



**FACSIMILE EQUIPMENT  
SERVICE MANUAL**

**MODELS: MFC7420/7820N  
DCP7010/7020/7025**

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## **PREFACE**

This Service Manual is intended for use by service personnel and details the specifications, construction, theory of operation, and maintenance for the Brother machines noted on the front cover. It includes information required for troubleshooting and service--disassembly, reassembly, and lubrication--so that service personnel will be able to understand equipment function, repair the equipment in a timely manner and order spare parts as necessary.

To perform appropriate maintenance so that the machine is always in the best possible condition for the customer, service personnel must adequately understand and apply this manual.

## **HOW THIS MANUAL IS ORGANIZED**

This manual is made up of nine chapters and appendices.

### **CHAPTER 1 PARTS NAMES AND FUNCTIONS**

Contains external views and names of components and describes their functions. Information about the keys on the control panel is included to help you check operation or make adjustments.

### **CHAPTER 2 SPECIFICATIONS**

Lists the specifications of each model, which enables you to make a comparison of different models.

### **CHAPTER 3 THEORY OF OPERATION**

Gives an overview of the scanning and printing mechanisms as well as the sensors, actuators, and control electronics. It aids in understanding the basic principles of operation as well as locating defects for troubleshooting.

### **CHAPTER 4 TRANSFER OF DATA LEFT IN THE MACHINE TO BE SENT FOR REPAIR**

Describes how to transfer data left in the machine to be sent for repair. The service personnel should instruct end users to follow the transfer procedure given in this chapter if the machine at the user site cannot print received data due to the printing mechanism defective. End users can transfer received data to another machine to prevent data loss.

### **CHAPTER 5 DISASSEMBLY/REASSEMBLY AND LUBRICATION**

Details procedures for disassembling and reassembling the machine together with related notes. The disassembly order flow provided enables you to see at a glance the quickest way to get to component(s) involved.

At the start of a disassembly job, you check a disassembly order flow that guides you through a shortcut to the object components.

This chapter also covers screw tightening torques and lubrication points to which the specified lubricants should be applied during reassembly jobs.

### **CHAPTER 6 ADJUSTMENTS AND UPDATING OF SETTINGS REQUIRED AFTER PARTS REPLACEMENT**

Details adjustments and updating of settings, which are required if the head/carriage unit, main PCB and some other parts have been replaced.

### **CHAPTER 7 CLEANING**

Provides cleaning procedures not covered by the User's Manual. Before starting any repair work, clean the machine as it may solve the problem concerned.

## **CHAPTER 8 MAINTENANCE MODE**

Describes the maintenance mode which is exclusively designed for the purpose of checks, settings and adjustments using the keys on the control panel.

In the maintenance mode, you can update memory (EEPROM: electrically erasable programmable read-only memory) contents for optimizing the drive conditions of the head/carriage unit, paper feed roller or paper ejection roller (if they have been replaced) or for setting the CIS scanner area, for example. You can also customize the EEPROM according to the shipment destination of the machine concerned. In addition, you can perform operational checks of the LCD, control panel PCB or sensors, perform a print test, display the log information or error codes, and modify firmware switches (WSW).

## **CHAPTER 9 ERROR INDICATION AND TROUBLESHOOTING**

Details error messages and codes that the incorporated self-diagnostic functions display if any error or malfunction occurs. If any error message appears, refer to this chapter to find which components should be checked or replaced.

The latter half of this chapter provides sample problems that could occur in the main sections of the machine and related troubleshooting procedures. This will help service personnel pinpoint and repair defective components.

## **APPENDIX 1 SERIAL NUMBERING SYSTEM**

Shows the location of serial number labels put on some parts and lists the coding information pertaining to the serial numbers.

## **APPENDIX 2 FIRMWARE INSTALLATION**

Provides instructions on how to update firmware stored in the flash ROM on the main PCB or load firmware to a new main PCB from the host PC.

No hardware replacement is required for updating.

## **APPENDIX 3 CUSTOMIZING CODES ACCORDING TO SHIPPING DESTINATION**

Lists the customizing codes for the various preferences exclusively designed for each destination (e.g. language). Those codes are stored in the memory (EEPROM) mounted on the main PCB. If the main PCB is replaced with a new one, therefore, you will need to set the proper customizing codes with the machine in the maintenance mode.

## **APPENDIX 4 FIRMWARE SWITCHES (WSW)**

Describes the functions of the firmware switches, which can be divided into two groups: one is for customizing preferences designed for the shipping destination (as described in [Appendix 3](#)) and the other is for modifying preferences that match the machine to the environmental conditions. Use the latter group if the machine malfunctions due to mismatching.

## **APPENDIX 5 WIRING DIAGRAM**

Provides the wiring diagram that helps you understand the connections between PCBs.

## **APPENDIX 6 CIRCUIT DIAGRAMS**

Provides the circuit diagrams of the NCU PCB and power supply PCB.

This manual describes the models and their versions destined for major countries. The specifications and functions are subject to change depending upon each destination.

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**NCU PCB: MFC7820N (U.S.A. and CANADA models)**

**NCU PCB: MFC7420 (EUROPE models)**

**NCU PCB: MFC7820N (EUROPE models)**

**Power Supply PCB 100V (U.S.A. and CANADA models)**

**Power Supply PCB 200V (EUROPE models)**