Publication No. II 3477-2
11/98
This publication supersedes II3477-2 from 9/98, 4/98 and 12/97
II 3477
and II 3477-1

INSTALLATION INSTRUCTIONS

for the

KODAK Miniloader 2000

and for the

KODAK Miniloader 2000 P

© KODAK AG STUTTGART, 1996, 1998

ESD

This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use care to prevent damage during all service procedures.

Note

- In this INSTALLATION INSTRUCTIONS only the ML2000 STAND ALONE and the ML2000 P installation are described. The installation of a ML 2000 in a VAN must be done by an outside vendor.
- The Installation must be done in accordance with the SITE SPECIFICATIONS of the KODAK Miniloader 2000 / Miniloader 2000 P.

PLEASE NOTE

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Kodak prior to publication. No patent license is granted by this information. Kodak reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from the use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

TABLE OF CONTENTS

CHAPTER 1 1-1
SEQUENCE OF INSTALLATION 1-1
PREINSTALLATION REQUIREMENTS 1-2
POWER CORD LIST 1-2
CHAPTER 2 2-1
PACKING LIST ML2000 2-1
PACKING LIST ML2000 P 2-1
SPECIAL TOOLS 2-2
ELECTRICAL SAFETY 2-3
PERSONAL SAFETY 2-3
CHAPTER 3 (ML2000 only) 3-1
UNPACKING THE MINILOADER 2000 3-1
CHAPTER 4 (ML2000 P only) 4-1
INSTALLATION OF THE PROCESSOR M35-M onto the STAND 4-1
MAINS PLUG for the PROCESSOR M35-M 4-10
CHAPTER 5 5-1
REPLACING THE MINILOADER 2 WITH THE ML2000P 5-1
CHAPTER 6 (ML2000 P only) 6-1
MOUNTING THE ML2000 P ONTO THE STAND 6-1
SAFETY COVER 6-6
PROTECTIVE COVER 6-7
FLEXIBLE CABLE GUARD 6-8
CHAPTER 7 7-1
CONNECTING THE ML2000 / ML2000 P TO THE MAINS. 7-1
CHAPTER 8 8-1
SET-UP OF THE ML 2000 / ML2000 P 8-1
1. PREPARATION OF THE LAP TOP 8-1
2. ENTERING UNIT DATA 8-1
3. SETTING THE TIME AND DATE 8-2
4. IMPLEMENTATION OF THE LANGUAGES 8-2
5. CLEAR THE MEMORIES 8-4
6. SWITCH SETTING OF S1-1 AND S1-2 ON PCB A1 8-4
7. SWITCH SETTING OF S1 and S2 ON PCB A4 8-7
8. SWITCH SETTING ON PCB A8 8-8
9. JUMPER SETTING PCB A6 MAGAZINE SENSE 8-8
10. PARAMETER SETTING 8-8
11. ADJUSTMENT OF SENSOR B9/C_PI PROC. INTERFACE 8-9

12. REFLECTIVE STICKERS SUPPLY MAGAZINE 8-10
13. REFLECTIVE STICKER RECEIVING MAGAZINE ML2000 only 8-12
14. DISPLAY DIMMER 8-12
CHAPTER 9 9-1
RESIZING MAGAZINES 9-1
CHAPTER 10 10-1
FINAL TEST 10-1

CHAPTER 1

SEQUENCE OF INSTALLATION

PREINSTALLATION REQUIREMENTS

Note

- **The ML2000 / ML2000 P must not be installed in the close vicinity of a unit producing a strong magnetic field. The INTERLOCK SYSTEM of the ML2000 / ML2000 P is made of REED CONTACTS. It may be defeated by the external magnetic field.**

- Prior to installation of the ML2000 check that the site is prepared according to the SITE SPECIFICATIONS. Ensure that the SPECIAL TOOLS (see chapter 2) are available and that the POWER CORD is available. The POWER CORD is not part of the ML2000 / ML2000 P. It must be ordered separately. Select it from the listing below.

POWER CORD LIST

COUNTRY	V	Hz	Cat No	alternative plugs
A				
Abu Dhabi	230	50	7183536	
Afghanistan	220	50	7194897	
Albania	220	50	7194897	
Algeria	127-220	50	7194897	
Angola	220	50	7194897	
Argentina	230	50	7194897	7183528
Armenia	220	50	7194897	
Australia	240	50	7183528	
Austria	220	50	7194897	
Azerbaijan	220	50	7194897	
B				
Bahamas	115	60	7183536	7194921
Bahrain	110-230	50-60	7183536	7194921
Bangladesh	230	50	7183536	
Barbados	115	50	7194921	
Belarus	220	50	7194897	
Belgium	220	50	7194897	
Belize	110-220	60	7194921	
Benin	220	50	7194897	
Bermuda	115	60	7194921	
Bolivia	110	50	7194921	
Borundi	220	50	7194897	
Botswana	220	50	7183536	
Brazil	110-127-220	60	7194897	7194921
Brunei	240	50	7183536	

COUNTRY	V	Hz	Cat No	alternative plugs
Bulgaria	220	50	7194897	
Burkina Faso	220	50	7194897	
C				
Cambodia	220	50	7194897	7194921
Cameroon	127-220	50	7194897	
Canada	120	60	7194921	
Central Africa Rep.	220	50	7194897	
Chad	220	50	7194897	
Chile	220	50	7194897	local dealer
China	220	50	7183528	7194921
Colombia	110-220	50	7194921	
Congo	220	50	7194897	
Costa Rica	120	60	7194921	
Croatia	220	50	7194897	
Cuba	115-120	60	7194921	
Cyprus	240	50	7183536	
Czech Republic	110-220	50	7194897	
D				
Dahomey	220	50	7194897	
Denmark	230	50	7194897	local dealer
Dominican Republic	110-220	60	7194921	
E				
Ecuador	110-220	60	7194921	7194897
Egypt	220	50	7183536	7194897
El Salvador	120-240	60	7194921	
Estonia	220	50	7194897	
Ethiopia	220	50	7194897	local dealer
F				
Fiji Islands	240	50	7183528	
Finland	220	50	7194897	
France	220	50	7194897	7194913
French Guiana	220	50	7194897	
G				
Gabon	220	50	7194897	
Gambia	230	50	7183536	
Georgia	220	50	7194897	
Germany	230	50	7194897	
Ghana	240	50	7183536	
Greece	220	50	7194897	
Guatemala	115-230	60	7194921	
Guyana	110-240	60	7194921	
H				
Haiti	110-220	60	7194921	
Honduras	110-220	60	7194921	
Hong Kong	220	50	7183536	

COUNTRY	V	Hz	Cat No	alternative plugs
Hungary	220	50	7194897	
I				
Iceland	220	50	7194897	
India	230	50-60	7183536	
Indonesia	127-220	50	7194897	
Iran	220	50	7194897	
Iraq	220	50	7194897	7183536
Ireland	220	50	7183536	7194897
Israel	230	50	local dealer	
Italy	220	50	7194897	local dealer
Ivory Coast	220	50	7194897	
J				
Jamaica	220	50	7183536	7194921
Japan	100-220	50-60	7194921	
Jordan	220	50	7183536	7194921
K				
Kazakhstan	220	50	7194897	
Kenya	240	50	7183536	
Kirgizstan	220	50	7194897	
Korea (North)	220	50	7194897	
Korea (South)	110-220	60	7194897	7194921
Kuwait	240	50	7183536	
L				
Laos	220	50	7194897	7194921
Latvia	220	50	7194897	
Lebanon	110-220	50	7194897	7183536
Lesotho	230	60	7183536	
Liberia	120	60	7194897	7194921
Libya	115-220	50	7194897	7183536 / 7194921
Lithuania	220	50	7194897	
Luxembourg	220	50	7194897	
M				
Malawi	230	50	7183536	
Malaysia	240	50	7183536	
Mali	220	50	7194897	
Marocco	127-220	50	7194897	
Mauritania	220	50	7194897	
Mauritius	230	50	7183536	
Mexico	120	50-60	7194921	
Moldavia	220	50	7194897	
Mozambique	220	50	7194897	
Myanmar	240	50	7183536	

COUNTRY	V	Hz	Cat No	alternative plugs
N				
Namibia	220	50	7183536	
Netherland Antilles	110-127	50	7194921	7194897
Netherlands	230	50	7194897	
New Zealand	230	50	7183528	
Nicaragua	120	60	7194921	
Niger	220	50	7194897	
Nigeria	230	50	7183536	
Norway	220-230	50	7194897	
O				
Oman	240	50	7183536	7194921
P				
Pakistan	230	50	7183536	
Panama	120	60	7194921	
Paraguay	220	60	7194897	
Peru	220	60	7194897	7194921
Philippines	110-220	50	7194921	
Poland	127-220	50	7194897	
Portugal	110-220	50	7194897	
Puerto Rico	120	60	7194921	
Q				
Qatar	240	50	7183536	
R				
Romania	220	50	7194897	
Russia	220	50	7194897	
Rwanda	220	50	7194897	
S				
Saudi Arabia	127-220	60	local dealer	
Senegal	110	50	7194897	
Sierra Leone	230	50	7183536	
Singapore	230	50	7183536	
Slovakia	120-220	50	7194897	
Slovenia	220	50	7194897	
Solomon Island	240	50	7183528	
Somalia	220	50	7194897	
South Africa	220-240	50	local dealer	
Spain	110-230	50	7194897	
Sri Lanka	230	50	7183536	
Sudan	240	50	7183536	
Surinam	110-127	60	7194897	7194921
Swaziland	220	50	7183536	
Sweden	220	50	7194897	
Switzerland	220	50	7194905	
Syria	220	50	7194897	

COUNTRY	V	Hz	Cat No	alternative plugs
T				
Taiwan	110-220	60	7194921	
Tajikistan	220	50	7194897	
Tanzania	230	50	7183536	
Thailand	220	50	7194921	
Togo	127-220	50	7194897	
Tonga	230	50	7183528	
Trindad & Tobago	115-230	60	7183536	7194921
Tunisia	127-220	50	7194897	
Turkey	220	50	7194897	
Turkmenistan	220	50	7194897	
U				
Uganda	240	50	7183536	
Ukraine	220	50	7194897	
United Arab Emirates	220	50	7183536	
United Kingdom	240	50	7183536	
United States	120	60	7194921	
Uruguay	220	50	7194897	
Uzbekistan	220	50	7194897	
V				
Venezuela	120-240	60	7194921	
Vietnam	120-220	50	7194897	7183536
Virgin Islands	120	60	7194921	
Y				
Yemen	220	50	7183536	
Yugoslavia	220	50	7194897	
Z				
Zaire	220	50	7194897	
Zambia	220	50	7183536	
Zimbabwe	220	50	7183536	

CHAPTER 2

PACKING LIST ML2000

Note

The parts are packed in the non-coded SUPPLY MAGAZINE.

PART	QTY	DESCRIPTION
OI3477	1	OPERATOR INSTRUCTIONS (english version)
930711	1	VOLTAGE LABEL Europe
9307121	1	VOLTAGE LABEL US
9218396	1	JUMPER (voltage setting of TRANSFORMER)
9309211	1	OPERATING AND LANGUAGE SOFTWARE

PACKING LIST ML2000 P

Note

- Parts marked with *** are packed with the non-coded SUPPLY MAGAZIN
- The PACKING LIST for the M35-M STAND is part of chapter 4.

PART	QTY	DESCRIPTION
OI3479	1	OPERATOR INSTRUCTIONS (english version) ***
9318506	1	SENSOR PROCESSOR INTERFACE
4536251	2	SCREW
9311906	1	SENSOR MOUNTING BRACKET
9310206	1	FRONT PANEL
9155081	3	self adhesive WIRE TIE SOCKET
5554503	3	WIRE TIE
4281721	2	COUNTERSUNK SCREW
4283291	2	SCREW
4497710	2	WASHER
9310806	1	BRACKET
9192226	1	HARNESS
9313046	1	HARNESS 9 leads
4283121	6	SCREW
4480032	4	WASHER

4853121	6	NUT
9307111	1	VOLTAGE LABEL Europe ***
9307121	1	VOLTAGE LABEL US ***
4532831	10	FUSE CAP US
4533681	5	FUSE SLOW BLOW 3.2 A
4533671	2	FUSE SLOW BLOW 1.6 A
4534021	1	FUSE SLOW BLOW 4 A
4534031	1	FUSE SLOW BLOW 6.25 A
4534151	1	FUSE SLOW BLOW 8 A
9311706	1	SAFETY COVER
4280440	4	SCREW M6x20
4480271	8	WASHER 6.3 mm
4853131	4	NUT M6
4500441	4	STAR WASHER 8.3 mm
6081850	1	WIRE TIE
9218396	1	JUMPER (voltage setting of TRANSFORMER) ***
9309211	1	OPERATING AND LANGUAGE SOFTWARE ***

Important

For ML2000 / ML2000 P installations in US and Canada only:

- Remove and discard all FUSES and FUSE CAPS from the POWER SUPPLY. They are located at the front of the ELECTRONIC BOX.
- Insert the UL and CSA approved FUSES and FUSE CAPS from the INSTALLATION KIT.

For ML2000 / ML2000 P installations outside US and CANADA.

- Discard the additional FUSES and FUSE CAPS in the INSTALLATION KIT.

SPECIAL TOOLS

Note

Ensure that all tools are available prior to installation.

Beside the standard TOOL KIT the following SPECIAL TOOLS are required:

VERNIER CALIPER ..... TL 1727
GREASE ..... TL 2247
METRIC ALLEN SET ..... TL 2764
METRIC ALLEN SET BALL ENDED ..... TL 3789

METRIC OPEN END WRENCH SET ..... TL 2765
METRIC OPEN END WRENCH 5.5mm ..... TL 1936
METRIC OPEN WRENCH 7mm ..... TL 1938
ESD KIT ..... TL 3346
DENTIST MIRROR ..... TL 2753
EXTRACTION TOOL ..... TL 1580
EXTRACTION TOOL ..... TL 1654
THICKNESS GAUGE ..... TL 2372
LAPTOP DATA CABLE ..... TL 4391
TORX WRENCH SET ..... TL 3261
BLOW PIPE POSITIONER MAGAZINE ..... TL 4582
CES SERVICE SOFTWARE G9904474
OPERATING AND LANGUAGE SOFTWARE 9309211
LAPTOP COMPUTER, has to be bought locally.

ELECTRICAL SAFETY

Note

After installation of the ML2000 / ML2000 P check the electrical safety of it. Follow your local safety regulations. Ensure that all panels are mounted properly.

PERSONAL SAFETY

Warning

To avoid any risk of injury when moving heavy loads follow your local safety regulations. These regulations are different in various countries!

ML2000

- The ML2000 should not be rolled down from the TRANSPORT PALLET by just one person. The centre of gravity is high and the unit may tip over if it is not rolled down the ramp carefully.

ML2000 P

- Due to the high weight, the ML2000 P must not be installed by just one person. To lift the M35-M Processor onto the BASE at least two people are required. To move the ML2000 P from the TRANSPORT BOX onto the STAND at least two people are required.

CHAPTER 3 (ML2000 only)

UNPACKING THE MINILOADER 2000

1. Cut the straps around the box.

Note

Take care that the wooden ramp does not fall over.

2. Remove the carton.
3. Remove the STOP BRACKET.
4. Engage the RAMP with the base.

figure 3-1

5. Support the RAMP with the wooden BRACE. (The BRACE is packed under the ML2000)

figure 3-2

6. Carefully roll down the M2000 from the BASE.

Caution

For safety reasons this should be done by 2 people.

7. Take off the REAR PANEL.

8. Take out the FILM CHUTE.

a. Cut the WIRE TIE at the bottom of the FILM CHUTE.
b. Carefully pull out the FILM CHUTE left and right.

figure 3-3

9. Cut the WIRE TIES which hold the FILM POCKET, COUNTERWEIGHTS and CHAINS in position and take out the 4 WIRE TIE HOLDERS from the COUNTERWEIGHT RAILS.

figure 3-4

10. Carefully take out the FOAM TRANSPORT LOCK and the CARDBOARD of the FILM POCKET and the rear TRANSPORT LOCKS of the SUPPLY MAGAZINES.

figure 3-5

11. Carefully insert the left-hand and right-hand FILM CHUTE.

12. Open the TOP COVER.

13. Cut the WIRE TIES which hold the CARRIAGE and CASSETTE OPENER in place.

figure 3-6

14. Open the FRONT DOOR. To do so just pull the RELEASE STRING at the left-hand side.

figure 3-7

15. Take out the TRANSPORT LOCK at the front of the SUPPLY MAGAZINES.

16. Mount the REAR PANEL.

CHAPTER 4 (ML2000 P only)

INSTALLATION OF THE PROCESSOR M35-M onto the STAND

1. Unpack the PROCESSOR M35-M.

2. Unpack the MINILOADER STAND. Check that the following parts are packed with the STAND.

PART	QTY	DESCRIPTION
4282261	8	COUNTERSUNK SCREWS M4x12 - (for Processor Panel fixing)
4480032	1	PLAIN WASHER M4 - (Left-hand Processor Panel fixing)
4851910	2	NUT M4 - (Left-hand Processor Panel fixing)
4500142	2	STAR WASHER M4 - (Fan Grid grounding)
4282841	1	SCREW M4x12 - (Left-hand Processor Panel fixing)
4500691	4	STAR WASHER M10 - (Used to ground the M35-M to the BASE)
9311656	7	CUP WASHER M4 - (For Processor Panel fixing)
4853261	8	CAGED NUT M4 - (For Processor Panel fixing)
9311106	1	STAND ASSY. - (For ML2000 P)
9311586	1	REAR PANEL ASSY. M35-M -
9311556	1	DRYER EXIT PLATE M35-M
4281661	5	M4x20 (Used to mount the DRYER EXIT PLATE)
9311256	1	BASE M35-M
9311176	6	RETAINING BLOCK
9311306	1	PROCESSOR LIGHT BAFFLE
9311316	1	M35-M TRANSPARENT PANEL left
9311326	1	M35-M TRANSPARENT PANEL right
9311336	1	M35-M TRANSPARENT PANEL front
9311356	1	M35-M FAN GRID
9311296	1	BRACKET, M35-M TRANSPARENT PANEL RIGHT, RETAINING
9311286	1	PLATE, M35-M MAINS SWITCH PROTECTION
9311406	1	PROCESSOR INTERFACE
9311456	1	LOWER FILM CHUTE
		NOTE: The LOWER FILM CHUTE GUIDE PLATE is packed with the ML2000 P

3. In the position where the MINILOADER is to stand, (the rear of the STAND is the open end), level the STAND using the JACKING SCREWS leaving a gap of approximately 15 mm between the floor and the bottom of the STAND. See figure 4-1 on the next page.

figure 4-1

4. Unpack the M35-M PROCESSOR, remove the LID, FRONT PANEL, and the two SIDE PANELS. Unscrew the STAND-BY OVERRIDE BUTTON from the REAR PANEL (leave the wires connected). Remove the REAR PANEL, disconnecting the EXHAUST HOSE from the EXHAUST ADAPTER. Remove the EXHAUST ADAPTER, and the PANEL FIXING SCREWS and RETAINING WASHERS from the REAR PANEL and keep. Discard all PANELS.

5. Place the PROCESSOR BASE (the BASE is symmetrical, it can be in either direction) in position under the STAND. Roll the MINILOADER STAND away and install the FLOOR PLATES supplied with the PROCESSOR under the LEVELLING FEET, and level the BASE leaving a gap of approximately 25 mm between the floor and the BOTTOM of the BASE.

figure 4-2

6. Roll the STAND away and install the PROCESSOR on the BASE, the front of the PROCESSOR towards the front of the STAND, and secure it using the SCREWS supplied with the PROCESSOR and the M10 STAR WASHERS supplied in the kit.

Note

MAKE SURE THERE IS NO PAINT ON THE PROCESSOR BASE WHERE THE STAR WASHERS CONNECT.

figure 4-3

7. Mount the 6 aluminium RETAINING BLOCKS on the top of the PROCESSOR FRAME.

figure 4-4

8. Mount the SENSOR C_PI (PROCESSOR INTERFACE) to the REAR PLATE of the PROCESSOR. Fix its CABLE with WIRE TIES. If the PROCESSOR INTERFACE is TYPE 2 (see figure 4-6) Add the COVER PLATE (2x) to the RS 232 CONNECTOR. Without this PLATE the REAR PLATE of the STAND is not light tight.

figure 4-5

9. Mount the PROCESSOR INTERFACE to the REAR PLATE of the PROCESSOR.

Note

Use 3 MOUNTING SCREWS (M4x12) and the GROUND SCREW on TYPE 1 PROCESSOR INTERFACE. Use 4 MOUNTING SCREWS (M4x12) on TYPE 2 PROCESSOR INTERFACE. The GROUND CONNECTOR for TYPE 1 is at the REAR PANEL of the STAND and the GROUND CONNECTOR for TYPE 2 is at the right-hand inner PLATE of the PROCESSOR INTERFACE. Ensure that the STAR WASHERS are in.

figure 4-6

10. Insert the FILM GUIDE and mount the GUIDE PLATE.

figure 4-7

11. Refit the EXHAUST ADAPTER (removed in step 4) to the new PROCESSOR REAR PANEL using the existing HARDWARE. Fit the new REAR PANEL to the PROCESSOR using 3 SCREWS M4x20, 1long SCREW from the CABLE GUARD, 4 WASHERS, 4 CAGED NUTS to place into the PROCESSOR FRAME. Connect the GROUND WIRE from the PANEL to the M35-M ELECTRICAL BOX. Refit the STAND-BY/RUN SWITCH. Reconnect the M35-M EXHAUST HOSE to the EXHAUST ADAPTER.

figure 4-8

12. Remove the TOP and BOTTOM COVERS from the M35-M DRYER ASSEMBLY and retain. Remove the EXIT PLATE from the DRYER ASSEMBLY and keep one of the longer SCREWS (8/32 UNC x 5/8"). Discard the EXIT PLATE and the other SCREWS (8/32 UNC x 5/8"). Fit the new EXIT PLATE (supplied) using the five new SCREWS M4x20and the one retained SCREW.

figure 4-9

13. Complete all the PLUMBING and WIRING to the PROCESSOR. See the following FIGURE for the purpose of the HOLES in the REAR PANEL.

figure 4-10

14. Discard the parts shown in the figure below, but leave the CLIP in place which retains the ACCESS PANEL in place.

figure 4-11

15. Fit the FAN GRID, using the original SCREWS, but adding the M4 STAR WASHERS.

Note

THE PAINT MUST BE REMOVED FROM THE FRAME WHERE THE STAR WASHERS CONTACT IT.

figure 4-12

16. Fit the PROCESSOR protection PANELS as shown in FIGURES 4-10 & 4-11. Mount the eight M4 CAGED NUTS (4853261) in the eight holes in the PROCESSOR FRAME where indicated (removing old SPEED NUTS where necessary). Fasten the new clear PANELS and new METAL BRACKETS using the M4 COUNTERSUNK SCREWS (4282261) and CUP WASHERS (9311651). Also make the other fastenings as shown.

figure 4-13

figure 4-14

Note

THE M35-M MUST BE INSTALLED IN ACCORDANCE WITH THE M35-M INSTALLATION MANUAL AND ADDITIONALLY IN ACCORDANCE WITH LOCAL PRACTICES.

17. Complete the installation of the M35-PROCESSOR, using the M35-M INSTALLATION MANUAL.

Note

The MAINS PLUG information is for installations in Europe Only!

MAINS PLUG for the PROCESSOR M35-M

According to European safety regulations for medical devices, the following condition must be fulfilled:
If the ML2000P is operated within a distance of 1.5 m from the patient, the integrated KODAK X-OMAT M35-M PROCESSOR must be properly connected to the mains with a CEE PLUG (type 248 16-6h/220-240V~, 2P + Ground with VDE approval). The CEE PLUG must be provided by the customer.

18. Install the FRONT PANEL. See the drawing on the next page.

19. Proceed with CHAPTER 6.

To mount the PROCESSOR FRONT PANEL, engage the 2 CLAMPS at the front of the MINILOADER STAND. Secure the FRONT PANEL in place with the 2 LATCHES.

figure 4-15

CHAPTER 5

REPLACING THE MINILOADER 2 WITH THE ML2000P

1. Disconnect the Miniloader 2 and the PROCESSOR M35-M from the mains.

2. Roll off the MINILOADER 2 from the PROCESSOR.

3. Take off the MINILOADER 2 SIDE PANELS.

4. Unscrew the MINILOADER 2 from the STAND.

5. Lift the Miniloader 2 from the STAND.

Warning

Two people are required to lift the MINILOADER 2.

6. Replace the PROCESSOR INTERFACE SENSOR C-PI with the new one from the INSTALLATION KIT. To get the new SENSOR through the hole for the RS232-CONNECTOR take it out of its housing. Fix the cable with WIRE TIES. Remount the SENSOR HOUSING befor you mount it on the MOUNTING BRACKET.

figure 5-1

7. Mount the GUIDE PLATE into the PROCESSOR INTERFACE. See figure 5-1 on the previous page.

8. Replace all CLEAR PROCESSOR PANELS with the new ones from the INSTALLATION KIT.

Note

This is a FIRE ENCLOSURE REQUIREMENT.

9. Replace the 4 ROLLERS of the STAND with the new ones from the INSTALLATION KIT. This has to be done due to the higher weight of the ML2000P.

10. Replace the PROCESSOR FRONT PANEL with the new one from the INSTALLATION KIT.

11. If the MINILOADER 2 was equipped with an HUMIDIFIER, close the WATERLINE to it permanently.

12. Proceed with chapter 6.

CHAPTER 6 (ML2000 P only)

MOUNTING THE ML2000 P ONTO THE STAND

1. Unpack the ML2000 P and take off the wooden GUIDES left and right. See fig. 6-2.

2. Remove OUTER SIDE PANELS and fully open FRONT DOOR.

figure 6-1

3. Place the STAND behind the ML2000 P TRANSPORT BOX.

figure 6-2

4. The ML2000 P is fixed with 4 SCREWS to the wooden BASE of the TRANSPORT BOX. Take out the 4 SCREWS and discard them.

5. Wrap the CARDBOARD BELT from the INSTALLATION KIT around the ML2000 P.

The FRONT DOOR must be fully open, when the ML2000 P is pulled onto the STAND.

figure 6-3

Note

Two people are required to pull the ML2000 P onto the STAND. **Ensure that the FRONT DOOR is fully open**.

6. Stay behind the STAND and carefully pull with the CARDBOARD BELT the ML2000 onto the STAND. Do not pull at the FRONT DOOR.

7. Remove the CARDBOARD BELT.

Note

Ensure there is no paint on the STAND and on the M2000 M35-M BASE PLATE where the STAR WASHERS contact.

8. Secure the ML2000 P on it´s STAND using the four socket head SCREWS M6x20, WASHERS, STAR WASHERS and NUT M6. Before tightening the SCREWS pull the ML2000 P fully to the front.

figure 6-4

9. Remove the REAR PANEL and the FILM CHUTE. Then cut the WIRE TIES which hold the FILM POCKET, COUNTERWEIGHTS and CHAINS in position and take out the 4 WIRE TIE HOLDERS from the COUNTERWEIGHT RAILS

figure 6-5

10. Carefully take out the FOAM TRANSPORT LOCK and the CARDBOARD of the FILM POCKET and the rear TRANSPORT LOCKS of the SUPPLY MAGAZINES.

figure 6-6

11. Open the TOP COVER.

12. Cut the WIRE TIES which hold the CARRIAGE and CASSETTE OPENER in place.

figure 6-7

13. Open the FRONT DOOR. To do so just pull the RELEASE STRING at the left-hand side.

figure 6-8

14. Take out the TRANSPORT LOCK at the front of the SUPPLY MAGAZINES.

15. Position the ML2000 P and STAND in front of the M35-M. Pull the ML2000 P over the PROCESSOR (lifting it slightly to clear the STOPS). Lay the LIGHT BAFFLE in position on top of the PROCESSOR. Pull the ML2000 P into its fully docked position and ensure the relative heights of the ML2000 P and the PROCESSOR are correct. adjust if necessary.

figure 6-9

16. Connect the RS232 CABLE (PROCESSOR INTERFACE SENSOR) of the ML to the PROCESSOR.

17. Connect the PHONE PLUG CABLE (PROCESSOR START)of the ML to the PROCESSOR.

figure 6-10

SAFETY COVER

To avoid that the OPERATOR, accidentially toggles the PROCESSOR SWITCH STD-EXT, mount the SAFETY COVER as shown below. The SAFETY COVER is part of the INSTALLATION KIT.

figure 6-11

PROTECTIVE COVER

Due to european safety rules for medical devices, the PROTECTIVE COVER must be installed to avoid accidentally touching the metal parts of the PHONE PLUG as long as it is connected to the PROCESSOR M35-M.

ML2000 P PROTECTIVE COVER

figure 6-12

FLEXIBLE CABLE GUARD

To avoid damage of the MINILOADER 2000 P CABLES, when the ML2000 P is rolled off from the PROCESSOR M35-M and rolled back again the FLEXIBLE CABLE GUARD must be installed.

1. Mount the MOUNTING BRACKET 1 to the REAR PLATE of the ML2000 P. There are 2 holes provided at the place of the POWER CORD CONNECTOR.

2. Mount MOUNTING BRACKET 2 to the REAR PLATE of the STAND. There are 2 holes provided. Ensure that the removable side of the CABLE GUARD is at the side shown in figure 1-2.

3. Take off the REMOVABLE SIDE of the CABLE GUARD. Pull carefully it is just clamped in.

4. Route POWER CORD, FLAT RIBBON CABLE and CABLE with with PHONE PLUG CONNECTOR through the CABLE GUARD.

5. Install the REMOVABLE SIDE, taken off in step 3.

6. Ensure that the PHONE PLUG CABLE and the FLAT RIBBON CABLE are connected to the PROCESSOR.

7. Fix the cables at the PROCESSOR SIDE with a WIRE TIE. This avoids accidentally opening of the CABLE GUARD when the ML2000 is rolled on and off.

8. Roll the ML2000 P off and on from the PROCESSOR. Check that the CABLE GUARD moves correctly.

inner side of CABLE GUARD
MOUNTING BRACKET 1
POWER CORD CONNECTOR
FLAT RIBBON CABLE
MOUNTING SCREWS
PHONE PLUG
Use here the long SCREW out of the CABLE GUARD ENVELOPE
MOUNTING BRACKET 2
outer (removable) side of CABLE GUARD
fix CABLES with a WIRE TIE
Due to SAFETY REGULATIONS, STAR WASHERS must be used for both SCREWS
NOTE
There are 2 types of CABLE GUARDS. To open them pull out the removable side as indicated. The CLIP at either end of the TYPE 2 "endless" STRAP can be easily removed.
CABLE GUARD TYPE 1
CABLE GUARD TYPE 2
STRAP
To open the CABLE GUARD, pull as indicated
To open the CABLE GUARD, Pull out the STRAP

figure 6-13

CHAPTER 7

CONNECTING THE ML2000 / ML2000 P TO THE MAINS.

1. Measure the line voltage.

2. Pull out the ELECTRONIC DRAWER.

figure 7-1

For ML2000 / ML2000 P installations in US and Canada only:

Remove and discard all FUSES and FUSE CAPS from the POWER SUPPLY, and
Insert the UL and CSA approved FUSES and FUSE CAPS from the INSTALLATION KIT.

For ML2000 / ML2000 P installations outside US and CANADA.

Discard the additional FUSES and FUSE CAPS in the INSTALLATION KIT.

3. Select the correct transformer wiring from the table below and wire TRANSFORMER T1 as shown below.

* A second JUMPER is needed for these 3 services.
This Jumper is packed with the INSTALLATION KIT.

TRANSFORMER WIRING

figure 7-2

4. Select the WIRING for the FILM CHUTE FAN.

Note

THIS SETTING IS FOR THE ML2000 P ONLY. THERE IS NO FILM CHUTE FAN IN THE ML2000

figure 7-3

figure 7-4

TERMINAL BLOCK FILM CHUTE FAN				
	FAN WIRE black	**FAN WIRE brown**	**FAN WIRE grey**	**FAN WIRE blue**
100 VAC	4	8	5	7
115 VAC	4	8	5	7
120 VAC	4	8	5	7
200 VAC	4	9	9	7
220 VAC	4	9	9	7
230 VAC	4	9	9	7
240 VAC	4	9	9	7

5. Plug the POWER CORD into the ML2000 / ML2000 P POWER CONNECTOR and connect it to the mains.

figure 7-5

6. For installations in europe only:
Place the first selfadhesive LABEL with the selected line voltage on the ML2000 / ML2000P DATA PLATE and place the second one on the provided space in section SPECIFICATIONS of the OPERATOR GUIDE. Both LABELS are provided with the INSTALLATION KIT.

figure 7-6

CHAPTER 8

SET-UP OF THE ML 2000 / ML2000 P

1. PREPARATION OF THE LAP TOP

Note

- Ensure THAT TIME AND DATE ARE SET CORRECTLY ON YOUR LAP TOP. BOTH WILL BE COPIED TO THE ML2000 / ML2000 P.
- If other languages or another sequence of languages are needed, the files from the OPERATING & LANGUAGE SOFTWARE DISKETTE must be on the hard disk of the LAP TOP.
- ENSURE THAT THE LATEST SOFTWARE VERSION IS ON THE LAP TOP. IT IS NOT POSSIBLE TO USE 2 DIFFERENT VERSIONS ON THE LAP TOP. WHEN A SOFTWARE DOWNLOAD TO THE ML2000 / ML2000 P IS MADE, ALL FILES FROM C:\ML2000\FL_SOFT WILL BE TRANSFERRED TO THE Miniloader. IT IS NOT POSSIBLE TO SELECT ANOTHER PATH.

To download the files to the LAP TOP, use the following procedure:

Insert the OPERATING & LANGUAGE SOFTWARE DISKETTE into DISK DRIVE A:
Select DRIVE A:
Key in INSTALL ..... press ENTER
All files are now downloaded to the hard disk of the LAP TOP

2. ENTERING UNIT DATA

The UNIT DATA is downloaded to the ML2000 / ML2000 P via the LAP TOP. They consist of:
SERIAL NUMBER of the ML2000 / ML2000 P
UNIT ID
CUSTOMER NAME
ADDRESS
COUNTRY
INSTALLATION DATE
This data is displayed, whenever the SERVICE MODE is entered, they are copied to the HISTORY DISKETTE and they are copied to the HARD DISK in the DIRECTORY C:\ML2000\MACHINE\ST_xxxxx.DAT.
Enter the UNIT DATA

Start the SERVICE PROGRAM
Select SERVICE MODE from the GLOBAL MENU ..... press ENTER
ENTER SERVICE MODE MESSAGE is displayed ..... press ENTER
UNIT DATA are displayed ..... press ENTER
Select CHANGE ML2000 DATA from the MAIN MENU ..... press ENTER
Select CHANGE UNIT DATA ..... press ENTER
Key in the UNIT DATA
Select STORE INSTALL. DATA ..... press ENTER
Select RETURN TO MAIN MENU ..... press ENTER

3. SETTING THE TIME AND DATE

Select CHANGE ML2000 DATA ..... press ENTER
Select SET TIME AND DATE ..... press ENTER
Select STORE IN ML2000 ..... press ENTER
Select RETURN TO MAIN MENU ..... press ENTER

4. IMPLEMENTATION OF THE LANGUAGES

The following 4 languages are the default languages and are already factory installed:

1. GERMAN
2. FRENCH
3. SPANISH
4. ENGLISH

Up to 4 languages can be downloaded to the ML2000 / ML2000 P. These languages will overwrite the installed default languages.

Twelve languages are available:

DANISH
DUTCH
ENGLISH
FINNISH
FRENCH
GERMAN
ITALIAN
JAPANESE
NORWEGIAN
PORTUGUESE
SPANISH
SWEDISH

If less than 4 languages are selected, the selected ones plus the remaining default languages are downloaded.

Example 1:

Selected languages are SWEDISH and DANISH

Downloaded languages:

1. SWEDISH (selected)
2. DANISH (selected)
3. SPANISH (default)
4. ENGLISH (default)

Example 2:
Selected language is ENGLISH
Downloaded languages:
1. ENGLISH (selected)
2. FRENCH (default)
3. SPANISH (default)
4. ENGLISH (default)

Example 3:
Selected languages none:
Downloaded languages:
1. GERMAN (default)
2. FRENCH (default)
3. SPANISH (default)
4. ENGLISH (default)

1. Download the selected languages from DRIVE C: to the ML2000 / ML2000 P.

Select INSTALLATION from the MAIN MENU ..... press ENTER
Select SOFTWARE UPDATE from the menu INSTALLATION ..... press ENTER
Select the desired languages (up to 4) ..... press ENTER

Note

ALWAYS SELECT YOUR OWN LANGUAGE FIRST TO OVERRIDE THE DEFAULT LANGUAGES. THE SELECTED LANGUAGES ARE MARKED WITH AN ASTERISK.

Select SOFTWARE UPDATE ..... press ENTER
Key in YES (use capital letters) ..... press ENTER

The software of the SYSTEM UNIT will now be updated. The amber and the red LED on the OPERATOR DISPLAY are flashing alternately. After the software of the SYSTEM UNIT is downloaded, the error code 00 00 00 is displayed and the green LED on PCB A1 is switched on.

The software of the CASSETTE UNIT will now be updated. The red LED on PCB A8 is flashing.

The software of the MAGAZINE UNIT will now be updated. The red LED on PCB A4 is flashing.

The complete operating software is downloaded and the red LED at the OPERATOR CONTROL PANEL is switched on.

2. Switch off the ML2000 / ML2000 P.
Wait 5 seconds.
Switch on the ML2000 / ML2000 P again.

3. Exit the SOFTWARE UPDATE PROGRAM.

Press any key at the LAP TOP
Select RETURN from SOFTWARE UPDATE ..... press ENTER

5. CLEAR THE MEMORIES

Clear the memories to ensure that all COUNTERS are RESET.

Start the SERVICE PROGRAM
Select SERVICE MODE from the GLOBAL MENU ..... press ENTER
ENTER SERVICE MODE MESSAGE is displayed ..... press ENTER
UNIT DATA are displayed ..... press ENTER
Select CHANGE ML2000 DATA from the MAIN MENU ..... press ENTER
Select CLEAR MEMORIES ..... press ENTER
Select CLEAR ALL MEMORIES ..... press ENTER
Select YES ..... press ENTER
Press BACKSPACE
Select GRAND TOTAL COUNTER ..... press ENTER
Select YES ..... press ENTER
Press BACKSPACE
Select TOTAL CYCLE COUNTER ..... press ENTER
Select YES ..... press ENTER
Press BACKSPACE 3 times
Select QUIT ML2000 SERVICE MODE ..... press ENTER
Select Quit the program ..... press ENTER

6. SWITCH SETTING OF S1-1 AND S1-2 ON PCB A1

S1-1

Normally S1-1 should be set to OFF (down). In this case some errors can only be reset with the LAP TOP.

If S1-1 is set to ON (up) the following options are enabled:

1. The OPERATOR can reset the ML2000 / ML2000 P after every malfunction just by pressing the left-hand BUTTON. He can then try to start another cycle.

Caution

This RESET cannot solve a real hardware problem or a film jam when it tries to recover from the problem. In such a case the problem will occur again in the next cycle. This means a exposed FILM would become lost. For this reason set S1-1 only to ON if the CUSTOMER is aware of this risk and if he is willing to accept it.

X6
X4
X3
X2
X1
X5
TxD
RxD
DTR
DSR
VPROG
GNDμP
VμP
GNDμP
TP1
TP2
E18
Battery
Jumper
TP8
TP7
BATT
TP9
TP6
TP5
TP4
TP3
DS1 RED
TP9 VPROG +16V
TP6 GNDμP
TP5 VPROG reg. +12V
TP4 GNDμP
TP3 VCC +5V
TP8 GND Battery
TP7 VBATT +3V
TP1 VμP +10V
TP2 GNDμP
RESET
DS2 GREEN
S1
S1-2 is not used
DATA 0
DATA 1
DATA 2
DATA 3
DATA 4
DATA 5
DATA 6
DATA 7
R_W
VμP
ALARM
GNDμP
INT 2
CD
STROBE 1
D_K
STROBE 2
BACK
LED 1(GREEN)
LED 2(YELLOW)
LED 3(RED)
RESET
EPROM 3
(empty socket)
EPROM 2
EPROM 1
BOOT
EPROM
E6
E5
E4
E3
E2
E1
9218531b

figure 8-1

2. After selecting “FUNCTION” on the OPERATOR CONTROL PANEL the following selection is displayed:

TYPE2 USAGE LANG CLEAR

When S1-1 is ON (up) an altered selection is displayed:

TYPE2 SYSTEM USAGE LANG CLEAR

SYSTEM contains the following 4 options:

TIME This gives date and time.

HISTO This gives information on the communication between the MAIN PROCESSOR PCB A1 and the SLAVE PROCESSORS PCB’s A3/1, A3/2.

Note

THE HISTO INFORMATION CAN ONLY BE ANALYSED IN THE FACTORY.

3. An additional option is enabled in the ERROR MENU.

CLEAR CODE RETURN

In case of an error (this means the red error lamp is on), the second key from the left is enabled. If it is pressed the history of the last faulty cycle is given and the following line is displayed.

⇑ ⇓ RETURN

With the ARROW KEYS you can scroll through the history.

Note

THIS INFORMATION CAN ONLY BE ANALYSED BY THE FACTORY. When a history diskette is made, this information is automatically copied to the diskette, no matter if S1-1 is on or off.

S1-2

Switch S2 is not used in the ML2000 / ML2000 P.

7. SWITCH SETTING OF S1 and S2 ON PCB A4

Note

This setting is for the ML2000 only. There is no RECEIVING MAGAZINE in the ML2000 P.

1. DIP SWITCH S1 is not used.

2. DIP SWITCH S-2 is used to select between
"DEDICATED RECEIVING MAGAZINES"
or
"NONE DEDICATED RECEIVING MAGAZINE MAGAZINE".

S2 ON = NONE DEDICATED RECEIVING MAGAZINE
S2 OFF = DEDICATED RECEIVING MAGAZINE

figure 8-2

RECEIVING MAGAZINE	DEDICATED	DESCRIPTION
18x24	**YES** **S2 = OFF**	If a "DEDICATED" RECEIVING MAGAZINE is inserted, the ML2000 accepts only 18x24 MIN-R CASSETTES.
24X30	**YES** **S2 = OFF**	If a "DEDICATED" RECEIVING MAGAZINE is inserted, the ML2000 accepts only 24x30 MIN-R CASSETTES.
24x30	**NO** **S2 = ON**	If a "NON DEDICATED" RECEIVING MAGAZINE is inserted, the ML2000 accepts both sizes of CASSETTES. This means the RECEIVING MAGAZINE will contain 18x24 and 24x30 FILMS. **NOTE** **A MAGAZINE loaded with different film sizes cannot be unloaded with an automatic UNLOADER!**

8. SWITCH SETTING ON PCB A8

The switch setting on PCB A8 is ignored!

9. JUMPER SETTING PCB A6 MAGAZINE SENSE

1. Check that the JUMPERS on PCB A6 CONNECTOR A6X2 are set correctly.

figure 8-3

10. PARAMETER SETTING

1. Connect the LAP TOP COMPUTER to the ML2000 / ML2000 P and start the SERVICE SOFTWARE.

2. Ensure that the PARAMETERS are set as follows:

PARAMETER	DEFAULT	RANGE
VACUUM OFF TIME	08h	00h-0fh
REST TIME	00h	00h-ffh
CASS. OPEN RETURN	00h	00h-01h
ADDITIONAL STEPS	05h	00h-1eh
TILT POSITION	14h	00h-46h
LOWER POCKET	34h	00h-64h
DISABLE INTERFACE (for ML2000 P only)	00	00-AA 00 = INTERFACE enabled AA = INTERFACE DISABLED

PARAMETER PROCESSOR SPEED / TIME

PURPOSE:

As there is no communication between the PROCESSOR M35-M and the ML2000 P, the PROCESSOR SPEED must be set as a PARAMETER during installation. To get a sufficient gap between 2 FILMS (especially during SERIAL UNLOAD) a waiting time is automatically calculated, using the PROCESSOR SPEED.

1. Measure the transport speed of the PROCESSOR M35-M.

2. Key in the speed in inch/ per minute or key in the time needed to transport 24 cm of FILM.

Note

Depending on film and chemistry combination the films might not be dried fast enough. This could cause overlapping of the films. If this problem is encountered, set the PARAMETER PROCESSOR SPEED to a lower speed. This however will reduce the throughput rate of the system.

11. ADJUSTMENT OF SENSOR B9/C_PI PROC. INTERFACE

PURPOSE:

SENSOR B9 is installed in the bottom of the PROCESSOR INTERFACE. It monitors the FILM when transported to the PROCESSOR. As this SENSOR is mounted during the installation of the ML2000 P it has to be adjusted now.

figure 8-4

1. Roll off the ML2000P from the PROCESSOR.

2. Open the FRONT DOOR of the ML2000P and pull out the ELECTRONIC BOX.

3. Connect the red lead of the DVM to TP 15 on PCB A8. See the drawing on the next page.

4. Connect the black lead of the DVM to TP 10 on PCB A8.

5. Without a FILM in the PROCESSOR INTERFACE, adjust R100 on PCB A8 to <500mV. If this value cannot be reached, change the position of SENSOR B9/C_PI.

6. Place a fresh FILM in the PROCESSOR INTERFACE.. The voltage should now be > 3.5 V. If this value cannot be reached, take out the FILM and go back to step 5. Adjust R100 closer to 500mV.

12. REFLECTIVE STICKERS SUPPLY MAGAZINE

1. Place the REFLECTIVE STICKERS as shown below.

figure 8-5

FILM SIZE	REFLECTOR B1	REFLECTOR B2	REFLECTOR B3	REFLECTOR B4 (TYPE 2)
18 x 24 cm M	**YES**	no	no	no
18 x 24 cm M #2	**YES**	no	no	**YES**
24 x 30 cm M	**YES**	**YES**	no	no
24 x 30 cm M #2	**YES**	**YES**	no	**YES**
8 x 10 in V	no	**YES**	no	no
8 x 10 in V #2	no	**YES**	no	**YES**

CIRCUIT BOARD A8
CASSETTE INTERFACE
CAUTION!
HIGH VOLTAGE AREA
TP 15
TP 10
Normal
JUMPER
Setting
R100

figure 8-6

13. REFLECTIVE STICKER RECEIVING MAGAZINE ML2000 only

1. Place the REFLECTIVE STICKER as shown.

figure 8-7

14. DISPLAY DIMMER

PURPOSE:

If the ML2000 / ML2000P is installed in a darkroom, the light from its DISPLAY may fog FILMS. In this case the DISPLAY DIMMER should be enabled. A LIGHT SENSOR is an integral part of the DISPLAY, as soon as the roomlight goes dark, the DISPLAY is switched off.

1. Open the TOP COVER.

2. Move the SLIDE at the rear side of the FRONT PANEL to the left. There is now access to SWITCH S1 of PCB A2. For details see the drawing on the next page.

Note

The SLIDE is available from SN 1000 (ML2000) and 5053 (ML2000 P). Prior to these Serial Number the FRONT PANEL must be taken off to get access to the SWITCH S1.

3. Set S1-4 to OFF
The DISPLAY BACKLIGHT is on if roomlight is >120 Lux
The DISPLAY BACKLIGHT is off if the roomlight is < 30 Lux.
If S1-4 is set to on, the DISPLAY BACKLIGHT is always on (factory setting).

4. If the BACKLIGHT should be switched off at another level, adjust R3.

5. Move the SLIDE to the right and tighten its MOUNTING SCREWS.

FRONT PANEL REAR VIEW

figure 8-8

CHAPTER 9

RESIZING MAGAZINES

The following SIZE CONFIGURATIONS are possible:

18 x 24 cm MAMMOGRAPHY FILM

24 x 30 cm MAMMOGRAPHY FILM

8 x 10 inch CRT FILM

It is also possible to code each FILM SIZE from the list above as a TYPE 2 FILM to use two different TYPES OF FILMS of the same SIZE in the ML2000 (ML2000 P).

To change MAGAZINE SIZES do the following:

1. Place the MAGAZINE on a flat surface.

figure 9-1

2. Place the REFLECTIVE STICKERS for SIZE Coding as shown.

FILM SIZE	REFLECTOR B1	REFLECTOR B2	REFLECTOR B3	REFLECTOR B4 (TYPE 2)
18 x 24 cm M	**YES**	no	no	no
18 x 24 cm M #2	**YES**	no	no	**YES**
24 x 30 cm M	**YES**	**YES**	no	no
24 x 30 cm M #2	**YES**	**YES**	no	**YES**
8 x 10 in V	no	**YES**	no	no
8 x 10 in V #2	no	**YES**	no	**YES**

3. Remove the TOP COVER of the MAGAZINE.

Note

Make sure that SEPARATOR Left and SEPARATOR Right are mounted correctly with the long STUD towards the HANDLE. OTHERWISE it is impossible to close the MAGAZINE and then all the films will fall out when the MAGAZINE is carried.

4. Place the SEPARATORS L, R and REAR in the RECESSES corresponding to the selected FILM SIZE. See the drawing on the next page. The RECESSES are marked with the FILM SIZE. For 8x10 in VFH use the SEPARATOR with the LABEL on.

5. Install TOP COVER to the MAGAZINE.
6. Apply the correct FILM SIZE LABEL to the MAGAZINE.

figure 9-2

CHAPTER 10

FINAL TEST

Warning

According to European safety regulations for medical devices the following conditions must be fulfilled:

- The ML2000 / ML2000 P must be properly connected to the EQUIPOTENTIAL EQUILIZATION DEVICE (E^2D) if the unit is operated within a distance of 1.5 m from a patient. The E^2D and the CONNECTING CABLE must be provided by the customer.

- If the ML2000P is operated within a distance of 1.5 m from the patient, the integrated KODAK X-OMAT M35-M PROCESSOR must be properly connected to the mains with a CEE PLUG (type 248 16-6h/220V~, 2P+ Ground with VDE approval). The CEE PLUG must be provided by the customer.

1. **Check the electrical safety of the ML2000 / ML2000 P according to your local safety rules.**

EQUIPOTENTIAL EQUILIZATION PLUG

figure 10-1

2. Mount all PANELS.

3. Load the SUPPLY MAGAZINES.

4. Insert the RECEIVING MAGAZINE (ML2000 only).

5. Switch on the ML2000 / ML2000P

Note

Step 6 is for ML2000 P with SN >5110 only!

6. Check that the ML2000P is fully rolled over the PROCESSOR and that SWITCH B25/C_CC (CHUTE CLOSED) is actuated. If B25 is not actuated, the message

PROCESSOR NOT IN PLACE

will be displayed. In this case take the SELFADHESIVE METAL STRIP from the INSTALLATION KIT and stick it opposite SWITCH B25 to the frame of the FILM CHUTE. If necessary use 2 or more pieces until SWITCH B25 is actuated when the ML2000 P is rolled over the PROCESSOR.

figure 10-2

7. Run several cycles and check the ML2000 / ML2000 P for correct operation.

8. If the ML2000 / ML2000P is installed in the close vicinity of a unit with a strong magnetic field, check with this unit running that the INTERLOCK SYSTEM is working correctly. The ML2000 / ML2000P INTERLOCK SYSTEM is using REED CONTACTS. They may be influenced by magnetic field of a nearby unit.

9. Lock the CASTORS of the ML2000. There are no CASTORS at the ML2000P.

There is a LOCK SCREW on every CASTOR. Turn it in to lock the CASTOR.

10. Explain to the OPERATOR how to use the ML2000 / ML2000 P.

Kodak AG
Hedelfinger Str. 54-60
70327 Stuttgart
Germany

Kodak, Min-R, X-Omat and X-Omatic are trademarks

CUSTOMER EQUIPMENT SERVICES KODAK AG STUTTGART