



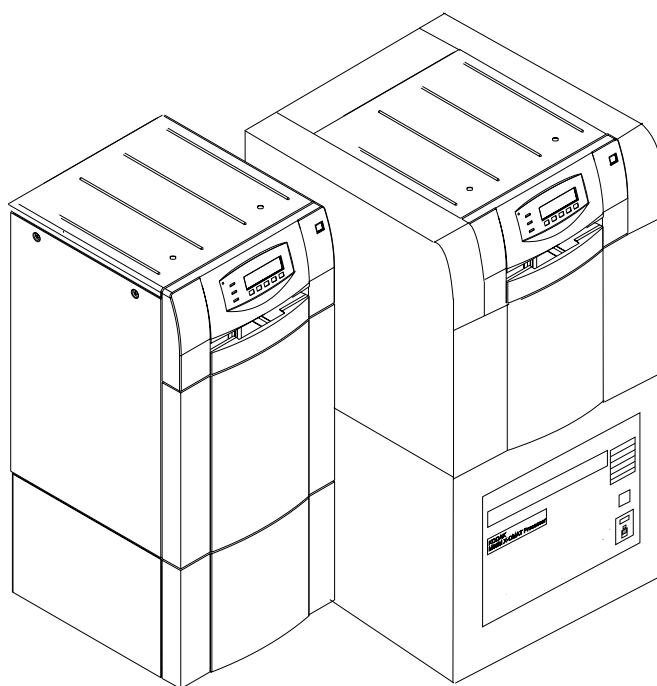
DIAGNOSTICS MANUAL

for the

KODAK Miniloader 2000

and for the

KODAK Miniloader 2000 P



CAUTION



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

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.

Inhaltsverzeichnis

1. INTRODUCTION	1-1
LAP TOP COMPUTER HARDWARE REQUIREMENTS.....	1-1
LAP TOP COMPUTER SOFTWARE REQUIREMENTS	1-1
README FILE.....	1-1
HOW TO INSTALL THE SERVICE SOFTWARE.....	1-1
HOW TO START THE DIAGNOSTICS	1-2
HOW TO LEAVE THE DIAGNOSTICS	1-2
SWITCH SETTING ON MAIN PROCESSOR PCB A1	1-2
SAFETY PRECAUTIONS.....	1-3
2. ERROR CODE DESCRIPTION.....	2-1
ERROR CODE	2-1
SERVICE CALLS	2-1
LED ERROR CODES.....	2-3
3. ERROR CODES OF THE SYSTEM TASK	3-1
00 ERROR CODE OF SYSTEM TASK	3-1
B0 ERROR CODE OF SYSTEM TASK	3-1
B1 ERROR CODE OF SYSTEM TASK	3-1
B3 ERROR CODE OF SYSTEM TASK	3-1
B4 ERROR CODE OF SYSTEM TASK	3-1
B5 ERROR CODE OF SYSTEM TASK	3-1
B6 ERROR CODE OF SYSTEM TASK	3-1
B7 ERROR CODE OF SYSTEM TASK	3-1
B8 ERROR CODE OF SYSTEM TASK	3-2
B9 ERROR CODE OF SYSTEM TASK	3-2
C0 ERROR CODE OF SYSTEM TASK	3-2
D2 ERROR CODE OF SYSTEM TASK	3-2
D3 ERROR CODE OF SYSTEM TASK	3-2
D5 ERROR CODE OF SYSTEM TASK	3-2
D6 ERROR CODE OF SYSTEM TASK	3-2
F0 ERROR CODE OF SYSTEM TASK	3-2
F1 ERROR CODE OF SYSTEM TASK	3-3
F2 ERROR CODE OF SYSTEM TASK	3-3
F3 ERROR CODE OF SYSTEM TASK	3-3
F4 ERROR CODE OF SYSTEM TASK	3-3
F5 ERROR CODE OF SYSTEM TASK	3-4
F6 ERROR CODE OF SYSTEM TASK	3-4
F7 ERROR CODE OF SYSTEM TASK	3-4
F8 ERROR CODE OF SYSTEM TASK	3-4
F9 ERROR CODE OF SYSTEM TASK	3-5
FA ERROR CODE OF SYSTEM TASK	3-5
FD ERROR CODE OF SYSTEM TASK	3-5
FE ERROR CODE OF SYSTEM TASK	3-5
FF ERROR CODE OF SYSTEM TASK	3-5
4. ERROR CODES OF THE CASSETTE TASK.....	4-1

00 ERROR CODE OF CASSETTE TASK.....	4-1
62 ERROR CODE OF CASSETTE TASK.....	4-1
64 ERROR CODE OF CASSETTE TASK.....	4-1
65 ERROR CODE OF CASSETTE TASK.....	4-1
69 ERROR CODE OF CASSETTE TASK.....	4-2
6A ERROR CODE OF CASSETTE TASK	4-2
6B ERROR CODE OF CASSETTE TASK	4-2
6C ERROR CODE OF CASSETTE TASK	4-2
6D ERROR CODE OF CASSETTE TASK	4-3
6E ERROR CODE OF CASSETTE TASK	4-3
6F ERROR CODE OF CASSETTE TASK.....	4-3
70 ERROR CODE OF CASSETTE TASK.....	4-4
73 ERROR CODE OF CASSETTE TASK.....	4-4
74 ERROR CODE OF CASSETTE TASK.....	4-4
75 ERROR CODE OF CASSETTE TASK.....	4-5
76 ERROR CODE OF CASSETTE TASK.....	4-6
77 ERROR CODE OF CASSETTE TASK.....	4-6
78 ERROR CODE OF CASSETTE TASK.....	4-7
79 ERROR CODE OF CASSETTE TASK.....	4-7
7A ERROR CODE OF CASSETTE TASK	4-8
7B ERROR CODE OF CASSETTE TASK	4-8
7D ERROR CODE OF CASSETTE TASK	4-8
7E ERROR CODE OF CASSETTE TASK	4-8
81 ERROR CODE OF CASSETTE TASK.....	4-9
83 ERROR CODE OF CASSETTE TASK.....	4-9
84 ERROR CODE OF CASSETTE TASK.....	4-10
85 ERROR CODE OF CASSETTE TASK.....	4-10
86 ERROR CODE OF CASSETTE TASK.....	4-11
87 ERROR CODE OF CASSETTE TASK.....	4-11
88 ERROR CODE OF CASSETTE TASK.....	4-12
89 ERROR CODE OF CASSETTE TASK.....	4-12
8A ERROR CODE OF CASSETTE TASK	4-13
8B ERROR CODE OF CASSETTE TASK	4-14
8C ERROR CODE OF CASSETTE TASK	4-14
8D ERROR CODE OF CASSETTE TASK	4-15
8E ERROR CODE OF CASSETTE TASK	4-16
8F ERROR CODE OF CASSETTE TASK.....	4-17
90 ERROR CODE OF CASSETTE TASK.....	4-17
91 ERROR CODE OF CASSETTE TASK.....	4-18
92 ERROR CODE OF CASSETTE TASK.....	4-19
93 ERROR CODE OF CASSETTE TASK.....	4-19
94 ERROR CODE OF CASSETTE TASK.....	4-20
95 ERROR CODE OF CASSETTE TASK.....	4-21
96 ERROR CODE OF CASSETTE TASK.....	4-22
97 ERROR CODE OF CASSETTE TASK.....	4-23

99 ERROR CODE OF CASSETTE TASK.....	4-23
9A ERROR CODE OF CASSETTE TASK	4-24
9B ERROR CODE OF CASSETTE TASK	4-25
9C ERROR CODE OF CASSETTE TASK	4-25
9E ERROR CODE OF CASSETTE TASK	4-26
9F ERROR CODE OF CASSETTE TASK.....	4-26
A1 ERROR CODE OF CASSETTE TASK	4-27
A2 ERROR CODE OF CASSETTE TASK	4-27
A3 ERROR CODE OF CASSETTE TASK	4-28
A4 ERROR CODE OF CASSETTE TASK	4-29
A5 ERROR CODE OF CASSETTE TASK	4-29
A6 ERROR CODE OF CASSETTE TASK	4-30
A7 ERROR CODE OF CASSETTE TASK	4-30
A8 ERROR CODE OF CASSETTE TASK	4-31
A9 ERROR CODE OF CASSETTE TASK	4-32
AA ERROR CODE OF CASSETTE TASK	4-32
AB ERROR CODE OF CASSETTE TASK	4-33
AC ERROR CODE OF CASSETTE TASK.....	4-34
AD ERROR CODE OF CASSETTE TASK.....	4-35
AE ERROR CODE OF CASSETTE TASK	4-36
AF ERROR CODE OF CASSETTE TASK	4-37
B0 ERROR CODE OF CASSETTE TASK	4-38
B1 ERROR CODE OF CASSETTE TASK	4-39
B2 ERROR CODE OF CASSETTE TASK	4-39
B3 ERROR CODE OF CASSETTE TASK	4-40
B6 ERROR CODE OF CASSETTE TASK	4-41
B7 ERROR CODE OF CASSETTE TASK	4-41
D0 ERROR CODE OF CASSETTE TASK	4-42
D2 ERROR CODE OF CASSETTE TASK	4-42
D3 ERROR CODE OF CASSETTE TASK	4-42
D4 ERROR CODE OF CASSETTE TASK	4-42
D5 ERROR CODE OF CASSETTE TASK	4-42
D7 ERROR CODE OF CASSETTE TASK	4-42
D9 ERROR CODE OF CASSETTE TASK	4-43
DB ERROR CODE OF CASSETTE TASK.....	4-43
DC ERROR CODE OF CASSETTE TASK.....	4-43
DF ERROR CODE OF CASSETTE TASK	4-43
F0 ERROR CODE OF CASSETTE TASK.....	4-44
F1 ERROR CODE OF CASSETTE TASK.....	4-44
F2 ERROR CODE OF CASSETTE TASK.....	4-44
F3 ERROR CODE OF CASSETTE TASK.....	4-44
F4 ERROR CODE OF CASSETTE TASK.....	4-45
F5 ERROR CODE OF CASSETTE TASK.....	4-45
F6 ERROR CODE OF CASSETTE TASK.....	4-45
F7 ERROR CODE OF CASSETTE TASK.....	4-45

F8 ERROR CODE OF CASSETTE TASK.....	4-46
F9 ERROR CODE OF CASSETTE TASK.....	4-46
FA ERROR CODE OF CASSETTE TASK.....	4-46
FD ERROR CODE OF CASSETTE TASK.....	4-46
FE ERROR CODE OF CASSETTE TASK.....	4-46
FF ERROR CODE OF CASSETTE TASK.....	4-47
5. ERROR CODES OF THE MAGAZINE UNIT	5-1
00 ERROR CODE OF MAGAZINE TASK.....	5-1
90 ERROR CODE OF MAGAZINE TASK.....	5-1
92 ERROR CODE OF MAGAZINE TASK	5-1
93 ERROR CODE OF MAGAZINE TASK	5-2
94 ERROR CODE OF MAGAZINE TASK	5-2
95 ERROR CODE OF MAGAZINE TASK	5-3
96 ERROR CODE OF MAGAZINE TASK	5-3
97 ERROR CODE OF MAGAZINE TASK	5-4
99 ERROR CODE OF MAGAZINE TASK	5-4
9A ERROR CODE OF MAGAZINE TASK	5-4
9B ERROR CODE OF MAGAZINE TASK	5-5
9C ERROR CODE OF MAGAZINE TASK	5-6
9D ERROR CODE OF MAGAZINE TASK	5-6
9E ERROR CODE OF MAGAZINE TASK	5-7
9F ERROR CODE OF MAGAZINE TASK	5-8
A0 ERROR CODE OF MAGAZINE TASK	5-9
A1 ERROR CODE OF MAGAZINE TASK	5-9
A2 ERROR CODE OF MAGAZINE TASK	5-10
A3 ERROR CODE OF MAGAZINE TASK	5-11
A4 ERROR CODE OF MAGAZINE TASK	5-11
A5 ERROR CODE OF MAGAZINE TASK	5-12
A6 ERROR CODE OF MAGAZINE TASK	5-12
AE ERROR CODE OF MAGAZINE TASK	5-13
B0 ERROR CODE OF MAGAZINE TASK	5-13
B1 ERROR CODE OF MAGAZINE TASK	5-13
B3 ERROR CODE OF MAGAZINE TASK	5-14
B4 ERROR CODE OF MAGAZINE TASK	5-14
B5 ERROR CODE OF MAGAZINE TASK	5-15
B6 ERROR CODE OF MAGAZINE TASK	5-15
B7 ERROR CODE OF MAGAZINE TASK	5-16
C1 ERROR CODE OF MAGAZINE TASK	5-16
C2 ERROR CODE OF MAGAZINE TASK	5-16
C3 ERROR CODE OF MAGAZINE TASK	5-17
C4 ERROR CODE OF MAGAZINE TASK	5-17
C5 ERROR CODE OF MAGAZINE TASK	5-17
C6 ERROR CODE OF MAGAZINE TASK	5-17
C7 ERROR CODE OF MAGAZINE TASK	5-18
C8 ERROR CODE OF MAGAZINE TASK	5-18

C9 ERROR CODE OF MAGAZINE TASK	5-18
D0 ERROR CODE OF MAGAZINE TASK	5-18
D2 ERROR CODE OF MAGAZINE TASK	5-19
D3 ERROR CODE OF MAGAZINE TASK	5-19
D4 ERROR CODE OF MAGAZINE TASK	5-19
D5 ERROR CODE OF MAGAZINE TASK	5-19
D9 ERROR CODE OF MAGAZINE TASK	5-19
DA ERROR CODE OF MAGAZINE TASK	5-19
DB ERROR CODE OF MAGAZINE TASK	5-20
DC ERROR CODE OF MAGAZINE TASK	5-20
DF ERROR CODE OF MAGAZINE TASK	5-20
F0 ERROR CODE OF MAGAZINE TASK	5-20
F1 ERROR CODE OF MAGAZINE TASK	5-20
F2 ERROR CODE OF MAGAZINE TASK	5-21
F3 ERROR CODE OF MAGAZINE TASK	5-21
F4 ERROR CODE OF MAGAZINE TASK	5-21
F5 ERROR CODE OF MAGAZINE TASK	5-21
F6 ERROR CODE OF MAGAZINE TASK	5-22
F7 ERROR CODE OF MAGAZINE TASK	5-22
F8 ERROR CODE OF MAGAZINE TASK	5-22
F9 ERROR CODE OF MAGAZINE TASK	5-22
FD ERROR CODE OF MAGAZINE TASK	5-23
FE ERROR CODE OF MAGAZINE TASK	5-23
FF ERROR CODE OF MAGAZINE TASK	5-23

1. INTRODUCTION

LAP TOP COMPUTER HARDWARE REQUIREMENTS

To service the ML 2000 / ML2000 P a LAP TOP COMPUTER with the following features should be used.

- Industry Standard fully compatible.
- Complete MS-DOS installed.
- 3.5" diskette drive, 1.44 MB.
- 1 MB RAM.
- 20 MB HARD DISK.
- Serial Port RS 232-C
- AC Adapter.

In addition the DATA CABLE TL 4391 is needed.

LAP TOP COMPUTER SOFTWARE REQUIREMENTS

The complete MS-DOS SYSTEM has to be installed.

It is possible to download the ML2000 / ML2000 P HISTORY FILES to a DISKETTE. For this FUNCTION the AUTOEXEC.BAT FILE has to include the PATH information. If the STANDARD SEARCH PATH for DOS COMMANDS is not included, the FUNCTION MAKE HISTORY DISK will not work. Mostly the MS-DOS is loaded into a DIRECTORY called \DOS. It is possible that on your system another name is used.

Make sure that the following is included into the AUTOEXEC.BAT FILE.

```
PATH C:\DOS;.....  
SET COMSPEC = C:\DOS\COMMAND.COM
```

README FILE

On the SERVICE SOFTWARE DISKETTE is a README FILE. This FILE contains additional information to the SOFTWARE. Especially when an UPDATE is made.

1. Start the LAP TOP.
2. Insert the SERVICE SOFTWARE DISKETTE into DRIVE A:
3. Select DRIVE A:
4. Key in **README**
5. Press ENTER
6. The README FILE is now displayed.

HOW TO INSTALL THE SERVICE SOFTWARE

The install of the SERVICE SOFTWARE is automatic.

1. Start the LAP TOP.
2. Insert the SERVICE SOFTWARE DISKETTE into DRIVE A:
3. Select DRIVE A:

4. Key in **INSTALL**
5. Press **ENTER**
6. The SERVICE SOFTWARE is now loaded onto the HARD DISK C:\ML2000
7. After the SOFTWARE is loaded take out the DISKETTE.

HOW TO START THE DIAGNOSTICS

The DIAGNOSTIC PROGRAM resides on the LAP TOP HARD DISK DRIVE C:. It is there in the DIRECTORY ML2000.

1. Connect the LAP TOP via the DATA CABLE with the ML2000. The CONNECTOR is at the front of the ML2000 (ML2000 P).
2. Power up the LAP TOP.
3. Select DIRECTORY ML2000 on DRIVE C:
Key in **cd \ ML2000** and press ENTER
4. Key in **START** and press ENTER.
5. The GLOBAL MENU of the DIAGNOSTICS PROGRAM is displayed.
6. Select the desired program with the CURSOR KEYS and press RETURN.

NOTE

It is possible that the SERVICE SOFTWARE is influenced by other programs installed on the LAP TOP Computer. In such a case the User has to find out which of his programs causes the conflict! The Service Software for the ML2000 / MI2000 P is a DOS program. It is not running from WINDOWS.

HOW TO LEAVE THE DIAGNOSTICS

Always use the correct procedure to leave the DIAGNOSTICS.

1. Go back to the GLOBAL MENU.
2. Quit the program.
3. Disconnect the LAP TOP from the ML2000 (ML2000 P).

SWITCH SETTING ON MAIN PROCESSOR PCB A1

S1-1

For the position of S1 see figure 1-1

Normally S1-1 should be set to **OFF** (down). In this case some errors can only be reset with the LAP TOP (see the DIAGNOSTICS MANUAL). If S1-1 is set to **ON** (up) the OPERATOR can reset the ML2000 (ML2000 P) after every fault just by pressing the left-hand BUTTON. The OPERATOR can now try to start another cycle.

NOTE

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 an 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.

After selecting "FUNCTION" on the OPERATOR CONTROL PANEL the following selection is displayed:

TYPE 2 . . USAGE LANG CLEAR

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

TYPE 2 . . SYSTEM USAGE LANG CLEAR

SYSTEM contains the following 4 options:

TIME . . This gives date and time.
HISTO . . This gives information on the last cycle. It is similar to the ERROR
 . . INFORMATION accessible via S1-2

NOTE

THIS INFORMATION CAN ONLY BE ANALYSED BY THE SPECIALISTS IN THE FACTORY.

CONTIN. . . Continuous Loop. The unload/load cycle is repeated continuously.
INFO . . The SOFTWARE VERSION of the ML2000 (ML2000 P) is displayed.

S1-2

NORMALLY S1-2 SHOULD BE SET TO OFF (DOWN). IF IT IS SET TO ON (UP) THE FOLLOWING OPTION IS ENABLED:

ERROR INFORMATION can be displayed on the OPERATOR CONTROL PANEL. In case of a problem press the second key from the left and the information will be displayed. The ERROR INFORMATION can be downloaded to the HISTORY DISKETTE. This DISKETTE can then be sent to the factory for analysing the problem.

SAFETY PRECAUTIONS

Special care is necessary when working with a LAP TOP and when transporting it.

1. Avoid mechanical shocks. HARD DISKS are sensitive.
2. Do not transport a LAP TOP with a DISKETTE in the DISK DRIVE. This may damage the DISK DRIVE or the DISKETTE.
3. Open the WRITE PROTECTION WINDOW of the DISKETTE
4. Store the DISKETTES (SERVICE SOFTWARE and OPERATING SOFTWARE) in a safe place. It may become necessary to reload the SOFTWARE to the HARD DISK.
5. Do not expose the DISKETTE to heat.
6. Do not expose the DISKETTE to a magnetic field.

2. ERROR CODE DESCRIPTION.

NOTE

As cause for several errors just "SOFTWARE PROBLEM" is given. In such a case something went wrong in the software for unknown reasons. This means the only thing that can be done in the field is press CLEAR and start again. It is not possible to further analyse this problem in the field. If the problem persists inform your local specialist.

ERROR CODE

The ML 2000 / ML2000 P displays a 6 digit ERROR CODE.

For example:

.. **S C M**
.. **B0 C4 61**

This CODE is build up out of groups:

GROUP 1	SYSTEM TASK	B0
GROUP 2	CASSETTE TASK	C4
GROUP 3	MAGAZINE TASK	61

The CODE NUMBERS are displayed in hexadecimal.

In the following chapters the description for every code is given.

SERVICE CALLS

In case of a problem the OPERATOR could get the ML2000 / ML2000 P running again by pressing the CLEAR BUTTON of the OPERATOR CONTROL PANEL. However in some cases this could increase the problem. Therefore the CLEAR BUTTON is disabled for the ERROR CODES listed below.

To clear these ERROR CODES the LAP TOP has to be connected to the REAR RS232 CONNECTOR of the ML2000 and the SERVICE PROGRAM has to be started. When leaving the SERVICE PROGRAM the ERROR CODE becomes cleared.

SYSTEM UNIT:

FF CES set the ML2000 / ML2000 P to the inoperative mode. FF does not become cleared automatically on leaving the SERVICE PROGRAM. To reset it select:

OPTION CHANGE ML2000 DATA
then
OPTION ENABLE/DISABLE ML2000

CASSETTE UNIT:

D9 The OPERATING SOFTWARE is not installed.

DB The wrong OPERATING SOFTWARE version is installed.

FF CES set the ML2000 / ML2000 P to the inoperative mode. FF does not become cleared automatically on leaving the SERVICE PROGRAM. To reset it select:

OPTION CHANGE ML2000 DATA
then
OPTION ENABLE/DISABLE ML2000

MAGAZINE UNIT

96 The FILMPOCKET did not reach the SELECTED MAGAZINE LEVEL in the correct time and a time-out occurred.

D9 The OPERATING SOFTWARE is not installed.

DB The wrong OPERATING SOFTWARE version is installed.

FF CES set the ML2000 to the inoperative mode. FF does not become cleared automatically on leaving the SERVICE PROGRAM. To reset it select:

OPTION CHANGE ML2000 DATA
then
OPTION ENABLE/DISABLE ML2000

ADDITIONAL MESSAGES

In addition to other messages so called EXCEPTION MESSAGES may be displayed. These messages are divided into three groups and displayed in english only.

NOTE

It is not possible to access these error codes with the Lap Top.

1. SOFTWARE PROBLEMS

This means for unknown reasons something went wrong in the software. The proposed action is to switch off and on the ML2000. If the problem persists contact your specialist.

Messages

ex0: unknown exception
ex1: base-task not available
ex2: cassette task not available
ex3: magazine-task not available
ex6: debug-task not available
ex10: bas. mailbox communic. -error
ex11: cas. mailbox communic. -error
ex12: mag. mailbox communic. -error
ex19: error does not exist

2. HARDWARE PROBLEMS

This means a hardware failure on the Main- Processor Printed Circuit Board was detected. It does not necessarily mean that a real hardware error occurred therefore switch off and on the ML2000. If the problem persists is it most likely that the Main Processor PCB A1 is faulty.

Messages

- ex20: static-RAM test failed
- ex21: backup-RAM test failed
- ex22: USART - test failed
- ex23: I/O - test failed
- ex24: wrong EPROM checksum
- ex27: watch-dog test failed
- ex28: display test failed
- ex29: RS232 test failed
- ex30: keypad test failed
- ex31: real-time-clock chip failure

3. Problems with software versions

This means a wrong or no software was detected during power up. In this case switch off and on the ML2000. If the problem persists reload the operating software with the Lap Top.

Messages

- ex40: incompatible software versions (different software versions in the SYSTEM UNIT, CASSETTE UNIT or MAGAZINE UNIT).
- ex 41: operating software not available

4. Problems during software update

A problem occurs if during the software update the Lap Top fails or the connection between Lap Top and ML2000 becomes interrupted.

Message

- ex42: communication error

LED ERROR CODES

Printed Circuit Board A1 (Main Processor)

LED DS1 (red)

This LED is on while Vcc is available

LED DS2 (green)

This LED is on during the idle state and during a cycle.

This LED is off if only the bootstrap software is running

Printed Circuit Boards A4 and A8

LED (red) is off

This may occur after power up only if a RAM-test failure is detected or the bootstrap-software is faulty.

LED (red) is blinking continuously

In this case only the bootstrap software is running. This happens during software load from the Lap Top.

LED (red) displays a rhythmic blinking

In this case a fatal error occurred. A "normal" error code will be displayed too. If the problem cannot be solved try to record the blinking hex error code and pass it on to your local specialist. The problem can then be analysed in the factory.

For example the LED blinks as follows:

The asterisks means the LED is on.

* 0.5 sec pause * * * * * 1 sec pause * 0.5 sec pause * * * * * and so on

The 2 digit hex code for this example is 17

3. ERROR CODES OF THE SYSTEM TASK

00 ERROR CODE OF SYSTEM TASK

The system unit has no error.

B0 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL-BASE TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

B1 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL-BASE TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

B3 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL BASE-TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

B4 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL BASE-TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and MAGAZINE-TASK occurred.
Press CLEAR and start again.

B5 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL BASE-TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

B6 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL BASE-TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and MAGAZINE-TASK occurred.
Press CLEAR and start again.

B7 ERROR CODE OF SYSTEM TASK

FUNCTION: INTERNAL BASE-TASK ERRORS

PROBLEM:

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

B8 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL BASE-TASK ERRORS****PROBLEM:**

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

B9 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL BASE-TASK ERRORS****PROBLEM:**

A software communication error between SYSTEM-TASK and CASSETTE-TASK occurred.
Press CLEAR and start again.

C0 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A MAILBOX communication error occurred.
Press CLEAR and start again.

D2 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred.
Press CLEAR and start again.

D3 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred.
Press CLEAR and start again.

D5 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred.
Press CLEAR and start again.

D6 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred.
Press CLEAR and start again.

F0 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.
Press CLEAR and start again.

F1 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:

Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

CIRCUIT BOARD A1 could be defective.

F2 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

Press CLEAR and start again.

F3 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:

Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

CIRCUIT BOARD A1 could be defective,

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

F4 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:

Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

CIRCUIT BOARD A1 could be defective,

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

F5 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:

Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

CIRCUIT BOARD A1 could be defective,

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

F6 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:

Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

CIRCUIT BOARD A1 could be defective,

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

F7 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:

Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

CIRCUIT BOARD A1 could be defective.

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

F8 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

Press CLEAR and start again.

F9 ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software problem occurred in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.
Press CLEAR and start again.

FA ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

A software communication error occurred in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.
Press CLEAR and start again.

FD ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem.
Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:
CIRCUIT BOARD A1 could be defective.

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

FE ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem in conjunction with the LAP TOP / CASSETTE UNIT / MAGAZINE UNIT.

CAUSE 1:

SOFTWARE problem:
Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:
CIRCUIT BOARD A1 could be defective.

CAUSE 3:

The LAP TOP DATA CABLE could be defective.

FF ERROR CODE OF SYSTEM TASK**FUNCTION: INTERNAL SYSTEM ERRORS****PROBLEM:**

CES set the ML2000 to the inoperative mode.

4. ERROR CODES OF THE CASSETTE TASK

00 ERROR CODE OF CASSETTE TASK

FUNCTION:**PROBLEM:**

The cassette task has no error.

62 ERROR CODE OF CASSETTE TASK

FUNCTION: ERRORS DURING CYCLE**PROBLEM:**

For LOAD ONLY the inserted CASSETTE should be empty, but it was not. This is just a WARNING MESSAGE.

64 ERROR CODE OF CASSETTE TASK

FUNCTION: ERRORS DURING MOVE TO HOMEPOSITION**PROBLEM:**

The CASSETTE is empty. A time-out occurred when the CASSETTE OPENER was moving down to the "CASSETTE EMPTY = NOT CLOSED POSITION".

CAUSE 1:

MOTOR M5/C_OP CASSETTE OPENING does not run.

-Enter the SERVICE MODE.

-Start the CASSETTE OPENER MOTOR in forward direction.

-Trace the signal M_C_OP_F on PCB A8 sheet 5 and signal OPEN on CIRCUIT BOARD A8 sheet 5 and A9.

-Replace the faulty components / Circuit Board.

CAUSE 2:

The ODOMETER WHEEL is misadjusted.

Do the adjustment.

CAUSE 3:

ODOMETER A10/2 is defective.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signal of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

65 ERROR CODE OF CASSETTE TASK

FUNCTION: ERRORS DURING CYCLE.**PROBLEM:**

A time-out occurred and the CASSETTE is not loaded.

CAUSE:

This problem is caused by a malfunction of the MAGAZINE UNIT. Check the ERROR CODE of the MAGAZINE UNIT.

69 ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING CYCLE.****PROBLEM:**

A time-out occurred and the MAGAZINES are not closed.

CAUSE 1:

This problem is caused by a malfunction in the MAGAZINE UNIT. Check the ERROR CODE of the MAGAZINE UNIT.

CAUSE 2:

In case of a software problem:

Press CLEAR.

Select the correct CASSETTE.

Start again.

6A ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING MOVE TO HOMEPOSITION.****PROBLEM:**

The CASSETTE OPENER did not reach the UPPER END SWITCH B15 within 2 seconds after the CASSETTE OPENER MOTOR was started in the REST POSITION.

CAUSE 1:

The SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B15.

-Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 2:

MOTOR M5/C_OP CASSETTE OPENING is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE OPENING.

-Trace signal M_C_OP_F on CIRCUIT BOARD A8 sheet 5 through CIRCUIT BOARD A9.

-Replace the faulty component / Circuit Board.

CAUSE 3:

-There is a mechanical defect.

6B ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING MOVE TO HOMEPOSITION.****PROBLEM:**

A time-out occurred and the MAGAZINE SUCKER BAR stayed in the CASSETTE.

CAUSE 1:

This problem is caused by a malfunction of the MAGAZINE UNIT. Check the ERROR CODE of the MAGAZINE UNIT.

CAUSE 2:

A software problem occurred.

Press CLEAR and start again.

6C ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING MOVE TO HOMEPOSITION.****PROBLEM:**

The INPUT FLAP is not open and a time-out occurred.

CAUSE 1:

SENSOR B3/C_IF_EO CASSETTE INPUT FLAP END SWITCH OPEN is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B3.
- Trace its output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component / Circuit Board.

CAUSE 2:

MOTOR M1 INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR M1.
- Trace signal M_C_IF on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 3:

115 VAC are missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.
- Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

6D ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

The MAGAZINE SUCKER BAR stayed inside the CASSETTE.

CAUSE 1:

This problem is caused by a malfunction of the MAGAZINE UNIT. Check the ERROR CODE of the MAGAZINE UNIT.

CAUSE 2:

A software problem occurred.
Press CLEAR and start again.

6E ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING MOVE TO HOMEPOSITION.****PROBLEM:**

A time-out occurred and the MAGAZINES are open.

CAUSE 1:

This problem is caused by a malfunction of the MAGAZINE UNIT. Check the ERROR CODE of the MAGAZINE UNIT.

CAUSE 2:

A software problem occurred.
Press CLEAR and start again.

6F ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

A time-out occurred and the MAGAZINE SUCKER BAR is in the CASSETTE at the wrong time.

CAUSE 1:

This problem is caused by a malfunction of the MAGAZINE UNIT. Check the ERROR CODE of the MAGAZINE UNIT.

CAUSE 2:

A software problem occurred. Press CLEAR and start again.

70 ERROR CODE OF CASSETTE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

The CASSETTE UNIT is not in HOME POSITION.

CAUSE:

The status of one of the following SENSORS is wrong.

-Start the SENSOR TEST and check the status of the following SENSORS:

B3/C_IF_EO	CASSETTE INPUT FLAP END SWITCH OPEN	ON
B4/C_IF_EC	CASSETTE INPUT FLAP END SWITCH OPEN	OFF
B6/C_IN_EL	CASSETTE IN END SWITCH MIDDLE	OFF
B11/C_CE_CL	CASSETTE CENTERED LEFT	OFF
B12/C_CE_CR	CASSETTE CENTERED RIGHT	OFF
B15/C_OPEO	CASSETTE OPENER END SWITCH OPEN	ON
B17/C_PU_EF	FILM PICK UP END SWITCH FRONT	OFF
B18/C_PU_ER	FILM PICK UP END SWITCH REAR	ON
B20/C_PU_VO	VACUUM OFF	OFF
B23/C_TCI	TOP COVER INTERLOCK	ON

NOTE

SENSOR B20 is very sensitive to room light. If the covers are off, a RESET may be started automatically. Therefore make sure that no bright light reaches the SENSOR.

73 ERROR CODE OF CASSETTE TASK**FUNCTION: FRONT DOOR****PROBLEM:**

The FRONT DOOR is open and should be closed.

CAUSE 1:

The FRONT DOOR is really open.

CAUSE 2:

SENSOR B1/C_FD FRONT DOOR SWITCH is defective.

Enter the SERVICE MODE.

Start the SENSOR TEST.

Manually actuate SENSOR B1.

Trace its output signal on CIRCUIT BOARD A8 sheet 2.

74 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FEED IN****PROBLEM:**

The CASSETTE is detected by SENSOR "CASSETTE REGISTRATION" (PCB A8 Sheet 2) and the CASSETTE TRANSPORT MOTOR is turned on. Within the next 5 seconds the CASSETTE did not actuate CASS. END SWITCH MIDDLE and a time-out occurred.

CAUSE 1:

The OPERATOR tripped the SENSOR "CASSETTE REGISTRATION" by hand.

CAUSE 2:

The CASSETTE was pulled out upwards instead of straight or slightly downwards. In this case SENSOR B2/C_IN_R is actuated and the next cycle is started.

-Explain it to the OPERATOR.

CAUSE 3:

The friction of the CASSETTE TRANSPORT ROLLERS is too low. In this case the CASSETTE is not transported to the CASSETTE END SWITCH B6 or the CASSETTE is not pressed hard enough against the END SWITCH.

-Clean the CASSETTE TRANSPORT ROLLERS with water only.

CAUSE 4:

The 2 SUPPORTING BOLTS, located between the long CASSETTE TRANSPORT ROLLER and the CASSETTE END STOP, are too high.

-Remove the WASHER under the BOLT.

CAUSE 5:

The DRIVE BELT tension for the CASSETTE TRANSPORT ROLLERS is too high. The cassette transport may be slowed down or even stopped. In this case a time-out may occur.

-Decrease the DRIVE BELT tension.

CAUSE 6:

CASSETTE at the End Stop but not detected by the END SWITCH B6.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B6/C_IN_EM.

-Trace its output signal on CIRCUIT BOARD A8 Sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 7:

MOTOR M2/C_IN CASSETTE INPUT is not running.

-Enter the SERVICE MODE.

-Start the MOTOR CASSETTE INPUT (forward).

-Trace the signal M_C_IN_F from CIRCUIT BOARD A8 Sheet 5 to A9.

-Replace the faulty component / Circuit Board.

75 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE CENTRING****PROBLEM:**

The CENTRING BARS reached their innermost position, or too many count pulses occurred.

CAUSE 1:

A 18x24 CASSETTE is fed in wrong.

-Explain it to the OPERATOR.

CAUSE 2:

115 V missing at BOARD A8

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when TOP COVER and FRONT DOOR are closed.

CAUSE 3:

MOTOR M4/C_CE CASSETTE CENTRING is not running.

-Enter the SERVICE MODE.

-Start the MOTOR CENTRING CASSETTE.

-Trace the signal M_C_CE_C on CIRCUIT BOARD A8 Sheet 7.

-Replace the faulty component / Circuit Board.

76 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CENTRING

PROBLEM:

SENSOR B11/C_CE_CL CASSETTE CENTRED LEFT and B12/C_CE_CR CASSETTE CENTRED RIGHT had not been actuated within 3 seconds after the start of the CENTRING MOTOR.

CAUSE 1:

The CENTERING BARS do not move to the centre.

-Check if the DRIVE GEAR at the CENTERING MOTOR is broken.

CAUSE 2:

The CENTERING BARS do not move to the centre.

-If the TIMING BELT tension is too high, reduce the tension.

CAUSE 3:

The wires to SENSOR B11/C_CE_CL or SENSOR B12/C_CE_CR are broken.

CAUSE 4:

SENSOR B11/C_CE_CL CASSETTE CENTRED LEFT or SENSOR B12/C_CE_CR CASSETTE CENTRED RIGHT is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually operate both SENSORS. (They are connected in line)

-Trace their output on CIRCUIT BOARD A8 Sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 5:

MOTOR M4/C_CE CASSETTE CENTRING is not running.

-Enter the SERVICE MODE

-Start the MOTOR CENTRING CASSETTE.

-Trace the signal M_C_CE_C on CIRCUIT BOARD A8 Sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 6:

The CASSETTE is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 7:

115 VAC missing at BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWERS SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 8:

There is a mechanical defect.

CAUSE 9:

The friction between CASSETTE TRANSPORT ROLLERS and CASSETTE is too high and the CASSETTE cannot be moved to the centre.

-Powder the last 3 CASSETTE TRANSPORT ROLLERS with TALCUM POWDER.

77 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CENTRING

PROBLEM:

The CASSETTE CENTRING BARS did not reach the open position and a time-out occurred.

CAUSE 1:

The CENTERING BARS do not move to the open position.
 -Check if the DRIVE GEAR at the CENTERING MOTOR is broken.

CAUSE 2:

The CENTERING BARS do not move to the open position.
 -If the TIMING BELT tension is too high, reduce the tension.

CAUSE 3:

MOTOR M4/C_CE CASSETTE CENTRING is not running.
 -Enter the SERVICE MODE
 -Start the MOTOR CENTRING CASSETTE.
 -Trace the signal M_C_CE_C on CIRCUIT BOARD A8 Sheet 7.
 -Replace the faulty component / Circuit Board.

CAUSE 4:

115 VAC missing at BOARD A8.
 -Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.
 -If the voltage is missing check the following:
 -FUSE F1 in the POWERS SUPPLY.
 -INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 5:

There is a mechanical defect.

78 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE SIZE DETECTION****PROBLEM:**

The INPUT FLAP is open.

CAUSE

In this case something went wrong in the software. Restart the SYSTEM.

79 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE SIZE DETECTION****PROBLEM:**

The INPUT FLAP was not closed within 2 seconds after the CASSETTE actuated the CASSETTE END SWITCHES MIDDLE and a time-out occurred.

CAUSE 1:

115 VAC missing at BOARD A8
 -Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.
 -If the Voltage is missing check the following:
 -FUSE F1 in the POWER SUPPLY.
 -INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when TOP COVER and FRONT DOOR are closed.

CAUSE 2:

MOTOR M1/C_IF INPUT FLAP is not running.
 -Enter the SERVICE MODE.
 -Start MOTOR CASSETTE INPUT FLAP.
 -Trace the signal M_C_IF on CIRCUIT BOARD A8 sheet 7.
 -Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B4/C_IF_EC CASSETTE INPUT FLAP CLOSED is defective.
 -Enter the SERVICE MODE.
 -Start the SENSOR TEST.
 -Manually actuate SENSOR B3.
 -Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 4

The INPUT FLAP is mechanically blocked.

-Remove the obstruction.

-Check if the INPUT FLAP is bend.

7A ERROR CODE OF CASSETTE TASK**FUNCTION: RECEIVING MAGAZINE****PROBLEM:****CAUSE 1:**

Wrong RECEIVING MAGAZINE inserted.

CAUSE 2:

SENSOR B34/M-RMC (RECEIVING MAGAZINE CODE) defective.

CAUSE3:

Wrong CASSETTE size detected. SENSOR B13/C_CE_L defective.

7B ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE WIDTH DETECTION****PROBLEM:**

The CASSETTE is not at the ENDSWITCH after centring.

CAUSE 1:

The CASSETTE is mechanically blocked.

CAUSE 2:

SENSOR B6/C_IN_EM is defective.

7D ERROR CODE OF CASSETTE TASK**FUNCTION: FILM CHUTE****PROBLEM:**

The FILM CHUTE is in an undefined position.

CAUSE 1:

SENSOR B5/B7 are defective.

-Enter the SERVICE MODE.

-Manually actuate FILM CHUTE SENSORS B5/C_FC_C and B7/C_CFC_O.

-Trace the output signals on CIRCUIT BOARD A8 sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 2:

SOLENOID VALVE Y3/C_FC is defective.

-Enter the SERVICE MODE.

-Energise SOLENOID VALVE Y3.

-Check the SIGNAL Y_C_FC on CIRCUIT BOARD A8 sheet 5.

-Replace the faulty component / Circuit Board.

CAUSE 3:

No air pressure is built up.

-Check if the COMPRESSOR is running.

-Check if there is a leakage in the pressure system.

7E ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE SIZE DETECTION****PROBLEM: CASSETTE 78 + 7B**

The INPUT FLAP is open and a Failure in the CASSETTE WIDTH DETECTION occurred.

CAUSE 1:

INPUT FLAP is open.

In this case something went wrong in the software. Restart the system.

CAUSE 2:

115 VAC are missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the Voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

The CASSETTE is mechanically blocked and cannot reach the CASSETTE END SWITCHES.

81 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE WIDTH DETECTION****PROBLEM: CASSETTE 79 + 7B**

The INPUT FLAP was not closed within 2 seconds after the CASSETTE actuated the CASSETTE END SWITCH MIDDLE and a time-out occurred.

CAUSE 1:

MOTOR M1/C_IF INPUT FLAP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE INPUT FLAP.

-Trace the signal MC_C_IF on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 2:

Sensor B4/C_IF_EC CASSETTE INPUT FLAP CLOSED is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B4.

-Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 3:

Mechanical defect.

CAUSE 4:

The CASSETTE is mechanically blocked and cannot reach the CASSETTE END SWITCH.

83 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE OPENING.****PROBLEM:**

The CASSETTE OPENER is not in the UPPER END POSITION and the END SWITCH B15 is not actuated.

This problem is detected before the start of FUNCTION

CASSETTE OPENING.

CAUSE 1:

The SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B15.

-Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 2:

The CASSETTE OPENER MECHANISM is in the wrong position.

84 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE OPENING

PROBLEM:

The CASSETTE SUCKER BAR is not in the rear position.

CAUSE 1:

The CASSETTE SUCKER BAR is in the wrong position.

CAUSE 2:

SENSOR B18/C_PU_ER FILM PICK UP REAR does not detect that the CASSETTE SUCKER BAR CARRIAGE is in the rear position.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually move the CASSETTE SUCKER BAR CARRIAGE to the rear position.

-Trace the output signal from Sensor B18/C_PU_ER on the CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 3:

There is a mechanical defect.

85 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE OPENING

PROBLEM:

The CASSETTE OPENER did not reach its BOTTOM POSITION within 2 seconds after the CASSETTE OPENER MOTOR is started and a time-out occurred.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_F on PCB A8 sheet 5 and signal CLOSE on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

-Enter the SERVICE MOTOR.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

86 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE OPENING.****PROBLEM:**

The CASSETTE OPENER did not reach the UPPER END SWITCH B15 within 2 seconds after the CASSETTE OPENER MOTOR was started in the REST POSITION.

CAUSE 1:

The SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B15.
- Trace its output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component / Circuit Board.

CAUSE 2:

MOTOR M5/C_OP CASSETTE OPENING is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE OPENING.
- Trace signal M_C_OP_F on CIRCUIT BOARD A8 sheet 5 through CIRCUIT BOARD A9
- Replace the faulty component / Circuit Board.

CAUSE 3:

ODOMETER CIRCUIT BOARD A10/2 defective.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE OPENER forward/backward.
- Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

- Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

87 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE OPENING****PROBLEM:**

The CASSETTE OPENER did not reach the REST POSITION within 1.5 seconds after the CASSETTE OPENER MOTOR was started to move the OPENER from the BOTTOM POSITION to the REST POSITION.

CAUSE 1:

MOTOR M5/C_OP CASSETTE OPENING is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE OPENING.
- Trace signal M_C_OP_F on CIRCUIT BOARD A8 sheet 5 through CIRCUIT BOARD A9
- Replace the faulty component / Circuit Board.

CAUSE 2

ODOMETER A10/2 is defective.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE OPENER forward/backward.
- Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

CAUSE 3:

There is a mechanical defect.

88 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE OPENING

PROBLEM:

The CASSETTE OPENER reached the UPPER POSITION but the CASSETTE is not opened.

CAUSE 1:

The CASSETTE LATCH is misadjusted or defective and the OPENER SHOVEL slides out of the LATCH.

-Adjust the LATCH.

-If an adjustment is not possible replace the CASSETTE.

CAUSE 2:

The CASSETTE FRONT PLATES rub against each other, especially 18x24M.

-Replace the CASSETTE.

CAUSE 3:

The CASSETTE is fed in the wrong way (upside down or hinge-side first).

CAUSE 4:

SENSOR B16/C_OP_RO is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B16.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 5:

SOLENOID Y4/C_OP CASSETTE OPENER does not work.

-Enter the SERVICE MODE.

-Turn on the CASSETTE OPENER SOLENOID.

-Trace the Signal Y_C_OP on CIRCUIT BOARD A8 sheet 6.

-Replace the faulty component / Circuit Board.

CAUSE 6:

The wires to the OPENER SOLENOID Y4 are broken.

-Replace the faulty WIRE HARNESS.

CAUSE 7:

There is a mechanical defect. For example the OPENER CLAWS are damaged.

CAUSE 8:

The OPENER SHOVEL is stopped by extensive CASSETTE LATCH BURR.

-File off the burr or replace the CASSETTE.

89 ERROR CODE OF CASSETTE TASK

FUNCTION: MOVE SUCKER BAR TO REAR POSITION

PROBLEM:

The CASSETTE SUCKER BAR CARRIAGE did not reach its rear position during a RESET.

CAUSE 1:

SENSOR B18/C_PU_ER FILM PICK UP REAR is defective.

-Enter the SERVICE MODE.

- Manually actuate SENSOR B18.

NOTE

Check that the MIRROR is o.k.

- Trace its output signal on CIRCUIT BOARD A8 sheet 3.
- Replace the faulty component / Circuit Board.

CAUSE 2:

115 VA missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE FILM PICK UP backwards.
- Trace the signal M_PU_R on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

8A ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE FILM PICK UP

PROBLEM:

This problem occurred during LOAD ONLY.

The CASSETTE SUCKER BAR is in the CASSETTE to pick up the FILM, however the SUCKER BAR is not tilted.

CAUSE 1:

SOLENOID Y7/C_PU TILTING SUCKER BAR is not working.

- Enter the SERVICE MODE.
- Turn on the SOLENOID TILTING CASSETTE SUCKER BAR.
- Trace the signal Y_C_PU on CIRCUIT BOARD A8 sheet 6.
- Replace the faulty component / Circuit Board.

NOTE

Check for broken wires to the SOLENOID Y7.

CAUSE 2:

SENSOR B19/C_PU_T SUCKER BAR TILT is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B19.
- Trace its output signal on CIRCUIT BOARD A8 sheet 3.
- Replace the faulty component / Circuit Board.

NOTE

Check for broken wires to the SOLENOID Y7.

It is possible too that the SENSOR ACTUATOR of B19 is blocked by the ACTUATING CURVE. Check for ease of movement of the actuator lever.

8B ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY.

The CASSETTE SUCKER BAR is pulled out of the CASSETTE but not tilted back.

CAUSE 1:

There is no FILM in the CASSETTE.

-Explain the operator that he has to press LOAD ONLY first, when using an empty CASSETTE.

CAUSE 2:

The SUCKER BAR is too far inside the CASSETTE and cannot tilt back, even when a FILM is on the TUBE SIDE SCREEN. This problem especially occurs when the CASSETTES are excessively curved.

-Adjust the position of the CASSETTE SUCKER BAR (18+1mm away from the leading edge).

CAUSE 3:

SOLENOID Y7/C_PU TILTING SUCKER BAR is blocked or its SPRING is defective.

CAUSE 4:

SENSOR B19/C_PU_T SUCKER BAR TILT is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B19.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

8C ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY.

The CASSETTE SUCKER BAR CARRIAGE did not reach the FRONT POSITION to pick up a FILM from the CASSETTE.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY:

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE FILM PICK UP forward.

-Trace the signal M_PU_F on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B17/C_PU_EF FILM PICK UP FRONT is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B17.

- Trace its output signal on CIRCUIT BOARD A8 sheet 3.
- Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

8D ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY and the CASSETTE was not empty.
The LEADING EDGE of the CASSETTE FILM is not recognised by the SENSOR B20 VACUUM OFF.

CAUSE 1:

There is no FILM in the CASSETTE. In the area of the LEAD BLOCKER is a vacuum leak and only a weak vacuum is built up in the CASSETTE SUCKERS and the SUCKER BAR can tilt back.

- Explain it to the customer.

CAUSE 2:

A film jam occurred. The FILM was guided under the mirror of SENSOR B20/C_PU_VO VACUUM OFF.

- Check the CASSETTE SUCKER BAR adjustment.

CAUSE 3:

The adjustment of SENSOR B20 is not correct.

- Adjust SENSOR B20.

NOTE

If the SENSOR B20 does not recognise the FILM, the vacuum is not switched off and the FILM sticks at the SUCKERS. After some time the FILM may be transported through the CONVEYOR and may drop into the FILM POCKET AREA.

CAUSE 4:

The film is highly transparent for infrared(for example AGFA DUPLICATE FILM).

- Replace SENSOR B20.

CAUSE 5:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B20.
- Trace its output signal on CIRCUIT BOARD A8 Sheet 3.

NOTE

A Logic PEN is required. SENSOR B20 is pulsed by the OSCILLATOR U37.

CAUSE 6:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
 - FUSE F1 in the Power Supply.
 - INTERLOCK SYSTEM CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 7:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE FILM PICK UP backwards.
- Trace the Signal M_PU_R on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 8:

The CASSETTE SUCKER BAR lost the FILM.

- Check for a vacuum leakage.

8E ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY.

The CASSETTE SUCKER BAR CARRIAGE did not reach its rear position within 3 seconds after a FILM was picked up in the CASSETTE and the LEADING EDGE of the FILM is not recognised.

CAUSE 1:

The CASSETTE SCREEN is loose on one side.

CAUSE 2:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE FILM PICK UP backwards.
- Trace the signal M_PU_R on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 4:

SENSOR B18/C_PU_ER FILM PICK UP REAR is defective.

- Enter the SERVICE MODE.
- Manually actuate SENSOR B18.
- Trace its output signal on CIRCUIT BOARD A8 sheet 3.
- Replace the faulty component / Circuit Board.

CAUSE 5:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B20.
- Trace its output signal on CIRCUIT BOARD A8 sheet 3.

NOTE

A LOGIC PEN is required. SENSOR B20 is pulsed.

- Replace the faulty component / Circuit Board.

8F ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY.

The CASSETTE SUCKER BAR reached its rear position and the FILM TRAILING EDGE is not recognised by the SENSOR B20 VACUUM OFF within the next 20 seconds.

CAUSE 1:

There is a film jam in the CONVEYER (approx. in the middle of the film guide). This problem can only occur with 18x24 films.

- Adjust the CASSETTE SUCKER BAR ASSEMBLY.
- Set the PARAMETER VACUUM OFF TIME to 80 ms.

CAUSE 2:

The FILMS stall at the GUIDE PLATE CUT-OUTS of the front set TRANSPORT ROLLERS. This problem may occur with large FILMS.

- Carefully bend the the CUT OUT EDGE upwards.

CAUSE 3:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate the SENSOR B20.
- Trace its output signal on CIRCUIT BOARD A8 sheet 3.

NOTE

A LOGIC PEN is required. SENSOR B20 is pulsed.

CAUSE 4:

The FILM sticks to the SUCKERS.

- Check if the Vacuum is turned off.

CAUSE 5:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 6:

MOTOR M7/C_PU_RO ROLLER MOTOR is not running.

- Enter the SERVICE MODE.
- Start the CASSETTE ROLLER MOTOR.
- Trace Signal M_C_PU_RO on CIRCUIT BOARD A8 Sheet 7.
- Replace the faulty component / Circuit Board.

90 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY and the CASSETTE was not EMPTY.

The TRAILING EDGE of the FILM was detected too early by the SENSOR B20 VACUUM OFF. This means the FILM dropped down before it was caught by the TRANSPORT ROLLERS.

CAUSE 1:

The VACUUM SYSTEM has a leakage.

CAUSE 2:

The SENSOR B18/C_PU_ER FILM PICK UP END SWITCH REAR is in the wrong position.

-Adjust SENSOR B18.

CAUSE 3:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate the SENSOR B20.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

NOTE

A LOGIC PEN is required. SENSOR B20 is pulsed. It is possible that films highly transparent for infrared (for example AGFA DUPLICATE FILM) are not recognised by SENSOR B20. In this case replace the SENSOR.

CAUSE 4:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY:

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT are closed.

CAUSE 5:

MOTOR M7/C_PU_RO ROLLER MOTOR is not running.

-Enter the SERVICE MODE.

-Start the CASSETTE ROLLER MOTOR.

-Trace Signal M_C_PU_RO on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

91 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE FILM PICK UP

PROBLEM:

The CASSETTE SUCKER BAR is in the CASSETTE to pick up the FILM, however the SUCKER BAR is not tilted. 3rd attempt.

CAUSE 1:

SOLENOID Y7/C_PU TILTING SUCKER BAR is not working.

-Enter the SERVICE MODE.

-Turn on the SOLENOID TILTING CASSETTE SUCKER BAR.

-Trace the signal Y_C_PU on CIRCUIT BOARD A8 sheet 6.

-Replace the faulty component / Circuit Board.

NOTE

Check for broken wires to the SOLENOID Y7 or SENSOR B19.

CAUSE 2:

SENSOR B19/C_PU_T SUCKER BAR TILT is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B19.
- Trace its output signal on CIRCUIT BOARD A8 sheet 3.
- Replace the faulty component / Circuit Board.

NOTE

Check for broken wires to the SOLENOID Y7. It is possible too that the SENSOR ACTUATOR of B19 is blocked by the ACTUATING CURVE. Check for ease of movement of the actuator lever.

92 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

The CASSETTE SUCKER BAR is pulled out of the CASSETTE but not tilted back. 3rd attempt.

CAUSE 1:

The SUCKER BAR is too far inside the CASSETTE and cannot tilt back, even when a FILM is on the TUBE SIDE SCREEN. This problem especially occurs when the CASSETTES are excessively curved.

- Adjust the position of the CASSETTE SUCKER BAR (18+1mm away from the leading edge).

CAUSE 2:

SOLENOID Y7/C_PU TILTING SUCKER BAR is blocked or its SPRING is defective.

CAUSE 3:

SENSOR B19/C_PU_T SUCKER BAR TILT is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B19.
- Trace its output signal on CIRCUIT BOARD A8 sheet 3.
- Replace the faulty component / Circuit Board.

93 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

The CASSETTE SUCKER BAR CARRIAGE did not reach the FRONT POSITION to pick up a FILM from the CASSETTE.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY:
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE FILM PICK UP forward.
- Trace the Signal M_PU_F on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B17/C_PU_EF FILM PICK UP FRONT is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B17.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

94 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

The LEADING EDGE of the CASSETTE FILM is not recognised by the SENSOR B20 VACUUM OFF. 3rd attempt.

CAUSE 1:

There is no FILM in the CASSETTE. In the area of the LEAD BLOCKER is a vacuum leak and only a weak vacuum is built up in the CASSETTE SUCKERS and the SUCKER BAR can tilt back.

-Explain it to the customer.

CAUSE 2:

A film jam occurred. The FILM was guided under the mirror of SENSOR B20/C_PU_VO VACUUM OFF.

-Check the CASSETTE SUCKER BAR adjustment.

CAUSE 3:

The adjustment of SENSOR B20 is not correct.

-Adjust SENSOR B20.

NOTE

If the SENSOR B20 does not recognise the FILM, the vacuum is not switched off and the FILM sticks at the SUCKERS. After some time the FILM may be transported through the CONVEYOR and may drop into the FILM POCKET AREA.

CAUSE 5:

The film is highly transparent for infra red(for example AGFA DUPLICATE FILM).

-Replace SENSOR B20.

CAUSE 6:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B20.

-Trace its output signal on CIRCUIT BOARD A8 Sheet 3.

NOTE

A Logic PEN is required. SENSOR B20 is pulsed.

CAUSE 7:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the Power Supply.

-INTERLOCK SYSTEM CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 8:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE FILM PICK UP backwards.

-Trace the Signal M_PU_R on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 9:

The CASSETTE SUCKER BAR lost the FILM.

-Check for a vacuum leakage.

95 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

The CASSETTE SUCKER BAR CARRIAGE did not reach its rear position within 3 seconds after a FILM was picked up in the CASSETTE.

CAUSE 1:

The CASSETTE SCREEN is loose on one side.

CAUSE 2:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE FILM PICK UP backwards.

-Trace the signal M_PU_R on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 4:

SENSOR B18/C_PU_ER FILM PICK UP REAR is defective.

-Enter the SERVICE MODE.

-Manually actuate SENSOR B18.

-Trace its output signal on CIRCUIT BOARD S8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 5:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B20.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

NOTE

A LOGIC PEN is required. SENSOR B20 is pulsed.

-Replace the faulty component / Circuit Board.

96 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE FILM PICK UP

PROBLEM:

The CASSETTE SUCKER BAR reached its rear position and the FILM TRAILING EDGE is not recognised by the SENSOR B20 VACUUM OFF within the next 20 seconds.

CAUSE 1:

There is a film jam in the CONVEYER (approx. in the middle of the film guide). This problem can only occur with 18x24 films.

-Adjust the CASSETTE SUCKER bar ASSEMBLY.

-Set the PARAMETER VACUUM OFF TIME to 80 ms.

CAUSE 2:

The FILMS stalls at the GUIDE PLATE CUT-OUTS of the front set TRANSPORT ROLLERS. This problem may occur with large FILMS.

-Carefully bend the the CUT OUT EDGE upwards.

CAUSE 3:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate the SENSOR B20.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

NOTE

A LOGIC PEN is required. SENSOR B20 is pulsed.

CAUSE 4:

The FILM sticks to the SUCKERS.

-Check if the Vacuum is turned off.

CAUSE 5:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 6:

MOTOR M7/C_PU_RO ROLLER MOTOR is not running.

-Enter the SERVICE MODE.

-Start the CASSETTE ROLLER MOTOR.

-Trace Signal M_C_PU_RO on CIRCUIT BOARD A8 Sheet 7.

-Replace the faulty component / Circuit Board.

97 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

The TRAILING EDGE of the FILM was detected too early by the SENSOR B20 VACUUM OFF. This means the FILM dropped down before it was caught by the TRANSPORT ROLLERS.

CAUSE 1:

The VACUUM SYSTEM has a leakage.

CAUSE 2:

The SENSOR B18/C_PU_ER FILM PICK UP END SWITCH REAR is in the wrong position.

-Adjust SENSOR B18.

CAUSE 3:

SENSOR B20/C_PU_VO VACUUM OFF is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate the SENSOR B20.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

NOTE

A LOGIC PEN is required. SENSOR B20 is pulsed. It is possible that films highly transparent for infrared (for example AGFA DUPLICATE FILM) are not recognised by SENSOR B20. In this case replace the SENSOR.

CAUSE 4:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY:

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT are closed.

CAUSE 5:

MOTOR M7/C_PU_RO ROLLER MOTOR is not running.

-Enter the SERVICE MODE.

-Start the CASSETTE ROLLER MOTOR.

-Trace Signal M_C_PU_RO on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

99 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE FILM PICK UP****PROBLEM:**

This problem occurred during LOAD ONLY.

The LEADING EDGE of the FILM is recognised, but the CASSETTE SUCKER BAR did not reach the REAR POSITION and a time-out occurred.

CAUSE 1:

SENSOR B18/C_PU_ER FILM PICK UP REAR is defective.

-Enter the SERVICE MODE.

-Manually actuate SENSOR B18.

NOTE

Check that the MIRROR is o.k.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 2:

115 VA missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE FILM PICK UP backwards.

-Trace the signal M_PU_R on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

9A ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING

PROBLEM:

This problem occurred during LOAD ONLY.

The CASSETTE OPENER did not reach its BOTTOM POSITION within 2 seconds after the CASSETTE OPENER MOTOR is started and a time out occurred.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_P on PCB A8 sheet 5 and signal close on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

-Enter the SERVICE MOTOR.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

CAUSE 4:

FILM lays in the CASSETTE LABYRINTH.

-Check the front position of the FILM POCKET SUCKER BAR ARM. If it does not reach a stable front position adjust the TIMING DISK.

-Check that the fresh FILM is blown off the FILM POCKET SUCKERS. If it is not blown off correctly check the SOLENOID VALVE Y10/M_PU_BS. If Y10 becomes energised, but does not work, take out its blue SCREW, run a few cycles and insert the SCREW again. This SOLENOID is sometimes blocked by small particles and they become blown off when the SCREW is out for a few cycles.

9B ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING

PROBLEM:

This problem occurred during LOAD ONLY.

The CASSETTE SUCKER BAR is not in the REAR POSITION.

CAUSE 1:

The CASSETTE SUCKER BAR is in the wrong position. The CASSETTE SUCKER BAR was moved out of its rear position by vibrations or manually.

-Check the adjustment of SENSOR B18/C_PU_ER.

CAUSE 2:

SENSOR B18/C_PU_ER does not detect that the CASSETTE SUCKER BAR CARRIAGE is in the REAR POSITION.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually move the CASSETTE SUCKER BAR CARRIAGE to the REAR POSITION.

-Trace the output signal from SENSOR B18/C_PU_ER on the CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 3:

There is a mechanical defect.

9C ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING

PROBLEM:

This problem occurred during LOAD ONLY.

The CASSETTE OPENER did not reach the SENSOR B15/C_OP_EO within 2 seconds after the CASSETTE OPENER MOTOR was started in the CASSETTE EMPTY POSITION.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_P on PCB A8 sheet 5 and signal close on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

- Enter the SERVICE MOTOR.
- Start MOTOR CASSETTE OPENER forward/backward.
- Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

- Replace the faulty component / Circuit Board.

9E ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING

PROBLEM:

This problem occurred during LOAD ONLY.

The CASSETTE OPENER is not in the UPPER POSITION. This is tested at the begin of the function.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_P on PCB A8 sheet 5 and signal close on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

-Enter the SERVICE MOTOR.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

- Replace the faulty component / Circuit Board.

9F ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE FILM PICK UP

PROBLEM:

The LEADING EDGE of the FILM is recognised, but the CASSETTE SUCKER BAR did not reach the REAR POSITION and a time-out occurred.

CAUSE 1:

SENSOR B18/C_PU_ER FILM PICK UP REAR is defective.

-Enter the SERVICE MODE.

-Manually actuate SENSOR B18.

NOTE

Check that the MIRROR is o.k.

-Trace its output signal on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 2:

115 VA missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M6/C_PU CASSETTE FILM PICK UP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE FILM PICK UP backwards.

-Trace the signal M_PU_R on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

A1 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING

PROBLEM:

The CASSETTE SUCKER BAR is not in the REAR POSITION.

CAUSE 1:

The CASSETTE SUCKER BAR is in the wrong position. The CASSETTE SUCKER BAR was moved out of its rear position by vibrations or manually.

-Check the adjustment of SENSOR B18/C_PU_ER.

CAUSE 2:

SENSOR B18/C_PU_ER does not detect that the CASSETTE SUCKER BAR CARRIAGE is in the REAR POSITION.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually move the CASSETTE SUCKER BAR CARRIAGE to the REAR POSITION.

-Trace the output signal from SENSOR B18/C_PU_ER on the CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

CAUSE 3:

There is a mechanical defect.

A2 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING

PROBLEM:

The CASSETTE OPENER did not reach the SENSOR B15/C_OP_EO within 2 seconds after the CASSETTE OPENER MOTOR was started in the CASSETTE EMPTY POSITION.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_P on PCB A8 sheet 5 and signal close on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

-Enter the SERVICE MOTOR.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

A3 ERROR CODE OF CASSETTE TASK

FUNCTION: CASSETTE CLOSING**PROBLEM:**

At the end of the cycle an empty CASSETTE stays open. The CASSETTE OPENER stops at the CASSETTE EMPTY POSITION. If the OPENER did not reach this position within 2 seconds after the CASSETTE OPENER MOTOR was started, a time-out occurs.

CAUSE 1:

MOTOR M5/C_OP CASSETTE OPENING does not run.

-Enter the SERVICE MODE.

-Start the CASSETTE OPENER MOTOR in forward direction.

-Trace the signal M_C_OP_F on CIRCUIT BOARD A8 sheet 5 and signal OPEN on CIRCUIT BOARD A8 sheet 5 and CIRCUIT BOARD A9.

-Replace the faulty components / Circuit Board.

CAUSE 2:

ODOMETER A10/2 is defective.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signal of A10/2 ON CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

CAUSE 3:

There is a mechanical defect.

A4 ERROR CODE OF CASSETTE TASK**FUNCTION: CASSETTE CLOSING****PROBLEM:**

The CASSETTE OPENER is not in the UPPER POSITION. This is tested at the beginning of the function.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_P on PCB A8 sheet 5 and signal close on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

A5 ERROR CODE OF CASSETTE TASK**FUNCTION: FEED OUT****PROBLEM:**

CASSETTE OPENER did not reach SENSOR B15/C_OP_EO.

CAUSE 1:

The OPENER MECHANISM is blocked mechanically.

-It is most likely that the STOP PIN is too close to the STOP BOLT for OPENER DOWN.

-Adjust the CASSETTE OPENER.

CAUSE 2:

SENSOR B15/C_OP_EO CASSETTE OPENER END SWITCH OPEN is misadjusted.

-Adjust the CASSETTE OPENER.

CAUSE 3:

MOTOR M5/OP CASSETTE does not move.

-Start the COMPONENT TEST and start the CASSETTE OPENER MOTOR in reverse direction.

-Trace the signal M_C_OP_P on PCB A8 sheet 5 and signal close on PCB A8 sheet 5 and PCB A9.

-Replace the faulty components / Circuit Board.

CAUSE 4:

ODOMETER CIRCUIT BOARD A10/2 is defective.

-Enter the SERVICE MOTOR.

-Start MOTOR CASSETTE OPENER forward/backward.

-Trace the output signals of A10/2 on CIRCUIT BOARD A8 sheet 1.

NOTE

To trace the COUNTING SIGNAL a LOGIC PEN is required.

-Replace the faulty component / Circuit Board.

A6 ERROR CODE OF CASSETTE TASK

FUNCTION: COMPLETE FEED OUT CYCLE

PROBLEM:

The CASSETTE CENTRING BARS did not reach the open position and a time-out occurred.

CAUSE 1:

The CENTERING BARS do not move to the centre.

-Check if the DRIVE GEAR at the CENTERING MOTOR is broken.

CAUSE 2:

The CENTERING BARS do not move to the open position.

-If the TIMING BELT tension is too high, reduce the tension.

CAUSE 3:

SENSOR B10/C_CE_EO CENTERING BARS END SWITCH OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually operate SENSORS B10.

-Trace its output on CIRCUIT BOARD A8 Sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 4:

MOTOR M4/C_CE CASSETTE CENTRING is not running.

-Enter the SERVICE MODE

-Start the MOTOR CENTRING CASSETTE.

-Trace the signal M_C_CE_C on CIRCUIT BOARD A8 Sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 5:

115 VAC missing at BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 6:

There is a mechanical defect.

A7 ERROR CODE OF CASSETTE TASK

FUNCTION: COMPLETE FEED OUT CYCLE

PROBLEM:

The INPUT FLAP was not closed and a time-out occurred.

CAUSE 1:

Sensor B3/C_IF_EO CASSETTE INPUT FLAP END SWITCH OPEN is out of adjustment.

-Adjust SENSOR B3.

CAUSE 2:

SENSOR B3/C_IN_EO CASSETTE INPUT FLAP OPEN is defective.

-Enter the SERVICE MODE.

- Start the SENSOR TEST.
- Manually actuate SENSOR B3.
- Trace its output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component / Circuit Board.

CAUSE 3:

115 VAC missing at BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- Fuse F1 in the POWER SUPPLY.
- Interlock System. CONTACTOR K0 in the Power Supply will only be energised when the Top Cover and the Front Door are closed.

CAUSE 4:

MOTOR M1/C_IF INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE INPUT FLAP.
- Trace the signal MC_C_IF on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 5:

There is a mechanical defect.

A8 ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM:**

During feed out the CASSETTE did not actuate SENSOR B2/C_IN_R CASSETTE REGISTRATION or the INPUT FLAP was not opened.

CAUSE 1:

The CASSETTE stuck during feed out. This problem occurs most likely when an empty, this means open, CASSETTE is returned. The problem is caused by curved CASSETTES.

- Put the CASSETTE aside.

CAUSE 2:

No CASSETTE was fed in.

CAUSE 3:

The Cassette is mechanically blocked.

- Remove the mechanical obstruction.

CAUSE 4:

SENSOR B2/C_IN_R CASSETTE REGISTRATION is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B2.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 5:

MOTOR M2 CASSETTE INPUT is not running.

- Enter the SERVICE MODE.
- Start the MOTOR CASSETTE INPUT backwards.
- Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.
- Replace the faulty component / Circuit Board.

CAUSE 6:

MOTOR M1/C_IF INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE INPUT FLAP.
- Trace the signal MC_C_IF on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 7:

SENSOR B3/C_IN_EO CASSETTE INPUT FLAP OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B3.

-Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 8:

115 VAC missing at BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-Fuse F1 in the POWER SUPPLY.

-Interlock System. CONTACTOR K0 in the Power Supply will only be energised when the Top Cover and the Front Door are closed.

A9 ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM:**

The CASSETTE is not fed out of the ML2000.

CAUSE 1:

The CASSETTE is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 2:

CASSETTE END SWITCH B6/C_IN_EM is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSORS B6.

-Trace its output signal on CIRCUIT BOARD A8 sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 3:

MOTOR M2/C_IN CASSETTE INPUT is not running.

-Enter the SERVICE MODE.

-Start the MOTOR CASSETTE INPUT backwards.

-Trace the Signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.

-Replace the faulty component / Circuit Board.

AA ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM: A6+A7**

The CASSETTE CENTRING BARS did not reach the open position and the INPUT FLAP was not opened and a time-out occurred.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M4 CASSETTE CENTRING is not running.

-Enter the SERVICE MODE.

- Start MOTOR CASSETTE CENTRING backwards.
- Check the signal M_C_CE_O. See CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B10/C_CE_EO CASSETTE CENTRING BARS OPENED is defective.

- Enter the SERVICE MODE.
- Manually actuate SENSOR B10.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

CAUSE 5:

MOTOR M1/C_IF INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE INPUT FLAP.
- Trace the signal M_C_IF on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 6:

SENSOR B3/C_IN_EO CASSETTE INPUT FLOP OPEN is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B3.
- Trace its output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component / Circuit Board.

AB ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM: A6 + A8**

The CASSETTE CENTRING BARS did not reach the open position and during feed out the CASSETTE does not actuate SENSOR B2/C_IN_R CASSETTE REGISTRATION.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M4 CASSETTE CENTRING is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE CENTRING backwards.
- Check the signal M_C_CE_O. See CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B10/C_CE_EO CENTRING BARS OPENED is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B10.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

CAUSE 5:

SENSOR B2/C_IN_R CASSETTE REGISTRATION is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B2.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 6:

MOTOR M2 CASSETTE INPUT is not running.

- Enter the SERVICE MODE.
- Start the MOTOR CASSETTE INPUT backwards.
- Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.
- Replace the faulty component / Circuit Board.

AC ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM: A6 + A9**

The CASSETTE CENTRING BARS did not reach the open position and the CASSETTE is not fed out of the ML2000.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M4 CASSETTE CENTRING is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE CENTRING backwards.
- Check the signal M_C_CE_O on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B10/C_CE_EO CASSETTE CENTRING BARS OPENED is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B10
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

CAUSE 5:

The CASSETTE is mechanically blocked.

- Remove the mechanical obstruction.

CAUSE 6:

CASSETTE END SWITCH B6/C_IN_EM is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B6.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 7:

MOTOR M2/C_IN CASSETTE INPUT is not running.

- Enter the SERVICE MODE.
- Start the MOTOR CASSETTE INPUT backwards.
- Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.
- Replace the faulty component / Circuit Board.

AD ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM: A6+A7+A8**

The CASSETTE CENTRING BARS did not reach the open position and the INPUT FLAP was not closed within 2 seconds after the CASSETTE actuated CASSETTE END SWITCHES (MIDDLE) and a time-out occurred and during feed out the CASSETTE does not actuate Sensor B2/C_IN_R CASSETTE REGISTRATION.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M4 CASSETTE CENTRING is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE CENTRING backwards.
- Check the SIGNAL M_C_CE_O on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B10/C_CE_EO CENTRING BARS OPENED is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B10.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 4:

MOTOR M1/C_IF INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE INPUT FLAP.
- Trace the signal M_C_IF on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 5:

SENSOR B3/C_IN_EO CASSETTE INPUT FLAP OPEN is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B3.
- Trace its output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component / Circuit Board.

CAUSE 6:

SENSOR B2/C_IN_R CASSETTE REGISTRATION defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B2.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 7:

MOTOR M2 CASSETTE INPUT is not running.

- Enter the SERVICE MODE.
- Start the MOTOR CASSETTE Input backwards.
- Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.
- Replace the faulty component / Circuit Board.

CAUSE 8:

The CASSETTE is mechanically blocked.

- Remove the mechanical obstruction.

CAUSE 9:

There is a mechanical defect.

AE ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM: CASSETTE A6 + A7 + A9**

The CASSETTE CENTRING BARS did not reach the OPEN POSITION and the INPUT FLAP was not closed within 2 seconds after the CASSETTE actuated CASSETTE END SWITCHES (MIDDLE) and a time-out occurred and the CASSETTE is not fed out of the ML2000.

CAUSE 1:

115 VAC missing at CIRCUIT BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M4 CASSETTE CENTRING is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE CENTRING backwards.
- Check the Signal M_C_CE_O on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B10/C_CE_EO CASSETTE CENTRING BARS OPENED is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B10.
- Trace its output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 4:

MOTOR M1/C_IF INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE INPUT FLAP.
- Trace the signal M_C_IF on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component / Circuit Board.

CAUSE 5:

SENSOR B3/C_IN_EO CASSETTE INPUT FLOP OPEN is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B3.
- Trace its output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component / Circuit Board.

CAUSE 6:

The CASSETTE is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 7:

CASSETTE END SWITCH B6/C_IN_EM is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B6.

-Trace its output signal on CIRCUIT BOARD A8 sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 8:

Motor M2/C_IN CASSETTE INPUT is not running.

-Enter the SERVICE MODE.

-Start the MOTOR CASSETTE INPUT backwards.

-Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.

-Replace the faulty component / Circuit Board.

CAUSE 9:

There is a mechanical defect.

AF ERROR CODE OF CASSETTE TASK**FUNCTION: COMPLETE FEED OUT CYCLE****PROBLEM: A7+A8**

The INPUT FLAP was not closed within 2 seconds after the CASSETTE actuated CASSETTE END SWITCH (MIDDLE) and a time-out occurred and during feed out the CASSETTE does not actuate Sensor B2/C_IN_R CASSETTE REGISTRATION.

CAUSE 1:

115 VAC missing at BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK System. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M1/C_IF INPUT FLAP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE INPUT FLAP.

-Trace the signal M_C_IF on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 3:

SENSOR B3/C_IN_EO CASSETTE INPUT FLOP OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B3.

-Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 4:

There is a mechanical defect.

CAUSE 5:

The CASSETTE is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 6:

SENSOR B2/C_IN_R CASSETTE REGISTRATION defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B2.
- Trace it's output signal on CIRCUIT BOARD A8 sheet 2.
- Replace the faulty component / Circuit Board.

CAUSE 7:

MOTOR M2 CASSETTE INPUT is not running.

- Enter the SERVICE MODE.
- Start the MOTOR CASSETTE INPUT backwards.
- Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.
- Replace the faulty component / Circuit Board.

CAUSE 8:

No CASSETTE was fed in.

B0 ERROR CODE OF CASSETTE TASK**FUNCTION: MOVE HOLDING FINGER BACK****PROBLEM: CASSETTE A7 + A9**

The INPUT FLAP was not closed within 2 seconds after the CASSETTE actuated at least 2 of the 3 CASSETTE END SWITCHES (LEFT, MIDDLE, RIGHT) and a time-out occurred and the CASSETTE is not fed out of the ML300.

CAUSE 1:

115 VAC missing a BOARD A8.

- Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.
- If the voltage is missing check the following:
- FUSE F1 in the POWER SUPPLY.
- INTERLOCK SYSTEM. RELAY K2 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 2:

MOTOR M1/C_IF INPUT FLAP is not running.

- Enter the SERVICE MODE.
- Start MOTOR CASSETTE INPUT FLAP.
- Trace the signal M_C_IF on CIRCUIT BOARD A8 sheet 7.
- Replace the faulty component.

CAUSE 3:

Sensor B3/C_IN_EO CASSETTE INPUT FLAP open is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B3.
- Trace it's output signal on CIRCUIT BOARD A8 sheet 1.
- Replace the faulty component.

CAUSE 4:

There is a mechanical defect.

CAUSE 5:

The CASSETTE is mechanically blocked.

- Remove the mechanical obstruction.

CAUSE 6:

At least 2 of the 3 CASSETTE END SWITCHES B5/C_IN_EL, B6/C_IN_EM, B7/C_IN_ER are defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate the SENSORS B5, B6, B7.
- Trace their output signals on CIRCUIT BOARD A8 sheet 2.

-Replace the faulty components.

CAUSE 7:

MOTOR M2/C_IN CASSETTE INPUT is not running.

-Enter the SERVICE MODE.

-Start the MOTOR CASSETTE INPUT backwards.

-Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.

-Replace the faulty component.

B1 ERROR CODE OF CASSETTE TASK

FUNCTION: DECENTER CASSETTE

PROBLEM:

The CASSETTE CENTRING BARS did not reach the open position and a time-out occurred.

CAUSE 1:

The CENTERING BARS do not move to the centre.

-Check if the DRIVE GEAR at the CENTERING MOTOR is broken. Replace it with the new white DRIVE GEAR PN 9221850.

CAUSE 2:

The CENTERING BARS do not move to the open position.

-If the TIMING BELT tension is too high, reduce the tension.

CAUSE 3:

SENSOR B10/C_CE_EO CENTERING BARS END SWITCH OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually operate SENSORS B10.

-Trace its output on CIRCUIT BOARD A8 Sheet 2.

-Replace the faulty component.

CAUSE 4:

MOTOR M4/C_CE CASSETTE CENTRING is not running.

-Enter the SERVICE MODE

-Start the MOTOR CENTRING CASSETTE.

-Trace the signal M_C_CE_C on CIRCUIT BOARD A8 Sheet 7.

-Replace the faulty component.

CAUSE 5:

115 VAC missing at BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between Pin 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWERS SUPPLY.

-INTERLOCK SYSTEM. RELAY K2 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 6:

There is a mechanical defect.

B2 ERROR CODE OF CASSETTE TASK

FUNCTION: FEED OUT CASSETTE

PROBLEM:

During feed out the CASSETTE did not actuate SENSOR B2/C_IN_R CASSETTE REGISTRATION or the INPUT FLAP was not opened.

CAUSE 1:

The CASSETTE stuck during feed out. This problem occurs most likely when an empty, this means open, CASSETTE is returned. The problem is caused by curved CASSETTES.

-Put the CASSETTE aside.

CAUSE 2:

No CASSETTE was fed in.

CAUSE 3:

The Cassette is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 4:

SENSOR B2/C_IN_R CASSETTE REGISTRATION is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B2.

-Trace its output signal on CIRCUIT BOARD A8 sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 5:

MOTOR M2 CASSETTE INPUT is not running.

-Enter the SERVICE MODE.

-Start the MOTOR CASSETTE INPUT backwards.

-Trace the signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.

-Replace the faulty component / Circuit Board.

CAUSE 6:

MOTOR M1/C_IF INPUT FLAP is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE INPUT FLAP.

-Trace the signal MC_C_IF on CIRCUIT BOARD A8 sheet 7.

-Replace the faulty component / Circuit Board.

CAUSE 7:

SENSOR B3/C_IN_EO CASSETTE INPUT FLAP OPEN is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B3.

-Trace its output signal on CIRCUIT BOARD A8 sheet 1.

-Replace the faulty component / Circuit Board.

CAUSE 8:

115 VAC missing at BOARD A8.

-Check with a DVM for 115 VAC at CONNECTOR A8X49 between PIN 1 and 4.

-If the voltage is missing check the following:

-Fuse F1 in the POWER SUPPLY.

-Interlock System. CONTACTOR K0 in the Power Supply will only be energised when the Top Cover and the Front Door are closed.

B3 ERROR CODE OF CASSETTE TASK**FUNCTION: FEED OUT CASSETTE****PROBLEM:**

The CASSETTE is not fed out of the ML2000.

CAUSE 1:

The CASSETTE is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 2:

CASSETTE END SWITCH B6/C_IN_EM is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B6.

-Trace its output signal on CIRCUIT BOARD A8 sheet 2.

-Replace the faulty component / Circuit Board.

CAUSE 3:

MOTOR M2/C_IN CASSETTE INPUT is not running.

-Enter the SERVICE MODE.

-Start MOTOR CASSETTE INPUT backwards.

-Trace the Signal M_C_IN_R from CIRCUIT BOARD A8 sheet 5 to A9.

-Replace the faulty component / Circuit Board.

B6 ERROR CODE OF CASSETTE TASK**FUNCTION: FILM TRANSPORT TO RECEIVING MAGAZINE****PROBLEM:**

Leading Edge not detected by SENSOR B24.

CAUSE 1:

The FILM is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 2:

SENSOR B24/C_RM_E RECEIVING MAGAZINE ENTRANCE defective/misadjusted.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B24.

-Trace its output signals on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

-If necessary adjust SENSOR B24.

CAUSE 3:

MOTOR M13/M_I MAGAZINE INTERFACE is not running.

-Enter the SERVICE MODE.

-Start MOTOR M13.

-Check Signals M_M_I_ST, M_M_I_RE and M_M_PI_EN on CIRCUIT BOARD A4 sheet 4.

-Replace the faulty component / Circuit Board.

B7 ERROR CODE OF CASSETTE TASK**FUNCTION: FILM TRANSPORT TO RECEIVING MAGAZINE****PROBLEM:**

Trailing Edge not detected by SENSOR B24.

CAUSE 1:

The FILM is mechanically blocked in the Magazine.

-Remove the mechanical obstruction.

CAUSE 2:

SENSOR B24/C_RM_E RECEIVING MAGAZINE ENTRANCE defective/misadjusted.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B24.

-Trace its output signals on CIRCUIT BOARD A8 sheet 3.

-Replace the faulty component / Circuit Board.

-If necessary adjust SENSOR B24.

CAUSE 3:

MOTOR M13/M_I MAGAZINE INTERFACE is not running.

-Enter the SERVICE MODE.

-Start MOTOR M13.

-Check Signals M_M_I_ST, M_M_I_RE and M_M_PI_EN on CIRCUIT BOARD A4 sheet 4.

-Replace the faulty component / Circuit Board.

D0 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

The SYSTEM-TASK received a wrong ID number.

CAUSE 1

A software problem occurred.

-Press CLEAR and start again.

CAUSE 2

The POWER SUPPLY is defective.

-Check in addition the voltages on CIRCUIT BOARD A1, A3/1 and A3/2.

D2 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR start again.

D3 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

D4 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

D5 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

D7 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A non-existing CASSETTE SIZE was detected.

CAUSE 1:

A CASSETTE turned by 90 degrees (for example 24x30) was inserted.

-Explain it to the operator.

CAUSE 2:

ODOMETER A10/1(CASSETTE LENGTH) is out of adjustment.

-Start the SERVICE SOFTWARE.

-Select CASS SIZE DETECTION from the COMPONENT TEST.

-Insert a CASSETTE with known (this means measured) outside dimensions.

-See if the displayed result for length is not correct.

-Adjust the ODOMETER in question.

CAUSE 3:

ODOMETER A10/1(CASSETTE LENGTH) is defective

- Start the SERVICE SOFTWARE.
- Select CASS SIZE DETECTION from the COMPONENT TEST.
- Insert a CASSETTE with known (this means measured) outside dimensions.
- See if the displayed result for length is not correct.
- Check the ODOMETER.

NOTE

The SENSOR TEST monitors the signal for the direction only. The COUNT SIGNAL can only be monitored with a LOGIC PEN.

- Replace the faulty component / Circuit Board.

CAUSE 4:

The TIMING BELT tension of ODOMETER A10/1.

- Reduce the tension.

D9 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE TASK****PROBLEM:**

The OPERATING SOFTWARE is not loaded completely.

Reload the complete OPERATING SOFTWARE with the LAP TOP.

DB ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE TASK****PROBLEM:**

The SOFTWARE VERSION of the MASTER PROCESSOR is not compatible with the SOFTWARE VERSION of the SLAVE PROCESSOR CASSETTE TASK.

CAUSE 1:

The SOFTWARE is not loaded correctly. Reload the OPERATING SOFTWARE of the ML2000.

CAUSE 2:

PCB A1 (MASTER PROCESSOR) or PCB A3/1 (SLAVE PROCESSOR CASSETTE TASK) is defective.

Replace the faulty PCB and reload the OPERATING SOFTWARE.

DC ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a SOFTWARE communication problem.

A software problem occurred.

DF ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE TASK****PROBLEM:**

The TOP COVER of the ML2000 is not closed.

CAUSE 1:

The TOP COVER is not engaged properly.

CAUSE 2:

The ACTUATOR of the TOP COVER INTERLOCK is not adjusted correctly.
Adjust the ACTUATOR that SENSOR B23/C_TCI is actuated safely.

CAUSE 3:

SENSOR B23/C_TCI TOP COVER INTERLOCK is defective.

Enter the SERVICE MODE.

Start the SENSOR TEST.

Manually actuate SENSOR B23.

Trace its output signal on CIRCUIT BOARD A8 sheet 4.

Replace the faulty component / Circuit Board.

F0 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

F1 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem.

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective CIRCUIT BOARD A1 or A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE-INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

F2 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

F3 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Reset the ML2000 and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective:

PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

F4 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective:

PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

F5 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem.

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

F6 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem.

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

F7 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem.

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective,
PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

F8 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

F9 ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

FA ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

A software communication error occurred.

-Press CLEAR and start again.

FD ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective.
PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

FE ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem.

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

-The following CIRCUIT BOARDS could be defective.

PCB A1, PCB A3/1

-The RS232 CABLE between the MASTER PROCESSOR A1 and the CASSETTE INTERFACE BOARD could be defective.

CONNECTOR X1 PCB A1 to X33 PCB A8

FF ERROR CODE OF CASSETTE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE-TASK****PROBLEM:**

-CES set the ML2000 to the inoperative mode.

5. ERROR CODES OF THE MAGAZINE UNIT

00 ERROR CODE OF MAGAZINE TASK

The magazine task has no error.

90 ERROR CODE OF MAGAZINE TASK

FUNCTION: ERRORS DURING CYCLE

PROBLEM:

The MAGAZINE TASK is not in HOME POSITION.

CAUSE:

The status of one of the following SENSORS is wrong, or the position of the FILM POCKET is unknown.

-Start the SENSOR TEST and check the status of the following SENSORS:

B36/M_OP_EO	MAGAZINE OPENING END SWITCH	OFF
B37/M_OP_EC	MAGAZINE CLOSING END SWITCH	ON
B56/M_PU_EF	FILM PICK UP END SWITCH FRONT	OFF
B57/M_PU_M	FILM PICK UP MIDDLE POSITION	OFF
B58/M_PU_ER	FILM PICK UP END SWITCH REAR	ON

NOTE

The SENSORS of the CASSETTE SUCKER BAR CARRIAGE are very sensitive to room light. If the covers are off, a RESET may be automatically started. Therefore make sure that no bright light reaches the SENSORS.

92 ERROR CODE OF MAGAZINE TASK

FUNCTION: MOVE POCKET TO HOME POSITION

PROBLEM:

The MAGAZINE SUCKER BAR is not in the MID POSITION.

CAUSE 1:

MAGAZINE SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 2:

SENSOR B56/M_PU_EF or B57/M_PU_M or B58/M_PU_ER is defective. These 3 SENSORS are mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Find out which SENSOR is faulty.

-Trace the Output from the faulty SENSOR through CIRCUIT BOARDS A5 and

- A4 to the SLAVE PROCESSOR A3/2.

-Replace the faulty component.

CAUSE 3:

The FILMPOCKET TIMING DISKS are out of adjustment.

-Do the ADJUSTMENT PROCEDURE.

93 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET TO HOME POSITION****PROBLEM:**

The FILMPOCKET did not reach the HOME POSITION and a time-out occurred.

CAUSE 1:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

-Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

-Vcc + 5 V

-VPE12 + 5 V

-VPE40 + 30 V

-Enter the SERVICE MODE.

-Start the STEPPER MOTOR.

-Transport the FILMPOCKET with the DIAGNOSTICS PROGRAM to various LEVELS.

-If it does not move correctly the problem may be caused by:

a faulty STEPPER MOTOR

a faulty CIRCUIT BOARD A4

a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

CAUSE 2:

The FILMPOCKET is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

SENSOR B30/M_PO_HP HOME POSITION is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B30.

-Trace its output on CIRCUIT BOARD A4 Sheet 1.

94 ERROR CODE OF MAGAZINE TASK**FUNCTION: OPEN MAGAZINES****PROBLEM:**

SENSOR B36/M_OP_ED MAGAZINE OPENING END SWITCH is not actuated.

CAUSE 1:

SENSOR B36/M_OP_EO MAGAZINE OPENING END SWITCH defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B36.

-Trace output signal on CIRCUIT BOARD A4 Sheet 2.

-Replace the faulty component.

CAUSE 2:

115 VAC missing at CIRCUIT BOARD A4.

-Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M14/M_OP MAGAZINE OPENING MECHANISM is not running.

-Enter the SENSOR MODE.

-Start the MOTOR MAGAZINE OPENING to open the MAGAZINES.

-Trace the signal M_M_OP_O open on CIRCUIT BOARD A4 Sheet 7.

-Replace the faulty component.

CAUSE 4:

The MAGAZINE is defective.

CAUSE 5:

There is a mechanical defect.

95 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET TO MOVE OUT_POSITION IN THE MAGAZINE****PROBLEM:**

The FILMPOCKET did not reach the "MOVE OUT POSITION IN THE MAGAZINE" in the correct time and a time-out occurred.

CAUSE 1:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

-Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE40 + 30 V

-Enter the SERVICE MODE.

-Start the STEPPER MOTOR.

-Move the FILMPOCKET with the DIAGNOSTICS PROGRAM to various LEVELS.

-If it does not move correctly the problem may be caused by

a faulty STEPPER MOTOR

a faulty CIRCUIT BOARD A4

a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

CAUSE 2:

The FILMPOCKET is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B32.

-Trace its output signal on CIRCUIT BOARD A4 Sheet 1.

-Replace the faulty component.

CAUSE 4:

There is a mechanical defect.

96 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET TO A MAGAZINE LEVEL****PROBLEM:**

The FILMPOCKET did not reach the SELECTED MAGAZINE LEVEL in the correct time and a time-out occurred.

CAUSE 1:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

-Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE40 + 30 V

-Enter the SERVICE MODE.

-Start the STEPPER MOTOR.

-Move the FILMPOCKET to various Levels.

If it does not move correctly the problem may be caused by a faulty STEPPER MOTOR a faulty CIRCUIT BOARD A4 a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2.

CAUSE 2:

The FILMPOCKET is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B32.

-Trace its output SIGNAL on CIRCUIT BOARD A4 Sheet 1.

-Replace the faulty component.

97 ERROR CODE OF MAGAZINE TASK

FUNCTION: MOVE POCKET TO A MAGAZINE LEVEL

PROBLEM:

The actual position of the FILM POCKET is unknown.

CAUSE 1:

A cycle was aborted before the FILM POCKET reached a known position. If now the same function is started, this problem will occur. In this case the FILMPOCKET is brought back to its HOME POSITION.

99 ERROR CODE OF MAGAZINE TASK

FUNCTION: MOVE POCKET TO A MAGAZINE LEVEL

PROBLEM:

The MAGAZINE SUCKER BAR is not in the MID POSITION.

CAUSE 1:

SENSOR B56/M_PU_EF or B57/M_PU_M or B58/M_PU_ER is defective. These 3 SENSORS are mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Find out which SENSOR is faulty.

-Trace the Output from the faulty SENSOR through CIRCUIT BOARDS A5 and A4.

-Replace the faulty component.

CAUSE 2:

The FILMPOCKET TIMING DISKS are out of adjustment.

-Do the ADJUSTMENT PROCEDURE.

9A ERROR CODE OF MAGAZINE TASK

FUNCTION: MOVE POCKET SUCKER BAR TO FRONT POSITION

PROBLEM:

A loaded MAGAZINE is indicated as empty.

CAUSE 1:

The MAGAZINE is really empty.

CAUSE 2:

SENSOR B60/M_PU_E MAGAZINE EMPTY is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B60.

-Trace its output signal on CIRCUIT BOARD A4 Sheet 1.

-Replace the faulty component.

CAUSE 3:

The MIRROR in the FILMPOCKET is dirty.

-Clean the MIRROR.

CAUSE 4:

The SENSOR B30 adjustment is not correct.

-Do the ADJUSTMENT PROCEDURE.

9B ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET SUCKER BAR TO FRONT POSITION****PROBLEM:**

The MAGAZINE SUCKER BAR did not reach the PICK UP POSITION and a time-out occurred.

CAUSE 1:

The problem is caused by EMI.

-Install modification 26 (PCB A5 use IC-ASSEMBLY for U1)

CAUSE 2:

The DOUBLE FILM DETECTION CABLE became engaged with the MAGAZINE EMPTY SENSOR.

-Route the CABLE, so that it can not interfere with the MAGAZINE EMPTY SENSOR.

CAUSE 3:

The FILMPOCKET TIMING DISKS are out of adjustment.

-Do the ADJUSTMENT PROCEDURE.

CAUSE 4:

The FILMPOCKET SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 5:

The FILMPOCKET is too high or too low.

-Adjust the position of the MAGAZINE LEVEL BRACKET.

CAUSE 6:

MAGAZINE SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 7:

115 VAC missing at CIRCUIT BOARD A4.

-Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

-FUSE F1 in the POWER SUPPLY.

-INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 8:

MOTOR M15/M_PU MAGAZINE PICK UP is not running.

-Enter the SERVICE MODE.

-Start the MOTOR MAGAZINE PICK UP forward and reverse.

-Trace the signals M_M_PU_F (forward) and M_M_PU_R (reverse) on CIRCUIT BOARD A4 sheet 7.

-Replace the faulty component.

CAUSE 9:

SENSOR B56/M_PU_EF or B57/M_PU_M OR B58/M_PU_ER is defective. These 3 SENSORS are mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Find out which SENSOR is faulty.

-Trace the Output from the faulty SENSOR through CIRCUIT BOARD A5 and A4.

-Replace the faulty component.

CAUSE 10:

The FILMPOCKET is mechanically blocked. For example by the BLOWPIPES.

-Remove the mechanical obstruction.

9C ERROR CODE OF MAGAZINE TASK**FUNCTION: MAGAZINE FILM PICK UP****PROBLEM:**

The FILMPOCKET did not reach the "MOVE OUT POSITION IN THE MAGAZINE" in the correct time and a time-out occurred.

CAUSE 1

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B32.
- Trace its output signal on CIRCUIT BOARD A4 Sheet 1.
- Replace the faulty component.

CAUSE 2:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

- Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE40 + 30 V

- Enter the SERVICE MODE.
 - Start the STEPPER MOTOR.
 - Move the FILMPOCKET to various Levels.
- If it does not move correctly the problem may be caused by
- a faulty STEPPER MOTOR
 - a faulty CIRCUIT BOARD A4
 - a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

CAUSE 3:

The FILMPOCKET is mechanically blocked.

- Remove the mechanical obstruction.

9D ERROR CODE OF MAGAZINE TASK**FUNCTION: MAGAZINE FILM PICK UP****PROBLEM:**

The MAGAZINE SUCKER BAR is in the FILM PICK UP POSITION in the MAGAZINE but could not go deep enough to reach the FILM.

CAUSE 1:

The MAGAZINE SUCKER BAR did not tilt. In this case SENSOR B61/M_PU-FS FILM AT SUCKER BAR is not actuated when the top film is reached.

- Check if the SOLENOID CABLE is broken. Install modification 26.
- Check if the E-RING at the SOLENOID Y14 SUCKER BAR TILTING is broken. Replace it if necessary.

CAUSE 2:

SENSOR B61/M_PU_FS FILM AT SUCKER BAR is out of adjustment. The SENSOR is not actuated when the top film is reached.

- Adjust SENSOR B61.

CAUSE 3:

The MAGAZINE SUCKER BAR is not tilted.

- Enter the SERVICE MODE.
- Turn on SOLENOID Y14/M_PU MAGAZINE SUCKER BAR TILTING.
- Trace SIGNAL Y_M_PU from CIRCUIT BOARD A4 sheet 6 to A4 sheet 1 and to A5 sheet 1 and 2.
- Replace the faulty component.

CAUSE 4:

MAGAZINE BLOWPIPES ride on the MAGAZINE.

- Do the FILM POCKET ADJUSTMENT.

CAUSE 5:

SENSOR B61/M_PU_FS FILM AT SUCKER BAR does not recognise the top FILM.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Trace the Output Signal of SENSOR B61 from CIRCUIT BOARD A5 through A4 Sheet 1.
- Check the RIBBON CABLE.
- Replace the faulty component.

CAUSE 6:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

- Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE30 + 5 V

- Enter the SERVICE MODE.
- Start the STEPPER MOTOR.
- Move the FILMPOCKET to various LEVELS.

If it does not move correctly the problem may be caused by

- a faulty STEPPER MOTOR
- a faulty CIRCUIT BOARD A4
- a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

9E ERROR CODE OF MAGAZINE TASK**FUNCTION: MAGAZINE FILM PICK UP****PROBLEM:**

The FILM is still at the SUCKERS of the FILMPOCKET SUCKER BAR even after air was blown into the SUCKERS.

CAUSE 1:

The RIBBON CABLE is broken.

CAUSE 2:

The SUCKERS are tacky.

- Clean the SUCKERS with SCREEN CLEANER.

CAUSE 3:

SENSOR B61/M_PU_FS FILM at SUCKER BAR is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B61.
- Trace its output signal on CIRCUIT BOARD A4 Sheet 1.

CAUSE 4:

115 VAC missing at CIRCUIT BOARD A4.

- Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

FUSE F1 in the POWER SUPPLY.

INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER

and the FRONT PANEL are closed.

CAUSE 5:

COMPRESSOR M16/M_CP is not running.

- Enter the SERVICE MODE.
- Start the COMPRESSOR.
- Trace the signal M_M_CP on CIRCUIT BOARD A4 Sheet 7.

-Replace the faulty component.

CAUSE 6:

SOLENOID VALVE Y10/M_PU_BS MAGAZINE BLOW SUCKERS is not working.

-Enter the SERVICE MODE.

-Energise SOLENOID VALVE Y10.

-Trace the signal Y_M_PU_BS on CIRCUIT BOARD A4 Sheet 6.

-Replace the faulty component.

9F ERROR CODE OF MAGAZINE TASK

FUNCTION: MAGAZINE FILM PICK UP

PROBLEM:

The FILMPOCKET SUCKER BAR lost the FILM after it was picked up from the MAGAZINE.

CAUSE 1:

No vacuum available.

-Check for a leakage in the vacuum system. Check it for all positions of the FILM POCKET.

-Check SOLENOID Y12/M_PU_S MAGAZINE SUCKING for correct operation.

CAUSE 2:

The SUCKERS did not reach the top film in the MAGAZINE.

-Check the adjustment of SENSOR B61/M_PU_FS FILM AT SUCKER BAR.

-If necessary increase the value of PARAMETER ADDITIONAL STEPS. This ensures that the SUCKERS are pressed correctly onto the top film, so that the vacuum can be built up.

CAUSE 3:

SENSOR B61/M_PU_FS FILM AT SUCKER BAR does not recognise the FILM.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Trace the Output Signal of SENSOR B61 from CIRCUIT BOARD A5 through A4 Sheet 1.

-Check the RIBBON CABLE.

-Replace the faulty component.

CAUSE 4:

No airflow through the MAGAZINE BLOW PIPES.

-Clean the hole (slit) of the MAGAZINE BLOW PIPES.

CAUSE 5:

FILM lost due to high humidity.

Check the site.

CAUSE 6:

The VACUUM SYSTEM is not tight.

-Check for a leakage and replace the faulty parts.

CAUSE 7:

115 VAC missing at CIRCUIT BOARD A4.

-Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

FUSE F1 in the POWER SUPPLY.

INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER

and the FRONT PANEL are closed.

CAUSE 8:

COMPRESSOR M16/M_CP is not running.

At this time M16 is used as a VACUUM PUMP.

-Enter the SERVICE MODE.

-Start the COMPRESSOR.

-Trace the signal M_M_CP on CIRCUIT BOARD A4 Sheet 7.

-Replace the faulty component.

CAUSE 9:

SOLENOID VALVE Y12/M_PU_S MAGAZINE SUCKING is defective.

- Enter the SERVICE MODE.
- Start the SOLENOID VALVE MAGAZINE SUCKING.
- Trace signal Y_M_PU_S on CIRCUIT BOARD A4 Sheet 6.
- Replace the faulty component.

CAUSE 10:

SOLENOID VALVE Y10/M_PU_BS MAGAZINE BLOW INTO SUCKERS is defective.

If this SOLENOID is energised all the time or if it is mechanically defective and stays open, no VACUUM can be built up in the MAGAZINE SUCKERS.

- Enter the SERVICE MODE.
- Turn on SOLENOID BLOW INTO SUCKERS.
- Trace signal Y_M_PU_BS on CIRCUIT BOARD A8 Sheet 6 to find out if Y10 stays energised all the time.
- Replace the faulty component.

CAUSE 11:

SENSOR B60/M_PU_E MAGAZINE EMPTY is defective.

In this case the SUCKER BAR tries to pick up a FILM from an empty MAGAZINE.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B60.
- Trace its output signal on CIRCUIT BOARD A4 Sheet 1.
- Replace the faulty component.

A0 ERROR CODE OF MAGAZINE TASK**FUNCTION: MAGAZINE FILM PICK UP****PROBLEM:**

A DOUBLE FILM CONDITION is recognised.

CAUSE 1:

Two FILMS in the MAGAZINE stick together.

- Fan the FILMS.

CAUSE 2:

The FILM in the MAGAZINE is not separated.

- Check that the BLOWPIPE POSITION is correct and that they are not clogged.
- If the position is too high or too low, the stream of air will not separate the FILMS.
- Do the BLOWPIPE adjustment.
- If the BLOWPIPE is clogged replace is.

CAUSE 3:

SENSOR B59/M_PU_DS DOUBLE SHEET DETECTOR is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B59.
- Trace its output on CIRCUIT BOARD A4 Sheet 1.
- Replace the faulty component.

CAUSE 4:

The DOUBLE FILM SENSOR is out of adjustment.

- Do the DOUBLE FILM SENSOR ADJUSTMENT.

A1 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET SUCKER BAR TO REAR POSITION****PROBLEM:**

The MAGAZINE SUCKER BAR did not reach the REAR POSITION and a time-out occurred.

CAUSE 1:

The FILMPOCKET TIMING DISKS are out of adjustment.

-Do the ADJUSTMENT PROCEDURE.

CAUSE 2:

There is a mechanical defect.

CAUSE 3:

MAGAZINE SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 4:

115 VAC missing at CIRCUIT BOARD A4.

-Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

FUSE F1 in the POWER SUPPLY.

INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 5:

MOTOR M15/M_PU MAGAZINE PICK UP is not running.

-Enter the SERVICE MODE.

-Start the MOTOR MAGAZINE PICK UP forward and reverse.

-Trace the signals M_M_PU_F (forward) and M_M_PU_R (reverse) on CIRCUIT BOARD A4 Sheet 7.

-Replace the faulty component.

CAUSE 6:

SENSOR B58/M_PU_ER FILM PICK UP REAR END SWITCH is defective. This SENSOR is mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B58.

-Trace its output signal through CIRCUIT BOARDS A5 and A4.

-Replace the faulty component.

A2 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET SUCKER BAR TO MIDDLE POSITION****PROBLEM:**

The MAGAZINE SUCKER BAR did not reach the PICK UP POSITION and a time-out occurred.

CAUSE 1:

SENSOR B57/M_PU_M is defective. This SENSOR is mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B57.

-Trace its output signal through CIRCUIT BOARDS A5 and A4.

-Replace the faulty component.

CAUSE 2:

MAGAZINE SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

115 VAC missing at CIRCUIT BOARD A4.

-Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

FUSE F1 in the POWER SUPPLY.

INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 4:

MOTOR M15/M_PU MAGAZINE PICK UP is not running.

- Enter the SERVICE MODE.
- Start the MOTOR MAGAZINE PICK UP forward and reverse.
- Trace the signals M_M_PU_F (forward) and M_M_PU_R (reverse) on CIRCUIT BOARD A4 Sheet 7.
- Replace the faulty component.

CAUSE 5:

The FILMPOCKET TIMING DISKS are out of adjustment.

- Do the ADJUSTMENT PROCEDURE.

A3 ERROR CODE OF MAGAZINE TASK**FUNCTION: MAGAZINE CLOSING****PROBLEM:**

SENSOR B36/M_OP_ED MAGAZINE OPENING END SWITCH is not actuated.

CAUSE 1:

SENSOR B37 /M_OP_EC MAGAZINE CLOSING END SWITCH defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B37.
- Trace the output from SENSOR B37 on CIRCUIT BOARD A4 Sheet 2.
- Replace the faulty component.

CAUSE 2:

115 VAC missing at CIRCUIT BOARD A4.

- Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

FUSE F1 in the POWER SUPPLY.

INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 3:

MOTOR M14/M_OP MAGAZINE OPENING MECHANISM is not running.

- Enter the SERVICE MODE.
- Start the MOTOR MAGAZINE OPENING to open the MAGAZINES.
- Trace the signal M_M_OP_O Open on CIRCUIT BOARD A4 Sheet 7.
- Replace the faulty component.

A4 ERROR CODE OF MAGAZINE TASK**FUNCTION: BLOW DOWN FILM****PROBLEM:**

The FILM is still at the SUCKERS of the FILMPOCKET SUCKER BAR even after air was blown into the SUCKERS.

CAUSE 1:

No air is blown through the SUCKERS.

- Take out the blue SCREW from SOLENOID VALVE Y10/M_PU_BS MAGAZINE BLOW SUCKER and run a few cycles with the SCREW out. It is possible that small particles are in the SOLENOID VALVE and they are blown out during a few cycles without the blue SCREW. Insert the SCREW.

CAUSE 2:

SOLENOID VALVE Y10/M_PU_BS MAGAZINE BLOW SUCKERS is not working.

- Enter the SERVICE MODE.
- Energise SOLENOID VALVE Y10.
- Trace the signal Y_M_PU_BS on CIRCUIT BOARD A4 Sheet 6.
- Replace the faulty component.

CAUSE 3:

The SUCKERS are tacky.

-Clean the SUCKERS with SCREEN CLEANER.

A5 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET SUCKER BAR TO MIDDLE POSITION****PROBLEM:**

The MAGAZINE SUCKER BAR should go to the MIDDLE POSITION but stayed in the PICK UP POSITION.

CAUSE 1:

SENSOR B57/M_PU_M is defective. This SENSOR is mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B57.

-Trace its output signal through CIRCUIT BOARDS A5 and A4.

-Replace the faulty component.

CAUSE 2:

MAGAZINE SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

115 VAC missing at CIRCUIT BOARD A4.

-Check with a DVM for 115 VAC at CONNECTOR A4X28 between PIN 1 and 4.

-If the voltage is missing check the following:

FUSE F1 in the POWER SUPPLY.

INTERLOCK SYSTEM. CONTACTOR K0 in the POWER SUPPLY will only be energised when the TOP COVER and the FRONT DOOR are closed.

CAUSE 4:

MOTOR M15/M_PU MAGAZINE PICK UP is not running.

-Enter the SERVICE MODE.

-Start the MOTOR MAGAZINE PICK UP forward and reverse.

-Trace the signals M_M_PU_F (forward) and M_M_PU_R (reverse) on CIRCUIT BOARD A4 Sheet 7.

-Replace the faulty component.

CAUSE 5:

The FILMPOCKET TIMING DISKS are out of adjustment.

-Do the ADJUSTMENT PROCEDURE.

A6 ERROR CODE OF MAGAZINE TASK**FUNCTION: BLOW DOWN FILM****PROBLEM:**

The fresh FILM was picked up in the MAGAZINE, but it was not at the MAGAZINE SUCKERS when the FILM POCKET reached the CASSETTE.

CAUSE 1:

The Film was stripped of from the SUCKERS when it was pulled out of the MAGAZINE.

CAUSE 2:

Sensor B61/M_PU_FS is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate the SENSOR B61.

-Trace the output signal of SENSOR B61 from CIRCUIT BOARD A5 through A4 Sheet 1.

-Replace the faulty component.

AE ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET TO HOME POSITION****PROBLEM:**

The FILMPOCKET did not reach HOME POSITION in time.

CAUSE 1:

SENSOR B30/M_PO_HP END SWITCH defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate the SENSOR B30.
- Trace the output signal of SENSOR B30 from CIRCUIT BOARD A5 through A4 Sheet 1.
- Replace the faulty component.

CAUSE 2:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate the SENSOR B32.
- Trace the output signal of SENSOR B32 from CIRCUIT BOARD A5 through A4 sheet 1.
- Replace the faulty component.

CAUSE 4:

Wrong values are stored in the MEMORY.

Do a FILMPOCKET SCAN RUN.

B0 ERROR CODE OF MAGAZINE TASK**FUNCTION: POCKET SCAN RUN****PROBLEM:**

This problem can only occur in the SERVICE MODE after a SCAN RUN. In this case an invalid valve for a MAGAZINE LEVEL was detected.

CAUSE 1:

The LEVEL BRACKETS are in the wrong position.

- Do the MAGAZINE LEVEL ADJUSTMENT.

CAUSE 2:

SENSOR B32/M_PO_ML MAGAZINE LEVEL does not detect all MAGAZINE LEVELS.

- Make sure that the LEVEL BRACKETS interrupt Sensor B32.

CAUSE 3:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Trace the output signal of SENSOR B32 from CIRCUIT BOARD A7 through PCB A5 and PCB A4 Sheet 1.
- Replace the faulty component.

B1 ERROR CODE OF MAGAZINE TASK**FUNCTION: POCKET SCAN RUN****PROBLEM:**

A FILMPOCKET time-out occurred during the FILMPOCKET SCAN RUN.

CAUSE 1:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B32.
- Trace its output signal on CIRCUIT BOARD A4 Sheet 1.

-Replace the faulty component.

CAUSE 2:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

-Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VEP12 + 5 V

VPE40 + 30 V

-Enter the SERVICE MODE.

-Start the STEPPER MOTOR.

-Move the FILMPOCKET to various levels.

If it does not move correctly the problem may be caused by

a faulty STEPPER MOTOR

a faulty CIRCUIT BOARD A4

a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

CAUSE 3:

The FILMPOCKET is mechanically blocked.

-Remove the mechanical obstruction.

B3 ERROR CODE OF MAGAZINE TASK**FUNCTION: POCKET SCAN RUN****PROBLEM:**

The MAGAZINE SUCKER BAR is not in the MID POSITION.

CAUSE 1:

MAGAZINE SUCKER BAR is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 2:

SENSOR B57/M_PU_M is defective. This SENSOR is mounted on CIRCUIT BOARD A5.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B57.

-Trace its output signal through CIRCUIT BOARD A5 and A4.

-Replace the faulty component.

CAUSE 3:

The FILMPOCKET TIMING DISKS are out of adjustment.

-Do the ADJUSTMENT PROCEDURE.

B4 ERROR CODE OF MAGAZINE TASK**FUNCTION: CHECK OF NEARLY EMPTY****PROBLEM:**

During the CHECK OF NEARLY EMPTY a FILMPOCKET TIME-OUT occurred.

CAUSE 1:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

-Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE40 + 30 V

-Enter the SERVICE MODE.

-Start the STEPPER MOTOR.

-Move the FILMPOCKET to various LEVELS.

-If it does not move correctly the problem may be caused by

a faulty STEPPER MOTOR

a faulty CIRCUIT BOARD A4

a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

CAUSE 2:

The FILMPOCKET is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B32.

-Trace its output signal on CIRCUIT BOARD A4 Sheet 1.

B5 ERROR CODE OF MAGAZINE TASK

FUNCTION: CHECK OF NEARLY EMPTY

PROBLEM:

The FILMPOCKET did not reach the "MOVE OUT POSITION IN THE MAGAZINE" in the correct time and a time-out occurred.

CAUSE 1:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

-Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE40 + 30 V

-Enter the SERVICE MODE.

-Start the STEPPER MOTOR.

-Move the FILMPOCKET to various LEVELS.

If it does not move correctly the problem may be caused by

a faulty STEPPER MOTOR

a faulty CIRCUIT BOARD A4

a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

CAUSE 2:

The FILMPOCKET is mechanically blocked.

-Remove the mechanical obstruction.

CAUSE 3:

SENSOR B32/M_PO_ML MAGAZINE LEVEL is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B32.

-Trace its output signal on CIRCUIT BOARD A4 Sheet 1.

-Replace the faulty component.

B6 ERROR CODE OF MAGAZINE TASK

FUNCTION: CHECK OF NEARLY EMPTY

PROBLEM:

During the "TEST OF NEARLY EMPTY" in the SERVICE MODE, the MAGAZINE is indicated as loaded.

CAUSE 1:

Use an empty MAGAZINE. It is not allowed to use for this test a loaded MAGAZINE.

CAUSE 2:

SENSOR B60/M_PU_E MAGAZINE EMPTY is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

- Manually actuate SENSOR B60.
- Trace its output signal through CIRCUIT BOARD A5 and PCB A4 Sheet 1.
- Replace the faulty components.

CAUSE 3:

The MAGAZINE SUCKER BAR is in the wrong position.

B7 ERROR CODE OF MAGAZINE TASK**FUNCTION: MOVE POCKET DOWN TO FILM****PROBLEM:**

The MAGAZINE SUCKER BAR is in the FILM PICK UP POSITION in the MAGAZINE but could not go deep enough to reach the FILM.

CAUSE 1:

MAGAZINE BLOWPIPES ride on the MAGAZINE.

- Do the FILM POCKET ADJUSTMENT.

CAUSE 2:

SENSOR B61/M_PU_FS FILM AT SUCKER BAR does not recognise the top FILM.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Trace the output signal of SENSOR B61 from CIRCUIT BOARD A5 through PCB A4 Sheet 1.
- Check the RIBBON CABLE.
- Replace the faulty component.

CAUSE 3:

STEPPER MOTOR M10/M_PO FILMPOCKET is not running.

- Check the following voltages on CIRCUIT BOARD A4 Sheet 5:

Vcc + 5 V

VPE12 + 5 V

VPE30 + 30 V

- Enter the SERVICE MODE.
- Start the STEPPER MOTOR.
- Move the FILMPOCKET to various LEVELS.

If it does not move correctly the problem may be caused by
a faulty STEPPER MOTOR or its DRIVER BOARD A4
a faulty SLAVE PROCESSOR CIRCUIT BOARD A3/2

C1 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE.****PROBLEM:**

A time-out occurred during BLOW INTO CASSETTE.

CAUSE:

This is a SOFTWARE PROBLEM. Another problem occurred before in the CASSETTE UNIT.

C2 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

There is no MAGAZINE available for the detected CASSETTE SIZE.

CAUSE 1:

The desired MAGAZINE is not in.

- Insert the requested MAGAZINE and explain it to the operator.

CAUSE 2:

False detection of a TYPE 2 CASSETTE.

-Adjust the TYPE 2 SENSORS B21/C_T2_L and B22/C_T2_R. Ensure that they are not triggered by a CASSETTE without reflective stickers.

CAUSE 3:

The reflective stickers (for TYPE 2) on the CASSETTE are not recognised by the TYPE 2 SENSORS B21//C_T2_L or B22/C_T2/R.

-Adjust the TYPE 2 SENSORS.

C3 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

Selected MAGAZINE is empty.

CAUSE 1:

The MAGAZINE is empty.

-Explain the operator how to use NEARLY EMPTY.

CAUSE 2:

MAGAZINE is not empty.

-Adjust SENSOR B60/M_PU_E MAGAZINE EMPTY. SENSOR B60 and MIRROR in the FILM POCKET has to be aligned correctly, so that the infrared beam points to the centre of the reflective sticker in the MAGAZINE.

C4 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

MAGAZINE is not opened.

CAUSE 1:

The MAGAZINE is not inserted correctly.

CAUSE 2:

There is a mechanical defect.

CAUSE 3:

MAGAZINE CLOSED DETECTOR B43/M_CD_1 or B49/M_CD_2 or B55/M_CD_3 is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate the SENSOR of the selected MAGAZINE.

-Trace its output signal through CIRCUIT BOARD A6 and A4 sheet 3.

-Replace the faulty component.

C5 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE.****PROBLEM:**

A time-out occurred during BLOW INTO CASSETTE.

CAUSE:

This is a SOFTWARE PROBLEM. Another problem occurred before in the CASSETTE UNIT.

C6 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

A DOUBLE FILM is 3 times detected in a cycle.

CAUSE 1:

FILMS stick together in the MAGAZINE.

-Fan the FILMS.

CAUSE 2:

Problems with the MAGAZINE BLOW PIPES

- Check that the BLOW PIPES are not clogged.. Clean the hole).
- Check the BLOW PIPE position in relation to the MAGAZINE SUCKERS. Adjust them if necessary.

C7 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

A time-out occurred and the FILM is not removed from the CASSETTE.

CAUSE 1:

This is a SOFTWARE PROBLEM. Another problem occurred earlier in the CASSETTE UNIT.

C8 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

The SERIAL UNLOAD MAGAZINE LEVEL is not reached.

CAUSE 1:

There is a mechanical problem.

C9 ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

The MAGAZINE COVER is not closed.

CAUSE 1:

The MAGAZINE is blocked by FILMS.

- Put the FILMS correctly into the MAGAZINE.

CAUSE 2:

SENSOR B43/M_CD_1 or B49/M_CD_2 or B55/M_CD_3 is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate the SENSOR of the selected MAGAZINE.
- Trace its output signal through CIRCUIT BOARD A6 and A4 sheet 3.
- Replace the faulty component.

CAUSE 3:

SENSOR B37/M_PO_EC MAGAZINE CLOSING is defective.

- Enter the SERVICE MODE.
- Start the SENSOR TEST.
- Manually actuate SENSOR B37.
- Trace its output signal on CIRCUIT BOARD A4 sheet 2.
- Replace the faulty component.

D0 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

The SYSTEM-TASK received a wrong ID number.

CAUSE 1:

- A software problem occurred.
- Press CLEAR and start again.

CAUSE 2:

The POWER SUPPLY is defective. Check in addition the voltages on CIRCUIT BOARDS A1, A3/1 and A3/2.

D2 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

A software problem occurred.
-Press CLEAR and start again.

D3 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

A software problem occurred.
-Press CLEAR and start again.

D4 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

The left-hand Switch S1 on PCB A4 is set to ON. It must be set to OFF. Look for the imprint on S1, some switches are mounted upside down on the PCB and therefore in some cases OFF may be the up position and in some cases OFF may be the down position.

D5 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

A software problem occurred.
-Press CLEAR and start again.

D9 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE TASK****PROBLEM:**

The OPERATING SOFTWARE is not loaded completely.
Reload the complete OPERATING SOFTWARE with the LAP TOP.

DA ERROR CODE OF MAGAZINE TASK**FUNCTION: ERRORS DURING CYCLE****PROBLEM:**

The MAGAZINE COVER is not closed at startup of the ML300.

CAUSE 1:

The MAGAZINE is blocked by FILMS.
-Put the FILMS correctly into the MAGAZINE.

CAUSE 2:

SENSOR B43/M_CD_1 or B49/M_CD_2 or B55/M_CD_3 is defective.
-Enter the SERVICE MODE.
-Start the SENSOR TEST.
-Manually actuate the SENSOR of the selected MAGAZINE.
-Trace its output signal through CIRCUIT BOARD A6 and A4 sheet 3.
-Replace the faulty component.

CAUSE 3:

SENSOR B37/M_PO_EC MAGAZINE CLOSING is defective.
-Enter the SERVICE MODE.
-Start the SENSOR TEST.
-Manually actuate SENSOR B37.
-Trace its output signal on CIRCUIT BOARD A4 sheet 2.
-Replace the faulty component.

DB ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE TASK****PROBLEM:**

The SOFTWARE VERSION of the MASTER PROCESSOR is not compatible with the SOFTWARE VERSION of the SLAVE PROCESSOR MAGAZINE TASK.

CAUSE 1:

The SOFTWARE is not loaded correctly.

Reload the OPERATING SOFTWARE of the ML2000.

CAUSE 2:

PCB A1 (MASTER PROCESSOR) or PCB A3/2 (SLAVE PROCESSOR MAGAZINE TASK) is defective.

-Replace the faulty PCB and reload the OPERATING SOFTWARE.

DC ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

A software communication error occurred.

-Press CLEAR and start again.

DF ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF CASSETTE TASK****PROBLEM:**

The TOP COVER of the ML300 is not closed.

CAUSE 1:

The TOP COVER is not engaged properly.

CAUSE 2:

The ACTUATOR of the TOP COVER INTERLOCK is not adjusted correctly.

Adjust the ACTUATOR that SENSOR B23/C_TCI is actuated safely.

CAUSE 3:

SENSOR B23/C_TCI TOP COVER INTERLOCK is defective.

-Enter the SERVICE MODE.

-Start the SENSOR TEST.

-Manually actuate SENSOR B23.

-Trace its output signal on CIRCUIT BOARD A8 sheet 4.

-Replace the faulty component.

F0 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

A software problem occurred.

-Press CLEAR and start again.

F1 ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

This is a HARDWARE communication problem.

CAUSE 1:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1

PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

F2 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

A software problem occurred.

-Press CLEAR and start again.

F3 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

F4 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

F5 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

F6 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

F7 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

F8 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

A software problem occurred.

-Press CLEAR and start again.

F9 ERROR CODE OF MAGAZINE TASK

FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK

PROBLEM:

A software problem occurred.

-Press CLEAR and start again.

FD ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

FE ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****PROBLEM:**

This is a HARDWARE/SOFTWARE communication problem.

CAUSE 1:

SOFTWARE problem:

-Press CLEAR and start again.

CAUSE 2:

HARDWARE problem:

The following CIRCUIT BOARDS could be defective,

PCB A1, PCB A3/2

The RS232 CABLE between the MASTER PROCESSOR A1 and the MAGAZINE INTERFACE BOARD could be defective.

CONNECTOR X2 PCB A1 to X29 PCB A4

FF ERROR CODE OF MAGAZINE TASK**FUNCTION: INTERNAL ERRORS OF MAGAZINE-TASK****Problem:**

CES set the ML2000 to the inoperative mode.



CUSTOMER EQUIPMENT SERVICES KODAK AG STUTTGART