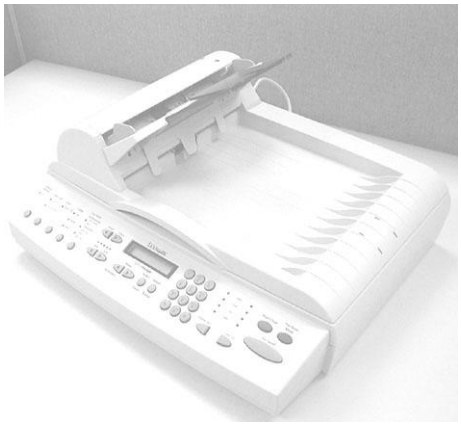
Note: This product is no longer serviced or updated by Lexmark. Replacement parts (other than supplies) may have little or no availability.

3100 MFP
Service Manual



4036-302

Lexmark International Inc

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1. INTRODUCTION

1.1 General Notes for Servicing
1.2 General Description
1.3 Features
1.4 Spec

This manual is intended to be used by the maintenance engineers. It describes the areas to be maintained, the installation, the disassembly, and the main trouble shooting guides.

Please take your time to read this manual thoroughly to obtain comprehensive knowledge about the 3100MFP before serving the unit.

1.1 GENERAL NOTES FOR SERVICING

(1) Before trying to disassemble the 3100MFP, make sure the power supply cord of the 3100MFP is disconnected from the power outlet. Under any circumstance, do not remove or install the connectors on the 3100MFP with the power supply turned ON.

(2) Use caution not to drop small parts or screws inside the unit when disassembling and reassembling. If left inside, they might cause the malfunction of the unit.

(3) Do not pull the connector cable when disconnecting it. Hold the connector.

(4) When carrying the scanning head unit, put it in an anti-static bag.

(5) Keep the document table glass surf3100MFP always clean. If contaminated, use a dry clean cloth for cleaning.

(6) Use caution not to injure your fingers or hands when disassembling or reassembling the unit.

1.2 GENERAL DESCRIPTION

3100MFP is a fantastic digital copier with a fax function when connected to a Lexmark printer. The digital solution makes your reproduction exceedingly clear and sharp compared to regular copy machines. 3100MFP is also easy to use since the control panel on the front looks just like a panel of a regular copier with the 12 phone keys. Users can enjoy copying and faxing immediately almost without further learning.

3100MFP is also a scanner when connected to a host computer. With a simple touch of the “Go/Send” button, the ease-of-use scanning software immediately pops up on your computer screen. Without further leaning, you can get a scan image and link the image to a variety of applications, for example, the image-editing software, the OCR(Optical character recognition) software, the E-mail software, the Fax software, etc. to make your jobs done in just a second.

1.3 FEATURES

(1) A Compact and light weight copier

3100MFP is easy and convenient to transport and relocate to fit your ever changing requirement.

(2) Ease of Use

The control panel on the front of 3100MFP looks like a panel on a regular copier with the standard phone keys added. The operating steps follow the same procedure as that of an regular copier or fax machine.

(3) A full color copier / fax machine

When 3100MFP is connected to a color Lexmark printer, it is possessed of a full color copying and faxing capability.

(4) Auto paper feeding

With Automatic Document Feeder (ADF) , 3100MFP is capable to swiftly make repeated copies.

1.4 PRODUCT SPECIFICATIONS

The Blackjack is designed to meet the following product specifications:

Function	**Spec**
ADF mono @ 300	15 ppm
ADF Mono @ 600x300	15 ppm
ADF color @ 300	15 ppm
ADF color @ 600	5 ppm
ADF type	U
ADF dimensions	290x448x192 mm 11.4x17.7x7.5 in
ADF optical resolution	600 x 600
Interpolated up to	4800 x 4800
ADF document size	4.5x4.5 to 8.5x14 in
ADF document depth	0.07 to 0.15 mm
ADF paper capacity	25 sheets
Paper feed	F3100MFP up
ADF jam rate	1/1000
ADF miss feed	1/1000
ADF multiple feed	1/500

Function	Spec
ADF dog ear	1/500
Flat bed optical resolution	600 x 600
Interpolated up to	4800 x 4800
Scanning modes	Oasis 982
Power consumption	24W
Weight	12 lb.
Duty Cycle	2,000 pages/month
Pad life (repl3100MFPable)	20,000 scans
MSBF	50,000 (cable ADF)
Life of lamp	50,000 hr.
Scanner life (warranty)	120,000 scans or 5 years flatbed 120,000 scans or 5 years ADF
Time to first page	< 16 sec. Flatbed < 17.5 ADF
Class of machine	Class A
ON/OFF Switch	Yes
Interf3100MFP	Firewire

2. INSTALLATION AND TRANSPORTATION

2.1 Precautions of Installation
2.2 Installation
2.3 Transportation

2.1 PRECAUTIONS OF INSTALLATION

Pay attention to the following matters before unpacking and installation.

- Do not install in a pl3100MFP where vibration may occur.
- Keep the 3100MFP out of direct sunlight. Do not install near a heat source.
- Do not pl3100MFP the 3100MFP around materials which shut off the circulation of air.
- Do not install in a humid or dusty pl3100MFP.
- Use care not to scratch the glass surf3100MFP of the 3100MFP or the document holding pad with a clip or staple.
- Do not use the wall socket with connecting devices which may generate noise, for example, air-conditioner, etc.
- Use a suitable AC power source.
- Pl3100MFP the 3100MFP on a level surf3100MFP.

2.2 INSTALLATION

(1). Unlocking the 3100MFP

Before using 3100MFP, be sure to unlock it by moving the lock switch under the 3100MFP to the “Unlock” position(See the following figure). The lock switch is designed to protect the scanning head in case of any damage during shipment .

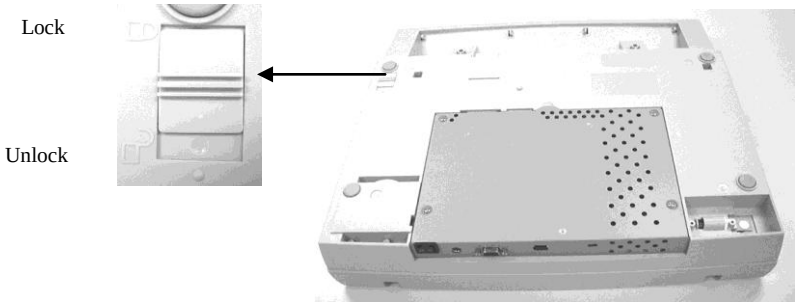


Figure 2.1 Unlock the 3100MFP

Note: If you need to transport the 3100MFP, be sure to first move the lock switch to the “Lock” position to prevent any damage during transportation.

(2). Connecting to a computer

a) Plug one end of the 1394 cable to the “1394” port on the back of your 3100MFP.

b) Plug the other end to your computer. (See the Figure 2.2)

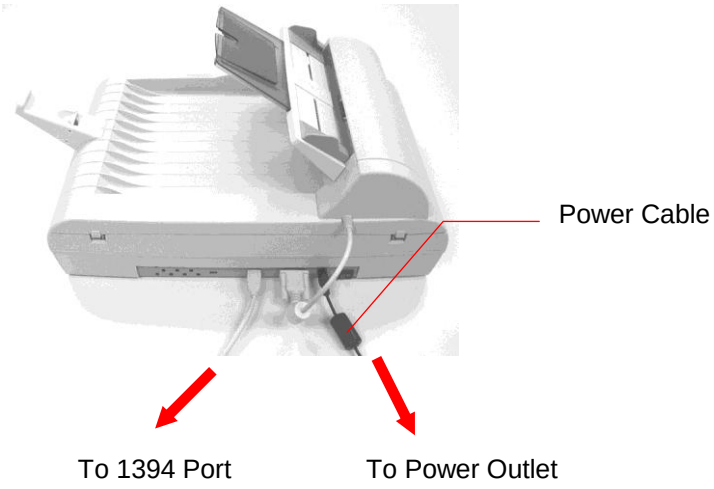


Figure 2.2 Connecting to a computer

(3). Connecting to Power

a) Plug the small end of the power cable(supplied) to the power jack on the back of your 3100MFP.

b) Plug the large end of the power cable to the power outlet.

2.3 TRANSPORTATION

To move the 3100MFP from where it is installed, for repair or any other reason, make sure to observe the following conditions:

(1) Turn off the power of the 3100MFP.

If the scanning head is located at a pl3100MFP other than the home position, turn the 3100MFP on to return the scanning head to the home position. Before making sure the scanning head is returned to the home position, turn the power supply off.

(2) Move the lock switch to the “lock” position.

(3) Remove the power and printer cables.

(4) Put the 3100MFP in the packing case with the packing material.

3. TROUBLESHOOTING

This section is given to locate and resolve the causes of troubles so as the 3100MFP is always in good working condition. The trouble causes, relevant units, maintenance methods, and system diagram are described below.

When a problem occurs, troubleshoot the problem according to the symptoms implied by the lamp blinking frequency.

Check the following first:

1. Is anything operated improperly?
2. Does the problem recur systematically ?

Table 4.1 shows the troubleshooting table.

The maintenance methods for each error are described in Table 4.2, and the system diagram is to help identify the troubled parts.

3.1 TROUBLESHOOTING

Table 4.1

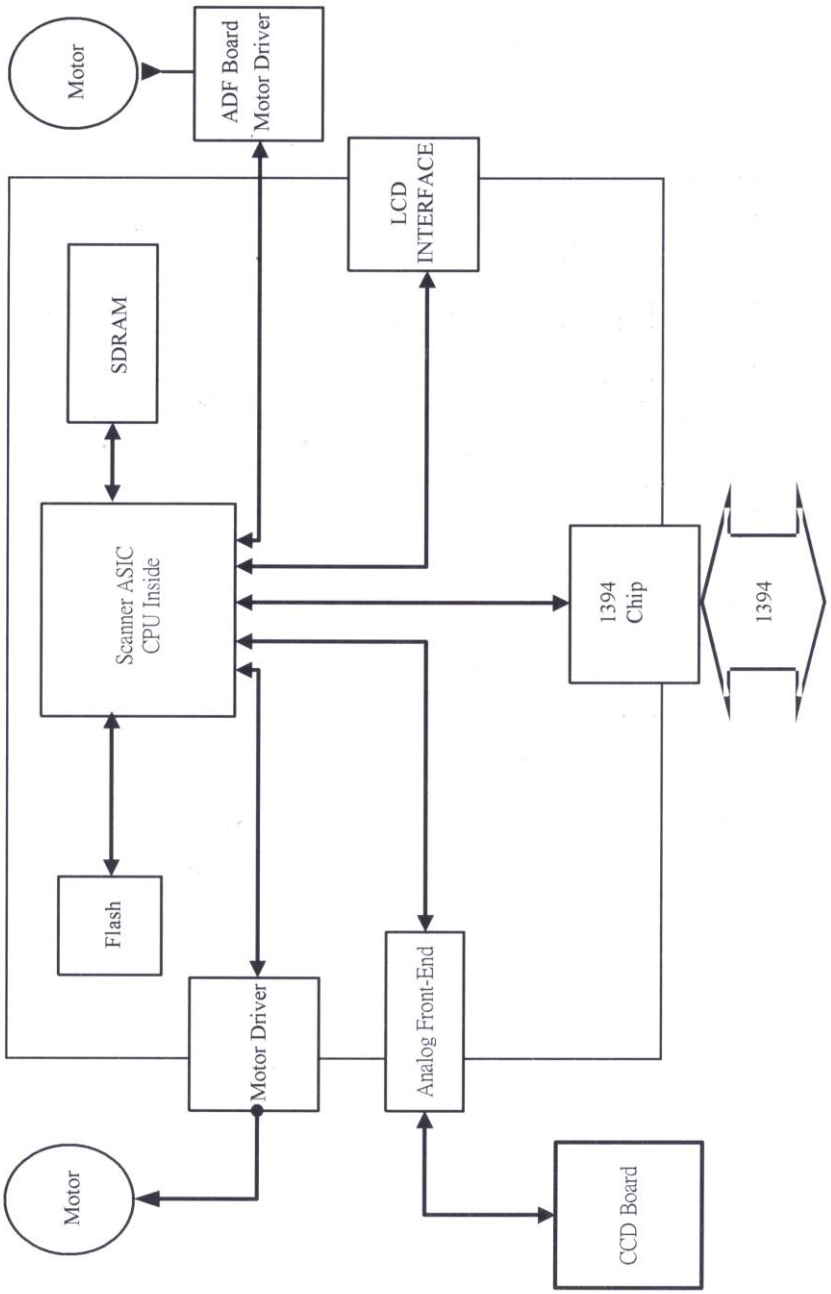
Lamp Blinking Frequency	Cause	Relevant Unit
1	OA SDRAM test error	Main Board
6	Home Sensor or Optical Chassis backhome error	Main Board ,Optical Chassis or Motor
7	Lamp failure	Main Board or Optical Chassis
9	ADF paper jam	ADF or Main Board
10	ADF cover open	ADF or Main Board

Table 4.2

Lamp Blinking Frequency	Maintenance Method
1	repl3100MFP Main Board PCBA
6	repl3100MFP Main Board PCBA, Optical Chassis or Motor
7	repl3100MFP Main Board PCBA or Optical Chassis
9	repl3100MFP ADF Assembly or Main board
10	repl3100MFP ADF Assembly or Main board

3.2 SYSTEM DIAGRAM

The system diagram is to help identify the troubled parts.



ACE
Scanner Block Diagram

4. PREVENTIVE MAINTENANCE

4.1 Cleaning

This 3100MFP is designed to be free of maintenance. However, it is suggested to perform preventative maintenance in the shorter term to ensure a consistently optimum performance.

4.1 CLEANING THE DOCUMENT GLASS

There are times when the document cover and document glass is contaminated with ink, toner particles or paper coatings. In this case, the 3100MFP will have to be cleaned frequently to ensure the best performance.

Follow the cleaning procedure as below:

(1) Open the document cover.

(2) Dip a clean cloth with non-corrosion solvent like alcohol (purity above 99.5%).

(3) Wipe the document cover and the document glass gently as shown in Figure 7.1 Continue until the entire document cover and document glass is cleaned and observe that no cleanser remains on the surf3100MFP.

(4) Close the document cover. Your 3100MFP is now ready for use.

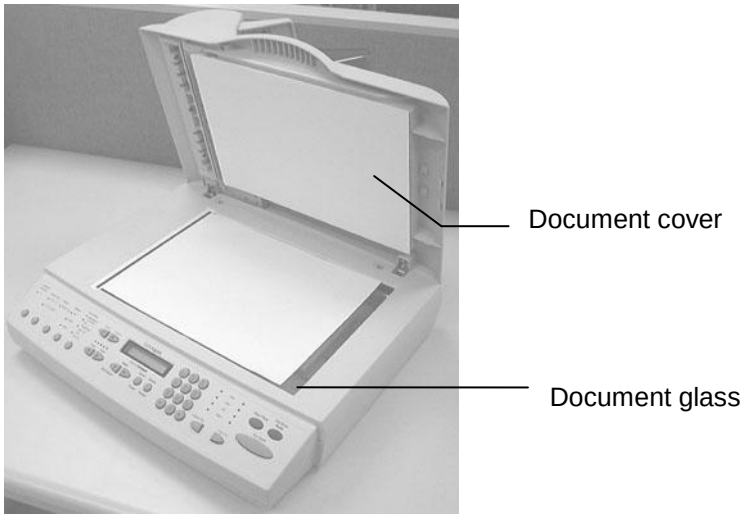


Figure 7.1 Cleaning

5. DISASSEMBLY

5.1 Service Tools

5.2 Lubricants

5.3 Procedure for Disassembly

5.1 SERVICE TOOLS

Table 5.1 describes the maintenance tools necessary for the maintenance of this equipment.

No.	Name	Description
1	Minus screwdriver	Idler pulley module screw
2	Philips screwdriver (magnetic)	Nominal No.2 M3, M4
3	Oil	Shell “Terr3100MFP Oil 46”
4	Grease	Shell “Alvania Grease No.2”
5	Alcohol (Isopropyl 91% >)	Cleaning
6	Digital voltmeter	With 0.01 V range
7	Oscilloscope	100 MHz or more with external sweep
8	Blower	Cleaning

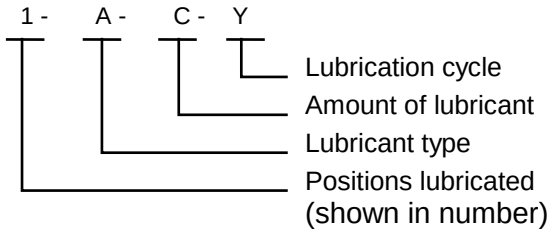
Table 5.1 Maintenance tools

5.2 LUBRICANTS

This section describes the items to check and the pl3100MFPs to lubricate when maintenance parts are repl3100MFPd.

5.2.1 MECHANICAL UNIT LUBRICATION

This lubrication method:

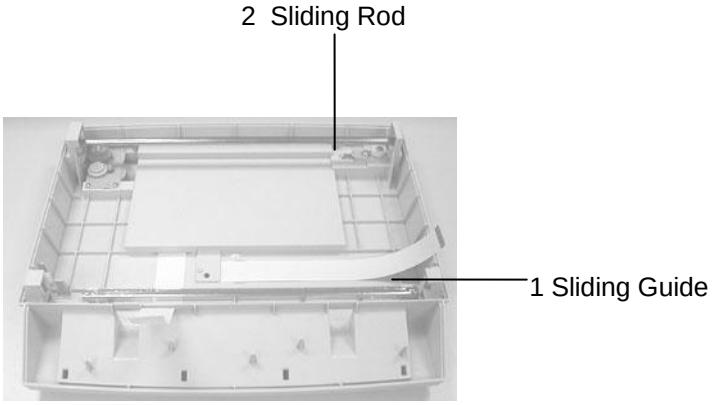


1. Positions need to be lubricated:
   The positions need to be lubricated is indicated in numbers.
2. Lubricant type:
   A: Shell Alvania Grease No. 2
   B: Shell Terr3100MFP Oil 46
3. Amount of lubricant:
   C: Coat thinly uniformly
4. Lubrication cycle:
   Y: Every year

Table 8.2 below shows the position to be lubricated.

Lubricated Position	Lubricant Type	Lubricant Amount	Lubrication Cycle	Part Name
1	B	C	Y	Sliding rod
2	A	C	Y	Sliding frame

Table 5.2



Positions lubricated

5.3 DISASSEMBLY DIRECTIONS

5.3.1 NOTES ON DISASSEMBLY

(1) Clean the disassembly location.

(2) Before disassembly, disconnect the power cable and remove the AC plug from the outlet.

(3) Follow the disassembly procedures. Never loosen the screws of parts that must not be disassembled.

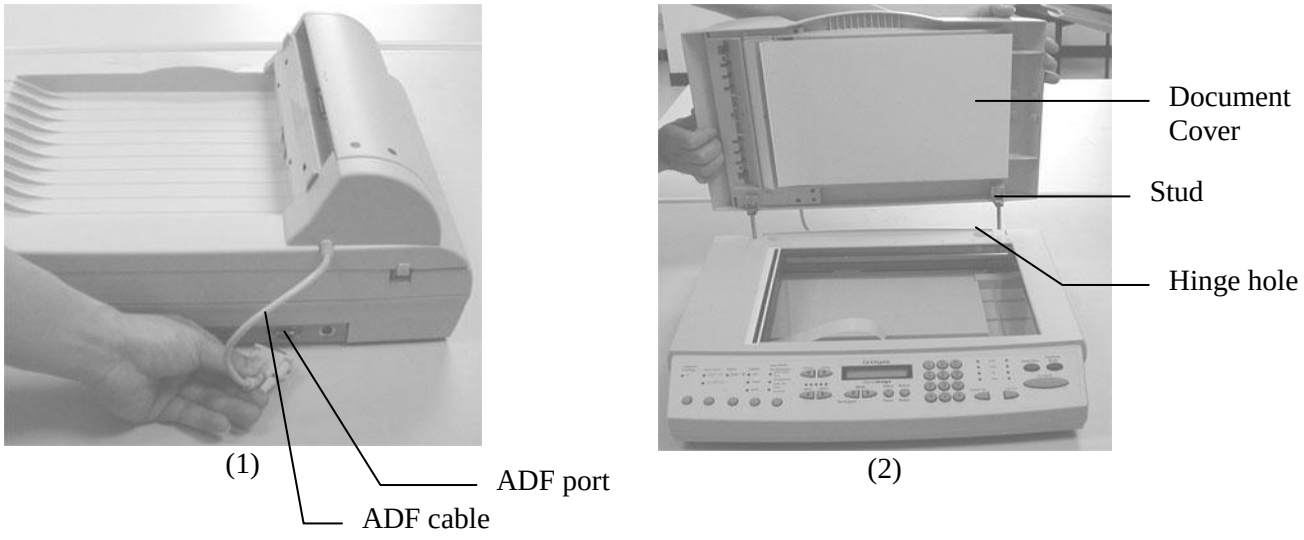
(4) Store the disassembled parts in a clean pl3100MFP to avoid loss.

(5) After repl3100MFPment, check the contacts and spare part mounting.

(6) Assemble the parts in reverse order of the disassembly procedure.

5.3.2 DOCUMENT COVER REMOVAL

(1) Gently unplug the ADF cable from the ADF port.
(2) Lift the document cover with the ADF to remove the studs from the hinge holes. The studs are loosely attached to the hinge holes for covering your original document.

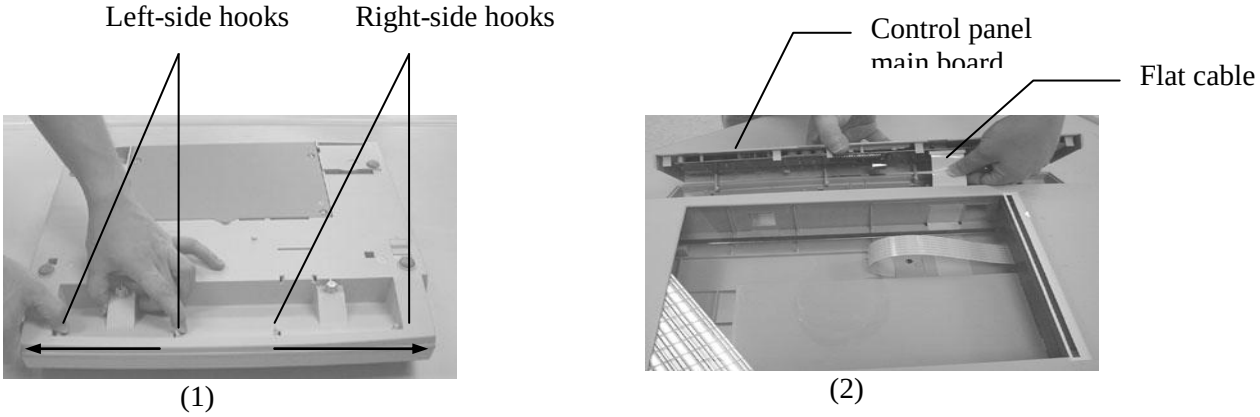


Picture 5.2 Document cover removal

5.3.3 CONTROL PANEL REMOVAL

(1) Put the scanner upside down, and simultaneously move the two left-hand side plastic hooks to the left and the right-hand side hooks to the right to release the control panel assembly.

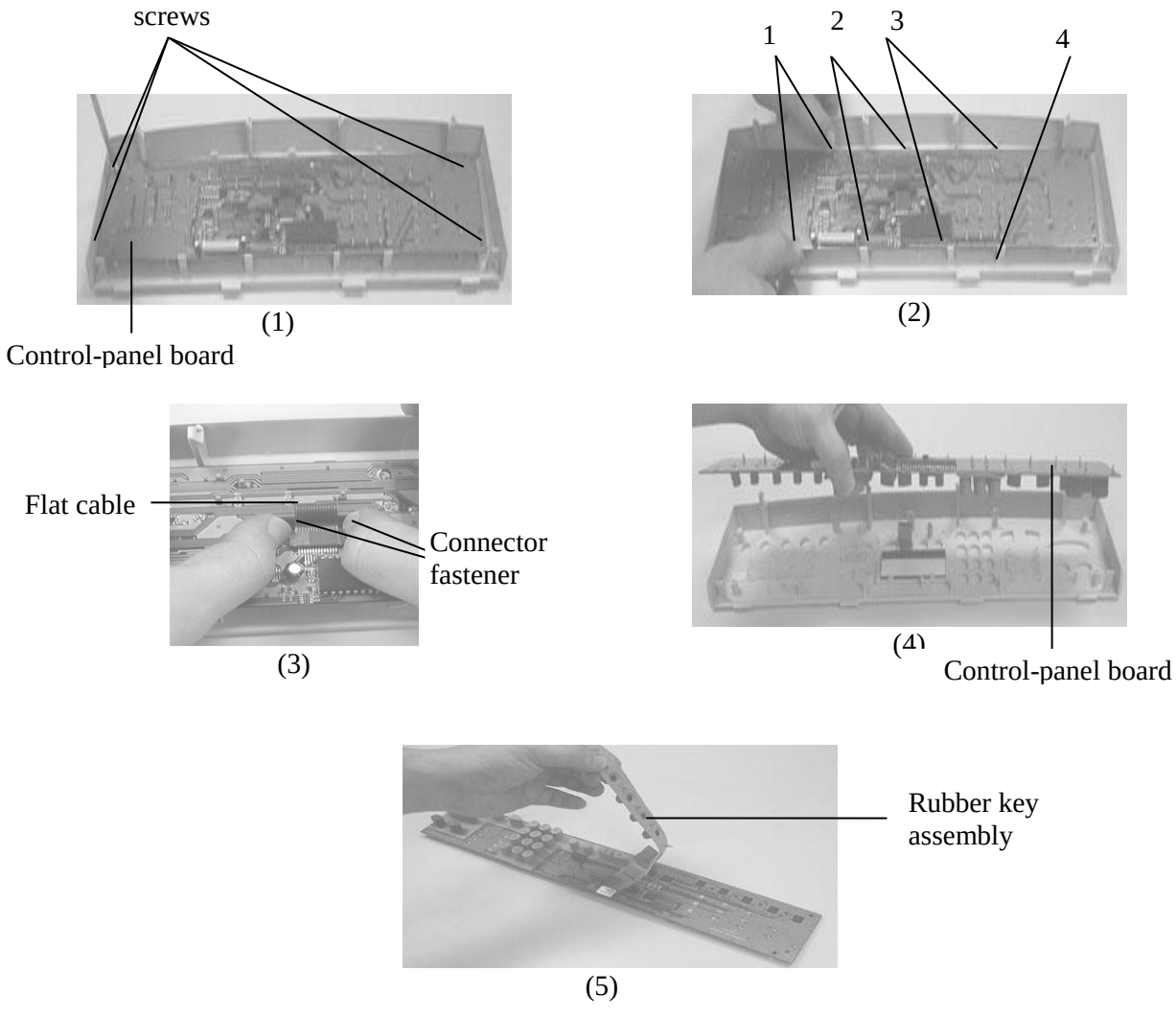
(2) Turn over the machine , and disconnect the flat cable on the control-panel main board.



Picture 5.3 Control panel removal

5.3.4 CONTROL-PANEL BOARD REMOVAL

(1) Loosen the four screws on the control-panel board.
(2) Remove the hooks on the board by the numerical ascendant order in picture 2.
(3) Remove the flat cable from the board by pushing the connector fastener.
(4) Remove the control-panel board.
(5) Remove the rubber-key assembly from the main board.



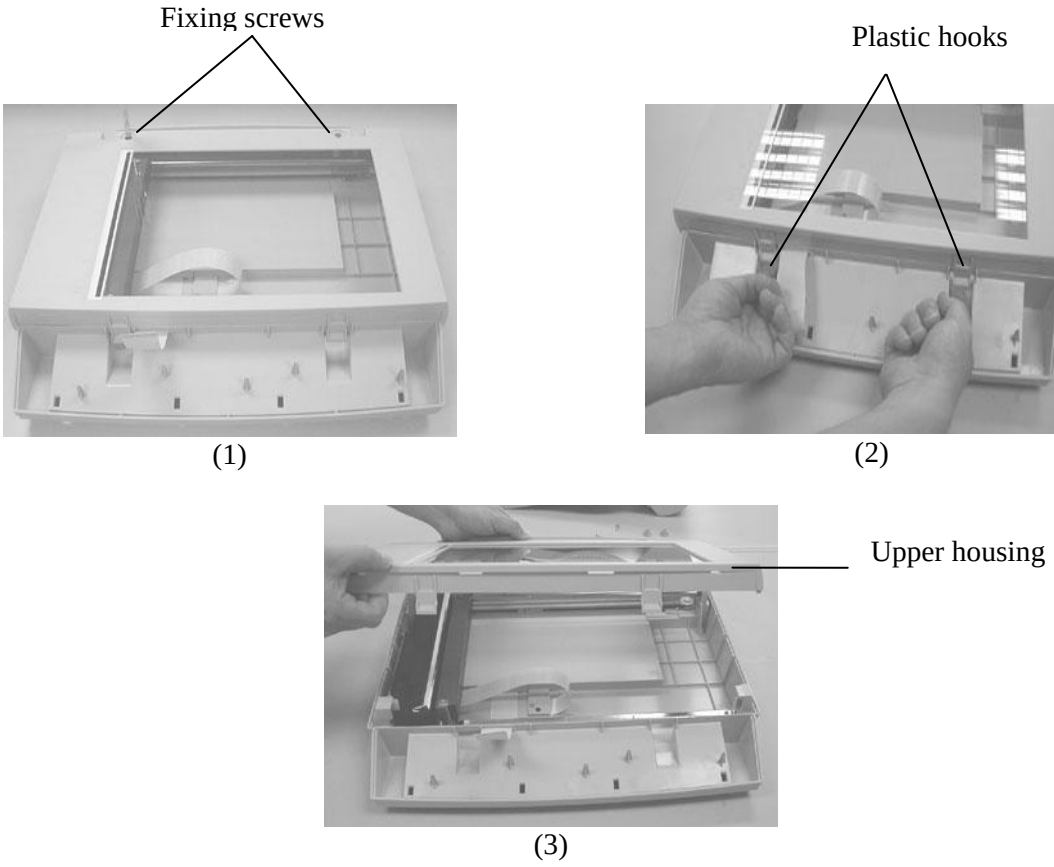
Picture 5.4 Control-panel board removal

5.3.5 UPPER HOUSING REMOVAL

(1) Loosen the screws on the back of the upper housing.

(2) Lift the upper housing while pulling out the two plastic hooks located at the front side of the upper housing.

(3) Remove the upper housing by holding it.



Picture 5.5 Upper housing removal

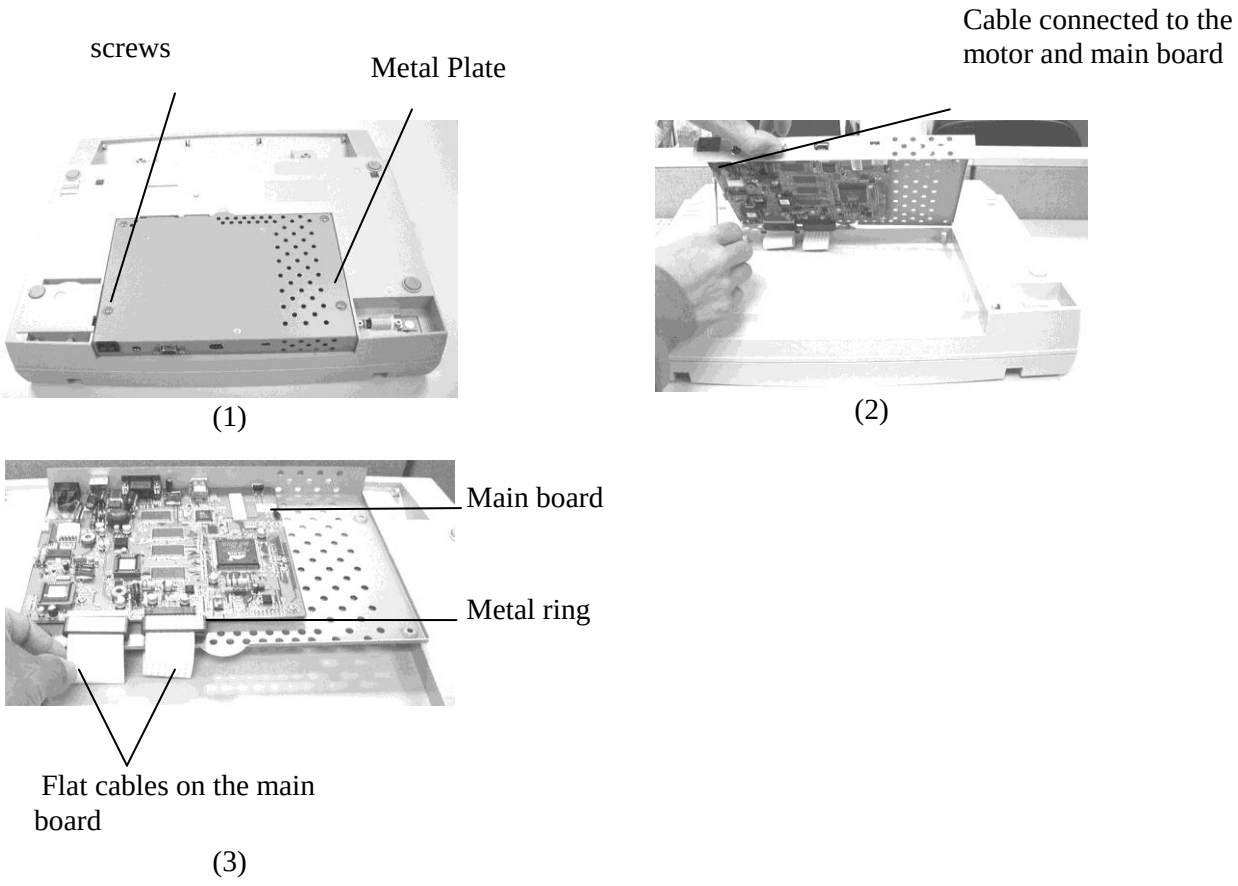
5.3.6 MAIN CONTROL BOARD REMOVAL

(1) Loosen the screws of the metal cover from the bottom housing .

(2) Disconnect the cable on the main board, connected to the motor.

(3) Disconnect the two flat cables from the main board.

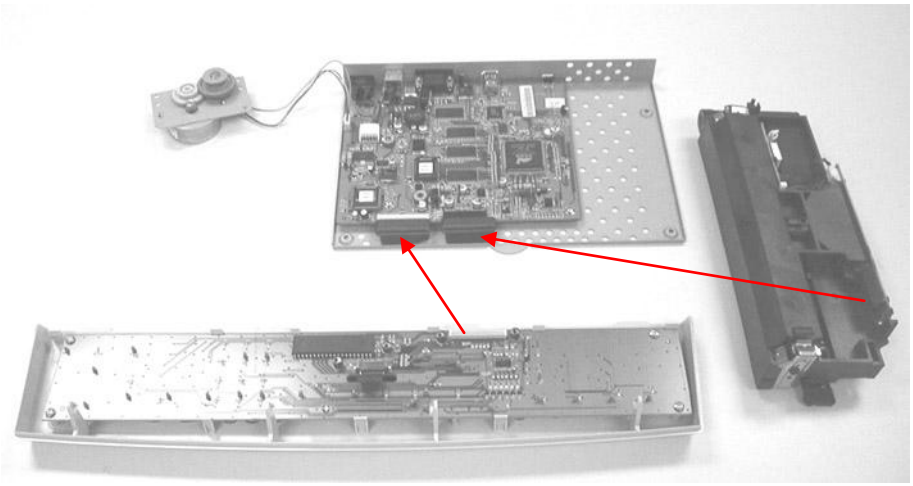
Note: During the reassembly, make sure to let the two flat cables go through the two big metal rings before connecting them to the main board.



Picture 5.6 Main control PCBA removal

5.3.7 WIRING COMPONENTS EXTERNAL VIEW

The external view of wiring components is shown below to present an overall picture for reference.



Picture 5.7 wiring components

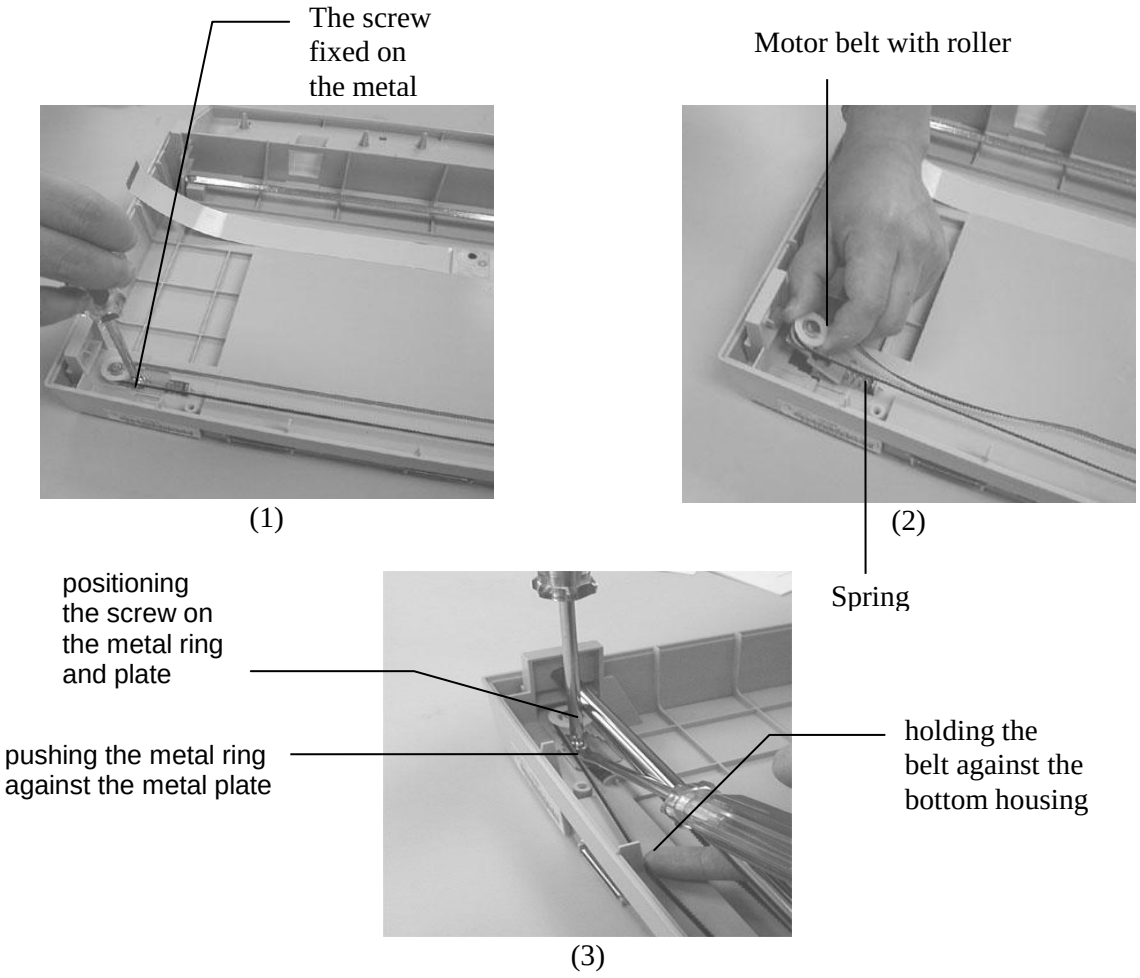
5.3.8 MOTOR BELT REMOVAL

(1) Loosen the screw on the metal plate, which controls the spring tightness.

(2) Push the spring through the metal plate until the motor belt is easily removed out.

Note:

During the reassembly, fasten the screw on the metal ring while pushing it against the metal plate and positioning the belt against the bottom housing(See picture 3).



Picture 5.8 Belt removal

5.3.9 OPTICAL CHASSIS

DISASSEMBLING PROCEDURE

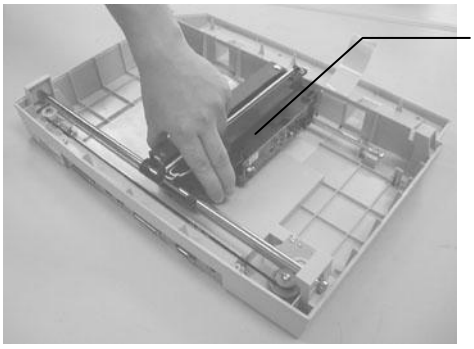
(1) Slide the optical chassis unit approximately to the mid-point on the sliding rod.

(2) Disconnect the flat cable from the main board of the optical chassis unit .

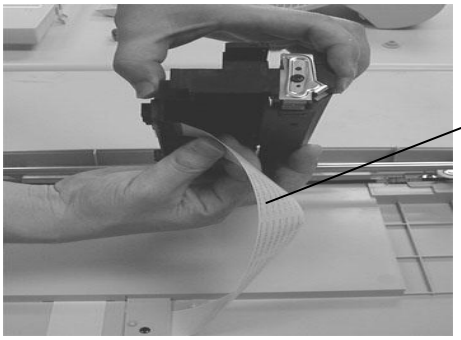
(3) Release the sliding rod by pulling upward the rod end locked on the hook hole.

(4) Pull out the sliding rod by holding the optical chassis with the motor belt hooked.

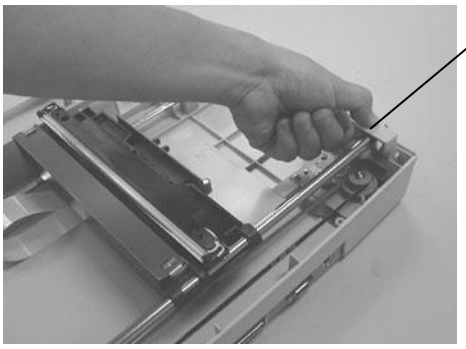
(5) Twist out the motor belt from the plastic hook located at the back of the optical chassis.



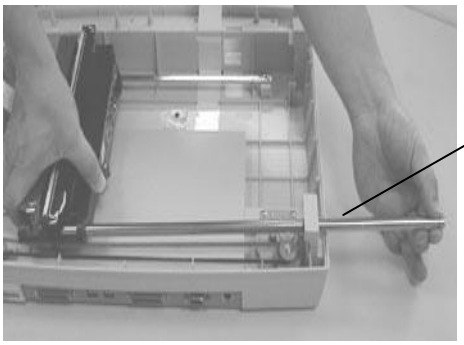
(1)



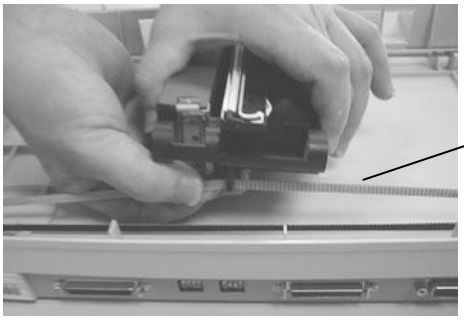
(2)



(3)



(4)



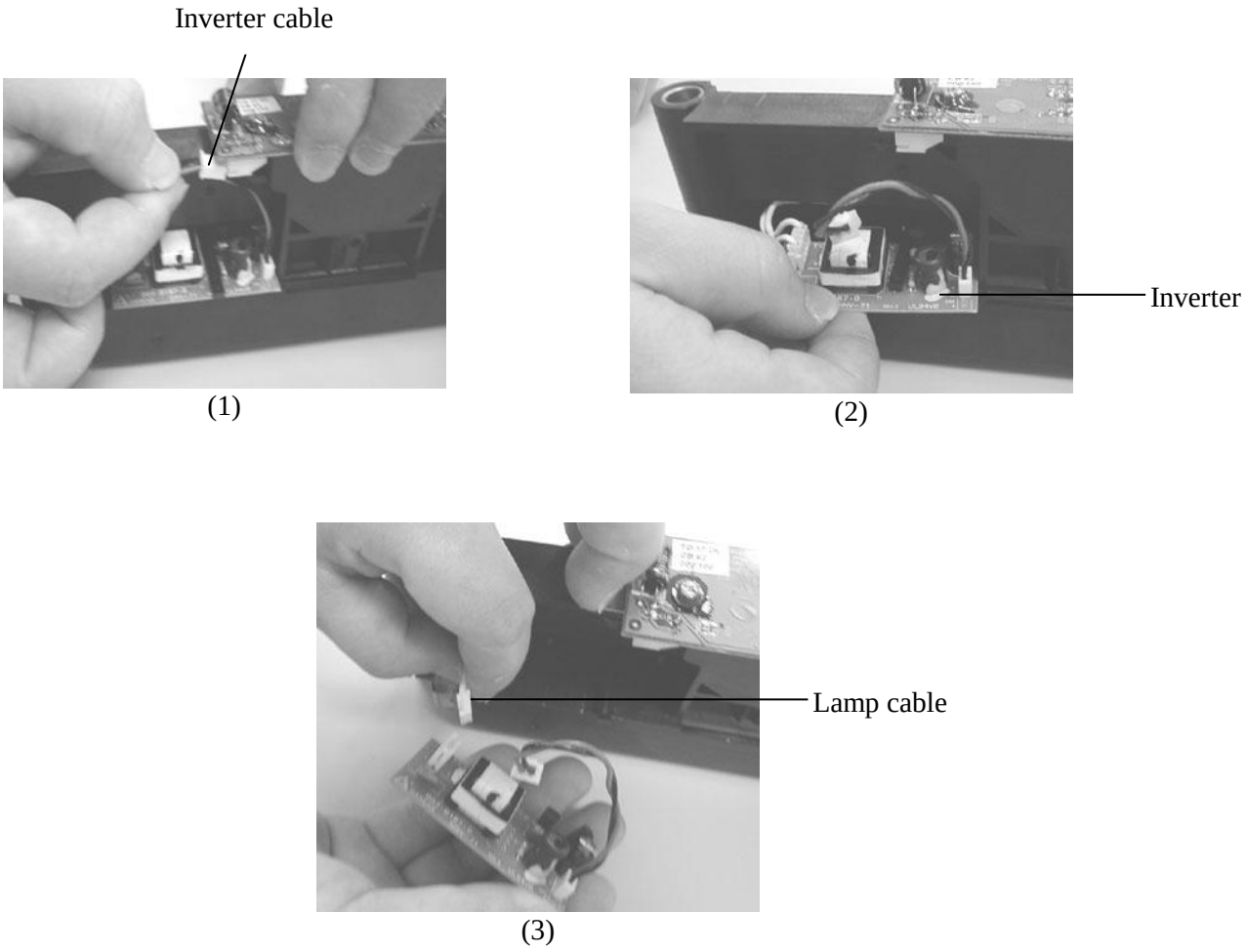
(5)

Picture 5.9 Optical chassis removal

5.3.10 INVERTER REMOVAL

(1) Disconnect the CCFL inverter cable from the main board of the optical chassis.

(2) Remove the inverter by disconnecting the lamp cable from the inverter.



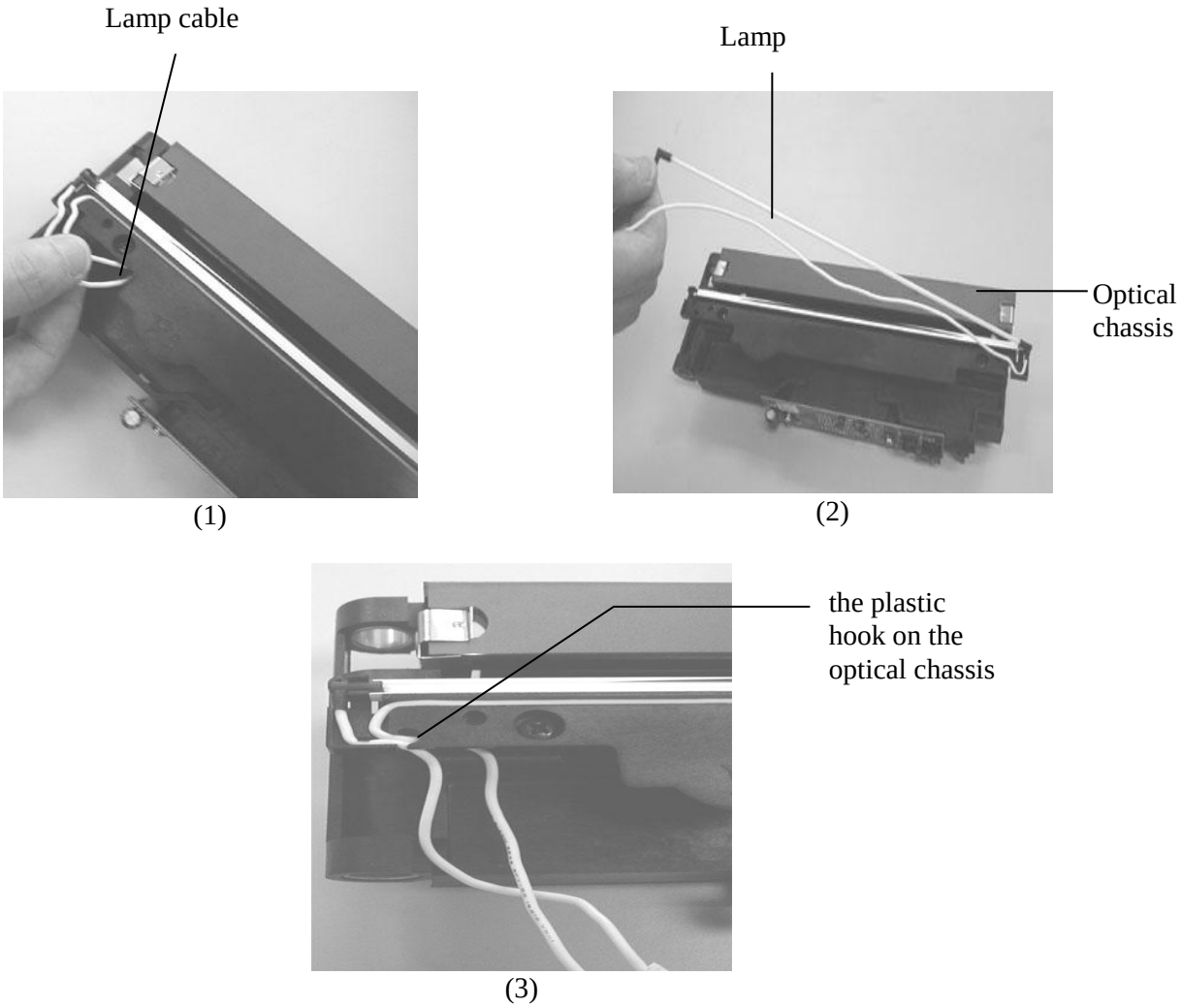
Picture 5.10 Inverter removal

5.3.11 LAMP ASSEMBLY

(1) Gently twist out the lamp cable from the hook on the optical chassis as indicated.

(2) Remove the lamp from the optical chassis.

Note: During reassembly, make sure that the lamp cable is fastened on the hook of the optical chassis as indicated.

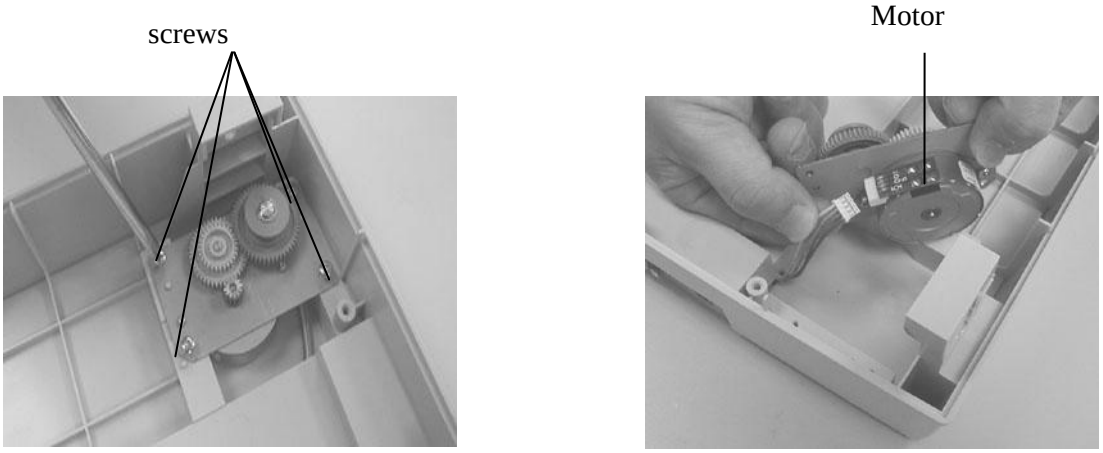


Picture 5.11 Lamp assembly removal

5.3.12 MOTOR UNIT

(1) Loosen the four screws on the metal plate as indicated.

(2) Remove the motor.



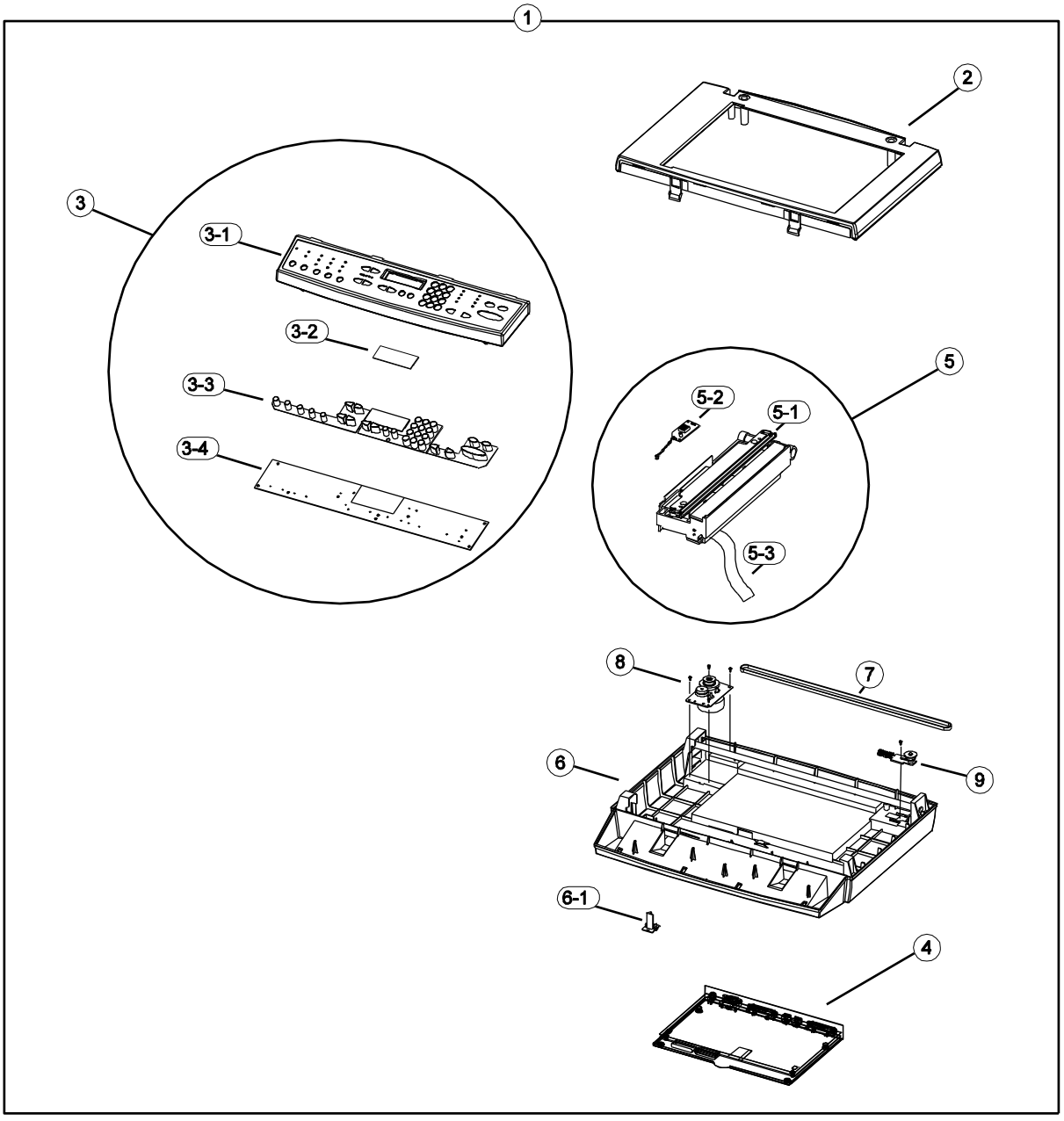
(1) (2)

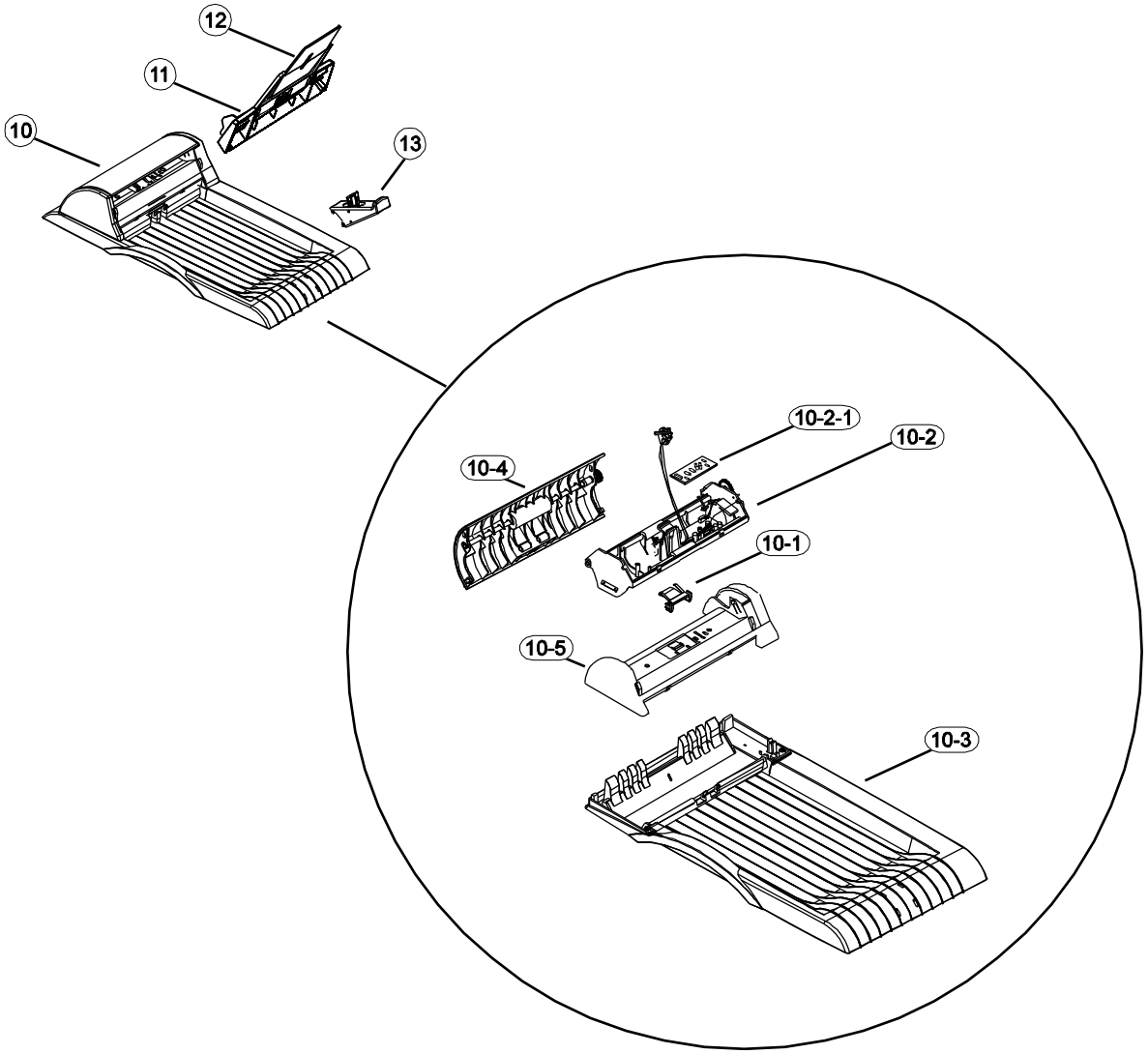
Picture 5.12 Motor unit removal

6. PARTS

Note: *This product is no longer serviced or updated by Lexmark. Replacement parts (other than supplies) may have little or no availability.*

6.1 SPARE PART LIST




12
11
10
13
10-2-1
10-2
10-4
10-1
10-5
10-3

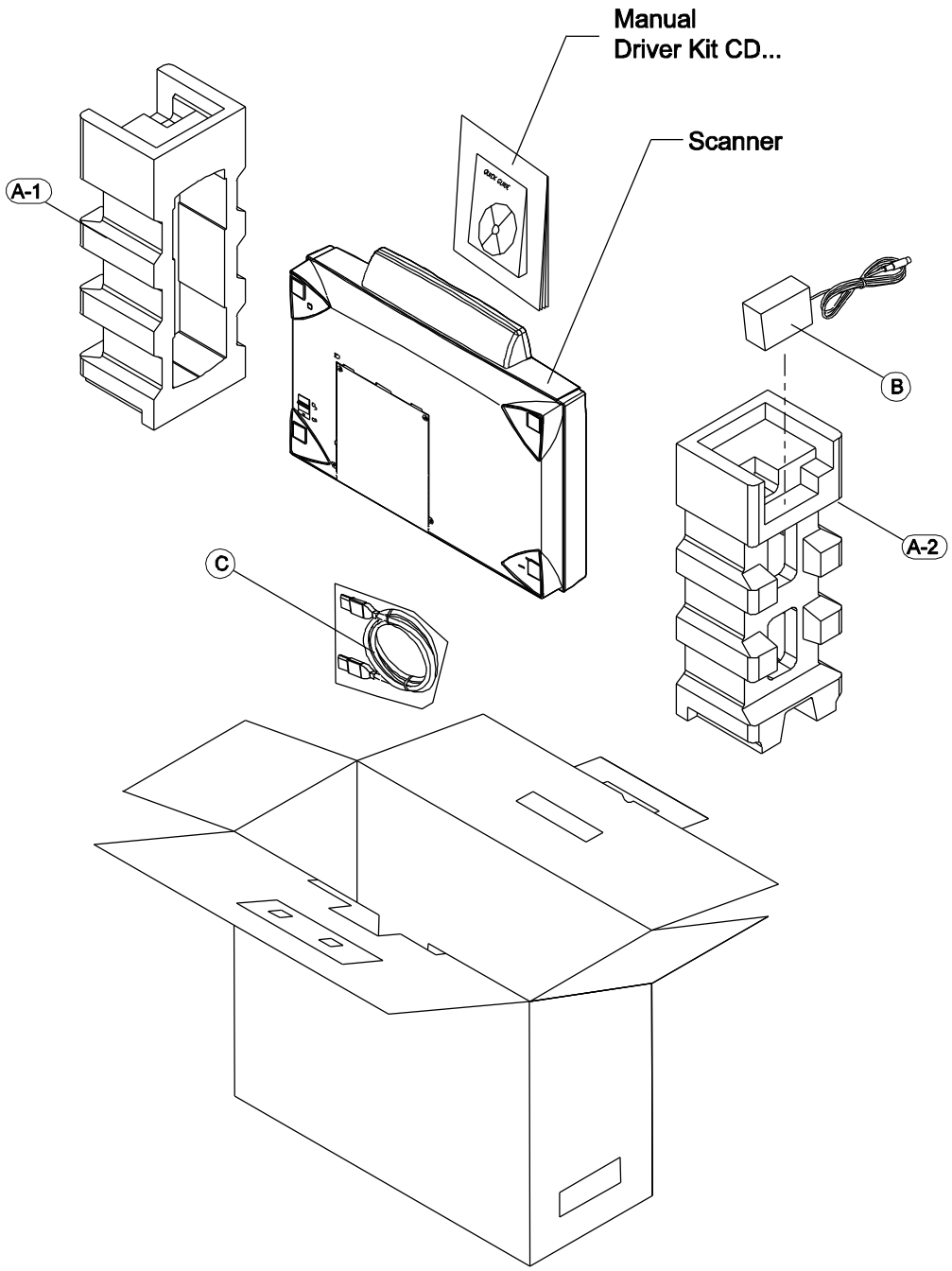

Manual
Driver Kit CD...
Scanner
A-1
B
A-2
C

Table 10.1 Spare Parts of 3100MFP

Item	Avision P/N	Lexmark FRU	ACCEPT ORDER QTY See note	DESCRIPTION
1	003-5461-0-SP	0056P1800	1	S-PARTS: FLATBED MODULE,
2	002-0762-0-SP	0056P2375	4	S-PARTS: ASS'Y UPPER HOUSING
3	002-0752-0-SP	0056P2376	8	S-PARTS: ASS'Y CONTROL COVER
3-1	003-5241-0-SP	0056P2586	8	S-PARTS: CONTROL COVER
3-2	003-5237-0-SP	0056P2587	1	S-PARTS: LCD DISPLAY
3-3	003-5242-0-SP	0056P2588	1	S-PARTS: RUBBER KEY
3-4	003-5240-0-SP	0056P2589	8	S-PARTS: PCBA, UI06
4	002-1683-0-SP	0056P2377	7	S-PARTS: ASS'Y, MAIN BOARD
5	002-1685-0-SP	0056P2379	6	S-PARTS: ASS'Y, OPTICAL
5-1	067-0033-0-SP	0056P1801	4	S-PARTS: CCFL: 2.6x240x1, X=0.318, Y=0.343, TOA, FL-26240(C2), CKD, Long Life=50,000hrs
5-2	003-0187-0-SP	0056P2381	1	S-PARTS: INVERTER, IBE12-G PCBA, 24Vdc
5-3	104-0085-0-SP	0056P0042	1	S-PARTS: FLEXIBLE FLAT CABLE 22P, P=1.25, L=400mm, BLACK
6	003-5254-0-SP	0056P2382	4	S-PARTS: BOTTOM ASS'Y
6-1	051-1034-0-SP	0056P2590	1	S-PARTS: LOCK, 24x20x30mm, PC
7	057-0021-0-SP	0056P2383	1	S-PARTS: BELT
8	002-0760-0-SP	0056P2384	1	S-PARTS: MOTOR MODULE
9	002-0759-0-SP	0056P2591	1	S-PARTS: IDLER PULLEY ASS'Y
10	002-1681-0-SP	0056P1802	1	S-PARTS: ASS'Y, ADF DOCUMENT
10-1	002-0697-0-SP	0012G3623	1	S-APRTS: ASS'Y, PAD
10-2	002-1682-0-SP	0056P2592	9	S-PARTS: ASS'Y, MAIN CASE, U-SHAPE ADF
10-2-1	004-0659-0-SP	0056P2385	1	S-PARTS: PCBA, AB28
10-3	002-0845-0-SP	0056P2594	4	S-PARTS: ASS'Y, BOTTOM CASE, A4 U-SHAPE ADF
10-4	002-0770-0-SP	0056P2595	9	S-PARTS: ASS'Y, FRONT CASE
10-5	003-5238-0-SP	0056P2596	9	S-APRTS: UPPER + MYLAR
11	002-1795-0-SP	0056P1803	1	S-PARTS: ASS'Y, PAPER TRAY
12	002-1794-0-SP	0056P1804	12	S-PARTS: ASS'Y, PAPER SUPPORT
13	002-0844-0-SP	0012G3968	1	S-PARTS: ASS'Y, STOPPER
A-1	072-0118-0	N/A	1	EPS FOAM(L): 462x140x245
A-2	072-0119-0	N/A	1	EPS FOAM(R): 462x140x245
B	003-0297-0-SP	0056P0195	1	S-PARTS: POWER ADAPTOR, IEC-2pin, 24V/2A(60W), 100-240V
C	104-0363-0-SP	0056P1499	1	CABLE: IEEE 1394, L=180mm

Note:
The minimum order quantity accepted by Avision.