CE6000 Series

CUTTING PLOTTER

SERVICE MANUAL

MANUAL NO. CE6000-UM-251

GRAPHTEC

CE6000-UM-251-13-9370

HISTORY OF REVISIONS

No.	Date issued	Description of revision	Page	Edition
1	12.10.15	First Printing	All	01
2	12.12.27	CE6000-120AP was added.	All	02
3	13.03.18	Part number for the Push Roller Arm was corrected.	10-4,10-6	03
4	13.03.18	Part number for the Cam, 60 was corrected.	10-4,10-6	03
5	13.03.18	A sentence was added for the USB Driver of CE6000-120AP when in update mode.	7-33	03
6	13.03.18	Pipe Center, Basket Cloth, CE6000-120 was added.	10-17,10-19	03
7	13.06.21	Part number for the main board of CE6000-120AP was added.	4-1, 10-6	04
8	13.06.21	The rank of 2 Pen Station Bracket was changed to D rank.	10-10	04
9	13.06.21	The Y limit position adjustment was added for the CE6000-120AP.	7-33, 7-34	04
10	14.06.18	Misspelling of “options” was corrected.	iii, 1-3	05
11	14.06.18	Part number added for spacer CB-605E.	10-19	05
12	14.06.18	Part number added for End Cap 120CE6.	10-16	05
13	14.06.18	Part number added for Bearing.	10-15, 10-16, 10-19	05
14	14.06.18	Part number added for new AP-Guide.	10-4	05
15	14.06.18	Part number added for new Front-Guide.	10-4	05
16	14.06.18	Part number for the Cursor Key, Control Panel was corrected.	10-13	05
17	15.05.20	The dip-switch setting for new grid roller of CE6000-40 was added.	7-1	06
18	15.05.20	The explanation of values for the Main Board settings were corrected.	7-3	06
19	15.05.20	Procedure of adjusting the distance accuracy was corrected.	7-12 to 7-15	06
20	15.05.20	Part number added for new drive roller of CE6000-40.	4-1,	06
21	15.05.20	Part number for the main board of CE6000 was corrected.	4-1,10-5,10-7	06
22	15.08.04	Procedure of adjusting the distance accuracy was corrected.	7-12 to 7-16	07
23	16.05.09	Part number for the Y Flexible Cable, FFC908207, CE6000-40 was corrected.	4-1	08
24	16.05.09	Part number for the Y Flexible Cable, FFC908204 was corrected.	10-8	08
25	16.05.09	Target electrical component for WEEE instruction was added.	Section 12	08
26	16.05.09	The installing position for the cutting mat base assembly was corrected.	6-39	08
27	16.05.09	Part number for the Fan, LD-9225BFG1 was corrected.	4-1,10-5,10-7	08
28	16.05.09	Part number for the Side Cover, L was corrected.	10-1,10-2,10-3,10-4	08
29	16.05.09	Part number for the Side Cover, R was corrected.	10-1,10-2,10-3,10-4	08
30	16.05.09	Part number for the Rear Guide, C2, 40/60 was corrected.	10-1	08
31	16.05.09	Part number for the Rear Guide, CE6000-120 was corrected.	10-2,10-3	08
32	16.05.09	Part number for the AP-Guide_NS was corrected.	10-4	08
33	16.05.09	Part number for the Push Roller OFF Arm was corrected.	10-7	08
34	16.05.09	Part number for the Thumb Screw L10 was corrected.	10-9,10-11	08
35	16.05.09	Part number for the RM Sensor Hood was corrected.	10-9	08
36	16.05.09	Part number for the Y Flexible Cable, FFC908204 was corrected.	10-9,10-11,10-14	08
37	16.05.09	Part number for the Control Panel Sheet was corrected.	10-13	08
38	16.05.09	Part number for the RS-232C Connector Cable, CA90821 was corrected.	10-5,10-7	08
39	16.05.09	Part number for the Stocker Shaft was corrected.	10-15	08
40	16.05.09	Part number for the Center Bar, CE6000-120 was corrected.	10-16.10-19	08
41	16.05.09	Part number for the Foot Assembly, CE6000-120 was corrected.	10-16	08
42	16.05.09	Part number for the Roll Shaft Assembly, CE6000-120 was corrected.	10-16	08
43	16.11.25	Troubleshooting of experience was added.	9-12 to 9-21	08
44	16.12.08	Item number was corrected for Rubber Stopper.	10-6	09
45	16.12.15	The parts number was corrected for the fan.	4-1, 10-5, 10-7	09
46	16.12.26	The parts number was corrected for the Front Guide 120AP.	10-4	09
47	17.02.15	Information was added for the CE6000 Plus.	1-3, 4-2, 7-37	09
48	17.02.15	The parts number is added for the CE6000 Plus	10-1, 10-2, 10-7	09
49	17.02.15	The parts number for the Center Cover 120AP was corrected.	10-3, 10-4	09
50	17.03.17	The parts number for the AC Inlet was corrected.	10-8	09
51	17.12.25	The parts number for the Flexible cable support was added.	10-5	10
52	18.3.20	The part number for the CE6000-40Plus USA model was corrected.	4-2, 10-9	10
53	18.4.12	New main board was added for other country than India.	4-1,4-2,10-5,10-7	11

No.	Date issued	Description of revision	Page	Edition
54	18.5.28	New Pen Relay Board was added for other country than India.	4-1,4-2,10-9,10-11	11
55	18.5.28	New Pinch Roller Sensor Board was added for other country than India.	4-1,4-2,10-9,10-11	11
56	18.5.28	New Cam Sensor Board was added for other country than India.	4-1,4-2,10-5,10-7	11
57	18.5.28	New Registration Mark Sensor Board was added for other country than India.	4-1,4-2,10-9	11
58	18.5.28	New Control Panel Board was added for other country than India.	4-1,4-2,10-13	11
59	19.7.23	New main board, New Pen Relay Board, New Pinch Roller Sensor Board, New Cam Sensor Board, New Registration Mark Sensor Board, and New Control Panel Board were removed from the recommend parts list, because new boards got a standard for India.	4-1,4-2	12
60	19.7.23	The remark was corrected for the main Board.	10-5,10-7	12
61	19.7.23	The remark was corrected for the Pen Relay Board.	10-9,10-11	12
62	19.7.23	The remark was corrected for the Pinch Roller Sensor Board.	10-9,10-11	12
63	19.7.23	The remark was corrected for the Cam Sensor Board.	10-5,10-7	12
64	19.7.23	The remark was corrected for the Registration Mark Sensor Board.	10-9	12
65	19.7.23	The remark was corrected for the Control Panel Board.	10-13	12
66	19.9.11	The remark was corrected for the Main Board.	10-7	13
67	19.9.11	The remark was corrected for the Cam Sensor Board.	10-7	13

CONTENTS

1 INTRODUCTION

CAUTION

DOUBLE POLE/NEUTRAL FUSING

1.1 Main Specifications

CE6000-40/60/120/120AMO

Item	CE6000-40	CE6000-60	CE6000-120 (AMO)
CPU	32-bits CPU		
Configuration	Grit rolling		
Drive system	Digital servo		
Maximum cutting area	375 mm x 50 m	603 mm x 50 m	1213 mm x 50 m
Guaranteed precision cutting area*1	356 mm x 2 m	584 mm x 5 m (When using optional basket)	1194 mm x 5 m (When using optional basket)
Mountable media width*2	Minimum: 50 mm Maximum: 484 mm	Minimum: 50 mm Maximum: 712 mm	Minimum: 85 mm (CE6000-120) Minimum: 125 mm (CE6000-120-AMO) Maximum: 1346 mm
Available roll media diameter	Minimum: 180 mm Maximum: 76 mm		
Maximum cutting speed	600 mm/s (in all directions)	900 mm/s (45° direction)	1000 mm/s (45° direction)
Specifiable cutting speeds (cm/s)	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 cm/s	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 64 (45° direction 90 cm/s)	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 71 (45° direction 100 cm/s)
Cutting Pressure	0.2 to 2.9 N (20 gf to 300 gf) (31 steps)	0.2 to 4.4 N (20 gf to 450 gf) (38 steps)	
Minimum character size	5 mm (0.197 in) for alphanumeric Helvetica med. Font		
Mechanical resolution	0.005 mm		
Programmable resolution	GP-GL: 0.1/0.05/0.025/0.01 mm; HP-GLTM*3: 0.025 mm		
Repeatability accuracy*1	Max. 0.1 mm/in unit of 2 m (Designated file and cutting condition)		
No. of pens mountable	1 pen		
Compatible cutter type	Supersteel cutter blades		
Compatible pen type	Water-based fiber-tip pens and oil-based ballpoint pen		
Compatible cutting film	Marking film (PVC, fluorescent, or reflective film) up to 0.25 mm in thickness (excluding high-luminosity reflective film)		
Interfaces	RS-232C/USB (Full Speed)		
Buffer capacity	2 MB		
Command modes	GP-GL, HP-GL*3		
Display panel	Liquid crystal graphic display (240dot x 128dot)		
Rated power supply	100 to 120, 200 to 240 V AC, 50/60 Hz		
Power consumption	100 VA		
Operating environment	10°C to 35°C, 35% to 75% RH (Non-condensing)		
Conditions for guaranteed precision	16°C to 32°C, 35% to 70% RH (Non-condensing)		
External dimensions (W x D x H)	Approx. 672 x 336 x 266 mm	Approx. 901 x 593 x 1045 mm	Approx. 1541 x 736 x 1250 mm
Weight	10.5 kg	21 kg (Including stand)	40.5 kg (Including stand)

*1: Varies depending on the type of Graphtec-authorized film and the cutting conditions

*2: The accuracy of minimum media width is when the push rollers are set to 5 mm from both edges of media.

*3: HP-GL™ is a registered trademark of Hewlett-Packard Company.

CE6000-120AP

Item	CE6000-120AP
CPU	32-bits CPU
Configuration	Grit rolling
Drive system	Digital servo
Maximum cutting area	1190 mm x 50 m
Guaranteed precision cutting area*1	1190 mm x 3 m
Mountable media width*2	Minimum: 594 mm Maximum: 1220 mm
Available roll media core diameter	3 inch
Available roll media outer diameter	Maximum: 200 mm
Available roll media weight	Less than 20 kg
Number of push roller	5
Maximum cutting speed	600 mm/s (in all directions)
Specifiable cutting speeds (cm/s)	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 cm/s
Cutting Pressure	0.2 to 4.4 N (20 gf to 450 gf) (38 steps)
Minimum character size	5 mm (0.197 in) for alphanumeric Helvetica med. Font
Mechanical resolution	0.005 mm
Programmable resolution	GP-GL: 0.1/0.05/0.025/0.01 mm; HP-GLTM*3: 0.025 mm
Repeatability accuracy*1	Max. 0.1 mm/in unit of 2 m (Designated file and cutting condition)
No. of pens mountable	2 pens
Compatible cutter type	Supersteel cutter blades
Compatible pen type	Water-based fiber-tip pens and oil-based ballpoint pen
Interfaces	RS-232C/USB (Full Speed)
Buffer capacity	2 MB
Command modes	GP-GL, HP-GL*3
Display panel	Liquid crystal graphic display (240dot x 128dot)
Rated power supply	100 to 120, 200 to 240 V AC, 50/60 Hz
Power consumption	100 VA
Operating environment	10°C to 35°C, 35% to 75% RH (Non-condensing)
Conditions for guaranteed precision	16°C to 32°C, 35% to 70% RH (Non-condensing)
External dimensions (W x D x H)	Approx. 1575 x 1200 x 1250 mm (Including stand)
Weight	46 kg (Including stand)

*1: Varies depending on the type of Graphtec-authorized film and the cutting conditions

*2: The accuracy of minimum media width is when the push rollers are set to 5 mm from both edges of media.

*3: HP-GL™ is a registered trademark of Hewlett-Packard Company.

CE6000-40 Plus/60 Plus/120 Plus

Item	CE6000-40 Plus	CE6000-60 Plus	CE6000-120 Plus
CPU	32-bits CPU		
Configuration	Grit rolling		
Drive system	Digital servo		
Maximum cutting area	375 mm x 50 m	603 mm x 50 m	1213 mm x 50 m
Guaranteed precision cutting area*1	356 mm x 2 m	584 mm x 5 m (When using optional basket)	1194 mm x 5 m (When using optional basket)
Mountable media width*2	Minimum: 50 mm Maximum: 484 mm	Minimum: 50 mm Maximum: 712 mm	Minimum: 120 mm (STD) Minimum: 80 mm (STU) Maximum: 1346 mm
Available roll media diameter	Minimum: 180 mm Maximum: 76 mm		
Maximum cutting speed	600 mm/s (in all directions)	900 mm/s (45° direction)	1000 mm/s (45° direction)
The number of push roller	2	2	4 (STD) 3 (STU)
Specifiable cutting speeds (cm/s)	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 cm/s	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 64 (45° direction 90 cm/s)	1–10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 71 (45° direction 100 cm/s)
Cutting Pressure	0.2 to 4.4 N (20 gf to 450 gf) (38 steps)		
Minimum character size	5 mm (0.197 in) for alphanumeric Helvetica med. Font		
Mechanical resolution	0.005 mm		
Programmable resolution	GP-GL: 0.1/0.05/0.025/0.01 mm; HP-GLTM*3: 0.025 mm		
Repeatability accuracy*1	Max. 0.1 mm/in unit of 2 m (Designated file and cutting condition)		
No. of pens mountable	1 pen		
Holder type	2 positions (STD) 1 position (STU)		
Compatible cutter type	Supersteel cutter blades		
Compatible pen type	Water-based fiber-tip pens and oil-based ballpoint pen		
Compatible cutting film	Marking film (PVC, fluorescent, or reflective film) up to 0.25 mm in thickness (excluding high-luminosity reflective film)		
Interfaces	RS-232C/USB (Full Speed)		
Buffer capacity	2 MB		
Command modes	GP-GL, HP-GL*3		
Display panel	Liquid crystal graphic display (240dot x 128dot)		
Rated power supply	100 to 120, 200 to 240 V AC, 50/60 Hz		
Power consumption	100 VA		
Operating environment	10°C to 35°C, 35% to 75% RH (Non-condensing)		
Conditions for guaranteed precision	16°C to 32°C, 35% to 70% RH (Non-condensing)		
External dimensions (W x D x H)	Approx. 672 x 336 x 266 mm	Approx. 901 x 593 x 1045 mm	Approx. 1541 x 736 x 1250 mm
Weight	10.5 kg	21 kg (Including stand)	40.5 kg (Including stand)

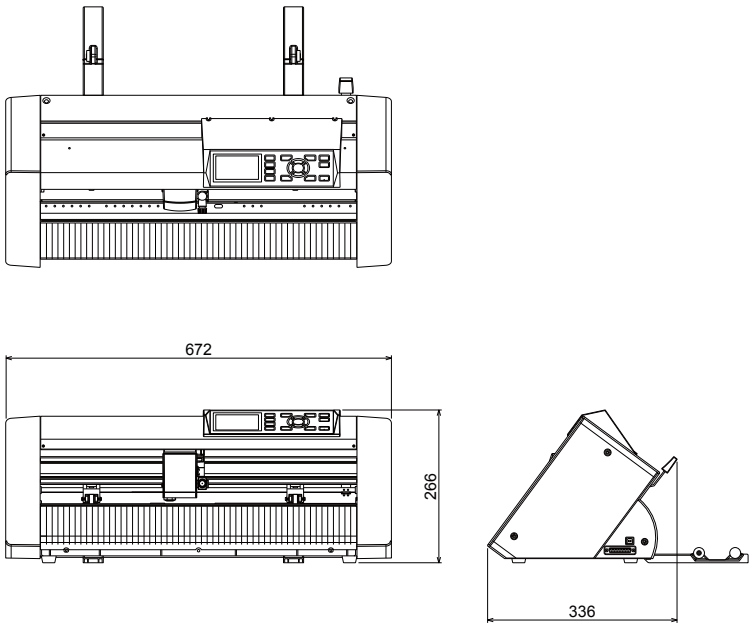
*1: Varies depending on the type of Graphtec-authorized film and the cutting conditions

*2: The accuracy of minimum media width is when the push rollers are set to 5 mm from both edges of media.

*3: HP-GL™ is a registered trademark of Hewlett-Packard Company.

1.2 External Dimensions

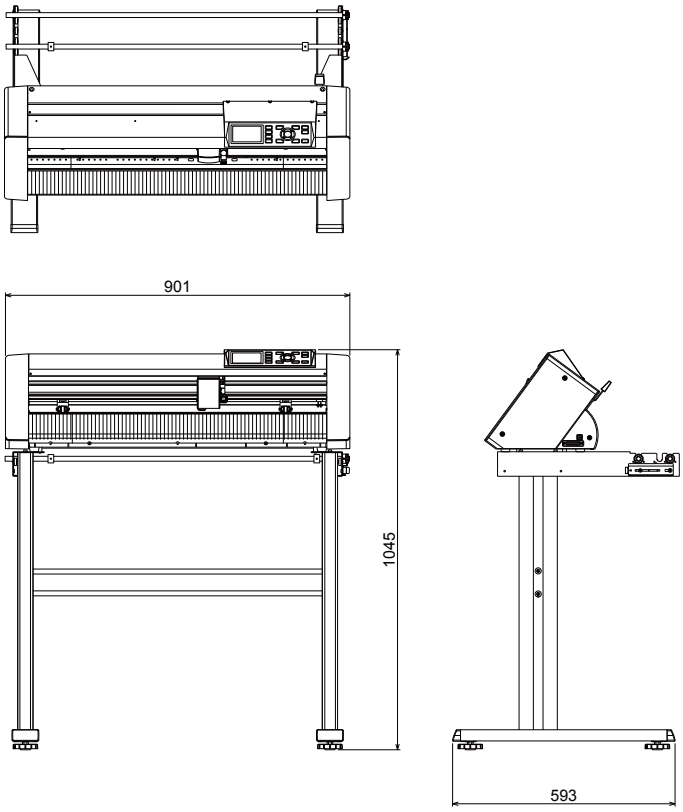
CE6000-40/Plus



Units: mm

Dimensional accuracy: ±5 mm

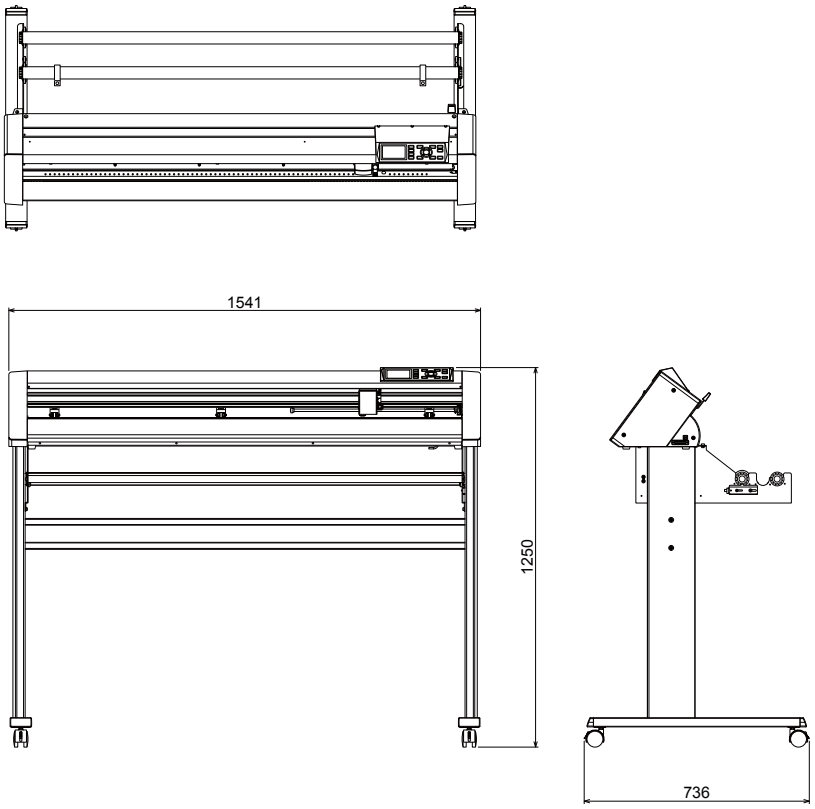
CE6000-60/Plus



Units: mm

Dimensional accuracy: ±5 mm

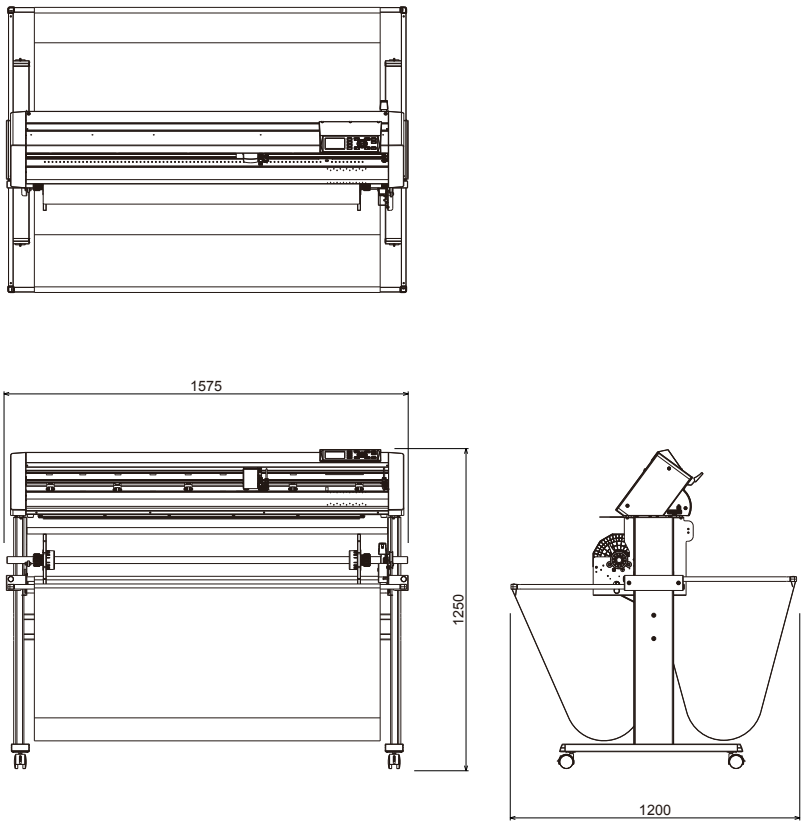
CE6000-120/AMO/Plus



Units: mm

Dimensional accuracy: ±5 mm

CE6000-120AP



1.3 Options

Item	Model	Contents
Basket	PG0100	Cloth basket for CE6000-60/Plus
	PG0101	Cloth basket for CE6000-120/Plus

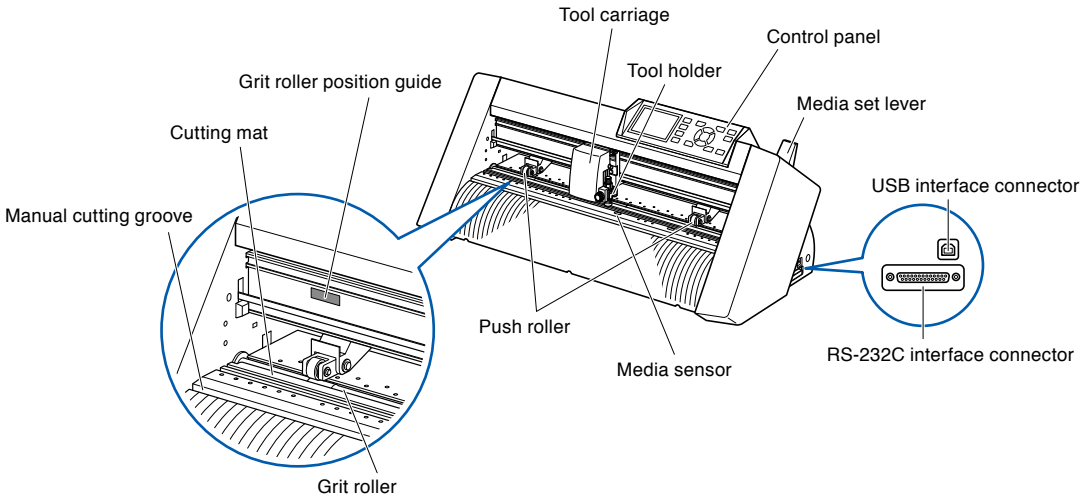
1.4 Supplies

Item	Model	Contents
Cutter plunger	PHP33-CB09N-HS	Used with 0.9 mm diameter cutter blade
	PHP33-CB15N-HS	Used with 0.9 mm diameter cutter blade
Cutter blade	CB09UB-5	0.9 mm diameter, supersteel blade (set of 5)
	CB15U-5	1.5 mm diameter, supersteel blade (set of 5)
	CB15UB-2	1.5 mm diameter, supersteel blade for small text (set of 2)
	CB09UB-K60-5	0.9 mm diameter, supersteel blade (set of 5)
Water-based fiber-tip pen plunger	PHP31-FIBER	Plunger for water-based fiber-tip pen for (set of 1)
Water-based fiber-tip pen	KF700-BK	1 set (10 pcs. Black)
Oil-based ballpoint pen plunger	PHP34-BALL	Plunger oil-based ballpoint pen (set of 1)
Oil-based ballpoint pen	KB700-BK	1 set (10 pcs. Black)
Cutting Mat	CE6-CM40-2	Cutting mat for the CE6000-40 (set of 2)
	CE6-CM60-2	Cutting mat for the CE6000-60 (set of 2)
	CE6-CM120-2	Cutting mat for the CE6000-120/AMO/AP (set of 2)

2 PARTS NAMES and FUNCTIONS

2.1 Parts Names and Functions (CE6000-40/60/120/120AMO)

Front View : CE6000-40



Control panel.....Used to access various plotter functions.

Push rollers .....Rollers that push the media against the grit rollers.

Grit rollers.....Metallic rollers with a file-like surface that feed the media back and forth.

Media sensors .....The front sensor is used to sense the leading edge of the media. The rear sensor is used to sense the trailing edge of the media.

Tool carriage.....Moves the cutter-pen or plotting pen across the media during cutting or plotting.

Tool holder.....Holds the cutter-pen or plotting pen and moves it up or down.

Grit roller position guide.....Stickers on the front of the Y rail and the rear side of the top cover that show the position of each grit roller. Use these alignment marks as an aid in locating the Push rollers.

Cutting mat .....Cutter blade moved on this mat, preventing wears of the blade.

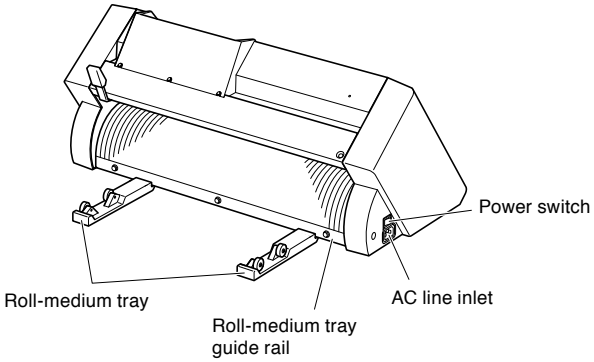
Cutting groove.....Use this groove when using the media cutter.

Media set lever .....Used to raise or lower the Push rollers during the loading or unloading of media.

USB interface connector.....Used to connect the plotter to the computer with a USB interface cable.

RS-232C interface connector .....Used to connect the plotter to the computer with a RS-232C interface cable.

Rear View : CE6000-40



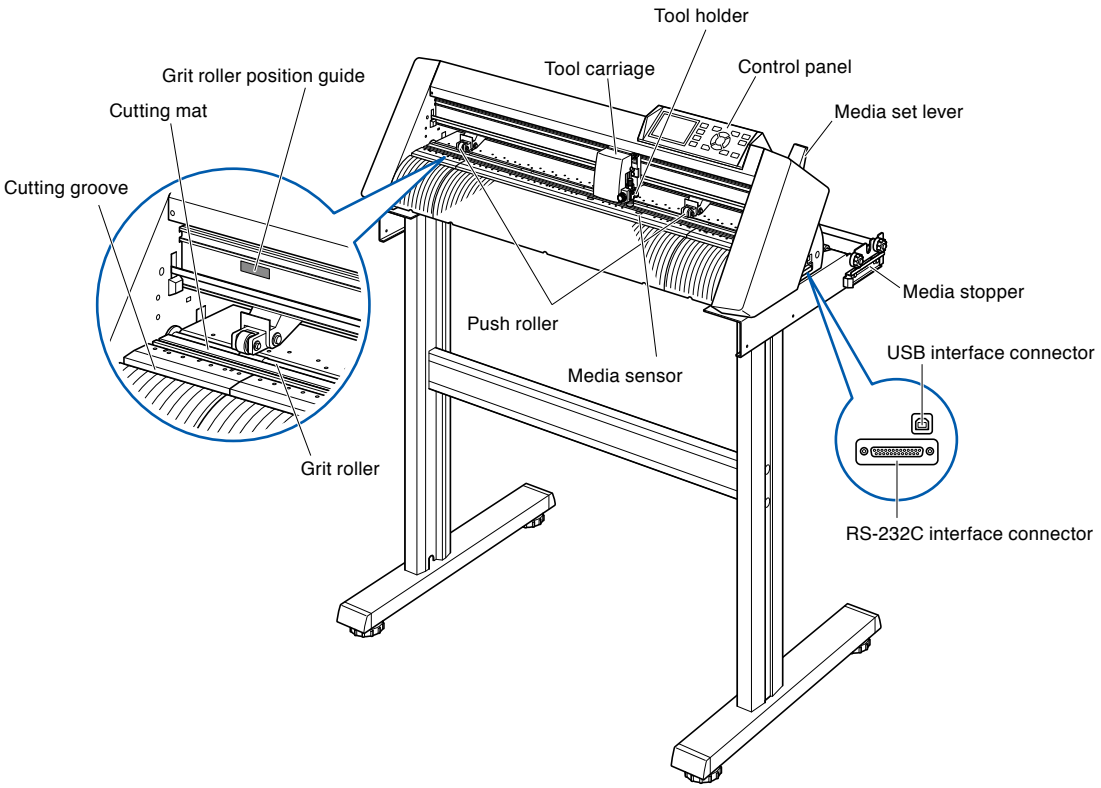
Roll-medium tray.....A tray to set media in.

Roll-medium tray guide rail .....A rail to set the roll media tray in.

Power switch .....Used to turn the plotter on and off.

AC line inlet.....Inlet where the power cable is connected.

Front View : CE6000-60



Control panel.....Used to access various plotter functions.

Push rollers .....Rollers that push the media against the grit rollers.

Grit rollers.....Metallic rollers with a file-like surface that feed the media back and forth.

Media sensors .....The front sensor is used to sense the leading edge of the media. The rear sensor is used to sense the trailing edge of the media.

Tool carriage.....Moves the cutter-pen or plotting pen across the media during cutting or plotting.

Tool holder.....Holds the cutter-pen or plotting pen and moves it up or down.

Grit roller position guide.....Stickers on the front of the Y rail and the rear side of the top cover that show the position of each grit roller. Use these alignment marks as an aid in locating the Push rollers.

Cutting mat .....Cutter blade moved on this mat, preventing wears of the blade.

Cutting groove.....Use this groove when using the media cutter.

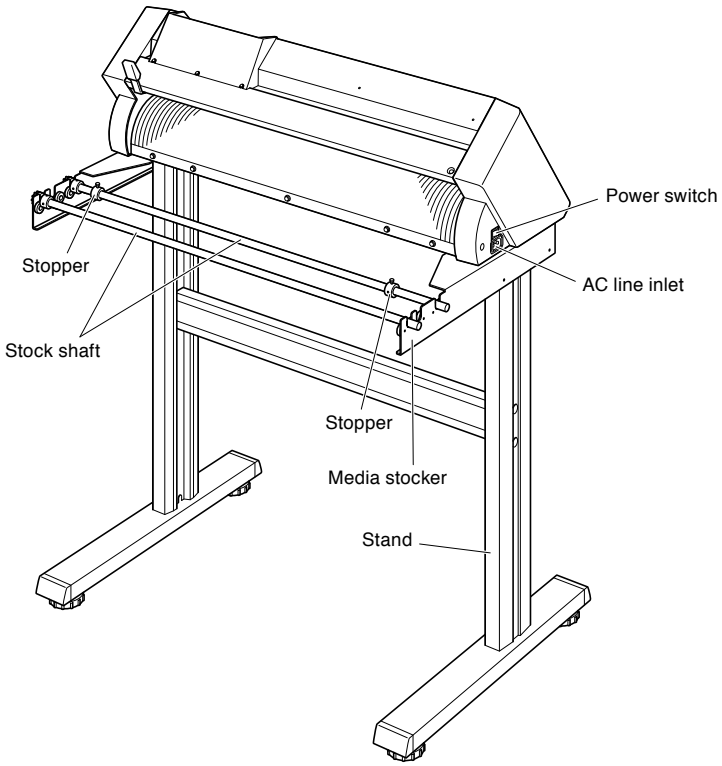
Media set lever .....Used to raise or lower the Push rollers during the loading or unloading of media.

USB interface connector.....Used to connect the plotter to the computer with a USB interface cable.

RS-232C interface connector .....Used to connect the plotter to the computer with a RS-232C interface cable.

Media stopper.....This stops the stock shaft from spinning when setting in media. It is utilized when pulling roll media straight out.

Rear View : CE6000-60



Power switch .....Used to turn the plotter on and off.

AC line inlet.....Inlet where the power cable is connected.

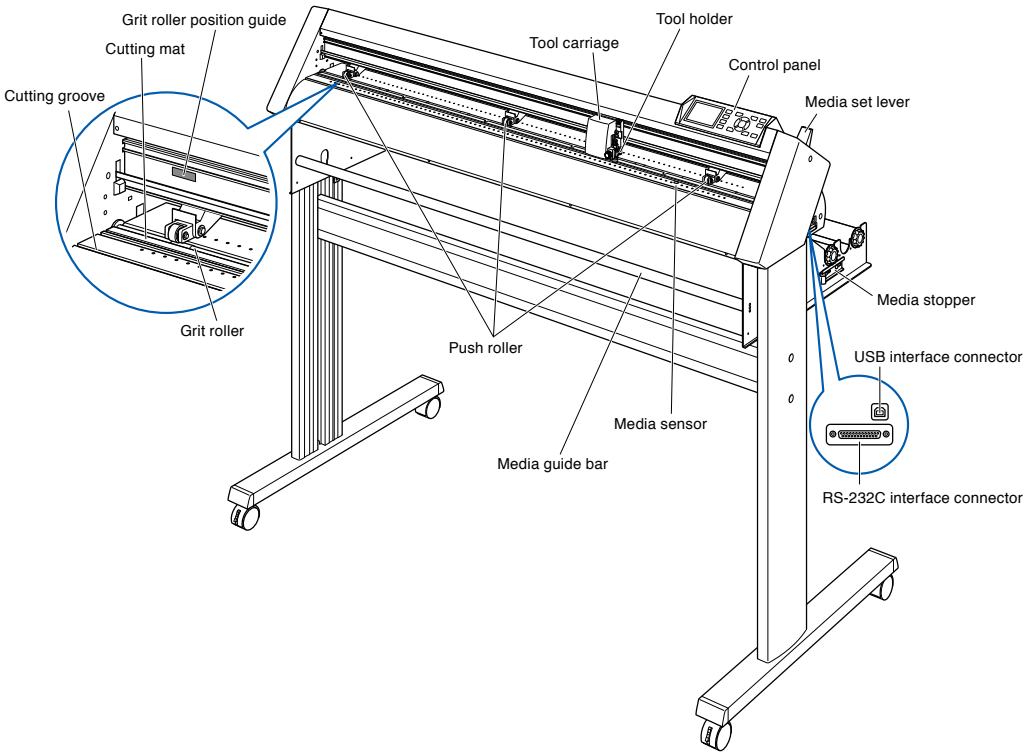
Media stocker .....A stock to set roll media in.

Stock shaft.....A roller that takes in roll media.

Stopper.....Keeps set roll media in place.

Stand .....A stand to put the machine on.

Front View : CE6000-120



Control panel.....Used to access various plotter functions.

Push rollers .....Rollers that push the media against the grit rollers. (Number may vary depending on the model)

Grit rollers.....Metallic rollers with a file-like surface that feed the media back and forth.

Media sensors .....The front sensor is used to sense the leading edge of the media. The rear sensor is used to sense the trailing edge of the media.

Tool carriage.....Moves the cutter-pen or plotting pen across the media during cutting or plotting.

Tool holder.....Holds the cutter-pen or plotting pen and moves it up or down.

Grit roller position guide.....Stickers on the front of the Y rail and the rear side of the top cover that show the position of each grit roller. Use these alignment marks as an aid in locating the Push rollers.

Cutting mat .....Cutter blade moved on this mat, preventing wears of the blade.

Cutting groove.....Use this groove when using the media cutter.

Media set lever .....Used to raise or lower the Push rollers during the loading or unloading of media.

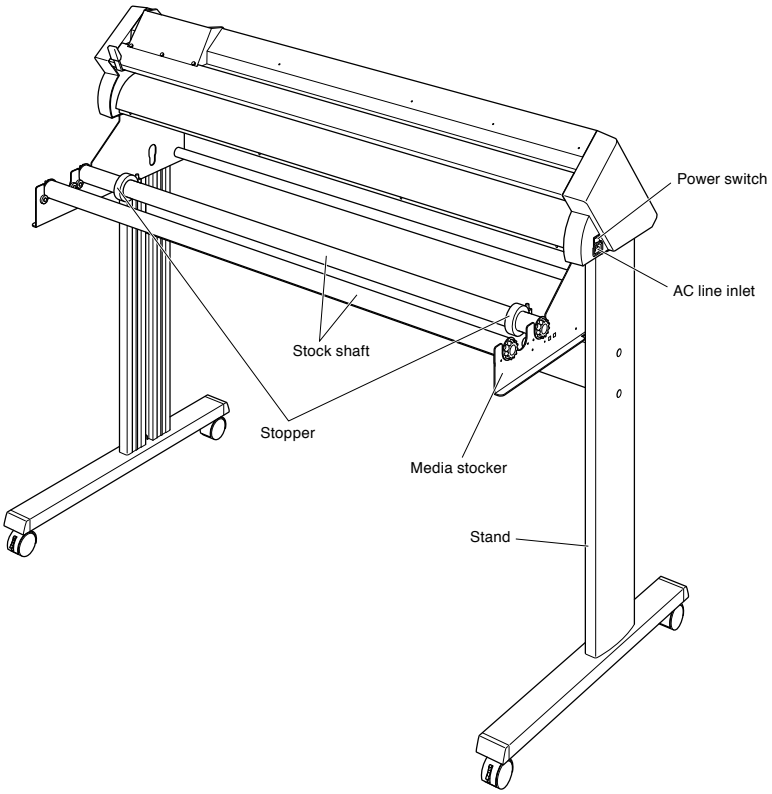
USB interface connector.....Used to connect the plotter to the computer with a USB interface cable.

RS-232C interface connector .....Used to connect the plotter to the computer with a RS-232C interface cable.

Media stopper.....This stops the stock shaft from spinning when setting in media. It is also utilized when pulling roll media straight out.

Media guide bar.....Used to keep media straight when setting it in.

Front View : CE6000-120



Power switch .....Used to turn the plotter on and off.

AC line inlet.....Inlet where the power cable is connected.

Media stocker .....A stock to set roll media in.

Stock shaft.....A roller that takes in roll media.

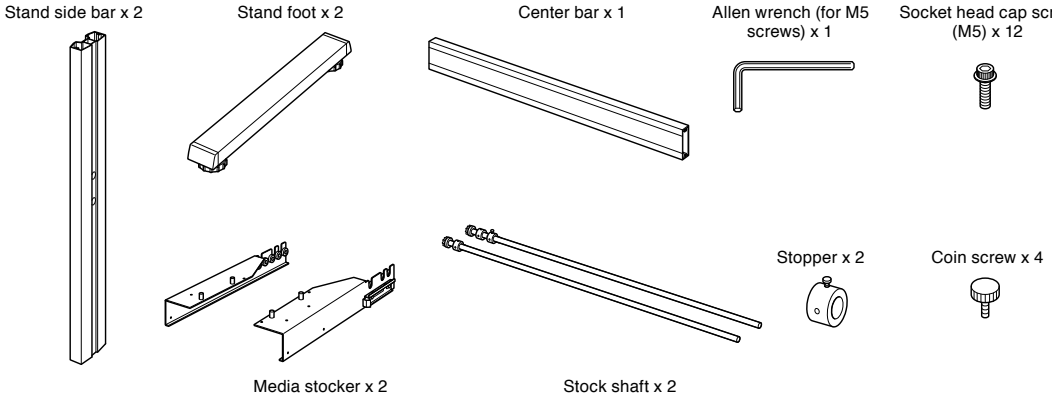
Stopper.....Keeps set roll media in place.

Stand .....A stand to put the machine on.

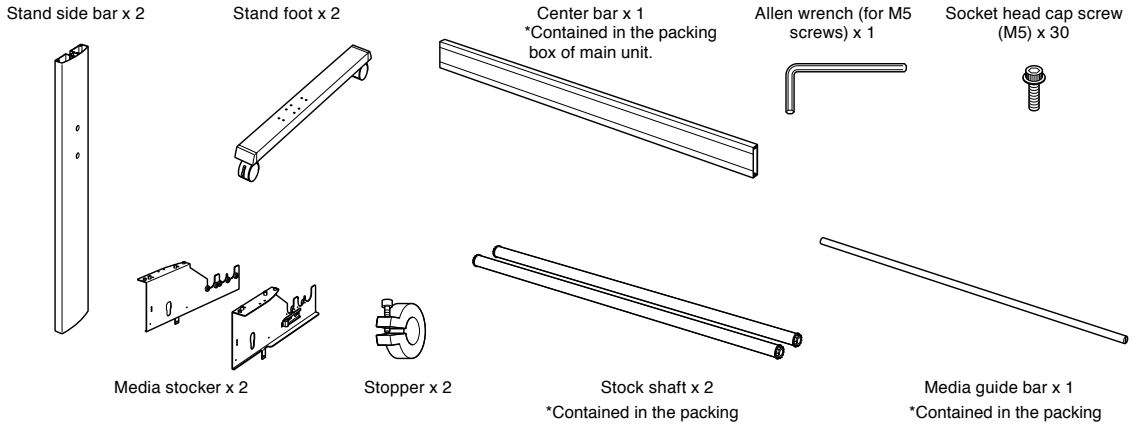
2.2 Assembling the Stand (CE6000-40/60/120/120AMO)

The stand is made up of the following parts.

CE6000-60

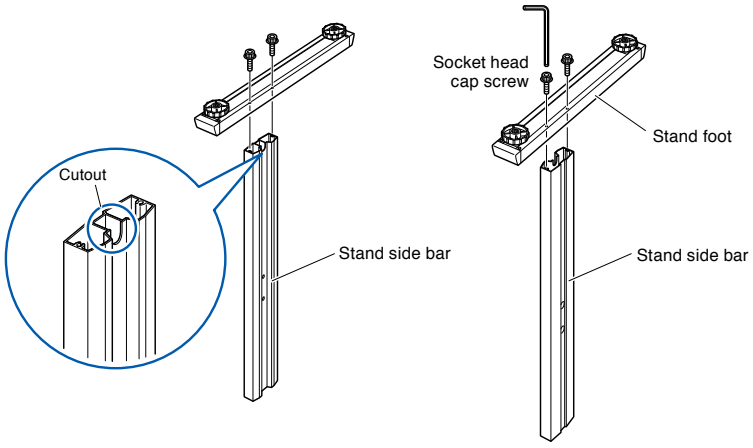


CE6000-120

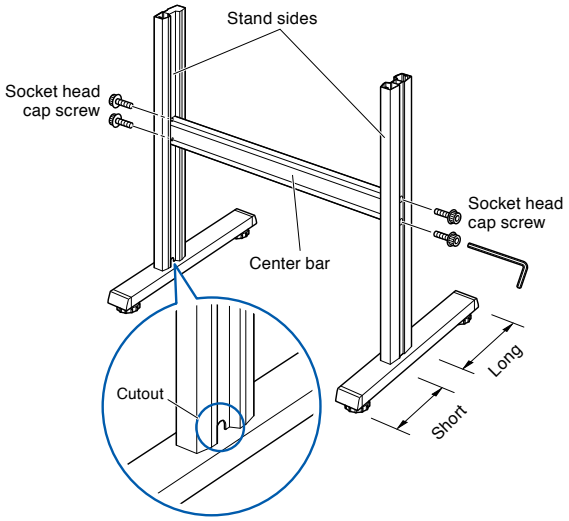


Stand Assembly Instructions : CE6000-60

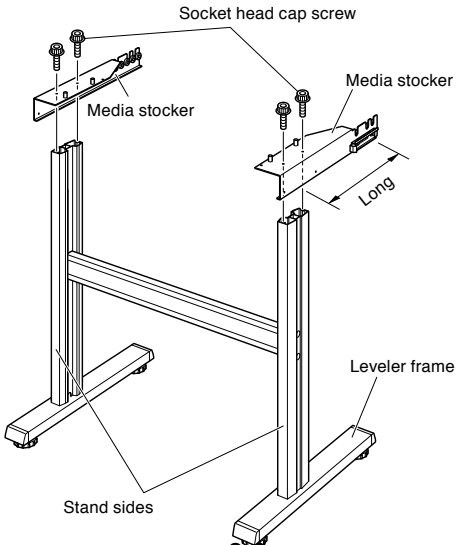
(1) Assemble the left and right stand sides. Fasten a stand foot to each of the stand side bars with two socket head cap screws using the Allen wrench.



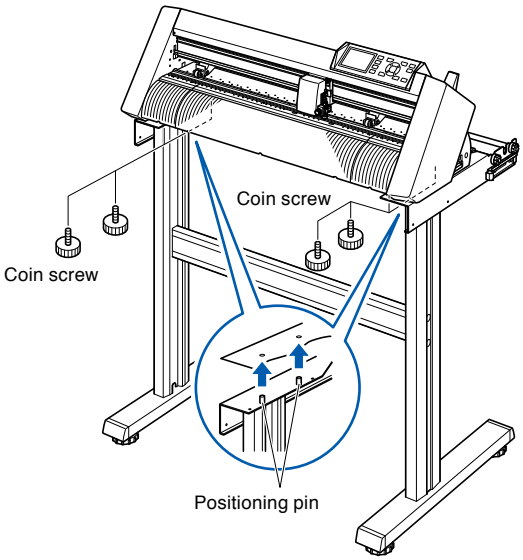
(2) Attach the center bar to each of the left and right stand sides temporarily with two socket head cap screws, using the Allen wrench. Mount the center bar so that each one of stand feet of short side to be front side.



(3) Attach a media stocker to each of the left and right stand side bars with two socket head cap screws, using the Allen wrench. Mount the media stockers so that each one of media stockers of long side to be rear side.

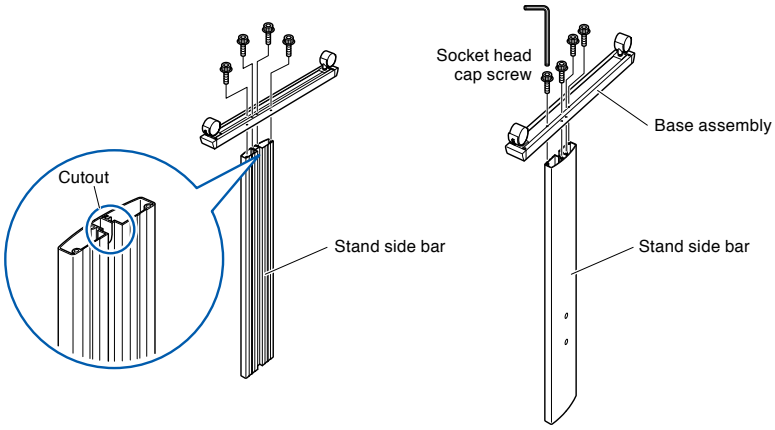


(4) Place the CE6000 onto the stand so that the positioning pins match up with the holes on the CE6000, and then fasten with the four coin screws.

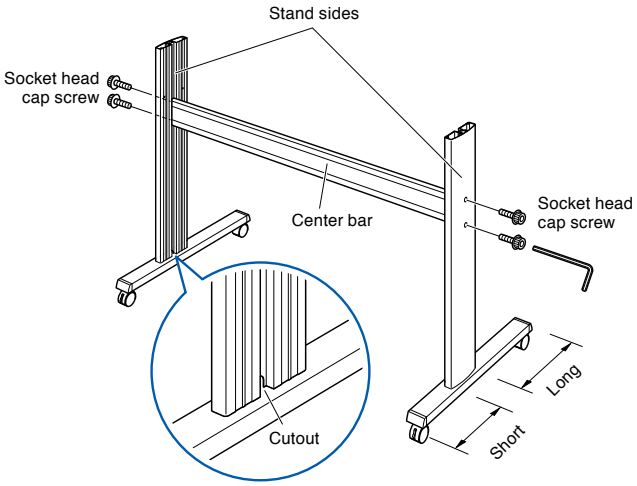


Stand Assembly Instructions : CE6000-120

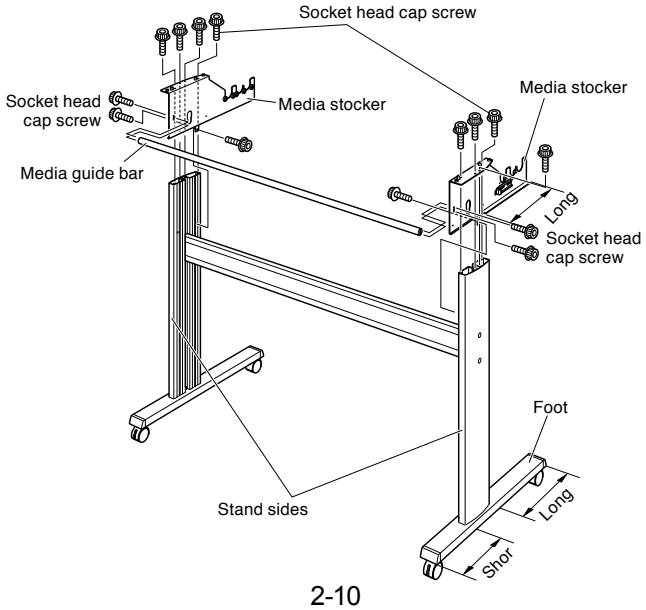
(1) Assemble the left and right stand sides. Fasten a stand foot to each of the stand side bars with two socket head cap screws using the Allen wrench.



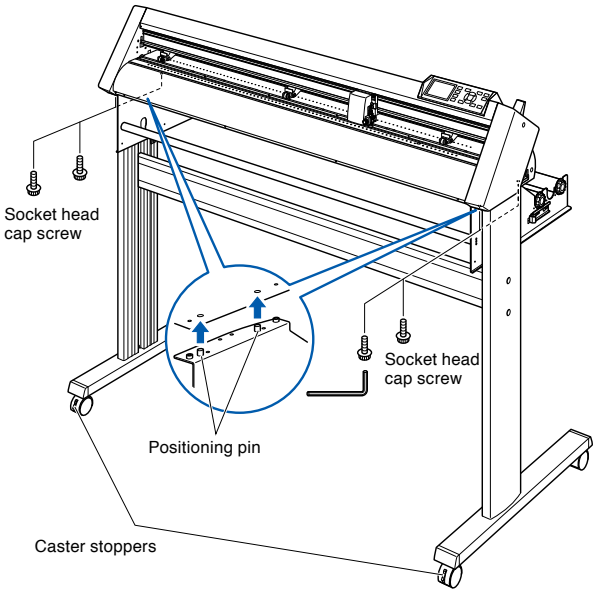
(2) Loosely fasten the center bar to the left and right stand sides with four socket head cap screws (two on each side), using the Allen wrench. Mount the center bar so that each one of stand feet of short side to be front side.



(3) Attach a media stocker to each of the left and right stand sides with Five socket head cap screws, using the Allen wrench. Mount the media stockers so that each one of media stockers of long side to be rear side. Install the media guide bar using the socket head cap screws (two on each side).



(4) Mount the plotter on the stand by inserting the positioning pins on the stand into the positioning holes on the underside of the plotter. Fasten with four socket head cap screws (two on each side), using the Allen wrench.

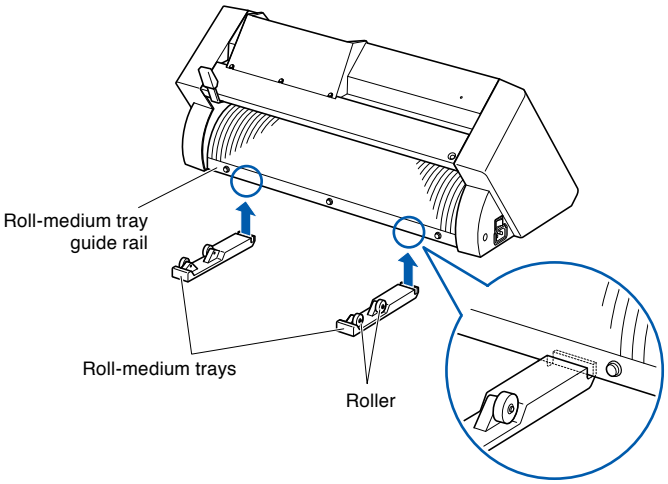


(5) Tighten the socket head cap screws loosely fastened in Step 2.

Mounting the Roll-medium tray (CE6000-40 and CE6000-60 without stand)

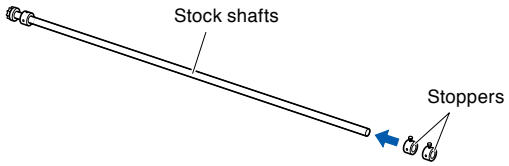
Set the roll media tray in using the roll media tray guide rail.

Make sure the rollers on the roll media tray are on the outside on both sides.

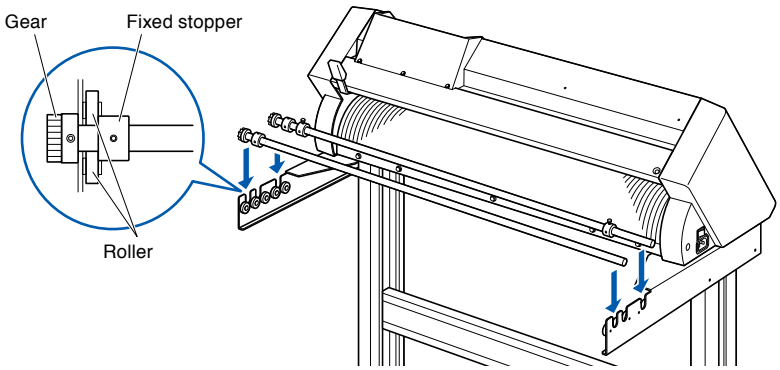


Mounting the Stock shafts (CE6000-60 with stand)

(1) Set one stopper in the stock shaft. (Keep the stopper screws slightly loose.)

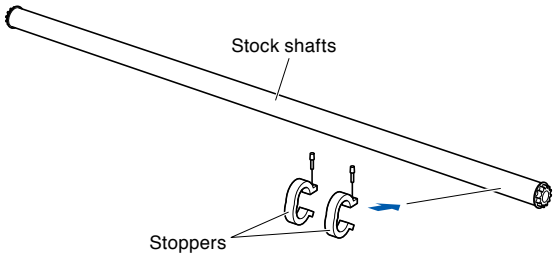


(2) Put the side with the gear of stock shafts on the left side of the CE6000 (looking from the back) and then put the right side of stock shaft onto the media stocker.

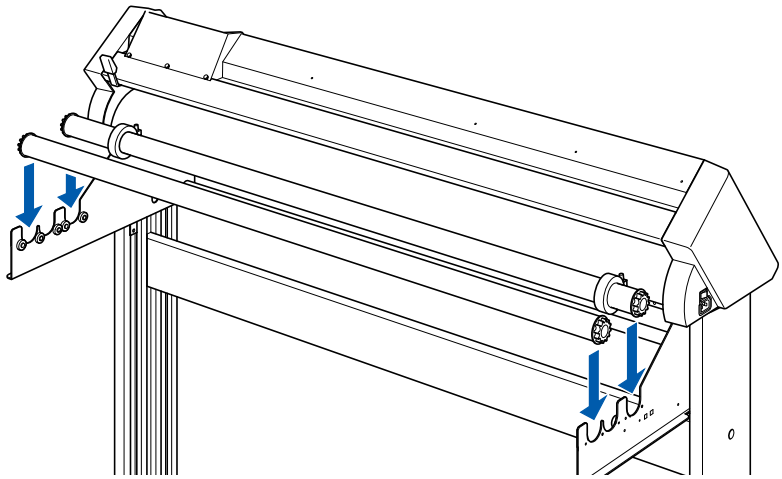


Mounting the Stock shafts (CE6000-120)

(1) Set one stopper in the stock shaft. (Keep the stopper screws slightly loose.)

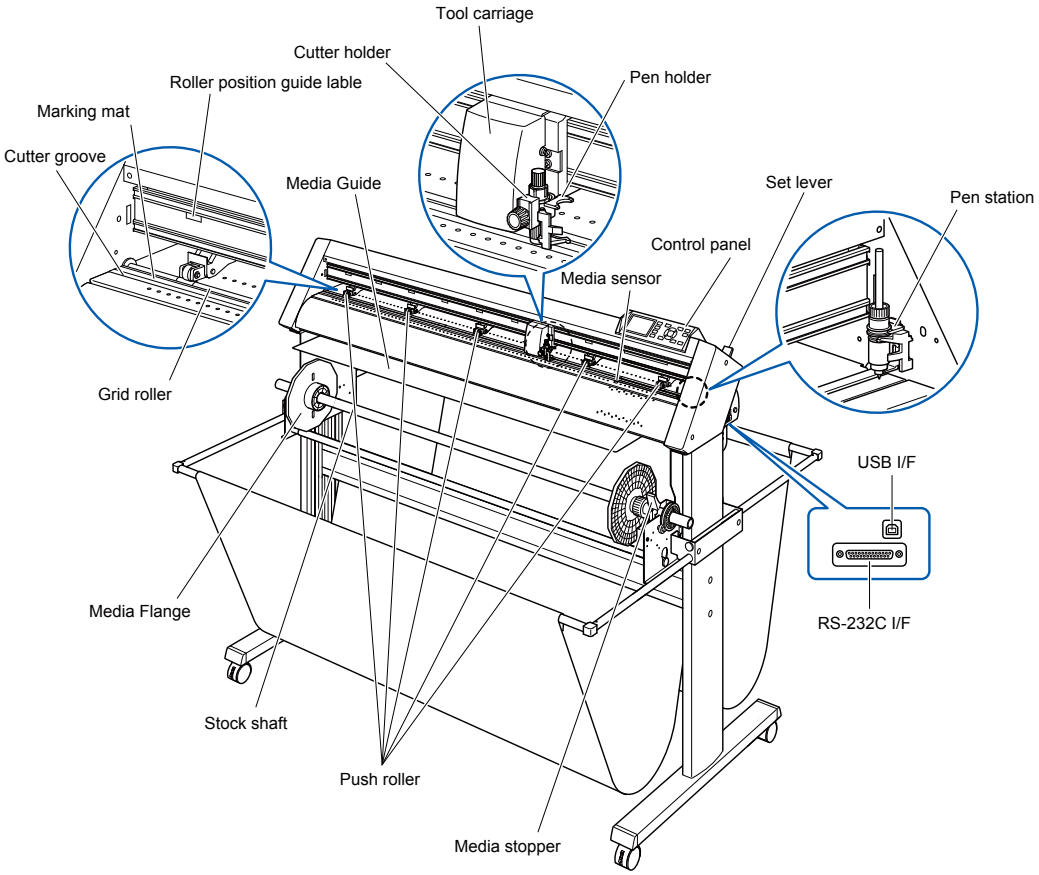


(2) Put the stock shaft into the media stocker as shown in the picture below.



2.3 Parts Names and Functions (CE6000-120AP)

Front View : CE6000-120AP



Control panel.....Used to access various plotter functions.

Push rollers .....Rollers that push the media against the grit rollers. (Number may vary depending on the model)

Grit rollers.....Metallic rollers with a file-like surface that feed the media back and forth.

Media sensors .....The front sensor is used to sense the leading edge of the media. The rear sensor is used to sense the trailing edge of the media.

Tool carriage.....Moves the cutter-pen or plotting pen across the media during cutting or plotting.

Tool holder.....Holds the cutter-pen or plotting pen and moves it up or down.

Cutter holder .....Holds the cutter-pen and moves it up or down.

Pen holder.....Holds the plotting pen and moves it up or down.

Pen Station .....Set the plotting pen.

Grit roller position guide.....Stickers on the front of the Y rail and the rear side of the top cover that show the position of each grit roller. Use these alignment marks as an aid in locating the Push rollers.

Marking mat.....Plotting pen moved on this mat.

Cutting groove.....Cutter pen moved on this groove, preventing wears of the blade.

Media set lever .....Used to raise or lower the Push rollers during the loading or unloading of media.

USB interface connector.....Used to connect the plotter to the computer with a USB interface cable.

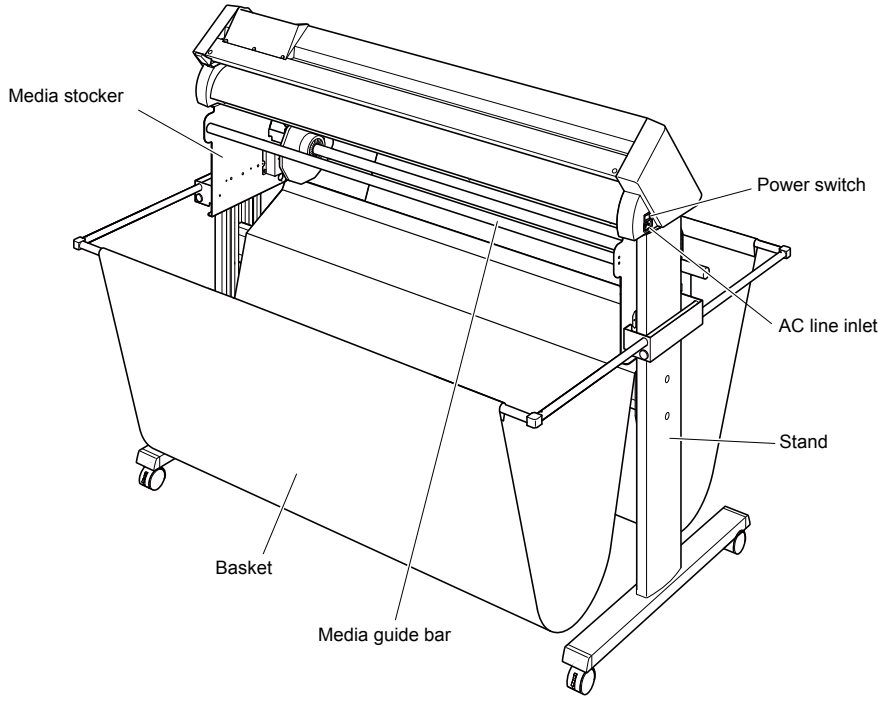
RS-232C interface connector .....Used to connect the plotter to the computer with a RS-232C interface cable.

Media stopper.....This stops the stock shaft from spinning when setting in media. It is also utilized when pulling roll media straight out.

Stock shaft.....Hold the media by this shaft.

Media guide .....This guide assist the media movement.

Front View : CE6000-120AP



Power switch .....Used to turn the plotter on and off.

AC line inlet.....Inlet where the power cable is connected.

Media stocker .....A stock to set roll media in.

Stock shaft.....A roller that takes in roll media.

Stopper.....Keeps set roll media in place.

Stand .....A stand to put the machine on.

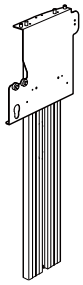
Media guide bar.....Used to keep media straight when setting it in.

2.4 Assembling the Stand (CE6000-120AP)

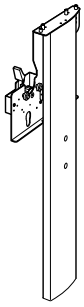
The stand is made up of the following parts.

Components of stand

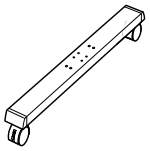
Stand side bar L × 1
(with media stocker)



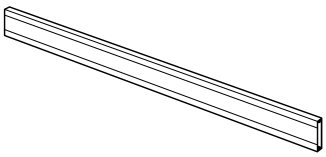
Stand side bar R × 1
(with media stocker)



Base assembly × 2

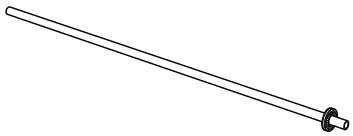


Center bar × 1

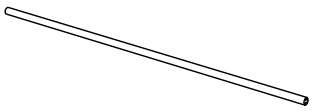


Socket head cap screw
(M5) × 22

Media flange × 2

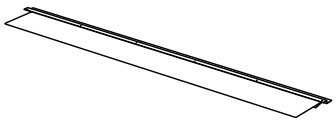


Stock shaft × 1



Media guide bar × 1

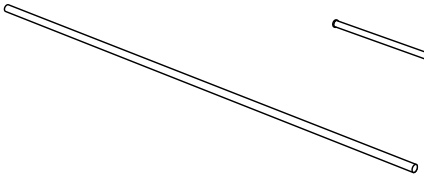
Allen wrench
(for M5 cap screw) × 1



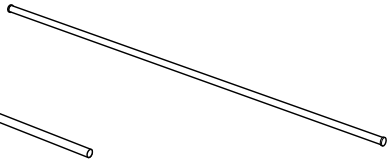
Media guide × 1

Components of basket

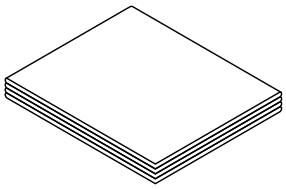
Sheet supporting pipe (long) × 2

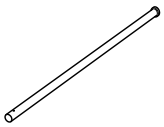


Sheet supporting pipe (middle) x 1



Basket × 1





Sheet supporting pipe (short) × 4

Joint × 4

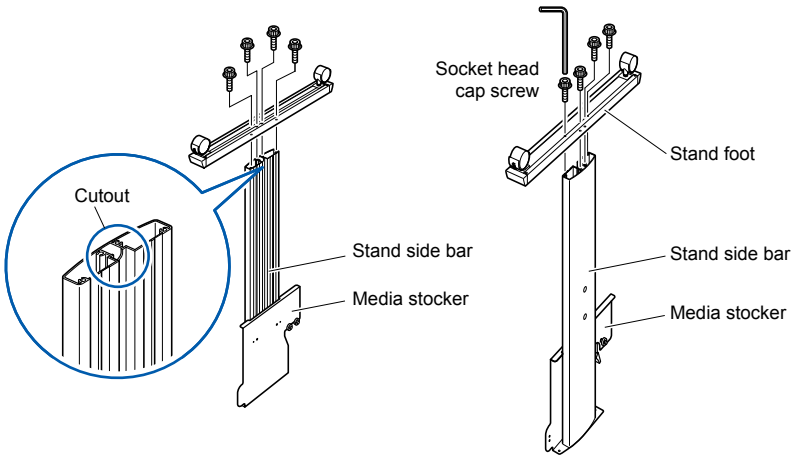
Supporting pipe plate × 2

M5 screw × 4

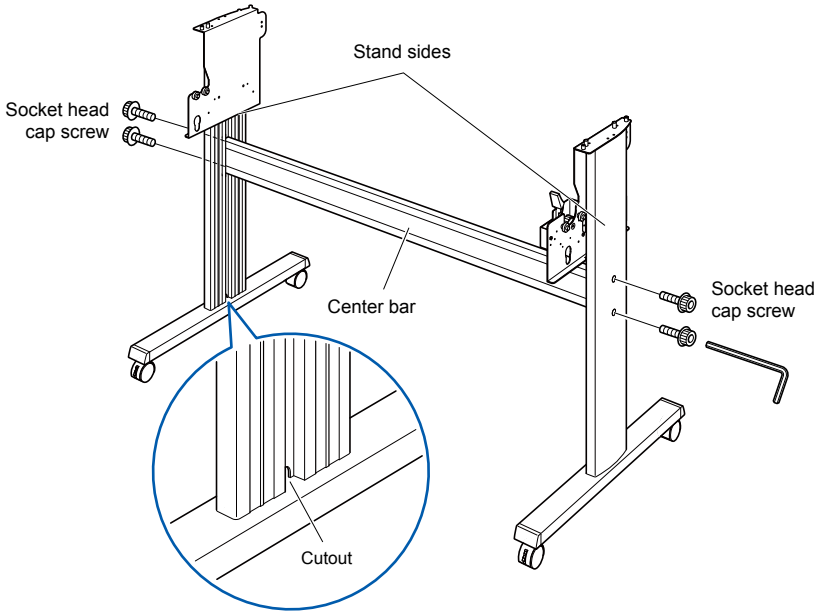
Stand Assembly Instructions : CE6000-120AP

- Please assemble with two or more people.
- People can be accidentally injured by the machine's edges. Please be very careful.
- Please be careful not to get your hands pinched or stuck when you secure the machine.

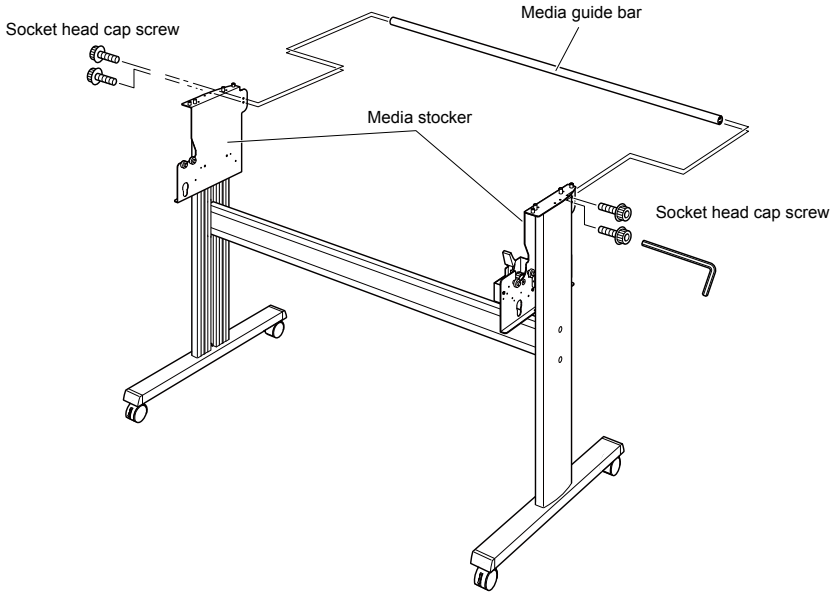
(1) Assemble the left and right stand sides. Fasten a stand foot to each of the stand side bars with two socket head cap screws using the Allen wrench.



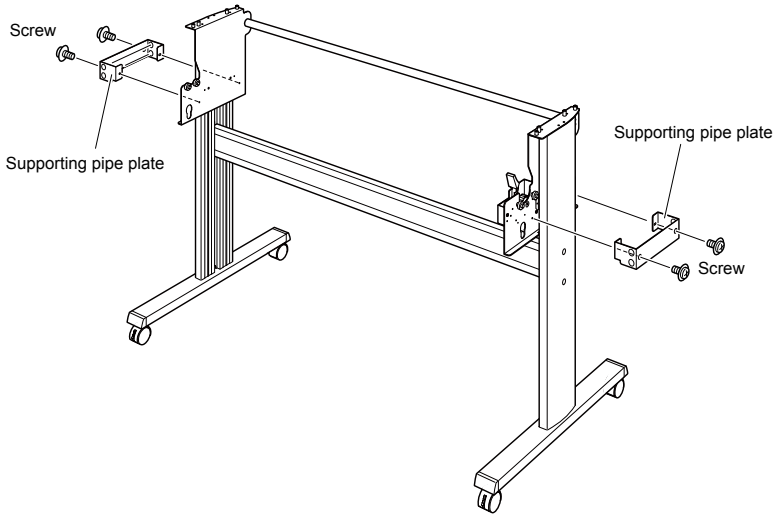
(2) Loosely fasten the center bar to the left and right stand sides with four socket head cap screws (two on each side), using the Allen wrench. Mount the center bar so that each one of stand feet of short side to be front side.



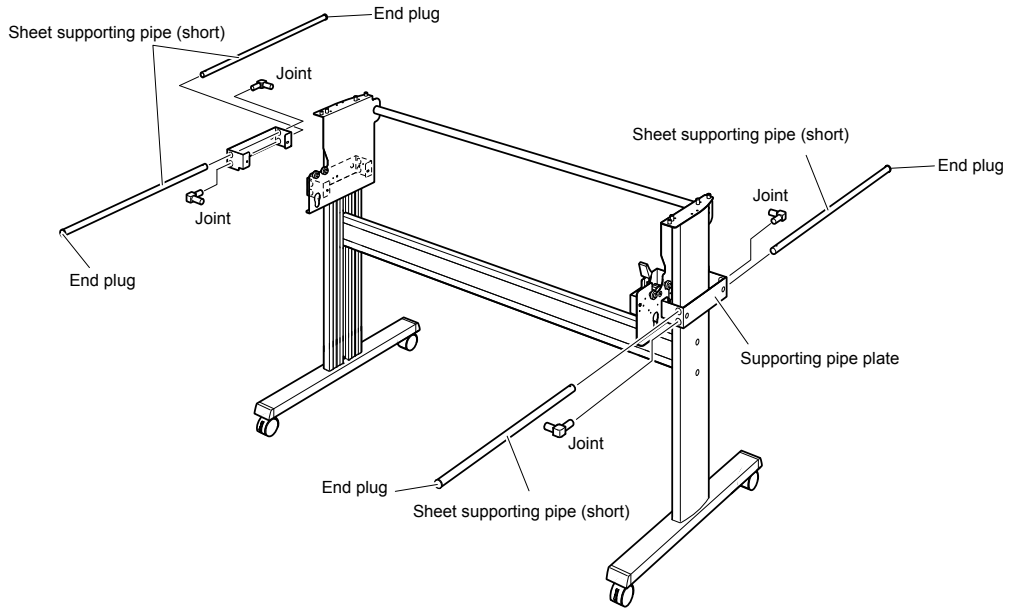
(3) Attach the media guide bar to each of the left and right stand sides with four socket head cap screws, using the Allen wrench.



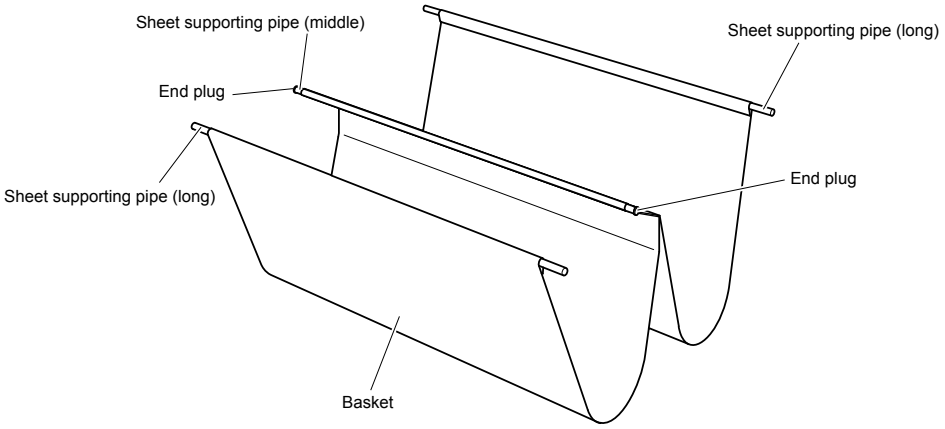
(4) Fasten supporting pipe plate to the left and the right of the stand side bar with four screws (two on each side), using the Allen wrench.



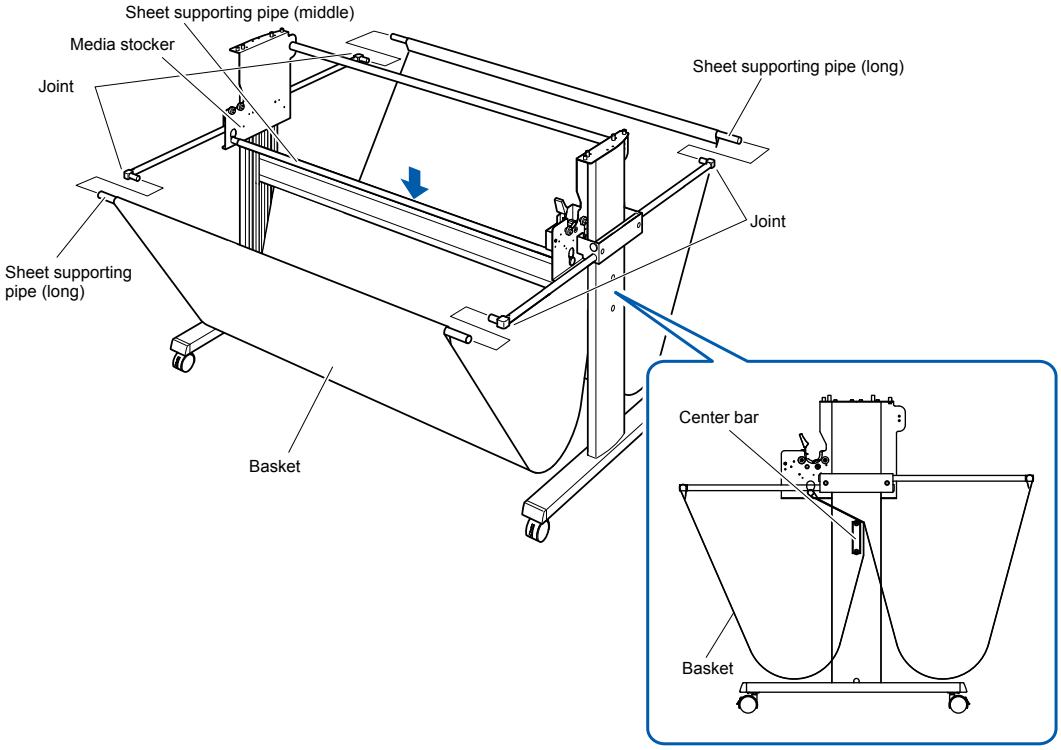
(5) Insert the 4 short sheet supporting pipes into the supporting pipe plate from the end without an end plug. In the front side of the main assembly insert the pipe into the upper side, and insert it into lower side in the rear side. The short sheet supporting pipe ends should now extend out from the front end of the main assembly.



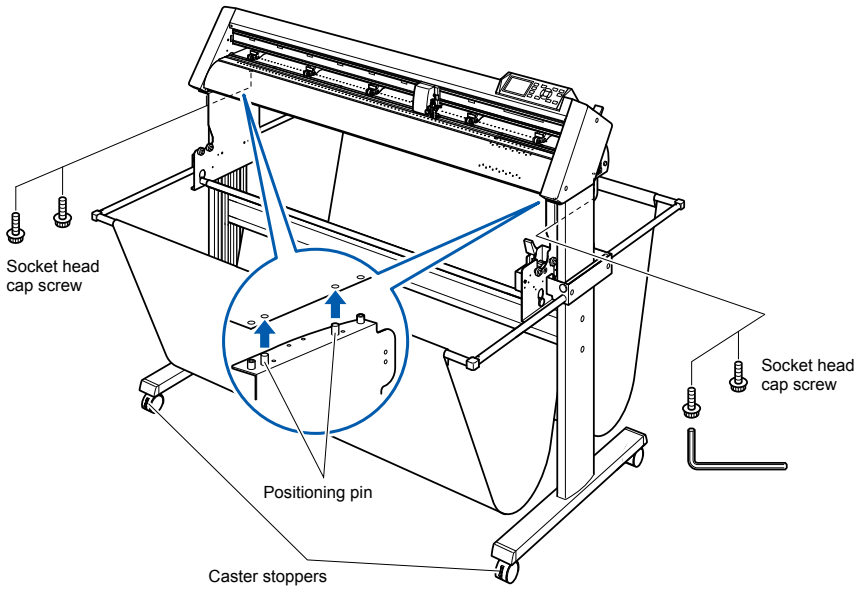
(6) Insert one middle length sheet supporting pipe and 2 long sheet supporting pipes in to the basket. Please insert 1 middle length sheet supporting pipe into the middle of the basket.



(7) Using the middle sheet supporting pipe, attach the basket assembly from step 6 to the media stocker, then attach the joints from the assembly from step 5 to the long sheet supporting pipe from step 6. The middle of the basket should pass over the back end of the center bar.



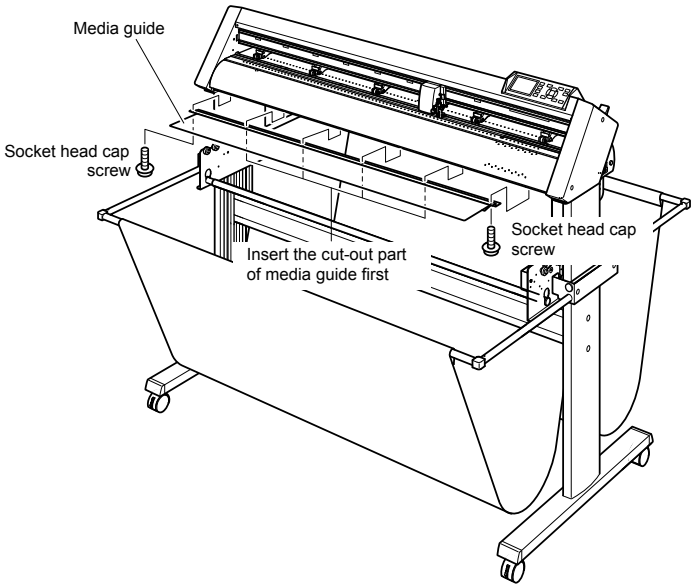
(8) Mount the plotter on the stand by inserting the positioning pins on the stand into the positioning holes on the underside of the plotter. Fasten with four socket head cap screws (two on each side), using the Allen wrench.



(9) Tighten the socket head cap screws loosely fastened in Step 2.

Attaching a media guide : CE6000-120AP

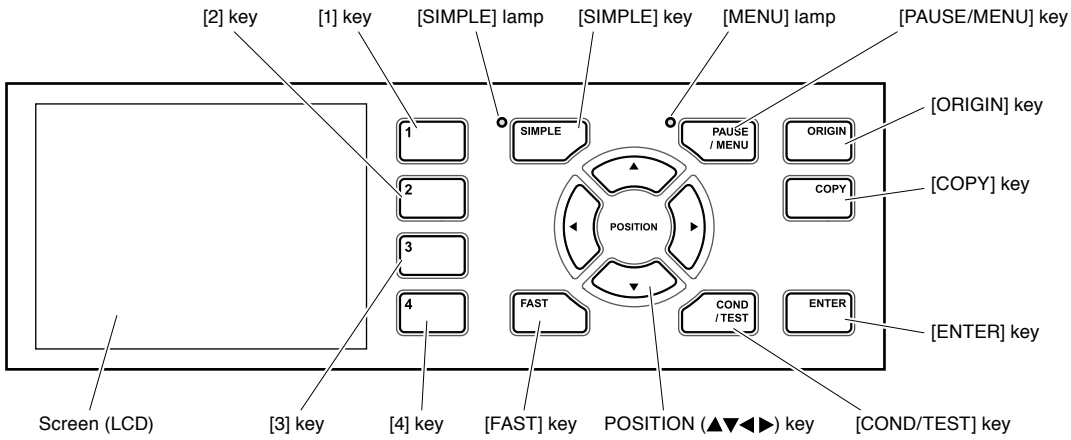
(1) Insert the cut-out part of the media guide onto the components of the positioning pins at the bottom end of the main assembly. Attach both sides of the media guide using the 2 socket head cap screw.



3 OPERATIONS

This section explains the function of lamps and keys on the control panel.

3.1 Control Panel



Control Keys

POSITION key.....There are following functions depending on the operation.
Move the tool carriage and media. It will move when it is pressed once, and continuously move when it is pressed down. It will select the menu when are displayed in the menu on the screen.

FAST .....The tool carriage or the media will move faster when it is pressed simultaneously with POSITION key. It will work as a menu key when it is displaying “FAST” on the screen. Press the [FAST] key during READY status to display the current area and tool carriage position.

ORIGIN.....It will set the current position as an origin point.
On the default screen, pressing the [ENTER] and [ORIGIN] keys at the same time will allow you to reset the machine. (Only in Normal mode)

COPY .....Copy of data in the buffer memory is output.

Menu Keys

SIMPLE .....You can switch between Simple mode and Normal mode on the default screen.
Switching modes will reset the machine.

PAUSE/MENU.....It will switch to the MENU mode. MENU lamp is lit in the MENU mode.
It will go into MENU mode if it is pressed once, and MENU mode will be turned off when it is pressed again.
Different function are set in the MENU mode.
Data received while in the MENU mode will be stored in the data buffer.

COND/TEST .....It will display the screen to set the tool conditions.
Use this when checking tool conditions to activate a cutting test.

1, 2, 3, 4.....Select the menu number displayed in the screen.

ENTER .....It will define the settings.

Indicator Lamp

SIMPLE Lamp .....A green light indicates Simple mode is on.

MENU Lamp.....A green light indicates MENU mode is on.

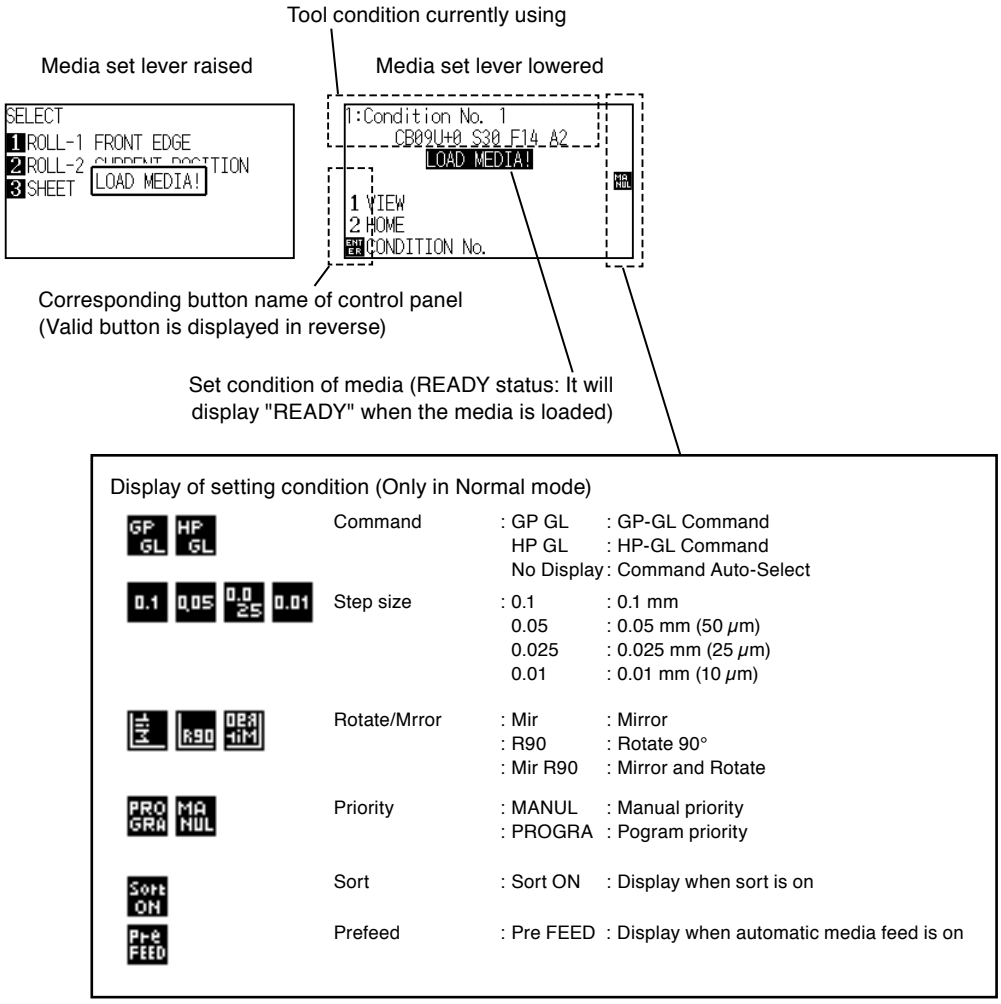
Reading the Screen (LCD)

Information reflecting the status will be displayed in the screen of the control panel.

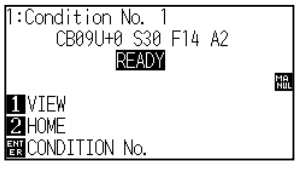
Name of the button and corresponding function is displayed on the screen when a function is allocated to the button on the control panel. Button name will be displayed in reverse when the button is enabled.

Following items are displayed in the default screen.

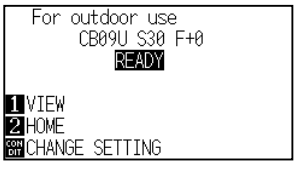
This instruction manual will use Normal mode screens to demonstrate everything.



Default Screen (Ready Screen)

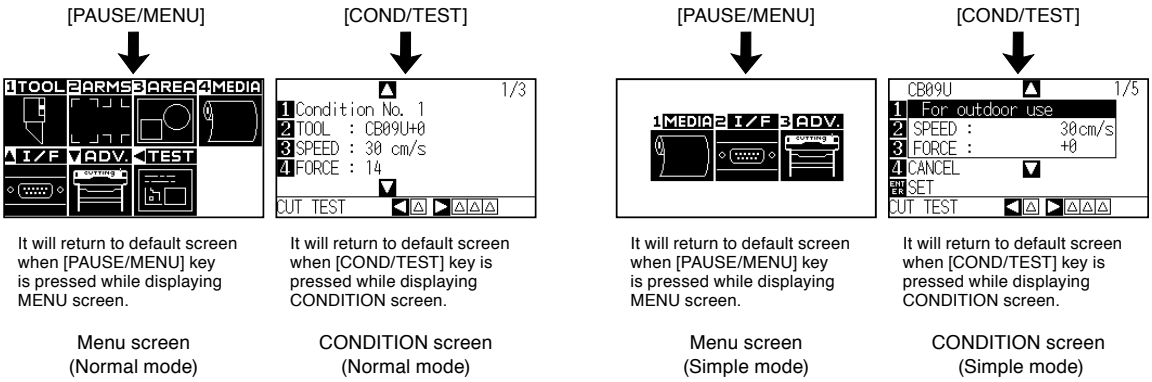


Display of Default Screen (Normal mode)



Display of Default Screen (Simple mode)

Screen to set the corresponding conditions is displayed when the [PAUSE/MENU] key or [COND/TEST] key are pressed.



It will return to default screen when [PAUSE/MENU] key is pressed while displaying MENU screen.

Menu screen (Normal mode)

It will return to default screen when [COND/TEST] key is pressed while displaying CONDITION screen.

CONDITION screen (Normal mode)

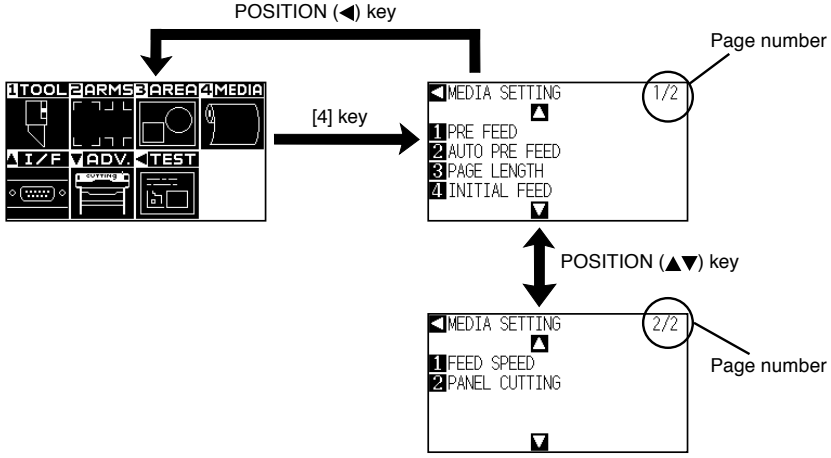
It will return to default screen when [PAUSE/MENU] key is pressed while displaying MENU screen.

Menu screen (Simple mode)

It will return to default screen when [COND/TEST] key is pressed while displaying CONDITION screen.

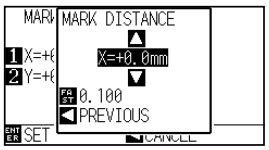
CONDITION screen (Simple mode)

Page number is displayed in the upper right corner of the screen if there are too many settings or selection that will need multiple pages to display.
Press the POSITION key to move to different page.

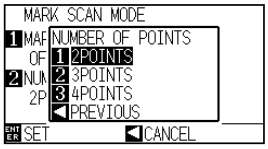


Example of moving page and operation button (Normal mode)

Icon of the corresponding operation button is displayed in the screen to change the setting values.



Increase or decrease the setting value using POSITION (▲▼) key. Select the change unit by [FAST] key.



Select the setting by number keys (1, 2, 3, 4) or POSITION (▲▼◀▶) keys.

Example of screen to change the settings value

Contents of Operation from Menu Screen

You can use the [SIMPLE] key on the default screen to switch between Simple mode and Normal mode. Switching will reset the machine.

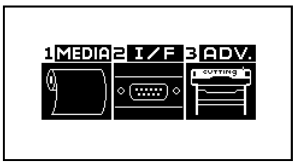
In Simple mode you can change easy settings from the menu screen.

In Normal mode, you will be able to change more detailed settings.

Simple mode and Normal mode are independent from one another. The settings of the mode you're currently in will take precedence.

Simple mode

In Simple mode, [1], [2], [3] keys can be used.



Menu screen
(Simple mode)

Contents of the operation and settings that is displayed in MENU screen with [PAUSE/MENU] key is as following:

[1] (MEDIA).....Set the setting of the condition for the media.

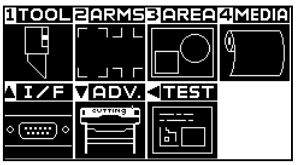
[2] (I/F).....Set the settings of the condition for the interfacing with the control computer.

[3] (ADV).....Set the settings of the conditions for the basic operation of the plotter, such as display language, unit of the measurements.

[PAUSE/MENU].....It will close the MENU screen and return to default screen.

Normal mode

In Normal mode, [1], [2], [3], [4] and [△], [▽], [◁] keys can be used.



Menu screen
(Normal mode)

Contents of the operation and settings that is displayed in MENU screen with [PAUSE/MENU] key is as following:

[1] (TOOL).....Set the setting for the operation of the tool.

[2] (ARMS).....Set the settings and operation to position the tool and media, such as automatic scanning of the registration marks by the ARMS.

[3] (AREA).....Set the settings for area, magnification, rotation, reverse, etc., of the cutting.

[4] (MEDIA).....Make the setting of the condition for the media.

[Up arrow] (I/F).....Make the settings of the condition for the interfacing with the control computer.

[Down arrow] (ADV).....Make the settings of the conditions for the basic operation of the plotter, such as display language, unit of the measurements.

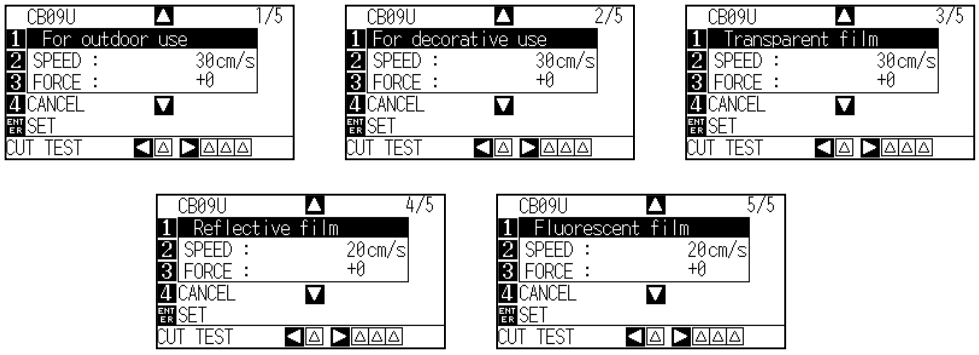
[Left arrow] (TEST).....Does the operation necessary for maintenance, such as self diagnostic test or printout of the condition settings list.

[PAUSE/MENU].....It will close the MENU screen and return to default screen.

[FAST] .....Displays the position key screen. When media is set, the tool point can be moved.

Contents of Operation from [COND/TEST] Key

Simple mode



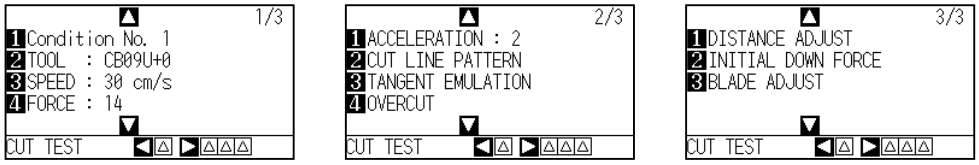
CONDITION screen (1-5): (Simple mode)

The [COND/TEST] key brings up the SETTING screens, where you can change the media type and tool conditions.

The preset cutting condition is used when the media type is selected.

[COND/TEST]: This will clear the CONDITION screen and return to default screen.

Normal mode



CONDITION screen (1-3) : (Normal mode)

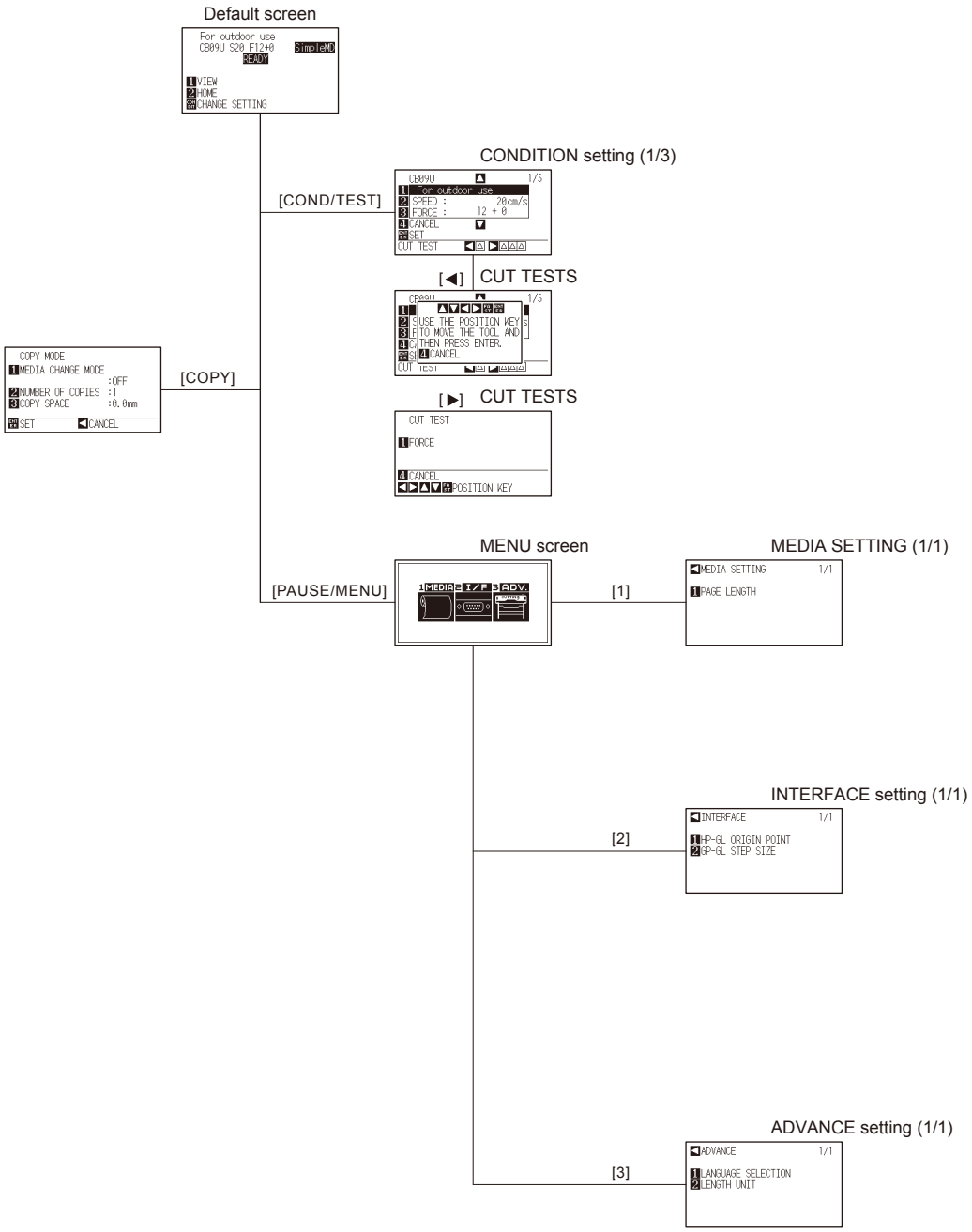
Tool conditions are set in the setting screens displayed by the [COND/TEST] key.

Up to 8 CONDITION settings can be saved with different settings in numbers 1 through 8.

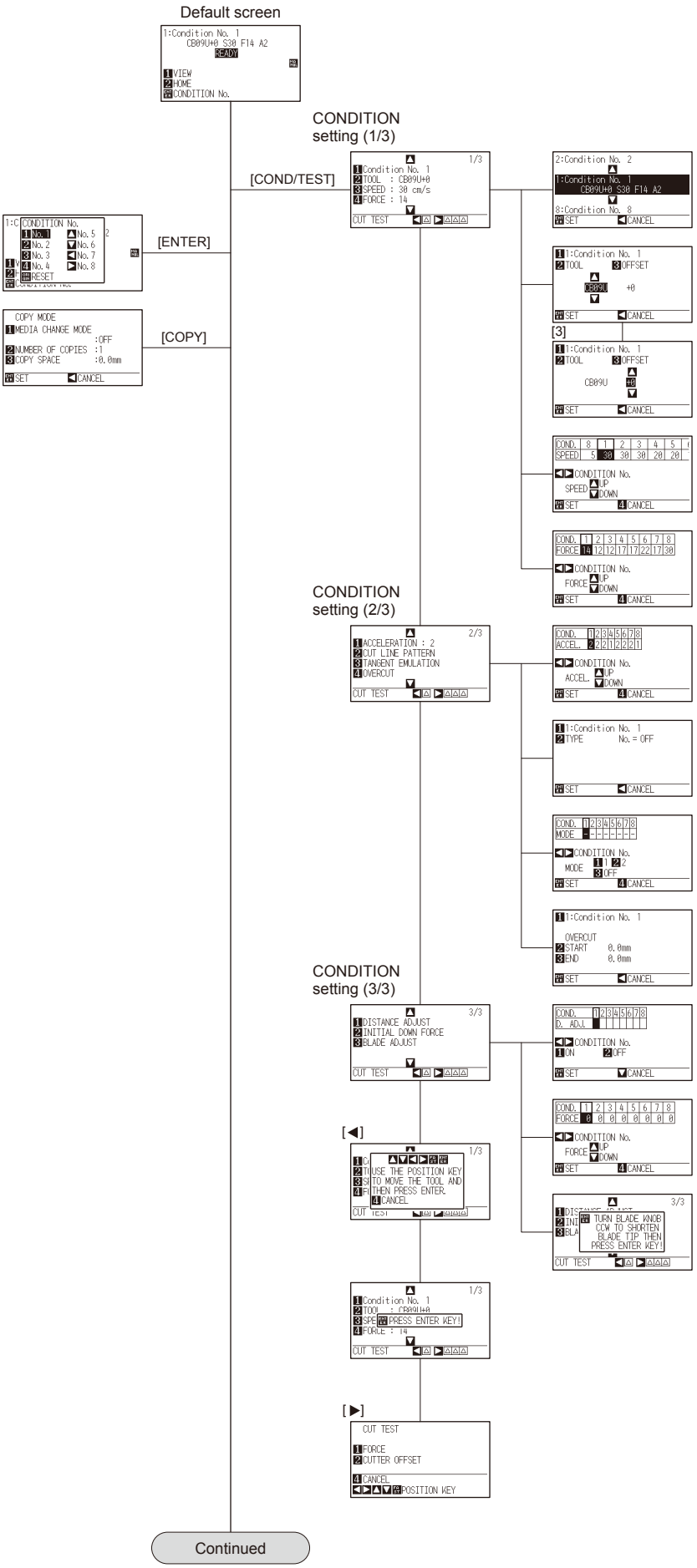
[COND/TEST]: This will clear the CONDITION screen and return to default screen.

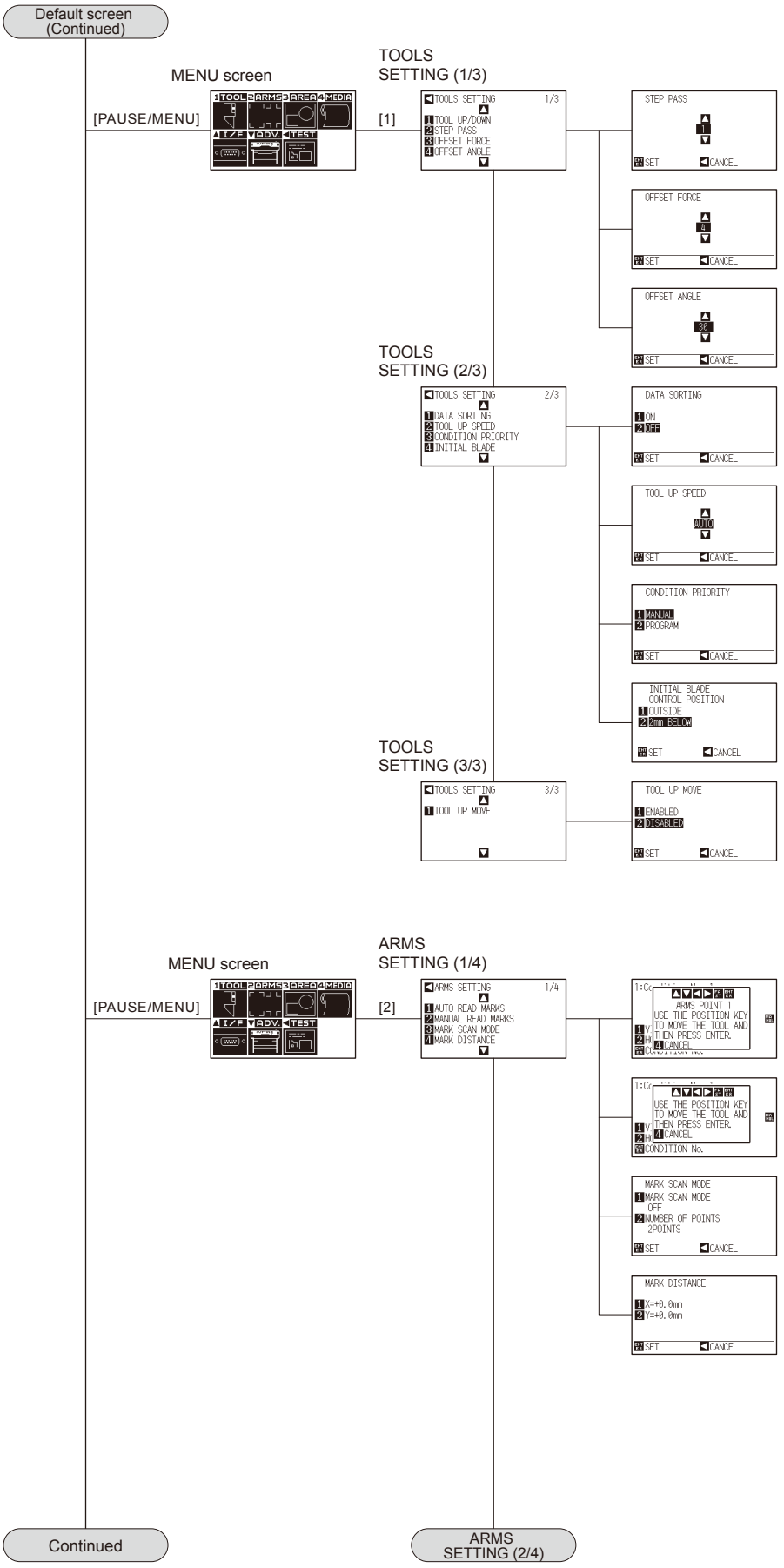
3.2 Menu Tree

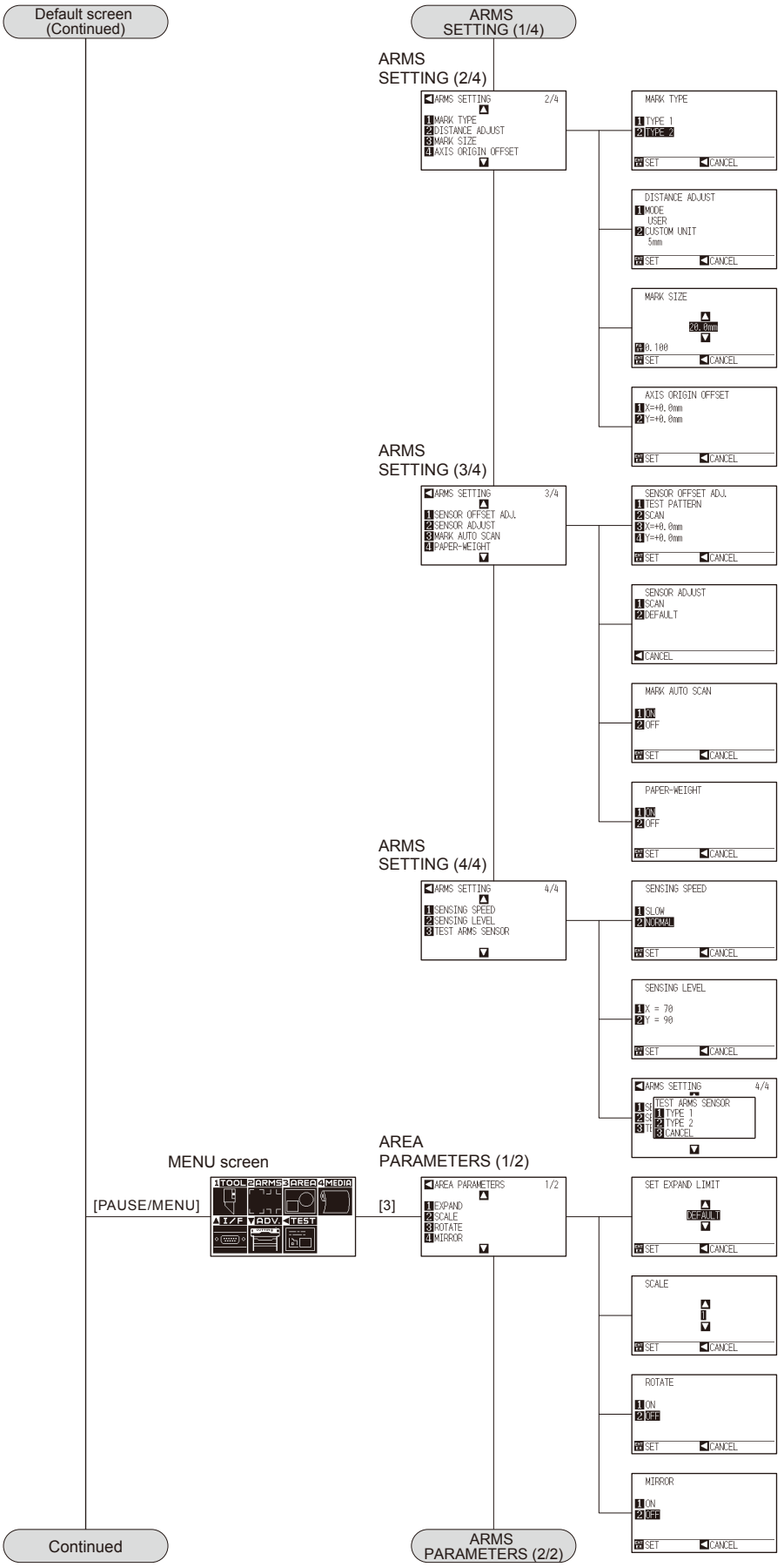
Simple Menu (CE6000-40/60/120/120AMD)

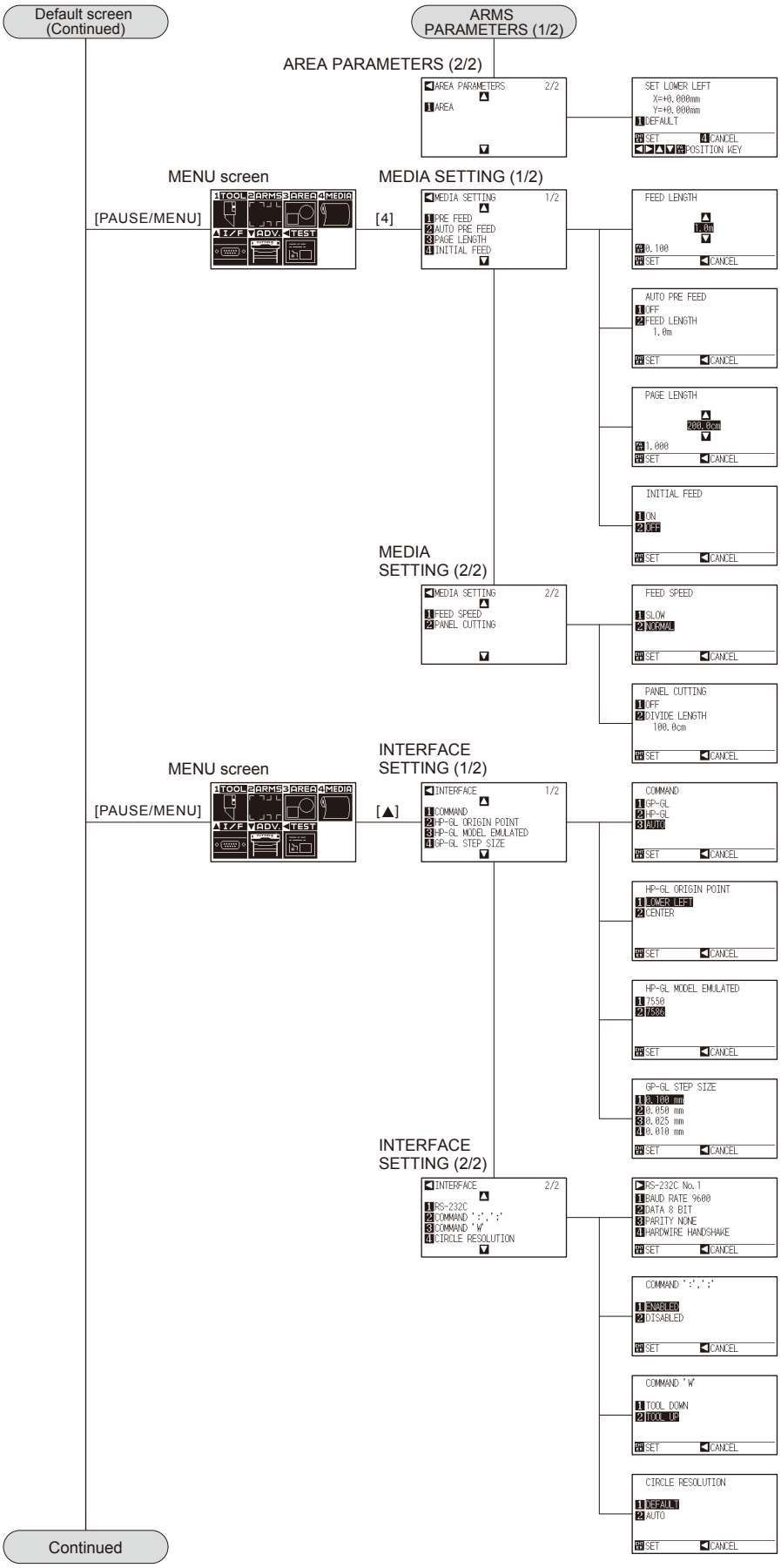


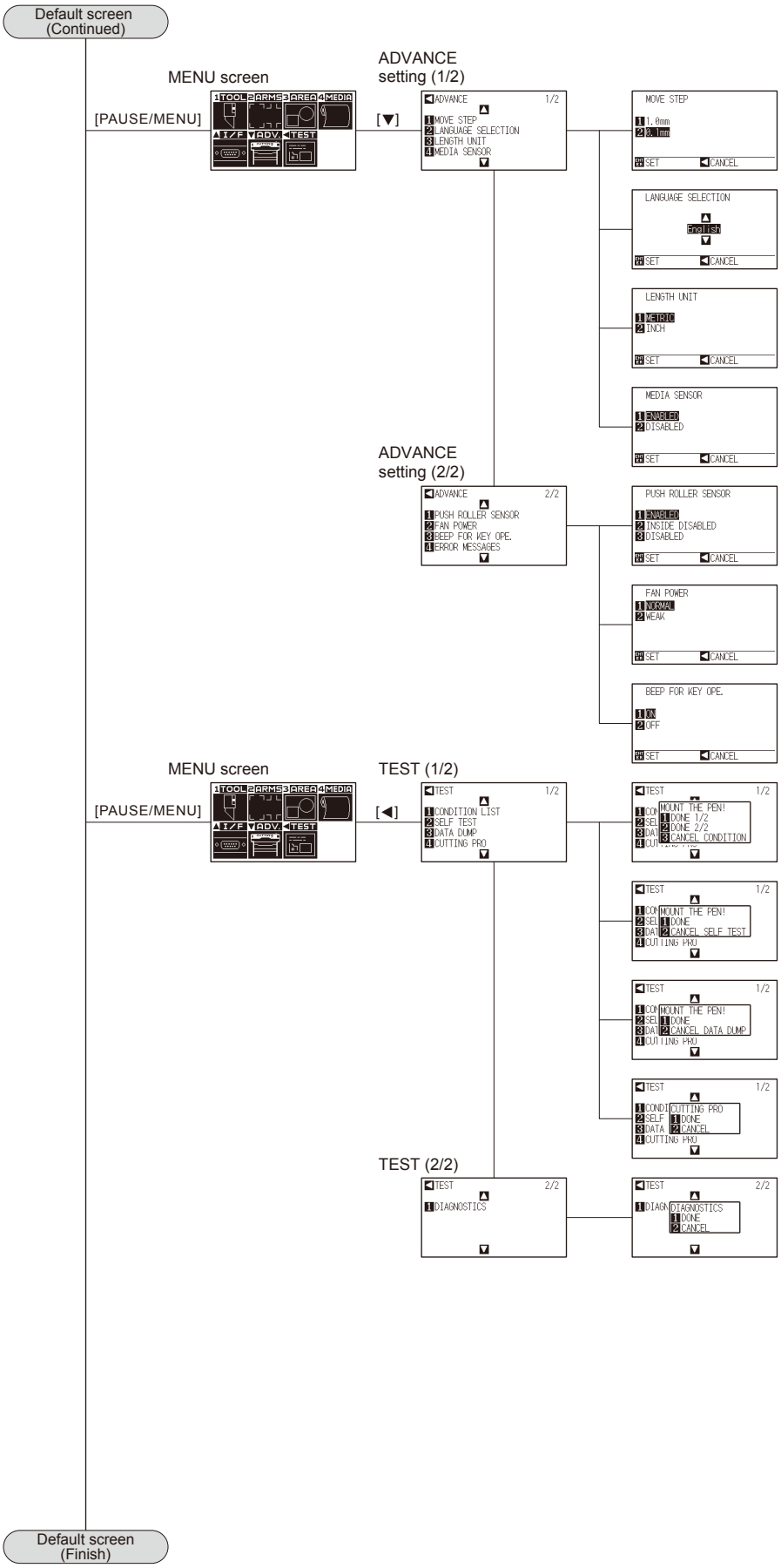
Normal Menu (CE6000-40/60/120/120AMD)



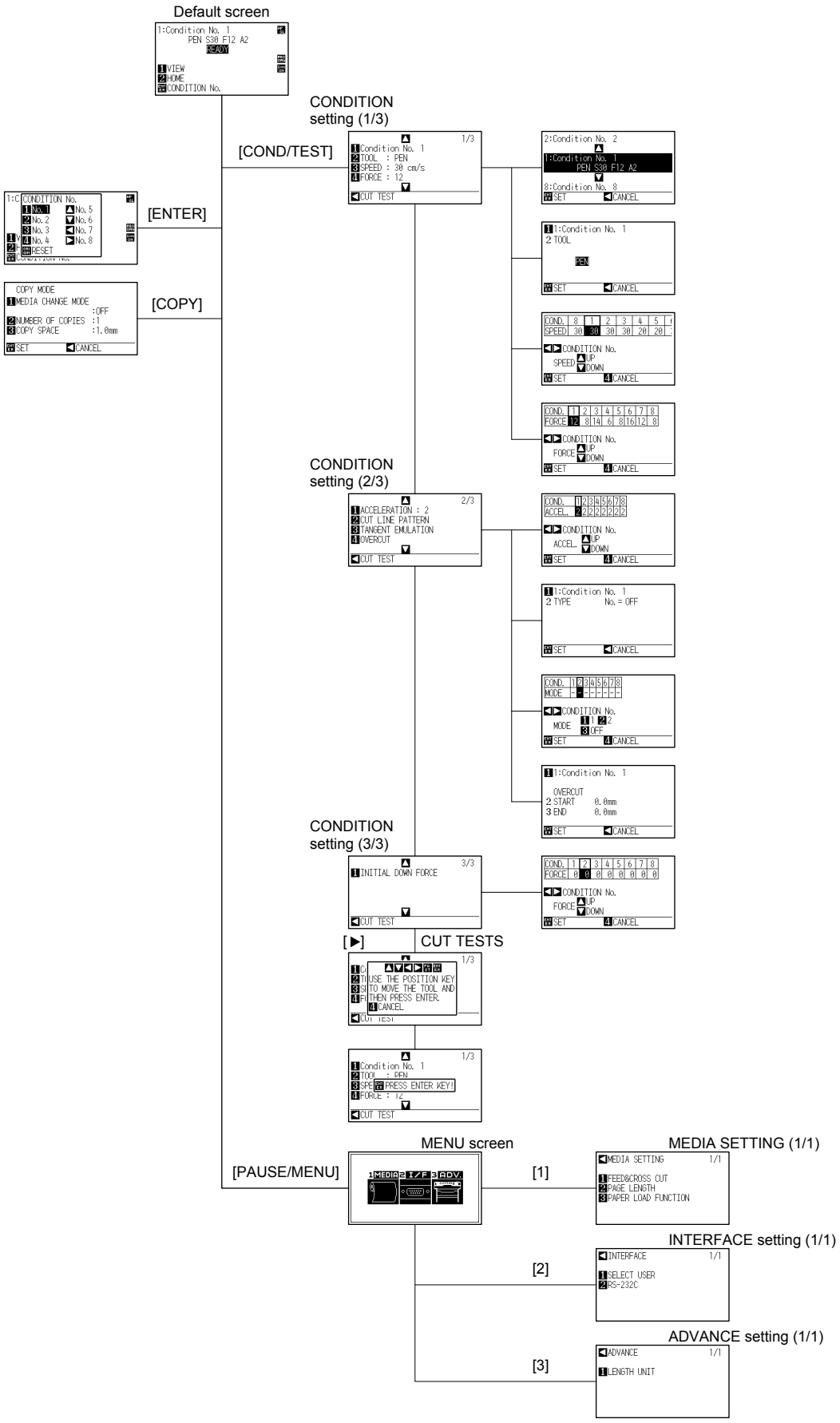

Default screen
(Continued)
MENU screen
[PAUSE/MENU]
TOOLS
SETTING (1/3)
[1]
TOOLS SETTING 1/3
1 TOOL UP/DOWN
2 STEP PASS
3 OFFSET FORCE
4 OFFSET ANGLE
STEP PASS
OFFSET FORCE
OFFSET ANGLE
SET
CANCEL
TOOLS
SETTING (2/3)
TOOLS SETTING 2/3
1 DATA SORTING
2 TOOL UP SPEED
3 CONDITION PRIORITY
4 INITIAL BLADE
DATA SORTING
1 ON
2 OFF
TOOL UP SPEED
AUTO
CONDITION PRIORITY
1 MANUAL
2 PROGRAM
INITIAL BLADE
CONTROL POSITION
1 OUTSIDE
2 2mm BELOW
TOOLS
SETTING (3/3)
TOOLS SETTING 3/3
1 TOOL UP MOVE
TOOL UP MOVE
1 ENABLED
2 DISABLED
MENU screen
[PAUSE/MENU]
ARMS
SETTING (1/4)
[2]
ARMS SETTING 1/4
1 AUTO READ MARKS
2 MANUAL READ MARKS
3 MARK SCAN MODE
4 MARK DISTANCE
ARMS POINT 1
USE THE POSITION KEY
TO MOVE THE TOOL AND
THEN PRESS ENTER.
4 CANCEL
USE THE POSITION KEY
TO MOVE THE TOOL AND
THEN PRESS ENTER.
4 CANCEL
CONDITION No.
MARK SCAN MODE
1 MARK SCAN MODE
OFF
2 NUMBER OF POINTS
2POINTS
MARK DISTANCE
1 X=+0.0mm
2 Y=+0.0mm
Continued
ARMS
SETTING (2/4)


Default screen
(Continued)
ARMS
SETTING (1/4)
ARMS
SETTING (2/4)
ARMS SETTING 2/4
1 MARK TYPE
2 DISTANCE ADJUST
3 MARK SIZE
4 AXIS ORIGIN OFFSET
MARK TYPE
1 TYPE 1
2 TYPE 2
SET
CANCEL
DISTANCE ADJUST
1 MODE
USER
2 CUSTOM UNIT
5mm
SET
CANCEL
MARK SIZE
20.0mm
0.100
SET
CANCEL
AXIS ORIGIN OFFSET
1 X=+0.0mm
2 Y=+0.0mm
SET
CANCEL
ARMS
SETTING (3/4)
ARMS SETTING 3/4
1 SENSOR OFFSET ADJ.
2 SENSOR ADJUST
3 MARK AUTO SCAN
4 PAPER-WEIGHT
SENSOR OFFSET ADJ.
1 TEST PATTERN
2 SCAN
3 X=+0.0mm
4 Y=+0.0mm
SET
CANCEL
SENSOR ADJUST
1 SCAN
2 DEFAULT
CANCEL
MARK AUTO SCAN
1 ON
2 OFF
SET
CANCEL
PAPER-WEIGHT
1 ON
2 OFF
SET
CANCEL
ARMS
SETTING (4/4)
ARMS SETTING 4/4
1 SENSING SPEED
2 SENSING LEVEL
3 TEST ARMS SENSOR
SENSING SPEED
1 SLOW
2 NORMAL
SET
CANCEL
SENSING LEVEL
1 X = 70
2 Y = 90
SET
CANCEL
ARMS SETTING 4/4
TEST ARMS SENSOR
1 TYPE 1
2 TYPE 2
3 CANCEL
MENU screen
[PAUSE/MENU]
1 TOOL 2 ARMS 3 AREA 4 MEDIA
I/F ADV TEST
AREA
PARAMETERS (1/2)
[3]
AREA PARAMETERS 1/2
1 EXPAND
2 SCALE
3 ROTATE
4 MIRROR
SET EXPAND LIMIT
DEFAULT
SET
CANCEL
SCALE
SET
CANCEL
ROTATE
1 ON
2 OFF
SET
CANCEL
MIRROR
1 ON
2 OFF
SET
CANCEL
Continued
ARMS
PARAMETERS (2/2)

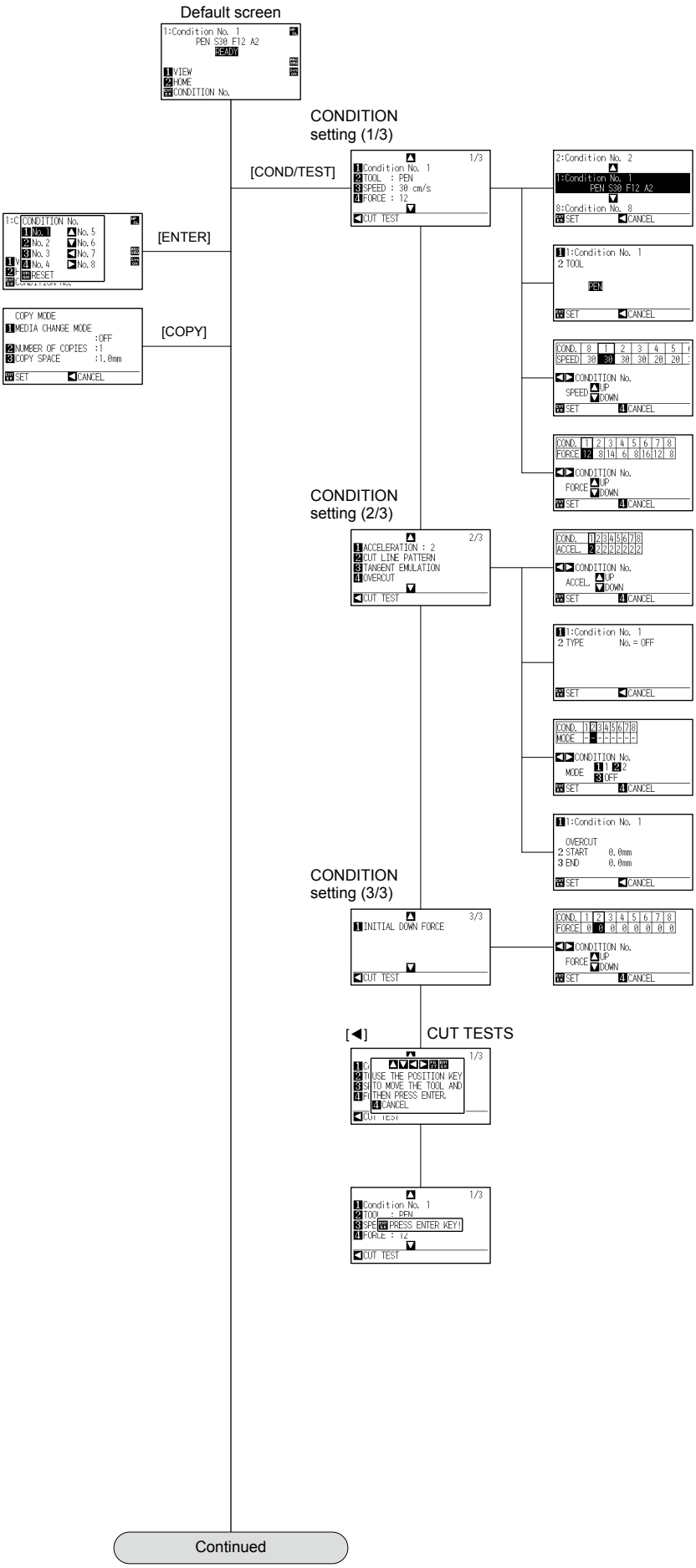

Default screen (Continued)
ARMS PARAMETERS (1/2)
AREA PARAMETERS (2/2)
AREA PARAMETERS 2/2
1 AREA
SET LOWER LEFT
X=+0.000mm
Y=+0.000mm
1 DEFAULT
SET
CANCEL
POSITION KEY
MENU screen
[PAUSE/MENU]
1 TOOL 2 ARMS 3 AREA 4 MEDIA
I/F ADV. TEST
[4]
MEDIA SETTING (1/2)
MEDIA SETTING 1/2
1 PRE FEED
2 AUTO PRE FEED
3 PAGE LENGTH
4 INITIAL FEED
FEED LENGTH
1.0m
0.100
SET
CANCEL
AUTO PRE FEED
1 OFF
2 FEED LENGTH
1.0m
PAGE LENGTH
200.0cm
1.000
INITIAL FEED
1 ON
2 OFF
MEDIA SETTING (2/2)
MEDIA SETTING 2/2
1 FEED SPEED
2 PANEL CUTTING
FEED SPEED
1 SLOW
2 NORMAL
PANEL CUTTING
1 OFF
2 DIVIDE LENGTH
100.0cm
INTERFACE SETTING (1/2)
MENU screen
[PAUSE/MENU]
[▲]
INTERFACE 1/2
1 COMMAND
2 HP-GL ORIGIN POINT
3 HP-GL MODEL EMULATED
4 GP-GL STEP SIZE
COMMAND
1 GP-GL
2 HP-GL
3 AUTO
HP-GL ORIGIN POINT
1 LOWER LEFT
2 CENTER
HP-GL MODEL EMULATED
1 7550
2 7586
GP-GL STEP SIZE
1 0.100 mm
2 0.050 mm
3 0.025 mm
4 0.010 mm
INTERFACE SETTING (2/2)
INTERFACE 2/2
1 RS-232C
2 COMMAND ':',';'
3 COMMAND 'W'
4 CIRCLE RESOLUTION
RS-232C No.1
1 BAUD RATE 9600
2 DATA 8 BIT
3 PARITY NONE
4 HARDWIRE HANDSHAKE
COMMAND ':',';'
1 ENABLED
2 DISABLED
COMMAND 'W'
1 TOOL DOWN
2 TOOL UP
CIRCLE RESOLUTION
1 DEFAULT
2 AUTO
Continued

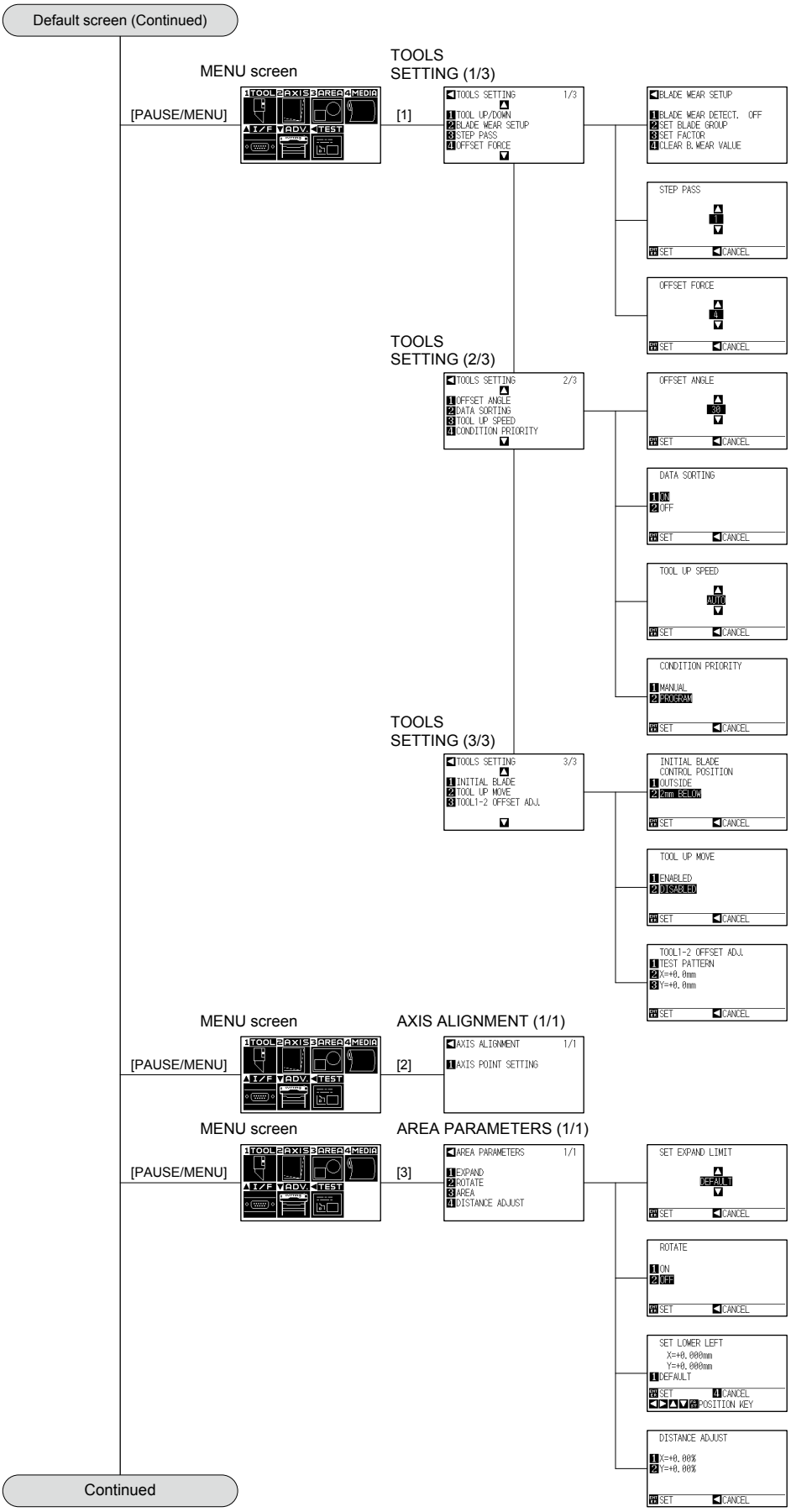

Default screen
(Continued)
MENU screen
[PAUSE/MENU]
ADVANCE
setting (1/2)
[▼]
ADVANCE 1/2
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 MEDIA SENSOR
MOVE STEP
1 0.1mm
2 0.5mm
SET CANCEL
LANGUAGE SELECTION
English
SET CANCEL
LENGTH UNIT
1 METRIC
2 INCH
SET CANCEL
MEDIA SENSOR
1 ENABLED
2 DISABLED
SET CANCEL
ADVANCE
setting (2/2)
ADVANCE 2/2
1 PUSH ROLLER SENSOR
2 FAN POWER
3 BEEP FOR KEY OPE.
4 ERROR MESSAGES
PUSH ROLLER SENSOR
1 ENABLED
2 INSIDE DISABLED
3 DISABLED
SET CANCEL
FAN POWER
1 NORMAL
2 WEAK
SET CANCEL
BEEP FOR KEY OPE.
1 ON
2 OFF
SET CANCEL
MENU screen
[PAUSE/MENU]
TEST (1/2)
[◀]
TEST 1/2
1 CONDITION LIST
2 SELF TEST
3 DATA DUMP
4 CUTTING PRO
MOUNT THE PEN!
1 DONE 1/2
2 DONE 2/2
3 CANCEL CONDITION
MOUNT THE PEN!
1 DONE
2 CANCEL SELF TEST
MOUNT THE PEN!
1 DONE
2 CANCEL DATA DUMP
CUTTING PRO
1 DONE
2 CANCEL
TEST (2/2)
TEST 2/2
1 DIAGNOSTICS
DIAGNOSTICS
1 DONE
2 CANCEL
Default screen
(Finish)

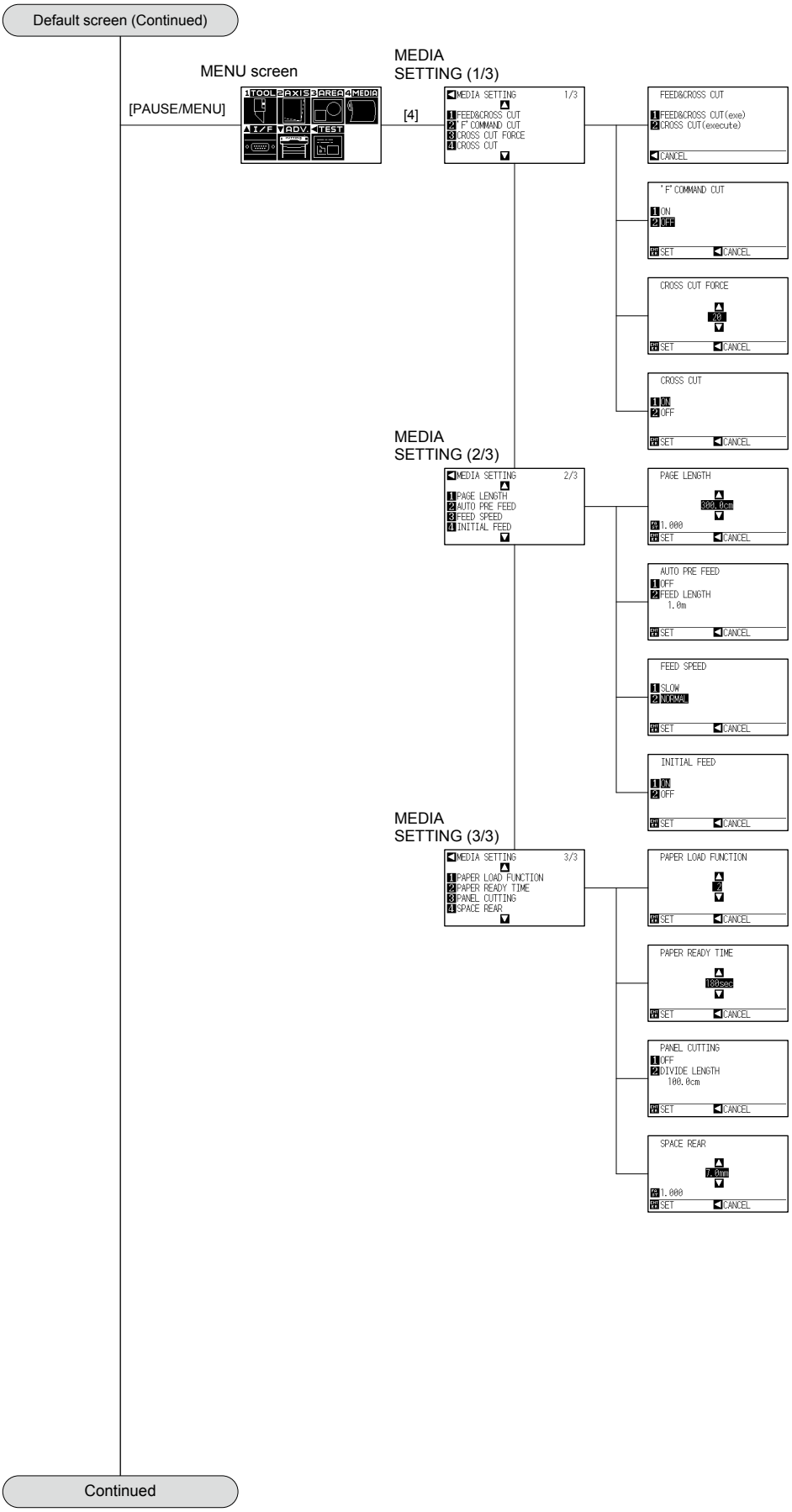
Simple Menu (CE6000-120P)

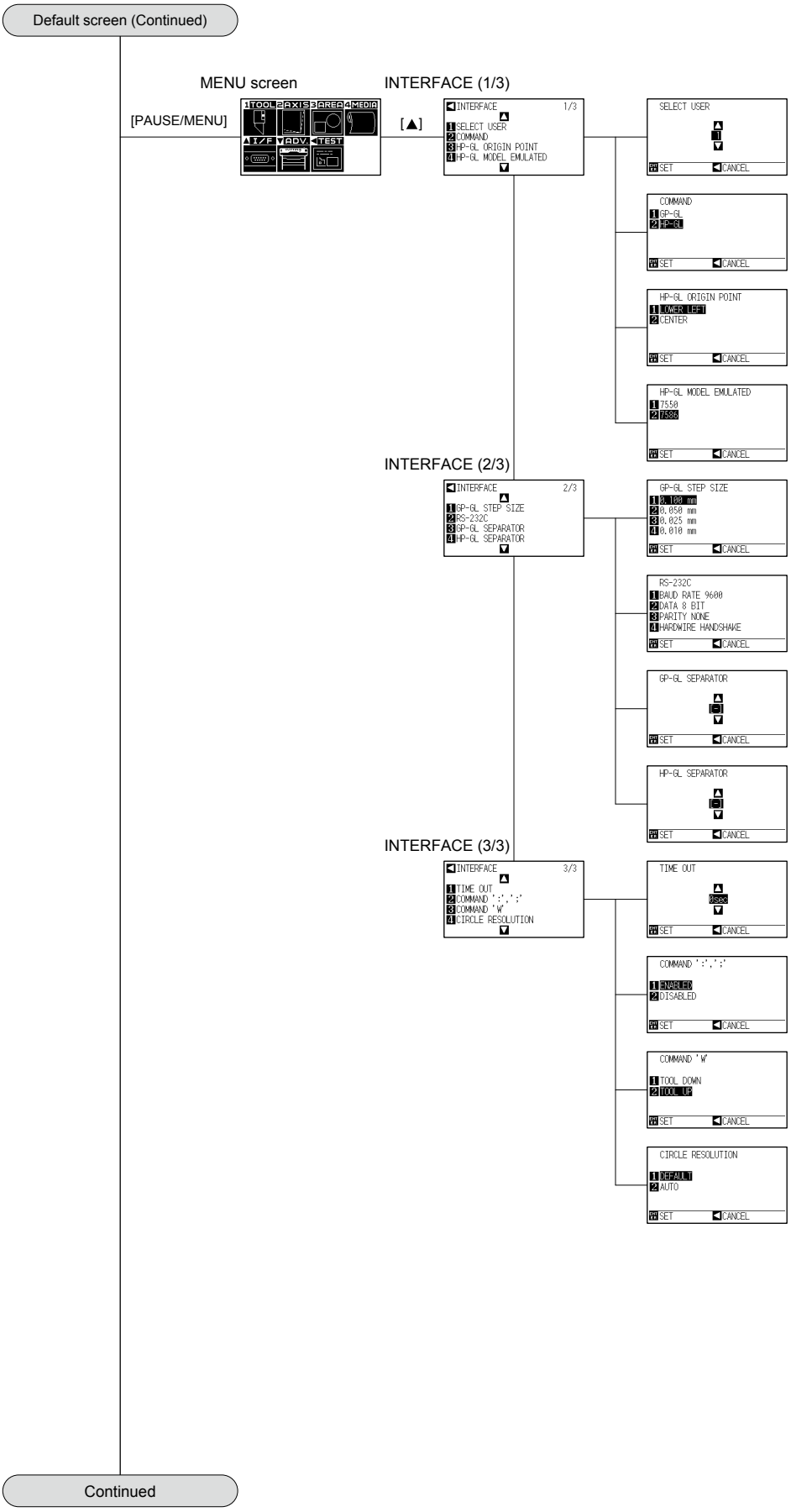


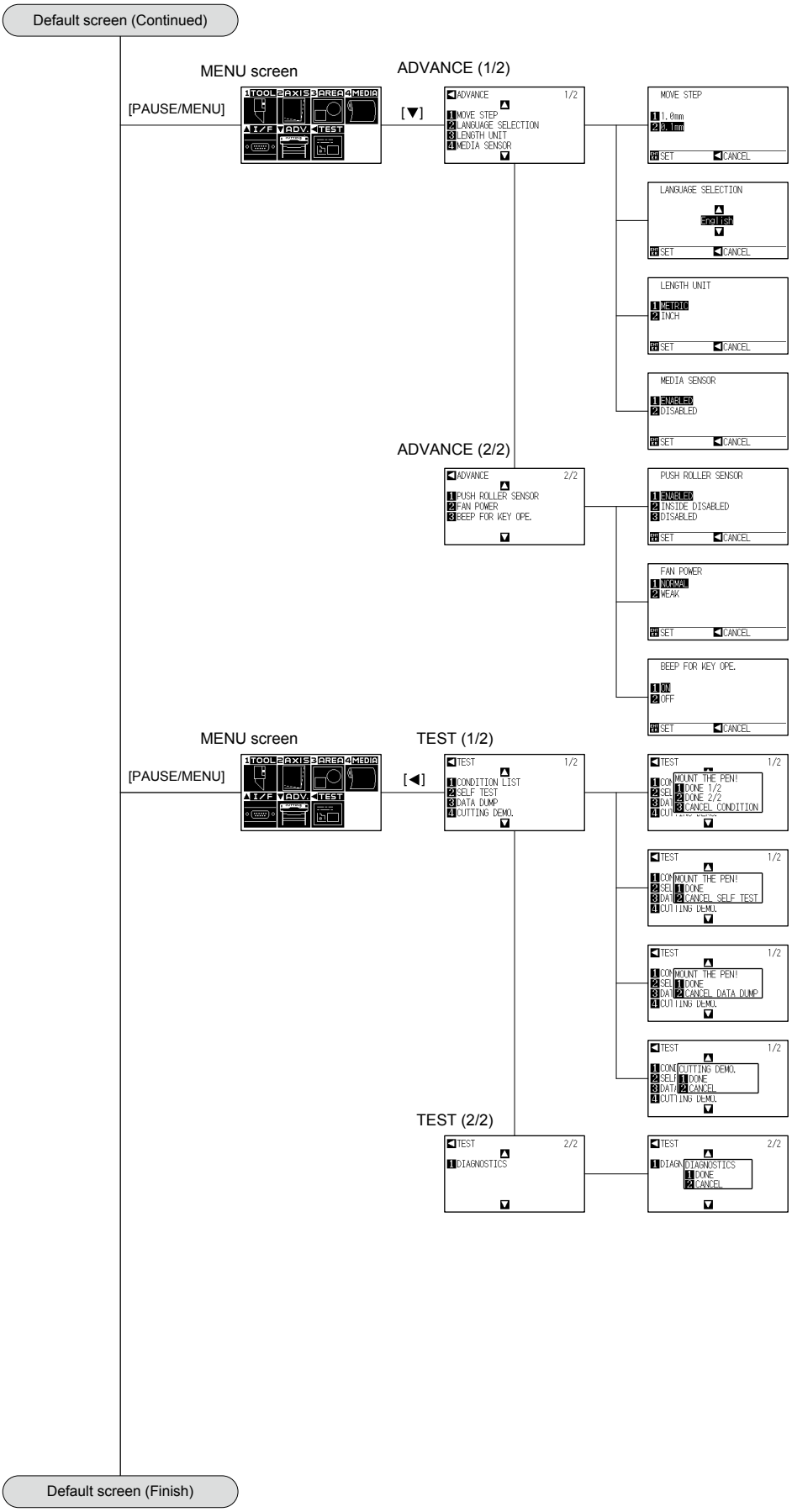
Normal Menu (CE6000-120AP)




Default screen (Continued)
MENU screen
[PAUSE/MENU]
TOOLS SETTING (1/3)
[1]
TOOLS SETTING 1/3
1 TOOL UP/DOWN
2 BLADE WEAR SETUP
3 STEP PASS
4 OFFSET FORCE
BLADE WEAR SETUP
1 BLADE WEAR DETECT. OFF
2 SET BLADE GROUP
3 SET FACTOR
4 CLEAR B.WEAR VALUE
STEP PASS
1
SET
CANCEL
OFFSET FORCE
4
SET
CANCEL
TOOLS SETTING (2/3)
TOOLS SETTING 2/3
1 OFFSET ANGLE
2 DATA SORTING
3 TOOL UP SPEED
4 CONDITION PRIORITY
OFFSET ANGLE
-30
SET
CANCEL
DATA SORTING
1 ON
2 OFF
SET
CANCEL
TOOL UP SPEED
AUTO
SET
CANCEL
CONDITION PRIORITY
1 MANUAL
2 PROGRAM
SET
CANCEL
TOOLS SETTING (3/3)
TOOLS SETTING 3/3
1 INITIAL BLADE
2 TOOL UP MOVE
3 TOOL1-2 OFFSET ADJ.
INITIAL BLADE CONTROL POSITION
1 OUTSIDE
2 2mm BELOW
SET
CANCEL
TOOL UP MOVE
1 ENABLED
2 DISABLED
SET
CANCEL
TOOL1-2 OFFSET ADJ.
1 TEST PATTERN
2 X=+0.0mm
3 Y=+0.0mm
SET
CANCEL
MENU screen
[PAUSE/MENU]
AXIS ALIGNMENT (1/1)
[2]
AXIS ALIGNMENT 1/1
1 AXIS POINT SETTING
MENU screen
[PAUSE/MENU]
AREA PARAMETERS (1/1)
[3]
AREA PARAMETERS 1/1
1 EXPAND
2 ROTATE
3 AREA
4 DISTANCE ADJUST
SET EXPAND LIMIT
DEFAULT
SET
CANCEL
ROTATE
1 ON
2 OFF
SET
CANCEL
SET LOWER LEFT
X=+0.000mm
Y=+0.000mm
1 DEFAULT
SET
4 CANCEL
POSITION KEY
DISTANCE ADJUST
1 X=+0.00%
2 Y=+0.00%
SET
CANCEL
Continued


Default screen (Continued)
MENU screen
[PAUSE/MENU]
1TOOL 2AXIS 3AREA 4MEDIA
I/F ADV. TEST
MEDIA SETTING (1/3)
[4]
MEDIA SETTING 1/3
1 FEED&CROSS CUT
2 "F" COMMAND CUT
3 CROSS CUT FORCE
4 CROSS CUT
FEED&CROSS CUT
1 FEED&CROSS CUT(exe)
2 CROSS CUT(execute)
CANCEL
"F" COMMAND CUT
1 ON
2 OFF
SET CANCEL
CROSS CUT FORCE
20
SET CANCEL
CROSS CUT
1 ON
2 OFF
SET CANCEL
MEDIA SETTING (2/3)
MEDIA SETTING 2/3
1 PAGE LENGTH
2 AUTO PRE FEED
3 FEED SPEED
4 INITIAL FEED
PAGE LENGTH
300.0cm
1.000
SET CANCEL
AUTO PRE FEED
1 OFF
2 FEED LENGTH
1.0m
SET CANCEL
FEED SPEED
1 SLOW
2 NORMAL
SET CANCEL
INITIAL FEED
1 ON
2 OFF
SET CANCEL
MEDIA SETTING (3/3)
MEDIA SETTING 3/3
1 PAPER LOAD FUNCTION
2 PAPER READY TIME
3 PANEL CUTTING
4 SPACE REAR
PAPER LOAD FUNCTION
2
SET CANCEL
PAPER READY TIME
180sec
SET CANCEL
PANEL CUTTING
1 OFF
2 DIVIDE LENGTH
100.0cm
SET CANCEL
SPACE REAR
7.0mm
1.000
SET CANCEL
Continued


Default screen (Continued)
MENU screen
[PAUSE/MENU]
1TOOL 2AXIS 3AREA 4MEDIA
5I/F 6ADV. 7TEST
INTERFACE (1/3)
[▲]
INTERFACE 1/3
1 SELECT USER
2 COMMAND
3 HP-GL ORIGIN POINT
4 HP-GL MODEL EMULATED
SELECT USER
COMMAND
1 GP-GL
2 HP-GL
HP-GL ORIGIN POINT
1 LOWER LEFT
2 CENTER
HP-GL MODEL EMULATED
1 7550
2 7580
SET
CANCEL
INTERFACE (2/3)
INTERFACE 2/3
1 GP-GL STEP SIZE
2 RS-232C
3 GP-GL SEPARATOR
4 HP-GL SEPARATOR
GP-GL STEP SIZE
1 0.100 mm
2 0.050 mm
3 0.025 mm
4 0.010 mm
RS-232C
1 BAUD RATE 9600
2 DATA 8 BIT
3 PARITY NONE
4 HARDWIRE HANDSHAKE
GP-GL SEPARATOR
HP-GL SEPARATOR
INTERFACE (3/3)
INTERFACE 3/3
1 TIME OUT
2 COMMAND ':','
3 COMMAND 'W'
4 CIRCLE RESOLUTION
TIME OUT
0[SEC]
COMMAND ':','
1 ENABLED
2 DISABLED
COMMAND 'W'
1 TOOL DOWN
2 TOOL UP
CIRCLE RESOLUTION
1 DEFAULT
2 AUTO
Continued


Default screen (Continued)
MENU screen
[PAUSE/MENU]
ADVANCE (1/2)
[▼]
ADVANCE 1/2
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 MEDIA SENSOR
MOVE STEP
1 1.0mm
2 0.1mm
SET CANCEL
LANGUAGE SELECTION
English
SET CANCEL
LENGTH UNIT
1 METRIC
2 INCH
SET CANCEL
MEDIA SENSOR
1 ENABLED
2 DISABLED
SET CANCEL
ADVANCE (2/2)
ADVANCE 2/2
1 PUSH ROLLER SENSOR
2 FAN POWER
3 BEEP FOR KEY OPE.
PUSH ROLLER SENSOR
1 ENABLED
2 INSIDE DISABLED
3 DISABLED
SET CANCEL
FAN POWER
1 NORMAL
2 WEAK
SET CANCEL
BEEP FOR KEY OPE.
1 ON
2 OFF
SET CANCEL
MENU screen
[PAUSE/MENU]
TEST (1/2)
[◀]
TEST 1/2
1 CONDITION LIST
2 SELF TEST
3 DATA DUMP
4 CUTTING DEMO.
MOUNT THE PEN!
1 DONE 1/2
2 DONE 2/2
3 CANCEL CONDITION
MOUNT THE PEN!
1 DONE
2 CANCEL SELF TEST
MOUNT THE PEN!
1 DONE
2 CANCEL DATA DUMP
CUTTING DEMO.
1 DONE
2 CANCEL
TEST (2/2)
TEST 2/2
1 DIAGNOSTICS
DIAGNOSTICS
1 DONE
2 CANCEL
Default screen (Finish)

4 RECOMMENDED PARTS LIST

CE6000-40/60/120/120AMO/120AP

No.	Part No.	Description	-40	-60	-120	-120AMO	-120AP	Remarks
1	U621352000	Push Roller	2	2	3	4	5	
2	CE6-CM40-2	Cutting Mat 40 (2 pcs)	1	–	–	–	–	Supply Parts
	CE6-CM60-2	Cutting Mat 60 (2 pcs)	–	1	–	–	–	Supply Parts
	CE6-CM120-2	Cutting Mat 120 (2 pcs)	–	–	1	1	1	Supply Parts
3	U792600709	Belt, Y belt, 50S2M613LWC	1	–	–	–	–	
	U792600710	Belt, Y belt, 50S2M841LWC	–	1	–	–	–	
	U792600711	Belt, Y belt, 100S2M1483LWC	–	–	1	1	1	
4	U378008121	Belt, X drive belt, 60S2M162G	1	1	1	1	1	X Motor
5	U378008421	Belt, Y drive belt, 60S2M168G	1	1	1	1	1	Y Motor
6	U621583102	Y Drive Pulley	1	1	1	1	1	
7	U792600750	Main Board, CE6000	1	1	1	1	–	
	U792600730	Main Board, CE6000-120AP	–	–	–	–	1	
8	U682157181	Fan, LD-9225BFG1	1	1	2	2	2	
9	U692157376	Y Flexible Cable, FFC908207, CE6000-40	1	–	–	–	–	FFC908207
	U692157337	Y Flexible Cable, FFC908203, CE6000-60	–	1	–	–	–	FFC908203
	U692157347	Y Flexible Cable, FFC908204, CE6000-120	–	–	1	1	1	FFC908204
10	U562500141	Power Supply, ZWS150B-24/FV	1	1	1	1	1	ZWS150B-24/FV
11	U692157356	Flexible Cable, FFC908205, Cam Sensor	1	1	1	1	1	FFC908205
12	U692157366	Flexible Cable, FFC908206, Pinch Roller	1	1	1	1	1	FFC908206
13	U692157326	Flexible Cable, FFC908202, Control Panel	1	1	1	1	1	FFC908202
14	U561080035	Sensor, PS117EL1	2	2	2	2	2	Paper Sensor
15	U682157211	Motor, DMN37JE-X01	2	2	–	–	–	X and Y Motor
	U682157211	Motor, DMN37JE-X01	–	–	1	1	1	Y Motor
16	U682157220	Motor, UGFMED-B5LGRB2	–	–	1	1	1	X Motor
17	U792600701	Pen Block Assembly STD, CE6000	1	1	1	1	1	Standard Model
	U792600708	Pen Block Assembly U, CE6000						USA Model
	U792600726	Pen Block Assembly CE6000-120AP	–	–	–	–	1	
18	U792600702	Pen Relay Board, CE6000	1	1	1	1	1	
19	U792600703	Pinch Roller Sensor Board, CE6000	1	1	1	1	1	
20	U792600704	Cam Sensor Board, CE6000	1	1	1	1	1	
21	U792600705	Registration Mark Sensor Board, CE6000	1	1	1	1	–	
22	U792600706	Control Panel Board, CE6000	1	1	1	1	1	
23	U682157130	LCD, BTG240128SFBWBGG, CE6000	1	1	1	1	1	
24	U792600707	Fan Relay Board, CE6000-120	–	–	1	1	1	PN9082-12
25	U621572102	Drive Roller Shaft, CE6000-40	1	–	–	–	–	Old
	U621572200	Drive Roller Shaft, CE6000-40	1	–	–	–	–	New
	U621582002	Drive Roller Shaft, CE6000-60	–	1	–	–	–	CE6000-60
	U621592102	Drive Roller Shaft, CE6000-120	–	–	1	1	1	CE6000-120/AMO/AP
26	U621582090	Bearing, Drive Roller, 6900ZZNXRJECE	2	2	2	2	2	
27	U621582400	Bearing, Drive Roller Holder, 12HF408	2	2	8	8	8	

CE6000-40 Plus/60 Plus/120 Plus

No.	Part No.	Description	-40 Plus	-60 Plus	-120 Plus	Remarks
1	U621352000	Push Roller	2	2	4	Standard Model
					3	USA Model
2	CE6-CM40-2	Cutting Mat 40 (2 pcs)	1	–	–	Supply Parts
	CE6-CM60-2	Cutting Mat 60 (2 pcs)	–	1	–	Supply Parts
	CE6-CM120-2	Cutting Mat 120 (2 pcs)	–	–	1	Supply Parts
3	U792600709	Belt, Y belt, 50S2M613LWC	1	–	–	
	U792600710	Belt, Y belt, 50S2M841LWC	–	1	–	
	U792600711	Belt, Y belt, 100S2M1483LWC	–	–	1	
4	U378008121	Belt, X drive belt, 60S2M162G	1	1	1	X Motor
5	U378008421	Belt, Y drive belt, 60S2M168G	1	1	1	Y Motor
6	U621583102	Y Drive Pulley	1	1	1	
7	U792600760	Main Board, CE6000 Plus	1	1	1	
8	U682157181	Fan, LD-9225BFG1	1	1	2	
9	U692157376	Y Flexible Cable, FFC908207, CE6000-40	1	–	–	FFC908207
	U692157337	Y Flexible Cable, FFC908203, CE6000-60	–	1	–	FFC908203
	U692157347	Y Flexible Cable, FFC908204, CE6000-120	–	–	1	FFC908204
10	U562500141	Power Supply, ZWS150B-24/FV	1	1	1	ZWS150B-24/FV
11	U692157356	Flexible Cable, FFC908205, Cam Sensor	1	1	1	FFC908205
12	U692157366	Flexible Cable, FFC908206, Pinch Roller	1	1	1	FFC908206
13	U692157326	Flexible Cable, FFC908202, Control Panel	1	1	1	FFC908202
14	U561080035	Sensor, PS117EL1	2	2	2	Paper Sensor
15	U682157211	Motor, DMN37JE-X01	2	2	–	X and Y Motor
	U682157211	Motor, DMN37JE-X01	–	–	1	Y Motor
16	U682157220	Motor, UGFMED-B5LGRB2	–	–	1	X Motor
17	U792600701	Pen Block Assembly STD, CE6000	1	1	1	Standard Model
	U792600708	Pen Block Assembly U, CE6000	–*	1	1	USA Model
18	U792600702	Pen Relay Board, CE6000	1	1	1	
19	U792600703	Pinch Roller Sensor Board, CE6000	1	1	1	
20	U792600704	Cam Sensor Board, CE6000	1	1	1	
21	U792600705	Registration Mark Sensor Board, CE6000	1	1	1	PN9082-09
22	U792600706	Control Panel Board, CE6000	1	1	1	
23	U682157130	LCD, BTG240128SFBWBGG, CE6000	1	1	1	
24	U792600707	Fan Relay Board, CE6000-120	–	–	1	PN9082-12
25	U621572200	Drive Roller Shaft, CE6000-40	1	–	–	
	U621582002	Drive Roller Shaft, CE6000-60	–	1	–	
	U621592102	Drive Roller Shaft, CE6000-120	–	–	1	
26	U621582090	Bearing, Drive Roller, 6900ZZNXRJECE	2	2	2	
27	U621582400	Bearing, Drive Roller Holder, 12HF408	2	2	8	

* The CE6000-40Plus USA model is using Pen Block Assembly STD, CE6000.

5 LIST OF TOOLS

5.1 Tools

No.	Adjustment Item	Jig	Tool
1	Pen force adjustment	Cutter pen holder (CB09)	Correx Dial Tension gauge (50,300,500 gf)
2	Distance adjustment		Glass scale
3	Pen block height adjustment	10 mm height block	
4	Firmware update		PC, USB I/F cable
5	X-drive belt tension adjustment		Push-pull gauge (2 kg)
6	Y-drive belt tension adjustment		Push-pull gauge (2 kg)
7	Replacing the main board		Short screwdriver (50 mm)
8	Replacing the vacuum fan		

5.2 Greasing And Gluing Points

No.	Grease or Glue Point	Grease or Glue name	Application quantity
1	Cam	Shinetu silicon grease G501	Suitable quantity
2	X-drive motor pulley	Shinetu silicon grease G501	Suitable quantity
3	Y-drive motor pulley	Shinetu silicon grease G501	Suitable quantity
4	X-drive pulley	Shinetu silicon grease G501	Suitable quantity
5	Y-drive pulley	Shinetu silicon grease G501	Suitable quantity
6	Y-tension pulley	Shinetu silicon grease G501	Suitable quantity
7	Y-rail, push roller assy sliding area	Shell Alvania Grease (AS2)	Suitable quantity
8	Y-motor drive pulley set screws	Loctite 222	Small quantity
9	X-motor drive pulley set screws	Loctite 222	Small quantity
10	X-drive pulley set screws	Loctite 222	Small quantity

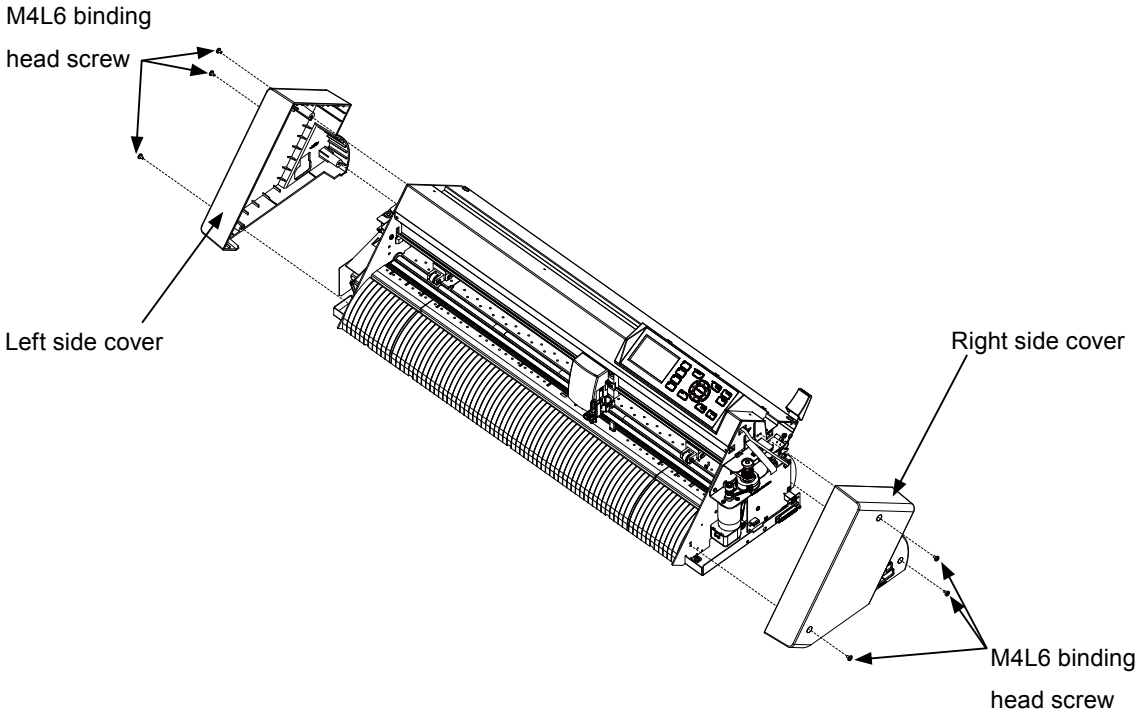
6 DISASSEMBLY AND REASSEMBLY

6.1 Exterior Parts

6.1.1 Right Side Cover

How to detach the right side cover

(1) Remove the three M4L6 binding head screws holding the right side cover, and then detach the right side cover.



How to reinstall the right side cover

(1) Reattach the right side cover in the reverse order in which it was detached.

6.1.2 Left Side Cover

How to detach the left side cover

(1) Remove the three M4L6 binding head screws holding the left side cover, and then detach the left side cover.

How to reinstall the left side cover

(1) Reattach the left side cover in the reverse order in which it was detached.

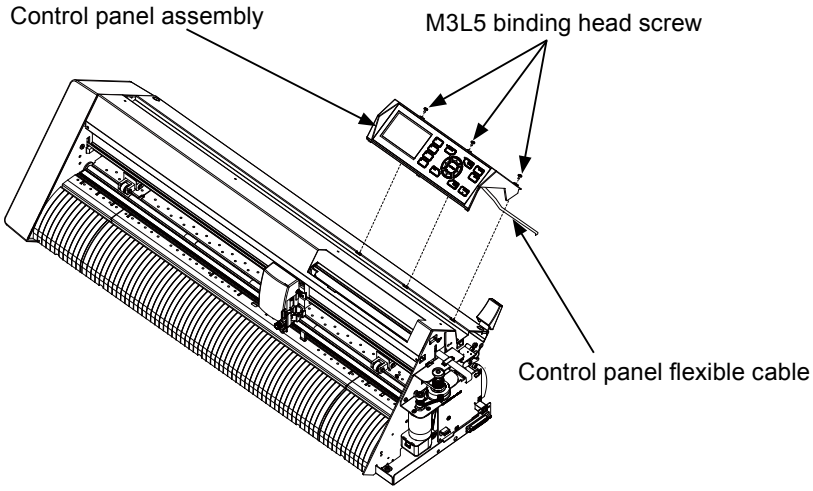
6.1.3 Center Cover

How to detach the center cover

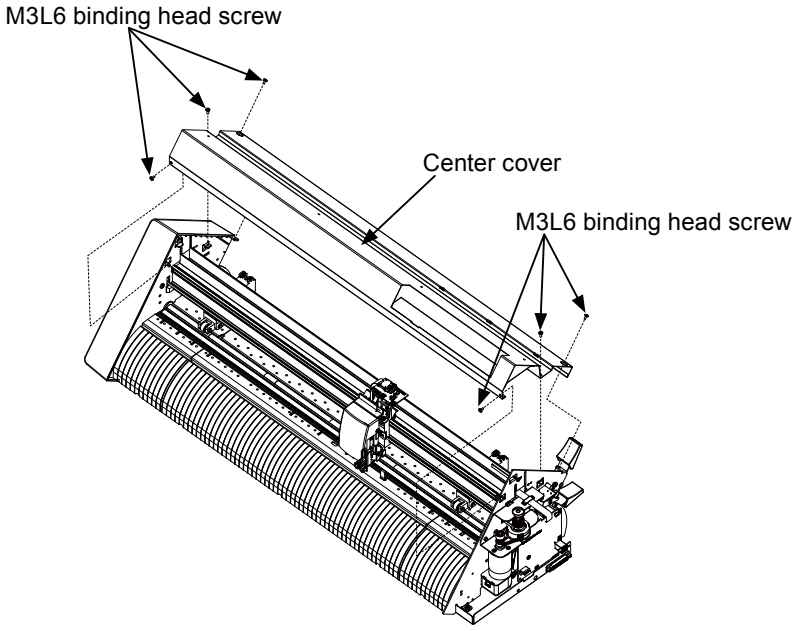
(1) Detach the right side cover (See section 6.1.1.).

(2) Disconnect the control panel flexible cable from the main board.

(3) Remove the three M3L5 binding head screws holding the control panel assembly, and then detach the control panel assembly.



(4) Remove the six M3L6 binding head screws holding the center cover, and then detach the center cover.



How to reinstall the center cover

(1) Reattach the center cover in the reverse order in which it was detached.

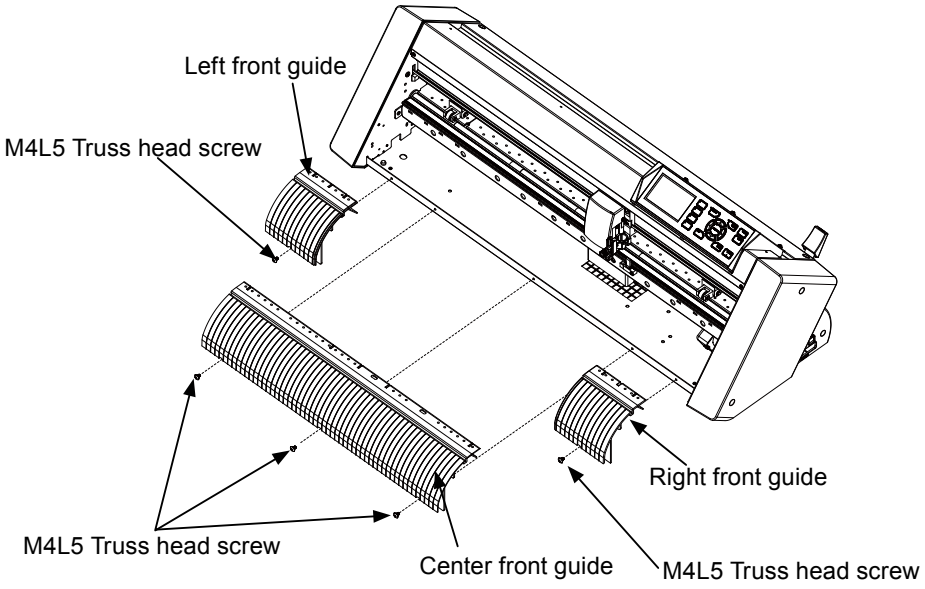
6.1.4 Front Guide (CE6000-40/60)

How to detach the front guide (CE6000-60)

(1) Remove the three M4L5 truss head screws holding the center front guide and then detach the center front guide.

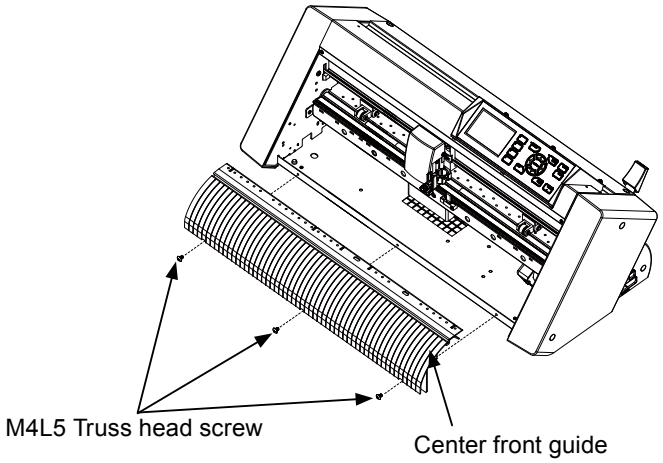
(2) Remove the M4L5 truss head screw holding the right front guide, and then detach the right front guide.

(3) Remove the M4L5 truss head screw holding the left front guide, and then detach the left front guide.



How to detach the front guide (CE6000-40)

(1) Remove the three M4L5 truss head screws holding the center front guide and then detach the center front guide.



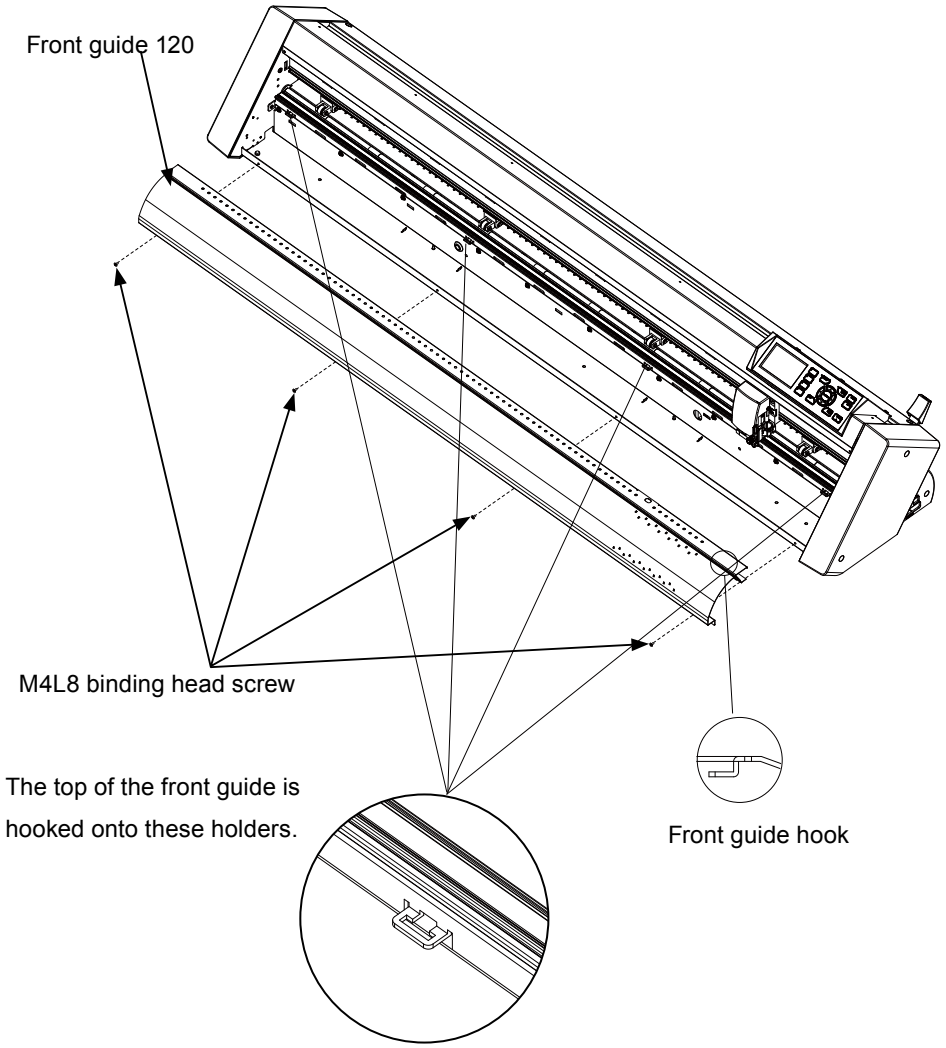
How to reinstall the front guide

(1) Reattach the front guide in the reverse order in which it was detached.

6.1.5 Front Guide (CE6000-120)

How to detach the front guide (CE6000-120)

(1) Remove the four M4L8 binding head screws holding the front guide 120, and then detach the front guide 120.



How to reinstall the front guide (CE6000-120)

(1) Reattach the front guide 120 in the reverse order in which it was detached.

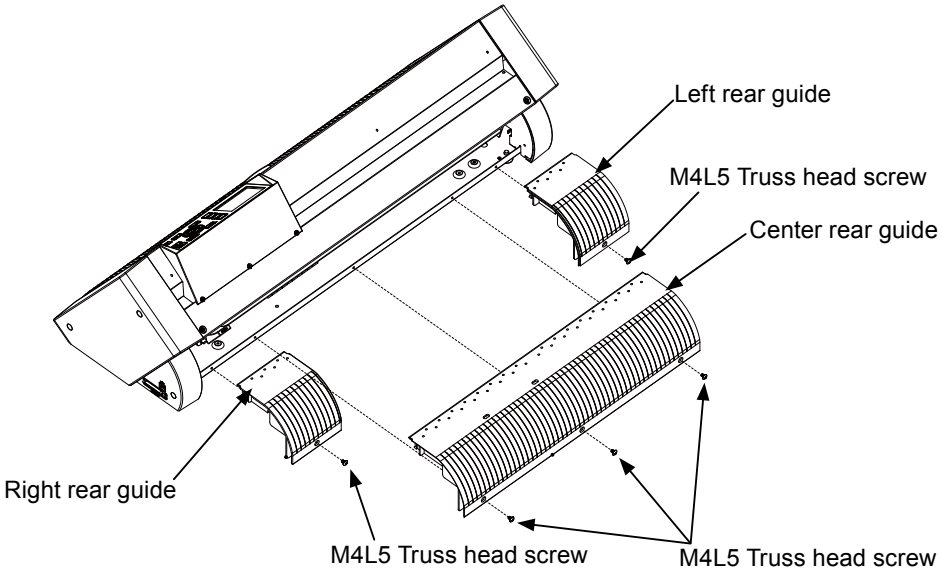
6.1.6 Rear Guide (CE6000-40/60)

How to detach the rear guide (CE6000-60)

(1) Remove the three M4L5 truss head screws holding the center rear guide and then detach the center rear guide.

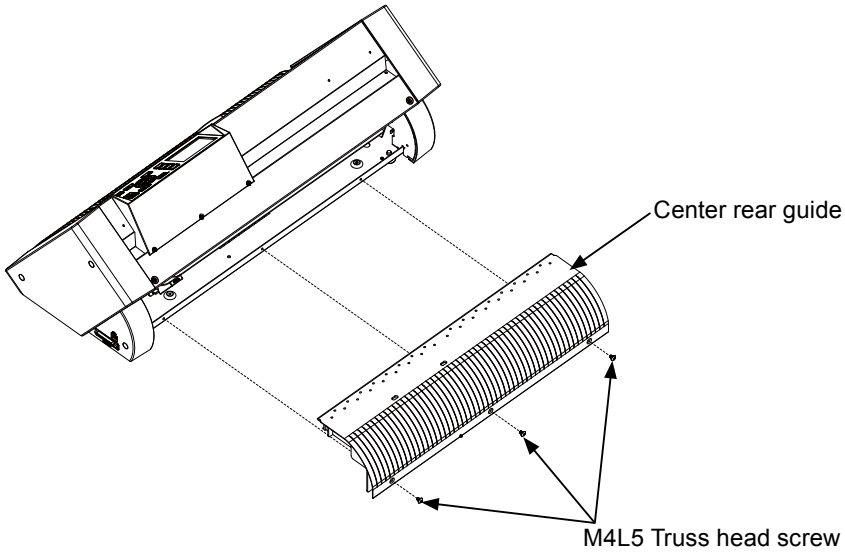
(2) Remove the M4L5 truss head screw holding the right rear guide, and then detach the right front guide.

(3) Remove the M4L5 truss head screw holding the left rear guide, and then detach the left rear guide.



How to detach the rear guide (CE6000-40)

(1) Remove the three M4L5 truss head screws holding the center rear guide and then detach the center rear guide.



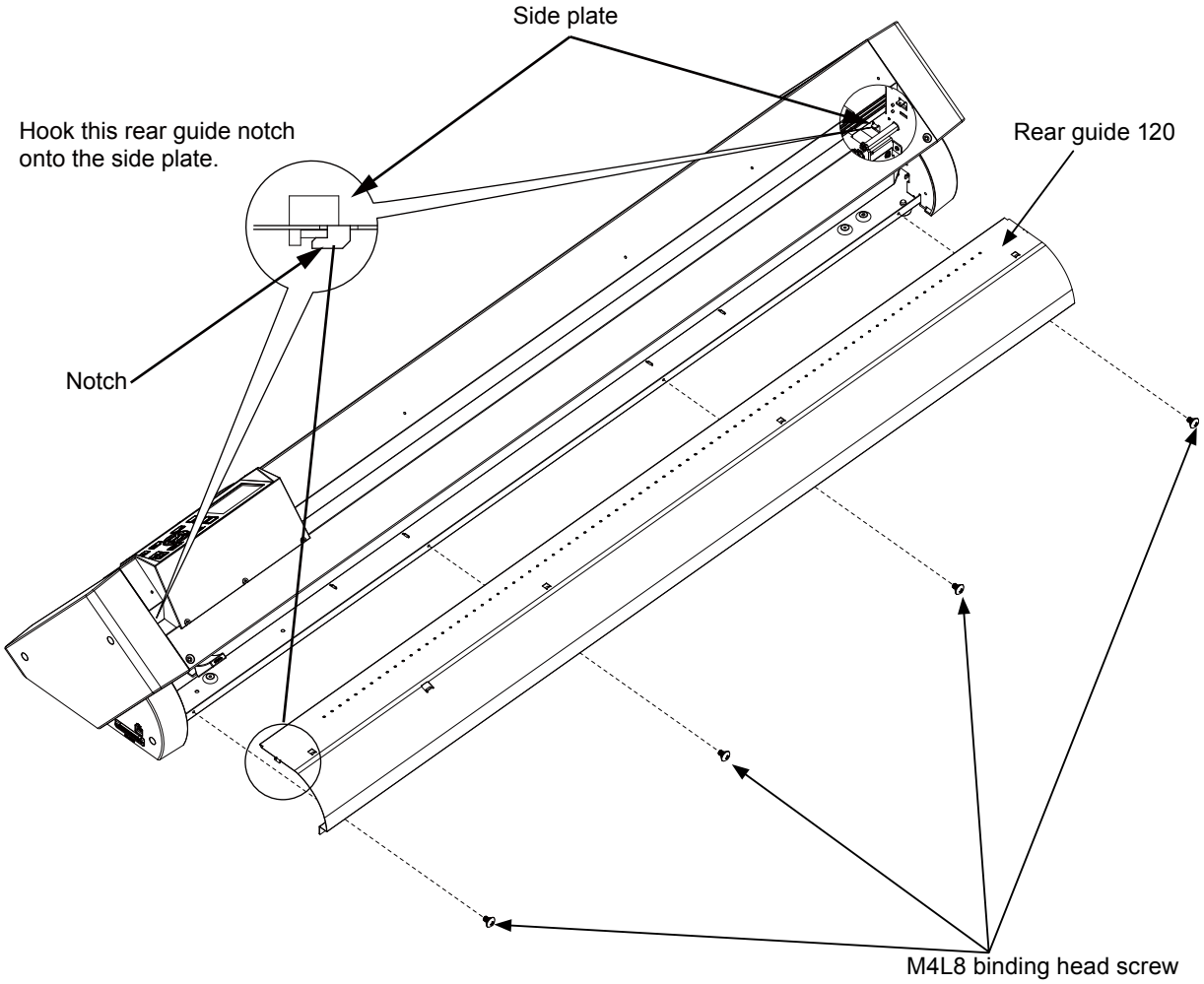
How to reinstall the rear guide

(1) Reattach the rear guide in the reverse order in which it was detached.

6.1.7 Rear Guide (CE6000-120)

How to detach the rear guide (CE6000-120)

(1) Remove the four M4L8 binding head screws holding the rear guide 120, and then detach the rear guide 120.



How to reinstall the rear guide

(1) Reattach the rear guide in the reverse order in which it was detached.

6.2 Mechanical Parts

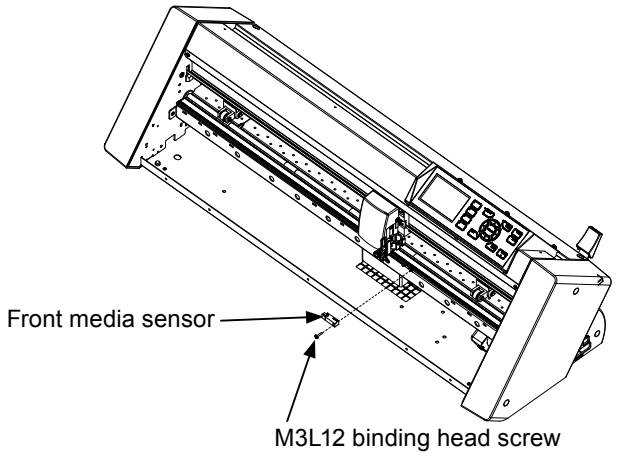
6.2.1 Front Media Sensor

How to detach the front media sensor

(1) Detach the front guide (See section 6.1.4.) for the CE6000-40 and 60.
Detach the front guide (See section 6.1.5.) for the CE6000-120.

(2) Remove the M3L12 binding head screw holding the front media sensor.

(3) Disconnect the cable from the front media sensor.



How to reinstall the front media sensor

(1) Reattach the front media sensor in the reverse order in which it was detached.

(2) Perform the RMS sensor and the paper sensor position adjustment when the media sensor is replaced (See section 7.11.).

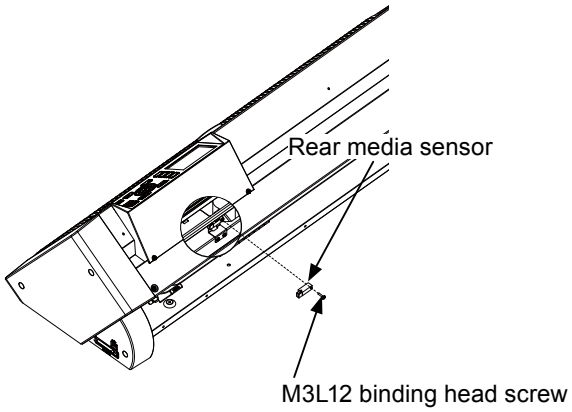
6.2.2 Rear Media Sensor

How to detach the rear media sensor

(1) Detach the rear guide (See section 6.1.6.) for the CE6000-40 and 60.
Detach the rear guide (See section 6.1.7.) for the CE6000-120.

(2) Remove the M3L12 binding head screw holding the rear media sensor.

(3) Disconnect the cable from the rear media sensor.



How to reinstall the rear media sensor

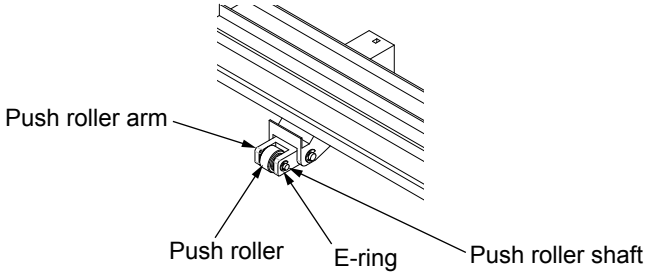
(1) Reattach the rear media sensor in the reverse order in which it was detached.

(2) Perform the RMS sensor and the paper sensor position adjustment when the media sensor is replaced (See section 7.11.).

6.2.3 Push Roller

How to detach the push roller

(1) Detach the right side of the E-ring from the push roller shaft.



(2) Detach the push roller shaft from the push roller arm from the left side.

(3) Detach the push roller.

How to reinstall the push roller

(1) Reattach the push roller in the reverse order in which it was detached.

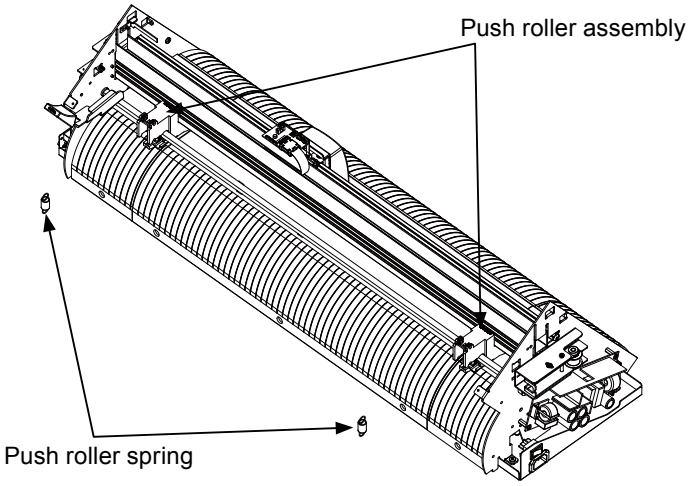
6.2.4 Push Roller Arm

How to detach the push roller arm

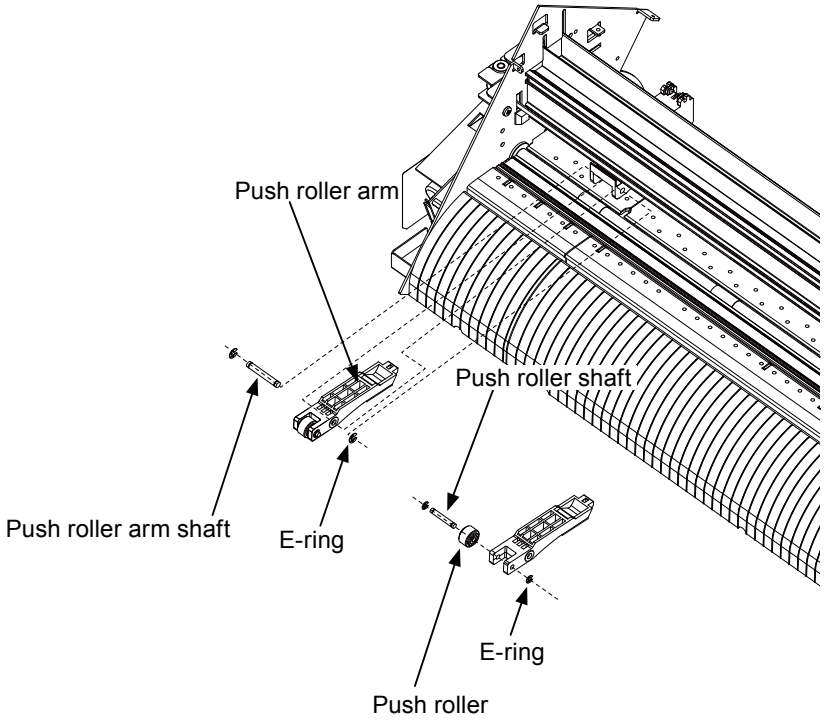
(1) Detach the right side cover (See section 6.1.1.).

(2) Detach the center cover (See section 6.1.3.).

(3) Detach the push roller spring from the push roller assembly.



(4) Detach the E-ring from the push roller arm shaft.



(5) Detach the push roller arm shaft from the push roller arm, and then detach the push roller arm.

How to reinstall the push roller arm

(1) Reattach the push roller arm in the reverse order in which it was detached.

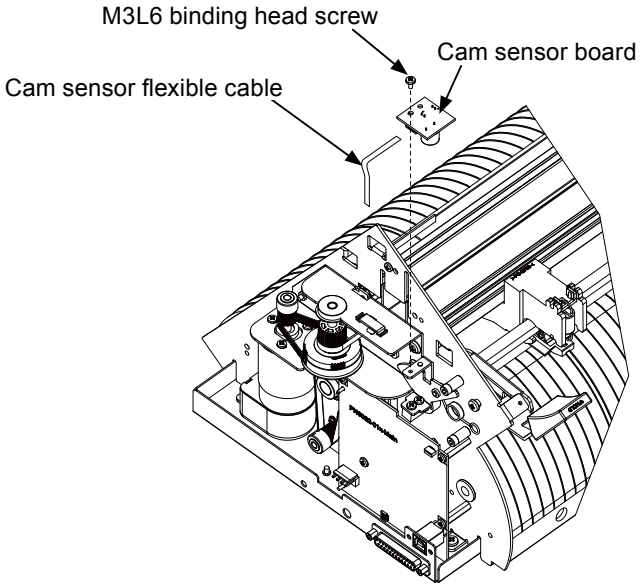
6.2.5 Cam Sensor Board

How to detach the cam sensor board

(1) Detach the right side cover (See section 6.1.1.).

(2) Disconnect the flexible cable from the cam sensor board.

(3) Remove the M3L6 binding head screw holding the cam sensor board, and then detach the cam sensor board.



How to reinstall the cam sensor board

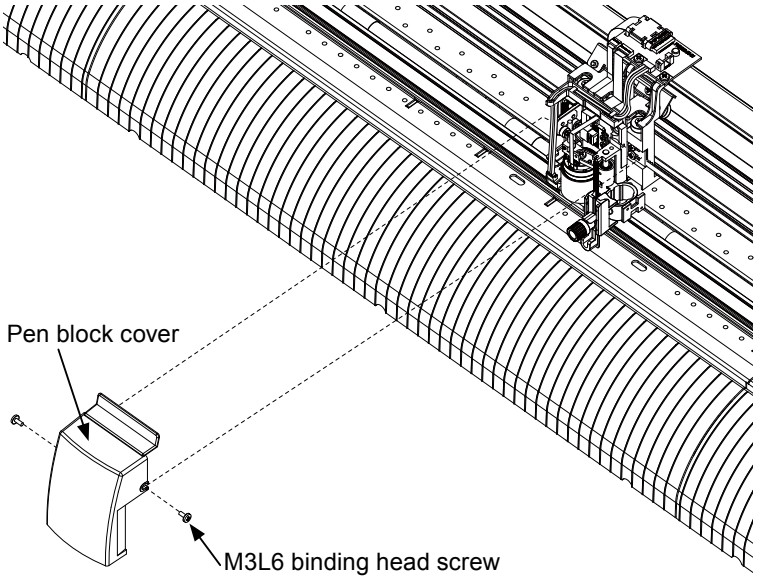
(1) Reattach the cam sensor board in the reverse order in which it was detached.

6.2.6 Pen Block

How to detach the pen block

(1) Detach the center cover (See section 6.1.3.).

(2) Loosen the M3L6 binding head screw holding the pen block cover.

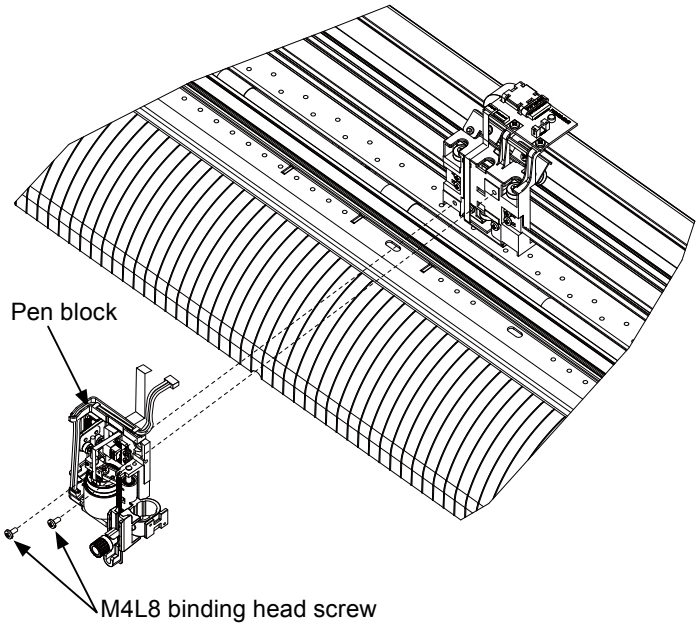


(3) Detach the pen block cover.

(4) Disconnect the cable from connector J504 on the Y-relay board.

(5) Disconnect the flexible cable from connector J505 on the Y-relay board.

(6) Remove the two M4L8 binding head screws holding the pen block.

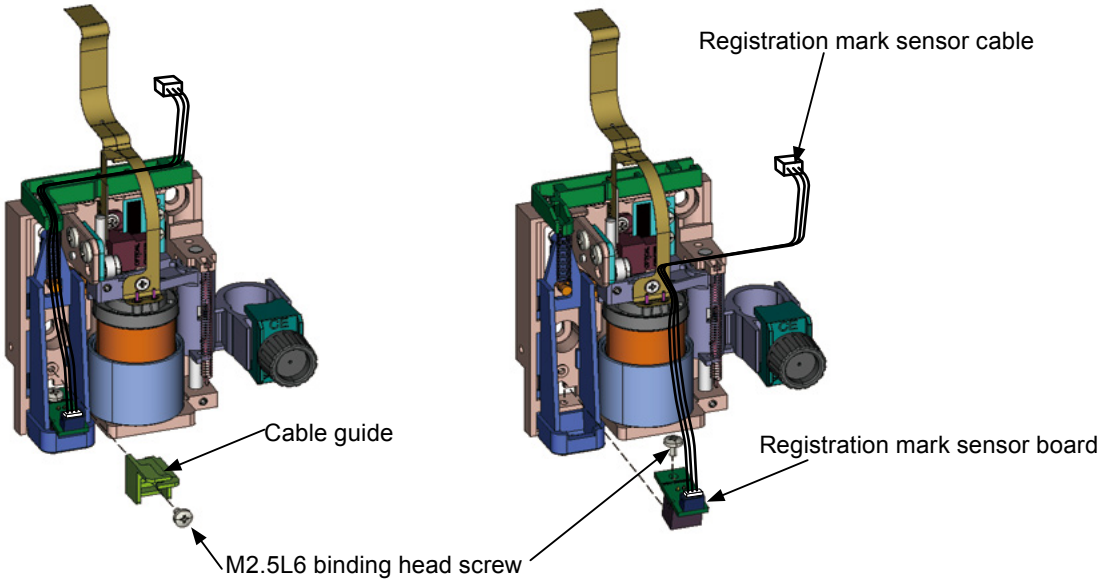


(7) The registration mark sensor board and sensor cable are not including in the parts of pen block.

(8) Detach the registration mark sensor board and the cable from the pen block. (The CE6000-120AP does not have registration mark sensor board, therefore you don't need to detach it from the pen block of CE6000-120AP.)

Remove the M2.5L6 binding head screw holding the cable guide, and then detach the cable guide.

Remove the M2.5L6 binding head screw holding the registration sensor board, and then detach the registration sensor board with the registration sensor cable.



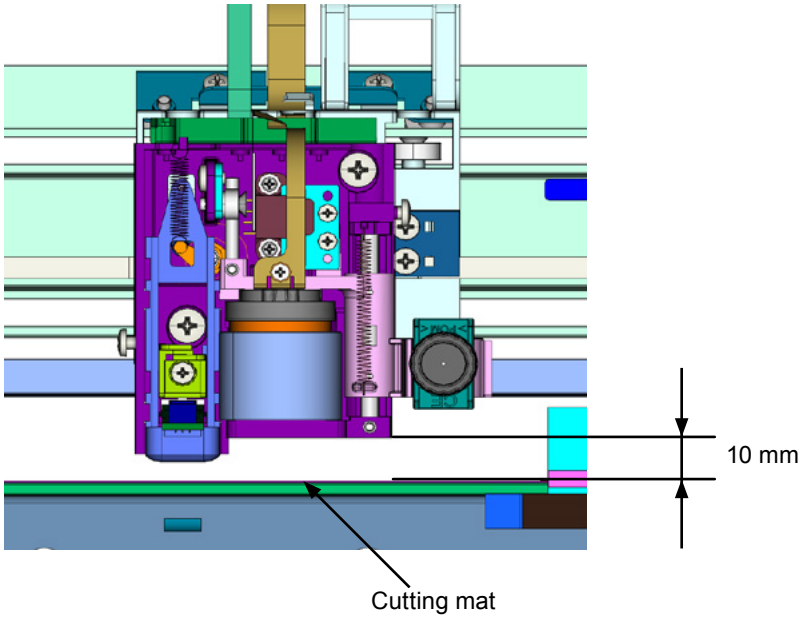
How to reinstall the pen block

(1) Install the registration mark sensor board to the pen block in the reverse order in which it was detached.(The CE6000-120AP does not have registration mark sensor board, therefore you don't need to install it to the pen block of CE6000-120AP.)

(2) Mount the pen block to the Y slider.

(3) Move the pen block to center of the Y bar and lower the Push roller when measuring the pen block height.

(4) Fasten the two M4L6 binding head screws to attach the pen block so that there is a gap of 10 mm between the bottom of the pen block and the cutting mat. Perform a visual check to make sure that the pen block is not mounted at an angle.



(5) Reattach the other parts in the reverse order in which they were detached.

(6) Perform the pen force adjustment (See section 7.7.).

(7) Perform the registration mark sensor offset adjustment (see Section 7.9).

6.2.7 Push Roller Sensor

How to detach the push roller sensor

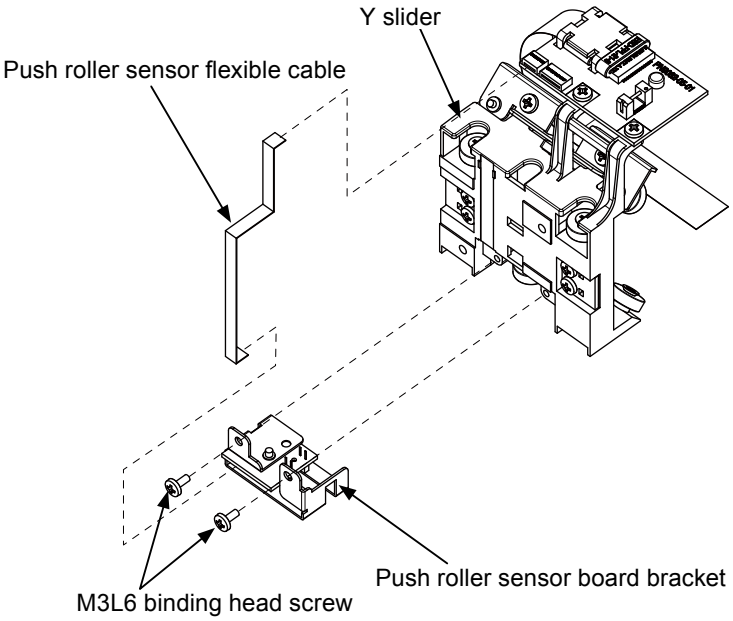
(1) Detach the center cover (See section 6.1.3.).

(2) Detach the pen block (See section 6.2.6.).

(3) Disconnect the push roller sensor flexible cable from the Y-relay board.

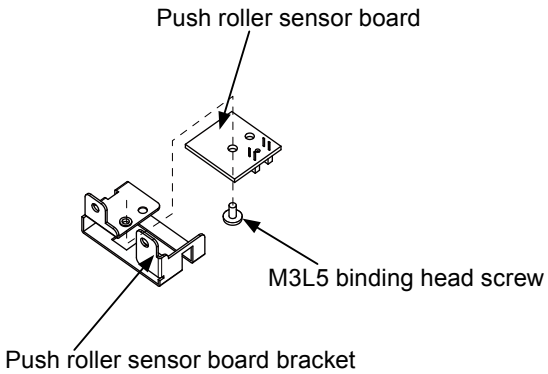
(4) Remove the push roller sensor flexible cable that is attached with double-sided adhesive tape to the Y-slider.

(5) Remove the M3L6 binding head screw holding the push roller sensor bracket, and then detach the push roller sensor bracket from the Y slider.



(6) Disconnect the push roller sensor flexible cable from the push roller sensor board.

(7) Remove the M3L5 binding head screw holding the push roller sensor board, and then detach the push roller sensor board.



How to reinstall the push roller sensor

(1) Reattach the Push roller sensor board in the reverse order in which it was detached.

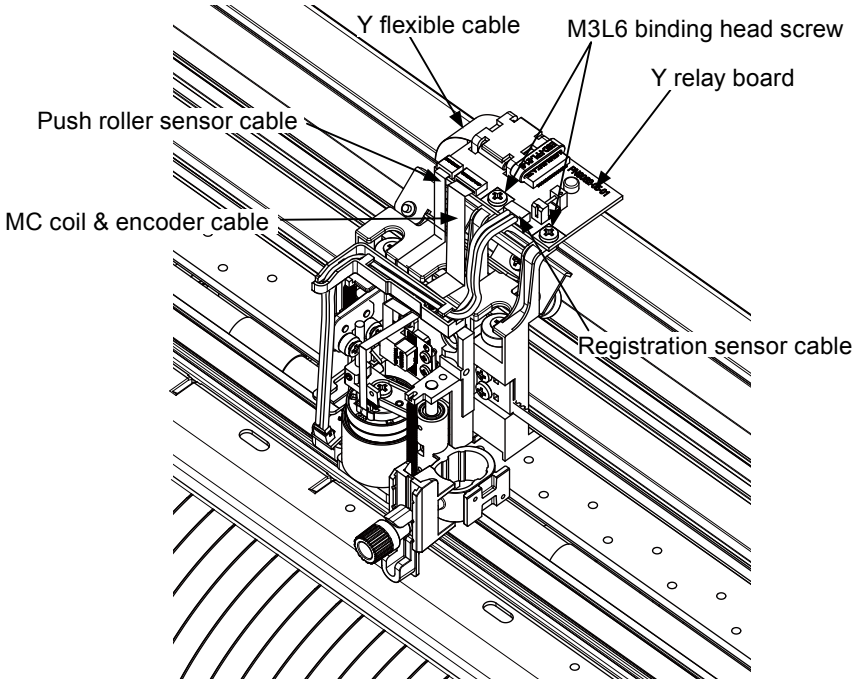
6.2.8 Y-relay Board

How to detach the Y-relay board

(1) Detach the center cover (See section 6.1.3.).

(2) Detach the pen block cover (See section 6.2.6.).

(3) Disconnect all the cables from the Y-relay board.



(4) Remove the two M3L6 binding head screws attaching the Y-relay board.

How to reinstall the Y-relay board

(1) Reattach the Y-relay board in the reverse order in which it was detached.

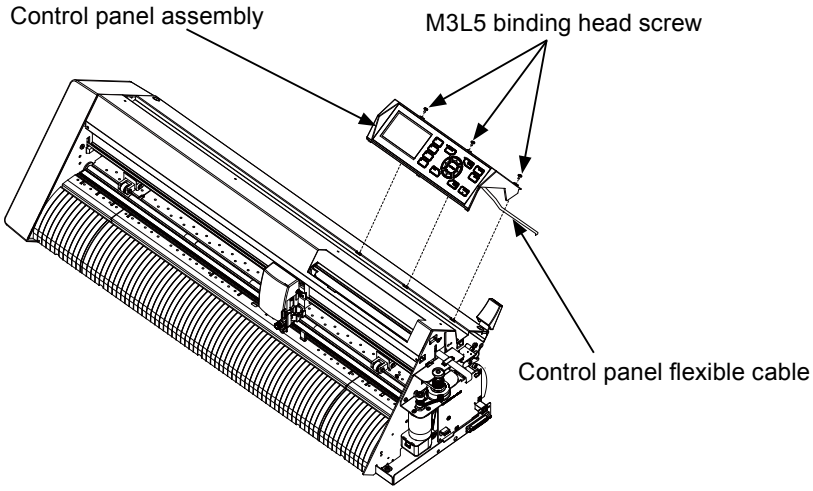
6.2.9 Control Panel Key Board

How to detach the control panel key board

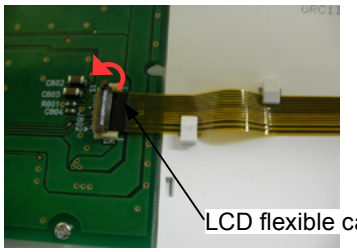
(1) Detach the right side cover (See section 6.1.1.).

(2) Disconnect the control panel flexible cable from the main board.

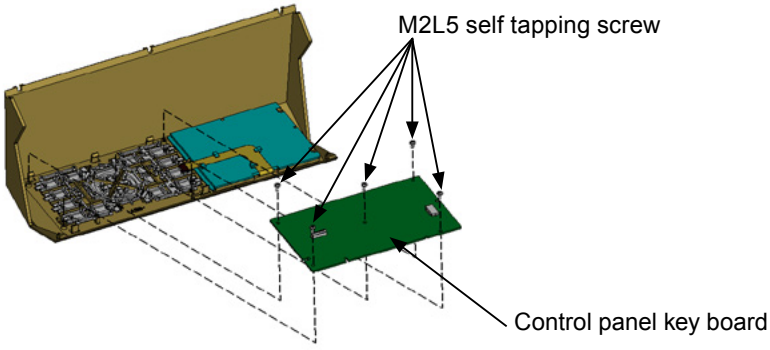
(3) Remove the three M3L5 binding head screws holding the control panel assembly, and then detach the control panel assembly.



(4) Disconnect the LCD flexible cable from the control panel key board.

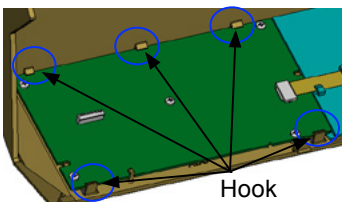


(5) Remove the five M2L5 self-tapping screws holding the control panel key board.



(6) Detach the control panel key board.

The five hooks are holding the control panel key board, release those hooks when the control panel key board is removed.



How to reinstall the control panel key board

(1) Reinstall the control panel key board in the reverse order in which it was detached.

6.2.10 LCD

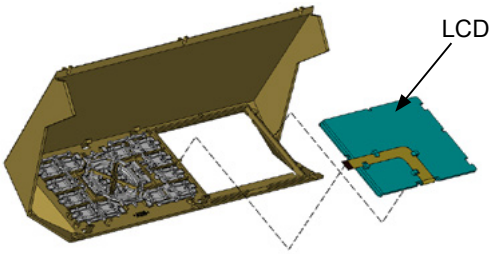
How to detach the LCD

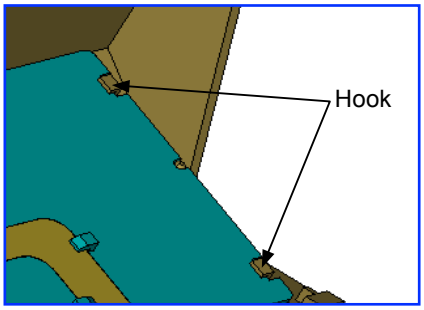
(1) Detach the right side cover (See section 6.1.1.).

(2) Detach the control panel key board (See section 6.2.9.).

(3) Detach the LCD.

The two hooks are holding the LCD, release those hooks when the LCD is removed.





How to reinstall the LCD

(1) Reattach the LCD in the reverse order in which it was detached.

6.2.11 Y-belt

How to detach the Y-belt

(1) Detach the right side cover (See section 6.1.1.).

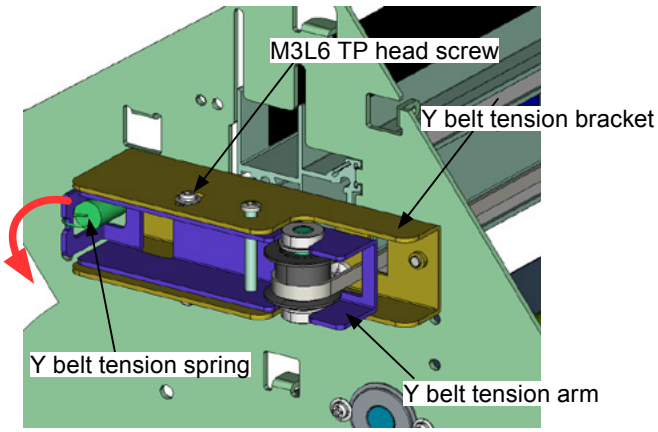
(2) Detach the left side cover (See section 6.1.2.).

(3) Detach the center cover (See section 6.1.3.).

(4) Detach the pen block (See section 6.2.6.).

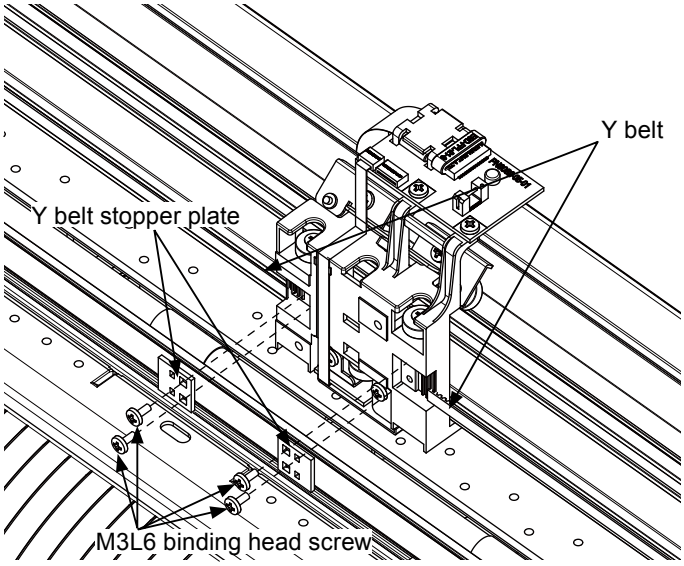
(5) Loosen the M3L6 TP head screw attaching the Y-tension arm.

(6) Pull the Y-tension arm in the direction of the arrow as shown below, then detach the Y-tension spring hook from the left side plate.



(7) Tighten the M3L6 TP head screw attaching the Y-tension arm while pulling the Y-tension arm. The Y belt tension loosen with the Y-tension arm of pulling position.

(8) Remove the four M3L6 binding head screws holding the right and left Y-belt stopper plates to the slider.

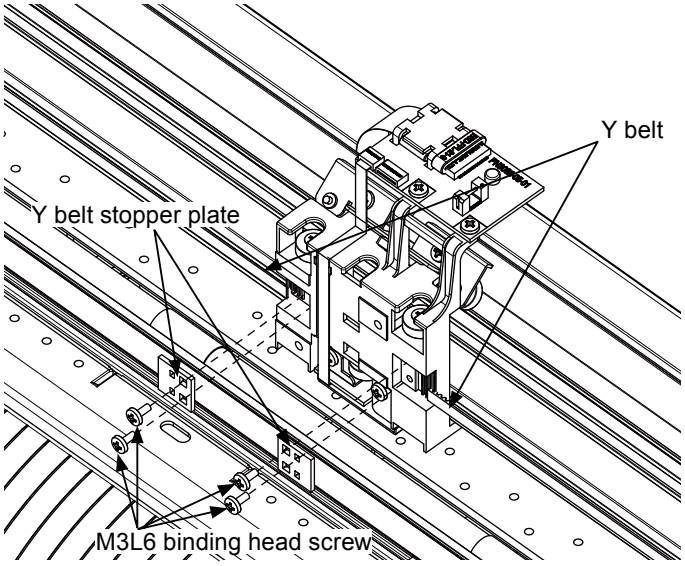


(9) Detach the Y-belt.

How to reinstall the Y-belt

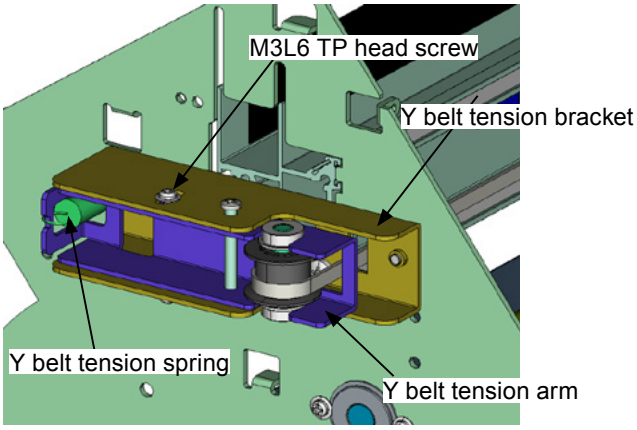
(1) Hang the Y-belt on both sides of the pulley.

(2) Attach both ends of the Y-belt to the Y-slider so that four notches of the Y-belt fit into the Y-slider, then attach with the Y-belt stopper plates removed in step (6) in the previous subsection.



(3) Reinstall the other parts in the reverse order in which they were detached.

(4) The Y belt tension is automatically adjusted with the Y belt tension spring.
Loosen the M3L6TP head screw fixing the position of the Y belt tension.
Move the pen block to the far right side, and then tighten the M3L6TP head screw to fix the position of the Y belt tension.



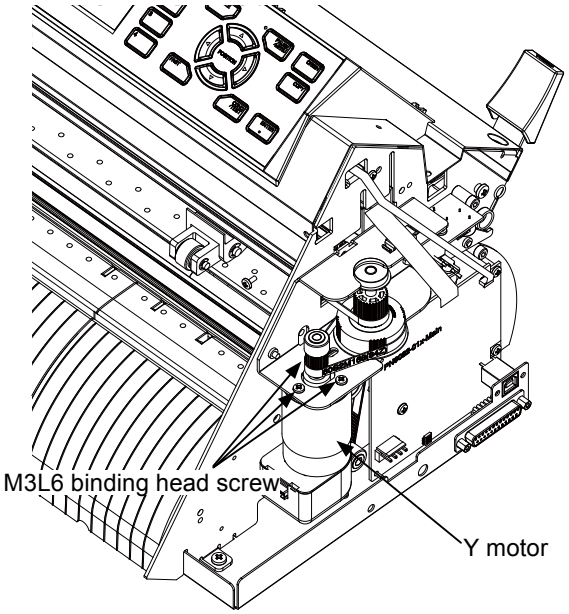
6.2.12 Y-motor

How to detach the Y-motor

(1) Detach the right side cover (See section 6.1.1.).

(2) Disconnect the Y-motor extension cable and the Y-motor encoder cable from the Y motor.

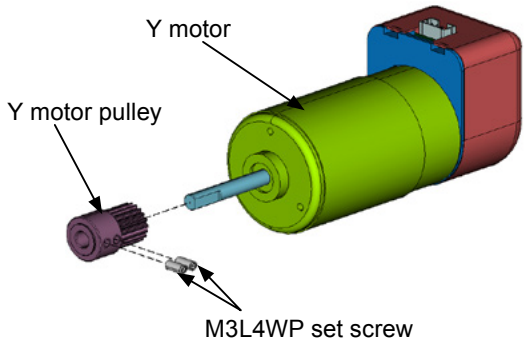
(3) Remove the three M3L6 binding head screws holding the Y-motor.



(4) Detach the Y-motor.

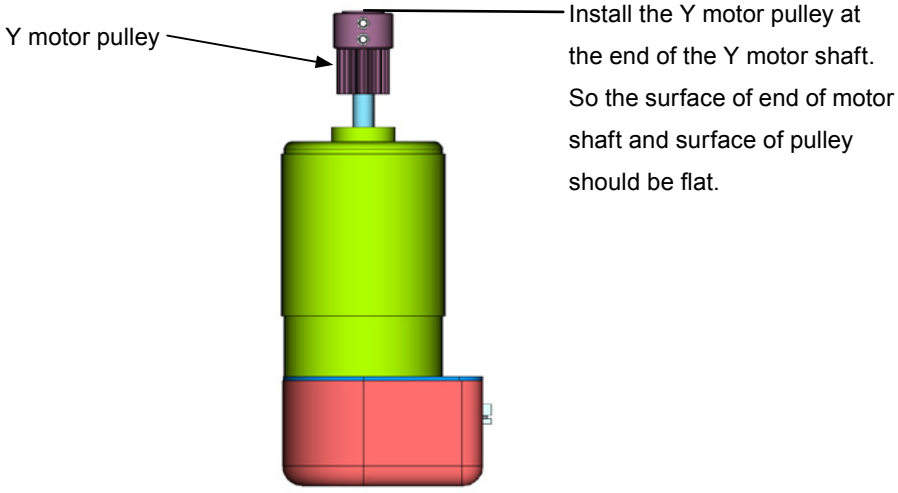
(5) Remove the two M3L4WP set screws holding the Y-motor pulley.

(6) Detach the Y-motor pulley.



How to reinstall the Y motor

(1) Install the Y motor pulley to the Y-motor.



(2) Tighten the two M3L4WP set screws holding the Y motor pulley.

(3) Install the Y-motor to the Y-motor bracket.

(4) Hang the Y drive belt on the Y motor pulley and the Y idler pulley.

(5) Spread a suitable quantity of the Shinetu silicon grease G501 on the Y-motor pulley and Y-idler pulley.

(6) Use the force gauge to pull the Y-drive motor pulley flange with a 1.8 kg to 2.0 kg force.

(7) Tighten the three M3L6 binding head screws that hold the Y-motor.

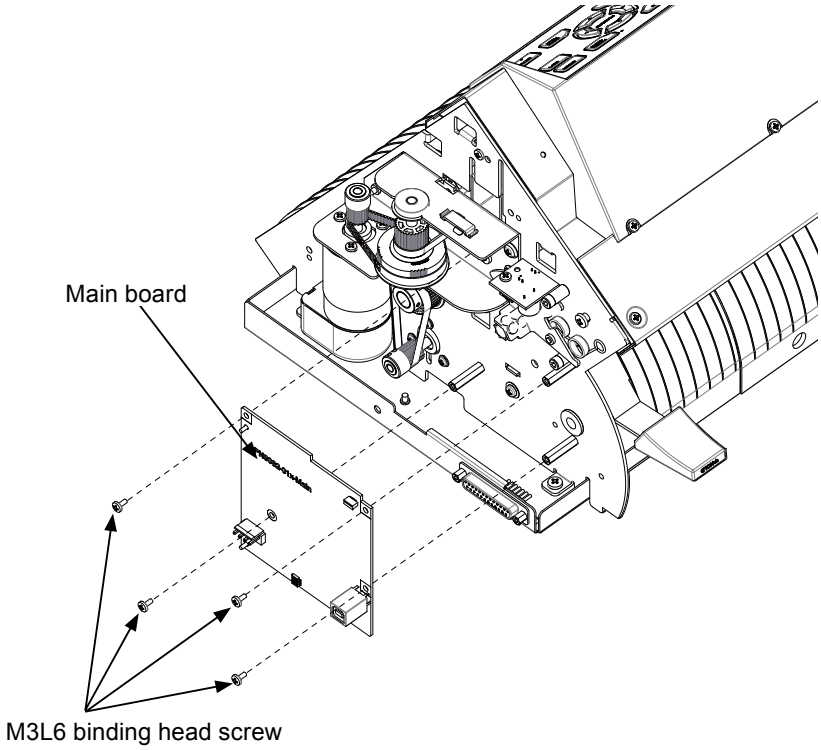
(8) Move the pen block and check the tension of the Y-drive belt.

(9) Reinstall the other parts in the reverse order in which they were detached.

6.2.13 Main Board

How to detach the main board

(1) Detach the right cover (See section 6.1.1.).



(2) Disconnect all the cables and flexible cables from the main board.

(3) Remove the four M3L6 binding head screws holding the main board.

(4) Detach the main board.

How to reinstall the main board

(1) Reattach in the reverse order in which it was detached.

(2) If you have “BOOT START ERROR” when you replaced the main board, Install the firmware for new main board (see Section 7.10).

(3) Perform any adjustments required (See section 7.2.).

6.2.14 X-motor for the CE6000-40/60

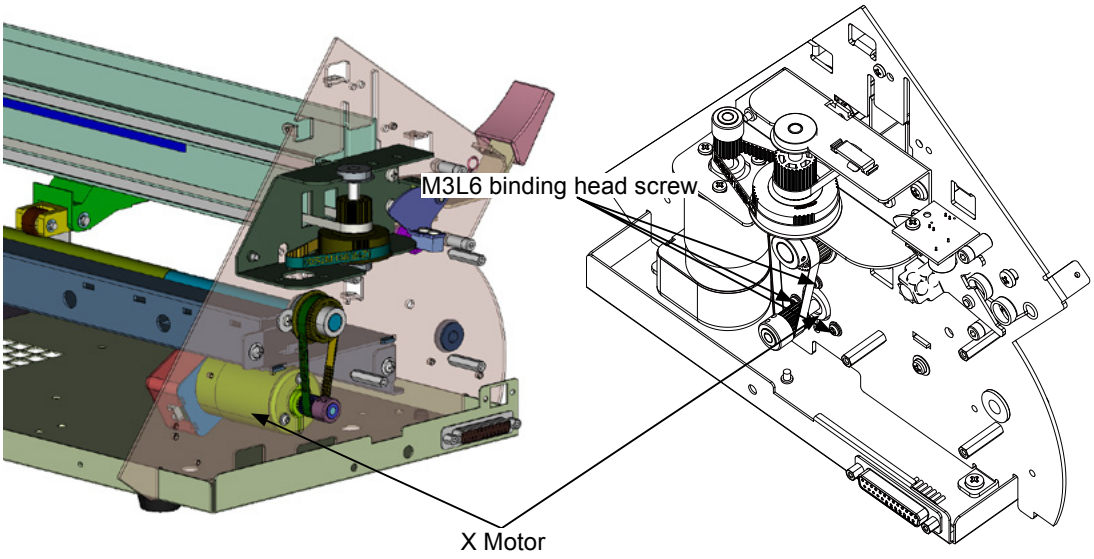
How to detach the X-motor

(1) Detach the right side cover (See section 6.1.1.).

(2) Detach the front guide (See section 6.1.4.).

(3) Detach the main board (See section 6.2.13.).

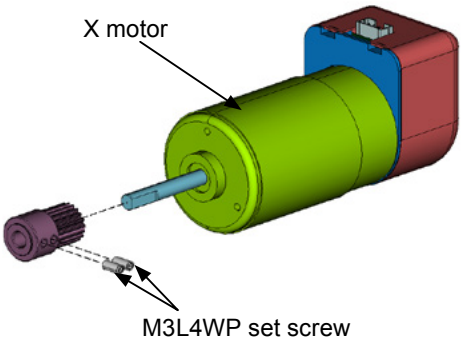
(4) Remove the three M3L6 binding head screws holding the X-motor, and then detach the X-motor.



(5) Disconnect the X-motor relay cable from the X motor.

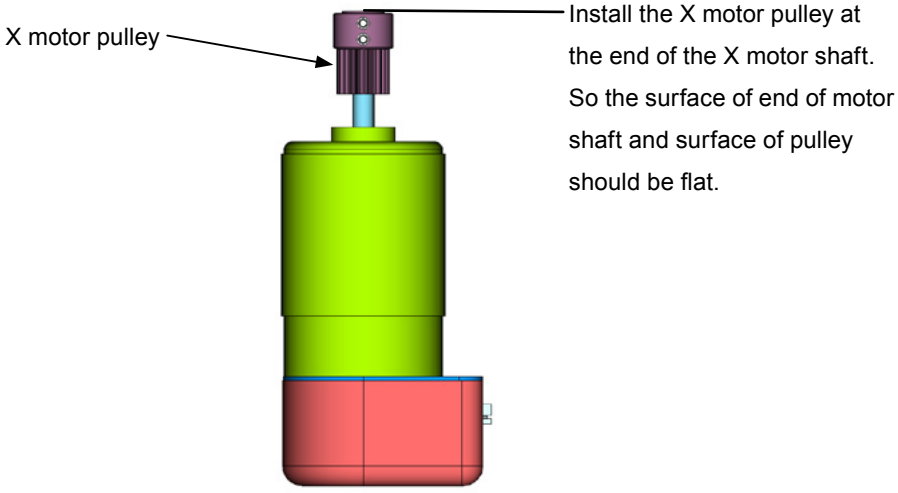
(6) Disconnect the X-Motor encoder cable from the X motor.

(7) Loosen the two M3L4WP set screws holding the X-motor pulley, and then detach the X-motor pulley.



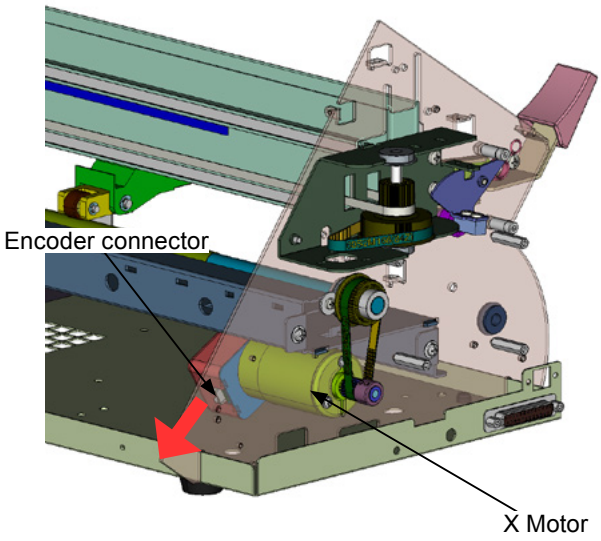
How to reinstall the X-motor

(1) Install the X motor pulley to the X-motor.



(2) Tighten the two M3L4WP set screws holding the X motor pulley.

(3) Install the X-motor to the right side plate.



Mount the X motor that the encoder connector of X motor to be faced to the front.

(4) Hang the X drive belt on the X motor pulley and the X drive shaft pulley.

(5) Spread a suitable quantity of the Shinetu silicon grease G501 on the X-motor pulley and X drive shaft pulley.

(6) Use the force gauge to push down the X-drive motor pulley flange with a 1.8 kg to 2.0 kg force.

(7) Tighten the three M3L6 binding head screws that hold the X-motor.

(8) Turn the X drive shaft and check the tension of the X-drive belt.

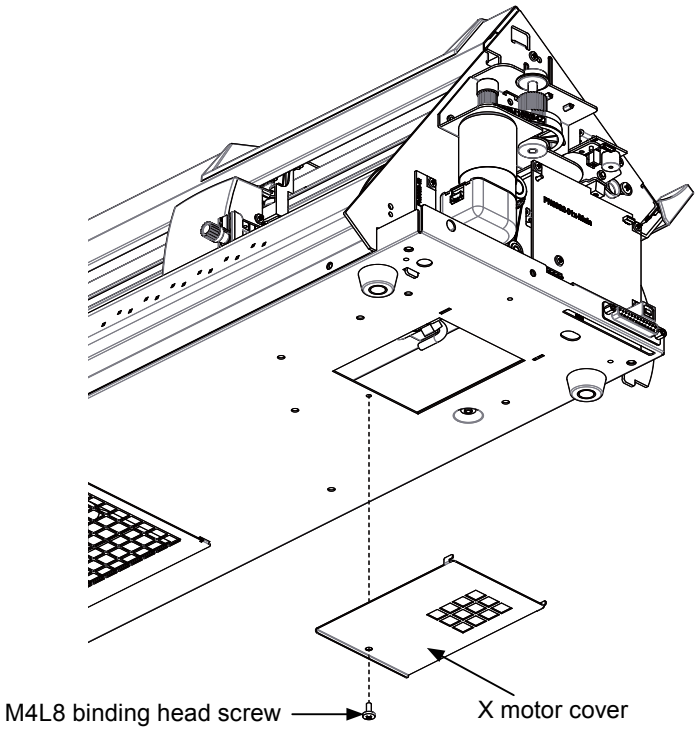
(9) Reinstall the other parts in the reverse order in which they were detached.

6.2.15 X-motor for the CE6000-120

How to detach the X-motor

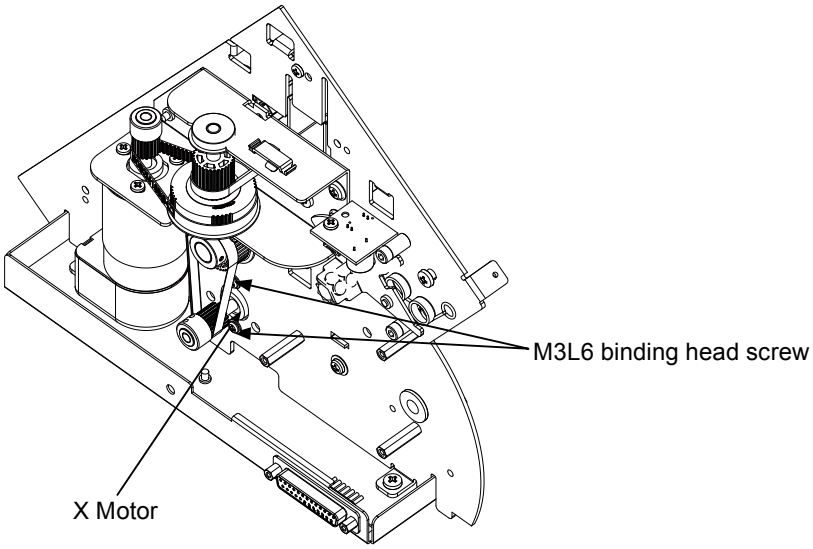
(1) Detach the right side cover (See section 6.1.1.).

(2) Remove the M4L8 binding head screws holding the X-motor cover, and then detach the X-motor cover.

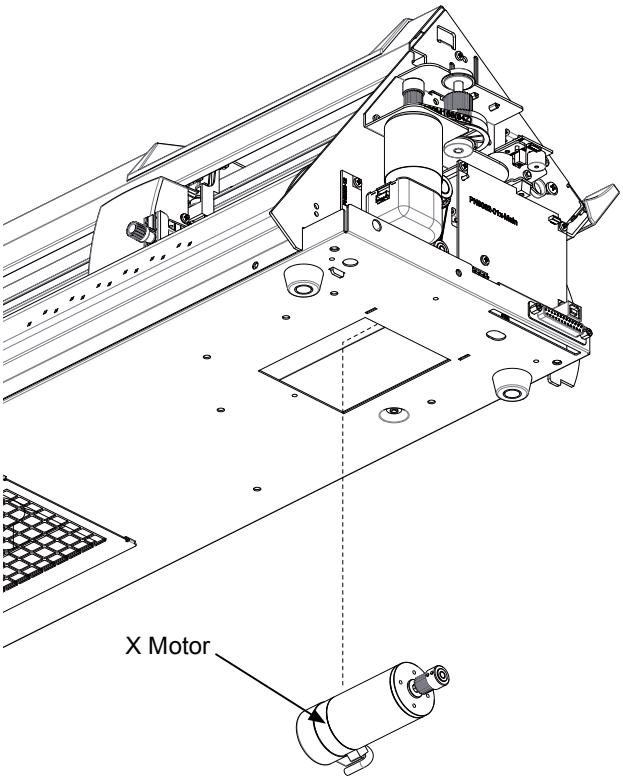


(3) Detach the main board (See section 6.2.13.).

(4) Remove the two M3L6 binding head screws holding the X-motor.



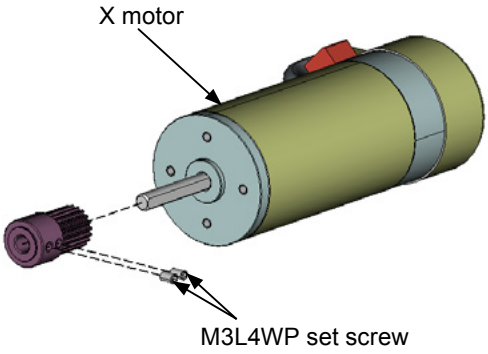
(5) Detach the X-motor.



(6) Disconnect the X-motor relay cable from the X motor.

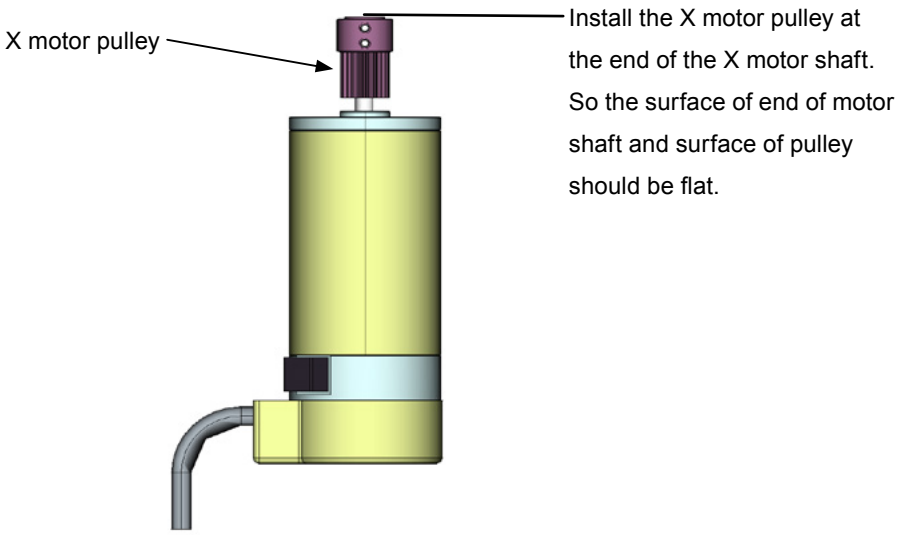
(7) Disconnect the X-Motor encoder cable from the X motor.

(8) Loosen the two M3L4WP set screws holding the X-motor pulley, and then detach the X-motor pulley.



How to reinstall the X-motor

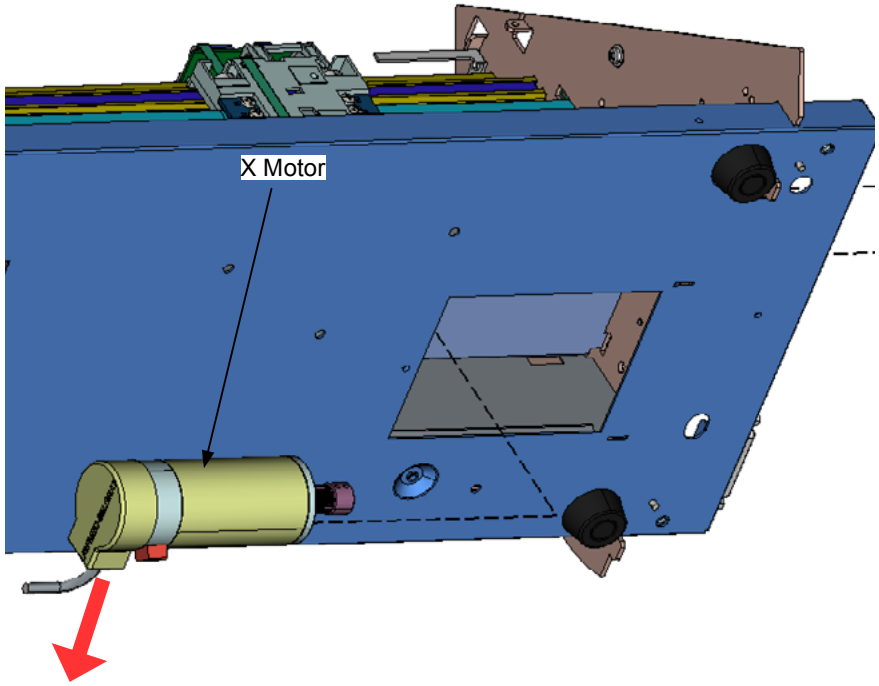
(1) Install the X motor pulley to the X-motor.



(2) Tighten the two M3L4WP set screws holding the X motor pulley.

(3) Connect the X motor cable and the X motor encoder cable to the X motor.

(4) Install the X-motor to the right side plate.



Mount the X motor that the encoder connector of X motor to be faced to the rear.

(5) Hang the X drive belt on the X motor pulley and the X drive shaft pulley.

(6) Spread a suitable quantity of the Shinetu silicon grease G501 on the X motor pulley and X drive shaft pulley.

(7) Use the force gauge to push down the X-drive motor pulley flange with a 1.8 kg to 2.0 kg force.

(8) Tighten the two M3L6 binding head screws that hold the X-motor.

(9) Turn the X drive shaft and check the tension of the X-drive belt.

(10) Reinstall the other parts in the reverse order in which they were detached.

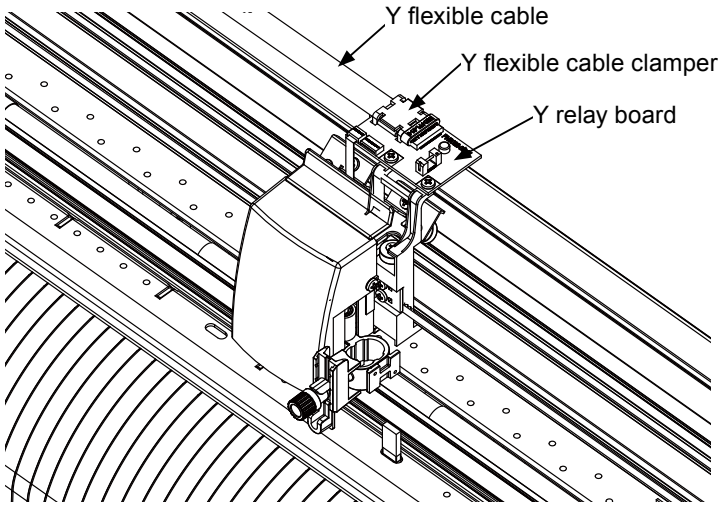
6.2.16 Y-flexible Cable

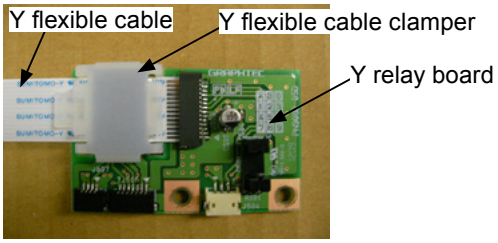
How to detach the Y-Flexible cable

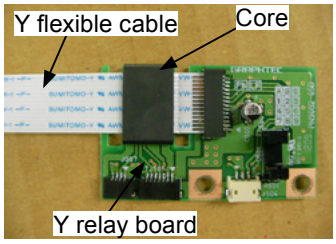
(1) Detach the right side cover (See section 6.1.1.).

(2) Detach the center cover (See section 6.1.3.).

(3) Remove the flexible cable clamper holding the Y-flexible cable and the core on the Y-relay board.



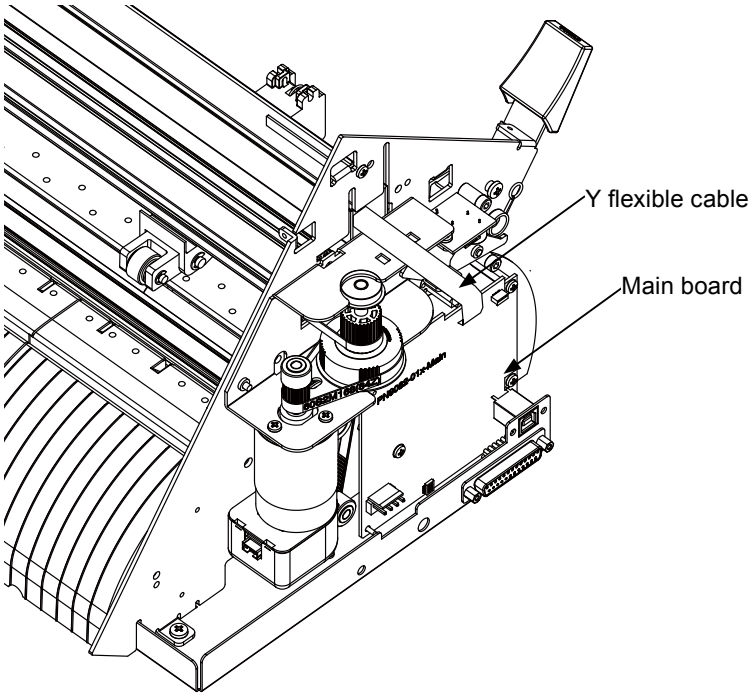




(4) Detach the core attached with double-sided adhesive tape to the Y-relay board.

(5) Disconnect the Y-flexible cable from connector on the Y-relay board.

(6) Disconnect the Y-flexible cable from connector on the main board.



(7) Remove the Y-flexible cable attached with double-sided adhesive tape to the Y-rail.

How to reinstall the Y-flexible cable

(1) Clean the surface of the Y-rail with alcohol to remove any glue from the double-sided adhesive tape that was attached the Y-flexible cable.

(2) Affix two pieces of double-sided adhesive tape to the flexible cable guide of the Y-rail. The first piece of tape should start at the right end of the Y-rail. The position of the second piece of tape depends on the model.

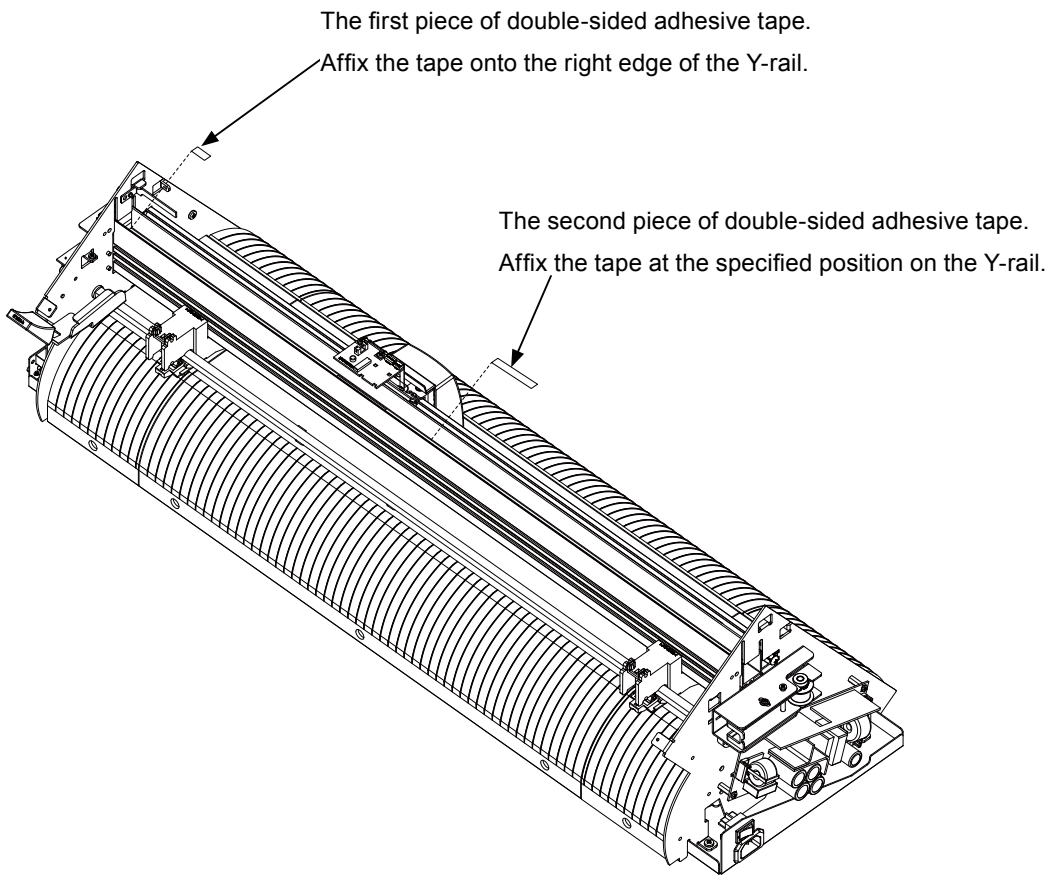
Size of the double-sided adhesive tape:

10 mm wide, 20 mm long for the first piece of tape (Nitto #5000NS)

10 mm wide, 50 mm long for the second piece of tape (Nitto #5000NS)

Position of the second piece of tape:

CE6000-40:	240 mm from the right end of the Y-rail
CE6000-60:	330 mm from the right end of the Y-rail
CE6000-120/AMO/AP:	650 mm from the right end of the Y-rail



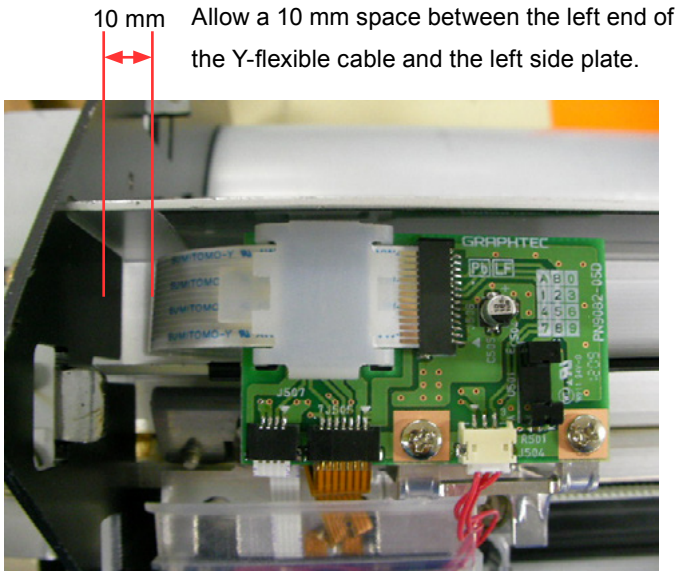
(3) Insert the Y-flexible cable into the core and connect the Y-flexible cable onto the Y relay board.

(4) Attach the core to the Y-relay board using double-sided adhesive tape.

(5) Attach the flexible cable clamper to hold the Y-flexible cable and the core on the Y-relay board.

(6) Move the pen block to the left end.

(7) Fit the Y-flexible cable into the Y-rail as shown below. The Y-flexible cable shouldn't touch the left side plate. Allow a 10 mm space between the left end of the Y-flexible cable and the left side plate.



(8) Secure the Y-flexible cable onto the flexible cable guide of the Y-rail using double-sided adhesive tape.

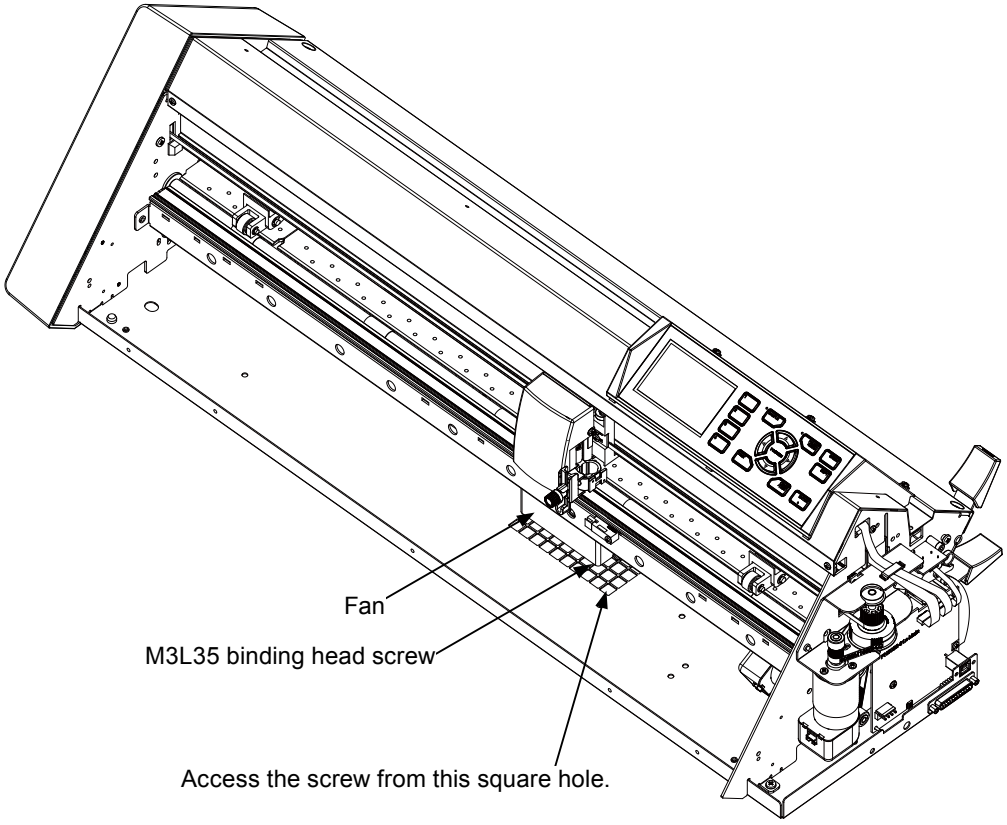
(9) Reattach the other parts in the reverse order in which they were detached.

6.2.17 Vacuum Fan for the CE6000-40/60

How to detach the vacuum fan

(1) Detach the right cover (See section 6.1.1.).

(2) Detach the front guide (See section 6.1.4.).



(3) Remove the harness tie-wrap holding the vacuum fan cable.

(4) Disconnect the vacuum fan cable from the connector on the main board.

(5) Use a long screwdriver to remove the two M3L35 binding head screws holding the vacuum fan from the holes of the bottom chassis.

(6) Detach the vacuum fan from the main unit.

How to reinstall the vacuum fan

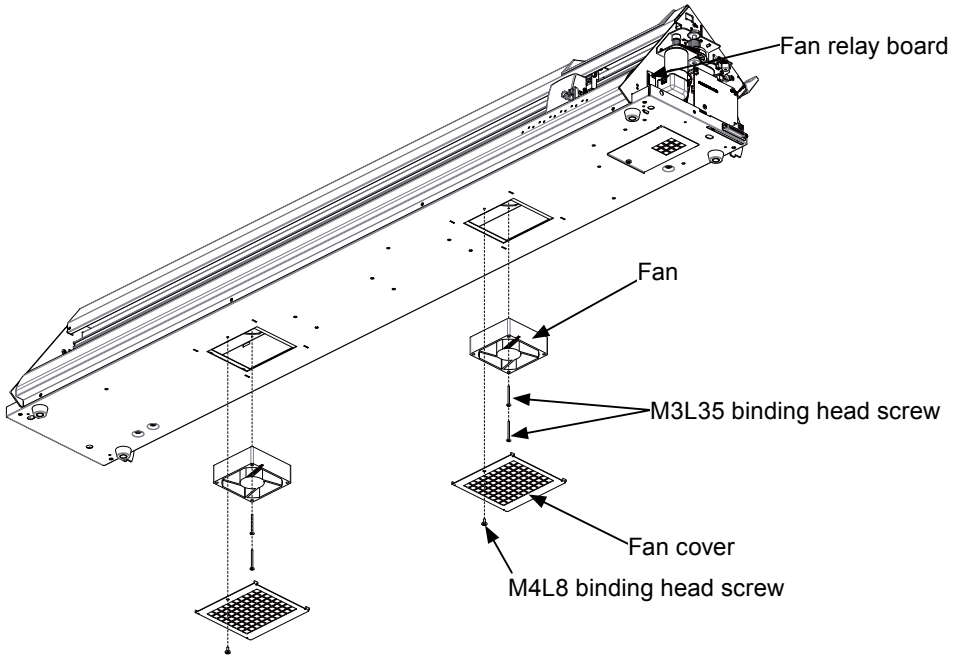
(1) Reattach in the reverse order in which it was detached.

6.2.18 Vacuum Fan for the CE6000-120

How to detach the vacuum fan

(1) Detach the right cover (See section 6.1.1.).

(2) Detach the front guide (See section 6.1.5.).



(3) Remove the harness tie-wrap holding the vacuum fan cables.

(4) Disconnect the vacuum fan cable from the connector on the fan relay board. (Right side fan)
Disconnect the vacuum fan cable from the fan extension cable. (Left side fan)

(5) Remove the M4L8 binding screw holding the fan cover, and then detach the fan cover.

(6) Use a long screwdriver to remove the two M3L35 binding head screws holding the vacuum fan from the main frame.

(7) Detach the vacuum fan from the main frame.

How to reinstall the vacuum fan

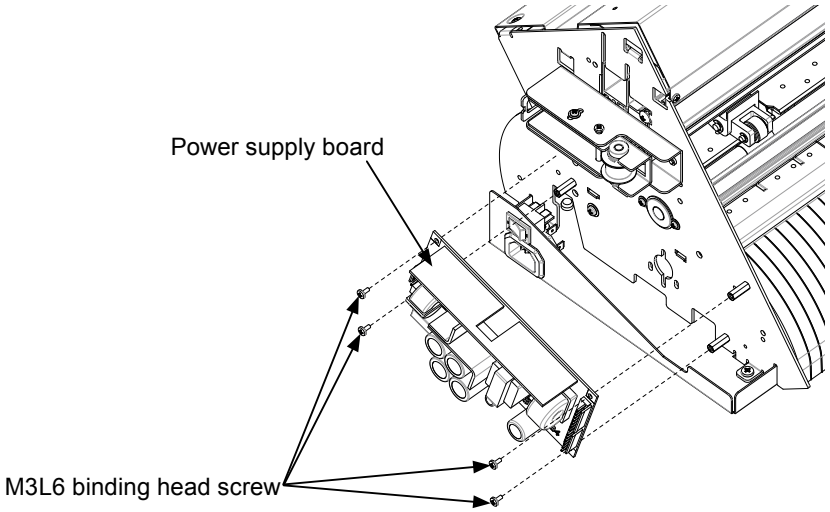
(1) Reattach in the reverse order in which it was detached.

6.2.19 Power Supply

How to detach the power supply

(1) Detach the left side cover (See section 6.1.2.).

(2) Disconnect the cables from the power supply board.



(3) Remove the four M3L6 binding head screws holding the power supply board.

(4) Detach the power supply from the chassis.

How to reinstall the power supply

(1) Reattach in the reverse order in which it was detached.

6.2.20 Drive Roller shaft

How to detach the drive roller

(1) Detach the right side cover (See section 6.1.1.).

(2) Detach the left side cover (See section 6.1.2.).

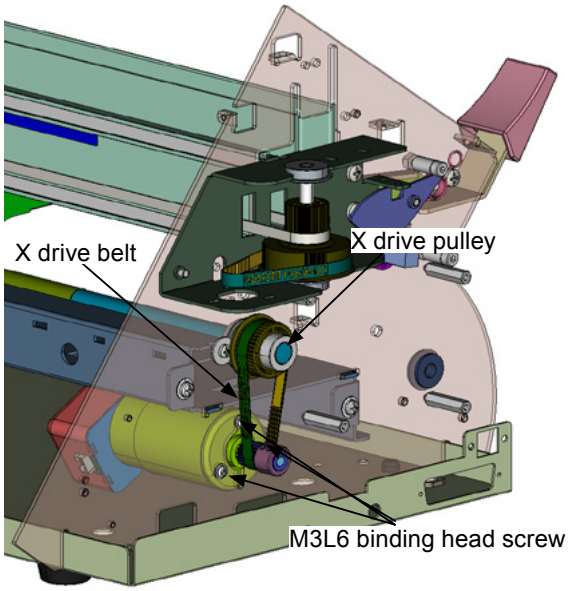
(3) Detach the rear guide (See section 6.1.6 for the CE6000-40/60, See section 6.1.7 for the CE6000-120.).

(4) Detach the main board (See section 6.2.13.).

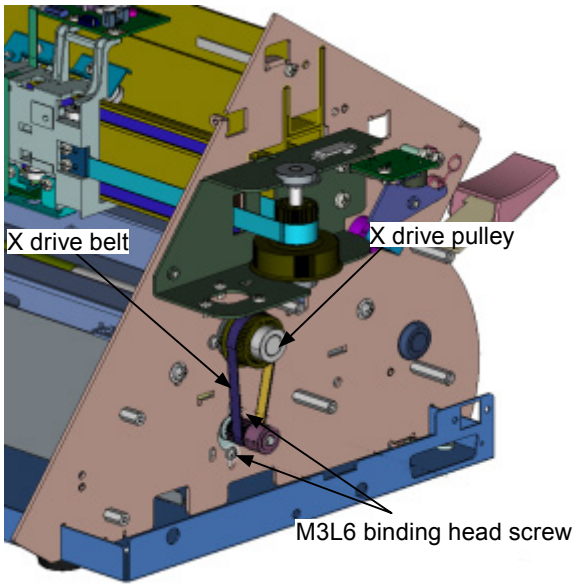
(5) Detach the Y motor (See section 6.2.12.).

(6) Loosen the tree M3L6 binding head screws holding the X-motor of the CE6000-40/60.
Loosen the two M3L6 binding head screws holding the X-motor of the CE6000-120.

CE6000-40/60

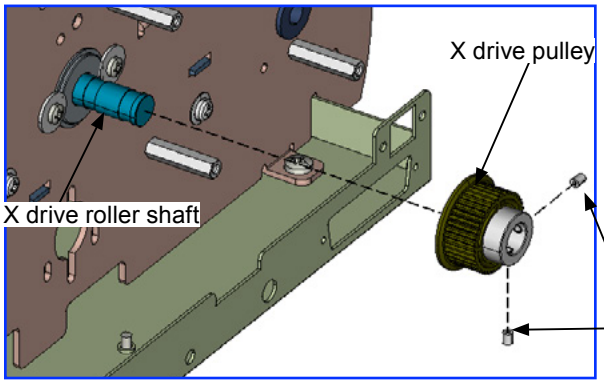


CE6000-120

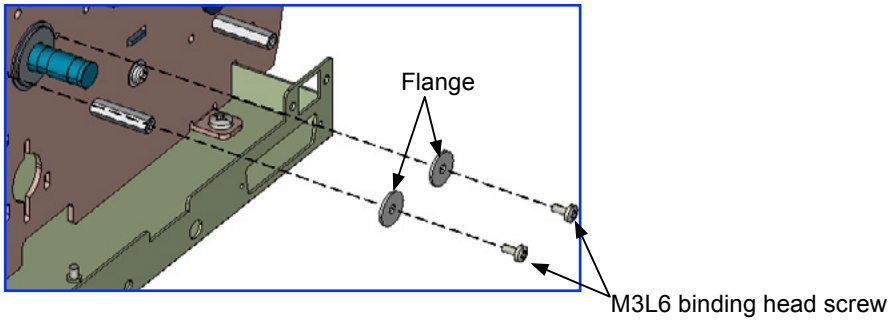


(7) Push up the X-motor to remove the X drive belt from the X motor pulley and the X drive roller pulley.

(8) Loosen the two M3L4WP set screws holding the X-drive pulley, and then detach the X-drive pulley from the drive shaft.



(9) Remove the two M3L6 binding screws holding the X-drive roller bearing with a bearing stopper flange.



(10) Remove the bearing from the X drive roller shaft, and then slide out the X-drive roller from the unit.

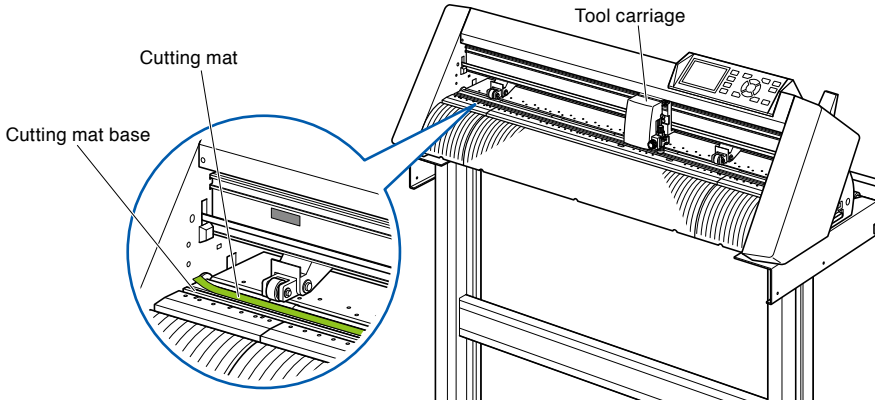
How to reinstall the drive roller

(1) Reattach in the reverse order in which it was detached.
(2) Spread a suitable quantity of Loctite 222 on the M3L4WP set screw holding the X-drive pulley.
(3) Use the force gauge to pull the X-drive motor pulley flange with a 1.8 kg to 2.0 kg force.
(4) Tighten the mounting screws that hold the X-motor.
(5) Spread a suitable quantity of the Shinetu silicon grease G501 on the X-motor pulley.
(6) Move the X-drive pulley and check the tension of the X-drive belt.
(7) Reattach the other parts in the reverse order in which they were detached.

6.2.21 Cutting Mat

How to detach the cutting mat

(1) Peel off the cutting mat from the cutting mat base.



How to reinstall the cutting mat

(1) Clean the surface of the cutting base with alcohol where the cutting mat was attached.

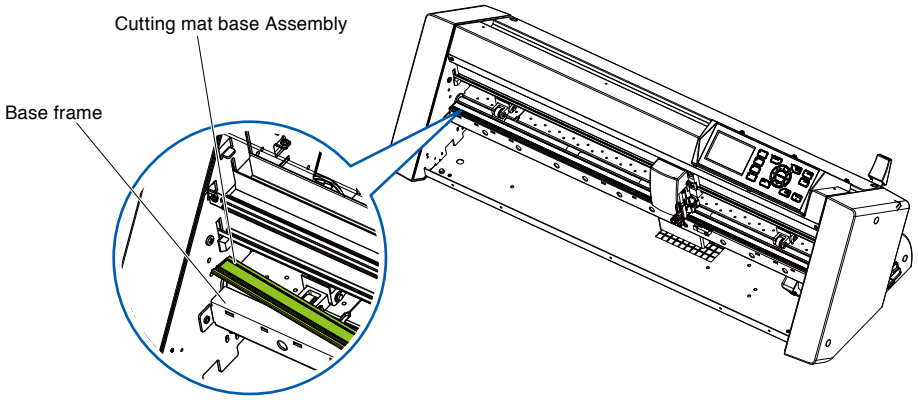
(2) Attach the new cutting mat to the cutting mat base.

6.2.22 Cutting Mat Base Assembly

How to detach the cutting mat base assembly

(1) Detach the front guide (See section 6.1.4.) for the CE6000-40 and 60.
Detach the front guide (See section 6.1.5.) for the CE6000-120.

(2) Peel off the cutting mat base from the base frame.



How to reinstall the cutting mat base assembly

(1) Clean the surface of the base frame with alcohol where the cutting mat base assembly was attached.

(2) Attach the new cutting mat assembly to the base frame to the following position.

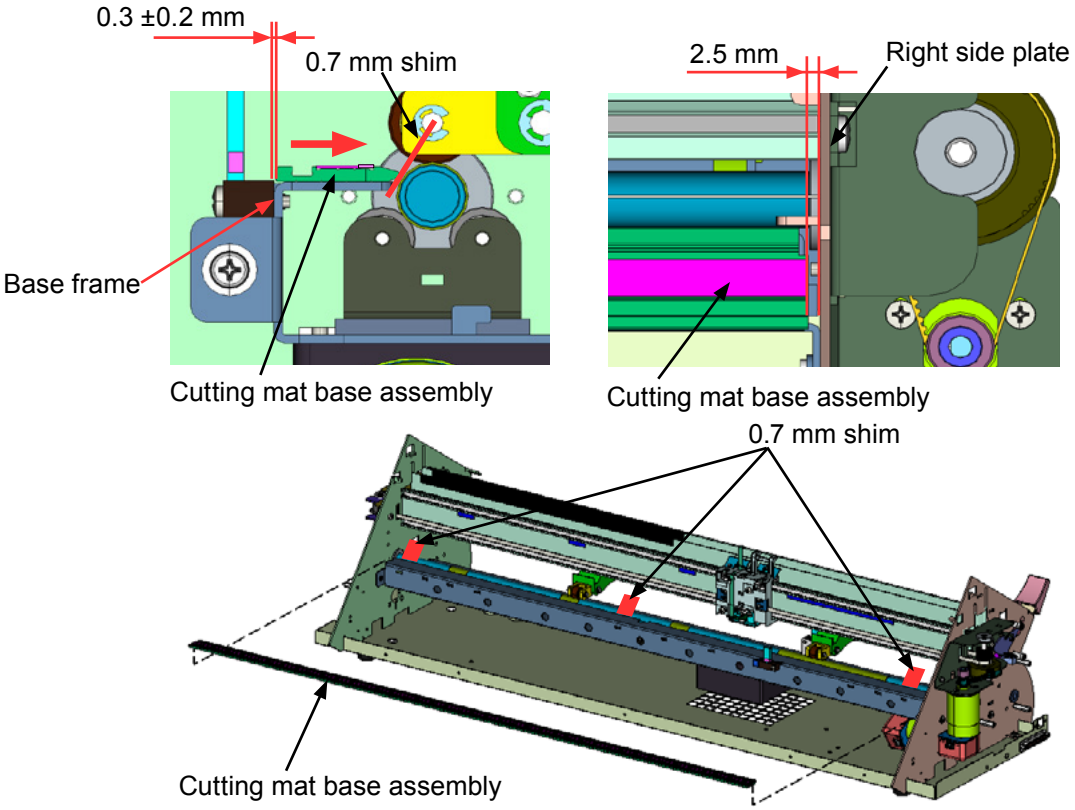
(3) Insert the three sheets of 0.7 mm shim to the left, the center, and the right between the drive roller and the base frame.

And then position the cutting mat base assembly to be touched to the three shims.

And the space between the front edge of Cutting mat base assembly and the front edge of base frame must have 0.3±0.2 mm when the cutting mat base assembly is positioning.

And position the right edge of cutting mat base assembly at the 2.5 mm from the right side plate.

Removes the protection sheets from the cutting mat base assembly and then puts the cutting mat base assembly to the location above.



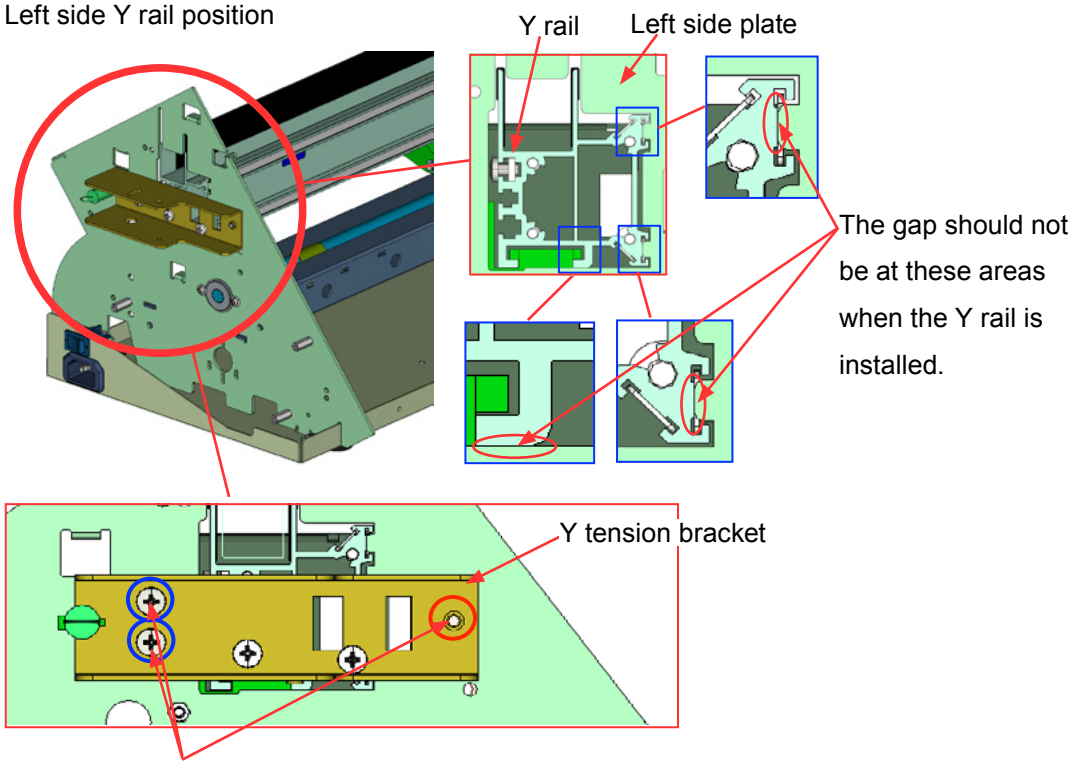
6.2.23 How to Confirm the Y rail mounting position

Confirm the Y rail mounting position if you are installing the Y rail to the main unit.

Y-rail mounting position

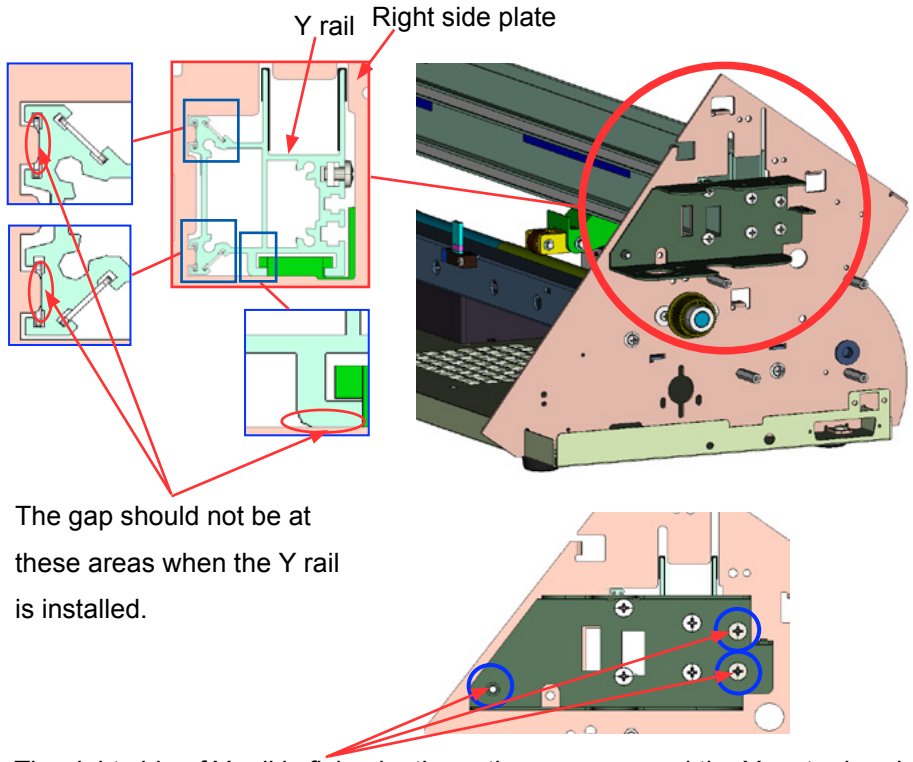
Mount the Y-rail as shown in the picture below when the Y-rail is installing.

Left side Y rail position



The left side of Y rail is fixing by these three screws and the Y tension bracket.

Right side Y rail position



The right side of Y rail is fixing by these three screws and the Y motor bracket.

The bottom part of Y-rail has to touch to the side panel plate and the front part of Y-rail has to touch to the side panel plate when installing the Y-rail.
The push roller will not become to the center of the drive roller if the front part of Y-rail does not touch to the side panel plate.
And the height from the push roller and the drive roller will not become same height at right and left if the bottom part of Y-rail does not touch to the side panel plate.

How to adjust Y-rail mounting position

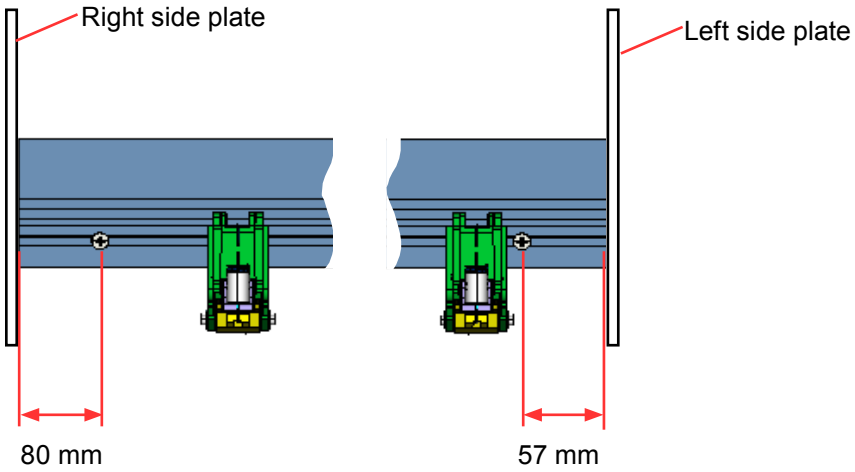
(1) The Y rail is holding by the Y motor bracket and the Y idler pulley bracket.
(2) Lift up the push rollers.
(3) Loosen the screws holding the Y motor bracket and the Y tension bracket, and then adjust the position for the Y rail.
(4) Tighten the screws after the Y rail position is adjusted.

6.2.24 Regarding the Push Roller position limit Screws

The movable range of left side and the right side push rollers are limited by the two screws. Tighten the two screws at correct position as shown in the picture below when you had removed or loosen those screws.

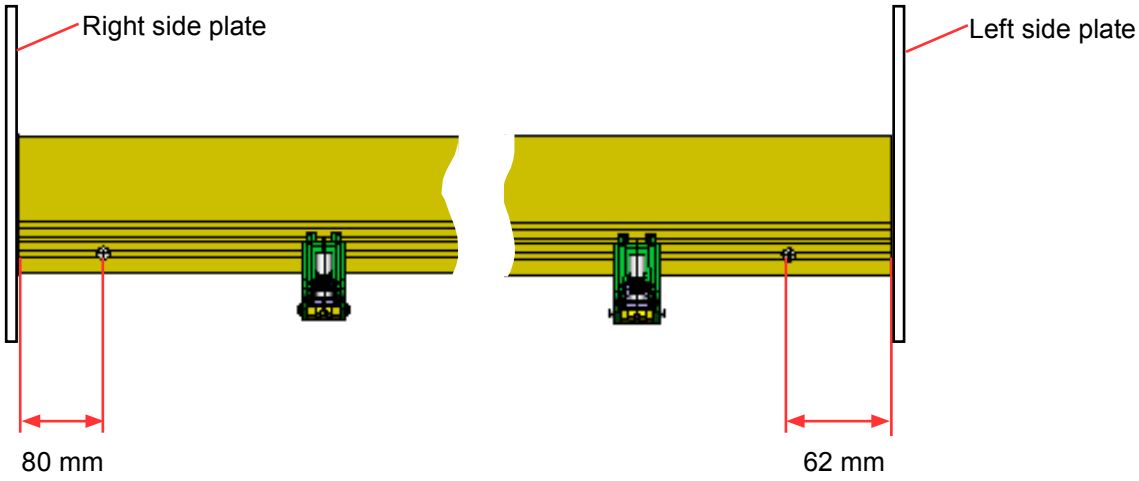
CE6000-40/60

Rear view



CE6000-120/120AMO/120AP

Rear view



7 ELECTRICAL ADJUSTMENTS

7.1 DIP Switch Settings

Factory presets (Normal Mode)

Dip Switch	1	2	3	4	Model
SW1 (ON / OFF, 1 2 3 4)	OFF	OFF	OFF	OFF	CE6000-40 Old Grid Roller (Right side grid roller width 150 mm)
SW1 (ON / OFF, 1 2 3 4)	OFF	OFF	ON	OFF	CE6000-40/CE6000-40 PLUS New Grid Roller (Right side grid roller width 160 mm)
SW1 (ON / OFF, 1 2 3 4)	ON	OFF	OFF	OFF	CE6000-60 CE6000-60 PLUS
SW1 (ON / OFF, 1 2 3 4)	OFF	ON	OFF	OFF	CE6000-120/AMO CE6000-120PLUS
SW1 (ON / OFF, 1 2 3 4)	ON	ON	OFF	OFF	CE6000-120AP

Note: Perform the NOV-RAM Clear before this dip switch setting when the Model setting was changed.

NOV-RAM Clear

Dip Switch	1	2	3	4	Model
SW1 (ON / OFF, 1 2 3 4)	OFF	OFF	OFF	ON	CE6000-40 CE6000-40 PLUS
SW1 (ON / OFF, 1 2 3 4)	ON	OFF	OFF	ON	CE6000-60 CE6000-60 PLUS
SW1 (ON / OFF, 1 2 3 4)	OFF	ON	OFF	ON	CE6000-120 CE6000-120 PLUS
SW1 (ON / OFF, 1 2 3 4)	ON	ON	OFF	ON	CE6000-120AP

7.2 List of Items Requiring Readjustment

If you replaced one of the units listed in the table below or altered their sensor positions, be sure to readjust the corresponding items.

Item \ Unit name	Main board	Pen block	Registration mark sensor	-X, +X paper sensor	X,Y motor	X,Y Motor drive belt	Drive roller
NOV-RAM clear	M						
Suffix setting	M	N					
Pen force adjustment	M	M					
Distance adjustment	M					M	M
Registration mark sensor adjustment	M (AP)	M	M (AP)	M (AP)			
-X, +X paper sensor position adjustment	M			M			
Firmware update	M						
Belt tension adjustment					M	M	M
Pen Exchange Y Direction adjustment	MAP						
Spacing Between Pen 1 and Pen 2 adjustment	MAP						

No mark: Unnecessary M: Must always be adjusted N: To be adjusted as necessary

(AP): The CE6000-120AP is not necessary to perform

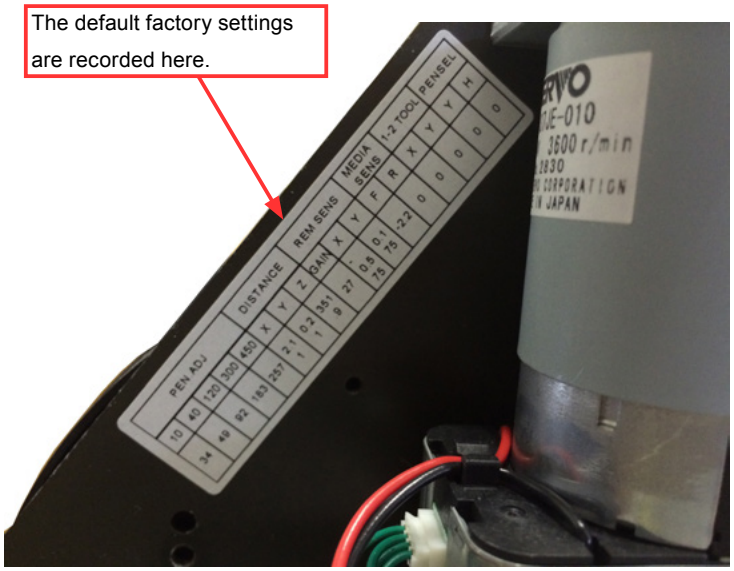
MAP: Must always be adjusted only for the CE6000-120AP

Note: The main board must have the latest version of firmware unless otherwise specified.

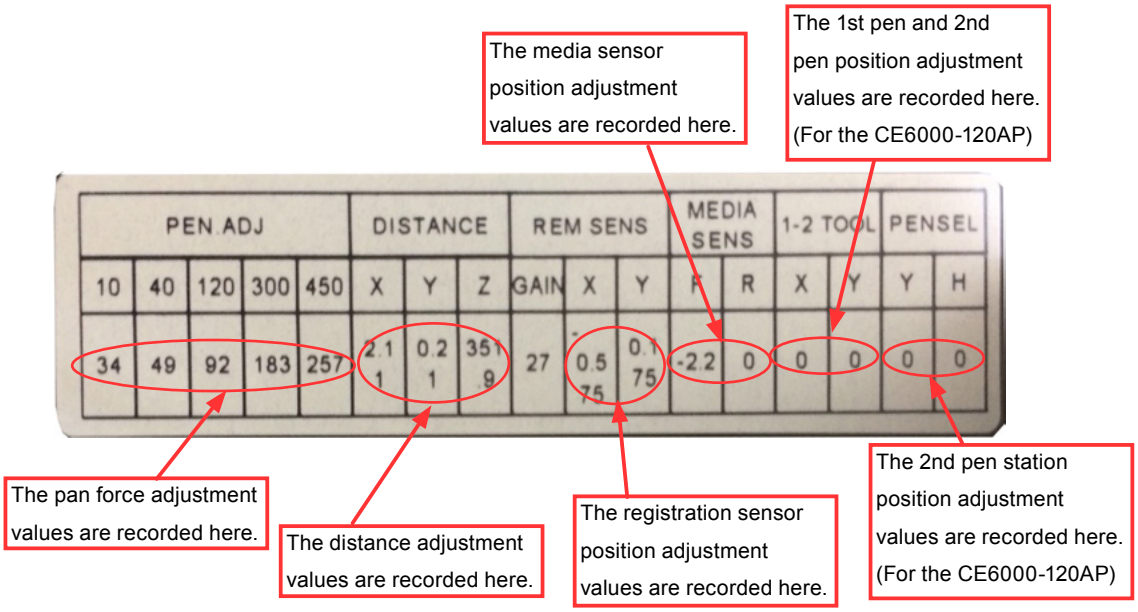
7.3 Explanation of the Values of the Main Board Settings

(Default factory settings)

The default factory settings are recorded on the right side plate shown below.



The contents of an example record are shown below.



You can input the same values when you have replaced the main board without making any adjustments except the Registration Mark Sensor Sensitivity adjustment.

If you have changed any values by making adjustments, record those values for the next maintenance check.

7.4 Clearing the Non-Volatile RAM

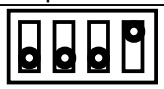
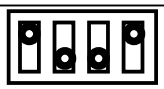
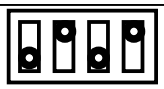
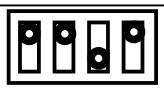
When you replace the main board, you must clear the Non-Volatile RAM (NOV-RAM).

If you clear the Non-Volatile RAM, you will lose the setup parameters for each adjustment.

Input the adjustment values to the main board after you clear the Non-Volatile RAM.

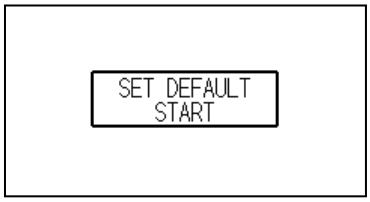
How to clear the Non-Volatile RAM.

(1) Set SW1 to the NOV-RAM clear mode as shown below.

Dip Switch	1	2	3	4	Model
SW1  ON OFF 1 2 3 4	OFF	OFF	OFF	ON	CE6000-40 CE6000-40 Plus
SW1  ON OFF 1 2 3 4	ON	OFF	OFF	ON	CE6000-60 CE6000-60 Plus
SW1  ON OFF 1 2 3 4	OFF	ON	OFF	ON	CE6000-120/120AMO CE6000-120 Plus
SW1  ON OFF 1 2 3 4	ON	ON	OFF	ON	CE6000-120AP

(2) Turn on the power to the plotter.

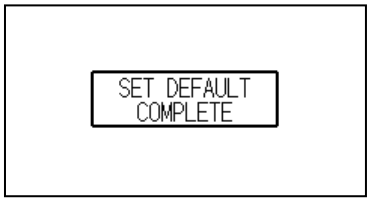
(3) The SET DEFAULT menu appears. The plotter immediately starts to clear the parameters on the NOV-RAM, and then sets the default values.



Do not turn off the power when the above menu is displaying.

It will take about one minute to set the default settings.

(4) When the default setting was finished, the COMPLETE message appears on the LCD panel.



(5) Turn off the power to the plotter.

(6) Return the SW1 setting to normal mode as shown in the subsection 7.1.

(7) Confirm the suffix setting which is corresponding to the model (See section 7.6.).

7.5 Selecting Display Language & Length Unit

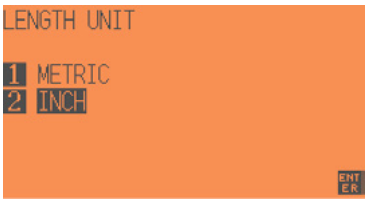
The Language selection menu and the Length Unit selection menu are displayed at the first power on.
Select the Language and the Length Unit when the Language selection is displayed.
And when you are going to enter the adjustment mode select the language to English and then select the Length unit to METRIC.

How to select the Language and Length Unit at the first power on

(1) Select “English” by using the arrow keys at the following menu.

(2) Press the ENTER key after the display language was selected.

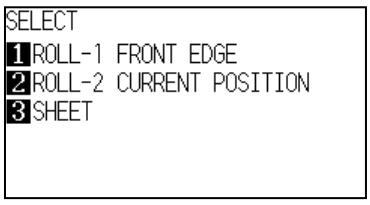
(3) Select “METRIC” by using the arrow keys at the following menu.



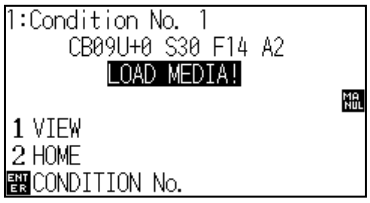
(4) Press the ENTER key after the displaying unit was selected.

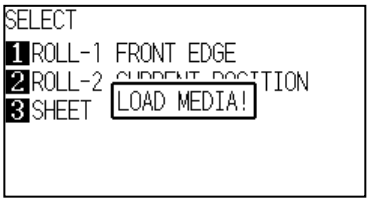
(5) The following menu is displayed.

When the media is loading to the plotter:



When the media is not loading to the plotter:





(6) Turn off the power when above menu is displayed.

7.6 The Suffix setting

There are the following models for the CE6000.

The size of model is selected by the dip-switch setting.

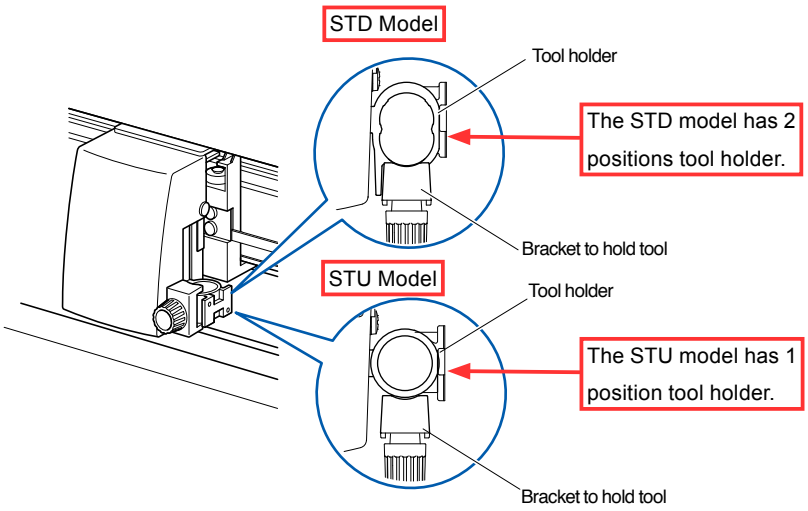
The suffix setting must be set after the size of model is selected.

Model	Suffix Model	Remarks
CE6000-40	CE6000-40-STD	Standard model of the CE6000-40
	CE6000-40-STU	USA model of the CE6000-40
CE6000-40 Plus	CE6000-40 Plus-STD	Standard model of the CE6000-40 Plus
	CE6000-40 Plus-STU	USA model of the CE6000-40 Plus
CE6000-60	CE6000-60-STD	Standard model of the CE6000-60
	CE6000-60-STU	USA model of the CE6000-60
CE6000-60 Plus	CE6000-60 Plus-STD	Standard model of the CE6000-60 Plus
	CE6000-60 Plus-STU	USA model of the CE6000-60 Plus
CE6000-120	CE6000-120-STD	Standard model of the CE6000-120
	CE6000-120-STU	USA model of the CE6000-120
	CE6000-120-AMO	Additional push roller model of the CE6000-120
CE6000-120 Plus	CE6000-120 Plus-STD	Standard model of the CE6000-120 Plus
	CE6000-120 Plus-STU	USA model of the CE6000-120 Plus
CE6000-120AP	-	There is no suffix model with the CE6000-120AP.

How to recognize the STD model and the STU model.

The STD model has 2 positions tool holder.

The STU model has 1 position tool holder.



How to recognize the CE6000-120 model and the CE6000-120AMO model

The CE6000-120-STD and STU model has 3 push-rollers.

The CE6000-120 Plus-STD has 4 push-rollers.

The CE6000-120 Plus-STU has 3 push-rollers.

The CE6000-120-AMO model has 4 push-rollers.

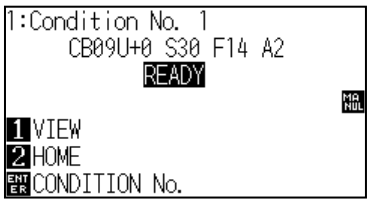
How to select the suffix model

(1) Load a sheet of paper into the plotter.

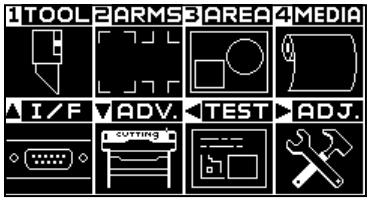
(2) Turn on the power while pressing the FAST and ENTER keys.

(3) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

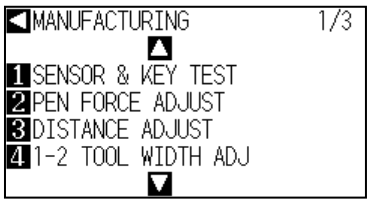
(4) Press the PAUSE/MENU key at the following menu.



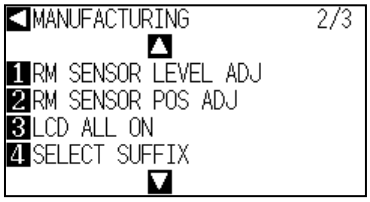
(5) The following menu is displayed, and then press the right arrow key (ADJ).



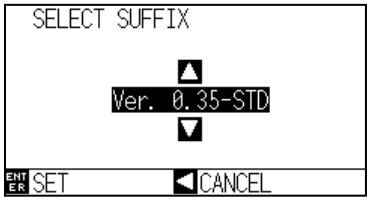
(6) The following menu is displayed.



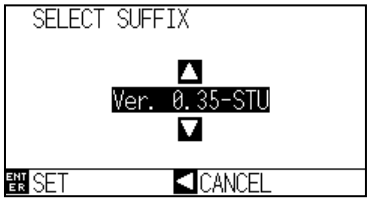
(7) Press the up arrow key until the following menu is displayed.



(8) Press the F4 key (SELECT SUFFIX) to display the following menu.

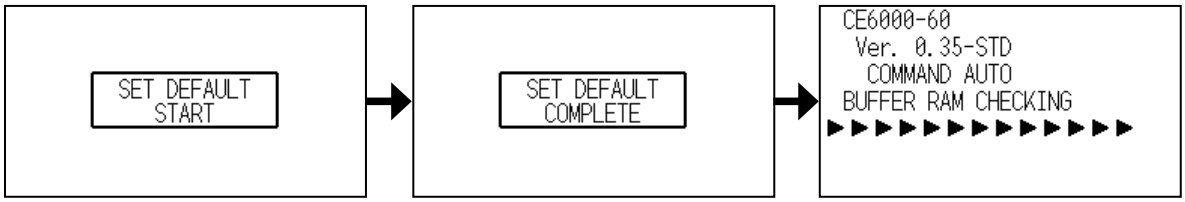


(9) Select the suffix model by using the UP or DOWN arrow key.



(10) Press the ENTER key after the suffix model is selected.

(11) The following menus are displayed.



(12) Confirm the suffix model during the initializing menu above.

(13) The following menu is displayed after the initializing is finished.

(14) Turn off the power when above menu is displayed.

7.7 Adjusting the Pen Force

This adjustment will set the pen force.

If you replace the main board, use the following procedure to input the recorded adjustment values.

If you replace the pen block assembly, you must measure the pen force by using the Correx Dial Tension gauge (50,300,500 gf) and adjust pen force to the target force with following procedure.

How to adjust the pen force

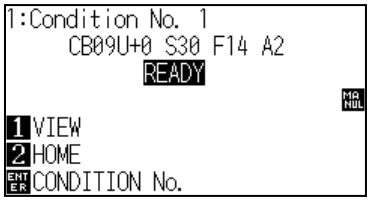
(1) Put into a 0.9 mm diameters cutter blade holder to the tool holder. (The blade length should be 0. Do not turn out the blade from the blade holder.)

(2) Load a sheet of paper into the plotter.

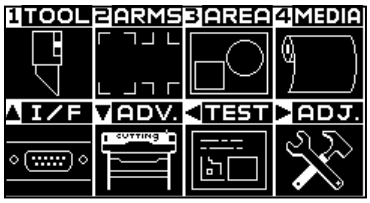
(3) Turn on the power while pressing the FAST and the ENTER keys.

(4) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

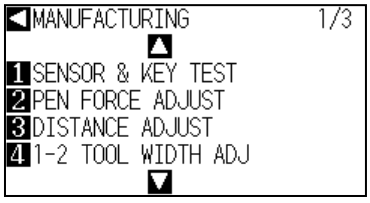
(5) Press the PAUSE/MENU key at the following menu.



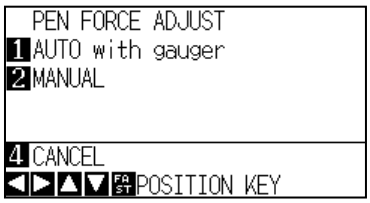
(6) The following menu is displayed, and then press the right arrow key (ADJ).



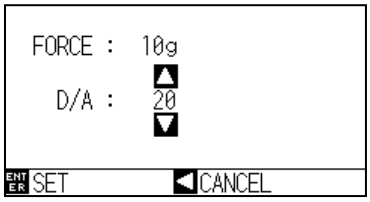
(7) The following menu is displayed.



(8) Press the F2 key (PEN FORCE) to display the following menu.



(9) Press the F2 key (MANUAL) to display the following menu.

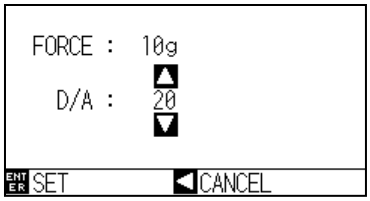


Note: Do not press the F1 key (Auto with gauger). This mode is used in production.

(10) The pen is lowered.

If you have only replaced the main board, input the adjustment values that were recorded.

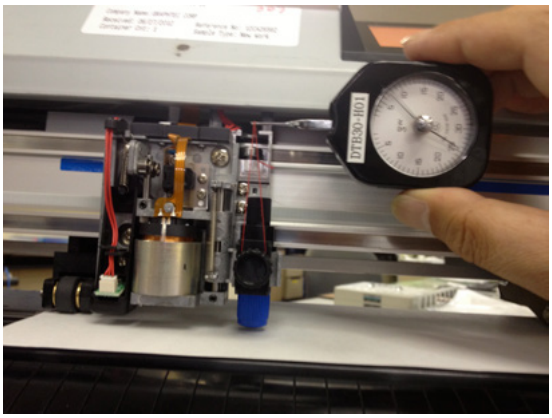
Use the UP ARROW key or DOWN ARROW key to change the force setting. The number on the LCD will increase or decrease.



Press the ENTER key after you input the recorded value for the 10 g-pen force.

The next specified pen force adjustment menu appears (Step (11)).

If you have replaced the pen block assembly, use the force gauge to measure the actual force.

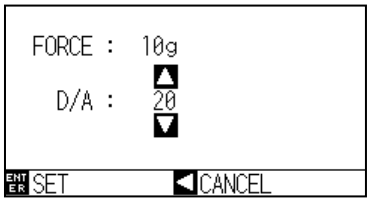


The measured pen force should be within the specification range (10±2 g).

Note: The measuring point is when the bottom of blade holder left from the surface of cutting mat. Do not keep pulling up the blade holder when measuring the pen force because the plotter gives more down pressure.

Adjust the pen force value (D/A) until the force becomes to the 10±2 g.

Use the UP ARROW key or DOWN ARROW key to change the force setting. The number on the LCD will increase or decrease.



Press the ENTER key after the measured pen force becomes to the 10±2 g.

The next specified pen force adjustment menu appears (Step (11)).

(11) Similarly, adjust the 40 g-pen force as like as step 10.

Press the ENTER key if the measured value is within the specification range (40±4 g).

Press the ENTER key if you have input the recorded value.

The next specified pen force appears.

(12) Similarly, adjust the 120 g-pen force as like as step 10.

Press the ENTER key if the measured value is within the specification range (120±10 g).

Press the ENTER key if you have input the recorded value.

The next specified pen force appears.

(13) Similarly, adjust the 305 g-pen force as like as step 10.

Press the ENTER key if the measured value is within the specification range (305±20 g).

Press the ENTER key if you have input the recorded value.

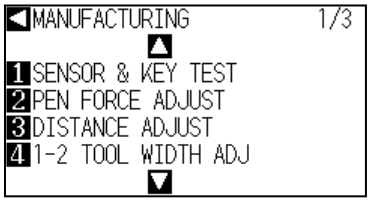
The next specified pen force appears.

(14) Similarly, adjust the 458 g-pen force as like as step 10.

Press the ENTER key if the measured value is within the specification range (458±20 g).

Press the ENTER key if you have input the recorded value.

(15) The following menu is displayed.



(16) Turn off the power when above menu is displayed.

Note: When adjusting the pen force, it is important to do it quickly. Delaying the pen force adjustment changes the temperature of the actuator and causes artificially lower readings. When this happens the actual pen force may be higher than the specification. This is especially true for the upper pen force adjustment.

Specification of the actual pen force

Specified pen force	Actual force range
10 g	8 to 12 g
40 g	36 to 44 g
120 g	110 to 130 g
305 g	285 to 325 g
458 g	438 to 478 g

Note: The “ENCODER ERROR” is displayed when starting the pen force adjustment if the blade holder is not set to the tool holder and the adjustment value is low at 10 g force adjustment. Set the blade holder to the tool holder and then adjust the pen force.

7.8 Adjusting the Distance Accuracy

This adjustment will set the distance accuracy.

If you replace the main board, use the following procedure to input the recorded adjustment values.

If you replace the grit roller, you must adjust the distance accuracy using the following procedure.

How to adjust the distance accuracy

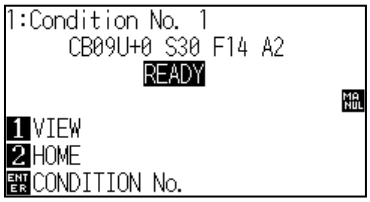
(1) Mount a ball-point pen into the pen holder.

(2) Load a sheet of A3 size paper into the plotter.

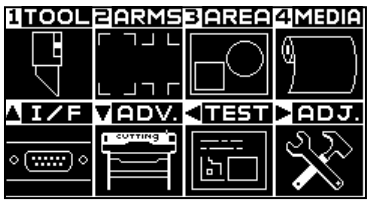
(3) Turn on the power while pressing the FAST and ENTER keys.

(4) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

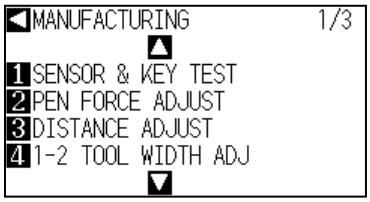
(5) Press the PAUSE/MENU key at the following menu.



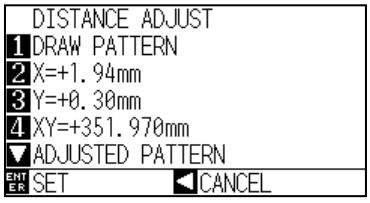
(6) The following menu is displayed, and then press the right arrow key (ADJ).



(7) The following menu is displayed.



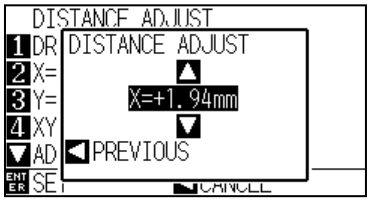
(8) Press the F3 key (DISTANCE ADJUST) to display the following menu.



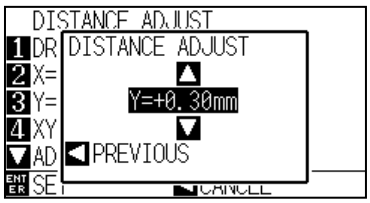
When inputting the recorded values

(9) If you have replaced the main board only, use the recorded values (The recorded values of X, Y, XY(Z).).

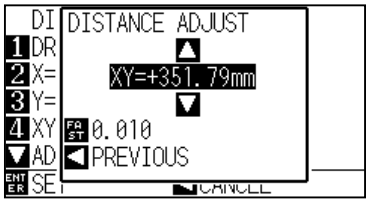
Press the F2 key (X=) to input the X-axis distance adjustment value.



Press the F3 key (Y=) to input the Y-axis distance adjustment value.

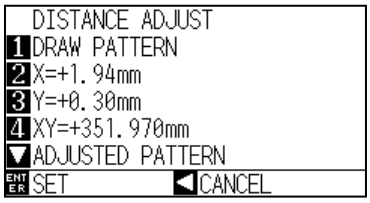


Press the F4 key (XY=) to input the diagonal distance adjustment value (The recorded value of Z.).



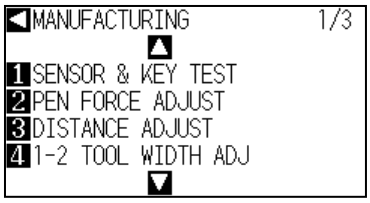
Press the Up or Down arrow key to change the adjustment value.

(10) Press the Left arrow key after the adjustment values are input.



(11) Press the ENTER key to set the adjustment values.

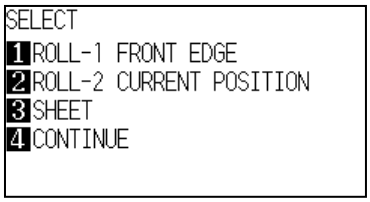
(12) The following menu is displayed.



(13) Turn off the power.

When adjusting the distance accuracy

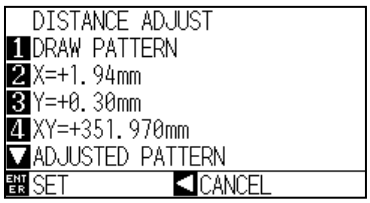
(9) Press the F1 key (DRAW PATTERN) to display the following menu.

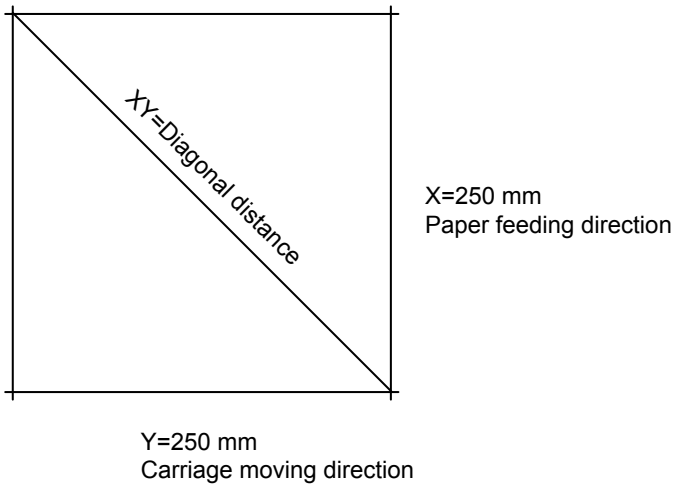


(10) Press the F3 key (SHEET).

(11) The plotter detects the paper size, and then plots the following pattern.

The following menu appears after the adjustment pattern plots finished.





(12) Remove the paper and measure the X-axis, the Y-axis distances and the diagonal distance (XY).

Input the adjustment values for the X, the Y, and the diagonal distance.

The formula of the input value is as follows:

Input value for X-axis = 250 mm - measured X distance

Input value for Y-axis = 250 mm - measured Y distance

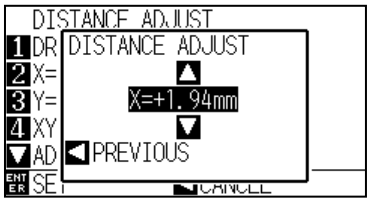
For example:

If you measured 249.0 mm for the Y-axis then input 1 mm for the adjustment value.

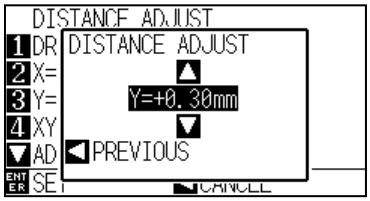
Adjustable range: -5.0 mm to +5.0 mm , 0.01 mm steps

Input value for diagonal distance = measured diagonal distance

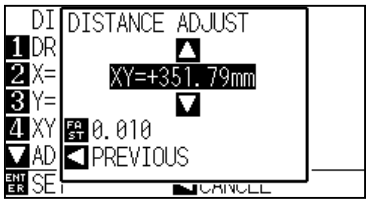
Press the F2 key (X=) to input the X-axis distance adjustment value.



Press the F3 key (Y=) to input the Y-axis distance adjustment value.



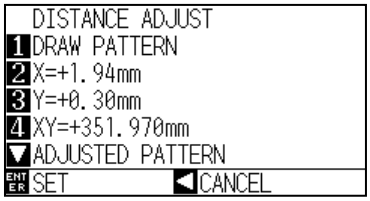
Press the F4 key (XY=) to input the diagonal distance adjustment value.



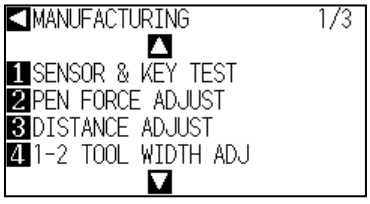
Press the Up or Down arrow key to change the adjustment value.

Press the Left arrow key after the adjustment value was input.

(13) Press the ENTER key to set the adjustemt value.

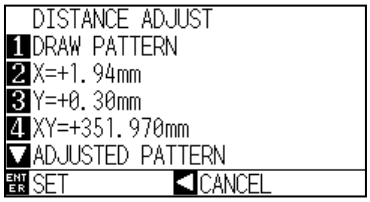


(14) The following menu is displayed.

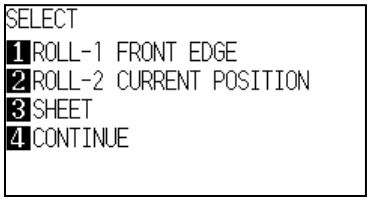


(15) Load a sheet of A3 size paper into the plotter.

(16) Press the F3 key (DISTANCE ADJUST) to display the following menu.



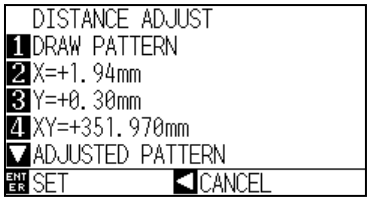
(17) Press the Down arrow key (ADJUSTED PATTERN) to display the following menu.



(18) Press the F3 key (SHEET).

(19) The plotter detects the paper size, and then plots the adjsuted pattern.

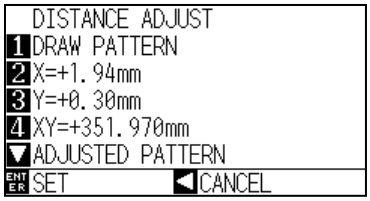
Press the Left arrow key after input the adjustment value. The following menu is displayed.



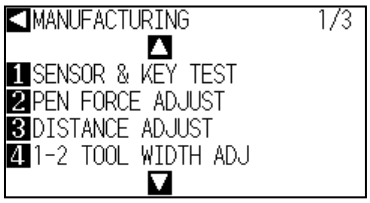
(20) Remove the paper and measure the X- and Y-axis distances.

(21) Confirm the adjsuted pattern has 250 mm x 250 mm

Press the ENTER key at the following menu if measured distance is within 250 mm ±0.2 mm.



(22) The following menu is displayed.



(23) Turn off the power.

7.9 Adjusting the Registration Mark Sensor Sensitivity

This adjustment will set the registration mark sensor sensitivity.

The sensitivity of sensor need adjust if you replace the main board or the registration mark sensor.

How to adjust the registration mark sensor sensitivity

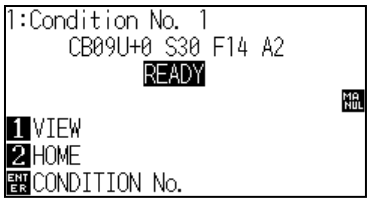
(1) Turn on the power while pressing the FAST and ENTER keys.

(2) Load an A4 size sheet of paper into the plotter.

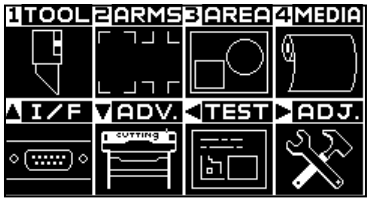
The paper color must be white, and it recommend copy paper.

(3) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

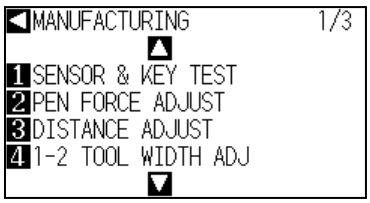
(4) Press the PAUSE/MENU key at the following menu.



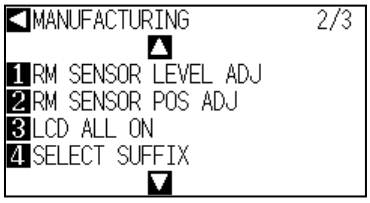
(5) The following menu is displayed, and then press the right arrow key (ADJ).



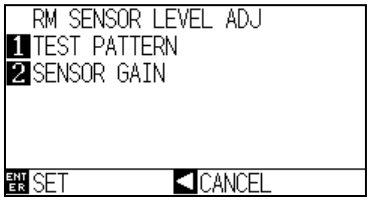
(6) The following menu is displayed.



(7) Press the up arrow key until the following menu is displayed.



(8) Press the F1 key (RM SENSOR LEVEL ADJ). The following menu is displayed.

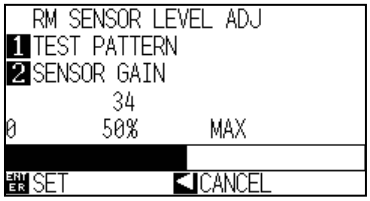


(9) Press the F2 key (SENSOR GAIN). The following menu is displayed.

(10) Position the white aria of paper under the Registration Mark Sensor by using the arrow keys.

(11) Press the ENTER key to start registration mark sensor sensitivity adjustment.

(12) The following menu is displayed after adjustment is finished.



Confirm that the level is from the 45 to the 55.

Readjust it again if the level is not from the 45 to the 55.

When making this adjustment, make sure that the media is not laminated.

Use the copy paper for this adjustment.

Replace the registration mark sensor if the level is not from the 45 to the 55 even if it was readjusted.

And then adjust the registration mark sensor level.

(13) Press the ENTER key to complete this adjustment.

(14) Turn off the power.

7.10 Adjusting the Offset of the Registration Mark Sensor

This adjustment will set the registration mark sensor position and the tool position.

If you have replaced the registration mark sensor, you must adjust the offset of the registration mark sensor.

If you replace the main board, use the following procedure to input the recorded adjustment values.

Preparation

This adjustment have to be performed after the sensitivity of sensor adjustment (See section 7.9.).

Print out the target sheet (see next page) on a printer.

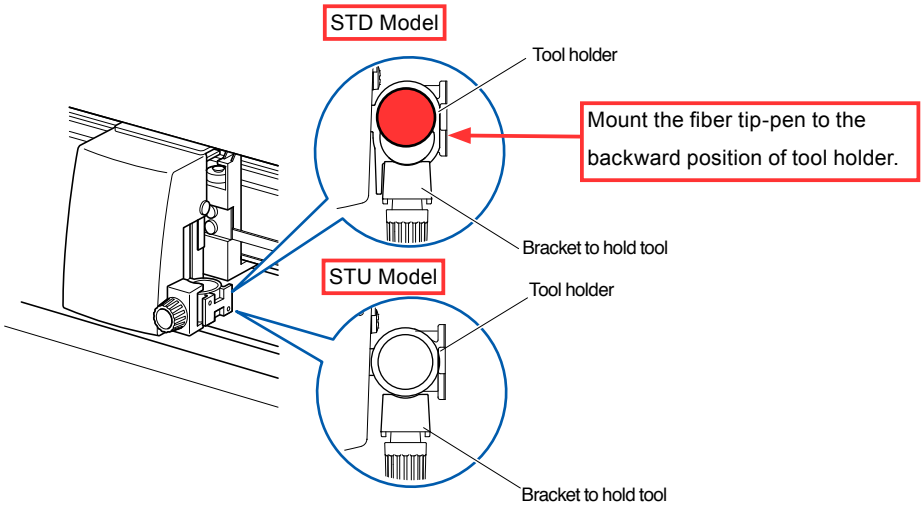
The specification of the cross mark is 30 mm line length, and 0.3 to 0.5 mm line width.

The target sheet does not need to print if the recorded adjustment values are input.

How to set the registration mark sensor offset

(1) Set an target sheet of paper into the plotter.
Set the A4 size of paper if the recorded adjustment values are input.

(2) Mount a water-based fiber-tip pen into the plotter.
Mount a water-based fiber-tip pen to the backward position of tool holder if the plotter is STD model.



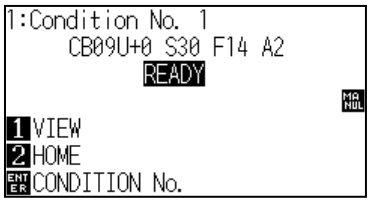
(3) Turn on the power while pressing the FAST and ENTER keys.

(4) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

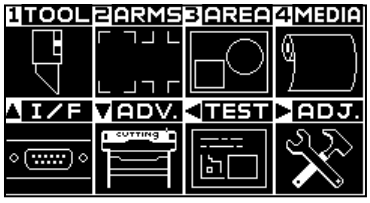
(5) Press the F3 key (SHEET) when the following menu is displayed.

```
SELECT
1 ROLL-1 FRONT EDGE
2 ROLL-2 CURRENT POSITION
3 SHEET
4 CONTINUE
```

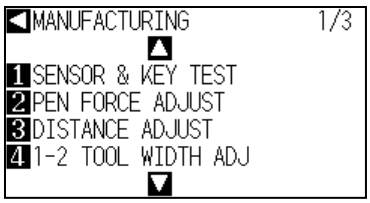
(6) Press the PAUSE/MENU key at the following menu.



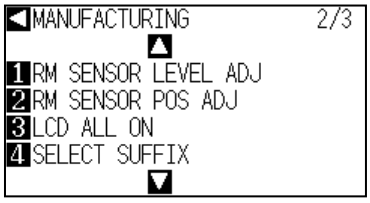
(7) The following menu is displayed, and then press the right arrow key (ADJ).



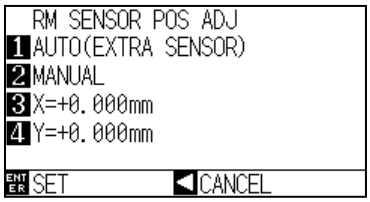
(8) The following menu is displayed.



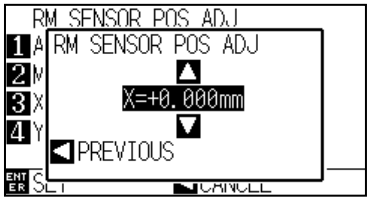
(9) Press the up arrow key until the following menu is displayed.

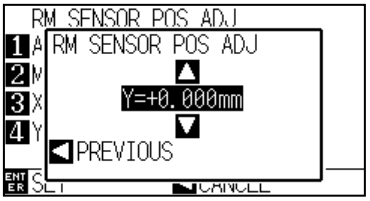


(10) Press the F2 key (RM SENSOR POS ADJ). The following menu is displayed.

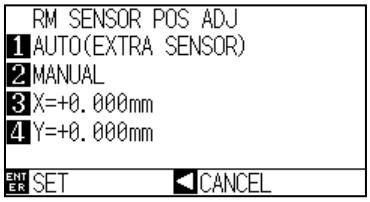


Press the F3 (X=) or F4 (Y=) to input the recorded adjustment values if you replace the main board. Input the recorded adjustment value by using the Up arrow key or Down arrow key with the following menu.





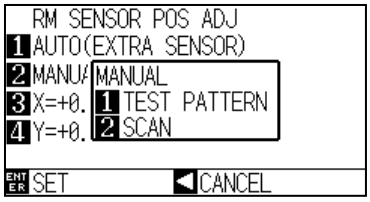
Press the Left arrow key after input the recorded adjustment values. The following menu is displayed.



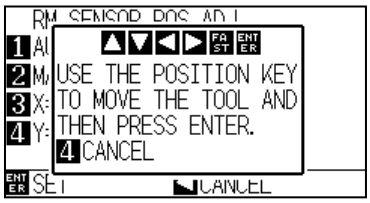
Press the ENTER key to store the value.

Skip to step (18)

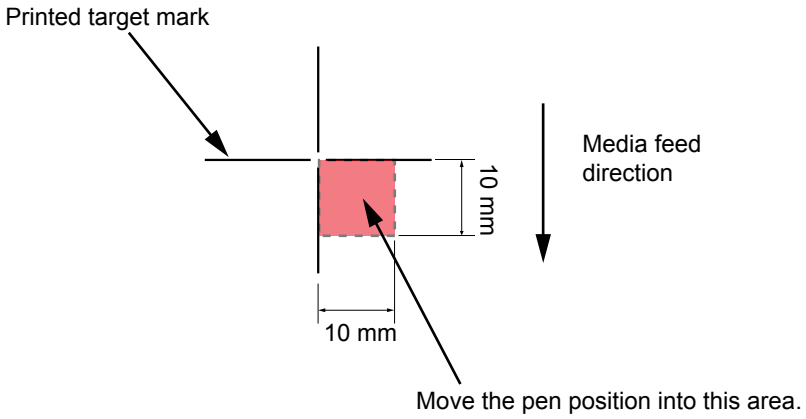
(11) Press the F2 key (MANUAL) if the registration mark sensor was replaced. The following menu is displayed.



(12) Press the F2 key (SCAN). The following menu is displayed.



(13) Use the Position keys to move the pen position to the printed cross mark area shown below.

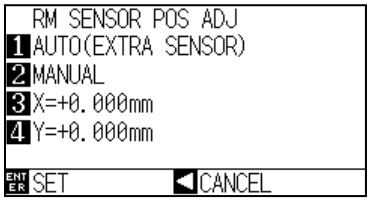


Note: Position the pen-tip to the area above. Do not position the RMS sensor to the area above.

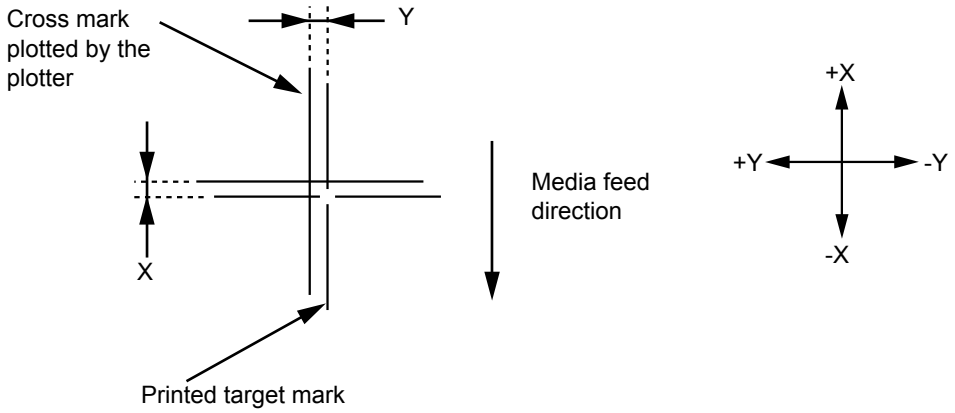
(14) Press the ENTER key after positioned the pen-tip.

(15) The plotter scans the printed cross mark and then the plotter then plots a new cross mark based on the reading of the printed cross mark.

The following menu is displayed.

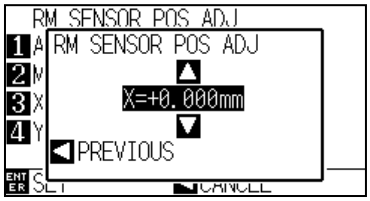


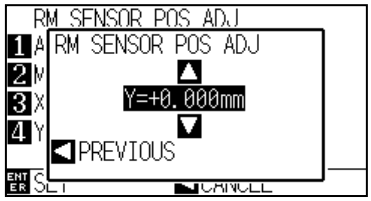
(16) Measure the offset between the printed cross mark and plotted cross mark.



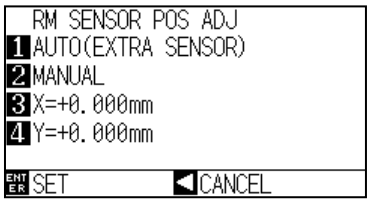
Press the F3 (X=) or F4 (Y=) to input the measured adjustment values.

Input the measured adjustment value by using the Up arrow key or Down arrow key with the following menu.





Press the Left arrow key after input the measured adjustment values. The following menu is displayed.



Press the ENTER key to store the value.

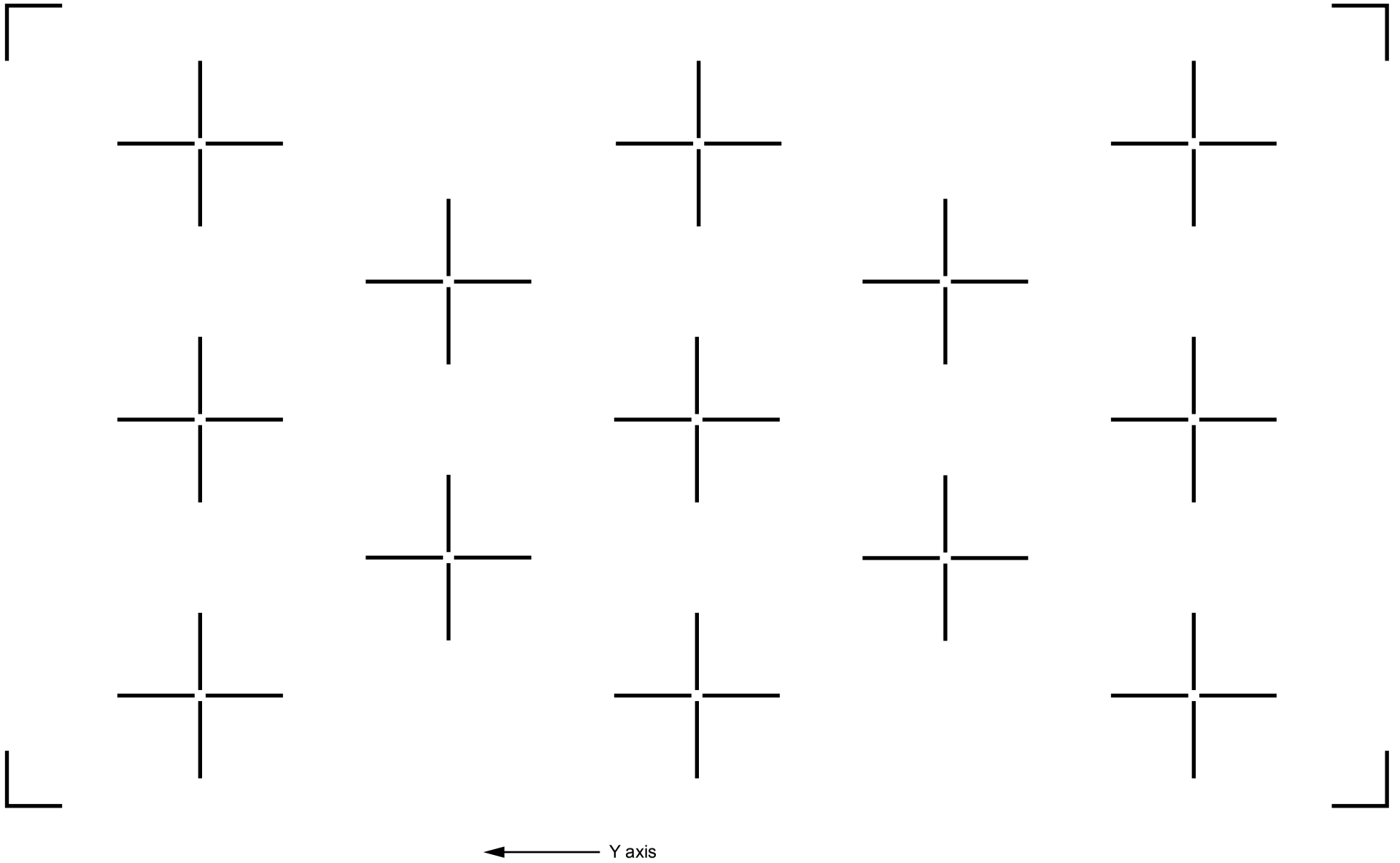
(17) Verify that the plotted cross mark line is located at the center of the printed cross mark line. Move the pen to the printed cross mark area. Press the ENTER key to repeat the scan as described in step (14) and (15).

(18) Repeat steps (14) and (15) if the location of the plotted cross mark is incorrectly positioned.

(19) Turn off the power.

AUTO REGISTRATION MARK TARGET

The specification of the cross mark is 30mm line length, and 0.3 to 0.5mm line width.



7.11 Adjusting the RMS sensor and the Paper sensor position

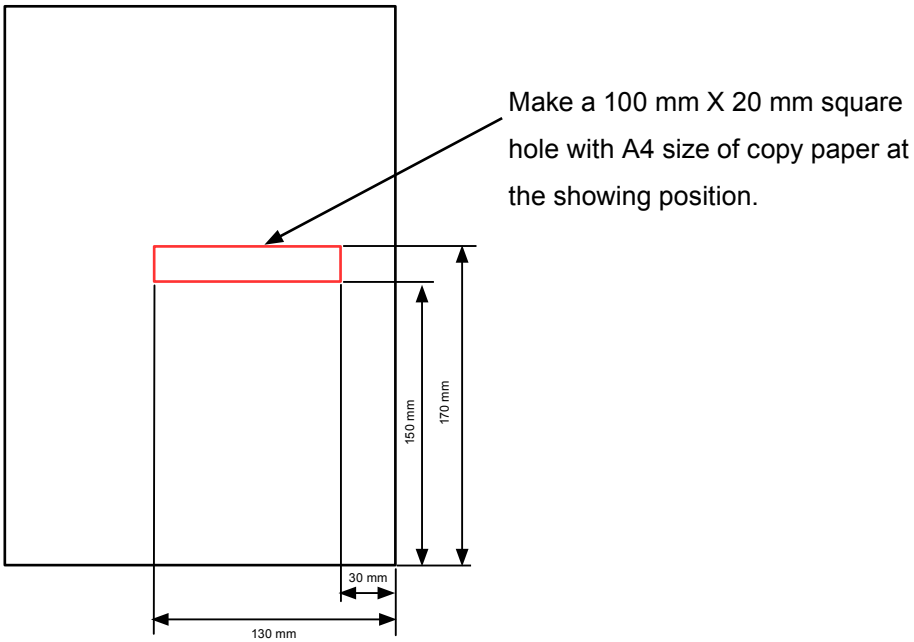
This adjustment will set the registration mark sensor position and the paper position.

If you have replaced the registration mark sensor or the paper sensor, you must adjust the RMS sensor and the paper sensor position.

If you replace the main board, use the following procedure to input the recorded adjustment values.

Preparation

Make a following adjustment target sheet.



The adjustment target sheet does not need to make if the recorded adjustment values are input.

How to set the registration mark sensor and the Paper sensor position

(1) Set an target sheet of paper into the plotter.

Note: The front media sensor should be covered by the front area of the target sheet to read the front edge of the target sheet when the target sheet is loading into the plotter.

Set the A4 size of paper if the recorded adjustment values are input.

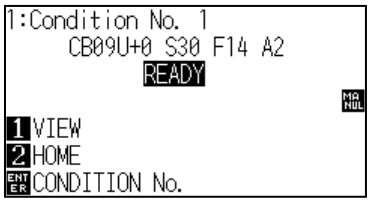
(2) Turn on the power while pressing the FAST and ENTER keys.

(3) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

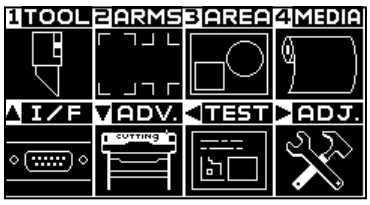
(4) Press the F3 key (SHEET) when the following menu is displayed.

```
SELECT
1 ROLL-1 FRONT EDGE
2 ROLL-2 CURRENT POSITION
3 SHEET
4 CONTINUE
```

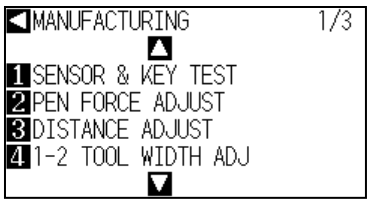
(5) Press the PAUSE/MENU key at the following menu.



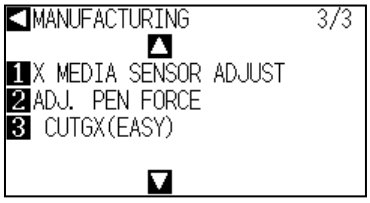
(6) The following menu is displayed, and then press the right arrow key (ADJ).



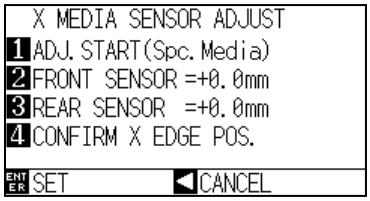
(7) The following menu is displayed.



(8) Press the up arrow key until the following menu is displayed.

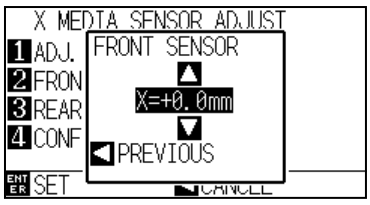


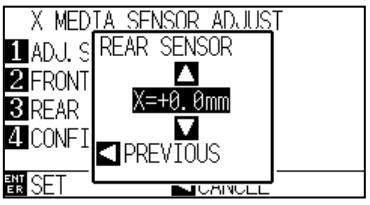
(9) Press the F1 key (X MEDIA SENSOR ADJUST). The following menu is displayed.



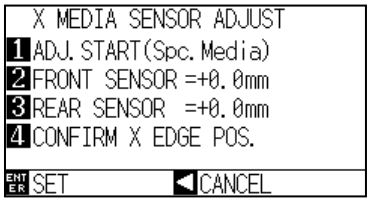
Press the F3 (FRONT SENSOR=) or F4 (REAR SENSOR=) to input the recorded adjustment values if you replace the main board.

Input the recorded adjustment value by using the Up arrow key or Down arrow key with the following menu.





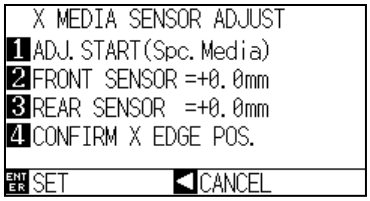
Press the Left arrow key after input the recorded adjustment values. The following menu is displayed.



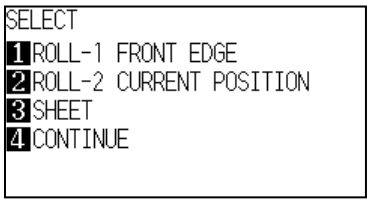
(10) Press the ENTER key to store the value.

Skip to step (18)

(11) When the X-front media or the X-rear media or the Registration-mark sensor are replaced press the F1 key (ADJ.START (Spc. Media)).



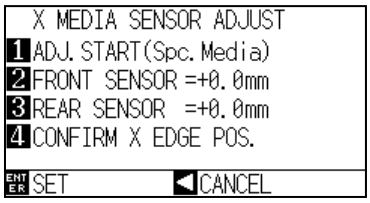
(12) Press the F3 key (SHEET) when the following menu is displayed.



The plotter scan the paper size.

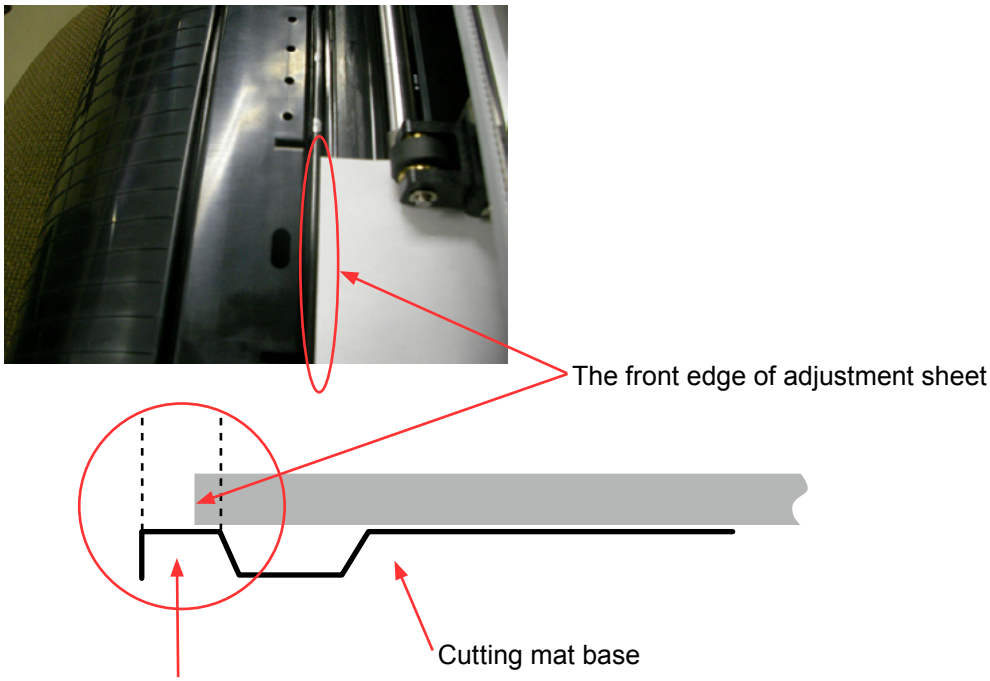
Then the plotter scan the edge of adjustment sheet, and then it automatically adjust the front and the rear media sensor position with the registration mark sensor position.

(13) The following menu is displayed.



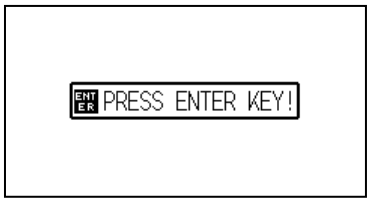
(14) Press the F4 key (CONFIRM X EDGE POS.).

The front edge of adjustment sheet moves to as shown in the picture below.

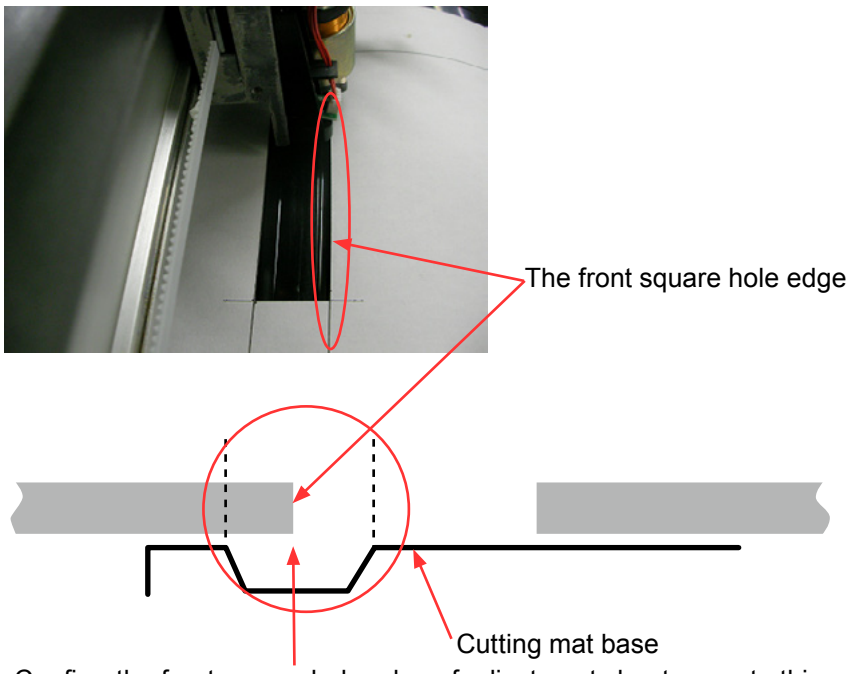


Confirm the front edge of adjustment sheet come to this front area of cutting mat base.

(15) Press the ENTER key after confirmed the position of front edge of adjustment sheet.

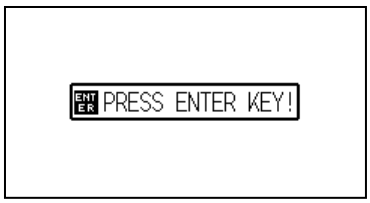


The front square hole edge of adjustment sheet moves to as shown in the picture below.

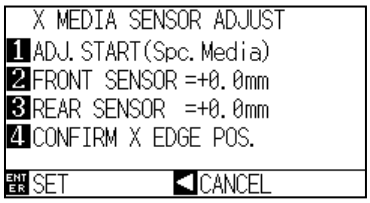


Confirm the front square hole edge of adjustment sheet come to this groove area of cutting mat base.

(16) Press the ENTER key after confirmed the position of front square hole edge of adjustment sheet.



(17) Press the ENTER key to store the value after the following menu is displayed.



(18) Turn off the power.

7.12 Adjusting the Tool Exchange Position (CE6000-120AP)

This adjustment will set the tool exchange position.

This adjustment is used for the 2nd tool exchange.

If you replace the main board, use the following procedure to input the recorded adjustment values.

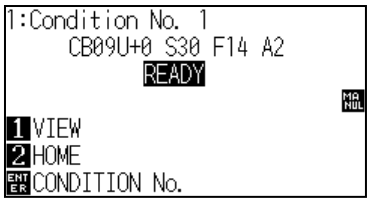
How to adjust the tool exchange position

(1) Turn on the power while pressing the FAST and ENTER keys.

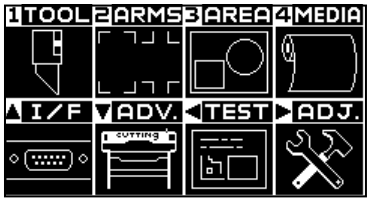
(2) Load an A4 size sheet of paper into the plotter.

(3) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

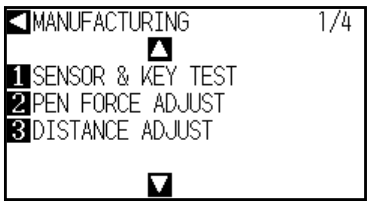
(4) Press the PAUSE/MENU key at the following menu.



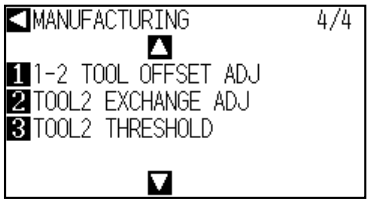
(5) The following menu is displayed, and then press the right arrow key (ADJ).



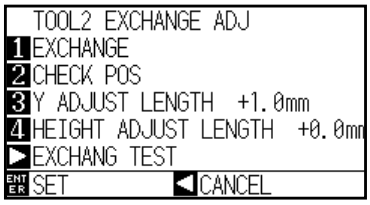
(6) The following menu is displayed.



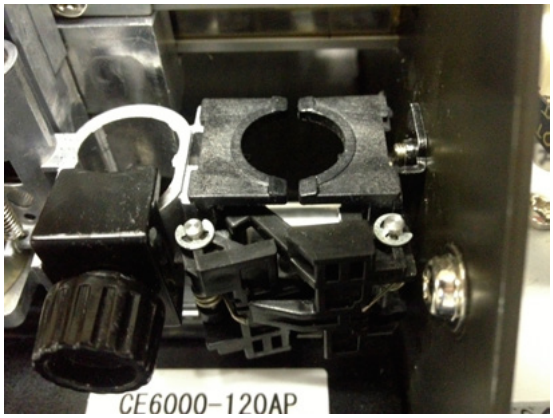
(7) Press the up arrow key until the following menu is displayed.



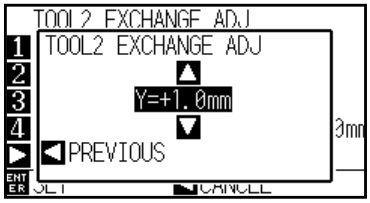
(8) Press the F2 key (TOOL2 EXCHANGE ADJ). The following menu is displayed.



(9) Press the F2 key (CHECK POS) to move the pen carriage to the exchange position.

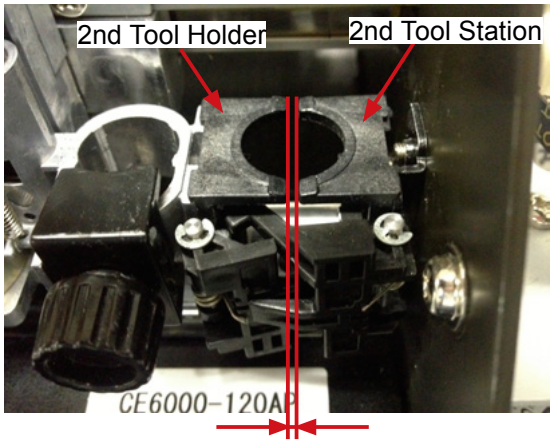


(10) Press the F3 key (Y ADJUST) to display the following menu to adjust the gap.



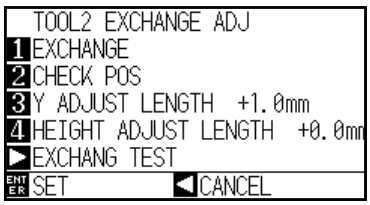
(11) Measure the gap between the 2nd tool holder and the 2nd tool station.

(12) Adjust gap using the up or the down arrow key. Adjust gap to 1 mm between the 2nd tool holder and the 2nd tool station.



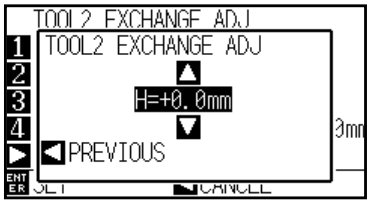
This gap should be 1 mm.

(13) Press the left arrow key after the gap is adjusted. The following menu is displayed.

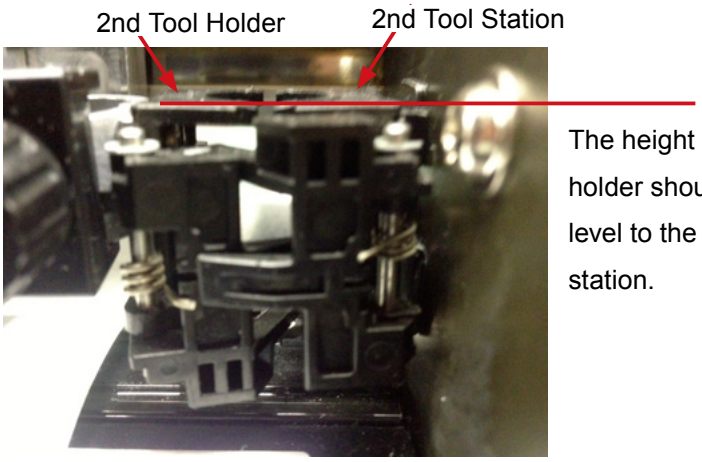


(14) Press the F2 key (CHECK POS) twice to confirm the adjusted gap.

(15) Press the F4 key to display the following menu to adjust the 2nd tool holder height.

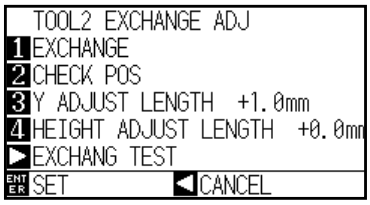


(16) Adjust the 2nd tool holder height by using the up or the down arrow key.
Adjust tool holder height to be same height with the 2nd tool holder and the 2nd tool station.



The height of 2nd tool holder should be same level to the 2nd tool station.

(17) Press the left arrow key after the height is adjusted. The following menu is displayed.



(18) Press the F2 key (CHECK POS) twice to confirm the adjusted height.

(19) Mount a fiber tip pen in the 2nd tool station.

(20) Press the right arrow key to confirm that the pen exchanging is performed correctly.

(21) If the pen exchanging is performed correctly, press the ENTER key to store the setting and complete the adjustment.

7.13 Adjusting the Offset between Tool 1 and Tool 2 (CE6000-120AP)

This adjustment will set the tool offset position.

If you replace the main board, use the following procedure to input the recorded adjustment values.

How to adjust the tool exchange position

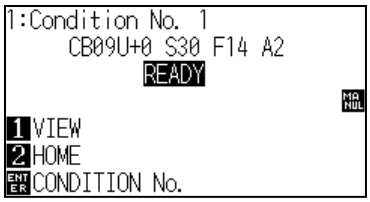
(1) Mount the ball point pens onto the 1st-tool holder and 2nd-tool station.

(2) Load an A4 size sheet of paper into the plotter.

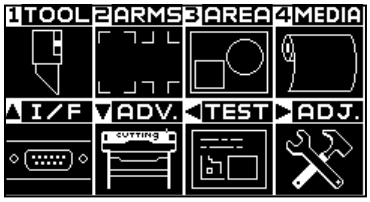
(3) Turn on the power while pressing the FAST and ENTER keys.

(4) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

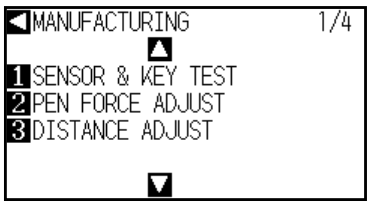
(5) Press the PAUSE/MENU key at the following menu.



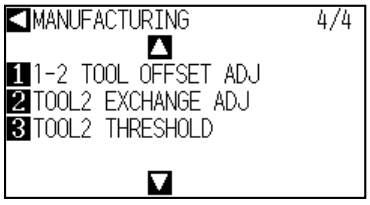
(6) The following menu is displayed, and then press the right arrow key (ADJ).



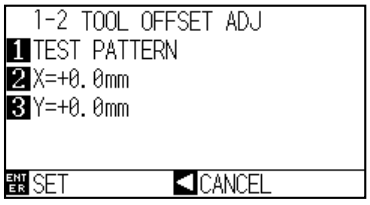
(7) The following menu is displayed.



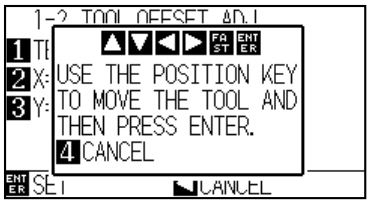
(8) Press the up arrow key until the following menu is displayed.



(9) Press the F1 key to display the menu shown below.

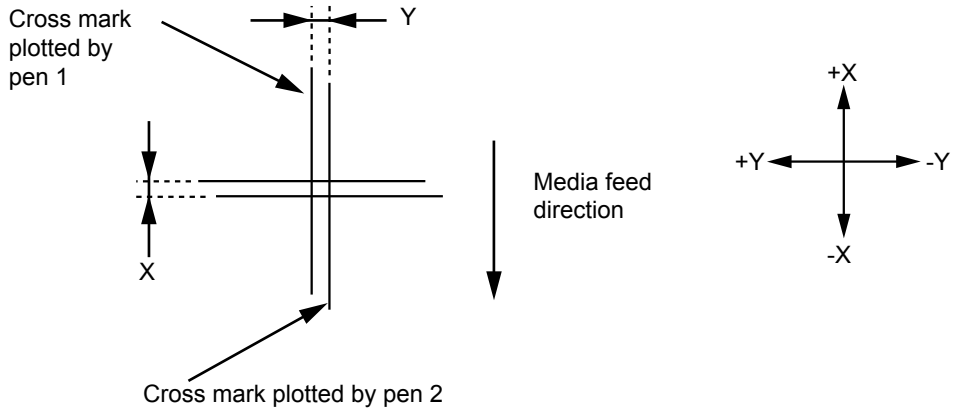


(10) Press the F1 key to display the menu shown below.

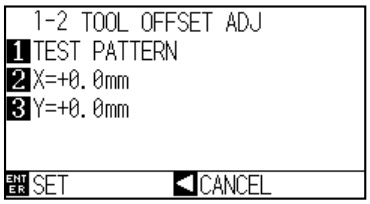


(11) Use the ARROW keys to move the pen to an open area to plot the adjustment pattern.

(12) Press the ENTER key to plot the cross marks by pen 1 and pen 2 shown below.

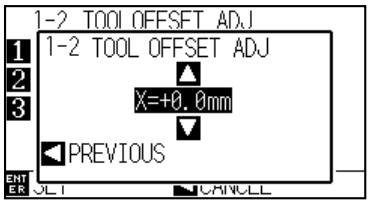


(13) When they have been plotted, the menu shown below is displayed.



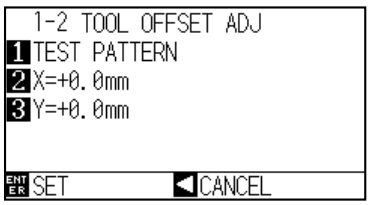
(14) Measure the offset between the pen 1 cross mark and the pen 2 lines.

(15) Press the F2 key to display the menu shown below.

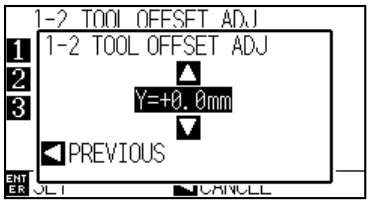


(16) Set the X-offset value. Press the UP ARROW key or DOWN ARROW key to change the number based on the pen 1 cross mark.

(17) Press the left position key when the X direction is adjusted.



(18) Press the F3 key to display the menu shown below.



(19) Set the Y-offset value. Press the UP ARROW key or DOWN ARROW key to change the number based on the pen 1 cross mark.

(20) Press the left position key when the Y direction is adjusted.

(21) Press the F2 key. Verify that the plotted pen 1 cross mark is located at the center of the plotted pen 2 lines.

(22) If the plotted cross marks are in the correct positions, press the ENTER key to store the setting and complete the adjustment.

7.14 Adjusting the Y Limit Position (CE6000-120AP)

This adjustment will set the Y limit position for the CE6000-120AP.

If you replace the main board, use the following procedure to set the Y limit position.

This adjustment was added from the firmware version 1.50 of CE6000-120AP. Update the firmware first if the firmware version is older than 1.50.

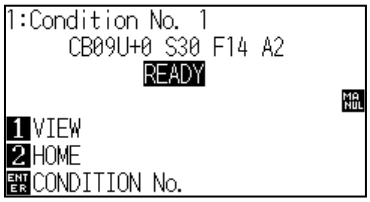
How to adjust the Y limit position

(1) Load an A4 size sheet of paper into the plotter.

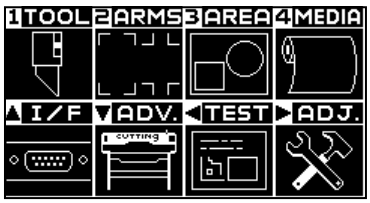
(2) Turn on the power while pressing the FAST and ENTER keys.

(3) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

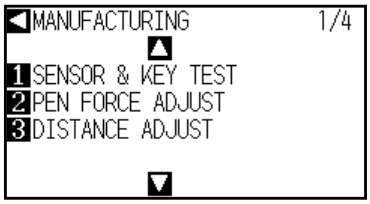
(4) Press the PAUSE/MENU key at the following menu.



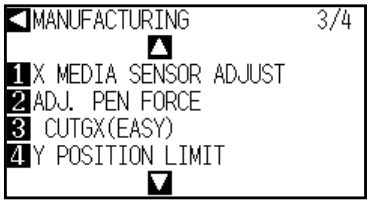
(5) The following menu is displayed, and then press the right arrow key (ADJ).



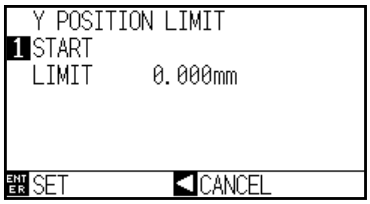
(6) The following menu is displayed.



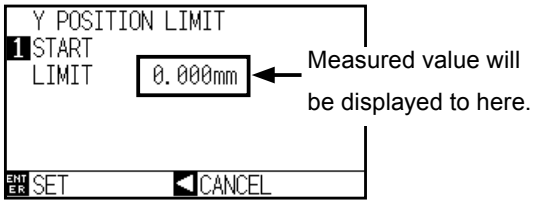
(7) Press the up arrow key until the following menu is displayed.



(8) Press the F4 key to display the menu shown below.



(9) Press the F1 key to star to set the Y limit position. The pen block move to far left side to measure the Y limit position.



(10) Press the ENTER key to store the setting and complete the adjustment after the measured value was displayed.

7.15 Upgrading the System Firmware

To upgrade the system firmware you need to have the following files. In addition, you need to use a computer and USB cable.

For CE6000-40/60/120

- CE6000_Vxx.x.X CE6000 firmware
- SEND.EXE Utility to transfer files using Windows®
- OPS662 USB Driver software for CE6000

For CE6000-40 Plus/60 Plus/120 Plus

- CE6000Plus_Vxx.x.X CE6000 Plus firmware
- SEND.EXE Utility to transfer files using Windows®
- OPS662 USB Driver software for CE6000 Plus (Use later than version 3.21)

For CE6000-120AP

- CE6000AP_Vxx.x.X CE6000-120AP firmware
- SEND.EXE Utility to transfer files using Windows®
- OPS662 USB Driver software for CE6000 (The USB Driver is same as CE6000 when in the firmware update mode.)

Note: The firmware of CE6000-120AP can't install to the main-board of the CE6000. And the firmware of CE6000 can't install to the main-board of CE6000-120AP.
The firmware of CE6000 Plus Series can't install to the main-board of the CE6000 and CE6000-120AP.
Install the correct main-board for each model when updating the firmware..
Main Board for the CE6000-40/60/120: 792600750 Main Board, CE6000
Main Board for the CE6000-120AP: 792600730 Main Board, CE6000-120AP
Main Board for the CE6000-40 Plus/60 Plus/120 Plus: 792600760 Main Board, CE6000Plus

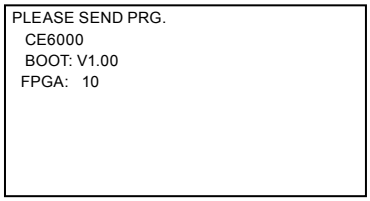
Preparation

Install the USB Driver software to your computer before upgrading the system firmware.
Confirm the Cutting Master 3 or the Graphtec Studio is not running on the PC.

How to upgrade the system firmware

(1) Connect the computer and the CE6000 via the USB interface.

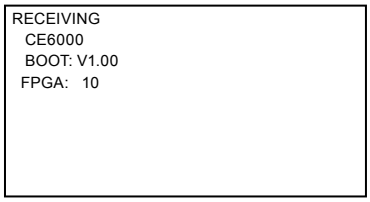
(2) Turn on the power while pressing the RIGHT ARROW key and the LEFT ARROW key to display the menu shown below.



(3) Send firmware to the plotter from the computer.
Execute SEND.EXE.
Select the system firmware file from the SEND.EXE menu.
Select CE6000 from the output menu. (Select the type of file to all files when select the firmware file.)
Output the system firmware file to the CE6000.

(4) The following menu is displayed while data is being received.

And the LED of SIMPLE will be flashed when the data is receiving.

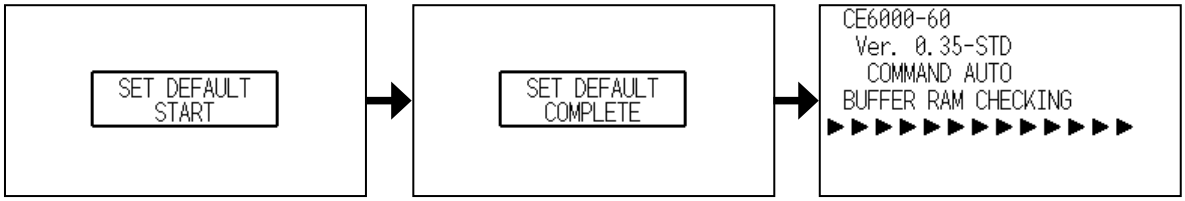


And then the LED of PAUSE/MENU will be flashed when clearing data.

And then the LED of PAUSE/MENU and the SIMPLE will be flashed when writing data.

Note: Do not turn off the power during updating the firmware.

(5) When the upgrading is complete, the following menu is displayed.



(6) The firmware version is displayed during the initialization routine. Check the firmware version that you upgraded.

(7) Turn off the power.

Note: Perform the “NOV-RAM clear” if the model setting was changed.

8 SERVICE MODES

8.1 Sensor and Key switch test Mode

This mode checks the sensor status. If there is a bad sensor you will observe one of the symptoms in the table below.

Please check the relevant sensor(s).

Sensor	Symptom
Y home sensor	The pen block hits the right side plate.
Cam sensor	The plotter displays “LOAD MEDIA!” when media is already loaded.
Push roller sensor	The pen block hits the left side plate.
+X, -X media sensor	Media drops out of the plotter.

If there is a bad switch on panel you can check at this mode.

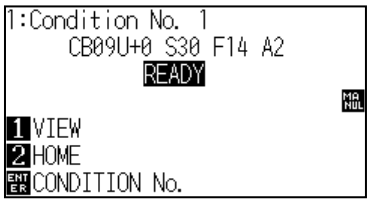
How to test the sensors

(1) Load an A4 size sheet of paper into the plotter.

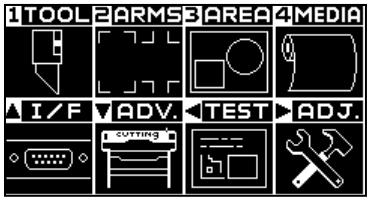
(2) Turn on the power while pressing the FAST and ENTER keys.

(3) Select the Language and the Length Unit if the Language selection menu is displayed (See section 7.5.).

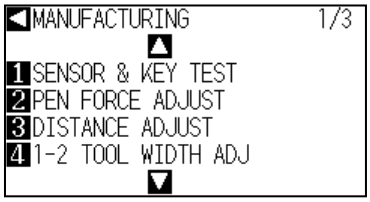
(4) Press the PAUSE/MENU key at the following menu.



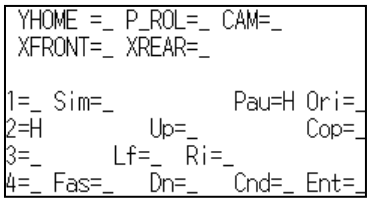
(5) The following menu is displayed, and then press the right arrow key (ADJ).



(6) The following menu is displayed.



(7) Press the F1 key (SENSOR & KEY TEST). The following menu is displayed.



YHOME=: “H” is displayed when the Y home sensor dog is crossed to the Y home sensor.

P_ROL=: “H” is displayed when the push roller sensor dog is crossed to the push roller sensor.

CAM=: “H” is displayed when the cam sensor dog is crossed to the cam sensor.

XFRONT=: “H” is displayed when the X front media sensor is covered by the media.

XREAR=: “H” is displayed when the X rear media sensor is covered by the media.

1=: “H” is displayed when the F1 key is pressed.

2=: “H” is displayed when the F2 key is pressed.

3=: “H” is displayed when the F3 key is pressed.

4=: “H” is displayed when the F4 key is pressed.

Sim=: “H” is displayed when the SIMPLE key is pressed.

Pau=: “H” is displayed when the PAUSE/MENU key is pressed.

Up=: “H” is displayed when the UP arrow key is pressed.

Lf=: “H” is displayed when the LEFT arrow key is pressed.

Ri=: “H” is displayed when the RIGHT arrow key is pressed.

Dn=: “H” is displayed when the DOWN arrow key is pressed.

Fas=: “H” is displayed when the FAST key is pressed.

Ori=: “H” is displayed when the ORIGIN key is pressed.

Cop=: “H” is displayed when the COPY key is pressed.

Cod=: “H” is displayed when the CONDITION key is pressed.

Ent=: “H” is displayed when the ENTER key is pressed.

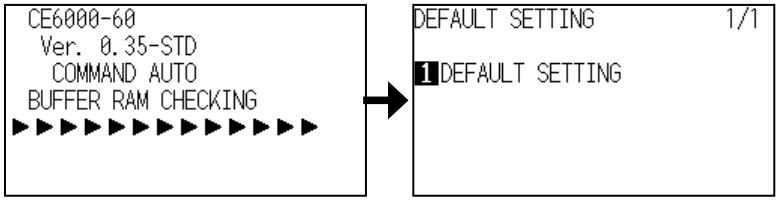
(8) When testing is complete, turn off the power to the plotter.

8.2 Clear Setup Mode

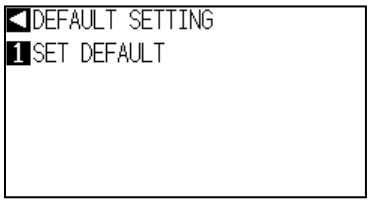
This mode returns all the conditions to their default settings.

How to clear the setups

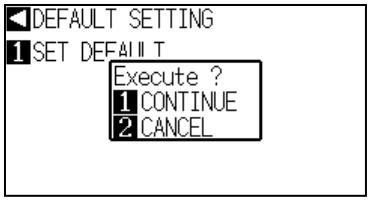
(1) Turn on the power while pressing the UP ARROW key to display the menu shown below.



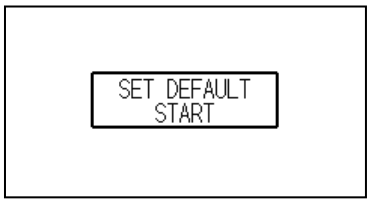
(2) Press the F1 key (DEFAULT SETTING). The following menu is displayed.



(3) Press the F1 key (SET DEFAULT). The following menu is displayed.



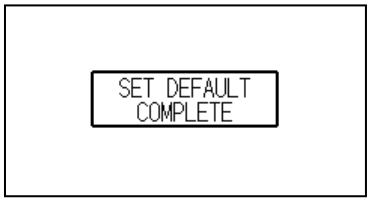
(4) Press the F1 key (CONTINUE). The following menu is displayed.



Do not turn off the power when the above menu is displaying.

It will take about one minute to set the default settings.

(5) When the default setting was finished, the COMPLETE message appears on the LCD panel.



(6) Turn off the power.

8.3 Printing the Setting of the Plotter

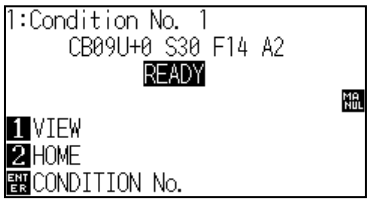
Condition setting list can be printed when you need to check the current setting of the plotter.

Operation

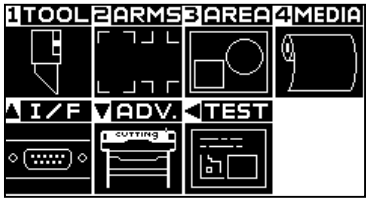
(1) Set a paper larger than A3 size.

(2) Set the pen tool to the tool carriage and select the condition where the pen tool is set.

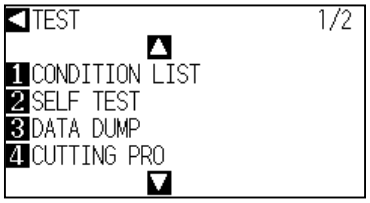
(3) Press the PAUSE/MENU key at the following menu.



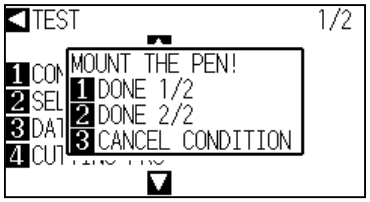
(4) The following menu is displayed, and then press the left arrow key (TEST).



(5) The following menu is displayed, and then press the F1 key (CONDITION LIST).



(6) Press the F1 key (CONDITION LIST) to display the menu below.



(7) Press the F1 key (DONE 1/2) or the F2 key (DONE 2/2).

Message to confirm tool position is displayed.

(8) Move the tool carriage to print start position by using the POSITION key.

(9) Press the ENTER key to start printing the condition list.

It will return to READY status when the printing is completed.

8.4 Test Pattern

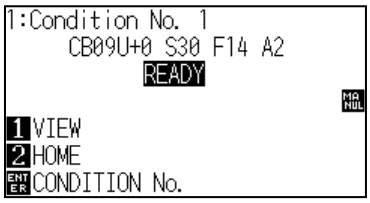
Print a self-test pattern to check the operation of the plotter.

Operation

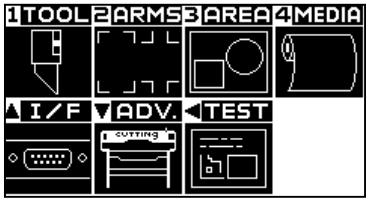
(1) Set a paper larger than A3 size.

(2) Set the pen tool to the tool carriage and select the condition where the pen tool is set.

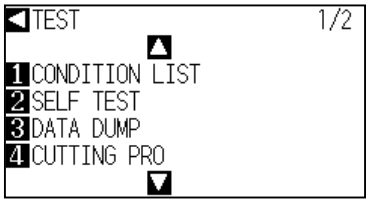
(3) Press the PAUSE/MENU key at the following menu.



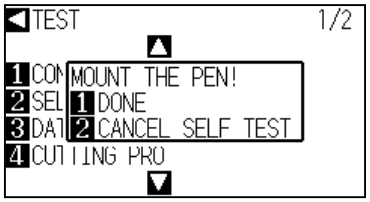
(4) The following menu is displayed, and then press the left arrow key (TEST).



(5) The following menu is displayed, and then press the F2 key (SELF TEST).



(6) The following menu is displayed.



(7) Confirm that the pen is set, and then press the F1 key (DONE) to print the test pattern.

(8) Turn the power off to stop the printing.

8.5 Confirm the Cutting Data

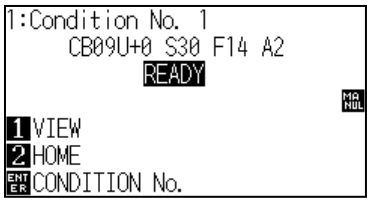
Output of the dump list of the cutting data received by the plotter is possible. It is used to check if the transmission of cutting data is performed correctly.

Operation

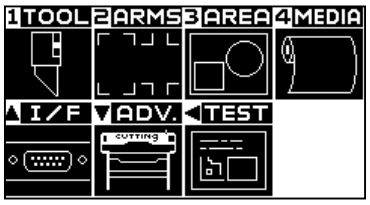
(1) Set a paper larger than A3 size.

(2) Set the pen tool to the tool carriage and select the condition where the pen tool is set.

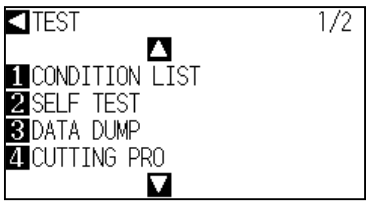
(3) Press the PAUSE/MENU key at the following menu.



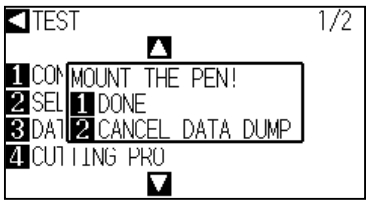
(4) The following menu is displayed, and then press the left arrow key (TEST).



(5) The following menu is displayed, and then press the F3 key (DATA DUMP).



(6) The following menu is displayed, and then confirm that the pen tool is set.

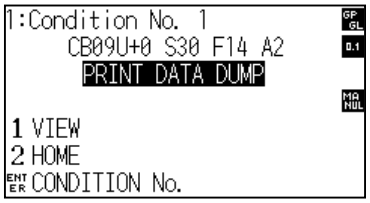


(7) Press the F1 key (DONE).

The error message will be displayed when the command setting is set to "AUTO".

Set the command setting that is corresponding to the application software.

(8) The following menu is displayed, and then send the data to plotter from the PC.



(9) Turn the power off to stop the printing.

8.6 Self Diagnostic Test

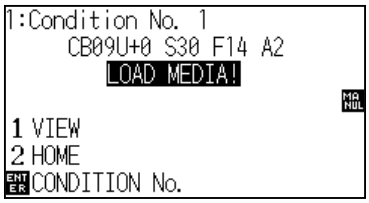
Operation status can be tested by self diagnostic test by operating the sensors and switches following the instruction on the screen.

Operation

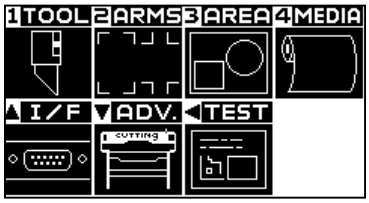
(1) Confirm that the power is turned off.

(2) Turn the power on without loading the media.

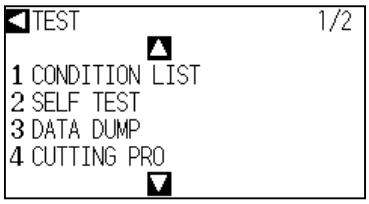
(3) Press the PAUSE/MENU key at the following menu.



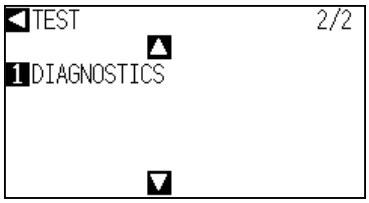
(4) The following menu is displayed, and then press the left arrow key (TEST).



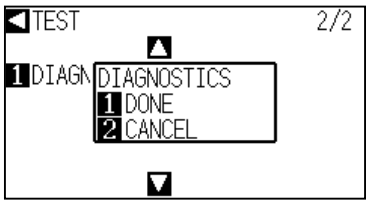
(5) The following menu is displayed, and then press the Up arrow key.



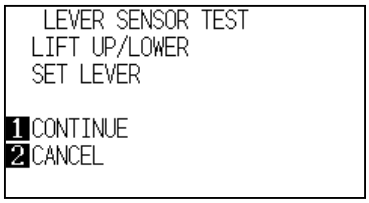
(6) The following menu is displayed, and then press the F1 key (DIAGNOSTICS).



(7) The following menu is displayed, and then press the F1 key (DONE).



The first testing menu is displayed. And follow the instructions on the menu.



Press the F1 key to continue to the next test, after you check the CAM lever sensor.

(8) The testing items are shown below.

1	Cam lever sensor	2	Home sensor	3	Push roller sensor	4	Rear media sensor
5	Font media sensor	6	X motor signal	7	Y motor signal	8	Tool height signal
9	[1] key	10	[2] key	11	[3] key	12	[4] key
13	Right arrow key	14	Left arrow key	15	Up arrow key	16	Down arrow key
17	ENTER key	18	COND/TEST key	19	ORIGIN key	20	FAST key
21	SIMPLE key	22	COPY key	23	PAUSE/MENU key		

9 TROUBLESHOOTING

9.1 The Plotter is Turned On But Doesn't Operate

Symptom	Verification item	Solution
The control panel's LED lamp does not light or the LCD does not display anything.	(1) Is the plotter being supplied with power?	No.....Check that the power cord is securely connected to the plotter's AC line inlet. Yes....Verify item (2).
	(2) Is the FPC908202 flexible cable securely connected to the main board and the control key board?	No.....Connect the flexible cable securely. Yes....Verify item (3).
	(3) Is the FPC908202 flexible cable broken?	No.....Verify item (4). Yes....Replace the FPC908202 flexible cable.
	(4) Is the AC line electrical output correct?	No.....Change the AC line. Yes....Verify item (5).
	(5) Does the power supply unit have a 5 V output?	No.....Replace the power supply unit. Yes....Replace the main board.

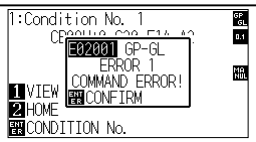
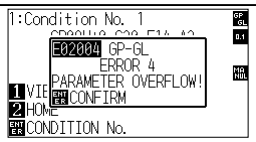
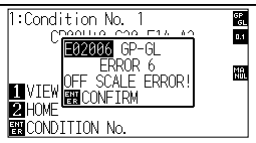
9.2 Media Loading Operations

Symptom	Verification item	Solution
The media drops to the front of the plotter.	(1) Is the front edge of the media curled?	Yes....Replace the media. No.....Verify item (2).
	(2) Is the front media sensor dirty?	Yes....Clean the front media sensor. No.....Verify item (3).
	(3) Is the front media sensor cable securely connected to the main board and the sensor?	Yes....Replace the front media sensor. No.....Connect the cable securely.
The media drops to the rear of the plotter.	(1) Is the rear edge of the media curled?	Yes....Replace the media. No.....Verify item (2).
	(2) Is the rear media sensor dirty?	Yes....Clean the rear media sensor. No.....Verify item (3).
	(3) Is the rear media sensor cable securely connected to the main board and the sensor?	Yes....Replace the rear media sensor. No.....Connect the cable securely.
The plotter displays “LOAD MEDIA!” when media has been loaded.	(1) Does the cam sensor plate block the cam sensor?	Yes....Check the cam sensor plate and attach it at the correct position. No.....Verify item (2).
	(2) Is the cam sensor cable securely connected to the main board and the sensor?	No.....Connect the cable securely. Yes....Replace the cam sensor board.
The plotter can’t recognize the Y direction of the media size.	(1) Is there any dust on the push roller sensor?	Yes....Clean the push roller sensor. No.....Verify item (2).
	(2) Is the push roller sensor flexible cable securely connected to each connector?	Yes....Replace the push roller sensor. No.....Connect the cable securely.
The plotter can’t recognize the X direction of the media size.	(1) Is there any dust on the front media sensor and the rear media sensor?	Yes....Clean the front media sensor and the rear media sensor. No.....Verify item (2).
	(2) Are the front media sensor and the rear media sensor cables securely connected to each connector?	No.....Connect the cables securely. Yes....Replace the sensor(s).
The media is fed at an angle.	(1) Are the push rollers worn down?	Yes....Replace the push roller(s). No.....Verify item (2).
	(2) Is there anything on the drive roller?	Yes....Clean the drive roller with a brush. No.....Verify item (3).
	(3) Do the push rollers have the correct pressure?	No.....Replace the push roller spring(s). Yes....Verify item (4).
	(4) Is the drive roller worn out?	Yes....Replace the drive roller. No.....Verify item (5).
	(5) Is the drive roller attached correctly?	Yes....Replace the bearing of the drive roller. No.....Attach the drive roller correctly.

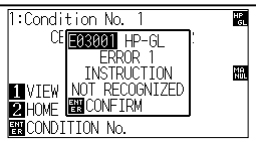
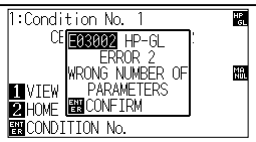
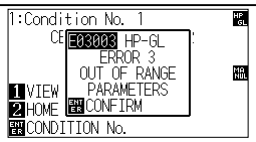
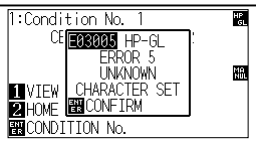
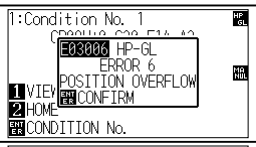
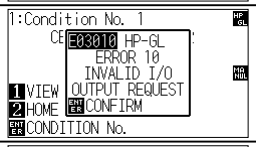
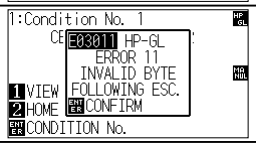
9.3 Cutting Operations

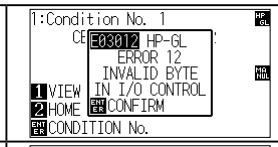
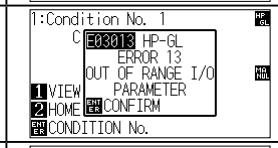
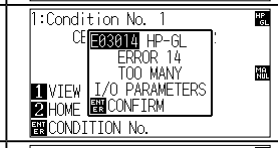
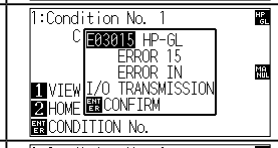
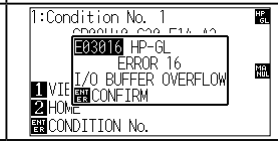
Symptom	Verification item	Solution
The cut line is crooked.	(1) Does the blade turn well in the blade holder?	No.....Replace the blade holder. Yes....Verify item (2).
	(2) Do the X and Y drive motor belts have the correct tension?	No.....Adjust the tension. Yes....Verify item (3).
	(3) Is the Y belt attached correctly?	No.....Attach it correctly. Yes....Verify item (4).
	(4) Is the pen block attached correctly?	No.....Attach it correctly. Yes....Verify item (5).
	(5) Is the pen arm shaky?	Yes....Adjust the pen arm shaft slider tension.
The blade skips and does not completely cut lines that should be solid.	(1) The blade is extended too far.	Adjust the blade length.
	(2) The cutting SPEED is too high.	Adjust the SPEED setting.
	(3) Verify the pen force.	Adjust the pen force.
	(4) Verify the pen block height.	Adjust the pen block height.

9.4 Error Messages in GP-GL Command Mode

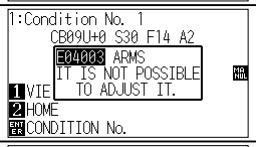
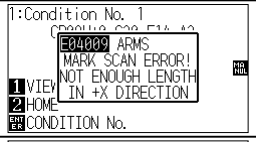
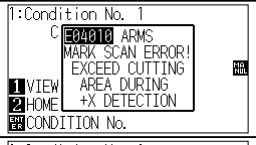
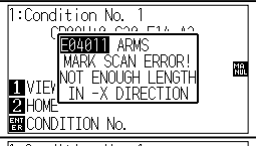
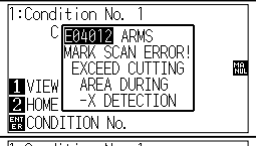
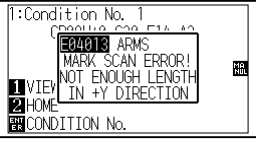
Error Code	LCD Display	Cause	Solution
E02001		The plotter received an unrecognizable	Press the [ENTER] key.
		Noise came in when the computer was turned on.	Configure to drive the plotter from the menu of the software.
		The software configuration regarding the output device has been changed.	Reset the interface settings of the plotter.
		The plotter's interface conditions have changed.	Reset the interface settings of the plotter.
E02004		A command was received containing numeric parameters that exceed that command's permissible range.	Configure to drive the plotter from the menu of the software.
		The software configuration regarding the output device has been changed.	Reset the interface settings of the software.
		The plotter's interface conditions have changed.	Reset the interface settings of the plotter.
E02005		An error occurred in the receipt of data within the interface.	Configure to drive the plotter from the menu of the software.
		The software configuration regarding the output device has been changed.	Reset the interface settings of the software.
		The plotter's interface conditions have changed.	Reset the interface settings of the plotter.
E02006		The data out of cutting range has been received.	Check the data.
			Check the size of media and the cutting range.
			Check the magnification setting.
			Check the step size settings.

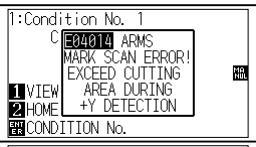
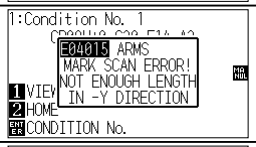
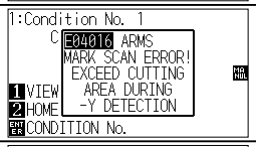
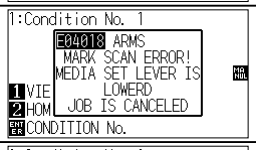
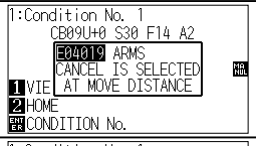
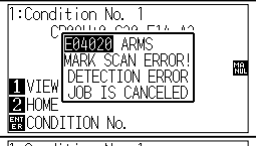
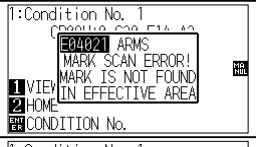
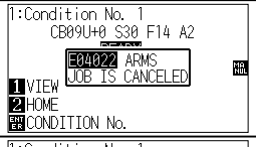
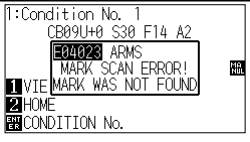
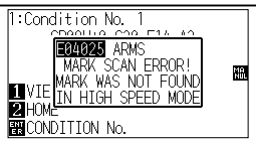
9.5 Error Messages in HP-GL Command Mode

Error Code	LCD Display	**Cause**	Solution
E03001		An unrecognizable instruction was executed. Execute a recognizable command.	Did the plotter receive an unrecognizable command? Send correct data to plotter. Is there any noise on the line? Check the interface cable or move the plotter to another location. Has the correct model name been set for the plotter? Set the correct model name. Configure your software application menu to permit Graphtec plotter control. Re-specify the software application's interface conditions.
E03002		A command was executed with the wrong number of parameters.	Execute the command with the correct number of parameters. Configure your software application menu to permit Graphtec plotter control. Re-specify the software application's interface conditions. Set the correct model name if it was incorrect.
E03003		A command containing an unusable parameter was specified.	Execute the command with its parameters specified within their permissible ranges. Configure your software application menu to permit Graphtec plotter control. Re-specify the software application's interface conditions. Set the correct model name if it was incorrect.
E03005		An unrecognizable character set was specified.	Specify a recognizable character set. Configure your software application menu to permit Graphtec plotter control. Re-specify the software application's interface conditions. Set the correct model name if it was incorrect.
E03006		The data being input exceeds the capacity of the plotter's	Execute coordinates within the cutting area.
E03007		Coordinates of command specified out of cutting area.	Adjust the buffer size.
E03010		Other output command was executed while executing an output command.	Check the program.
E03011		An invalid byte was received after ESC code.	Check the program.

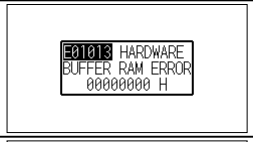
E03012		Invalid byte was received within device control command.	Check the program.
E03013		A parameter outside of the permissible range was specified in the I/O related command.	Check the program.
E03014		Too many parameters in the I/O related command.	Check the program.
E03015		Framing error, parity error, or overrun error has occurred.	Set the RS-232C transmission condition.
E03016		Interface buffer memory has overflowed.	Set the RS-232C transmission condition.

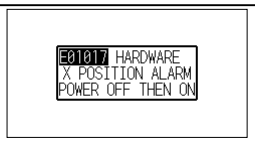
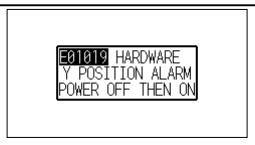
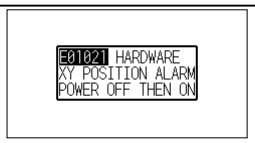
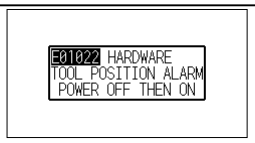
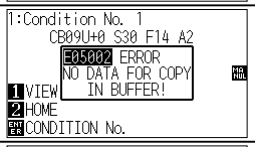
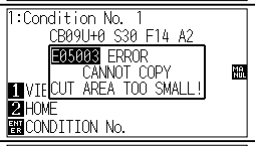
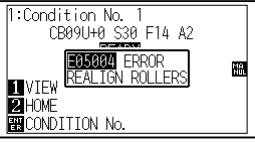
9.6 ARMS Error Messages

Error Code	LCD Display	**Cause**	Solution
E04001		Tilt to adjust with AXIS ALIGNMENT is too large.	Reload the media.
E04002		It is over the setting range of the distance adjust.	Reset to smaller value.
E04003		Failed to adjust the sensor level.	This media cannot be used.
E04004		It is over the setting range of the distance adjust.	Reset to smaller value.
E04005		Could not scan the registration marks.	Check the registration scan position.
E04006		Amount of data has exceeded the I/O buffer size for the segment area registration mark.	Decrease the data size.
E04007		Test pattern plotting position is not within the plotting area for sensor position adjustment.	Move the media toward center and plot the test pattern.
E04008		Media end was detected while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04009		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04010		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04011		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04012		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04013		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.

E04014		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04015		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04016		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04017		It has exceeded detection area while detecting the registration mark.	Check the media. Check the print position of the registration mark.
E04018		Media set lever was lowered.	Reload the media and try again.
E04019		There was cancel operation by the user.	Redo the process.
E04020		There is a defect in the detection settings value.	Check the settings value.
E04021		Registration mark was not detected in the auto detection area.	Check the media. Check the print position of the registration mark.
E04022		There was cancel operation by the user.	Redo the process.
E04023		Registration mark was not detected.	Redo the sensor level adjustment. Change the color of the registration mark. Check the media. Check the print position of the registration mark.
E04024		Registration mark was not detected.	Redo the sensor level adjustment. Change the color of the registration mark. Check the media. Check the print position of the registration mark.
E04025		Registration mark was not detected.	Redo the sensor level adjustment. Change the color of the registration mark. Check the media. Check the print position of the registration mark.

9.7 Other Error Messages

Error Code	LCD Display	**Cause**	Solution
E01001 to E01005		The main board is defective.	Replace the main board.
E01006		The main board is defective.	Replace the main board.
E01007		The main board is defective.	Replace the main board.
E01008		The main board is defective.	Replace the main board.
E01009		The main board is defective.	Replace the main board.
E01010		The main board is defective.	Replace the main board.
E01011		The main board is defective.	Replace the main board.
E01012		The main board is defective.	Replace the main board.
E01013		The main board is defective.	Replace the main board.
E01014		The main board is defective. or The Motor is defective.	Replace the main board. or Replace the motor.
E01015		The main board is defective. or The Motor is defective. or The pen block is defective.	Replace the main board. or Replace the motor. or Replace the pen block.

E01017		There is heavy load on the media moving direction. or The media is too heavy to feed. or The media stopper is not released. or The cutting speed is too fast. or The X motor is defective. or The main board is defective.	Move the object disturbing the operation, and turn on the plotter after turning it off once. or Do not use heavy media. or Use the pre-feed function. or Release the media stopper. or Reduce the cutting speed. or Replace the X motor. or Replace the main board.
E01019		Load on the Y motor was too large. or The blade length is too long. or The Y motor is defective. or The main board is defective.	Move the object disturbing the operation, and turn on the plotter after turning it off once. Do not use heard media. or Adjust the blade length. or Replace the Y motor. or Replace the main board.
E01021		Load on the motor was too large. or The blade length is too long. or The X or Y motor is defective. or The main board is defective.	Move the object disturbing the operation, and turn on the plotter after turning it off once. Do not use heavy media or heard media. or Adjust the blade length. or Replace the X or Y motor. or Replace the main board.
E01022		There was a heavy load on the up and down function of the tool carriage. The pen block is defective. or The main board is defective.	Clear any obstruction in the up and down function of the tool carriage and turn the power back on. or Replace the pen block. or Replace the main board.
E05001		Data lager than the buffer size can not be copied	Perform normal cutting by sending the data mode.
E05002		There is no data to copy.	Perform normal cutting by sending the data then use the copy mode.
E05003		Media valid area to copy is too small.	Use larger media. Confirm the copy starting position.
E05004		The push roller is not on the grit roller.	Set the push roller on the grit roller.

E05006		Distance between the bottom left and top right of the AREA setting is less than 10 mm.	Perform the AREA setting again.
E05007		Test pattern for the TOOL OFFSET ADJ. cannot start plotting because the start position is at the edge of the media.	Set the start position inside the media.

9.8 Caution Message

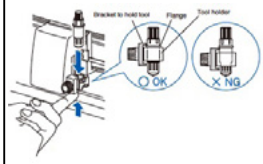
Error Code	LCD Display	**Description**
W06001		When the command set is auto, the DUMP mode us not available.
W06002		When panel cutting is on, copy and origin setting cannot be changed.

9.9 Troubleshooting of experience

Symptom	Confirmation Items	Cause	Solution
The CE6000 is not detected with the USB port of PC.	Confirm the CE6000 is not detected with other USB cable. Confirm the CE6000 is not detected with other PC.	The USB port of CE6000 is defective.	Replace the main board.
The E01009 or E01010 error is displayed.		The CPU of main board is not running correctly.	Replace the main board.
The LCD is displayed darkly.	Confirm the power was not turned on when the temperature of CE6000 was not warm.	The LCD will not display correctly when the temperature of CE6000 was not warm.	Wait until the temperature of CE6000 becomes warm.
The LCD black out or unknown line was displayed.		The CPU of main board is not running correctly.	Replace the main board.
The X Position Alarm is displayed when the media is pulling to front.	Confirm the version of firmware is later than V2.00.	The version of firmware is not later than V2.00.	Update the firmware to the latest version.
	Confirm the media is not heavy.	The media can not feed when the media is too heavy.	Use the pre-feed function. Or use the light media.
	Confirm the roll media stopper is released.	The plotter can not pull the media if the roll media stopper is not released.	Release the roll media stopper.
	The X position error is displayed when it is pre-feeding.	The X motor or the main board is defective.	Replace the X motor or the main board.
The X Position Alarm is displayed during cutting.	Confirm how long is this plotter using?	There is possibility that the X motor worn out.	Replace the X motor.
	Confirm the roll media stopper is released.	The plotter can not pull the media if the roll media stopper is not released.	Release the roll media stopper.

Symptom	Confirmation Items	Cause	Solution
The Y Position Alarm is displayed after the power is turned on.	Confirm the carriage moves to the right side plate, and then it hit to the right side plate, then the Y Position Alarm is displayed. Confirm the home sensor is working in the sensor test in the maintenance mode.	The home sensor is not detecting the home position. Y relay board is defective.	Replace the Y relay board, if the sensor does not detect the Y home sensor dog. Confirm the Y sensor dog is not bending. The sensor will be broken if it is bending by hitting the sensor.
	Confirm the carriage moves to left side slowly, and then it hit to left side plate, then the Y position alarm is displayed. Confirm the home sensor is working in the sensor test in the maintenance mode.	The home sensor is not detecting the home position. Y relay board is defective.	Replace the Y relay board, if the sensor does not detect the Y home sensor dog. Confirm the Y sensor dog is not bending. The sensor will be broken if it is bending by hitting the sensor.
	Confirm the Push roller sensor is detected for the Push roller position after the home sensor is detected for the home position. Confirm the Push Roller sensor is working in the sensor test in the maintenance mode.	The Push Roller sensor is defective.	Replace the push roller sensor.

Symptom	Confirmation Items	Cause	Solution
The Y Position Alarm is displayed after the power is turned on. And this occurred after the main board was replaced.	For the CE6000-40/60: The carriage hit the left side plate after the two push rollers are detected.	The dip-switch of the main board was setting to the wrong setting.	Perform the NV-RAM clear correctly, and then set the dip-switch correctly.
	For the CE6000-120: The carriage hit the left side plate after the three push rollers are detected.	The number of push rollers are three. The suffix setting is wrong. The suffix setting is set to the AMO. The number of push rollers are setting to the four for the three push rollers model.	Set the suffix to the “STD”. And set the number of push rollers settings to the three.
The Y Position Alarm is displayed during cutting.	The home sensor function is setting disabled.	The pen block hits the left side plate, and then it displays Y Position Alarm.	Set the home sensor function to Enabled.
	How long was this plotter used?	The Y motor is defective if this plotter was used long time.	Replace the Y motor.
The fourth push roller is not detected for the CE6000-120AMO. And this occurred after the main board was replaced.	Confirm the suffix setting or the number of push rollers.	The suffix setting settings was setting to wrong.	Set the suffix settings to “AMO”.
The fourth push roller is not detected for the CE6000-120. And this occurred after the main board was replaced.	Confirm the number of push rollers settings.	The number of push roller settings was setting to wrong.	Set the number of push rollers to the four.
The “E05004 ERROR REALIGN ROLLERS” is displayed.	Confirm the push roller is set to the correct position.	The push roller is not set to the correct position.	Set the push roller to the correct position.

Symptom	Confirmation Items	Cause	Solution
The “E05004 ERROR REALIGN ROLLERS” is displayed. And this occurred after the main board was replaced.	The plotter is CE6000-40. The right side push roller is positioned to the right end of long grid roller. Confirm the length of right side long gird roller has the 160 mm.	There are two type of grid rollers for the CE6000-40. The dip-switch was not setting correctly.	Update the firmware to latest version than if it is older than 1.99. Set the dip switch setting correctly.
Tool does not up or down correctly.	Confirm the serial number is later than “E309xxxxxx”.	The tool height sensor is not working correctly by the noise of the Y relay board. The GND has to connect for the Y relay board if the serial number is older than “E309xxxxxx”.	Connect the GND on the Y relay board. Refer to the technical bulletin No.533 to connect the GND. Or replace the Y relay board. And update the firmware to the latest version.
	Confirm there is not dust on the tool height sensor.	There is dust on the sensor.	Blow out the dust from the height sensor.
	Confirm the pen coil is not touching to the case of coil (Yoke) by moving the pen holder arm manually.	The coil is touching to the yoke.	Replace the pen block.
There is non cutting area.	Confirm the blade holder is setting to the correct position. The blade holder stopper should be set to upper position from the flange of blade holder.	The tool will not go down to the correct height if the stopper is set to under the flange of blade holder.	Reinstall the blade holder to the correct position. 
	Confirm the push roller position.	The outside of left and right push roller area does not cut.	Position the left push roller to the left edge of media. And position the right push roller to the right edge of media.
There is non cutting area. After the pen-block was reinstalled.	Confirm the Pen Block height. Confirm the pen block height is 10 mm from the Cutting Mat.	The Pen Block is installing higher than 10 mm.	Reinstall the Pen Block height to be 10 mm.

Symptom	Confirmation Items	Cause	Solution
The registration mark can not detect correctly.	Confirm the serial number is later than “E309xxxxxx”.	The registration mark sensor is not working correctly by the noise of the Y relay board. The GND has to connect for the Y relay board.	Connect the GND on the Y relay board. Refer to the technical bulletin No.531 to connect the GND. Or replace the Y relay board. And update the firmware to the latest version.
	Confirm the serial number is later than “E309xxxxxx”. Confirm the registration sensor cover goes down correctly.	The registration The registration mark sensor cover does not go down correctly by the noise of the Y relay board. The GND has to connect for the Y relay board.	Connect the GND on the Y relay board. Refer to the technical bulletin No.533 to connect the GND. Or replace the Y relay board. And update the firmware to the latest version.
	Confirm the registration sensor cover goes down. Confirm the PAPER-WEIGHT settings is set to ON in the ARMS SETTING menu.	The registration mark can not detect correctly when the PAPER-WEIGHT was set to the OFF.	Set the PAPER-WEIGHT was set to the ON.
	Confirm the firmware version is later than V2.10.	The sensor level for the first position did not adjust correctly when the firmware version is not later than V2.10 when the media is not flat.	Update the firmware to later than V2.10. Update the firmware to the latest version.
	The area of registration marks are laminating with film.	The registration mark sensor can not detect the registration mark by the diffused reflection when it is laminated.	Do not put laminate on the registration marks. or use the manual registration mark method.
	Confirm the position of registration marks are positioned to the inside of Push Rollers position.	The registration marks sensor can not detect the registration marks are positioned to the outside from the push roller.	Set the push roller position to the outside of the registration mark. The margin to print the registration mark from the media edge may need.

Symptom	Confirmation Items	Cause	Solution
The registration mark can not detect correctly.	The sheet media is loading. The registration mark error is displayed when the rear of registration mark is detecting.	The plotter can not feed to the rear registration mark area if there is not enough margin between the rear registration mark and the media end.	The at least 32 mm margin needs to have from the edge of media to the registration mark.
	Confirm the registration mark sensor level has about 50% when it is adjusting in the maintenance mode with white paper.	The registration mark sensor is defective if the sensor level does not have about 50%.	Replace the registration sensor board.
	The registration mark sensor error is displayed when the rear registration mark is detecting. The long media is loading. The registration mark size is small.	The registration mark can not find if the media is not loaded straightly and the small registration marks are printed. The registration marks can not find when the media is tilting.	Print the bigger registration mark and load the media straightly.
	Did you adjust the registration sensor level?	The registration mark sensor level did not be adjusted with the white media.	Readjust the registration sensor with the white paper. Set the registration sensor level adjustment to the default.

Symptom	Confirmation Items	Cause	Solution
The cutting position is shifted with P&C.	The cutting position is shifted to the Y direction. The serial number is older than “E309xxxxxx”.	The registration mark sensor is not working correctly by the noise of the Y relay board. The GND has to connect for the Y relay board.	Connect the GND on the Y relay board. Refer to the technical bulletin No.533 to connect the GND. Or replace the Y relay board. Update the firmware to the latest version.
	Confirm the version of firmware is later than V2.00.	The sensor level for the first position did not adjust correctly when the firmware version is not later than V2.10 when the media is not flat.	Update the firmware to later than V2.10. Update the firmware to the latest version.
	Confirm it is shifting about 5 mm to the X direction.	About 5 mm shift to the X direction when the blade holder is installing to the wrong position.	Install the blade holder to the correct position where it is the front or the rear position.
	The position shifted to the X or Y direction. It shifts always with same P&C. There is printed object inside of the registration mark.	The cutting object is detecting as the registration mark.	Print the cutting object to the outside from the registration mark.
	The cutting position is shifted randomly. Confirm the media is not skewing when the media is feeding.	The skewing occurs when the adhesion between the surface media and the base media is not strong enough.	Use the good media that has enough adhesion between the surface media and the base media.
	Confirm the registration mark sensor cover goes down when the sensor is detecting the registration mark. Confirm the PAPER WEIGHT setting is not set to OFF at the ARMS settings.	The PAPER WEIGHT is set to OFF.	Set the PAPER WEIGHT settings to ON.

Symptom	Confirmation Items	Cause	Solution
The media is skewed during feeding the media.	The plotter is CE6000-120. Confirm that the left and the right push rollers are set to the media edge.	The media will skew when the middle push roller is set to the media edge.	Set the right and the left push rollers to the media edge.
	The cutting position is shifted randomly. Confirm the media is not skewing when the media is feeding.	The skewing occurs when the adhesion between the surface media and the base media is not strong enough.	Use the good media that has enough adhesion between the surface media and the base media.
The plotter did not cut all width of media.	Confirm that the left and the right push rollers are set to the media edge.	The plotter cuts only inside of the left and the right push rollers area.	Set the right and the left push rollers to the media edge.
The plotter becomes to the ready status without detecting the push roller position.	Confirm the MEDIA SENSOR setting is not set to “DISABLED” in the ADVANCE menu.	The plotter will not detect the push rollers position when the MEDIA SENSOR setting is set to “DISABLED”.	Set the MEDIA SENSOR settings to “ENABLED” in the ADVANCE menu.
The plotter cuts the "J" shaped cutting near the cutting object.	This “J” shaped cutting is made by the initial blade control function that is controlling the first blade direction. When it cuts the inside of cutting object that needs to change the option of initial blade control.	This “J” shaped cutting is made by the initial blade control function and it will cut on the first cutting object of the 2 mm below. And if the OFFSET FORCE is high, the J shaped will cut deeply. This initial blade control is performed to get the correct blade direction.	Set Initial blade control position to the OUTSIDE when the “J” shaped cutting cuts to the inside of cutting object.

Symptom	Confirmation Items	Cause	Solution
The starting and the end point are not jointed for the first object.	Confirm the blade turns smoothly.	It will not joint if the blade does not turn smoothly.	Replace the blade holder or the blade if it does not turn smoothly.
	Confirm the blade and blade type is matching at the cutting condition.	It will not joint if the wrong type of blade is setting in the cutting condition.	Set the correct blade type to the cutting condition.
	Confirm it is cutting the thin and soft media.	The blade will not turn by initial blade control if the OFFSET FORCE is low.	Increase the OFFSET FORCE a little. Or Make a extra cutting before the first object.
	Confirm it is cutting the heard media.	The blade will not turn by initial blade control if the OFFSET FORCE is low.	Increase the OFFSET FORCE a little. Or Make a extra cutting before the first object.
The CE6000 locks when the data is outputting from the Cutting Master 3.	Confirm the firmware version and the version of Cutting Master 3.	The CE6000 locks when the firmware version is older than V1.90 and it locks when the version of Cutting Master 3 is older than 2.1.211.	Update the firmware for the CE6000 to the latest version. And update the Cutting Master 3 to the latest version.
	Confirm other cutting software is not running on the PC. Confirm the Graphtec Studio is not running on the PC.	The Cutting Master 3 is communicating with the CE6000 always. Therefore it will conflict when the other software is run.	Exit the other cutting software.
The CE6000 locks when the data is outputting from the Graphtec Studio.	Confirm the firmware version and the version of Graphtec Studio.	The CE6000 locks when the firmware version is older than V1.90 and it locks when the version of Cutting Master 3 is older than 2.1.200.	Update the firmware for the CE6000 to the latest version. And update the Caphtec Studio to the latest version.
	Confirm other cutting software is not running on the PC. Confirm the Cutting Master 3 is not running on the PC.	The Graphtec Studio is communicating with the CE6000 always. Therefore it will conflict when the other software is run.	Exit the other cutting software.

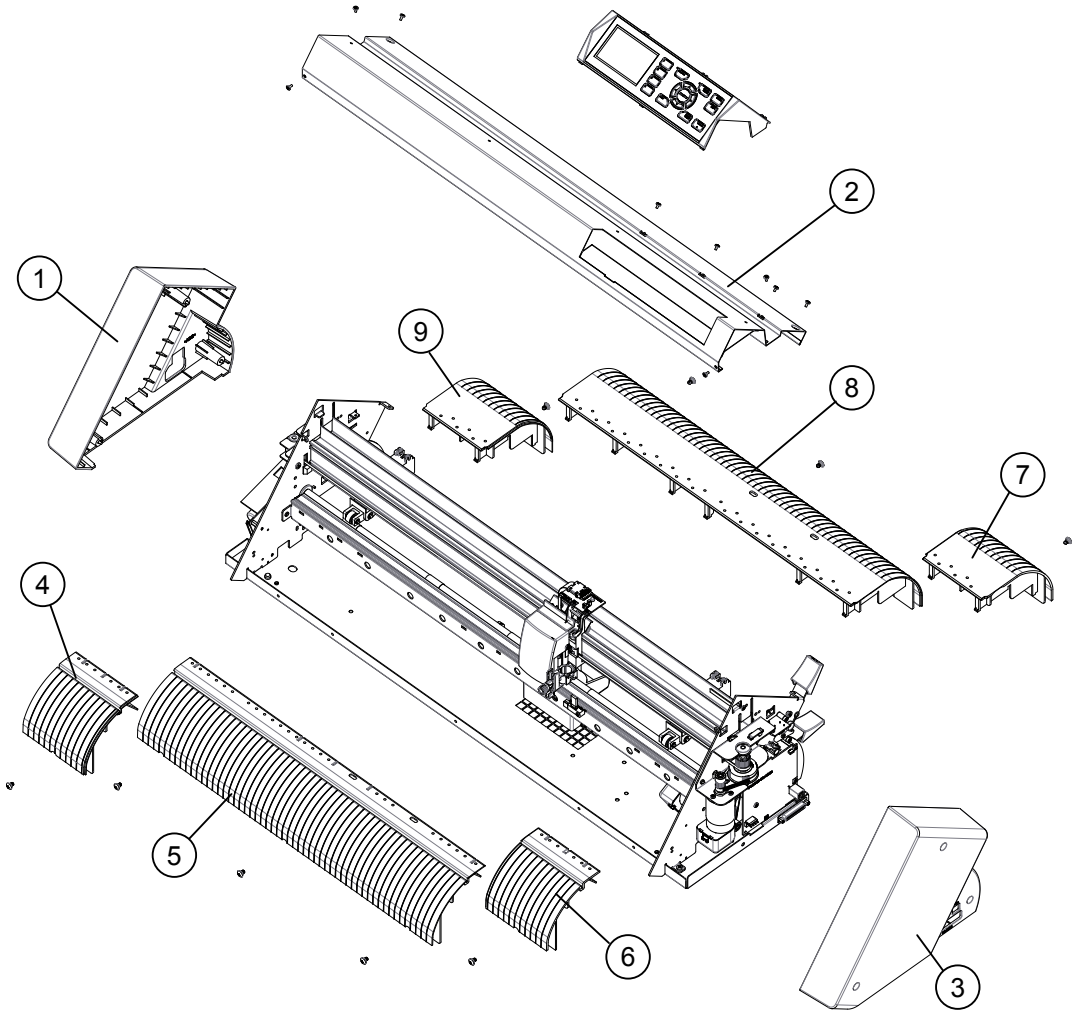
Symptom	Confirmation Items	Cause	Solution
The firmware can not update.	Confirm the Cutting Master 3 or the Grpahtec Studio is not running on the PC.	The Cutting Master 3 and the Graphtec Studio are communicating with the CE6000 always. Therefore it will conflict when updating the firmware.	Exit the Cutting Master 3 or the Graphtec Studio.
	Confirm the CE6000 WINDOWS USB driver is installed on the PC.	The firmware can not update if CE6000 WINDOWS USB driver was not installed.	Install the CE6000 WINDOWS USB driver to the PC.
	Did the firmware file unzip?	The firmware file is provided by the zip file. The zipped file does not work correctly.	Unzip the firmware file before updating the firmware.
	Is the CE6000 connecting via the USB port?	The firmware is able to update via the USB port only.	Connect the CE6000 via the USB connector.
The command error is displayed when the data send from the Cutting Software other than CM3 or GS.	Confirm the Cutting Master 3 or the Grpahtec Studio is not running on the PC.	The command set becomes to the GP-GL always when the Cutting Master 3 or the Grpahtec Studio is connected to the CE6000. Therefore the command error is displayed when the other software is sent the HP-GL command to the CE6000.	Do not run the Cutting Master 3 or the Grpahtec Studio when the other software is used. Set the command setting to the HP-GL.
The Fan is not working.	Confirm the Q9 or Q8 on the main board was not burned. Confirm the Q1201 or Q1202 on the fan relay board was burned for the CE6000-120/120AP.	The fan is defective.	Replace the main board and the fan for the CE6000-40/60. Replace the fans and the fan relay board when the Q1201 or Q1201 was burned on the fan relay board for the CE6000-120/120AP. Replace the main board also, when the Q9 or Q8 on the main board was burned for the CE6000-120/120AP.

10 PARTS LIST

10.1 Outer Casing CE6000-40/60/Plus

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621584015	Side Cover, L	1		C
	U621574912	Label, Rating, CE6000-40	1	Put the label to the side cover L.	C
	U621584912	Label, Rating, CE6000-60	1		C
	U621640010	Label, Rating, 9e6000	1	for 9e6000	C
2	U792600715	Center Cover, 40	1		C
	U792600716	Center Cover, 60	1		C
	U792600775	Center Cover, 40 Plus	1	for CE6000-40Plus	C
	U792600776	Center Cover, 60 Plus	1	for CE6000-60Plus	C
3	U621584007	Side Cover, R	1		C
4	U621581172	Front Guide, L2, 60	1	CE6000-60/60Plus only	C
5	U621571102	Front Guide, C2, 40/60	1		C
6	U621581162	Front Guide, R2, 60	4	CE6000-60/60Plus only	C
7	U621581182	Rear Guide, R2, 60	1	CE6000-60/60Plus only	C
8	U621571114	Rear Guide, C2, 40/60	1		C
9	U621581192	Rear Guide, L2, 60	1	CE6000-60/60Plus only	C

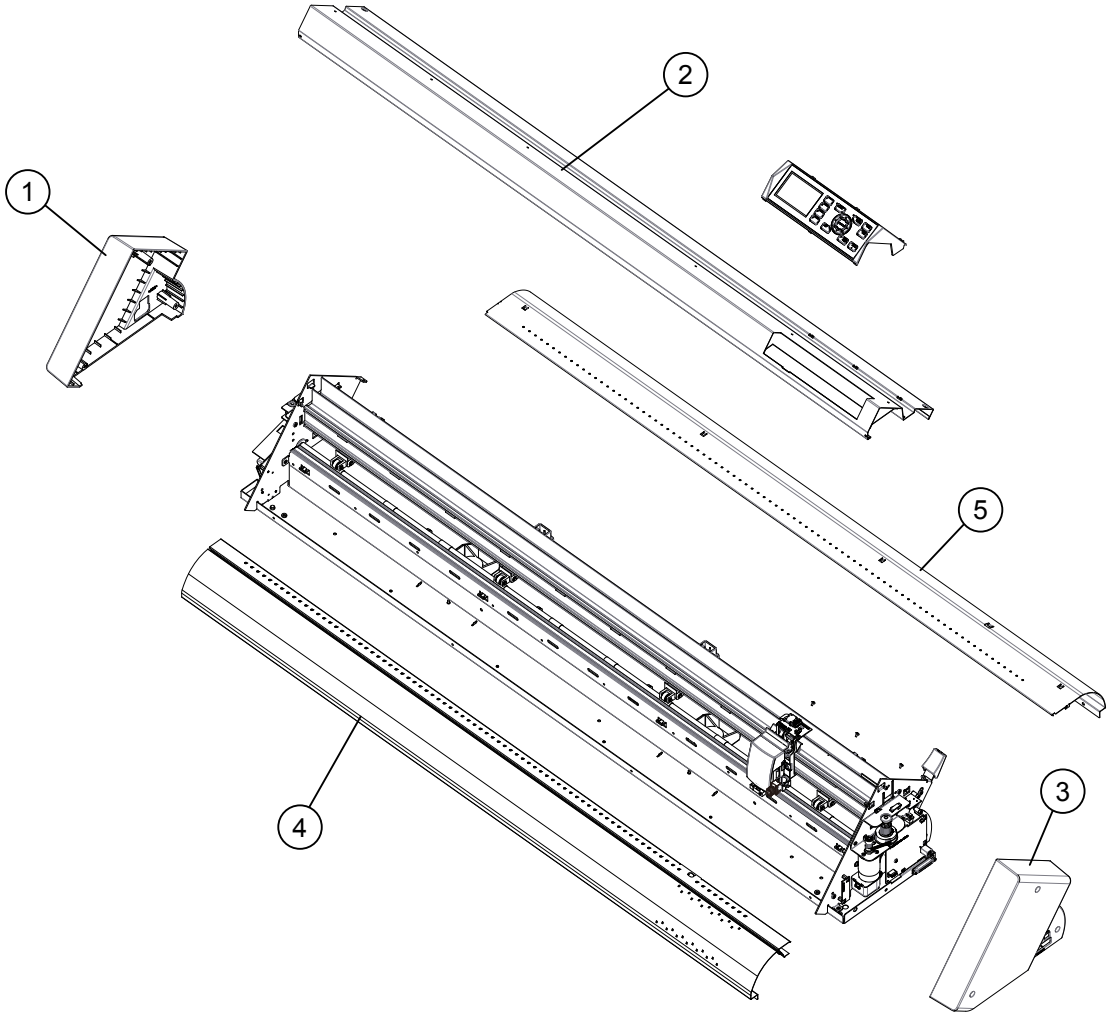
Outer Casing CE6000-40/60



10.2 Outer Casing CE6000-120/120AMO/120Plus

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621584015	Side Cover, L	1		C
	U621594912	Label, Rating, CE6000-120	1	Put the label to the side cover L.	C
2	U792600717	Center Cover, 120	1		C
	U792600777	Center Cover, 120 Plus	1		C
3	U621584007	Side Cover, R	1		C
4	U792600714	Front Guide, CE6000-120	1		C
5	U621591235	Rear Guide, CE6000-120	1		C

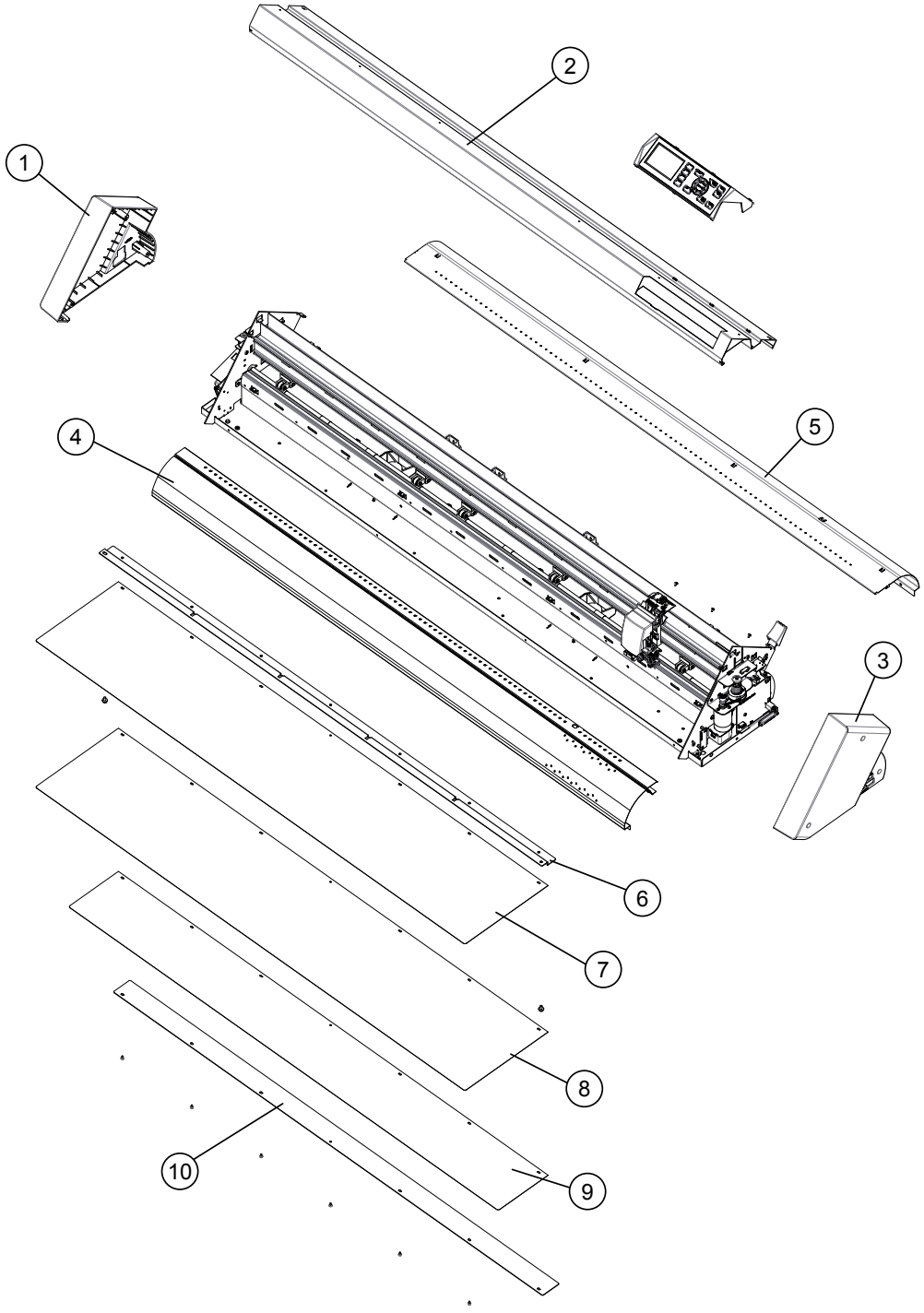
Outer Casing 120/120AMO/120Plus



10.3 Outer Casing CE6000-120AP

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621584015	Side Cover, L	1		C
	U621604000	Label, Rating, CE6000-120AP	1	Put the label to the side cover L.	C
2	U792600778	Center Cover, 120AP	1		C
3	U621584007	Side Cover, R	1		C
4	U792600714	Front Guide, CE6000-120	1		C
5	U621591235	Rear Guide, CE6000-120	1		C
6	U621600301	Guide Sheet Bracket	1		C
7	U621600352	Guide Sheet 3	1		C
8	U621600341	Guide Sheet 2			C
9	U621600331	Guide Sheet 1	1		C
10	U621600311	Guide Sheet Plate	1		C

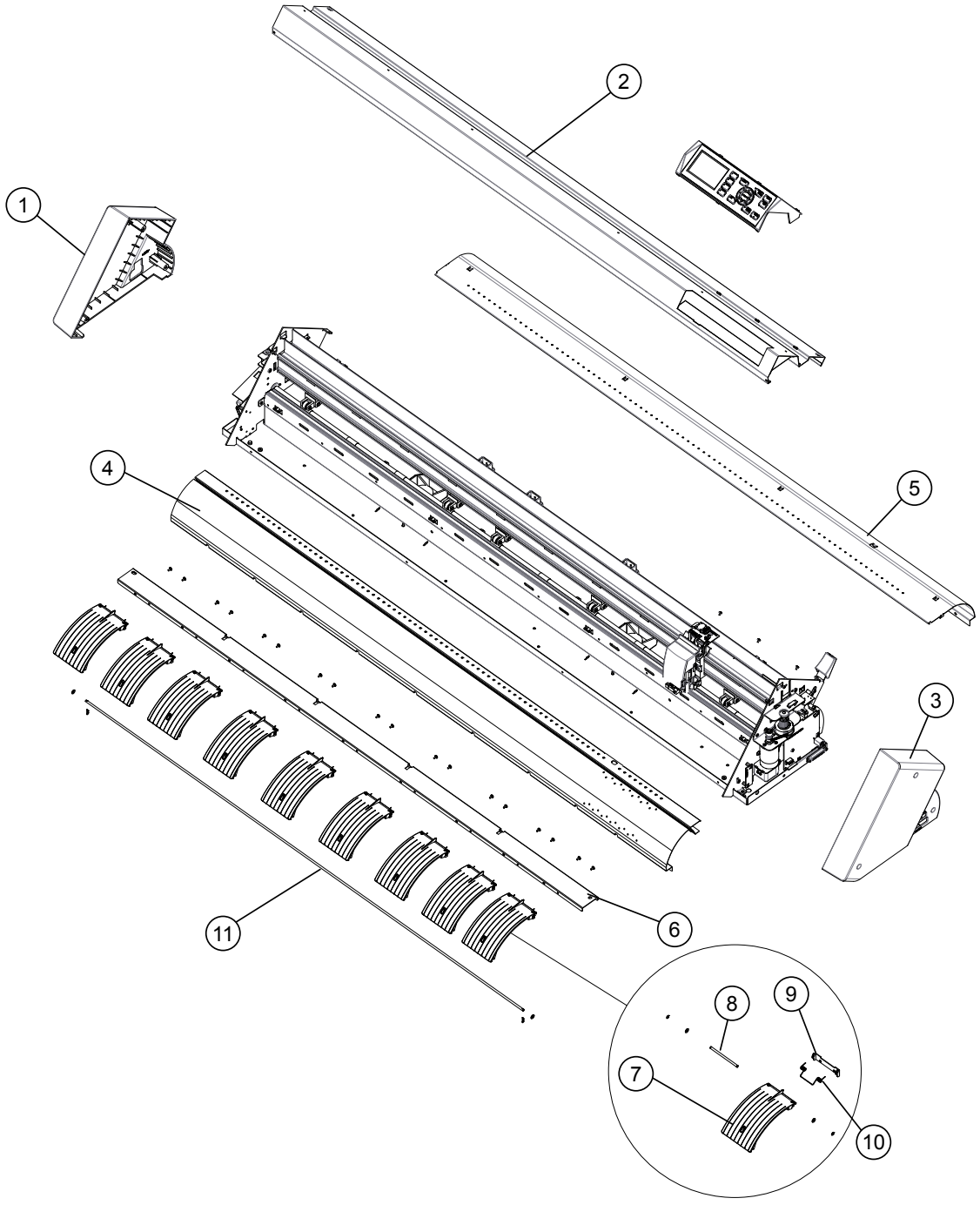
Outer Casing CE6000-120AP



10.4 Outer Casing CE6000-120AP (New)

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621584015	Side Cover, L	1		C
	U621604000	Label, Rating, CE6000-120AP	1	Put the label to the side cover L.	C
2	U792600778	Center Cover, 120AP	1		C
3	U621584007	Side Cover, R	1		C
4	U792600733	Front Guide, CE6000-120AP	1		C
5	U621591232	Rear Guide, CE6000-120	1		C
6	U621600701	Bracket, Guide Base	1		C
7	U621600743	AP-Guide_NS	9		B
8	U621600721	Shaft, AP-Guide	9		C
9	U621600711	Bracket, AP-Guide	9		C
10	U621600731	Spring, AP-Guide	9		C
11	U621600751	Shaft, AP-Guide Link	1		C

Outer Casing CE6000-120AP (New)

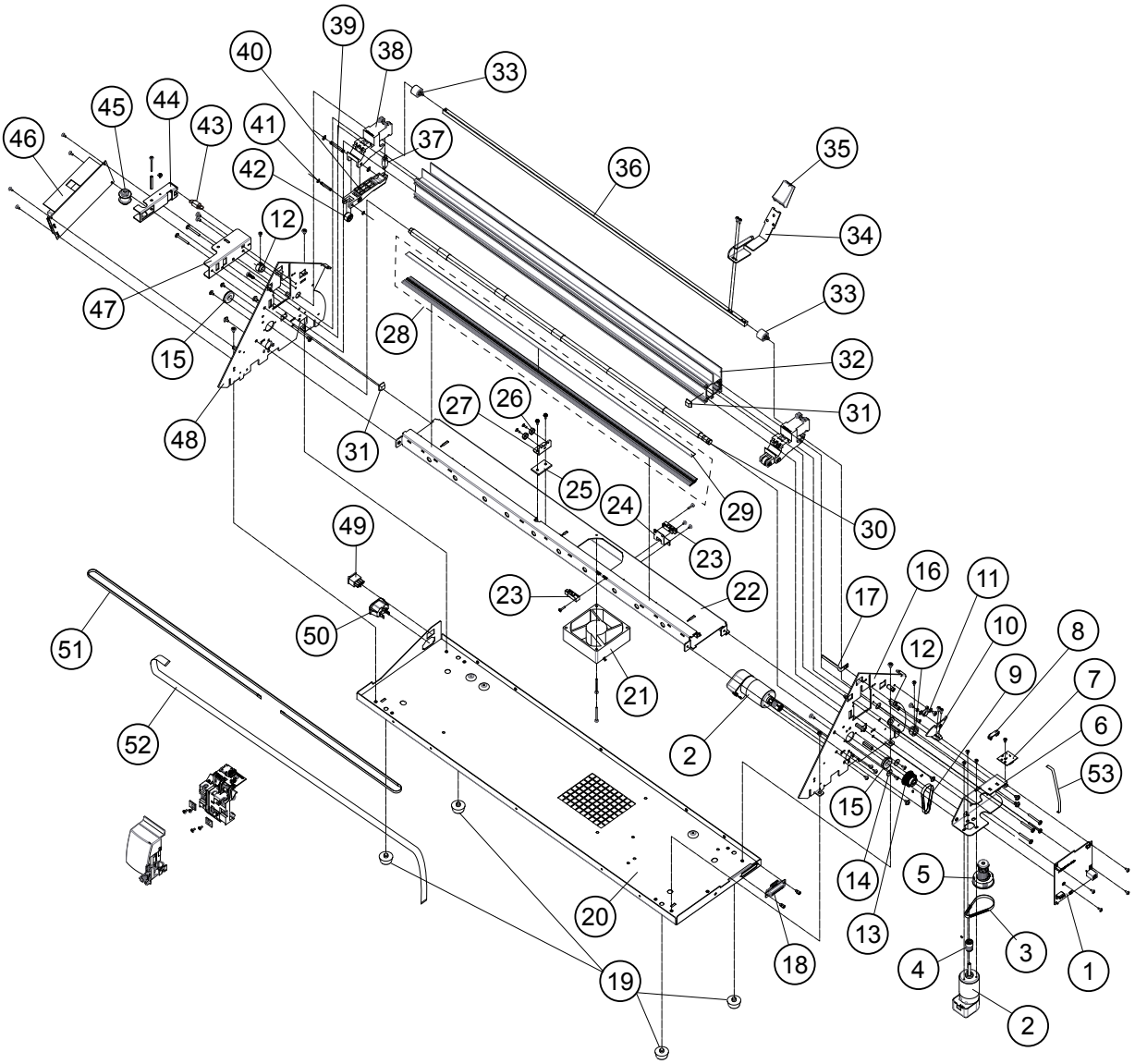


10.5 Main Frame CE6000-40/60/Plus

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U792600750	Main Board, CE6000	1	While stocks are available.	A
	U792600850	Main Board, CE6000		After the above parts run out, use this parts	A
	U792600760	Main Board, CE6000 Plus		While stocks are available.	A
	U792600860	Main Board, CE6000 Plus		After the above parts run out, use this parts	A
	U792600729	Main Board, 9e6000			A
2	U682157211	Motor, DMN37JE-X01	2	X and Y motor	A
3	U378008421	Belt, Y drive belt, 60S2M168G	1		B
4	U621582051	Gear, Motor, PULLEY-S2M-20	2	X and Y motor	C
5	U621583102	Pulley, Y drive	1		B
6	U621583193	Bracket, Y Motor	1		D
7	U792600704	Cam Sensor Board, CE6000	1	While stocks are available.	A
	U792600804	Cam Sensor Board, CE6000	1	After the above parts run out, use this parts	A
8	U361102008	Clamper, RFC-16V0	1		D
9	U378008121	Belt, X drive belt, 60S2M162G	1		B
10	U621580521	Cam Dog	1		C
11	U621580570	Spring, Cam Lever	1		C
12	U621582171	Cam Shaft Holder	2		C
13	U621582042	Pulley, X Drive, S2M-41	1		A
14	U621582200	BR Fixing Plate	2		C
15	U621582090	Bearing, Drive Roller, 6900ZZNXRJECE	2		A
16	U621581004	Right Side Plate	1		D
17	U621583054	Y Home Dog	1		D
18	U692157146	RS-232C Connector Cable, CA90821	1		C
19	U363126121	Foot, TM-127-4	4		C
20	U621570107	Chassis, CE6000-40	1		D
	U621580106	Chassis, CE6000-60	1		D
21	U682157181	Fan, LD-9225BFG1	1		A
22	U621571012	Flame, CE6000-40	1		D
	U621581021	Flame, CE6000-60	1		D
23	U561080035	Sensor, PS117EL1	2		A
24	U621586102	Bracket, Paper Sensor	1		D
25	U621582381	Rubber Mat, Support Roller	1		C
26	U621582400	Bearing, Drive Roller Holder, 12HF408	2		A
27	U621582311	Support Roller Bracket	1		D
28	U621571030	Cutting Mat Base Assy 40, CE6000-40	1	Cutting Mat with Base	A
	U621581070	Cutting Mat Base Assy 60, CE6000-60	1	Cutting Mat with Base	A
29	CE6-CM40-2	Cutting Mat 40, CE6000-40	1	Supply Parts	A
	CE6-CM60-2	Cutting Mat 60, CE6000-60	1	Supply Parts	A
30	U621572102	Drive Roller Shaft, CE6000-40	1	Old, Right side grid roller width 150 mm	A
	U621572200	Drive Roller Shaft, CE6000-40	1	New, Right side grid roller width 160 mm	A
	U621582002	Drive Roller Shaft, CE6000-60	1		A
31	U363013061	Rubber Stopper, Banpon TM166-18	2		C
32	U621573090	Y Rail, CE6000-40	1		D
	U621583090	Y Rail, CE6000-60	1		D
33	U621582103	Cam, 60	2		C
34	U621580593	Cam Lever	1		C
35	U621580581	Cap, Cam Lever	1		C
36	U621570502	Cam Shaft, CE6000-40	1		C
	U621580512	Cam Shaft, CE6000-60	1		C
37	U621582280	Spring, DE-645	2		C
38	U792600720	Pinch Roller Arm Base	2		B
39	U621112120	Roller Shaft 1	2		C
40	U792600719	Push Roller Arm	2		B
41	U092002041	Push Roller Shaft	2		C
42	U621352000	Push Roller	2		A
43	U621583320	Spring, Y Belt Tension CE6000-40/60	1		C
44	U621583681	Bracket, Y Belt Tension Arm	1		D
45	U621583232	Pulley, Y idler pulley	1		B
46	U562500141	Power Supply, ZWS150B-24/FV	1		A
47	U621583691	Bracket, Y Belt Tension	1		D
48	U621581013	Left Side Plate	1		D
49	U561630050	AC Power Switch, SDDJE30300	1		D
50	U561500277	AC Inlet, AC-P10CF34	1		D
51	U792600709	Belt, Y belt, 40, 50S2M613LWC	1	CE6000-40/40Plus	B
	U792600710	Belt, Y belt, 60, 50S2M841LWC	1	CE6000-60/60Plus	B

No.	Part No.	Description	Q'ty	Remarks	Rank
52	U692157376	Y Flexible Cable, FFC908207	1	CE6000-40/40Plus	A
	U692157337	Y Flexible Cable, FFC908203	1	CE6000-60/60Plus	A
	U621583370	Y Flexible Cable Support	1		B
53	U692157356	Flexible Cable, FFC908205, Cam Sensor	1		A

Main Frame CE6000-40/60

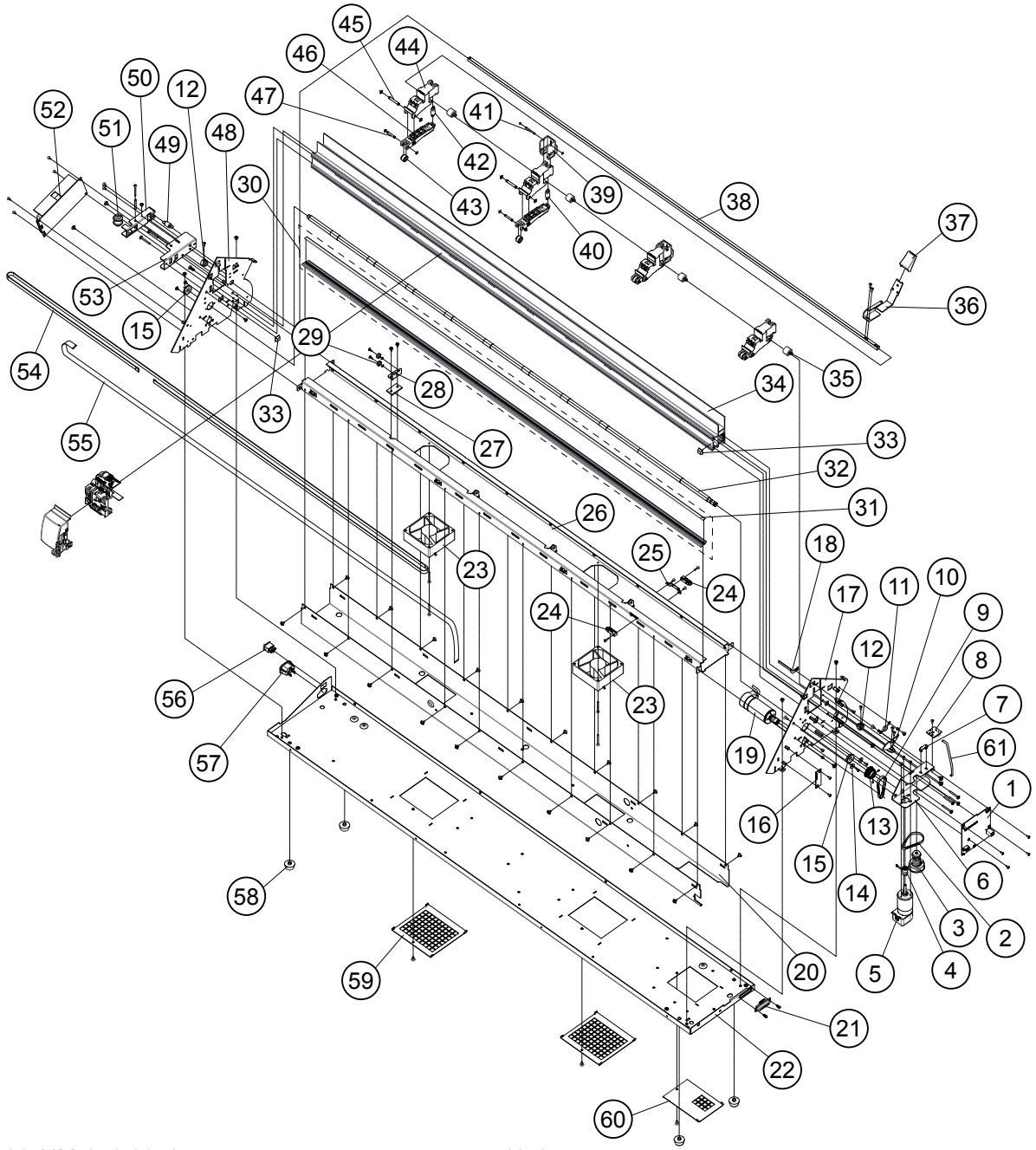


10.6 Main Frame CE6000-120/120AMO/120 Plus/120AP

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U792600750	Main Board, CE6000	1	While stocks are available.	A
	U792600850	Main Board, CE6000		After the above parts run out, use this parts.	A
	U792600760	Main Board, CE6000 Plus		While stocks are available.	A
	U792600860	Main Board, CE6000 Plus		After the above parts run out, use this parts.	A
	U792600730	Main Board, CE6000-120AP		While stocks are available.	A
	U792600830	Main Board, CE6000-120AP		After the above parts run out, use this parts.	A
2	U378008421	Belt, Y drive belt, 60S2M168G	1		B
3	U621583102	Pulley, Y drive	1		B
4	U621582051	Gear, Motor, PULLEY-S2M-20	2	X and Y motor	C
5	U682157211	Motor, DMN37JE-X01	1	Y motor	A
6	U621583193	Bracket, Y Motor	1		D
7	U361102008	Clamper, RFC-16V0	1		D
8	U792600704	Cam Sensor Board, CE6000	1	While stocks are available.	A
	U792600804	Cam Sensor Board, CE6000	1	After the above parts run out, use this parts.	A
9	U378008121	Belt, X drive belt, 60S2M162G	1		B
10	U621580521	Cam Dog	1		C
11	U621580570	Spring, Cam Lever	1		C
12	U621582171	Cam Shaft Holder	2		C
13	U621582042	Pulley, X Drive, S2M-41	1		A
14	U621582200	BR Fixing Plate	2		C
15	U621582090	Bearing, Drive Roller, 6900ZZNXRJECE	2		A
16	U792600707	Fan Relay Board, CE6000-120	1		A
17	U621581004	Right Side Plate	1		D
18	U621583054	Y Home Dog	1		D
	U621600100	Y Home Dog AP	1	CE6000-120AP	D
19	U682157220	Motor, UGFMED-B5LGRB2	1	X motor	A
20	U621591090	Sub Flame, CE6000-120	1		D
21	U692157146	RS-232C Connector Cable, CA90821	1		C
22	U621591107	Chassis, CE6000-120	1		D
23	U682157181	Fan, LD-9225BFG1	2		A
24	U561080035	Sensor, PS117EL1	2		A
25	U621586102	Bracket, Paper Sensor	1		D
26	U621591081	Flame, CE6000-120	1		D
27	U621582381	Rubber Mat, Support Roller	4		C
28	U621582311	Support Roller Bracket	4		D
29	U621582400	Bearing, Drive Roller Holder, 12HF408	8		A
30	U621591060	Cutting Mat Base Assy 120, CE6000-120	1		A
31	CE6-CM120-2	Cutting Mat 120, CE6000-120	1	Supply Parts	A
32	U621592102	Drive Roller Shaft, CE6000-120	1		A
33	U363013061	Rubber Stopper, Banpon TM166-18	2		C
34	U621593092	Y Rail, CE6000-120	1		D
35	U621582103	Cam, 60	3	CE6000-120	C
	U621582103	Cam, 60	4	CE6000-120AMO/120Plus	C
	U621582103	Cam, 60	5	CE6000-120AP	C
36	U621580593	Cam Lever	1		C
37	U621580581	Cap, Cam Lever	1		C
38	U621590592	Cam Shaft, CE6000-120	1		C
39	U621582262	Push Roller OFF Arm	1	CE6000-120	C
	U621582262	Push Roller OFF Arm	2	CE6000-120AMO/120Plus	C
	U621582262	Push Roller OFF Arm	3	CE6000-120AP	C
40	U621582290	Spring, DE-646, Center	1	CE6000-120	C
	U621582290	Spring, DE-646, Center	2	CE6000-120AMO/120Plus	C
	U621582290	Spring, DE-646, Center	3	CE6000-120AP	C
41	U621582271	Push Roller OFF Shaft	1	CE6000-120	C
	U621582271	Push Roller OFF Shaft	2	CE6000-120AMO/120Plus	C
	U621582271	Push Roller OFF Shaft	3	CE6000-120AP	C
42	U621582280	Spring, DE-645	2		C
43	U621352000	Push Roller	3	CE6000-120	A
	U621352000	Push Roller	4	CE6000-120AMO/120Plus	A
	U621352000	Push Roller	5	CE6000-120AP	A
44	U792600720	Pinch Roller Arm Base	3	CE6000-120	B
	U792600720	Pinch Roller Arm Base	4	CE6000-120AMO/120Plus	B
	U792600720	Pinch Roller Arm Base	5	CE6000-120AP	B
45	U621112120	Roller Shaft 1	3	CE6000-120	C
	U621112120	Roller Shaft 1	4	CE6000-120AMO/120Plus	C
	U621112120	Roller Shaft 1	5	CE6000-120AP	C

No.	Part No.	Description	Q'ty	Remarks	Rank
46	U792600719	Push Roller Arm	3	CE6000-120	B
	U792600719	Push Roller Arm	4	CE6000-120AMO/120Plus	B
	U792600719	Push Roller Arm	5	CE6000-120AP	B
47	U092002041	Push Roller Shaft	3	CE6000-120	C
	U092002041	Push Roller Shaft	4	CE6000-120AMO/Plus	C
	U092002041	Push Roller Shaft	5	CE6000-120AP	C
48	U621581013	Left Side Plate	1		D
49	U621593300	Spring, Y Belt Tension CE6000-120	1		C
50	U621583681	Bracket, Y Belt Tension Arm	1		D
51	U621583232	Pulley, Y idler pulley	1		B
52	U562500141	Power Supply, ZWS150B-24/FV	1		A
53	U621583691	Bracket, Y Belt Tension	1		D
54	U792600711	Belt, Y belt, 120, 100S2M-1483LW-C	1		B
55	U692157347	Y Flexible Cable, FFC908204	1		A
56	U561630050	AC Power Switch, SDDJE30300	1		D
57	U561550277	AC Inlet, AC-P10CF34	1		D
58	U363126121	Foot, TM-127-4	4		C
59	U621591130	Fan Cover	2		D
60	U621591120	Motor Cover	1		D
61	U692157356	Flexible Cable, FFC908205, Cam Sensor	1		A

Main Frame CE6000-120/120AMO/120AP

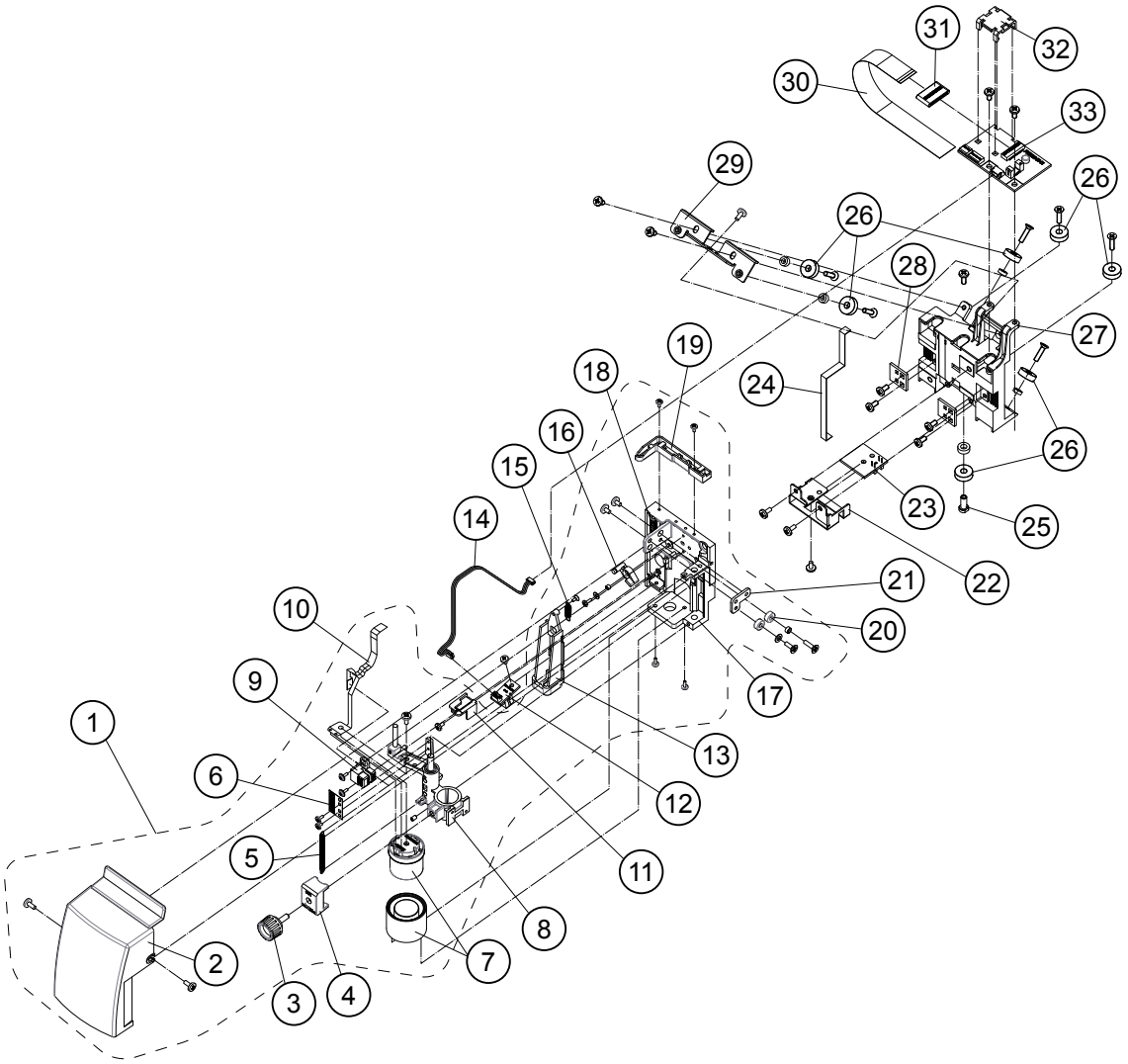


10.7 Pen Block CE6000-40/60/120/120AMO/Plus

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U792600701	Pen Block Assembly STD, CE6000	1	Standard Model*	A
	U792600708	Pen Block Assembly U, CE6000	1	USA Model (Except CE6000-40Plus USA Model)	A
2	U621583520	Pen Block Cover	1		C
3	U621353011	Thumb Screw L10	1		C
4	U621583593	Cutter Pen Holder STD	1	Standard Model	C
	U621583551	Cutter Pen Holder U	1	USA Model	C
5	U380265311	Spring, Pen Arm, E-531	1		D
6	U621583450	Encoder Strip	1		D
7	U682157140	Moving Coil & York, PM805B	1		D
8	U621583414	Pen Arm, U	1	USA Model	D
	U621583483	Pen Arm, STD	1	Standard Model	D
	U621583460	Guide Shaft	1		D
	U621353000	Linear bearing & Shaft	1		D
9	U561080005	Pen Encoder, HEDS-9720#P50	1		D
10	U682157103	Pen Flexible Cable, FPC908210C	1		D
	U561450062	Capacitor, RPEF11H104Z2P1A0	1		D
11	U621583430	Wire Guide, RM Sensor	1		D
12	U792600705	Registration Mark Sensor Board, CE6000	1	While stocks are available.	A
	U792600805	Registration Mark Sensor Board, CE6000	1	After the above parts run out, use this parts	A
13	U621583503	RM Sensor Hood	1		C
14	U692157084	Cable, RM Sensor, CA908208D	1		C
15	U380265181	Spring, E-518, RM Hood	1		D
16	U621583511	Cam, RM Hood	1		D
17	U621583472	MC Base	1		D
18	U380265491	Spring, E-549, Cam, RM Hood	1		D
19	U621583442	Cable Guide	1		D
20	U621589350	Bearing, L-730ZZMTHP5	2		D
21	U621583420	BR Plate	1		D
22	U621583281	Push Roller Sensor Cover	1		D
23	U792600703	Push Roller Sensor Board, CE6000	1	While stocks are available.	A
	U792600803	Push Roller Sensor Board, CE6000	1	After the above parts run out, use this parts	A
24	U692157366	Flexible Cable, FFC908206F	1	Push Roller Sensor	C
25	U621583302	Collar, Y Slider bottom Center	1		D
26	U621583390	BR Roller, Y Slider, R1240KK1MTRP5	7		C
27	U621583201	Y Slider, CE6000	1		C
28	U621583331	Y Belt Stopper	2		D
29	U621583291	Y Slider Tension Bracket	1		C
30	U692157376	Y Flexible Cable, FFC908207	1	CE6000-40/40Plus	A
	U692157337	Y Flexible Cable, FFC908203	1	CE6000-60/60Plus	A
	U692157347	Y Flexible Cable, FFC908204	1	CE6000-120/AP/AMO/Plus	A
31	U562500142	Core, FSRC200120RTB00T	1		D
32	U621583381	Clamper, FPC	1		D
33	U792600702	Pen Relay Board, CE6000	1	While stocks are available.	A
	U792600802	Pen Relay Board, CE6000	1	After the above parts run out, use this parts	A

* The CE6000-40Plus USA model is using Pen Block Assembly STD, CE6000.

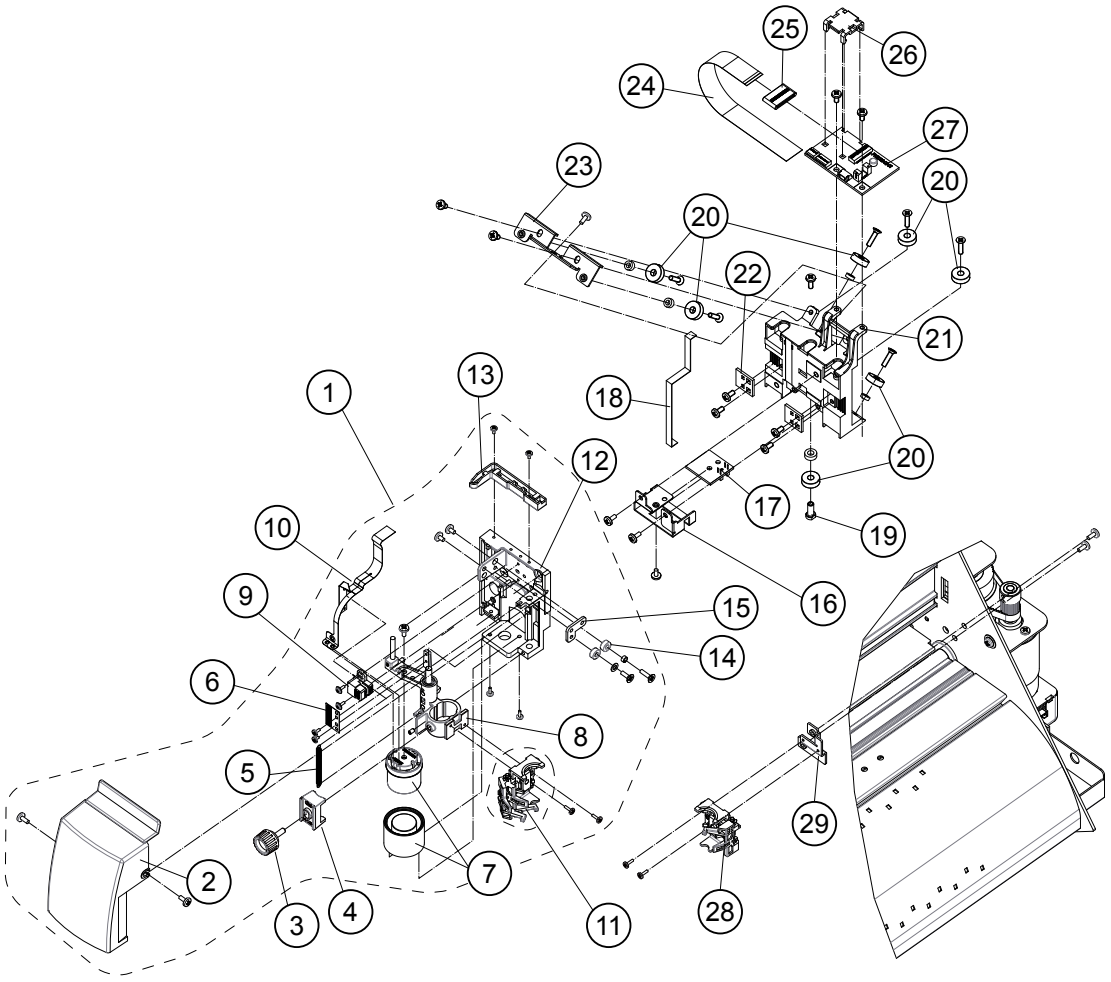
Pen Block CE6000-40/60/120/120AMO/Plus



10.8 Pen Block CE6000-120AP

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U792600726	Pen Block Assy, CE6000-120AP	1		A
2	U621583520	Pen Block Cover	1		C
3	U621353011	Thumb Screw L10	1		C
4	U621603101	Cutter Pen Holder AP	1		C
5	U380265311	Spring, Pen Arm, E-531	1		D
6	U621583450	Encoder Strip	1		D
7	U682157140	Moving Coil & York, PM805B	1		D
8	U621603111	Pen Arm, AP	1		D
	U621583460	Guide Shaft	1		D
	U621353000	Linear bearing & Shaft	1		D
9	U561080005	Pen Encoder, HEDS-9720#P50	1		D
10	U682157103	Pen Flexible Cable, FPC908210C	1		D
	U561450062	Capacitor, RPEF11H104Z2P1A0	1		D
11	U772159880	2 Pen Holder Assy, CE6	1		A
12	U621583472	MC Base	1		D
13	U621583442	Cable Guide	1		D
14	U621589350	Bearing, L-730ZZMTHP5	2		D
15	U621583420	BR Plate	1		D
16	U621583281	Push Roller Sensor Cover	1		D
17	U792600703	Push Roller Sensor Board, CE6000	1	While stocks are available.	A
	U792600803	Push Roller Sensor Board, CE6000	1	After the above parts run out, use this parts	A
18	U692157366	Flexible Cable, FFC908206F	1	Push Roller Sensor	C
19	U621583302	Collar, Y Slider bottom Center	1		D
20	U621583390	BR Roller, Y Slider, R1240KK1MTRP5	7		C
21	U621583201	Y Slider, CE6000	1		C
22	U621583331	Y Belt Stopper	2		D
23	U621583291	Y Slider Tension Bracket	1		C
24	U692157347	Y Flexible Cable, FFC908204	1		A
25	U562500142	Core, FSRC200120RTB00T	1		D
26	U621583381	Clamper, FPC	1		D
27	U792600702	Pen Relay Board, CE6000	1	While stocks are available.	A
	U792600802	Pen Relay Board, CE6000	1	After the above parts run out, use this parts	A
28	U772159890	2 Pen Station Assy, CE6	1		A
29	U621583800	2 Pen Station Bracket	1		D

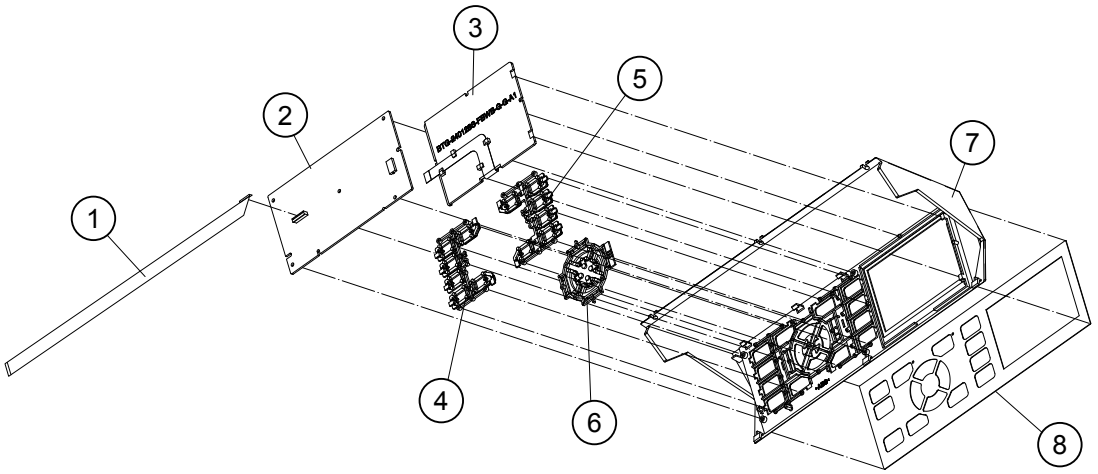
Pen Block CE6000-120AP



10.9 Control Panel

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U692157326	Flexible Cable, FFC908202, Control Panel	1		A
2	U792600706	Control Panel Board, CE6000	1	While stocks are available.	A
	U792600806	Control Panel Board, CE6000	1	After the above parts run out, use this parts	A
3	U682157130	LCD, BTG240128SFBWBGG, CE6000	1		A
4	U621584236	Right Key, Control Panel	1		C
5	U621584214	Function Key, Control Panel	1		C
6	U621584223	Cursor Key, Control Panel	1		C
7	U792600718	Control Panel Cover	1		C
	U792600728	Control Panel Cover, 9e6000	1	For 9e6000	C
8	U621584246	Control Panel Sheet	1		C

Control Panel



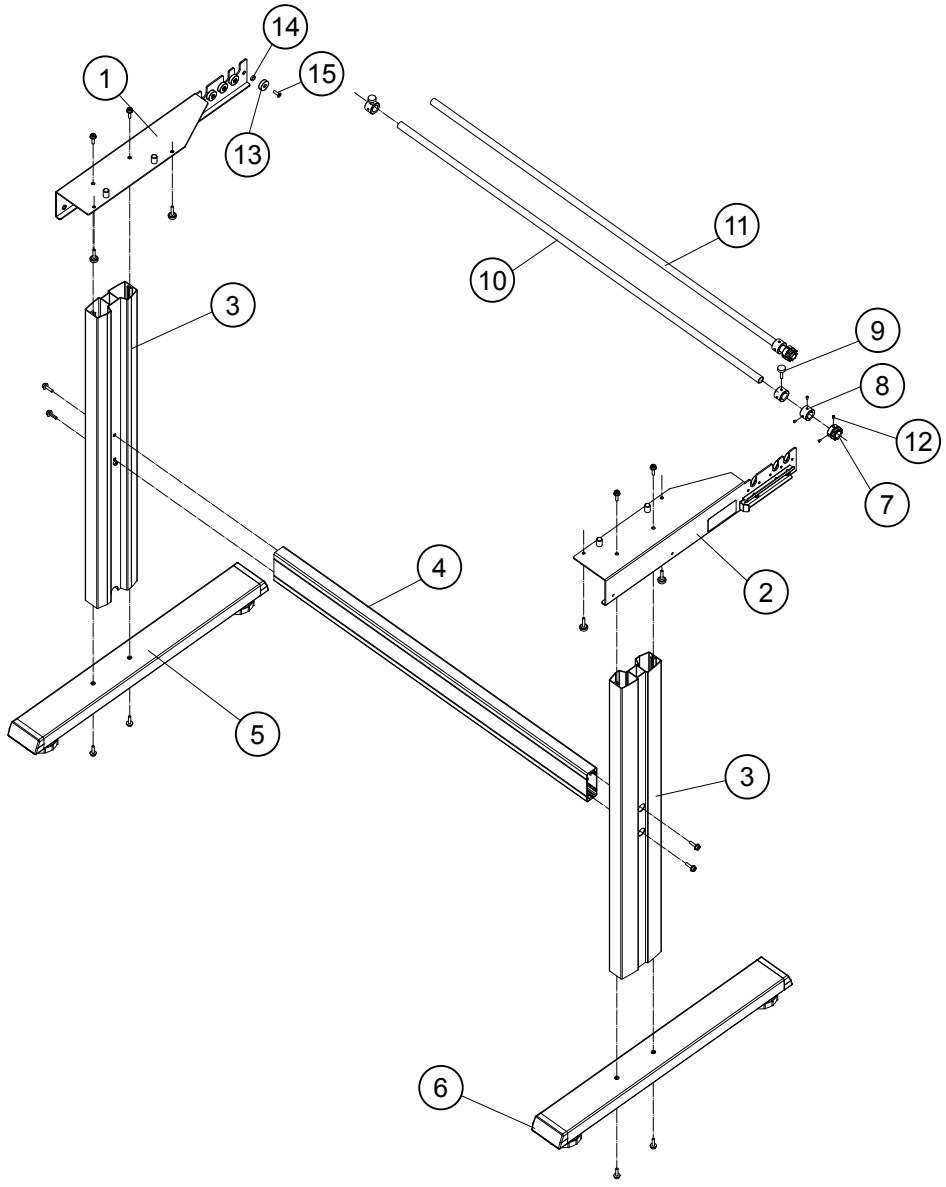
10.10 Wiring Harness

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U692157366	Flexible Cable, FFC908206F	1	Push Roller Sensor to Y Relay Board	C
2	U692157084	Cable, RM Sensor, CA908208D	1	Registration Mark Sensor Board to Y Relay Board	C
3	U692157326	Flexible Cable, FFC908202, Control Panel	1	Control Panel Board to Main Board	A
4	U692157376	Y Flexible Cable, FFC908207	1	CE6000-40/40Plus	A
5	U692157337	Y Flexible Cable, FFC908203	1	CE6000-60/60Plus	A
6	U692157347	Y Flexible Cable, FFC908204	1	CE6000-120/AP/AMO/Plus	A
7	U692157356	Flexible Cable, FFC908205, Cam Sensor	1	Cam Sensor to Main Board	A
8	U692157253	Y Motor Encoder Cable, CA908225C	1	Y Motor to Main	C
9	U692157242	Y Motor Extension Cable, CA908224B	1	Y Motor to Main	C
10	U692157233	X Motor Encoder Cable, CA908223C, 40/60	1	CE6000-40/60	C
11	U692157123	X Motor Encoder Cable, CA908212C, 120	1	CE6000-120	C
12	U692157222	Y Motor Extension Cable, CA908222B	1	X Motor to Main	C
13	U692157118	Fan Relay Cable, CA908211H	1	Fan Relay Board to Main Board, CE6000-120	C
14	U692157134	Fan Extension Cable, CA908213D	1	Fan Relay Board to Fan 2, CE6000-120	C
15	U692157035	Paper Sensor Cable, CA908203E	1	CE6000-40/60/Plus	C
16	U692157153	Paper Sensor Cable, CA908215C	1	CE6000-120/AP/AMO/Plus	C
17	U692157146	RS-232C Connector Cable, CA908214F	1		C
18	U692157073	Cable, CA908207C	1	Power Supply to Main, CE6000-40	C
19	U692157022	Cable, CA908202B	1	Power Supply to Main, CE6000-60	C
20	U692157103	Cable, CA908210C	1	Power Supply to Main, CE6000-120	C
21	U692157016	Cable, CA908201F	1	Power Switch to Power Supply	D
22	U692157046	Cable, CA908204F	1	Inlet to Power Switch, Brown	D
23	U692157063	Cable, CA908206C	1	Inlet to FG	D
24	U692157056	Cable, CA908205F	1	Inlet to Power Switch, Blue	D

10.11 Stand CE6000-60/Plus, ST0100

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U792600721	Left Top Plate Assembly	1		C
2	U792600722	Right Top Plate Assembly	1		C
3	U621580212	Side Stay CE6000-60	2	Right and left	C
4	U621580202	Center Bar, CE6000-60	1		C
5	U621580222	Foot Assembly	2		C
6	U621350140	End Cap, Foot	4		C
7	U621580371	Stopper Collar	2		C
8	U621580360	Collar-15	4		C
9		Yuria Screw, M4L10	2		C
10	U621580352	Stocker Shaft	2		C
11	U621580341	Stocker Shaft Assembly	2	Item 7, 8, 10	C
12		Set Screw, M4L5	4		D
13	U310062620	Bearing,626ZZ (626ZZ1MC3EPS2S)	10		C
14	U621580300	Spacer, Bearing	10		C
15		Screw, Flat head M4L12	10		D

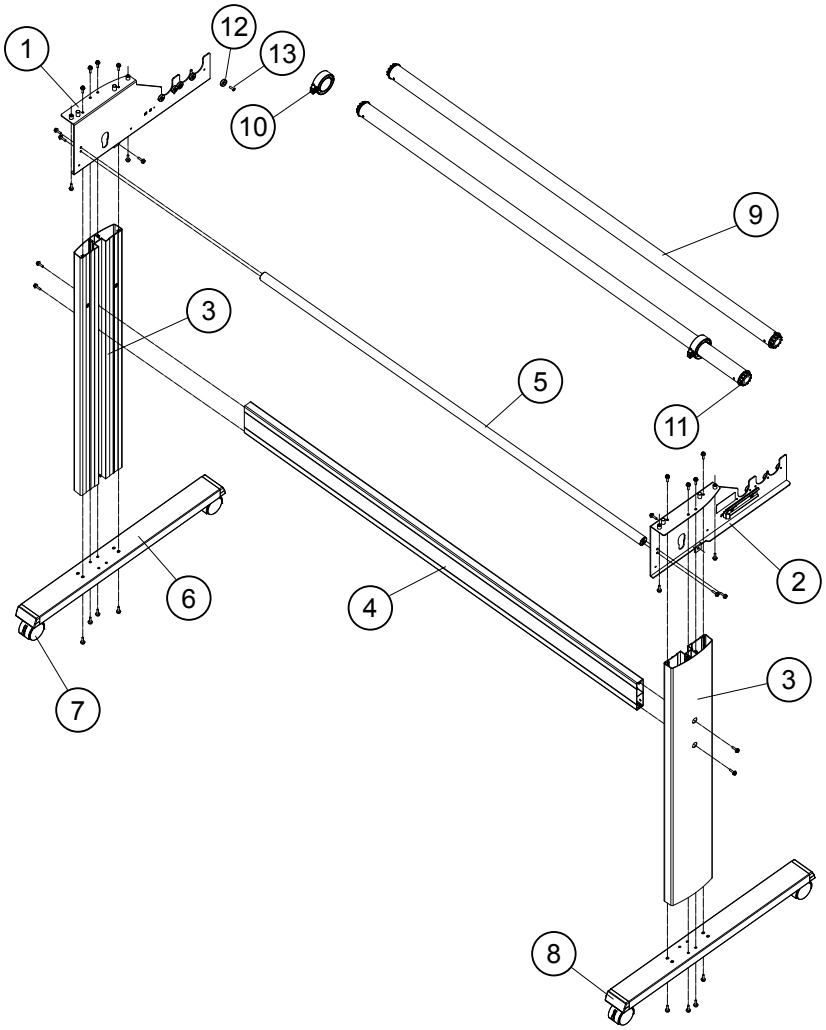
Stand CE6000-60/Plus, ST0100



10.12 Stand CE6000-120/120AMO/120Plus, ST0101

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U792600723	Left Top Plate Assembly, CE6000-120	1		C
2	U792600724	Right Top Plate Assembly, CE6000-120	1		C
3	U621590210	Side Stay CE6000-120	2	Right and left	C
4	U621590241	Center Bar, CE6000-120	1		C
5	U621590372	Guide Bar. CE6000-120	1		C
6	U621590221	Foot Assembly, CE6000-120	2		C
7		Caster	4		C
8	U621590380	End Cap, Foot, 120	4		C
9	U621590311	Roll Shaft Assembly, CE6000-120	2		C
10	U792600725	Position Clamper Assembly, CE6000-120	2		C
		M5L16 Cap Screw	30		D
11	U621590361	End Cap, 120CE6	4	End Cap only (Without Shaft)	C
12	U350190502	Roller B, ER19H5W05	10		C
13		Screw, Flat head M4L12	10		D

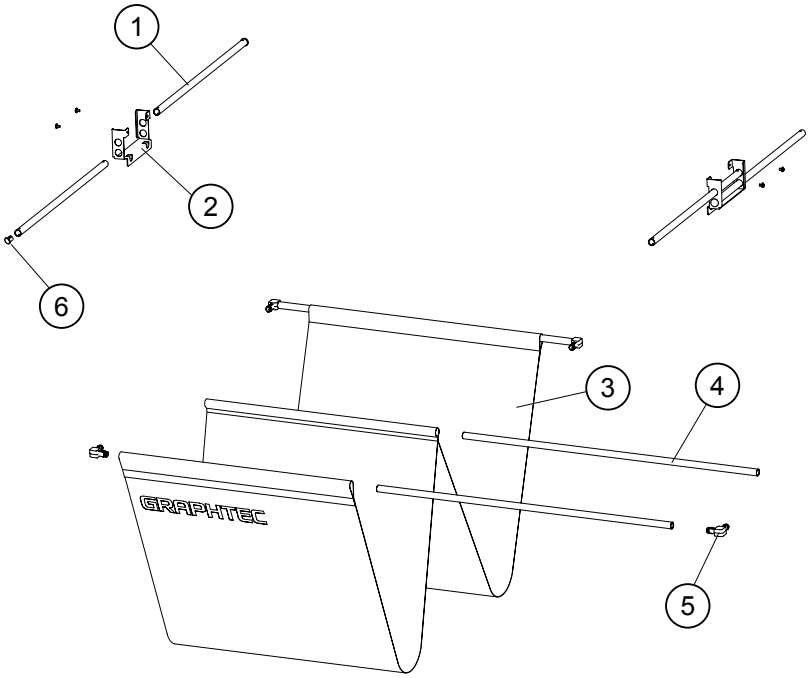
Stand CE6000-120/120AMO/120Plus, ST0101



10.13 Option Basket CE6000-60/Plus, PG0100

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621580620	Pipe, Basket Side, CE6000-60	4		C
2	U621580610	Basket Bracket, CE6000-60	2		C
3	U621580640	Basket Cloth, CE6000-60	1		C
4	U621580630	Pipe, Basket Cloth, CE6000-60	3		C
5	U621409261	Anchor Joint	4		C
6	U621409231	End Cap, Basket	4		C
7		M5L6 TP Screw	4		D

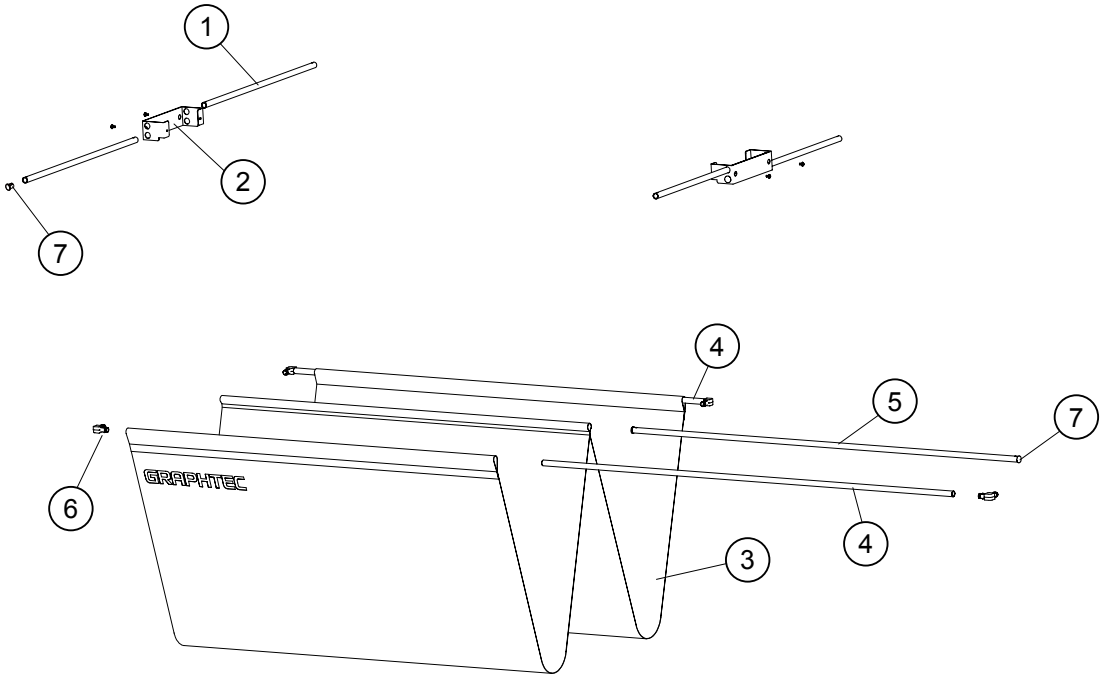
Option Basket CE6000-60/Plus, PG0100



10.14 Option Basket CE6000-120/120AMO/120Plus, PG0101

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621601510	Pipe, Basket Side, CE6000-120	4		C
2	U621601500	Basket Bracket, CE6000-120	2		C
3	U621601560	Basket Cloth, CE6000-120	1		C
4	U621601520	Pipe FR, Basket Cloth, CE6000-120	2		C
5	U621601530	Pipe Center, Basket Cloth, CE6000-120	1		C
6	U621409261	Anchor Joint	4		C
7	U621409231	End Cap, Basket	6		C
8		M5L6 TP Screw	4		D

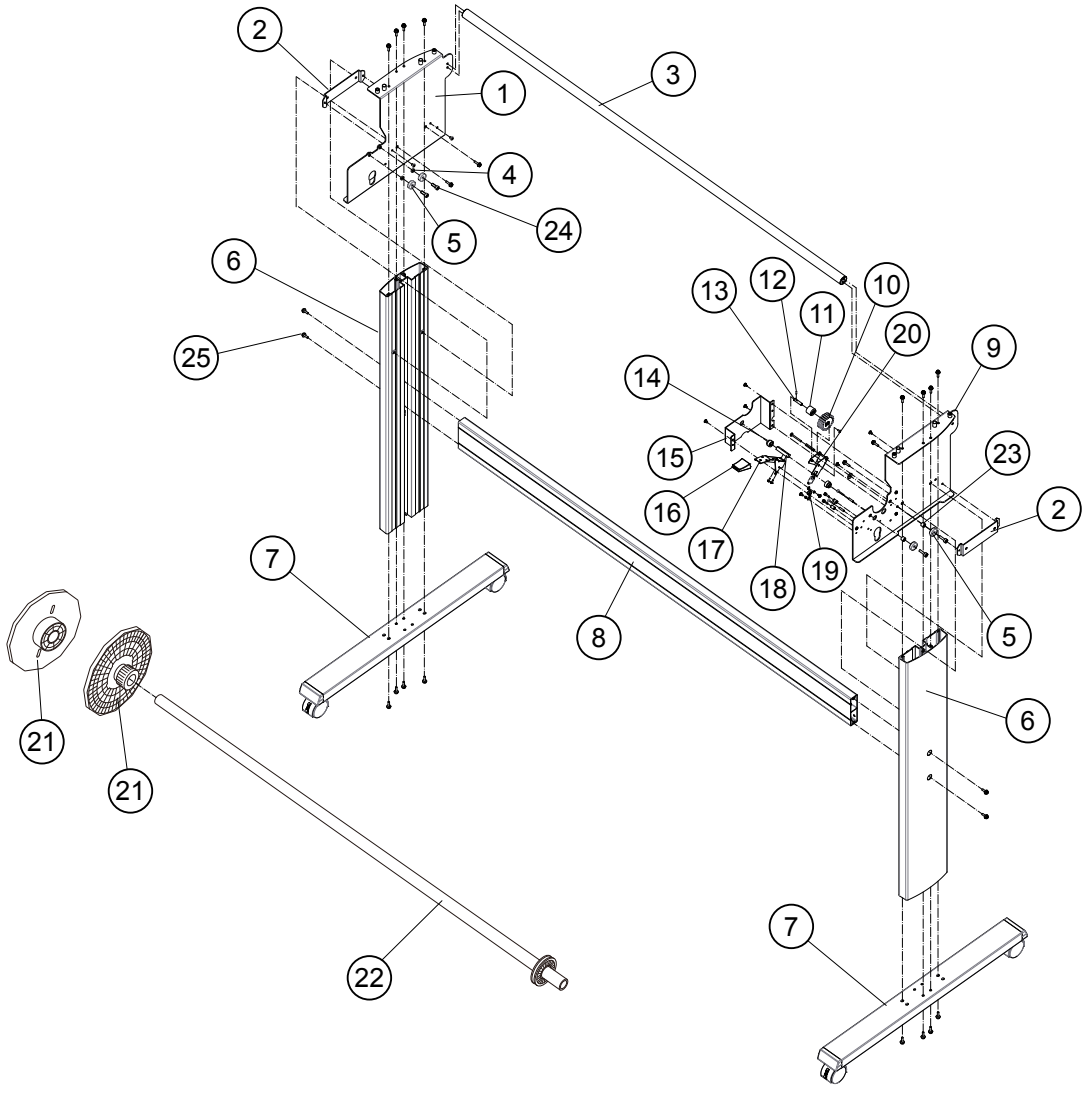
Option Basket CE6000-120/120AMO, PG0101



10.15 Stand CE6000-120AP, ST0102

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621601121	Left Top Plate Assembly, CE6000-120AP	1		C
2	U621601161	Post Plate	2		C
3	U621590372	Guide Shaft	1		C
4	U392160020	Spacer, CB-602E	4		C
5	U310063620	Roller, BB 636ZZ	4		C
6	U621601011	Side Stay CE6000-120AP	2	Right and left	C
7	U621601031	Foot Assembly, CE6000-120AP	2		C
8	U621590241	Center Bar, CE6000-120	1		C
9	U621601101	Right Top Plate Assembly, CE6000-120AP	1		C
10	U621601220	Back Tension Gear	1		C
11	U305522017	Torque limiter, OTLV6-1500C	1		C
12		Parallel Shaft	1		D
13	U621601230	Back Tension Shaft	1		C
14	U621582171	Cam Shaft Holder	2		C
15	U621601241	Stock Bracket	1		C
16	U621580581	Cap, Cam Lever	1		C
17	U621601250	Stopper Lever, AP	1		C
18	U621601260	Shaft, Stopper	1		C
19	U621580570	Spring, Cam Lever	1	M6L16 Cap Screw	C
20	U621601211	Back Tension Bracket	1		C
21	U621601370	Flange, CE6000-120AP	2		A
22	U621601360	Stock Shaft Assembly	1		C
23	U392160080	Spacer, CB-608E	2		C
24		Cap screw, M4L8	4		D
25		Flange Cap Screw, M5L16	30		D

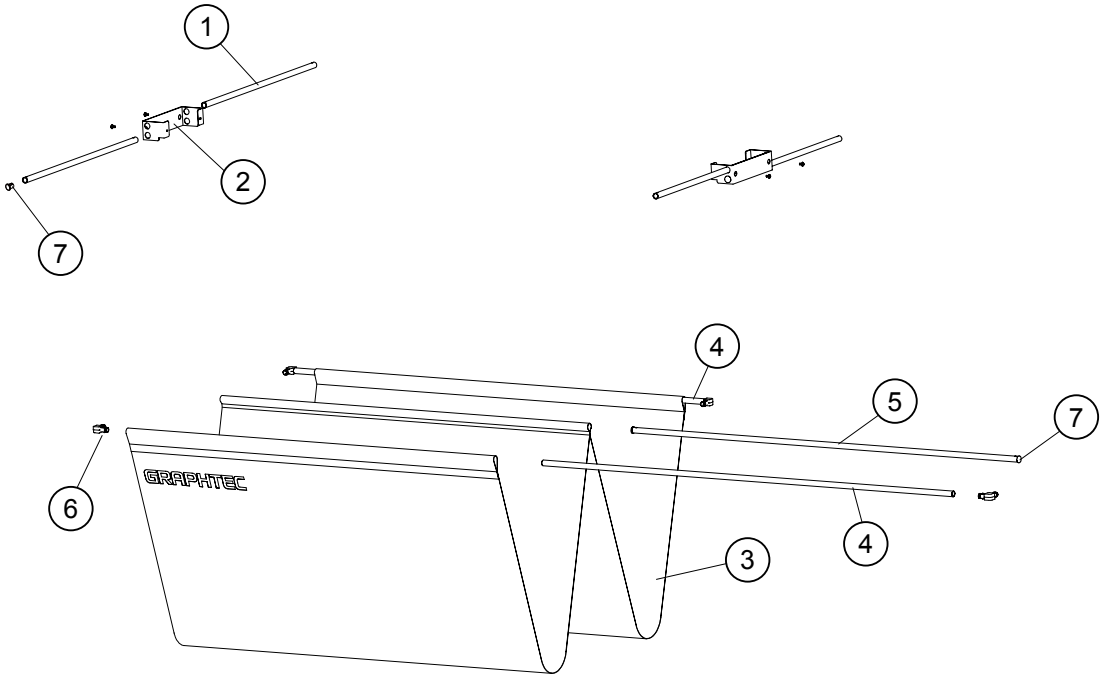
Stand CE6000-120AP, ST0102



10.16 Basket CE6000-120AP, PG0101

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U621601510	Pipe, Basket Side, CE6000-120	4		C
2	U621601500	Basket Bracket, CE6000-120	2		C
3	U621601560	Basket Cloth, CE6000-120	1		C
4	U621601520	Pipe FR, Basket Cloth, CE6000-120	2		C
5	U621601530	Pipe Center, Basket Cloth, CE6000-120	1		C
6	U621409261	Anchor Joint	4		C
7	U621409231	End Cap, Basket	6		C
8		M5L6 TP Screw	4		D

Option Basket CE6000-120/120AMO, PG0101



10.17 Other Parts

Standard Accessories

No.	Part No.	Description	Q'ty	Remarks	Rank
1	U772157160	Roll Stocker Set (L and R)	1	CE6000-40/40Plus	C
2	U308002101	Cutter Knife, Q-100P	1		C
3		Fiber Tip Pen, KF700-BK(1P)	1	CE6000-40/60/120/120AMO/120Plus	D
		Ball Point Pen, KB700-BK-1P	1	CE6000-120AP	D
4	U562500003	USB Cable, CBL0106-ACL2-29M	1		C
5	U621313440	Setup Manual, CE6000-UM-8M1	1	CE6000-40/60/120/120AMO	C
6	U621589880	CE6000 CD-Manual, CE6000-CDM01M	1	CE6000-40/60/120/120AMO	C
	U621609900	CE6000-120AP CD-Manual, CE60AP-CDM01M	1		C
7	U621269333	Safety Manual, ANCUTG-UM-AM3	1		C
8		Cutter Blade, CB09UB-1	1	Supply Part CB09UB-5	D
9		Cutting Mat A3	1	CE6000-40, Supply Part	D
10		Cutter Blade Holder, PHP33-CB09N-HS	1	Supply Parts	D
11		Fiber Pen Holder, PHP31-FIBER	1	Supply Parts	D
12		Fiber Pen, KF700-BK	1	Supply Parts	D
13		Ball Pen Holder, PHP34-BALL	1	Supply Parts	D
14		Ball Point Pen, KB700-BK	1	Supply Parts	D

Regarding the rank of spare parts

Rank A: This rank of part will be stocked always until product discontinued.

Rank B: This rank of part will not be stocked always. This rank of parts will need a lead-time maximum 3 months.

Rank C: This rank of part will not be stocked always. This parts will need a lead time at least 3 month.

Rank D: This rank of part will not be supplied as spare parts.

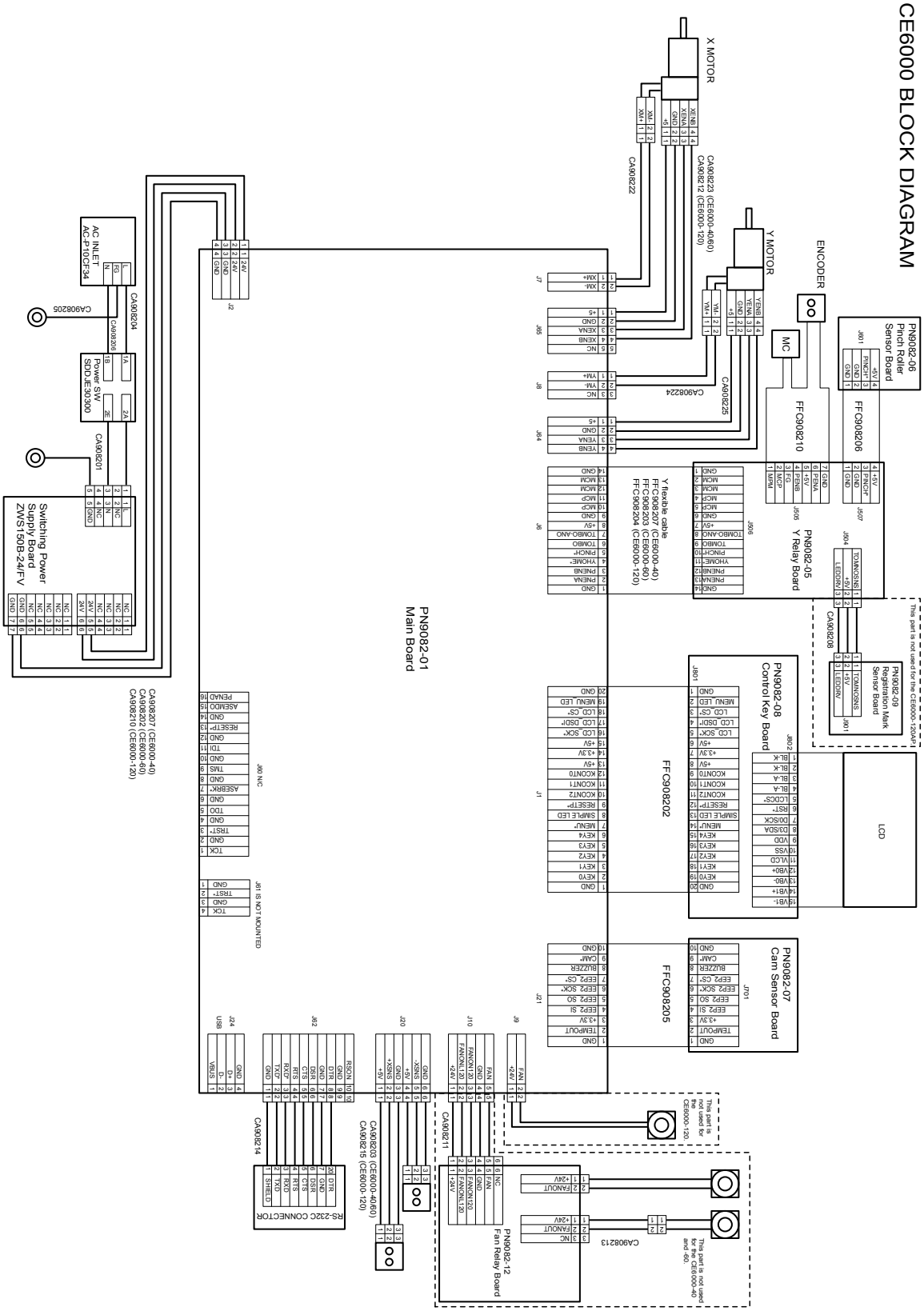
The parts will be supplied during five years after production was discontinued unless the parts run out.

Some of the outer parts may not be supplied after production was discontinued.

11 BLOCK DIAGRAMS AND CIRCUIT DIAGRAMS

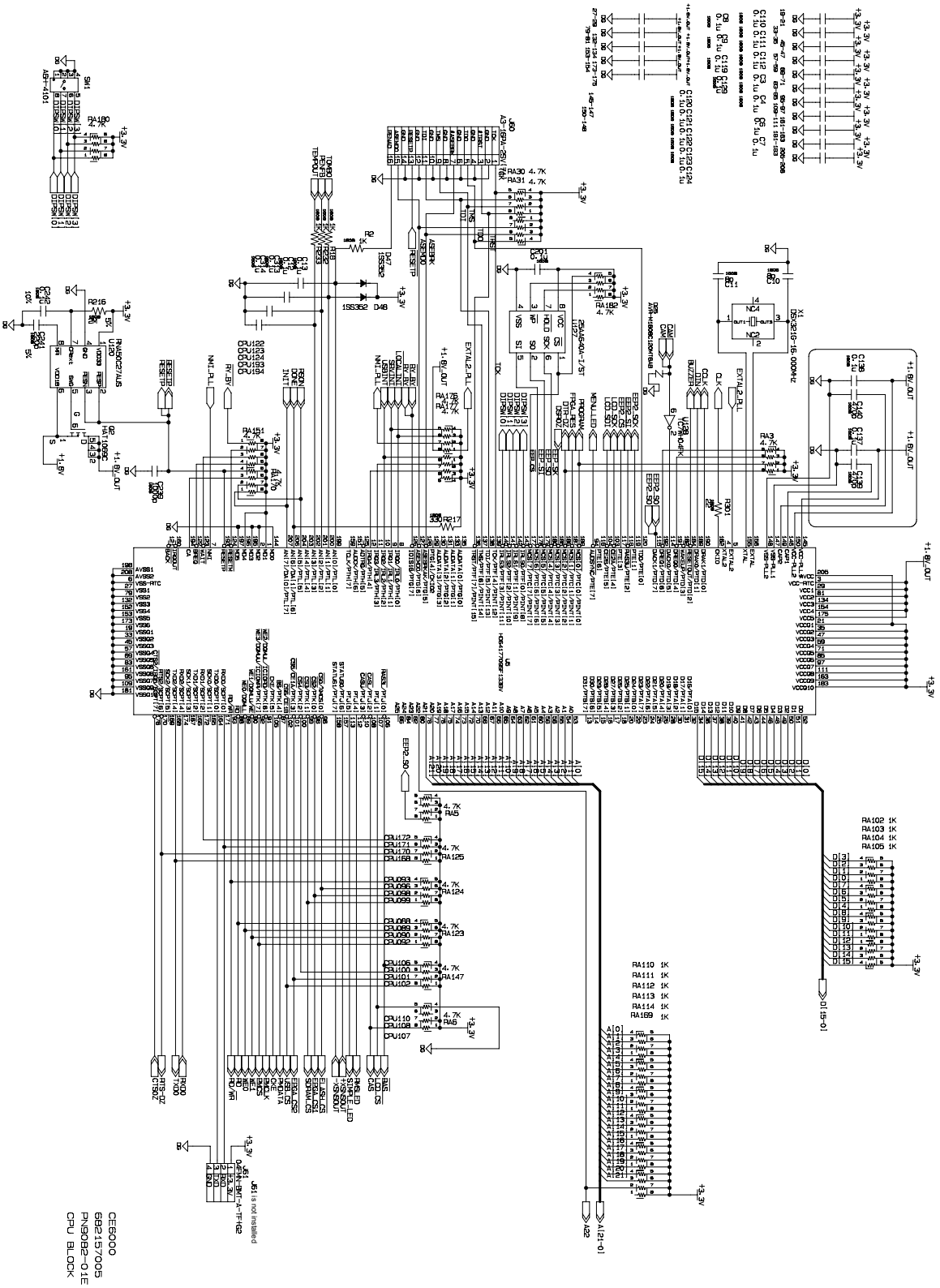
11.1 Block Diagrams

Block Diagram for CE6000

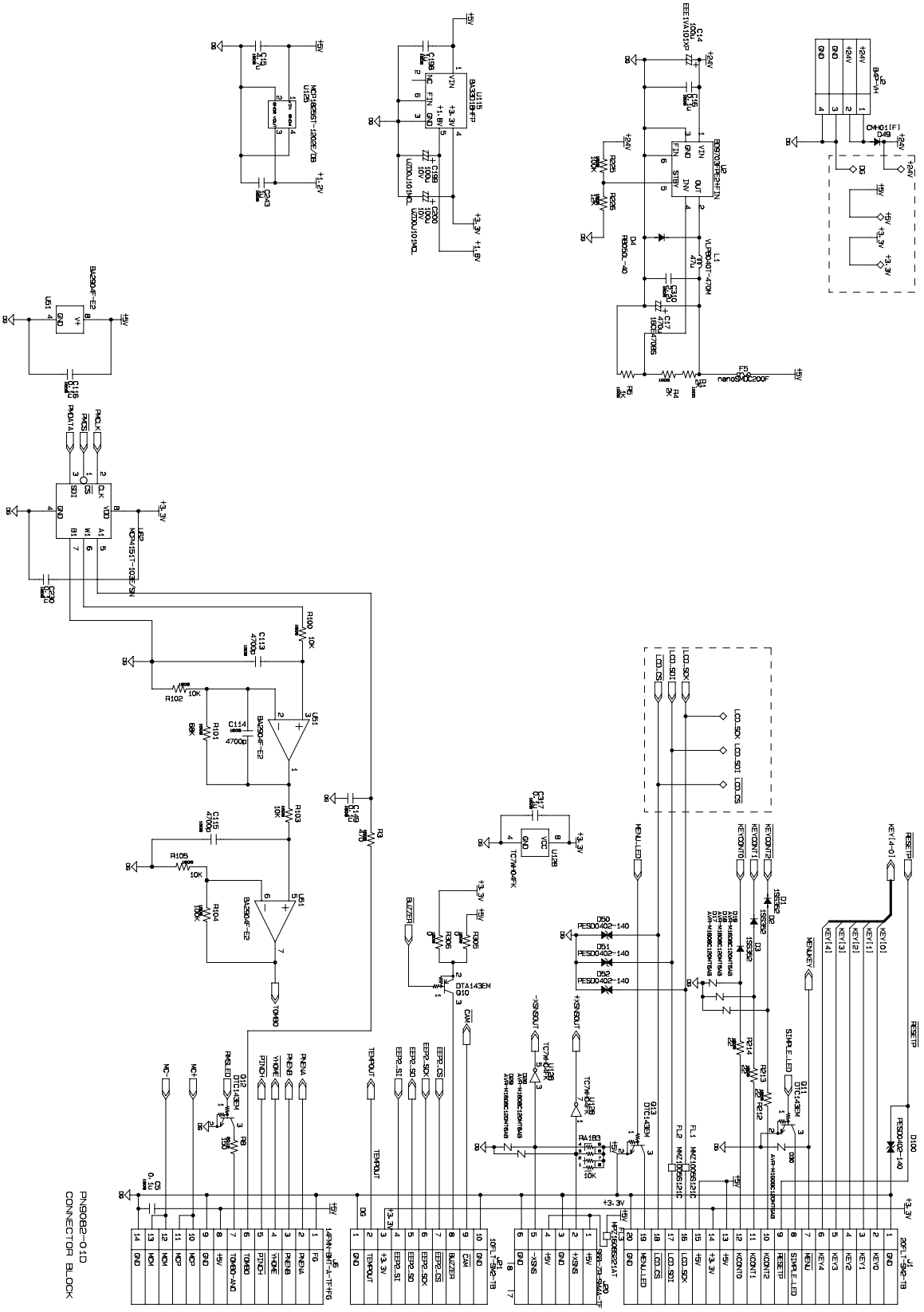


11.2 Circuit Diagrams

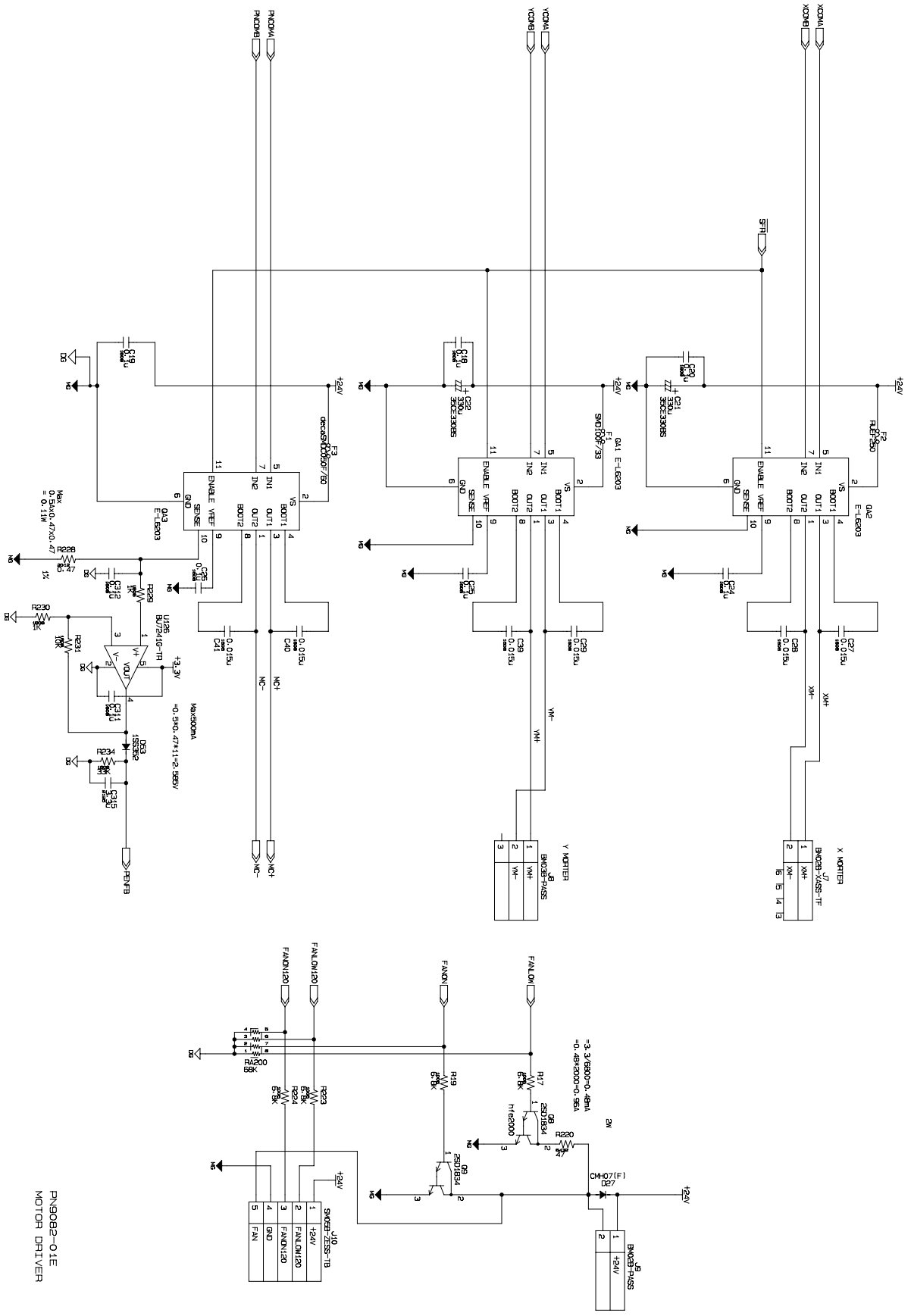
Main Board CPU Block (PN9082-01E)



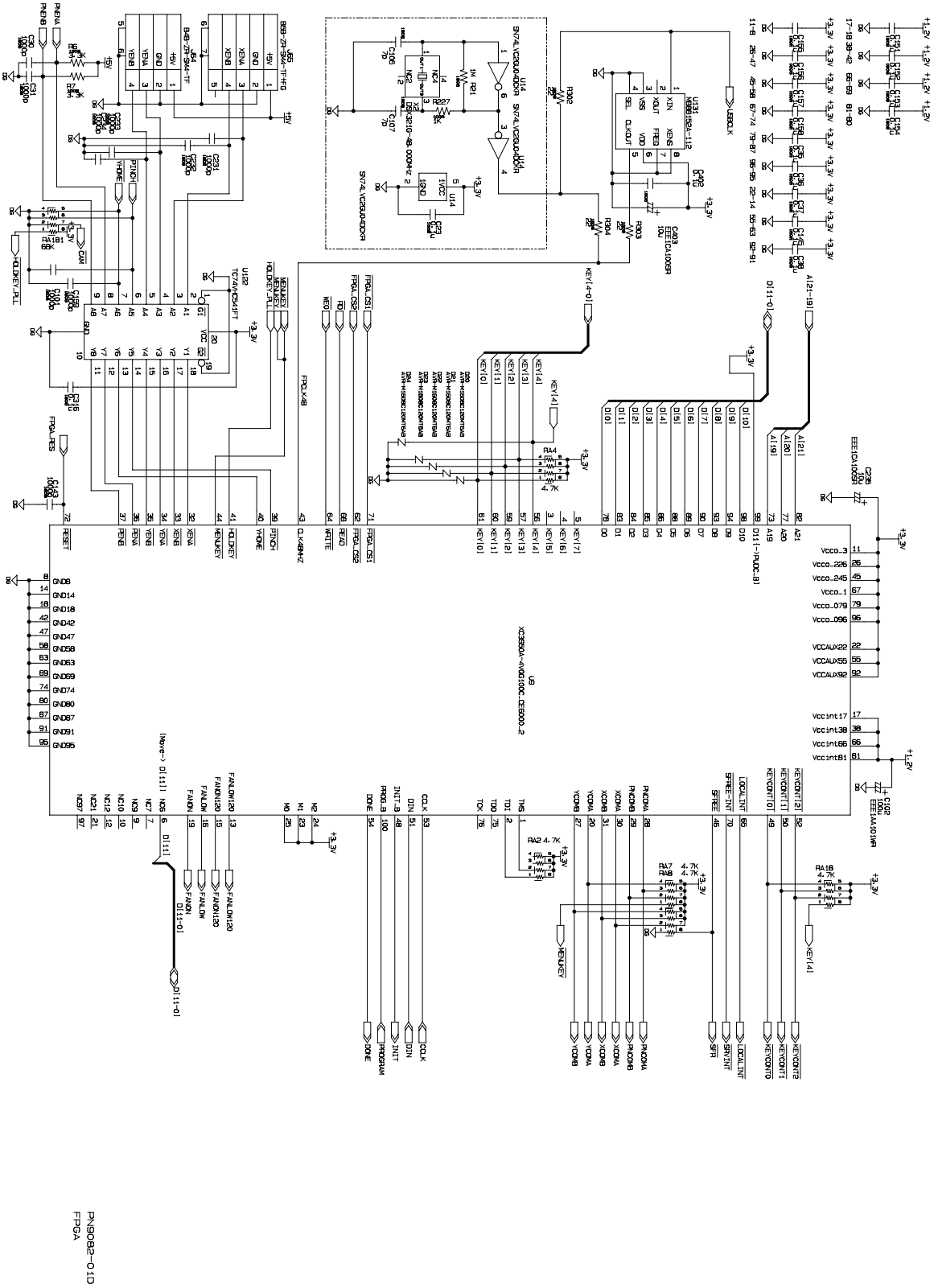
Main Board Connector Block (PN9082-01E)



Main Board Motor Driver (PN9082-01E)

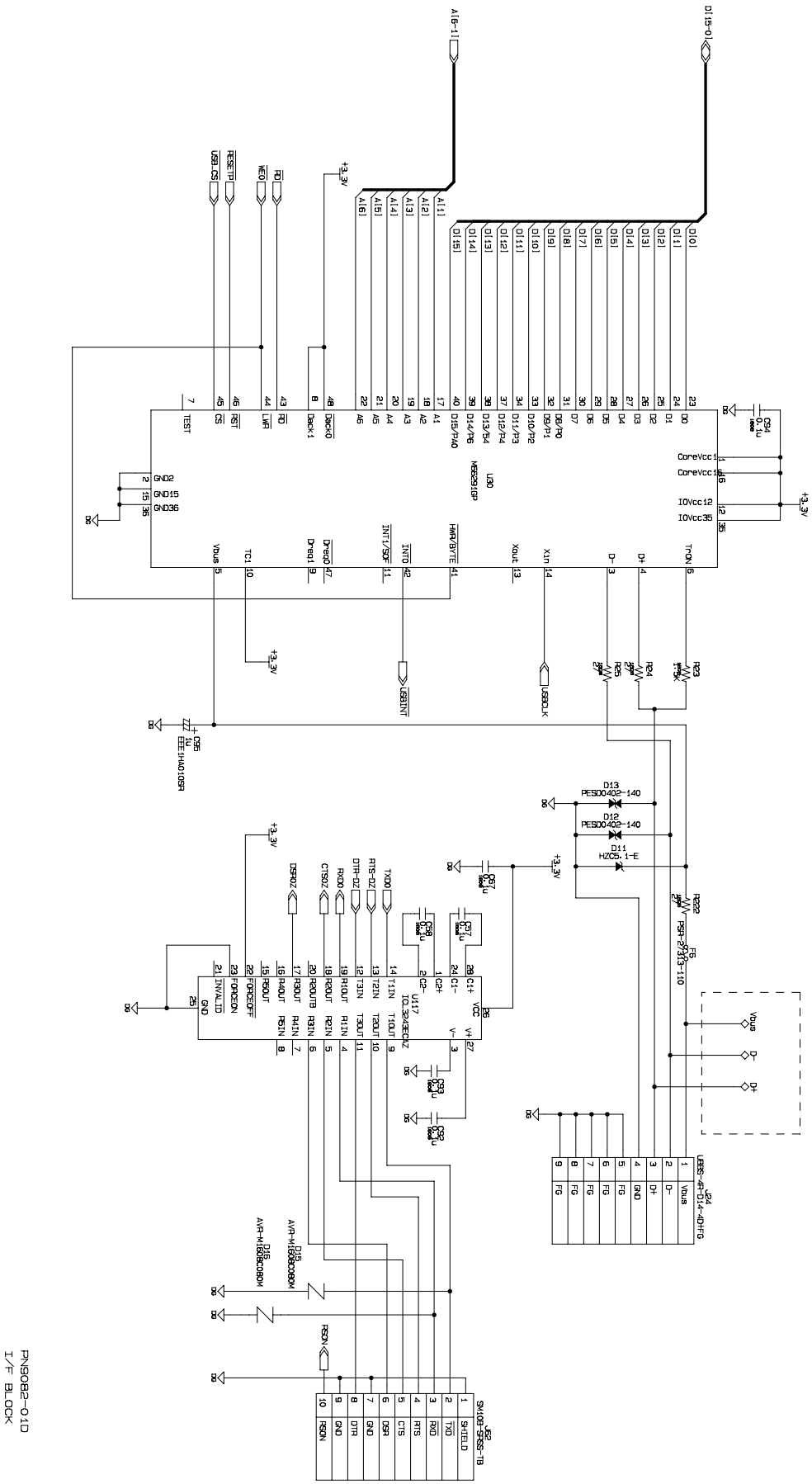


Main Board FPGA (PN9082-01E)

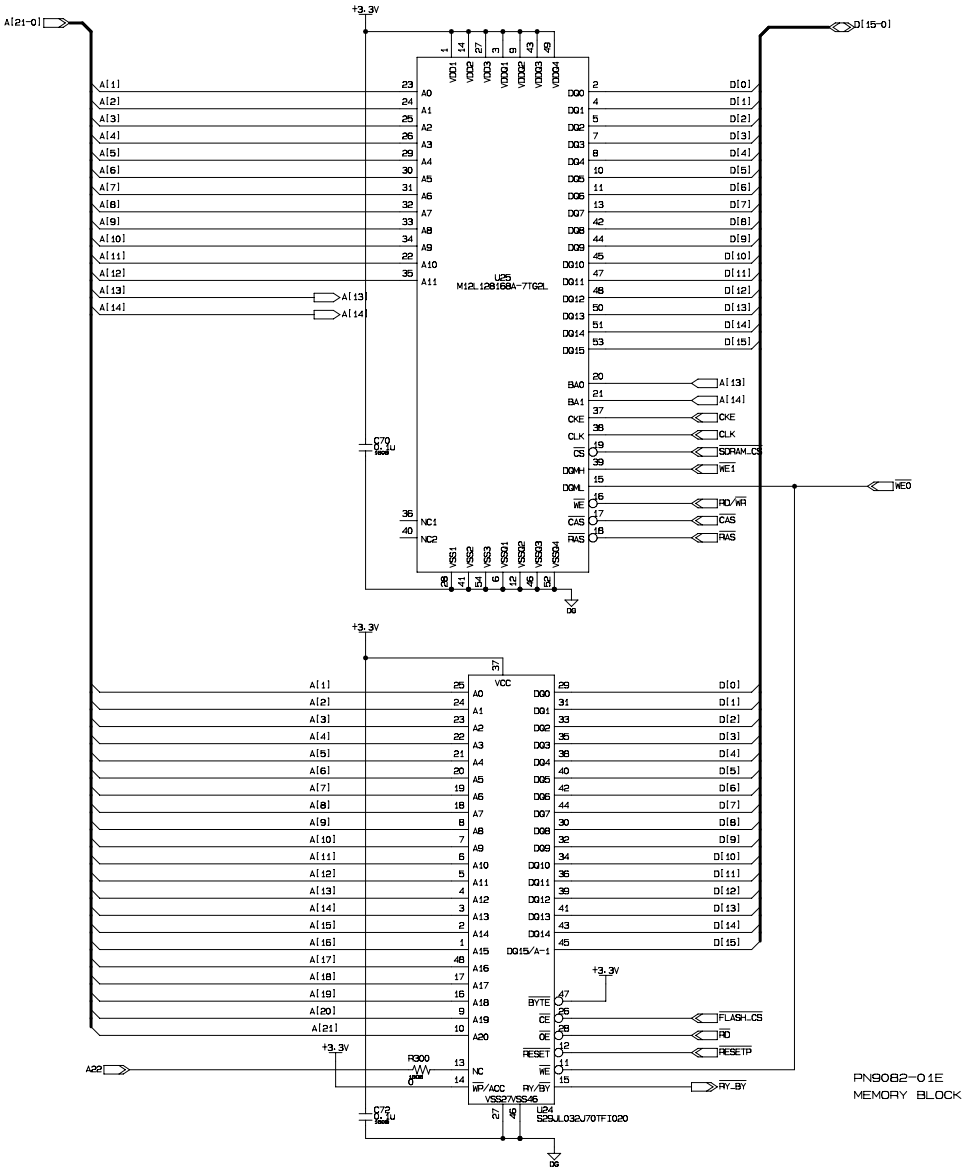


PN9082-01D
FPGA

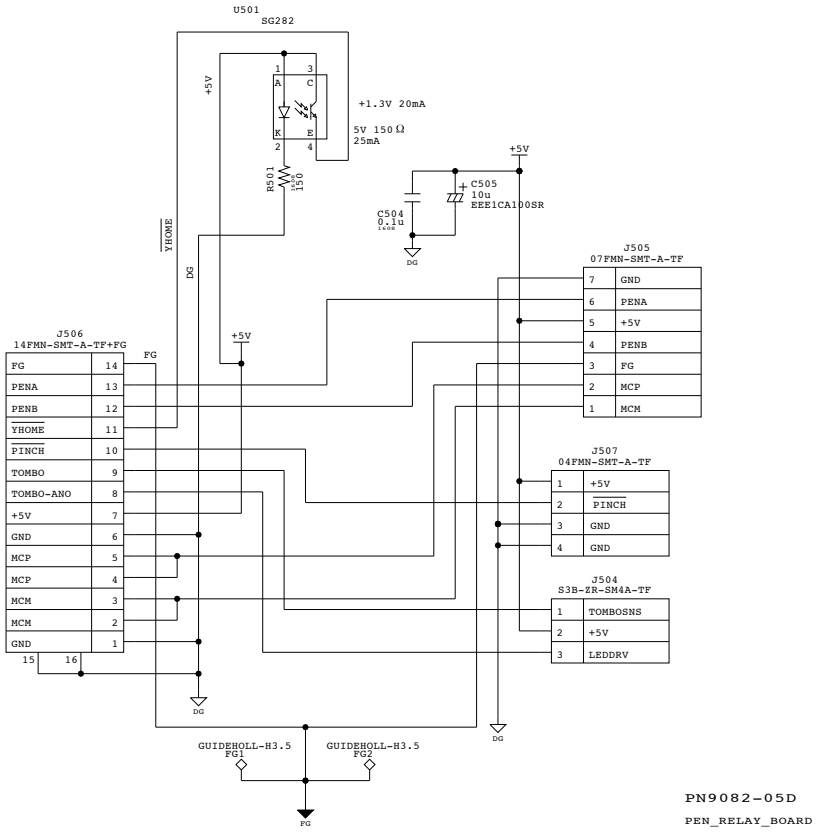
Main Board I/F Block (PN9082-01E)



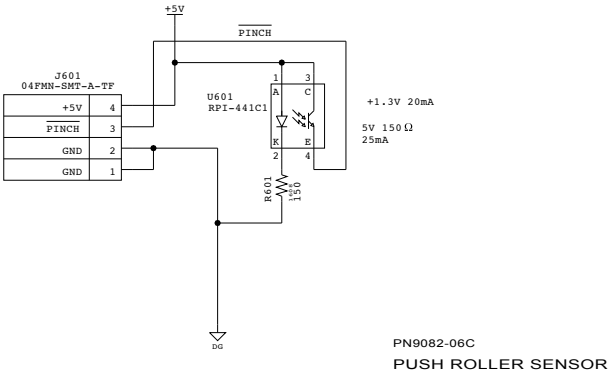
Main Board Memory Block (PN9082-01E)



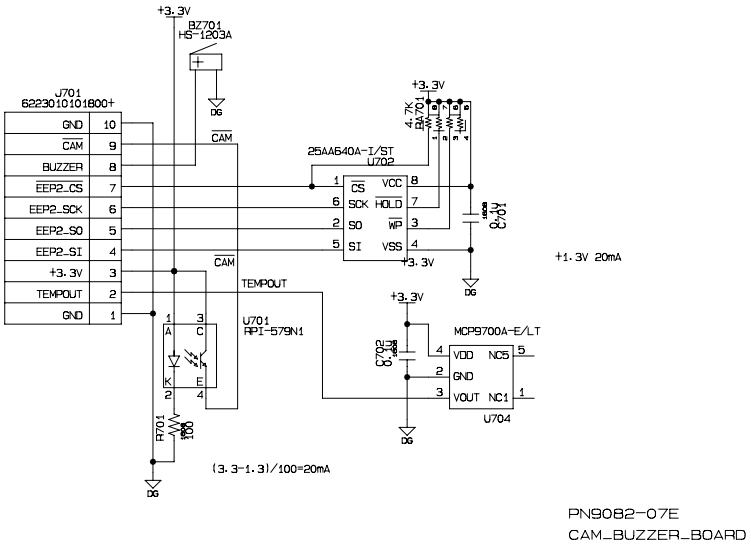
Pen Relay Board (PN9082-05D)



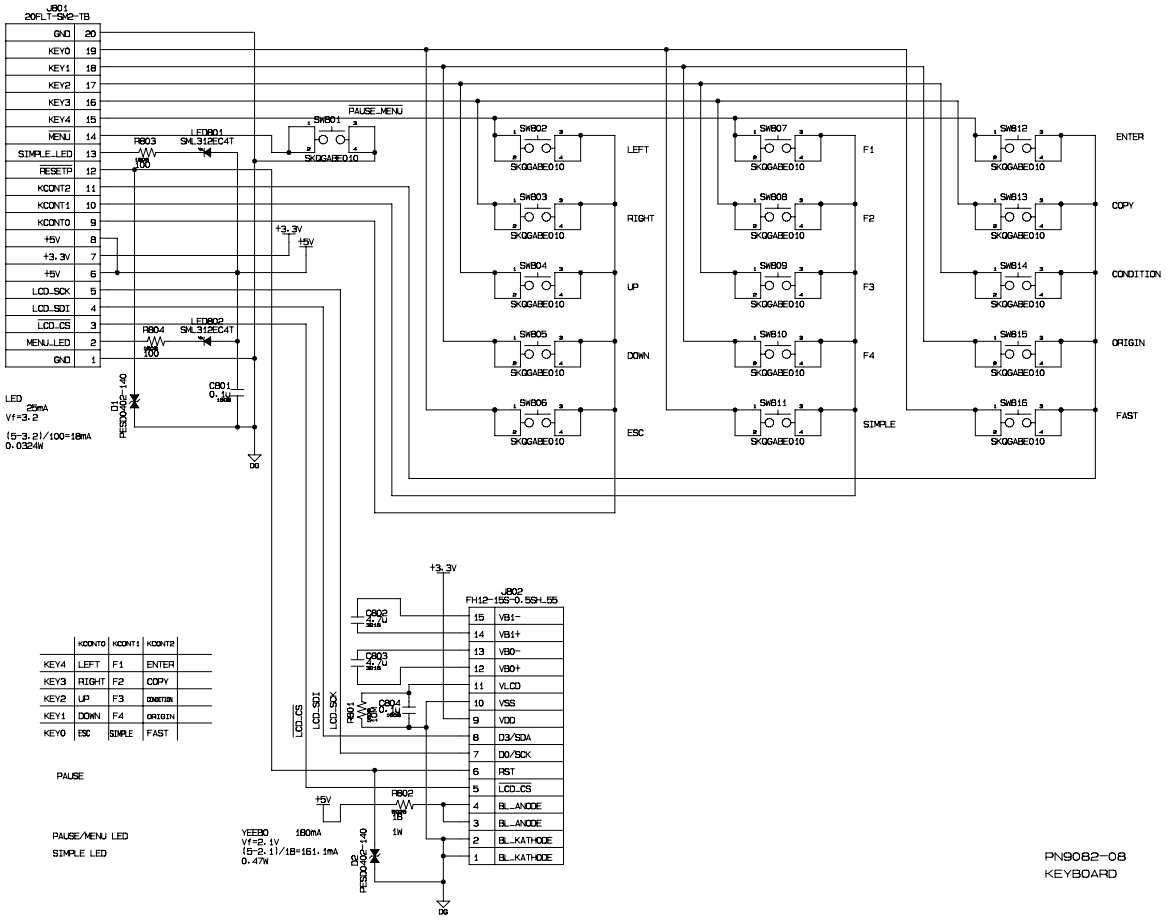
Push Roller Sensor Board (PN9082-06C)



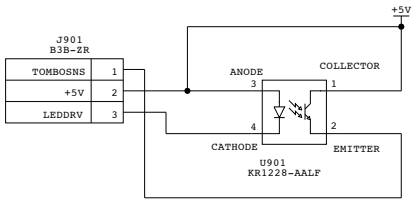
Cam Sensor Buzzer Board (PN9082-07E)



Key Board (PN9082-08E)

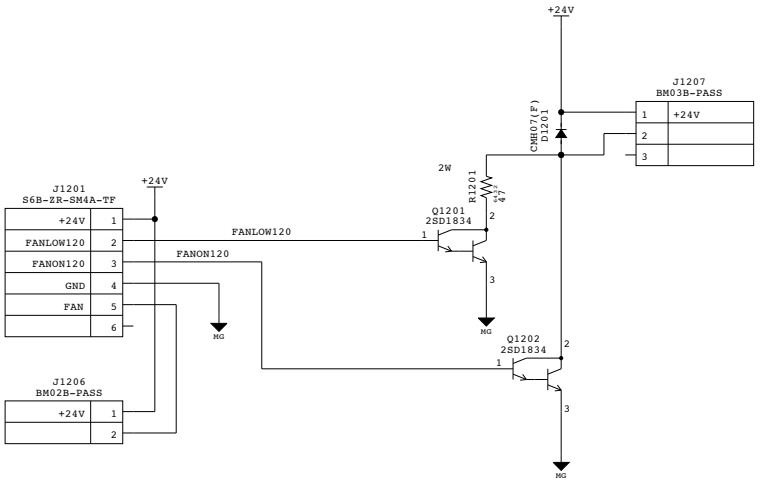


Registration Mark Sensor Board (PN9082-09D)



PN9082-09D
REGISTRATION MARK SENSOR BOARD

Fan Relay Board CE6000-120 (PN9082-12C)



PN9082-12C
120 FAN RELAY BOARD

12 Target electrical component for WEEE instruction

Material and parts that are necessary to remove on the WEEE instruction and to do separation processing

The following items need to remove from the CE6000 series on the WEEE instruction.

♦ **Printed circuit boards of mobile phones, and of other devices if the surface of the printed circuit board is larger than 10 square centimeters:**

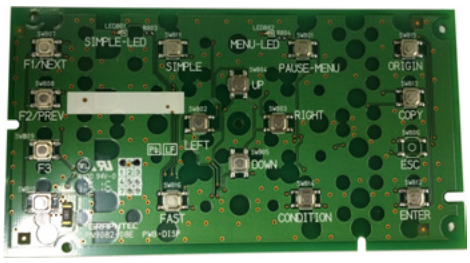
No.	Parts code	Parts name	Remarks	Quantity/Unit
A	U792600750	Main Board	CE6000-40/60/120	1
	U792600730	Main Board, CE6000-120AP	CE6000-120AP only	
B	U792600702	Pen Relay Board, CE6000		1
C	U562500141	Power Supply, ZWS150B-24/FV		1
D	U792600706	Control Panel Board, CE6000		1

(A) Main board

(B) Pen Relay Board, CE6000

(C) Power Supply, ZWS150B-24/FV

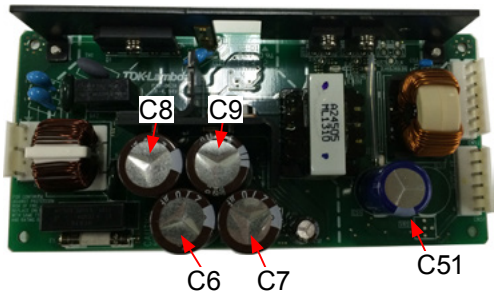
(D) Control Panel Board, CE6000



♦ **Electrolytic capacitors containing substances of concern (height > 25 mm, diameter > 25 mm or proportionately similar volume)**

No.	Parts code	Parts name	Remarks	Quantity/Unit
E	-	Electrolytic capacitors on thr Power Supply, ZWS150B-24/FV	C6, C7, C8, C7 and C51	5

(E) Electrolytic capacitors on thr Power Supply, ZWS150B-24/FV



♦ **Liquid crystal display for surface area to exceed 100cm2 (Include it in the casing if necessary.) and all things to use gas-discharge lamp as back light**

No.	Parts code	Parts name	Remarks	Quantity/Unit
F	U682157130	LCD, BTG240128SFBWBGG, CE6000		1

(F) LCD, BTG240128SFBWBGG, CE6000

♦ **External electric cables**

No.	Parts code	Parts name	Remarks	Quantity/Unit
G	U562500003	USB Cable, CBL0106-ACL2-29M	Standard Accessories	1
H		AC Power Cable	Standard Accessories	1

(G) USB Cable, CBL0106-ACL2-29M

(H) AC Power Cable

♦ **Unused items (parts)**

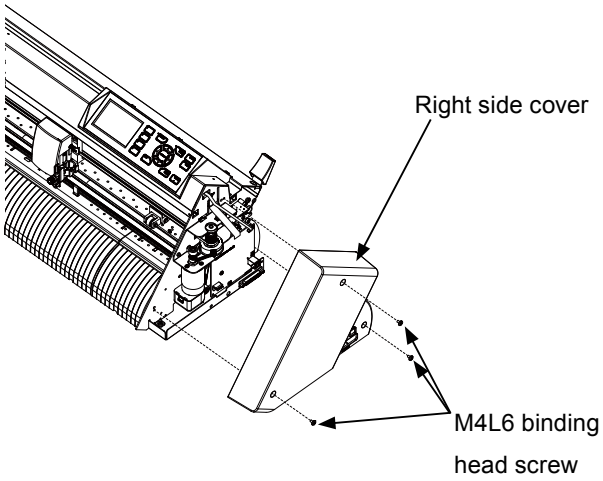
The following items are not used in the CE6000 series

- Capacitor including polychlorinated biphenyl (PCB)
- Parts including mercury such as switches and lamps for back light (for RoHs)
- Battery
- Liquid or a powdered toner cartridge and the color toner.
- Plastic including bromine system flame retardant (for RoHs)
- Parts including asbestos waste and asbestos
- CRT
- Chlorofluorocarbon (CFC) and hydro-chlorofluorocarbon (HCFC)
- Hydrofluorocarbon (HFC) and hydro-carbon(HC)
- Gas discharge type lamp
- Parts including fireproof ceramic fiber that instruction 97/69 provides
- Component including radioactive substance. However, the one of less than exemption standard provided in Article 3 and appendix I of instruction 96/29/EC is excluded.

♦ **How to remove the electrical component of the WEEE instruction**

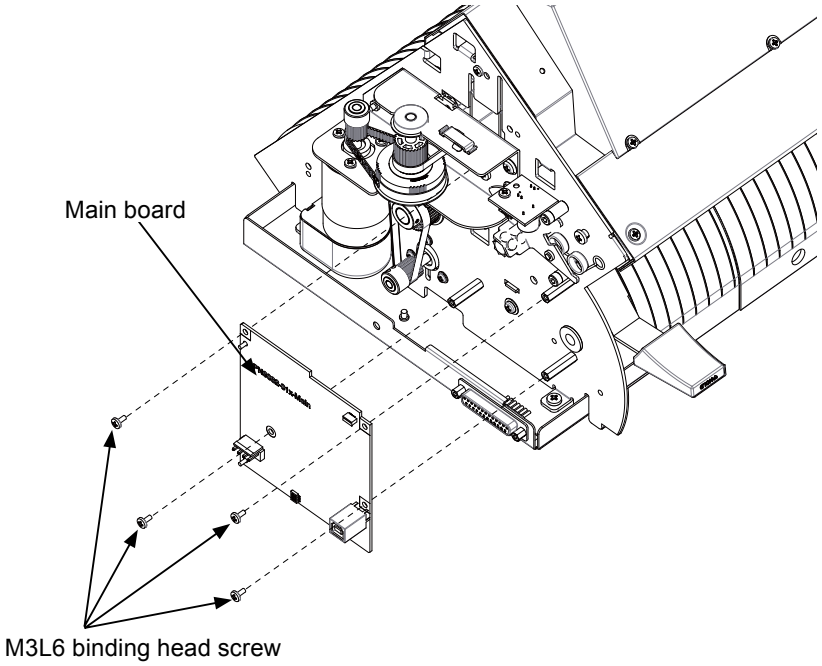
• **Removing (A) Main Board**

(1) Remove the three M4L6 binding head screws holding the right side cover, and then detach the right side cover.



(2) Disconnect all the cables and flexible cables from the main board.

(3) Remove the four M3L6 binding head screws holding the main board.



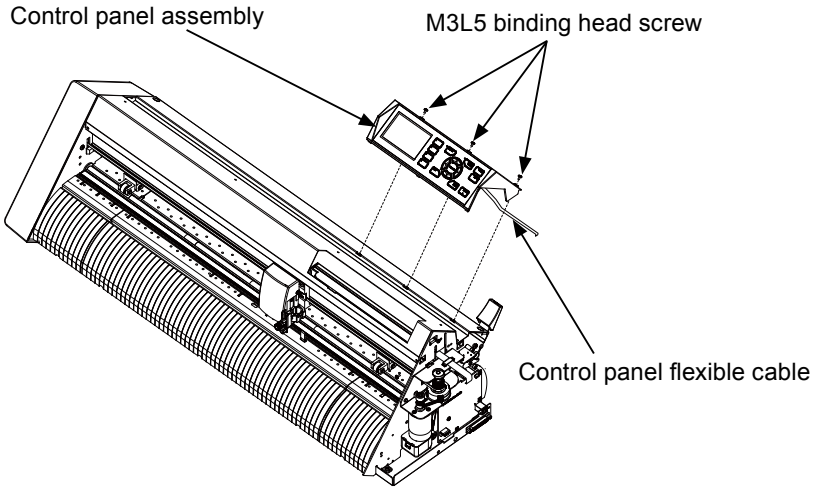
(4) Detach the main board.

- **Removing (B) Pen Relay Board, CE6000**

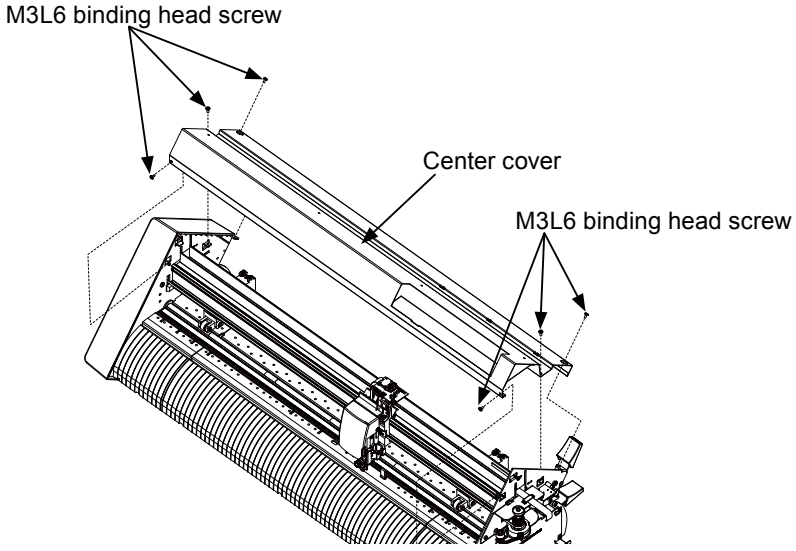
(1) Detach the right side cover.

(2) Disconnect the control panel flexible cable from the main board.

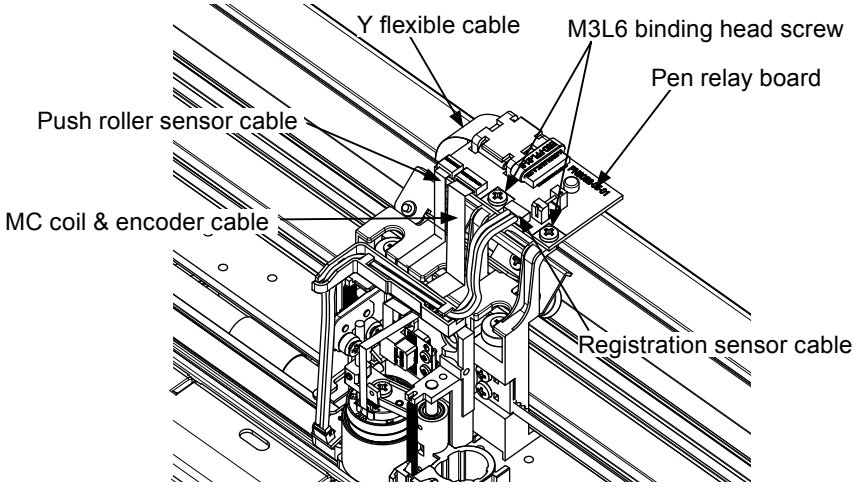
(3) Remove the three M3L5 binding head screws holding the control panel assembly, and then detach the control panel assembly.



(4) Remove the six M3L6 binding head screws holding the center cover, and then detach the center cover.



(5) Disconnect all the cables from the Pen-relay board.



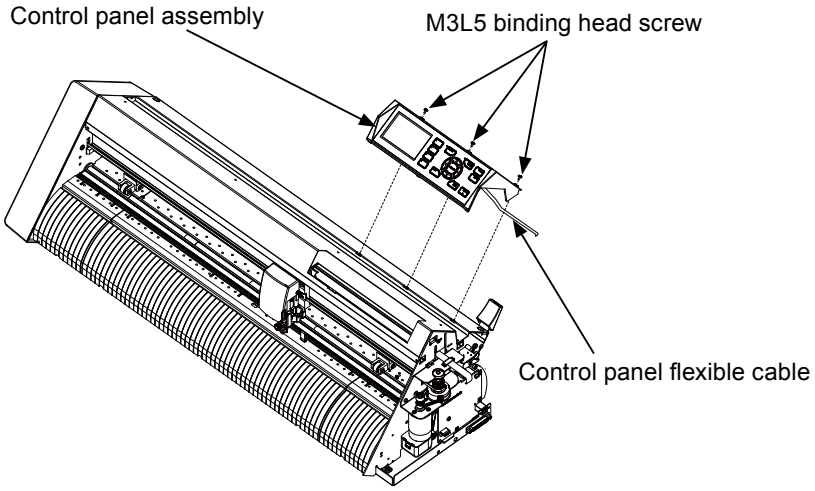
(6) Remove the two M3L6 binding head screws holding the Pen-relay board, and then detch the Pen-relay board.

- **Removing (D) Control Panel Board, CE6000, (E) LCD, BTG240128SFBWBGG, CE6000**

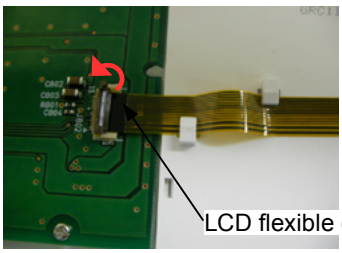
(1) Detach the right side cover.

(2) Disconnect the control panel flexible cable from the main board.

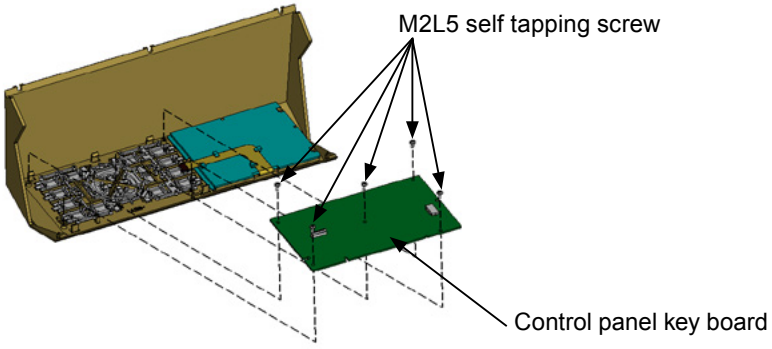
(3) Remove the three M3L5 binding head screws holding the control panel assembly, and then detach the control panel assembly.



(4) Disconnect the LCD flexible cable from the control panel key board.

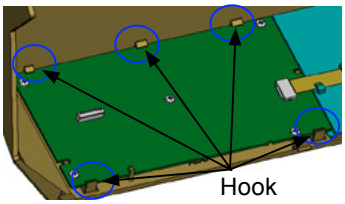


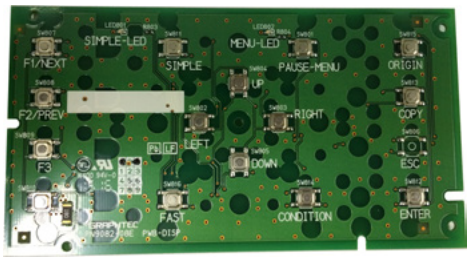
(5) Remove the five M2L5 self-tapping screws holding the control panel key board.



(6) Detach the control panel key board.

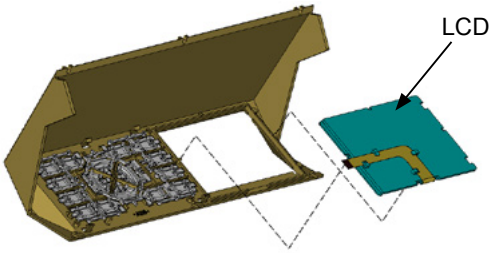
The five hooks are holding the control panel key board, release those hooks when the control panel key board is removed.

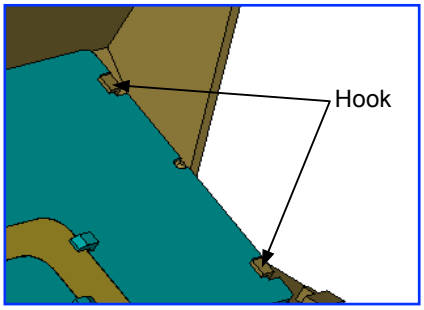




(7) Detach the LCD.

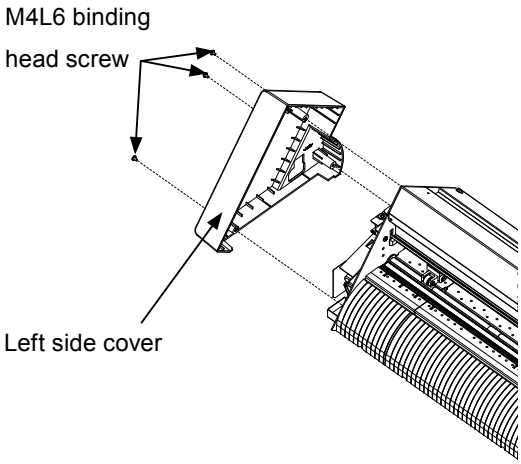
The two hooks are holding the LCD, release those hooks when the LCD is removed.



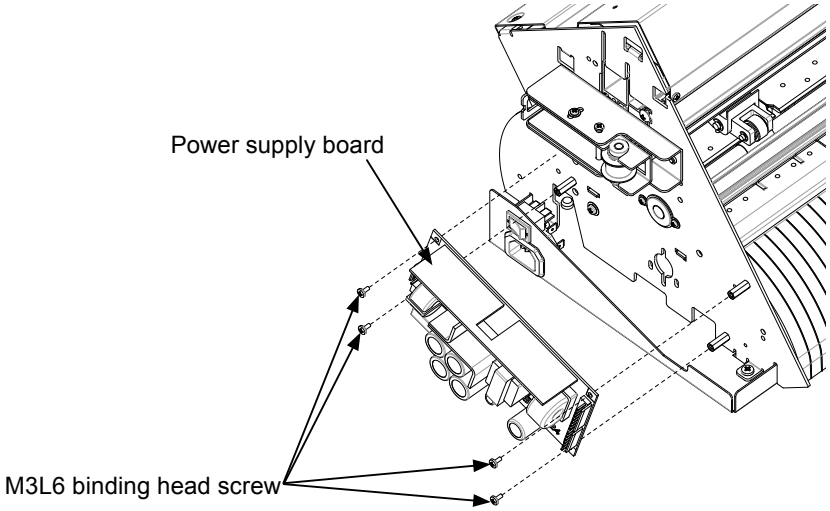


- **Removing (C) Power Supply, ZWS150B-24/FV**

(1) Remove the three M4L6 binding head screws holding the left side cover, and then detach the left side cover.



(2) Disconnect the cables from the power supply board.



(3) Remove the four M3L6 binding head screws holding the power supply board.

(4) Detach the power supply from the chassis.