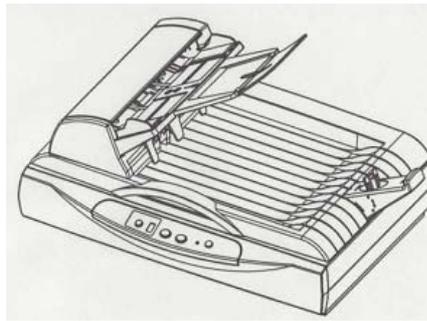


# fi-5015C Image Scanner Maintenance Manual



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# Preface

This manual provides the technical information such as maintenance, trouble shooting procedure and parts replacement procedure for Field Engineers on fi-5015C image scanner.

For information that is not contained in this manual, refer to the following manuals:

Item	Manuals	P/N *
1	fi-5015C Operator's Guide	P3PC-1592-xxEN
2	fi-5015C Getting Started	P3PC-1582-xxEN
3	Illustrated Parts Catalog	P4PA03209-B50X

\* xx represents revision number of the manuals.

## Convention

Special information, such as warnings, cautions, are indicated as follows:



### WARNING

This indication alerts operators to an operation that, if not strictly observed, may result in severe injury or death.



### CAUTION

This indication alerts operators to an operation that, if not strictly observed, may result in safety hazards to personnel or damage to equipment.



### NOTICE

This provides 'how-to' tips or suggestions to help you perform a procedure correctly.

## General note:

Be careful not to power off the scanner while communicating with the host computer. In case that the scanner is accidentally powered off during communication with the host, follow the procedure below:

1. Power off the host computer.
2. Power on the scanner.
3. Power on the host computer.

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Where there is no distinction between the different versions of the above operating system, the general term “Windows” is used.

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## Chapter 1 OVERVIEW

1.1 Overview
1.2 Specifications
1.3 Scanner configuration
1.4 Operation overview

### 1.1 Overview

This section describes scanner overview and features.

Image scanner, fi-5015C is a mid speed scanner that scans in black & white, grayscale (8 bit/pixel) and color (R,G,B, 24 bit in total) mode at resolution of 600dpi.

An ADF (Automatic Document Feeder) and a USB interface are installed on the scanner. The maximum sized paper can be scanned through the ADF is A4/Legal. A4/Letter sized paper can be scanned from the Flatbed.

Operators can install the fi-5015C. The field engineers can maintain the scanner without special tool. This scanner has the following features:

- Scanner life: 120,000 scans or 5 years.
- Resolution: 600 x 600 dot/inch at maximum
- Operator Panel: The same type of the Operator Panel as the fi-series scanners.
- High quality scan: Black & White, Grayscale (8 bit/pixel), and Color (R,G,B, 24 bit/pixel)
- Paper feeding: Flatbed, ADF
- Flatbed: Up to A4/Letter sized documents can be scanned.
- ADF (Automatic Document Feeder): Up to A4/Legal sized documents can be scanned. Maximum ADF capacity is 50 sheets.
- USB interface: USB 2.0 is supported.

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## 1.2 Specifications

Specifications of the scanner are shown as follows:

Items	Specifications	
	ADF	FB
Operating method	Automatic Document Feeder (ADF)	Flatbed
Image sensor	Color CCD	
Optical resolution	600 dpi (Main/ Sub scanning)	
Output resolution	50~600 dpi (Scalable in steps of 1 dpi)	
Scanning speed (paper)	15 ppm / 200 dpi, A4, portrait Black & White	
Bit depth	Color: 24 bit/pixel	
Scanning speed	Black&white: 15 ppm / 200dpi, A4, portrait Gray: 15 ppm / 200dpi, A4, portrait Color: 15 ppm / 150dpi, A4, portrait	Black&white: 5.3 sec. / 200dpi, A4 portrait Gray: 5.3 sec. / 200dpi, A4, portrait Color: 5.3 sec. / 150dpi, A4, portrait
Document size (Width x Length)	Min. 114 x 140 mm (4.5 x 5.5 in) Max. 216 x 355 mm (8.5 x 14 in)	Min. 25.4 x 25.4 mm (1 x 1 in) Max. 216 x 297 mm (8.6 x 1.9 in)
Document thickness	52 to 127 g/m <sup>2</sup> (13.9 to 34lb)	-----
Capacity of ADF	Maximum 25 sheets @52 to 127 g/m <sup>2</sup> (13.9 to 34lb), A4	-----
Optical System	Lens + Mirror	
Light source	White cold cathode tube	
Interface	USB 2.0	
Power requirements	AC 100V – 240V±10%. 50/60 Hz	
Ambient condition	During operation: 5~35 °C, 10~85% RH Standby: -20~60 °C, 8~95% RH	
Dimensions (W x D x H)	445 (D) x 332 (W) x 179 (H) mm (ADF Paper Chute Stopper excluded)	
Weight	5.5 kg (AC adapter excluded)	
Power consumption	During operation: 24 W or less Standby: 6 W or less Power switch off :1 W or less	
Scanner life	120,000 scans or 5 years	

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## 1.3 Scanner Configuration

This section describes configuration of the scanner.

### 1.3.1 Scanner Appearance

(1) Front

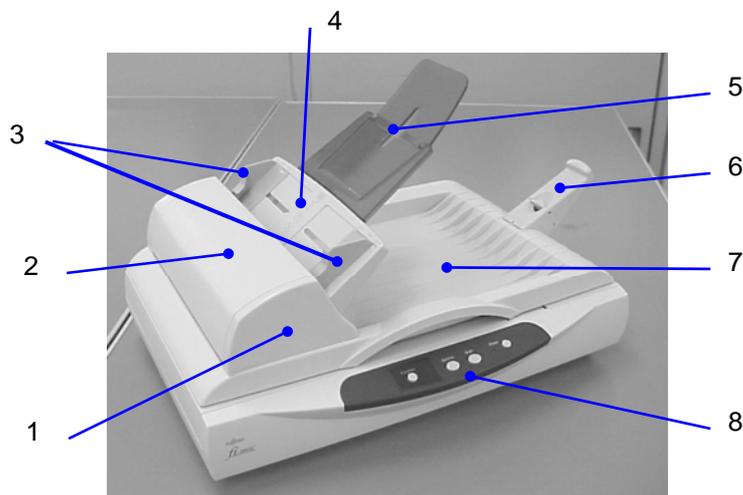
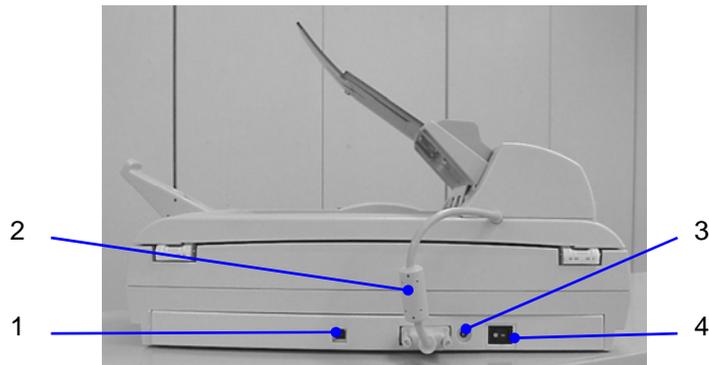


Fig.1.1 fi-5015C scanner appearance

No	Name	Function
1	ADF (Automatic Document Feeder)	The documents will automatically be fed sheet by sheet for scanning.
2	Pick Cover	Pull it up to open the ADF when paper is jammed.
3	Side Guide	Used to make sure that the paper to be scanned is fed into the scanner straight, avoiding skew.
4	ADF Paper Chute A	Supports documents to be fed into the ADF.
5	ADF Paper Chute B	Pull it out for loading long documents.
6	Stopper	Prevents ejected documents from dropping off the scanner.
7	Document Cover	Documents are ejected here after scanned by the ADF. Documents are held when scanned on the document bed (Flatbed).
8	Operator Panel	Turns ON/OFF the scanner, operates when starting scan ( <u>Send to</u> or <u>Scan</u> button) and displays the Function Number.

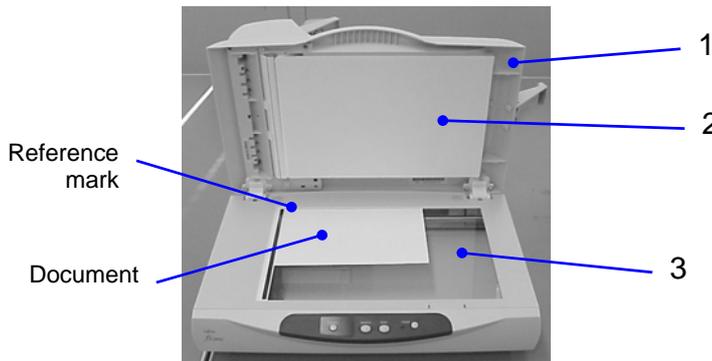
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(2) Back



No	Name	Function
1	USB Connector	For connecting the USB cable.
2	ADF Cable	For connecting the ADF to the control board on the scanner.
3	DC Connector	For connecting the AC cable.
4	Power Switch	For switching the power ON/OFF. Turn ON this switch first, then press the Power button on the Operator Panel.

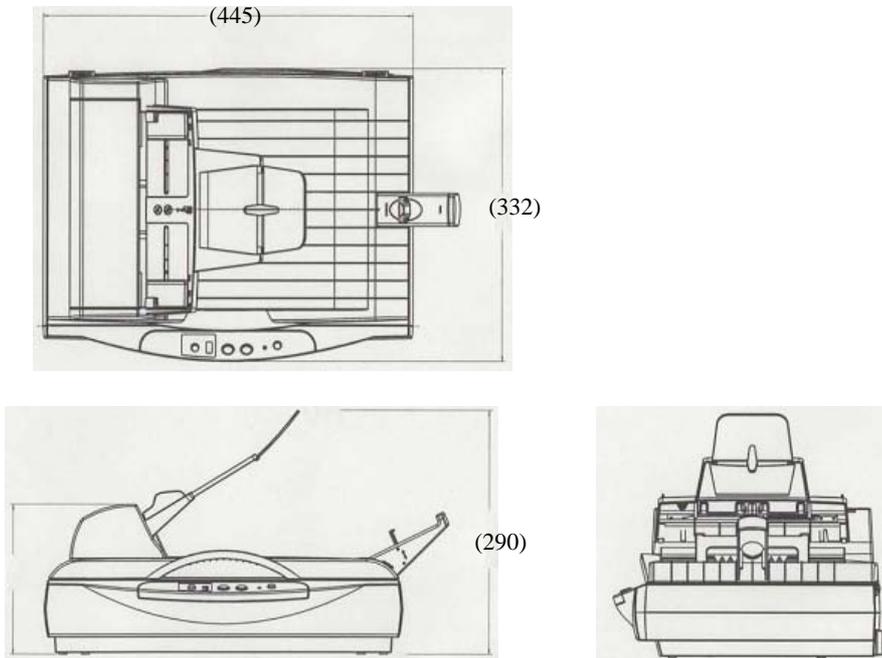
(3) Flatbed



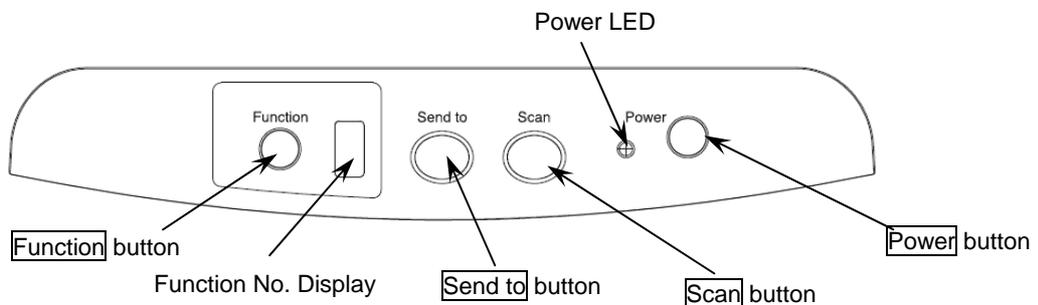
No	Name	Function
1	Document Cover	When closed, the document that is set on the document bed is held firmly in place.
2	Document Holding Pad	Holds the document on the document bed.
3	Document Bed	At Flatbed scanning, the document is placed here.

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1.3.2 Outer Dimensions



1.3.2 Operator Panel



Name	Function	
Function Number Display	Shows the status of the scanner (Function No, Scan mode and scanner error status (alarm)).	
Buttons	Function	Switch the function activated by the Send to button.
	Send to	Use these buttons to start linked applications. (*)
	Scan	
	Power	
Power LED	Lights when the power is turned on.	

\* About the setting on the launcher, refer to FUJITSU TWAIN 32 Scanner Driver Help in the set-up CD-ROM.

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## 1.4 Scanner operations

### 1.4.1 Overview

This section describes the operation of the scanner.

The followings are controlled by the microprocessor (MPU):

- Interface
- Carrier unit drive
- ADF drive
- Scanning mode (output resolution, document size, halftoning, etc) selection

Figure 1.4.1 shows operation flow of the scanner.

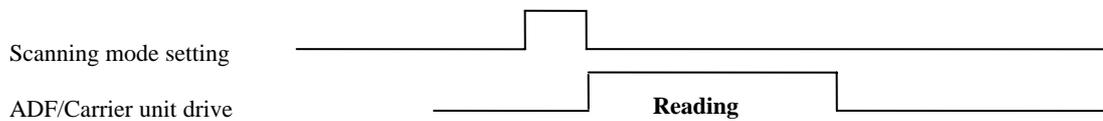


Fig.1.4.1 Operation flow

### 1.4.2 Mechanism control

#### (1) Carrier unit drive

The Carrier unit in the Flatbed is driven by a stepper motor which performs at 1/300 inch/step, and the Carrier unit is also controlled by a microstep controller in the range of 1/150 inch/step to 1/600 inch/step.

#### (2) ADF mechanism unit

ADF unit is driven by a two-phase stepper motor which moves the paper at 1/300 inch/step. The two-phase stepper motor is controlled by a microstep controller in the range of 1/150 inch/step to 1/600 inch/step.

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1.4.3 Scanner control

(1) System configuration

Figure 1.4.3 shows system configuration of the scanner.

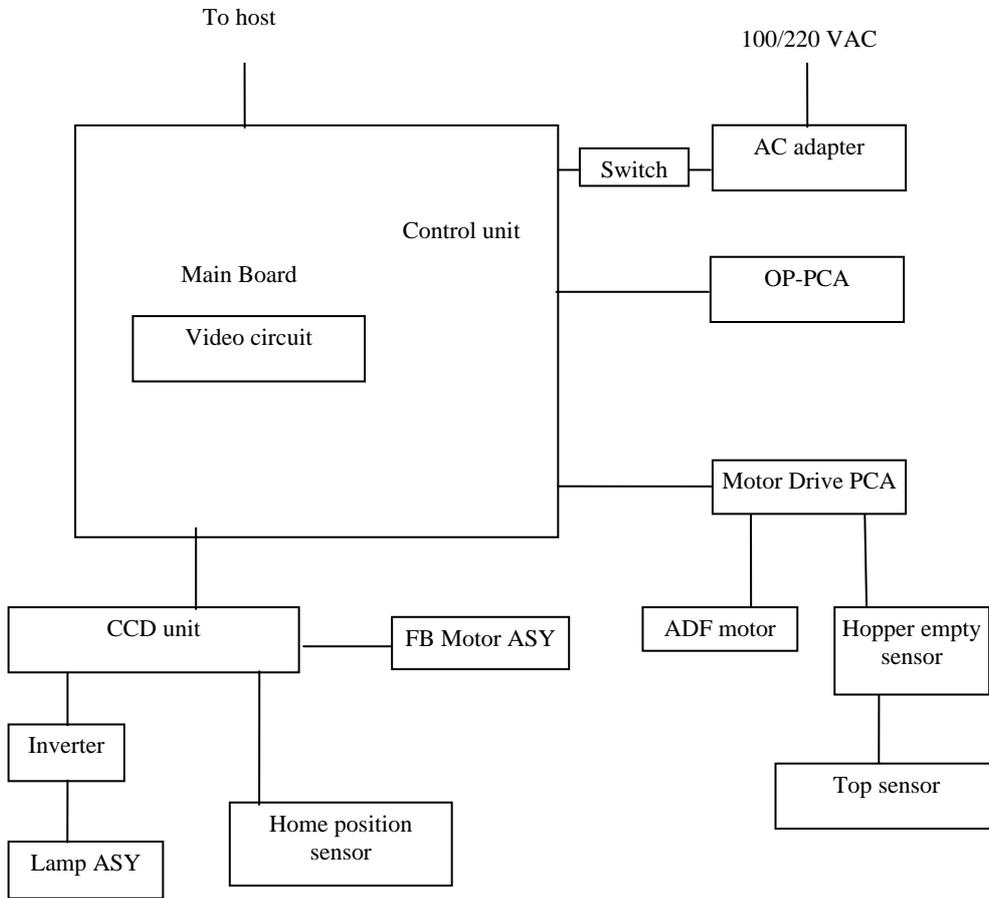


Fig.1.4.3 (1) System configuration diagram

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## (2) Main Board

This scanner uses an 80C32 as a processor. The 80C32 consists of a 64 KB external ROM, a 256 KB internal RAM, a 64 KB RAM for external work, two timers/counters, four IO ports, two external interrupts, and two internal interrupts for each timer/counter.

- Internal timer/counter:  
TMR1: 1. counts delay time  
2. controls LED blinking in the case of error at power-on.  
3. counts return time of the Carrier to the home position after scanning is completed.
- External interrupt  
INT0: Interrupt by exclusive ASIC
- I/O port  
Two out of the four I/O ports are used for the address lines and data lines. 4 bits at the third port is used for INTI and memory control, and the remaining 12 bits is for I/O of the scanner.

## Address map

- ROM used for program area:	0000	64 KB program
	7FFF	
- Internal RAM used for Work area:	00	256-byte Internal register
	FF	
- External RAM used for Work area:	0000	ASIC I/O port
	FFFF	

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(3) USB Interface

The scanner is connected to the host via a USB 2.0 interface.

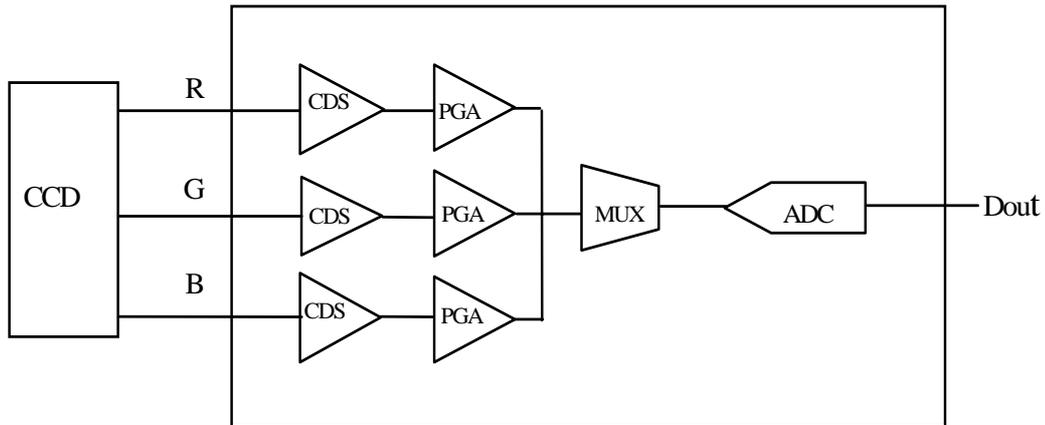
(4) Video circuitry

The CCD drive circuit and CCD signal processing circuit are included in the video circuit of the scanner.

1. CCD drive circuit

The CCD drive circuit generates timing signals for CCD drive operation.

2. CCD signal processing circuit



CCD Signal Processor

\* PGA: Programmable Gain Amplifier

\* CDS: Correlated Double Sampling

The CCD signal processing circuit includes all the necessary circuits required for adjusting and sampling the output channel of the three CCDs. After Correlated Double Sampling and Programmable Gain Amplifier, signals are input into the 14 bit AD converter.

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(5) Sensor input

The scanner has three kinds of sensor inputs; Home Position sensor, Pick sensor and Document sensor.

1. Home position sensor

Home position of the carrier is detected by a photo interrupter.

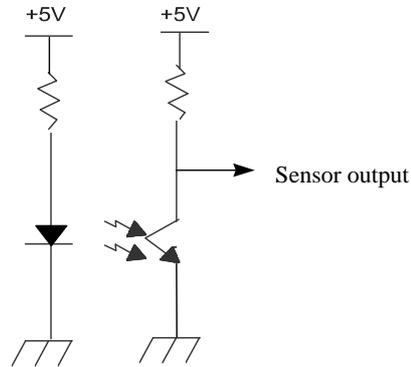


Fig.1.4.3 (5) Home position sensor

Home position is detected when the Carrier passes through the area between the LED (light emitting side) and the phototransistor (light receiving side).

2. Pick sensor

Pick sensor detects that the document is set on the ADF paper chute.

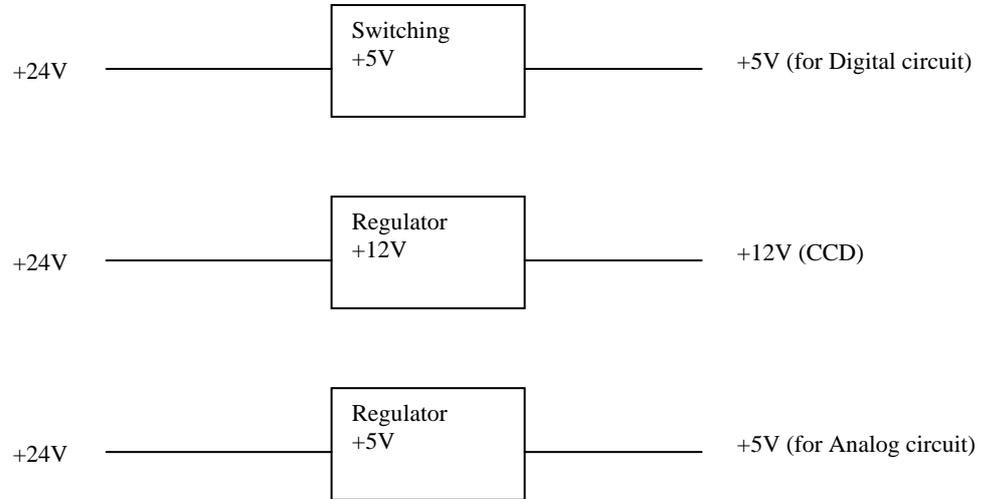
3. Document sensor

Document sensor detects that the document passes through the scanning area.

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## (6) Sub power supply

The Sub power supply generates the voltage for the internal analog circuit and digital circuit. Using 24V input as the sub power supply input, the scanner generates 5V and 12V. The circuit diagram is as shown below.



## (7) AC adapter

The following AC adapter is used as a power supply for the scanner.

Input: AC100-240V, 50/60Hz

Output: DC24V, 1A

Output Power voltage	Current			Power consumption
	Minimum load	Maximum load	Surge	
+24V	0	1 A		24 W

Table 1.4.3 (7) AC adapter output

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## 1.5 Loading Documents on ADF

Check that the documents meet the following conditions. If not, scan them on Flatbed.

■ **Document Size**

For ADF: Minimum 115 (Width) x 140 (Length) mm (4.53 x 5.51 in)  
Maximum 216 (Width) x 355 (Length) mm (Legal, 8.5 x 14 in) 02

■ **Document Type**

The following paper types are recommended for ADF scanning

- Woodfree paper
- Wood containing paper

When using documents other than above paper types, run a few sheets to test whether the document can be scanned or not, before scanning the actual document. You can scan any type of documents on the Flatbed.

■ **Document Thickness**

Paper thickness is generally expressed by "paper weight". The following shows the paper weights that can be used on this scanner:

- 52 g/m<sup>2</sup> to 127 g/m<sup>2</sup>

■ **Precautions**

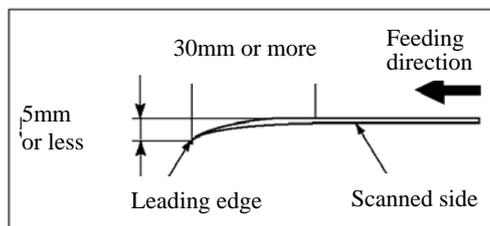
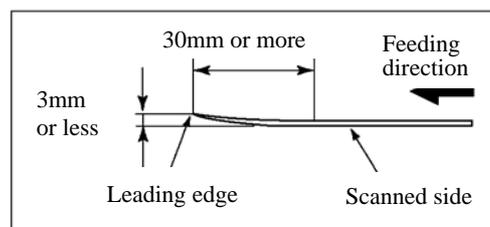
The following documents may not feed successfully:

- Documents of non-uniform thickness (e.g. envelopes)
- Wrinkled or curled documents  
(Refer to the figure on the right)
- Folded or torn documents
- Tracing paper
- Coated paper
- Carbon paper
- Carbonless paper
- Photosensitive paper
- Perforated or punched documents
- Documents that are not square or rectangular
- Very thin documents

Do not scan the following documents:

- Documents with paper clips or staples
- Documents on which the ink is still wet
- Documents other than paper, such as fabric, metal foil, or transparencies

When scanning through the ADF, the leading edge of all document sheets must be evenly aligned. Make sure that curling at the leading edge is within the following tolerances:



Notes:

- (1) When scanning semi-transparent documents, adjust the [Brightness] bar to avoid bleed through.
- (2) To prevent the rollers from becoming dirty, avoid scanning documents containing large areas written or filled in with pencil. If scanning of such documents is unavoidable, clean the rollers frequently.
- (3) Carbonless paper contains chemical substances that may damage the Pad ASSY or rollers (e.g. Pick roller) when documents are fed. Pay attention to the following:  
Cleaning: If pick errors occur frequently, clean the Pad ASSY and Pick roller ASSY.  
Replacing parts: The service lives of the Pad ASSY and Pick roller ASSY are some-times shortened when scanning medium-grade paper documents.
- (4) When Wood containing paper is scanned, the lives of Pad ASSY and Pick roller ASSY may become short compared with the case where Woodfree paper is scanned.

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## Chapter 2 Installation

- |  |
|--|
| 2.1 Installation Precautions<br>2.2 Unpacking<br>2.3 Shipping lock setting<br>2.4 Cable connection |
|--|

This chapter gives instructions for unpacking and installation.

### 2.1 Installation Precautions

Read the following notes carefully.

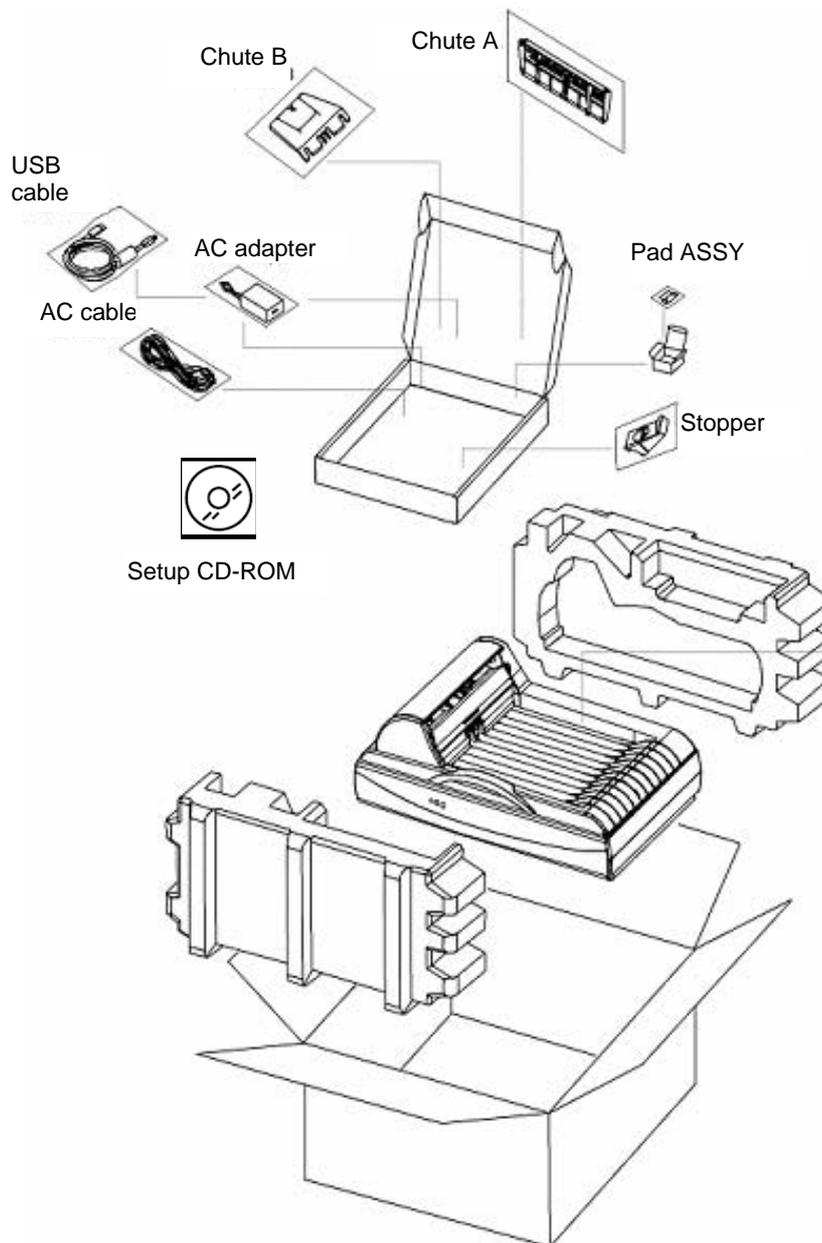
Before installing the scanner, read the following cautions carefully to avoid scanner problems. Refer to Section 1.2 “Specifications” for information of power source and scanner dimensions.

- Install the scanner away from strong magnetic fields and other sources of noise.
- Do not install the scanner near heating apparatus or in the direct sunlight.
- Install the scanner in a location which is level and subject to minimal vibration.
- Do not install the scanner in locations subject to humidity and dust.
- Do not block the ventilation ports.
- Protect the scanner from static electricity.
- Use proper AC voltage.
- Make sure the rubber pads on the bottom of the scanner are firmly on the desktop.

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## 2.2 Unpacking procedure

1. Open the box and remove the Accessories.
2. Pull the scanner from the box and remove the cushions.
3. Remove the scanner from the plastic bag.



Note: Setup CD-ROM may be required for maintenance. Be sure to keep it at hand.

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## 2.3 Shipping lock setting

Before using the scanner, the shipping lock needs to be released following the procedures below:

\* The Shipping lock prevents the CCD unit in the Flatbed from moving during transportation.

- 1) Make sure that the AC Adapter and USB Cable are not connected to the scanner.
- 2) Raise the scanner with care so that the front side of the scanner faces upwards. Move the shipping lock lever for the Carrier from  (Locked) to  (Unlocked). (See Fig.2.3)
- 3) Return the scanner to the original position carefully.

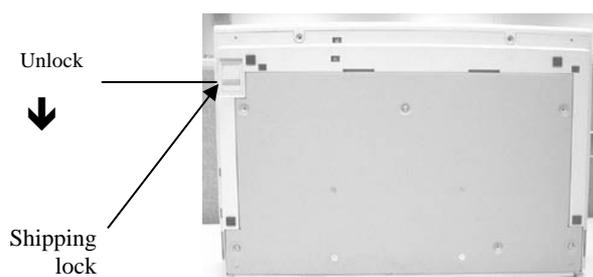


Fig. 2.3 Releasing Shipping lock

When relocating the scanner, you need to lock the Carrier again to avoid any damage at shipping by following the procedure below.

1. Turn the power off.
2. Open the document cover to check the Carrier position.
3. Turn the scanner on.
4. A few seconds after the Carrier has stopped, turn the scanner off again and close the document cover.
5. Make sure that the AC Adapter and USB Cable are disconnected from the scanner.
6. Raise the scanner so that the front side of the scanner faces upwards.
7. Move the shipping lock lever from  (Unlocked) to  (Locked).
8. Return the scanner to the original position carefully.

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## 2.4 Cable Connection

Note: Before connecting the USB cable to the scanner, be sure to install the necessary software in the attached CD-ROM.

The scanner requires two cables, USB interface cable and AC cable. The AC cable connects the scanner to AC power outlet and USB cable connects the scanner to the PC.

[AC/USB cables connection]

1. Remove the AC cable from the plastic bag.
2. Make sure the "O" side of power switch is pressed.
3. Insert one side of the AC cable into the scanner and another side into a power outlet.
4. Insert the square-shaped plug on the USB cable into the scanner and flat-shaped plug to the PC.

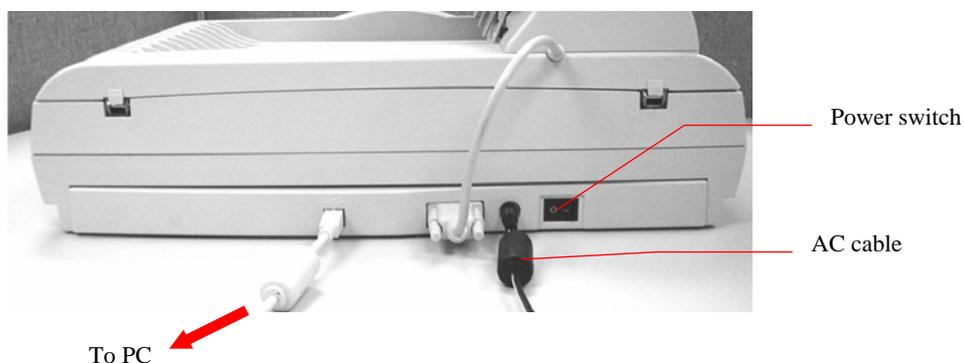


Fig.2.4 Cable Connection

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## Chapter 3 Troubleshooting

- |  |
|--|
| 3.1 Operator panel display at power-on<br>3.2 Temporary errors and alarms<br>3.3 Error Message List<br>3.4 Flowchart<br>3.5 Trouble analysis table |
|--|

### 3.1 Operator panel display at power-on

The following display is shown during initial processing.

Function No. Display	Power LED	Description
	ON	Displays "8" without blinking. Immediately after power-on, scanner turns all the segments ON.

When the initial processing starts, the following display is shown.

Function No. Display	Power LED	Description
	ON	Displays "P" without blinking. It indicates the scanner is currently in initial processing (self-diagnosis).

When the lamp intensity is getting close to the standard value, the following display is shown.

Function No. Display	Power LED	Description
	ON	Displays "0" without blinking. It indicates the lamp intensity is getting close to the standard value.

When the initial processing terminates properly, the following display is shown.

Function No. Display	Power LED	Description
	ON	Displays default Function No. without blinking. It indicates that the scanner is in ready state.

The Function No. is incremented by 1 every time the Function button is pressed. After Function No. 9 is displayed, the number changes to "C" and then returns to "0".

If any error is found during initial processing (self-diagnosis), the corresponding error is displayed on the operator panel (Function Number Display) of the scanner.

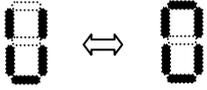
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## 3.2 Temporary errors and Alarms

### 3.2.1 Temporary errors

Temporary errors occur during scanning operation and can be remedied by the operator. They are displayed on the PC screen through the driver or on the operator panel (Function Number Display) of the scanner.

When a temporary error occurs, the scanner displays the followings:

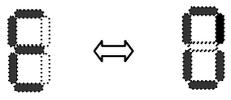
Function No. Display	Power LED	Description (supplement)
	ON	Displays "U" and the error No. (0 to 9) alternately. Example) When error "U0" occurs, the scanner displays the following: "U" → "0" .....

When the **Scan** or **Send to** button is pressed while the alarm is displayed, the scanner returns to the "Ready" display on the Function number display.

### 3.2.2 Alarms

Alarms require maintenance by an authorized service person. They are displayed on the PC screen through the driver or on the operator panel (Function Number Display) of the scanner.

When an alarm occurs, the scanner displays the followings on the operator panel:

Function No. Display	Power LED	Description (supplement)
	ON	Displays "E" and one of the alarms (0 - 9, A, c, d, F) alternately. The example shown in the left column is the case of Alarm "E0". The display sequence is: "E" → "0" → ..... The interval of the display change is approximately 1 second.

When the **Scan** or **Send to** button is pressed while the alarm is displayed, the scanner returns to the "Ready" display on Function number display.

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### 3.3 Error Message List

When any error occurs, the Function No. Display on the Operator Panel displays one of the following Alarms. Countermeasures for those Alarms are also described in the list.

#### ■ Temporary errors

“U” and a number are displayed alternately.

Display	Phenomenon	Countermeasure	Reference Section
U0	Shipping lock lever is in locked position.	Move the shipping lock lever to the unlocked position and re-scan.	2.3
U1	Paper jam ■ TWAIN display Paper jammed in the ADF 03	Open the ADF, remove the jammed paper, and re-scan.	3.5.10
U9	ADF cable is not connected. ■ TWAIN display 03 Irregular status is detected in scanner. If this status recurs after power cycling, please give following Sense Key and ASC code to your service provider. If ASC code is the following, please confirm following status before power cycling. -When ASC = 0x580, confirm it the shipping Lock (if any) is set at 'Release' position. -When ASC = 0x680, clean the sheet guide (white part) in ADF.	Turn the scanner OFF, then check to see that the cable is connected properly.	2.4

#### ■ Alarms

“E” and a number or a letter, or single “F” is displayed alternately.

Display	Phenomenon	Countermeasure	Reference Section
E0	FB drive section alarm	Carrier unit movement in the Flatbed is abnormal.	3.5.2
E2	Optical alarm	CCD unit output is abnormal.	3.5.8
E7	EEPROM alarm or scanner alarm ■ TWAIN display Irregular status is detected in scanner. If this status recurs after power cycling, please give following Sense Key and ASC code to your service provider. If ASC code is the following, please confirm following status before power cycling. -When ASC = 0x580, confirm it the shipping Lock (if any) is set at 'Release' position. -When ASC = 0x680, clean the sheet guide (white part) in ADF.  Note 1: This alarm will be displayed 3 times before “P” is indicated immediately after power-on, then “1” (Ready) is displayed at last in the normal sequence. If EEPROM alarm is detected at the subsequent scanning, “E7” is displayed again.	Scanner hardware error. Turn the scanner OFF and ON, then check the status. If the error is not corrected, replace the Main board.	5.6.7
Ec	DRAM alarm		
Eb	LSI alarm		
Ed	USB chip alarm		

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F	ROM checks sum alarm		
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■ **Scanner**

TWAIN error messages are displayed on the PC screen.

Display	Phenomenon	Countermeasure	Reference Section
-	<p>■ TWAIN display</p> <p>The image scanner cannot be found. Please check power supply, cable connection, and the scanner is not used by other application.</p>	<p>Check the following:</p> <ul style="list-style-type: none"> <li>- Connection of AC cable and AC adapter</li> <li>- Connection of USB cable</li> </ul>	-
-	<p>■ TWAIN display</p> <p>Scanner is off line. The scanning process is cancelled. Please check cable and scanner power. Retry the scan.</p>		-
-	<p>■ TWAIN display</p> <p>You should not power off the scanner to remove the scanner interface cable, during operating or scanning. Removing scanners during scanning can cause unexpected problems. Please re-start your PC, before other operation.</p>		-
-	<p>■ TWAIN display</p> <p>The image scanner not found.</p>		-

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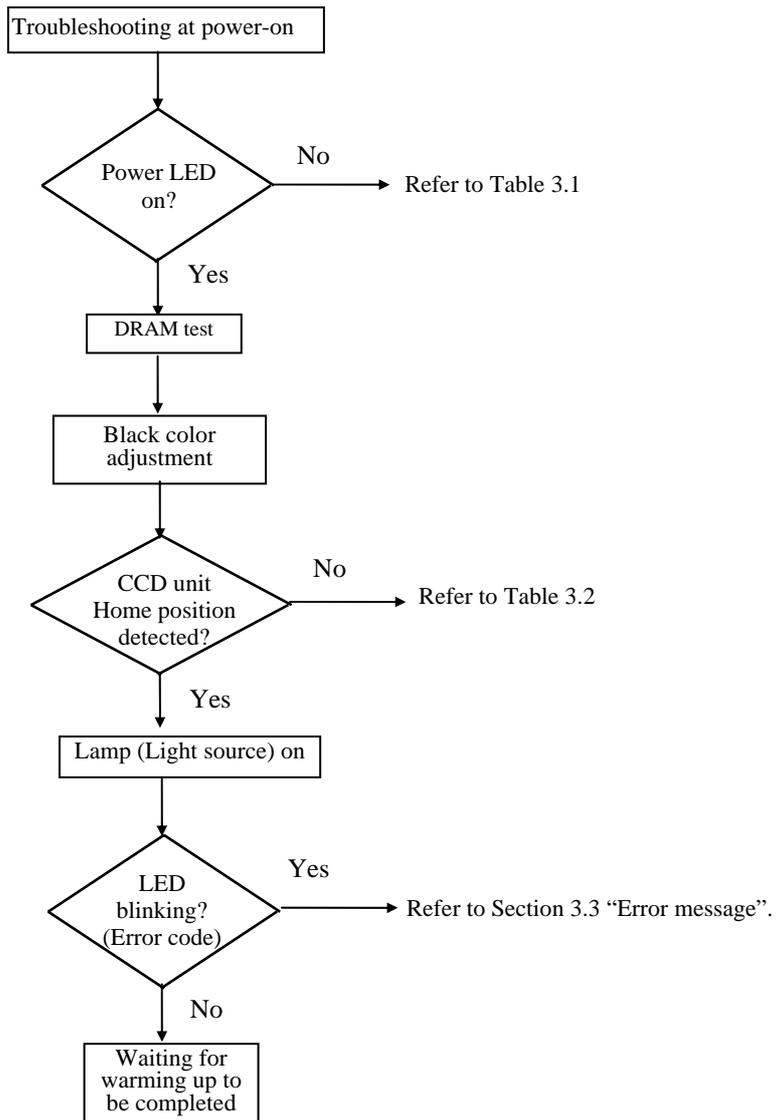
### 3.4 Flowchart

Refer to the following flowcharts for the troubleshooting provided in this section:

- Troubleshooting at power-on
- Troubleshooting when scanning from the Flatbed
- Troubleshooting when scanning from the ADF

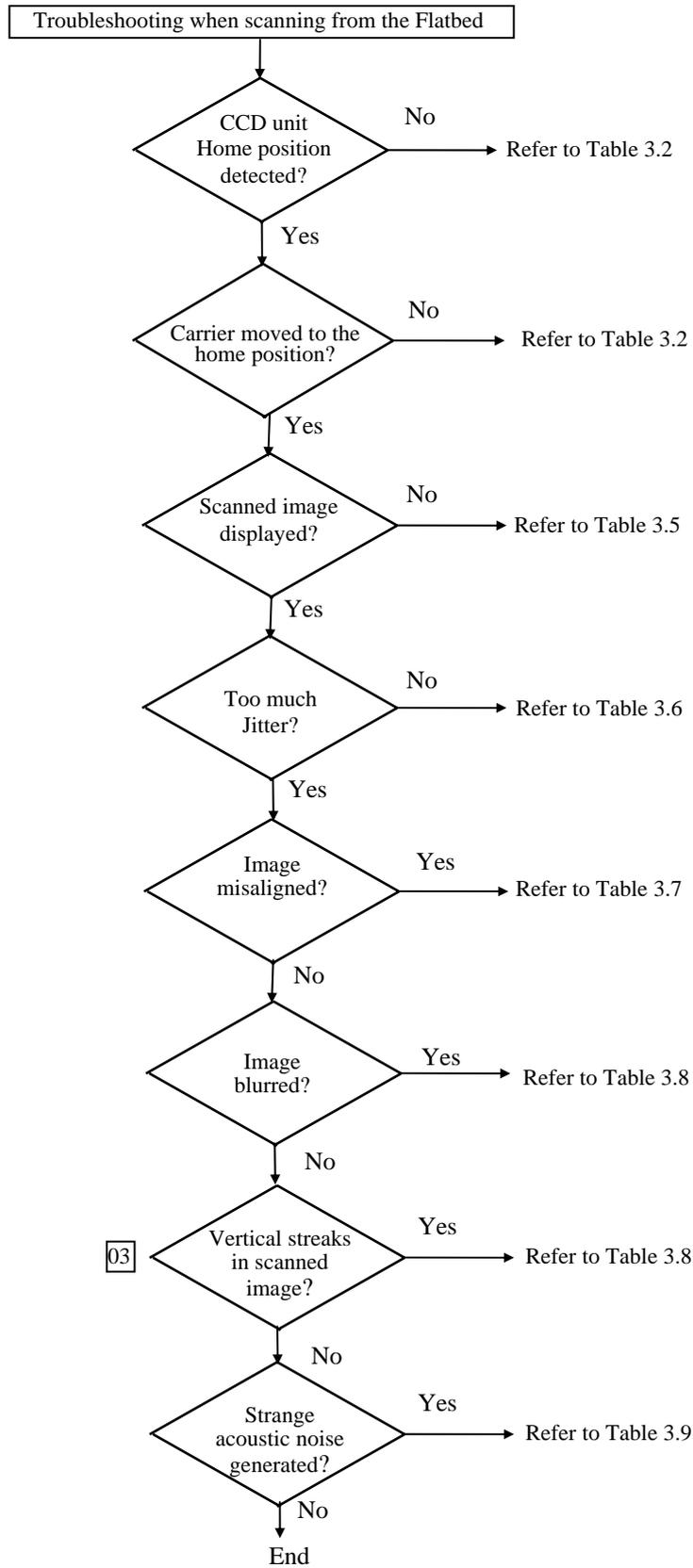
These flowcharts show which troubleshooting table you should refer to depending on the error status. Refer to the corresponding table and repair the faults in the scanner.

#### 3.4.1 Troubleshooting at power-on



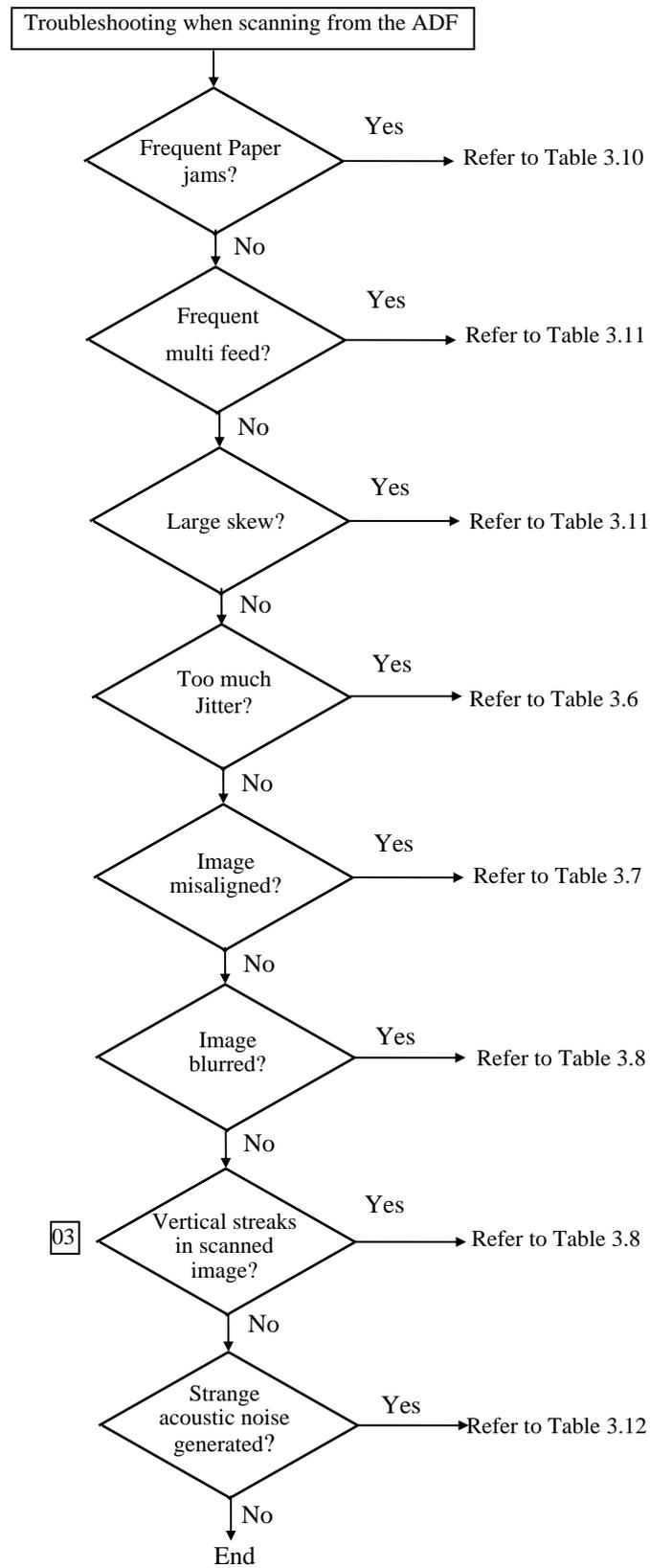
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3.4.2 Troubleshooting when scanning with Flatbed



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3.4.3 Troubleshooting when scanning with ADF



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### 3.5 Trouble analysis table

The following tables describe the detail of troubleshooting.

#### 3.5.1 Scanner does not turn ON (Power LED does not light)

Table 3.1

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
AC cable is not connected to AC adapter properly.	None	Visual check	Connect AC cable to AC adapter.	---
DC plug of AC adapter is not connected to the scanner.	None	Visual check	Insert the AC adapter plug into the scanner.	---
Power switch is turned off.	None	Visual check	Turn the power switch on.	---
Power switch connector is not connected properly.	None	Visual check	Connect the connector located on the Main Board.	Section 5.6.7
Main board connector is not connected properly.	None	Visual check	Connect each connector properly.	Section 5.6.7
Output voltage fault	AC adapter	Output voltage check (+24V)	Replace the AC adapter.	Section 5.7.1
OP PCA fault	OP-PCA	Replace the OP-PCA and see if the Power LED lights	Replace the OP-PCA.	Section 5.6.8
Main board fault	Main Board (ADF board)	If the error is not corrected after Replacing the LED ASY, replace the Main Board and see if the scanner turns on.	Replace the Main Board.	Section 5.6.7

#### 3.5.2 CCD unit Home position is not detected (or CCD unit does not move to the Home position)

Table 3.2

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Shipping lock remains locked.	None	Check if the Shipping lock lever is in the locked position.	Move the shipping lock lever to the unlock position.	Section 2.3
Connection fault between Carrier cable and connector	None	Visual check	Check if Carrier cable is connected properly.	Section 5.6.16
Connection fault in Carrier cable	Carrier Cable	Check visually or by tester.	Replace the Carrier Cable.	Section 5.6.16
Home Position sensor failure	CCD unit	CCD unit does not stop moving immediately after power-on.	Replace the CCD unit.	Section 5.6.10
Connection fault between FB motor and Main Board	None	CCD unit does not work.	Connect the FB motor to the Main Board properly.	Section 5.6.12
FB motor fault	FB motor	CCD unit does not work.	Replace the FB motor.	Section 5.6.12
Belt ASY fault	Belt ASY	FB motor rotates but CCD unit does not work.	Replace the Belt ASY.	Section 5.6.10

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## 3.5.3 Operator Panel does not display properly

Table 3.3

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
UI-Cable connection failure	US-Cable	Visual check	Connect properly.	Section 5.6.13
OP-PCA failure	OP-PCA	Visual check	Replace the OP-PCA.	Section 5.6.8

## 3.5.4 Scanner does not start reading operation

Table 3.4

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Scanner is not turned on	None	Visual check	Turn the scanner ON.	---
Scanner hung-up	None	Visual check	Reboot the scanner and the host computer.	---
Scanner connection failure	None	Visual check	Check the connections below: - AC cable and AC adapter - USB cable - ADF cable	---
Pick cover (ADF) is open	None	Visual check	Close the Pick cover (ADF) completely	---
Hopper empty sensor installation fault	None	- Check if a document is set into the ADF. - Check if the Hopper empty sensor is installed properly.	Install the sensor properly.	Section 5.6.2
Hopper empty sensor malfunction	Feed roller ASY	Check to see if Maintenance mode #1 (Section 7.2) starts up. Replace the Hopper empty sensor and see if the error is corrected.	Replace Feed roller ASY.	Section 5.6.4
Error message appears on the Function No. Display	None	Check Function No. Display	Follow the countermeasure against error status described in Section 3.1.3.	Section 3.3

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## 3.5.5 Scanned image is not displayed

Table 3.5

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Document setting fault	None	Visual check	Check if document is set correctly.	---
USB cable connection fault	None	Visual check	Check the USB cable connection.	---
Connection fault between CCD unit and Main Board	None	Visual check	Check the Carrier cable connection.	Section 5.6.16
CCD unit failure	CCD unit	Visual check	Replace the CCD unit	Section 5.6.10
Main board failure	Main board	Check if the Scanned image is not displayed after replacing CCD unit.	Replace the Main board.	Section 5.6.7

## 3.5.6 Too much jitter

Table 3.6

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Document cover was not closed completely	None	Visual check	Instruct users to close the document cover.	---
Pick cover is open (For ADF scanning)	None	Visual check	Instruct users to close the Pick cover completely.	---
ADF motor is not installed correctly (For ADF scanning)	ADF motor	Visual check	Install the ADF motor properly.	Section 5.6.6
FB motor ASY is not installed correctly (For FB scanning)	FB motor ASY	Visual check	Install the FB motor ASY properly.	Section 5.6.12
Belt ASY is not installed correctly (For FB scanning)	Belt ASY	Visual check	Install the Belt ASY properly.	Section 5.6.10
Belt ASY failure (For FB scanning)	Belt ASY	Visual check	Replace the Belt ASY	Section 5.6.10
CCD unit failure	CCD unit	Check if the mirror on the CCD unit is fixed firmly.	Replace the CCD unit	Section 5.6.10

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## 3.5.7 Image is misaligned

Table 3.7

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Document to be scanned does not meet document specification.	None	Visual check	Instruct users to scan the document with Flatbed.	---
Document cover is not closed completely. (For ADF/FB scanning)	None	Visual check	Instruct users to close the document cover.	---
Document is not set on the flatbed properly aligned to the window edge of the glass. (For FB scanning)	None	Visual check	Instruct users to set the document properly.	---
Feed roller degradation (For ADF scanning)	Feed roller	Visual check	Replace the Feed roller	Section 5.6.5
ADF motor is not installed properly. (For ADF scanning)	ADF motor	Visual check	Install the ADF motor properly.	Section 5.6.6
FB motor is not installed properly. (For FB scanning)	FB motor ASY	Visual check	Install the FB motor properly.	Section 5.6.12
Belt ASY is not installed properly. (For FB scanning)	Belt ASY	Visual check	Install the Belt ASY properly.	Section 5.6.10
Belt ASY failure (For FB scanning)	Belt ASY	Visual check	Replace the Belt ASY	Section 5.6.10
CCD unit failure (For ADF/FB scanning)	CCD unit	Check if the mirror is fixed firmly.	Replace the CCD unit	Section 5.6.10

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## 3.5.8 Image is blurred

Table 3.8

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
White reference is dirty on the glass of the Upper cover ASY 03	White reference board of glass surface in Upper cover ASY 03	Visual check	Clean the white reference board on the front and backside of the glass of the Upper cover ASY using ethyl alcohol or isopropyl alcohol. 03	Section 5.6.9
Upper cover ASY is not installed properly.	Upper cover ASY	Visual check	Install the Upper cover ASY properly.	Section 5.6.9
CCD unit mirrors are dirty.	CCD unit	Visual check	Wipe mirrors with a dry lint free cloth or a blow brush.	Do not remove the mirrors from the CCD unit
Lamp is dark	Lamp ASY	Visual check	Replace the Lamp ASY.	Section 5.6.11
CCD unit failure	CCD unit	Check if the mirror is fixed firmly.	Replace the CCD unit.	Section 5.6.10

## 3.5.9 Unusual acoustic noise is generated (FB)

Table 3.9

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Flatbed motor ASY is not installed properly.	FB motor ASY	Visual check	Install the FB motor ASY properly.	Section 5.6.12
CCD unit is not installed properly.	CCD unit	Visual check	Install the CCD unit properly.	Section 5.6.10
FB Motor ASY failure	FB motor ASY	Check if noise is still generated after replacing FB motor ASY.	Replace the FB motor ASY.	Section 5.6.12
CCD unit fault or Carrier shaft not smooth	CCD unit	Check how CCD unit and Carrier shaft move.	Lubricate the Carrier shaft or replace CCD unit.	Sections 5.5, 5.6.10
Rail was dirty.	None	Visual check	Clean the rail or lubricate the rail.	Section 5.5
Shipping lock lever remains locked.	None	Check to see if the Shipping lock lever is in the lock position.	Move the shipping lock lever to unlock position.	Section 2.3

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## 3.5.10 Paper jam occurs frequently

Table 3.10

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Document is not set properly in the ADF.	None	Check if the document is loaded on the ADF properly.	Instruct users how to set the document in the ADF properly.	---
Document fault (when scanning with ADF)	None	Check if the document meets the document specification (Section 1.5).	Instruct users to scan from the FB.	---
ADF connector was not connected.	ADF unit	Check visually if the motor rotates properly.	Connect the cable properly.	Section 5.6.1
Pad is worn	Pad ASY	Check if the pad is worn out.	Replace the Pad ASY.	Section 5.6.3
ADF unit failure	ADF unit	Check too see that the paper jam still occurs after replacing ADF unit.	Replace the ADF unit.	Section 5.6.1

## 3.5.11 Multifeed or skew occurs frequently

Table 3.11

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Document is not set properly in the ADF.	None	Check if the document is loaded on the ADF properly.	Instruct users how to set the document.	---
Document fault (when scanning with ADF)	None	Check if the document meets the document specification (Section 1.5).	Instruct users to scan from the FB.	---
ADF connector was not connected.	ADF unit	Check visually if motor rotates properly.	Connect the cable properly.	Section 5.6.1
Pad is worn.	Pad ASY	Check if the Pad is worn out.	Replace the Pad ASY.	Section 5.6.3
ADF unit failure	ADF unit	Check to see that the paper jam still occurs after replacing ADF unit.	Replace the ADF unit.	Section 5.6.1

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## 3.5.12 Strange acoustic noise is generated (ADF)

Table 3.12

Cause	Related parts	How to check	Action to recover	Remarks / Refer to
Document is not set properly in the ADF.	None	Check to see that the document is loaded on the ADF properly.	Instruct users how to set the document.	---
Document fault (when scanning with ADF)	None	Check to see that the document meets the document specification (Section 1.5).	Instruct users to scan from the FB.	---
ADF connector was not connected.	ADF unit	Check visually if motor rotates properly.	Connect the cable properly.	Section 5.6.1
ADF motor is not installed properly.	ADF motor	Visual check	Install the ADF motor properly.	Section 5.6.6
ADF motor failure	ADF motor	Visual check	Replace the ADF motor.	Section 5.6.6
ADF unit failure	ADF unit	Check to see that the error is corrected after replacing the ADF unit.	Replace the ADF unit.	Section 5.6.1

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## Chapter 4 Daily Care

- 4.1 Cleaning the Flatbed
- 4.2 Cleaning the ADF
- 4.3 Replacing the consumables

To keep scanner performance stable, clean the scanner and replace the consumable if necessary as follows.

### 4.1 Cleaning the Flatbed

Users are responsible for cleaning the scanner, but conduct cleaning after maintenance.

#### **⚠ CAUTION**

Be careful, the inside of ADF (automatic document feeder) may become hot during operation.

Notes:

- Detergent for cleaning windows or glass cleaner can be used instead of ethyl alcohol or isopropyl alcohol. However, do not use paint thinner or other organic solvents.
- Do not allow moisture to get inside the device during cleaning.

1. Open the document cover.
2. Clean the document holding pad and the document bed using a soft, dry cloth moistened with ethyl alcohol or isopropyl alcohol.

Note: Be sure to wipe off all the cleaning fluid.



Document holding pad

Document bed

3. Wait for cleaned parts to dry.
4. Gently close the document cover.

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## 4.2 Cleaning the ADF

Clean the ADF every 1,000 scans. Note that this guideline varies according to the type of documents you are scanning. For example, it may be necessary to clean the ADF more frequently if documents are scanned when the toner is not fused to the paper properly.

As the documents are scanned through the ADF, the Pad ASSY and the Pick roller unit may be contaminated with ink, toner particles or paper dust. In this case the scanner may not feed documents smoothly or multifeeds may occur. If this occurs, clean the ADF as follows.

### CAUTION

Be careful! The inside of the ADF (automatic document feeder) may become hot during operation.

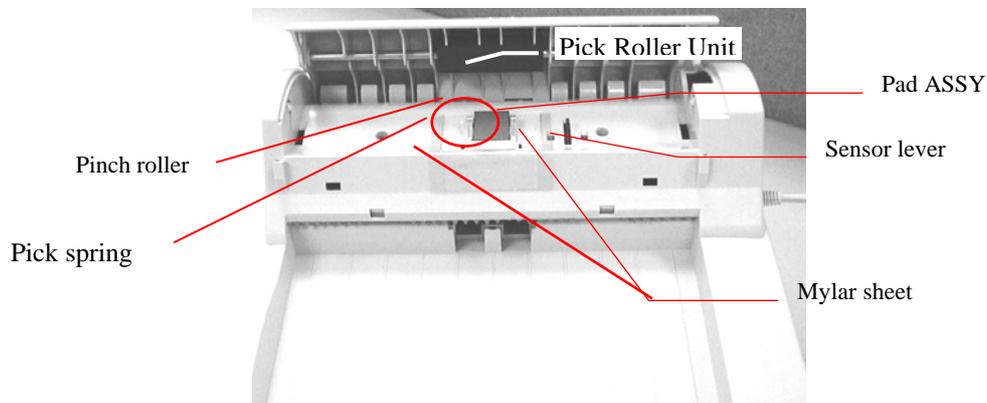
1. Open the ADF.



### CAUTION

Be careful! The ADF (automatic document feeder) may close and pinch your fingers.

2. Clean the following locations with a lint-free cloth moistened with the ethyl alcohol or isopropyl alcohol.



- Pad ASSY: Wipe the Pad ASSY with the cloth in the direction from bottom to top.

### CAUTION

Be careful not to hook the pick spring, sensor lever or mylar sheet near the Pad ASSY.

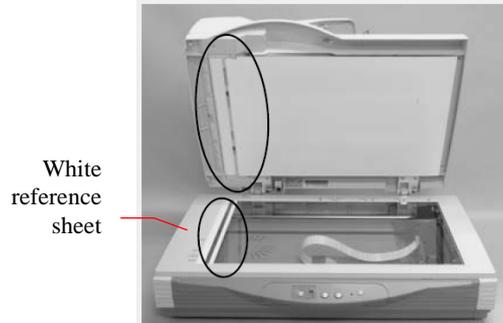
- Pick roller unit: Wipe the Pick roller unit by moving the cloth from side to side. Rotate the rollers forward with your finger and repeat the cleaning procedure until the complete surface of the roller is cleaned.
- Pinch rollers: Clean the Pinch roller softly as to not damage its surface. Try to remove any black stains which may degrade the performance of the paper feeding.

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3. Push in the center of the ADF to close. Make sure it locks in place.

Note: Close the ADF until it clicks. Paper jams or feeding errors may occur if the ADF is not closed completely.

4. Open the Document cover and clean the following locations with a lint-free cloth moistened with the ethyl alcohol or isopropyl alcohol.



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### 4.3 Replacing the Consumables

#### **CAUTION**

Be careful! The inside of the ADF (automatic document feeder) may become hot during operation.

#### 4.3.1 Part number and Replacement cycle

The following table lists the consumable part number and recommended replacement cycle used in the scanner.

Name	Part Number	Replacement Cycle
Pad ASSY	PA03209-0550	Up to 20,000 sheets, or 1 year
Pick roller unit	PA03209-0551	Up to 100,000 sheets, or 1 year

Replacement cycle may be shortened depending on the type of scanned documents. The above replacement cycle is estimated when scanning Woodfree paper or Plain paper.

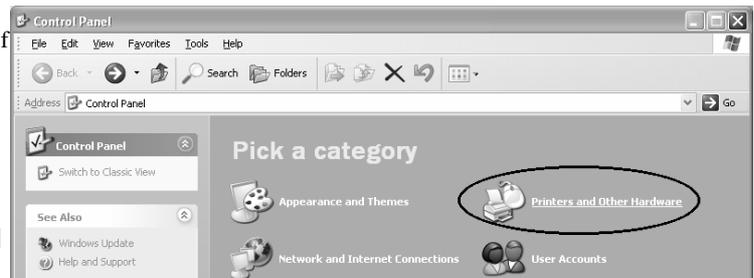
Note: Use only the above specified consumables.

#### 4.3.2 Guidelines for Consumable Replacement Cycle

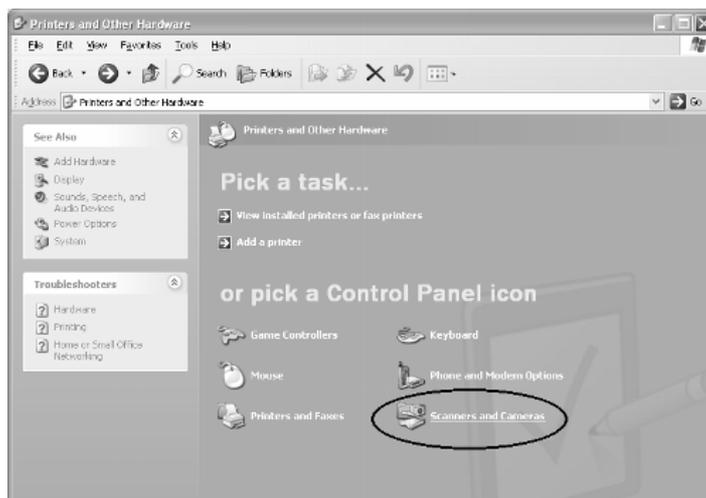
You can access how many pages have been scanned since the last time consumables were replaced.

1. When turning on the power, check to see that the scanner is connected to your PC.
2. Double click the "Printers and Other Hardware" icon from the Control panel of your PC.

→ The [Printer and Other Hardware] window appears.



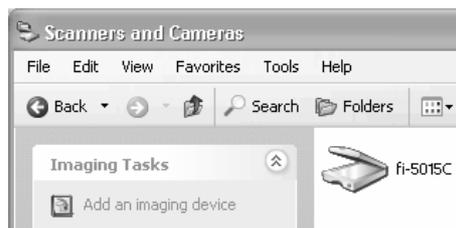
3. On the [Printers and Other Hardware] window, double click the [Scanners and Cameras] icon.



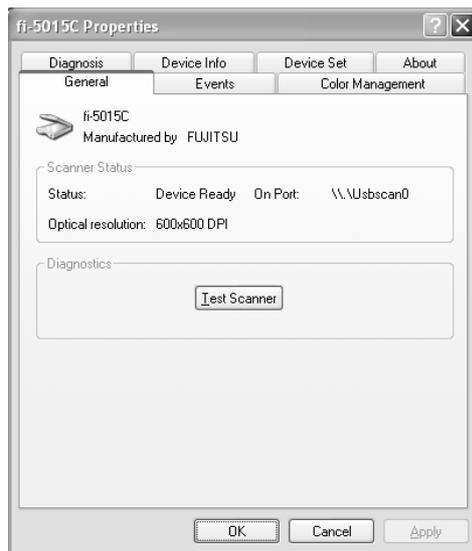
→ The [Scanners and Cameras] window is displayed.

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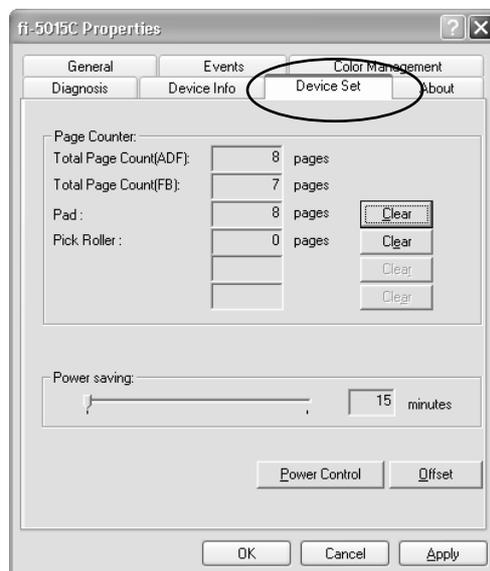
4. Right-click the "fi-5015C", and select [Properties] from the menu (for Windows Me, Windows XP), or double click (for Windows98, Windows 2000).



- The [fi-5015C Properties] dialog box appears.



5. Click the "Device Set" tab. ⇒ The following panel appears.

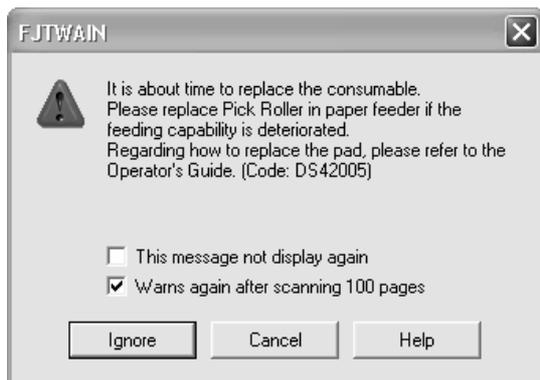


The following information is displayed:

- Total number of pages scanned through the ADF and Flatbed.
- Pad and Pick roller counter (approximate number of scans after resetting the counter)

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The following message may appear while using the scanner:



Replace the consumables when this message is displayed.

After clicking the [Ignore] button, this message screen will close and scanning will continue. Replace the consumable as soon as possible.

As a default, this message appears again after 100 scans. If you do not wish this message to display, click the [this message not display again].

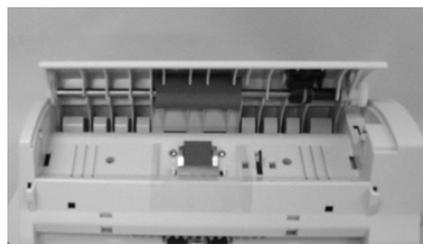
To stop scanning and replace the consumable, click the [Cancel] button.

### 4.3.3 Replacing the Pad ASSY

Consumables are user replaceable items.

1. Remove all documents from the ADF paper chute.

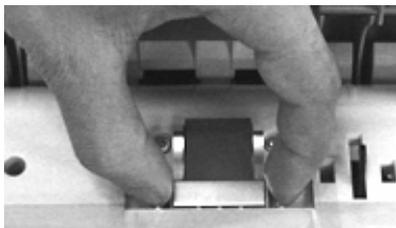
2. Open the ADF.



#### CAUTION

Be careful! The ADF (automatic document feeder) may close and pinch your fingers.

3. Remove the snap-in Pad ASSY by pinching the upper part of the pad clamp as shown in the photo below.



4. Install new Pad ASSY in the reverse order.

Note: Make sure that the Pad ASSY is firmly attached. When the Pad ASSY is not installed, document jams or other feeding errors may occur.

5. Press the center of the ADF to close until it clicks.

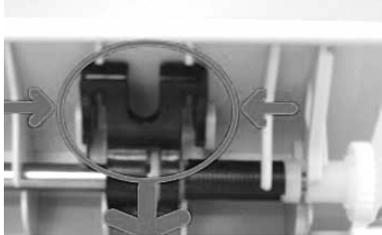
6. Reset the Pad counter. (Refer to Section 4.3.5.)

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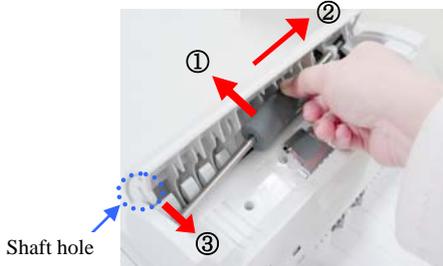
### 4.3.4 Replacing the Pick Roller Unit

#### <Removal>

1. Remove all documents from the ADF paper chute.
2. Open the ~~ADF Cover~~ Pick cover (ADF).
3. Pinching both sides of the roller lock inwardly with two fingers, pull it forward to unlock the claws.  
Note: The roller lock is screwed on the ~~ADF cover~~ Pick cover. Pull it gently to prevent the damage of the lock.



4. (1) Pressing the Pick roller to the ~~ADF cover~~ Pick cover, (2) slide it to the right until it bumps to the wall, and (3) lower the left end of the Pick roller to detach from the shaft hole.



5. When the left end of the Pick roller is removed from the shaft hole, remove the Pick roller.

#### <Installation>

Follow the procedure above in reverse.

1. (1) Insert the left end of the new Pick roller into the shaft hole on the ~~ADF cover~~ Pick cover and (2) press the left edge of the Pick roller to the shaft hole on the ~~ADF cover~~ Pick cover.

Note: Make sure that the roller is correctly inserted to the hole. Otherwise the ~~ADF cover~~ Pick cover may not be closed completely.

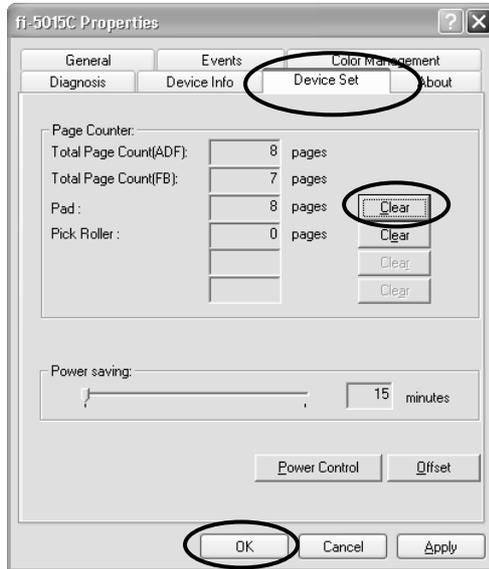


2. Pinch the Roller lock inwardly with two fingers and place it to the original position to fix the Pick roller
3. Press the center of the ~~ADF Cover~~ Pick cover to close.
4. Reset the Pick roller counter. (Refer to Section 4.3.5.)

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### 4.3.5 Resetting the Consumable Counter

1. Turn the scanner ON and make sure that the scanner is connected to the PC.
2. Open the [Scanners and Cameras] from the control panel of the PC.
3. Open the [Properties] of [fi-5015C] from the [Scanners and Cameras].  
 → The [Properties of fi-5015C] dialogbox appears.
4. Click the “Device Set” tab.



5. After clicking the [Clear] button besides “Pad” or “Pick roller” in “Page Counter”, click the [OK] button.  
 → The following window appears



6. Click the [OK] button.  
 → The Pad or Pick roller counter returns to "0".

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## Chapter 5 Maintenance

5.1 Safety
5.2 Cleaning the Maintenance Parts
5.3 Maintenance Tool
5.4 Screws that MUST not be Loosened
5.5 Lubrication
5.6 Replacement Procedure

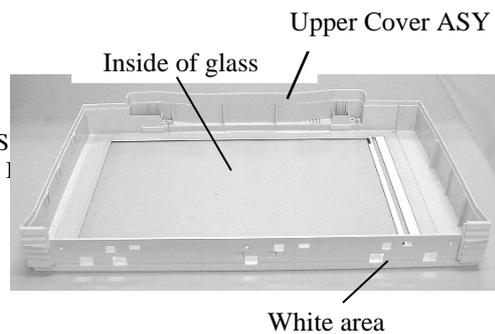
### 5.1 Safety

1. Clean the area where the parts will be replaced.
2. Turn the scanner off and disconnect the AC Adapter from the scanner before replacement.  
**Note: Before disconnecting the ADF cable, turn the scanner OFF.**
3. Follow the procedure described in this section to disassemble/assemble the scanner. Do not loosen the screws described in Section 5.4.
4. Place disassembled parts in a neat area. Do not lose these parts.
5. Make sure that all parts are assembled and connected properly after replacement.
6. For assembling, follow the disassembling procedure in reverse order.

### 5.2 Cleaning the Maintenance Parts

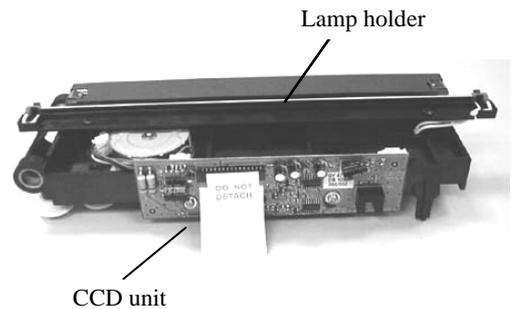
#### 5.2.1 Cleaning the inside of the Flatbed

1. Referring to Section 5.3.5, remove the Upper Cover ASY
2. Clean the inside of the glass on the Upper Cover ASY. Make sure that no dirt remains on the white area.



#### 5.2.2 Cleaning the inside of the CCD Unit

1. Referring to steps (1) to (3) of Section 5.3.8, remove the Carrier Unit, then the lamp holder. (Refer to step (2) of Section 5.6.2.)
2. Clean the mirrors of the CCD Unit with a blower brush.



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### 5.3 Maintenance Tool

Table 5.3 shows tools necessary for scanner maintenance.

Table 5.3 Maintenance tool

No.	Item	Description
1	Flat-blade screwdriver	Used for removing E-ring
2	Philips screwdriver	Used for M3 M4
3	Nut driver (5.5mm) or convergent plier 03	Used for removing/installing ADF cable connector.
4	Ethyl alcohol or Isopropyl alcohol	Used for cleaning
5	Blower brush	Used for mirror cleaning

### 5.4 Screws that MUST not be loosened

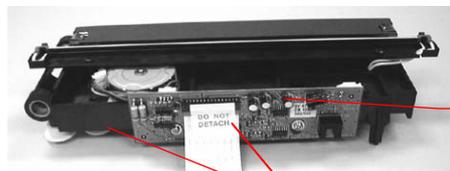
The following screws have been adjusted at the factory. Never loosen them during maintenance.

#### 5.4.1 CCD board securing screws in the CCD Unit

Never loosen the following CCD board securing screws.

**Warning:**

**If the CCD board fixing screws are loosened, optical misalignment will occur causing image quality deterioration. Note that this will not be covered under our warranty.**



CCD board

Do NOT loosen screws  
(2 CCD board securing screws)

### 5.5 Reserved

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### 5.6 Replacement Procedure

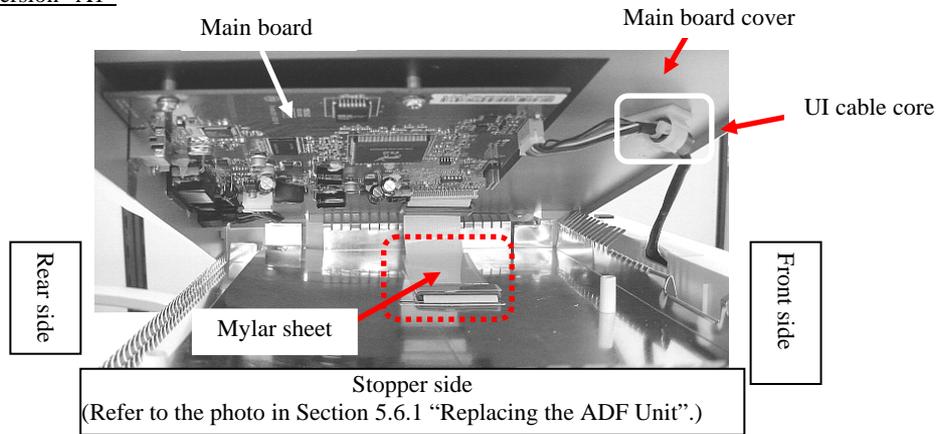
This section describes replacement procedure for the maintenance parts. Some parts need to be adjusted or lubricated. The parts requiring lubrication are described in Section 5.5.

**03 Note**

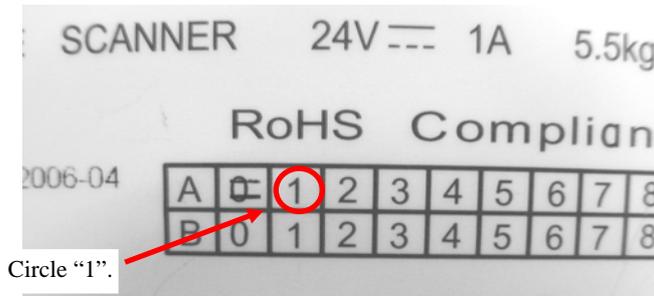
Methods of fixation for the Carrier cable and the UI cable have been changed. They differ depending on the scanner version. Refer to the table below and change them if necessary.

Scanner version	A0	A1
Serial number	“100000” or before	“100001” or later
Method of fixation	The Carrier cable is pasted with a two-sided tape.	The Carrier cable is secured with the Mylar sheet (transparent plastic plate). Note: Refer to the dotted square in the photo below.
	The UI cable core is fastened with a banding band.	The UI cable core is fastened with a clamp. Note: Refer to the solid square in the photo below.
Required work	In order to apply the same method of fixation as that for the version “A1” when replacing the following maintenance parts, change the method of fixation with the parts attached to the maintenance parts. Circle the version number “1” on the identification plate after method of fixation has been changed. (Photo below). - Main board: Section 5.6.7 - Main board cover: Section 5.6.7 - Switch: Section 5.6.7 - UI cable: Section 5.6.13 - Carrier cable: Section 5.6.16 - Bottom ASY: Section 5.6.17	Method of fixation is not need to be changed. Dispose of the parts required for changing the method.

The scanner of version “A1”



Version on Identification plate

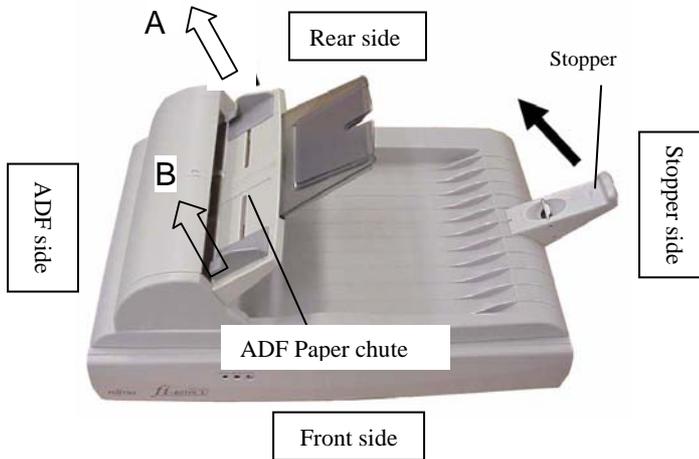


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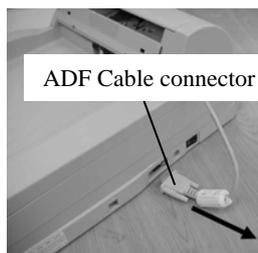
5.6.1 Replacing the ADF Unit

**NOTICE**

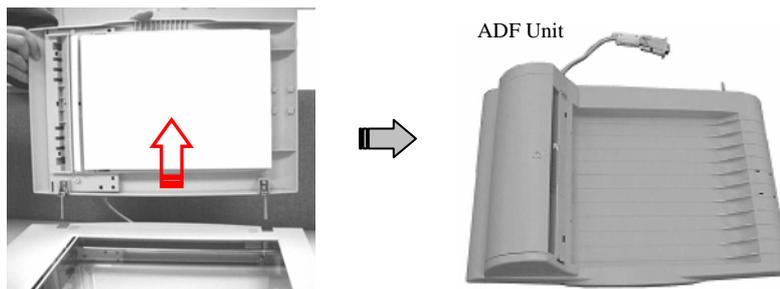
- Refer to Section 6.2.1 for the part number of the ADF Unit.
- 1. Remove the Pad ASY (Section 4.3.3).
- 2. Remove the Pick roller unit (Section 4.3.4).
- 3. Remove the Stopper and the ADF paper chute (assembly of Chute A and Chute B) in the direction of the arrows. (You can easily pull out the ADF paper chute if pulling up the arrows A and B alternately.)



- 4. Disconnect the ADF cable connector. 03



- 5. Open the Document cover and pull it up in the direction of the arrow to remove.



Notes:

- Install the ADF unit in the procedure above in reverse order.
- After replacement, run Maintenance Mode #1 (Section 7.2) and confirm that the ADF motor and rollers rotate properly.

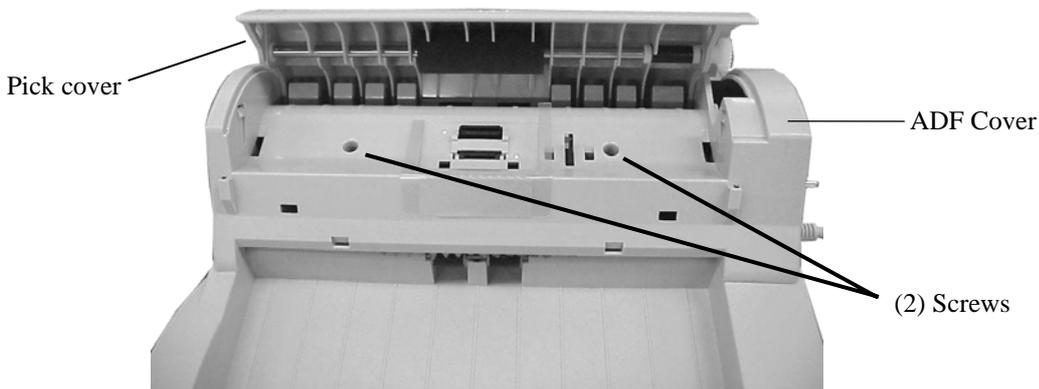
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### 5.6.2 Replacing the ADF Upper Cover

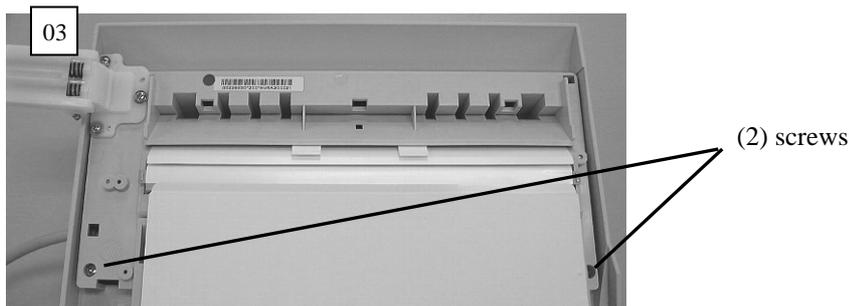
**NOTICE**

- Refer to Section 6.2.2 for the part number of the ADF Upper Cover.

1. Referring to Section 5.6.1, remove the ADF Unit.  
 Note: Remove the Pad unit and the Pick roller unit. 03
2. Remove the two (2) screws that secure the ADF Upper cover.

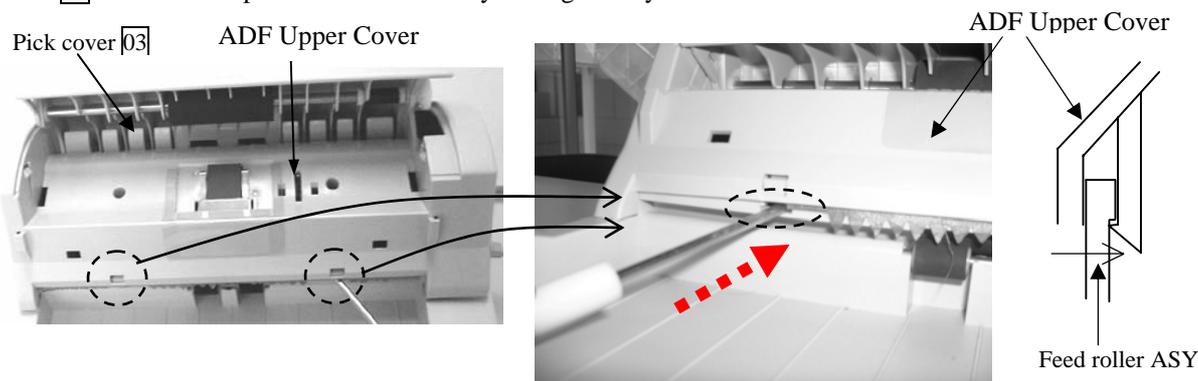


2. Turn over the ADF unit, and remove two (2) screws at the back.



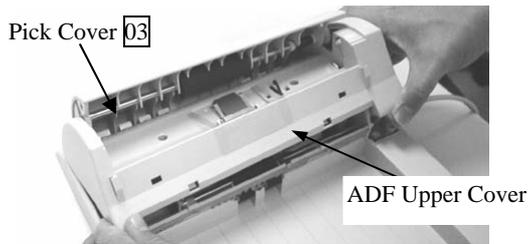
3. Insert a flat-blade screwdriver into two (2) latch holes (circles in the photo below) to unlatch, and remove the claws.

03  
03 Note: Do not push the claws forcibly. Doing so may break the claws.

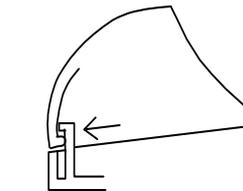
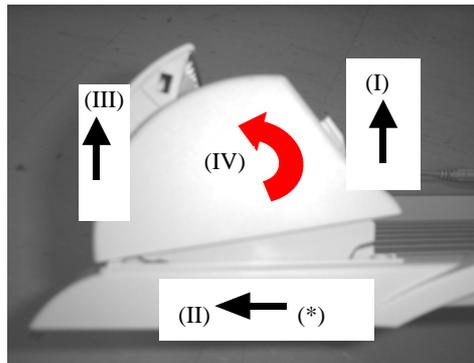


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03 4. Open the Pick cover.

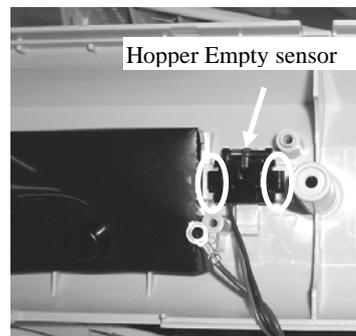
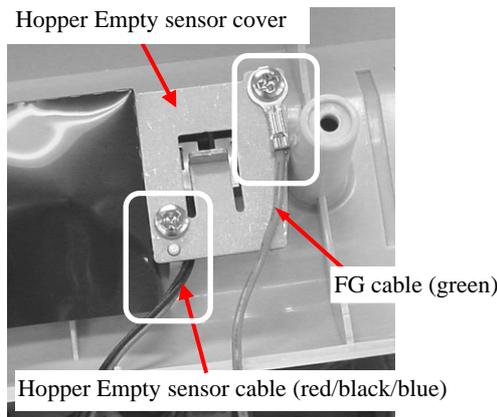


5. As shown in the photo below, (I) raise the document exit side of the ADF Upper Cover, (II) press the ADF Upper Cover horizontally and unlatch the internal latch (refer to the cross section view in the drawing on the lower right), and (III) lift the ADF Upper Cover upward. (IV) turn the ADF Upper cover around in the direction of the arrow. 03



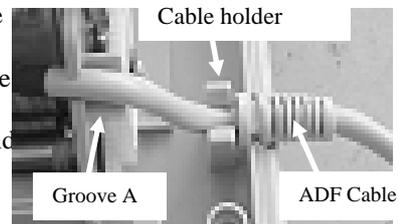
(\* Latch structure on the ADF Upper Cover (left and right))

03 6. Remove two (2) screws (squares in the photo lower left) on the Hopper Empty Sensor cover and remove the Hopper Empty Sensor Cover. Unlatch two (2) claws (circles in the photo lower right) at both sides of the Hopper Empty Sensor and remove the Sensor.



Notes:

- 1: Assemble these parts in the procedure above in the reverse order, paying attention to the following:
- 2: Install the cable in the original position. Be sure that the ADF cable fits into Groove A. Confirm that the ADF cable fits into the cable holder and groove A. 03



03 3: Pick roller clamp easily breaks. Do not bend it forcibly.

⚠ 4: After replacement, run Maintenance Mode #1 and confirm that the ADF motor and the rollers rotate properly.

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5.6.3 (Reserved)

5.6.4 Replacing the Pick Cover, Feed Roller ASY, Document Cover

**NOTICE**

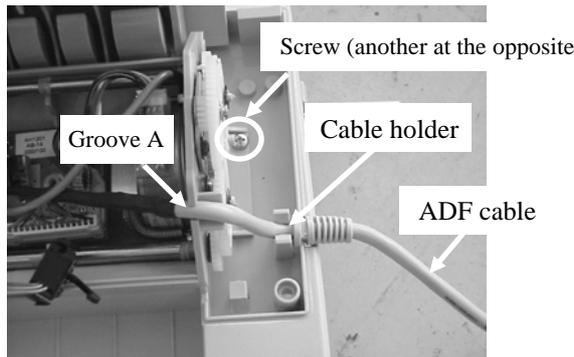
Refer to the following Sections for the part number of the maintenance parts.

Pick Cover: Section 6.2.3

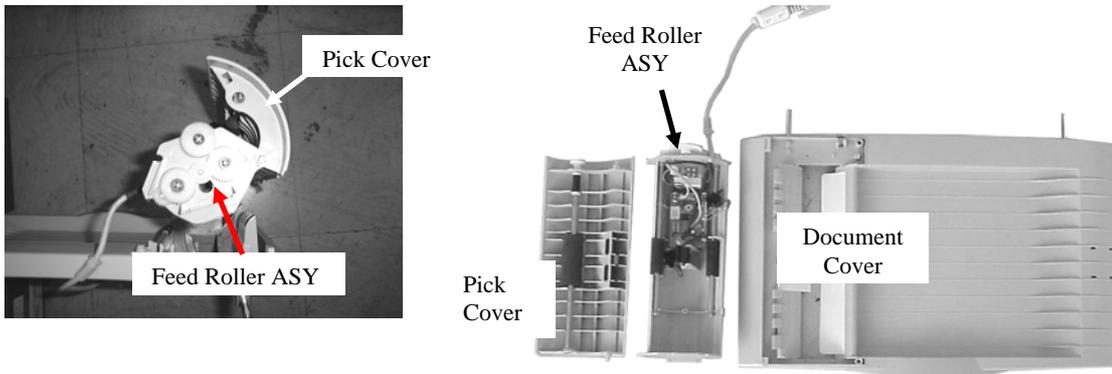
Feed Roller ASY: Section 6.2.5

Document Cover: Section 6.2.7

1. Referring to Section 5.6.2, remove the ADF Upper Cover.
2. Remove the ADF cable from the cable holder and Groove A, then remove the screws (one for each left and right) that secure the Feed Roller ASY.
3. Remove the assembly of the Feed Roller ASY and the Pick Cover.



4. Separate the Pick Cover and Feed Roller ASY. Before replacing the Pick Cover, remove the Pick roller unit from the Pick Cover.



Notes:

1. Assemble these parts in the procedure above in the reverse order, paying attention to the following:
- 03 2. Install the cable in the original position. Be sure that the ADF cable fits into Groove A and the cable holder.
- 2 3. After replacement, run Maintenance Mode #1 and confirm that the ADF motor and the rollers rotate properly.

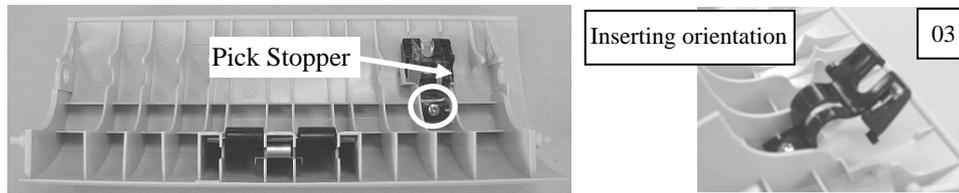
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## 5.6.5 Replacing the Pick Stopper

**NOTICE**

- Refer to Section 6.2.4 for the part number of the Pick Stopper.

- 1 Referring to Section 5.6.4, remove the Pick Cover.
- 2 Remove the (1) screw (circle in the photo below) that secures the Pick Stopper and remove the Pick Stopper.



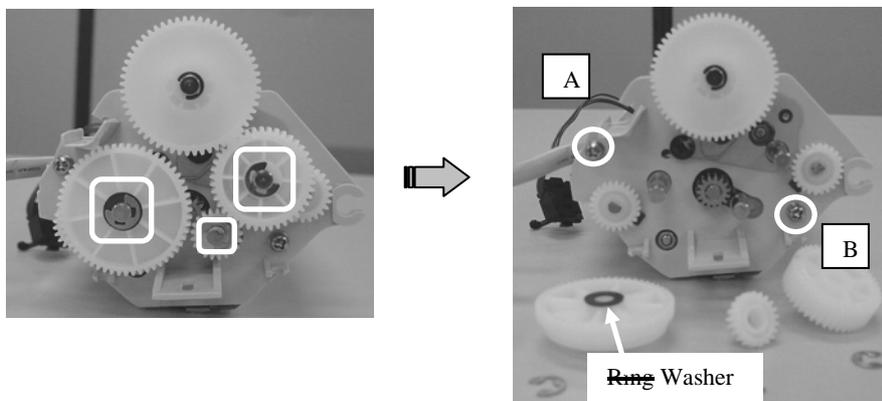
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## 5.6.6 Replacing the ADF Motor

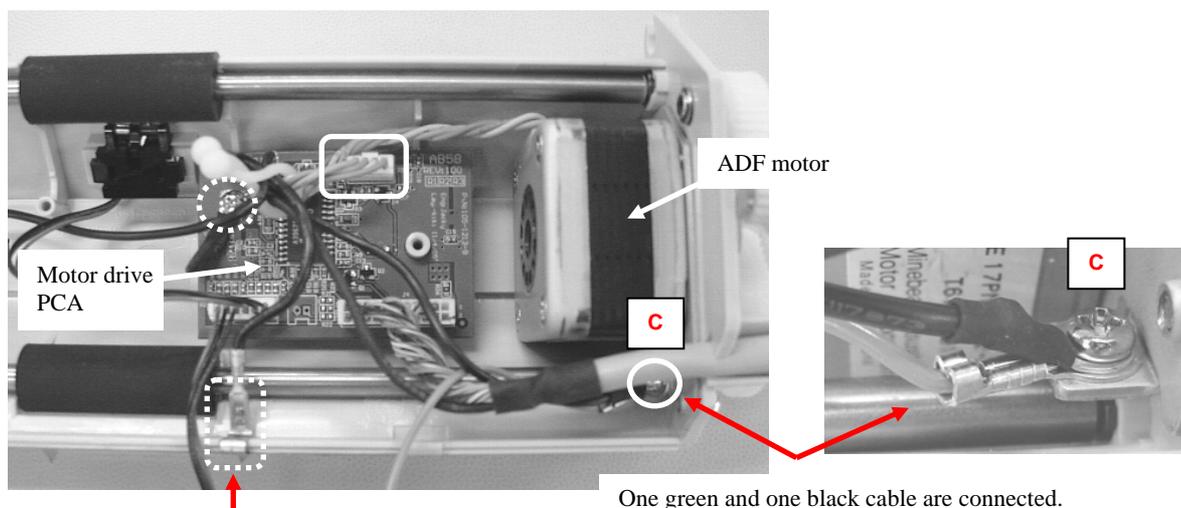
**NOTICE**

- Refer to Section 6.2.6 for the part number of the ADF Motor.

1. Referring to Section 5.6.4, remove the Feed Roller ASY.
2. Remove three (3) e-rings (squares in the photo below) that secure the gears and remove three (3) gears.



- 03
3. Disconnect the (1) ADF Motor connector (square in the photo below) from the Motor Drive PCA.
  4. Remove three (3) screws (circles A and B on the photo upper right and solid circle C in the photos below) that secure the ADF Motor.  
Green cable (FG cable on the Hopper empty sensor cover) and black cable are connected to the screw C.



Earth wire for brush

5. Remove the (1) screw (dotted circle in the photo above) that secures the Motor Drive PCA and the FG cable. Move the Motor Drive PCA to the left in order to remove the ADF Motor more easily, then remove it.

Notes:

1. Assemble these parts in the procedure above in reverse order, paying attention to the following:
- 03 2. Install the cable in the original position. ~~Be sure that the ADF cable fits into Groove A.~~  
Note: Confirm that the earth wire for the brush (dotted square in the photo of step 4) is surely inserted into the frame.
- ≠ 3. After replacement, run Maintenance Mode #1 and confirm that the ADF motor and the rollers rotate properly.

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5.6.7 Replacing the Main Board, Main Board Cover, Switch

**NOTICE**

Refer to the following Sections for the part number of the maintenance parts.

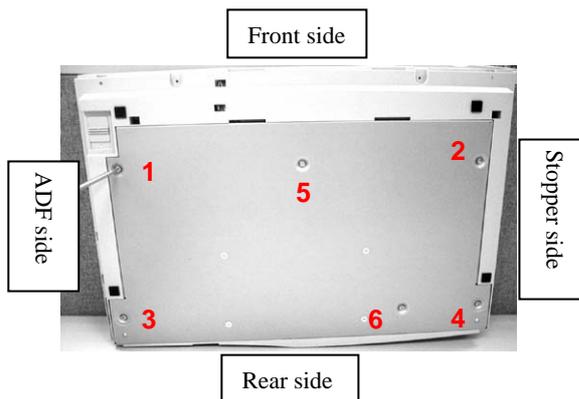
Main Board: Section 6.2.23

Main Board Cover: Section 6.2.25

Switch: Section 6.2.24

<Removal>

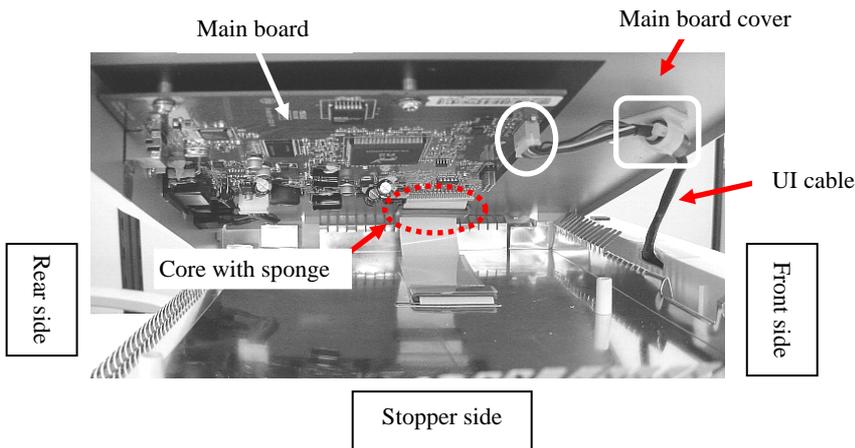
1. Referring to Section 5.6.1, remove the ADF Unit.
2. Turn the scanner upside down and remove six (6) screws from its bottom (photo below).  
Note: Remove the screws in numerical order.



For the scanners on which the maintainability has been improved, go to step 3-1.  
<How to distinguish>  
- The carrier cable is pressed with the Mylar sheet (transparent plastic plate).  
- The UI cable core is fastened with a clamp.

- 3-1. Lift the stopper side of the Main board cover a bit (Refer to a photo in Section 5.6.1), disconnect the (1) UI cable connector (solid circle in the photo below), then remove the UI cable from the clamp (square in the photo below).

Note: Make sure that the core with sponge (dotted circle in the photo below) pasted on the Main board cover is not peeled off.



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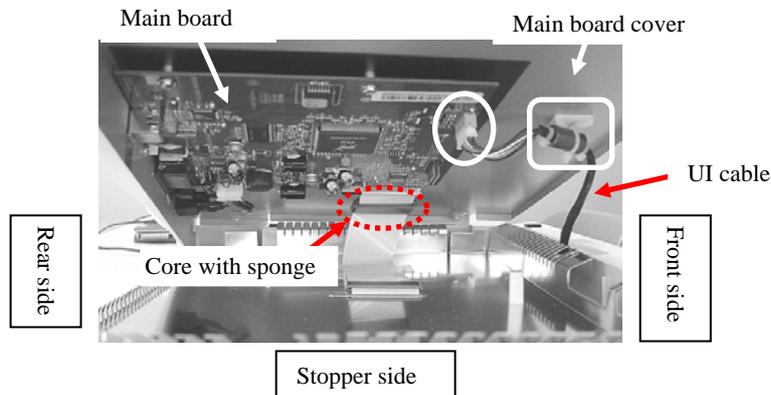
For the scanners on which the maintainability has NOT been improved, go to step 3-2.

<How to distinguish>

- The carrier cable is pasted with a two-sided tape.
- The UI cable core is fastened with a banding band.

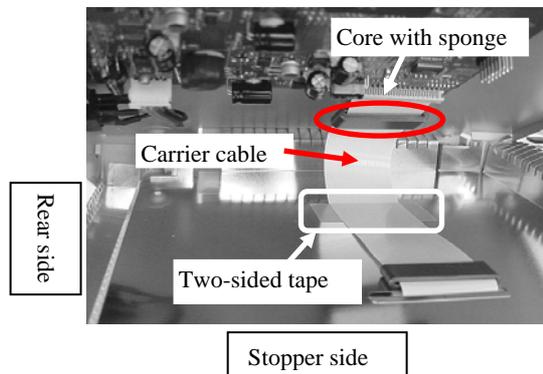
- 3-2. Lift the stopper side of the Main board cover a bit (Refer to step 3 of Section 5.6.1), cut the banding band (circle in the photo below) which secures the UI cable core and disconnect a UI cable connector (circle in the photo below).

Note: Make sure that the core with sponge (dotted circle in the photo below) pasted on the Main board cover is not peeled off.



- 3-3. Peel off the Carrier cable pasted with the two-sided tape (square in the photo below) slowly.

Note: Make sure that the core with sponge (circle in the photo below) pasted on the Main board cover is not peeled off.



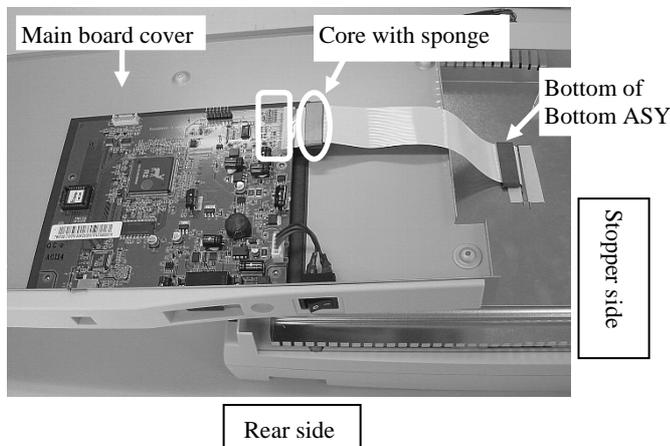
Note: For improving the maintainability of the Carrier cable, installation procedure of the Carrier cable has been revised. Refer to Note 4 in <Installation>.

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4. Turn over the Main board cover as shown in the photo below. Disconnect the Carrier cable from the Main board connector (square in the photo below), pull it out of the hole of the core with sponge (circle in the photo below), then remove it from the Main board cover.

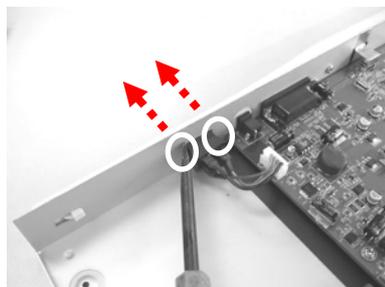
Note: Make sure that the core with sponge (dotted circle in the photo below) pasted on the Main board cover is not peeled off.



5. Disconnect the Switch cable connector (dotted square in the photo below).  
 To replace the Main board and Main board cover, go to step 6.  
 To replace the Switch, go to step 10.
6. Peel off the conductive tape (dotted circle in the photo below) pasted on the metal parts of the USB connector and Main board cover.
7. Remove three (3) screws (solid circles in the photo below) that secure the Main Board.
8. Remove two (2) hex-head screws (solid squares in the photo below) that secure the ADF cable connector.



9. Remove the Main Board.  
 To replace the Main board cover and switch, go to step 10.
10. Pushing the claws (circles in the photo below) at both sides of the Switch with a flat-blade screwdriver alternately, remove them toward the rear side of the scanner (in the direction of the arrows in the photo below). The remaining part is the Main Board Cover.



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**NOTICE**

After replacing the Main Board, perform Offset adjustment (Section 5.8.1).

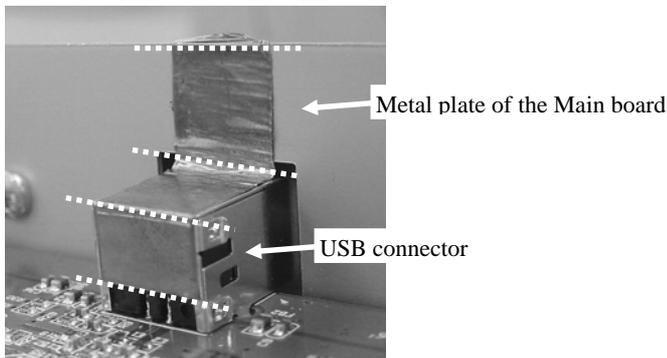
03

<Installation>

Assemble these parts in the procedure above in reverse order.

Note 1: If the Main board and the Main board cover are replaced, peel off the release paper of the conductive tape attached to the maintenance part and paste the tape on the USB connector and the metal parts of the Main board cover.

\* Be sure to adhere the conductive tape strongly.



Note 2: Follow the procedure below for installation of the Main board.

- (1) Tighten three (3) screws to secure the Main board temporarily.
- (2) Tighten two (2) hex-head screws to secure the ADF cable connector.
- (3) Tighten three (3) screws to secure the Main board.

Note 3: If the Switch has been replaced, make sure that the orientation of the Switch is as shown in the photo below.



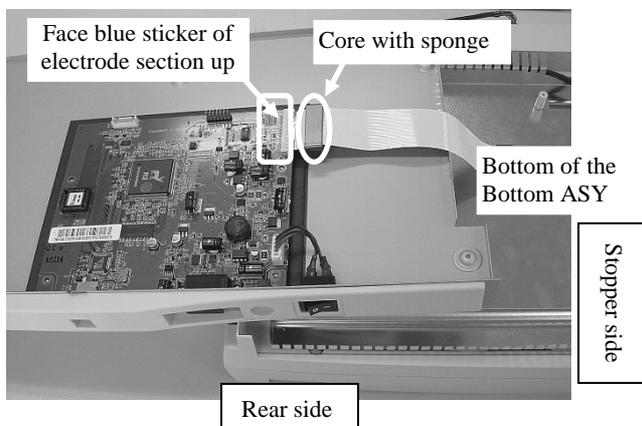
ADF cable

For the scanners on which the maintainability has been improved, go to Note 4-1.  
 <How to distinguish>  
 - The Carrier cable is pressed with the Mylar sheet (transparent plastic plate).  
 - The UI cable core is fastened with a clamp.

Note 4-1: Conduct the installation in the procedure below.

- (1) Insert the Carrier cable into the hole of the core with sponge (circle in the photo below) and insert the electrode section of the Carrier cable into the Main board connector (square in the photo below).

\* Facing the blue sticker of the electrode section up, insert the electrode section all the way to the back horizontally.



Do not bow the Mylar sheet. Doing so may not be capable of holding down the Carrier cable.



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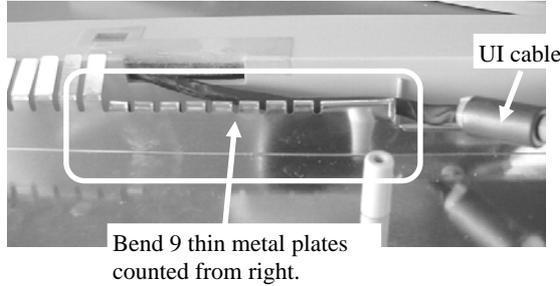
(2) Install the Main board cover.

For the scanners on which the maintainability has NOT been improved, go to Note 4-2.

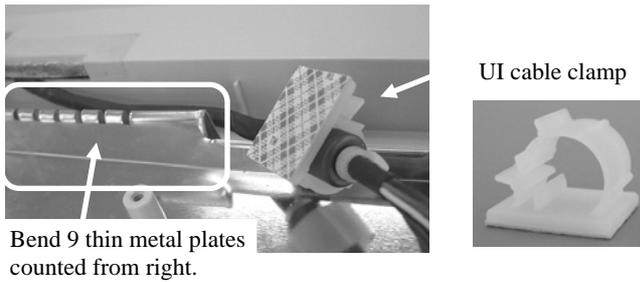
- <How to distinguish>
- The carrier cable is pasted with a two-sided tape.
  - The UI cable core is fastened with a banding band.

Note 4-2: Conduct the installation in the procedure below.

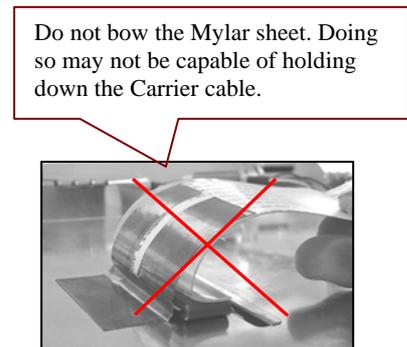
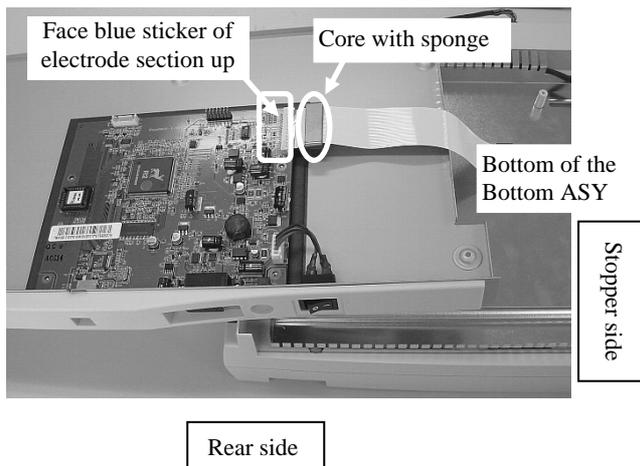
- (1) Replace the Carrier cable by referring to step 2 and after in Section 5.6.16.
- (2) Bend nine (9) metal plates (square in the photo below) from the right side at the UI cable exit.



- (3) Remove the table of a banding band that secures the UI cable core from the Main board cover.  
\* Cut the banding band that secures the UI cable core in step 3-2 of <Removal>.
- (4) Install the UI cable clamp which attached to the maintenance part to the UI cable core and peel off the release paper.



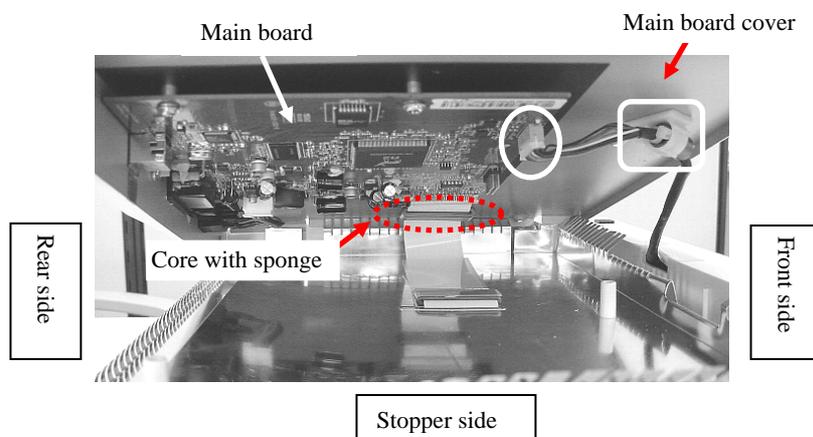
- (5) Insert the Carrier cable into the hole of the core with sponge (circle below) and insert the electrode section of the Carrier cable into the connector (square in the photo below) on the Main board.  
\* Facing the blue sticker of the electrode section up, insert the electrode section all the way to the back horizontally.



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- (6) Insert the UI cable into the Main board connector (circle in the photo below).  
 (7) Paste the UI cable clamp which was installed in step 4 on the Main board cover (square in the photo below).  
 \* Make sure that the core with sponge (dotted circle in the photo below) pasted on the Main board cover is not peeled off.



Note 5: If the Main board cover has been replaced, reattach the identification plate.

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5.6.8 Replacing the Front Cover, OP Cover E or C, OP-PCA

**NOTICE**

Refer to the following Sections for the part number of the maintenance parts.

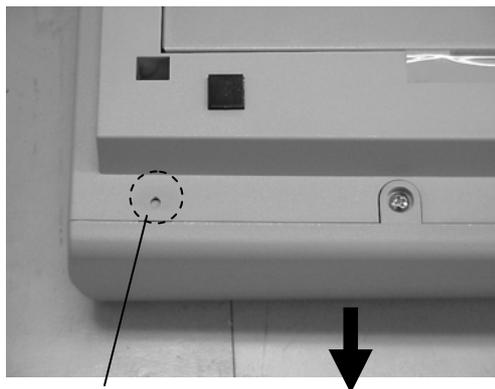
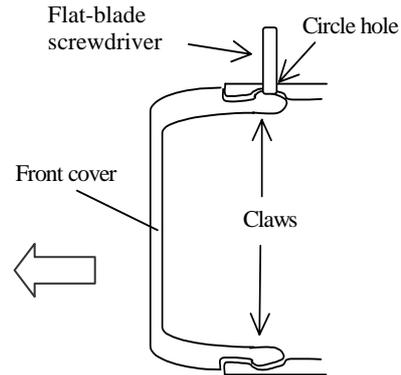
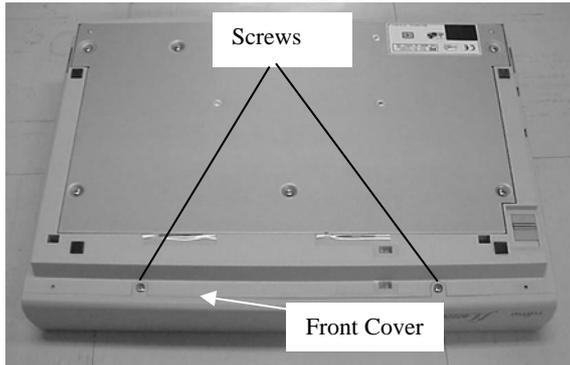
Front Cover: Section 6.2.12

OP Cover E or C: Section 6.2.13

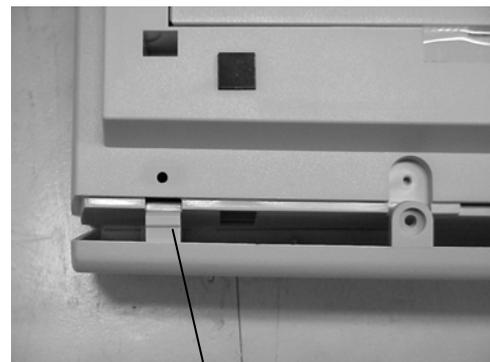
OP-PCA: Section 6.2.26

1. Referring to Section 5.6.1, remove the ADF Unit.
2. Turn the scanner upside down and remove two (2) screws that secure the Front Cover.
3. Insert a small flat-blade screwdriver into two (2) holes (circle in the photo below) of the Bottom ASY to release the claws and pull the Front cover in the direction of the arrow to remove.

Note: Be careful not to put too much force on the claws. Doing so may break the Front cover claws.

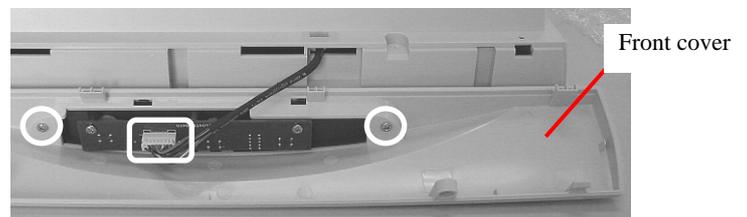


Holes on the Bottom ASY  
(one each on the right and left)

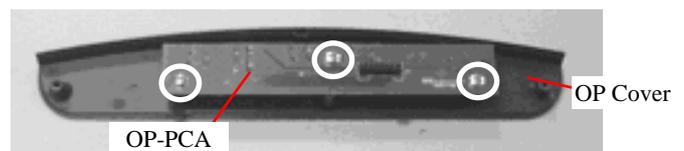


Claws  
(one each on the right and left)

4. Disconnect the (1) OP-PCA connector (square in the photo on the right).
5. Remove two (2) screws (circles in the photo on the right) of the OP Cover E or C to remove it.



6. Remove three (3) screws (circles in the photo to the right) of the OP-PCA and remove the OP-PCA. The remaining part is the Front Cover.



Note: Follow the procedure above in reverse order when assembling.

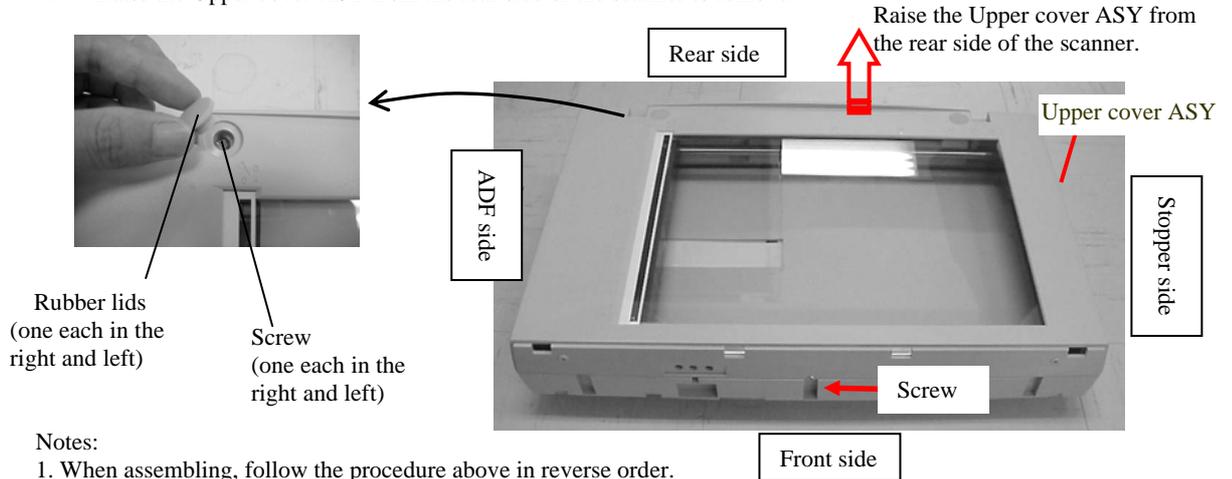
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5.6.9 Replacing the Upper Cover ASY

**NOTICE**

- Refer to Section 6.2.11 for the part number of the Upper Cover ASY.

1. Referring to steps 1 ~ 4 of Section 5.6.8, remove the Front Cover.
2. Remove rubber lids located in the right and left of the Upper cover ASY and remove two (2) screws under them.
3. Remove the (1) screw located in the center front of the scanner (see the photo on lower right).
4. Raise the Upper cover ASY from the rear side of the scanner to remove.



Notes:

1. When assembling, follow the procedure above in reverse order.
2. Assemble and disassemble in a dust-free environment.
- 03 3. After assembling, clean the white reference board on the front and backside of the glass of the Upper cover ASY with ethyl alcohol or isopropyl alcohol.



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### 5.6.10 Replacing the CCD unit and Belt ASY

#### NOTICE

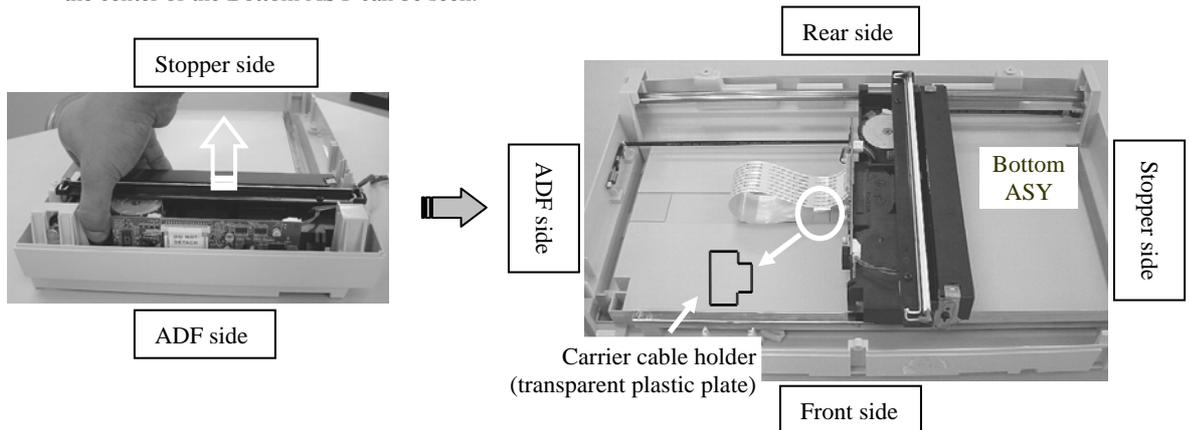
Refer to the following Sections for the part number of the maintenance parts.

CCD Unit: Section 6.2.15

Belt ASY: Section 6.2.22

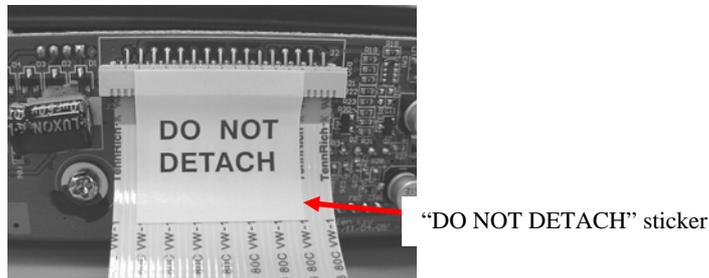
#### [Replacing the CCD Unit (NOT including the Carrier unit)]

1. Referring to steps 1 ~ 4 of Section 5.6.8, remove the Front cover.
2. Referring to steps 2 ~ 4 of Section 5.6.9, remove the Upper cover ASY.
3. Grabbing the CCD unit as shown in the photo below, slide it to the Stopper side (refer to step 3 of Section 5.6.1), and move it until the Carrier cable holder (transparent plastic plate, circle in the photo lower right) near the center of the Bottom ASY can be seen.

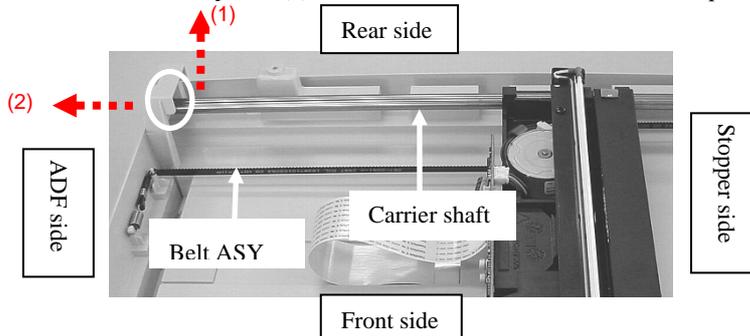


Section 5.6.10

4. Peel off the “DO NOT DETACH” sticker from the CCD board of the CCD unit and disconnect the Carrier cable from the connector.



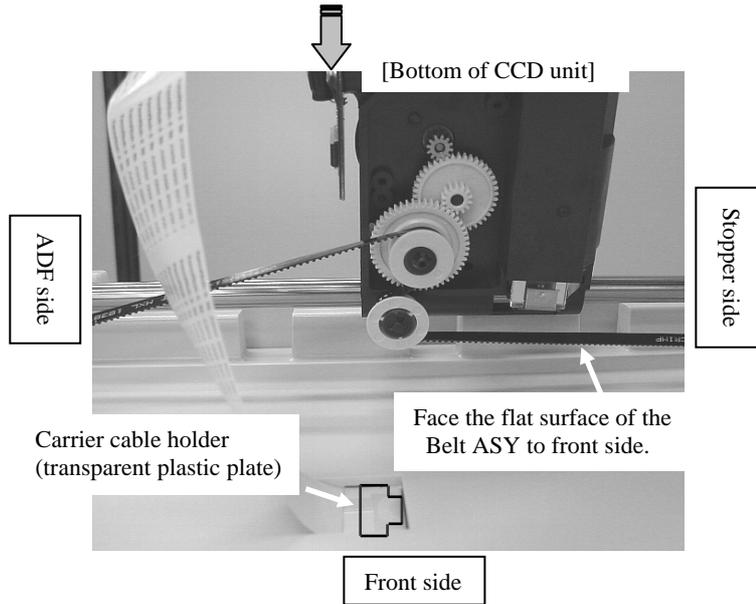
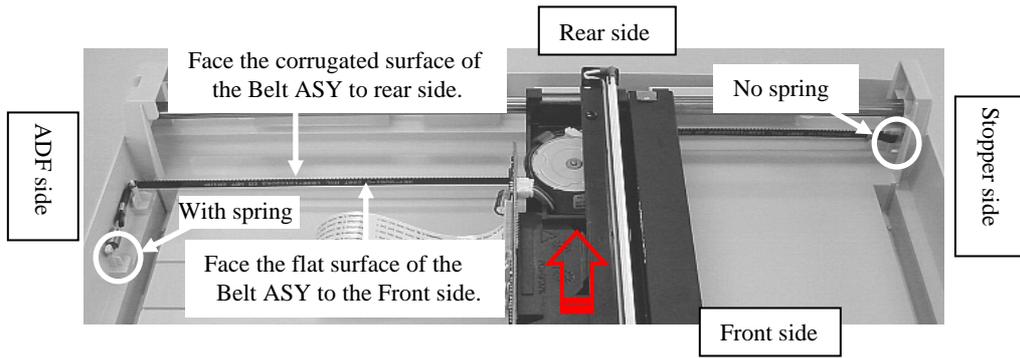
5. Lift the Carrier shaft upward (1), and remove it from the Base unit. Then pull it out to ADF side (2).



6. Remove both edges of the Belt ASY from two (2) hooks (circles in the photo below). Raise the front side of the CCD unit, and remove the Belt ASY from two (2) gears at the bottom of the CCD unit.

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**[Replacing the Belt ASY]**

## &lt;Removal&gt;

Referring to steps 1, 2, 3 and 6 of [Replacing the CCD unit], remove the Belt ASY. (Steps 4 and 5 are omitted.)

Note: You do not need to remove the Carrier cable and Carrier shaft.

**NOTICE**

- After replacing the CCD unit or the Belt ASY, perform Offset adjustment (Section 5.8.1).
- Do not touch the mirror or CCD board when raising the CCD unit. Doing so may cause image quality to be deteriorated.

## &lt;Installation&gt;

Follow the procedure of installation in reverse order.

Note 1: The belt ASY should be routed as it was by referring to step 6, when assembling the Belt ASY.

- Face the corrugated surface of the Belt ASY to rear side of the scanner.
- Face the flat surface of the Belt ASY to front side of the scanner.
- Install the spring of the Belt ASY to the hook on the ADF side.

Note 2: Paste the "DO NOT DETACH" stickers attached to the maintenance part to the CCD board connector and the Carrier cable.

- \* Clean the place where the "DO NOT DETACH" sticker is to be pasted with alcohol.



"DO NOT DETACH" sticker

Note 3: A dust-proof transparent sticker is pasted on the CCD unit. Peel it off immediately before installing the Upper cover ASY.

Note 4: Assemble and disassemble in a dust-free environment.

Note 5: The lamp in the CCD unit includes mercury. Disposal of the scanner should be conducted as required by local ordinances or regulations.

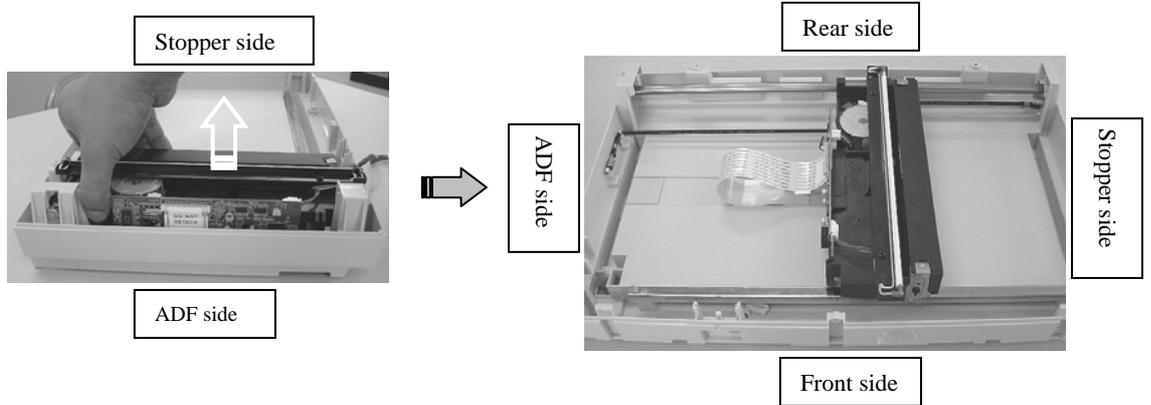
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5.6.11 Replacing the Lamp ASY

**NOTICE**

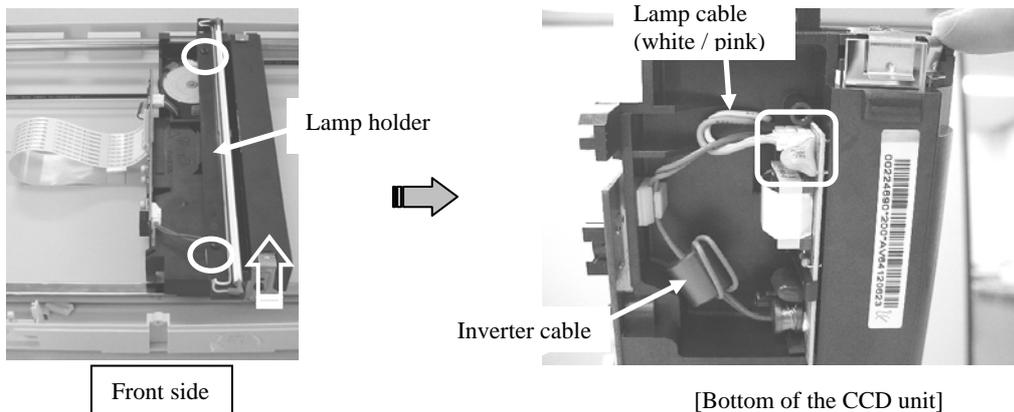
- Refer to Section 6.2.16 for the part number of the Lamp ASY.

1. Referring to Section 5.6.9, remove the Upper cover ASY.
2. Grabbing the CCD unit as shown in the photo on the lower left, slide it to the Stopper side (refer to step 3 of Section 5.6.1), and move it to near the center of the Bottom ASY.



In case of the following type of the scanner, go to step 3-1.  
 - The Inverter cable is secured with a clamp.

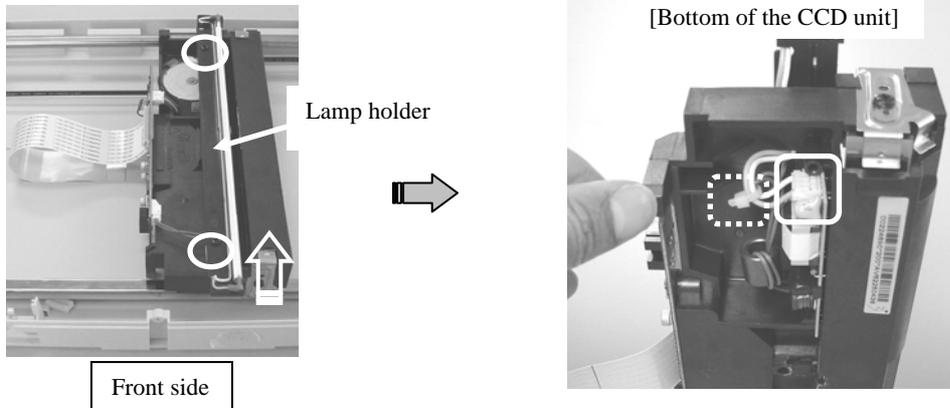
- 3-1. Raise the front side of the CCD unit and disconnect the Lamp cable (white / pink) connector (square in the photo on the lower right) from the Inverter at the bottom of the CCD unit.



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In case of the following type of the scanner, go to step 3-2.  
 - The lamp cable and the Inverter cable are secured with a banding band.

3-2. Lift the front side of the CCD unit and cut the banding band (dotted square in the photo on the lower right) that secures the Lamp cable and the Inverter cable with a nipper. Disconnect the Lamp cable (white / pink) connector (solid square in the photo on the lower right) from the Inverter at the bottom of the CCD unit.



4. Remove two (2) screws of the Lamp holder (circles in the photo on the above left) and remove the Lamp holder from the CCD unit.  
 Note: The Lamp ASY is included in the Lamp holder.

**NOTICE**

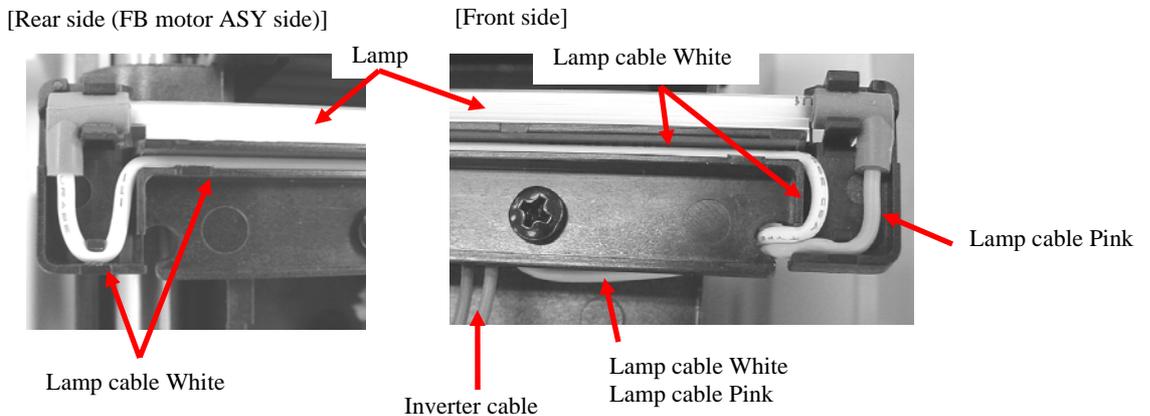
After replacing the Lamp ASY, perform Offset adjustment (Section 5.8.1).

Note 1: When assembling, follow the procedure above in reverse order.

Note 2: Assemble and disassemble in a dust-free environment.

Note 3: The cables should be routed as shown in the photos below when assembling the Lamp ASY.

\* The Lamp ASY is included in the Lamp holder.



Note 4: The lamp in the CCD unit includes mercury. Disposal of the scanner should be conducted as required by local ordinances or regulations.

Note 5: After assembling, turn the scanner ON and confirm that the lamp lights.

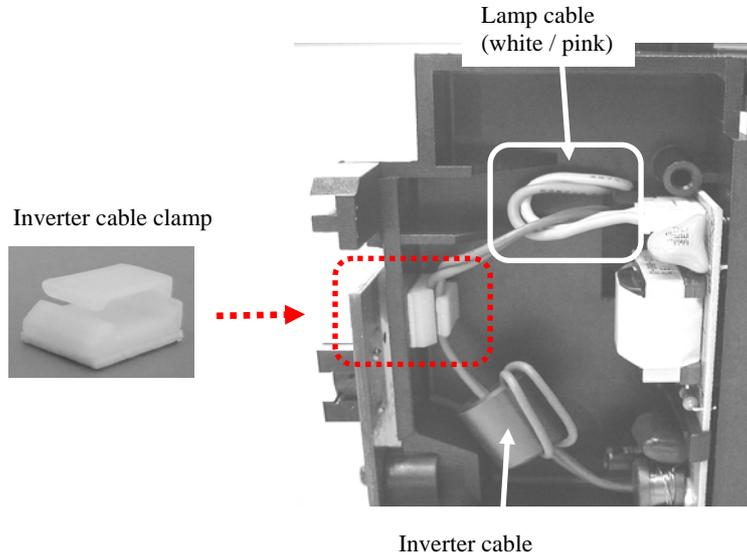
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In case of the following type of the scanner, go to Note 6.  
 - The lamp cable and the Inverter cable are secured with a banding band.

Note 6: Paste the clamp attached to the maintenance part to the CCD unit frame (dotted square in the photo below) and secure the Inverter cable with the clamp.

\* Clean the place where the two-sided tape is to be pasted with alcohol.

\* Cross the Lamp cable (white / pink) and the Inverter cable as shown in the photo below (solid square in the photo below).

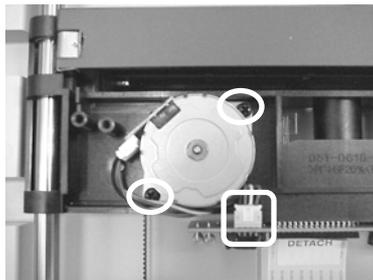


### 5.6.12 Replacing the FB Motor ASY

#### NOTICE

- Refer to Section 6.2.18 for the part number of the FB Motor ASY.

1. Referring to steps 1, 2 and 4 of Section 5.6.11, remove the Lamp ~~ASY~~ holder. (Steps 3 and 5 are omitted.)  
 Note: You do not need to disconnect the Lamp cable connector from the Inverter at the bottom of the CCD unit.
2. Remove two (2) screws (circles in the photo below) of the FB motor, disconnect the (1) FB motor connector (square in the photo below) and remove the FB motor ASY.



#### NOTICE

After replacing the FB Motor ASY, perform Offset adjustment (Section 5.8.1).

- Note 1) When assembling, follow the procedure above in reverse order.  
 2) Assemble and disassemble in a dust-free environment.  
 3) After assembling, run Test mode #1 to confirm that the CCD unit works. (Refer to Section 7.2.)

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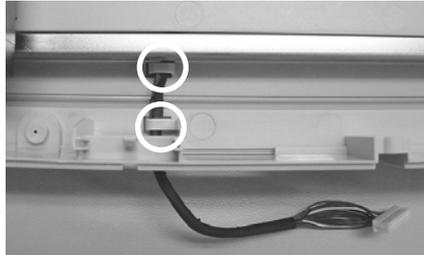
## 5.6.13 Replacing the UI-Cable

**NOTICE**

- Refer to Section 6.2.27 for the part number of the UI-Cable.

## &lt;Removal&gt;

1. Referring to steps 1 ~ 4 of Section 5.6.8, remove the Front Cover.  
Note: You do not need not to remove the OP Cover and OP-PCA.
2. Referring to steps 2 ~ 4 of Section 5.6.9, remove the Upper Cover ASY.
3. Remove the UI-Cable from two (2) clamps (circles in the photo below) above the Bottom ASY.



4. Turn over the scanner being careful not to drop the CCD unit with hands.
5. Referring to steps 1 ~ 4 of Section 5.6.7, remove the Main board cover.

For the scanners on which the maintainability has been improved, go to step 6-1.

## &lt;How to distinguish&gt;

- The Carrier cable is pressed with the Mylar sheet (transparent plastic plate).
- The UI cable core is fastened with a clamp.

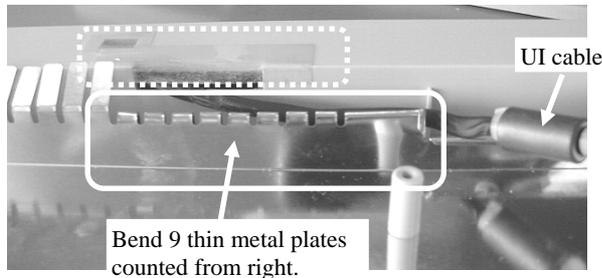
6-1. Remove the dust-proof Mylar sheet (transparent sticker, dotted square in the photo below) at the UI cable exit.

For the scanners on which the maintainability has NOT been improved, go to step 6-2.

## &lt;How to distinguish&gt;

- The carrier cable is pasted with a two-sided tape.
- The UI cable core is fastened with a banding band.

6-2. Bend nine (9) metal plates from the right side (solid square in the photo below) at the UI cable exit and remove the dust-proof Mylar sheet (transparent sticker, dotted square in the photo below).



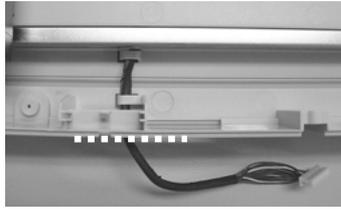
7. Pull the UI cable out of the Bottom ASY.

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## &lt;Installation&gt;

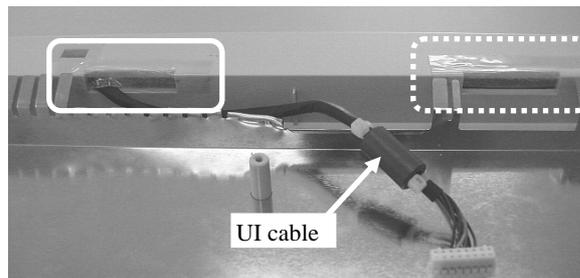
Follow the procedure above in reverse order.

Note 1: Take out 13 ~ 14 cm (4.5 in) (dotted line in the photo below) of the UI cable from the Bottom ASY.



Note 2: Paste the dust-proof Mylar sheet (transparent sticker) attached to the maintenance part on the exit hole for the UI cable (solid square in the photo below).

Referring to the dust-proof Mylar sheet (transparent sticker, dotted square in the photo below) on the right side, paste the sheet at the same position of the left side.



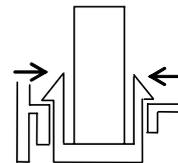
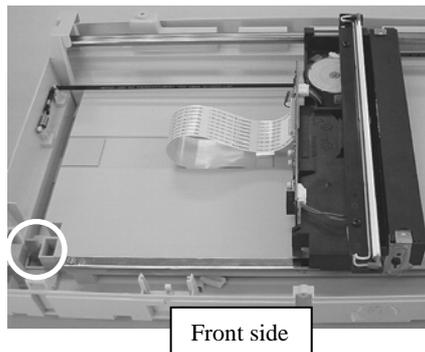
Note 3: Referring to Note 4 of <Installation> in Section 5.6.7, install the Main board cover.

## 5.6.14 Replacing the Lock

**NOTICE**

- Refer to Section 6.2.21 for the part number of the Lock.

1. Referring to Section 5.6.9, remove the Upper cover ASY.
2. Press the claws on the Lock (circle in the photo below) inward to remove from the Bottom ASY, and take it out to the bottom side of the Bottom ASY.



Note 1) When assembling, follow the procedure above in reverse order.

2) After assembling, move the shipping lock lever to unlock position .

3) Assemble and disassemble in a dust-free environment.

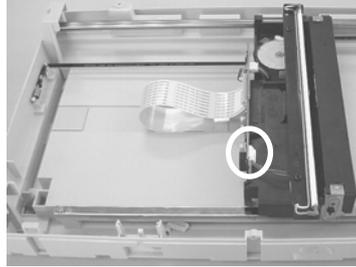
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### 5.6.15 Replacing the Inverter

#### NOTICE

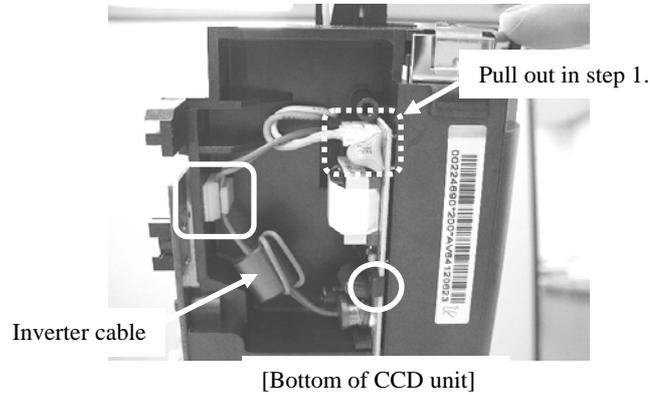
- Refer to Section 6.2.17 for the part number of the Inverter.

1. Referring to steps 1~3 of Section 5.6.11, disconnect the (1) Lamp cable (white / pink) connector from the Inverter at the bottom of the CCD unit.
2. Pull out the (1) Inverter cable connector (circle in the photo below) from the CCD board of the CCD unit.



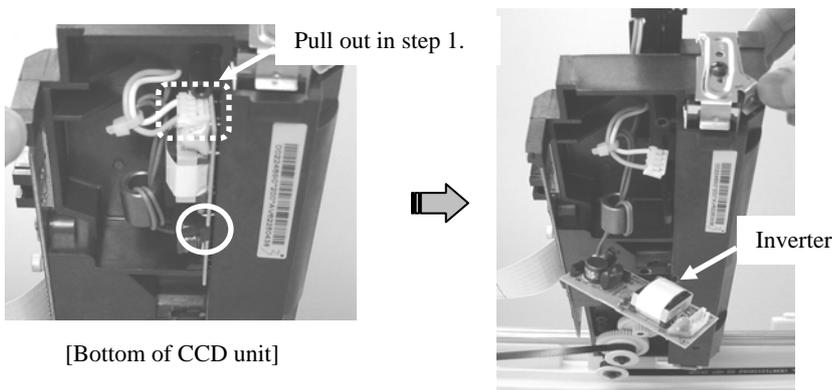
In case of the following type of the scanner, go to step 3-1.  
 - The Inverter cable is secured with a clamp.

- 3-1. Unlatch the claw (circle in the photo below) at the bottom of the CCD unit and remove the Inverter downwards. Remove the Inverter cable from the (1) clamp (solid square in the photo below) and pull it out of the CCD unit hole.



In case of the following type of the scanner, go to step 3-2.  
 - The lamp cable and the Inverter cable are secured with a banding band.

- 3-2. Unlatch the claw (circle in the photo on the lower left) at the bottom of the CCD unit and remove the Inverter downwards. Pull the Inverter cable out of the CCD unit hole.



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## NOTICE

After replacing the Inverter, perform Offset adjustment (Section 5.8.1).

Note 1: When assembling, follow the procedure above in reverse order.

Note 2: Assemble and disassemble in a dust-free environment.

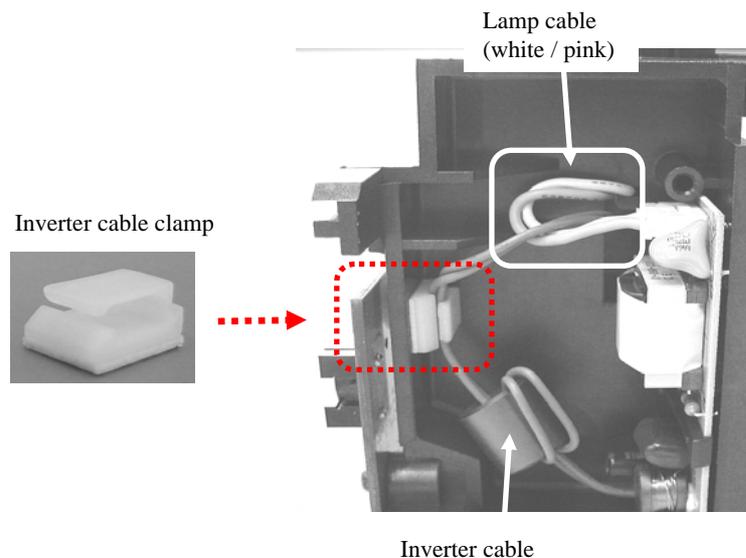
Note 3: After assembling, turn the scanner ON and confirm that the lamp lights.

In case of the following type of the scanner, go to Note 4.  
- The lamp cable and the Inverter cable are secured with a banding band.

Note 4: Paste the clamp attached to the maintenance part on the CCD unit frame (dotted square in the photo below) and secure the Inverter cable (red / green) with the clamp.

\* Clean the place where the two-sided tape is to be pasted with alcohol.

\* Cross the Lamp cable (white / pink) and the Inverter cable as shown in the photo below (solid square in the photo below).



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5.6.16 Replacing the Carrier Cable

**NOTICE**

- Refer to Section 6.2.19 for the part number of the Carrier Cable.

<Removal>

1. Referring to steps 1~4 of Section 5.6.7, remove the Carrier cable from the Main board.

For the scanners on which the maintainability has been improved, go to step 2.

<How to distinguish>

- The Carrier cable is pressed with the Mylar sheet (transparent plastic plate).
- The UI cable core is fastened with a clamp.

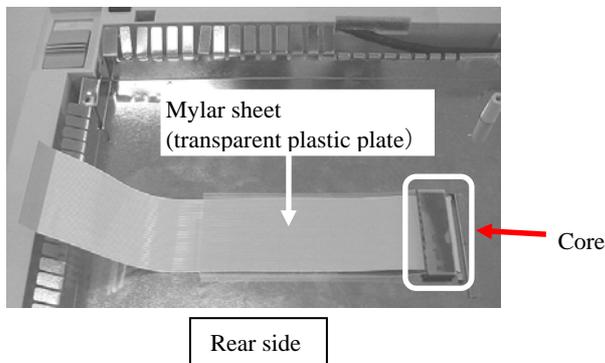
For the scanners on which the maintainability has NOT been improved, go to step 3.

<How to distinguish>

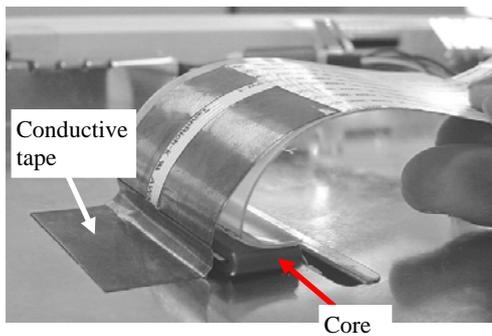
- The carrier cable is pasted with a two-sided tape.
- The UI cable core is fastened with a banding band.

2. Peel off the Mylar sheet (transparent plastic plate) which is to hold down the Carrier cable from the core (square in the photo below).

Note: Be sure that the core (square in the photo below) pasted on the metal plate of the Bottom ASY is not peeled off.

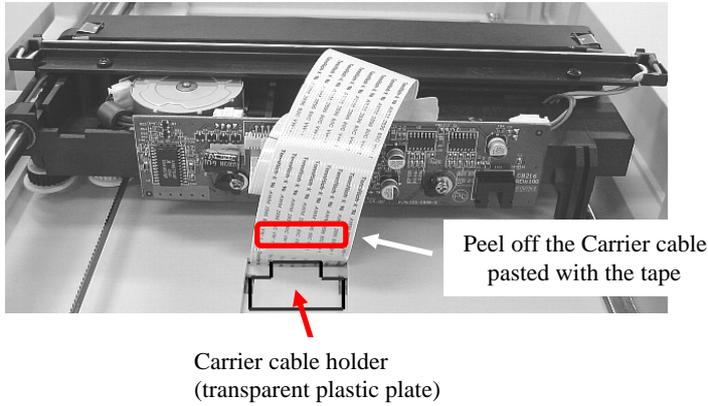


Peel off the conductive tape from the Bottom ASY and the Carrier cable.

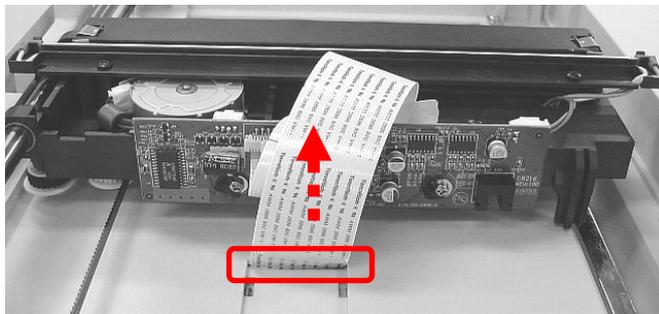


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3. Referring to steps 1 ~ 4 of Section 5.6.10, pull the Carrier cable out of the CCD board on the CCD unit.
4. Remove the Carrier cable holder (transparent plastic plate) at the center of the Bottom ASY, and gently peel off the Carrier cable pasted with the tape (square in the photo below).



5. Pull the Carrier cable out of the Bottom ASY hole (square in the photo below) upwards.



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<Installation>

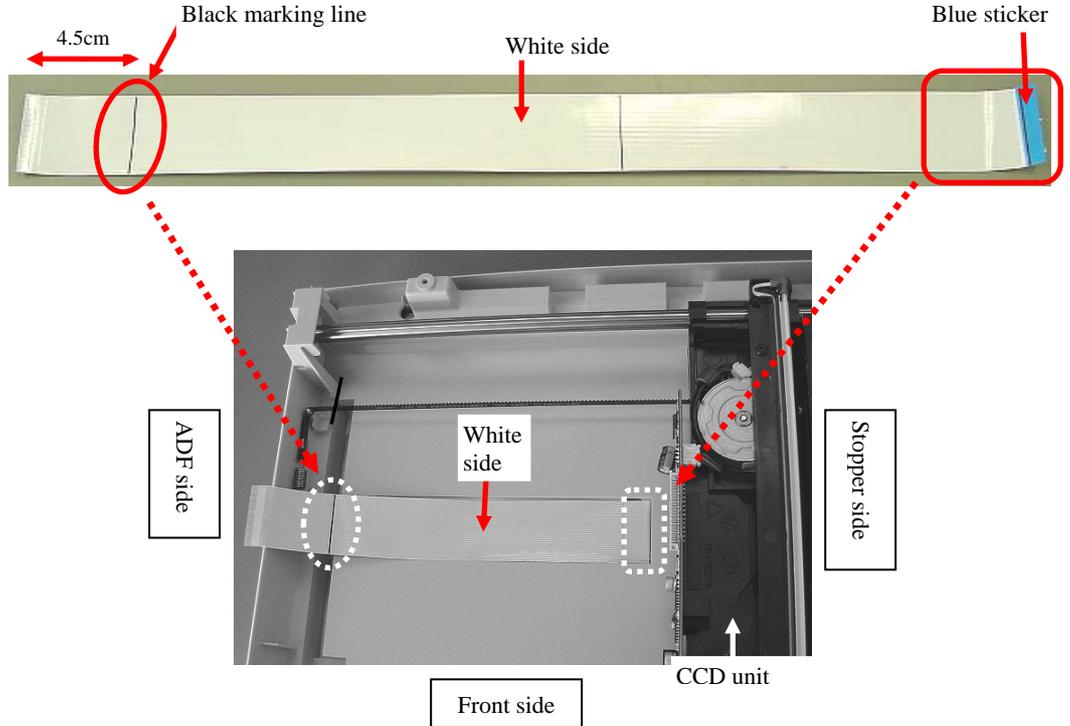
Follow the procedure below.

1. Install the Carrier cable above the Bottom ASY.

Facing the white side of the Carrier cable up, place its side with a black marking line at 4.5cm from the edge (circle in the photo below) to the ADF side. Let the white side with a blue sticker (solid square in the photo below) into the Bottom ASY hole (dotted square in the photo below) and take it out of the bottom of the Bottom ASY.

Note 1: Let the Carrier cable into the hole slowly to avoid damage.

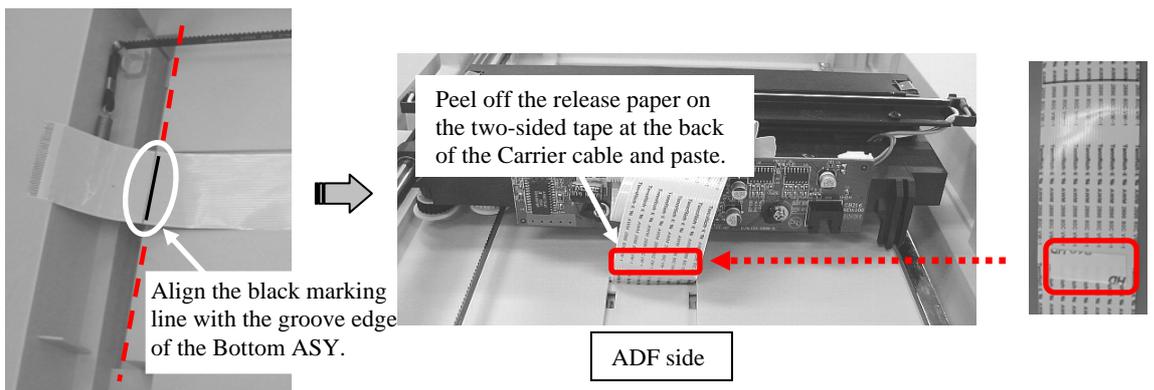
Note 2: Confirm that the Carrier cable comes out of the bottom of the Bottom ASY.



2. Align the black marking line (circle in the photo on the lower left) on the Carrier cable with the groove edge (dotted line in the photo on the lower left) of the Bottom ASY. Peel off the release paper on the two-sided tape at the back of the Carrier cable and paste the Carrier cable to the Bottom ASY.

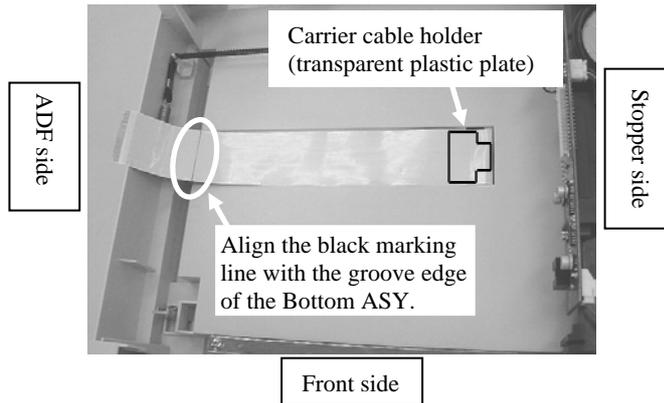
Note 1: Remove the residual sticker of the two-sided tape on the Bottom ASY.

Note 2: Clean the place where the two-sided tape is to be pasted with alcohol.



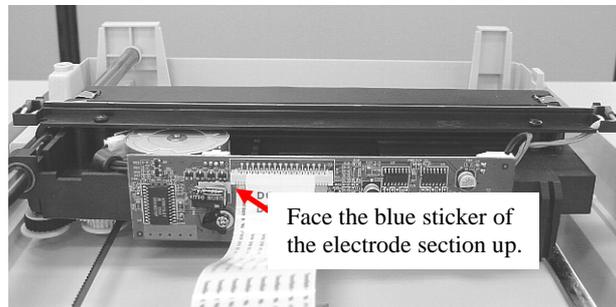
						TITLE	fi-5015C IMAGE SCANNER MAINTENANCE MANUAL		
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3. Install the Carrier cable holder (transparent plastic plate) on the Carrier cable pasted with the two-sided tape.



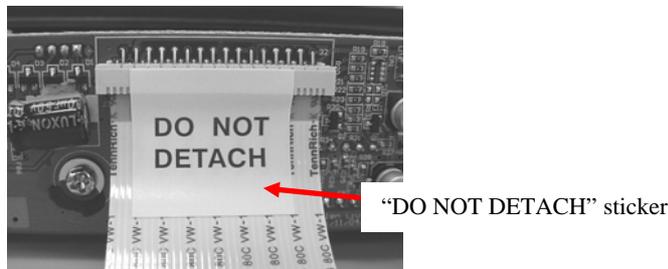
4. Insert the electrode section of the Carrier cable into the CCD board of the CCD unit.

Note: Facing the blue sticker of the electrode section up, insert the electrode section horizontally all the way to the back.



5. Paste the "DO NOT DETACH" sticker attached to the Maintenance part on the connector of the CCD board and the Carrier cable.

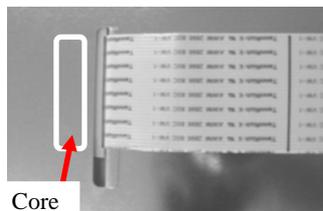
Note: Clean the place where the "DO NOT DETACH" sticker is to be pasted with alcohol.



6. Install the Upper cover ASY.

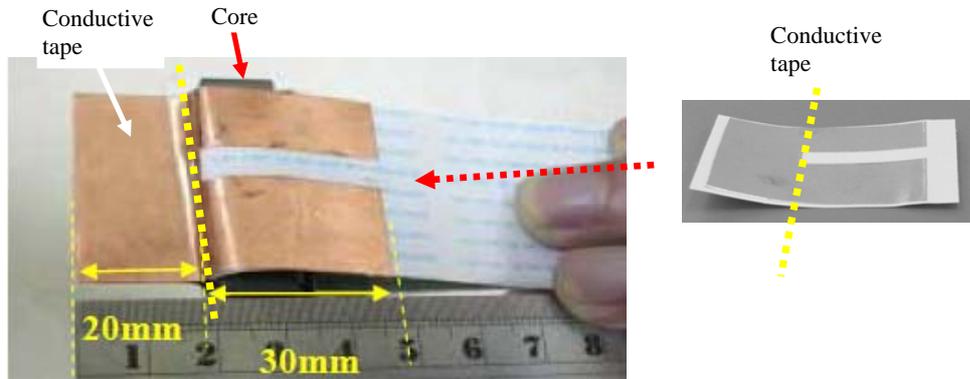
7. Turn the scanner over and install the Carrier cable to the bottom of the Bottom ASY.

Let the Carrier cable into the hole of the core at the bottom of the Bottom ASY at first.

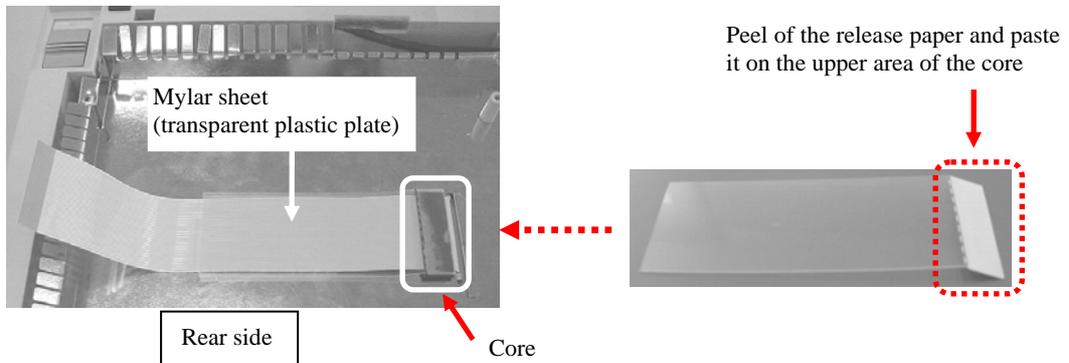


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8. Paste the conductive tape attached to the Maintenance part on the Bottom ASY and the back of the Carrier cable.  
Align the dotted line shown in the photo below when pasting the conductive tape.  
Note: Clean the place where the conductive tape is to be pasted with alcohol.



9. Peel off the release paper (dotted square in the photo on the lower right) of the Mylar sheet (transparent plastic plate) attached to the Maintenance part and paste it to the upper area of the core (solid square in the photo on the lower left).  
Note: Clean the place where the Mylar sheet is to be pasted with alcohol.



Note: Do not bow the Mylar sheet as shown in the photo below. Doing so may not be capable of holding down the Carrier cable.



10. Referring to Note 3 of <Installation> in Section 5.6.7, install the Main board cover.

**NOTICE**

After replacing the Carrier Cable, perform Offset adjustment (Section 5.8.1).

Note 1: Assemble and disassemble in a dust-free environment.

Note 2: After assembling, run Test mode to confirm how the CCD unit works. (Refer to Section 7.2.)

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## 5.6.17 Replacing the Bottom ASY

 **NOTICE**

- Refer to Section 6.2.20 for the part number of the Bottom ASY.

1. Referring to steps 1 ~ 4 of Section 5.6.7, remove the Main board cover.
2. Referring to steps 1 ~ 4 of Section 5.6.8, remove the Front Cover ASY.
3. Referring to steps 2 ~ 4 of Section 5.6.9, remove the Upper Cover ASY.
4. Referring to Section 5.6.10, remove the Carrier shaft and CCD Unit. The remaining unit is the Bottom ASY to be replaced.

Note: The maintenance part includes the Carrier cable and the Belt ASY.

 **NOTICE**

After replacing the Bottom ASY, perform Offset adjustment (Section 5.8.1).

Note 1: When assembling, follow the procedure above in reverse.

Note 2: Referring to Note 3 of <Installation> in Section 5.6.7, insert the Carrier cable into the Main board and install the Main board cover.

Note 3: Assemble and disassemble in a dust-free environment.

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## 5.7 Checking the voltage

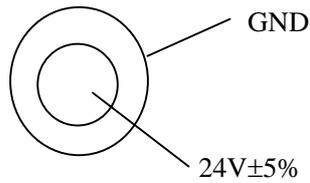
This section describes how to check the voltage.

### 5.7.1 Power supply (AC adapter output)

Prepare a digital voltmeter.

Plug the AC adapter into power outlet to check the output voltage of the adapter.

Periphery: GND  
Center: 24V±5%



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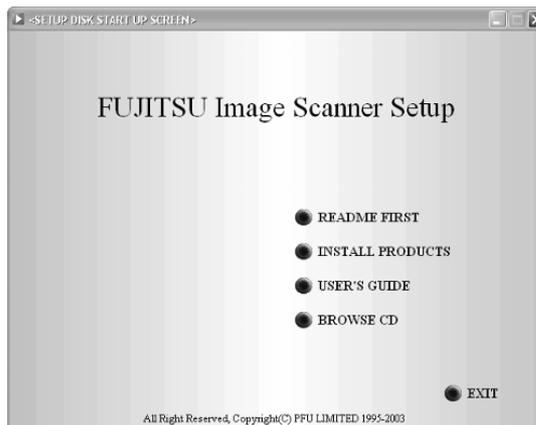
## 5.8 Adjustment/Setting

### 5.8.1 Offset Adjustment

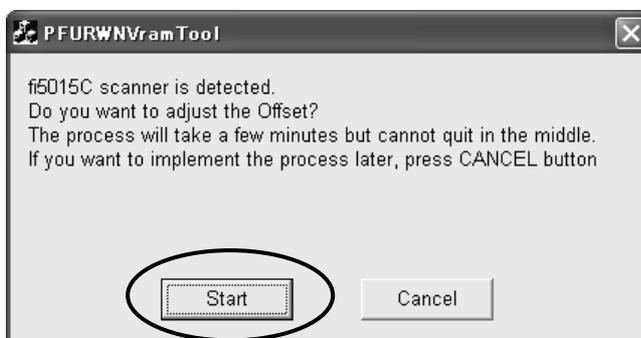
Using the Diagnostic Tool stored in the Setup CD-ROM enclosed with the scanner, the offset value can be adjusted automatically.

This section describes how to operate the Diagnostic Tool.

1. Turn the scanner ON and confirm that the fi-5015C and PC are connected.
2. Insert the Setup CD-ROM attached to the scanner. Click [EXIT] on the “FUJITSU Image Scanner Setup” screen.



3. Referring to the contents in the Setup CD-ROM on the Explorer, run “FI5015C\_ClearNVramTool.exe” file in “D:/TWAIN/Tools/Maintenance” folder.
4. The confirmation to clear the offset value appears. Click the [Start] button.



5. When the offset value is cleared, the following message window to confirm restart the scanner opens. Click the [OK] button.



6. Turn the scanner power OFF then ON.
  - ➔ The scanner writes the offset adjustment value into the EEPROM in the scanner automatically.

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## Chapter 6 Maintenance Parts

6.1 Maintenance Parts List
6.2 Appearance of the Maintenance Parts

## 6.1 Maintenance Parts Lists

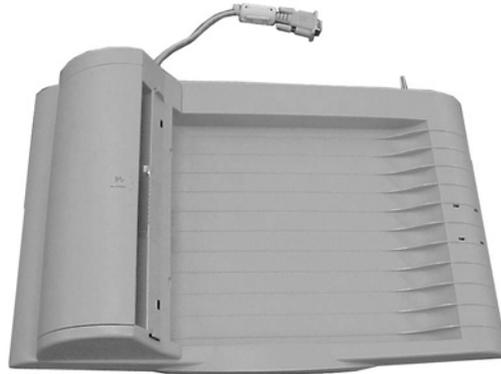
Index No.	Description	Specification	Composition & Quantity			Reference for appearance	Reference for replacement	Remarks
1	ADF Unit	PA03209-D900	1			6.2.1	5.6.1	
2	ADF Upper Cover	PA03209-K901		1		6.2.2	5.6.2	
3	Pick Cover	PA03209-K902		1		6.2.3	5.6.4	
4	Pick Stopper	PA03209-K948			1	6.2.4	5.6.5	
5	Feed roller ASY	PA03209-K903		1		6.2.5	5.6.4	
6	ADF motor	PA03209-K905			1	6.2.6	5.6.6	
7	Document Cover	PA03209-K907		1		6.2.7	5.6.4	
8	Stopper	PA03209-K913	1			6.2.8	5.6.1	
9	Chute B	PA03209-K914	1			6.2.9	5.6.1	
10	Chute A	PA03209-K915	1			6.2.10	5.6.1	
11	Upper Cover ASY	PA03209-K916	1			6.2.11	5.6.9	
12	Front Cover	PA03209-K917	1			6.2.12	5.6.8	
13	OP Cover E	PA03209-K944	1			6.2.13	5.6.8	For Europe and North America
14	OP Cover C	PA03209-K945						For China
15	CCD Unit	PA03209-K918	1			6.2.15	5.6.10	
16	Lamp ASY	PA03209-K919		1		6.2.16	5.6.11	
17	Inverter	PA03209-K920		1		6.2.17	5.6.15	
18	FB Motor ASY	PA03209-K921		1		6.2.18	5.6.12	
19	Carrier Cable	PA03209-K922		1		6.2.19	5.6.16	
20	Bottom ASY	PA03209-K923	1			6.2.20	5.6.17	
21	Lock	PA03209-K924		1		6.2.21	5.6.14	
22	Belt ASY	PA03209-K925		1		6.2.22	5.6.10	
23	Main Board	PA03209-K927	1			6.2.23	5.6.7	
24	Switch	PA03209-K928	1			6.2.24	5.6.7	
25	Main Board Cover	PA03209-K929	1			6.2.25	5.6.7	
26	OP-PCA	PA03209-K946	1			6.2.26	5.6.8	
27	UI-Cable	PA03209-K947	1			6.2.27	5.6.13	
28	AC Adapter	PA03209-K930	1					
29	AC Cable EU	PA03209-K931	1					For Europe
	AC Cable US	PA03209-K932						For North America
	AC Cable FHK	PA03209-K935						For China
30	USB Cable	PA03209-K936	1					

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## 6.2 Appearance of the Maintenance Parts

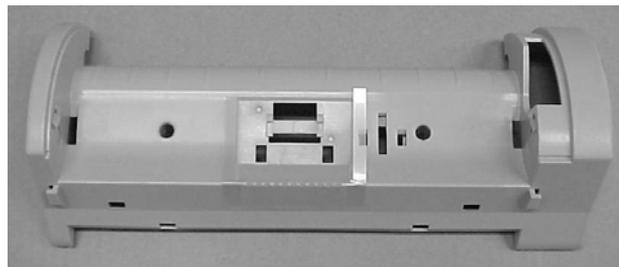
### 6.2.1 ADF Unit

Description	Part number	Remarks
ADF Unit	PA03209-D900	Includes ADF Cover, Pick Cover, Feed Roller ASY and Document Cover. Consumables (Pad ASY and Pick roller unit) are not included.



### 6.2.2 ADF Upper Cover

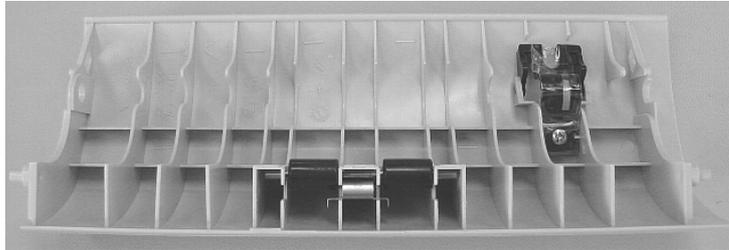
Description	Part number	Remarks
ADF Upper Cover	PA03209-K901	Pad ASY is not included.



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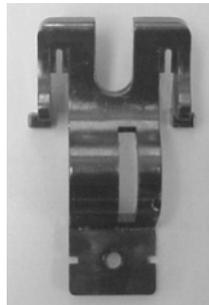
## 6.2.3 Pick Cover

Description	Part number	Remarks
Pick Cover	PA03209-K902	Pick roller unit is not included.



## 6.2.4 Pick Stopper

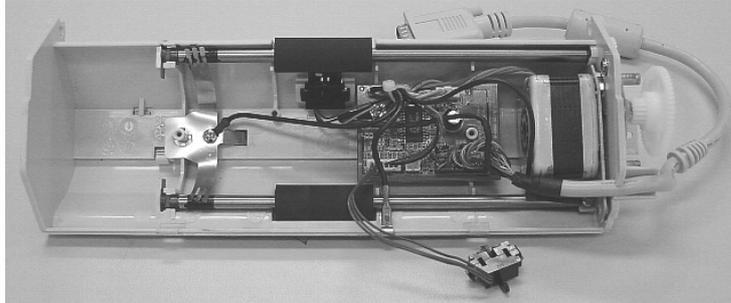
Description	Part number	Remarks
Pick Stopper	PA03209-K948	



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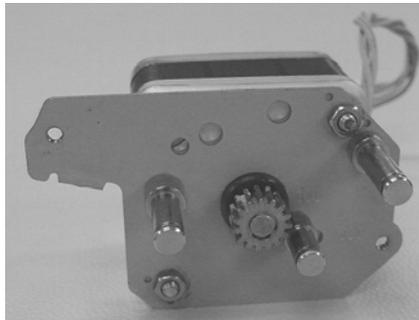
6.2.5 Feed Roller ASY

Description	Part number	Remarks
Feed Roller ASY	PA03209-K903	



6.2.6 ADF Motor

Description	Part number	Remarks
ADF Motor	PA03209-K905	



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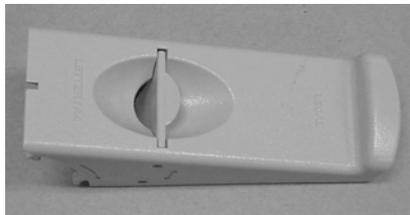
## 6.2.7 Document Cover

Description	Part number	Remarks
Document Cover	PA03209-K907	



## 6.2.8 Stopper

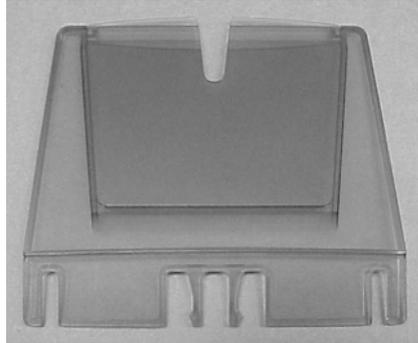
Description	Part number	Remarks
Stopper	PA03209-K913	



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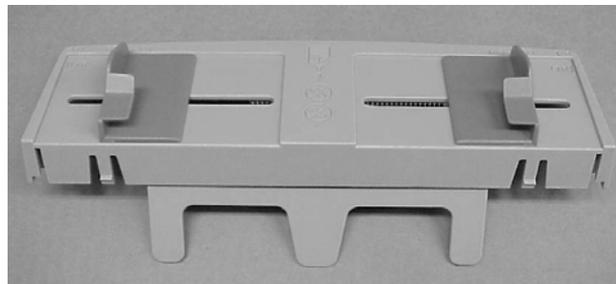
## 6.2.9 Chute B

Description	Part number	Remarks
Chute B	PA03209-K914	



## 6.2.10 Chute A

Description	Part number	Remarks
Chute A	PA03209-K915	



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## 6.2.11 Upper Cover ASY

Description	Part number	Remarks
Upper Cover ASY	PA03209-K916	



## 6.2.12 Front Cover

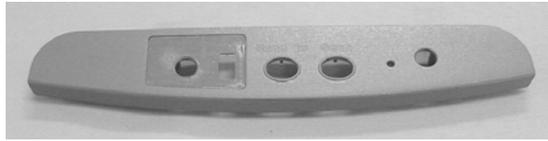
Description	Part number	Remarks
Front Cover	PA03209-K917	



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## 6.2.13 OP Cover E / OP Cover C

Description	Part number	Remarks
OP Cover E	PA03209-K944	For Europe and North America
OP Cover C	PA03209-K945	For China

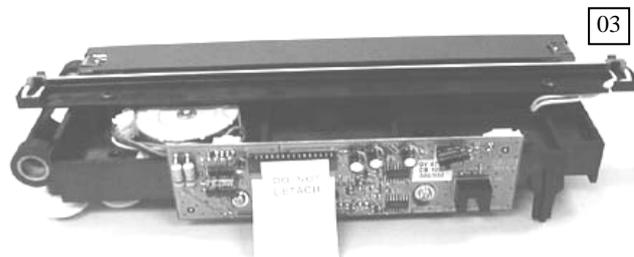


## 6.2.14 (Reserved)

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## 6.2.15 CCD Unit

Description	Part number	Remarks
CCD Unit	PA03209-K918	The Carrier cable is not included. 03



Note: This unit includes the Lamp that contains mercury.  
Disposal of this part should be conducted as required by local ordinances or regulations.

## 6.2.16 Lamp ASY

Description	Part number	Remarks
Lamp ASY	PA03209-K919	The Lamp folder is included. A clamp will be attached. 03

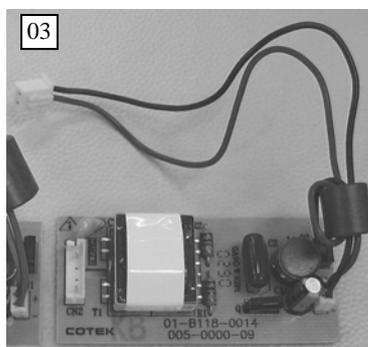


Note: This unit contains mercury.  
Disposal of this part should be conducted as required by local ordinances or regulations.

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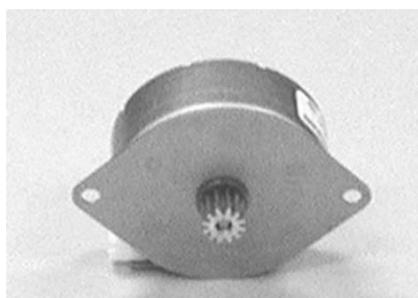
## 6.2.17 Inverter

Description	Part number	Remarks
Inverter	PA03209-K920	A clamp will be attached. <span style="border: 1px solid black; padding: 0 2px;">03</span>



## 6.2.18 FB Motor ASY

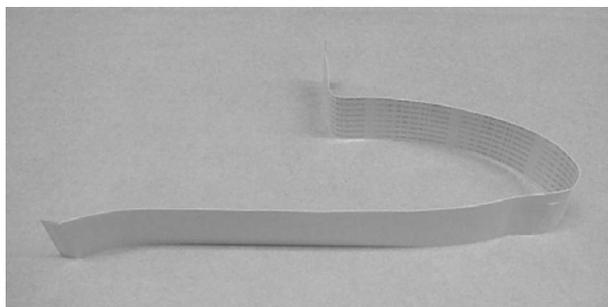
Description	Part number	Remarks
FB Motor ASY	PA03209-K921	



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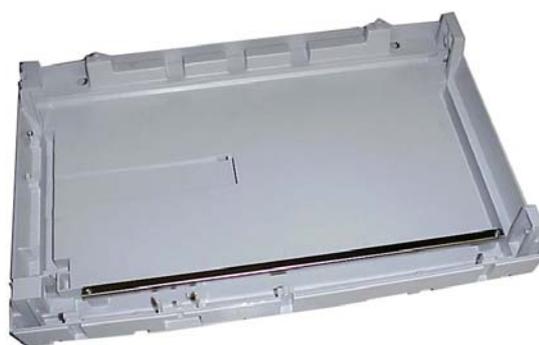
## 6.2.19 Carrier Cable

Description	Part number	Remarks
Carrier Cable	PA03209-K922	The maintainability improving component will be attached. 03



## 6.2.20 Bottom ASY

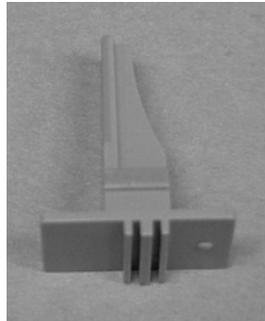
Description	Part number	Remarks
Bottom ASY	PA03209-K923	The Lock and Belt ASY are included. The maintainability improving component will be attached. 03



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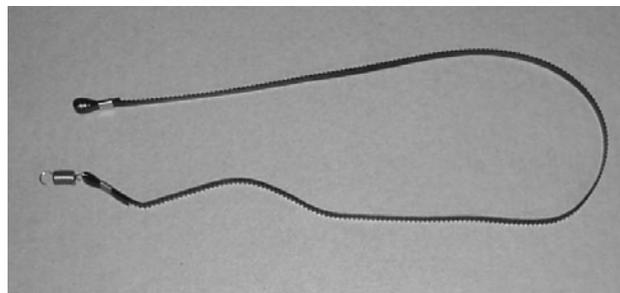
6.2.21 Lock

Description	Part number	Remarks
Lock	PA03209-K924	



6.2.22 Belt ASY

Description	Part number	Remarks
Belt ASY	PA03209-K925	There is a spring at one side. <span style="border: 1px solid black; padding: 0 2px;">03</span>



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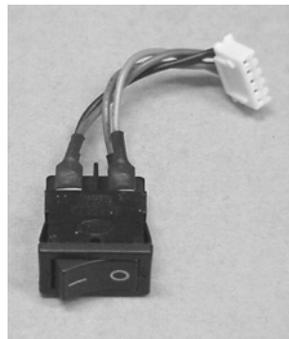
## 6.2.23 Belt ASY

Description	Part number	Remarks
Main Board	PA03209-K927	The maintainability improving component will be attached. 03



## 6.2.24 Switch

Description	Part number	Remarks
Switch	PA03209-K928	The maintainability improving component will be attached. 03



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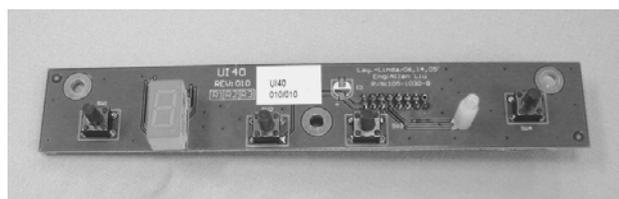
## 6.2.25 Main Board Cover

Description	Part number	Remarks
Main Board Cover	PA03209-K929	The maintainability improving component will be attached. The identification plate is not included. 03



## 6.2.26 OP-PCA

Description	Part number	Remarks
OP-PCA	PA03209-K946	



## 6.2.27 UI-Cable

Description	Part number	Remarks
UI-Cable	PA03209-K947	The maintainability improving component will be attached. 03



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## 6.2.28 AC Adapter

Description	Part number	Remarks
AC Adapter	PA03209-K930	

## 6.2.29 AC Cable

Description	Part number	Remarks
AC Cable EU	PA03209-K931	For Europe
AC Cable US	PA03209-K932	For North America
AC Cable FHK	PA03209-K935	For China

## 6.2.30 USB Cable

Description	Part number	Remarks
USB Cable	PA03209-K936	

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## Chapter 7 Maintenance Mode (Offline test)

- |  |
|--|
| 7.1 Activating Maintenance Mode and Mode Types |
| 7.2 Maintenance Mode #1: Paper feeding test    |

The scanner supports a built-in Maintenance mode that allows service providers to check the scanner performance and settings without connecting your PC. This section gives the description of Maintenance mode.

### 7.1 Activating Maintenance Mode and Mode Types

#### (1) How to activate Maintenance mode

Press the **Power** button while holding down the **Scan** button on the Operator Panel. Keep holding the **Scan** button down until Screen T04 is displayed. This will put the scanner into Maintenance mode. While in Maintenance mode, the scanner interface is off-line.

Screen T01 appears during activation of Maintenance mode.

Screen T01

Function No. Display	Power LED	Scanner status
	ON	Initial processing in Maintenance mode

When the Maintenance mode is activated normally after the initial processing, the following display appears.

Screen T04

Function No. Display	Power LED	Scanner status
	ON	Maintenance mode #1 selected

#### (2) Test/adjustment items of the Maintenance mode

The following lists test/adjustment items #1 ~ #8 that are supported by the scanner.

- Mode #1: Paper feeding test
- Mode #2: Reserved
- Mode #3: Reserved
- Mode #4: Reserved
- Mode #5: Reserved
- Mode #6: Reserved
- Mode #7: Reserved
- Mode #8: Reserved

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**(3) How to change the Maintenance mode**

To change between Maintenance modes (#1 ~ #8), press the **Function** button on the operator panel. The display changes as follows. Mode #1 is the default.

Maintenance mode No.	Display			Maintenance mode	Related section
	Function No. Display	Power LED	Status transition		
#1		ON		Paper feeding test	7.2
#2		ON		Reserved	
#3		ON		Reserved	
#4		ON		Reserved	
#5		ON		Reserved	
#6		ON		Reserved	
#7		ON		Reserved	
#8		ON		Reserved	

**(4) How to initiate the desired Maintenance mode**

Select a Maintenance mode and press the **Scan** button. The scanner activates the selected Maintenance mode.

**(5) How to end the Maintenance mode**

Turn OFF the scanner for more than 2 seconds to end Maintenance mode.

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## 7.2 Maintenance Mode #1: Paper feeding test

This mode tests the ADF continuous scanning operation at the specified speed.

[Starting Test]

- (1) Maintenance mode #1 is ready to be selected when screen T04  is displayed. Press the **Scan** button. The selection screen for scanning speed appears. The number can be changed to adjust the scanning resolution of the feed test as follows:

Function No. Display	Scanning speed/test mode	Remarks
0	150 dpi	Default
1	300 dpi	
2	600 dpi	
3	(Reserved)	
4	(Reserved)	
5	(Reserved)	
6	(Reserved)	

- (2) The scanning speed/test mode is changed by pressing the **Function** button. To test the continuous feeding operation, select the desired scanning speed (this varies depending on the scanning resolution) from 0 ~ 2. The lower the resolution, the faster the scanning speed.
- If the **Scan** button is pressed while the paper is set on the ADF paper chute (Empty sensor: ON), scanning by ADF begins.
    - 03** Note: If the last page is stacked in the exit area, pull it out manually.
  - If no paper is set on the ADF paper chute, scanning by Flatbed begins. The Carrier moves until the test is completed. (Refer to [Exit Test] below.)

[Exit Test]

Press the **Send to** button to exit the Test. Screen T04 is displayed on the Function No. Display.

During ADF continuous scanning (Paper feeding test), the test also terminates when no paper remains on the ADF paper chute.

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