

COPY BOARD

M-10S/M-10W

SERVICE MANUAL

PLUS

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1. COMPLIANCE OF SAFE REPAIR

Be sure to read this Service Manual before providing services. In the PLUS Copyboard, full consideration is taken to ensure the safety for a fire, electric shock, injury, harmful radiation, and substance. Therefore, observe the notice described in this Service Manual so that the safety is kept when providing services. Moreover, be sure to observe the notice described in the Instruction Manual.

Pay attention to the following during service inspection.

1-1. Cautions during Product Movement

- It is necessary to remove the products when making the service of products put on the wall. At that time, hold the products by two or more persons to prevent the products from dropping or a person from falling down.

1-2. Cautions during disassembling and assembling

1. This equipment contains parts under high voltage. When doing repairs, make sure that power plug is pulled out to insure safety.
2. Make sure that parts and screws and wiring, etc. are returned to their original positions. Tube, tape and other insulation materials have been used for safety reasons. The internal wiring has been designed to avoid direct contact with hot parts or parts under high voltage when using clamps or other tools.
3. The parts used in this device have special safety features such as flame-resistance and anti-voltage properties. When replacing parts, always use parts supplied from the factory.
4. After finishing operations make sure that all parts and wires have been returned to their original position and that there has been no deterioration of the area around the location that was worked on.
5. Be sure to use an earth band (wrist band) during repair and inspection.

2. SPECIFICATIONS

2-1. Product Specifications

MODEL NAME		M-10S	M-10W
BOARD	Panel Size	920 (H) × 1300 (W) mm	920 (H) × 1800 (W) mm
	Copy Area	850 (H) × 1240 (W) mm	850 (H) × 1740 (W) mm
	Number of Pages	2	
	PagIng	Motorized (Forward) & Manual (Forward & Reverse)	
	Grid Line	50 × 50mm	
	Image Sensor	CCD Optical Sensor	
PRINTER (Optional)	Type of printer	Inkjet (HP PCL Level 3 Compatible) *1	
	Paper	Plain Paper, A4-size / Letter-size	
	Colors	4-color (Black,Red,Blue,Green) or Black	
	Interface	USB 1.1 equivalent	
MEMORY	Type of Memory Card	CompactFlash Card (CF Card) TYPE I,TYPE II *2	
	File Format	PNG *3	
CONTROL PANEL	Buttons	Power	
		Mode	
		Copy	
		Repeat *4	
		Memory	
		Feed/Stop	
		Density	
		Memory Card	
	LED Indicators	Color	
		Density	
		Clear OK	
		Counter Display	
SAFETY TANDARD	Safety Agencies	TUV,CE,UL/cUL,AS *5	
	EMC	CE,FCC,C-Tick Mark *5	
ENVIRONMENTAL CONDITION	Power	100V, 110V, 120V, 220V-240 V *5	
	Temperature	10-35°C	
	Humidity	30-85 % (non-condensing)	
DIMENSIONS	Dimensions (with Stand)*6	1470 (W) × 600 (D) × 1970 [max](H) mm	1970 (W) × 600 (D) × 1970 [max](H) mm
	Weight (without Printer)	36 kg	40 kg
MOUNTING		Stand / Wall-mount	
ACCESSORIES		AC Cable for M-10,USB Cable (Printer),Markers (Black, Red, Blue, Green),Eraser, Wall mounting hooks and screws, Operation Manual, Set-up Manual, Paper (10 sheet)	

Remaeks

*1: A Printer is not included in the package.

*2: A CompactFlash Card is not included in the package.

*3: The PNG format is supported by Microsoft internet Explorer 4.0 or later,and by Netscape Navigator 4.04 or later.

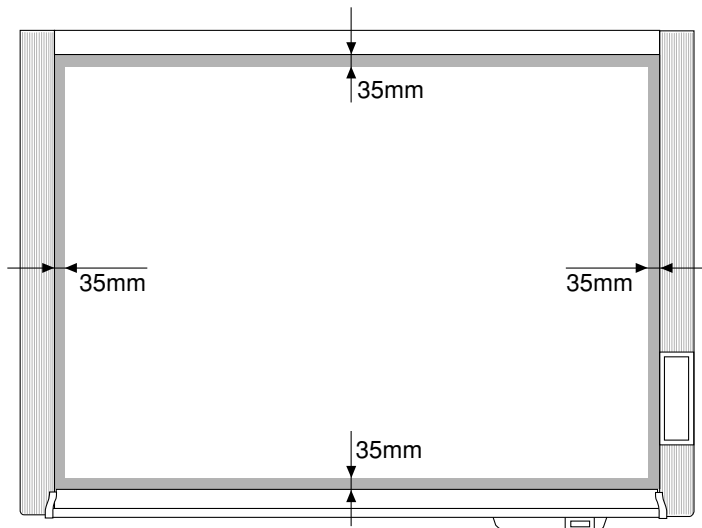
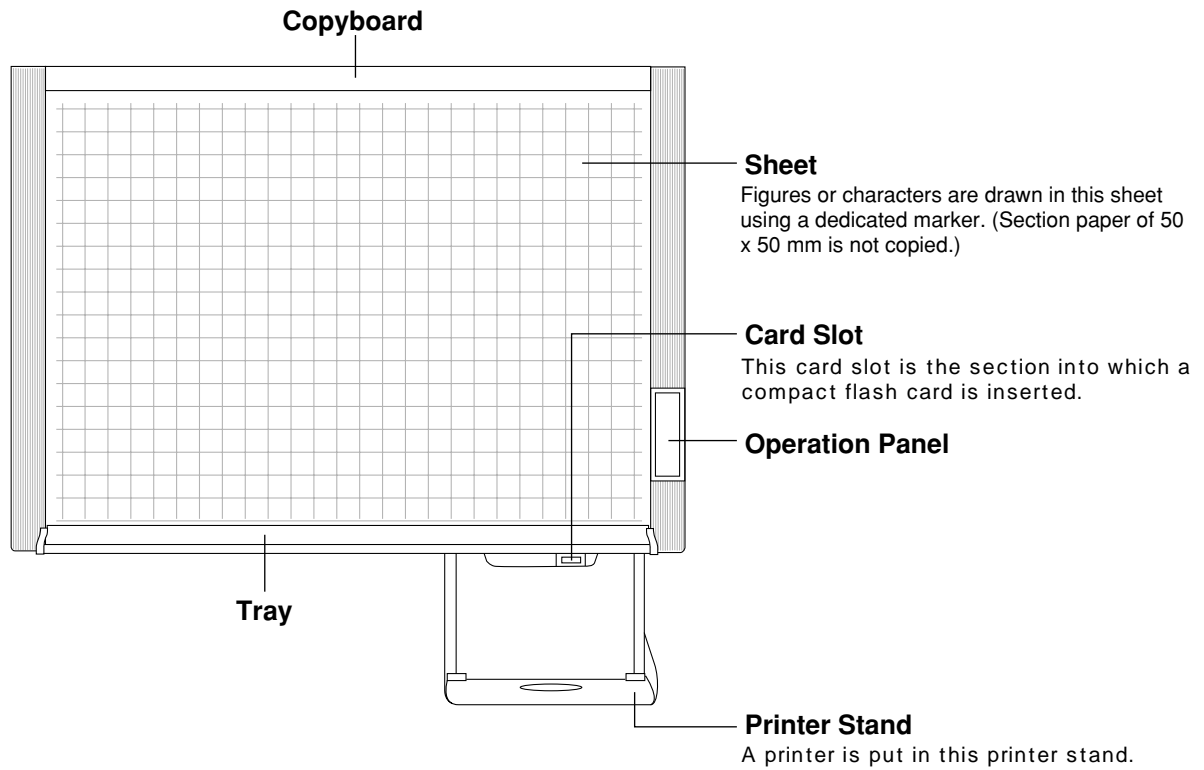
*4: The maximum repeat is 20 copies.

*5: The condition is subject to change dependes on sales area.

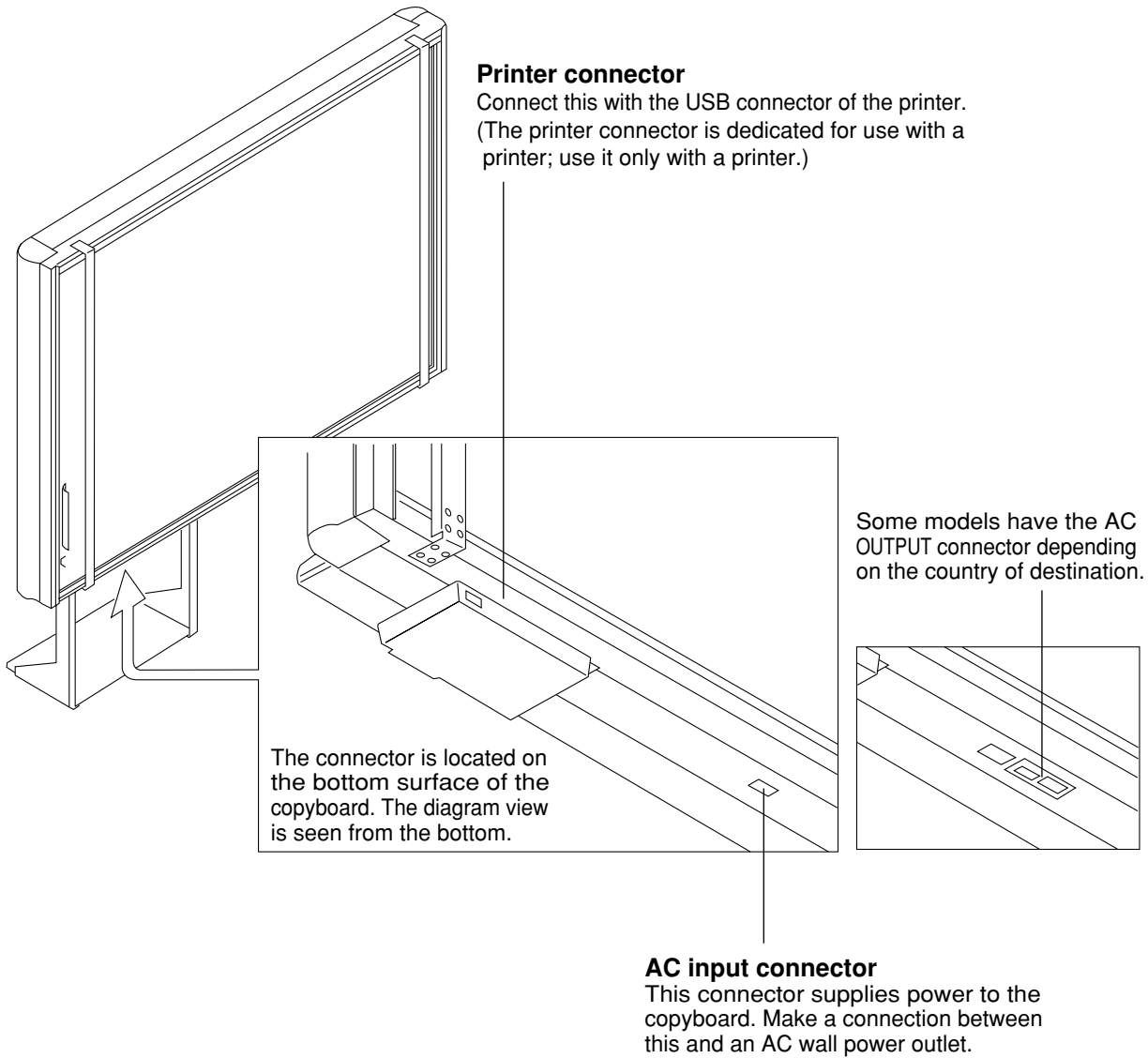
*6: the height is adjustable at 1770,1879 and 1970 mm.

2-2. Location of Parts and Controls

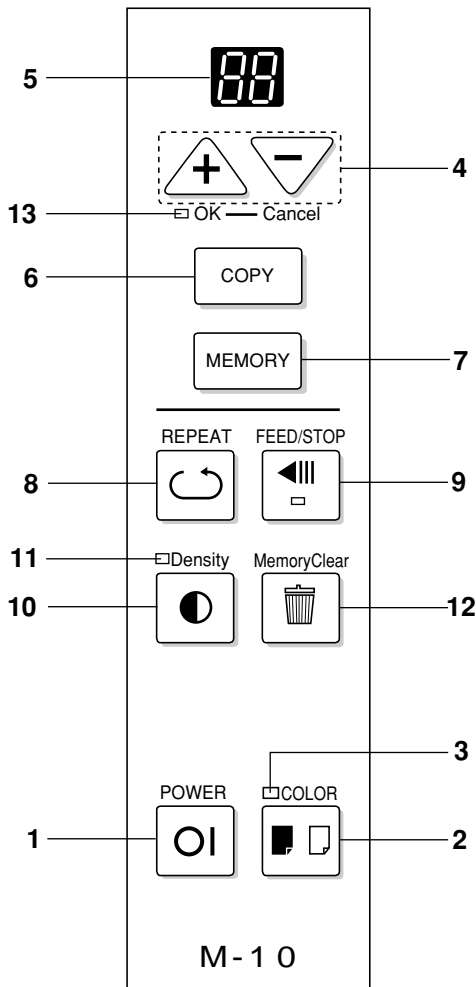
Front panel of main unit



Front panel of main unit



2-3. Operation Panel of Main Unit



During button operation, press the center (round convex section) of the button. Do not press the corner of the button. No function operates in this case.

1 POWER button (Power supply)

Press this button to turn on and off the power of the copy board.

2 COLOR button (Color)

Press this button to select whether to print a sheet in "color" or "monochrome".

The Color lamp lights when you select "color".

* When a monochromatic printer has been connected, a sheet is printed in monochrome even if you select "color".

3 Color (color mode) lamp

This Color mode lamp lights in green when you select "color" using a Color button.

4 +/- button (Setting of printed sheet count)

Press the + or ? button to set the number of printed sheets. (The maximum number of printed sheets is 20.)

The number of printed sheets appears on the display window.

5 Display window

The printed sheet count, print density, memory storage operating state, or error information is notified using seven-segment LED. See page 22 for details of the error information.

6 COPY button (Print)

The sheet is moved for read operation by one plane and printed proportionally to the number of printed sheets.

7 MEMORY button (Memory storage)

The sheet is moved for read operation by one plane and stored in a compact flash card.

8 REPEAT button (Repeat)

The previously printed sheet plane is printed once again. (The sheet is not then moved.)

The number of printed sheet can be changed, but the density and color/monochrome cannot be changed.

9 FEED/STOP button (Feed/Stop)

The sheet is scrolled to the left by one plane and stopped automatically. The scroll stops when you press this button during scrolling.

10 Density button (Copy density)

Press the Density button to select "Standard" or "Dark" as the density of a print. The Density lamp lights when you select "Dark".

11 Density (density mode) lamp

This density lamp lights in green when you select "Dark" using a Density button.

12 Memory Clear button (Overall compact flash card clear)

The Clear mode lamp blinks when you press the Memory Clear button. (The maximum number of files ("max 99") blinks and appears on the display window.)

All data in the PVW folder of a compact flash card is cleared when you press the OK(+) button.

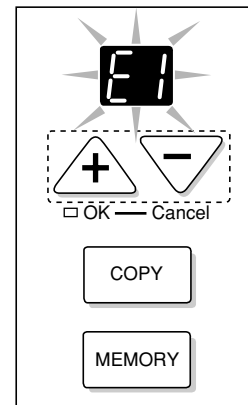
Press the "Cancel" (-) button when you do not want to clear all data. The display window returns to the display of the printed sheet count.

13 Clear (clear mode) lamp

This Clear mode lamp lights in orange when you press the Memory Clear button and when the unit is put into the clear mode.

2-4. Error Display

Confirm the contents of the table shown below when E1 to E6 and the blink display (blinks for ten seconds) appear on the display window of the operation panel.



Error display number	Description	Remedy
E1 Printer failure	<ul style="list-style-type: none"> • A printer cable is not connected. • The power of a printer is not turned on. • Paper is not put in a printer. • The error lamp of a printer blinks. 	<ul style="list-style-type: none"> • Check the connection of a printer. • Check the power of a printer. • Check the paper in a printer. • See the Instruction Manual of a printer.
E2 Memory card not recognized	<ul style="list-style-type: none"> • A memory card is not formatted. • An incompatible memory card is used. • A CF adaptor is not properly inserted when it is used. • A memory card is defective. 	<ul style="list-style-type: none"> • Format the memory card using a personal computer. • Browse our homepage for the memory card and CF adaptor that can be used in this unit. (http://www.plus-vision.com) • Check that the CF adaptor is inserted properly. • Check the operation using a personal computer.
E3 Defective memory storage	<ul style="list-style-type: none"> • An error occurred during memory storage. 	<ul style="list-style-type: none"> • Check that a memory card is not removed or inserted during storage. • Repeat storage again. • Main Board Assy is defective.
E4 Defective memory clear	<ul style="list-style-type: none"> • An error occurred during memory erasure. 	<ul style="list-style-type: none"> • Check that a memory card is not removed or inserted during storage. • Repeat storage again. • Main Board Assy is defective.
E5 Read failure	<ul style="list-style-type: none"> • A fluorescent lamp does not light properly. • A read signal error occurred. 	<ul style="list-style-type: none"> • Turn off the power once, turn on it again, and perform the copy operation. • A fluorescent lamp reached its life span or it is defective. • The CCD Board Unit is defective. • Adjust the CCD read position.
E6 Internal memory failure	<ul style="list-style-type: none"> • A memory read/write error during internal memory initialization occurred when the power plug is inserted into the wall outlet. 	<ul style="list-style-type: none"> • Pull out the power plug from the wall outlet and insert it into the wall outlet again. • Main Board Assy is defective.

3. TROUBLE SHOOTING

By checking operations normal usage time, it is possible to carry out judgments on malfunction to a certain extent. Carry out the following checks before disassembling the equipment.

1. Press the POWER button and turn on the power.

Is the power turned on?

- No →
- The power cord is disconnected from the wall outlet.
 - The Power Unit is defective.
 - The Main Board Assy is defective.
 - The Switch Board Assy is defective.
 - The connector of the Secondary Side Power Harness is disconnected.
 - The connector of the Switch Harness is disconnected.

Yes

Does the error display appear?

- Yes → The error display (E5) appears. (See 2-4 Error Display.)
- The Fluorescent Lamp reached its life span or it is defective.
 - The connector (CN4) of the Lamp Socket Unit is disconnected or it is defective.
 - The connectors (CN11 and CN1) of the CCD Harness Assy is disconnected.
 - The CCD Board Unit is out of adjustment.
 - The CCD Board Unit is defective.
 - The Main Board Assy is defective.
- The error display (E6) appears. (See 2-4. Error Display.)
- The Main Board Assy is defective.

No

2. Press the FEED/STOP button.

Does the sheet operate normally?

- No →
- The connector of the Motor Harness is disconnected.
 - The Timing Belt is disconnected or loosened.
 - The Sheet Motor Assy is defective.
 - The Main Board Assy is defective.

Yes

3. Press the COPY button (when a printer is used).

Does the error display (E1) appear?

- Yes → Printer failure (See 2-4. Error Display.)
- The printer is defective. (See the Instruction Manual of a printer.)
 - The power of a printer is not turned on.
 - The paper of a printer is exhausted.
 - The printer is not connected.
 - The Main Board Assy is defective.

No

Is the object written in the board printed normally?

- No → A black line is put in printing.
- The Fluorescent Lamp deteriorates.
 - Out-of-adjustment of CCD Board Unit: Slight (It is improved by calibration. See section 5-2.)
 - Out-of-adjustment of CCD Board Unit: Severe (Perform the CCD adjustment again. See section 5-1.)
 - Dust adheres to the mirror of the board body.
- Printing becomes blurred.
- The Fluorescent Lamp deteriorates.
 - The marker (written character) becomes blurred
 - The ink (toner) of a printer is exhausted.
- A specific color is not printed or the printed color is improper (when a color printer is used).
- The ink of a printer is exhausted.
 - The ink cartridge of a printer is defective.

Yes

4. Press the MEMORY button (when a compact flash card is used).

Do the error displays (E2 and E3) appear?

- Yes → Error display: E2 is displayed. (See 2-4 Error Display.)
- A memory card is not formatted.
 - An incompatible memory card is used.
 - A memory card is defective.
 - Insertion failure (when a CF adaptor is used)
- Error display: E3 is displayed.
- Memory storage error: Repeat storage again.
 - The Main Board Assy is defective.

No

Is the object written in the board stored normally?

- No → A black line is put in a picture.
- The Fluorescent Lamp deteriorates.
 - Out-of-adjustment of CCD Board Unit: Slight (It is improved by calibration. See section 5-2.)
 - Out-of-adjustment of CCD Board Unit: Severe (Perform the CCD adjustment again. See section 5-1.)
 - Dust adheres to the mirror of the board body.
- A picture becomes blurred.
- The Fluorescent Lamp deteriorates.
 - The marker (written character) becomes blurred.

Yes

4. DISASSEMBLY AND ASSEMBLY

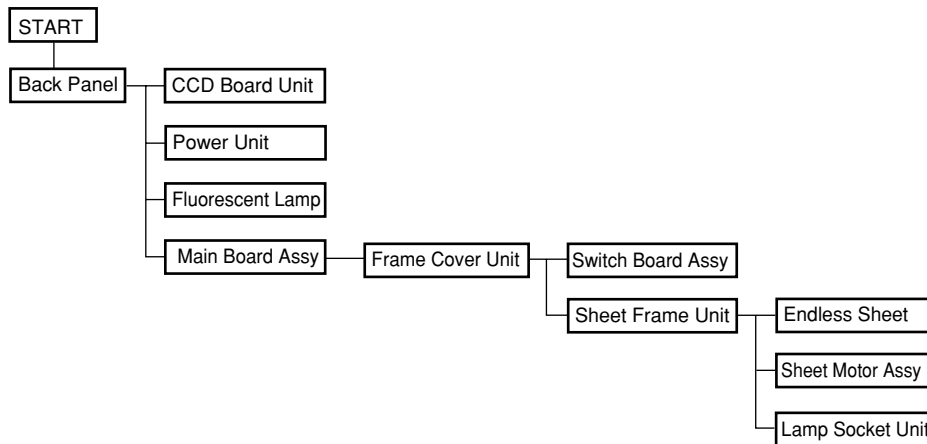
4-1. Tools Required

- Phillips screwdriver No. 2
- Cutting pliers
- Electrostatic elimination wrist band

4-2. Caution

- See “1. Compliance of Safety Repair and Safety Inspection” before disassembling and assembling.
- Put on gloves so that you do not cut your hand at the sharp edge of a frame during disassembly and assembly.
- See “6. Wiring Diagram” and “7. Parts List” for the parts name or wiring.
- The point especially requiring attention when handling parts or performing disassembly and assembly contains a caution. Be sure to follow this caution.

4-3. Disassembly and Assembly Procedures



4-4. Disassembly and Assembly

This section describes one example of disassembly and assembly procedures. For the actual operation, disassemble and assemble the required parts with reference to “4-3. Disassembly and Assembly Procedures”.

1) Remove the Back Panel. (See Figs. 1 and 2.)

1. Remove the “S-1” screw shown in Fig. 1 and then remove the Back Panel Corner.
2. Remove the Back Panel as shown in Fig. 2.

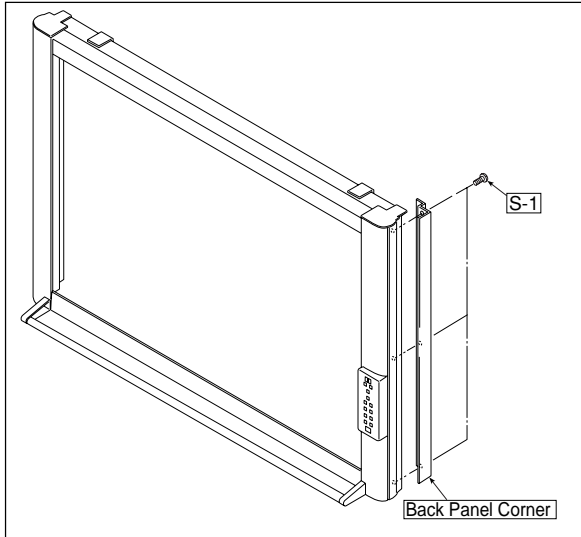


Fig. 1

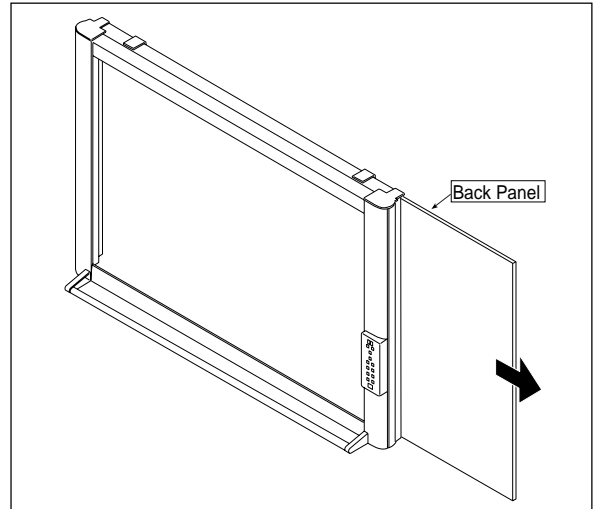


Fig. 2

2) Remove the Main Board Assy. (See Figs. 3, 4, and 5.)

1. Disconnect the connectors (CN2, CN6, CN10, and CN11) connected to the Main Board Assy shown in Fig. 3.
2. Remove the “S-12” screw shown in Fig. 4 and then remove the Main Board Section.
3. Remove the “S-7” screw shown in Fig. 5 and then remove the Main Board Assy.

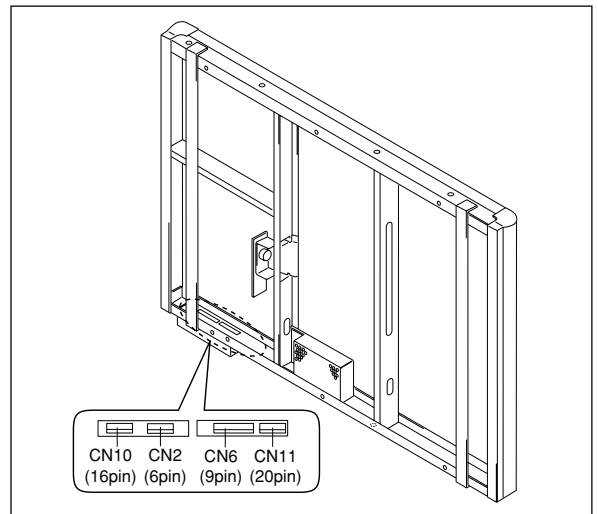


Fig. 3

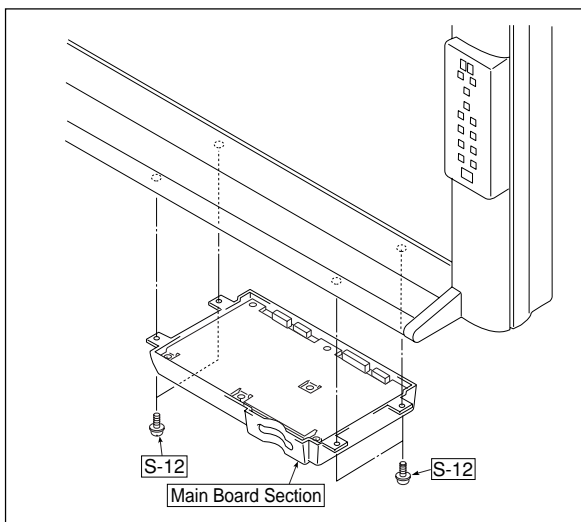


Fig. 4

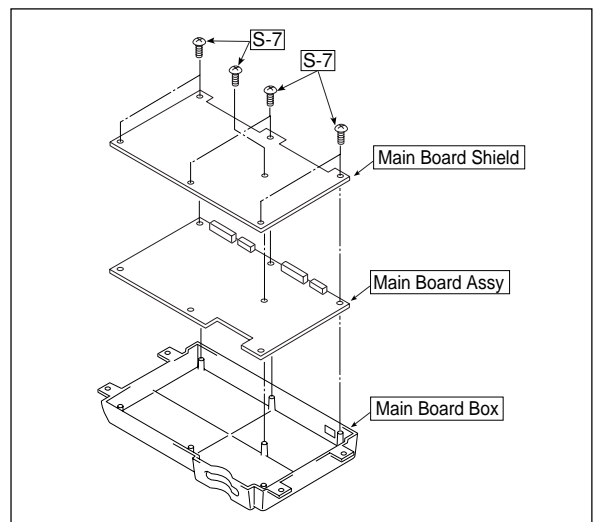


Fig. 5

DISASSEMBLY AND ASSEMBLY

- 3) Remove the Power Unit. (See Figs. 6, 7, and 8.)
1. Remove the PU Cover B shown in Fig. 6. (The PU Cover B is attached using a double-coated tape.)
 2. Disconnect the connectors (CN3 and CN9) connected to the Power Unit shown in Fig. 7.
 3. Remove the "S-9" screw shown in Fig. 8 and then remove the Power Unit.

Notes:

- Connect connectors (CN3 and CN9) before installing the PU Cover B.
- A toothed washer (S-13) is put in the screw on the inlet side when the Power Unit is installed.

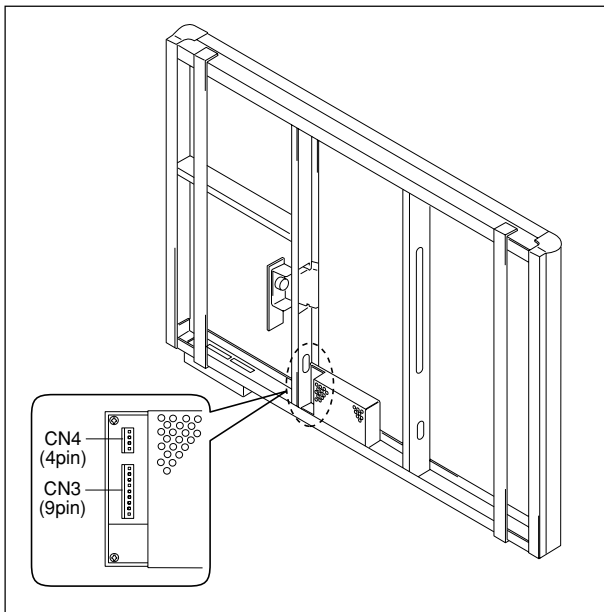


Fig. 7

- 4) Remove the CCD Board Unit. (See Fig. 9.)
1. Remove the "S-4" screw shown in Fig. 9 and then remove the CCD Board Unit.

Note:

The CCD Board Unit requires adjustment when it is replaced and removed. (See 5. Adjustment.)

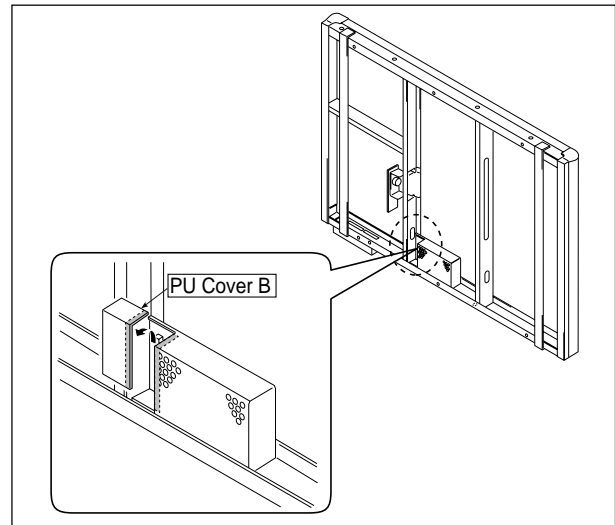


Fig. 6

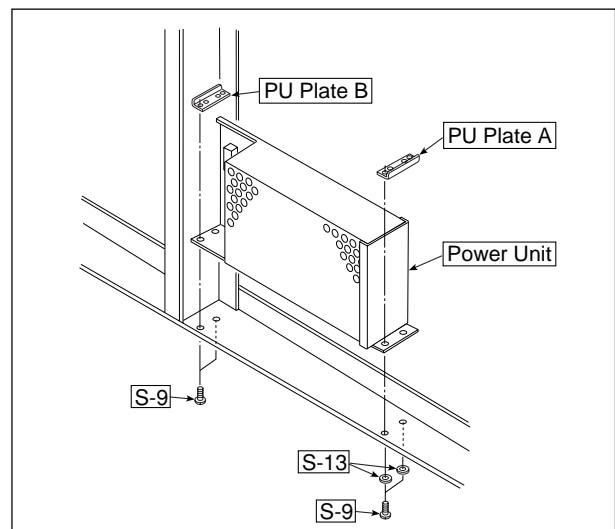


Fig. 8

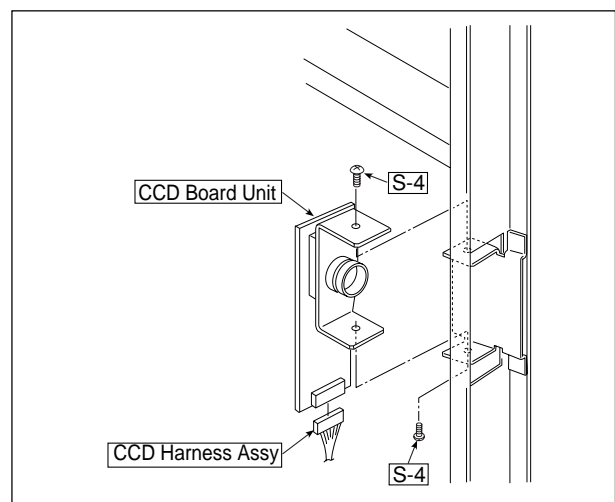


Fig. 9

DISASSEMBLY AND ASSEMBLY

5) Remove the Frame Cover Section. (See Fig. 10.)

1. Remove the "S-11" and "S-10" screws shown in Fig. 10. The S-12 screw is removed only when the Main Board Assy is not removed. (Remove the connector connected to the Main Board Assy.)

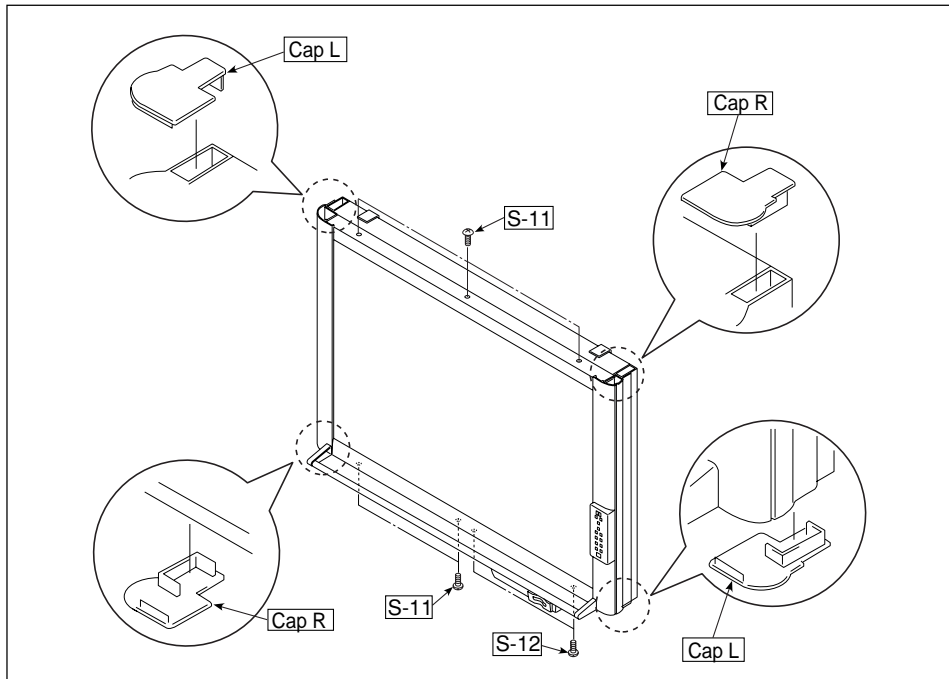


Fig. 10

6) Remove the Switch Board Assy. (See Fig. 11.)

1. Remove the "S-10" screw shown in Fig. 11.
2. Remove the "S-6" screw shown in Fig. 11 and then remove the Switch Board Assy.

Note:

Be careful not to mistake the hole through which the Switch Harness is passed. (See Fig. 12.)

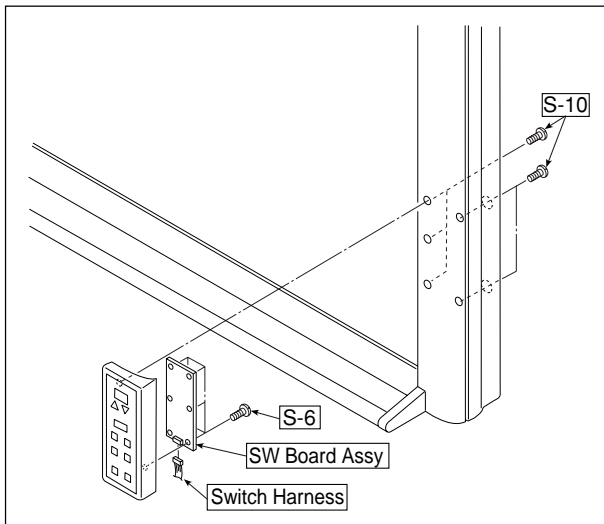


Fig. 11

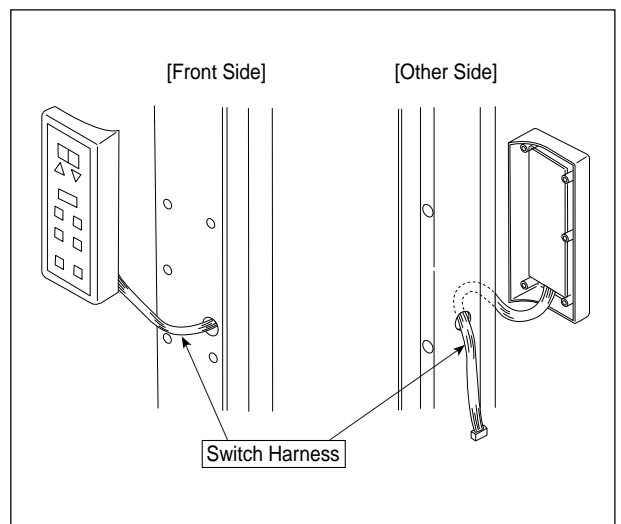


Fig. 12

DISASSEMBLY AND ASSEMBLY

7) Disassemble the Frame Cover Section. (See Fig. 13.)

Remove the "S-2" and "S-7" screws shown in Fig. 13 and disassemble the frame cover.

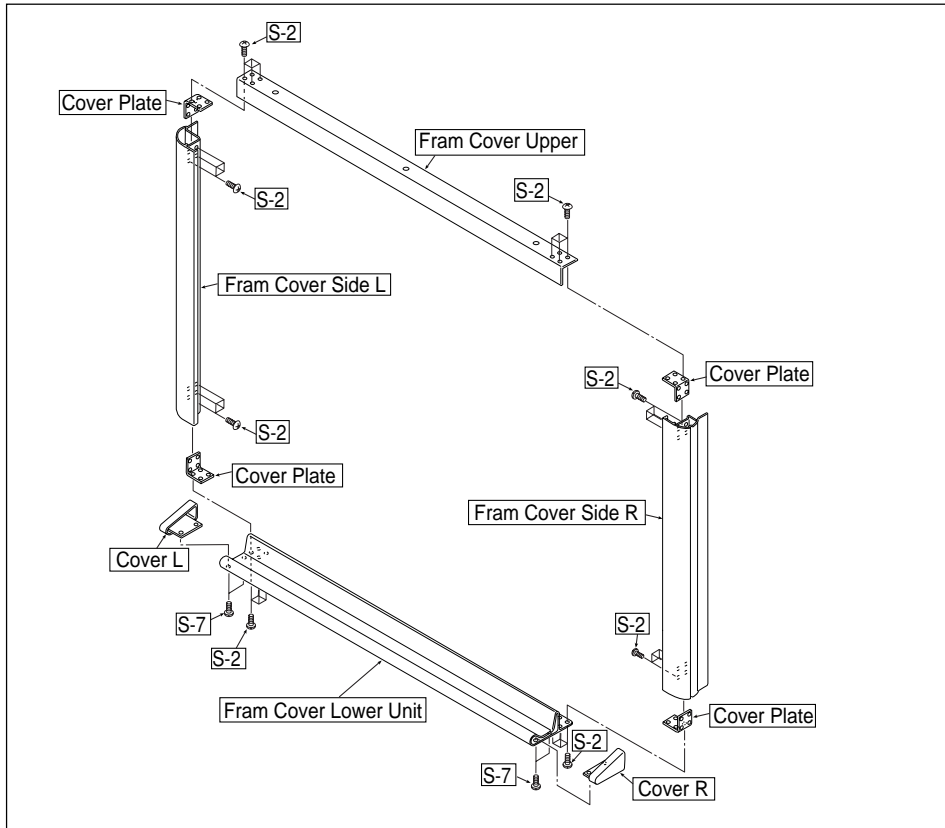


Fig. 13

8) Remove the Sheet Frame Unit. (See Figs. 14 and 15.)

1. Remove the "S-2" screw shown in Fig. 14.
2. Remove the Sheet Frame Unit as shown in Fig. 15.

Note:

The Sheet Frame Unit is caught on a hook as shown in the portion A of Fig. 14.

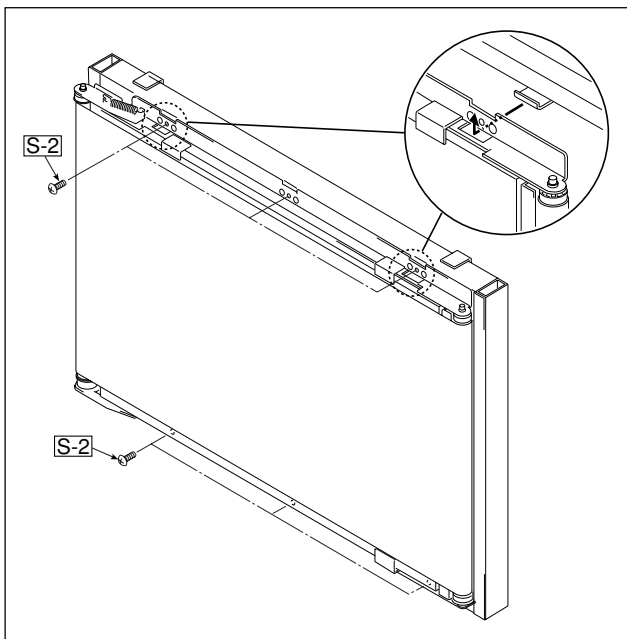


Fig. 14

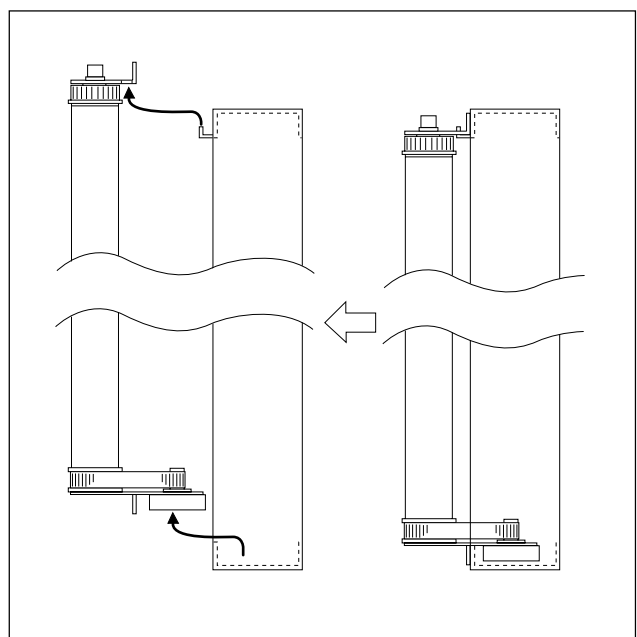


Fig. 15

DISASSEMBLY AND ASSEMBLY

9) Remove the Sheet Motor Assy. (See Fig. 16.)

1. Remove the "S-4" screw shown in Fig. 16.

Note:

Adjust the tension of the Timing Belt when the Sheet Motor Assy is installed. (See 5. Adjustment.)

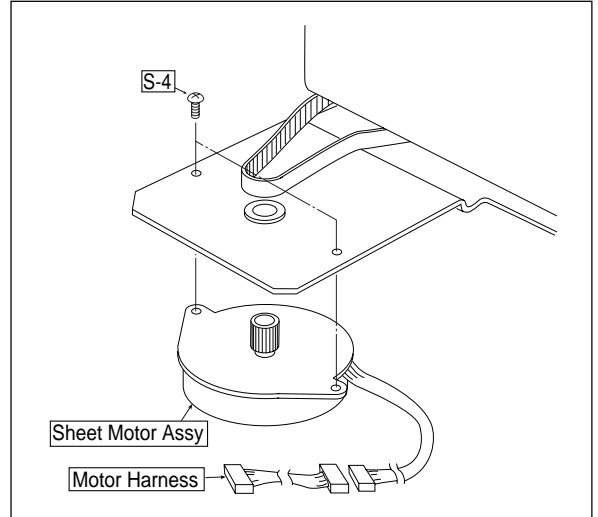


Fig. 16

10) Remove the Endless Sheet. (See Figs. 17, 18, and 19.)

1. Push the sheet roller section inside as shown in Figs. 17 and 18.

2. Remove the Endless Sheet as shown in Fig. 19.

Note:

- Be careful not to damage or fold it when handling the Endless Sheet.

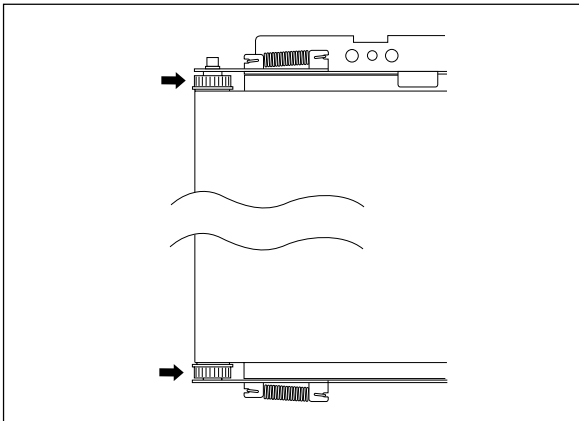


Fig. 17

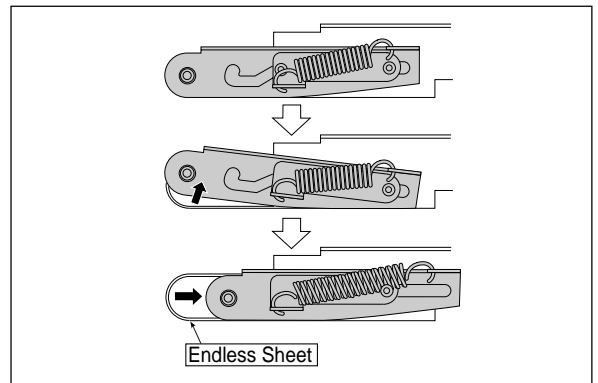


Fig. 18

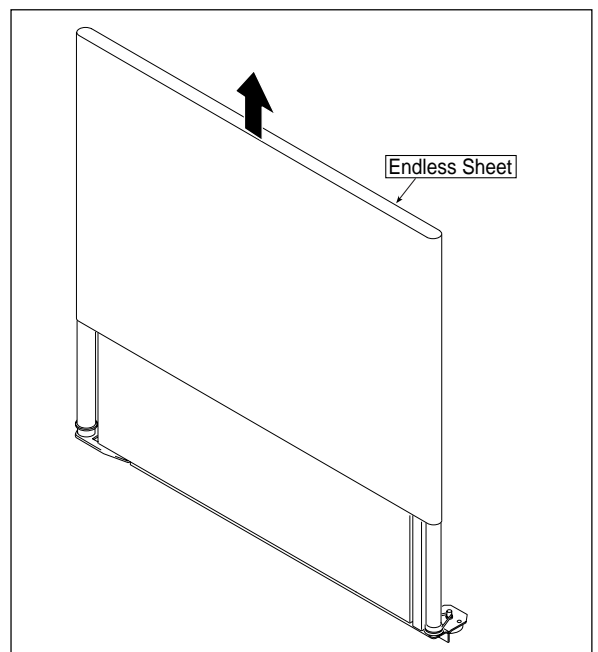


Fig. 19

DISASSEMBLY AND ASSEMBLY

- 11) Remove the Fluorescent Lamp. (See Fig. 20.)
1. Rotate the Fluorescent Lamp as shown in Fig. 20 and remove it from the lamp socket.

Note:

Be careful not to knock it against a frame and damage it when the Fluorescent Lamp is installed and removed.

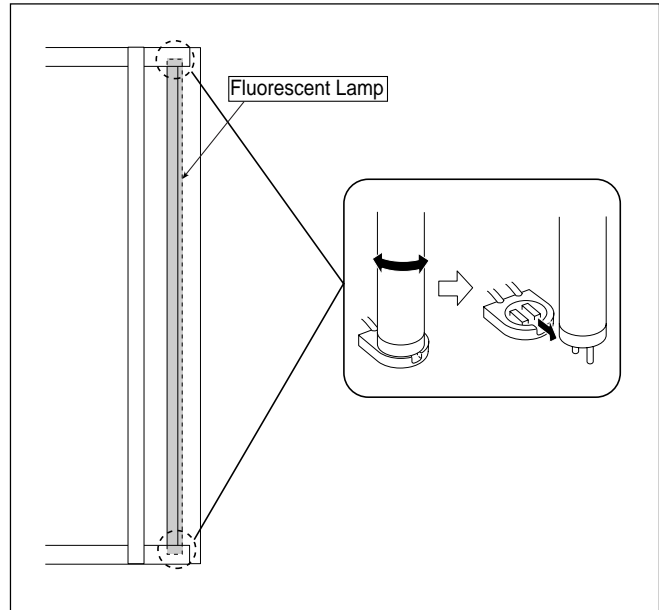


Fig. 20

- 12) Remove the Lamp Socket Unit. (See Fig. 21.)
1. Remove the "S-5" screw shown in Fig. 21 and then remove the Lamp Socket Unit.
2. The Lamp Socket Unit is fixed to the board frame using a cable tie. Therefore, the cable tie is removed using cutting pliers.

Note:

Fix it using a cable tie again when installing the Lamp Socket Unit.

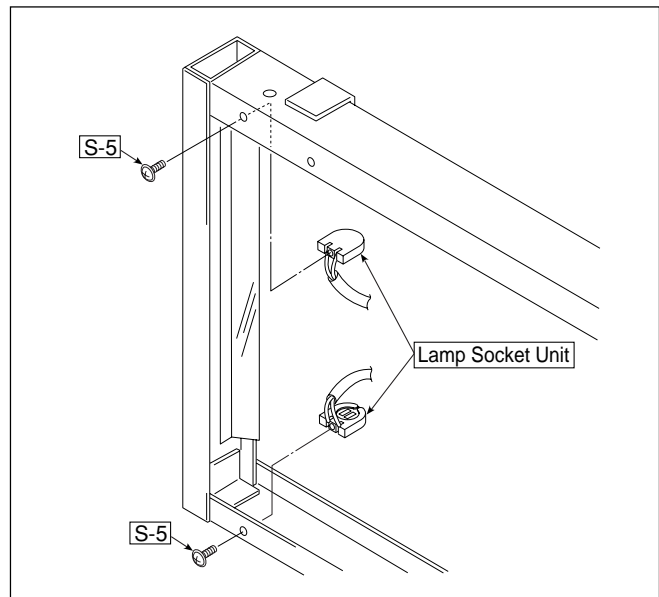


Fig. 21

5. ADJUSTMENT

5-1. CCD Adjustment

Adjustment is required in the following cases. (Calibration operation is also required after adjustment.)

- When a CCD Unit is replaced
- When adjustment got out of order due to the failure during arrival of products
- When the picture quality deteriorates remarkably

Calibration operation is required in the following cases.

- When a fluorescent lamp is replaced
- When the main board is replaced
- When the picture quality deteriorates slightly (The deterioration in picture quality may not be improved.)

Preparation

- Oscilloscope
- Screwdriver (+)
- Scale

Turn ON the power of an oscilloscope. Clean the plate surface.

* Insufficient cleaning influences the subsequent calibration. Color irregularity may sometimes occur in this case.

CCD adjustment procedure

1) Remove the back panel. (See 4. Disassembly and Assembly.)

2) Connect the probe of an oscilloscope to the CCD Board.

(See the table below and the figure on right.)

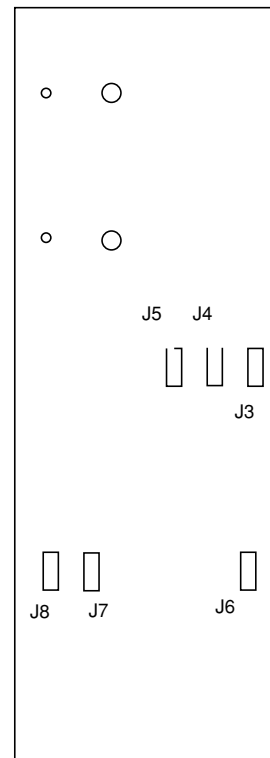
	GND	Measurement pin
Ch1	J6	J4
Trigger or CH2	J8	J7

Setting of oscilloscope

	Mode
Ch1	0.5 V/DIV AC
Trigger	2 V/DIV DC
Sweep	500 μs/DIV

* The trigger corresponds to EXT or Ch2.

Only Ch1 is displayed.



3) Focus adjustment of Lens Unit (See Figure 1.)

Fix the screw ④ tentatively so that the clearance between the Lens Unit and holder is 1.7 mm.

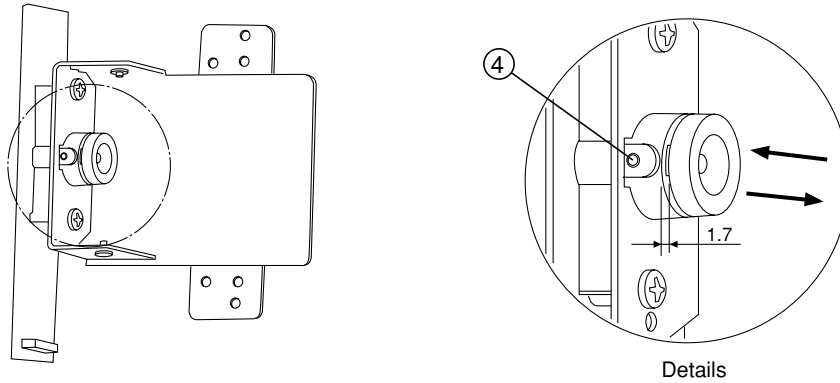


Fig.1

4) Clean the plate surface and then write an adjustment pattern. (See Figure 2.)

(Clean the plate surface sufficiently. If not, the subsequent calibration cannot be performed accurately.)

As shown in Figure 2, write the adjustment pattern using a black marker.

Write three horizontal lines of 100 mm long in the upper, middle, and lower positions according to the rule.

Write a vertical line of 100 mm long in the center 100 mm away from the middle position.

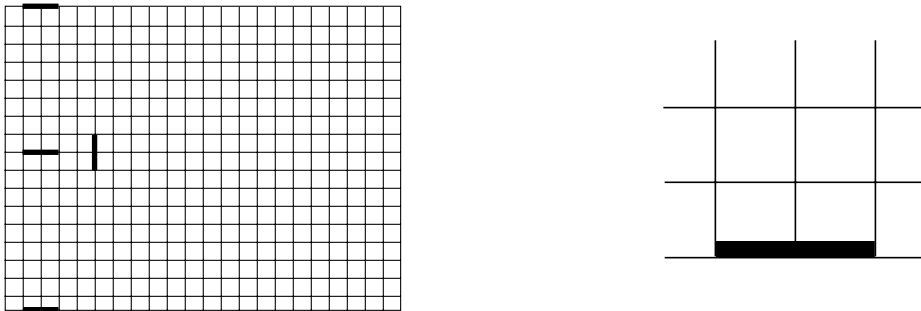


Fig.2

Note:

Write the horizontal lines in the upper and lower positions so that they are put in the rule.

5) Put the set into the adjustment mode.

- Turn OFF the power.
- Press both the “+” and “Density” keys.
- Release the “+” and “Density” keys.
- Press the “Color” key.
- Confirm that the numeric LED display is 00.
- Press the “Repeat” key.
- The florescent lamp lights after four seconds and the set enters the CCD adjustment mode.
- Press the “Repeat” key.
- Confirm that the fluorescent lamp lighted.
- Confirm that the numeric LED display is 54.

6) Adjustment of oscilloscope (See Figure 3.)

Adjust the trigger level and Ch1 vertical position so that a CCD waveform appears on the oscilloscope display.
Adjust the horizontal position, luminance, and focus.

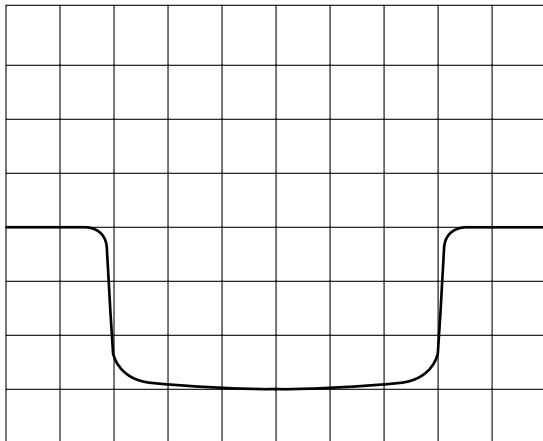


Fig.3

7) Right-and-left swing adjustment of CCD Unit (See Figures 4 and 5.)

As shown in Figure 5, insert a scale from the outer frame by 12 mm. Move plate B shown in Figure 4 from the state where the edge of a scale is not displayed on the oscilloscope and fix screws ⑤ in Figure 4 when the level fell into the intermediate position as shown in Figure 6.

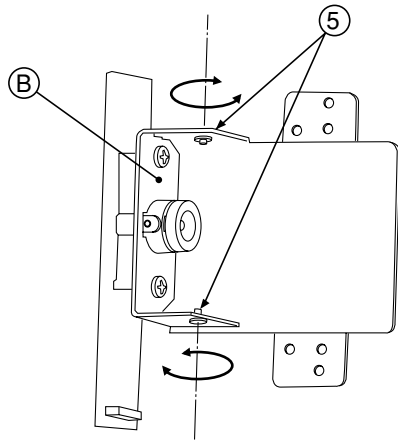


Fig.4

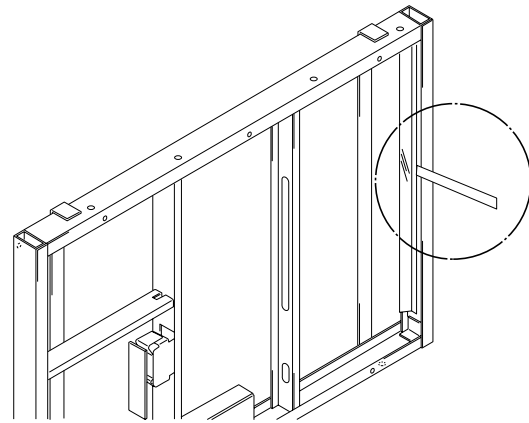
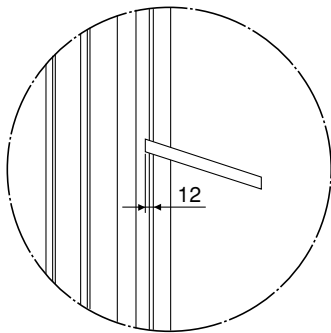


Fig.5



Details

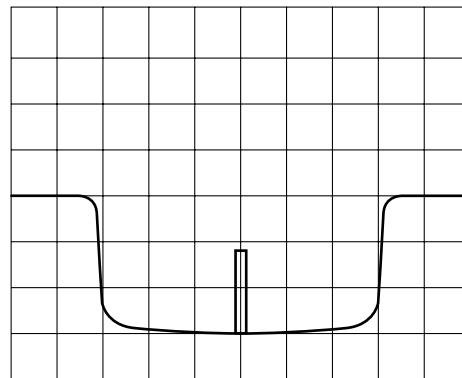


Fig.6

- 8) Move the sheet so that adjustment patterns are displayed on the oscilloscope. (See Figure 7.)
Move the sheet so that three horizontal adjustment patterns are displayed on the oscilloscope.

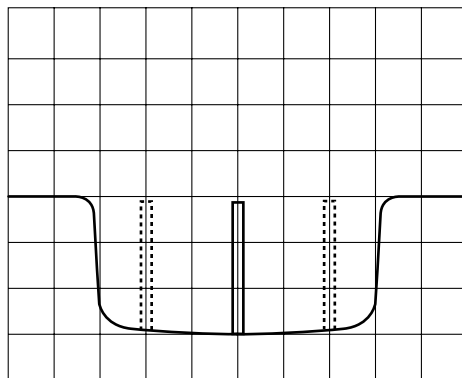


Fig.7

- 9) Torsion adjustment of CCD Unit (See Figures 8 and 9.)

Move the Lens Unit so that the waveform on the oscilloscope is laterally symmetrical. Fix screws ③ in Figure 8 when the waveform is displayed as shown in Figure 9.

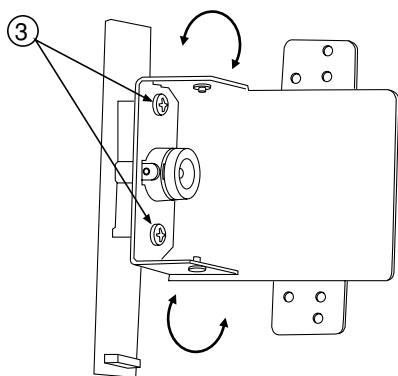


Fig.8

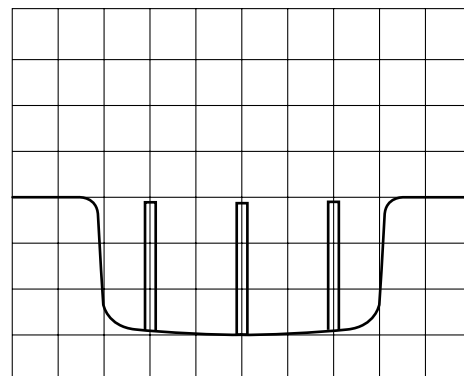


Fig.9

10) Focus Adjustment (See Figures 10 and 11.)

Move the Lens Unit so that the display waveform is sharp as far as possible (Figure 11) while monitoring the oscilloscope display. After that, adjust the focus and fix screw ④ (Figure 10).

*** Insufficient focus adjustment may cause an error to occur in the offset correction of calibration described later.**

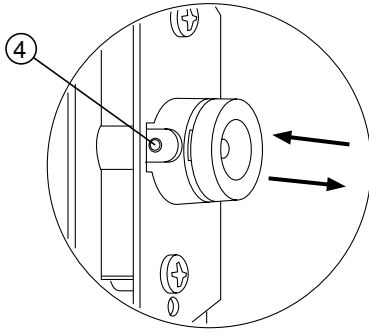


Fig.10

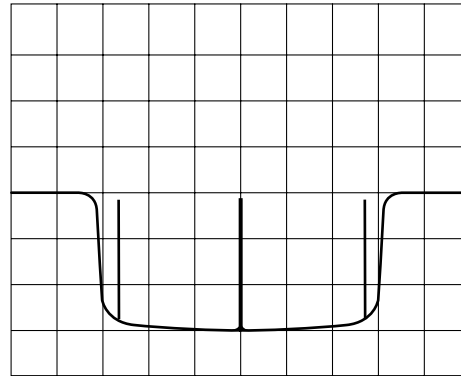


Fig.11

11) Confirmation of three colors

Move the sheet to the position where nothing is written. (The signal that was confirmed and adjusted until now is a green signal.)

Connect CH1 of an oscilloscope to J5 and J3 and confirm that the three waveforms of RGB signals are almost the same in shape. Ignore the level of each waveform in this case.

Perform the right-and-left swing adjustment again if each level differs.

However, the CCD board is defective if a level remarkably drops in the position where nothing is written.

5-2. Calibration

Calibration must be performed when the CCD Unit, Main Board, and fluorescent lamp are replaced.

1) Clean the sheet.

Insufficient cleaning influences the calibration. Color irregularity may occur in this case.

2) Write an adjustment pattern. (This pattern is the same as the adjustment pattern used in the adjustment procedure of a CCD Unit.)

As shown in Fig. 1, write the pattern using a black marker. Write three horizontal lines of 100 mm long in the upper, middle, and lower positions according to the rule. (The middle position is the ninth rule with the upper-most rule counted as the first one. Write the horizontal lines in the upper and lower positions so that they are put in the rule as shown in Fig. 2.) Write a vertical line of 100 mm long in the center 100 mm away from the horizontal position.

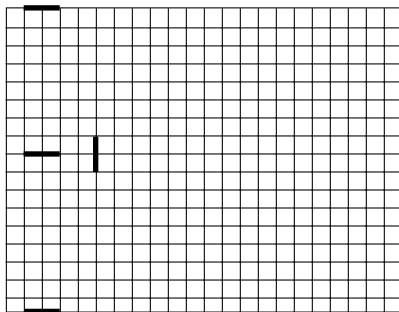


Fig.1

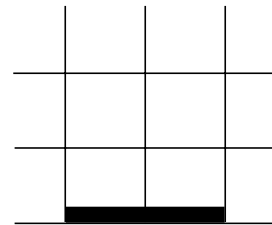


Fig.2

3) Execute calibration.

- Press the Power key and turn off the power.
- Remove the probe of an oscilloscope (when the CCD Unit is adjusted).
- Install the back panel to prevent the external light from being input.
- Press the + and Density keys (simultaneously).
- Release the + and Density keys and press the Color key.
- Confirm that the LED display is 00.
- Press the Copy key.
- The LED display becomes 60 and calibration starts.

It takes approximately five minutes to execute calibration.

4) Terminate calibration normally. (LED display AA)

- Press the Power key and turn off the power.
- Confirm the printing. (See (6) Confirmation of printing.)

5) Occurrence of error

- An error occurs when the LED display is not AA, but 70 to 78.
- Confirm that no abnormality (disconnection) exists in the internal wiring.
- Judge the cause of a failure from the LED display and perform adjustment and part replacement again.
(See the table shown below for the LED display contents and cause.)
- Execute calibration again.

Contents of LED display

Display	State	Display	State
60	Measurement of offset level with the fluorescent lamp turned off	70	Abnormal offset value
61	Stabilization wait of fluorescent lamp	71	Stabilization error
62	A sheet is moved so that an adjustment pattern (a horizontal line in the middle position) is put in the shooting range of CCD.	72	Adjustment pattern search error
63	Shutter fine-adjustment, black level adjustment, read width, and read position detection	73	Adjustment failure
64	A sheet is moved to the non-written section.	74	Non-written section search error
65	The correction gain value of each dot is calculated.	75	Gain correction error
66	An adjustment pattern (a vertical line in the middle position) is detected.	76	Adjustment pattern search error
67	A sheet is rotated until a vertical line in the middle position appears again.	77	Adjustment pattern search error
68	Flash ROM write	78	Flash ROM write error
AA	Termination of flash ROM write (Normal termination)	–	

Cause of error

Display	Cause of error
70	<ul style="list-style-type: none"> • External light is input. • The CCD Unit is defective.
71	<ul style="list-style-type: none"> • The fluorescent lamp does not light. • The lens (CCD Unit) faces the different direction. • The Main Board is defective. • The CCD Unit is defective.
72	<ul style="list-style-type: none"> • No adjustment pattern is written. • An adjustment pattern is not written in black. • Stains exist in those other than an adjustment pattern. • An adjustment pattern is not written in the prescribed position.
73	<ul style="list-style-type: none"> • The focus (CCD Unit) is out of adjustment. • The marker is light in color.
74	<ul style="list-style-type: none"> • The sheet is dirty. • Those other than an adjustment pattern are written.
75	<ul style="list-style-type: none"> • The sheet is dirty. • The CCD Unit adjustment is defective.
76	<ul style="list-style-type: none"> • No adjustment (no vertical line in the middle position) is written.
77	<ul style="list-style-type: none"> • No adjustment pattern (no vertical line in the middle position) is written. (This error does not usually occur.)
78	<ul style="list-style-type: none"> • The Main Board is defective.

6) Confirmation of printing

- Write anything on the whole plate surface (in the upper and lower rules) using all four-color markers.
- Make a copy and confirm that all written in the upper and lower rules is printed.

5-3. Tension Adjustment of Timing Belt

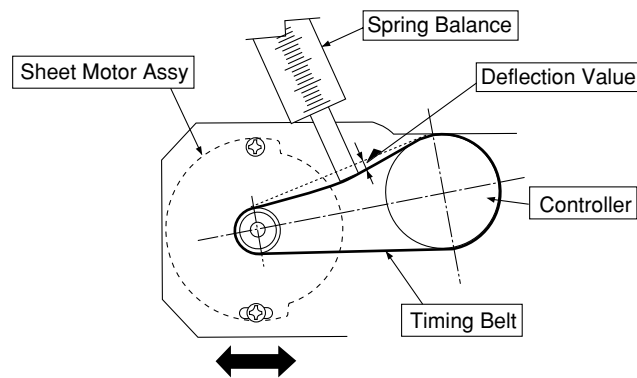
The tension of a timing belt must be adjusted when the Sheet Motor Assy is replaced and removed.

Tool required

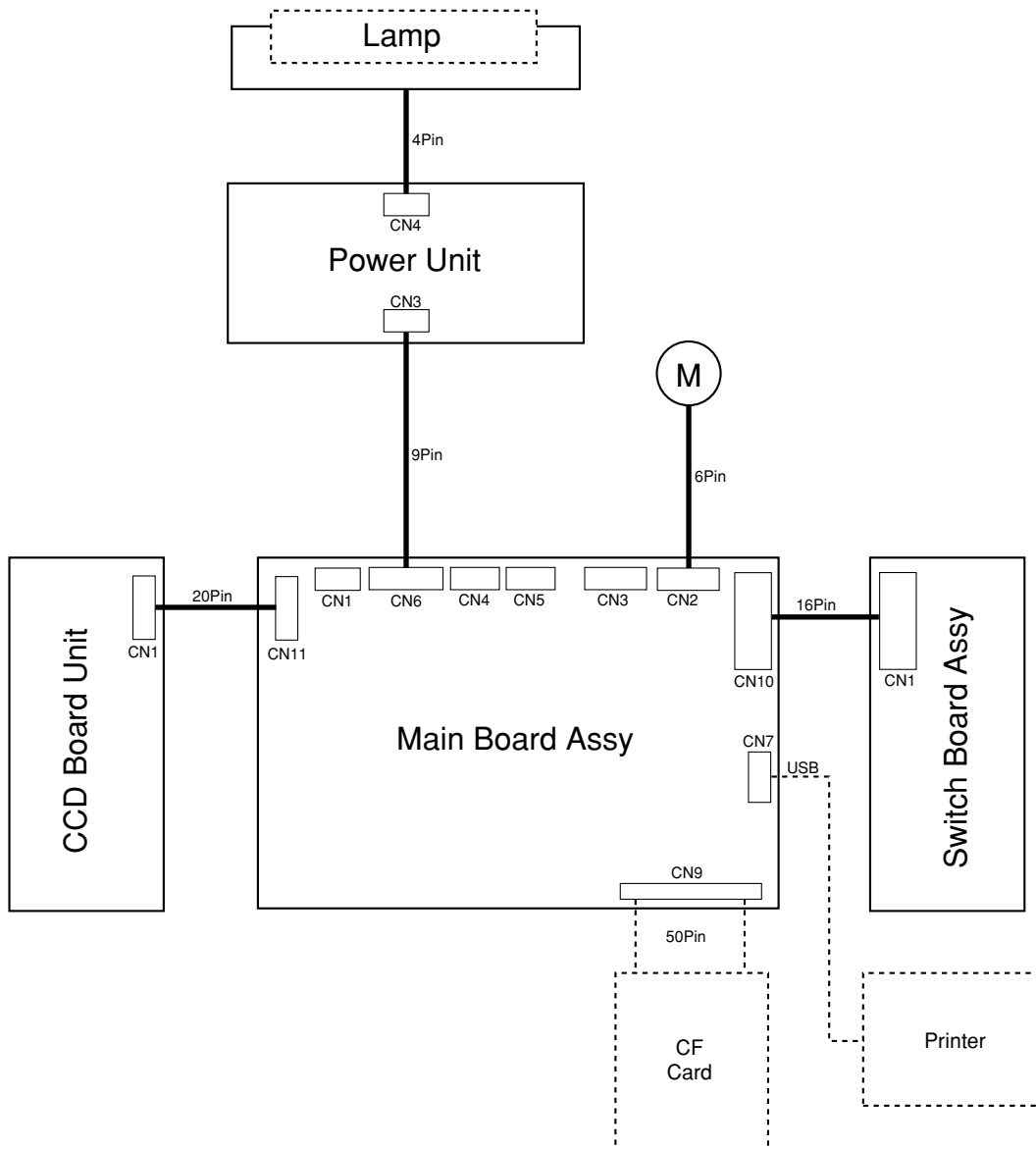
- Spring balance

Adjustment (See the illustration shown below.)

- Fix the Sheet Motor Assy tentatively and measure the tension of a timing belt using a spring balance.
- Move the Sheet Motor Assy and fix it in the position where proper load is obtained.
- The proper load is 0.3 to 0.6 kgf with the timing belt bent by approximately 1 mm.

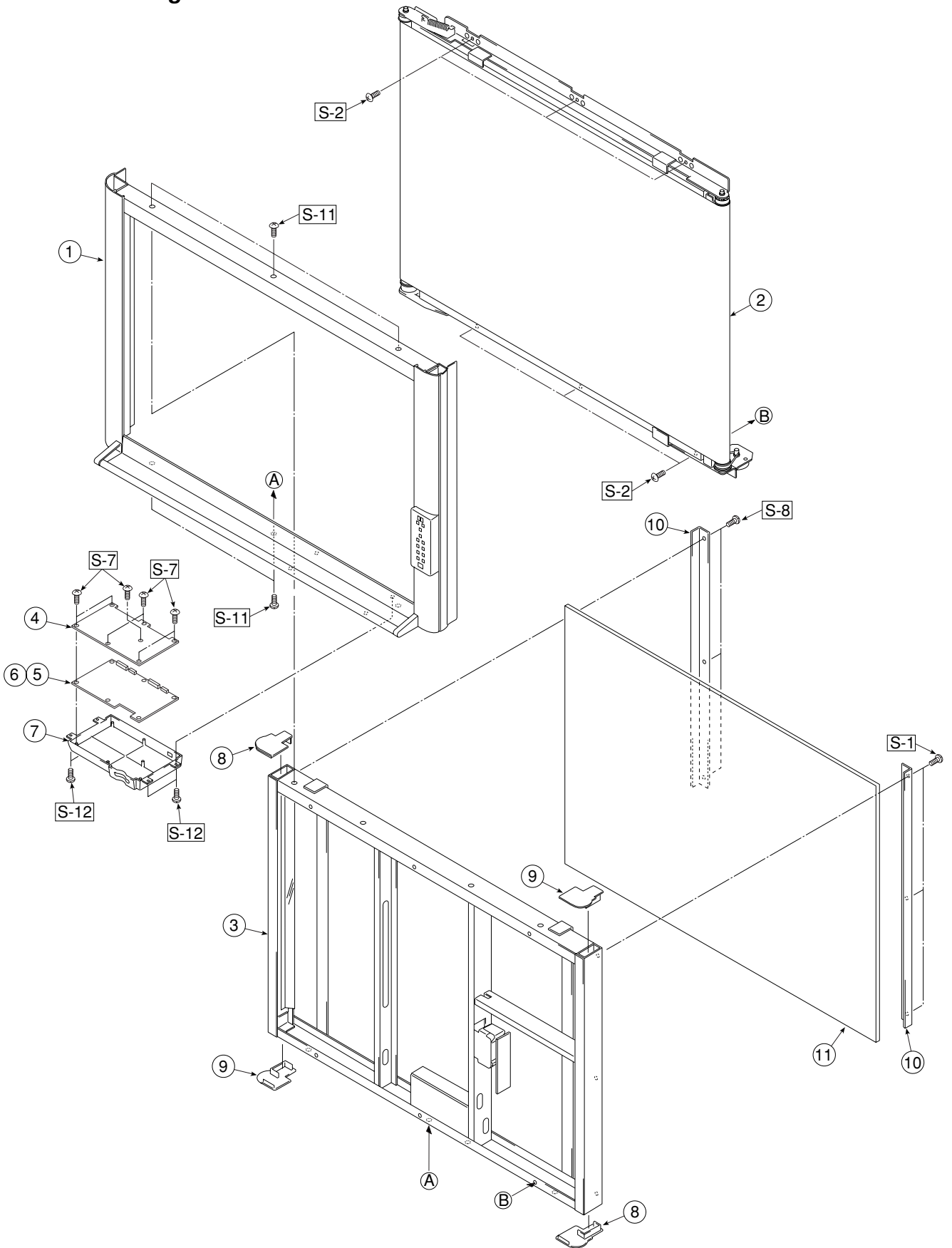


6. CABLE AND CABLE CONNECTION



7. PARTS LIST

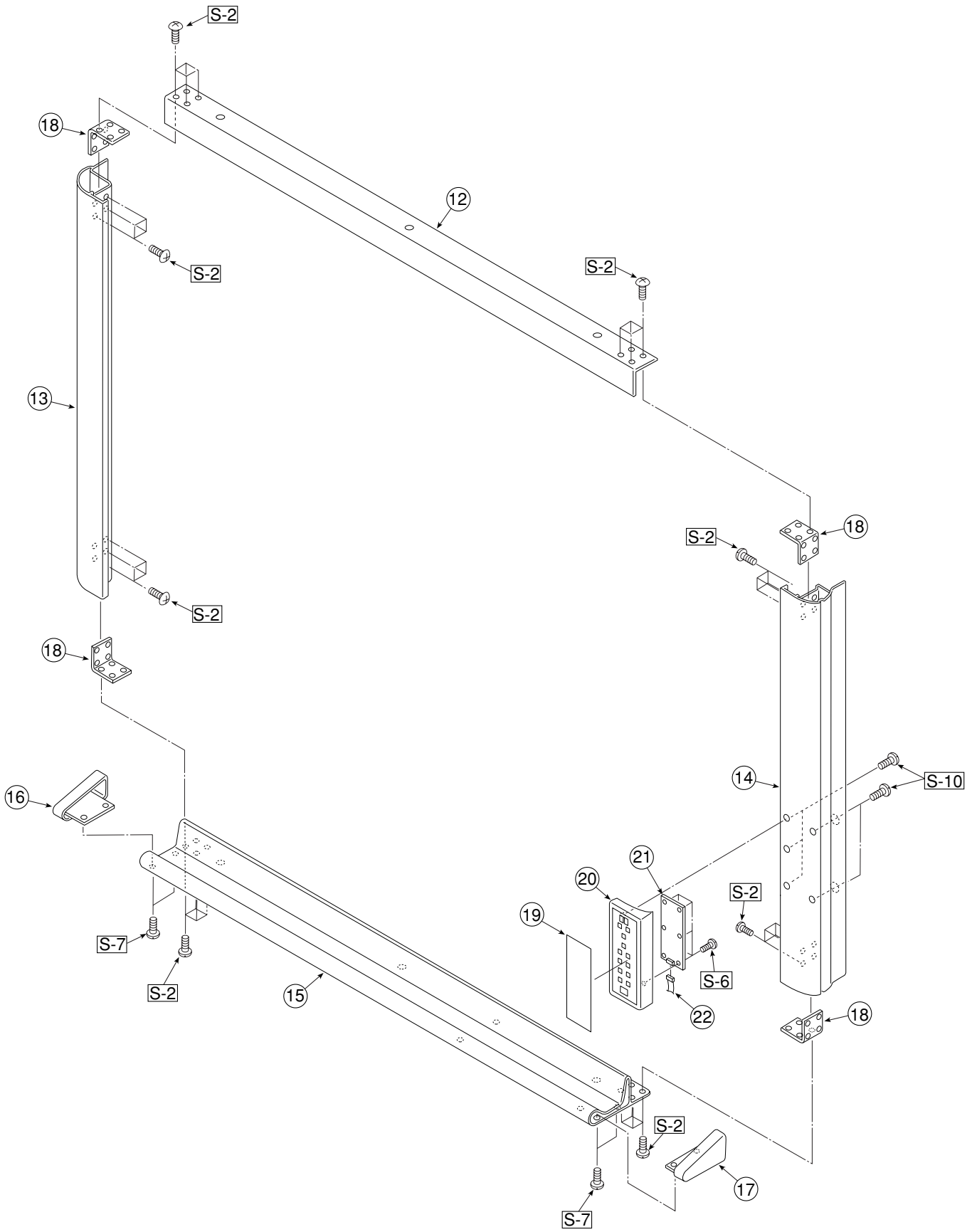
1. Overall configuration



PARTS LIST

1.Overall configuration					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
1	Frame Cover Unit	-	-	1	No Parts Supply
2	Sheet Unit	-	-	1	No Parts Supply
3	Board Unit	-	-	1	No Parts Supply
4	Main Board Shield	715202200	715202200	1	
5	Main Board Assy	715250000	715250000	1	
6	Short Plug	721441300	721441300	1	
7	Main Board Box	715202100	715202100	1	
8	Cap L	715201800	715201800	2	
9	Cap R	715201900	715201900	2	
10	Back Panel Corner	715202600	715202600	2	
11	Back Panel S	715202700	-	1	Standard
	Back Panel W	-	715203700	1	Wide

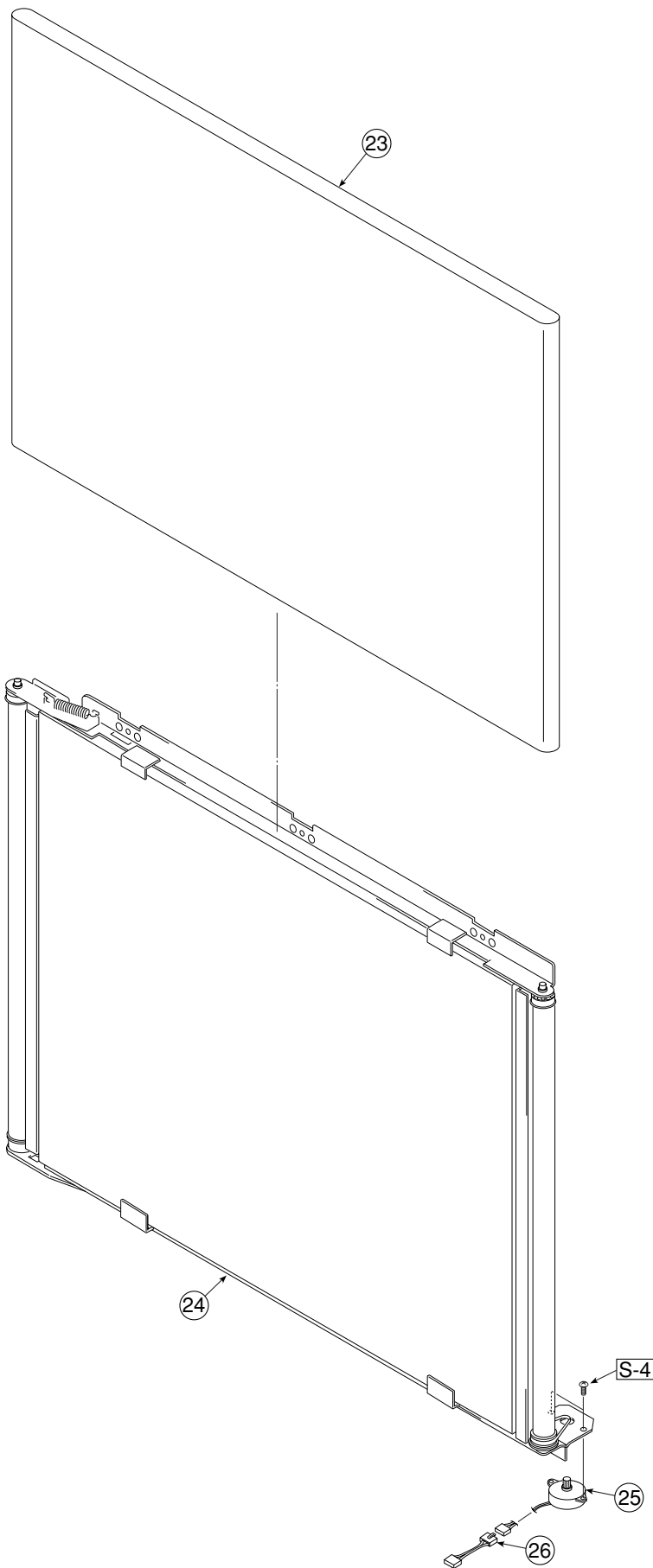
2. Frame Cover Section



PARTS LIST

2. Frame Cover Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
12	Frame Cover Upper S	715201100	-	1	Standard
	Frame Cover Upper W	-	715201200	1	Wide
13	Frame Cover Side L	715201500	715201500	1	
14	Frame Cover Side R	715204100	715204100	1	
15	Frame Cover Lower Unit S	715090001	-	1	Standard
	Frame Cover Lower Unit W	-	715090002	1	Wide
16	Cover L	715201600	715201600	1	
17	Cover R	715201700	715201700	1	
18	Cover Plate	715201000	715201000	4	
19	Switch Sheet	715204300	715204300	1	
20	Switch Box	715202000	715202000	1	
21	Switch Board Assy	715250600	715250600	1	
22	Switch Harness	715250900	715250900	1	

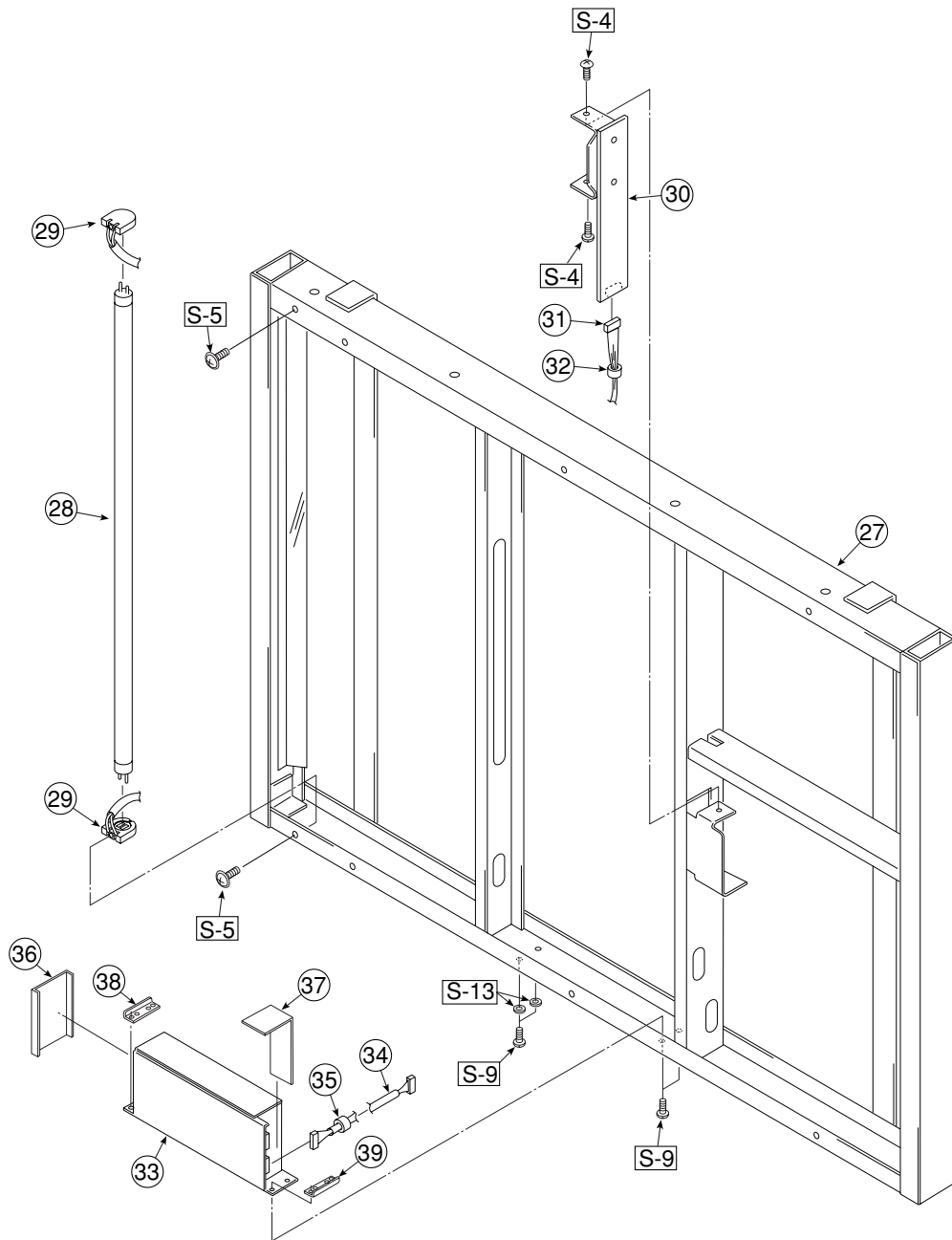
3. Sheet Frame Section



PARTS LIST

3. Sheet Frame Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
23	Endless Sheet S	714722400	-		Standard
	Endless Sheet W	-	714622400		Wide
24	Sheet Frame Unit S	715090003	-		Standard
	Sheet Frame Unit W	-	715090004		Wide
25	Sheet Motor Assy	714180800	714180800		
26	Motor Harness	715251400	715251400		

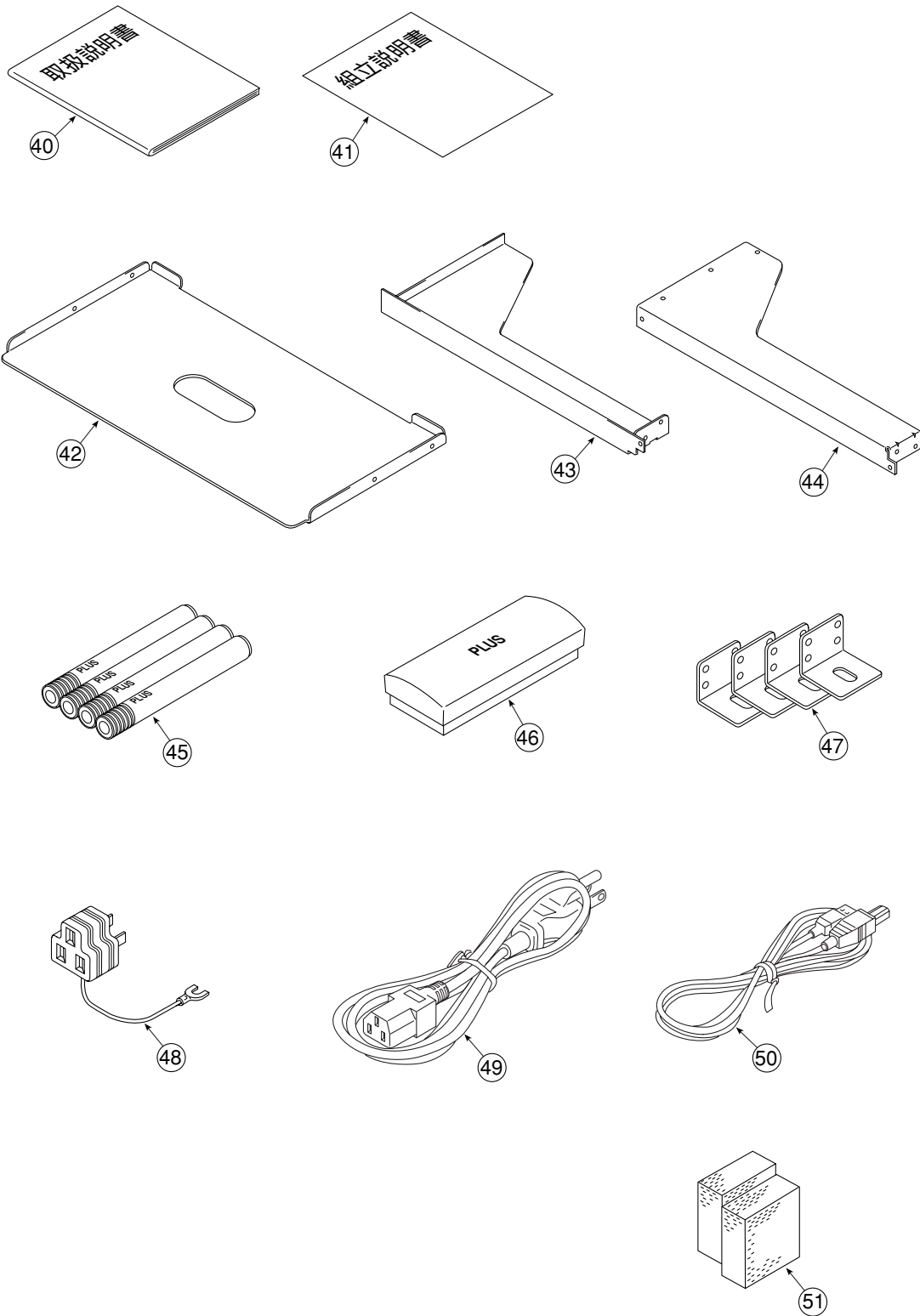
4. Board Frame Section



PARTS LIST

4. Board Frame Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
27	Board Frame Unit S	715090005	-	1	Standard
	Board Frame Unit W	-	715090006	1	Wide
28	Fluorescent Lamp	714180700	714180700	1	
29	Lamp Socket Unit S	715090007	-	1	Standard
	Lamp Socket Unit W	-	715090008	1	Wide
30	CCD Board Unit	715090009	715090009	1	
31	CCD Harness S Assy	715251000	-	1	Standard
	CCD Harness W Assy	-	715251100	1	Wide
32	Ferrite Core	715251512	715251512	1	
33	Power Unit (1)	715251700	715251700	1	100V~120V Set 38,39
	Power Unit (2)	715251600	715251600	1	220V~240V Set 38,39
34	Secondary Side Power Harness	714181200	714181200	1	
35	DK Core	714890100	714890100	1	100V~120V
36	PU Cover A	715219100	715219100	1	
37	PU Cover B	715219200	715219200	1	
38	PU Plate A	-	-	1	No Parts Supply
39	PU Plate B	-	-	1	No Parts Supply

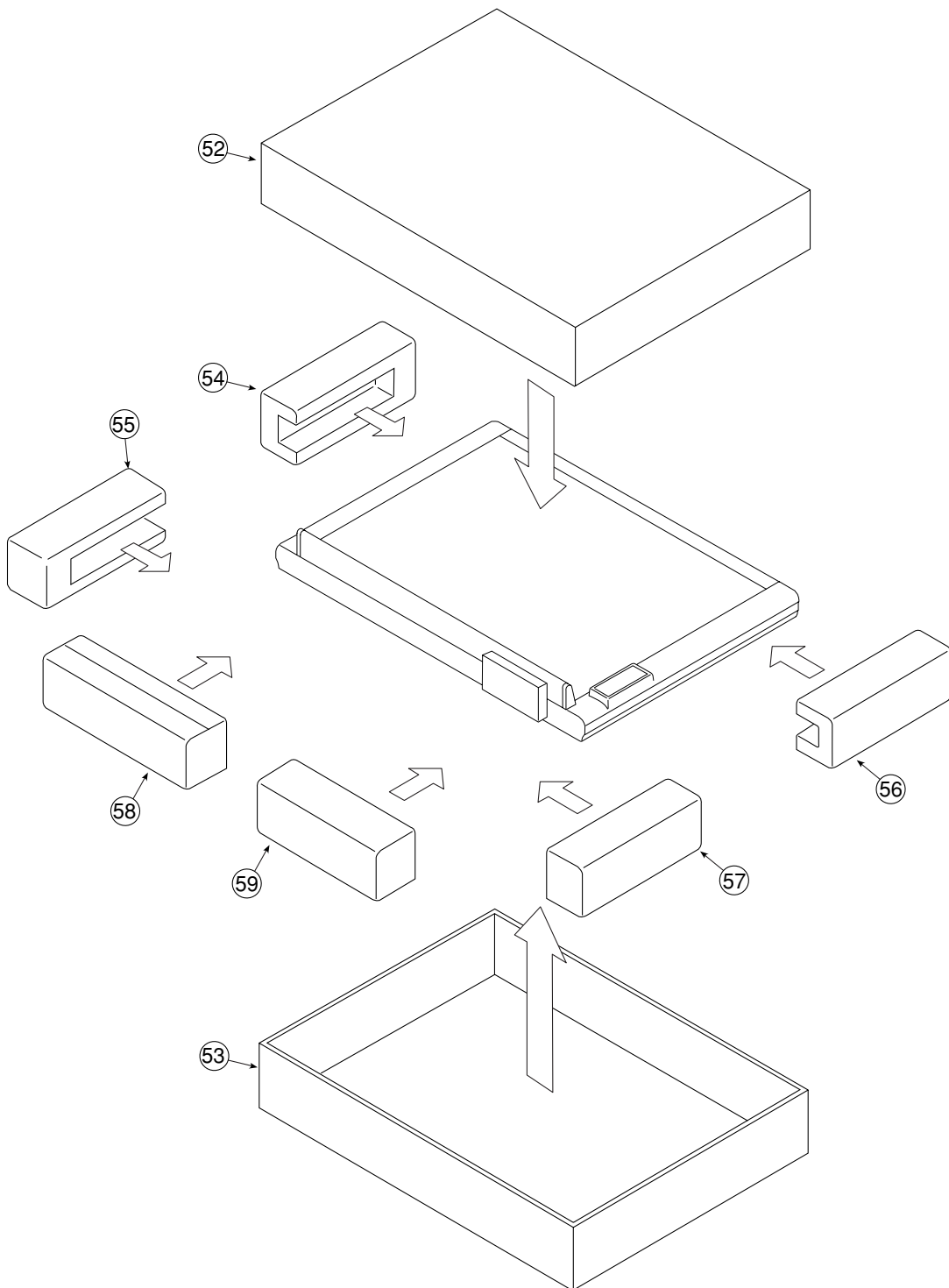
5. Accessories Section



PARTS LIST

5. Accessories Section					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
40	Operation Manual E (1)	715209600	715209600	1	Except the Asian region
	Operation Manual E (2)	715213400	715213400	1	Only the Asian region
41	Setup Manual	715209700	715209700	1	
42	Printer Platform	715206600	715206600	1	
43	Printer Bracket L	715206800	715206800	1	
44	Printer Bracket R	715206700	715206700	1	
45	Marker Set	-	-	1	No Parts Supply
46	Dry Eraser	-	-	1	No Parts Supply
47	Wall Mount Plate	715203900	715203900	4	
48	AC Plug Adapter	753670100	753670100	1	Taiwan Only
49	Power Cable (4m) UL	753670000	753670000	1	UL
	Power Cable (4m) CEE	753671000	753671000	1	CEE
	Power Cable (4m) BS	753673000	753673000	1	BS
	Power Cable (4m) SAA	753674000	753674000	1	SAA
	Power Cable (4m) R3	753675000	753675000	1	R3
	Power Cable (4m) GB	753676000	753676000	1	GB
50	USB Cable	715251800	715251800	1	
51	Printer Bracket Spacer	715217700	715217700	2	

6. Carton & Packing



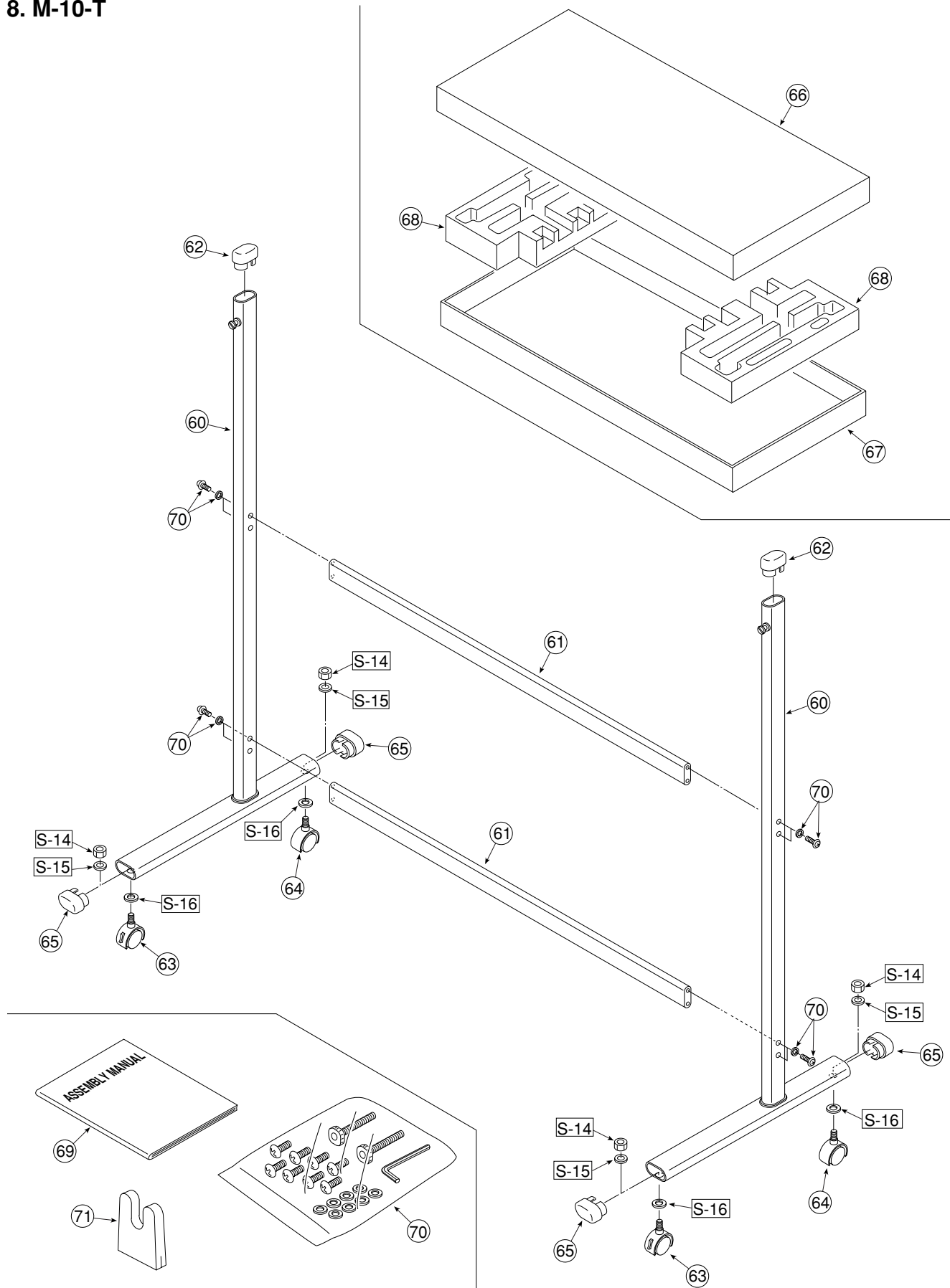
PARTS LIST

6. Carton & Packing					
No	PARTS NAME	PARTS No.		Q' ty	REMARK
		S	W		
52	Carton Upper S	715205900	-		Standard
	Carton Upper W	-	715206100		Wide
53	Carton Lower S	715206000	-		Standard
	Carton Lower W	-	715206200		Wide
54	Corner Packing Upper (L)	715205600	715205600		
55	Corner Packing Lower (L)	715207700	715207700		
56	Corner Packing Upper (R)	715205500	715205500		
57	Corner Packing Lower (R)	715207600	715207600		
58	Accessory Box	715205800	715205800		
59	Push Accessory Box S	715205700	-		Standard
	Push Accessory Box W	-	715206400		Wide

PARTS LIST

7. Screws & Washers					
No	PARTS NAME	PARTS No	Q' ty		SURFACE
			S	W	
S-1	Back Panel Corner Screw	715204000	3	3	-
S-2	M4-6 Cross Recessed Binding Head	951240650	42	42	MFZn I-C-B
S-3	M4-8 Cross Recessed Binding Head	951240850	16	16	MFZn I-C-B
S-4	M3-8 Cross Recessed 3-Point Type	952530810	4	4	MFZn I-C
S-5	M3-10 Cross Recessed 3-Point Type	952531010	2	2	MFZn I-C
S-6	M3-6 P-Tight Cross Recessed Binding Head	953230610	6	6	MFZn I-C
S-7	M3-8 P-Tight Cross Recessed Binding Head	953230850	11	11	MFZn I-C-B
S-8	M3-6 Cross Recessed Binding Head	951230650	9	9	MFZn I-C-B
S-9	M3-12 Cross Recessed Binding Head	951231250	4	4	MFZn I-C-B
S-10	M4-10 P-Tight Cross Recessed Pan Head	953141010	5	5	MFZn I-C
S-11	M4-12 Cross Recessed Binding Head	951241250	5	8	MFZn I-C-B
S-12	M4-12 Cross Recessed 3-Point Type	952541210	4	4	MFZn I-C-B
S-13	Toothed Washer External tooth type B Nominal Size 3	957630020	2	2	-

8. M-10-T



PARTS LIST

8. M-10-T				
No	PARTS NAME	PARTS No.	Q' ty	REMARK
60	T-Shaped Stand Assy	715203800	2	
61	Side Bar Assy	715203500	2	
62	Pipe Frame Cap	714112600	2	
63	Front Caster	714660400	2	
64	Back Caster	714660500	2	
65	Pipe Cap	714160600	4	
66	Carton Upper (Stand)	715206300	1	
67	Carton Lower (Stand)	715208200	1	
68	Packing Set (Stand)	715207200	2	
69	Assembly Manual (Stand)	715213900	1	
70	Screw Unit	715090010	1	
71	Printer Bracket Spacer (Stand)	715214700	1	
S-14	M3-8 Hexagonal Stop Bolt	955217610	4	
S-15	No.2-10 Spring Washer	957410210	4	
S-16	No.2-10 Flat Washer	957210210	4	

8. REVISION HISTORY

No	Revision History	Revision page	Date
1			
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