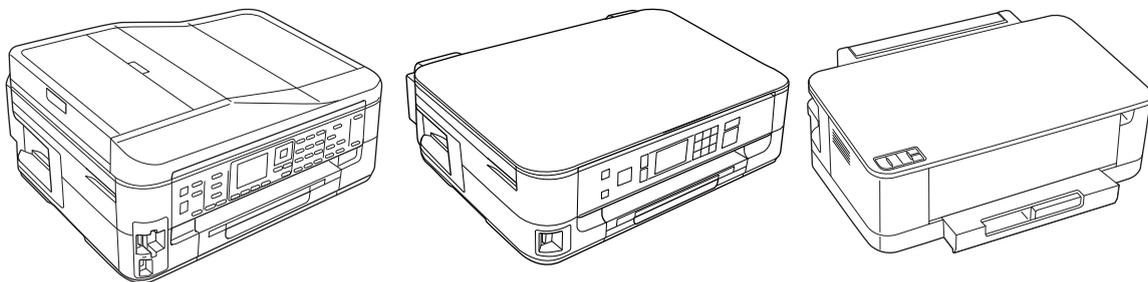


# SERVICE MANUAL



*Color Inkjet Printer*

**Epson WorkForce 635/Epson Stylus Office TX620FWD/  
Epson Stylus Office BX625FWD/Epson ME OFFICE 960FWD  
Epson WorkForce 620/625/Epson Stylus TX560WD/SX525WD/  
Epson Stylus Office BX525WD/Epson ME OFFICE 900WD  
Epson WorkForce 60/T42WD/  
Epson Stylus Office B42WD/Epson ME OFFICE 82WD  
Epson ME OFFICE 85ND**

**EPSON**  
EXCEED YOUR VISION

# 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. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
6. 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.
7. 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.

8. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
9. Use only recommended tools for disassembling, assembling or adjusting the printer.
10. Observe the specified torque when tightening screws.
11. 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
12. 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.
13. Apply the specified amount of grease described in this manual.
14. Make the specified adjustments when you disassemble the printer.
15. When cleaning this product, follow the procedure described in this manual.
16. 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.
17. Make sure to install antivirus software in the computers used for the service support activities.
18. Keep the virus pattern file of antivirus software up-to-date.

# 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. DISASSEMBLY / REASSEMBLY**

Describes the disassembly/reassembly procedures for main parts/units of the product, and provides the standard operation time for servicing the product.

## **CHAPTER 2. ADJUSTMENT**

Describes the required adjustments for servicing the product.

## **CHAPTER 3. MAINTENANCE**

Describes maintenance items and procedures for servicing the product.

## **CHAPTER 4. APPENDIX**

Provides the following additional information for reference:

- Power-On Sequence
- Connector Diagram
- Troubleshooting

## **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 1 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see "[1.2 Disassembly/Reassembly Procedures \(p12\)](#)".

# Revision Status

Revision	Date of Issue	Description
A	April 28, 2010	First Release
B	August 6, 2010	<p>Revised Contents</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Chapter 1 <ul style="list-style-type: none"> <li>■ "1.1.2 Jigs (p11)" has been added.</li> <li>■ The Stopper Assy has been added and made change in "Table 1-1 Standard Operation Time (WorkForce 635 series) (TBD) (p13)" of "1.2.1 Standard Operation Time for servicing the product (TBD) (p13)".</li> <li>■ Made change in "Table 1-2 Standard Operation Time (WorkForce 620 series) (TBD) (p14)" of "1.2.1 Standard Operation Time for servicing the product (TBD) (p13)".</li> <li>■ Made change in "1.2.2 Disassembly/Reassembly Flowchart (p17)".</li> <li>■ Made change in "1.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p22)". <ul style="list-style-type: none"> <li>• Made change in " Document Pad (WorkForce 635/620 series) (p22)".</li> <li>• Made change in " Left Housing/Right Housing (WorkForce 635/620 series) (p22)".</li> <li>• Made change in " Panel Unit (WorkForce 635/620 series) (p22)".</li> <li>• Made change in " Lower Panel Housing (WorkForce 635/620 series) (p22)".</li> <li>• Made change in " Panel Board (WorkForce 635/620 series) (p23)".</li> <li>• Made change in " Ink System Assy (p23)".</li> <li>• Made change in " FAX Shield Plate/FAX Connector Cover (WorkForce 635 series) (p23)".</li> <li>• Made change in " Star Wheel Assy (p23)".</li> <li>• Made change in " Main Board Unit (WorkForce 635/620 series) (p24)".</li> <li>• Made change in " Front Frame (p24)".</li> <li>• Made change in " Main Frame (w/ CR Assy) (p24)".</li> <li>• Made change in " Printhead (p24)".</li> <li>• Made change in " ADF Unit (WorkForce 635 series) (1) (p25)".</li> <li>• Made change in " ADF Unit (WorkForce 635 series) (2) (p25)".</li> <li>• " Paper Guide Front Assy (installation using the tools) (p26)" has been added.</li> <li>• " Paper Guide Front Assy (Stopper Holder Idle Roller) (p26)" has been added.</li> <li>• " LCD (WorkForce 635/620 series) (p26)" has been added.</li> <li>• Made change in " Front Paper Guide Waste Ink Pad (p26)".</li> <li>• " Stopper Assy (WorkForce 620 series) (p26)" has been added.</li> </ul> </li> <li>■ Made change in "1.4 Routing FFCs/cables (p28)". <ul style="list-style-type: none"> <li>• Made change in " Inside the USB Cover (WorkForce 635 series) (p28)".</li> <li>• Made change in " Panel Unit (WorkForce 635 series) (p28)".</li> <li>• Made change in " Scanner FFC/Scanner Motor Cable (WorkForce 635/620 series) (p28)".</li> <li>• Made change in " P/S Board Assy (WorkForce 635/620 series) (p28)".</li> <li>• Made change in " FAX Assy (WorkForce 635 series) (p28)".</li> <li>• Made change in " Head FFC (p29)".</li> <li>• Made change in " Main Board (WorkForce 635 series) (p29)".</li> <li>• Made change in " PF Motor (p29)".</li> <li>• Made change in " PE Sensor (p29)".</li> <li>• Made change in " Inside the USB Cover (WorkForce 620 series) (p30)".</li> <li>• Made change in " Main Board (WorkForce 620 series) (p30)".</li> <li>• Made change in " Panel Unit (WorkForce 620 series) (p29)".</li> </ul> </li> </ul> </li> <li><input type="checkbox"/> Chapter 2 <ul style="list-style-type: none"> <li>■ Made change in "2.1 Required Adjustments (p32)".</li> <li>■ "2.2.1 PF Timing Belt Tension Measurement/PF Belt Step Check (p38)" has been added.</li> <li>■ "2.2.2 Checking the Platen Gap (p41)" has been added.</li> </ul> </li> </ul>

Revision	Date of Issue	Description
B	August 6, 2010	<ul style="list-style-type: none"> <li>☐ Chapter 3               <ul style="list-style-type: none"> <li>■ Made change in "3.1.2 Lubrication (p44)".</li> <li>■ Made change in "3.2 Lubrication Points and Instructions (p45)".                   <ul style="list-style-type: none"> <li>• Made change in "Fig. 3-1 Lubrication of the Driven Pulley Holder (p45)".</li> <li>• Made change in "Fig. 3-2 Lubrication of the Paper Guide Front Assy (PF Roller) (p45)".</li> <li>• Made change in "Fig. 3-3 Lubrication of the Paper Guide Front Assy (EJ Roller) (p45)".</li> <li>• Made change in "Fig. 3-5 Lubrication of the PF Holder (p45)".</li> <li>• Made change in "Fig. 3-6 Lubrication of the Main Frame (1) (p46)".</li> <li>• Made change in "Fig. 3-8 Lubrication of the EJ Pulley (p46)".</li> <li>• Made change in "Fig. 3-9 Lubrication of the Ink System Assy (1) (p46)".</li> <li>• Made change in "Fig. 3-10 Lubrication of the Ink System Assy (2) (p46)".</li> <li>• Made change in "Fig. 3-11 Lubrication of the CR Assy (p46)".</li> <li>• Made change in "Fig. 3-12 Lubrication of the Scanner Unit (WorkForce 635/620 series) (p47)".</li> <li>• "Fig. 3-15 Lubrication of the Stopper Assy (WorkForce 620 series) (p48)" has been added.</li> </ul> </li> </ul> </li> <li>☐ Chapter 4               <ul style="list-style-type: none"> <li>■ Made change in "4.1 Power-On Sequence (p50)".</li> <li>■ "4.3 Troubleshooting (p54)" has been added.</li> </ul> </li> </ul>

Revision	Date of Issue	Description
C	October 12, 2010	<p>Revised Contents</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> All chapters <ul style="list-style-type: none"> <li>Information of Epson WorkForce 60/T42WD/Epson Stylus Office B42WD/Epson ME OFFICE 82WD/Epson ME OFFICE 85ND has been added.</li> </ul> </li> <li><input type="checkbox"/> Chapter 1 <ul style="list-style-type: none"> <li>■ Production name has been added in "1.1 Overview (p11)".</li> <li>■ Made change in "1.1.2 Jigs (p11)".</li> <li>■ Made change in "1.2 Disassembly/Reassembly Procedures (p12)".</li> <li>■ Made change in "1.2.1 Standard Operation Time for servicing the product (TBD) (p13)". <ul style="list-style-type: none"> <li>• "1-3 Standard Operation Time (WorkForce 60 series) (TBD) (p15)" has been added.</li> </ul> </li> <li>■ Made change in "1.2.2 Disassembly/Reassembly Flowchart (p17)". <ul style="list-style-type: none"> <li>• Made change in "1.2.2.1 Housing Part (WorkForce 635 series/WorkForce 620 series) (p17)".</li> <li>• "1.2.2.2 Housing Part (WorkForce 60 series) (p19)" has been added.</li> <li>• Made change in "1.2.2.3 Printer Mechanism Part (p20)".</li> </ul> </li> <li>■ Made change in "1.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p22)". <ul style="list-style-type: none"> <li>• Production name has been added in " USB Cover (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Decoration Plate (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Document Pad (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Left Housing/Right Housing (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Panel Unit (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Upper Housing (w/ Panel Unit) (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Lower Panel Housing (WorkForce 635/620 series) (p22)".</li> <li>• Production name has been added in " Panel Board (WorkForce 635/620 series) (p23)".</li> <li>• Made change in " CR Scale/Extension Spring (p23)".</li> <li>• Production name has been added in " Shield Plate (w/ Wireless LAN Module) (WorkForce 635/620 series) (p23)".</li> <li>• Production name has been added in " Wireless LAN Module (p23)".</li> <li>• Production name has been added in " Main Board Unit (WorkForce 635/620 series) (p24)".</li> <li>• Production name has been added in " CIS Unit (WorkForce 635/620 series) (p24)".</li> <li>• Made change in " Paper Guide Front Assy (installation using the tools) (p26)".</li> <li>• Made change in " Paper Guide Front Assy (Stopper Holder Idle Roller) (p26)".</li> <li>• Production name has been added in " LCD (WorkForce 635/620 series) (p26)".</li> <li>• " Front Cover (WorkForce 60 series) (p27)" has been added.</li> <li>• " USB Cover (WorkForce 60 series) (p27)" has been added.</li> <li>• " Upper Housing (WorkForce 60 series) (p27)" has been added.</li> <li>• " Stacker Assy (WorkForce 60 series) (p27)" has been added.</li> <li>• " Main Board Unit (WorkForce 60 series) (p27)" has been added.</li> </ul> </li> </ul> </li> </ul>

Revision	Date of Issue	Description
C	October 12, 2010	<ul style="list-style-type: none"> <li>■ Made change in "1.4 Routing FFCs/cables (p28)". <ul style="list-style-type: none"> <li>• Production name has been added in " Cover Open Sensor (WorkForce 635/620 series) (p28)".</li> <li>• Production name has been added in " Scanner FFC/Scanner Motor Cable (WorkForce 635/620 series) (p28)".</li> <li>• Production name has been added in " P/S Board Assy (WorkForce 635/620 series) (p28)".</li> <li>• Production name has been added in " PF Encoder Sensor (WorkForce 635/620 series) (p29)".</li> <li>• " Main Board (WorkForce 60 series) (p30)" has been added.</li> </ul> </li> <li>□ Chapter 2 <ul style="list-style-type: none"> <li>■ Made change in "2.2.1 PF Timing Belt Tension Measurement/PF Belt Step Check (p38)".</li> </ul> </li> <li>□ Chapter 3 <ul style="list-style-type: none"> <li>■ Made change in "3.2 Lubrication Points and Instructions (p45)". <ul style="list-style-type: none"> <li>• Production name has been added in "3-12 Lubrication of the Scanner Unit (WorkForce 635/620 series) (p47)".</li> <li>• Production name has been added in "3-13 Lubrication of the Duplex Unit (p47)".</li> <li>• Production name has been added in "3-15 Lubrication of the Stopper Assy (WorkForce 620 series) (p48)".</li> </ul> </li> </ul> </li> <li>□ Chapter 4 <ul style="list-style-type: none"> <li>■ Made change in "4.2 Connector Diagram (p53)".</li> <li>■ Made change in "4.3.1 Troubleshooting Workflow (p54)".</li> <li>■ Made change in "4.3.2 Fatal Error Code (p56)".</li> </ul> </li> </ul>

# Contents

## **Chapter 1 Disassembly/Reassembly**

---

1.1 Overview .....	11
1.1.1 Tools .....	11
1.1.2 Jigs .....	11
1.2 Disassembly/Reassembly Procedures .....	12
1.2.1 Standard Operation Time for servicing the product (TBD) .....	13
1.2.2 Disassembly/Reassembly Flowchart .....	17
1.2.2.1 Housing Part (WorkForce 635 series/WorkForce 620 series) .....	17
1.2.2.2 Housing Part (WorkForce 60 series) .....	19
1.2.2.3 Printer Mechanism Part .....	20
1.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit .....	22
1.4 Routing FFCs/cables .....	28

## **Chapter 2 Adjustment**

---

2.1 Required Adjustments .....	32
2.2 Details of Adjustments .....	38
2.2.1 PF Timing Belt Tension Measurement/PF Belt Step Check .....	38
2.2.2 Checking the Platen Gap .....	41
2.2.3 MAC Address Setting .....	42

## **Chapter 3 Maintenance**

---

3.1 Overview .....	44
3.1.1 Cleaning .....	44
3.1.2 Lubrication .....	44
3.2 Lubrication Points and Instructions .....	45

## **Chapter 4 Appendix**

---

4.1 Power-On Sequence .....	50
4.2 Connector Diagram .....	53
4.3 Troubleshooting .....	54
4.3.1 Troubleshooting Workflow .....	54
4.3.2 Fatal Error Code .....	56

CHAPTER 1

# DISASSEMBLY/REASSEMBLY

## 1.1 Overview

This chapter describes procedures for disassembling the main parts/units of WorkForce 635 series, WorkForce 620 series and WorkForce 60 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 "[1.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit \(p22\)](#)".

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).



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

- **WorkForce 635 series:** WorkForce 635/Epson Stylus Office TX620FWD/  
Epson Stylus Office BX625FWD/ME OFFICE 960FWD
- **WorkForce 620 series:** WorkForce 620/625/Epson Stylus TX560WD/  
Epson Stylus SX525WD/Epson Stylus BX525WD/  
ME OFFICE 900WD
- **WorkForce 60 series:** WorkForce 60/T42WD/  
Epson Stylus Office B42WD/ME OFFICE 82WD/  
ME OFFICE 85ND

### 1.1.1 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.

### 1.1.2 Jigs

Name	Q'ty	EPSON Part Code
Paper guide front supporting tool (A)*	1	WorkForce 635 series: 1543170 WorkForce 620 series: 1543171 WorkForce 60 series: 1543170
Paper guide front supporting tool (B)*	1	WorkForce 635 series: 1543539 WorkForce 620 series: 1543544 WorkForce 60 series: 1543539
Paper guide front supporting tool (C)*	3	WorkForce 635 series: 1543541 WorkForce 620 series: 1543547 WorkForce 60 series: 1543541
Printhead supporting tool	2	1543169

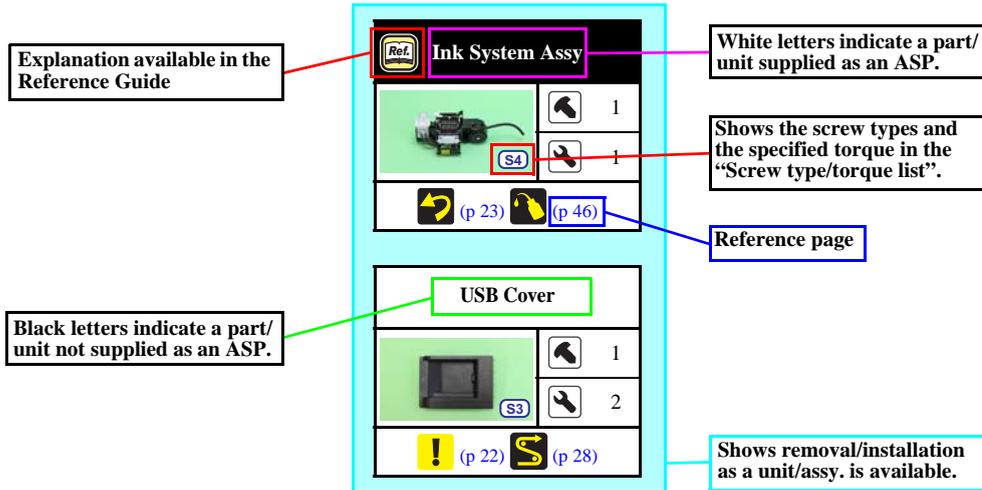
Note \*: The required tools differ between WorkForce 635 series, WorkForce 620 series and WorkForce 60 series. Be careful not to mix up the tools.

## 1.2 Disassembly/Reassembly Procedures

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 "1.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p22)".)  
 For routing cables, see "1.4 Routing FFCs/cables (p28)".



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 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 2 " Adjustment (p31)"
		Indicates lubrication is required.	Chapter 3 " Maintenance (p43)"
		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.	---

## 1.2.1 Standard Operation Time for servicing the product (TBD)

The following are the standard operation time for servicing the product. Those are based on the MTTR result measured using a prototype.

The underlined parts/units are supplied as After Service Parts.

- Standard Operation Time for servicing WorkForce 635 series: See [Table 1-1](#)
- Standard Operation Time for servicing WorkForce 620 series: See [Table 1-2](#)
- Standard Operation Time for servicing WorkForce 60 series: See [Table 1-3](#)

**Table 1-1. Standard Operation Time (WorkForce 635 series) (TBD)**

Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total		Replace-ment	Adjust-ment	Total
USB Cover	34			Main Frame (w/ CR Assy)	1134		
ADF Unit/Scanner Unit	287			Upper Paper Guide	1150		
<u>Scanner Unit</u>	417			PE Holder Assy	1176		
CIS Unit	550			CR Motor	1211		
<u>ADF Unit</u>	417			CR Scale Holder	1154		
<u>Front ADF Cover</u>	512			<u>CR Assy</u>	1185		
<u>Top ADF Cover</u>	514			Hinge Cover Cartridge/Cartridge Cover	540		
<u>Right ADF Cover</u>	552			I/C Guide	546		
Rear ADF Cover	455			Inner Head Cable Cover	555		
<u>ADF Document Support</u>	429			<u>Printhead</u>	626		
<u>ADF Cover Assy</u>	18			<u>Holder Board Assy</u>	526		
<u>ADF Pad Assy</u>	19			CSIC Terminal	577		
Document Pad	20			CR Contact Module	538		
Decoration Plate	57			Holder Board	589		
<u>Left Housing</u>	88			Head FFC	1216		
Hinge	300			Front Frame	1167		
Upper Housing (w/ Panel Unit)	478			Star Wheel Assy	1193		
<u>Upper Housing</u>	526			Paper Guide Front Assy	1300		
Cover Open Sensor	526			Front Paper Guide Waste Ink Pad	1431		
<u>Duplex Unit</u>	4			<u>EJ Pulley</u>	1208		
<u>Right Housing</u>	88			EJ Roller	1216		
<u>Panel Unit</u>	225			PF Holder/PF Timing Belt	1334		
Panel Gear	230			PF Motor	1406		
Panel Lever	230			Frame Base Assy	1300		
Lower Panel Housing	333			<u>Lower Paper Guide Waste Ink Pad</u>	1305		
Panel Board	352			PE Sensor	1352		
LCD	394			Stacker Assy	1347		
Button	533			Frame Base	1404		
<u>Upper Panel Housing</u>	575			Extension Spring (Upper Paper Guide)	548		
<u>Cassette Assy</u>	4			<u>CR Scale</u>	542		
<u>Pickup Assy</u>	25			Driven Pulley/Extension Spring	599		
<u>Waste Ink Tray Assy</u>	24			<u>Cam Holder Assy</u>	547		
<u>Paper Sheet Assy</u>	12			<u>Extension Spring</u>	566		

Table 1-1. Standard Operation Time (WorkForce 635 series) (TBD)

Parts/Unit	Time (second)		
	Replac- ement	Adjust- ment	Total
FAX Grounding Plate	559		
PF Encoder Sensor	759		
Main Board Unit	746		
Shield Plate (w/ Wireless LAN Module)	918		
Wireless LAN Module	790		
Main Board	962		
P/S Board Assy	538		

Parts/Unit	Time (second)		
	Replac- ement	Adjust- ment	Total
FAX Assy	643		
FAX Shield Plate/ FAX Connector Cover	721		
Fax Board	721		
Right Frame	517		
Ink System Assy	570		
Waste Ink Pad (Bottom of Ink System Assy)	575		

Table 1-2. Standard Operation Time (WorkForce 620 series) (TBD)

Parts/Unit	Time (second)		
	Replac- ement	Adjust- ment	Total
USB Cover	34		
Scanner Unit	114		
CIS Unit	247		
Document Cover	60		
Document Pad	20		
Decoration Plate	43		
Left Housing	74		
Hinge	127		
Upper Housing (w/ Panel Unit)	322		
Upper Housing	445		
Cover Open Sensor	339		
Duplex Unit	4		
Right Housing	74		
Panel Unit	211		
Panel Gear/Panel Lever	225		
Lower Panel Housing	324		
Panel Board	465		
LCD	507		
LCD Cover	510		
Button	554		
Upper Panel Housing	599		
Cassette Assy	4		
Pickup Assy	25		
Waste Ink Tray Assy	24		
Main Board Unit	509		
Shield Plate (w/ Wireless LAN Module)	666		

Parts/Unit	Time (second)		
	Replac- ement	Adjust- ment	Total
Main Frame (w/ CR Assy)	897		
Upper Paper Guide	913		
PE Holder Assy	939		
CR Motor	974		
CR Scale Holder	917		
CR Assy	948		
Hinge Cover Cartridge/Cartridge Cover	353		
I/C Guide	359		
Inner Head Cable Cover	368		
Printhead	439		
Holder Board Assy	339		
CSIC Terminal	390		
CR Contact Module	351		
Holder Board	385		
Head FFC	979		
Front Frame	930		
Star Wheel Assy	956		
Paper Guide Front Assy	1063		
Front Paper Guide Waste Ink Pad	1194		
EJ Pulley	971		
EJ Roller	979		
PF Holder/PF Timing Belt	1097		
PF Motor	1169		
Frame Base Assy	1063		
Lower Paper Guide Waste Ink Pad	1068		
PE Sensor	1115		

Table 1-2. Standard Operation Time (WorkForce 620 series) (TBD)

Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replac- ement	Adjust- ment	Total		Replac- ement	Adjust- ment	Total
Wireless LAN Module	553			Stacker Assy	1110		
Main Board	666			Frame Base	1167		
PF Encoder Sensor	522			Extension Spring (Upper Paper Guide)	361		
Right Frame	330			CR Scale	355		
Ink System Assy.	383			Driven Pulley/Extension Spring	412		
Waste Ink Pad (Bottom of Ink System Assy)	388			Cam Holder Assy	360		
P/S Board Assy	351			Extension Spring	379		
Stopper Assy							

Table 1-3. Standard Operation Time (WorkForce 60 series) (TBD)

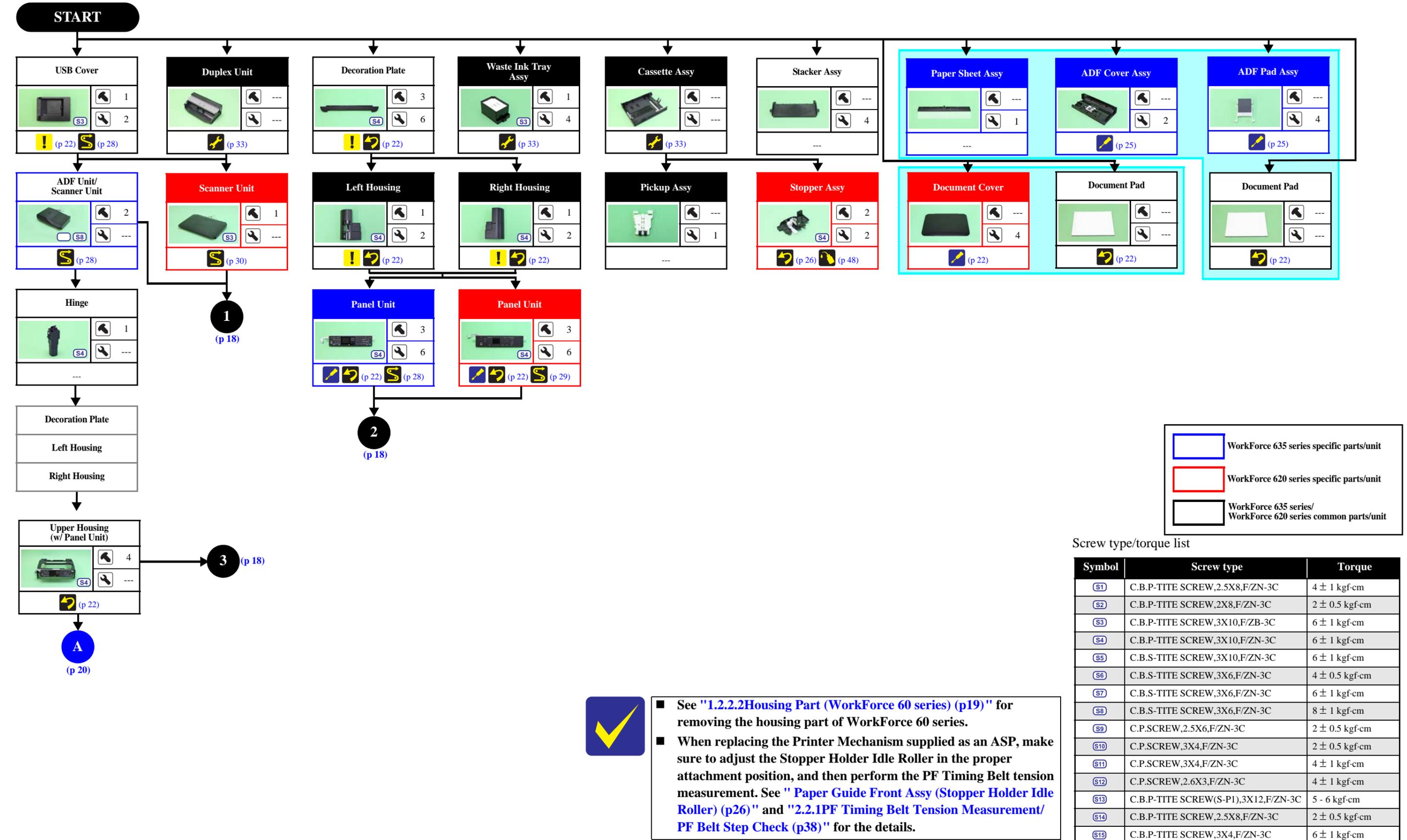
Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replac- ement	Adjust- ment	Total		Replac- ement	Adjust- ment	Total
USB Cover	34			Main Frame (w/ CR Assy)	550		
Printer Cover	9			Upper Paper Guide	566		
Upper Housing (w/ Printer Cover)	162			PE Holder Assy	592		
Upper Housing	171			CR Motor	627		
Duplex Unit	4			CR Scale Holder	570		
Cassette Assy	4			CR Assy	601		
Pickup Assy	25			Hinge Cover Cartridge/Cartridge Cover	193		
Waste Ink Tray Assy	24			I/C Guide	199		
Stacker Assy	128			Inner Head Cable Cover	208		
Front Cover	13			Printhead	279		
Panel Unit	44			Holder Board Assy	179		
Panel Board	101			CSIC Terminal	230		
LED Lens	94			CR Contact Module	191		
Button	126			Holder Board	242		
Front Panel Cover	126			Head FFC	632		
Stacker Open Sensor	56			Paper Guide Front Assy	716		
Main Board Unit	348			Front Paper Guide Waste Ink Pad	847		
Wireless LAN Module	392			EJ Pulley	616		
Shield Plate (w/ Cover Open Sensor)	581			EJ Roller	624		
Main Board	581			PF Holder/PF Timing Belt	750		
Cover Open Sensor	354			PF Motor	822		
PF Encoder Sensor	361			Frame Base Assy	716		
Front Frame	583			Lower Paper Guide Waste Ink Pad	721		

Table 1-3. Standard Operation Time (WorkForce 60 series) (TBD)

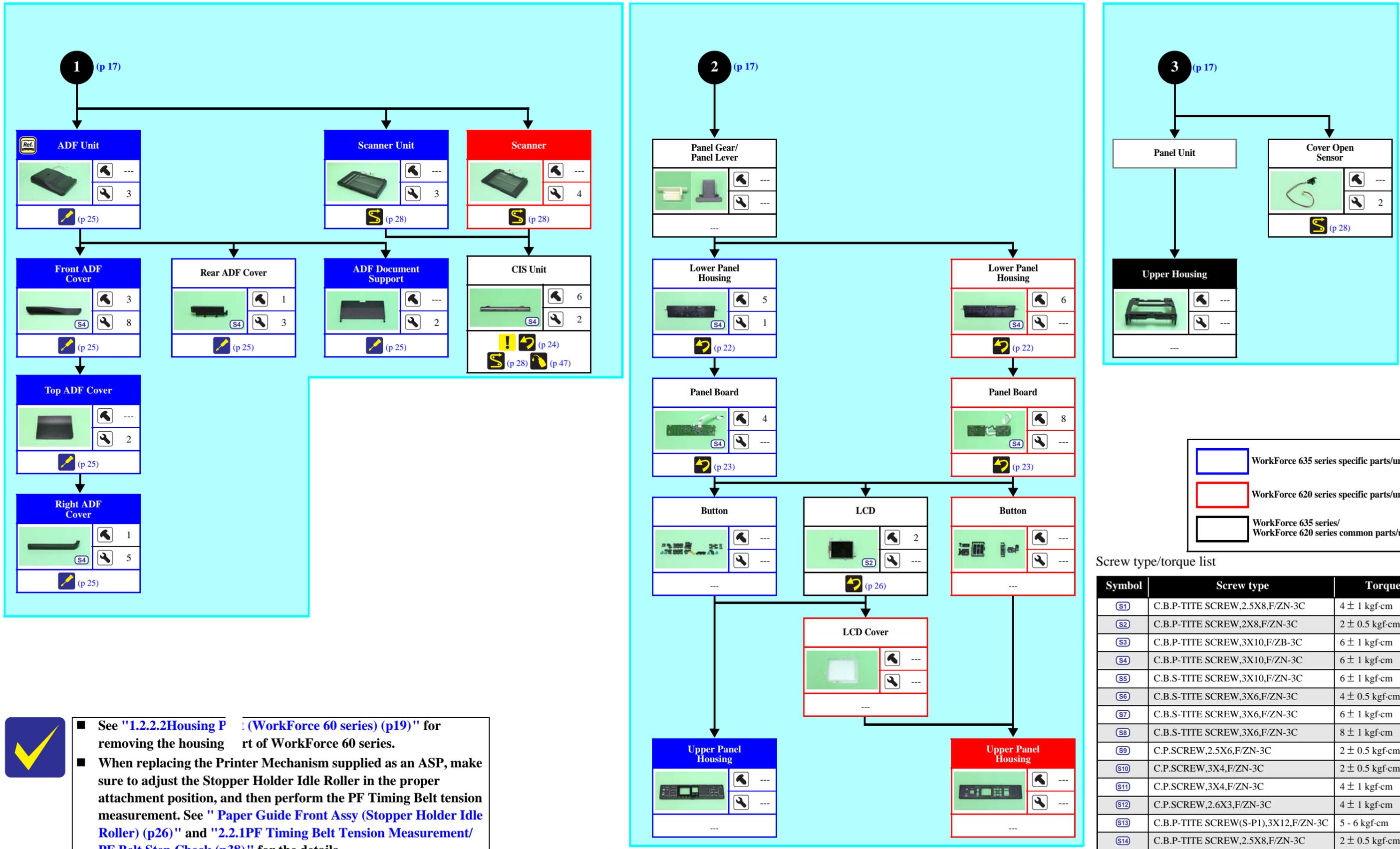
Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replac- ment	Adjust- ment	Total		Replac- ment	Adjust- ment	Total
Star Wheel Assy	609			PE Sensor	768		
CR Scale	195			Frame Base	773		
Driven Pulley/Extension Spring	252			Extension Spring (Upper Paper Guide)	201		
Right Frame	170			Cam Holder Assy	200		
Ink System Assy	223			Extension Spring	219		
Waste Ink Pad (Bottom of Ink System Assy)	228			Power Supply Unit	83		

### 1.2.2 Disassembly/Reassembly Flowchart

#### 1.2.2.1 Housing Part (WorkForce 635 series/WorkForce 620 series)



Flowchart 1-1. Disassembly Flowchart of Housing Part (1)



- See "1.2.2.2Housing Part (WorkForce 60 series) (p19)" for removing the housing part of WorkForce 60 series.
- When replacing the Printer Mechanism supplied as an ASP, make sure to adjust the Stopper Holder Idle Roller in the proper attachment position, and then perform the PF Timing Belt tension measurement. See "Paper Guide Front Assy (Stopper Holder Idle Roller) (p26)" and "2.2.1PF Timing Belt Tension Measurement/ PF Belt Step Check (p38)" for the details.

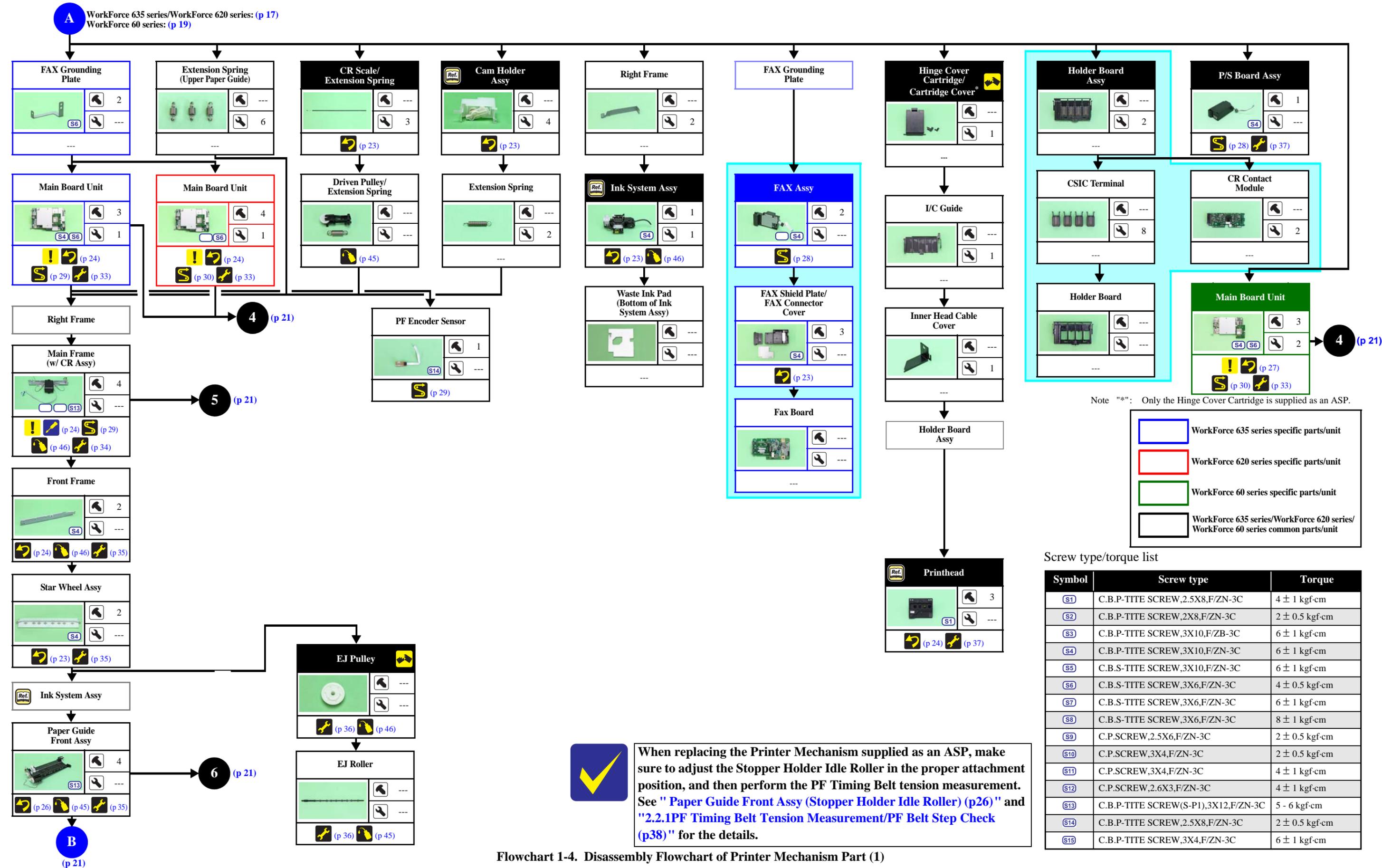
Flowchart 1-2. Disassembly Flowchart of Housing Part (2)

Screw type/torque list

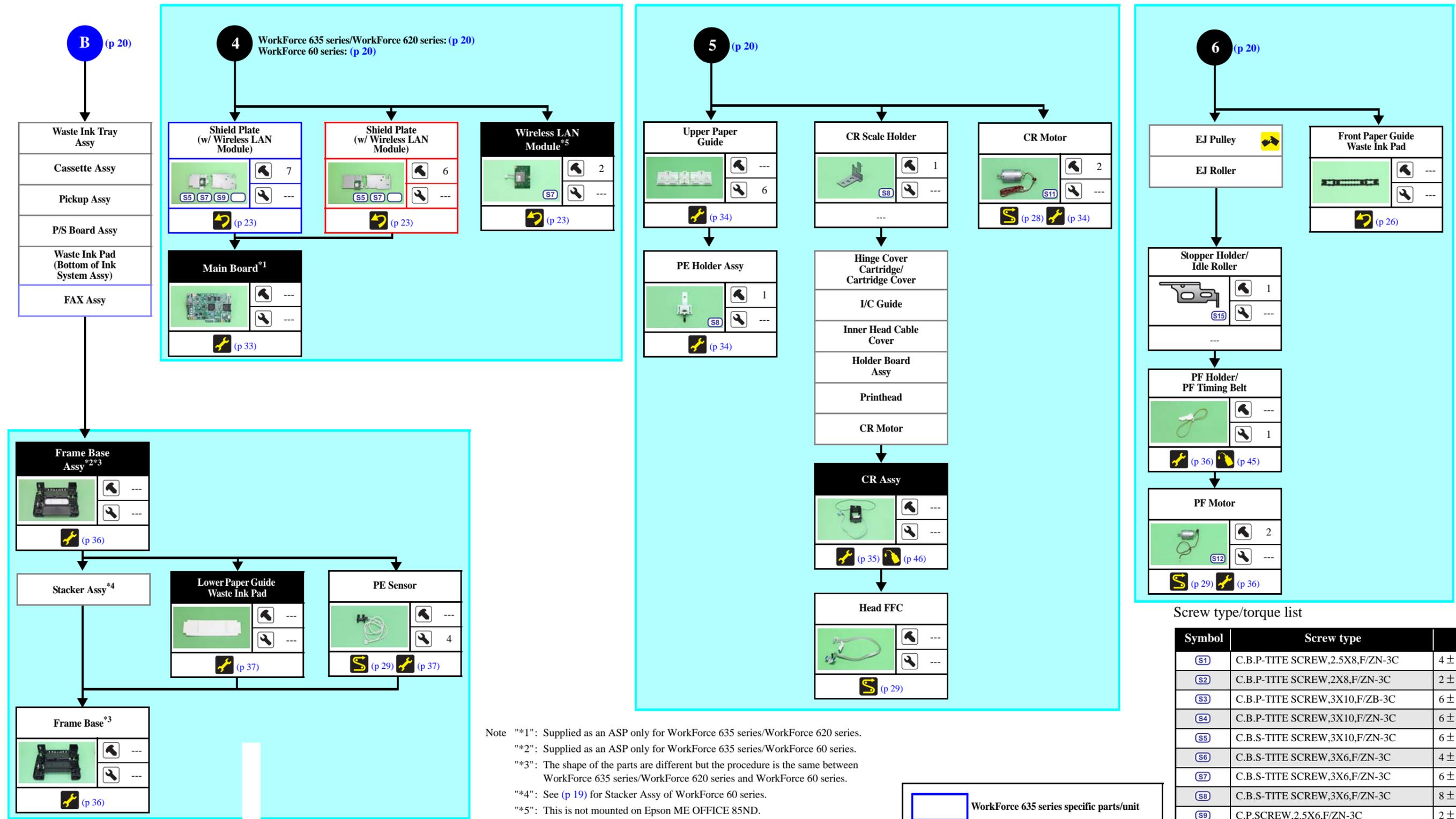
Symbol	Screw type	Torque
(S1)	C.B.P-TITE SCREW,2.5X8,F/ZN-3C	4 ± 1 kgf·cm
(S2)	C.B.P-TITE SCREW,2X8,F/ZN-3C	2 ± 0.5 kgf·cm
(S3)	C.B.P-TITE SCREW,3X10,F/ZB-3C	6 ± 1 kgf·cm
(S4)	C.B.P-TITE SCREW,3X10,F/ZN-3C	6 ± 1 kgf·cm
(S5)	C.B.S-TITE SCREW,3X10,F/ZN-3C	6 ± 1 kgf·cm
(S6)	C.B.S-TITE SCREW,3X6,F/ZN-3C	4 ± 0.5 kgf·cm
(S7)	C.B.S-TITE SCREW,3X6,F/ZN-3C	6 ± 1 kgf·cm
(S8)	C.B.S-TITE SCREW,3X6,F/ZN-3C	8 ± 1 kgf·cm
(S9)	C.P.SCREW,2.5X6,F/ZN-3C	2 ± 0.5 kgf·cm
(S10)	C.P.SCREW,3X4,F/ZN-3C	2 ± 0.5 kgf·cm
(S11)	C.P.SCREW,3X4,F/ZN-3C	4 ± 1 kgf·cm
(S12)	C.P.SCREW,2.6X3,F/ZN-3C	4 ± 1 kgf·cm
(S13)	C.B.P-TITE SCREW(S-P1),3X12,F/ZN-3C	5 - 6 kgf·cm
(S14)	C.B.P-TITE SCREW,2.5X8,F/ZN-3C	2 ± 0.5 kgf·cm
(S15)	C.B.P-TITE SCREW,3X4,F/ZN-3C	6 ± 1 kgf·cm



1.2.2.3 Printer Mechanism Part



Flowchart 1-4. Disassembly Flowchart of Printer Mechanism Part (1)



Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW,2.5X8,F/ZN-3C	4 ± 1 kgf-cm
S2	C.B.P-TITE SCREW,2X8,F/ZN-3C	2 ± 0.5 kgf-cm
S3	C.B.P-TITE SCREW,3X10,F/ZB-3C	6 ± 1 kgf-cm
S4	C.B.P-TITE SCREW,3X10,F/ZN-3C	6 ± 1 kgf-cm
S5	C.B.S-TITE SCREW,3X10,F/ZN-3C	6 ± 1 kgf-cm
S6	C.B.S-TITE SCREW,3X6,F/ZN-3C	4 ± 0.5 kgf-cm
S7	C.B.S-TITE SCREW,3X6,F/ZN-3C	6 ± 1 kgf-cm
S8	C.B.S-TITE SCREW,3X6,F/ZN-3C	8 ± 1 kgf-cm
S9	C.P.SCREW,2.5X6,F/ZN-3C	2 ± 0.5 kgf-cm
S10	C.P.SCREW,3X4,F/ZN-3C	2 ± 0.5 kgf-cm
S11	C.P.SCREW,3X4,F/ZN-3C	4 ± 1 kgf-cm
S12	C.P.SCREW,2.6X3,F/ZN-3C	4 ± 1 kgf-cm
S13	C.B.P-TITE SCREW(S-P1),3X12,F/ZN-3C	5 - 6 kgf-cm
S14	C.B.P-TITE SCREW,2.5X8,F/ZN-3C	2 ± 0.5 kgf-cm
S15	C.B.P-TITE SCREW,3X4,F/ZN-3C	6 ± 1 kgf-cm

Note \*\*1\*: Supplied as an ASP only for WorkForce 635 series/WorkForce 620 series.  
 \*\*2\*: Supplied as an ASP only for WorkForce 635 series/WorkForce 60 series.  
 \*\*3\*: The shape of the parts are different but the procedure is the same between WorkForce 635 series/WorkForce 620 series and WorkForce 60 series.  
 \*\*4\*: See (p 19) for Stacker Assy of WorkForce 60 series.  
 \*\*5\*: This is not mounted on Epson ME OFFICE 85ND.



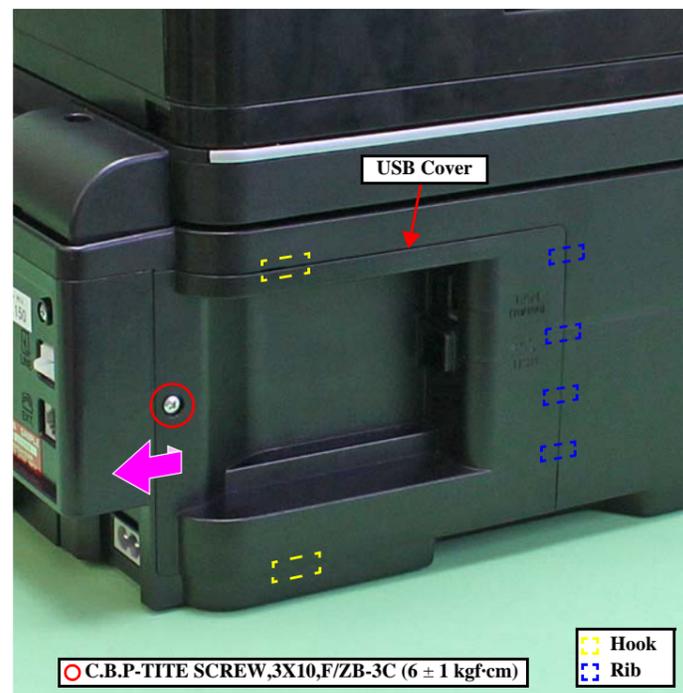
**When replacing the Printer Mechanism supplied as an ASP, make sure to adjust the Stopper Holder Idle Roller in the proper attachment position, and then perform the PF Timing Belt tension measurement. See "Paper Guide Front Assy (Stopper Holder Idle Roller) (p26)" and "2.2.1PF Timing Belt Tension Measurement/PF Belt Step Check (p38)" for the details.**

  WorkForce 635 series specific parts/unit  
  WorkForce 620 series specific parts/unit  
  WorkForce 60 series specific parts/unit  
  WorkForce 635 series/WorkForce 620 series/WorkForce 60 series common parts/unit

Flowchart 1-5. Disassembly Flowchart of Printer Mechanism Part (2)

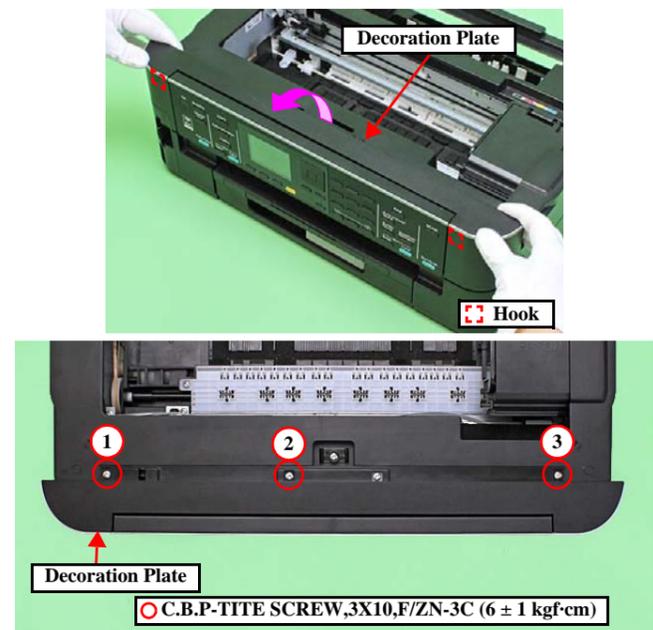
### 1.3 Detailed Disassembly/Reassembly Procedure for each Part/Unit

USB Cover (WorkForce 635/620 series)



**!** Remove the USB Cover by sliding it in the direction of the arrow shown above carefully not to damage the hooks (x2) that secure the USB Cover.

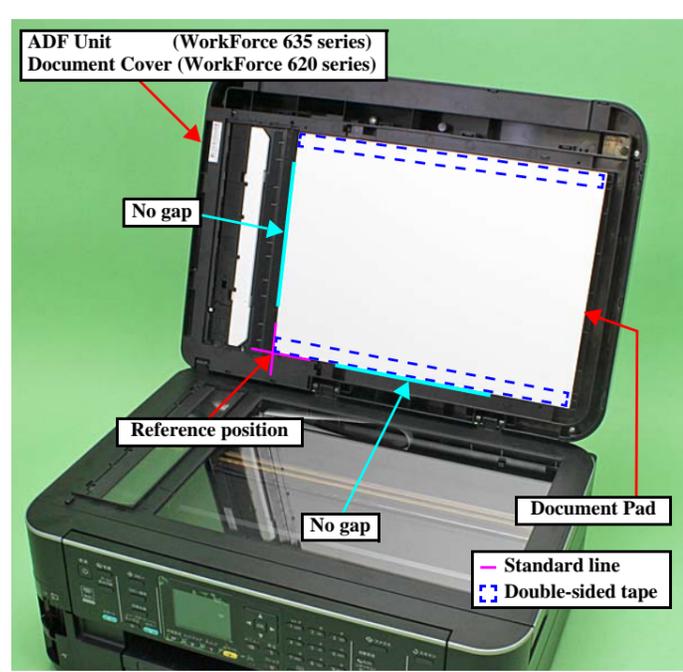
Decoration Plate (WorkForce 635/620 series)



**!** Remove the Decoration Plate by rotating it in the direction of the arrow shown above carefully not to damage the hooks (x2) that secure the Decoration Plate.

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

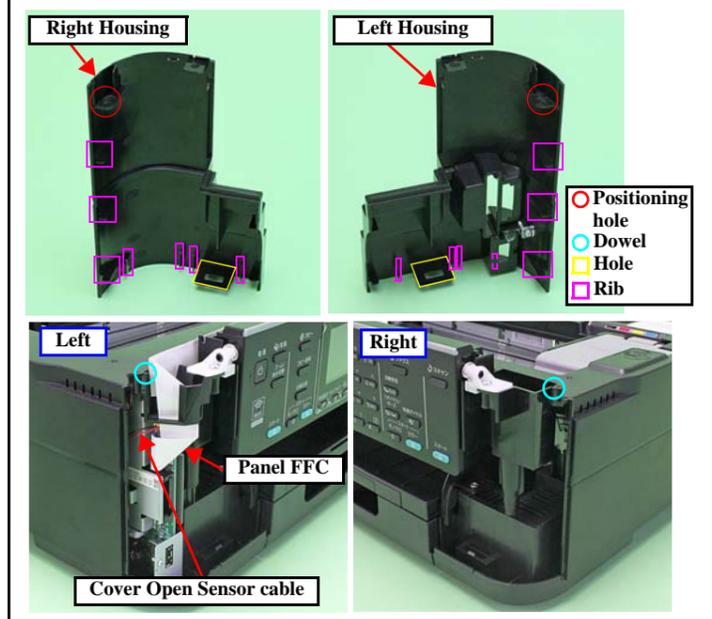
Document Pad (WorkForce 635/620 series)



**↶** First align one bottom corner of the Document Pad with the reference position and attach it with double-sided tape.

Make sure there is no gap on the left and bottom sides of the Document Pad.

Left Housing/Right Housing (WorkForce 635/620 series)

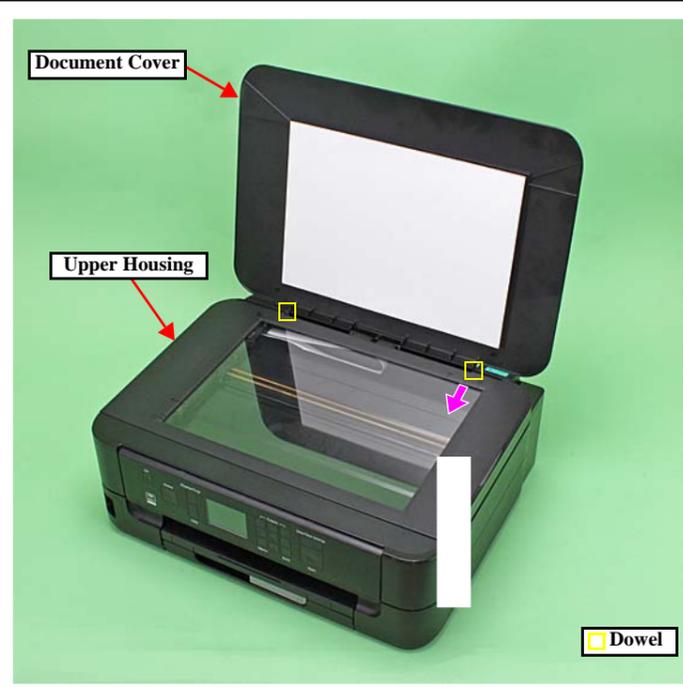


**!** Be careful not to damage the hooks (x1 each) and ribs (x7 each) that secure the Left Housing/Right Housing.

Be careful to remove the Left Housing since the Panel FFC and the Cover Open Sensor cable are routed inside it.

**↶** When installing the Left/Right Housing, align the positioning holes with the dowels of the Upper Housing.

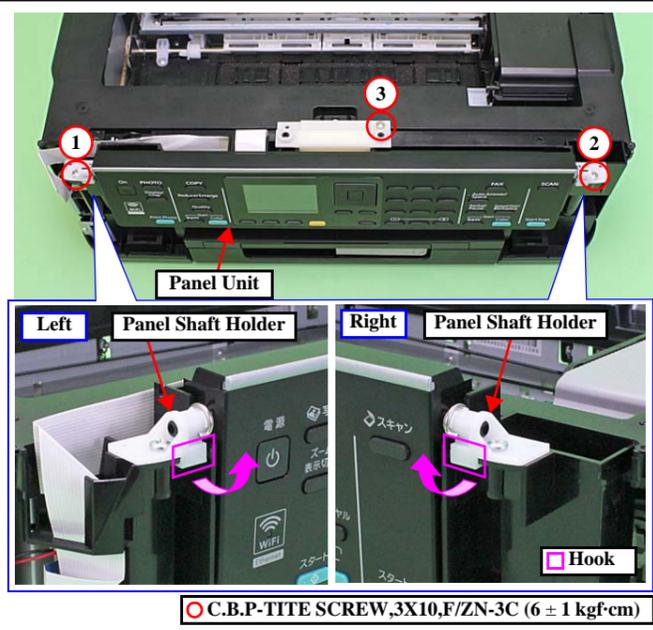
Document Cover (WorkForce 620 series)



**!** When removing the Document Cover, follow the procedure below.

1. With the Document Cover open, release the outside dowel on the right by pushing it from the rear of the printer.
2. Release the outside dowel on the left, and remove the Document Cover.

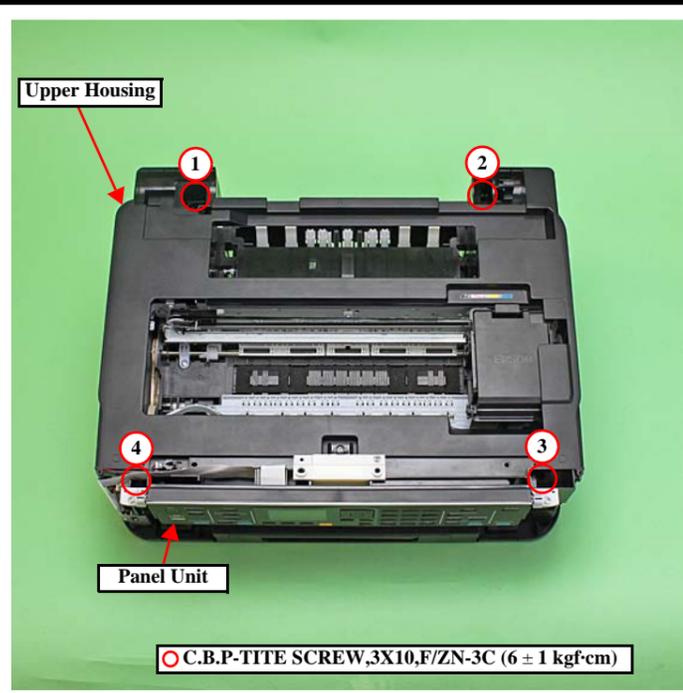
Panel Unit (WorkForce 635/620 series)



**!** Remove the screws (x3) with the Panel Unit open, and turn the Panel Unit in the direction of the arrow to release the hooks of the Panel Shaft Holders from the Upper Housing, then remove the Panel Unit.

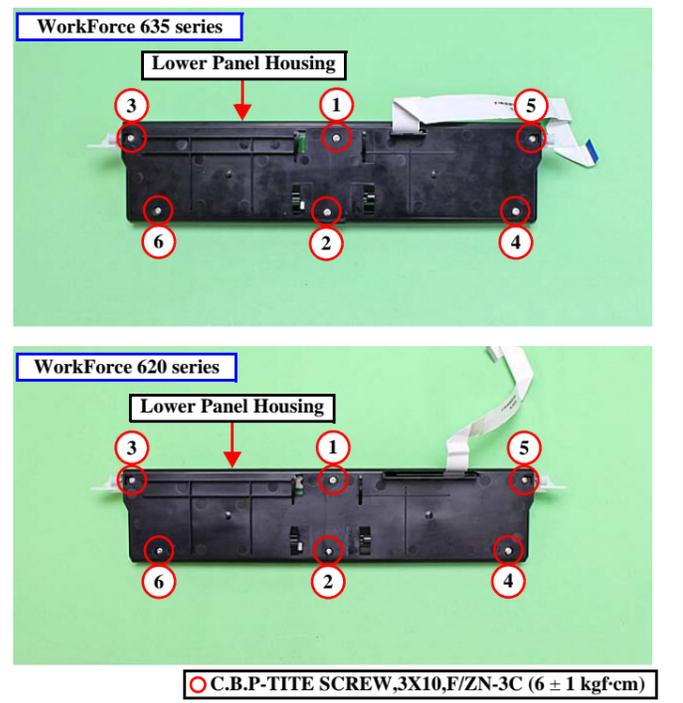
**↶** Secure the hooks of the Panel Shaft Holders firmly to the Upper Housing, and tighten the screws in the order indicated in the figure above.

Upper Housing (w/ Panel Unit) (WorkForce 635/620 series)



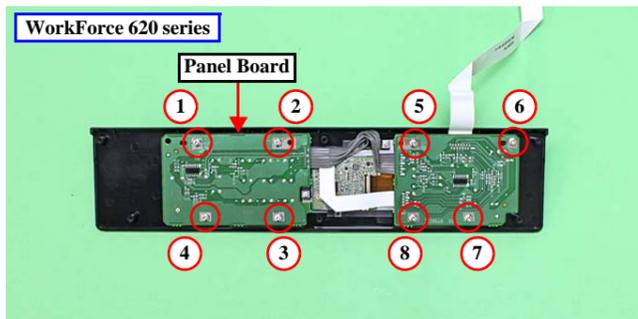
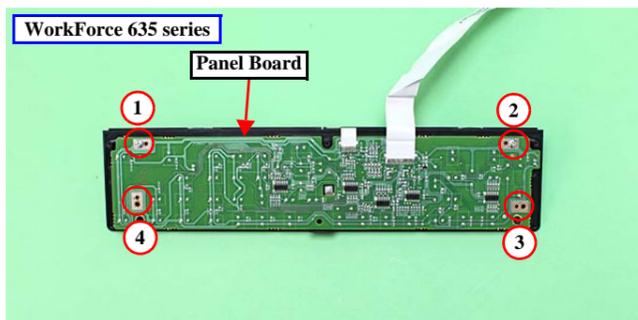
**↶** Tighten the screws in the order indicated in the figure above.

Lower Panel Housing (WorkForce 635/620 series)



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

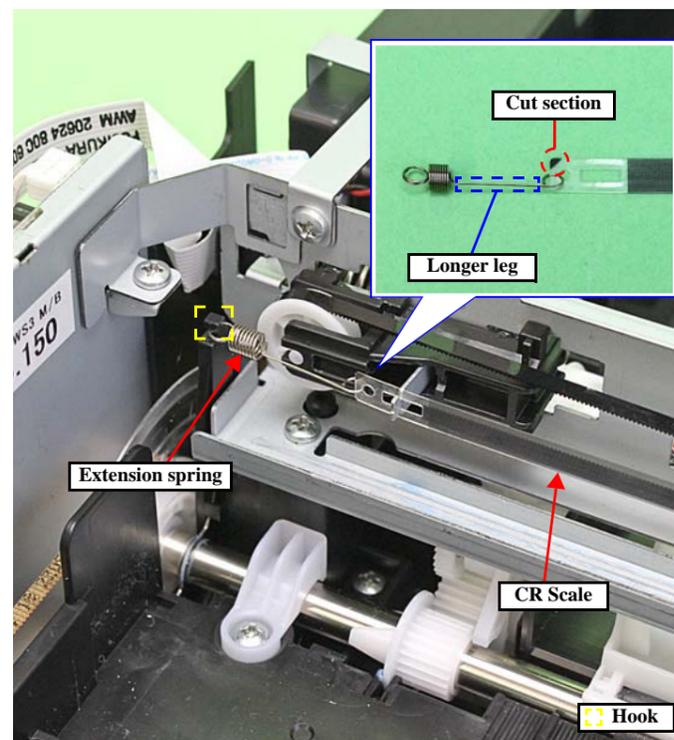
**Panel Board (WorkForce 635/620 series)**



○ C.B.P-TITE SCREW,3X10,F/ZN-3C (6 ± 1 kgf·cm)

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

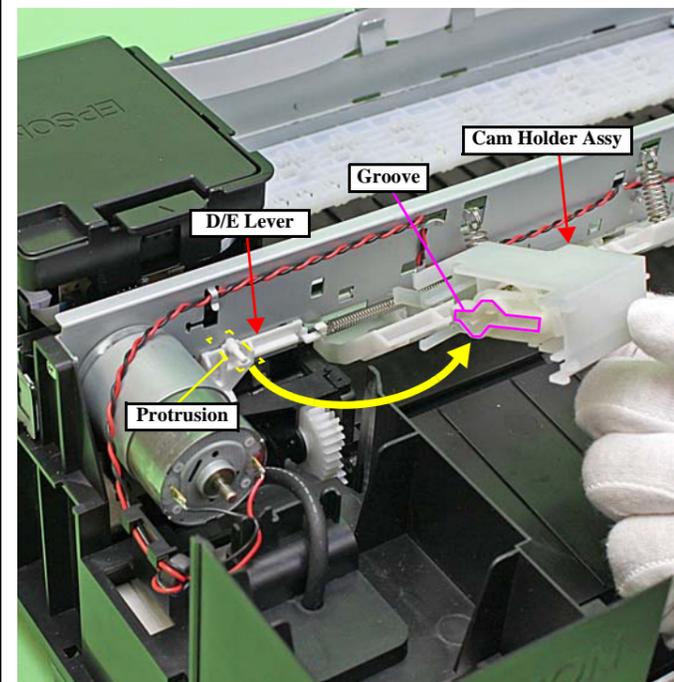
**CR Scale/Extension Spring**



⤴

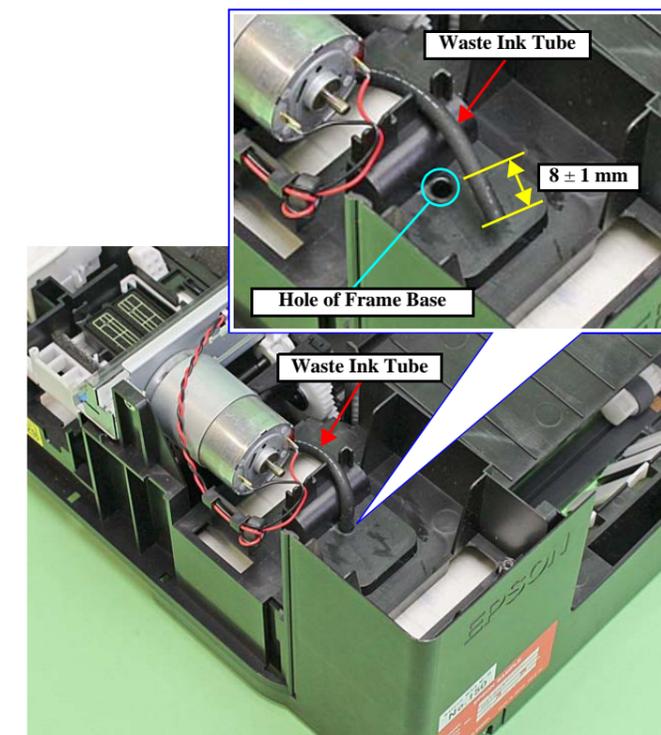
- Install the CR Scale with the cut section up.
- Attach it to the hook on the left of the printer with the longer leg of the extension spring to the front of the printer.

**Cam Holder Assy**



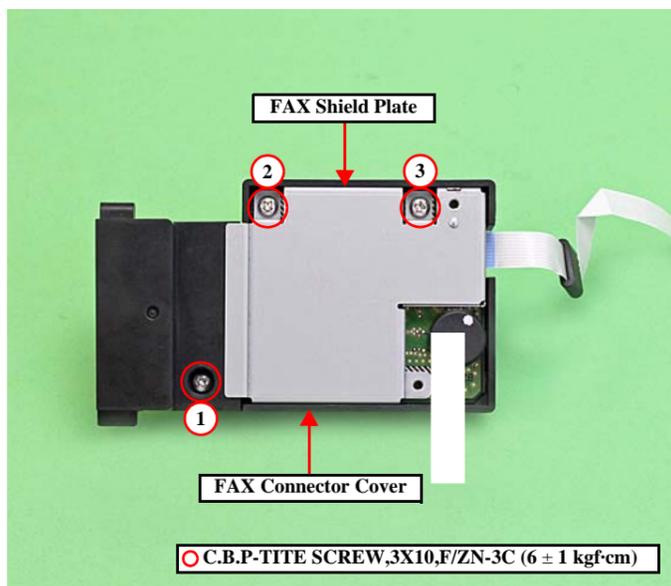
⤴ When installing the Cam Holder Assy, insert the protrusion of the D/E Lever into the groove of the Cam Holder Assy.

**Ink System Assy**



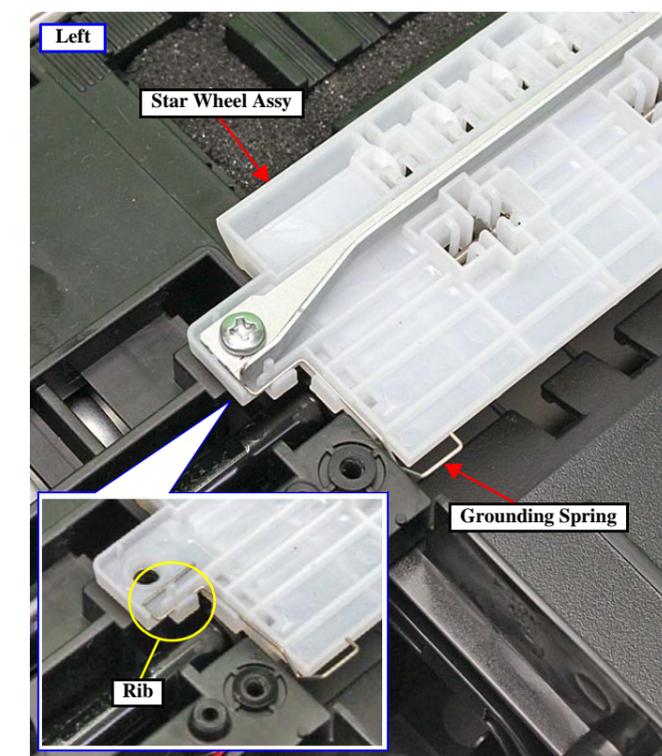
⤴ When installing the Ink System Assy, insert the Waste Ink Tube (8 ± 1 mm from the tip) into the hole on the Frame Base.

**FAX Shield Plate/FAX Connector Cover (WorkForce 635 series)**



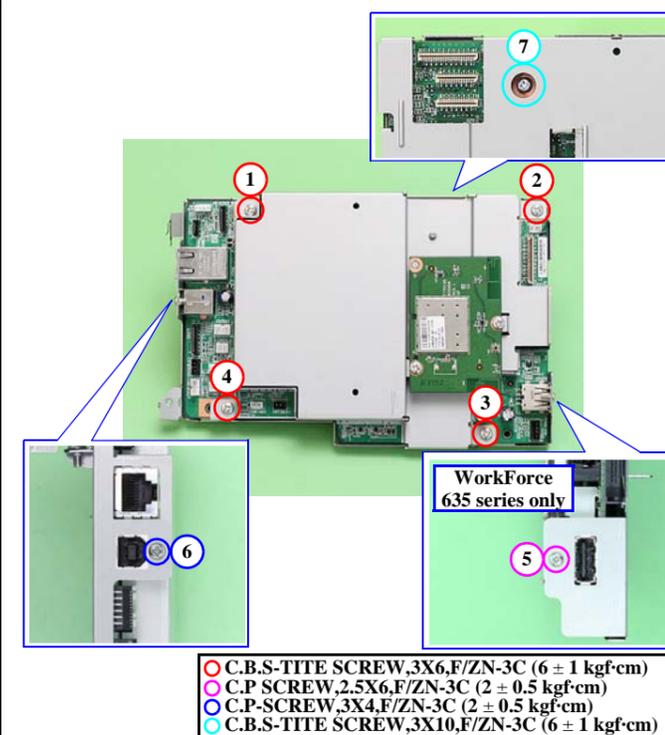
⤴ Tighten the screws in the order indicated in the figure above.

**Star Wheel Assy**



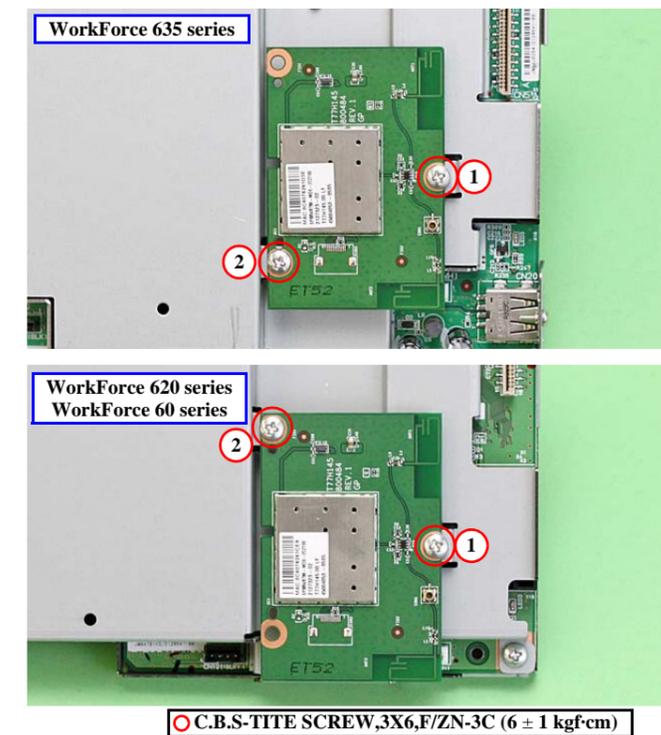
⤴ Hook the leg of the grounding spring to the rib and attach the spring as shown in the figure above.

**Shield Plate (w/ Wireless LAN Module) (WorkForce 635/620 series)**



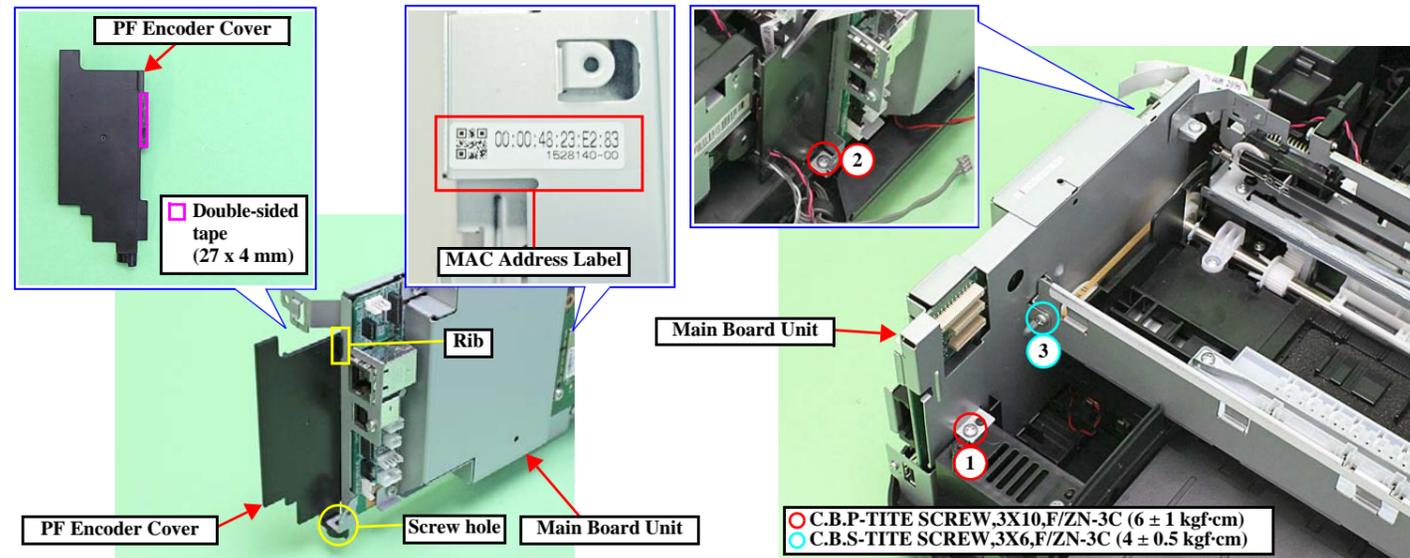
⤴ Tighten the screws in the order indicated in the figure above.

**Wireless LAN Module**



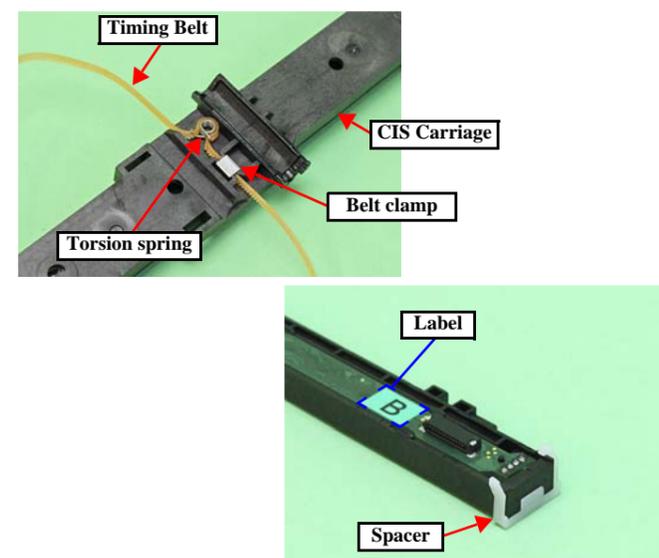
⤴ Tighten the screws in the order indicated in the figure above.

### Main Board Unit (WorkForce 635/620 series)



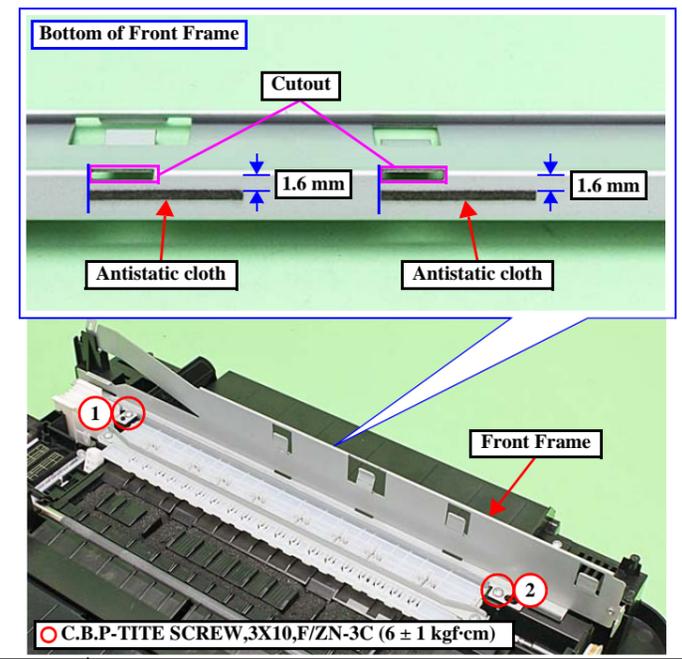
- !** Do not damage or contaminate the MAC Address Label.
- ↶**
  - Align the rib (x1) and screw hole of the PF Encoder Cover with the Main Board Unit as shown above, and secure the PF Encoder Cover with double-sided tape (x1).
  - Tighten the screws in the order indicated in the figure above.
  - When 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 "2.2.3MAC Address Setting (p42)" and set it.

### CIS Unit (WorkForce 635/620 series)



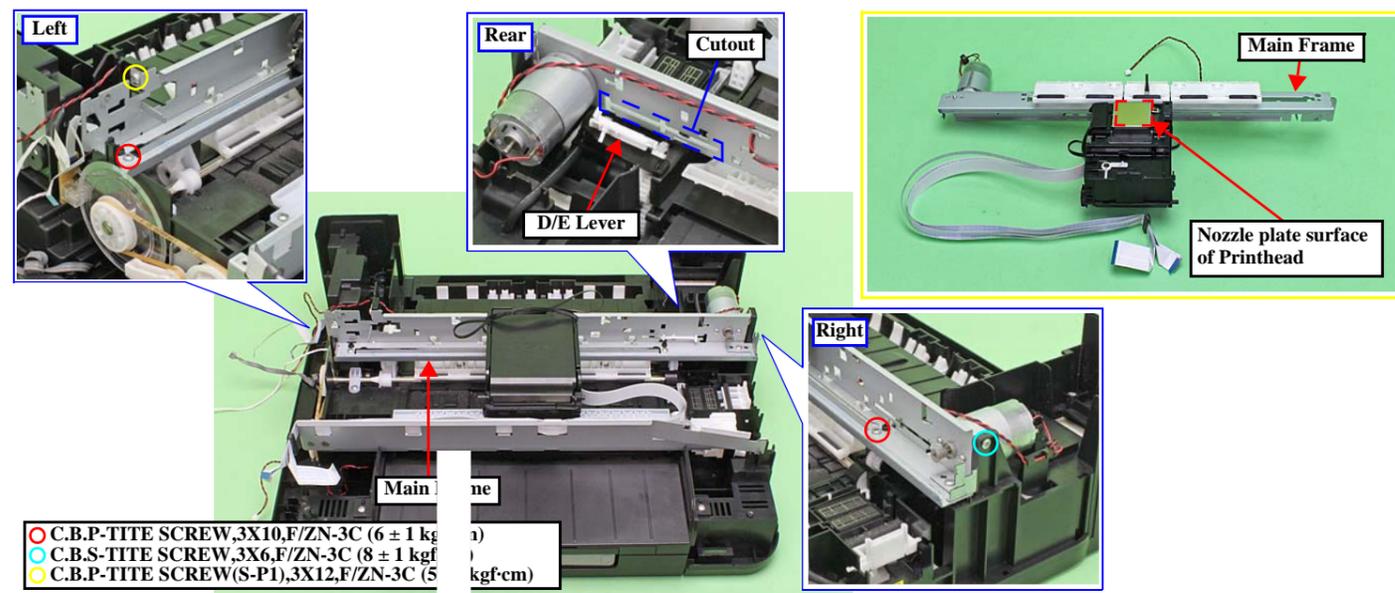
- !** Confirm the label of the CIS Unit, and make sure to install the proper spacers on both ends of the CIS Unit corresponding to the label.
  - A: Spacer, CIS, A17 (black)
  - B: Spacer, CIS, B19 (white)
  - C: Spacer, CIS, C21 (gray)
- ↶** When installing the Timing Belt, secure the Timing Belt and the CIS Carriage with the Belt Clamp, and attach the torsion spring to the location shown above.

### Front Frame



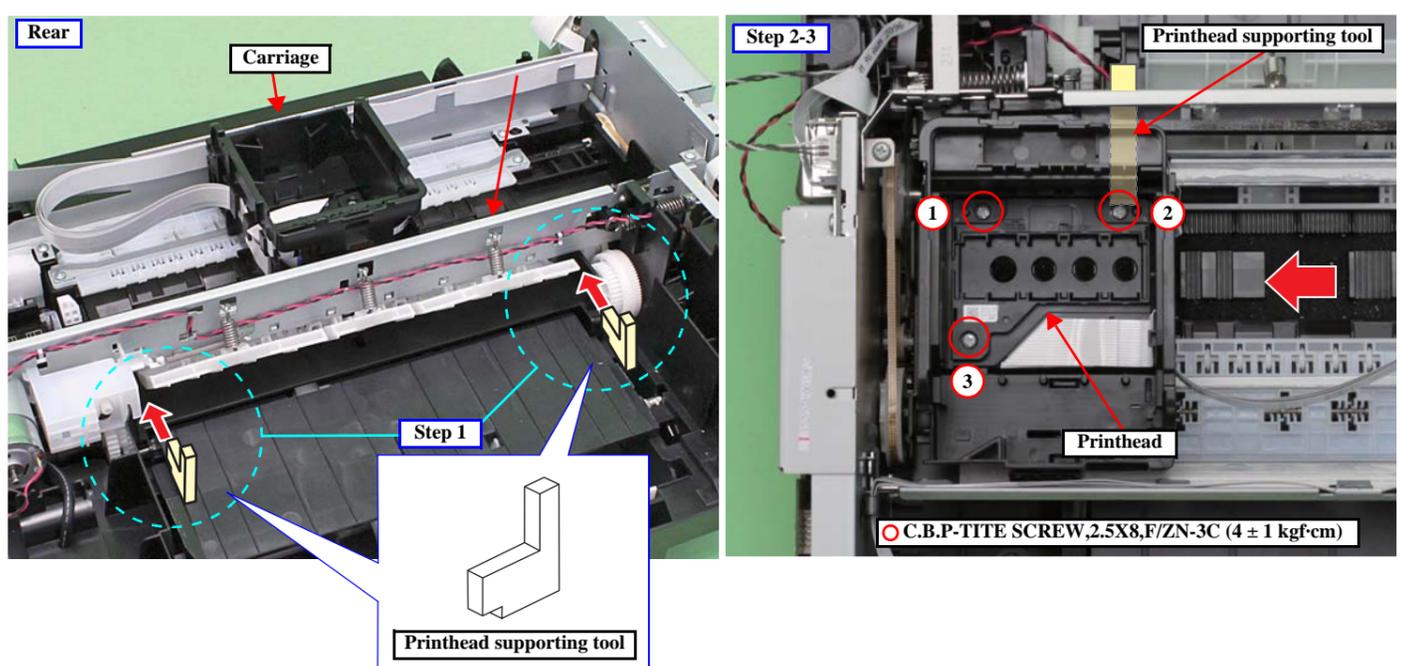
- ↶**
  - Tighten the screws in the order indicated in the figure above.
  - When attaching the antistatic cloth, make sure to follow the standard below and attach it to the Front Frame.
    - Align the antistatic cloth with the edge of the cutout on the bottom of the Front Frame.
    - Attach it at 1.6 mm away from the edge of the Front Frame.

### Main Frame (w/ CR Assy)



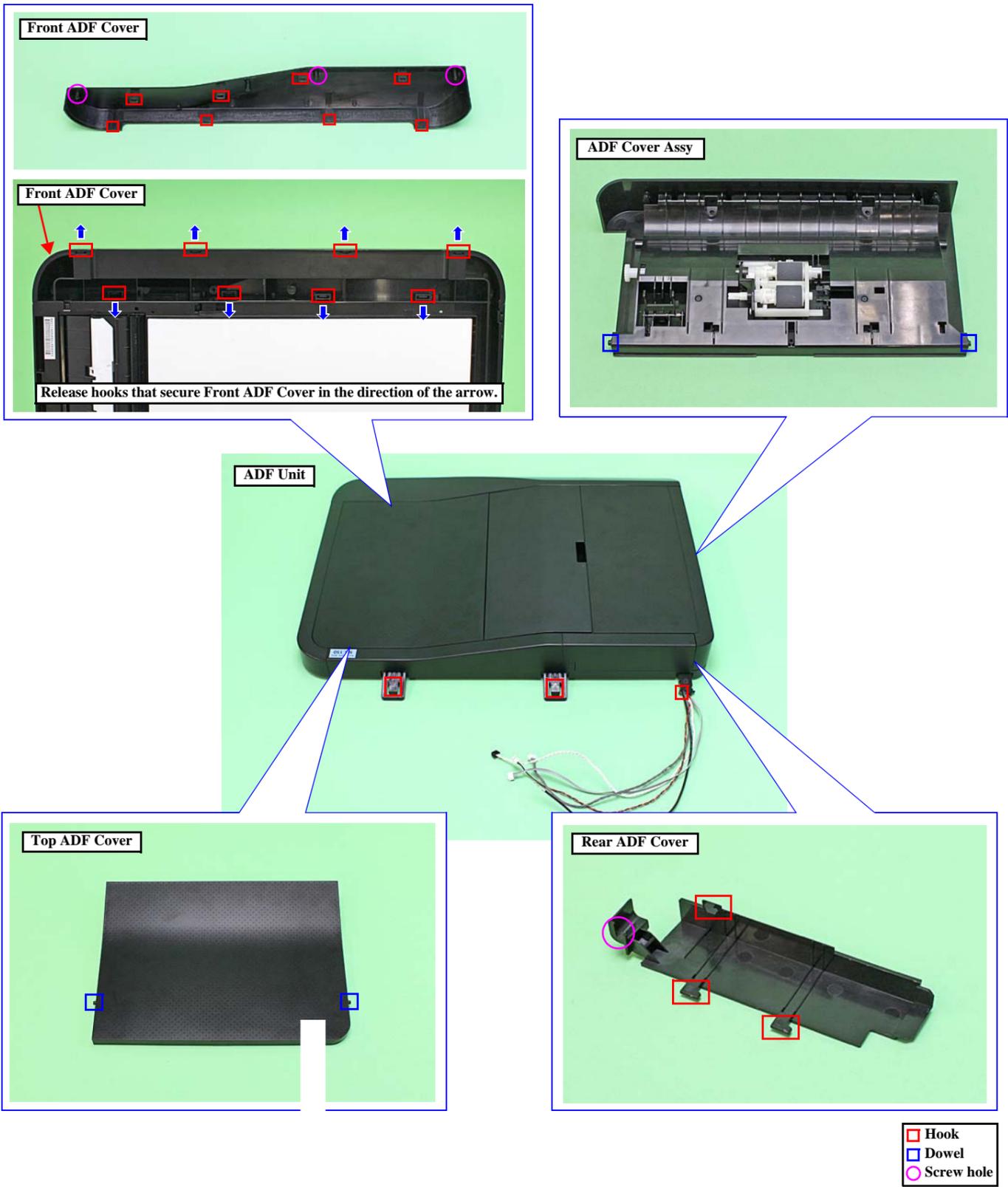
- !** When removing the Main Frame with the Printhead installed on the Carriage, be careful not to damage the nozzle plate surface of the Printhead.
- ⚡** When removing the Main Frame, follow the procedure below.
  1. Slide the D/E Lever toward the 0-digit side to align the D/E Lever with the cutout of the Main Frame, and detach the D/E Lever from the Main Frame.
  2. Release the CR Motor cable from the hooks of the Main Frame and ribs of the Frame Base. (See "CR Motor (p28)".)
  3. Release the Head FFC from the ribs of the Front Frame. (See "Head FFC (p29)".)
  4. Remove the screws (x4) that secure the Main Frame, and remove the Main Frame from the Frame Base.

### Printhead



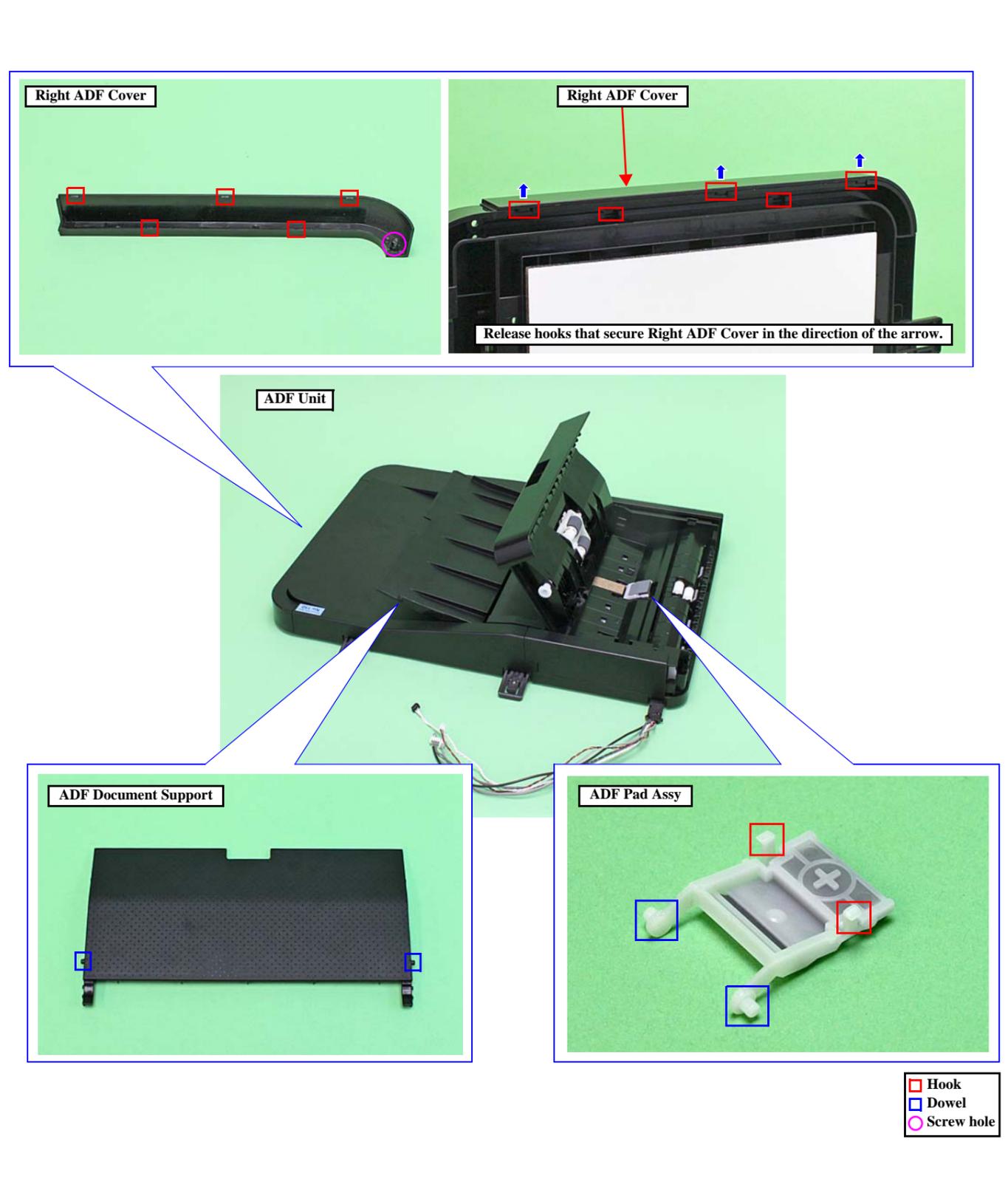
- ↶** When installing the Printhead, use the printhead supporting tools (x2) and follow the procedure below.
  1. Move the carriage to the center, and from the rear of the printer, insert the supporting tools one each on the 0-digit side and 80-digit side until they touch the Main Frame.
  2. Move the carriage toward the 80-digit side to the end, and install the Printhead to the carriage.
  3. Tighten the screws in the order indicated in the figure above.

ADF Unit (WorkForce 635 series) (1)



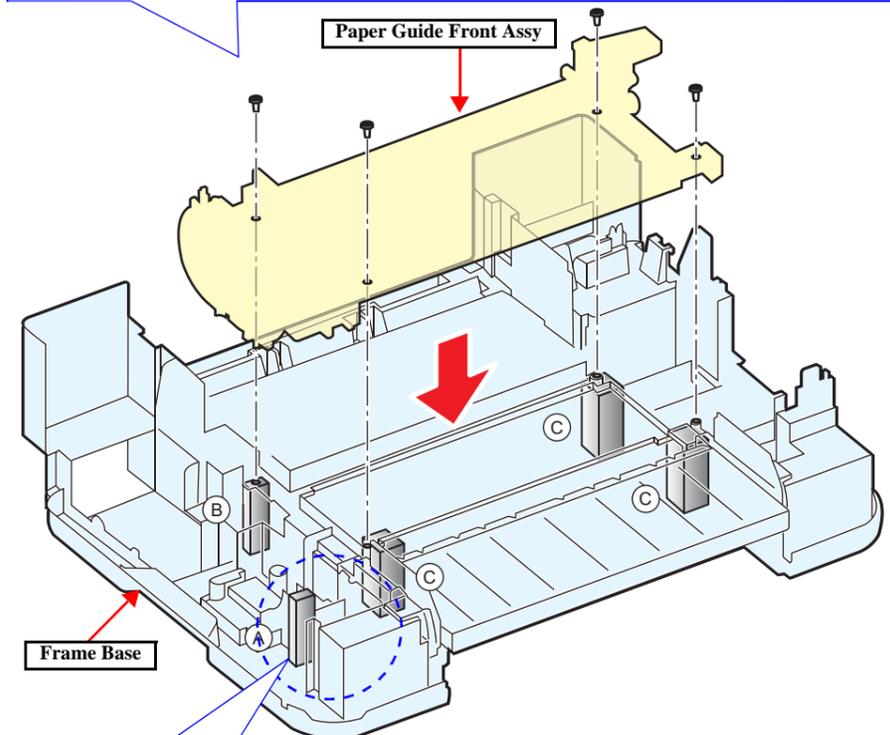
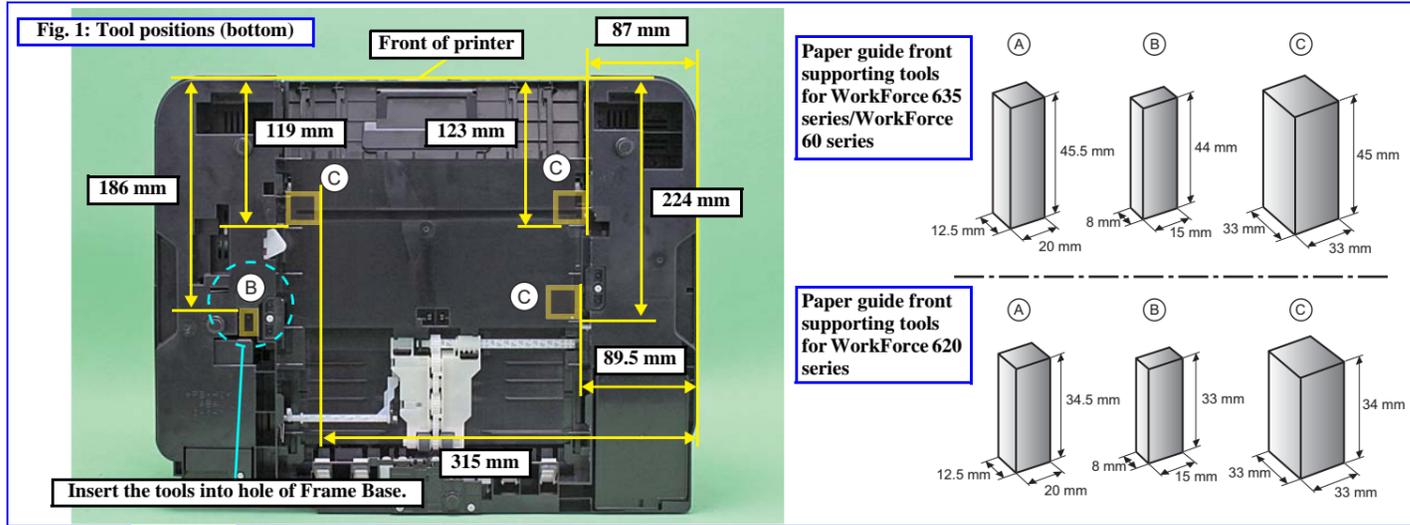
The figures above indicate the hooks, dowels and screws that secure the parts and units.

ADF Unit (WorkForce 635 series) (2)



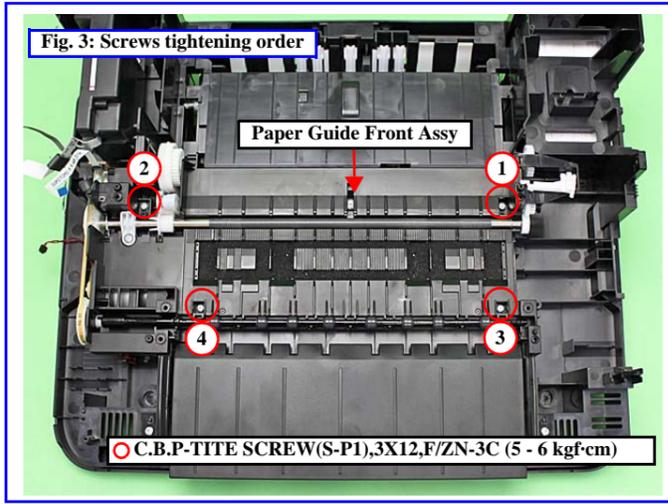
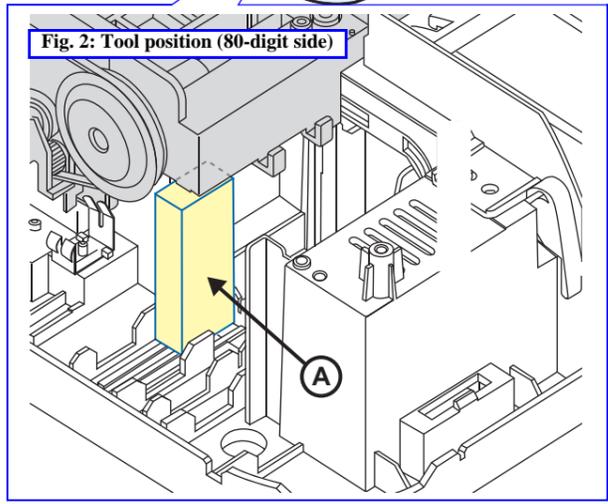
The figures above indicate the hooks, dowels and screws that secure the parts and units.

Paper Guide Front Assy (installation using the tools)

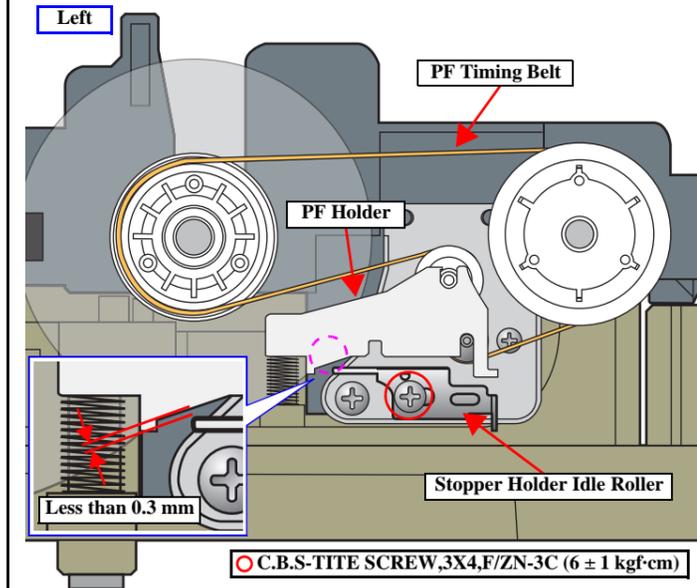


When installing the Paper Guide Front Assy, use the paper guide front supporting tools (x4) and follow the procedure below.

1. On a flat table, put the paper guide front supporting tools B and C on the positions shown in Fig. 1.
2. Put the Frame Base over the paper guide front supporting tools B and C, and confirm that the tools are placed on the correct positions.
3. Install the Paper Guide Front Assy to the Frame Base.
4. Put the paper guide front supporting tool A on the position shown in Fig. 2.
5. Tighten the screws (x4) in the order indicated in Fig. 3 to secure the Paper Guide Front Assy.
6. After securing the Paper Guide Front Assy, install the PF Holder and the Stopper Holder Idle Roller. (See "Paper Guide Front Assy (Stopper Holder Idle Roller)" (p26).)
7. Perform "2.2.1PF Timing Belt Tension Measurement/PF Belt Step Check (p38)".



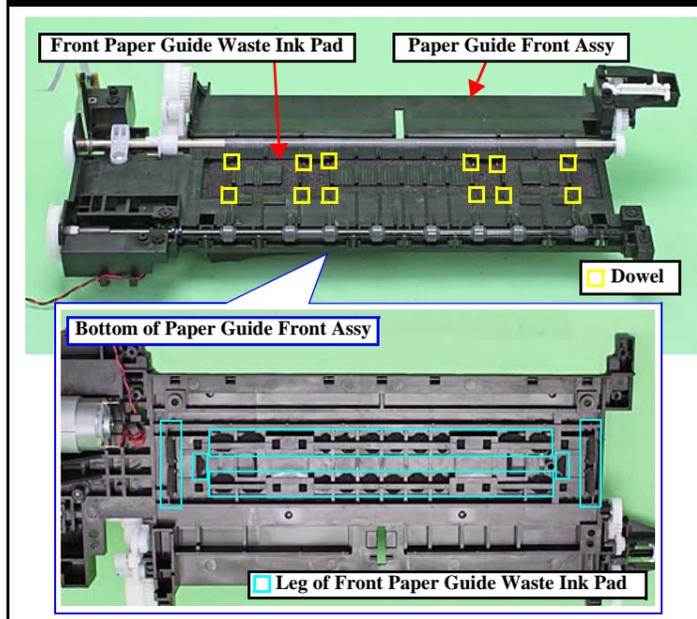
Paper Guide Front Assy (Stopper Holder Idle Roller)



Attach the Stopper Holder Idle Roller so that the gap between it and the PF Holder becomes less than 0.3 mm. If the gap becomes larger than 0.3 mm, replace the Stopper Holder Idle Roller with the longer one (the following "1") or the longest one (the following "2") one by one until proper gap is obtained.

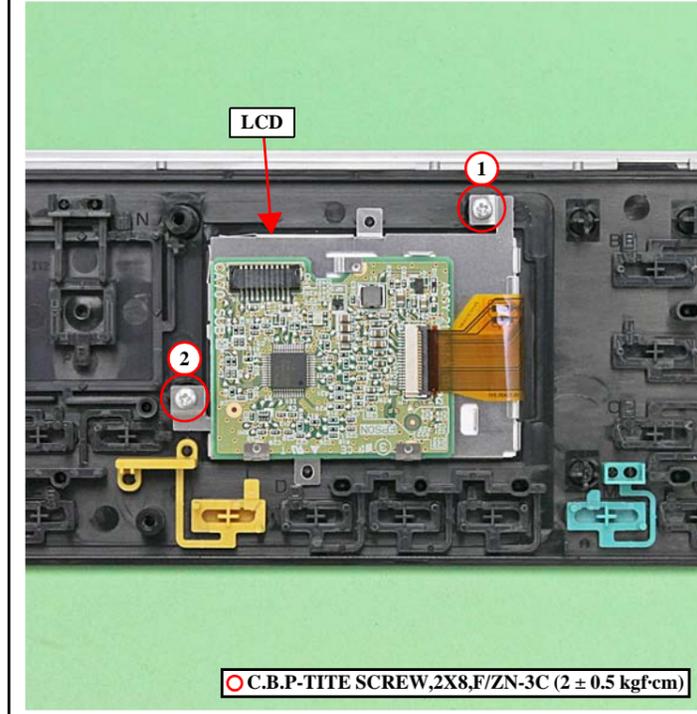
1. Stopper Holder Idle Roller, PF;C (Parts code: 1540328)
2. Stopper Holder Idle Roller, PF;B (Parts code: 1540006)

Front Paper Guide Waste Ink Pad



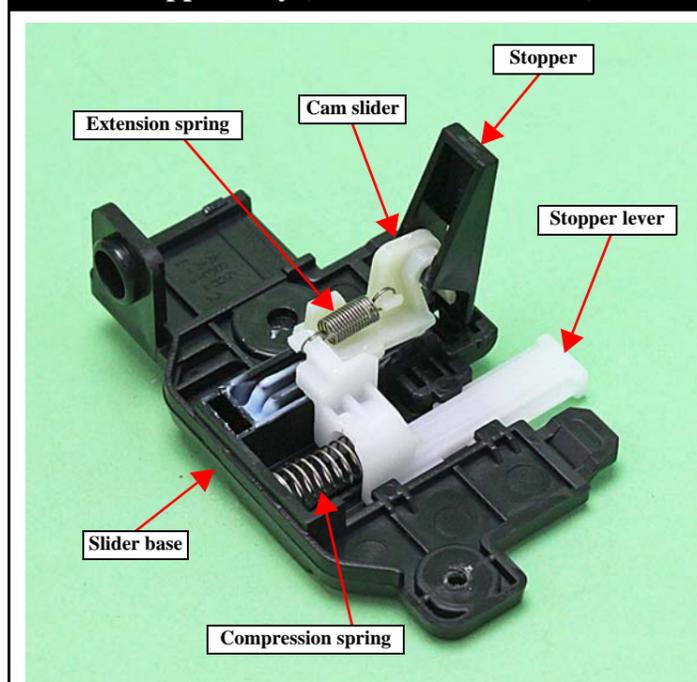
Install the Front Paper Guide Waste Ink Pad under the ribs (x12) of the Paper Guide Front Assy without any gap. After installing the Front Paper Guide Waste Ink Pad, check if all the legs of the Front Paper Guide Waste Ink Pad come out from the holes of the Paper Guide Front Assy correctly.

LCD (WorkForce 635/620 series)



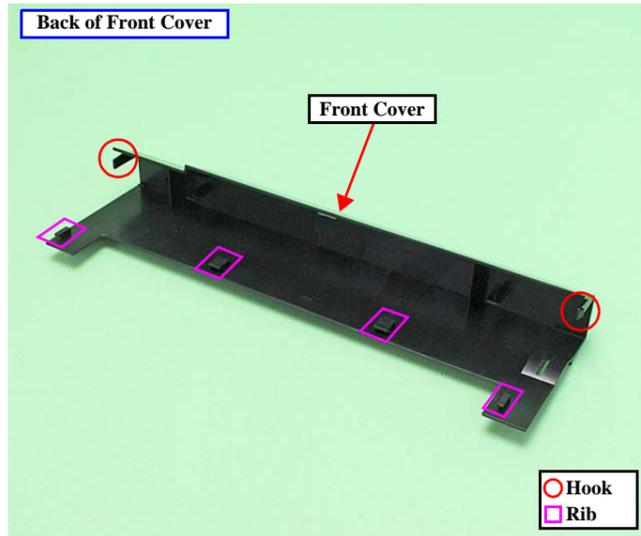
Tighten the screws in the order indicated in the figure above.

Stopper Assy (WorkForce 620 series)



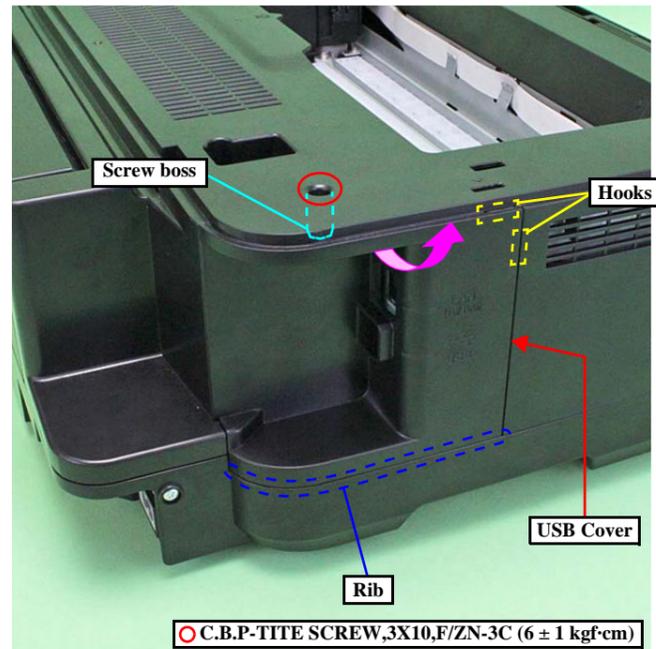
If any of the parts of the Stopper Assy comes off when removing it, be sure to assemble the Stopper Assy as shown above.

Front Cover (WorkForce 60 series)



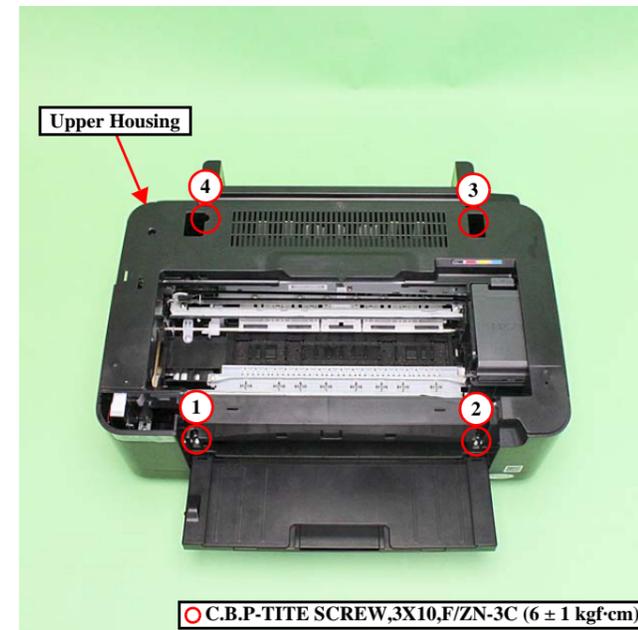
**!** Be careful not to damage the hooks (x2) and ribs (x4) that secure the Front Cover.

USB Cover (WorkForce 60 series)



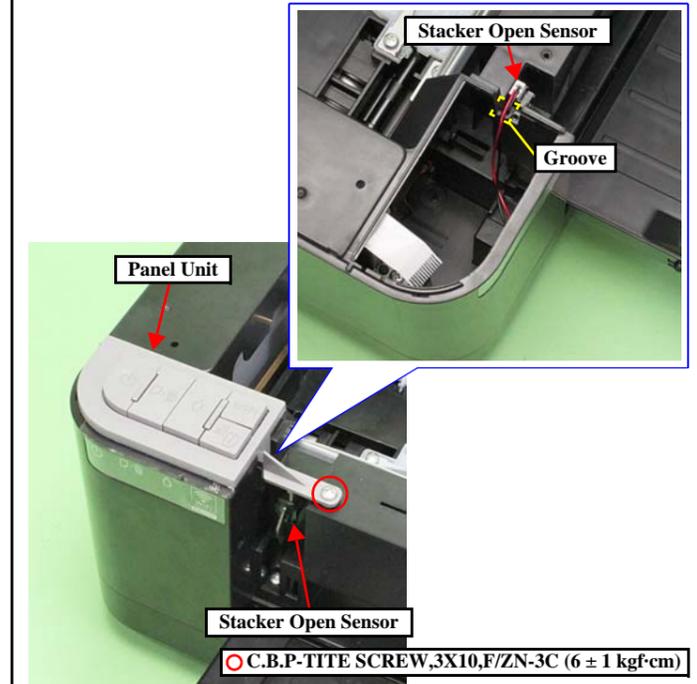
**!** Remove the USB Cover in the direction of the arrow. Be careful not to damage the hooks (x2), rib (x1) and screw boss (x1) then.

Upper Housing (WorkForce 60 series)



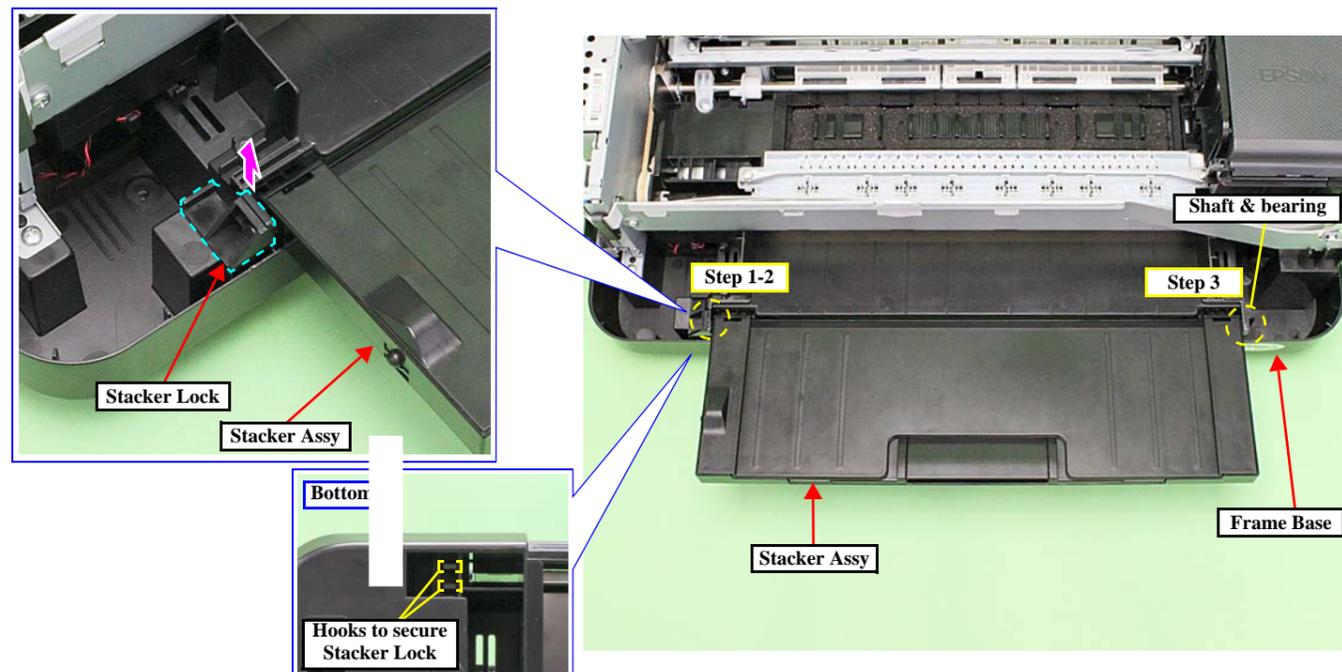
**↻** Tighten the screws in the order indicated in the figure above.

Panel Unit (WorkForce 60 series)



**↻** When installing the Panel Unit, route the cable of the Stacker Open Sensor through the groove of the Upper Housing so as not to catch the cables in between.

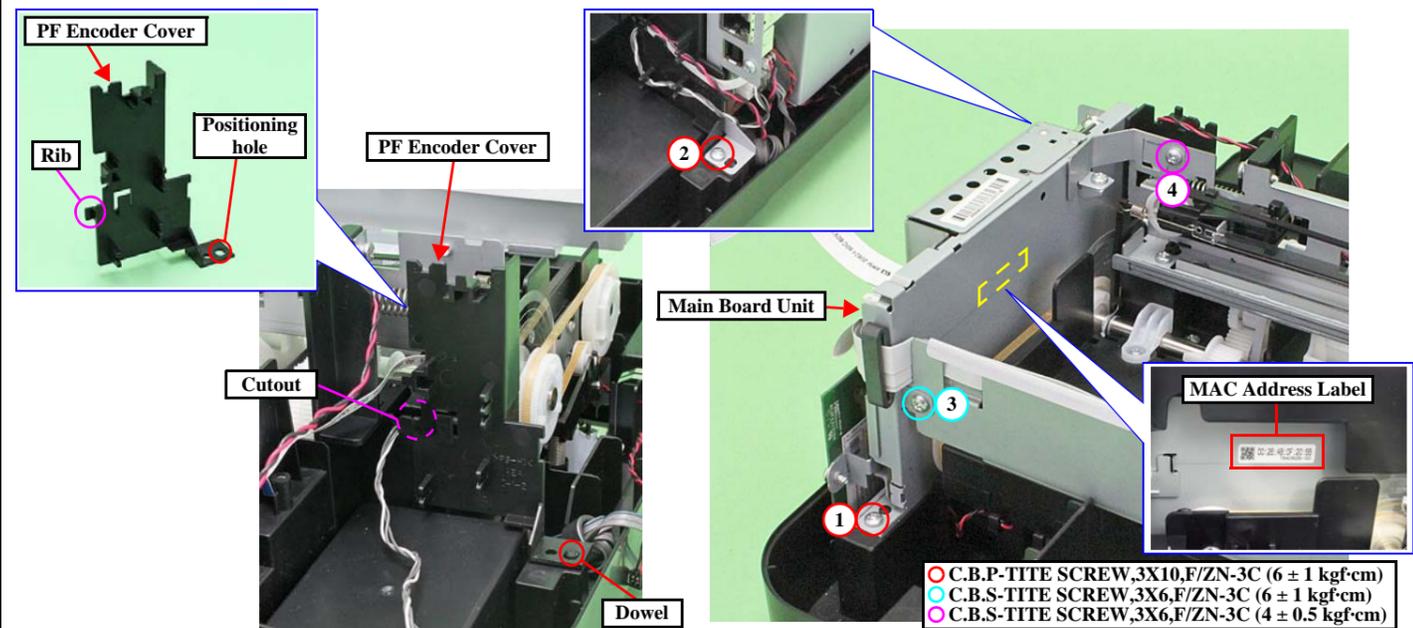
Stacker Assy (WorkForce 60 series)



**!** Follow the procedure below when removing the Stacker Assy.

1. Release the hooks (x2) that secure the Stacker Lock, and lift the Stacker Lock in the direction of the arrow.
2. Remove the Stacker Lock from the shaft on the left of the Stacker Assy.
3. Remove the shaft on the right of the Stacker Assy from the bearing of the Frame Base, and remove the Stacker Assy from the Frame Base.

Main Board Unit (WorkForce 60 series)



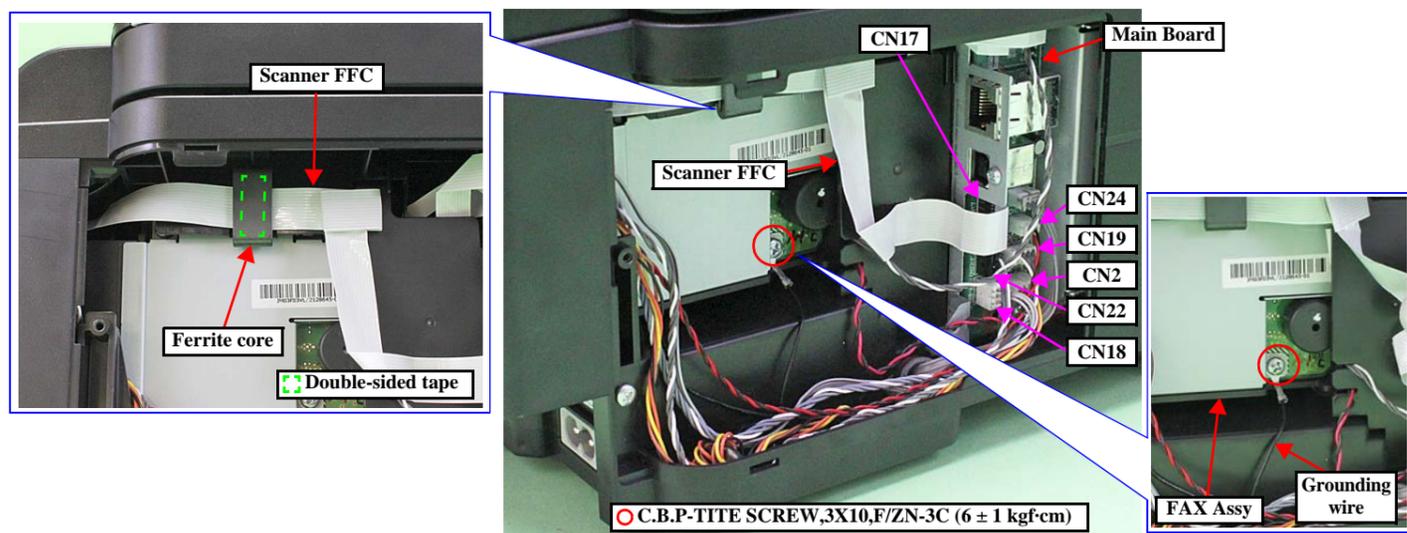
**!** Do not damage or contaminate the MAC Address Label.

**↻**

- Align the rib (x1) and positioning hole (x1) of the PF Encoder Cover with the cutout (x1) and dowel (x1) of the Frame Base.
- Tighten the screws in the order indicated in the figure above.
- 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 "2.2.3MAC Address Setting (p42)" and set it.

# 1.4 Routing FFCs/cables

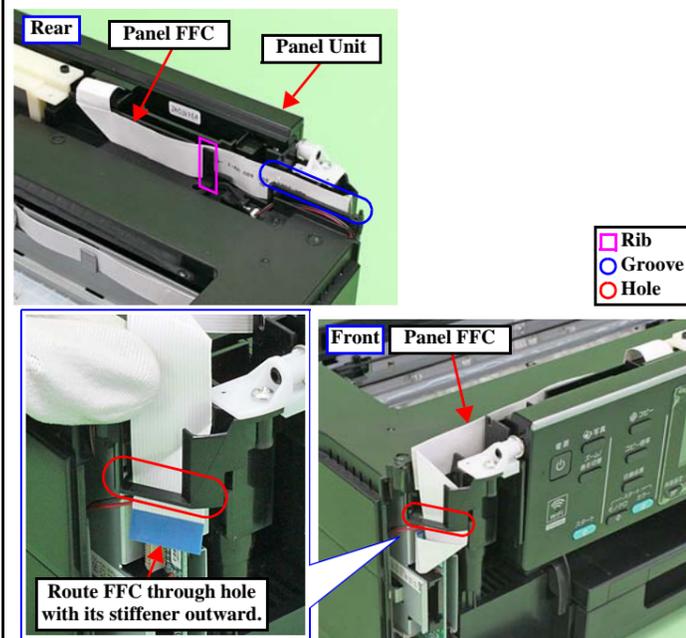
## Inside the USB Cover (WorkForce 635 series)



When routing the FFCs/cables inside the USB Cover, connect them to the Main Board as shown above.

- ADF PE Sensor cable (CN18)
- ADF Encoder cable (CN19)
- ADF Document Sensor cable (CN22)
- ADF Motor cable (CN24)
- Scanner Motor cable (CN2)
- Scanner FFC (CN17): Secure the ferrite core to the Upper Housing with double-sided tape.
- Grounding wire: Secure to the FAX Assy with screw.

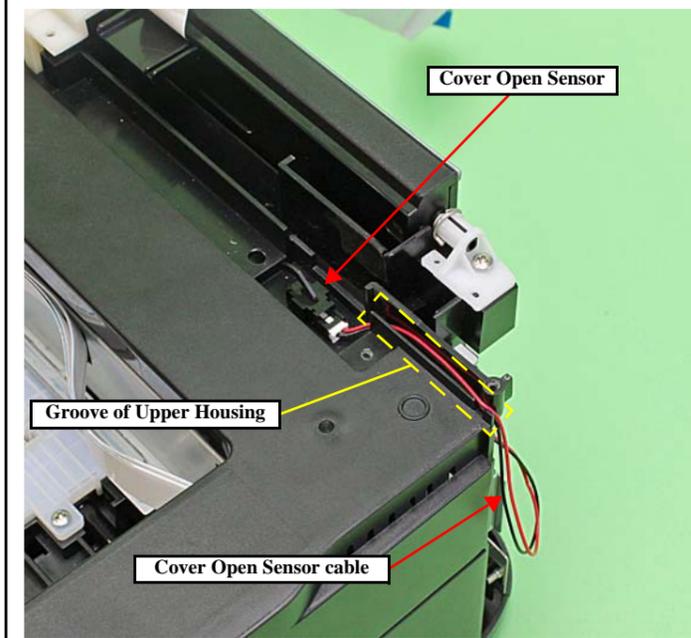
## Panel Unit (WorkForce 635 series)



When routing the Panel FFC, be careful of the following.

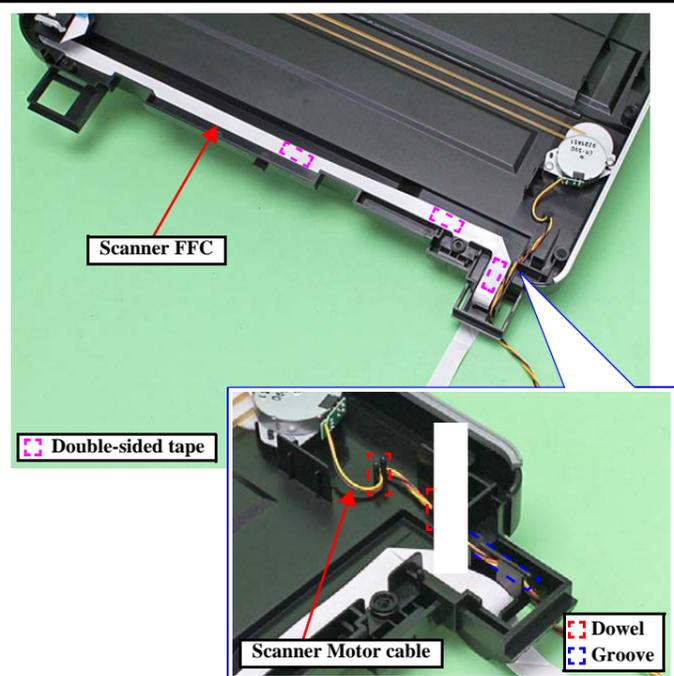
- Route it through the rib, groove and hole of the Upper Housing as shown above.
- Facing the FFC stiffener outward, route it through the hole of the Upper Housing.

## Cover Open Sensor (WorkForce 635/620 series)



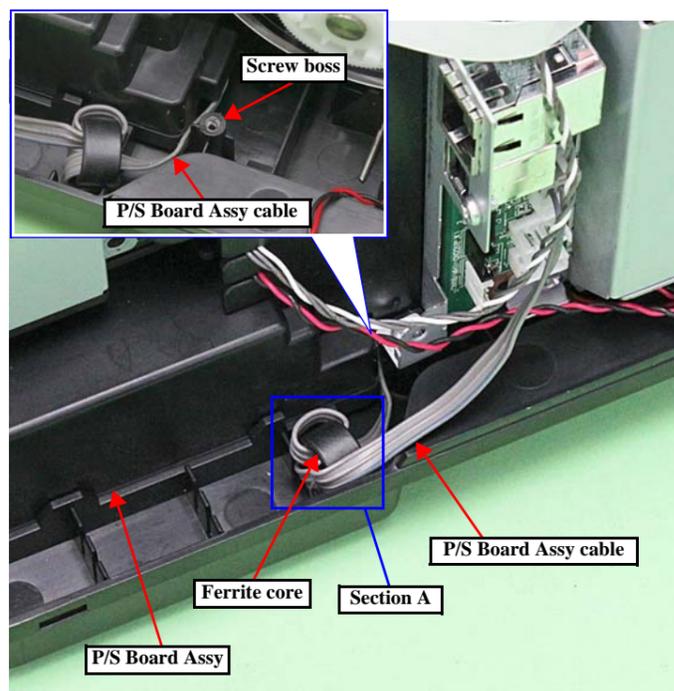
Route the Cover Open Sensor cable through the groove of the Upper Housing.

## Scanner FFC/Scanner Motor Cable (WorkForce 635/620 series)



- When routing the Scanner FFC, secure it to the housing with double-sided tape (x3).
- When routing the Scanner Motor cable, route it through the dowels (x2) and groove of the housing.

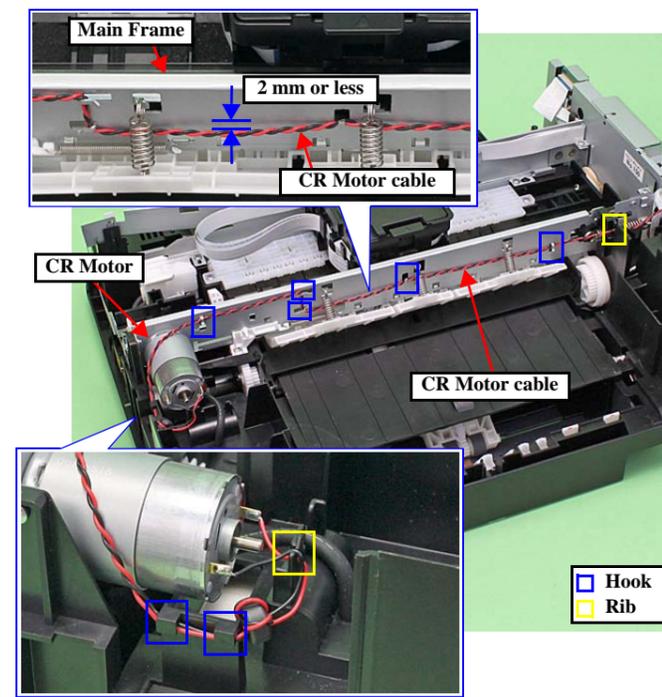
## P/S Board Assy (WorkForce 635/620 series)



When routing the P/S Board Assy cable, make sure of the following.

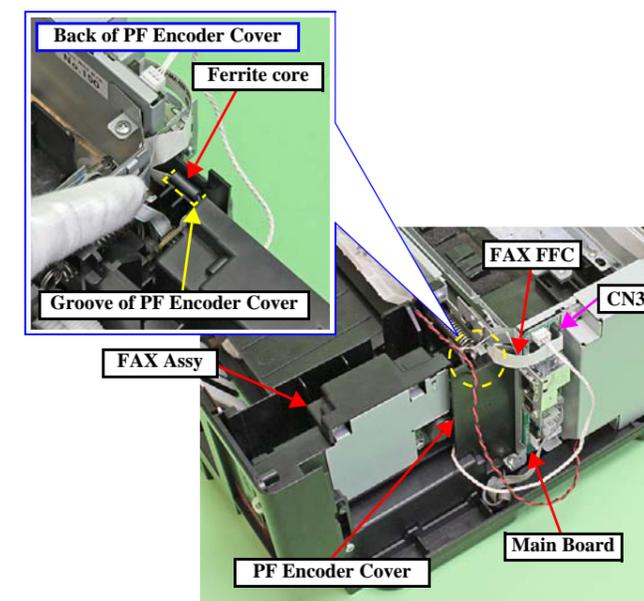
- Insert the ferrite core into the section A of the Frame Base.
- Route the P/S Board Assy cable between the screw boss and P/S Board Assy in order to prevent the cable from getting caught.

## CR Motor



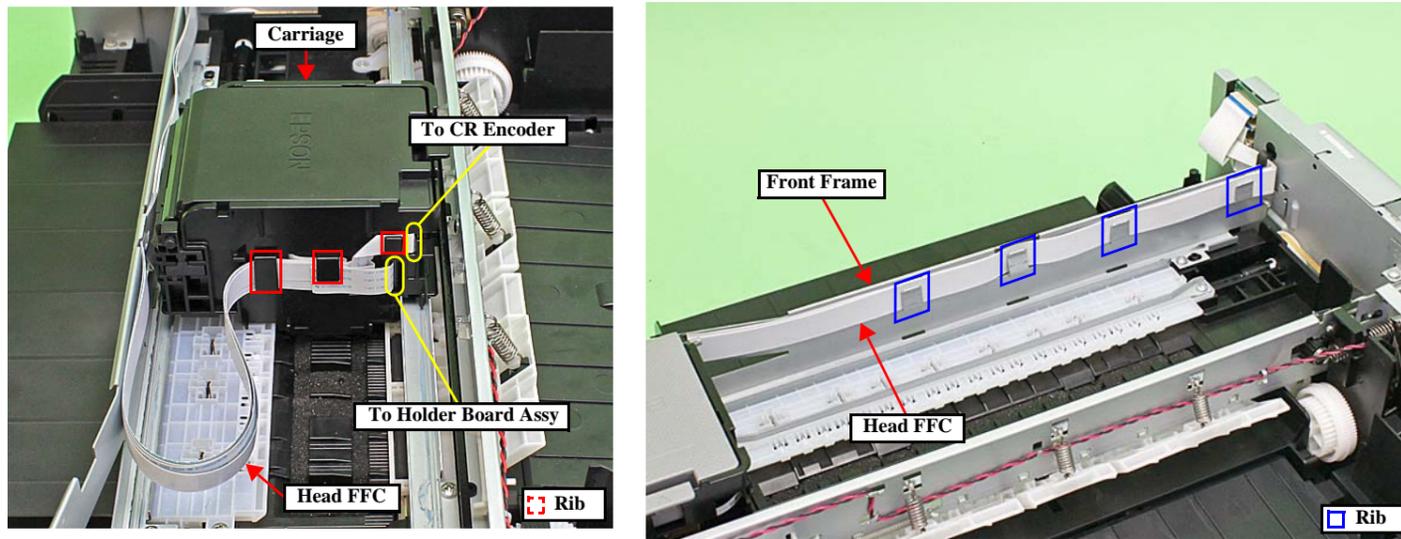
- When routing the CR Motor cable, route it through the hooks (x7) and ribs (x2) as shown above.
- Make sure the gap between the CR Motor cable and the Main Frame is less than 2 mm.

## FAX Assy (WorkForce 635 series)



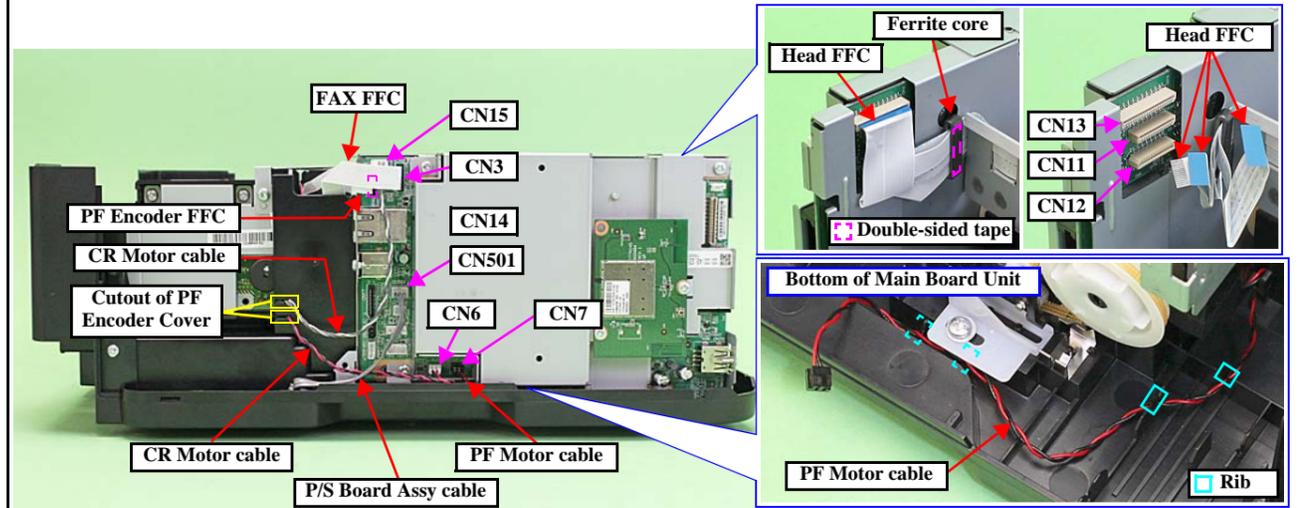
When routing the FAX FFC, insert the ferrite core into the groove of the PF Encoder Cover, and connect the FFC to the Main Board.

### Head FFC



- When you do not need to replace the Head FFC, be careful not to disconnect it from the CR encoder connector. Once it is disconnected, you must disassemble the carriage to reconnect it to the CR encoder.
- Confirm that the Head FFC is connected to the CR Contact Module and CR Encoder.
- Route the Head FFC through the ribs (x3) of the Carriage.
- Route the Head FFC through the ribs (x4) of the Front Frame.

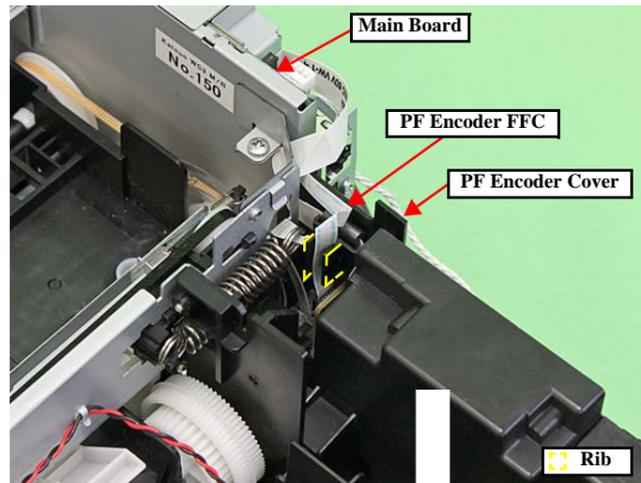
### Main Board (WorkForce 635 series)



When connecting the following cables to the Main Board, connect them as shown above.

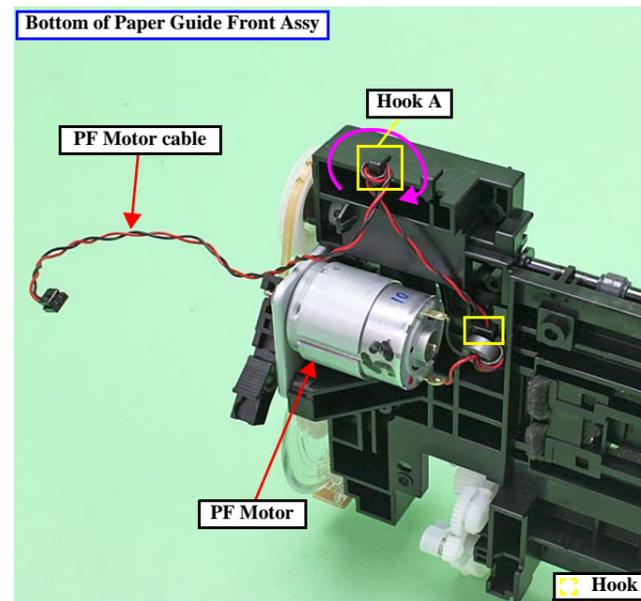
- Head FFC (CN11, CN12, CN13): Secure the ferrite core to the Main Board with double-sided tape, and connect it confirming the direction of the terminals is correct.
- PF Motor cable (CN7): Route it through the ribs (x4) of the Frame Base, and connect it to the connector on the Main Board.
- CR Motor cable (CN6): Route it through the cutout of the PF Encoder Cover, and connect it to the connector on the Main Board. See "CR Motor (p28)" for routing it on the other sections.
- PE Sensor cable (CN15): Route it through the cutout of the PF Encoder Cover, and connect it to the connector on the Main Board. See "PE Sensor (p29)" for routing it on the other sections.
- PF Encoder FFC (CN14): See "PF Encoder Sensor (WorkForce 635/620 series) (p29)".
- FAX FFC (CN3): See "FAX Assy (WorkForce 635 series) (p28)".
- P/S Board Assy cable (CN501): See "P/S Board Assy (WorkForce 635/620 series) (p28)".

### PF Encoder Sensor (WorkForce 635/620 series)



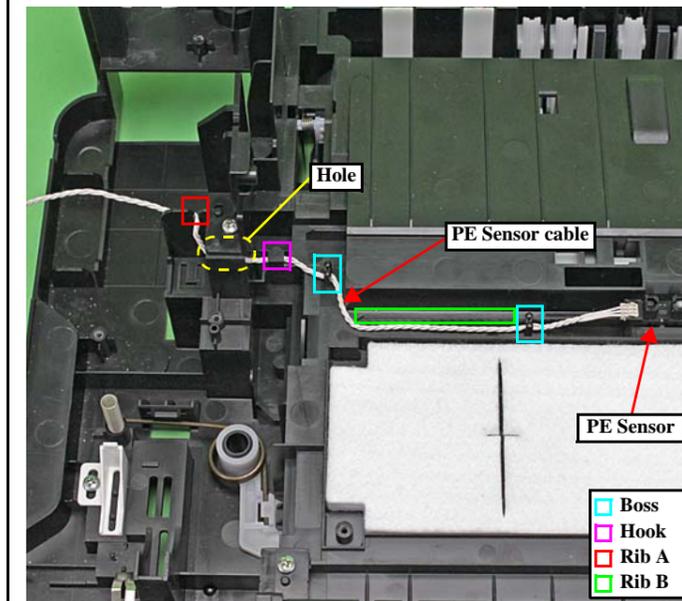
Route the PF Encoder FFC through the ribs of the PF Encoder Cover, and connect it to the Main Board.

### PF Motor



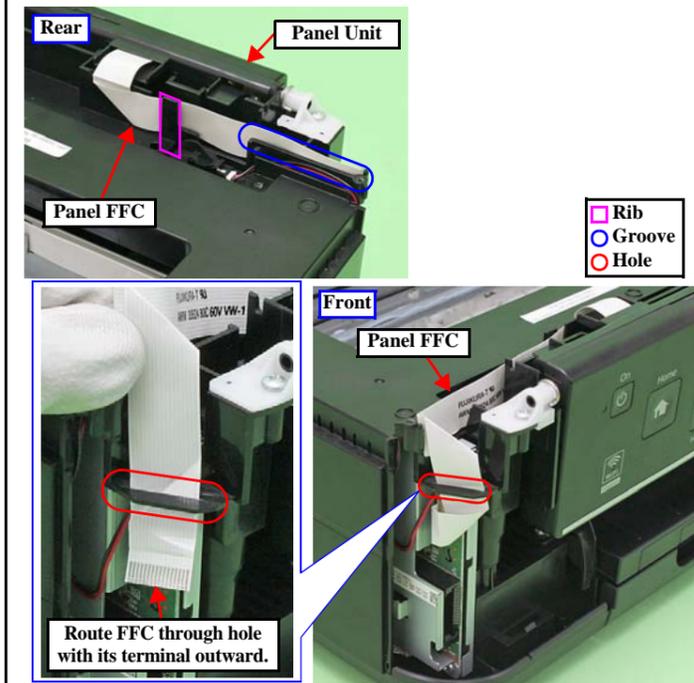
Route the PF Motor cable through the hooks (x2) of the Paper Guide Front Assy. Make one turn in the direction of the arrow around the hook A.

### PE Sensor



- Route the PE Sensor cable through the hole of the Frame Base, and route it through the bosses (x2), hook (x1), and rib A (x1).
- When routing the PE Sensor cable, keep it below the rib B.

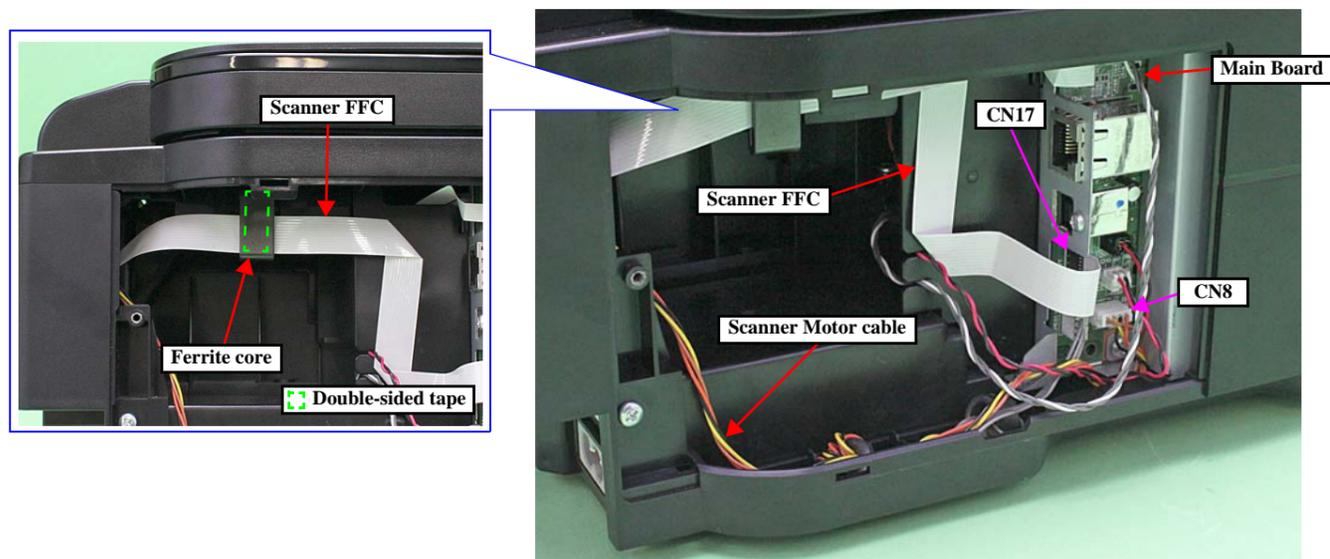
### Panel Unit (WorkForce 620 series)



When routing the Panel FFC, be careful of the following.

- Route it through the rib, groove and hole of the Upper Housing as shown above.
- Facing the FFC terminal outward, route it through the hole of the Upper Housing.

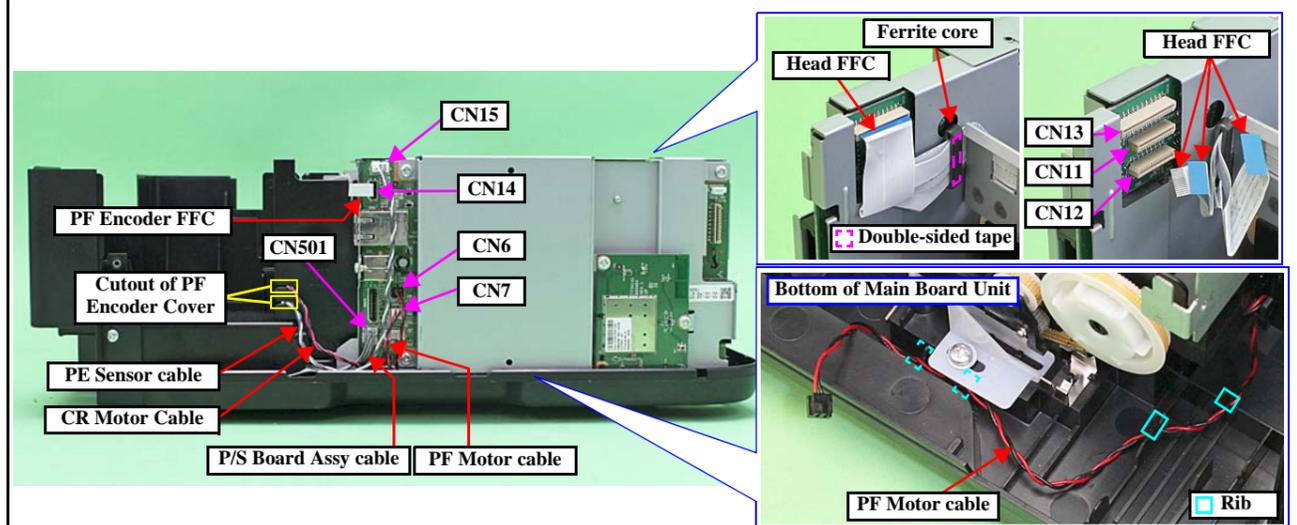
Inside the USB Cover (WorkForce 620 series)



When routing the FFCs/cables inside the USB Cover, connect them to the Main Board as shown above.

- Scanner Motor cable (CN8)
- Scanner FFC (CN17): Secure the ferrite core to the Upper Housing with double-sided tape.

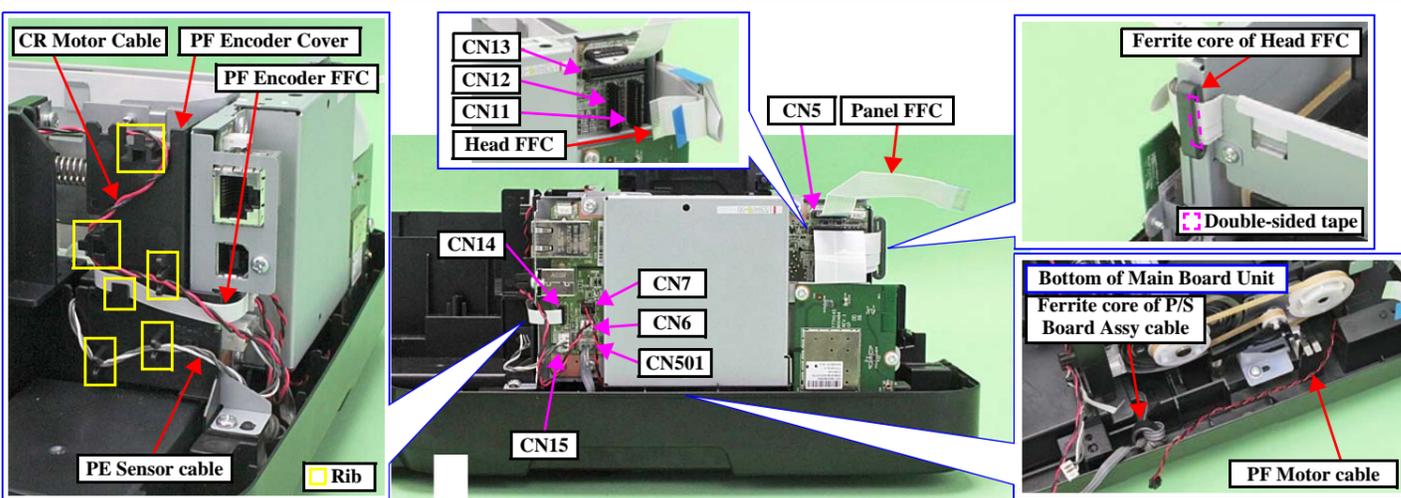
Main Board (WorkForce 620 series)



When connecting the following cables to the Main Board, connect them as shown above.

- Head FFC (CN11, CN12, CN13): Secure the ferrite core to the Main Board with double-sided tape, and connect it confirming the direction of the terminals is correct.
- PF Motor cable (CN7): Route it through the ribs (x4) of the Frame Base, and connect it to the connector on the Main Board.
- CR Motor cable (CN6): Route it through the cutout of the PF Encoder Cover, and connect it to the connector on the Main Board. See "CR Motor (p28)" for routing it on the other sections.
- PE Sensor cable (CN15): Route it through the cutout of the PF Encoder Cover, and connect it to the connector on the Main Board. See "PE Sensor (p29)" for routing it on the other sections.
- PF Encoder FFC (CN14): See "PF Encoder Sensor (WorkForce 635/620 series) (p29)".
- P/S Board Assy cable (CN501): See "P/S Board Assy (WorkForce 635/620 series) (p28)".

Main Board (WorkForce 60 series)



When connecting the following cables to the Main Board, connect them as shown above.

- Head FFC (CN11, CN12, CN13): Secure the ferrite core to the Main Board with double-sided tape, and connect it confirming the direction of the terminals is correct.
- Panel FFC (CN5): Connect it to the Main Board confirming the direction of the terminals is correct.
- PF Motor cable (CN7): Route it as shown in the above, and connect it to the Main Board.
- CR Motor Cable (CN6): Route it through the ribs (x2) of the PF Encoder Cover, and connect it to the connector on the Main Board. See "CR Motor (p28)" for routing it on the other sections.
- PE Sensor cable (CN15): Route it through the ribs (x2) of the PF Encoder Cover, and connect it to the connector on the Main Board. See "PE Sensor (p29)" for routing it on the other sections.
- PF Encoder FFC (CN14): Route it through the ribs (x1) of the PF Encoder Cover, and connect it to the connector on the Main Board.
- P/S Board Assy cable (CN501): Insert the ferrite core into the position shown above, and connect it to the connector on the Main Board.

CHAPTER 2

# ADJUSTMENT

## 2.1 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 completed, 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 at the same time, the adjustment should be made after performing the initial setting.



- In this chapter, the product names are called as follows:
  - WorkForce 635 series: WorkForce 635/Epson Stylus Office TX620FWD/  
Epson Stylus Office BX625FWD/ME OFFICE 960FWD
  - WorkForce 620 series: WorkForce 620/625/Epson Stylus TX560WD/Epson Stylus  
SX525WD/Epson Stylus BX525WD/ME OFFICE 900WD
  - WorkForce 60 series: WorkForce 60/T42WD/  
Epson Stylus Office B42WD/ME OFFICE 82WD/  
ME OFFICE 85ND
- 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.
  - The “Adjustments using the Adjustment Program” need to be performed after reassembling the printer completely.
- 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 out them in the order given in the “Priority” row.

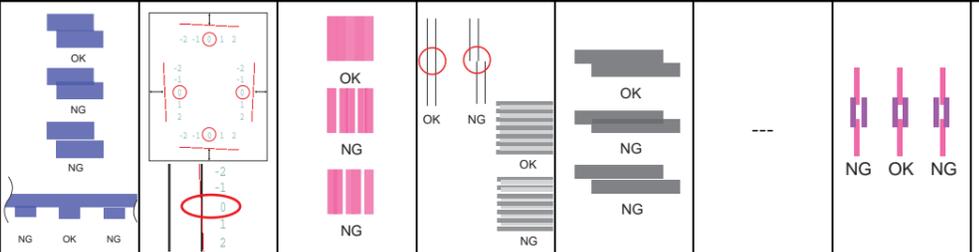
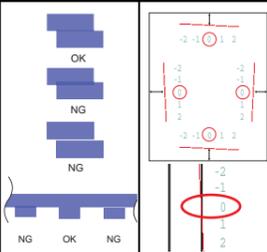
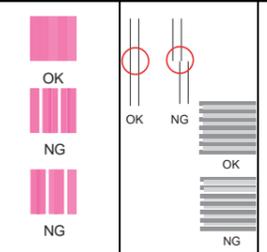
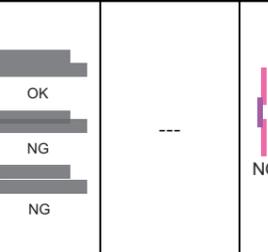
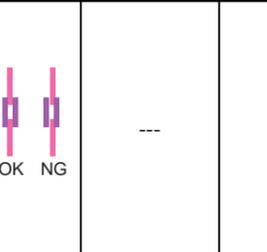
Table 2-1. Required Adjustment List

Adjustment Type		Mechanism adjustment		Adjustment using the Adjustment Program																			
Priority		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Adjustment Item		PF Timing Belt tension measurement/ PF belt step confirmation	Checking the Platen Gap	EEPROM data copy	Initialize Setting	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	CR motor heat protection control	PF motor heat protection control			
Purpose		Check if the tension of the PF Timing Belt is within the standard.	Check if the PG is within the standard.	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 set the MAC address (required for connecting to network) when the Main Board needs to be replaced.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	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 paper detection position error caused by PE sensor mounting position error through software control.	To align print start position at 0-digit side with that at 80-digit side in banding bi-directional 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 measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.			
Part Name	Duplex Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
		Replace	---	---	---	---	---	---	---	---	---	O	O	---	---	O	O	---	---	---	---	---	
	Cassette Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	O	---	---	---	O	---	---	---	---	---	---
	Waste Ink Tray Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---
	Main Board (Main Board Unit)	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Replace (Read OK)		---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Replace (Read NG)		---	---	---	O	O	---	O	*1	---	O	O	O	O	O	O	O	O	Input max. value (10000)	O	O		
Printout pattern		---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---		
How to judge		The Adjustment Program is needed partly in this adjustment. See ? 2.2.1 PF Timing Belt Tension Measurement/ PF Belt Step Check (p38)? for the details.	See ? 2.2.2 Checking the Platen Gap (p41)? for the details.	---	---	See ? 2.2.3 MAC Address Setting (p42)? for the details.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	<p><b>PW Adjustment</b> 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.</p> <p><b>1st dot adjustment</b> Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.</p>	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.	<p><b>Band pattern</b> Enter the values of the most straight lines.</p> <p><b>Microweave pattern</b> Enter the value for the group of which the gaps between the 2 color bars are the smallest.</p>	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	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		
Tool		See p38	See p41	---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---		

Note \*1: Replacement of the Waste Ink Tray Assy is necessary.

Note \*2: When you have just removed and reinstalled the part or unit, you are required to make the adjustments checked in the "Remove" row. However, if you have reinstalled the part or unit without using Epson-specified tools, the adjustments checked in the "Replace" row must be performed.

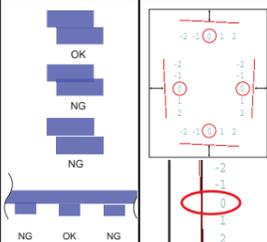
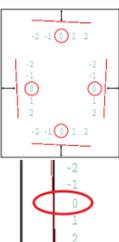
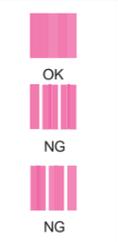
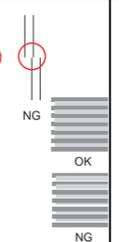
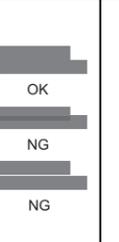
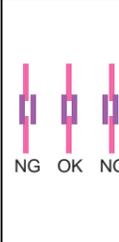
Table 2-1. Required Adjustment List

Adjustment Type		Mechanism adjustment		Adjustment using the Adjustment Program																		
Priority		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Adjustment Item		PF Timing Belt tension measurement/ PF belt step confirmation	Checking the Platen Gap	EEPROM data copy	Initialize Setting	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	CR motor heat protection control	PF motor heat protection control		
Purpose		Check if the tension of the PF Timing Belt is within the standard.	Check if the PG is within the standard.	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 set the MAC address (required for connecting to network) when the Main Board needs to be replaced.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	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 paper detection position error caused by PE sensor mounting position error through software control.	To align print start position at 0-digit side with that at 80-digit side in banding bi-directional 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 measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.		
Part Name	Main Frame (w/ CR Assy)	Remove	---	---	---	---	---	---	---	O	---	O	---	---	---	O	---	---	---	---		
		Replace	---	O	---	---	---	O	---	O	O	O	O	O	O	O	O	O	---	O	---	
	Upper Paper Guide	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
		Replace	---	---	---	---	---	---	---	---	---	O	---	O	O	O	---	O	---	---	---	
	PE Holder Assy	Remove	---	---	---	---	---	---	---	---	O	---	---	---	---	---	O	---	---	---	---	
		Replace	---	---	---	---	---	---	---	---	O	O	---	---	---	O	O	---	---	---	---	
CR Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---		
Printout pattern		---	---	---	---	---	---	---	---	---						---	---	---	---	---	---	---
How to judge		The Adjustment Program is needed partly in this adjustment. See ? 2.2.1 PF Timing Belt Tension Measurement/ PF Belt Step Check (p38)? for the details.	See ? 2.2.2 Checking the Platen Gap (p41)? for the details.	---	---	See ? 2.2.3 MAC Address Setting (p42)? for the details.	---	---	---	---	<p>Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.</p> <p>■ <b>PW Adjustment</b> 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.</p> <p>■ <b>1st dot adjustment</b> Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.</p>	<p>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.</p>	<p>■ <b>Band pattern</b> Enter the values of the most straight lines.</p> <p>■ <b>Microweave pattern</b> Enter the value for the group of which the gaps between the 2 color bars are the smallest.</p>	<p>Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.</p>	---	<p>Examine the printout pattern and enter the number of the one with the least gap and overlap between the two different colored lines.</p>	---	---	---			
Adjustment program		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Tool		See p38	See p41	---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---		

Note \*1\*: Replacement of the Waste Ink Tray Assy is necessary.

Note \*2\*: When you have just removed and reinstalled the part or unit, you are required to make the adjustments checked in the "Remove" row. However, if you have reinstalled the part or unit without using Epson-specified tools, the adjustments checked in the "Replace" row must be performed.

Table 2-1. Required Adjustment List

Adjustment Type		Mechanism adjustment		Adjustment using the Adjustment Program																	
Priority		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Adjustment Item		PF Timing Belt tension measurement/ PF belt step confirmation	Checking the Platen Gap	EEPROM data copy	Initialize Setting	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	CR motor heat protection control	PF motor heat protection control	
Purpose		Check if the tension of the PF Timing Belt is within the standard.	Check if the PG is within the standard.	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 set the MAC address (required for connecting to network) when the Main Board needs to be replaced.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	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 paper detection position error caused by PE sensor mounting position error through software control.	To align print start position at 0-digit side with that at 80-digit side in banding bi-directional 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 measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.	
Part Name	CR Assy	Remove	---	---	---	---	---	---	---	---	---	0	---	---	---	0	---	---	---	---	
		Replace	---	---	---	---	---	---	---	---	---	0	0	0	---	0	0	---	---	---	
	Front Frame	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	0	0	0	---	0	0	---	---	---	
	Star Wheel Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	0	---	---	---	0	---	---	---	---	---
	Paper Guide Front Assy*2	Remove	0	---	---	---	---	---	---	---	---	---	---	0	0	---	---	0	---	---	---
		Replace	0	0	---	---	---	---	---	---	---	0	---	0	0	0	---	0	0	Reset to 0	---
Printout pattern		---	---	---	---	---	---	---	---	---						---		---	---	---	
How to judge		The Adjustment Program is needed partly in this adjustment. See ? 2.2.1 PF Timing Belt Tension Measurement/ PF Belt Step Check (p38)? for the details.	See ? 2.2.2 Checking the Platen Gap (p41)? for the details.	---	---	See ? 2.2.3 MAC Address Setting (p42)? for the details.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	<b>PW Adjustment</b> 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. <b>1st dot adjustment</b> Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.	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.	<b>Band pattern</b> Enter the values of the most straight lines. <b>Microweave pattern</b> Enter the value for the group of which the gaps between the 2 color bars are the smallest.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	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		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tool		See p38	See p41	---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	

Note \*1\*: Replacement of the Waste Ink Tray Assy is necessary.

Note \*2\*: When you have just removed and reinstalled the part or unit, you are required to make the adjustments checked in the "Remove" row. However, if you have reinstalled the part or unit without using Epson-specified tools, the adjustments checked in the "Replace" row must be performed.

Table 2-1. Required Adjustment List

Adjustment Type		Mechanism adjustment		Adjustment using the Adjustment Program																			
Priority		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Adjustment Item		PF Timing Belt tension measurement/ PF belt step confirmation	Checking the Platen Gap	EEPROM data copy	Initialize Setting	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	CR motor heat protection control	PF motor heat protection control			
Purpose		Check if the tension of the PF Timing Belt is within the standard.	Check if the PG is within the standard.	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 set the MAC address (required for connecting to network) when the Main Board needs to be replaced.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	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 paper detection position error caused by PE sensor mounting position error through software control.	To align print start position at 0-digit side with that at 80-digit side in banding bi-directional 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 measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.			
Part Name	EJ Pulley	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
		Replace	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	EJ Roller	Remove	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	---	---	O	O	---	---	O	O	---	---	---	---	---	
	PF Holder/ PF Timing Belt	Remove	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	PF Motor	Remove	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---
Frame Base Assy (Frame Base)	Remove	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	
	Replace	---	O	---	---	---	---	---	O	O	O	O	O	O	O	O	O	---	---	---	---	---	
Printout pattern		---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	
How to judge		The Adjustment Program is needed partly in this adjustment. See ? 2.2.1 PF Timing Belt Tension Measurement/ PF Belt Step Check (p38)? for the details.	See ? 2.2.2 Checking the Platen Gap (p41)? for the details.	---	---	See ? 2.2.3 MAC Address Setting (p42)? for the details.	---	---	---	---	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	<p>■ PW Adjustment</p> <p>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.</p> <p>■ 1st dot adjustment</p> <p>Examine the lines on the left side of paper, and enter the number beside the line that overlaps with the horizontal line.</p>	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.	<p>■ Band pattern</p> <p>Enter the values of the most straight lines.</p> <p>■ Microweave pattern</p> <p>Enter the value for the group of which the gaps between the 2 color bars are the smallest.</p>	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	---	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		See p38	See p41	---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	

Note \*1\*: Replacement of the Waste Ink Tray Assy is necessary.

Note \*2\*: When you have just removed and reinstalled the part or unit, you are required to make the adjustments checked in the "Remove" row. However, if you have reinstalled the part or unit without using Epson-specified tools, the adjustments checked in the "Replace" row must be performed.

Table 2-1. Required Adjustment List

Adjustment Type		Mechanism adjustment		Adjustment using the Adjustment Program																			
Priority		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Adjustment Item		PF Timing Belt tension measurement/ PF belt step confirmation	Checking the Platen Gap	EEPROM data copy	Initialize Setting	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	CR motor heat protection control	PF motor heat protection control			
Purpose		Check if the tension of the PF Timing Belt is within the standard.	Check if the PG is within the standard.	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 set the MAC address (required for connecting to network) when the Main Board needs to be replaced.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	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 paper detection position error caused by PE sensor mounting position error through software control.	To align print start position at 0-digit side with that at 80-digit side in banding bi-directional 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 measure and correct the electrical variation of the motor and the power supply board.	To measure and correct the electrical variation of the motor and the power supply board.			
Part Name	Lower Paper Guide Waste Ink Pad	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
		Replace	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	
	PE Sensor	Remove	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	O	---	---	---	---	---	---
	Printhead*2	Remove	---	---	---	---	---	---	---	---	---	---	O	O	O	O	O	O	O	---	---	---	---
		Replace	---	O	---	---	---	O	O	---	---	O	O	O	O	O	O	O	O	---	---	---	---
	P/S Board Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	O	O
Printer Mechanism	Replace	O	O	---	---	---	---	---	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
Printout pattern		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
How to judge		The Adjustment Program is needed partly in this adjustment. See ? 2.2.1 PF Timing Belt Tension Measurement/ PF Belt Step Check (p38)? for the details.	See ? 2.2.2 Checking the Platen Gap (p41)? for the details.	---	---	See ? 2.2.3 MAC Address Setting (p42)? for the details.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Adjustment program		O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
Tool		See p38	See p41	---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	

Note \*1\*: Replacement of the Waste Ink Tray Assy is necessary.

Note \*2\*: When you have just removed and reinstalled the part or unit, you are required to make the adjustments checked in the "Remove" row. However, if you have reinstalled the part or unit without using Epson-specified tools, the adjustments checked in the "Replace" row must be performed.

## 2.2 Details of Adjustments

This section provides adjustment procedures for which explanation in details is necessary. See "2.1 Required Adjustments (p32)" for the adjustments not explained here.

### 2.2.1 PF Timing Belt Tension Measurement/PF Belt Step Check

This section describes PF Timing Belt tension measurement and PF belt step check.

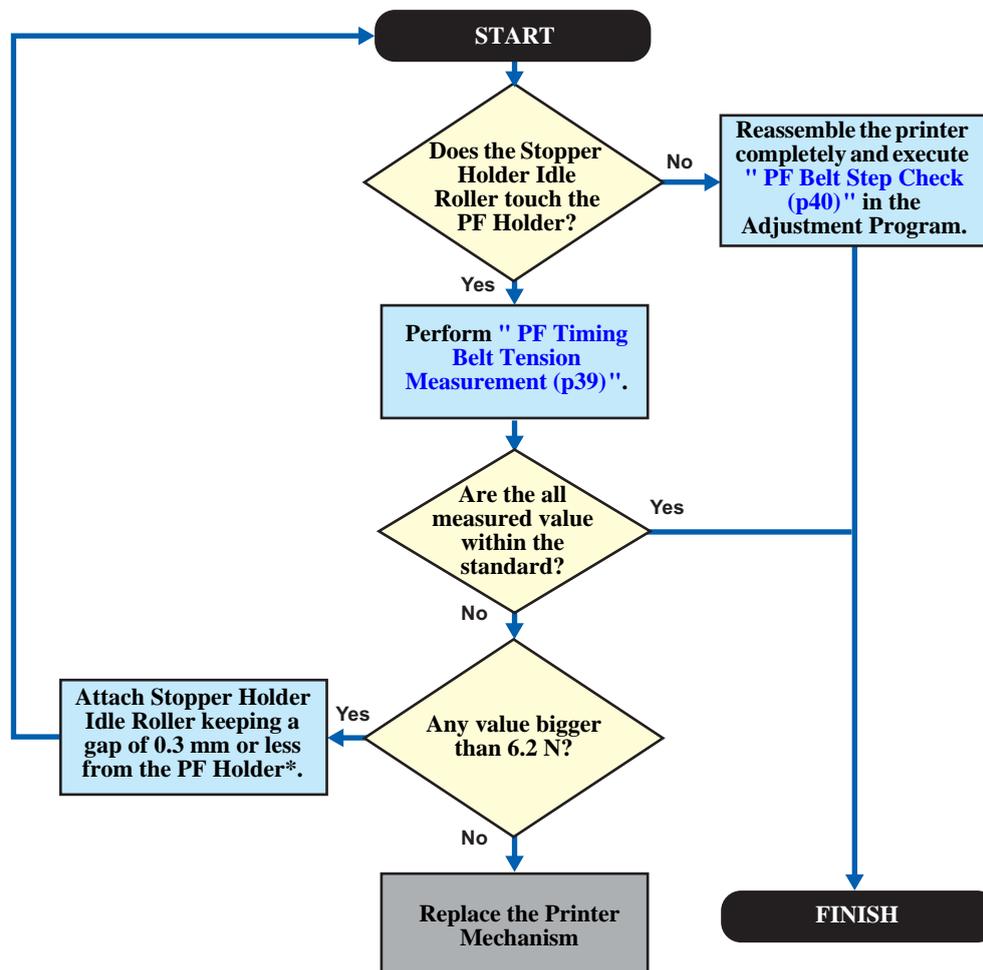


- If you have correctly reassembled the Printer Mechanism using the Epson-specified tools, the tension of the PF Timing Belt falls within the expected range. However, deformation of any related part(s) can cause improper tension of the belt. In such case, replace the Printer Mechanism.
- The standard tension range of the PF Timing Belt Tension is as follows:
  - Standard: 3.1-6.2 N

- Tools
  - Sonic tension gauge
  - Plastic tweezers
  - Adjustment Program

- Adjustment procedure

Follow the procedure below.



Note "\*": The Stopper Holder Idle Roller's pressure applying to the PF Holder may make the tension of the belt get tighter. See "Paper Guide Front Assy (Stopper Holder Idle Roller) (p26)" for the position of the Stopper Holder Idle Roller.

Figure 2-1. Flowchart for PF Timing Belt Tension Measurement/PF Belt Step Check

## PF Timing Belt Tension Measurement



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

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

1. Set the following parameters to the sonic tension gauge:
  - Weight: 1
  - Width: 2.5
  - Span: 73
2. Bring the microphone of the sonic tension gauge close to the upper center of the PF Timing Belt as shown in Figure 2-2.
3. Press the “MEASURE” button of the sonic tension gauge and flip the Timing Belt with plastic tweezers and measure the tension of the belt three times.

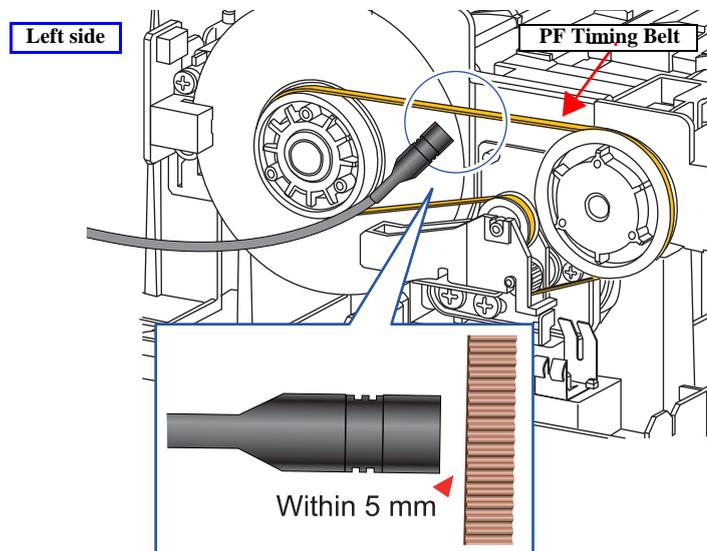


Figure 2-2. Preparation



The following explains how the positional relationship between the PF Holder and the Stopper Holder Idle Roller affects the tension of the PF Timing Belt.

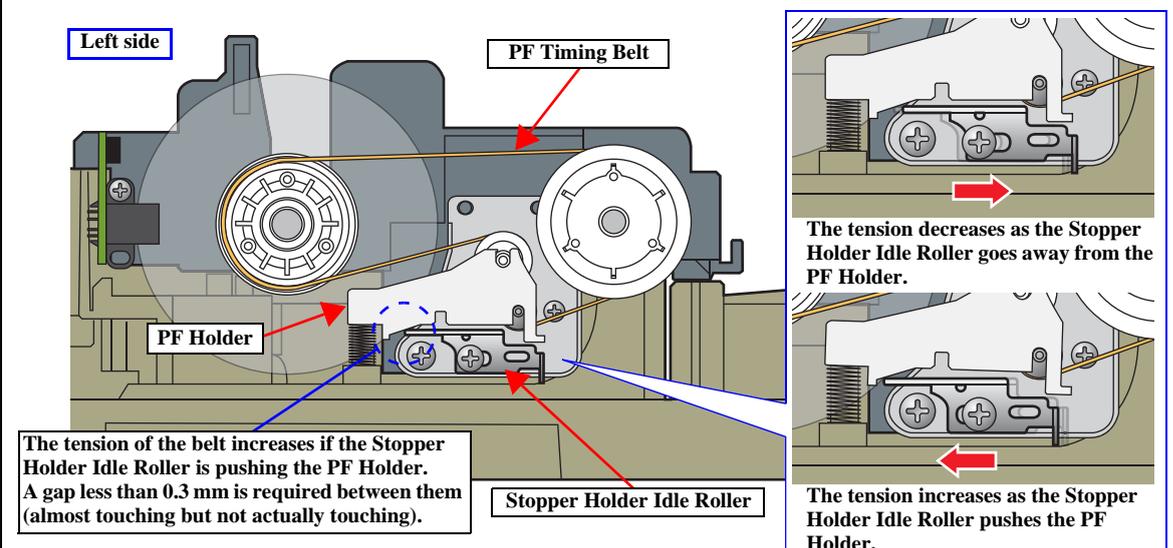


Figure 2-3. PF Holder and Stopper Holder Idle Roller Relationship

---

**PF Belt Step Check**

---

1. Connect the printer and the PC with the USB cable.
2. Start the Adjustment Program.
3. Select "PF belt step check" from the menu. The check screen appears.
4. Press the "Execute" button to perform the PF Timing Belt step check, and confirm the screen.
  - When "OK" is displayed:  
the check is complete.
  - When "OK" is not displayed:  
follow the instructions on the program screens, check that no abnormal noise or fatal error occurs.  
If any of them occurs, go to Step 5. If not, the check is complete.
5. Reinstall the Front Paper Guide Assy, and reattach the Stopper Holder Idle Roller correctly.  
(See "[Paper Guide Front Assy \(installation using the tools\) \(p26\)](#)" and "[Paper Guide Front Assy \(Stopper Holder Idle Roller\) \(p26\)](#)".)
6. Perform PF Timing Belt Tension Measurement/PF Belt Step Check again by following the "[Flowchart for PF Timing Belt Tension Measurement/PF Belt Step Check \(p38\)](#)".

## 2.2.2 Checking the Platen Gap

This section describes the procedure for checking the platen gap (PG).



- If you have correctly reassembled the Printer Mechanism using the Epson-specified tools, the PG falls within the expected range. However, deformation of any related part(s) can cause improper PG. In such case, replace the Printer Mechanism.
- The standard range of the PG is as follows:
  - Standard:  $1.7 \pm 0.2$  mm

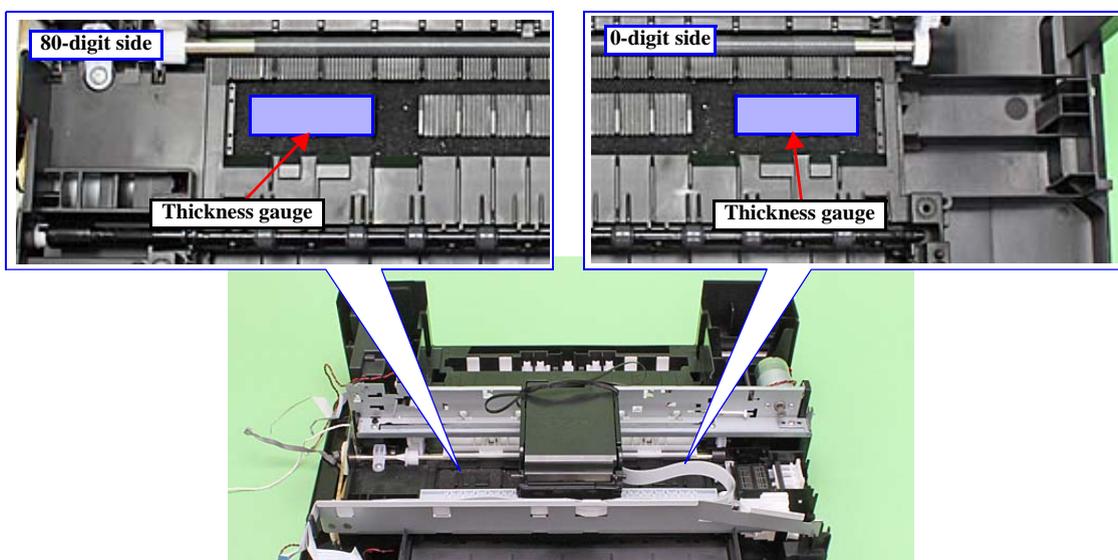
- Tools
  - Thickness gauge: 1.5 mm (x2), 1.9 mm (x2)
- Confirmation procedure



**When checking the PG, make sure of the following.**

- Check the PG with the ink cartridges installed and the Upper Housing removed.
- Move the carriage by pulling the Timing Belt.
- Be careful not to damage the nozzles of the Printhead with the thickness gauge.

1. Move the carriage to the center of the printer.
2. Place the thickness gauges (1.5 mm) on the positions shown in [Figure 2-4](#).



**Figure 2-4. Position of the Thickness Gauge**

3. Pull the Timing Belt to move the carriage to both ends and confirm the carriage does not touch the thickness gauges. If the carriage comes in contact with the thickness gauges, the PG is smaller than the standard value, therefore, replace the Printer Mechanism.
4. Move the carriage 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 Timing Belt to move the carriage to both ends and confirm the carriage touches the thickness gauges. If the carriage does not come in contact with the thickness gauges, the PG is greater than the standard value, therefore, replace the Printer Mechanism.

## 2.2.3 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)

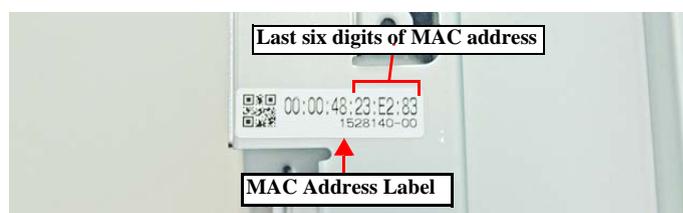


Figure 2-5. MAC Address Label

### □ Setting procedure

1. After replacing the Main Board, note down the MAC address written on a label on the Upper M/B Shield Plate.
2. 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 print menu on the printer's control panel, and print the sheet. Check the MAC address printed on the sheet to see if it is correct.

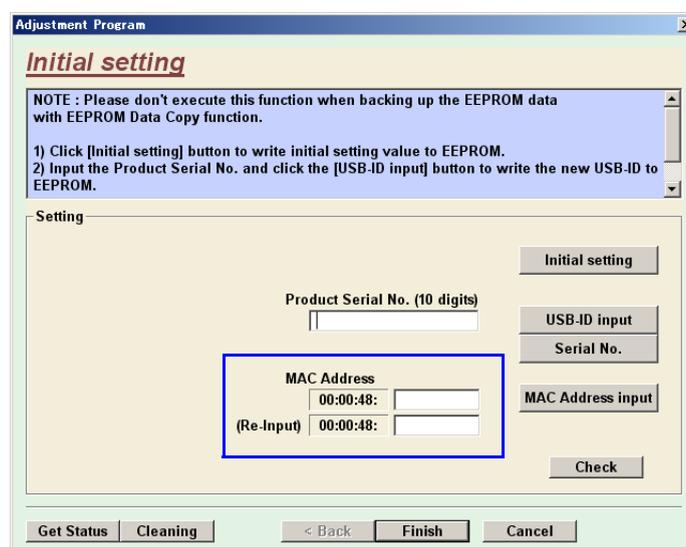


Figure 2-6. MAC Address Setting Screen

CHAPTER 3

**MAINTENANCE**

## 3.1 Overview

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



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

- **WorkForce 635 series:**WorkForce 635/Epson Stylus Office TX620FWD/  
Epson Stylus Office BX625FWD/ME OFFICE 960FWD
- **WorkForce 620 series:**WorkForce 620/625/Epson Stylus TX560WD/  
Epson Stylus SX525WD/Epson Stylus BX525WD/  
ME OFFICE 900WD
- **WorkForce 60 series:**WorkForce 60/T42WD/  
Epson Stylus Office B42WD/ME OFFICE 82WD/  
ME OFFICE 85ND

### 3.1.1 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 LD 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 LD 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.**

### 3.1.2 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 "[3.2 Lubrication Points and Instructions \(p45\)](#)" 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-45	1033657	EPSON
Grease	G-71	1304682	EPSON
Grease	G-72	1409258	EPSON
Grease	G-74	1409257	EPSON

#### □ Tools

Name	Availability	EPSON Part Code
Injector	O *	---
Brush	O *	---
Flux dispenser	O *	1049533

Note \*: Use tools whose specifications are specified in "[3.2 Lubrication Points and Instructions \(p45\)](#)".

### 3.2 Lubrication Points and Instructions

<p>Front</p> <p>Driven Pulley Holder</p>	<p>Back</p> <p>Driven Pulley Holder</p>	<p>&lt;Lubrication Point&gt;                  1. Bearing of the Driven Pulley Holder (x2).                  2. Contact points (x8) with the Main Frame.                  3. Shaft hole of the Driven Pulley.</p>
<p>Driven Pulley</p>		<p>&lt;Type&gt; G-71</p>
<p>1. Application Point                  2. Application Point                  3. Application Point</p>		<p>&lt;Application Amount&gt;                  1. <math>\phi</math> 2 mm x appropriate amount                  2. <math>\phi</math> 1 mm x 2 mm                  3. <math>\phi</math> 1 mm x 1 mm</p>
		<p>&lt;Remarks&gt; Apply with injector.</p>

Figure 3-1. Lubrication of the Driven Pulley Holder

		<p>&lt;Lubrication Point&gt;                  Ribs (x3) on the Paper Guide Front Assy (Contact points with the PF Roller and Spur Gear 12)</p>
<p>Paper Guide Front Assy</p> <p>Section A</p> <p>1. Application Point</p>		<p>&lt;Type&gt; G-71</p>
		<p>&lt;Application Amount&gt; 3 mm x 17 mm x 1 mm</p>
		<p>&lt;Remarks&gt;  <input type="checkbox"/> Apply <math>\phi</math> 1 x 17 mm each with injector on the three points to make the application amount.  <input type="checkbox"/> Lubricate along the grease grooves and wipe the grease that run off the grooves.  <input type="checkbox"/> Do not touch section A before/during/after lubrication.</p>

Figure 3-2. Lubrication of the Paper Guide Front Assy (PF Roller)

<p>EJ Roller</p> <p>Paper Guide Front Assy</p> <p>1. Application Point                  2. Application Point</p>	<p>&lt;Lubrication Point&gt;                  Ribs (x8) on the Paper Guide Front Assy (Contact points of the EJ Roller)</p>
	<p>&lt;Type&gt;                  1. G-74                  2. G-71</p>
	<p>&lt;Application Amount&gt;                  1. 0.04 g                  2. <math>\phi</math> 1 mm x 4 mm</p>
	<p>&lt;Remarks&gt;  <input type="checkbox"/> 1. Apply with brush.                  2. Apply with injector.  <input type="checkbox"/> Stir G-74 before use.  <input type="checkbox"/> Do not touch application points after lubrication.  <input type="checkbox"/> Install the EJ Roller soon after lubrication.</p>

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

<p>PF Roller Grounding Spring</p> <p>PF Roller</p> <p>Application Point</p>	<p>&lt;Lubrication Point&gt;                  Contact point between the PF Roller and the PF Roller Grounding Spring</p>
	<p>&lt;Type&gt; G-71</p>
	<p>&lt;Application Amount&gt; <math>\phi</math> 3 mm x 7 mm</p>
	<p>&lt;Remarks&gt; Apply with injector.</p>

Figure 3-4. Lubrication of the PF Roller Grounding Spring

<p>PF Holder</p> <p>Application Point</p>	<p>&lt;Lubrication Point&gt; PF Holder (x4)</p>
	<p>&lt;Type&gt; G-71</p>
	<p>&lt;Application Amount&gt; <math>\phi</math> 0.5 mm x 0.5 mm</p>
	<p>&lt;Remarks&gt; Apply with injector.</p>

Figure 3-5. Lubrication of the PF Holder

<Lubrication Point> 1. Contact points (x4) on the Main Frame with the CR Assy 2. Contact point on the Front Frame with the CR Assy
<Type> G-71
<Application Amount> φ 1.5 mm x 350 mm (165 mg)
<Remarks> <input type="checkbox"/> Apply with injector.

Figure 3-6. Lubrication of the Main Frame (1)

<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 3-7. Lubrication of the Main Frame (2)

<Lubrication Point> Shaft of the EJ Pulley (x3)
<Type> G-71
<Application Amount> φ 1 mm x appropriate amount
<Remarks> <input type="checkbox"/> Using injector, apply grease on the thick part of the shaft only from the root to the top edge. <input type="checkbox"/> Lubricate along the grease grooves on the EJ Pulley.

Figure 3-8. Lubrication of the EJ Pulley

<Lubrication Point> Sliding surface of the Cap Slider (x4)
<Type> G-74
<Application Amount> 1 mm x 15 mm
<Remarks> <input type="checkbox"/> Apply with brush. <input type="checkbox"/> Stir G-74 before use.

Figure 3-9. Lubrication of the Ink System Assy (1)

<Lubrication Point> Valve Unit (x2)
<Type> G-74
<Application Amount> 2 mm x 12 mm
<Remarks> <input type="checkbox"/> Apply with brush. <input type="checkbox"/> Stir G-74 before use.

Figure 3-10. Lubrication of the Ink System Assy (2)

<Lubrication Point> 1. Rail Guide Pressurizing Plate (x2) 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.

Figure 3-11. Lubrication of the CR Assy

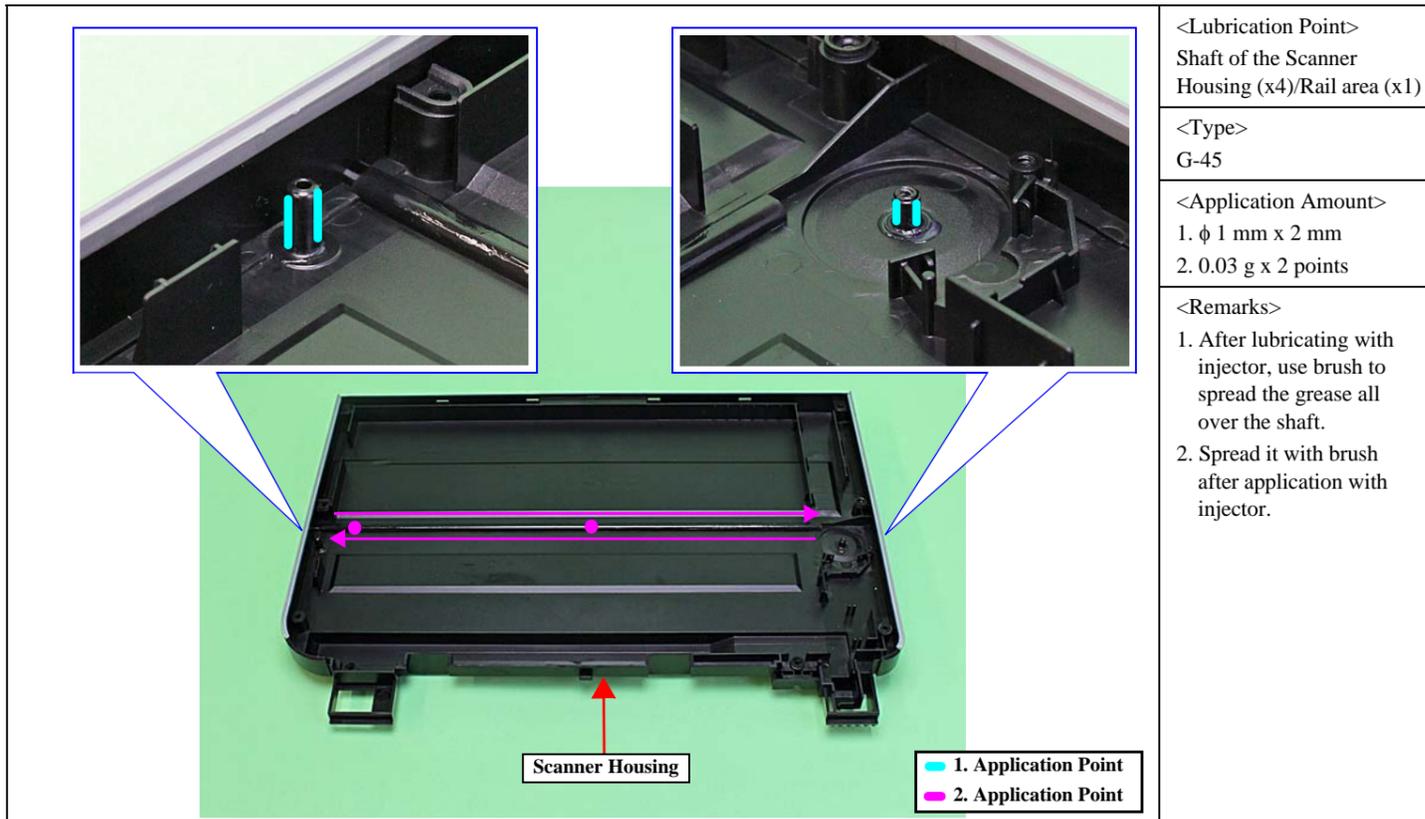


Figure 3-12. Lubrication of the Scanner Unit (WorkForce 635/620 series)

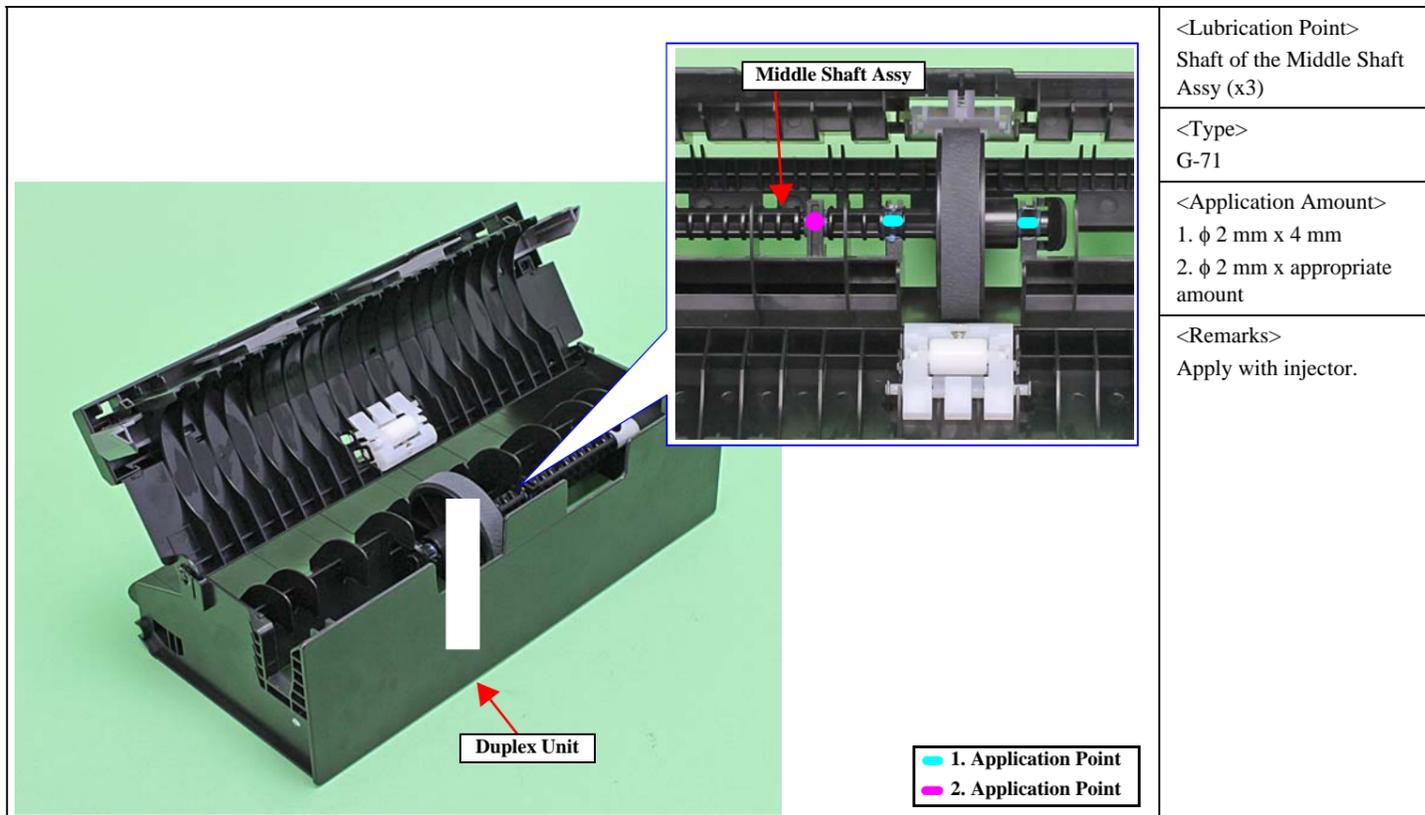


Figure 3-13. Lubrication of the Duplex Unit

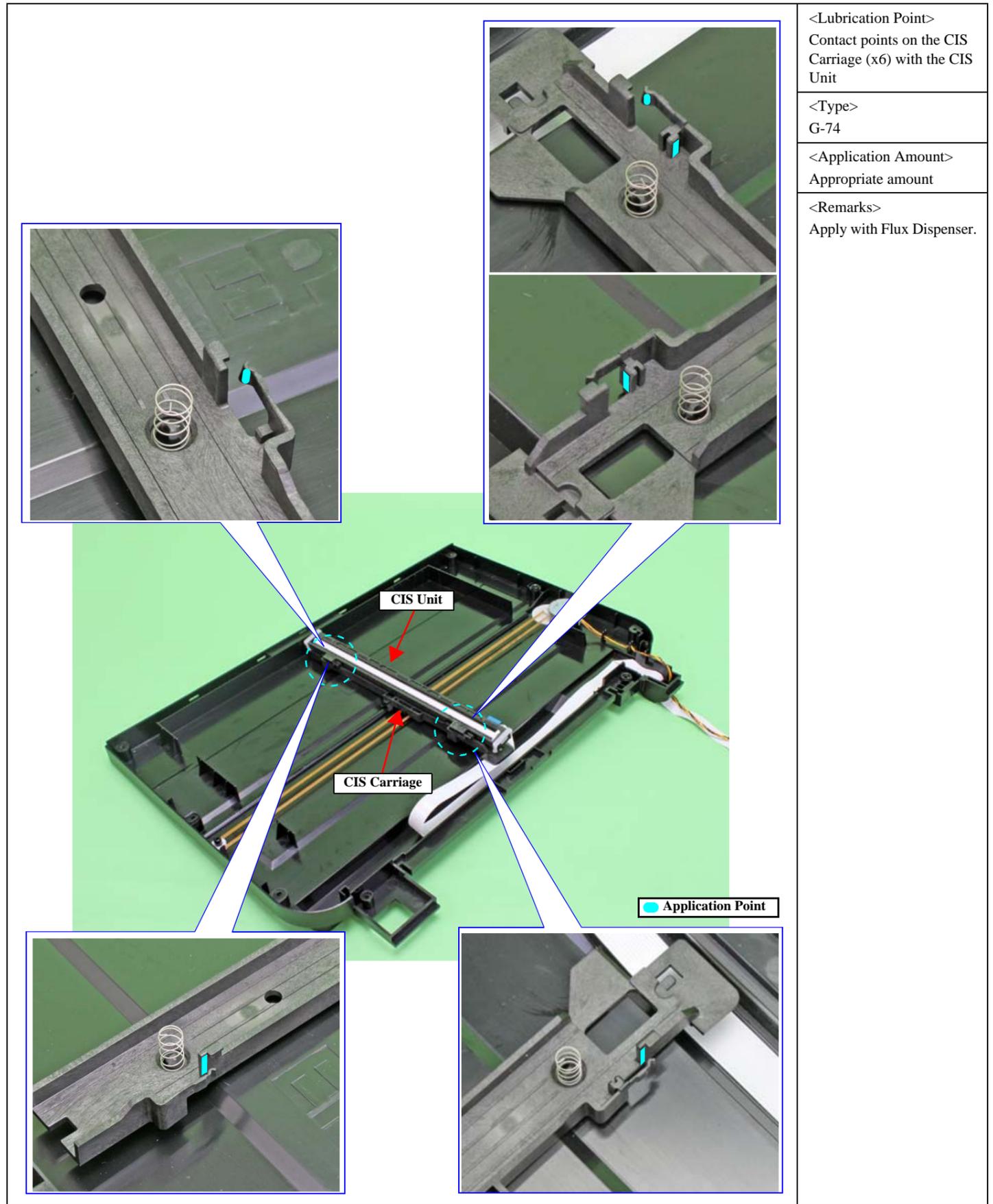


Figure 3-14. Lubrication of the CIS Carriage (WorkForce 635/620 series)

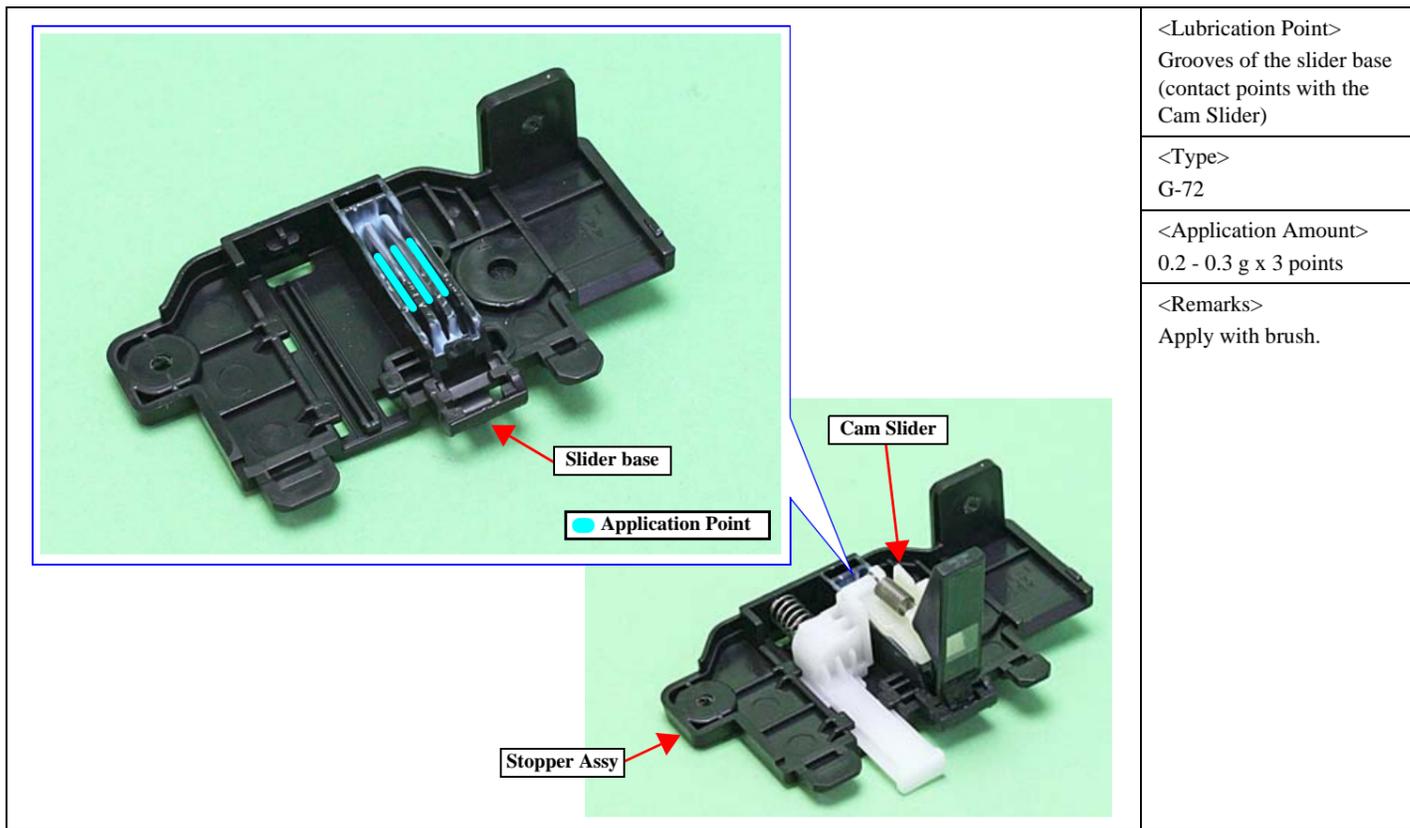


Figure 3-15. Lubrication of the Stopper Assy (WorkForce 620 series)

CHAPTER 4

# APPENDIX

## 4.1 Power-On Sequence

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



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

- **WorkForce 635 series:** WorkForce 635/Epson Stylus Office TX620FWD/  
Epson Stylus Office BX625FWD/ME OFFICE 960FWD
- **WorkForce 620 series:** WorkForce 620/625/Epson Stylus TX560WD/  
Epson Stylus SX525WD/Epson Stylus BX525WD/  
ME OFFICE 900WD
- **WorkForce 60 series:** WorkForce 60/T42WD/  
Epson Stylus Office B42WD/ME OFFICE 82WD/  
ME OFFICE 85ND

- Condition 1: Normal power-on sequence (See [Table 4-1.](#))
  - 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 4-2.](#))
  - 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 4-1. Condition 1: Normal Power-on Sequence \*1**

Operation *2	Carriage/PF Roller movement and position *3
<b>1. Printhead initialization</b> 1-1. Initializes the Printhead, and checks for the fuse on the board in the Printhead. *4	
<b>2. Checking for waste ink overflow</b> 2-1. Checks the waste ink counter if the waste ink overflow is occurring.	
<b>3. Avoiding deadlock sequence *5</b> 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 80-digit side slowly.	
3-3. The PF Motor rotates clockwise, and releases the CR lock.	
<b>4. Seeking the home position</b> 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 80-digit side slowly and confirms it touches the CR lock.	

**Table 4-1. Condition 1: Normal Power-on Sequence \*1**

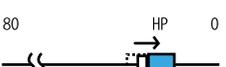
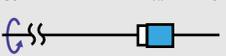
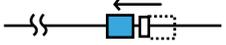
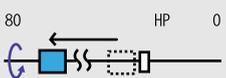
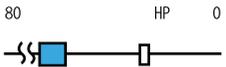
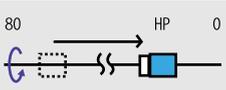
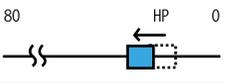
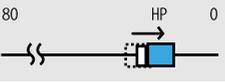
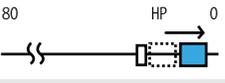
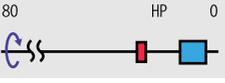
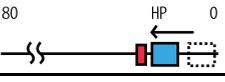
Operation *2	Carriage/PF Roller movement and position *3
4-5.The carriage slowly moves toward the 0-digit side and reaches the CR lock set position.	
4-6.The PF Motor rotates clockwise, and releases the CR lock.	
4-7.The carriage moves to the 80-digit side slowly and confirms it does not touch the CR 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.	
<b>5. PF initialization</b>	
5-1.The PF Motor rotates clockwise for approx. one second.	
5-2.The PE sensor detects if paper exists and the PF Motor rotates clockwise for approx. 0.5 second.*6	
<b>6. Low temperature operation sequence *7</b>	
6-1.The carriage moves back and forth between the CR lock and the 80-digit side for two times.	
<b>7. PF measurement and PW sensor initialization</b>	
7-1.The carriage slowly moves to the 80-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.	

Table 4-1. Condition 1: Normal Power-on Sequence \*1

Operation *2	Carriage/PF Roller movement and position *3
<b>8. Detecting ink cartridge and initializing ink system *8</b>	
8-1. After the carriage slightly moves to the 80-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 Assy 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.

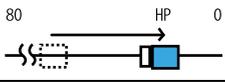
\*5: Confirm that the CR lock is not get stuck in the gap of the carriage or any other parts preventing the carriage from moving.

\*6: Eject paper if any.

\*7: Executed when the detected temperature is under 5 °C (41°F) by the thermistor on the Printhead.

\*8: The empty suction operation may occur depending on situations.

Table 4-2. 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 4-1).	
<b>6. Detecting remaining paper</b>	
6-1. The carriage moves to the 80-digit side and confirms there is no paper. *1	
6-2. The carriage quickly returns to its home position, and displays on the LCD that the paper jam error occurs.	
When the user removes the paper and releases the paper jam error by panel operation, the normal power-on sequence from No.1 (Table 4-1) 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 4-1) is executed from No.6.

\*2: If the paper jam error cannot be solved after repeating the power-on sequence on condition 2 (Table 4-2) twice, the printer turns into the paper jam fatal error for the third time.

## 4.2 Connector Diagram

Cable connections of this printer are shown below.

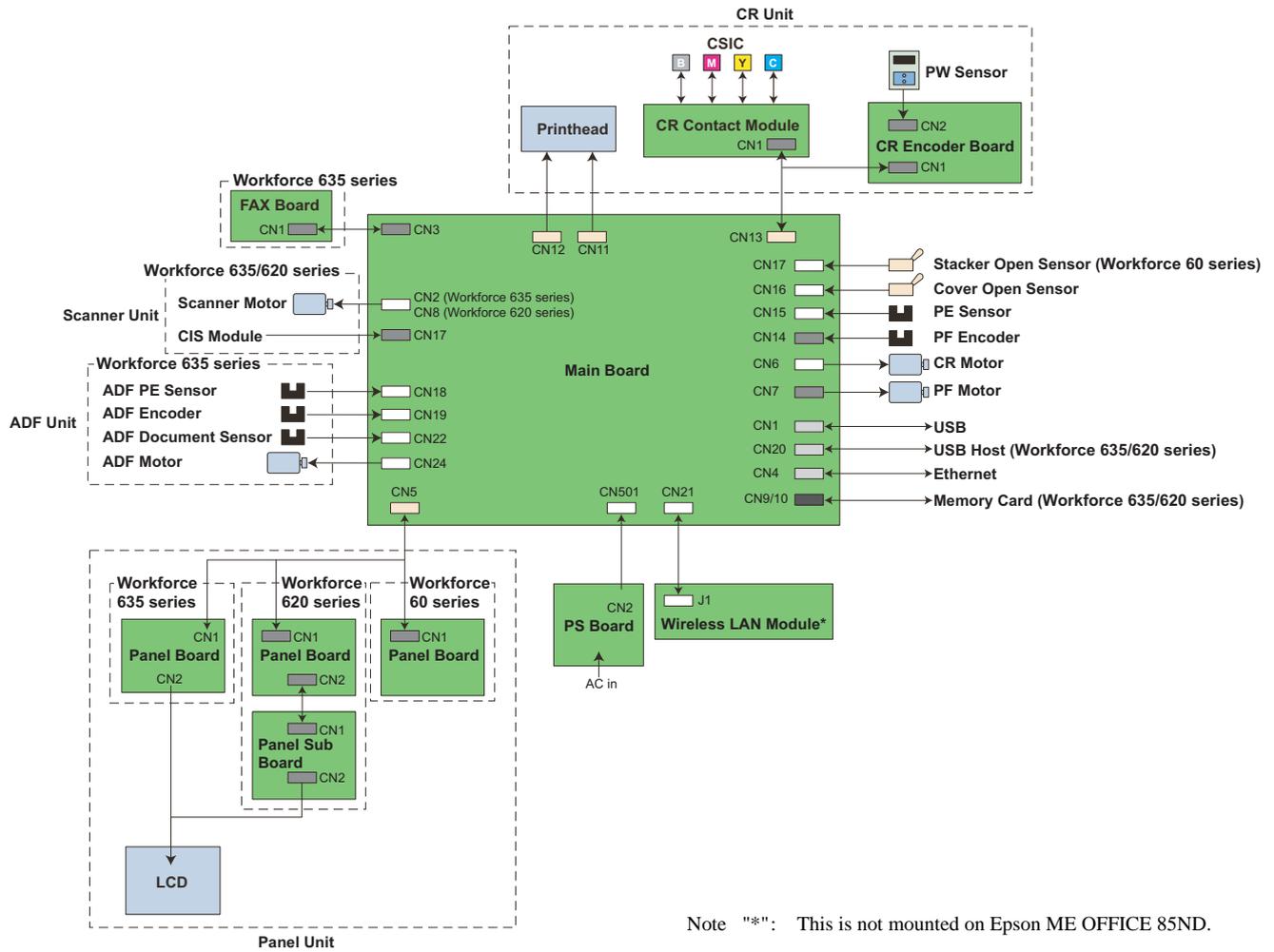


Figure 4-1. Connector Diagram

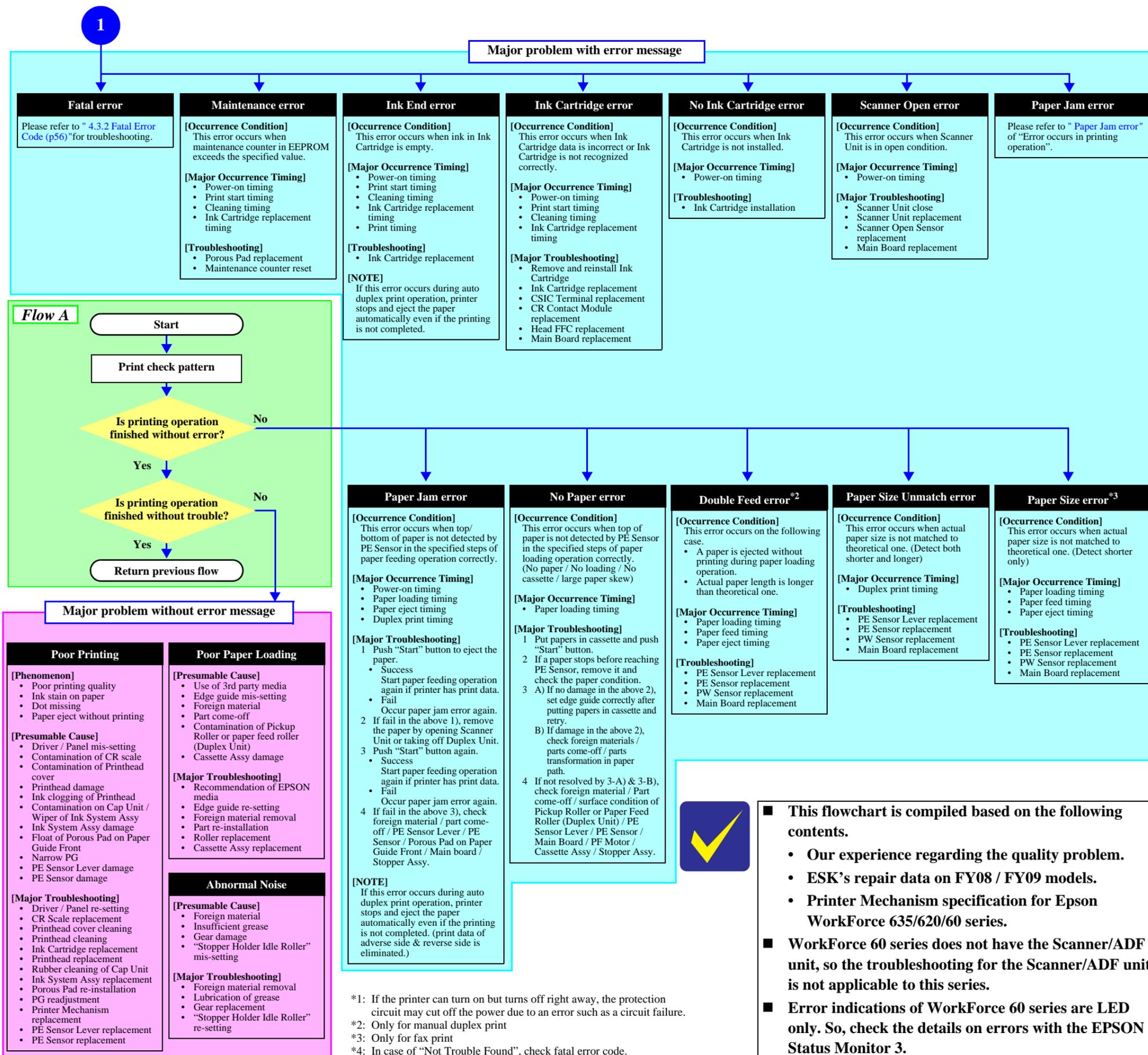
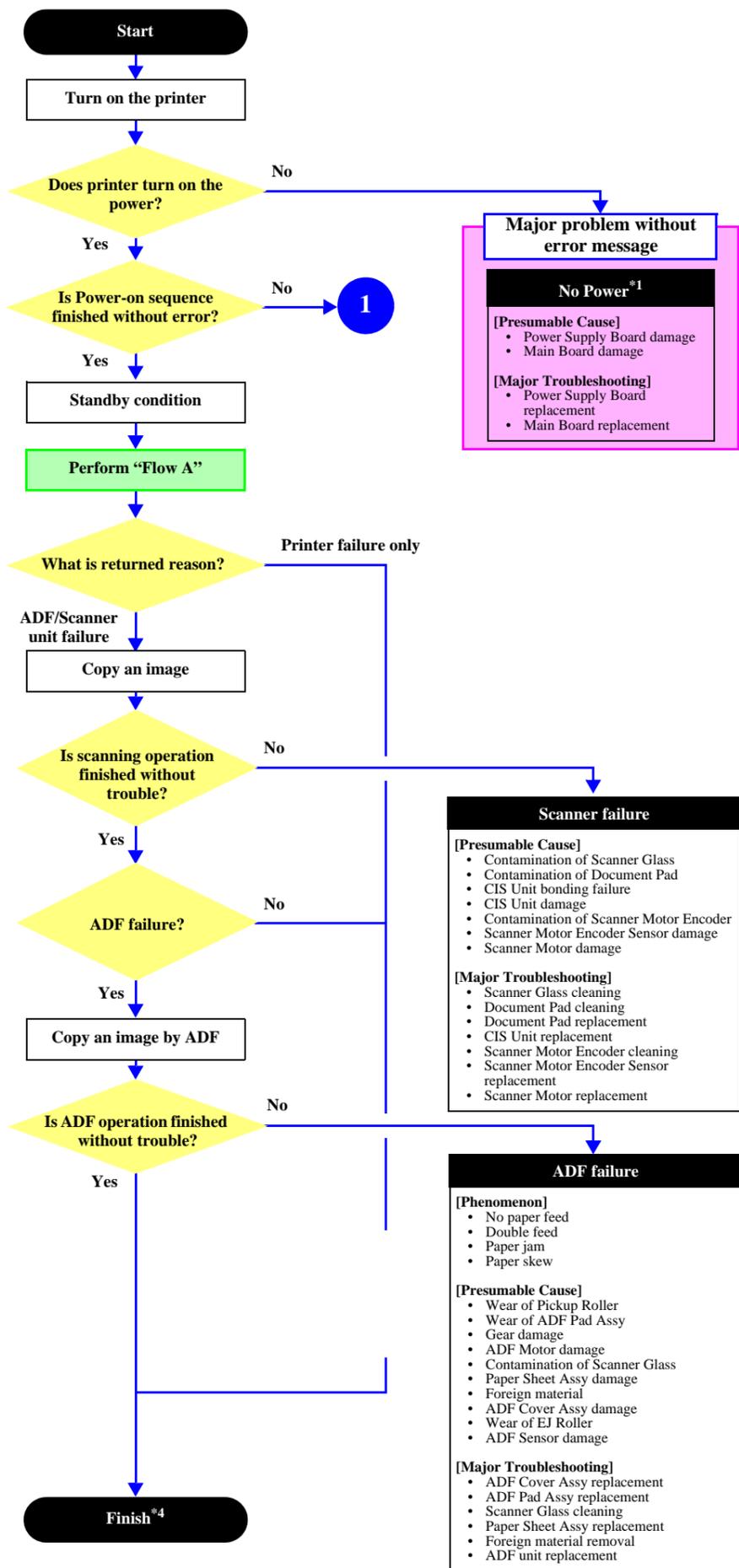
## **4.3 Troubleshooting**

---

This section describes the troubleshooting workflow and fatal error information.

### **4.3.1 Troubleshooting Workflow**

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



### 4.3.2 Fatal Error Code

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



WorkForce 60 series does not have the Scanner/ADF unit, so [Table 4-4](#) is not applicable to this series.

Printer fatal error list

**Table 4-3. Fatal Error List (Printer)**

Error type	Error code	Error name	Possible cause
DC motor error	01H	CR PID excess load error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• CR Motor failure</li> <li>• Carriage overload error (paper jam/foreign object)</li> <li>• Cable disconnection</li> </ul>
	02H	CR PID excess speed error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Motor driver failure (Main Board failure)</li> <li>• Tooth skip of the CR Timing Belt</li> <li>• Improper tension of the CR Timing Belt</li> </ul>
	03H	CR PID reverse error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Tooth skip of the CR Timing Belt</li> <li>• Improper tension of the CR Timing Belt</li> <li>• Paper jam</li> </ul>
	04H	CR PID lock error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• CR Motor failure</li> <li>• Carriage overload error (paper jam/foreign object)</li> <li>• Cable disconnection</li> </ul>
	05H	CR PID speed degradation error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Motor driver failure (Main Board failure)</li> <li>• Tooth skip of the CR Timing Belt</li> <li>• Improper tension of the CR Timing Belt</li> <li>• Paper jam</li> </ul>
	08H	CR load position reverse error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Tooth skip of the CR Timing Belt</li> <li>• Improper tension of the CR Timing Belt</li> <li>• Paper jam</li> </ul>
	09H	CR load position excess speed error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Motor driver failure (Main Board failure)</li> <li>• Tooth skip of the CR Timing Belt</li> <li>• Improper tension of the CR Timing Belt</li> </ul>
	0AH	CR load position excess load error	<ul style="list-style-type: none"> <li>• CR Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• CR Motor failure</li> <li>• Carriage overload error (paper jam/foreign object)</li> <li>• Cable disconnection</li> </ul>
	F1H	PF PID excess load error	<ul style="list-style-type: none"> <li>• PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• PF Motor failure</li> <li>• PF drive mechanism overload (paper jam/foreign object)</li> <li>• Cable disconnection</li> </ul>
	F2H	PF PID excess speed error	<ul style="list-style-type: none"> <li>• PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Motor driver failure (Main Board failure)</li> <li>• Tooth skip of the PF Timing Belt</li> <li>• Improper tension of the PF Timing Belt</li> </ul>

Table 4-3. Fatal Error List (Printer)

Error type	Error code	Error name	Possible cause
DC motor error	F3H	PF PID reverse error	<ul style="list-style-type: none"> <li>PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>Tooth skip of the PF Timing Belt</li> <li>Improper tension of the PF Timing Belt</li> <li>Paper jam</li> </ul>
	F4H	PF PID lock error	<ul style="list-style-type: none"> <li>PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>PF Motor failure</li> <li>PF drive mechanism overload (paper jam/foreign object)</li> <li>Cable disconnection</li> </ul>
	F6H	PF PID excess torque limitation error	---
	F8H	PF load position reverse error	<ul style="list-style-type: none"> <li>PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>Tooth skip of the PF Timing Belt</li> <li>Improper tension of the PF Timing Belt</li> </ul>
	F9H	PF load position excess speed error	<ul style="list-style-type: none"> <li>PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>Motor driver failure (Main Board failure)</li> <li>Tooth skip of the PF Timing Belt</li> <li>Improper tension of the PF Timing Belt</li> </ul>
	FAH	PF load position excess load error	<ul style="list-style-type: none"> <li>PF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>PF Motor failure</li> <li>PF drive mechanism overload (paper jam/foreign object)</li> <li>Cable disconnection</li> </ul>
	FCH	PF load position error	
Motor drive time error	D1H	CR (PID) driving time error	<ul style="list-style-type: none"> <li>Main Board failure</li> </ul>
	D2H	CR (load position) driving time error	
	D3H	PF (PID) driving time error	
	D4H	PF (BS) driving time error	
Command error	30H	EEPROM verify error (by command)	---
Printhead system error	40H	Transistor temperature error	<ul style="list-style-type: none"> <li>Main Board failure</li> </ul>
	41H	X-Hot detect error (pre printing)	<ul style="list-style-type: none"> <li>Printhead failure</li> <li>Main Board failure</li> </ul>
	42H	X-Hot detect error (after flushing)	
	43H	Head temperature error	
Sequence error	50H	Home position error	<ul style="list-style-type: none"> <li>Paper jam</li> <li>Foreign object</li> <li>Deformation of the Main Frame</li> </ul>
	51H	Deadlock avoidance error	
	52H	Impossible contact detection error	
	56H	Contact error at ink replacement timing (Power-off)	
	5BH	Insoluble paper jam error	<ul style="list-style-type: none"> <li>Paper jam</li> <li>Foreign object</li> </ul>
	7EH	No print inspection mode error	---
Sensor error	60H	PW detector error	<ul style="list-style-type: none"> <li>PW Sensor failure</li> <li>Main Board failure</li> </ul>
	61H	PW detector confusion error	
	63H	PE detector error	
Ink device error	B0H - CFH	Ink device error	<ul style="list-style-type: none"> <li>Ink Cartridge failure</li> <li>CSIC Terminal failure</li> <li>CR Contact Module failure</li> <li>Main Board failure</li> </ul>
Circuit error	80H	Circuit error (include blowout of a fuse)	<ul style="list-style-type: none"> <li>Main Board failure</li> </ul>

Note "": Not occurs except in manufacturing process.

- ADF/Scanner fatal error list (WorkForce 635/620 series)

**Table 4-4. Fatal Error List (ADF/Scanner)**

Error code	Error name	Possible cause
01H	ADF PID excess speed error	<ul style="list-style-type: none"> <li>• ADF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Motor driver failure (Main Board failure)</li> </ul>
02H	ADF PID reverse error	<ul style="list-style-type: none"> <li>• ADF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> <li>• Paper jam</li> </ul>
03H	ADF PID lock error	<ul style="list-style-type: none"> <li>• ADF Encoder failure (contaminated/detached scale, Encoder Board failure)</li> </ul>
05H	ADF PID excess load error	<ul style="list-style-type: none"> <li>• ADF Motor failure</li> <li>• Paper jam</li> <li>• Cable disconnection</li> </ul>
06H	ADF PID driving time error	<ul style="list-style-type: none"> <li>• Main Board failure</li> </ul>
10H	Scanner HP detection error	<ul style="list-style-type: none"> <li>• CIS Unit failure</li> <li>• Scanner Housing failure</li> <li>• Main Board failure</li> </ul>
20H	Scanner LED light error	<ul style="list-style-type: none"> <li>• CIS Unit failure</li> <li>• Main Board failure</li> </ul>
30H	ADF option error	<ul style="list-style-type: none"> <li>• Main Board failure</li> </ul>
36H	ADF paper jam error	<ul style="list-style-type: none"> <li>• Paper jam</li> </ul>