

'Click' to download complete Manual



Service Manual

iR4570/3570, 2870/2270 Series

service-repairmanual.com

Canon

Oct 8 2004

Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

Corrections

This manual may contain technical inaccuracies or typographical errors due to improvements or changes in products. When changes occur in applicable products or in the contents of this manual, Canon will release technical information as the need arises. In the event of major changes in the contents of this manual over a long or short period, Canon will issue a new edition of this manual.

The following paragraph does not apply to any countries where such provisions are inconsistent with local law.

Trademarks

The product names and company names used in this manual are the registered trademarks of the individual companies.

Copyright

This manual is copyrighted with all rights reserved. Under the copyright laws, this manual may not be copied, reproduced or translated into another language, in whole or in part, without the written consent of Canon Inc.

COPYRIGHT © 2001 CANON INC.










Printed in Japan

Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.



Symbols Used

This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
 Memo	Indicates an item intended to provide notes assisting the understanding of the topic in question.
 REF.	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

In the diagrams,  represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow  indicates the direction of the electric signal.

The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."

Contents

Chapter 1 Introduction

1.1 System Construction.....	1- 1
1.1.1 Overview of the System with a Delivery Accessory.....	1- 1
1.1.2 Delivery Accessory System Configuration 1	1- 1
1.1.3 Delivery Accessory System Configuration 2	1- 3
1.1.4 Delivery Accessory System Configuration 3	1- 5
1.1.5 Pickup/Original Handling Accessories System Configuration	1- 6
1.1.6 Reader Heater System Configuration.....	1- 8
1.1.7 Cassette Heater System Configuration 1	1- 9
1.1.8 Cassette Heater System Configuration 2.....	1- 10
1.1.9 Side Deck Heater System Configuration.....	1- 11
1.1.10 Printing/Transmitting Accessories System Configuration	1- 12
1.1.11 List of Print Transmission Optional Functions	1- 13
1.2 Product Specifications	1- 15
1.2.1 Names of Parts	1- 15
1.2.1.1 Names of Parts.....	1- 15
1.2.1.2 Cross Section	1- 16
1.2.2 Using the Machine	1- 19
1.2.2.1 Turning On the Power Switch	1- 19
1.2.2.2 When Turning Off the Main Power Switch	1- 20
1.2.2.3 Control Panel.....	1- 22
1.2.3 User Mode Items	1- 23
1.2.3.1 Common Settings	1- 23
1.2.3.2 Setting the Time	1- 28
1.2.3.3 Adjustments and Cleaning.....	1- 28
1.2.3.4 Report Output	1- 28
1.2.3.5 System Control Settings	1- 29
1.2.3.6 Copy Settings	1- 32
1.2.3.7 Transmission/Reception Settings	1- 32
1.2.3.8 Box Settings.....	1- 35
1.2.3.9 Printer Settings	1- 35
1.2.3.10 Address Book Settings	1- 37
1.2.4 Maintenance by the User.....	1- 39
1.2.4.1 Cleaning.....	1- 39
1.2.4.2 Inspection	1- 40
1.2.5 Safety	1- 42
1.2.5.1 Safety of the Laser Light	1- 42
1.2.5.2 CDRH Regulations.....	1- 42
1.2.5.3 Handling the Laser Unit	1- 43
1.2.5.4 Safety of Toner.....	1- 43
1.2.6 Product Specifications	1- 44
1.2.6.1 Product Specifications	1- 44
1.2.7 Function List	1- 46

1.2.7.1 Printing Speed.....	1- 46
1.2.7.2 Printing Speed.....	1- 48
1.2.7.3 Types of Paper	1- 49

Chapter 2 Installation

2.1 Making Pre-Checks	2- 1
2.1.1 Selecting the Site of Installation	2- 1
2.1.2 Before Starting the Work (230V)	2- 3
2.2 Unpacking and Installation	2- 8
2.2.1 Unpacking and Removing the Packaging Materials.....	2- 8
2.2.2 Installing the Toner Bottle	2- 9
2.2.3 Installing the Drum Unit	2- 10
2.2.4 Securing the Copier Main Unit.....	2- 14
2.2.5 Connecting the Cable.....	2- 15
2.2.6 Stirring Toner.....	2- 15
2.2.7 Setting the Cassettes	2- 15
2.2.8 APVC Correction of the Drum	2- 16
2.2.9 Adjusting the Image Position.....	2- 17
2.2.10 Attaching Other Parts	2- 20
2.2.11 If Not Connected to a Network.....	2- 21
2.3 Checking the Connection to the Network.....	2- 23
2.3.1 Overview.....	2- 23
2.3.2 Using the PING Function	2- 23
2.3.3 Making a Check Using a Remote Host Address	2- 23
2.4 Troubleshooting the Network	2- 25
2.4.1 Overview.....	2- 25
2.4.2 Making a Check Using a Loopback Address	2- 25
2.4.3 Making a Check Using a Local Host Address.....	2- 25
2.5 Checking the Images/Operations	2- 26
2.5.1 Checking the Image Quality and Operation	2- 26
2.6 Installing the Card Reader	2- 27
2.6.1 Points to Note	2- 27
2.6.2 Checking the Contents.....	2- 27
2.6.3 Installation Procedure	2- 28
2.6.4 Installation in a NetSpot Accountant (NSA) Environment	2- 32
2.7 Installing the NE Controller.....	2- 33
2.7.1 Installing the NE Controller-A1	2- 33

Chapter 3 Basic Operation

3.1 Construction.....	3- 1
3.1.1 Functional Construction.....	3- 1
3.1.2 Major PCB Wiring diagram.....	3- 2
3.2 Basic Sequence	3- 5
3.2.1 Basic Sequence of Operation at Power-On	3- 5

Chapter 4 Main Controller

4.1 Construction	4- 1
4.1.1 Construction and Mechanisms	4- 1
4.2 Construction of the Electrical Circuitry	4- 3
4.2.1 Main Controller PCB	4- 3
4.2.2 HDD	4- 4
4.3 Start-Up Sequence	4- 7
4.3.1 Overview	4- 7
4.3.2 Start-Up Sequence	4- 7
4.4 Shut-Down Sequence	4- 10
4.4.1 Overview	4- 10
4.4.2 Flow of Operation	4- 10
4.5 Image Processing	4- 11
4.5.1 Overview of the Image Flow	4- 11
4.5.2 Construction of the Image Processing Module	4- 11
4.5.3 Reader Unit Input Image Processing	4- 12
4.5.4 Compression/ Extension/ Editing Block	4- 13
4.5.5 Printer unit Output Image Processing	4- 14
4.6 Flow of Image Data	4- 15
4.6.1 Flow of Image Data According to Copy Functions	4- 15
4.6.2 Flow of Image Data for the Box Function	4- 15
4.6.3 Flow of Image Data for the SEND Function	4- 16
4.6.4 Flow of Image Data for the Fax Transmission	4- 17
4.6.5 Flow of Image Data for the Fax Reception Function	4- 17
4.6.6 Flow of Image Data for the PDL Function	4- 18
4.7 Parts Replacement Procedure	4- 20
4.7.1 Main Controller PCB	4- 20
4.7.1.1 Removing the Rear Cover	4- 20
4.7.1.2 Removing the Main Controller PCB	4- 20
4.7.2 SDRAM	4- 21
4.7.2.1 Removing the Face Cover	4- 21
4.7.2.2 Removing the SDRAM	4- 21
4.7.3 Boot ROM	4- 22
4.7.3.1 Removing the Face Cover	4- 22
4.7.3.2 Removing the Boot ROM	4- 22
4.7.4 HDD	4- 22
4.7.4.1 Removing the Face Cover	4- 22
4.7.4.2 Removing the Counter PCB	4- 23
4.7.4.3 Removing the HDD	4- 23

Chapter 5 Original Exposure System

5.1 Construction	5- 1
5.1.1 Specifications, Control Mechanisms, and Functions	5- 1
5.1.2 Major Components	5- 2
5.1.3 Construction of the Control System	5- 4
5.1.4 Reader Controller PCB	5- 5
5.2 Basic Sequence	5- 7
5.2.1 Basic Sequence of Operation at Power-On	5- 7
5.2.2 Basic Sequence of Operation in Response to a Press on the Start Key (book mode; 1 original)	5- 7

5.2.3 Basic Sequence of Operation in Response to a Press on the Start Key (ADF mode; 1 original)	5- 8
5.3 Various Control	5- 10
5.3.1 Controlling the Scanner Drive System	5- 10
5.3.1.1 Outline	5- 10
5.3.1.2 Controlling the Reader Motor	5- 10
5.3.2 Contact Image Sensor (CIS)	5- 12
5.3.2.1 Outline	5- 12
5.3.2.2 Analog Control Inside the Contact Image Sensor	5- 13
5.3.3 Enlargement/Reduction	5- 14
5.3.3.1 Changing the Magnification in Main Scanning Direction	5- 14
5.3.3.2 Varying the Magnification in Sub Scanning Direction	5- 14
5.3.4 Detecting the Size of Originals	5- 16
5.3.4.1 Outline	5- 16
5.3.4.2 Outline of Size Identification	5- 17
5.3.5 Dirt Sensor Control	5- 19
5.3.5.1 Outline	5- 19
5.3.6 Image Processing	5- 22
5.3.6.1 Outline	5- 22
5.3.6.2 CCD Drive	5- 23
5.3.6.3 Gain Correction and Offset Correction of the CCD Output	5- 23
5.3.6.4 A/D Conversion of the CCD Output	5- 24
5.3.6.5 Shading Correction (outline)	5- 24
5.3.6.6 Shading Adjustment	5- 24
5.3.6.7 Shading Correction	5- 24
5.4 Parts Replacement Procedure	5- 26
5.4.1 Copyboard glass	5- 26
5.4.1.1 Removing the Copyboard Glass	5- 26
5.4.1.2 Removing the ADF Reading Glass	5- 26
5.4.2 Reader Controller PCB	5- 27
5.4.2.1 Before Replacing the Reader Controller PCB	5- 27
5.4.2.2 Removing the Reader Rear Cover	5- 27
5.4.2.3 Removing the rear cover of the machine	5- 27
5.4.2.4 Removing the flexible cable cover	5- 28
5.4.2.5 Removing the Copyboard Glass	5- 28
5.4.2.6 Removing the Reader Controller PCB	5- 29
5.4.2.7 After Replacing the Reader Controller PCB or After Initializing the RAM	5- 31
5.4.3 Scanner Motor	5- 32
5.4.3.1 Removing the Reader Rear Cover	5- 32
5.4.3.2 Removing the Scanner Motor	5- 32
5.4.4 Contact sensor	5- 33
5.4.4.1 Removing the Reader Front Cover	5- 33
5.4.4.2 Removing the Reader Rear Cover	5- 33
5.4.4.3 Removing the Copyboard Glass	5- 34
5.4.4.4 Removing the Contact Image Sensor (CIS)	5- 35
5.4.4.5 After Replacement of the CIS	5- 36
5.4.5 Copyboard Cover Open/Close Sensor	5- 36
5.4.5.1 Removing the Reader Rear Cover	5- 36
5.4.5.2 Removing the Copyboard Cover Open/Closed Sensor (front/rear)	5- 37
5.4.6 Contact Sensor HP Sensor	5- 37

5.4.6.1 Removing the Copyboard Glass	5- 37
5.4.6.2 Removing the ADF Reading Glass	5- 38
5.4.6.3 Removing the Contract Sensor Home Position Sensor	5- 39
5.4.7 Original Size Sensor	5- 39
5.4.7.1 Removing the Reader Rear Cover	5- 39
5.4.7.2 Removing the Copyboard Glass	5- 40
5.4.7.3 Removing the Original Size Sensor	5- 41
5.4.8 Reader Heater (option).....	5- 42
5.4.8.1 Removing the Copyboard Glass	5- 42
5.4.8.2 Removing the Reader Heater (right)	5- 43
5.4.8.3 Removing the ADF Reading Glass	5- 43
5.4.8.4 Removing the Reader Heater (left).....	5- 44

Chapter 6 Laser Exposure

6.1 Construction	6- 1
6.1.1 Specifications, Control Mechanism, and Functions	6- 1
6.1.2 Major Components	6- 2
6.1.3 Construction of the Control System	6- 2
6.2 Basic Sequence.....	6- 6
6.2.1 Basic Sequence	6- 6
6.3 Various Controls.....	6- 7
6.3.1 Controlling the Laser Activation Timing.....	6- 7
6.3.1.1 Turning On and off the Laser Light	6- 7
6.3.1.2 Main Scanning Synchronous Control.....	6- 8
6.3.2 Controlling the Intensity of Laser Light	6- 9
6.3.2.1 APC Control	6- 9
6.3.3 Controlling the Laser Scanner Motor ..	6- 10
6.3.3.1 Controlling the Laser Scanner Motor	6- 10
6.3.4 Controlling the Laser Shutter.....	6- 10
6.3.4.1 Controlling the Laser Shutter	6- 10
6.4 Parts Replacement Procedure ..	6- 12
6.4.1 Laser Scanner Unit.....	6- 12
6.4.1.1 Removing the Front Cover Unit	6- 12
6.4.1.2 Removing the Left Cover	6- 12
6.4.1.3 Removing the Laser Unit.....	6- 12

Chapter 7 Image Formation

7.1 Construction	7- 1
7.1.1 Specifications of the Image Formation System.....	7- 1
7.1.2 Major Components of the Image Formation System	7- 2
7.2 Image Formation Process	7- 4
7.2.1 Image Formation Process (outline)	7- 4
7.2.2 Image Formation Process (image formation).....	7- 5
7.3 Basic Sequence.....	7- 6
7.3.1 Sequence of Operation (initial rotation).....	7- 6
7.3.2 Sequence of Operation (initial rotation).....	7- 6
7.3.3 Sequence of Operation (copying).....	7- 7

7.3.4	Sequence of Operation (copying)	7- 8
7.3.5	Sequence of Operation (last rotation)	7- 8
7.3.6	Sequence of Operation (last rotation)	7- 9
7.4	Image Stabilization Control	7- 10
7.4.1	Overview	7- 10
7.4.2	APVC Control	7- 10
7.4.3	ATVC Control	7- 11
7.5	Drum Unit	7- 12
7.5.1	Charging Mechanism	7- 12
7.5.1.1	Controlling the Primary Charging Bias	7- 12
7.5.1.2	Primary Charging Roller Cleaning Mechanism	7- 12
7.6	Drum Cleaner Unit	7- 14
7.6.1	Photosensitive Drum Cleaning	7- 14
7.7	Developing Unit	7- 15
7.7.1	Controlling the Developing Bias	7- 15
7.8	Toner Container	7- 16
7.8.1	Overview	7- 16
7.8.2	Route of Toner Supply	7- 17
7.8.3	Controlling the Drive of the Toner Cartridge	7- 18
7.8.4	Toner Supply Control	7- 19
7.8.5	Recovery Sequence	7- 19
7.8.6	Toner Level Detection	7- 20
7.9	Transfer Unit	7- 21
7.9.1	Outline of the Transfer Unit	7- 21
7.9.1.1	Outline	7- 21
7.9.2	Controlling the Transfer Bias	7- 21
7.9.2.1	Transfer Roller Bias Control	7- 21
7.9.3	Cleaning	7- 22
7.9.3.1	Transfer Roller Cleaning Mechanism	7- 22
7.9.4	Separation Mechanism	7- 22
7.9.4.1	Controlling the Static Eliminator Bias	7- 22
7.10	Transfer Mechanism	7- 23
7.10.1	Transfer Guide Bias	7- 23
7.10.1.1	Transfer Guide Bias Control	7- 23
7.11	Photosensitive Drum Cleaning	7- 24
7.11.1	Outline	7- 24
7.11.2	Collection of Waste Toner	7- 24
7.11.3	Checking the Waste Toner Box	7- 24
7.12	Parts Replacement Procedure	7- 26
7.12.1	Pre-Exposure Lamp	7- 26
7.12.1.1	Removing the Front Cover Unit	7- 26
7.12.1.2	Removing the Waste Toner Case	7- 26
7.12.1.3	Removing the Toner Cartridge	7- 26
7.12.1.4	Removing the Drum Unit	7- 27
7.12.1.5	Removing the Developing Assembly	7- 28
7.12.1.6	Removing the Upper Tray	7- 30
7.12.1.7	Removing the Toner Cartridge Cover	7- 30
7.12.1.8	Removing the Pre-Exposure Lamp	7- 30
7.12.2	Drum Unit	7- 31

7.12.2.1 Removing the Front Cover Unit	7- 31
7.12.2.2 Removing the Waste Toner Case	7- 31
7.12.2.3 Removing the Drum Unit	7- 32
7.12.3 Hopper Assembly.....	7- 33
7.12.3.1 Removing the Front Cover Unit	7- 33
7.12.3.2 Removing the Waste Toner Case	7- 33
7.12.3.3 Removing the Toner Cartridge	7- 34
7.12.3.4 Removing the Drum Unit	7- 34
7.12.3.5 Removing the Developing Assembly	7- 35
7.12.3.6 Removing the Upper Tray	7- 37
7.12.3.7 Removing the Toner Cartridge Cover	7- 37
7.12.3.8 Removing the Pre-Exposure Lamp	7- 37
7.12.3.9 Removing the Left Cover	7- 38
7.12.3.10 Removing the Laser Unit.....	7- 38
7.12.3.11 Removing the Hopper Assembly.....	7- 39
7.12.4 Sub Hopper	7- 40
7.12.4.1 Removing the Front Cover Unit	7- 40
7.12.4.2 Removing the Waste Toner Case	7- 40
7.12.4.3 Removing the Toner Cartridge	7- 41
7.12.4.4 Removing the Drum Unit	7- 42
7.12.4.5 Removing the Developing Assembly	7- 43
7.12.4.6 Removing the Upper Tray	7- 44
7.12.4.7 Removing the Toner Cartridge Cover	7- 44
7.12.4.8 Removing the Pre-Exposure Lamp	7- 45
7.12.4.9 Removing the Left Cover	7- 45
7.12.4.10 Removing the Laser Unit.....	7- 45
7.12.4.11 Removing the Hopper Assembly.....	7- 46
7.12.4.12 Removing the Toner Feedscrew Motor.....	7- 47
7.12.4.13 Removing the Sub Hopper	7- 48
7.12.5 Developing Assembly	7- 49
7.12.5.1 Removing the Front Cover Unit	7- 49
7.12.5.2 Removing the Waste Toner Case	7- 50
7.12.5.3 Removing the Developing Assembly	7- 50
7.12.6 Developing Cylinder.....	7- 52
7.12.6.1 Removing the Developing Cylinder.....	7- 52
7.12.7 Transfer Charging Roller	7- 54
7.12.7.1 Removing the Transfer Roller	7- 54
7.12.8 Waste Toner Box	7- 55
7.12.8.1 Removing the Front Cover Unit	7- 55
7.12.8.2 Removing the Waste Toner Case	7- 55
7.12.9 Toner Level Sensor	7- 56
7.12.9.1 Removing the Front Cover Unit	7- 56
7.12.9.2 Removing the Waste Toner Case	7- 56
7.12.9.3 Removing the Toner Cartridge	7- 57
7.12.9.4 Removing the Drum Unit	7- 57
7.12.9.5 Removing the Developing Assembly	7- 58
7.12.9.6 Removing the Upper Tray	7- 60
7.12.9.7 Removing the Toner Cartridge Cover	7- 60
7.12.9.8 Removing the Pre-Exposure Lamp	7- 60

7.12.9.9 Removing the Left Cover	7- 61
7.12.9.10 Removing the Laser Unit.....	7- 61
7.12.9.11 Removing the Hopper Assembly	7- 62
7.12.9.12 Removing the Toner Level Sensor	7- 63
7.12.10 Toner Feedscrew Motor	7- 63
7.12.10.1 Removing the Front Cover Unit	7- 63
7.12.10.2 Removing the Waste Toner Case.....	7- 64
7.12.10.3 Removing the Toner Cartridge	7- 64
7.12.10.4 Removing the Drum Unit	7- 65
7.12.10.5 Removing the Developing Assembly	7- 66
7.12.10.6 Removing the Upper Tray	7- 67
7.12.10.7 Removing the Toner Cartridge Cover	7- 68
7.12.10.8 Removing the Pre-Exposure Lamp.....	7- 68
7.12.10.9 Removing the Left Cover	7- 68
7.12.10.10 Removing the Laser Unit.....	7- 69
7.12.10.11 Removing the Hopper Assembly.....	7- 70
7.12.10.12 Removing the Toner Feedscrew Motor	7- 71
7.12.11 Static Charge Eliminator	7- 71
7.12.11.1 Removing the Static Eliminator.....	7- 71

Chapter 8 Pickup/Feeding System

8.1 Construction.....	8- 1
8.1.1 Specifications, Controls, and Functions	8- 1
8.1.2 Division into Blocks	8- 2
8.1.3 Division into Blocks	8- 3
8.1.4 Arrangement of Rollers	8- 4
8.1.5 Arrangement of Rollers	8- 5
8.1.6 Diagram of Paper Paths (printer on its own)	8- 6
8.1.7 Diagram of Paper Paths (w/ copy tray).....	8- 7
8.1.8 Diagram of Paper Paths (w/ 3 Way Unit-A1 /copy tray).....	8- 8
8.1.9 Diagram of Paper Paths (w/ Finisher-S1/copy tray).....	8- 9
8.1.10 Diagram of Paper Paths (w/ Finisher-Q3/Saddle Finisher-Q4).....	8- 10
8.1.11 Arrangement of Sensors	8- 11
8.1.12 Arrangement of Sensors	8- 12
8.1.13 Route of Drive	8- 14
8.1.14 Route of Drive	8- 14
8.2 Basic Sequence	8- 17
8.2.1 Basic Sequence	8- 17
8.2.2 Increase in Speed	8- 17
8.2.3 Increase in Speed	8- 20
8.3 Detecting Jams.....	8- 23
8.3.1 Delivery Jams.....	8- 23
8.3.1.1 Delay Jam Outside the Cassette Pickup Assembly.....	8- 23
8.3.1.2 Delay Jam in the Cassette Pickup Assembly	8- 23
8.3.2 Stationary Jams	8- 24
8.3.2.1 Common Stationary Jam.....	8- 24
8.3.2.2 Stationary Jam at Power-On	8- 25
8.3.3 Other Jams.....	8- 25

service-repairmanual.com

8.3.3.1 Door Open Jam.....	8- 25
8.4 Cassette Pick-Up Unit	8- 26
8.4.1 Overview	8- 26
8.4.2 Basic Sequence	8- 27
8.4.3 Identifying the Paper Size	8- 27
8.4.4 Setting Up the Universal Cassette	8- 29
8.4.5 Paper Level Sensor.....	8- 30
8.5 Manual Feed Pickup Unit.....	8- 34
8.5.1 Overview	8- 34
8.5.2 Basic Sequence of Operation	8- 35
8.5.3 Identifying the Paper Size	8- 35
8.5.4 Paper Retaining Mechanism.....	8- 36
8.6 Registration Unit	8- 38
8.6.1 Overview	8- 38
8.6.2 Checking Horizontal Registration	8- 38
8.7 Duplex Feeding Unit	8- 40
8.7.1 Overview	8- 40
8.7.2 Overview	8- 41
8.7.3 Sequence of Image Formation.....	8- 42
8.7.4 Sequence of Image Formation.....	8- 44
8.7.5 Flow of Paper (w/o/ delivery option)	8- 45
8.7.6 Flow of Paper (w/ delivery option)	8- 51
8.7.7 Flow of Paper	8- 57
8.8 Parts Replacement Procedure.....	8- 64
8.8.1 Pick-up Unit 1	8- 64
8.8.1.1 Removing the Right Cover (rear).....	8- 64
8.8.1.2 Removing the Right Door	8- 64
8.8.1.3 Removing the Right Door	8- 65
8.8.1.4 Removing the Right Cover (lower front)	8- 66
8.8.1.5 Removing the Pickup Assembly 1	8- 66
8.8.2 Pick-up Unit 2	8- 67
8.8.2.1 Removing the Right Cover (rear).....	8- 67
8.8.2.2 Removing the Right Cover (lower front)	8- 67
8.8.2.3 Removing the Pickup Assembly 2	8- 67
8.8.3 Pickup Roller	8- 68
8.8.3.1 Removing the Pickup Roller/Feed Roller/Separation Roller	8- 68
8.8.4 Sensor Mount	8- 68
8.8.4.1 Removing the Right Cover (rear).....	8- 68
8.8.4.2 Removing the Right Door	8- 68
8.8.4.3 Removing the Right Door	8- 70
8.8.4.4 Removing the Right Cover (lower front)	8- 70
8.8.4.5 Removing the Pickup Assembly 1	8- 71
8.8.4.6 Removing the Pickup Assembly 2	8- 71
8.8.4.7 Removing the Sensor Mounting Plate.....	8- 71
8.8.4.8 Mounting the Sensor Mounting Plate.....	8- 72
8.8.5 Cassette Pick-up Motor 1	8- 73
8.8.5.1 Removing the Rear Cover	8- 73
8.8.5.2 Removing the Right Cover (rear).....	8- 73
8.8.5.3 Removing the Pickup Motor Base.....	8- 74

8.8.5.4 Removing the Cassette Pickup Motor 1	8- 74
8.8.6 Cassette Pick-up Motor 2	8- 74
8.8.6.1 Removing the Rear Cover.....	8- 74
8.8.6.2 Removing the Right Cover (rear)	8- 75
8.8.6.3 Removing the Pickup Motor Base	8- 75
8.8.6.4 Removing the Cassette Pickup Motor 2	8- 76
8.8.7 Cassette Size Sensor	8- 76
8.8.7.1 Removing the Right Cover (rear)	8- 76
8.8.7.2 Removing the Right Door.....	8- 77
8.8.7.3 Removing the Right Door.....	8- 78
8.8.7.4 Removing the Right Cover (lower front).....	8- 78
8.8.7.5 Removing the Pickup Assembly 2.....	8- 79
8.8.7.6 Removing the Pickup Assembly 1	8- 79
8.8.7.7 Removing the Cassette Size Sensor.....	8- 79
8.8.8 Cassette Retry Paper Sensor.....	8- 80
8.8.8.1 Removing the Right Cover (rear)	8- 80
8.8.8.2 Removing the Right Door.....	8- 81
8.8.8.3 Removing the Right Door.....	8- 82
8.8.8.4 Removing the Right Cover (lower front).....	8- 83
8.8.8.5 Removing the Pickup Assembly 1	8- 83
8.8.8.6 Removing the Pickup Assembly 2.....	8- 84
8.8.8.7 Removing the Sensor Mounting Plate	8- 84
8.8.8.8 Removing the Cassette Retry Paper Sensor	8- 85
8.8.9 Cassette Paper Sensor.....	8- 85
8.8.9.1 Removing the Right Cover (rear)	8- 85
8.8.9.2 Removing the Right Door.....	8- 85
8.8.9.3 Removing the Right Door.....	8- 86
8.8.9.4 Removing the Right Cover (lower front).....	8- 87
8.8.9.5 Removing the Pickup Assembly 1	8- 88
8.8.9.6 Removing the Pickup Assembly 2.....	8- 88
8.8.9.7 Removing the Sensor Mounting Plate	8- 88
8.8.9.8 Removing the Cassette Paper Sensor.....	8- 89
8.8.10 Cassette Paper Level Sensor (A/B)	8- 89
8.8.10.1 Removing the Right Cover (rear)	8- 89
8.8.10.2 Removing the Right Door.....	8- 90
8.8.10.3 Removing the Right Door.....	8- 91
8.8.10.4 Removing the Right Cover (lower front).....	8- 92
8.8.10.5 Removing the Pickup Assembly 1	8- 92
8.8.10.6 Removing the Pickup Assembly 2.....	8- 93
8.8.10.7 Removing the Sensor Mounting Plate	8- 93
8.8.10.8 Removing the Cassette Paper Level Sensor (A/B)	8- 94
8.8.11 Slide Resistor.....	8- 94
8.8.11.1 Removing the Right Cover (rear)	8- 94
8.8.11.2 Removing the Right Door.....	8- 94
8.8.11.3 Removing the Right Door.....	8- 95
8.8.11.4 Removing the Manual Feed Unit.....	8- 96
8.8.11.5 Removing the Manual Tray Unit.....	8- 97
8.8.11.6 Removing the Slide Resistor.....	8- 98
8.8.12 Cassette Pickup Solenoid	8- 98

8.8.12.1 Removing the Right Cover (rear)	8- 98
8.8.12.2 Removing the Right Door	8- 98
8.8.12.3 Removing the Right Door	8- 99
8.8.12.4 Removing the Right Cover (lower front)	8- 100
8.8.12.5 Removing the Pickup Assembly 1	8- 101
8.8.12.6 Removing the Pickup Assembly 2	8- 101
8.8.12.7 Removing the Cassette Pickup Solenoid.....	8- 101
8.8.13 Cassette Size Sensor Relay PCB.....	8- 102
8.8.13.1 Removing the Right Cover (rear)	8- 102
8.8.13.2 Removing the Right Door	8- 102
8.8.13.3 Removing the Right Door	8- 103
8.8.13.4 Removing the Right Cover (lower front)	8- 104
8.8.13.5 Removing the Pickup Assembly 1	8- 104
8.8.13.6 Removing the Pickup Assembly 2	8- 105
8.8.13.7 Removing the Cassette Size Sensor Relay PCB.....	8- 105
8.8.14 Manual Tray Assembly.....	8- 105
8.8.14.1 Removing the Right Cover (rear)	8- 105
8.8.14.2 Removing the Right Door	8- 106
8.8.14.3 Removing the Right Door	8- 107
8.8.14.4 Removing the Manual Feed Unit	8- 108
8.8.14.5 Removing the Manual Feed Tray Assembly	8- 109
8.8.15 Manual Feed Unit	8- 109
8.8.15.1 Removing the Right Cover (rear)	8- 109
8.8.15.2 Removing the Right Door	8- 109
8.8.15.3 Removing the Right Door	8- 111
8.8.15.4 Removing the Manual Feed Unit	8- 111
8.8.16 Manual Pickup Roller	8- 112
8.8.16.1 Removing the Right Cover (rear)	8- 112
8.8.16.2 Removing the Right Door	8- 113
8.8.16.3 Removing the Right Door	8- 114
8.8.16.4 Removing the Manual Feed Unit	8- 115
8.8.16.5 Removing the Manual Feed Pickup Roller	8- 116
8.8.17 Manual Pick-up Clutch	8- 116
8.8.17.1 Removing the Right Cover (rear)	8- 116
8.8.17.2 Removing the Right Door	8- 116
8.8.17.3 Removing the Right Door	8- 118
8.8.17.4 Removing the Rear Cover	8- 118
8.8.17.5 Removing the Main Power Switch.....	8- 119
8.8.17.6 Removing the Manual Feed Pickup Clutch.....	8- 119
8.8.18 Manual Separation Pad	8- 120
8.8.18.1 Removing the Right Cover (rear)	8- 120
8.8.18.2 Removing the Right Door	8- 120
8.8.18.3 Removing the Right Door	8- 121
8.8.18.4 Removing the Manual Feed Unit	8- 122
8.8.18.5 Removing the Manual Feed Pickup Roller	8- 123
8.8.18.6 Removing the Manual Feed Separation pad.....	8- 124
8.8.19 Registration Clutch	8- 124
8.8.19.1 Removing the Rear Cover	8- 124
8.8.19.2 Removing the Main Drive Assembly	8- 124

8.8.19.3 Removing the Main Drive Assembly	8- 125
8.8.19.4 Removing the Registration Clutch.....	8- 126
8.8.20 Feeding Roller	8- 126
8.8.20.1 Removing the Pickup Roller/Feed Roller/Separation Roller.....	8- 126
8.8.21 Vertical Path Roller.....	8- 126
8.8.21.1 Removing the Right Cover (rear)	8- 126
8.8.21.2 Removing the Right Door.....	8- 127
8.8.21.3 Removing the Right Door.....	8- 128
8.8.21.4 Removing the Right Cover (lower front).....	8- 129
8.8.21.5 Removing the Pickup Assembly 1.....	8- 129
8.8.21.6 Removing the Pickup Assembly 2.....	8- 130
8.8.21.7 Removing the Sensor Mounting Plate	8- 130
8.8.21.8 Removing the Vertical Path Roller.....	8- 131
8.8.22 Duplex Feed Roller 2	8- 131
8.8.22.1 Removing the Right Cover (rear)	8- 131
8.8.22.2 Removing the Right Door.....	8- 131
8.8.22.3 Removing the Right Door.....	8- 132
8.8.22.4 Removing the Duplex Feed Roller 2	8- 133
8.8.23 Duplex Feed Sensor	8- 134
8.8.23.1 Removing the Right Cover (rear)	8- 134
8.8.23.2 Removing the Right Door.....	8- 134
8.8.23.3 Removing the Right Door.....	8- 135
8.8.23.4 Removing the Duplex Feed Sensor	8- 136
8.8.24 Duplex Feed Clutch.....	8- 137
8.8.24.1 Removing the Rear Cover.....	8- 137
8.8.24.2 Removing the Duplex Feed Clutch.....	8- 137
8.8.25 Delivery Assembly 1	8- 138
8.8.25.1 Removing the Right Cover (rear)	8- 138
8.8.25.2 Removing the Front Cover Unit	8- 138
8.8.25.3 Removing the Delivery Tray	8- 138
8.8.25.4 Removing the Right Door.....	8- 139
8.8.25.5 Removing the Right Door.....	8- 140
8.8.25.6 Removing the Extension Delivery Kit.....	8- 140
8.8.25.7 Removing the Delivery Assembly 1	8- 141
8.8.26 Fixing/ Delivery Drive Assembly	8- 142
8.8.26.1 Removing the Right Cover (rear)	8- 142
8.8.26.2 Removing the Front Cover Unit	8- 142
8.8.26.3 Removing the Delivery Tray	8- 142
8.8.26.4 Removing the Right Door.....	8- 143
8.8.26.5 Removing the Right Door.....	8- 144
8.8.26.6 Removing the Delivery Assembly 1	8- 144
8.8.26.7 Removing the Fixing Unit	8- 145
8.8.26.8 Removing the Fixing/Delivery Drive Assembly	8- 146
8.8.27 Separation Roller.....	8- 147
8.8.27.1 Removing the Pickup Roller/Feed Roller/Separation Roller.....	8- 147

Chapter 9 Fixing System

9.1 Construction.....	9- 1
-----------------------	------

9.1.1 Specifications, Control Mechanisms, and Functions	9- 1
9.1.2 Major Components	9- 1
9.2 Basic Sequence	9- 3
9.2.1 Power-On Sequence	9- 3
9.2.2 Down Sequence	9- 3
9.3 Various Control Mechanisms	9- 4
9.3.1 Controlling the Speed of the Fixing Film	9- 4
9.3.1.1 Controlling the Fixing Film Speed in Response to Low Temperature.....	9- 4
9.3.1.2 Controlling the Fixing Film Speed	9- 4
9.3.2 Controlling the Fixing Film Temperature	9- 5
9.3.2.1 Controlling the Power Supply in Response to Low Temperature	9- 5
9.3.2.2 Controlling the Feeding in Response to Low Temperature.....	9- 5
9.3.2.3 Controlling the Power Supply at Start-Up.....	9- 5
9.3.2.4 Copying Temperature Control.....	9- 6
9.3.2.5 Changing the Fixing Film Control Temperature	9- 6
9.3.2.6 Temperature Control in Response to Automatic Double-Sided Copy	9- 6
9.3.2.7 Temperature Control in Response to Change of Paper Size	9- 7
9.3.3 Cleaning	9- 7
9.3.3.1 Fixing Film Cleaning.....	9- 7
9.3.4 Detecting the Passage of Paper	9- 8
9.3.4.1 Detecting the Passage of Paper.....	9- 8
9.4 Protective Functions	9- 9
9.4.1 Protective Functions	9- 9
9.4.2 Detecting an Error	9- 10
9.5 Parts Replacement Procedure	9- 12
9.5.1 Fixing Unit	9- 12
9.5.1.1 Removing the Right Cover (rear)	9- 12
9.5.1.2 Removing the Right Door	9- 12
9.5.1.3 Removing the Right Door	9- 13
9.5.1.4 Removing the Fixing Unit.....	9- 14
9.5.2 Pressure Roller	9- 15
9.5.2.1 Removing the Inside Delivery Cover Unit.....	9- 15
9.5.2.2 Removing the Grounding Plate	9- 16
9.5.2.3 Removing the Fixing Film Cover.....	9- 16
9.5.2.4 Removing the Left Side Plate.....	9- 17
9.5.2.5 Releasing the Locking Plate	9- 18
9.5.2.6 Removing the Fixing Film Unit	9- 18
9.5.2.7 Removing the Inlet Guide	9- 19
9.5.2.8 Removing the Pressure Roller	9- 20
9.5.3 Cleaning Roller	9- 21
9.5.3.1 Removing the Inside Delivery Cover Unit.....	9- 21
9.5.3.2 Removing the Cleaning Roller	9- 21
9.5.4 Fixing Film.....	9- 22
9.5.4.1 Removing the Inside Delivery Cover Unit.....	9- 22
9.5.4.2 Removing the Grounding Plate	9- 22
9.5.4.3 Removing the Fixing Film Cover.....	9- 22
9.5.4.4 Removing the Left Side Plate.....	9- 23
9.5.4.5 Releasing the Locking Plate	9- 24
9.5.4.6 Removing the Fixing Film Unit	9- 25

9.5.5 Internal Delivery Sensor.....	9- 26
9.5.5.1 Removing the Inside Delivery Cover Unit.....	9- 26
9.5.5.2 Removing the Grounding Plate.....	9- 26
9.5.5.3 Removing the Fixing Film Cover.....	9- 27
9.5.5.4 Removing the Left Side Plate.....	9- 27
9.5.5.5 Releasing the Locking Plate.....	9- 28
9.5.5.6 Removing the Fixing Film Unit.....	9- 29
9.5.5.7 Removing the Inside Delivery Sensor.....	9- 30
9.5.6 Fixing Film Sensor.....	9- 31
9.5.6.1 Removing the Inside Delivery Cover Unit.....	9- 31
9.5.6.2 Removing the Grounding Plate.....	9- 31
9.5.6.3 Removing the Fixing Film Sensor.....	9- 31

Chapter 10 External and Controls

10.1 Control Panel.....	10- 1
10.1.1 Overview.....	10- 1
10.1.2 LCD Indication Processing.....	10- 1
10.1.3 Adjustment of the LCD Contact.....	10- 2
10.1.4 Functions of the Control Panel CPU.....	10- 2
10.2 Counters.....	10- 3
10.2.1 Overview.....	10- 3
10.2.2 Timing of Increasing the Count.....	10- 4
10.3 Fans.....	10- 6
10.3.1 Overview.....	10- 6
10.3.2 Speed Control.....	10- 6
10.3.3 Sequence of Operation.....	10- 7
10.4 Power Supply System.....	10- 8
10.4.1 Power Supply.....	10- 8
10.4.1.1 Route of Power Inside the Printer Unit.....	10- 8
10.4.1.2 Power Supply Route in the Reader Unit.....	10- 9
10.4.1.3 Timing of Supply to the Reader Unit.....	10- 10
10.4.1.4 Connections to Various Accessories.....	10- 10
10.4.2 Rated Output of the DC Power Supply PCB.....	10- 11
10.4.2.1 Rated Output of the Printer Unit Power Supply PCB.....	10- 11
10.4.2.2 Rated Output of the Controller Power Supply PCB.....	10- 12
10.4.2.3 Rated Output of the Accessories Power Supply PCB.....	10- 12
10.4.2.4 Rated Output of the All-Night Power Supply PCB.....	10- 13
10.4.3 Protection Function.....	10- 13
10.4.3.1 Protective Mechanisms.....	10- 13
10.4.4 Backup Battery.....	10- 13
10.4.4.1 Backup Battery.....	10- 13
10.4.5 Energy-Saving Function.....	10- 14
10.4.5.1 Overview.....	10- 14
10.4.5.2 Machine as Supplied with Power.....	10- 15
10.5 Parts Replacement Procedure.....	10- 17
10.5.1 Main Drive Assembly.....	10- 17
10.5.1.1 Removing the Rear Cover.....	10- 17
10.5.1.2 Removing the Main Drive Assembly.....	10- 17

10.5.1.3 Removing the Main Drive Assembly	10- 18
10.5.2 Power Supply Unit	10- 18
10.5.2.1 Removing the Rear Cover	10- 18
10.5.2.2 Removing the Left Cover (lower)	10- 19
10.5.2.3 Removing the Accessories Power Supply PCB	10- 19
10.5.2.4 Removing the Main Power Supply	10- 20
10.5.3 Control Panel	10- 21
10.5.3.1 Removing the Control Panel	10- 21
10.5.4 Control Panel LCD Unit	10- 22
10.5.4.1 Removing the Control Panel	10- 22
10.5.4.2 Removing the Control Panel Base Cover	10- 23
10.5.4.3 Removing the Control Panel Inside Frame	10- 23
10.5.4.4 Removing the Control Panel LCD	10- 24
10.5.5 Removing the DC Controller PCB	10- 24
10.5.5.1 Removing the Rear Cover	10- 24
10.5.5.2 Removing the DC Controller PCB	10- 24
10.5.6 Control Panel Inverter PCB	10- 25
10.5.6.1 Removing the Control Panel	10- 25
10.5.6.2 Removing the Control Panel Base Cover	10- 26
10.5.6.3 Removing the Control Panel Inverter PCB	10- 26
10.5.7 Control Panel Key Switch PCB	10- 26
10.5.7.1 Removing the Control Panel	10- 26
10.5.7.2 Removing the Control Panel Base Cover	10- 27
10.5.7.3 Removing the Control Panel Frame	10- 28
10.5.7.4 Removing the Control Panel Key Switch PCB	10- 28
10.5.8 Control Panel CPU PCB	10- 29
10.5.8.1 Removing the Control Panel	10- 29
10.5.8.2 Removing the Control Panel Base Cover	10- 30
10.5.8.3 Removing the Controller Panel CPU PCB	10- 30
10.5.9 All Night Power Supply PCB	10- 30
10.5.9.1 Removing the Rear Cover	10- 30
10.5.9.2 Removing the All-Night Power Supply PCB	10- 31
10.5.10 Controller Power Supply PCB	10- 31
10.5.10.1 Removing the Rear Cover	10- 31
10.5.10.2 Removing the Left Cover (lower)	10- 32
10.5.10.3 Removing the Left Cover (Rear)	10- 32
10.5.10.4 Removing the Accessories Power Supply PCB	10- 32
10.5.10.5 Removing the Controller Power Supply PCB	10- 33
10.5.11 Option Power Supply PCB	10- 33
10.5.11.1 Removing the Rear Cover	10- 33
10.5.11.2 Removing the Left Cover (lower)	10- 34
10.5.11.3 Removing the Left Cover (Rear)	10- 34
10.5.11.4 Removing the Accessories Power Supply PCB	10- 34
10.5.12 High-Voltage PCB	10- 35
10.5.12.1 Removing the Front Cover Unit	10- 35
10.5.12.2 Removing the Waste Toner Case	10- 35
10.5.12.3 Removing the Toner Cartridge	10- 36
10.5.12.4 Removing the Drum Unit	10- 37
10.5.12.5 Removing the Developing Assembly	10- 38

10.5.12.6 Removing the Upper Tray	10- 39
10.5.12.7 Removing the Toner Cartridge Cover	10- 39
10.5.12.8 Removing the Pre-Exposure Lamp.....	10- 40
10.5.12.9 Removing the Left Cover	10- 40
10.5.12.10 Removing the Laser Unit.....	10- 40
10.5.12.11 Removing the Hopper Assembly.....	10- 41
10.5.12.12 Removing the Right Cover (rear)	10- 42
10.5.12.13 Removing the Right Door.....	10- 43
10.5.12.14 Removing the Right Door.....	10- 44
10.5.12.15 Removing the Right Door.....	10- 45
10.5.12.16 Removing the Fixing Unit	10- 46
10.5.12.17 Removing the Gear	10- 47
10.5.12.18 Removing the High-Voltage PCB	10- 48
10.5.13 Exhaust Fan	10- 48
10.5.13.1 Removing the Heat Discharge Fan	10- 48
10.5.13.2 Removing the Heat Discharge Fan	10- 49
10.5.14 Motor of Main Drive Assembly	10- 50
10.5.14.1 Removing the Rear Cover	10- 50
10.5.14.2 Removing the Main Drive Assembly	10- 50
10.5.14.3 Removing the Main Drive Motor	10- 51
10.5.14.4 Removing the Main Drive Motor	10- 52
10.5.15 Fixing Driver Motor	10- 52
10.5.15.1 Removing the Rear Cover.....	10- 52
10.5.15.2 Removing the DC Controller PCB	10- 53
10.5.15.3 Removing the Fixing Drive Motor	10- 54
10.5.16 Right Door.....	10- 54
10.5.16.1 Removing the Right Cover (rear)	10- 54
10.5.16.2 Removing the Right Door.....	10- 54
10.5.16.3 Removing the Right Door.....	10- 55
10.5.17 Circuit Braker	10- 56
10.5.17.1 Removing the Rear Cover.....	10- 56
10.5.17.2 Removing the Circuit Breaker	10- 57

Chapter 11 MEAP

11.1 Overview.....	11-1
11.2 MEAP Counter	11-2
11.3 Construction of the MEAP Platform	11-4

Chapter 12 Maintenance and Inspection

12.1 Periodically Replaced Parts	12- 1
12.1.1Overview.....	12- 1
12.1.2Reader Unit	12- 1
12.1.3Printer Unit	12- 1
12.2 Durables and Consumables.....	12- 2
12.2.1Overview.....	12- 2
12.2.2Reader Unit	12- 2
12.2.3Printer Unit	12- 2

12.3 Scheduled Servicing Basic Procedure	12- 5
12.3.1 Scheduled Servicing for the Reader Unit	12- 5
12.3.2 Scheduled Servicing for the Printer Unit	12- 5
12.3.3 Scheduled Servicing Basic Procedures	12- 8
12.3.4 Points to Note About the Scheduled Servicing	12- 10
12.4 Cleaning.....	12- 12
12.4.1 Cleaning the Transfer/Feed Guide	12- 12
12.4.2 Cleaning the Developing Assembly Spacer, Feed Guide, Dust-Blocking Glass, and Fixing Inlet Guide. 12-12	
12.4.3 Cleaning the Film Bias Static Eliminator.....	12- 21
12.4.4 Cleaning the Film Bias Static Eliminator.....	12- 29

Chapter 13 Standards and Adjustments

13.1 Image Adjustments.....	13- 1
13.1.1 Standards for Image Position	13- 1
13.1.2 Adjusting the Image Position	13- 1
13.1.3 Cassette.....	13- 3
13.1.4 Manual Feed Tray	13- 5
13.1.5 Side Paper Deck	13- 5
13.2 Scanning System	13- 7
13.2.1 After Replacement of the CIS	13- 7
13.2.2 After Replacing the Reader Controller PCB or Initializing the RAM	13- 7
13.3 Laser Exposure System	13- 9
13.3.1 After Replacing the Laser Scanner Unit.....	13- 9
13.4 Image Formation System.....	13- 10
13.4.1 After Replacing the Developing Unit.....	13- 10
13.4.2 After Replacing the Drum Unit (APVC correction)	13- 10
13.5 Electrical Components	13- 11
13.5.1 After Replacing the HDD.....	13- 11
13.5.2 After Replacing the DC Controller PCB	13- 11
13.5.3 After Replacing the Main Controller PCB	13- 11
13.5.4 After Replacing the Reader Controller PCB	13- 12
13.6 Pickup/Feeding System	13- 14
13.6.1 Adjusting the Horizontal Registration When Replacing the Cassette.....	13- 14
13.6.2 Adjusting the Horizontal Registration When Replacing the Duplex Unit	13- 16
13.6.3 Adjusting the Manual Feed Pickup Horizontal Registration.....	13- 16
13.6.4 Registering the Paper Width Basic Value	13- 17

Chapter 14 Correcting Faulty Images

14.1 Making Initial Checks	14- 1
14.1.1 Site Environment.....	14- 1
14.1.2 Checking the Paper.....	14- 1
14.1.3 Checking the Placement of Paper.....	14- 1
14.1.4 Checking the Durables	14- 1
14.1.5 Checking the Periodically Serviced Items.....	14- 1
14.1.6 Checking the Units and Functional Systems	14- 2
14.1.7 Others	14- 3

14.2 Troubleshooting	14- 4
14.2.1 Image Faults	14- 4
14.2.1.1 Uneven Density.....	14- 4
14.2.1.2 Partially Blank/Streaked	14- 6
14.2.1.3 Smudged/Streaked	14- 11
14.2.1.4 Ghost/Memory	14- 15
14.2.2 Malfunction	14- 16
14.2.2.1 No Power	14- 16
14.2.2.2 Noise	14- 17
14.3 Outline of Electrical Components	14- 18
14.3.1 Clutch/Solenoid	14- 18
14.3.1.1 Clutches and Solenoids	14- 18
14.3.2 Motor	14- 19
14.3.2.1 Motors	14- 19
14.3.3 Fan	14- 22
14.3.3.1 Fans	14- 22
14.3.4 Sensor	14- 23
14.3.4.1 Sensors	14- 23
14.3.5 Switch	14- 28
14.3.5.1 Switches	14- 28
14.3.6 Lamps, Heaters, and Others	14- 29
14.3.6.1 Lamps, Heaters, and Others	14- 29
14.3.7 PCBs	14- 32
14.3.7.1 PCBs	14- 32
14.3.8 Variable Resistors(VR), Light-Emitting Diodes(LED),and Check Pins by PCB	14- 35
14.3.8.1 Variable Resistors (VR), Light-Emitting Diodes, and Check Pins by PCB	14- 35
14.3.8.2 Points to Note About the Leakage Breaker	14- 36
14.3.8.3 All-Night Power Supply PCB	14- 36

Chapter 15 Self Diagnosis

15.1 Error Code Table	15- 1
15.1.1Error Code	15- 1
15.2 Error Code Details	15- 4
15.2.1Error Code Details	15- 4
15.2.2E602 in Detail	15- 18
15.3 Error Code (SEND)	15- 33
15.3.1Results of Self-Diagnosis	15- 33
15.3.2Error Codes	15- 35
15.4 Jam Code	15- 44
15.4.1Jam Cover (printer unit).....	15- 44
15.4.2Jam Code (finisher-related)	15- 45
15.4.3Jam Code (ADF-related).....	15- 46
15.5 Alarm Code.....	15- 49
15.5.1Alarm Code.....	15- 49
15.6 Finisher/Saddle Finisher Error Codes.....	15- 50
15.6.1Error Code in Detail (finisher, puncher).....	15- 50
15.7 DADF Error Codes	15- 76
15.7.1Error Code in Detail (DF).....	15- 76

Chapter 16 Service Mode

16.1 Outline	16- 1
16.1.1 Construction of Service Mode	16- 1
16.1.2 Starting Service Mode and Making Selections	16- 2
16.1.3 Ending Service Mode	16- 3
16.1.4 Back-Up	16- 3
16.1.5 Initial Screen	16- 3
16.1.6 2nd/3rd Item Screen	16- 4
16.1.7 4th Item Screen	16- 4
16.2 DISPLAY (Status Display Mode)	16- 6
16.2.1 COPIER	16- 6
16.2.1.1 Copier List	16- 6
16.2.2 FEEDER	16- 13
16.2.2.1 Feeder List	16- 13
16.3 I/O (I/O Display Mode)	16- 14
16.3.1 Outline	16- 14
16.3.2 <DC-CON>	16- 15
16.3.3 <R-CON>	16- 19
16.3.4 <FEEDER>	16- 21
16.3.5 <SORTER>	16- 22
16.4 ADJUST (Adjustment Mode)	16- 34
16.4.1 COPIER	16- 34
16.4.1.1 Copier List	16- 34
16.4.2 FEEDER	16- 44
16.4.2.1 FEEDER List	16- 44
16.4.3 SORTER	16- 45
16.4.3.1 Sorter List	16- 45
16.5 FUNCTION (Operation/Inspection Mode)	16- 46
16.5.1 COPIER	16- 46
16.5.1.1 Copier List	16- 46
16.5.2 FEEDER	16- 59
16.5.2.1 Feeder List	16- 59
16.6 OPTION (Machine Settings Mode)	16- 63
16.6.1 COPIER	16- 63
16.6.1.1 Copier List	16- 63
16.6.2 FEEDER	16- 97
16.6.2.1 Feeder List	16- 97
16.6.3 SORTER	16- 97
16.6.3.1 Sorter List	16- 97
16.6.4 BOARD	16- 98
16.6.4.1 Board List	16- 98
16.7 TEST (Test Print Mode)	16- 99
16.7.1 COPIER	16- 99
16.7.1.1 Copier List	16- 99
16.8 COUNTER (Counter Mode)	16- 102
16.8.1 COPIER	16- 102
16.8.1.1 Copier List	16- 102

Chapter 17 Service Tools

17.1 Special Tools	17-1
17.2 Oils and Solvents	17-2

service-repairmanual.com