



Service Manual

For the complete PDF manual
please visit www.LaserPros.com.

**Lexmark Optra™ W810
Laser Printer**

4023-001

- ***Table of Contents***
- ***Start Diagnostics***
- ***Safety and Notices***
- ***Trademarks***
- ***Index***
- ***Manuals Menu***

LEXMARK™

*Lexmark and Lexmark with diamond
design are trademarks of Lexmark
International, Inc., registered in the
United States and/or other countries.*

Edition: March 2004

The following paragraph does not apply to any country where such provisions are inconsistent with local law: LEXMARK INTERNATIONAL, INC. PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in later editions. Improvements or changes in the products or the programs described may be made at any time.

A form for reader's comments is provided at the back of this publication. If the form has been removed, comments may be addressed to Lexmark International, Inc., Department D22/032-2, 740 West New Circle Road, Lexington, Kentucky 40550, U.S.A. Lexmark may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you. You can purchase additional copies of publications related to this product by calling 1-800-553-9727. In other countries, contact your point of purchase.

Lexmark, MarkNet, MarkVision, Optra and Optralimage are trademarks of Lexmark International, Inc., registered in the United States and/or other countries.

Other trademarks are the property of their respective owners.

**© Copyright Lexmark International, Inc. 1999, 2004
All rights reserved.**

UNITED STATES GOVERNMENT RESTRICTED RIGHTS

This software and documentation are provided with RESTRICTED RIGHTS. Use, duplication or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 and in applicable FAR provisions: Lexmark International, Inc., Lexington, KY 40550.

Table of Contents

Notices and Safety Information	xiii
General Information	1
Maintenance Approach	1
Tools	1
Serial Number	2
Abbreviations	3
Standard Features	4
Printer (Main)	4
Options	6
Printer/Options	7
Parts Identification	7
Printer Configuration	8
General Description of Each Section	9
Paper Feed Section	9
Printhead Unit (Exposure Section)	9
Imaging Cartridge (Charging, Development Section)	9
Image Transfer Section (Release Section)	9
Fusing Section	9
Cleaning Section	9
Paper Exit Section	10
General Flow for Printing Process	10
Paper Feed Section	11
Taking Up Paper–Tray 1 (1st Paper Cassette)	11
Tray 1 Sensors	12
1st Cassette Tray 1 Paper Size Detection	15
Tray 2 (2nd Paper Cassette)	16
Taking up Paper–Tray 2 (2nd Paper Cassette)	16
Tray 2 Sensors	18
Edge Guide and Trailing Edge Stop	20
Paper Lifting Plate	20
Cassette-in-Position Detection	21
Paper Near Empty Detection	22
Paper Empty Detection	23
Paper Separating Mechanism	24
Paper Take-Up Roll	25
Paper Feed	26
Printhead Unit (Exposure section)	28
Imaging Cartridge (Charging/Development Section)	28
Development Section	30

Toner Empty Detection	32
Image Transfer Section (Release Section)	34
Optical Erase	35
Fusing Section	36
Fusing	36
Temperature Control Using The Thermistor	36
Thermostat (TS1) and Heater Lamp Fuse (TF1)	36
Fusing Temperature Control	37
Fusing PPM Control	37
Paper Exit Section	38
Paper Path Through Exit	38
Detection of a New Imaging Cartridge	39
Right Door Interlock Switch (S2)	40
Duplex Unit Option	41
Parts Identification	41
Cross-Sectional View	42
Switchback Mechanism	42
Transport and Duplex Paper Take-Up Mechanism	43
Paper Deck 2500-Sheet (LCC) Option	45
Cross-Sectional View	45
Vertical Transport Drive Mechanism	45
Paper Take-Up Mechanism	47
Paper Take-Up Retry Control	52
Paper Separating Mechanism	53
Paper Pressure Releasing Mechanism	53
Paper Take-Up Roll Retracting Mechanism	54
Edge Guides and Trailing Edge Stop	54
Paper Size Setting	55
LCC-in-Position Detection	56
Lifting Operations	57
Paper Near Empty Detection	59
Paper Empty Detection	59
Paper Dehumidifying Heaters	60
Mailbox/Transport Option	61
Parts Identification	61
Paper Path	62
Paper Transport Mechanism	63
Paper Entrance Switching Mechanism	64
Paper Transport Mechanism (Horizontal Transport Unit)	64
Paper Empty Detection	66
Paper Full Detection	66
Paper Output Modes	67
Finisher Option	68

Parts Identification	68
Paper Transport Path Switching Mechanism	69
Paper Transport Mechanism	70
Punch Mechanism	71
Finisher Tray	72
CD Aligning Mechanism	72
Shifting Mechanism	75
Finisher Tray Drive Mechanism	76
Paper Holding Tray	77
Elevator Tray	78
Stapling Unit	80
Horizontal Transport Unit	81
Diagnostic Information	1
Service Error Codes	2
Operator Messages	7
Symptom Tables	29
Print Quality Symptom Table	29
Paper Feed Symptom Table	29
Other Printer Malfunction Symptom Table	31
LCC 2500-Sheet Tray 4 Symptom Table	32
Mailbox Symptom Table	32
Finisher Symptom Table	33
Printer Service Checks	34
No Power Service Check (923)	34
Fuser (Abnormal Temperature) Service Check (923)	34
Fuser (Temperature Low) Service Check (920/922)	35
Toner Feed Service Check	35
Print Quality Service Checks	36
Black Page Service Check	36
White Spots Service Check	37
Toner Smudges On Backside Service Check	37
Low Image Density Service Check	38
Foggy Background Service Check	39
White/Black Lines Service Check	40
Offset Image Service Check	41
Blank Print Service Check	42
Image Space Table	43
Paper Feed Service Checks	44
Paper Feed Pickup Tray 1 (250-Sheet) Service Check	44
Paper Feed Pickup Tray 2&3 (500-Sheet) Service Check	44
Paper Feed Synchronizing Roll/Registration Service Check	45
Paper Feed Fuser/Exit Service Check	46

Paper Feed In Duplex Service Check	46
Paper Feed In Horizontal Transport Service Check	48
Paper Feed Mailbox Service Check	48
Paper Feed Finisher Service Check	50
Paper Feed LCC (2500-Sheet Tray 4) Service Check	51
Paper Feed Hole Punch Service Check	52
Finisher Service Checks	53
Finisher Power Service Check	53
Finisher Elevator Tray Service Check (993)	53
Finisher Tray Drive Service Check (994)	54
Finisher Shift Plate Drive Service Check (995)	54
Finisher Paper Aligning Service Check (996)	54
Finisher Stapler Drive Service Check (997)	56
Finisher Paper Holding Tray Drive Service Check (998).....	56
Finisher Upper Entrance Service Check	57
Mailbox Service Checks	58
Mailbox Power Service Check	58
Mailbox Bin 1–10 Service Check	59
Mailbox Transport Drive Service Check (935).....	59
Diagnostic Aids	1
Operator Menu Disabled	1
Diagnostics Mode	1
Diagnostics Mode Menu Structure	1
Printing Menu Settings Page	4
Quick Test Printing	4
Diagnostics–Print Tests	4
Print Quality Pages	5
Hardware Tests	5
Duplex Tests	11
Input Tray Tests	12
Output Bin Tests	13
Finisher Tests	14
Base Printer Sensor Tests	15
Device Tests	19
Disk Test/Clean	20
Flash Test	21
Printer Setup	21
Error Log	25
Mailbox Internal Diagnostic Test	26
Repair Information	1
Disassembly and Cleaning Precautions	1

Handling the Printed Circuit Boards with MOS ICs	1
Image Cartridge/PC (I/C) Handling Precautions	2
Parts Not To Be Touched.	3
Adjustments	4
Printer (Main)	4
Finisher	5
Mailbox.	9
Resetting Maintenance Counters	12
Resetting Hole Punch Counter.	12
Resetting Fuser Counter	13
Resetting Transfer Counter	13
Printer Removal Procedures	14
Pre-disassembly.	14
Outer Cover Removal	15
1st Cassette/250-Sheet (Tray1) Paper Take-Up Roller Removal .	16
250-Sheet Cassette (Tray 1) Paper Take-Up Rolls Removal	16
250-Sheet Cassette (Tray 1) Paper Take-Up Rolls Cleaning	17
500-Sheet Cassette (Tray 2 and 3) Vertical Transport Roller/Rolls Cleaning.	18
500-Sheet Cassette (Tray 2 and 3) Paper Lifting Springs Replace- ment.	18
500-Sheet Cassette (Tray 2 and 3) Paper Size Detecting Board (PWB-S2) Removal	20
Image Transfer Roller Removal	21
Image Cartridge/PC (I/C) Thermistor (TH2) Removal	22
Image Transfer Unit Removal	22
Synchronizing Roller Sensor (PC2) Removal	23
Pre-transfer Guide Plate Register Plate (PWB-R2) Removal	24
Synchronizing Roller Removal.	25
Cooling Fan Motor (M3) and I/C Filter Removal	26
Fusing Unit Removal	27
Paper Exit Sensor (PC3) and Actuator Removal	27
Heater Lamp Cover	28
Heater Lamp (H1) Removal.	29
Fusing Roller Thermistor (TH1) Removal	29
Fusing Roller Thermostat (TS1) Removal	30
Paper Exit Full Sensor (PC12) Removal	31
Eraser Duct Assembly Removal	32
Erase Lamp (LA1) Removal.	33
Fuser Frame Resistor Board (PWB-R1) Removal	34
1st Cassette Paper Empty Sensor (PC4) Removal	35
Image Cartridge/PC (I/C) Cooling Fan Motor (M9) Removal.	36
High Voltage Unit (HV1) Removal	37

Printer Main Engine Board (PWB-A) Removal	38
Printhead Unit Assembly (PH) Removal	40
Right Door Switch (S3) Removal	43
Power Supply Unit (PU1) Removal	44
CPM (Power Supply Safety) Switch and PWB-L Removal	45
Power Unit Cooling Fan Motor (M4) Removal	46
Ozone Fan Motor (M8) and Ozone Filter Removal	47
1st Paper Cassette (Tray 1) Paper Size Detecting Board Removal .	
48	
Bottle Cover Sensor (PC10) Removal	49
Agitating Motor (M10) Removal	50
Main Hopper Motor (M6) and Sub Hopper Motor (M7) Removal .	51
Transport Motor (M2) Removal	52
Image Cartridge/PC (I/C) Drive Motor (M1) Removal	53
Right Door Interlock Switch (S2) Removal	54
Toner Detecting Read Switch (S4) Removal	55
1st Cassette (Tray 1) Paper Near Empty Sensor (PC5) Removal	57
1st Cassette (Tray 1) Set Sensor (PC6) Removal	58
1st Cassette (Tray 1) Paper Take-Up Solenoid (SL1) Removal .	59
Double Feed Detection Sensor Board (PWB-H) Removal	60
500-Sheet Cassette (Tray 2 and 3) Control Board (PWB-A2) Remov-	
al	62
500-Sheet Cassette (Tray 2 and 3) Paper Take-Up Roller Removal	
63	
500-Sheet Cassette (Tray 2 and 3) Paper Empty Sensor (PC22) Re-	
moval	64
500-Sheet Cassette (Tray 2 and 3) Paper Near Empty Sensor (PC25)	
Removal	65
500-Sheet Cassette (Tray 2 and 3) Right Door Detecting Sensor	
(PC23) Removal	66
500-Sheet Cassette (Tray 2 and 3) Paper Take-Up Solenoid (SL2)	
Removal	67
Duplex Unit Removal Procedures	68
Duplex Unit Removal	68
Duplex Unit Cleaning	69
Paper Deck 2500-Sheet Tray 4 (LCC) Removal Procedures	70
Exterior Parts Removal	70
Paper Take-Up Unit Removal	71
Paper Take-Up Rolls Removal	73
Feed Roll, Separator Roll and Torque Limiter Assembly Removal	79
Paper Take-Up Roll Cleaning	80
Feed Roll and Separator Roll Cleaning	80
Vertical Transport Roller/Rolls Cleaning	81

Roll with a Torque Limiter Cleaning	81
Finisher Removal Procedures	82
External Covers Removal	82
Punch Unit Removal	84
Stapler Unit Disassembly	85
Rear Cable Removal	86
Front Cable Removal	88
Front Cable Installation	89
Mailbox Removal Procedures	91
Storage Unit Cover Removals	91
Horizontal Transport Unit Cover Removal	92
Locations	1
Printer with Options	1
Printer Parts	2
Electrical Components	4
Electrical Components (cont.)	6
Printer Main Engine Board PWB-A	8
RIP Controller Card	9
High Voltage Board (HV1)	10
Power Unit (PU1)	10
Network Interface Card (NIC)	11
Paper Cassettes	12
Fixed Paper Size Cassette (Tray 1 only)	12
Universal Cassette (Tray 2,3 and 500-Sheet Option)	12
Cross-Sectional View	13
Paper Cassette Drive System	14
Paper Cassette Electrical Components	14
Duplex Unit	15
Parts Identification	15
Duplex Cross-Sectional View	15
Duplex Drive System	16
Duplex Electrical Components	17
Paper Deck	18
Parts Identification	18
Paper Deck Cross-Sectional View	19
Paper Deck Drive System	20
Paper Deck Electrical Components	21
Finisher	22
Parts Identification	22
Finisher Cross-Sectional View	23
Finisher Drive System	24
Finisher Electrical Components	26

Finisher Main Board PWB-A	28
Mailbox	29
External View (Front: When Connected To Printer)	29
External View (Rear: When Connected To Printer)	29
Mailbox External View (Each Section)	30
Mailbox Horizontal Transport Unit: Cross-Sectional View	30
Mailbox Horizontal Transport Unit: Electrical Components	31
Mailbox Horizontal Transport Unit: Mechanical Components	31
Mailbox Storage Unit: Cross-Sectional View	32
Mailbox Storage Unit: Electrical Components	33
Mailbox Storage Unit: Mechanical Components	34
Mailbox Storage Unit: Main Board PWB-A	34
Preventive Maintenance	1
Maintenance Schedule	1
Parts Catalog	1
How To Use This Parts Catalog	1
Assembly 1: Printer Housing	2
Assembly 2: Printer Frames (A)	4
Assembly 3: Printer Frames (B)	8
Assembly 4: Printer Hopper	12
Assembly 5: Printer Fuser (A)	16
Assembly 6: Printer Fuser (B)	18
Assembly 7: Printer Manual Feed	20
Assembly 8: Printer Transport	24
Assembly 9: Printer Electrical Components	26
Assembly 10: Printer Paper Take-up	28
Assembly 11: Printer Drive	30
Assembly 12: Printer Paper Tray	34
Assembly 13: 500 Sheet Unit Housing	38
Assembly 14: 500 Sheet Unit Paper Take-up	42
Assembly 15: 500 Sheet Unit Paper Tray Unit (A)	46
Assembly 16: 500 Sheet Unit Paper Tray Unit (B)	48
Assembly 17: Printer Controller Card	50
Assembly 18: Duplex Unit	52
Assembly 19: Paper Deck Housing	56
Assembly 20: Paper Deck Paper Take-up (A)	58
Assembly 21: Paper Deck Paper Take-up (B)	62
Assembly 22: Paper Deck Drive	66
Assembly 23: Paper Deck Paper Tray (A)	70
Assembly 24: Paper Deck Paper Tray (B)	72
Assembly 25: Finisher Housing	74

Assembly 26: Finisher Frames	76
Assembly 27: Finisher Paper Transport (A).....	80
Assembly 28: Finisher Paper Transport (B)	82
Assembly 29: Finisher Paper Aligning.....	86
Assembly 30: Finisher Assistance Tray	92
Assembly 31: Finisher Elevator Tray.....	96
Assembly 32: Finisher Punch Unit	100
Assembly 33: Finisher Stapler Unit/Finisher Tray	102
Assembly 34: Finisher/Mailbox Horizontal Transfer (A)	106
Assembly 35: Finisher/Mailbox Horizontal Transfer (B)	108
Assembly 36: Mailbox Housing	112
Assembly 37: Mailbox Frames	114
Assembly 38: Mailbox Paper Transport (A).....	118
Assembly 39: Mailbox Paper Transport (B).....	122
Assembly 40: Mailbox Paper Transport (C)	124
Assembly 41: Mailbox Paper Transport (D)	126
Assembly 42: Mailbox Paper Transport (E).....	128
Assembly 43: Mailbox Drive	130
Assembly 44: Optional Features (No illustration)	132
Index	1

For the complete PDF manual
please visit www.LaserPros.com.