SERVICE MANUAL

Color Inkjet Printer

Epson WF-7525 / Epson WF-7521 / Epson WF-7520/ Epson WF-7515 / Epson WF-7511 / Epson WF-7510/ Epson WF-7018 / Epson WF-7015 / Epson WF-7012/ Epson WF-7011 / Epson WF-7010

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Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. Always wear protective goggles for disassembly and reassembly to protect your eyes from ink in working. If any ink gets in your eyes, wash your eyes with clean water and consult a doctor immediately.
2. When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson; introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. The capacitors on the Main Board may be electrically charged right after the power turns off or after driving motors which generates counter electromotive force such as when rotating the PF Roller or when moving the CR Unit. There is a risk to damage the Main Board if the Head FFC is short-circuited with the capacitors on the Main Board electrically charged, therefore, after the power turns off or after motors are driven, leave the printer untouched for approximately 30 seconds to discharge the capacitors before starting disassembly/ reassembly.

6. To prevent the circuit boards from short-circuiting, be careful about the following when handling FFC or cables.
   - When handling FFC, take care not to let the terminal section of FFC touch metal parts.
   - When connecting cables/FFC to the connectors on circuit boards, connect them straight to the connectors to avoid slant insertion.
7. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
8. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
9. Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If you have a skin irritation, consult a doctor immediately.
10. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
11. Use only recommended tools for disassembling, assembling or adjusting the printer.
12. Observe the specified torque when tightening screws.
13. Be extremely careful not to scratch or contaminate the following parts.
    - Nozzle plate of the printhead
    - CR Scale
    - PF Scale
    - Coated surface of the PF Roller
    - Gears
    - Rollers
    - LCD
    - Scanner Sensor
    - Exterior parts
14. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
15. Apply the specified amount of grease described in this manual.
16. Make the specified adjustments when you disassemble the printer.
17. When cleaning this product, follow the procedure described in this manual.
18. When transporting this product after filling the ink in the printhead, pack the printer without removing the ink cartridges in order to prevent the printhead from drying out.
19. Make sure to install antivirus software in the computers used for the service support activities.
20. Keep the virus pattern file of antivirus software up-to-date.
21. When disassembling/reassembling this product, if you find adhesive power of the double-sided tape which secure the parts or FFC is not enough, replace the tape with new one and attach it correctly to the specified points where the parts or FFC should be secured.
22. Unless otherwise specified in this manual, the labels attached on the returned product should be transferred to the corresponding attachment positions on the new one referring to the labels on the returned product.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. PRODUCT DESCRIPTIONS

Provides a general overview and specifications of the product.

CHAPTER 2. OPERATING PRINCIPLES

Describes the theory of mechanical operations of the product.

CHAPTER 3. TROUBLESHOOTING

Describes the step-by-step procedures for the troubleshooting.

CHAPTER 4. DISASSEMBLY / REASSEMBLY

Describes the disassembly/reassembly procedures for main parts/units of the product.

CHAPTER 5. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 6. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in serious injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in bodily injury, damage or malfunction of equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

For Chapter 4 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see "4.2 Disassembly/Reassembly Procedures (p46)".

Revision Status

Revision	Date of Issue	Description
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CHAPTER **1**

PRODUCT DESCRIPTION

1.1 Features

In this chapter, the product names are called as follows:
- **WF-7520 series: Epson WF-7525/Epson WF-7521/Epson WF-7520**
- **WF-7510 series: Epson WF-7515/Epson WF-7511/Epson WF-7510**
- **WF-7010 series: Epson WF-7018/Epson WF-7015/Epson WF-7012/Epson WF-7011/ Epson WF-7010**

WF-7520/7510/7010 series are an A3 color inkjet printer based on Epson WorkForce 840/Epson Stylus Office BX925FWD. Major features are as follows.

☐ Common futures

■ Printer
- Maximum print speed: 15 ppm (A4, monochrome, draft printing mode)
- O6-Chip Turbo 2 Printhead (Black: 128 nozzles x 3, Color: 128 nozzles x 1 per color)
- Maximum print resolution: 5760 x 1440 dpi
- Auto duplex printing up to A3 paper with the Duplex Unit (WF-7520/7010 series only)
- Four independent ink cartridges are installed (pigment inks)
- Interface
  In addition to USB connection, wired/wireless LAN connection are available

■ Scanner (WF-7520/7510 series only)
- CIS type sensor (scanning resolution: 1200 x 2400 dpi)
- ADF up to A3 paper scanning*

Note"*": Auto duplex scanning is available only for WF-7520 series. (A4 or letter sized paper only)

☐ Differences between the models
WF-7520/7510/7010 series are different as shown below.

Table 1-1. Differences between the Models

Item	WF-7520 series	WF-7510 series	WF-7010 series
LCD display size	2.5 inch	2.5 inch	No
Auto duplex printing	Yes	No	Yes
Scanner / ADF	Yes	Yes	No
USB host (for PictBridge / Backup of an external storage device)	Yes	Yes	No
FAX	Yes	Yes	No
Wi-Fi	Yes	Yes	Yes*
2nd cassette	Yes	No	Yes

Note *: The availability of the WiFi varies depending on the destinations.
Available: EHC/Euro/CISMEA/ESP/ETT/EKL
Not available: EAL/Latin/EAL/ECC/EHK

☐ External view

WF-7520 series

WF-7510 series

WF-7010 series

Figure 1-1. External View

Table 1-2. Dimensions

Model	Dimensions (W x D x H)*1	Weight*2
WF-7520 series	559 mm x 418 mm x 365 mm	18.9 kg
WF-7510 series	559 mm x 418 mm x 287 mm	15.6 kg
WF-7010 series	558 mm x 414 mm x 264 mm	12.3 kg

Note *1: Paper support for rear ASF and stacker are closed. Rubber feet are included.
*2: Excluding the weight of ink cartridges and power cable.

1.2 Printing Specifications

1.2.1 Basic Specifications

Table 1-3. Printer Specifications

Item	Specification
Print method	On-demand ink jet
Nozzle configuration	Black: 384 nozzles (128 nozzles x 3) Color: 384 nozzles (128 nozzles x 1 per color)
Color	Black, Cyan, Magenta, Yellow
Print direction	Bi-directional minimum distance printing, Unidirectional printing
Print resolution	Horizontal x Vertical (dpi) • 360 x 120 • 720 x 720 • 360 x 360 • 1440 x 720 • 360 x 720 • 5760 x 1440
Control code	• ESC/P Raster command • ESC/P-R (RGB) command
Input buffer size	Printing from PC: 64 KBytes Stand-alone printing: 132 KBytes
Paper feed method	Friction feed
Paper feed amount	250 pages (plain paper*), 20 pages (photo paper), 50 pages (postcard)
Paper path	Front feed, front out
PF interval	0.01764 mm (1/1440 inch)

Note *: For paper thickness: 0.11 mm, 80 g/m^2.

1.3 Scanner Specifications (WF-7520/7510 series only)

1.3.1 Basic Specifications

Table 1-4. Basic Specifications

Item	Specification
Scanner type	Flatbed, color
Scanning method	Moving carriage, stationary document
Home position	The rear left corner
Photoelectric device	CIS
Light source	LED
Maximum document sizes	A3 or US B (tabloid)
Scanning range	11.7” x 17” (297 mm x 431.8 mm)
Maximum resolution	Main scan: 1,200 dpi Sub scan: 2,400 dpi
Maximum effective pixels	14,040 x 20,400 pixels
Pixel depth	16 bit per pixel (input) and 1 bit or 8 bit per pixel (output)

Table 1-5. ADF Specifications

Item	Specification
Document loading	Face-up
Maximum document sizes	A4 to A3/tabloid
Supported paper type	Plain paper only
Paper thickness	64 to 95 g/m^2
Maximum number of documents which can be set	30 sheets or 3 mm at maximum
Document path	Feeds from upper tray and ejects to lower tray
Document set position	Center
Auto duplex scanning*	A4 or US Letter only

Note *: WF-7520 series only

1.4 Control Panel

1.4.1 Operation Buttons

The operation buttons, LEDs, and LCD are shown below. See Table 1-6 and Table 1-7 for the functions.

☐ WF-7520/7510 series

Figure 1-2. Control Panel (WF-7520/7510 series)

Table 1-6. Operation Buttons, LEDs and LCD (WF-7520/7510 series)

Item	Icon	Name	Function
LCD			Indicates the printer status, error, and menu screen.
Button/ touch panel	⏻	Power	Turns the power on/off.
		Photo	Enters photo mode.
		Display/Crop	• Enters zoom setting screen for selected image. • Switches preview screens on LCD.
		Copy	Enters copy mode.
		Reduce/Enlarge	Specifies copy magnification.
	★★★	Quality	Specifies print quality.
		2-Sided	Specifies auto duplex print setting. (WF-7520 series only)
		Setup	Enters setup mode.
	?	Help	Displays help for solutions to problems.
		Reset	Resets the current setting and displays the home screen.
	◀▲▼▶	Arrows	• Selects menus. • Specifies the number of copies. • Moves the cursor in fax mode.
	OK	OK	Activates the setting you have selected.
		Menu	Displays detailed settings for each mode.
		Back	Cancels/returns to the previous menu.
		Stop	Stops printing.
	1-9,✱,#	Ten key	• Specifies the date/time • Specifies the number of copies • Specifies fax numbers
		Fax	Enters fax mode.
	Auto	Auto Answer	Turns on/off auto answer mode.
		Redial/Pause	• Displays the last number dialed. • Inserts a pause symbol (-) when entering numbers in fax mode.
		Speed Dial	Displays speed dial list in fax mode.
		Scan	Enters scan mode.
		Start	Starts copying in each mode.

Table 1-6. Operation Buttons, LEDs and LCD (WF-7520/7510 series)

Item	Icon	Name	Function
LED	⏻	Power	• Lights when the printer is on. • Flashes when the printer is in process.
	Wi Fi Ethernet	Network	Indicates the network connection status.
	Auto	Auto Answer	On when the fax is in auto answer mode.

Note : See "1.4.2 LEDs and LCD Indications (p16)" for more details about the LCD.

☐ WF-7010 series

Note : The WiFi logo and button on the control panel vary depending on the destinations. (See Table 1-1.)

Figure 1-3. Control Panel (WF-7010 series)

Table 1-7. Operation Buttons and LEDs (WF-7010 series)

Item	Icon	Name	Function
Button	⏻	Power	Turns the power on/off.
		Network status sheet	Prints a network status sheet.
	---	Wi-Fi	Configures the wireless network.
		Paper feed/eject	• Loads or ejects paper. • Resumes printing after a paper out error, multiple page feed error.
		Ink	• Starts ink replacement. • Starts head cleaning.
		Cancel	Cancels printing during a print job.
LED	⏻	Power	• Lights when the printer is on. • Flashes when the printer is in process.
	Wi Fi Ethernet	Network	Indicates the network connection status.
		Paper	Indicates error status for paper.
	BK Y M C	Ink*	Indicates error status for ink.

Note : See "1.4.2 LEDs and LCD Indications (p16)" for more details about the LEDs.

Note *: The corresponding color LED is indicated.

1.4.2 LEDs and LCD Indications

Table 1-8. LEDs and LCD Indications

Status		WF-7010 series				WF-7520/7510 series
		LED				LCD Message
		Power	Network	Paper	Ink	
Operating	Printer fatal error	Flash at high speed	Flash at high speed	Flash at high speed	Flash at high speed	Printer error. Turn power off and then on again. For details, see your documentation or visit Epson.com.
	Printer fatal error (paper jam)	Flash at high speed	Flash at high speed	Flash at high speed	Flash at high speed	Paper jam inside, in back, or in ADF. Press OK to see how to remove jammed paper.
	Scanner fatal error*1	---	---	---	---	Scanner error. Turn power off and then on again. In the error is not fixed, visit Epson.com for technical support.
	ADF fatal error*1	---	---	---	---	Automatic Document Feeder (ADF) error.
	ADF paper jam error*1	---	---	---	---	Paper jam in the Automatic Document Feeder (ADF).
	Waste ink pad end error	Flash*2	---	Alternate flash 1	Alternate flash 2	A printer's ink pad is at the end of its service life. Please contact Epson Support.
	Waste ink pad near end error	Flash*2	---	Alternate flash 1	Alternate flash 2	A printer's ink pad is nearing the end of its service life. Please contact Epson Support.
	Paper jam error	Flash*2	---	Flash	---	Paper jam. Press OK to see how to remove jammed paper.
	No paper cassette error	Flash*2	---	ON	---	Load Cassette correctly and press ◇ or ◇.
	Paper out error	Flash*2	---	ON	---	Paper out or paper jam. Check paper size and load paper in paper cassette.
	Multi-feed error	Flash*2	---	ON	---	Multi-page feed error. Remove and reload the paper, then press ◇ or ◇.
	Paper length mismatch error for duplex printing*3	Flash*2	---	ON	---	Incorrect paper size detected. Load correct paper size and press ◇ or ◇.
	Paper size mismatch error	Flash*2	---	ON	---	No paper source matches paper size setting. Load appropriate paper in Cassette 1. Press ◇ or ◇.
	Incorrect paper size error*1	---	---	---	---	Paper size is incorrect. Load US B 11x17in size plain paper in Cassette.
	Printer/printer driver mismatch error	Flash*2	---	Flash at high speed	Flash at high speed	Error Press ⊘ .
	Cover open error	Flash	---	Flash 2	Flash 2	Close the scanner unit.
	Ink end error	Flash*2	---	---	ON*4	You need to replace the following ink cartridge(s). <Ink Cartridges>XXXXXXX*5
	Ink cartridge detection error	Flash*2	---	---	ON*4	Cannot recognize the following cartridge(s). Try installing them again. <Ink Cartridges>XXXXXXX*5
	Ink cartridge detection error (non-Epson cartridge)	Flash*2	---	---	ON*4	Ink cartridge is not recognized. Please replace the cartridge. <Ink Cartridges>XXXXXXX*5
	No ink cartridge error	Flash*2	---	---	ON*4	The cartridge is installed incorrectly. Press it down until it clicks. <Ink Cartridges>XXXXXXX*5

Table 1-8. LEDs and LCD Indications

Status		WF-7010 series				WF-7520/7510 series
		LED				LCD Message
		Power	Network	Paper	Ink	
Operating	Starting filling of ink (after carriage moves)	Flash	---	---	---	Replace the cartridge(s) and close the scanner unit. <Ink Cartridges>XXXXXXX*5
	Ink cartridge cover open error	Flash*2	---	---	---	The ink cartridge cover is open. Close the ink cartridge cover.
	Starting initialization	Flash	---	---	---	Install the ink cartridges. See the setup sheet for details.
	Initializing	Flash	---	---	---	Initializing...Please wait. Do not turn off until initialization is complete. This takes about 7 minutes.
	Filling of ink	Flash	---	---	---	Charging ink...Please wait.
	Checking ink cartridges	Flash	---	---	---	Checking the ink cartridges...
	Drying 1st side (printing from PC)	Flash	---	---	---	Printing 2-sided document. Do not touch the paper in the output tray until printing is complete.
	Printing (PC)	Flash	---	---	---	Printing...
	Printing nozzle check pattern	Flash	---	---	---	Printing...
	Printing printer status sheet	Flash	---	---	---	Printing...
	Printing (UPNP)	Flash	Flash	---	---	Printing...
	Receiving data	Flash	Flash	---	---	Receiving data...
	Canceling (PC)*6	Flash	---	---	---	Canceling...
	Cleaning (PC)	Flash	---	---	---	Cleaning print head...Please wait.
	Print head cleaning	Flash	---	---	---	Cleaning print head...Please wait.
	Canceling nozzle check pattern print	Flash	---	---	---	Canceling...
	Canceling printer status sheet print	Flash	---	---	---	Canceling...
	Initializing network	Flash*2	Flash	---	---	---
	Waiting for network initialization	Flash*2	---	---	---	---
	Network initialization (LED ON)	OFF*2	ON	---	---	---
	Network initialization (LED OFF)	OFF*2	OFF	---	---	---
	Preparing to update firmware (cancel OK)	ON*2	Flash at high speed	---	---	Preparing to update...
	Updating firmware	Flash*7	OFF	OFF	OFF	Updating firmware...Do not turn power off. It turns off and on automatically when complete.
	Preparing to update firmware	ON*2	Flash at high speed	---	---	Preparing to update...
	Canceling firmware update	ON*2	Flash at high speed	---	---	Canceling...

Table 1-8. LEDs and LCD Indications

Status		WF-7010 series				WF-7520/7510 series
		LED				LCD Message
		Power	Network	Paper	Ink	
Operating	Powering OFF	Flash at high speed	---	---	---	Turning off...
	Powering ON	Flash	Flash	---	---	Starting up...Please wait.
	Feeding a paper (load/eject)	Flash	---	---	---	Printing...
Standby	No error	ON	---	---	---	---
	Ink level low	ON*2	---	---	Flash*4	Ink low.
	Waste ink pad near end error	ON*2	---	Alternate flash 1	Alternate flash 2	A printer's ink pad is nearing the end of its service life. Please contact Epson Support.
	Requiring ink cartridges (carriage is at the replacement position)	Flash	---	---	---	Replace the cartridge(s) and close the scanner unit. <Ink Cartridges>XXXXXXX*5
	Ink end error (during Bk mode)	ON*2	---	---	ON*4	You can temporarily copy, print and fax in B&W on plain paper on the next job.
	Ink end error (out of Bk mode)	ON*2	---	---	ON*4	You need to replace the following ink cartridge(s). <Ink Cartridges>XXXXXXX*5
	No ink cartridge error	ON*2	---	---	ON*4	The cartridge is installed incorrectly. Press it down until it clicks. <Ink Cartridges>XXXXXXX*5
	Ink cartridge detection error	ON*2	---	---	ON*4	Cannot recognize the following cartridge(s). Try installing them again. <Ink Cartridges>XXXXXXX*5
	Ink cartridge detection error (non-Epson cartridge)	ON*2	---	---	ON*4	Ink cartridge is not recognized. Please replace the cartridge. <Ink Cartridges>XXXXXXX*5
Operating/ Standby*8	When starting up	---	Flash	---	---	---
	Not connected	---	---	---	---	---
	Connected via wired LAN (with IP)	---	ON	---	---	---

Note : Flash — Turns on and off at intervals of 1.25 seconds.
Flash 2 — On for 0.5 sec., Off for 0.5 sec., On for 0.5 sec. and Off for 1.0 sec.
Flash at high speed — Turns on and off at intervals of 0.5 seconds.
Alternate flash 1 — Same as “Flash”
Alternate flash 2 — Turns on and off at intervals of 1.25 seconds.

Note *1: WF-7520/7510 series only
*2: Flashes if the status arises when printing starts or when the printer starts up, but lights if the status arises when printing is complete.
*3: WF-7520/7010 series only
*4: The corresponding ink LED flashes/lights.
*5: The corresponding ink cartridge product number is indicated.
*6: Occurs when cancelling printing from PC, UPNP printing.
*7: Lights and then flashes.
*8: This does not occur independently. Occurs together with operating or standby state.

1.5 Various Settings

1.5.1 Panel Operation

1.5.1.1 Setup Menu Configuration (WF-7520/7510 series only)

The following explains the setup menu structure and the outline of the menu functions.

Table 1-9. Setup Menu Configuration (WF-7520/7510 series only)

Menu			Description
Setup	Ink Levels	---	Displays the status of ink cartridges.
	Maintenance	Print Head Nozzle Check	Prints a nozzle check pattern.
		Print Head Cleaning	Runs a print head cleaning.
		Print Head Alignment	Prints a gap adjustment pattern.
		Ink Cartridge Replacement	Starts ink cartridge replacement.
	Printer Setup	Paper Size Loaded*1	Selects the paper size.
		Sound	Turns the sound on/off.
		Screen Saver*2	Configures the screen saver setting.
		Display Format	Specifies display format for the images in the memory card.
		Date/Time	Selects display format for data/time.
		Daylight Saving Time	Selects daylight saving time.
		Country/Region	Selects country/region.
		Language	Selects the language displayed on the LCD.
		Paper Size Notice*1	Checks the paper size and selects whether to alert users when an error occurs (Off/On).
	Wi-Fi/Network Settings	Wi-Fi Setup	Selects a connection method for wireless LAN.
		General Network Setup	Configures the general setting for network.
		Wi-Fi/Network Connection Check	• Checks the network connection status. • Prints the connection check result.
		Confirm Network Settings	• Displays the network information. • Prints a network status sheet.
	File Sharing Setup	USB	Sets the access priority when accessing the storage device connected to the USB host port to USB or Wi-Fi/Network.
		Wi-Fi/Network	
	External Device Setup	Print Settings	Configures the print and paper settings when printing an image in external device.
		Photo Adjustments	Configures the color correction for photo.
	Print Status Sheet	---	Prints a printer status sheet.
	Restore Default Settings	Reset Fax Send/Receive Settings	Initializes the fax send/receive settings.
		Reset Fax Data Settings	Deletes the fax data settings.
		Reset Wi-Fi/Network Settings	Initializes the Wi-Fi/network settings.
		Reset All except Wi-Fi/ Network & Fax Settings	Initializes the settings except Wi-Fi/network/fax settings.
		Reset All Settings	Initializes the all settings.

Note *1: WF-7520 series only
*2: Not available for some destinations.

1.5.1.2 Forced Power OFF (WF-7010 series only)

For WF-7010 series, the power can be turned off forcibly by the following panel operation. If the power is turned off forcibly, the same process of the normal power-off is executed.

☐ Operation method

1. Press the power button and then stop button, and hold down the buttons for seven seconds or more.
2. When the Power LED starts flashing, release the buttons.

1.5.1.3 Printer Status Sheet

WF-7520/7510/7010 series print the printer status sheet by the following operation.

Table 1-10. Status Sheet

Model	Procedure
WF-7520/7510 series	1. Press the setup button. 2. Select “Print Status Sheet” from the setup menu. 3. Press the OK button.
WF-7010 series	Turn the power on while pressing the paper feed/eject button.

Note : When printing the network status sheet to check the network information, follow the procedure below.
WF-7520/7510 series: Select “Wi-Fi/Network Settings” - “Confirm Wi-Fi/Network Settings”, and press the OK button. (See "1.5.1.1 Setup Menu Configuration (WF-7520/7510 series only) (p19)".)
WF-7010 series: Press the “network status sheet” button. (See "1.4.1 Operation Buttons (p14)".)

CHAPTER **2**

OPERATING PRINCIPLES

2.1 Overview

In this chapter, the product names are called as follows:
- **WF-7520 series: Epson WF-7525/Epson WF-7521/Epson WF-7520**
- **WF-7510 series: Epson WF-7515/Epson WF-7511/Epson WF-7510**
- **WF-7010 series: Epson WF-7018/Epson WF-7015/Epson WF-7012/Epson WF-7011/ Epson WF-7010**

This chapter describes the operating principles of WF-7520/7510/7010 series printer mechanism.

2.2 Motors and Sensors

The following table lists the motors and sensors of WF-7520/7510/7010 series.

☐ Printer Mechanism

Table 2-1. List of Motors & Sensors (Printer Mechanism)

Mechanism	Motor or Sensor	No.
Printhead		---
Carriage mechanism	CR Motor	A
	CR Encoder	1
	PW Sensor	2
	Cover Open Sensor	3
Paper loading/feed mechanism	PF Motor	B
	PF Encoder	4
	PE Sensor	5
	Pre-PE Sensor	6
	Paper Stopper Lever Sensor 1st	7

Figure 2-1. Motors & Sensors (Printer Mechanism)

☐ 2nd cassette (WF-7520/7010 series only)

Table 2-2. List of Motors & Sensors (2nd Cassette)

Mechanism	Motor or Sensor	No.
Paper loading/feed mechanism	Pickup Motor	A
	Pickup Encoder	1
	Paper Stopper Lever Sensor 2nd	2

Figure 2-2. Motors & Sensors (2nd Cassette)

☐ Scanner (WF-7520/7510 series only)

Table 2-3. List of Motors & Sensors (Scanner)

Mechanism	Motor or Sensor	No.
Scanner mechanism	Scanner Motor Assy	A
	CIS Unit	1

Figure 2-3. Motors & Sensors (Scanner)

Table 2-4. List of Motors & Sensors (ADF)

Mechanism	Motor or Sensor	No.
ADF mechanism	ADF Motor	A
	ADF PE Sensor	1
	ADF DOC Sensor	2
	ADF Encoder	3

Figure 2-4. Motors & Sensors (ADF)

2.3 Optical Sensor Control

WF-7520/7510/7010 series uses the optical sensor to control itself. The following describes the operating principles of optical sensor control.

☐ Control method

To ensure accurate printing, each part must be controlled to make an adequate amount (time) of movement. The optical sensors read the amount (time) of movements as follows to printer to control it for achieving accurate printing.

1. Rotates the motors for control of the printer, and transmits drive force to the each part via the gear or the timing belt.
2. The encoder reads the drive amount of each part from the scale one by one to printer to monitor that the part drives for an adequate amount (time).

☐ Controlled parts

The following table lists where the optical sensor control is used.

Table 2-5. Controlled Parts*1

Item	Motor	Scale	Encoder	Transmission method
PF/ASF (1st cassette)	PF Motor	PF Scale	PF Encoder	PF Timing Belt
CR	CR Motor	CR Scale	CR Encoder	CR Timing Belt
ASF (2nd cassette*2)	Pickup Motor	Pickup Scale	Pickup Encoder	Gear
ADF*3	ADF Motor	ADF Scale	ADF Encoder	Gear

Note *1: See Fig. 2-1 (p22) and Fig. 2-2 (p23) for the positions of the parts.
*2: WF-7520/7010 series only
*3: WF-7520/7510 series only

☐ Operating principles

The following describes the PF drive control as an example of the actual operation for the optical sensor.

The PF scale consists of light-passing and light-blocking portions on its surface, and runs through the slit between the encoder's light-emitting and light-receiving devices. While the printer is operating, the encoder always emits light from light-emitting device toward the light-receiving device, and the light-receiving device detects light when the light is transmitted through the light-passing portion of the scale, and does not detect light when the light is blocked by the light-blocking portion of the scale. According to the counts of light-detected and non detected times, the printer controls paper feed drive direction and amount.

When the encoder cannot read light-emitting/blocking counts correctly due to the misalignment, broken or contaminated scale, paper jam, foreign object and increasing a load, the fatal error occurs and the printer stops.

Figure 2-5. PF Drive Control Section

2.4 Power-On Sequence

This section describes the power-on sequences for this product. The preconditions are as follows.

- ☐ Condition 1: Normal power-on sequence (See Table 2-6.)
  - ■ Turning on the printer after turning it off without an error.
  - ■ Initial ink charge has finished and every cartridge has sufficient ink.
  - ■ No paper on the paper path.
  - ■ The Printhead is capped with the Cap of the Ink System Assy.
  - ■ The Carriage is normally fixed by the CR Lock.
- ☐ Condition 2: Power-on sequence after recovering from a paper jam error (See Table 2-7.)
  - ■ Turning on the printer after turning it off with a paper jam error.
  - ■ There still remains paper on the paper path out of the detecting area of the PE sensor.

Table 2-6. Condition 1: Normal Power-on Sequence *1

Operation*2	Carriage/PF Roller movement and position*3
1. Printhead initialization 1-1.Initializes the Printhead, and checks for the fuse on the board in the Printhead.*4	
2. Checking for waste ink overflow 2-1.Checks the waste ink counter if the waste ink overflow is occurring.	
3. Avoiding deadlock sequence *5 3-1.The carriage moves to the 0-digit side slowly and confirms it touches the Right Frame.	
3-2.The carriage slightly moves to the 130-digit side slowly.	
3-3.The PF Motor rotates clockwise, and releases the CR lock.	
4. Seeking the home position 4-1.The carriage moves to the 0-digit side slowly and confirms it touches the Right Frame. The position when it touches the Right Frame is set as the origin position temporarily.	
4-2.The carriage slowly moves to the CR lock set position.	
4-3.The PF Motor rotates counterclockwise, and sets the CR lock.	
4-4.The carriage moves to the 130-digit side slowly and confirms it touches the CR lock.	
4-5.The carriage slowly moves toward the 0-digit side and reaches the CR lock set position.	
4-6.The PF Motor rotates clockwise, and releases the CR lock.	
4-7.The carriage moves to the 130-digit side slowly and confirms it does not touch the CR lock.	
4-8.The carriage slowly moves to its home position, and the origin position is fixed. Afterward, the carriage position is monitored according to the signals from the CR Encoder.	

Table 2-6. Condition 1: Normal Power-on Sequence *1

Operation*2	Carriage/PF Roller movement and position*3
5. PF initialization 5-1.The PF Motor rotates clockwise for approximately one second.	
5-2.The PE sensor detects if paper exists*6 and the PF Motor rotates clockwise for approximately 0.5 second.	
6. Low temperature operation sequence*7 6-1.The carriage moves back and forth between the CR lock and the 130-digit side for two times.	
7. PF measurement and PW sensor initialization 7-1.The carriage slowly moves to the 130-digit side.	
7-2.The carriage moves to the VHCheck position quickly and stops; meanwhile the voltage values detected by the PW sensor at the specified three points are recorded. At the same time, the PF Motor rotates clockwise and its load is measured.	
7-3.The carriage detects the voltage of the PW sensor at the carriage stop position (the black area at the Paper Guide Front).	
7-4.The carriage returns near its home position. At the same time, the PF Motor rotates clockwise and its load is measured.	
8. Detecting ink cartridge and initializing ink system*8 8-1.After the carriage slightly moves to the 130-digit side and checks the ink end sensor, detects the ink remaining.	
8-2.The carriage slowly returns to its home position.	
8-3.The carriage slowly moves to the 0-digit side to the CR lock set position.	
8-4.The PF Motor rotates counterclockwise and sets the CR lock.	
8-5.The carriage slowly returns to its home position.	

Note *1: The PF motor drive is not transmitted to the Pickup Roller during this power-on sequence.
*2: The rotation directions of the PF Motor are as follows.
Clockwise: Paper is fed normally
Counterclockwise: Paper is fed backward
*3: The conditions of the CR lock are as follows.
Red CR lock is set
White CR lock is released
*4: The fatal error occurs if there is a problem such as the fuse blew.
*5: Confirm that the CR lock is not get stuck in the gap of the carriage or any other parts preventing the carriage from moving.
*6: Eject paper if any.
*7: Executed when the detected temperature is under 5 ^{o}C (41°F) by the thermistor on the Printhead.
*8: The empty suction operation may occur depending on situations.

Table 2-7. Condition 2: Power-on Sequence after Recovering from a Paper Jam Error

Operation	Carriage/PF Roller movement and position
Executes No.1 to No.5 on the normal power-on sequence (Table 2-6).	
6. Detecting remaining paper 6-1.The carriage moves to the 130-digit side and confirms there is no paper.*1	
6-2.The carriage quickly returns to its home position, and the paper jam error occurs again.	
When the user removes the paper and releases the paper jam error by panel operation, the normal power-on sequence from No.1 (Table 2-6) is executed again.*2	

Note *1: "Paper exists" is detected when the carriage touches the paper. When "paper does not exist" is detected, the power-on sequence of condition 1 (Table 2-6) is executed from No.6.

*2: If the paper jam error cannot be solved after repeating the power-on sequence on condition 2 (Table 2-7) twice, the printer turns into the paper jam fatal error for the third time.

CHAPTER **3**

TROUBLESHOOTING

3.1 Troubleshooting

In this chapter, the product names are called as follows:

- **WF-7520 series: Epson WF-7525/Epson WF-7521/Epson WF-7520**
- **WF-7510 series: Epson WF-7515/Epson WF-7511/Epson WF-7510**
- **WF-7010 series: Epson WF-7018/Epson WF-7015/Epson WF-7012/Epson WF-7011/ Epson WF-7010**

This section describes the error message list, troubleshooting workflow, fatal error code and FAX Troubleshooting.

3.1.1 Error Message List

Table 3-1. Error Message List

Status	WF-7010 series				WF-7520/7510 series
	LED				LCD Message
	Power	Network	Paper	Ink	
Printer fatal error	Flash at high speed	Flash at high speed	Flash at high speed	Flash at high speed	Printer error. Turn power off and then on again. For details, see your documentation or visit Epson.com.
Printer fatal error (paper jam)	Flash at high speed	Flash at high speed	Flash at high speed	Flash at high speed	Paper jam inside, in back, or in ADF. Press OK to see how to remove jammed paper.
Scanner fatal error*1	---	---	---	---	Scanner error. Turn power off and then on again. In the error is not fixed, visit Epson.com for technical support.
ADF fatal error*1	---	---	---	---	Automatic Document Feeder (ADF) error.
ADF paper jam error*1	---	---	---	---	Paper jam in the Automatic Document Feeder (ADF).
Waste ink pad end error	Flash*2	---	Alternate flash 1	Alternate flash 2	A printer's ink pad is at the end of its service life. Please contact Epson Support.
Waste ink pad near end error	Flash*2	---	Alternate flash 1	Alternate flash 2	A printer's ink pad is nearing the end of its service life. Please contact Epson Support.
Paper jam error	Flash*2	---	Flash	---	Paper jam. Press OK to see how to remove jammed paper.
No paper cassette error	Flash*2	---	ON	---	Load Cassette correctly and press or .
Paper out error	Flash*2	---	ON	---	Paper out or paper jam. Check paper size and load paper in paper cassette.
Multi-feed error	Flash*2	---	ON	---	Multi-page feed error. Remove and reload the paper, then press or .
Paper length mismatch error for duplex printing*3	Flash*2	---	ON	---	Incorrect paper size detected. Load correct paper size and press or .
Paper size mismatch error	Flash*2	---	ON	---	No paper source matches paper size setting. Load appropriate paper in Cassette 1. Press or .
Incorrect paper size error*1	---	---	---	---	Paper size is incorrect. Load US B 11x17in size plain paper in Cassette.
Printer/printer driver mismatch error	Flash*2	---	Flash at high speed	Flash at high speed	Error Press .
Cover open error	Flash	---	Flash 2	Flash 2	Close the scanner unit.
Ink end error	Flash*2	---	---	ON*4	You need to replace the following ink cartridge(s). <Ink Cartridges>XXXXXXX*5
Ink cartridge detection error	Flash*2	---	---	ON*4	Cannot recognize the following cartridge(s). Try installing them again. <Ink Cartridges>XXXXXXX*5

Table 3-1. Error Message List

Status	WF-7010 series				WF-7520/7510 series
	LED				LCD Message
	Power	Network	Paper	Ink	
Ink cartridge detection error (non-Epson cartridge)	Flash*2	---	---	ON*4	Ink cartridge is not recognized. Please replace the cartridge. <Ink Cartridges>XXXXXXX*5
No ink cartridge error	Flash*2	---	---	ON*4	The cartridge is installed incorrectly. Press it down until it clicks. <Ink Cartridges>XXXXXXX*5
Ink cartridge cover open error	Flash*2	---	---	---	The ink cartridge cover is open. Close the ink cartridge cover.

Note : Flash — Turns on and off at intervals of 1.25 seconds.
Flash 2 — On for 0.5 sec., Off for 0.5 sec., On for 0.5 sec. and Off for 1.0 sec.
Flash at high speed — Turns on and off at intervals of 0.5 seconds.
Alternate flash 1 — Same as "Flash"
Alternate flash 2 — Turns on and off at intervals of 1.25 seconds.

Note *1: WF-7520/7510 series only
*2: Flashes if the status arises when printing starts or when the printer starts up, but lights if the status arises when printing is complete.
*3: WF-7520/7010 series only
*4: The corresponding ink LED flashes/lights.
*5: The corresponding ink cartridge product number is indicated.

3.1.2 Troubleshooting Workflow

The following page describes the troubleshooting workflow. Follow the flow when troubleshooting problems.

Start

Turn on the printer

Does power-on sequence start?
- No → **Major problem without error message** → **No Power*1**
- Yes ↓

Is Power-on sequence finished without error?
- No → **1**
- Yes ↓

Standby condition

Perform "Flow A"

What is returned reason?
- Printer failure only
- ADF/Scanner unit failure ↓

Copy an image

Is scanning operation finished without trouble?
- No → **Scanner failure**
- Yes ↓

ADF failure?
- No
- Yes ↓

Copy an image by ADF

Is ADF operation finished without trouble?
- No → **ADF failure**
- Yes ↓

Finish*5

No Power*1

[Presumable Cause]
- Power Supply Unit damage
- Main Board damage

[Major Troubleshooting]
- Power Supply Unit replacement
- Main Board replacement

Scanner failure

[Presumable Cause]
- Contamination of Scanner Glass
- Contamination of Document Pad
- CIS Unit bonding failure
- CIS Unit damage
- Scanner Motor Assy damage

[Major Troubleshooting]
- Scanner Glass cleaning
- Document Pad cleaning
- Document Pad replacement
- CIS Unit replacement
- Scanner Motor Assy replacement

ADF failure

[Phenomenon]
- No paper feed
- Double feed
- Paper jam
- Paper skew

[Presumable Cause]
- Wear of Pickup Roller
- Wear of ADF Pad Assy
- Gear damage
- ADF Motor damage
- Contamination of Scanner Glass
- Paper Sheet damage
- Foreign material
- ADF Paper Guide Upper Assy damage
- Wear of paper eject roller
- ADF Sensor damage

[Major Troubleshooting]
- ADF LD Assy replacement
- ADF Pad Assy replacement
- Scanner Glass cleaning
- Paper Sheet replacement
- Foreign material removal
- ADF Unit replacement

1

Major problem with error message

Fatal error

Please refer to "3.1.3 Fatal Error Code (p33)" for troubleshooting.

Waste ink pad end error

[Occurrence Condition]
This error occurs when maintenance counter in EEPROM exceeds the specified value.

[Major Occurrence Timing]
- Power-on timing
- Print start timing
- Cleaning timing
- Ink Cartridge replacement timing

[Troubleshooting]
- Waste Ink Pad (Waste Ink Tray Assy or Paper Guide Lower Porous Pad) replacement
- Maintenance counter reset

Ink end error

[Occurrence Condition]
This error occurs when ink in Ink Cartridge is empty.

[Major Occurrence Timing]
- Power-on timing
- Print start timing
- Cleaning timing
- Ink Cartridge replacement timing
- During printing

[Troubleshooting]
- Ink Cartridge replacement

[NOTE]
If this error occurs during auto duplex print operation, printer stops and eject the paper automatically even if the printing is not completed.

Ink cartridge detection error

[Occurrence Condition]
This error occurs when Ink Cartridge data is incorrect or Ink Cartridge is not recognized correctly.

[Major Occurrence Timing]
- Power-on timing
- Print start timing
- Cleaning timing
- Ink Cartridge replacement timing

[Major Troubleshooting]
- Remove and reinstall Ink Cartridge
- Ink Cartridge replacement
- CSIC Terminal replacement
- CR Contact Module replacement
- Head FFC replacement
- Main Board replacement

No ink cartridge error

[Occurrence Condition]
This error occurs when Ink Cartridge is not installed.

[Major Occurrence Timing]
- Power-on timing

[Troubleshooting]
- Ink Cartridge installation

Cover open error*2

[Occurrence Condition]
This error occurs when Scanner Unit or Printer Cover is in open condition.

[Major Occurrence Timing]
- Power-on timing

[Major Troubleshooting]
- Scanner Unit or Printer Cover close
- Scanner Unit or Printer Cover replacement
- Cover Open Sensor replacement
- Main Board replacement

Paper jam error

Please refer to "Paper jam error" of "Error occurs in printing operation".

Flow A

Start

Print check pattern

Is printing operation finished without error?
- No
- Yes ↓

Is printing operation finished without trouble?
- No
- Yes ↓

Return previous flow

Major problem without error message

Poor Printing

[Phenomenon]
- Poor printing quality
- Ink stain on paper
- Dot missing
- Paper eject without printing

[Presumable Cause]
- Driver / Panel mis-setting
- Contamination of CR Scale
- Contamination of Printhead Cover
- Printhead damage
- Ink clogging of Printhead
- Contamination on Cap / Wiper of Ink System Assy
- Ink System Assy damage
- Float of Paper Guide Front Porous Pad
- Narrow PG
- PE Sensor Lever damage
- PE Sensor damage

[Major Troubleshooting]
- Driver / Panel re-setting
- CR Scale replacement
- Printhead Cover cleaning
- Printhead cleaning
- Ink Cartridge replacement
- Printhead replacement
- Rubber cleaning of Cap
- Ink System Assy replacement
- Paper Guide Front Porous Pad re-installation
- Printer Mechanism (Frame Base Assy) replacement
- PE Sensor Lever replacement
- PE Sensor replacement

Poor Paper Loading

[Presumable Cause]
- Use of 3rd party media
- Edge guide mis-setting
- Foreign material
- Part come-off
- Contamination of paper feed roller in Duplex Unit
- Cassette Assy damage

[Major Troubleshooting]
- Recommendation of EPSON media
- Edge guide re-setting
- Foreign material removal
- Part re-installation
- Roller replacement
- Cassette Assy replacement

Abnormal Noise

[Presumable Cause]
- Foreign material
- Insufficient grease
- Gear damage

[Major Troubleshooting]
- Foreign material removal
- Lubrication of grease
- Gear replacement

Paper jam error

[Occurrence Condition]
This error occurs when the top/bottom of paper cannot be detected by PE Sensor within the specified steps even if the paper has been fed correctly.

[Major Occurrence Timing]
- Power-on timing
- Paper loading timing
- Paper eject timing
- Auto duplex print timing*4

[Major Troubleshooting]
1. Press the "OK" button to eject the paper.
   - If succeeded
     Starts paper feeding operation again if printer has print data.
   - If failed
     Occurs paper jam error again.
2. If fail in the above 1, remove the paper by opening Scanner Unit or Printer Cover and taking off Duplex Unit.
3. Press the "OK" button again.
   - If succeeded
     Starts paper feeding operation again if printer has print data.
   - If failed
     Occurs paper jam error again.
4. Check the following if failed in Step 3.
   - Foreign material
   - Part come-off
   - PE Sensor Lever
   - PE Sensor
   - Paper Guide Front Porous Pad
   - Main board
   - Paper Stopper Assy

[NOTE]
If this error occurs during auto duplex print operation, printer stops and eject the paper automatically even if the printing is not completed. (print data of adverse side & reverse side is eliminated.)

Paper out error

[Occurrence Condition]
This error occurs when the top of paper cannot be detected by PE Sensor within the specified steps even if the paper has been fed correctly. (No paper / paper loading failed / paper is fed at slant)

[Major Occurrence Timing]
- Paper loading timing

[Major Troubleshooting]
1. Put papers in Cassette Assy and press the "OK" button.
2. If a paper stops before reaching PE Sensor, remove it and check the paper condition.
3. A) If no damage in the above 2, set edge guide correctly after putting papers in Cassette Assy and retry.
   B) If damage in the above 2, check foreign materials / parts come-off / parts transformation in paper path.
4. If the problem is not solved by 3-A & 3-B, check the following.
   - Foreign material
   - Part come-off
   - Surface condition of Pickup Roller or paper feed roller in Duplex Unit
   - PE Sensor Lever
   - PE Sensor
   - Pre-PE Sensor Lever
   - Pre-PE Sensor
   - Main Board
   - PF Motor or Pickup Motor
   - Cassette Assy
   - Paper Stopper Assy

Multi-feed error

[Occurrence Condition]
This error occurs on the following case.
- The top of paper is detected before the specified steps are reached.
- Actual paper length is longer than theoretical one.

[Major Occurrence Timing]
- Paper loading timing
- Paper feed timing
- Paper eject timing

[Troubleshooting]
- PE Sensor Lever replacement
- PE Sensor replacement
- PW Sensor replacement
- Main Board replacement

Paper length mismatch error for duplex printing

[Occurrence Condition]
This error occurs when actual paper size is not matched to theoretical one (both shorter and longer).

[Major Occurrence Timing]
- Auto duplex print timing*4

[Troubleshooting]
- PE Sensor Lever replacement
- PE Sensor replacement
- PW Sensor replacement
- Main Board replacement

No paper cassette error

[Occurrence Condition]
This error occurs when Cassette Assy cannot be detected.

[Major Occurrence Timing]
- Paper loading timing

[Troubleshooting]
- Check connection for Paper Stopper Lever Sensor cable
- Replace Paper Stopper Lever Sensor

Paper size mismatch error*3

[Occurrence Condition]
This error occurs when actual paper size is not matched to theoretical one. (shorter only)

[Major Occurrence Timing]
- Paper loading timing
- Paper feed timing
- Paper eject timing

[Troubleshooting]
- PE Sensor Lever replacement
- PE Sensor replacement
- PW Sensor replacement
- Main Board replacement

*1: If the printer can turn on but turns off right away, the protection circuit may cut off the power due to an error such as a circuit failure.
*2: For WF-7010 series, this error occurs only when the Printer Cover is opened.
*3: Only for fax printing for WF-7520/7510 series.
*4: Auto duplex printing is available only for WF-7520/7010 series.
*5: In case of "Not Trouble Found", check fatal error code.

- **This flowchart is compiled based on the following contents.**
  - **Our experience regarding the quality problem**
  - **ESK's repair data**
  - **Printer Mechanism specification for WF-7520/7510/7010 series**
- **WF-7010 series are not equipped with the Scanner / ADF unit, therefore, the troubleshooting related to the Scanner / ADF unit is not applied.**

3.1.3 Fatal Error Code

This section describes the fatal error code and the possible cause for this product.

☐ Printer fatal error list

Table 3-2. Fatal Error List (Printer)

Error type	Error code	Error name	Possible cause
DC motor error	01H	CR PID excess load error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • CR Motor failure • Carriage overload error (paper jam/foreign object) • Cable disconnection
	02H	CR PID excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt
	03H	CR PID reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Paper jam
	04H	CR PID lock error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • CR Motor failure • Carriage overload error (paper jam/foreign object) • Cable disconnection
	05H	CR PID speed degradation error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Paper jam
	08H	CR load position reverse error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Paper jam
	09H	CR load position excess speed error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt
	0AH	CR load position excess load error	• CR Encoder failure (contaminated/detached scale, Encoder Board failure) • CR Motor failure • Carriage overload error (paper jam/foreign object) • Cable disconnection
	F1H	PF PID excess load error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection
	F2H	PF PID excess speed error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt
	F3H	PF PID reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt • Paper jam
	F4H	PF PID lock error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection
	F6H	PF PID excess torque limitation error	• PF drive mechanism overload (paper jam/foreign object)

Table 3-2. Fatal Error List (Printer)

Error type	Error code	Error name	Possible cause
DC motor error	F8H	PF load position reverse error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt
	F9H	PF load position excess speed error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • Tooth skip of the PF Timing Belt • Improper tension of the PF Timing Belt
	FAH	PF load position excess load error	• PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection
	FCH	PF load position error	
	11H	ASF PID excess load error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Pickup Motor failure • Pickup drive mechanism (2nd cassette) overload (paper jam/foreign object) • Cable disconnection
	12H	ASF PID excess speed error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Pickup Motor driver failure (Main Board failure)
	13H	ASF PID reverse error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Paper jam
	14H	ASF PID lock error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Pickup Motor failure • Pickup drive mechanism (2nd cassette) overload (paper jam/foreign object) • Cable disconnection
	16H	ASF PID excess torque limitation error*	• Pickup Roller (2nd cassette) overload (paper jam/foreign object)
	18H	ASF load position reverse error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Paper jam
	19H	ASF load position excess speed error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure)
	1AH	ASF load position excess load error*	• Pickup Encoder failure (contaminated/detached scale, Encoder Board failure) • Pickup Motor failure • Pickup drive mechanism (2nd cassette) overload (paper jam/foreign object) • Cable disconnection
Motor drive time error	D1H	CR (PID) driving time error	• Main Board failure
	D2H	CR (load position) driving time error	
	D3H	PF (PID) driving time error	
	D4H	PF (BS) driving time error	
	D5H	ASF (PID) driving time error*	
	D6H	ASF (BS) driving time error*	
Printhead system error	40H	Transistor temperature error	• Main Board failure
	41H	X-Hot detect error (pre printing)	• Printhead failure • Main Board failure
	42H	X-Hot detect error (after flushing)	
	43H	Head temperature error	

Table 3-2. Fatal Error List (Printer)

Error type	Error code	Error name	Possible cause
Sequence error	50H	Home position error	• Paper jam • Foreign object • Deformation of the Main Frame
	51H	Deadlock avoidance error	
	52H	Impossible contact detection error	
	56H	Contact error at ink replacement timing (Power-off)	
	5BH	Insoluble paper jam error	• Paper jam • Foreign object
Sensor error	60H	PW detector error	• PW Sensor failure • Main Board failure
	61H	PW detector confusion error	• PW Sensor failure • Main Board failure • A piece of paper remaining • Ink contamination on the Paper Guide Front Assy
	63H	PE detector error	• PE Sensor failure • Main Board failure
Ink device error	B0H - CFH	Ink device error	• Ink Cartridge failure • CSIC Terminal failure • CR Contact Module failure • Main Board failure
Circuit error	80H	Circuit error (include blowout of a fuse)	• Main Board failure

Note *: WF-7520/7010 series only

☐ Scanner/ADF fatal error list (WF-7520/7510 series only)

Table 3-3. Fatal Error List (Scanner/ADF)

Error code	Error name	Possible cause
01H	ADF PID excess speed error	• ADF Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure)
02H	ADF PID reverse error	• ADF Encoder failure (contaminated/detached scale, Encoder Board failure) • Paper jam
03H	ADF PID lock error	• ADF Encoder failure (contaminated/detached scale, Encoder Board failure) • ADF Motor failure • ADF drive overload (paper jam/foreign object) • Cable disconnection
04H	ADF PID acceleration lock detection error	
05H	ADF PID excess load error	
06H	ADF PID driving time error	• Main Board failure
09H	ADF BS+ excess speed error	• ADF Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure)
0AH	ADF BS+ reverse error	• ADF Encoder failure (contaminated/detached scale, Encoder Board failure) • Paper jam
0BH	ADF BS+ lock error	• ADF Encoder failure (contaminated/detached scale, Encoder Board failure) • ADF Motor failure • ADF drive overload (paper jam/foreign object) • Cable disconnection
0DH	ADF BS+ excess load error	
0EH	ADF BS+ driving time error	• Main Board failure
10H	Scanner HP detection error	• CIS Unit failure • Scanner Housing failure • Main Board failure
20H	Scanner LED light error	• CIS Unit failure • Main Board failure
30H	ADF option error	• Main Board failure
36H	ADF paper jam error	• Paper jam

3.1.4 FAX Troubleshooting (WF-7520/7510 series only)

3.1.4.1 FAX Log

When an error related to fax occurs, it is not only indicated on the LCD but also saved as a log file. The error code is recorded in it, and according to this log, the contents of the error can be confirmed.

Table 3-4. FAX Log (1)

<table>
<tr><th>Log Name</th><th>Description</th><th>Save Destination</th></tr>
<tr><td>Latest log*1
(Last Transaction)</td><td>The latest communication log of sending / polling reception</td><td>Nonvolatile memory</td></tr>
<tr><td>Communication log
(Fax Log)</td><td>The following information is stored.
<table>
<tr><th>Item</th><th>Information</th></tr>
<tr><td>Communication start date / time</td><td>Year/month/day/hour/minute</td></tr>
<tr><td>Communication type</td><td>Sending/receiving/polling reception</td></tr>
<tr><td>Communication ID</td><td>Sending/polling reception:
• Destination name of speed dial (first 20 characters)
• Telephone number (last 20 characters)
• Destination fax ID (20 characters)
Receiving:
• Destination fax ID (20 characters)</td></tr>
<tr><td>Airtime</td><td>Hour/minute/second</td></tr>
<tr><td>Communication pages</td><td>0 to 100</td></tr>
<tr><td>Communication result</td><td>Common:
Normal/cancel/error code*
Sending/polling reception:
No dial tone detected/No fax signal detected/Busy tone detected</td></tr>
</table>
Note *: For error codes, see Table 3-6. Error Code List (p.38).</td><td>Nonvolatile memory</td></tr>
<tr><td>Power failure log*2
(Fax Log)</td><td>The information stored in this log is the same as the communication log. However, since the airtime is “Unknown” in this case, the result of it is recorded as “power failure”.</td><td>Nonvolatile memory</td></tr>
</table>

Note *1: The latest communication log for all destinations are printed in a list form when the sequential broadcast is executed. Cancellation is treated as a normal termination, therefore, if it is cancelled, the latest log is printed when the auto print setting is “always print”, and not printed when the setting is “only when an error occurs”. If “only when an error occurs” is selected, the log is printed even when an error occurs for just one destination.

*2: The power failure log when the sequential broadcast is being executed is not printed for the destinations to which the transmission log is already complete then. If the power failure occurs before the scheduled sending time when a broadcast is scheduled, the scheduled sending time is recorded.

The communication log is not stored under the following conditions:

- **When the sending operation is canceled while storing B&W image or waiting for redialing.**
- **In the case of a power failure during the operation of sending/polling reception including waiting status for redial, or during receive operation.**
- **When the receiving operation is canceled before the fax signal is detected.**
- **If the fax signal is not detected during receiving operation.**
- **If cancelled during the sequential broadcast.**
  (The log for the destinations of “not dialed yet” or “waiting for re-dial” is not saved except for those of which the communication is complete.)

Table 3-5. FAX Log (2)

<table>
<tr><th>Log Name</th><th>Description</th><th>Save Destination</th></tr>
<tr><td>Protocol trace</td><td>The following information of the latest communication is stored.
<table>
<tr><th>Item</th><th>Information</th></tr>
<tr><td>Communication start date / time</td><td>Year/month/day/hour/minute</td></tr>
<tr><td>Communication type</td><td>Sending/receiving/polling reception</td></tr>
<tr><td>Communication ID</td><td>Sending/polling reception:
• Destination name of speed dial (first 20 characters)
• Telephone number (last 20 characters)
• Destination fax ID (20 characters)
Receiving:
• Destination fax ID (20 characters)</td></tr>
<tr><td>Airtime</td><td>Hour/minute/second</td></tr>
<tr><td>Communication pages</td><td>0 to 100</td></tr>
<tr><td>Communication result</td><td>Common:
Normal/cancel/error code
Sending/polling reception:
No dial tone detected/No fax signal detected/Busy tone detected</td></tr>
<tr><td>Diagnosing code</td><td>10 bytes</td></tr>
<tr><td>Protocol data</td><td>The latest 43 commands/responses*
• Time stamp
• Sending / receiving
• Command /response code
(See Table 3-7. Command/Response Code (p.40))
• FCF/FIF (first 33 octets).</td></tr>
</table>
Note *: If a large amount of FIF is received, the recorded command/response may be less than 40.</td><td>Volatile memory</td></tr>
</table>

☐ Error codes

Table 3-6. Error Code List

Error Code (HEX)	Phenomenon	LCD Display	Print Example
000	Successful completion (Monochrome)	Complete	OK
C000	Successful completion (Color)	Complete	OK Color
400	Communication error	Communication error	Error code
401	Communication error	Communication error	Error code
402	Communication error	Communication error	Error code
403	Communication error	Communication error	Error code
404	Communication error	Communication error	Error code
405	Communication error	Communication error	Error code
407	Communication error	Communication error	Error code
408	Communication error	Communication error	Error code
409	Communication error	Communication error	Error code
410	Communication error	Communication error	Error code
412	Communication error	Communication error	Error code
416	Communication error	Communication error	Error code
417	Communication error	Communication error	Error code
418	Communication error	Communication error	Error code
420	Fax signal was not detected during receive operation. (The call was a telephone call)	Not displayed	---
421	Communication error	Communication error	Error code
422	Communication error	Communication error	Error code
427	Communication error	Communication error	Error code
433	Communication error	Communication error	Error code

Table 3-6. Error Code List

Error Code (HEX)	Phenomenon	LCD Display	Print Example
434	Communication error	Communication error	Error code
436	Communication error	Communication error	Error code
459	Communication error	Communication error	Error code
490	Communication error	Communication error	Error code
494	Communication error	Communication error	Error code
495	Communication error	Communication error	Error code
496	Communication error	Communication error	Error code
501	Communication error	Communication error	Error code
502	Communication error	Communication error	Error code
503	Communication error	Communication error	Error code
504	Communication error	Communication error	Error code
505	Communication error	Communication error	Error code
540	Communication error	Communication error	Error code
541	Communication error	Communication error	Error code
542	Communication error	Communication error	Error code
543	Communication error	Communication error	Error code
544	Communication error	Communication error	Error code
550	Communication error	Communication error	Error code
554	Communication error	Communication error	Error code
620	Communication error	Communication error	Error code
621	Communication error	Communication error	Error code
623	Communication error	Communication error	Error code
624	Communication error	Communication error	Error code
630	A busy tone was detected after dialing	Talking (Line Busy)	Talking (Line Busy)
631	Communication error	Communication error	Error code
632	Communication error	Communication error	Error code
633	Communication error	Communication error	Error code
634	A fax signal was not detected for a given length of time after dialing	No Answer	No Answer
637	A dial tone was not detected before dialing	No Dial Tone	No Dial Tone
638	A power failure occurred during communication	Not displayed	Power Fail
700	The communication was canceled by an operation	Canceled	Canceled
706	System error	System Error	Error code
709	Communication error	Communication error	Error code
815	Communication error	Communication error	Error code
870	The image memory is full	Memory Full	Memory Full
871	The maximum number of files was exceeded	Error code	Error code
873	Communication error	Communication error	Error code
874	Communication error	Communication error	Error code
875	Communication error	Communication error	Error code
880	System error	System Error	Error code
881	System error	System Error	Error code
882	System error	System Error	Error code
883	System error	System Error	Error code
884	System error	System Error	Error code
928	Collision (A call signal was detected when shifting to dial operation)	Not displayed	---
F0B	Communication error	Communication error	Error code
F1E	Communication error	Communication error	Error code
F20	Communication error	Communication error	Error code
F21	System error	System Error	Error code

Table 3-6. Error Code List

Error Code (HEX)	Phenomenon	LCD Display	Print Example
F23	Communication error	Communication error	Error code
F24	Communication error	Communication error	Error code
F25	Communication error	Communication error	Error code
F27	System error	System Error	Error code
F28	System error	System Error	Error code
F29	Communication error	Communication error	Error code
F2A	Communication error	Communication error	Error code
F2B	No image data for reprint exists	No Image	---
F2F	System error	System Error	Error code
F3A	Communication error	Communication error	Error code
F51	System error	System Error	Error code
F57	Communication error	Communication error	Error code
F58	Communication error	Communication error	Error code
F59	System error	System Error	Error code
F60	A scanner fatal error occurs	Same message when a scanner fatal error occurred*	Error code
F61	A printer fatal error occurs	Same message when a printer fatal error occurred*	Error code
F62	Reserved	---	Error code
F63	ADF misfeed or paper jam occurred	Same message when an ADF fatal error occurred*	ADF Jam
F64	The memory for printing received image is full	Error code	Error code

Note *: Confirm the fatal error code with the Adjustment Program to check which error occurred. (See " 3.1.3 Fatal Error Code (p33)".)

☐ Command/response code

Table 3-7. Command/Response Code

Command/response code	FCF value (HEX) (LSB first: X=0)		Content
	First	Second	
DIS	80	-	Digital Identification Signal
CSI	40	-	Called Subscriber Identification
NSF	20	-	Non-Standard Facilities
DTC	81	-	Digital Transmit Command
CIG	41	-	CallInG subscriber identification
NSC	21	-	Non-Standard facilities Command
PWD	C1	-	PassWorD
SEP	A1	-	Selective Polling
Reserved (PSA)	61	-	Polled SubAddress
Reserved (CIA)	E1	-	Calling subscriber Internet Address
Reserved (ISP)	11	-	Internet Selective Polling address
DCS	82	-	Digital Command Signal
TSI	42	-	Transmitting Subscriber Identification
NSS	22	-	Non-Standard facilities Set-up
SUB	C2	-	SUBaddress
SID	A2	-	Sender IDentification
TRN	E6	-	Training
TCF	F0	-	Training Check
CTC	12	-	Continue To Correct
Reserved (TSA)	62	-	Transmitting Subscriber internet Address
Reserved (IRA)	E2	-	Internet Routing Address
CFR	84	-	ConFirmation to Receive

Table 3-7. Command/Response Code

Command/response code	FCF value (HEX) (LSB first: X=0)		Content
	First	Second	
FTT	44	-	Failure To Train
CTR	C4	-	Response for Continue To correct
Reserved (CSA)	24	-	Called Subscriber internet Address
EOM	8E	-	End Of Message
MPS	4E	-	MultiPage Signal
EOP	2E	-	End Of Procedure
PRI-EOM	9E	-	Procedure Interrupt-End Of Message
PRI-MPS	5E	-	Procedure Interrupt-MultiPage Signal
PRI-EOP	3E	-	Procedure Interrupt-End Of Procedure
Reserved (EOS)	1E	-	End Of Selection
PPS-EOM	BE	8E	Partial Page Signal-End Of Message
PPS-MPS	BE	4E	Partial Page Signal-MultiPage Signal
PPS-EOP	BE	2E	Partial Page Signal-End Of Procedure
PPS-PRI-EOM	BE	9E	Partial Page Signal-Procedure Interrupt- End Of Message
PPS-PRI-MPS	BE	5E	Partial Page Signal-Procedure Interrupt- MultiPage Signal
PPS-PRI-EOP	BE	3E	Partial Page Signal-Procedure Interrupt- End Of Procedure
PPS-EOS	BE	1E	Partial Page Signal-End Of Selection
PPS-NULL	BE	00	Partial Page Signal-partial page boundary
EOR-EOM	CE	8E	End Of Retransmission-End Of Message
EOR-MPS	CE	4E	End Of Retransmission-MultiPage Signal
EOR-EOP	CE	2E	End Of Retransmission-End Of Procedure
EOR-PRI-EOM	CE	9E	End Of Retransmission-Procedure Interrupt-End Of Message
EOR-PRI-MPS	CE	5E	End Of Retransmission-Procedure Interrupt-MultiPage Signal
EOR-PRI-EOP	CE	3E	End Of Retransmission-Procedure Interrupt-End Of Procedure
EOR-EOS	CE	1E	End Of Retransmission-End Of Selection
EOR-NULL	CE	00	End Of Retransmission- partial page boundary
RR	6E	-	Receive Ready
MCF	8C	-	Message ConFirmation
RTP	CC	-	ReTrain Positive
RTN	4C	-	ReTrain Negative
PIP	AC	-	Procedure Interrupt Positive
PIN	2C	-	Procedure Interrupt Negative
PPR	BC	-	Partial Page Request
RNR	EC	-	Receive Not Ready
ERR	1C	-	Response for End of Retransmission
Reserved (FDM)	FC	-	File Diagnostic Message
DCN	FA	-	DisCoNnect
CRP	1A	-	Command RePeat
Reserved (FNV)	CA	-	Field Not Valid
PIX	FF	-	PIXel image
Space	Other combinations		Unknown command/response

3.1.4.2 Error Code/Superficial Phenomenon-Based Troubleshooting

This section explains the troubleshooting procedures based on the error codes and superficial phenomenon.

- **When an error occurs, it may be displayed on the LCD panel with a message instead of an error code. To check the error code, print out a fax log.**
- **If the problem is not solved even after carrying out the remedy shown in the Table 3-8, print out a protocol trace to analyze the cause of the error.**

Table 3-8. Troubleshooting Based on the Error Code/Superficial Phenomenon

Error code (LCD Message)/Phenomenon	Description	Remedy
Communication Error (The error is indicated with error code on the fax log.)	Communication error	Turn off v.34 and try again. Turn off ECM and try again. When using xDSL, check the connection from “Line” jack to the fax via the xDSL splitter. When using TAM, check the connection from “Line” jack to the TAM via the fax. Check if the telephone line makes any sounds.
Line Busy	The line is busy.	Try again later.
No answer	The other end of the line does not answer.	Check the number and dial again.
	The other end of the line answered but no answer tone is detected.	
Power fail	Power failure occurred during sending/receiving/printing/ redialing.	Confirm the P/S Board Connector Cable or P/S Board is not damaged, and retry.
706,880-884,F21,F27-F28,F2F,F51,F59	A system error (fax circuit failure) occurs	Replace the FAX board with a new one.
Memory full	Out of Memory	Ask the sender to resend the fax in several batches.
871	Maximum number of files is exceeded	
F60	A scanner fatal error occurred	• See Table 3-2 "Fatal Error List (Printer)" (p.33). • See Table 3-3 "Fatal Error List (Scanner/ADF)" (p.36).
F61	A printer fatal error occurred	
F62	Reserved	---
F63	ADF document mis-feed or paper jam occurs	• Set the documents and try again. • If a paper jam error occurs, remove the jammed paper and try again.
F64	The memory for printing received image is full	Ask the sender to resend the fax in several batches.
Cannot receive faxes	The telephone cable is not connected properly.	Connect the telephone cable properly.
	The telephone line is not working.	Verify if the phone line works by connecting to a phone to it.
	Auto answer is set to “N”.	Set to “Y”.
	DRD setting is incorrect.	Set the setting to “ALL” and try again. Should other ring patterns be selected, contact the telephone company.
	Calling signal cannot be detected.	Contact the telephone company or obtain the fax log for more analysis.
Cannot dial	The telephone cable is not connected properly.	Connect the telephone cable properly.
	The telephone line is not working.	Verify if the phone line works by connecting to a phone to it.
	Pulse/Tone dial setting error	Turn the setting to the other one and try again.
Cannot receive/send faxes in color	ECM is set to off.	Set to on and try again.
	Fax mode is set to “B&W only”.	Set to “B&W/Color”.

Table 3-8. Troubleshooting Based on the Error Code/Superficial Phenomenon

Error code (LCD Message)/Phenomenon	Description	Remedy
Cannot print all the received data when printing data stored in memory	The size of the memory is 2.0 Mbyte. If the data becomes over the set threshold, oldest data are deleted to make room for new ones.	Ask the sender to resend the data if necessary because the data deleted from the memory can not be restored.
Images run off the paper	Auto reduction is set to off.	Set auto reduction to on and reprint the data.
	Paper size setting does not match the size of the received data.	Choose the correct setting and reprint the data.
	Paper size setting does not match the size of papers in the tray.	Choose the correct setting or load correct sized papers in the tray and reprint the data.

CHAPTER **4**

DISASSEMBLY/REASSEMBLY

4.1 Overview

In this chapter, the product names are called as follows:
- **WF-7520 series: Epson WF-7525/Epson WF-7521/Epson WF-7520**
- **WF-7510 series: Epson WF-7515/Epson WF-7511/Epson WF-7510**
- **WF-7010 series: Epson WF-7018/Epson WF-7015/Epson WF-7012/Epson WF-7011/ Epson WF-7010**

This chapter describes procedures for disassembling the main parts/units of WF-7520/7510/7010 series. Unless otherwise specified, disassembled parts/units can be reassembled by reversing the disassembly procedure. See the cautions or tips for disassembly/reassembly described in "4.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p55)".
Read the "Safety Precautions (p3)" before disassembling and reassembling.
When you have to remove units or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

4.1.1 Tools

Use only specified tools to avoid damaging the printer.

Name	Availability	EPSON Part Code
(+) Phillips screwdriver #1	O	1080530
(+) Phillips screwdriver #2	O	---
Flathead screwdriver	O	---
Flathead Precision screwdriver #1	O	---
Tweezers	O	---
Longnose pliers	O	---
Acetate tape	---	1003963
Nippers	O	---

Note 1: Some of the tools listed above are commercially available.
2: EPSON provides the tools listed with EPSON part code.

4.1.2 Jigs

Name	Quantity	EPSON Part Code
Thickness gauge (1.5 mm)	2	Commercially available
Thickness gauge (1.9 mm)	2	Commercially available
Sonic tension gauge	1	1294120

4.2 Disassembly/Reassembly Procedures

4.2.1 Parts/Units Need to be Removed in Advance

In "4.2.2 Disassembling Flowchart (p48)", the procedures are indicated on the premise that some parts/units are removed in advance. Make sure to remove the following parts/units before starting disassembly.

☐ Cassette Assy 1st / 2nd

Figure 4-1. Removing the Cassette Assy 1st/2nd

☐ Duplex Unit

Figure 4-2. Removing the Duplex Unit

This section describes procedures for disassembling the parts/units in a flowchart format. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and assembling procedure. (See "4.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p55)".)
For routing cables, see "4.4 Routing FFCs/cables (p63)".

The example below shows how to see the charts on the following pages.

Item		Description	Reference
Parts/unit name	White-letter	Part/unit supplied as an ASP	---
	Black-letter	Part/unit not supplied as an ASP	---
Icon		Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
		Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	Indicates the reference page in blue-letter
		Indicates necessary check items in the disassembling/ assembling procedure.	Indicates the reference page in blue-letter
		Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
		Indicates particular tasks to keep quality of the units are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
		Indicates particular adjustment(s) is/are required.	Chapter 5 "Adjustment (p68)"
		Indicates lubrication is required.	Chapter 6 "Maintenance (p79)"
		Indicates the number of screws securing the parts/ units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

4.2.2 Disassembling Flowchart

4.2.2.1 Exterior Parts

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

Flowchart 4-1. Disassembling Flowchart (1)

Flowchart 4-2. Disassembling Flowchart (2)

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

WF-7520/7510 series specific parts/unit

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

Flowchart 4-3. Disassembling Flowchart (3)

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

Flowchart 4-4. Disassembling Flowchart (4)

4.2.2.2 Printer Mechanism

Note "*1": Only Cartridge Cover Hinge is supplied as an ASP.
"*2": WF-7520/7510 series only

When removing the component parts of the CR Assy (w/ CR Guide Plate), make sure to remove the following parts in advance.

- **Cartridge Cover Hinge / Cartridge Cover**
- **I/C Guide**
- **Head FFC Cover**
- **Holder Board Assy**
- **Printhead**

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

Flowchart 4-5. Disassembling Flowchart of Printer Mechanism (1)

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

Common parts/unit

WF-7520/7010 series specific parts/unit

WF-7520/7510 series specific parts/unit

Flowchart 4-6. Disassembling Flowchart of Printer Mechanism (2)

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x10 F/ZB-3C	6 ± 1 kgf·cm
S2	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S3	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgf·cm
S4	C.B.P-TITE SCREW 2x8 F/ZN-3C	2 ± 0.5 kgf·cm
S5	C.B.P-TITE SCREW 2.5x8 F/ZN-3C	4 ± 1 kgf·cm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	8 ± 1 kgf·cm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	8 ± 1 kgf·cm
S8	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	5.5 ± 0.5 kgf·cm
S9	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S10	C.B.S-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgf·cm
S11	C.P.SCREW 2.5x6 F/ZN-3C	2 ± 0.5 kgf·cm
S12	C.P.SCREW 3x4 F/ZN-3C	2 ± 0.5 kgf·cm
S13	C.P.SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S14	C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C	6 ± 1 kgf·cm
S15	C.P.SCREW 3x4 F/ZN-3C	6 ± 1 kgf·cm
S16	C.B.S-TITE SCREW 3x6 F/ZB-3C	6 ± 1 kgf·cm
S17	C.B.P-TITE SCREW 3x8 F/ZN-3C	5.5 ± 0.5 kgf·cm
S18	C.B.P-TITE SCREW 2.6x5 F/ZN-3C	2 ± 0.5 kgf·cm
S19	C.B.P-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgf·cm
S20	C.B.P-TITE SCREW 3x8 F/ZN-3C	5 ± 1 kgf·cm

Flowchart 4-7. Disassembling Flowchart of Printer Mechanism (3)

4.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit

USB Cover (WF-7520/7510 series)

Be careful not to damage the hooks (x6) that secure the USB Cover.

When removing the USB Cover, follow the procedure below.

1. Remove the screws (x2) that secure the USB Cover.
2. Release the hooks (x6) of the USB Cover by sliding it in the direction of the arrow shown above, and then remove the USB Cover.

Tighten the screws in the order indicated in the figure above.

USB Cover (WF-7010 series)

Be careful not to damage the hooks (x6) that secure the USB Cover.

When removing the USB Cover, follow the procedure below.

1. Lift the section A of the USB Cover using a flathead screwdriver or a similar tool.
2. Slide it in the direction of the arrow to release the hooks (x6), and then remove the USB Cover.

Waste Ink Tray Assy

For WF-7520/7010 series, the depth of the hole on the bottom of the printer for the Waste Ink Tray Assy attachment differ because of the 2nd Bin Base Assy, but the disassembly procedure is the same as that of WF-7510 series.

When installing the Waste Ink Tray Assy, follow the procedure below.

1. Align the ribs (x2) on both sides of the Waste Ink Tray Assy with the grooves (x2) of the Frame Base Assy, and insert the Waste Ink Tray Assy from the bottom of the Frame Base Assy.
2. Slide the Waste Ink Tray Assy in the direction of the arrow to engage the dowels (x2) of the Waste Ink Tray Assy with the positioning holes (x2) of the Frame Base Assy.
3. Secure the Waste Ink Tray Assy with the screw (x1).

Waste Ink Tray Cover (WF-7520/7010 series)

When removing the Waste Ink Tray Cover, remove the screw (x1) and slide the Waste Ink Tray Cover in the direction of the arrow to release the hooks (x5).

Pickup Assy 1st / 2nd

When removing the Pickup Assy 1st / 2nd, follow the procedure below.

1. Release the Pickup Assy 1st / 2nd from the Pickup Escape Lever.
2. Remove the screws (x1 each) that secure the Pickup Assy 1st / 2nd.
3. Pickup Assy 1st: Release the hook of the Spur Gear 32 and remove the Spur Gear 32 from the Pickup Driven Shaft, and then pull out the shaft from the hole of the Frame Base Assy, and remove the Pickup Assy 1st.
4. Pickup Assy 2nd: Remove the Pickup Driven Shaft from the Spur Gear 16, and remove the Pickup Assy 2nd from the 2nd Bin Base Assy.

Housing Left/Housing Right (WF-7520/7510 series)

- Be careful not to damage the hooks (x3 each) and ribs (x5 each) that secure the Housing Left/Housing Right.
- When installing the Housing Left, be careful no to catch the Cover Open Sensor cable and Panel FFC.

When removing/installing the Housing Left/Housing Right, do it with the Panel Unit open.

Housing Upper (WF-7520/7510 series)

C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

Tighten the screws in the order indicated in the figure above.

Panel Unit (WF-7520/7510 series)

○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When removing the Panel Unit, follow the procedure below.

1. Disconnect the Panel FFC from the connector on the Main Board. (p 63)
2. Remove the screws (x3) with the Panel Unit open.
3. Turn the Panel Unit in the direction of the arrow to release the hooks (x1 each) of the Panel Shaft Holders from the Housing Upper, then remove the Panel Unit.

Secure the hooks of the Panel Shaft Holders firmly to the Housing Upper, and tighten the screws in the order indicated in the figure above.

Panel Housing Lower

○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When installing the Panel Housing Lower, route the Panel FFC through the hole of the Panel Housing Lower, and then tighten the screws in the order indicated in the figure above.

Panel Unit / Decoration Plate (WF-7010 series)

- When removing the Decoration Plate, release the hooks (x4) that secure the Decoration Plate.
- When removing the Panel Unit, turn the Panel Unit in the direction of the arrow to release the dowels (x2), and then remove the Panel Unit.

Lower Case

The Lower Case is installed to the Frame Base Assy for WF-7510 series and to the 2nd Bin Base Assy for WF-7520/7010 series, so the order to tighten the screws differs between them. Refer to the figure above when removing and installing the Lower Case.

Tighten the screws in the order indicated in the figure above.

Panel Board (WF-7520/7510 series)

□ Dowel and positioning hole

○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When installing the Panel Board, align the positioning holes (x4) of the Panel Board with the dowels (x4) of the Panel Housing Upper, and then tighten the screws in the order indicated in the figure above.

LCD Unit (WF-7520/7510 series)

○ C.B.P-TITE SCREW 2x8 F/ZN-3C (2 ± 0.5 kgf·cm)

When handling the LCD Unit, be careful not to touch the LC Board and LCD FPC with bare hands.

When installing the LCD Unit, align the positioning holes (x2) of the LCD Unit with the dowels (x2) of the Panel Housing Upper Assy, and then tighten the screws in the order indicated in the figure above.

Document Pad (WF-7520/7510 series)

- Attach double-sided tape on the pieces of sponge on the Document Pad indicated in green in the figure above, and attach the Document Pad to the ADF Unit.
- When attaching the Document Pad, align the cut section of the Document Pad with the front right on the bottom of the ADF Unit.
- After attaching the Document Pad, make sure the Document Pad is attached within the standard line shown above and the sponge pieces are not sticking out from the Document Pad.

ADF Unit (1) (WF-7520/7510 series)

The figures above indicate the hooks, dowels and cutouts that secure the parts and units.

ADF Unit (2) (WF-7520/7510 series)

The figures above indicate the hooks, dowels, positioning holes and screws that secure the parts and units.

ADF Cover (WF-7520/7510 series)

○ C.B.P-TITE SCREW 3x8 F/ZN-3C (6 ± 1 kgf·cm)

Tighten the screws in the order indicated in the figure above.

ADF LD Assy (WF-7520/7510 series)

If the Cover Lock Release Link, the Cover Lock Release Middle Link or the Cover Lock Release Rear Link comes off when removing the ADF LD Assy, attach it back as shown above.

Main Board Unit

Do not damage or contaminate the MAC Address Label.

When replacing the Main Board, it is necessary to set the MAC address if the EEPROM data cannot be read out from the old Main Board. In such a case, refer to "5.2.4 MAC Address Setting (p78)" and set it.

Wireless LAN Module

○ C.B.S-TITE SCREW 3x6 F/ZN-3C (6 ± 1 kgf·cm)

Tighten the screws in the order indicated in the figure above.

Shield Plate Upper (w/ Wireless LAN Module)

WF-7520 series / WF-7510 series

○ C.B.S-TITE SCREW 3x6 F/ZN-3C (6 ± 1 kgf·cm)
○ C.P.SCREW 2.5x6 F/ZN-3C (2 ± 0.5 kgf·cm)
○ C.P.SCREW 3x4 F/ZN-3C (2 ± 0.5 kgf·cm)
○ C.B.S-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

WF-7010 series

○ C.B.S-TITE SCREW 3x6 F/ZN-3C (6 ± 1 kgf·cm)
○ C.P.SCREW 3x4 F/ZN-3C (2 ± 0.5 kgf·cm)
○ C.B.S-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

Tighten the screws in the order indicated in the figure above.

Ink System Assy

○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)
○ C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)
P.W. 3.5X0.5X12 F/ZN-3C

- Align the dowels A to dowel D of the Ink System Assy with the hole A to hole D of the Frame Base Assy, and install the Ink System Assy to the Frame Base Assy.
- Insert the Waste Ink Tube to the hole of the Frame Base Assy up to 8 ± 1 mm from the end of the tube.

Paper Stopper Assy 1st / 2nd (1)

If any of the parts of the Paper Stopper Assy 1st/2nd comes off when removing it, be sure to reassemble the Paper Stopper Assy 1st/2nd as shown above.

Paper Stopper Assy 1st / 2nd (2)

Tighten the screws in the order indicated in the figure above.

Paper Guide Stopper Assy 1st

Dowel and positioning hole

C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When installing the Paper Guide Stopper Assy 1st, align the dowels (x4) of the Frame Base Assy with the positioning holes (x4) of the Paper Guide Stopper Assy 1st, and then tighten the screws in the order indicated in the figure above.

Paper Guide Stopper Assy 2nd (WF-7520/7010 series)

Dowel and positioning hole

C.B.P-TITE SCREW 3x10 F/ZN-3C (6 ± 1 kgf·cm)

When installing the Paper Guide Stopper Assy 2nd, align the dowels (x4) of the 2nd Bin Base Assy with the positioning holes (x4) of the Paper Guide Stopper Assy 2nd, and then tighten the screws in the order indicated in the figure above.

HS Support Plate Grounding Spring

When attaching the HS Support Plate Grounding Spring, follow the procedure below.

1. Insert the spring leg A of the HS Support Plate Grounding Spring into the hole of the Paper Guide Front Assy.
2. Route the HS Support Plate Grounding Spring through the hook then under the rib of the Star Wheel Assy, and install the Star Wheel Assy to the Paper Guide Front Assy. (p 59)
3. Install the Front Frame Assy. (p 60)
4. Engage the spring leg B of the HS Support Plate Grounding Spring onto the hook of the Front Frame Assy. After installation, confirm the HS Support Plate Grounding Spring touches the EJ Roller Shaft.

Star Wheel Assy

C.B.P-TITE (S-P1) SCREW 3x12 F/ZN-3C (6 ± 1 kgf·cm)

- Before installing the Star Wheel Assy, attach the HS Support Plate Grounding Spring to the hook of the Star Wheel Assy. (p 59)
- Tighten the screws in the order indicated in the figure above.

CR Scale / Torsion Spring 7.13

- Install the CR Scale with the black mark section on the top left.
- Make sure to put the CR Scale through the slit of the CR Encoder.
- When attaching the Torsion Spring 7.13, follow the procedure below.
  1. Attach the Torsion Spring 7.13 to the CR Guide Plate, and hook the shorter leg of the Torsion Spring 7.13 on the CR Scale.
  2. Hook the longer leg of the Torsion Spring 7.13 to the cutout of the Main Frame to complete the Torsion Spring 7.13 attachment.

CR Assy (w/ CR Guide Plate)

When removing the CR Assy (w/ CR Guide Plate) with the Printhead installed on the CR Unit, be careful not to damage the nozzle plate surface of the Printhead.

When removing the CR Assy (w/ CR Guide Plate), follow the procedure below.

1. Move the CR Unit to the center of the printer.
2. Release the Head FFC from the hooks (x4) of the Front Frame, and remove the Head FFC Holder from the Front Frame. (p 65)
3. Remove the screws (x3) that secure the CR Guide Plate, and remove the CR Assy (w/ CR Guide Plate) from the Frame Base Assy.

Secure the Washer 3.3x0.5x10, Disk Spring 5.3x0.1x7.4 and Washer 3.3x0.5x8 in the order shown above with the screw A.

Main Frame Assy

When removing the Main Frame Assy, follow the procedure below.

1. Slide the D/E Lever toward the 0-digit side to align the D/E Lever with the cutout of the Main Frame, and remove the D/E Lever from the Main Frame.
2. Release the CR Motor cable from the hooks (x3) and ribs (x2) of the Frame Base Assy. (p 63)
3. Remove the screws (x4) that secure the Main Frame Assy, and remove the Main Frame Assy from the Frame Base Assy.

Secure the Washer 3.3x0.5x8, Washer 5.2x0.5x9.5 and Disk Spring 5.3x0.1x7.4 in the order shown above with the screw A.

Printhead

For WF-7520/7510/7010 series, the structure of the frame supporting the CR Unit has been changed, therefore, there is no need to use the printhead supporting tool used for Epson WorkForce 840/Epson Stylus Office BX925FWD and so on when reassembling the Printhead.

When installing the Printhead, move the CR Unit to the 130-digit side, and then tighten the screws in the order indicated in the figure above.

Holder Cam Assy

When installing the Holder Cam Assy to the Main Frame, insert the protrusion of the D/E Lever into the groove of the Holder Cam Assy.

Front Frame Assy

- When attaching the Antistatic Cloth to the Front Frame Assy, attach it on the position shown above.
- Tighten the screws in the order indicated in the figure above.
- Secure the Washer 3.3x0.5x8, Disk Spring 5.3x0.1x7.4 and Washer 5.2x0.5x9 in the order shown above with the screw A.

Paper Guide Front Porous Pad

When installing the Paper Guide Front Porous Pad, make sure of the following.

- The legs (x12) of the Paper Guide Front Porous Pad should come out completely from the holes of the Paper Guide Front Assy.
- The tabs (x52) of the Paper Guide Front Porous Pad should be inserted into the grooves of the Paper Guide Front Assy, and no tabs must be lifting above the platen surface of the Paper Guide Front Assy.
- Insert the Paper Guide Front Porous Pad under the ribs (x24) of the Paper Guide Front Assy.

2nd Bin Base Assy (WF-7520/7010 series)

- Route the Pickup Motor cable, Pickup Encoder FFC and grounding wire through the hole of the Frame Base Assy. (p 64)
- Tighten the screws in the order indicated in the figure above.

Paper Guide Front Assy

When reassembling the Paper Guide Front Assy with the Lower Case and 2nd Bin Base Assy (WF-7520/7010 series only) installed to the Frame Base Assy, it is not necessary to use the paper guide front supporting tools used for Epson WorkForce 635/Epson Stylus Office TX620FWD/Epson Stylus Office BX625FWD/ME OFFICE 960FWD.

Tighten the screws in the order indicated in the figure above.

FAX Shield Plate/ FAX Connector Cover (WF-7520/7510 series)

Tighten the screws in the order indicated in the figure above.

Paper Guide Upper Assy

In this manual, the Paper Guide Upper Center Assy, Paper Guide Upper Left Assy and Paper Guide Upper Right Assy are collectively called “Paper Guide Upper Assy”.

Attach the Extension Spring 4.43 (x2), Extension Spring 8.78 (x2) and Extension Spring 1.47 (x1) on the positions shown above.

CR Motor

Attach acetate tape on the positions shown above on the CR Motor cable.

PF Timing Belt

To prevent improper tension applied to the PF Timing Belt, do not hold the PF Motor, PF Tension Plate or PF Motor Plate when tightening the screws of the PF Motor.

When installing the PF Timing Belt, follow the procedure below.

1. Loosen the screws (x2) of the PF Motor slightly.
2. Rotate the PF Motor Plate in the direction of the arrow as far as it will go, and attach the PF Timing Belt in the order of the PF Pulley, EJ Pulley, and the pinion gear of the PF Motor.
3. Attach the Extension Spring 4.1 in the order of the hook of the PF Tension Plate and the hook of the PF Motor Plate.
4. Tighten the screws (x2) in the order shown above to secure the PF Motor Plate.

Panel Housing Upper Assy (WF-7520/7510 series)

When attaching the LCD Unit to the Panel Housing Upper Assy, the LCD Unit is secured with the ribs of the Panel Housing Upper Assy which are ground by the positioning holes on the Shield Plate of the LCD Unit. Therefore, the ribs become smaller than the positioning holes when removing the LCD Unit and can not hold the LCD Unit securely. Once the LCD Unit is removed from the Panel Housing Upper Assy, be sure to replace the Panel Housing Upper Assy with a new one.

Panel Lever Spacer

The Panel Lever Spacer prevents the Panel Lever from dropping off from the Panel Housing Lower. When installing the Panel Lever Spacer, confirm the Panel Lever does not come off from the Panel Housing Lower.

Scanner Housing Upper Assy

Tighten the screws in the order indicated in the figure above.

Scanner Carriage

If the Torsion Spring 43.6 has come off from the Scanner Timing Belt, attach it to the CIS module side inner than this projection on the Scanner Carriage.

Scanner Motor Assy

- Tighten the screws in the order indicated in the figure above.
- Secure the scanner grounding wire and the Scanner Motor Assy together with the screw 2 shown above.
- When attaching the Scanner Rail Strengthen Plate Grounding Spring, follow the procedure below.
  1. Insert the spring leg 1 of the Scanner Rail Strengthen Plate Grounding Spring into the hole of the Scanner Rail Strengthen Plate.
  2. Attach the section A of the Scanner Rail Strengthen Plate Grounding Spring to the dowel of the Scanner Housing Lower.
  3. Attach the spring leg 2 of the Scanner Rail Strengthen Plate Grounding Spring to the cutout of the Scanner Motor Plate.

Scanner FFC Cover

When installing the Scanner FFC Cover, install it with the hook A of the cover to the rear of the printer, and secure the cover to the Scanner Housing Lower in the order of hook B and hook A.

4.4 Routing FFCs/cables

Housing Upper

■ WF-7520/7510 series

- Panel FFC — Route it through the ribs (x3) and groove of the Housing Upper folding the FFC and aligning its fold lines with the routing path, and secure it with double-side tape on the position shown above, then connect it to the connector on the Main Board.
- Cover Open Sensor cable — Route it through the rib and grooves (x2) of the Housing Upper, and then connect it to the connector on the Main Board.

■ WF-7010 series

- Panel FFC — Connected to the Main Board, pull it out from the hole A of the Housing Upper and secure it with double-sided tape on the position shown above, and then connect it to the connector (CN1) on the Panel Board.
- Cover Open Sensor cable — Connected to the Main Board, pull it out from the hole A of the Housing Upper and route it through the hole B of the Housing Upper, and then connect it to the Cover Open Sensor.

PF Encoder FFC

Route the PF Encoder FFC with folded along the fold line and secure it with double-sided tape on the position shown in the figure above, and then connect it to the Main Board.

Paper Guide Stopper Assy 1st

Route the Paper Stopper Lever Sensor 1st cable, Pre-PE Sensor cable and grounding wire through the grooves (x3) and hook of the Paper Guide Stopper Assy 1st, and then pull out from the hole of the Frame Base Assy.

CR Motor

- Route the CR Motor cable through the rib and hook A of the Frame Base Assy, and also through the hook B (x6) and hook C (x5) of the Main Frame Assy.
- Route the CR Motor cable with the section wrapped with acetate tape onto the hook C. (p 61)

PF Motor

- Route the PF Motor cable through the hook and ribs (x6) of the Frame Base Assy.
- Put the ferrite core of the PF Motor cable into the position shown in the figure above.

PE Sensor

- Route the PE Sensor cable through the ribs (x3) and hook of the Frame Base Assy.
- See " Main Board Unit (1) (p65)" for routing the cables in section A.

FAX FFC

- Attach the ferrite core of the FAX FFC to the Grounding Plate FAX with double-sided tape as shown above.
- Secure the FAX FFC on the position shown above with double-sided tape, and then connect it to the connector (CN3) on the Main Board.

Inside the USB Cover (ADF Unit/Scanner Unit related cables: WF-7520/7510 series)

- For the correspondence between the cables, FFCs and the connectors on the Main Board, see " Main Board Unit (2) (p65)".
- When routing the Scanner Motor cable (CN2), ADF PE Sensor cable (CN18), ADF Encoder cable (CN19), ADF Document Sensor cable (CN22), ADF Motor cable (CN24), ADF grounding wire and scanner grounding wire, follow the procedure below.
  1. Insert all cables into the hole of the Housing Upper, and then route them under the rib A.
  2. Secure the ADF grounding wire and scanner grounding wire together on the position shown above with the screw.
  3. Route the Scanner Motor cable (CN2), ADF PE Sensor cable (CN18), ADF Encoder cable (CN19), ADF Document Sensor cable (CN22) and ADF Motor cable (CN24) through the hook of the Frame Base Assy and route them inside the rib B (x8), and then connect them to the connectors on the Main Board.
  4. Put the ferrite core A of the ADF Motor cable into the position shown above.
  5. Insert the excess portions of the Scanner Motor cable, ADF PE Sensor cable, ADF Encoder cable, ADF Document Sensor cable and ADF Motor cable into the space between the Housing Upper and Main Board.
  6. Secure the Scanner Motor cable, ADF PE Sensor cable, ADF Encoder cable, ADF Document Sensor cable, ADF Motor cable, ADF grounding wire and scanner grounding wire on the positions shown above with acetate tape.
- When routing the Scanner FFC, follow the procedure below.
  1. Insert it into the hole B of the Housing Upper, and route under the rib A of the Housing Upper.
  2. Route the Scanner FFC through the ferrite core B and insert the ferrite core B into the inside of the rib C of the Housing Upper, and then secure it with double-sided tape.
  3. Secure the Scanner FFC on the position shown above with double-side tape, and then connect the FFC to the connector (CN41) on the Main Board.

2nd Bin Base Assy (WF-7520/7010 series)

- When routing the Paper Stopper Lever Sensor 2nd cable and grounding wire A, follow the procedure below.
  1. Route the Paper Stopper Lever Sensor 2nd cable and grounding wire A through the groove 1 (x3) of the Paper Guide Stopper Assy 2nd and through the hook A, and then insert them into the hole on the bottom of the 2nd Bin Base Assy. (See Fig. 2.)
  2. Pull out the Paper Stopper Lever Sensor 2nd cable and grounding wire A from the hole on the upper side of the 2nd Bin Base Assy, and route them as follows. (See Fig. 3.)
     - Grounding wire A — Route it through the hook B and hook C of the 2nd Bin Base Assy.
     - Paper Stopper Lever Sensor 2nd cable — Route it through the hook B of the 2nd Bin Base Assy, and then make one turn around the hook C.
  3. Install the Frame Pickup Assy to the 2nd Bin Base Assy, and secure the grounding wire A to the Frame Pickup Assy with the screw (x1). (See Fig. 4.)
- Route the Pickup Motor cable, Pickup Encoder FFC and grounding wire B as follows. (See Fig. 4.)
  - Pickup Motor cable — Route it through the hook C and groove 2, and put the ferrite core of it into the position shown above. Then, route the cable through the groove 3 and route it through the hook C once again.
  - Pickup Encoder FFC — Secure it on the position shown above with double-sided tape.
  - Grounding wire B — Secure it on the Frame Pickup Assy with the screw, and route it through the hook C.
- Insert the Paper Stopper Lever Sensor 2nd cable, Pickup Motor cable, Pickup Encoder FFC and grounding wire B into the hole on the bottom of the Frame Base Assy, and pull them out from the upper side of the Frame Base Assy. (See Fig. 1, Fig. 5.)

Main Board Unit (1)

- Route the following cables as follows.
  (For the correspondence between the cables, FFCs and the connectors on the Main Board, see " Main Board Unit (2) (p65)".)
  - Power Supply Unit cable (CN501) — Pull it out between the Grounding Plate FAX and Power Supply Unit and route it inside the rib 1 of the Frame Base Assy, and then connect it to the connector on the Main Board.
  - Paper Stopper Lever Sensor 1st cable (CN26)
    Pre-PE Sensor cable (CN27)
    PE Sensor cable (CN15)
    CR Motor cable (CN6) — Route them through the hook A, hook B and hook C of the Frame Base Assy and route them inside the rib 2 and rib 1, and then connect them to the connectors on the Main Board.
  - PF Motor cable (CN7) — Pull it out from under the Main Board Unit, and then connect it to the connector on the Main Board.
  - Grounding wire A — Route it through the hook A, hook B and hook C and route it inside the rib 2 and rib 1 of the Frame Base Assy, and then secure it together with the grounding wire B and Main Board Unit with the screw.
  - Grounding wire B — Secure it together with the Frame Base Assy and Main Board Unit with the screw.
- For WF-7520/7010 series, route the cables/FFCs from the 2nd Bin Base Assy as follows.
  - Paper Stopper Lever Sensor 2nd cable (CN29)
    Pickup Motor cable (CN30) — Route them inside the rib 3 of the Frame Base Assy and route them through the hook C and route inside the rib 2 and rib 1, and then connect them to the connectors on the Main Board.
  - Pickup Encoder FFC (CN8) — Secure it on the position shown above with double-side tape, and then connect it to the connector on the Main Board.
  - Grounding wire C — Route it inside the rib 3 of the Frame Base Assy and the hook C and route it inside the rib 2 and rib 1 of the Frame Base Assy, and then secure it together with the grounding wire A and Main Board Unit with the screw.
- After connecting the Paper Stopper Lever Sensor 1st cable, Pre-PE Sensor cable, PF Motor cable, Pickup Motor cable and Paper Stopper Lever Sensor 2nd cable to the connectors on the Main Board, insert the excess portions into the space behind the edge of the Frame Base Assy shown above.

Main Board Unit (2)

Note "*1": WF-7520/7510 series only
"*2": WF-7520/7010 series only

CN#	Number of pins	Connector Color	Name
CN2	4	White	Scanner Motor cable*1
CN3	10	Black	FAX FFC*1
CN5	20	Light yellow	Panel FFC
CN6	2	White	CR Motor cable
CN7	2	Black	PF Motor cable
CN8	5	Black	Pickup Encoder FFC*2
CN11	14	Light yellow	Head FFC
CN12	14	Light yellow	Head FFC
CN13	21	Light yellow	Head FFC
CN14	5	Black	PF Encoder FFC
CN15	3	White	PE Sensor cable
CN16	2	White	Cover Open Sensor cable
CN18	3	White	ADF Document Sensor cable*1
CN19	4	White	ADF Encoder cable*1
CN21	4	White	Wireless LAN Module cable
CN22	5	Black	ADF PE Sensor cable*1
CN24	2	White	ADF Motor cable*1
CN26	3	Black	Paper Stopper Lever Sensor 1st cable
CN27	3	Yellow	Pre-PE Sensor cable
CN29	3	Blue	Paper Stopper Lever Sensor 2nd cable*2
CN30	2	Red	Pickup Motor cable*2
CN41	16	Black	Scanner FFC*1
CN501	5	White	Power Supply Unit cable

The correspondence between Main Board and cables/FFCs is given above.

Head FFC

- When you do not need to replace the Head FFC, be careful not to disconnect it from the connector on the CR Encoder. Once it is disconnected, you must disassemble the CR Unit to reconnect it to the CR Encoder.
- Confirm that the Head FFC is connected to the Holder Board Assy and CR Encoder.
- When routing the Head FFC on the side of the CR Unit, make sure to route it through the ribs (x3) of the CR Unit shown above.
- When routing the Head FFC on the Front Frame, first install the Head FFC Holder to the Front Frame Assy, and then route the Head FFC through the ribs (x4) of the Front Frame.
- After routing the Head FFC on the CR Unit and Front Frame Assy, secure the ferrite core to the Front Frame Assy on the position shown above with double-sided tape.
- Secure the grounding wire to the Front Frame Assy with the screw.

Scanner Motor Assy

- When routing Scanner Motor cable and scanner grounding wire, follow the procedure below.
  1. Route the scanner grounding wire through the hooks and ribs, and insert it into the hole of the Scanner Housing Lower.
  2. Install the Scanner Motor Assy. (p 62)
  3. Route the Scanner Motor cable through the hooks and ribs, and insert it into the hole of the Scanner Housing Lower.
- After inserting the Scanner Motor cable and scanner grounding wire into the hole of the Scanner Housing Lower, confirm the Scanner Motor cable is over the scanner grounding wire.

Bottom of the Scanner Unit

When routing the cables/FFCs on the bottom of the Scanner Unit, follow the procedure below.

1. Pull the Scanner FFC out from the hole A of the Scanner Housing Lower, and secure it on the position shown above with double-sided tape.
2. Pull the Scanner Motor cable and scanner grounding wire out from the hole B of the Scanner Housing Lower.
3. Insert the Scanner FFC into the hole 1 of the Scanner FFC Cover, and insert the Scanner Motor cable and scanner grounding wire into the hole 2 of the Scanner FFC.
4. Install the Scanner FFC Cover to the Scanner Housing Lower. (p 62)

Scanner FFC

When routing the Scanner FFC, follow the procedure below.

1. Fold the Scanner FFC along the fold lines and route the FFC through the rib A and along the standard line so as not to let the FFC touch the wall of the Scanner Housing Lower, and then insert the FFC into the hole of the Scanner Housing Lower.
2. Secure the Scanner FFC on the position shown above on the Scanner Housing Lower with double-sided tape (x4).
3. Connect the Scanner FFC to the connector on the CIS Module, and secure the Scanner FFC on the position shown above on the CIS Module with double-sided tape.
4. Install the CIS Module to the Scanner Carriage.
5. Route the Scanner FFC under the rib B (x2) of the Scanner Carriage, and confirm the FFC does not come over the guide ribs (x2) of the Scanner Carriage.

4.5 Connector Summary

Cable connections of this printer are shown below.

Note "*": Whether or not the Wireless LAN Module is mounted depends on the destinations. (See Table 1-1.)

Figure 4-3. Connector Diagram

CHAPTER **5**

ADJUSTMENT

5.1 Required Adjustments

The table from the following page lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

- **If the EEPROM data cannot be read out from the old Main Board using the Adjustment Program when replacing the Main Board is required, the Waste Ink Tray Assy must be replaced with the Main Board at the same time.**
- **After all required adjustments are complete, use the "Final check pattern print" function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.**
- **When replacing the Main Board and the Printer Mechanism (Frame Base Assy) at the same time, the adjustment should be made after performing the initial setting.**

- **In this chapter, the product names are called as follows:**
  - **WF-7520 series: Epson WF-7525/Epson WF-7521/Epson WF-7520**
  - **WF-7510 series: Epson WF-7515/Epson WF-7511/Epson WF-7510**
  - **WF-7010 series: Epson WF-7018/Epson WF-7015/Epson WF-7012/Epson WF-7011/ Epson WF-7010**
- **The table items and marks used in the "Required Adjustment List" provided on the following pages have the following meanings.**
  - **"O" indicates that the adjustment must be carried out.**
  - **"---" indicates that the adjustment is not required.**
  - **The "Mechanism Adjustment" should be performed just after reinstalling or reassembling the part or unit. (See "Table 5-1 Required Adjustment List (Mechanism Adjustment) (p70)".)**
  - **The "Adjustments using the Adjustment Program" need to be performed after reassembling the printer completely. (See "Table 5-2 Required Adjustment List (Adjustment using the Adjustment Program) (p71)".)**
- **If you have removed or replaced multiple parts, make sure to check the required adjustments for the all parts. And when multiple adjustments must be carried out, be sure to carry them out in the order given in the "Priority" row.**

Table 5-1. Required Adjustment List (Mechanism Adjustment)

Adjustment Type			Mechanism adjustment		
Priority			1	2	3
Adjustment Item			PF Timing Belt tension check	Checking the platen gap	Scanner Timing Belt tension check
Purpose			Check if the tension of the PF Timing Belt is within the standard.	Check if the PG is within the standard.	Check if the tension of the Scanner Timing Belt is within the standard.
Part Name	CR Guide Plate	Remove	---	---	---
		Replace	---	O	---
	Printhead	Remove	---	---	---
		Replace	---	O	---
	Frame Base Assy	Remove	---	---	---
		Replace	O	O	---
	2nd Bin Base Assy	Remove	---	---	---
		Replace	O	O	---
	PF Motor	Remove	O	---	---
		Replace	O	---	---
	Paper Guide Front Assy	Remove	O	---	---
		Replace	O	O	---
	EJ Roller	Remove	O	---	---
		Replace	O	---	---
	PF Timing Belt	Remove	O	---	---
		Replace	O	---	---
	EJ Pulley	Remove	---	---	---
		Replace	O	---	---
	Scanner Carriage	Remove	---	---	O
		Replace	---	---	O
	Scanner Motor Assy	Remove	---	---	O
		Replace	---	---	O
How to judge			See "5.2.1 PF Timing Belt Tension Check (p75)" for the details.	See "5.2.2 Checking the Platen Gap (p76)" for the details.	See "5.2.3 Scanner Timing Belt Tension Check (p77)" for the details.
Adjustment program			---	---	---
Tool			(p 75)	(p 76)	(p 77)

Note 1: The mechanism adjustment is not necessary for the parts which are not mentioned above.
2: After the mechanism adjustment is performed, make sure to execute the adjustment using the Adjustment Program. (See "Table 5-2 Required Adjustment List (Adjustment using the Adjustment Program) (p71)".)

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Table 5-2. Required Adjustment List (Adjustment using the Adjustment Program)

Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	4	5	6	3	7	8		9	10	11	12		13	14	15	16	17	18	19
Adjustment Item			EEPROM data copy	Initialize Setting (including MAC address setting)	Ink charge	Head ID input	Maintenance counter	PE Detector confirmation	PF / EJ adjustment	First dot position / PW adjustment		Bi-D adjustment	Head angular adjustment	PF band adjustment	PE adjustment		Paper skew adjustment	PF / EJ deterioration offset	PW deterioration offset	CR motor heat protection control	PF motor heat protection control	ASF motor heat protection control*1	Scanner motor heat protection control*2
										1st cassette	2nd cassette*1				1st cassette	2nd cassette*1							
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it.	To fill ink throughout the ink path to make all the nozzles ready for printing.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To reset the waste ink counter after replacing the Waste Ink Pad.	Confirm the PE sensor's chattering after detecting the end of the paper falls within the specified period.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the print start position in the carriage moving direction through software control.		To correct print start timing in bidirectional printing through software control.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.		To align print start position at 0-digit side with that at 80-digit side in bi-directional band printing, timing of firing ink droplet is adjusted through software control.	To reset the counter or set it to its maximum according to the replaced parts.	To reset the counter according to the replaced parts.	To measure and correct the electrical variation of the CR Motor and the Power Supply Board.	To measure and correct the electrical variation of the PF Motor and the Power Supply Board.	To measure and correct the electrical variation of the Pickup Motor and the Power Supply Board.	To measure and correct the electrical variation of the Scanner Motor and the Power Supply Board.
Part Name	Main Board Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read OK)	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read NG)	---	O	---	O	O*3	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	---
	Power Supply Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	O	O	---
	CR Unit	Remove	---	---	---	---	---	---	---	O	O	---	---	---	O	O	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	O	O	---	O	O	O	---	O	---	---	---	---
	CR Guide Plate	Remove	---	---	---	---	---	---	---	O	O	---	---	---	O	O	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	O	O	---	O	O	O	---	---	---	---	---	---
	Paper Guide Lower Porous Pad	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---							---	---		---	---	---	---	---	---
How to judge			---	See "5.2.4 MAC Address Setting (p78)" for the details of the MAC address setting.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **1st dot adjustment** Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.	■ **1st dot adjustment** Examine the misaligned lines printed on left, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the misaligned lines printed on top and bottom of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side.	---	---	Examine the printout pattern and enter the number of the one with the least gap and overlap between the two different colored lines.	---	---	---	---	---	---
Adjustment program			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			---	---	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---	---	---	---

Note "*1": WF-7520/7010 series only
"*2": WF-7520/7510 series only
"*3": Replacement of the Waste Ink Tray Assy/Paper Guide Lower Porous Pad is necessary

Table 5-2. Required Adjustment List (Adjustment using the Adjustment Program)

Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	4	5	6	3	7	8		9	10	11	12		13	14	15	16	17	18	19
Adjustment Item			EEPROM data copy	Initialize Setting (including MAC address setting)	Ink charge	Head ID input	Maintenance counter	PE Detector confirmation	PF / EJ adjustment	First dot position / PW adjustment		Bi-D adjustment	Head angular adjustment	PF band adjustment	PE adjustment		Paper skew adjustment	PF / EJ deterioration offset	PW deterioration offset	CR motor heat protection control	PF motor heat protection control	ASF motor heat protection control*1	Scanner motor heat protection control*2
										1st cassette	2nd cassette*1				1st cassette	2nd cassette*1							
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it.	To fill ink throughout the ink path to make all the nozzles ready for printing.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To reset the waste ink counter after replacing the Waste Ink Pad.	Confirm the PE sensor's chattering after detecting the end of the paper falls within the specified period.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the print start position in the carriage moving direction through software control.		To correct print start timing in bidirectional printing through software control.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.		To align print start position at 0-digit side with that at 80-digit side in bi-directional band printing, timing of firing ink droplet is adjusted through software control.	To reset the counter or set it to its maximum according to the replaced parts.	To reset the counter according to the replaced parts.	To measure and correct the electrical variation of the CR Motor and the Power Supply Board.	To measure and correct the electrical variation of the PF Motor and the Power Supply Board.	To measure and correct the electrical variation of the Pickup Motor and the Power Supply Board.	To measure and correct the electrical variation of the Scanner Motor and the Power Supply Board.
Part Name	Printhead	Remove	---	---	---	---	---	---	---	---	---	O	O	---	---	---	O	---	---	---	---	---	---
		Replace	---	---	O	O	---	---	O	O	O	O	O	O	O	O	O	---	---	---	---	---	---
	Waste Ink Tray Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Duplex Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	O	O	---	---	O	O	O	---	---	---	---	---	---	---
	Cassette Assy 1st	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	---	---	---	O	---	---	---	---	---	---	---	---
	Frame Base Assy	Remove	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	O	O	---	O	O	O	O	O	O	---	---	---	---	---	---
	2nd Bin Base Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	O	---	---	O	---	O	---	---	---	---	---	O	---
	Cassette Assy 2nd	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	O	---	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---							---	---		---	---	---	---	---	---
How to judge			---	See "5.2.4 MAC Address Setting (p78)" for the details of the MAC address setting.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **1st dot adjustment** Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.	■ **1st dot adjustment** Examine the misaligned lines printed on left, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the misaligned lines printed on top and bottom of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side.	---	---	Examine the printout pattern and enter the number of the one with the least gap and overlap between the two different colored lines.	---	---	---	---	---	---
Adjustment program			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			---	---	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---	---	---	---

Note "*1": WF-7520/7010 series only
"*2": WF-7520/7510 series only
"*3": Replacement of the Waste Ink Tray Assy/Paper Guide Lower Porous Pad is necessary

Table 5-2. Required Adjustment List (Adjustment using the Adjustment Program)

Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	4	5	6	3	7	8		9	10	11	12		13	14	15	16	17	18	19
Adjustment Item			EEPROM data copy	Initialize Setting (including MAC address setting)	Ink charge	Head ID input	Maintenance counter	PE Detector confirmation	PF / EJ adjustment	First dot position / PW adjustment		Bi-D adjustment	Head angular adjustment	PF band adjustment	PE adjustment		Paper skew adjustment	PF / EJ deterioration offset	PW deterioration offset	CR motor heat protection control	PF motor heat protection control	ASF motor heat protection control*1	Scanner motor heat protection control*2
										1st cassette	2nd cassette*1				1st cassette	2nd cassette*1							
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it.	To fill ink throughout the ink path to make all the nozzles ready for printing.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To reset the waste ink counter after replacing the Waste Ink Pad.	Confirm the PE sensor's chattering after detecting the end of the paper falls within the specified period.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the print start position in the carriage moving direction through software control.		To correct print start timing in bidirectional printing through software control.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.		To align print start position at 0-digit side with that at 80-digit side in bi-directional band printing, timing of firing ink droplet is adjusted through software control.	To reset the counter or set it to its maximum according to the replaced parts.	To reset the counter according to the replaced parts.	To measure and correct the electrical variation of the CR Motor and the Power Supply Board.	To measure and correct the electrical variation of the PF Motor and the Power Supply Board.	To measure and correct the electrical variation of the Pickup Motor and the Power Supply Board.	To measure and correct the electrical variation of the Scanner Motor and the Power Supply Board.
Part Name	Main Frame Assy	Remove	---	---	---	---	---	O	---	---	---	---	---	---	O	O	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	O	---	---	O	---	O	O	O	O	---	---	O	---	---	---
	Paper Guide Upper Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	---	O	O	O	---	---	O	---	---	---	---	---	---
	PE Sensor Lever	Remove	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	O	---	---	---	---	O	O	O	---	---	---	---	---	---	---
	PE Sensor	Remove	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	---	---	---	---	---	---	O	O	---	---	---	---	---	---	---
	CR Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---
	PF Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---
	Front Frame Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	O	O	---	O	O	O	---	---	---	---	---	---
Printout pattern			---	---	---	---	---	---							---	---		---	---	---	---	---	---
How to judge			---	See "5.2.4 MAC Address Setting (p78)" for the details of the MAC address setting.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **1st dot adjustment** Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.	■ **1st dot adjustment** Examine the misaligned lines printed on left, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the misaligned lines printed on top and bottom of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side.	---	---	Examine the printout pattern and enter the number of the one with the least gap and overlap between the two different colored lines.	---	---	---	---	---	---
Adjustment program			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			---	---	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---	---	---	---

Note "*1": WF-7520/7010 series only
"*2": WF-7520/7510 series only
"*3": Replacement of the Waste Ink Tray Assy/Paper Guide Lower Porous Pad is necessary

Table 5-2. Required Adjustment List (Adjustment using the Adjustment Program)

Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	4	5	6	3	7	8		9	10	11	12		13	14	15	16	17	18	19
Adjustment Item			EEPROM data copy	Initialize Setting (including MAC address setting)	Ink charge	Head ID input	Maintenance counter	PE Detector confirmation	PF / EJ adjustment	First dot position / PW adjustment		Bi-D adjustment	Head angular adjustment	PF band adjustment	PE adjustment		Paper skew adjustment	PF / EJ deterioration offset	PW deterioration offset	CR motor heat protection control	PF motor heat protection control	ASF motor heat protection control*1	Scanner motor heat protection control*2
										1st cassette	2nd cassette*1				1st cassette	2nd cassette*1							
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings and the serial number into the Main Board after replacing it.	To fill ink throughout the ink path to make all the nozzles ready for printing.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To reset the waste ink counter after replacing the Waste Ink Pad.	Confirm the PE sensor's chattering after detecting the end of the paper falls within the specified period.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the print start position in the carriage moving direction through software control.		To correct print start timing in bidirectional printing through software control.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality in band printing.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.		To align print start position at 0-digit side with that at 80-digit side in bi-directional band printing, timing of firing ink droplet is adjusted through software control.	To reset the counter or set it to its maximum according to the replaced parts.	To reset the counter according to the replaced parts.	To measure and correct the electrical variation of the CR Motor and the Power Supply Board.	To measure and correct the electrical variation of the PF Motor and the Power Supply Board.	To measure and correct the electrical variation of the Pickup Motor and the Power Supply Board.	To measure and correct the electrical variation of the Scanner Motor and the Power Supply Board.
Part Name	Star Wheel Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	---	---	---	O	---	---	---	---	---	---	---	---	---
	Paper Guide Front Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	---	---	O	O	O	---	---	O	---	---	---	---	---	---
	EJ Roller	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	O	O	O	---	---	O	O	O	---	---	---	---	---	---	---
	Scanner Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O
	Scanner Motor Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O
Printout pattern			---	---	---	---	---	---							---	---		---	---	---	---	---	---
How to judge			---	See " 5.2.4 MAC Address Setting (p78)" for the details of the MAC address setting.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **1st dot adjustment** Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.	■ **1st dot adjustment** Examine the misaligned lines printed on left, and enter the number beside the line that is exactly 5 mm away from the paper edge.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the misaligned lines printed on top and bottom of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side.	---	---	Examine the printout pattern and enter the number of the one with the least gap and overlap between the two different colored lines.	---	---	---	---	---	---
Adjustment program			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
Tool			---	---	---	---	---	---	---	Ruler	Ruler	---	---	---	---	---	---	---	---	---	---	---	---

Note "*1": WF-7520/7010 series only
"*2": WF-7520/7510 series only
"*3": Replacement of the Waste Ink Tray Assy/Paper Guide Lower Porous Pad is necessary

5.2 Details of Adjustments

This section provides adjustment procedures for which explanation in details is necessary. See "5.1 Required Adjustments (p69)" for the adjustments not explained here.

5.2.1 PF Timing Belt Tension Check

This section describes PF Timing Belt tension check.

- **This printer is designed so that each tension of the PF Timing Belt falls within the expected range if you correctly reassemble the unit according to this manual. If the result does not fall within the standard range when measuring the belt tension in this section, adjust it according to the instructions in this section.**
- **The standard tension range of the PF Timing Belt is as follows:**
  - **Standard: 13.5 ± 1.5 N**

☐ Tools

- Sonic tension gauge
- Plastic tweezers

☐ Adjustment procedure

When performing the PF Timing Belt tension measurement, make sure of the following.

- **Perform PF Timing Belt tension measurement before installing the Main Board.**
- **Bring the microphone of the sonic tension gauge within 5 mm from the PF Timing Belt but do not let it touch the belt.**
- **Flip the PF Timing Belt as weak as the sonic tension gauge can measure it.**
- **Be careful not to damage the PF Timing belt when flipping it with the plastic tweezers.**

1. After installing the PF Timing Belt (p 62), rotate the PF Roller one turn.
2. Set the following parameters to the sonic tension gauge:
   - Weight: 1.1 g/m
   - Width: 3.0 mm
   - Span: 73 mm
3. Bring the microphone of the sonic tension gauge close to the upper center of the PF Timing Belt as shown in Figure 5-1.
4. Press the "MEASURE" button of the sonic tension gauge and flip the PF Timing Belt with plastic tweezers and measure the tension of the belt three times.
5. Check if all measured values fall within the standard range.
   - Within the standard range:
     PF Timing Belt tension check is complete.
   - If any of the measured value is out of the standard range:
     1. Loosen the screws (x2) of the PF Motor Plate, and adjust the position referring to Figure 5-1.
     2. Tighten the screws of the PF Motor Plate, and measure the tension again.

Figure 5-1. PF Timing Belt Tension Check

Confidential

5.2.2 Checking the Platen Gap

This section describes the procedure for checking the platen gap (PG) necessary when removing the Printhead or in a similar case.

- **This printer does not have any PG adjustment mechanism, however, it is designed so that the platen gap can fall within the expected range if you correctly reassemble the unit according to this manual. If the PG does not fall within the standard range after performing the platen gap check described in this section, first check if the unit is correctly reassembled following the instructions in this manual. Even if the unit is correctly reassembled but the PG still cannot fall within the standard range, replace the unit with a new one.**
- **The standard range of the PG is as follows:**
  - **Standard: 1.7 ± 0.2 mm**

☐ Tools

- Thickness gauge: 1.5 mm (x2), 1.9 mm (x2)

☐ Checking procedure

When checking the PG, make sure of the following.

- **Check the PG with the ink cartridges installed and the Housing Upper removed.**
- **Move the Carriage Assy by pulling the Timing Belt.**
- **Be careful not to damage the nozzle surface of the Printhead with the thickness gauge.**

1. Move the Carriage Assy to the center of the printer.
2. Place the thickness gauges (1.5 mm) on the positions shown below.

Figure 5-2. Position of the Thickness Gauge

3. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit does not touch the thickness gauges. If the CR Unit comes in contact with the thickness gauges, the PG is smaller than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new one.)
4. Move the CR Unit to the center, and replace the thickness gauges (1.5 mm) with the thickness gauges (1.9 mm) on the same positions as Step 2.
5. Pull the CR Timing Belt to move the CR Unit to both ends and confirm the CR Unit touches the thickness gauges. If the CR Unit does not come in contact with the thickness gauges, the PG is greater than the standard value, therefore, check if the unit is correctly reassembled. If not, reassemble the unit and perform PG check again. (If the unit is correctly reassembled, replace the unit with a new one.)

5.2.3 Scanner Timing Belt Tension Check

This section describes Scanner Timing Belt tension check.

- **This product is designed so that each tension of the Scanner Timing Belt falls within the expected range if you correctly reassemble the unit according to this manual. If the result does not fall within the standard range when measuring the belt tension in this section, reinstall or replace the related parts according to the instructions in this section.**
- **The standard tension range of the Scanner Timing Belt is as follows:**
  - **Standard: 3.95 ± 1.15 N**

☐ Tools

- Sonic tension gauge
- Plastic tweezers

☐ Measurement procedure

When performing the Scanner Timing Belt tension measurement, make sure of the following.

- **Perform Scanner Timing Belt tension measurement before installing the Scanner Housing Upper Assy.**
- **Bring the microphone of the sonic tension gauge within 5 mm from the Scanner Timing Belt but do not let it touch the belt.**
- **Flip the Scanner Timing Belt as weak as the sonic tension gauge can measure it.**
- **Be careful not to damage the Scanner Timing belt when flipping it with the plastic tweezers.**
- **When flipping the Scanner Timing Belt, be careful not to let the grease attach to it.**

1. Move the Scanner Carriage to the 0-digit side.
2. Set the following parameters to the sonic tension gauge:
   - Weight: 1.0 g/m
   - Width: 2.5 mm
   - Span: 527 mm
3. Bring the microphone of the sonic tension gauge close to the center of the Scanner Timing Belt as shown in Figure 5-3.
4. Press the "MEASURE" button of the sonic tension gauge and flip the Scanner Timing Belt with plastic tweezers and measure the tension of the belt three times.
5. Check if the average of the measured three values falls within the standard range.
   - Within the standard range:
     Scanner Timing Belt tension check is complete.
   - Out of the standard range:
     1. Reinstall the Scanner Carriage, and measure the tension again.
     2. If the result does not fall within the standard range, replace the torsion spring 43.6 with a new one and measure the tension again. (p 62)

Figure 5-3. Scanner Timing Belt Tension Check

5.2.4 MAC Address Setting

- **This setting is not necessary when the data in EEPROM on the Main Board can be read out.**
- **To avoid a conflict of MAC address on a network, make sure to correctly follow the MAC address setting flowchart given on the following.**
- **The user should be notified of the change of MAC address because of the following reasons.**
  - **If the user has set the printer's MAC address on a router, the repaired printer with a new MAC address cannot be connected to the network.**
  - **The default printer name on a network consists of "EPSON" and the last six digits of the MAC address. Therefore, the printer name becomes different from the previous one.**
- **You are required to enter the last six digits of the MAC address (xx:yy:zz) on the Adjustment Program.**
  MAC address example: 00:00:48:xx:yy:zz
  ("xx, yy, zz" represents a value unique to each printer)

Figure 5-4. MAC Address Label

☐ Setting procedure

1. After replacing the Main Board, note down the MAC address written on a label on the Shield Plate Lower.
2. Reassemble the printer, and connect the printer and the PC with the USB cable.
3. Start the Adjustment Program.
4. Select the "Initial Setting" from the menu. The initial setting screen appears.
5. Enter the last six digits of MAC address into the MAC address entry field, and click the MAC Address input button. (Enter the address again into the second entry field to confirm it.)
6. Select the network status sheet from the printer's control panel, and print the sheet. Check the MAC address printed on the sheet to see if it is correct.

Figure 5-5. MAC Address Setting Screen

CHAPTER **6**

MAINTENANCE

6.1 Overview

This section provides information to maintain the printer in its optimum condition.

6.1.1 Cleaning

Except for the printhead, there are no other mechanical parts or units that require periodic cleaning. However, if need arises, clean the component observing the following instructions.

☐ Instructions for cleaning

- Exterior parts such as housing
  Wipe dirt off with a soft clean cloth moistened with water. For glossy or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
  Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an Pickup Roller used to feed paper
  If paper dust adhered to the rollers decreases the frictional force of the rollers and the rollers cannot properly feed paper, wipe off the paper dust with a soft cloth moistened with diluted alcohol.

☐ Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.

- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the Pickup Roller/Middle Roller, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

6.1.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to "6.2 Lubrication Points and Instructions (p81)" for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

☐ Grease

Type	Name	EPSON Part Code	Supplier
Grease	G-26	1080614	EPSON
Grease	G-45	1033657	EPSON
Grease	G-71	1480655	EPSON
Grease	G-72	1409258	EPSON
Grease	G-74	1409257	EPSON

☐ Tools

Name	Availability	EPSON Part Code
Injector	O *	---
Brush	O *	---

Note *: Use tools whose specifications are specified in "6.2 Lubrication Points and Instructions (p81)".

6.2 Lubrication Points and Instructions

<Lubrication Point>
1. Bearing of the Driven Pulley Holder (x2)
2. Contact points (x8) on the Driven Pulley Holder with the Main Frame
3. Shaft hole of the Driven Pulley

<Type>
G-71

<Application Amount>
ϕ 1 mm x 1 mm

<Remarks>
□ Apply with injector.
1. After attaching the Driven Pulley to the Driven Pulley Holder, wipe the grease that runs off.

Figure 6-1. Lubrication of the Driven Pulley / Driven Pulley Holder

<Lubrication Point>
1. Ribs (x3) on the Paper Guide Front Assy (Contact points with the PF Roller and Spur Gear 12)
2. Shaft of the Paper Guide Front Assy (Contact point with the Combination Gear 16.10.4)
3. Shafts (x5) of the Paper Guide Front Assy (Contact points with the Spur Gear 11.2 and Clutch Gear)

<Type>
G-71

<Application Amount>
1. 3 mm x 1 mm x half circle
2. ϕ 3 mm
3. 1 mm x 2 mm

<Remarks>
□ Apply with injector.
1. After installing the PF Roller, rotate it clockwise and counterclockwise two turns each, and confirm the grease is attached evenly on the circumference of the PF Roller and Spur Gear 12.

Figure 6-2. Lubrication of the Paper Guide Front Assy

<Lubrication Point>
1. Ribs (x3) on the Paper Guide Front Assy (Contact points with the EJ Roller)
2. Shaft of the EJ Roller (x2)

<Type>
1. G-74
2. G-71

<Application Amount>
1. 0.04 g x 3 points
2. ϕ 1 mm x 3 mm

<Remarks>
□ Stir G-74 before use.
1. Apply with brush and wipe the grease that runs off from the ribs.
2. Apply with injector while rotating the EJ Roller.

Figure 6-3. Lubrication of the Paper Guide Front Assy (EJ Roller)

<Lubrication Point>
Contact point between the PF Roller and the PF Roller Grounding Spring

<Type>
G-71

<Application Amount>
ϕ 3 mm x 7 mm

<Remarks>
Apply with injector.

Figure 6-4. Lubrication of the PF Roller Grounding Spring

<Lubrication Point>
Contact points (x4) between the Main Frame and the D/E Lever

<Type>
G-71

<Application Amount>
ϕ 0.5 mm x 10 mm

<Remarks>
Apply with brush.

Figure 6-5. Lubrication of the Main Frame

<Lubrication Point>
Contact point (x1) on the rear of the Front Frame with the CR Unit

<Type>
G-71

<Application Amount>
230 mg

<Remarks>
- ☐ After lubricating with injector, use brush and spread the grease until it becomes 2 mm in width.
- ☐ Wipe the grease that runs off from the lubrication area.

Figure 6-6. Lubrication of the Front Frame

<Lubrication Point>
Contact points (x4) on the CR Guide Plate with the CR Unit

<Type>
G-71

<Application Amount>
ϕ 1.5 mm x 450 mm x 4 points (215 mg each)

<Remarks>
- ☐ After lubricating with injector, use brush and spread the grease until it becomes 2 mm in width.
- ☐ Wipe the grease that runs off from the lubrication area.

Figure 6-7. Lubrication of the CR Guide Plate

<Lubrication Point>
Sliding surface of the Cap Slider (x4)

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with brush.
- ☐ Stir G-74 before use.

Figure 6-8. Lubrication of the Ink System Assy (1)

<Lubrication Point>
Valve Unit (x2)

<Type>
G-74

<Application Amount>
2 mm x 12 mm

<Remarks>
- ☐ Apply with brush.
- ☐ Stir G-74 before use.

Figure 6-9. Lubrication of the Ink System Assy (2)

<Lubrication Point>
1. Guide Rail Pressing Plate (Two contact points with the CR Guide Plate)
2. Contact points (x2) with the Valve Cam

<Type>
G-71

<Application Amount>
1. ϕ 3 mm x appropriate amount
2. ϕ 1 mm x appropriate amount

<Remarks>
1. Apply with injector.
2. Lubricate along the rib on the bottom of the CR Assy with injector.
- ☐ Wipe the grease that runs off from the lubrication area.

Figure 6-10. Lubrication of the CR Unit

<Lubrication Point>
Shaft of the Middle Roller

<Type>
G-71

<Application Amount>
ϕ 2 mm x 4 mm

<Remarks>
Apply with injector.

Figure 6-11. Lubrication of the Duplex Unit

<Lubrication Point>
1. Grooves of the slider base (contact points with the Cam Slider)
2. Cam Slider

<Type>
1. G-72
2. G-71

<Application Amount>
1. 0.5 g ± 0.1 g x 16 points
2. Appropriate amount (0.005 g ± 0.001 g)

<Remarks>
☐ Apply with brush.
1. Start lubrication 7 mm from the outer end of each groove row of the Slider Base and lubricate 7 mm at 2 points per groove (16 points in total). After lubrication, attach the Cam Slider to the Slider Base and move the Cam Slider back and forth three times to apply the grease evenly.

Figure 6-12. Lubrication of the Paper Stopper Assy 1st/2nd

<Lubrication Point>
LD shaft of the ADF Paper Guide Upper Assy (x4)

<Type>
G-71

<Application Amount>
ϕ 1 mm x 2 mm

<Remarks>
Apply with injector.

Figure 6-13. Lubrication of the ADF Paper Guide Upper Assy

<Lubrication Point>
1. Combination Gear 21.6.10.8 Mounting Shaft, Combination Gear 25.2.9.0553 Mounting Shaft and Scanner Driven Pulley Mounting Shaft (x2 each)
2. Guide rail of the Scanner Housing Lower (x3)

<Type>
1. G-26
2. G-45

<Application Amount>
1. ϕ 1 mm x 2 mm
2. 0.03 g x 3 points

<Remarks>
1. Apply with injector.
2. After lubricating with injector, use brush and spread the grease all over the guide rail in the order indicated in the figure.

Figure 6-14. Lubrication of the Scanner Unit

<Lubrication Point> Grooves on the bottom of the Scanner Carriage (x4)
<Type> G-45
<Application Amount> ϕ 5 mm x appropriate amount x 4 points
<Remarks> Apply with injector.

Figure 6-15. Lubrication of the Scanner Carriage