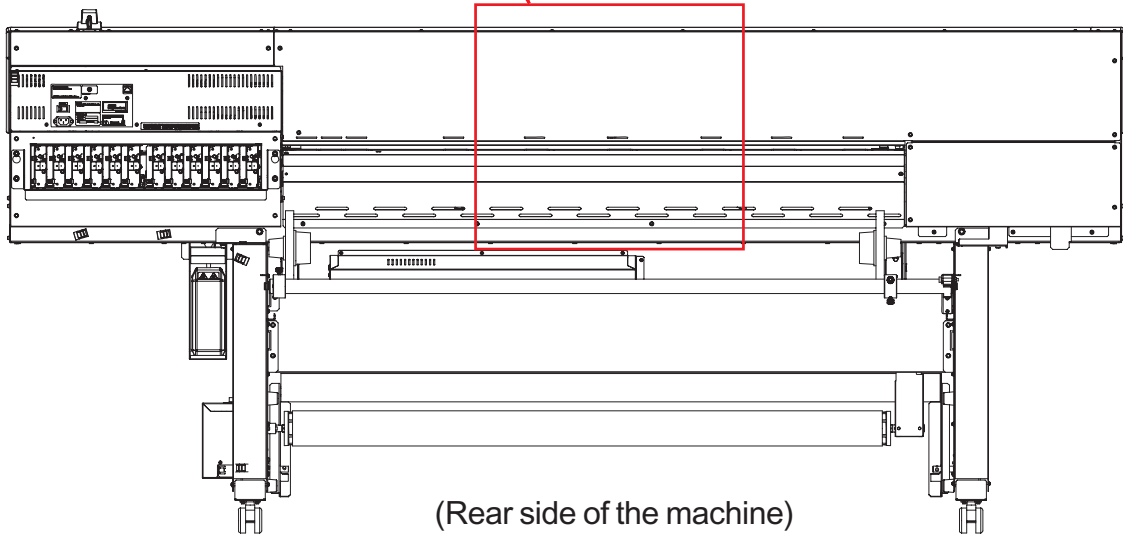
### THERMISTOR(PRE-HEATER)

It takes the temperature of the Pre-Heater.



### THERMOSTAT

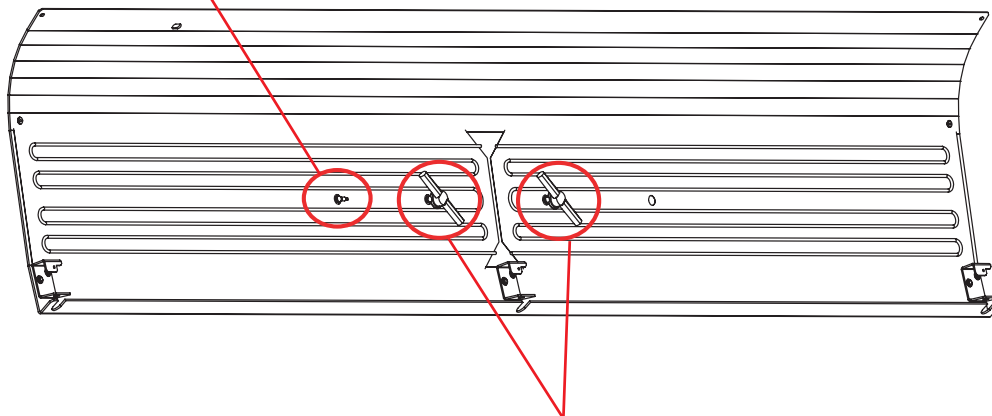
If the Pre-Heater exceeds the limit temperature, it stops the power supply.



(Rear side of the machine)

### THERMISTOR(DRYER )

It takes the temperature of the Dryer.

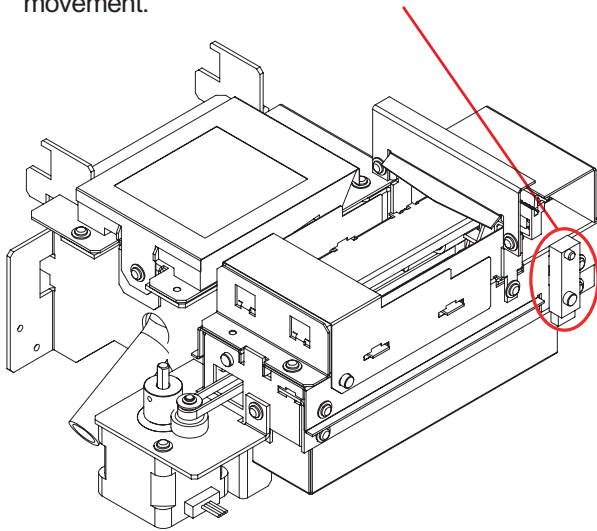


### THERMOSTAT

If the Dryer exceeds the limit temperature, it stops the power supply.

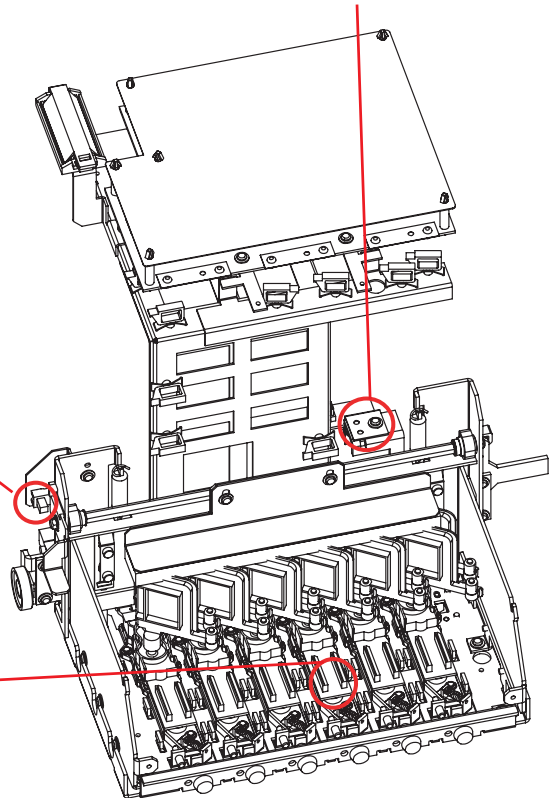
### WIPER SENSOR

It detects the limit position of the Wiper movement.



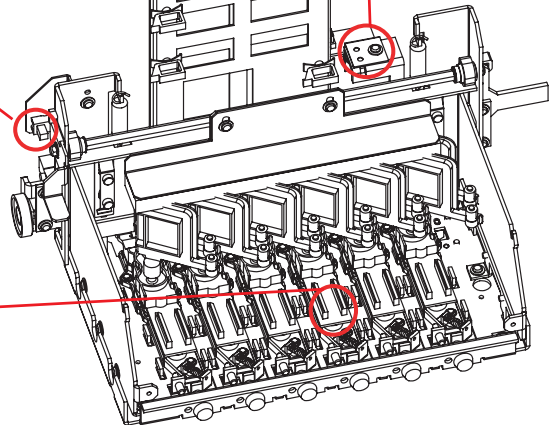
### ENCODER MODULE

It detects coordinates for carriage moving direction.



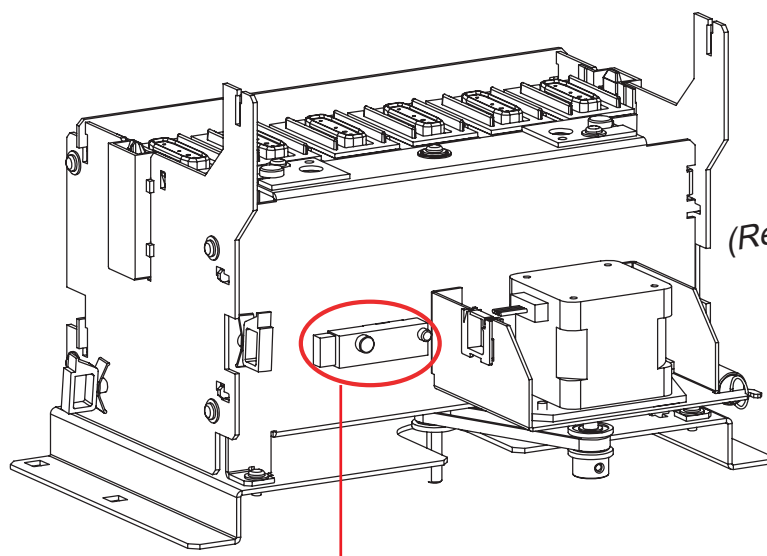
### HEAD UP/DOWN SENSOR

It detects the position of the Head Height Lever.



### THERMISTOR (HEAD)

It takes the temperature around the Head.  
The black Head is used for the measurement.



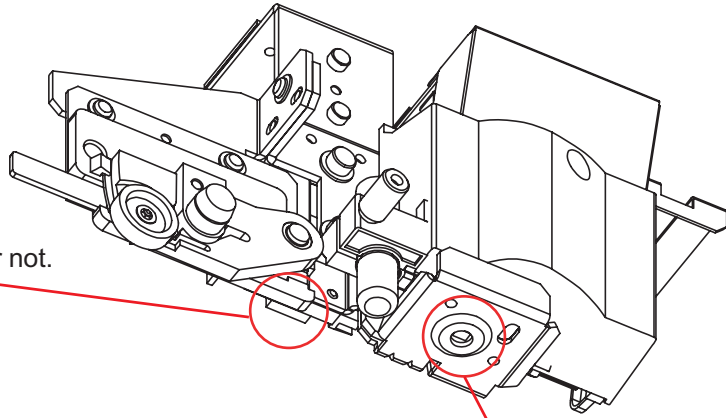
*(Rear side of the machine)*

### CAPPING SENSOR

It detects the limit position of the Capping Unit.

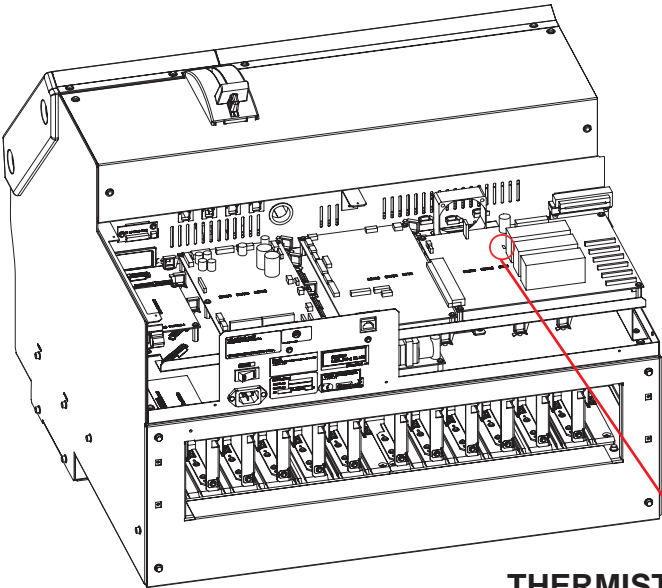
**PINCH ROLLER SENSOR**

It detects the positions of Pinch Roller.  
It detects whether the Media Clamp is set or not.



**CROP MARK SENSOR**

It detects the Crop Mark.

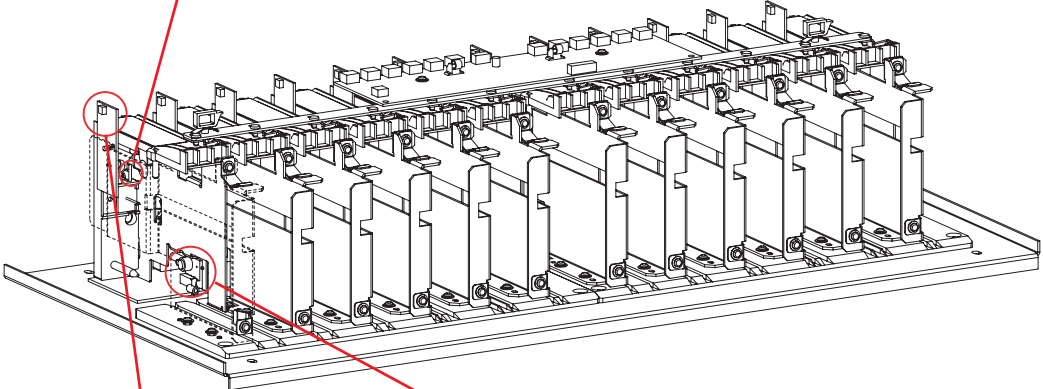


**THERMISTOR (HEAD BOARD)**

It takes the temperature around the Head Board.

**INK CARTRIDGE SENSOR**

It detects whether the Ink Cartridge is installed or not.

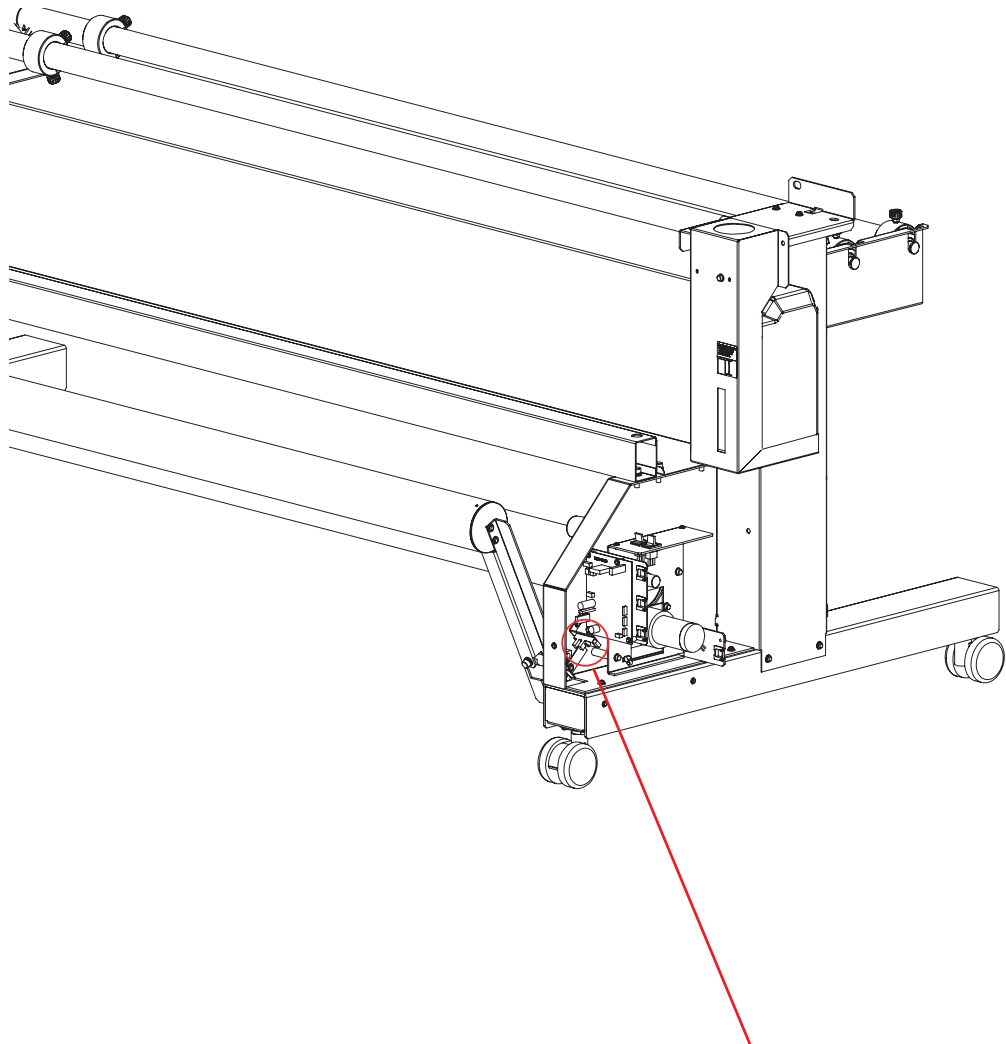


**INK CARTRIDGE IC SENSOR**

It detects the ink type and the remaining amount of the ink.

**INK EMPTY SENSOR**

It detects whether the Ink Cartridge is empty or not.

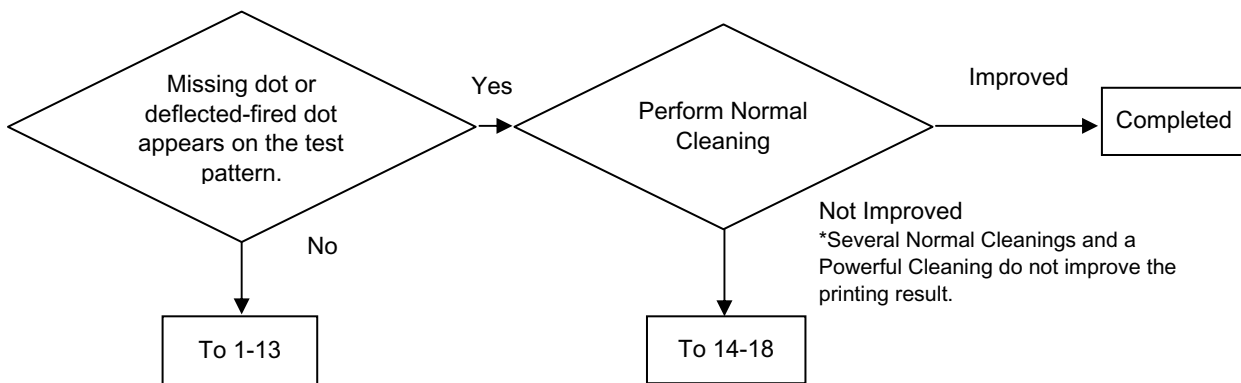


**DANCER ROLLER SENSOR**

It measure the Dancer angle, carries out the weight control, and then adjusts media tension.

## 6 Troubleshooting

### 6-1 WHITE FINE LINE / BANDING / MISSING DOT / SCRATCHY PRINTING / BLURRED PRINTING



NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	The machine is not installed in an appropriate location	Install in a location that is level and stable offering good operating conditions.		Never install the machine in a location where it is tilted or where it may wobble or librate.
2	The media is not set up correctly	Load and set up the media correctly at the correct position	User's Manual	Feed is not smooth when the media is tilted or tensioned unevenly on the left and right. Reload and set up the media correctly.
3	Preheater / Print heater / Dryer are not warmed up.	Apply correct setting	User's Manual	The media heating system does not warm up to the preset temperature when <b>SET UP</b> is dark ( by default ). Load media, press <b>SET UP</b> , and wait for the machine to warm up. Refer to P.110 "Setting How the Media Heating System Operates" in the User's Manual.
4	The media is not warm enough	Check the room temperature Wait for a while until media warms up Increase the preset temperature		Even if the heater reaches the preset temperature, when the media is cold, the heater temperature may not be effective. Warm up the media fully taming to the room temperature of 20-32 degree °C and wait about 5 minutes after the heater reaches the setting temperature or raising setting temperature etc.
5	The setting of Bidirectional Printing is not correct	Correct setting for Bidirectional Printing	User's Manual	
6	FEED CALIBRATION is not correct	Calibration	User's Manual	If the calibration is not correct, white fine line or banding appears.
7	The print mode is not suitable	Use a higher resolution print mode Using a Uni-Direction printing		Using a higher resolution print mode or a Uni-Direction printing may reduce the white banding.
8	Scanning distance of the Head Carriage	Set the [FULL WIDTH S] to [FULL]	User's Manual	Set [FULL WIDTH S] to [FULL] to uniform the heating time on each pass. This may improve printing quality.
9	[PERIODIC CL.] setting	Set [PERIODIC CL.] to [NONE] or [Page]	User's Manual	When this is set to a value from 1 min to 990 min, self cleaning is performed during printing and it may cause blurred printing.
10	Wrong profile for the media	Use the suitable profile		
11	Inappropriate media is used	Replace to the suitable media		It varies up to media how much Ink can be accepted. Depending on the media, the ink may may overflow or blur.
12	Head Rank is not correct	Set Head Rank	[3-1 HEAD REPLACEMENT]	Head Rank setting affects the amount of the fired Ink. If it is not set properly, the printing image becomes light, dark or blurred.
13	Head is not adjusted	Head Alignment	[4-4 HEAD ALIGNMENT]	Check whether each [BIAS], [VERTICAL], [HORIZONTAL] and [BI-DIR.DEFAULT] settings are correct.

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
14	Foreign substances	Manual Cleaning	User's Manual	Nozzle condition becomes poor due to the foreign substances stuck on the surface of the Head.
15	Wiper wears out	Wiper Replacement	[3-2 WIPER REPLACEMENT]	Cleaning the head with Wiper is not performed efficiently and it cannot remove the foreign substances stuck on the surface of the Head.
16	Transformation / defect of Cap Top	Cap Top Replacement	[3-3 CAP TOP REPLACEMENT]	If the ink is not flowed down through the Cap, the head cleaning does not work efficiently. As a result, the condition of head nozzle is not improved by the head cleaning. If the head is not sealed by the cap, the head will become dry and clogged.
17	Head nozzle is clogged	Wipe the surface of the Head by a cleaning stick		Generally, we do not recommend to wipe the surface of Head with a cleaning stick. However, it's worth trying cleaning before replacing the Head. Soak the cleaning stick in cleaning liquid fully, and then tap and scrub the surface of Head with it.
18	Broken Head	Head Replacement	[3-1 HEAD REPLACEMENT]	

## 6-2 PARTICULAR COLOR IS NOT PRINTED AT ALL

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Ink Cartridge is almost empty	Check remaining Ink / Replace the Ink Cartridge	User's Manual	When the machine keeps printing with ink cartridge almost empty, the negative pressure delivered in the ink tube causes the improper ink supplying and the head cannot fire the ink correctly.
2	Bad contact/Broken Cable	Refix / Replace the Cable		If there is a bad communication between the Head and the Main Board, the signal is not sent properly and results in not working. If the Flexible Cable is fixed at a slant, it may cause the bad electrical contact or short-circuit. And, the cable which has been conneted and disconnected several times may have a damaged terminal.
3	Transformation / defect of Cap Top	Cap Top Replacement	[3-3 CAP TOP REPLACEMENT]	If the Head is not capped correctly, the Head dries and it may cause the Head nozzle clogging.
4	Air bubbles in Ink line	Perform Powerful Cleaning Remove air bubbles by an syringe		When air bubbles come inside the Ink line, the Head does not fire the Ink temporarily. Air bubbles tend to go into the Ink line by installing and uninstalling the Ink Cartridge so many times. All the air bubbles inside the lines can be removed by performing the powerful cleaning or removing the Tube from the Damper and fixing the syringe with the entry of Damper, then pulling the Ink until air bubbles disappear.
5	Broken Ink Tube	Ink Tube Replacement	[3-7 INK TUBE REPLACEMENT]	
6	Broken Pump Tube	Pump Replacement	[3-6 PUMP REPLACEMENT]	The Pump cannot deliver the ink properly. Therefore, the Head may not fire the Ink.
7	Broken Fuse on the Head Board	Replace the Fuse on the Head Board		The F1 Fuses are for C and M, the F2 Fuses are for Y and K, and the F3 Fuses are for Lc and Lm. If the C and M Heads do not fire the Ink at all, the F1 Fuse may be defective. If the Y and K Heads do not, the F2 Fuse may be defective. If the Lc and Lm Heads do not, the F3 Fuse may be defective.
8	Broken Head Board	Head Board Replacement		There might be a problem with the other devices on the Head Board if the Fuses are not defective.
9	Broken Head	Head Replacement	[3-1 HEAD REPLACEMENT]	
10	Broken Head Board	Head Board Replacement	[3-8 BOARDS REPLACEMENT]	



### 6-3 SHIFTING IN PRINTING/COLOR SHIFTING

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	The media is set tilted	Set the media correctly	User's Manual	Misalignment occurs when the media becomes wrinkled and comes loose from the Platen if the media is not set straight. Make sure to set the media straight referring to the User's Manual.
2	Encoder Scale is dirty/broken	Clean or replace Encoder Scale	[3-11 ENCODER SCALE REPLACEMENT]	When Encoder Scale is not detected correctly, it is possible that the printing position could be shifted.
3	Encoder Module is dirty/broken	Clean or replace Encoder Module		When Encoder Module is not detected correctly, it is possible that the printing position could be shifted.
4	Head is out of adjustment	Head Alignment	[4-4 HEAD ALIGNMENT]	If the Heads are not aligned or Horizontal adjustment is not performed properly, the color shifting occurs.
5	Bad contact of Flexible Cable	Refix / Replace the Flexible Cable		If the Flexible Cable is not fixed correctly, the Head moves incorrectly and results in the shifting in printing.

### 6-4 INK DROPS ON THE MEDIA

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Foreign substances	Manual Cleaning	User's Manual	When foreign substances such as fiber dust are stuck on the surface of the Head, Ink sometimes leaks from it. Wipe the surface of Head with a cleaning stick.
2	Media strikes Head	Use the media clamps Replace to the suitable media		If the media tends to curl or become bumpy due to the Ink absorption, the Head sometimes strikes the media and it causes the Ink dropping problem.
3	Static electricity of the media	Perform [PERIODIC CL]	User's Manual	If the media produces static electricity easily, it makes accumulated Ink on the Head while printing and results in Ink dropping. When this is set to a value from 1 min to 990 min, automatic cleaning is performed while printing and it may prevent Ink dropping.
4	Wiper wears out	Wiper Replacement	User's Manual	If the cleaning does not work efficiently, foreign substances stuck on the surface on the Head. The Ink flows through it and results in Ink dropping.
5	Broken Ink Tube	Ink Tube Replacement	[3-7 INK TUBE REPLACEMENT]	When the Ink Tube is broken, it is not possible to keep air tight the Ink line and results in Ink dropping.
6	Broken Head	Head Replacement	[3-1 HEAD REPLACEMENT]	When the Head is broken mechanically, it is not possible to keep air tight the Ink line and results in the Ink dropping.

### 6-5 VERTICAL BANDING

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Encoder Scale is dirty	Clean / Replace Encoder Scale	[3-10 ENCODER SCALE REPLACEMENT]	When there is scratch or dirt on the Encoder Scale, the printing image could be affected and the vertical bandings could appear at the position where there is scratch or dirt.
2	LM Guide is dirty	Clean LM Guide		When there is dirt on the LM Guide, the Head Carriage has the big moving resistance and the printing image becomes to be changed from the other part at the position where there is dirt. And it results in the vertical banding.
3	There is dirt in teeth of the gear	Clean the gear		When there is dirt on the teeth of the gear, the movement of the Head Carriage is changed at the position where there is dirt. And it results in the periodical vertical banding.

### 6-6 MISSING DOT OR DEFLECTED-FIRED DOT APPEARS WHEN PERFORMING PRINTING WITH LONG DELAY

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Check the main power switch	Do not switch off the main power	User's Manual	To turn off the main power may cause the Head nozzle clogging by not performing self cleaning. To turn off the power, switch off only the sub power.

## 6-7 PRINT DOES NOT MATCH WITH CUT (WHEN NOT USING THE CROP-MARK FUNCTION)

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Shifting of Printing and Cutting Position is within tolerance	Explain to User	User's Manual	Shifting of Printing and Cutting Position within +/-0.5% of distance traveled, or +/-3mm whichever is greater in tolerance. Repetition between printing and cutting is +/-0.5mm or less. When the heater is used, the media may experience subtle deformation due to thermal expansion or contraction. For this reason, explain to user no assurance is made about the following points. - Distance accuracy (when cutting) - Repletion accuracy (when cutting) - Repletion between printing and cutting - Alignment accuracy for printing and cutting when reloading media
2	Media expansion and contraction	Explain to User Use the crop-mark function		Media will expand or shrink depending on the temperature and humidity in the operation environment. Therefore, if the elastic rate of media differs between when printing and when cutting, Printing and Cutting Positions will be shifted. By prefeeding the amount of media you use, it could make the difference of elasticity smaller. Using the crop-mark feature could make the affection of elasticity minimum also.
3	The media is not set correctly	Set the media correctly		Feed is not smooth when the media is not tilted or tensioned unevenly on the left and right. Reload and set up the media correctly.
4	The settings for the cutting is not correct	Adjust the suitable setting for cutting	User's Manual	If the cutting speed is too fast or the blade force is too strong, misalignment or skewing may occur.
5	The settings for the Bidirectional Printing is not correct	Adjust misalignment in Bidirectional Printing	User's Manual	If this adjustment is not performed correctly, printing and cutting positions will be shifted.
6	The length in the feed direction of printing data is too long	Set the length in the feed direction of printing data to the minimum necessary		The longer length in the feed direction is set in the printing data (the longer length which the machine pulls back after printing is), the more frequency the Shifting of Printing and Cutting Position occurs. Set the length in feed direction of printing data to the minimum necessary.
7	Offset value of [CUTTING ADJ.] is not zero (0)	Set the Offset value to zero (0)	User's Manual	When you are performing print and cut, set the [CALIBRATION] of the [CUTTING MENU] to 0. This setting needs to be used when the machine is used for cutting only. When "0" is not set, the Shifting of Printing and Cutting Position occurs the calibration is only applied to the cutting.
8	[AUTO ENV. MATCH] is set to the [DISABLE]	Set [AUTO ENV. MATCH] to the [ENABLE]	User's Manual	Cutting position in the carriage moving direction is detected by the Motor Encoder while the printing position is detected by the Encoder Scale. The Encoder Scale expands and contracts depending on the environment (temperature & humidity), and it causes the Print/Cut shifting problem in the carriage moving direction. (The shifting amount becomes bigger as it is far from the carriage standby position.) This function automatically adjusts the machine to optimize its state to the environment where it is used. This function is the same adjustment as [LINEAR CALIB.] in Service menu. Refer to P.84 "Matching the Printer to the Operating Environments" in the User's Manual.
9	Print / Cut Position Adjustment is not correct	Print / Cut Position Adjustment	[4-10 PRINT / CUT POSITION ADJUSTMENT]	Print / Cut Position Adjustment is to calibrate the error in the relative positions of Head and Tool Carriage due to the manufacturing tolerance and correct an error in printing and cutting positions. Therefore, if this adjustment is not performed correctly, printing and cutting positions will be shifted.
10	Belt Tension is not correct	Belt Tension Adjustment	[4-15 BELT TENSION ADJUSTMENT]	If the belt tension is not correct, the cutting is misaligned or distorted.

## 6-8 PRINT DOES NOT MATCH WITH CUT (WHEN USING THE CROP-MARK FUNCTION)

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Crop-Cut Adjustment is not correct	Crop-Cut Adjustment	User's Manual [4-10 CROP-CUT ADJUSTMENT]	Crop-Cut Adjustment is to calibrate the error in the relative positions of Tool and Crop Mark Sensor. Therefore, printing and cutting positions will be shifted when the relative position of Tool and Crop Mark Sensor is shifted from the correct position.
2	Crop Mark Sensor is dirty	Clean the Crop Mark Sensor		When the Crop Mark Sensor is dirty, the Crop Marks can not be detected correctly.
3	Crop Mark Sensor Adjustment is not correct	Crop Mark Sensor Adjustment	[4-9 CROP MARK SENSOR ADJUSTMENT]	When the Crop Mark Sensor adjustment is not done correctly, the Crop Marks can not be detected correctly.

## 6-9 STITCH CUT

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Blade tip is worn out	Replace the Blade		When blade wears out, it will be caught by the vinyl and results in stitch cut.
2	Blade Holder tip is caught by the media	Don't use the Blade Holder tip		Blade Holder tip gets caught by the vinyl depending on the surface condition or type of media. In this case, try cutting without using the blade extension function.
3	Scratch in Cutter Protection	Replace the Cutter Protection		Cutter Protection is where the blade lands for cutting. If there is scratch on the Cutter Protection, blade is caught by the vinyl because it sticks deeper into the vinyl and results in stitch cut.
4	Bearing inside Blade Holder doesn't rotate smoothly	Replace the Blade Holder		There are bearings inside the Blade Holder. When the bearings don't rotate smoothly, direction of the blade slightly shifts from the correct direction and therefore, it will be caught by the vinyl resulting in stitch cut.
5	Tool Height is not correct	Tool Height Adjustment	[4-13 TOOL HEIGHT ADJUSTMENT]	When Tool Height is not adjusted, blade hits the Bed strongly and bounces which results in stitch cut. In most cases, stitch cut at the beginning is caused by this reason.
6	Tool Pressure is not correct	Tool Pressure Adjustment	[4-14 TOOL PRESSURE ADJUSTMENT]	When Tool Pressure is not adjusted, blade hits the Bed strongly and bounces which results in stitch cut.
7	Belt Tension is not correct	Belt Tension Adjustment	[4-15 BELT TENSION ADJUSTMENT]	If the belt tension is not correct, the cutting is misaligned or distorted.
8	Tool doesn't move up/down smoothly	Replace the Tool Carriage	[3-4 TOOL CARRIAGE REPLACEMENT]	When Tool doesn't move up and down smoothly, blade sometimes hits the Bed strongly and bounces which resulting in stitch cut. In most cases, stitch cut at the beginning is caused by this reason.
9	Holder part of Tool Carriage is loose	Replace the Tool Carriage	[3-4 TOOL CARRIAGE REPLACEMENT]	When Holder part of Tool Carriage is loose, the blade doesn't rotate correctly and resulting in the stitch cut.
10	Solenoid Driver IC on Servo Board is broken	Replace IC23 on the Servo Board		When Solenoid Driver IC breaks, sometimes high pressure will be generated. In this case, blade hits the Bed strongly and bounces which resulting in stitch cut.

## 6-10 START AND END POINTS DO NOT MATCH

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Blade Offset doesn't match with the offset on the machine	Match Offset	User's Manual	Blade used on the machine has offset and therefore, tip is shifted from its center. When the offset setting done on the machine doesn't match with the blade offset or the offset value of the application software, offset correction won't be done. Therefore, the starting and ending points won't match especially when cutting circles.
2	Middle Pinch Rollers are not used	Use Middle Pinch Rollers	User's Manual	There are 7 Pinch Rollers, left, right and middle. When using only left and right pinch rollers, middle part of the media won't follow both edges when the media is fed. Therefore, the starting and ending points won't match. It is recommended to use the Middle Pinch Rollers especially when using wider media.
3	Scratch in Cutter Protection	Replace the Cutter Protection		Cutter Protection is where the blade lands for cutting. If there is scratch on the Cutter Protection, blade doesn't rotate smoothly and therefore, starting and ending point won't match.
4	Blade tip is worn out	Replace the Blade		When blade tip wears out, offset will be changed. Therefore, as same as the above description 1, the starting and ending point won't match especially when cutting circles.
5	Bearing inside Blade Holder doesn't rotate smoothly	Replace the Blade Holder		There are bearings inside the Blade Holder. When the bearings don't rotate smoothly, direction of the blade slightly shifts from the correct direction and therefore, starting and ending points do not match.
6	Holder part of Tool Carriage is loose	Replace the Tool Carriage	[3-4 Tool Carriage Replacement]	When Holder part of Tool Carriage is loose, the cutting is unstable and results in starting and ending points do not match.
7	Tool Height is not correct	Tool Height Adjustment	[4-13 Tool Height Adjustment]	When Tool Height is not adjusted, blade hits the Bed strongly and bounces which results in starting and ending points do not match. In most cases, the cutting at the very beginning is caused by this reason.
8	Tool Pressure is not correct	Tool Pressure Adjustment	[4-14 Tool Pressure Adjustment]	When Tool Pressure is not adjusted, blade hits the Bed strongly and bounces. Therefore, the cutting at the very beginning won't be done and cause the starting and ending points to be shifted. And also, when the Tool Pressure is set too high by the user, the blade offset changes because the blade tip goes deep into the vinyl. Therefore, the starting and ending points will be shifted.
9	Motor Gear is meshed too tight or too loose	Adjust Backlash		When Motor Gear is meshed too tight or too loose, Tool Carriage and Grit Roller will be driven unstable and results in starting and ending points to shift.
10	Belt Tension is not correct	Belt Tension Adjustment	[4-15 Belt Tension Adjustment]	If the belt tension is not correct, the cutting is misaligned or skewed.

## 6-11 DISTORTED CUTTING FIGURE

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Blade Holder is set loose on Tool Carriage	Secure the Blade Holder	User's Manual	When Blade Holder is set loose on Tool Carriage, the blade tip becomes very shaky when cutting and results in distorted figure.
2	Blade Offset is not set correctly	Match Offset	User's Manual	Since the blade used on the machine has offset, tip is shifted from its center. When the offset is not set correctly, offset correction won't be done.
3	Middle Pinch Rollers are not used	Use Middle Pinch Rollers	User's Manual	There are 7 Pinch Rollers, left, right and middle. When using only left and right pinch rollers, middle part of the media won't follow both edges when the media is fed. Therefore, the starting and ending points won't match. It is recommended to use the Middle Pinch Rollers especially when using wide media.
4	Blade tip is worn out	Replace the Blade		When blade tip wears out, offset will be changed. Therefore, it results in the distorted figure as the above description 2.
5	Bearing inside Blade Holder doesn't rotate smoothly	Replace the Blade Holder		There are bearings inside the Blade Holder. When the bearings don't rotate smoothly, direction of the blade slightly shifts from the correct direction and results in the distorted figure.
6	Holder part of Tool Carriage is loose	Replace the Tool Carriage	[3-4 Tool Carriage Replacement]	When Holder part of Tool Carriage is loose, the cutting is unstable and in the distorted figure.
7	Tool Carriage is loose	Replace the Tool Carriage	[3-4 Tool Carriage Replacement]	When Tool Carriage is loose, the cutting is unstable and results in the distorted figure.
8	There is backlash at the Motor Gear	Remove Backlash		When Motor Gear is meshed too tight or too loose, Tool Carriage and Grit Roller will be driven unstable and results in the distorted figure.
9	Belt Tension is not correct	Belt Tension Adjustment	[4-15 Belt Tension Adjustment]	If the belt tension is not correct, the cutting is misaligned or skewed.

## 6-12 MEDIA SKEW

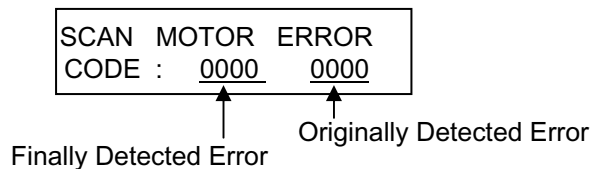
NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Media Flanges are not fixed by the stoppers	Fix the Flanges with Stopper	User's Manual	Media Flanges are fixed by the stoppers. If the stoppers are not fixed, roll shifts to left and right during media feeding and results in media shifting.
2	Flanges are not set correctly to the Media	Setup Media again	User's Manual	When the flanges are not fully put in the media tube, media will be fed tilted and results in media shifting.
3	Media is not set straight to the machine	Setup Media again	User's Manual	The most effective measure against media shifting is to set the media straight to the machine. Small tilting of the media when setting it up could result in big shifting especially doing long print. It is recommended to setup the media by adding tension towards front and check the shifting by prefeed function before actually starting printing.
4	Grit Roller is dirty	Clean the Grit Roller		When dust such as pieces of vinyl is stick to the Grit Roller, power to hold the media will be weakened and results in media shifting. Use brush to clean the Grit Roller.
5	Pinch Roller is worn out	Replace the Pinch Roller	[3-13 PINCH ROLLER REPLACEMENT]	When pinch rollers wear out, power to hold the media will be weakened and results in media shifting. Referential time for replacement of Pinch Roller is 24 months.

6	Grit Roller is loose	Fix the Grit Roller		When Grit Roller becomes loose, feeding amount between left and right edges will be different and results in media shifting.
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### 6-13 MOTOR ERROR

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	Media Jamming	Remove cause of Media Jam		When the edge of the media curls or the media absorbs the Ink and becomes irregular surface of the media, the Print Carriage catches on the media during printing and results in the Motor Error.
2	Media is too heavy	Use appropriate Media		When the adherence of the media is strong or the media weight is more than 30kg, the Motor Error occurs due to the too much load for feeding the media.
3	There is a dirt in teeth of Drive Gear	Clean Drive Gear		When there is dirt in the teeth of the Drive Gear and it cannot rotate, the Motor Error occurs.
4	Broken/life of the Motor	Motor replacement	[3-5 CARRIAGE MOTOR REPLACEMENT]	When the Motor is broken or reaches its life, the Motor cannot obey the order from the CPU and it results in the Motor Error.
5	Broken Power Supply for Motor	Replace Switching Power Supply	[3-8 BOARDS REPLACEMENT]	When the Power Supply voltage for the Motor is not supplied, the Motor cannot move and it results in the Motor Error.
6	Broken Servo Board	Servo Board replacement		When the Motor Driver is broken, the Power Supply voltage for the motor is not supplied and the motor cannot move. It results in the Motor Error.

### ERROR DESCRIPTION



NO	MEANING	CAUSE
0001	Feed Motor Deviation Error (The order from the CPU does not match the feedback of the Feed Motor.)	< External factors > 1. Media Jamming 2. Pull or Move the Carriage by hands. 3. Carriage runs into a thing/hands. 4. Media is stuck because it is caught by the paper pipe. 5. Pull the media. *The manual switch of take-up unit is used when the loading lever is pulled. *The media is sent to the opposite way by using control panel. 6. Too heavy media is loaded.
0004	Feed Motor Overcurrent Error 1 (Big load is put on the motor movement instantaneously.)	
0008	Feed Motor Overcurrent Error 2 (A little load is put on the motor movement for a long time.)	
0005	0001 and 0004 occurred at the same time.	
0009	0001 and 0008 occurred at the same time.	
0010	Scan Motor Deviation Error (The order from the CPU does not match the feedback of the Feed Motor.)	
0040	Scan Motor Overcurrent Error 1 (Big load is put on the motor movement instantaneously.)	
0080	Scan Motor Overcurrent Error 2 (A little load is put on the motor movement for a long time.)	
0050	0010 and 0040 occurred at the same time.	
0090	0010 and 0080 occurred at the same time.	

## 6-14 HEATER / DRYER TEMPERATURE DOES NOT GO UP

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	The media is not loaded and set up correctly	Set up the media	User's Manual	Even if [SETUP] LED is OFF, when the [HEATER MENU] > [PREHEATING] was set to "MENU", the Heater can reach the set temperature. Set the media and press the [SETUP] button, then wait until the media warms up.
2	The settings for the [Pre-Heater/Print Heater/Dryer] is not correct	Check the setting [Pre-Heater/Print Heater/Dryer] on the machine	User's Manual	When the [PRE / PRINT / DRYER] is [OFF] on the machine, the Heater temperature does not reach the set temperature.
3	The media width is below 1000mm	Replace the media with the one which has 1000 mm and above in width		A narrow media may take a long time to heat because it is subject to be cooled by a suction fan.
4	The temperature is low in the operation environment	Raise the temperature in the operation environment	User's Manual	In cold environment, it may take a long time or the Heater may fail to reach the preset temperature. Suggest using the Heater in the environment from 20 to 32 °C.
5	The voltage of power supply is low or unstable	Check the voltage		If the voltage is low or unstable, the heater doesn't work properly.
6	Bad contact or cut line on the cable between the Heater Unit and Main Board	Re-fix / Replace the cable		If the cable between the Heater unit and Main Board is broken, the Heater temperature does not rise. Check the connection of the each cable or replace if it has the broken.
7	Fuse on the Heater Control Board	Replace the Fuse		The temperature of the Heater does not rise if the Fuse F1, F2 and FS3 is blown out on the Heater Control Board. F1 for Pre-Heater. F2 for Print Heater and F3 for Dryer.
8	Heater Control Board is broken	Replace the Heater Control board		The Heater does not work correctly because the signal to the Heater is not transferred correctly.

## 6-15 THE BLOWER FAN DOES NOT OPERATE

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	[BLOWER FAN] is set to [DISABLE]	Set [BLOWER FAN] to [ENABLE]	User's Manual	When [BLOWER FAN] is set to [DISABLE] in the [HEATER] menu, the Blower Fan does not work.
2	Blower Junction Board is broken	Replace the Blower Junction Board		

## 6-16 THE TAKE-UP UNIT DOES NOT OPERATE

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	The cable for Take-Up Unit is not connected	Connect the cable to the machine		
2	AUTO switch is not ON	Make the setting for the AUTO switch on		
3	Check the cable connection/bad contact	Check the cable connection/bad contact Replace the cable	[3-14 TAKE-UP BOARD REPLACEMENT]	Check the connection/bad contact of the cable from AC Junction Board to SW Power Unit, DC Junction Board, Head Board, Main Board, TU Junction Board and Take-Up Board. Replace the cable if there is a problem in the cable itself.
4	Take-Up Board is broken	Replace the Take-Up Board	[3-14 TAKE-UP BOARD REPLACEMENT]	

## 6-17 ERROR MESSAGE

NO	CHECKING POINT	ACTION	REFERENCE	OUTLINE
1	service call	Refer to service call		Refer to service call
2	Internal Error	Restart the machine		This message is displayed when an unexpected error occurs. Restart the machine and see if the same error occurs again.
		Upgrade the firmware to the latest version		Check the revision record of the firmware version and upgrade it if the error has been solved in the firmware.

## 6-18 SERVICE CALL

CODE	CONTENTS	CAUSE	ACTION
0002	Disorder of communication with Sub CPU  This occurs when the Sub CPU is not detected after turning on the machine	Sub Board does not work correctly. Sub CPU does not work correctly. There is a bad connection between Main Board and Servo Board.	Check Cable connection between CN8 of Main Board and CN11 of Servo Board. Check Cable connection between CN7 of Main Board and CN4 of Heater Board. Check the other Cable connections of Servo Board Heater Board replacement Servo Board replacement Main Board replacement Flexible Cable replacement
0004	SRAM error	SRAM has broken.	Servo Board replacement
Revised 3 0005	An error occurs during downloading a program for sub CPU.	Sub Board does not work correctly. Sub CPU does not work correctly. There is a bad connection between Main Board and Servo Board. A noise on a signal.	Check Cable connection between CN8 of Main Board and CN11 of Servo Board. Check Cable connection between CN7 of Main Board and CN4 of Heater Board. Check the other Cable connections of Servo Board Heater Board replacement Servo Board replacement Main Board replacement Flexible Cable replacement
Revised 3 0006	An error occurs when start connecting to sub CPU.	A noise on a signal during sending a command. Sub CPU was reset to default. Get into communicate when Sub CPU was reset to default.	Check Cable connection between CN8 of Main Board and CN11 of Servo Board. Check Cable connection between CN7 of Main Board and CN4 of Heater Board. Check the other Cable connections of Servo Board Heater Board replacement Servo Board replacement Main Board replacement Flexible Cable replacement
Revised 3 0007	An error occurs during sending a command.	Sub Board does not work correctly. Sub CPU does not work correctly. There is a bad connection between Main Board and Servo Board. A noise on a signal during sending a command. Sub CPU was reset during sending a command.	Check Cable connection between CN8 of Main Board and CN11 of Servo Board. Check Cable connection between CN7 of Main Board and CN4 of Heater Board. Check the other Cable connections of Servo Board Heater Board replacement Servo Board replacement Main Board replacement Flexible Cable replacement
Revised 3 0008	There is a problem with synchronizing serial communication to Sub CPU.	Sub Board does not work correctly. Sub CPU does not work correctly. There is a bad connection between Main Board and Servo Board. A noise on a signal.	Check Cable connection between CN8 of Main Board and CN11 of Servo Board. Check the other Cable connections of Servo Board Servo Board replacement Main Board replacement Flexible Cable replacement
0010	Network I/F Initialize has not been done.	Network I/F does not work correctly. Firmware for Network I/F is not installed.	Main Board replacement Check the firmware is installed into Network I/F
0101	Limit Position Initialize has not been done.	Limit Position Initialize has not been done correctly.	Carry out Limit Position Initialize
Revised 3 0102	Even though the machine carries out the regular movement, the output of Head Lock Sensor does not reach the expected value.	Head Lock Sensor does not work correctly or is broken.	Head Lock Sensor replacement Check the backlash or loose with the driving parts of the carriage.



Revised 3 0103	Even though the machine carries out the regular movement, the output of Limit Sensor does not reach the expected value.	Limit Sensor does not work correctly or is broken.	Limit Sensor replacement Check the backlash or loose with the driving parts of the carriage.
0104	Even though the machine carries out the regular movement, the output of Capping Sensor does not reach the expected value.	Capping Motor does not work correctly. Capping Unit does not work correctly. Capping Sensor does not work correctly. Wiring or Flexible Cable has short circuited or cut-line.	Capping Motor replacement Capping unit replacement Capping Sensor replacement Flexible Cable replacement
0105	Tool Carriage Connection Error	Fault of Tool Carriage Connection Loose of Connection Part Fault of the Limit Position Initialize value	Check the mechanical Backlash or loose with the Tool Carriage part. Connection Part Replacement Limit Position Initialize
0106	Machine fails to disconnect the Tool Carriage from the Head Carriage.	Fault of Tool Carriage Connection Loose of Connection Part Fault of the Limit Position Initialize value Limit Sensor does not work correctly or is broken.	Check the mechanical Backlash or loose with the Tool Carriage part. Connection Part Replacement Limit Position Initialize
0107	Linear Encoder Setup has not been done.	Linear Encoder Setup has not been done correctly.	Carry out Linear Encoder Setup in service menu
0109	Even though the machine carries out the regular movement, the output of the Wiper Sensor does not reach the expected value.	Disorder of Wiper Sensor Fault of Wiper Unit Fault of Wiper Sensor Cut-line or short-circuit of Cable and Flexible Cable	Wiper Motor Replacement Wiper Unit Replacement Wiper Sensor Replacement Cable and Flexible Cable Replacement
0110	Input value from Linear Encoder is not changed when Linear Encoder is setup the origin. When Motor stops during printing, Motor does not complete the movement which is supposed to be done.	Read error of Linear Encoder. Read error of Encoder on Scan Motor side. Belt is not fixed to Head Carriage firmly.	Confirm whether Encoder Scale is between the slit of Encoder Module in a whole width of the machine Check Cable connection between Linear Encoder Board and Print Carriage Board Confirm connection between Belt and Head Carriage Linear Encoder replacement Scan Motor replacement Main Board replacement
0111	This error occurs when the machine performs the Auto Crop Mark Detection without performing the Tool / Crop-Cut Adjustment.	Crop-Cut Adjustment has not been performed.	Carry out Crop-Cut Adjustment in service menu
0120	There is a problem with Thermistor for Pre-Heater F.	Device has a problem. Thermistor Cable has short circuited or cut-line.	Check Cable connection around Thermistor Thermistor replacement
0125	Pre-Heater is unusually hot. Pre-Heater F temperature has reached 60°C and above.	Pre-Heater Cable connection has a problem. Thermostat has a problem (not working). Thermistor has a problem.	Check Pre-Heater Check Thermostat Check Thermistor
0130	There is a problem with Thermistor for Print Heater.	Device has a problem. Thermistor Cable has short circuited or cut-line.	Check Cable connection around Thermistor Thermistor replacement
0135	Heater is unusually hot. Print Heater temperature has reached 60°C and above.	Print Heater Cable connection has a problem. Thermostat has a problem (not working). Thermistor has a problem.	Check Print Heater Check Thermostat Check Thermistor
0140	There is a problem with Thermistor for dryer.	Device has a problem. Thermistor Cable has short circuited or cut-line.	Check Cable connection around Thermistor Thermistor replacement
0145	Dryer is unusually hot. Dryer temperature has reached 80°C and above.	Dryer Cable connection has a problem. Thermostat has a problem (not working). Thermistor has a problem.	Check Dryer Check Thermostat Check Thermistor
0146	Option Dryer is unusually hot. Option Dryer temperature has reached 80°C and above.	Option Dryer Cable connection has a problem. Thermostat has a problem (not working). Thermistor has a problem.	Check Option Dryer Check Thermostat Check Thermistor

## 7 Service Activities

### 7-1 INSTALLATION CHECK LIST

#### XC-540 INSTALLATION CHECK LIST

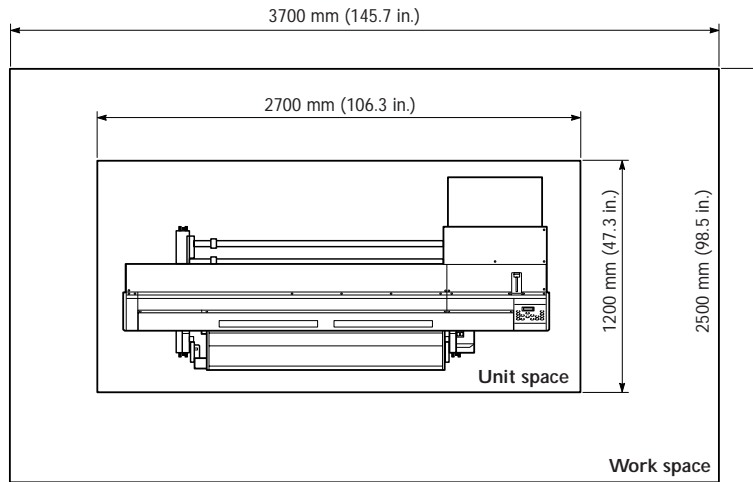
Date \_\_\_\_\_

User \_\_\_\_\_

Serial Number \_\_\_\_\_

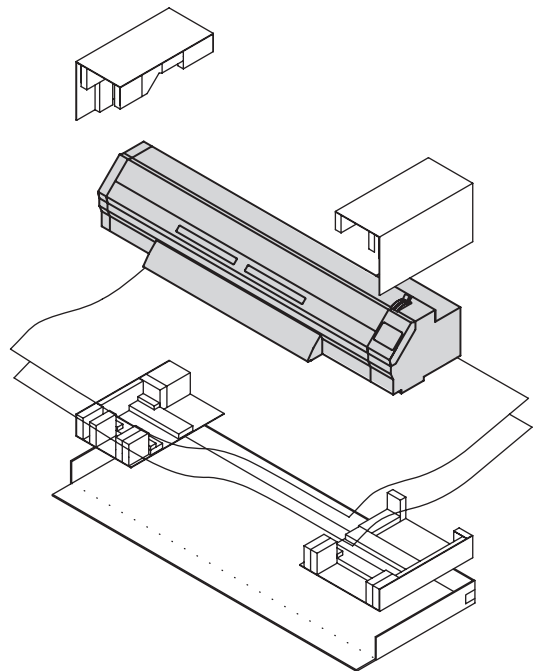
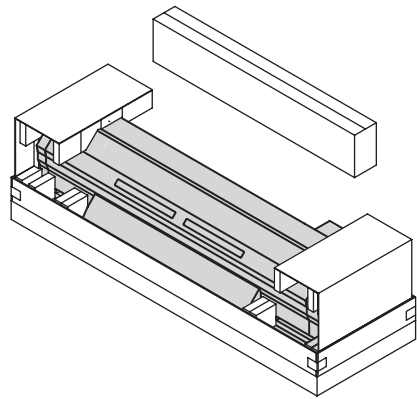
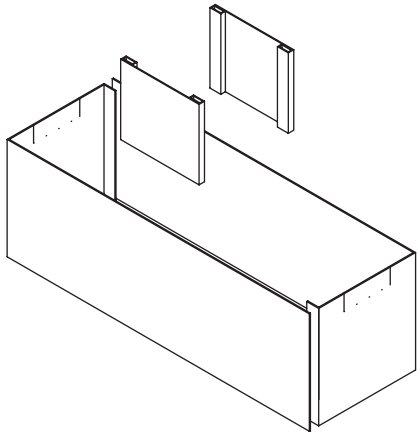
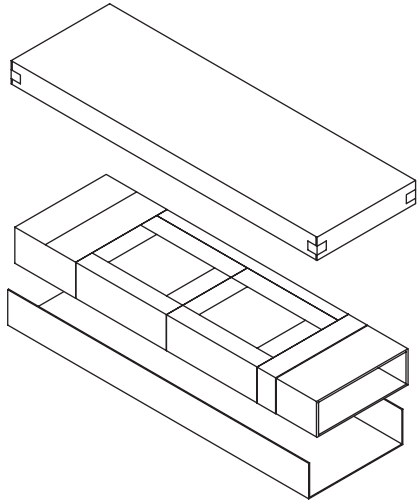
##### Unpacking

- The following space is reserved for installing the machine.

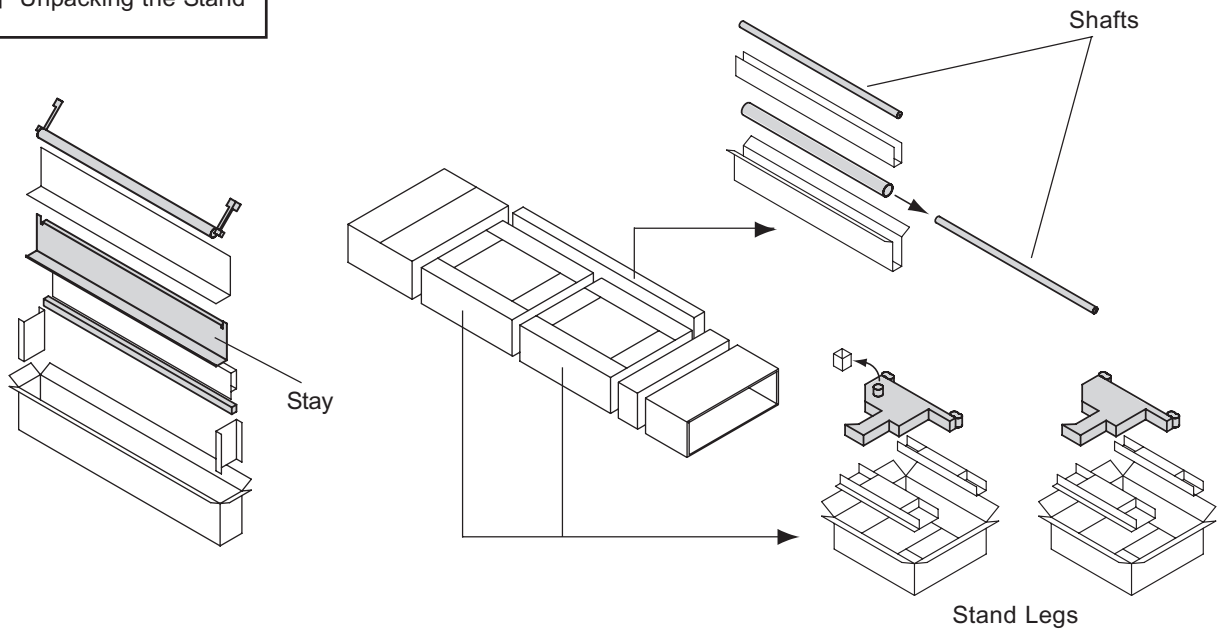


- Install the machine in a location that is level, stable, and able to bear the weight of the machine. Total weight of the machine is 200kg (Body + Stand) or more. It requires floor strength that supports up to 70 kg of the point weight at the one contact of the machine and floor. Installation in an unsuitable location may cause major accidents, such as trip over, fall, and collapse.
- Never install in outdoors or any location where exposed to water or high humidity. There are some risks of fire and electric shock caused by electric leakage.
- Never install close to any flammable object or in a gas-filled location. There are risks of explosion and fire hazard.
- Install in a clean, brightly lit location. Working in a location that is dark or cluttered may lead to accidents, such as an operator trips and get caught in the machine as the result of an inadvertent stumble.
- Keep the power plug within immediate reach at all times. This is to enable quick disconnection of the power plug in the event of an emergency. Install the machine next to an electrical outlet. Also, provide enough empty space to allow immediate access to the electrical outlet.
- Ensure ventilation for the work area. Without ventilation, there are risks of fire hazard and health hazard due to ink fume.

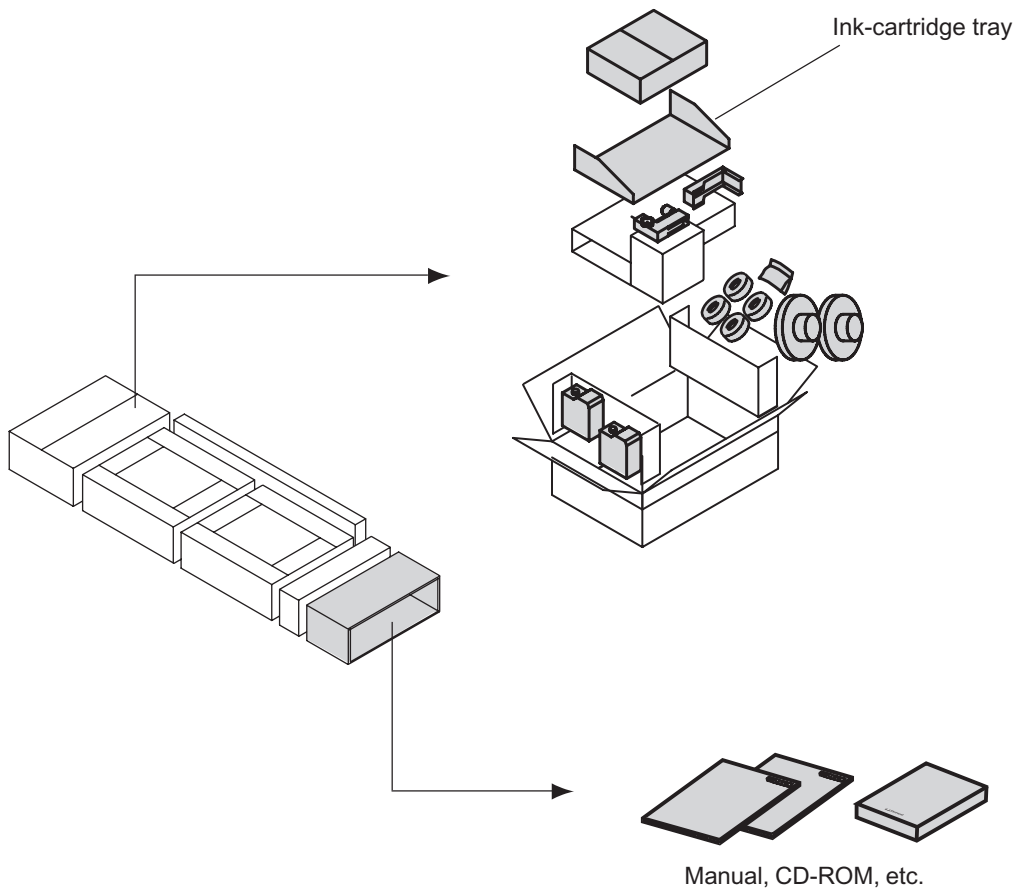
Unpacking





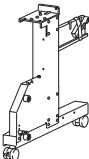
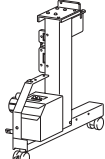

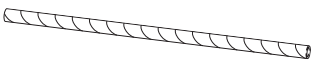


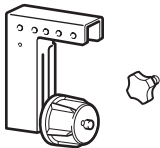
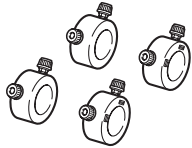
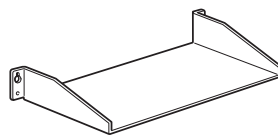
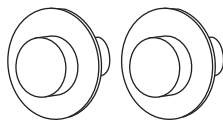
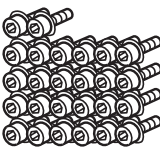
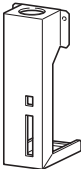
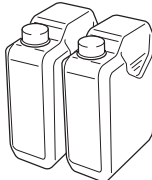
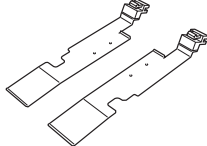

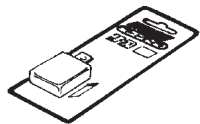

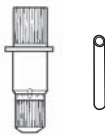
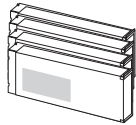

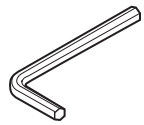

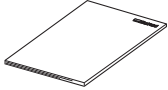
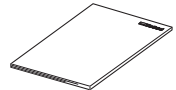
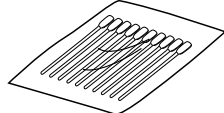


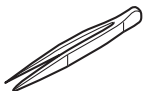
Unpacking the Stand



Unpacking the Accessory Box



Checking the Accessories

 <input type="checkbox"/> Stay : 1	 <input type="checkbox"/> Dancer roller : 1	 <input type="checkbox"/> Stand leg (Left) : 1	 <input type="checkbox"/> Stand leg (Right) : 1
 <input type="checkbox"/> Rail slider : 1	 <input type="checkbox"/> Paper pipe : 1	 <input type="checkbox"/> Shaft : 2	 <input type="checkbox"/> Power cord : 1
 <input type="checkbox"/> Arm/Arm retaining screw : 1 set	 <input type="checkbox"/> Stopper : 4	 <input type="checkbox"/> ink-cartridge tray : 1	 <input type="checkbox"/> Media flanges : 2
 <input type="checkbox"/> Bolt : 26	 <input type="checkbox"/> Drain bottle stand : 1	 <input type="checkbox"/> Drain bottles : 2	 <input type="checkbox"/> Media clamps : 2
 <input type="checkbox"/> Washer : 8	 <input type="checkbox"/> Replacement blades for separating knife : 1	 <input type="checkbox"/> Blade : 1	 <input type="checkbox"/> Blade holder/Pin : 1
 <input type="checkbox"/> SOL INK cleaning cartridge : 4	 <input type="checkbox"/> Pipe : 1	 <input type="checkbox"/> Hexagonal wrench : 1	 <input type="checkbox"/> Software RIP : 1
 <input type="checkbox"/> Setup guide : 1	 <input type="checkbox"/> User's Manual : 1		
 <input type="checkbox"/> Cleaning Kit : 1	 <input type="checkbox"/> Cleaning stick : 10	 <input type="checkbox"/> Replacement wiper : 2	 <input type="checkbox"/> Tweezers : 1

## Assembling

Set up following items in reference to the Setup Guide [3.Assembling and Installing].  
In case of setting up DU-540, refer to the DU-540 Uer's Manual [1-4 Installing on the Printer].

- Assemble the Stand
- Attach the Included Items
- Mount the Machine
- Install the Drain Bottle
- Attach the Ink-cartridge Tray
- Removing the Packing Materials

## Connect the Cables

Connect following cables in reference to the Setup Guide [4.Connect the Cables].

- Connect the Cable of the Take-up Unit
- Connect the Power Cable
- Connect the Ethernet cable (suggested 100Base-TX) to the Computer (Network).  
\*Make sure to use the Ethernet cable which is category 5 and above.

## Preparation

Perform following items in reference to the Setup Guide [5.Installing the Ink Cartridges] and [6.Install the Blade].

- Filling with Ink

### !!IMPORTANT!!

- 4 pcs. of the SOL INK cleaning cartridges are required in this work.
- Gently shake the cartridge when the new ECO-SOL MAX Ink Cartridge is installed.

- Install the Blade

## Network Settings

Make the Network Settings for the Computer and Printer in reference to the Setup Guide [7.Network Settings].

- The Network Settings for the Computer  
Enter the IP Address (e.g. 192.168.0.100) and the Subnet Mask (e.g. 255.255.255.0).

IP address of the Computer \_\_\_\_\_

- The Network Settings for the Printer  
Enter the IP Address (e.g. 192.168.0.101), the Subnet Mask (e.g. 255.255.255.0), and the Gateway Address (e.g. 255.255.255.0).  
IP Address should be different from the one set for the Computer : Subnet Mask and Gateway Address should be the same as the ones set for the Computer.

IP address of the Printer \_\_\_\_\_

## Installing Roland VersaWorks

Explain following items in reference to the Quick Start Guide.

System requirements for installing the software

Operating system : Windows XP Service Pack 1 or later, Windows 2000 Service Pack 4  
CPU : Pentium 4 2.0GHz or faster  
Memory (RAM) : 512MB and above (1GB or more recommended)  
Monitor : High-resolution SXGA (1,280 x 1,024 pixels) or better display recommended  
Free hard-disk space required for installation : 100MB or more  
Free hard-disk space required for operation : 1GB or more recommended

- Make the setting for Roland@NET  
Select the check box [Download Updates Automatically and Notify] if the customer accepts it.

Loading and Cutting  
Off Media

Explain following items in reference to the User's Manual [2-2 Loading and Cutting Off Media] and [8-1 Usable Media].

Load the Roll Media

**!!IMPORTANT!!**

- Never load media that weights more than 30 kg (67 lb.).
- Attach the media flanges to the roll media by matching to the inner diameter of the roll media core.
- Be sure to remove and properly store the roll media when not in use. If roll media is kept loaded on the machine, the media may sag by its weight and it may affect the printing result.
- Adjust [Head Height], [Feed Calibration] and [Bidirectional Adjustment] when using another type of media.

Set the Media Clamps

**!!IMPORTANT!!**

- The left and right of Media Clamps differ from one another.
- Set the Media Clamps firmly.
- Be sure to set the Media Clamps at the correct positions.

How to cut off Media

**!!IMPORTANT!!**

- Before you perform cutoff, be sure to detach the media clamps.

Conditions for Usable Media



Explain following items in reference to the User's Manual.

Switching the Power On and Off

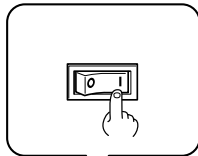
This machine has two power switches (three power switches when with DU-540).

Whenever outputting is finished, switch off 2 and 3.

Leave the main power switch 1 on at all times, never switching either one off.

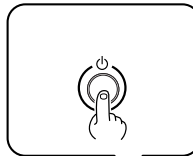
\*This machine switches to a low-power "sleep mode" when a fixed interval passes with no operation.

1. Main power switch



Be sure to leave switched on at all times.

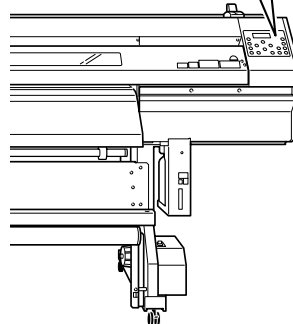
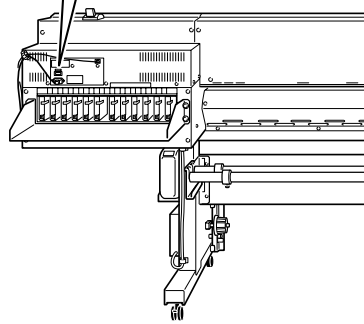
2. Sub power switch



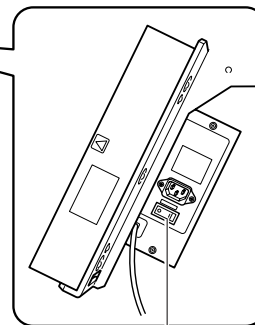
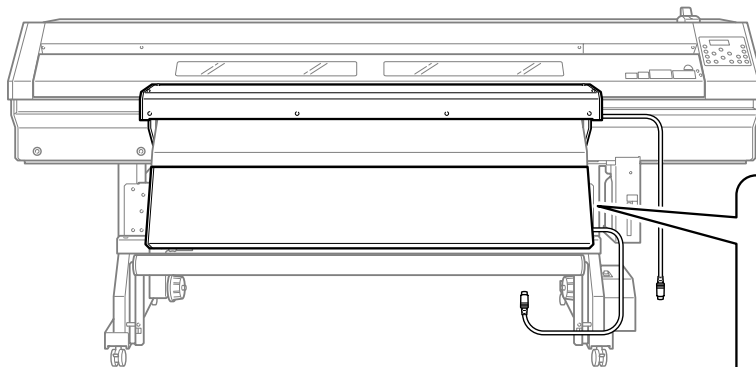
Turn this switch on after closing the front cover. To turn it off, hold down the switch for one second or longer.

Rear of the printer

Front of the printer



With DU-540 (Optional Drying-heater Unit)



3. Power switch

This is the power switch for the drying heater unit.

**!! IMPORTANT !!**

- Make sure to use the Sub power switch of the printer for the daily powering on and off. If the Main power switch of the printer is off, the automatic cleaning does not operate and it may cause Heads breakage. (The automatic cleaning is being performed even if the sleep mode is disabled as long as the Sub power switch is on.)
- When not printing, remove the loaded media or switch off the Sub power of the printer. The continued application of heat to media may generate toxic gases or cause a fire hazard.

Setting the clock to the local time

- Select [SUB MENU] > [CLOCK] > [DATE] in SERVICE MENU and set the date to your local date.
- Select [SUB MENU] > [CLOCK] > [TIME] in SERVICE MENU and set the time to your local time.

Settings of the Media Heating System

- Operation of the Preheater, Print heater and DU-540 (Optional Drying-heater and Blower-fan)
- Temperature setting
- General guide for the preset temperatures

**!!IMPORTANT!!**

- **Be cautious of the heat of the platen and dryer, and avoid fire and burns.**
- **Remove loaded media and switch off the sub power when not printing.**
- **Never use media that cannot withstand the heat of the media heating system.**
- **Never use the platen or dryer for unintended purpose, such as drying clothing.**

Printing Tests and Cleaning

Starting Printing

Explain about the Remaining Ink

**!!IMPORTANT!!**

- **The remaining ink amount shown on the display or RIP is an approximate guide, and not actual amount.**

Installation & Handling of the Ink Cartridges

**!!IMPORTANT!!**

- **Gently shake the cartridge when the new ECO-SOL MAX Ink Cartridge is installed.**
- **Do not remove an Ink Cartridge until it runs out. If an Ink Cartridge is removed and inserted often, air may go into the Ink tube and it may cause the Ink dropping problem.**
- **Be sure to replace with the same Ink type. Never mix the ECO-SOL MAX Ink with the different Ink type.**
- **Insert the same type and color of Ink Cartridge into 1 to 6 and 7 to 12.**
- **Never allow the machine to stand with an Ink Cartridge removed. The print heads may become clogged.**
- **Never store the Ink Cartridges in the location of fire or high temperature.**

Performing a Cutting Test

Adjusting the Cutting Conditions

The following cutting conditions can be set by [CUT CONFIG] key.

- Blade Force
- Cutting Speed
- Blade Offset
- Tool-up Speed

**!!IMPORTANT!!**

**Explain about [CUTTING PRIOR] as below.**

[MENU]... Cuts with the cutting conditions set on the machine.

[COMMAND]... Cuts with the cutting conditions set on the Roland VersaWorks.

- Starting Cutting
- Print / Cut Position Adjustment
- Starting Print & Cut

**!!IMPORTANT!!**

- Make sure the [AUTO ENV. MATCH] menu is set to "ENABLE."
- Before you start cutting, allow the media to dry thoroughly.
- Never use the Media Clamps when performing cutting.
- Set the value of [CALIBRATION] in [CUTTING MENU] to [0] when using the machine for printing & cutting, because this menu is to correct the cutting length when using the machine only for cutting.
- When you go on to cutting right after printing, the Cap of the Blade Holder may rub the printed surface and damage the printed image.  
In this case, it is necessary to extend the Blade slightly.

- Crop-Cut Adjustment
- Printing with Crop Marks
- Alignment of the Crop Marks (Automatic)

**!!IMPORTANT!!**

Depending on the type of media, the Crop Marks on the media may not be detected automatically. In this case, perform alignment manually.

- Alignment of the Crop Marks (Manual)
- Cutting Using the Crop Mark Feature

Using the Take-up System


Check with following items in reference to the Service Manual [4-16. Take-up Unit Operation Check].

- Cable Connection Check for Take-up Unit.  
Operating Check for Take-up Unit.

Explain following items in reference to the User's Manual [4-2. Using the Take-up System].

- How to Take Up Media (when taking-up with outward curl / when taking-up with inward curl)

**!!IMPORTANT!!**

- Avoid following operations that pull the media with undue force.
- Never operate the MANUAL switch when the loading lever is lowered.
- Never use  to feed the media in reverse.

- How to Remove Taken-up Media

Explain following items in reference to the User's Manual.

- Disposing of Discharged Ink

[CHECK DRAIN BOTTLE] message appears when a certain amount of discharged fluid collects in the bottle.

**!! IMPORTANT !!**

- When you dispose of Discharged Ink, make sure to reset the discharged-fluid count from [MENU] > [SUB MENU] > [MAINTENANCE] > [DRAIN BOTTLE] and press the [ENTER] key .  
Otherwise, "CHECK DRAIN BOTTLE" message appears at the inappropriate timing.
- Never place discarded fluid, in the location with high temperature, or near open flame, chemicals and explosive material.
- To store discharged fluid temporarily, use the included drain bottle or durable sealed container such as a metal can or polyethylene tank, and cap tightly.
- Dispose of discharged fluid properly, in accordance with your local laws.

- Cleaning function of the Print Heads  
(Normal cleaning / Medium cleaning / Powerful cleaning)

**!! IMPORTANT !!**

**Do not perform the Powerful cleaning more than necessary. It consumes large amount of ink.**

- Cleaning the Print Heads using Cleaning Kit

**!! IMPORTANT !!**

**The cleaning is run with the head uncapped.  
To prevent the heads from drying out, finish this procedure in 30 minutes or less.**

- Cleaning other parts

- Platen
- Grit rollers
- Pinch rollers (Raise the Pinch rollers when not in use.)
- Paper sensors (Front and Rear)
- Front cover
- Media clamps
- Bed

**!! IMPORTANT !!**

**Never use gasoline, alcohol, thinner, or any other flammable materials.**

- Replacing the Wipers
- Replacing the Blade
- Replacing the Separating Knife
- When Not in Use for a Prolonged Period

When Moving the Unit

**!!IMPORTANT!!**

- Before moving the machine, you must perform [HEAD WASH] in [INK CONTROL] menu.  
This operation requires eight UNUSED SOL INK cleaning cartridges.
- You must fill ink within 1 week after performing the HEAD WASH.  
The nozzles of the Heads are clogged if the machine is left for a prolonged period after removing the ink.

Feature Reference

Explain following items in reference to the User's Manual.

Pausing or Canceling Output

Setting the Location for Starting Output

**!!IMPORTANT!!**

When using the take-up unit, never use  .  
The take-up unit pulls the media with undue force, and it may result in an error or malfunction.

Making the Automatic Adjustment of the Printer to the Operating Environment

**!!IMPORTANT!!**

Set [AUTO ENV.MATCH] in [CUTTING MENU] to [ENABLE]. The machine automatically adjust itself to the optimized setting according to the operation environment(temperature and humidity).

Adjusting Head Height to Match Media Thickness

**!!IMPORTANT!!**

Misalignment occurs during bidirectional printing due to the head height or the thickness of the media. Perform [Bidirection Adjustment] to match the media you're using.

Correcting Misalignment for Printing or Cutting

Perform following corrections / adjustments to correct misalignment for the media you're using.

**1. <Bidirectional Adjustment>**

**Bidirectional adjustment corrects subtle misalignment occurs in the Bi-Direction printing.**

**This misalignment varies according to the head height and thickness of the media, so perform this adjustment to match the media you're using. This setting in XC-540 also serves to correct the shifting of Printing and Cutting Position. Under this case, this setting needs to be confirmed and adjusted.**

**Refer to the User's Manual [Correcting for Misalignment in Bidirectional Printing].**

**2. <Feed Calibration>**

**Feed distance of media slightly changes by media thickness and heater temperature. In this case, print banding tends to be noticeable. It needs to be adjusted to the media and heater, repeating print test and adjustment. However, the print result may be improper when media is fed backward after adjustment. When it needs a margin for next print after adjustment, set it 40 mm or more.**

**Refer to the User's Manual [Performing Feed Correction to Alleviate Horizontal Bands and the Like].**

**3. <Print / Cut Position Adjustment>**

**Perform this adjustment when alignment of print and cut is not satisfactory under continuous operation of print and cut. This adjustment needs to be optimized to your media, since cutting position changes due to the media thickness and head height.**

**Refer to the User's Manual [Correcting Misalignment of the Printing and Cutting Positions During Printing Followed Immediately by Cutting].**

**4. <Crop-Cut Adjustment>**

**Perform this adjustment when alignment of print and cut using the Crop Mark function is not satisfactory .**

**Refer to the User's Manual [Correcting Misalignment for Printing and Cutting When Using Crop Marks].**

Preset function

Menu items that can be saved in Presets

- [PRE](Pre heater)
- [PRINT](Print heater)
- [DRYER]
- [EDGE DETECTION]
- [SCAN INTERVAL]
- [VACUUM POWER]
- [FULL WIDTH S]
- [FEED FOR DRY]
- [ALTERNATE HEAD]
- [CALIBRATION](in the CUTTING MENU)
- [FORCE]
- [SPEED]
- [OFFSET]
- [UP-SPEED]
- [ADJUST BI-DIR SIMPLE SETTING]
- [ADJUST BI-DIR DETAIL SETTING]
- [CALIBRATION]
- [PRINT-CUT ADJ.]
- [CROP-CUT ADJ.]
- [PREHEATING]
- [BLOWER FAN]

Others

- Explain to switch off and on the machine and check what happens before calling for inquiry, when [SERVICE CALL] is displayed. It may solve the problem.
- Explain the action to take when the head carriage stops over the platen in reference to the User's Manual [7-6 The Print Heads Stopped Moving].  
If the head carriage doesn't go back to the standby position by turning on the sub power again, it is necessary to cap the heads by the user.

Consumable Parts and Replacement Cycle

PARTS NAME	LIFE TIME
Print Head	6 billion shots / nozzle (6,000,000 kshots) * When the Head is replaced, the Dampers should be replaced at the same time.
Wiper	6 months or Wiping 3,000 times or Ribbing 100 times *When the cleaning is done for the 500 times, the message for replacement of the Wiper is shown on the LCD.
Carriage Motor	1,500 hours
Cap Top	6 months
Ink Tube	3,000 hours
Sponge for Flushing	6 months
Sponge for Wiper	12 months
Battery	24 months
Cutter Protection	Replace it depending on degree of scratches on it.
Pinch Roller	Replace it depending on degree of the rubber part wear.

## 7-2 Maintenance Check List

# XC-540 MAINTENANCE CHECK LIST

Date : \_\_\_\_\_

User \_\_\_\_\_

Serial Number \_\_\_\_\_

**!!IMPORTANT!!**

If the DU-540 (Drying-heater unit) is installed in the printer, disconnect both power cord of the Printer and Drying-heater unit before performing the maintenance activity.

Check Items		Operation Points	Check
Interview the customer		Ask the customer if there is something that he/she is concerned about.	<input type="checkbox"/> Done
Output / Get report before maintenance		Get report with [Get Report] of the Peck4.exe, or print both Service Report and History Report.	<input type="checkbox"/> Done
Check drain bottle		If large amount of ink is discharged in the drain bottle, dispose of it and give an explanation to the customer. Make sure to reset the discharged-ink count.	<input type="checkbox"/> Good <input type="checkbox"/> Disposed <input type="checkbox"/> Reset
Upgrade the firmware to the latest version		Upgrade the firmware if the installed firmware is not the latest version.	<input type="checkbox"/> OK
Check Consumable Parts	Head	Determine if they should be replaced based on the SHOT COUNT in the History Report, the test print result and the customer's interview. Replacement Cycle : 6 billion shots/nozzle	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done <input type="checkbox"/> Reset
		Perform a manual cleaning by using cleaning sticks and cleaning liquid.	<input type="checkbox"/> Cleaning Done
		Output the test patterns for BIAS, VERTICAL, HORIZONTAL and BIDIR. DEFAULT to check the error, and perform adjustment if necessary.	<input type="checkbox"/> Good <input type="checkbox"/> Adjustment
	Carriage Motor	Determine if it should be replaced based on MOTOR ERROR and MOTOR HOURS S in the History Report, the motor sound heard while printing the report and the customer's interview. Put grease on the gear if you replace the motor. Replacement Cycle : 1,500 hours	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done <input type="checkbox"/> Reset
	Wiper	Determine if it should be replaced based on the performance of the cleaning or the time period from the last replacement. Replacement Cycle : 6 months or Wiping count 3,000 times or Rubbing count 100 times.	<input type="checkbox"/> Cleaning Done <input type="checkbox"/> Replacement Done
	Cap Top	Determine if it should be replaced based on the performance of the cleaning or the time period from the last replacement. Replacement Cycle : 6 months	<input type="checkbox"/> Good <input type="checkbox"/> Cleaning Done <input type="checkbox"/> Replacement Done
	Sponge for Flushing	Determine if it should be replaced based on its appearance or the time period from the last replacement. Replacement Cycle : 6 months	<input type="checkbox"/> Good <input type="checkbox"/> Replacement
	Sponge for Wiper	Determine if it should be replaced based on its appearance or the time period from the last replacement. Replacement Cycle : 6 months	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done
	Lithium Battery	Replacement Cycle : 24 months	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done
Check Mechanical Parts	Carriage Belt	Check if the carriage belt doesn't touch the the drive pulley and idle pulley when the head carriage moves in the full width. Adjust the belt position, if necessary.	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done
	Pinch Roller	Check if it is not worn out, it does not have dirt on it and it rotates smoothly.	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done
	Grit Roller	Remove foreign substances stuck on it by using a brush.	<input type="checkbox"/> Done
	Cutter Protection	Replace it depending on degree of scratches on it.	<input type="checkbox"/> Good <input type="checkbox"/> Replacement Done
Check printing		Check that there is no problem with the printing operation and printing result.	<input type="checkbox"/> Done
Check cutting		Check that there is no problem with the cutting operation and cutting result.	<input type="checkbox"/> Done
Output / Get report after maintenance		Get report with [Get Report] of the Peck4.exe, or print both Service Report and History Report.	<input type="checkbox"/> Done



## 7-3 Specifications

### Main Unit Specification

		XC-540
Printing/Cutting method		Piezo ink-jet method/media-moving method
Acceptable media widths		260 to 1371 mm (10-1/14 to 54 in.)
Printing/Cutting width (*1)		Maximum 1346 mm (53 in.)
Ink cartridges	Types	ECO SOL MAX 220cc cartridge / 440cc cartridge
	Color	Six colors (cyan, magenta, yellow, black, light cyan, light magenta) or Four colors (cyan, magenta, yellow, and black)
Printing resolution (Printing dot resolution)		Maximum 1440 dpi
Acceptable tool		Special blade for CAMM-1 series
Cutting speed		10 to 600 mm/s (10 to 300 mm/s in media-feed direction)
Blade force		30 to 300 gf
Blade offset compensation		0.000 to 1.500 mm (0 to 0.0591 in.)
Software resolution (When cutting)		0.025 mm/step (0.000984 in./step)
Distance accuracy (When printing) (*2) (*3)		Error of less than 0.3% of distance traveled, or 0.3 mm, whichever is greater
Distance accuracy (When cutting) (*3)		Error of less than 0.4% of distance traveled, or 0.3 mm, whichever is greater When distance correction has been performed (when the setting for [CALIBRATION] - [CUTTING ADJ.] has been made): Error of less than 0.2% of distance traveled, or 0.1 mm, whichever is greater
Repetition accuracy (When cutting) (*3) (*4)		0.1 mm or less
Alignment accuracy for printing and cutting (*3) (*5)		0.5 mm or less
Alignment accuracy for printing and cutting when reloading media (*3) (*6)		Error of less than 0.5% of distance traveled, or 3 mm, whichever is greater
Dryer unit (*7)		Heating method, setting range for the preset temperature: 30 to 55 C (86 to 131 F)
Ink -fixing device (*7)		Print heater / Preheater, setting range for the preset temperature: 30 to 50 C (86 to 122 F)
Take up system	Roll outer diameter allowing take-up	Maximum 180 mm
	Weight allowing take-up	Maximum 30 kg
Interface		Ethernet (10BASE-T/100BASE-TX, automatic switching)
Power-saving function		Automatic sleep feature (compliant with the International ENERGY STAR® Office Equipment Program)
Power supply	Voltage and frequency	AC 100 to 120 V ±10%, 50/60 Hz or AC 220 to 240 V ±10%, 50/60 Hz
	Required power capacity	13 A (100 to 120 V) or 7 A (220 to 240 V)
Power consumption	During operation	Approx. 1600 W
	Sleep mode	Approx. 47 W
Acoustic noise level	During operation	64 dB (A) or less (according to ISO 7779)
	During standby	45 dB (A) or less (according to ISO 7779)
Dimensions (With stand)		2694 (W) x 1103 (D) x 1260 (H) mm (106-1/8 (W) x 43-7/16 (D) x 49-5/8 (H) in.)
Weight (With stand)		197 kg (434.3 lb.)
Environment	Power on (*8)	Temperature: 15 to 32°C (59 to 90°F) (20°C [68°F] or more recommended), humidity: 35 to 80% (no condensation)
	Power off	Temperature: 5 to 40°C (41 to 104°F), humidity: 20 to 80% (no condensation)
Included items		Exclusive stands, Power cord, Blade, Blade holder, Media clamps, Replacement blade for separating knife, Cleaning kit, Software RIP, User's manual etc.

\*1

The length of printing or cutting is subject to the limitations of the program or driver.

\*2

At Roland PET film, print travel: 1 m  
Temperature: 25 C (77 F), humidity: 50%

\*3

Not assured when the print heater or dryer is used.

\*4

The following conditions must be met:

Media type: Media specified by Roland DG Corp.  
Roll media must be loaded on the shaft.  
[PREFEED] menu item must be set to "ENABLE."  
Side margins: 25 mm or more for both the left and right margins  
Front margin: 35 mm or more  
Excluding stretching/contraction of the media

Range for assured repetition accuracy

For media with a width exceeding 610 mm: Length 4,000 mm  
For media with a width of 610 mm or less: Length 8,000 mm

\*5

Provided that media length is under 3000 mm  
Temperature: 25 C (77 F)  
Excluding possible shift caused by expansion/contraction of the media and/or by reloading the media.

\*6

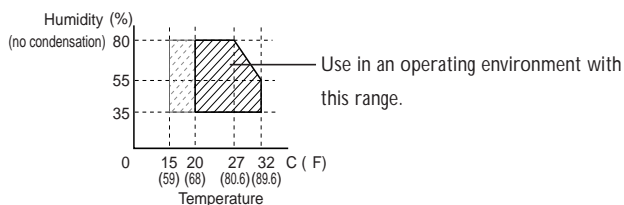
Media type : Roland PET film  
Data size: 1,000 mm in the media-feed direction, 1,346 mm in the carriage-movement direction.  
No lamination  
Automatic detection of crop marks at 4 points when media is reloaded.  
During cutting, [PREFEED] menu item must be set to "ENABLE."  
Temperature: 25 C (77 F)  
Excludes the effects of slanted movement and of expansion and contraction of the media.

\*7

Warm-up is required after powerup. This may require 5 to 20 minutes, depending on the operating environment.  
Depending on the ambient temperature and media width, the preset temperature fail to be reached.

\*8

Operating environment



## Conditions for Usable Media

Use genuine media from Roland DG Corp.

### Media width

10-1/4 to 54 inches (260 to 1371 mm)

### A) Cuttable media thickness

0.08 to 0.22 mm (3.2 to 8.6 mil)  
(depending on media composition)

### B) Maximum media thickness (including backing paper)

Printing only : 1.0 mm (39 mil)  
When performing cutting : 0.4 mm (15 mil)

### C) Roll outer diameter

180 mm

### D) Paper tube (core) inner diameter

50.8 mm or 76.2 mm (2 inches or 3 inches)

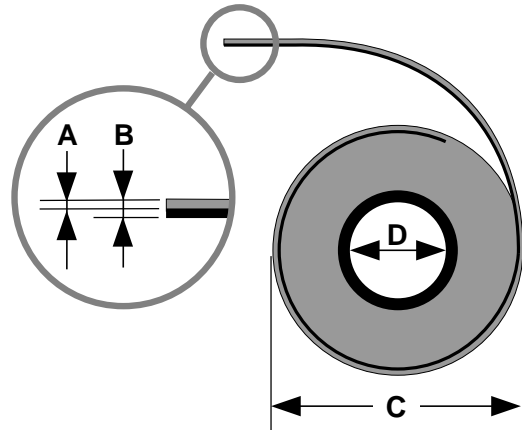
### Roll weight

30 kg (66 lb.)

### Other conditions

Media such as the following cannot be used.

- Media having an inward curl (i.e., media whose print surface is on the inner side of the roll)
- Media whose end is attached to the paper pipe (core)
- Media which is severely warped or which has a strong tendency to reroll
- Media that cannot withstand the heat of the heating devices
- Media whose paper pipe (core) is bent or crushed



This machine cannot necessarily print every kind of media. When selecting media, be sure to carry out testing in advance to make sure that satisfactory printing quality is obtained.