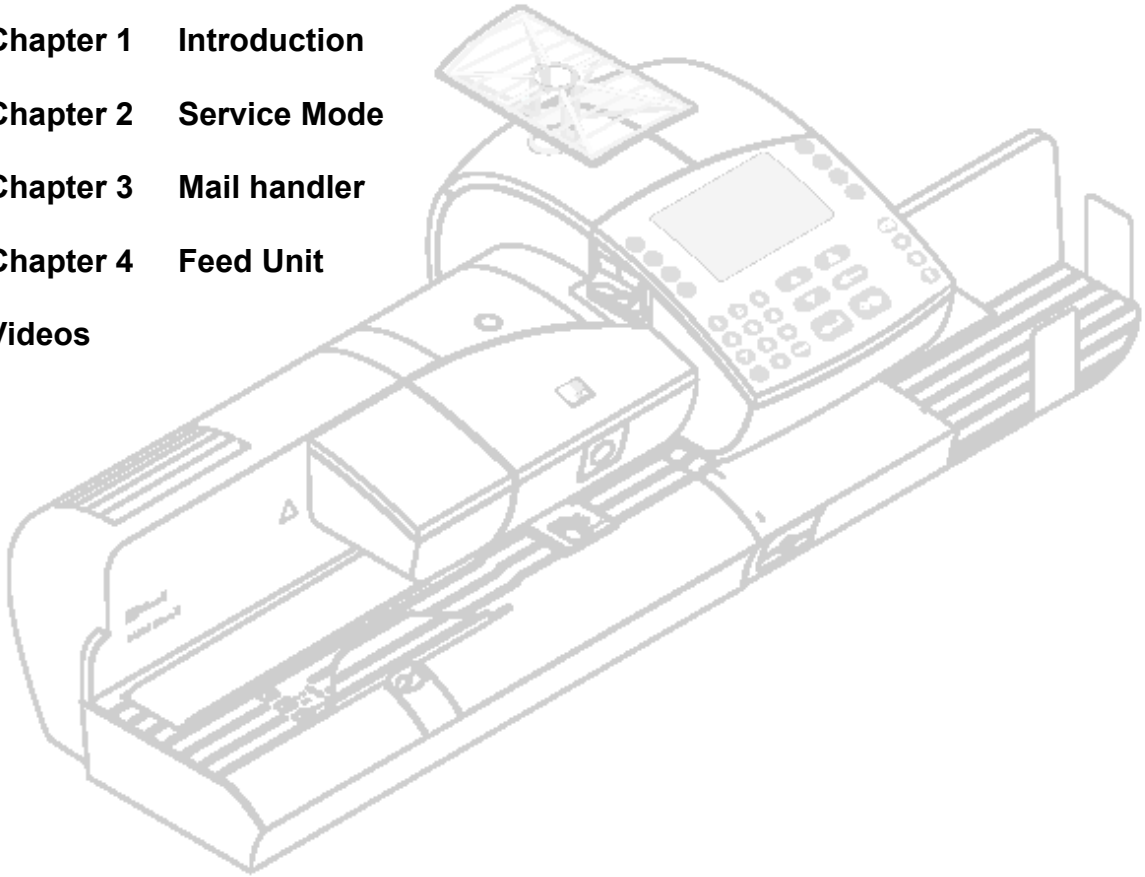
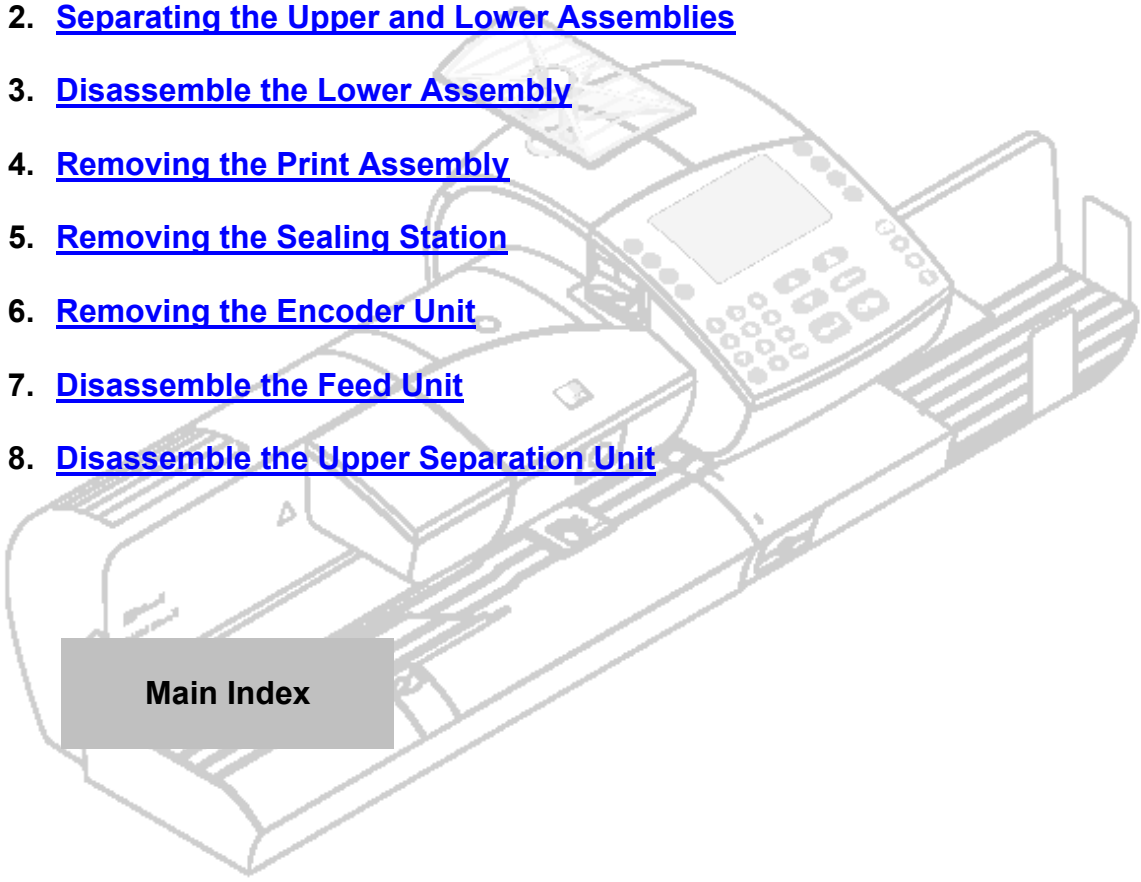
ultimail

Service Manual



Video’s

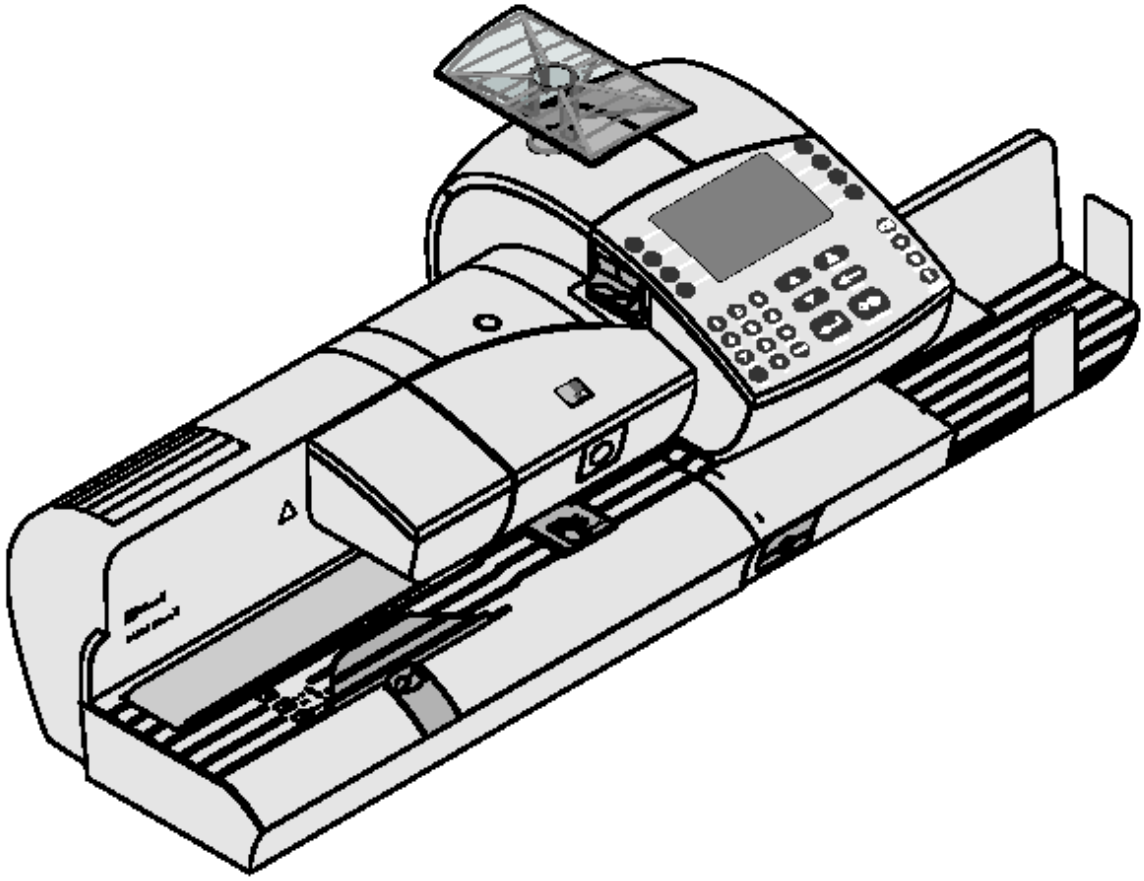
1. Removing the Mail handler Housing
2. Separating the Upper and Lower Assemblies
3. Disassemble the Lower Assembly
4. Removing the Print Assembly
5. Removing the Sealing Station
6. Removing the Encoder Unit
7. Disassemble the Feed Unit
8. Disassemble the Upper Separation Unit



Main Index

ultimail

Service Manual



Chapter 1 General

CONTENTS

Main Menu

1 A SHORT DESCRIPTION OF THE ULTIMAIL

The ultiMAIL is a digital postage meter with horizontal letter transport and ink jet technology (ink jet print with two ink cartridges arranged side by side).
Structure In its basic version, the metering system consists of the postage meter, manual positioned and catch tray.
The postage meter is available as model
– **UltiMAIL 60** with a processing speed up to 3,500 letters per hour
– **UltiMAIL 90** with a processing speed up to 5,500 letters per hour

Menu-supported User interface

The prompt facility in the lit display will you lead to the desired results in a fast and safe way. You simply follow the instructions in the display, whether for setting the meter imprint, modifying the system settings or service functions, e.g. changing cartridges.

Help

No illegal entries are allowed by the ultiMAIL – you are informed by an appropriate message. A help function offers additional advice and support.

Metering

On one glance, the home menu will show you the current settings for the meter imprint. You simply position the letter – the ultiMAIL will size the letter, meter it and place it in the catch tray ready for dispatch.
You can meter
– Mail pieces up to a thickness of ¼" (6.3 mm) of an ink absorbent material.
– Self-adhesive labels.
Logo imprint ultiMAIL prints a logo of your choice on every mail piece.

TELESET

Load postage using the TELESET procedure via the built-in modem – its fast, comfortably and, if necessary, 24 hours a day.

Protection against

The MasterCard/User Card functionality protects the ultiMAIL against unauthorized use and facilitates the assignment of individual access rights.

Additional functions

You will quickly appreciate the following functions:
– Account function. Recording and accounting of postage according to accounts.
– 6 short codes for frequently used postage imprint settings.
– Stamp of receipt. Imprint 'received on: …' for stamping incoming mail.
– Printing of account data, postage register states, and system information.
– Warning in case of high postage and too low amount of postage available.
– Print offset for changing the postage imprint position on the envelope.
– Tele diagnostic. You can transfer important system data via the built-in modem to the Francotyp-Postalia service.

Flexible and up to date

New logos, type of mail endorsements or rate changes of the United States Postal Service – you can easily load the latest data in your ultiMAIL.

Options

The following components are available for functionality extension:
– **Internal scale**. When the equipment includes an internal scale, the 'rate calculation' function is available. The ultiMAIL calculates the postage on the basis of selected mailing data in a fast and reliable way. Postage and type of mail endorsement are set automatically.
– **Label dispenser** to print self-adhesive labels for large/thick mail pieces.
– **Sealer ultiMAIL 60.** Automatic sealer for the ultiMAIL 60 to moisten and seal letters. The letters are positioned manually.
– **Feeder ultiMAIL 90**. Automatic feeder with sealer for the ultiMAIL 90. The letters are separated from the stack,

Optionally moistened and sealed, and fed to the ultiMAIL 90 postage meter.

1.1 Safety Tips

The ultiMAIL is a digital metering system with an inkjet printer for metering letter mail.
The ultiMAIL complies with the pertinent safety regulations for office information equipment.

Please observe the following tips for your own safety:

Qualified personnel authorized by Francotyp-Postalia only do • Installation and commissioning of the metering system ultiMAIL.

• Only operate the ultiMAIL system on a grounded single-phase power socket.

• Use only the power and modem cables provided or approved by Francotyp-Postalia. Make sure that cables are not damaged.

• Make sure the socket for connecting the ultiMAIL is close by and easily accessible at all times.

• Do not remove any part of the safety and protective equipment. Do not make them inoperative. Do not remove any parts of the housing.

• Do not reach into the danger areas marked with a danger symbol.

• Keep long hair, fingers, loose clothing pieces, shawls and jewelery away from moving machine parts.

• Never cover the ventilation slots in the housing.

• Pull out the mains plug in the event of danger! Call the after-sales service.

• Make sure that no liquids or foreign objects penetrate the interior of the ultiMAIL. If this happens, pull out the mains plug immediately. Have the ultiMAIL metering system checked by Francotyp-Postalia service before starting it up again.

• Use the ‘Sealer ultiMAIL 60’ only with the ultiMAIL 60 postage meter. It is not possible to operate the sealer without the ultiMAIL 60 postage meter.

• Use the ‘Feeder ultiMAIL 90’ only with the ultiMAIL 90 postage meter. It is not possible to operate the feeder without the ultiMAIL 90 postage meter.

• Only use original ink cartridges from Francotyp-Postalia. Observe the information enclosed with every cartridge.

• Only use the batteries provided by Francotyp-Postalia. Observe the instructions enclosed with the battery for correct use and disposal.

• Only have maintenance and repair work done by qualified personnel authorized by Francotyp-Postalia. Otherwise your warranty will be voided. You will be liable for any damages.

1.2 Safety Information

General
Safety Tips:

CAUTION: Serious injury!

Before opening the machine make sure that the power cord has been disconnected. The machine may continue to hold voltage, even after the power has been disconnected. This may cause serious injury or death, so please use caution when opening!

CAUTION: Neutral Fusing!

For continued protection against risk of fire and machine damage. Replace fuses only with the same type and rating that has been UL approved.

Attention!
The UltiMAIL utilizes a lithium battery to retain its own memory. Only replace this battery with a FP UltiMAIL replacement lithium battery. This lithium battery may not be recharged, or substituted.

CAUTION: Danger of explosion!

Explosion may result if the battery is incorrectly replaced. Only Replace with the same or equivalent type of battery recommended by the manufacturer. Dispose of used batteries according to the manufacturers instructions.

2 TECHNICAL DATA

Dimensions
(Length x Width x Height)

564 x 400 x 273 mm ultiMAIL 60/ultimail 90
With Feed tray and Catch tray
564 x 400 x 299 mm … and scale*
807 x 400 x 273 mm ultiMAIL 60
With Sealer and Catch tray
807 x 400 x 299 mm … and scale*
1028 x 400 x 273 mm ultiMAIL 90
With Automatic Feeder and Catch tray
1028 x 400 x 299 mm … and scale*

Weight

19.6lb (8.9 kg) Postage Machine ultiMAIL 60/ultimail 90
21.2lb (9.6 kg) With scale* and Tape Dispenser*
0.9lb (0.4 kg) Catch Tray
0.9lb (0.4 kg) Feed Tray
9.3lb (4.2 kg) Sealing Unit for ultiMAIL 60
21.7lb (9.7 kg) Automatic Feeding Unit ultiMAIL 90

Power connection

100-120V / 60 Hz

Power consumption

max. 70 W Postage Machine ultiMAIL 60
max. 70 W Postage Machine ultiMAIL 90
max. 50 W Automatic Feeder ultiMAIL 90

Battery

3.6 V / 2 Amps / 20 mA, part number (90.4701.8004.00)
Operating Temperature: -67 °F to 185°F

Speeds

3,500 Letters /hour ultiMAIL 60 = 60 Letters/min
5,500 Letters /hour ultiMAIL 90 = 90 Letters/min.

Display

LCD, illuminated, 320 x 240 Pixel

Print System

Ink Jet Technology (with 2 cartridges)
Print Range max. 155 x 24 mm
Print Range 300 dpi x 300 dpi (With Red ink cartridge)
Print Cartridge usage:
10 letters/day the Ink Cartridges will yield approx. 10,000 imprints
300 letters/day the Ink Cartridges will yield approx. 20,000 imprints
Note: Approximate values are based on letters processed in one continuous run.

Noise Levels

< 65 dB(A) Postage Machine ultiMAIL 90 with Automatic Feeder*
62 dB (A) Postage Machine ultiMAIL 60 with Sealer*
60 dB (A) Postage Machine (Stand alone)

2.1 Equipment

Standard

- Feed tray
- Letter catch (adjustable, to max.6X9)
- Postage download via integrated modem (TDC)
- System clock with back-up battery
- Chip Card Reader
- 2 MasterCard's
- Standard USPS Endorsements
- 10 accounts (ultiMAIL 60) / 50 accounts (ultiMAIL 90)
- 6 Memory Functions
- 6 short memory settings
- Low postage warning
- High postage value warning
- 9-pin serial interface/connection for external devices

Options

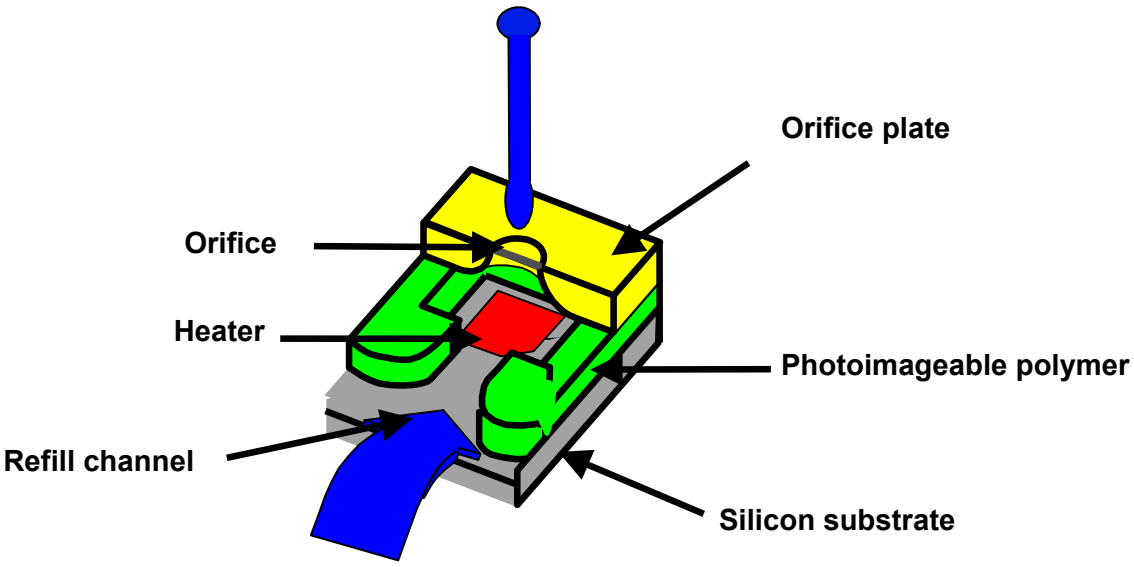
- Integrated scale maximum weight: 11lbs (5 kg)
  Smallest display value: 0.1oz.
  Weighing accuracy: from 0 to 4.9lb
  from 5 to 11lb
- Label dispenser
- Sealer ultiMAIL 60 (for postage machine ultiMAIL 60 only)
- Feeder ultiMAIL 90 **(**automatic feeder with sealer for postage machine ultiMAIL 90 only. Loading capacity of #10 envelopes is 100 letters but not to exceed 50mm max. Loading capacity of postcards is 50 but not to exceed 40mm max.)
- User Cards
- Upgradeable to 50 cost account (only for ultiMAIL 90)

3 THE PRINCIPLE OF THE PRINTING METHOD

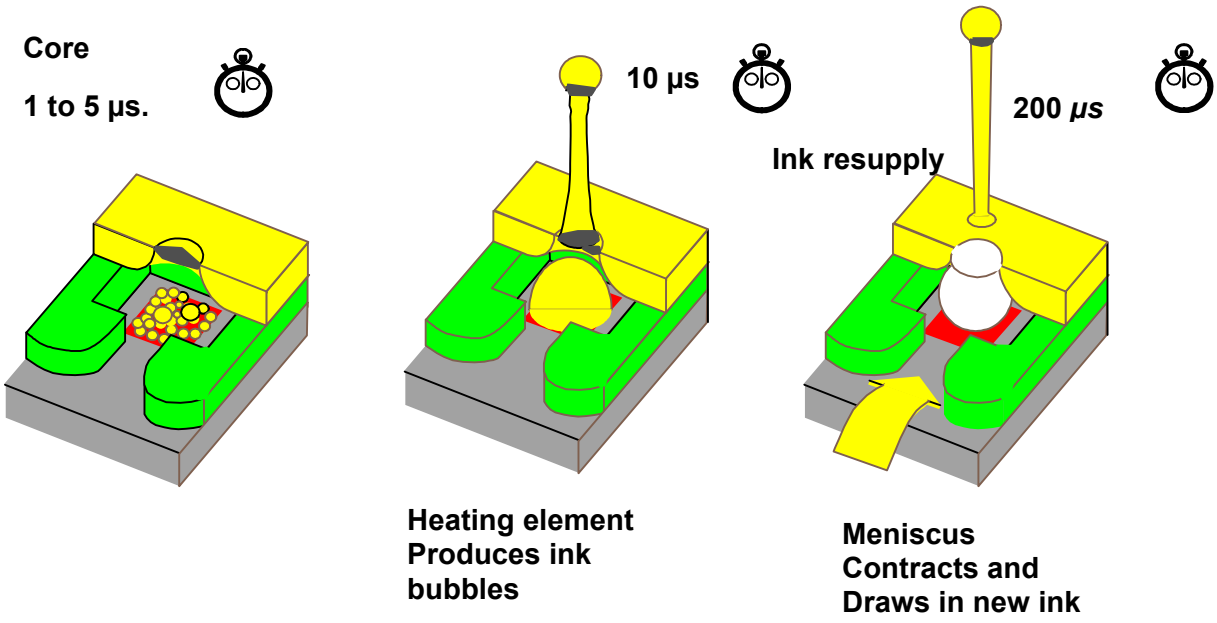
3.1 The birth of the Thermal InkJet (TIJ) Technology...

- In 1979 John Vaught, a researcher at the HP laboratories in Palo Alto, was Brewing coffee when his coffee machine gave him an idea for using heat to pump droplets of ink. The result was an ink jet printer unit that he called the side shooter."

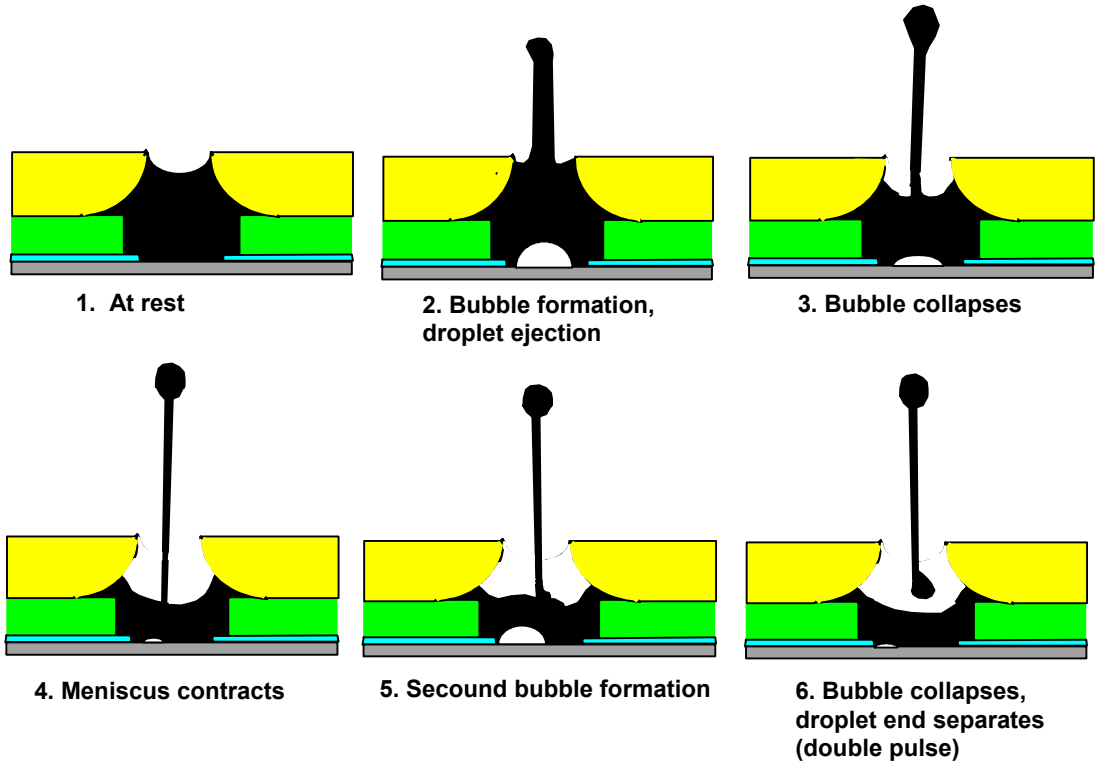
3.1.1 TIJPrinter Element:



3.1.2 Operation:



3.1.3 Bubble formation and droplet ejection



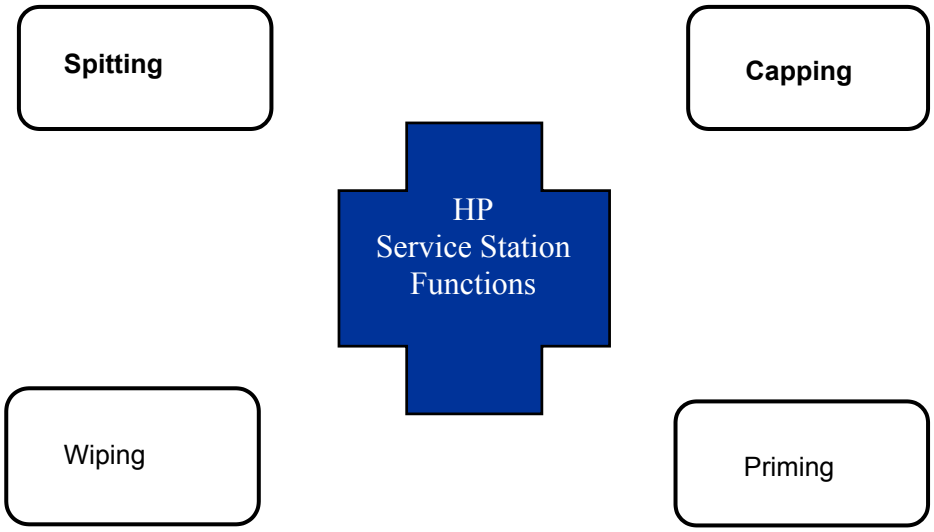
4 THE INK CARTRIDGE FOR THE ULTIMAIL

4.1 Hewlett-Packard (HP) Inkjet Product Evolution - TIJ 2.5

- **Introduced in April 1995 in the DeskJet-Series 850c**
- **TIJ 2.5 (Generation 2.5 Thermal Inkjet)**
- **300 orifices, @ 12 kHz (DPS)**
- **600 DPI Black, 4 - 8 PPM**
- **Colors: Black, Cyan, Yellow & Magenta, Red, Postal Red (Fluorescent), and Blue**

5 INK CARTIDGE SERVICE ON THE HP SERVICE STATION

Service Goal: To clean the ink cartridge and assure trouble free performance for the duration of its service life.



- Spitting
  Simultaneous „ spitting of all orifices into an ink sump (docking station)

- Capping
  Seals all orifices to prevent them from drying up due to the evaporation of ink solvents.

- Wiping
  Wipes off any ink residues or dried ink from the area around the orifices.

- Priming
  A specific predetermined amount of ink is used to clean the orifices and eliminate any air bubbles inside the print head.

Chapter 2 Service mode

CONTENTS

Main Menu

2 SERVICE MODE ULTIMAIL

2.1 Entering the Service Mode:

1. Insert Your Dealer Card (With the chip face down!)
2. Press and hold down 1, 3, 8, while powering the machine on.
3. The machine will emit 1 short beep.
4. Then release the keys
5. The Machine enters the Service program and emits 4 double beeps.

There are two Service Menus. To toggle between the two service menus press the (more) key or (previous) key.

Service Menu 1	Service Menu 2
S1: Test Function	S1: Previous
S2: General Settings	S2: PC Service Functions
S3: Print – Settings	S3: Service interval
S4: Security settings	S4: Restart
S5: Show / Print Information	S5: Reload Machine Software
S6: Optional Enhancements	S6:
S7: Change phone numbers	S7:
S8: More	S8:

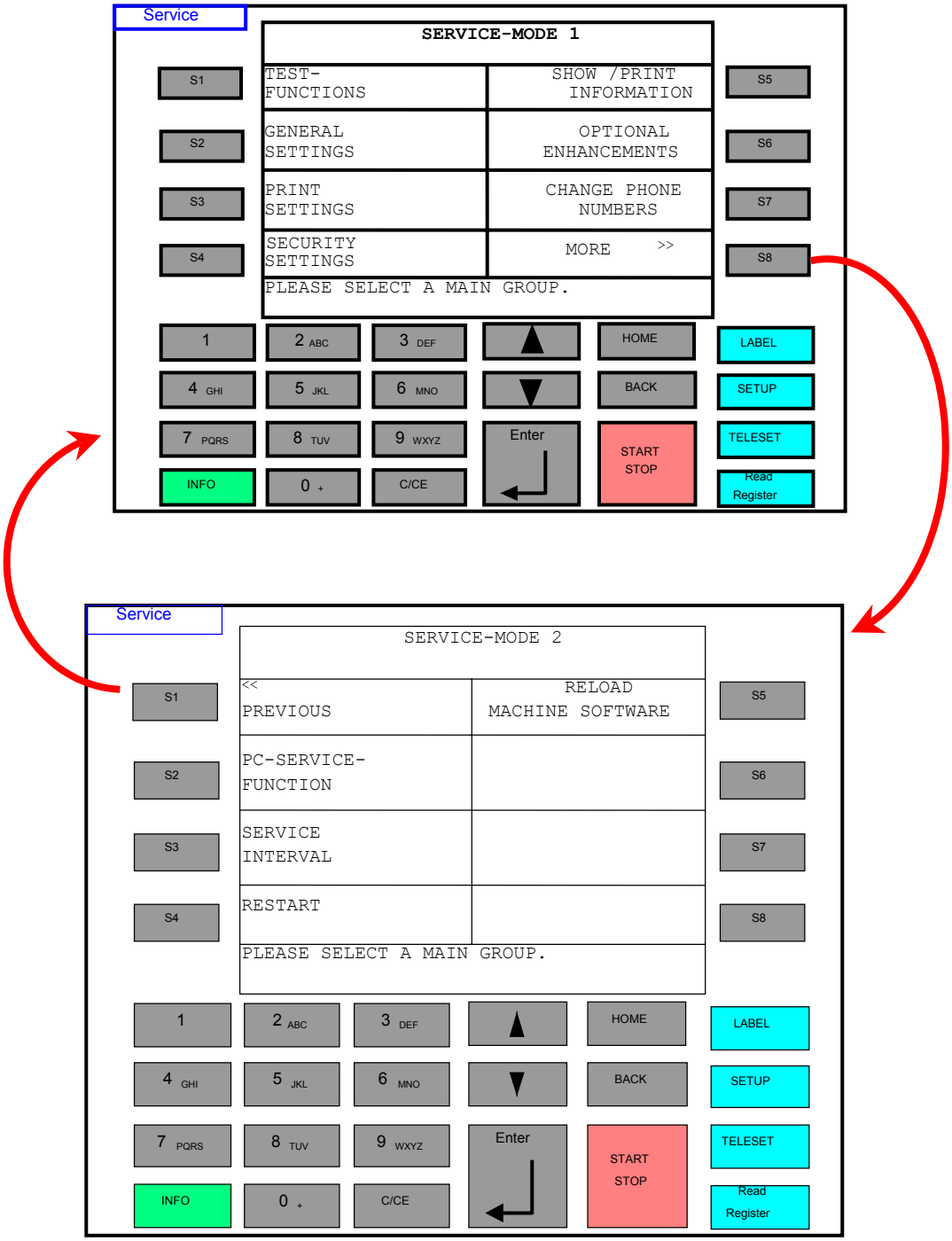
For easy access the soft keys S1, S2, etc… are positioned around the display and are outlined in this service section.

Note:	An authorized FP Technician can only access these functions with an authorized dealer card. Only access those areas in the service mode, which are outline in this chapter. Some of the functions may seriously effect the operation of the machine. Take caution when performing service functions!

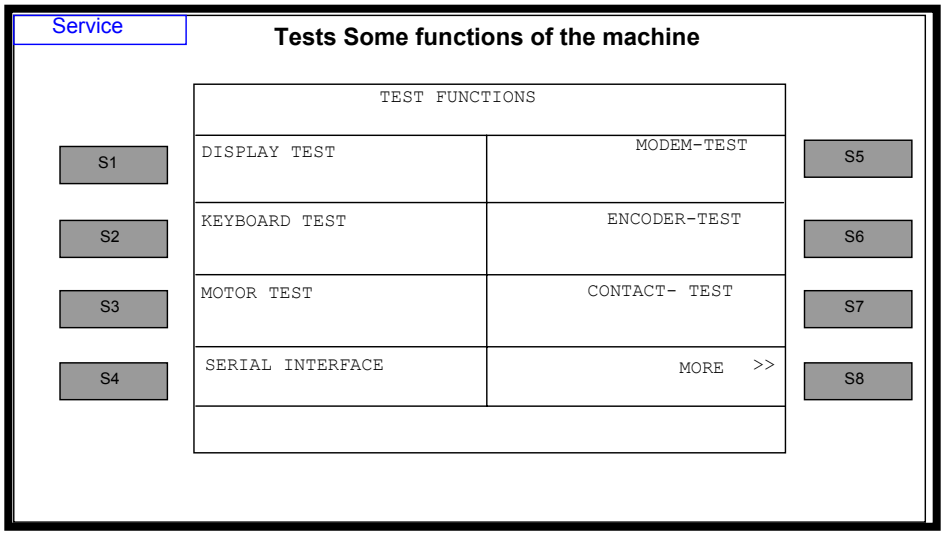
2.2 Service mode for Auto Feeder/ Sealer

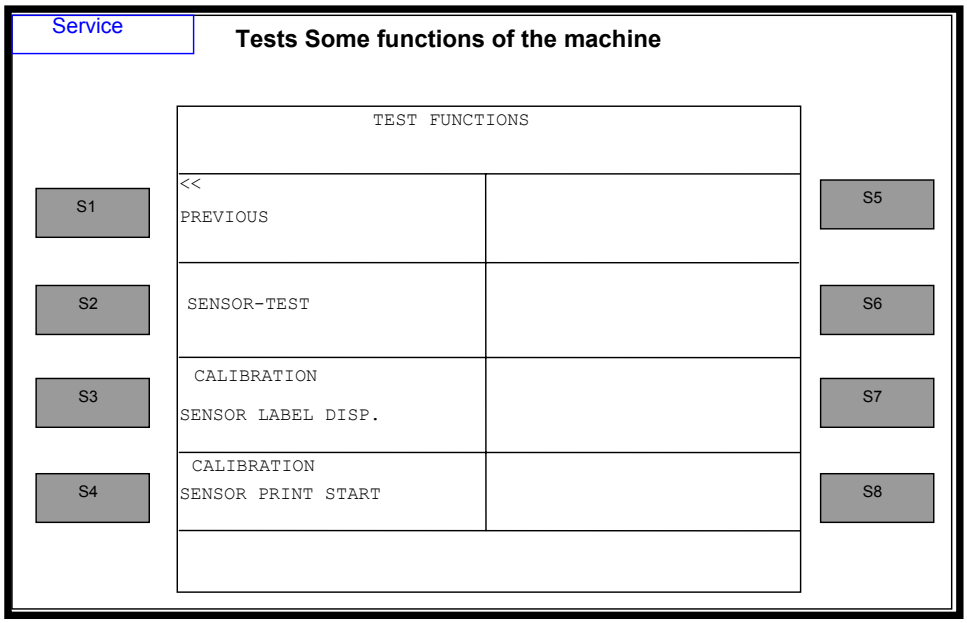
The Service Menus for the Auto Feeder/Sealer will only become visible when connected to the UltiMAIL System.

2.3 The Service Menu Structure



2.3.1 Service Menu 1 / S1: Test Functions





Test function S1: Display test
This will test the graphics and pixels of the display

Attention:	To exit from the display test press the **BACK** key.

Test function S2: Keyboard test

In the keyboard test, press each of the keys on the control panel. In the display the keys will become darkened when pressed. If they do not become darkened, this could mean that the keyboard is defective and needs to be replaced.

Attention:	To exit the keyboard test, wait 5 seconds and the test will automatically exit, as long as no keys have been depressed.

Test function S3: Motor test
S1: Letter Transport
In this motor test the letter transport motor is turned on.

Attention:	To exit from the test press the **BACK** key.

S2: Print Cartridge motor
In this test the print heads are driven into the print position by pressing S2, if S2 is pressed again the print heads will be driven into the sealing position.
S3: Label Dispenser motor
In the label motor test, place one label into the label feeder, by pressing S3 the label will be feed onto the letter transport belt. The label can then be ejected with the letter transport key S1.
S4: Sealer motor
By pressing S4, this test turns on and off the introduction motor, which controls the feeding to the sealer
S5: Feeder motor
By pressing S5, this test turns on and off the introduction motor, which also controls the separator roller.
S6: Motor status report
This test will run through all of the tests listed above, and then display motor information.

Test Function S4: Serial Interface

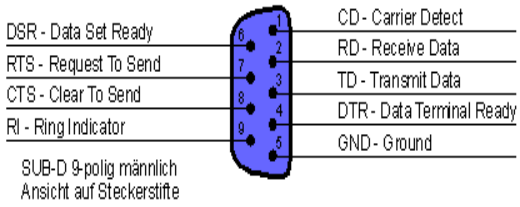
S1	UART1 Data send OUT	UART1 Data send OUT	S5
S2	RTS – CTS OUT	RTS – CTS OUT	S6
S3	DTR-DSR OUT	DTR-DSR OUT	S7
S4	Baud Rate 2400		S8

Function of the serial interface 1 (and 2 if inserted) can be tested. In addition either a service plug or PC connection with appropriate software is necessary. At the present time this function is not yet available.

The service plug can be manufactured however this option is currently not available:

Below is a wiring diagram for the 9-pin serial service plug.

serielle Schnittstelle, 9-polig, SUB-D



The following pins must be bridged:

- Pin 2 und Pin3
- Pin 7 und Pin 8
- Pin 4 und Pin 6

With the S4 key the data transfer rate for all installed interfaces can be changed (at present SW ver. 2.00 does not have this function).

Test Function S5: Modem-Test
The internal connection between meter and modem is tested. Inquiries are sent in each case and wait for the answer. Additionally the modem version is selected and indicated.

Test Function S6: Encoder-Test
The Encoder system is examined. The number of Encoder impulses is measured and any faulty measurements are indicated in the display. A faulty measurement indicates the deviation between what the expected measurement should be and the measured impulse number. If either occurs, replacement or adjustment of the encoder may be needed.

Attention:	To exit from the test press the **BACK** key.

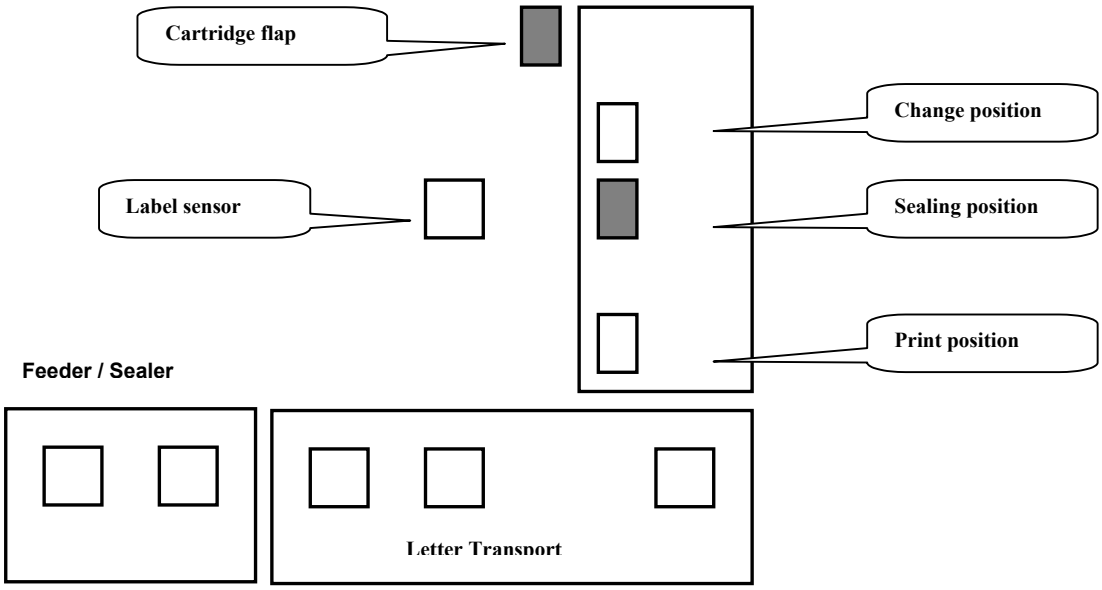
Test Function S7: Contact-Test
The following contacts are examined:

Test	**Attention!**
Chip card	Connection between card readers and smart card tests
Con Prot Pen 0	Connection to the "Consumer Protection" tests = chip at the print head 0
Cartridge Pen 0	Connection to the print head tests 0
Con Prot Pen 1	Tests connection to the "Consumer Protection" = chip at the print head 1
Cartridge Pen 1	Tests connection to the print head 1

Attention:	To exit from the test press the **BACK** key.

Test Function S8 / S2: Sensor-Test
The sensors (Mailing machine and optionally Feeder/Sealer) are tested:

- Label dispenser (label available; label feed with key S2)
- Letter feed sensors (by inserting of a letter)
- Sensor cartridge flap (on/off)
- RDS unit (with S5…S8 can be driven into different positions)

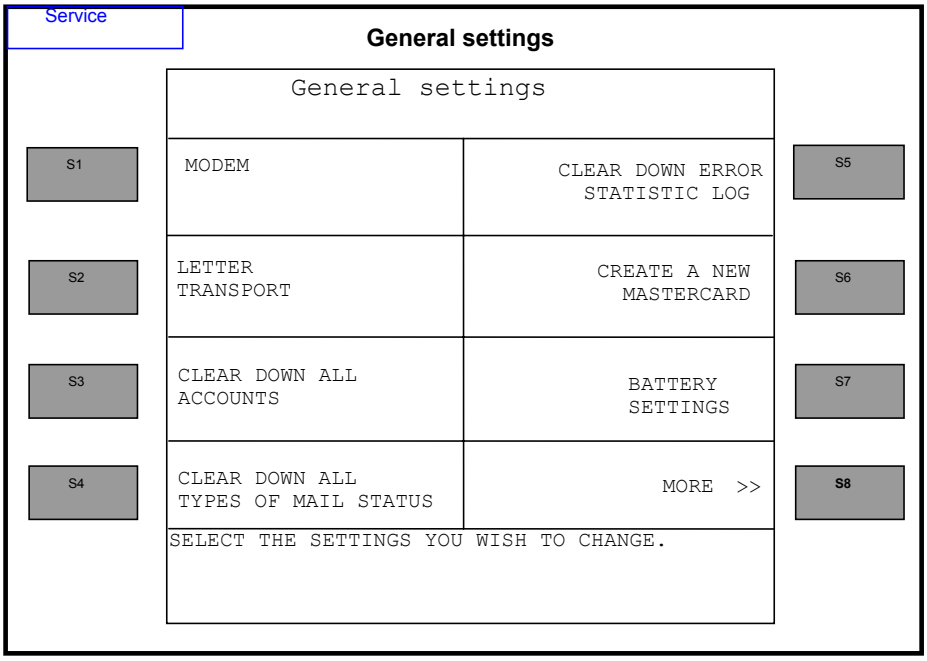


Test Functions S8 / S3: Calibrate the label dispenser sensor
The light barrier calibration is accomplished here.

This will calibrate the label disp. Send LED to be increased or decreased with an approximate reading of 2000mV(±300mV).
This value is then stored until the next calibration is implemented (next switching on of the machine is performed). If the machine displays dirty/defective light barriers as an error message, perform the calibration again.

Test Functions S8 / S4: Calibration of the Print Start Sensor
Not yet implemented

2.3.2 Service menu 1 / S2: General Settings



2.3.2.1 General Settings S1: Modem

The modem can be configured in this menu.

The parameters are adjustable:

S1	Index	Dialing parameters	S5
S2	Wait	Connection	S6
S3	Pause	Flash	S7
S4	*disconnect*	*memory*	S8

2.3.2.2 General Settings S2: Letter Transport Run-On time

The Run-on time can be adjusted. The length that the FM keeps running after the last letter has left the Letter Transport. The range of adjustment lies between 3 and 30 seconds.

2.3.2.3 General Settings S3: Clear Down All Accounts

All cost centers are deleted. (So that the machine has only the master cost center "1")

Attention:	This procedure cannot document all cost centers after the safety inquiry! A record of all cost account reading should be printed before completing this task; otherwise all cost account information will be lost.

2.3.2.4 General Settings S4: Delete all Types of Mail

The statistics for the modes of shipment can be deleted

Attention:	This procedure cannot be cancelled after the safety inquiry!

2.3.2.5 General Settings S5: Delete Error Statistic Log

The statistics for error history can be deleted

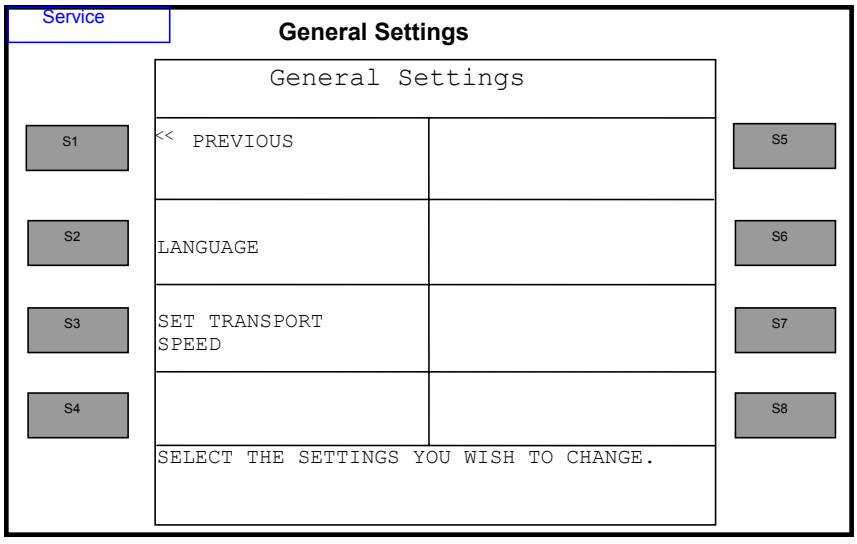
Attention:	This procedure cannot be cancelled after the safety inquiry!

2.3.2.6 General Settings S6: Create a new MasterCard

Further MasterCard's can be produced.

2.3.2.7 General Settings S7: Battery Settings

2.3.2.8 General Settings S8: More



2.3.2.9 General Settings S8 / S1: Previous

2.3.2.10 General Settings S8 / S2: Language

With the S2 key, the menu language can be changed (at present German and English)

2.3.2.11 General Settings S8 / S3: Set Transport Speed

2.3.3 Service menu 1 / S3: Print - Settings

Service

Edit Settings of the Machine

	PRINT SETTINGS		
S1	COLUMN WIDTH 48	PRINT OFFSET 0 MM	S5
S2	X-OFFSET 272	TEST PRINT	S6
S3	OVERLAPPING 12	INK CARTRIDGE INFORMATION	S7
S4	FACTORY SETTINGS	>> MORE	S8
	Select the setting you wish to change.		

User Task

Print Settings

	ADJUSTING PRINTING		
S1	LETTER TRANSPORT RUN-ON TIME	CHANGE INK CARTRIDGES	S5
S2	CLEAN PRINT HEAD	ADJUST INK CARTRIDGES	S6
S3	INTENSIVELY CLEAN PRINT HEAD		S7
S4	PRINT OFFSET 12 MM		S8
	Select the settings you wish to change.		

Print Settings S1: Column Width
The horizontal distance (in Encoder Sensor) between nozzle row 1 to the nozzle row 2.
Leave on factory setting.
Print Settings S2: X-Offset
The horizontal distance (in Encoder Sensor) between nozzle row 1 from print head 1 to nozzle row 1 of print head 2. Leave on factory setting.

Print Settings S3: Overlapping
The nozzle range around which the upper print head overlaps the lower (Default=12 nozzles), i.e. under normal conditions, 12 nozzles are not used by the lower head. The overlapping is practically the reserve, which is necessary for the cartridge adjustment e.g. in the user mode

Print Settings S4: Factory Settings
The factory pre-set values for the parameters column width (=48), X-Offset (=272) and Overlapping (=12)

Print Settings S5: Print Offset
The Print Offset can be adjusted between 0 and 50 mm to the left (like user mode).

Print Settings S6: Test Print
The adjustment picture from the user mode printed out

Print Settings S7: Ink Cartridge Information
Information to the assigned cartridges is indicated

Print Settings S8: More

Print Settings S8 / S1: Previous

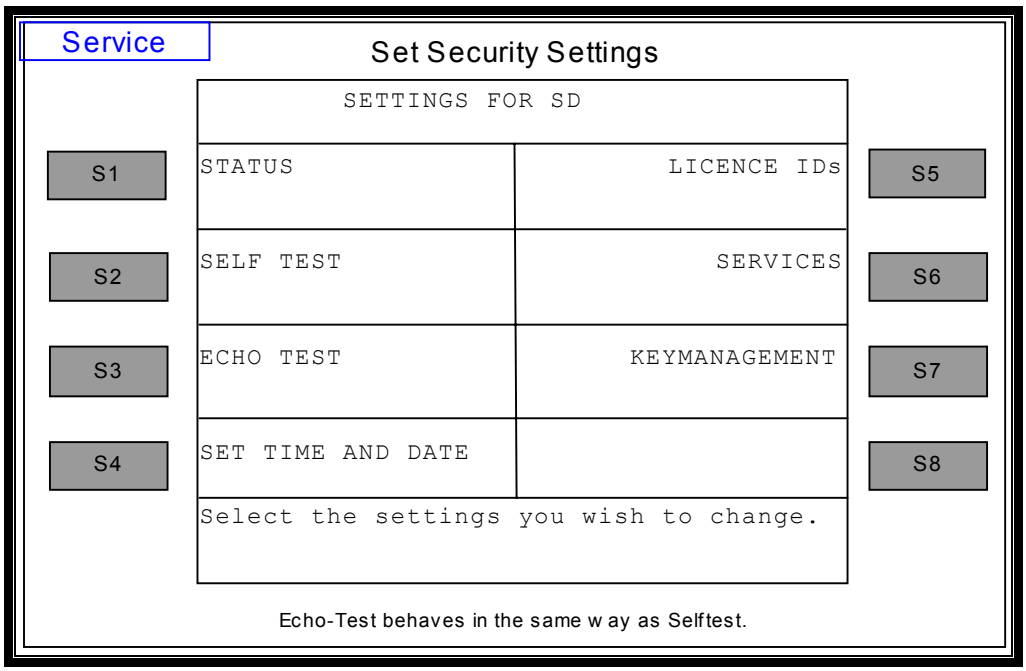
Print Settings S8 / S2: Clean the Print Head
Performs a short cleaning (Spitting) of the Print Head. Cleaning is implemented (in user-mode).

Print Settings S8 / S3: Intensively Clean the Print Head
A more intense cleaning (Spitting) of the Print Head. Cleaning is implemented (in user-mode).

Print Settings S8 / S4: Change Ink Cartridges
Used when changing the Ink Cartridges (in user-mode)

Print Settings S8 / S4: Adjust Ink Cartridges
Completed after changing the Cartridges (in user-mode)

2.3.4 Service menu 1: S4: Set Security Settings



SD-Security Settings S1: Status
76 different SD settings are indicated in status data table among other data.

SD-Security Settings S2: Self test
The SM implements self-examination. Then the results are shown in the display.

SD- Security Settings S3: Echo test
The SM accomplishes an examination of communication to the mail handler. The result is shown in the display.

SD-Security Settings S4: Set Date and Time
Date and time can be adjusted.
The time offset (only ±300s from the user mode) as indicated in the display.

SD-Security Settings S5: License ID's
Four different post office identifications (and/or license numbers) can be registered, if that is permissible

STATUS TABLE

Date (GMT)	Date and Time (GMT)
Time Zone	Time Zone (e.g. D=1)
Time Offset	Manual time setting (e.g. User-Mode, Service-Mode)
SAD Device ID	SAD Unit ID
Country Code	ISO-Country code (e.g. Germany=276)
Teleset PAN	PIN
LicenceNo (1...4)	Machine no. (Licence No.)
Systemstate	Status (State) see chapter 3: "PSD"
Min / max Total Reg	lowest / highest Value for Register 4
Min / max Desc Reg	lowest / highest Value for Register 2
Min / max Reset Val	lowest / highest Value for Teleset
Reset Val Steps	Reset steps for Teleset
Fraction (Min/Max)	No. of Decimal
Modem reset Value	Last reset value e.g. in Cent
Watchdog Time	Security module will change the state back to "authorised"at this time, to do: 0-reset
Watchdog Warn	Warning for Watchdog Time (in Days), not in use at this time
Piececredit	Number of imprints before Securitymodul will change the state back to "authorised", to do: 0-reset
last PVD time	When the last **P**ostage **V**alue **D**ownload = Teleset (positive resetting, that means: value>0) was completed successful
last PVD Type	103 ... Index for the type of the last PVD
last PVD Postage	Last reset value (positive resetting e.g., with value>0)
last PVD desc.Reg	R1 during last PVD (positive resetting e.g., with value>0)
last PVD Total.Reg	R3 during last PVD (positive resetting e.g., with value>0)
last PVD Count.Reg	R4 during last PVD (positive resetting e.g., with value>0)
Last Res. T. Time	last resetting transaction time (when the last **P**ostage **V**alue **D**ownload = Teleset (positive resetting, that means: any value) was completed successful With Register-Info's behind (like above)
Desc. Reg Set 0 ... 3	R1 (stored 4 times)
Asc. Reg Set 0 ... 3	R2 (stored 4 times)
Total Reg Set 0 ... 3	R3 (stored 4 times)
Count Reg Set 0 ... 3	R4 (stored 4 times)
APP SW ...	internal PSD Info's (Software release, and so on)
Batt Det. Enabled	Manipulation security feature to check if the PSD-battery is present (default: Yes = it will be checked). If the battery would be replaced e.g. for manipulation, then the PSD get into the state „defect"
Batt Det Active	Battery-security check detect „Alert" (No = everything is ok)
TAM Det Enabled	Manipulation security feature to check if the PSD was open (No = no security check).
TAM Det Active	Yes = housing manipulation of the PSD will be displayed – but it makes no matter, because we didn't control this at this time This sensor is not implemented that's why we display always "open".
HS Loop Det. Enabled	Yes = HS-Loop switch of the meter is controlled
HS Loop Det. Active	No = HS-Loop switch of the meter make no alert
V Batt A (intern)	Voltage of the PSD-battery in mV
V Batt B (extern)	Voltage of the external-battery in mV
ADC Vcc 3, 5, 8	Internal main voltage in the PSD
Tempsensor Current	Value of the internal temperature sensors
Tempsensor Low Limit	Value of the internal temperature sensors
Tempsensor Up Limit	Value of the internal temperature sensors
Attention:	The data can be sent with key S8 directly to the SSM PC in Chicago (telephone number: 630 693 0954)

The safety module gets its energy from the existing sources in the following order:

1. Over the Mail Handler power pack,
2. The external battery and
3. The internal battery.

Situation	SM energy source	Reference
Mail Handler Switched on	Power pack of the mail handler	
Mail handler switched off and external battery is full	External battery	Note: Before storing the mail handler for a long time ensure that the external battery is full
Mail handler switched off and external battery is empty and/or missing	Internal battery	The internal battery can only be used for a short period of time. Once it is empty the SM is dead and ALL data is lost.

SD-Security Settings S6: Services
Here different service adjustments can be made

S2: Withdraw / PVR
This function allows a technician to perform a PVR, which will withdraw the meter from service and credit any money left in the meter back to the customers TDC account.

USA:
The PSD can be brought into the condition of Withdrawn, by completing a PVR ... ***P**ostage **V**alue **R**efund* ("negative resetting") the remaining money in the Descending register can be credited to TDC…***T**eleset **D**ata **C**enter;* TDC then credits the customer account.
The Technician then removes the PSD, sends the meter (PSD) back to FP Mailing Solutions meter repair center.

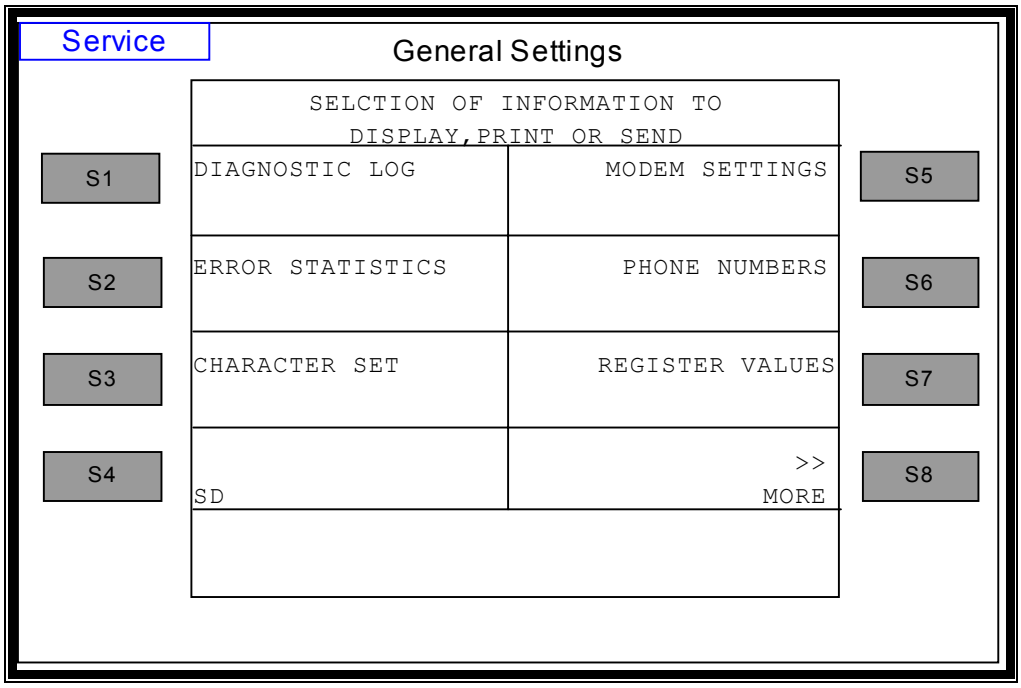
Attention:	1. Germany and USA have different safety modules assigned • SAD ... **S**ecure **A**ccounting **D**evice (Germany) • PSD ... **P**ostal **S**ecurity **D**evice (USA) 2. Withdraw ... Take back

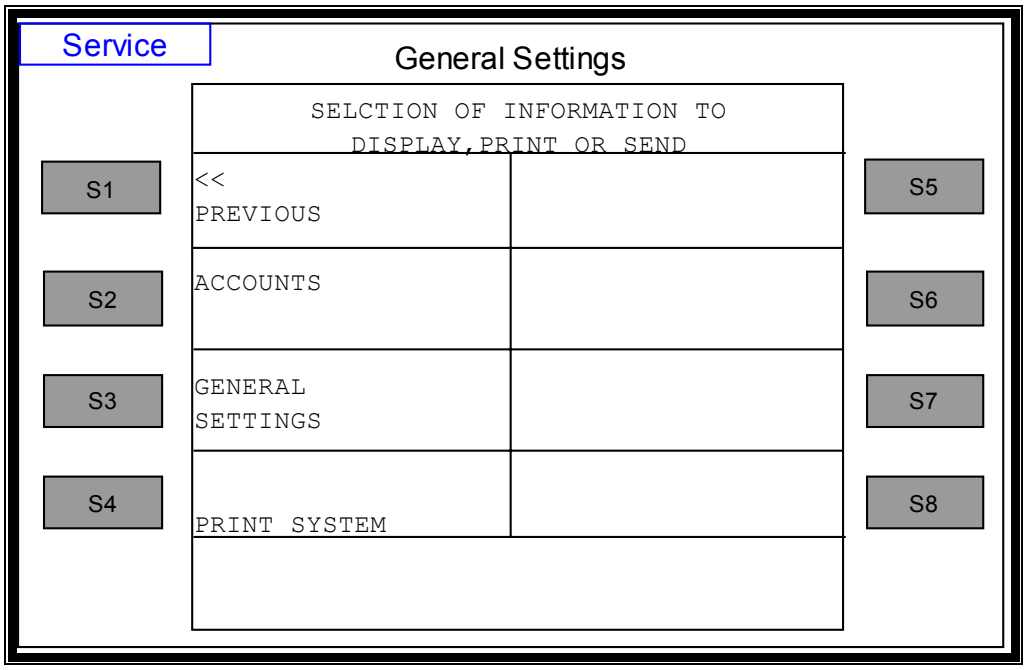
S5: SD Software load
New software can be loaded using the Service PC

S6: Reset HS loop
If the housing is removed the HS-loop must be reset before running the machine.

S7: Reset Krep
The variable Krep on zero reset Keeps count of Teleset procedures with manipulation suspicion. If a remote value reset was interrupted (more than 15 times) at an unfavorable time or a none correctable transfer error were determined, the machine indicates an error message and further remote value resets can be implemented only after the Krep is reset.

2.3.5 Service menu 1: S5: Information Display / Print out





Attention:	The data can be sent with key S8 directly to the SSM PC in Chicago (telephone number: 630 693 0954)

Information Display / Print out S1: Diagnostics Log
The last 30 error messages with date, time and error message are shown

Information Display / Print out S2: Error Statistics
This shows statistics on the frequency of errors

Information Display / Print out S3: Character Set

The character set of the mailing machine is shown

Information Display / Print out S4: SD
The SD information is shown (see also Abs. "SD attitudes/status"

Information Display / Print out S5: Modem Settings
IT data Hardware and firmware as well as the optional parameter are shown

Information Display / Print out S6: Phone numbers

Servicehotline	Servicehotline Hotline for technical inquiries
TDC	**T**eleset **D**ata **C**enter
RRC	**R**emote **R**ate table **C**enter
SMMC	**S**ecurity **M**odule **M**anagement Center
Order Hotline	order Hotline for the the customer to call
Remote diagnostics	SSM PC in Chicago (630 693 0954) SSM ... **S**oftware **S**ervice **M**aintenance

Information Display / Print out S7: Register Values
The post office registers (R1...R4) are shown

Information Display / Print out S8/ S2: Cost Centers
The cost accounts (with number, designation, consumption and pieces) are shown

Information Display / Print out S8/ S3: General Settings
Options that are accessible:

- Machine data
- Static balance
- Further attitudes
- Modem information
- SD information
- Cartridge data
- Cost center data
- Telephone numbers

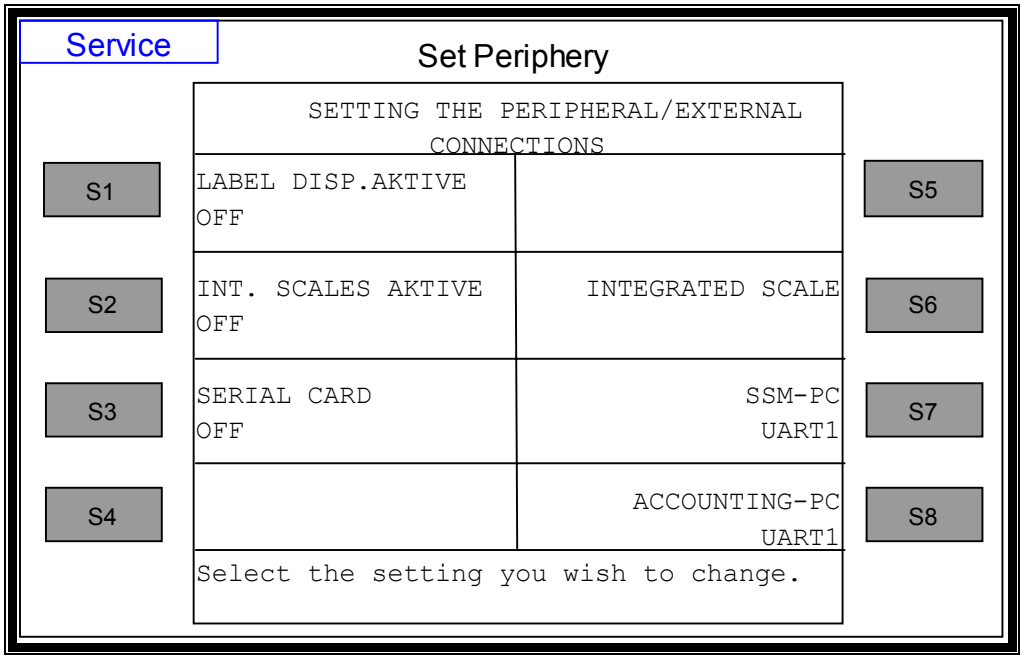
Machine data:

Machine Number	
SW version	
Version CPU plate	
Seriel nummer CPU	
Print format data version	
Version NV RAM	
Speed of the Base Unit	
Periphery	(if attached)
label dispencer	(if available)
Static balance	(if available)

Information Display / Print out S8/ S4: Print system

Information of the cartridges (Pen 0 and Pen 1) and to the Pen driver boards

2.3.6 Service menu 1: S6: Set Periphery



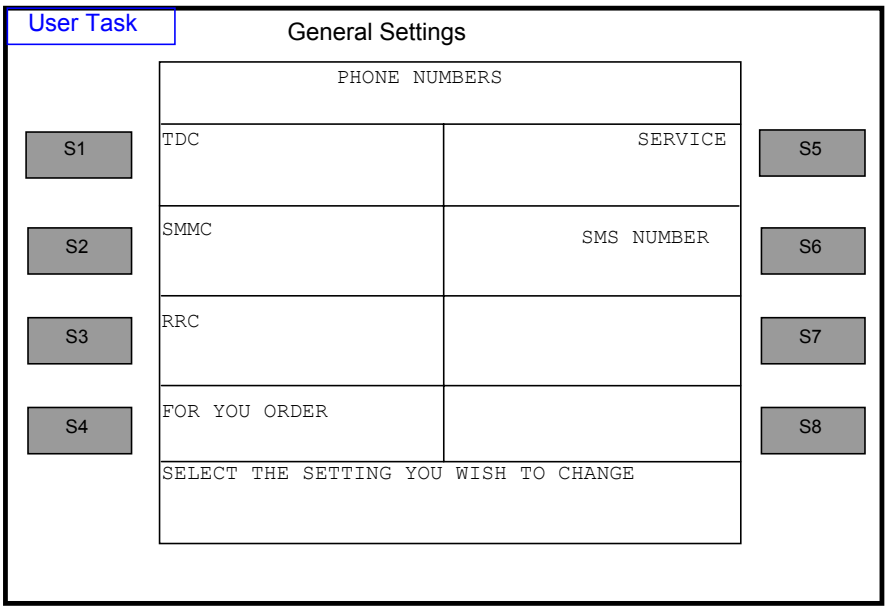
Set Periphery S1 ... S3:
Only when attached to the system peripheral devices can be activated or deactivated.
If the serial map is activated, then the options **S7** and **S8** become visible. With **S7** and/or **S8** then where appropriate, in each case UART 1... 3 can be selected (**U**niversal **A**synchronous **R**eceiver and **T**ransmitter).

UART: Universal Asynchronous Receiver/Transmitter: this computer component is called also V.24 component. It operates the serial expenditure interface (COM1 and/or COM2 at the PC). At it serial devices (e.g. modem, other PCS) are connectable. The UART determines, with which maximum transmission rate data between computers and modem can be exchanged. Furthermore it has the task to buffer indications (which can be sent so for a long time to buffer), until the transmission unit of the UART can begin with the transmission. With receipt of indications of the modem it has the task to buffer the received indications so for a long time until the CCU can select it from the component.

Set Periphery S5: Integrated Scale
The **Integrated Scale** can be weighed, tarred and calibrated
Load-Cell:
After applying a load to the plat form, the weight is indicated in the display.
Tare:
The up-to-date determined mass is set to zero.
Zero-calibration:
The calibration is accomplished for the initial value by 0g.
Reinforcement calibration:
The calibration is accomplished for the final value by 5 kg.

Attention:	A 5 kg (in the USA: 11lb) calibration weight of the class MII is necessary in order to calibrate the Integrated scale. The Load cell can lose the zero point, if a calibration weight rests upon for too long. During the Calibration After about 5 minutes the software displays an auto tare instruction to balance or reset around the zero point. If the balance does not react any longer, then it can be activated by manual tarring again. (This is accomplished also with each restart of the mail handler.)

2.3.7 Service menu 1: S7: Phone Numbers



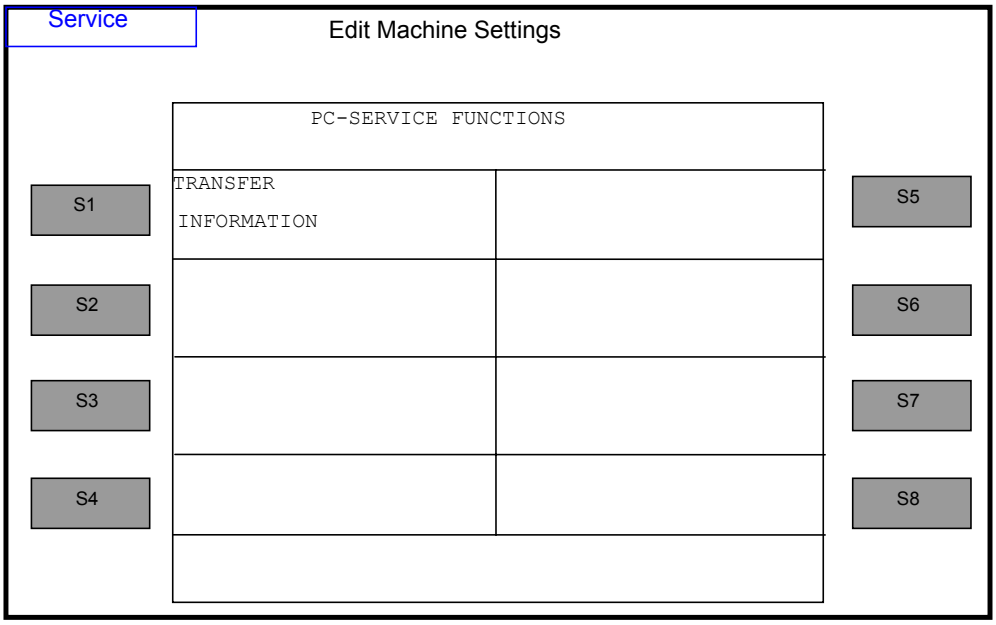
In this menu the stored telephone numbers can be examined and changed.

To changing a telephone numbers, press associated s-key, follow the onscreen instrutions.

2.3.8 Service menu 1: S8: More

2.3.9 Service menu 2: S1: Previous

2.3.10 Service menu 2: S2: PC Service Functions



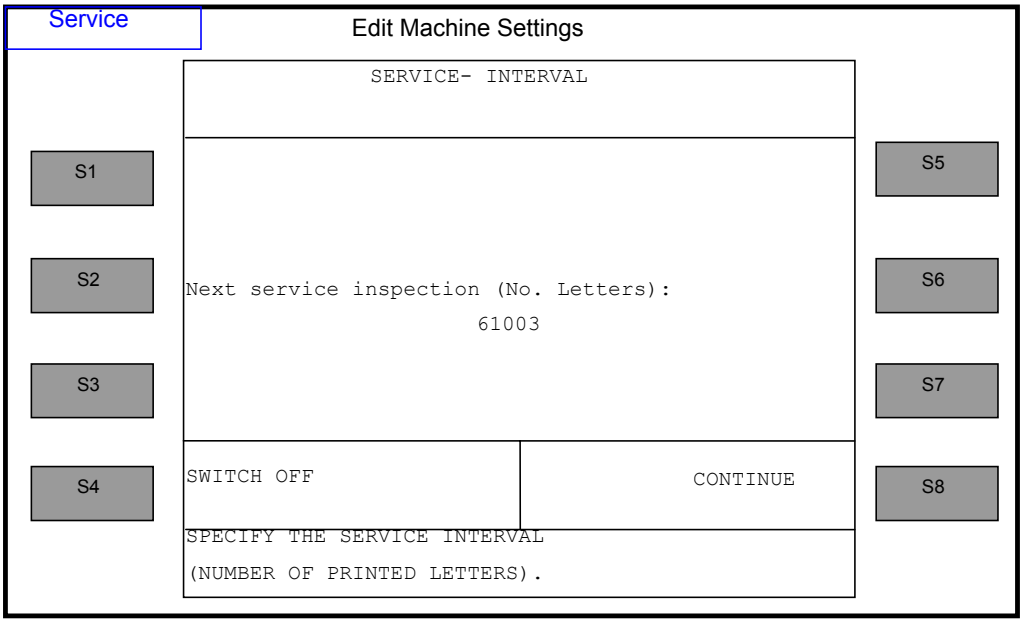
With S1 the transmission is introduced to the service PC by the technician. In the following menu the Technician can select an individual report:

- Modem attitudes ·
- SD information ·
- Telephone numbers ·
- Diagnostic list ·
- Error statistics ·
- Character set ·
- Registers ·
- Cost accounts ·
- System attitudes ·
- Pressure system information

Condition:
The service PC is attached to the 9 pin serial interface. On the PC a valid version of the program "SSM PC. exe" is installed in the menu "optional extensions" the SSM PC at UART 1 is configured.

Attention:	A function of "everything send", as in the user mode, is not implemented in the service mode

2.3.11 Service menu 2: S3: Service Interval

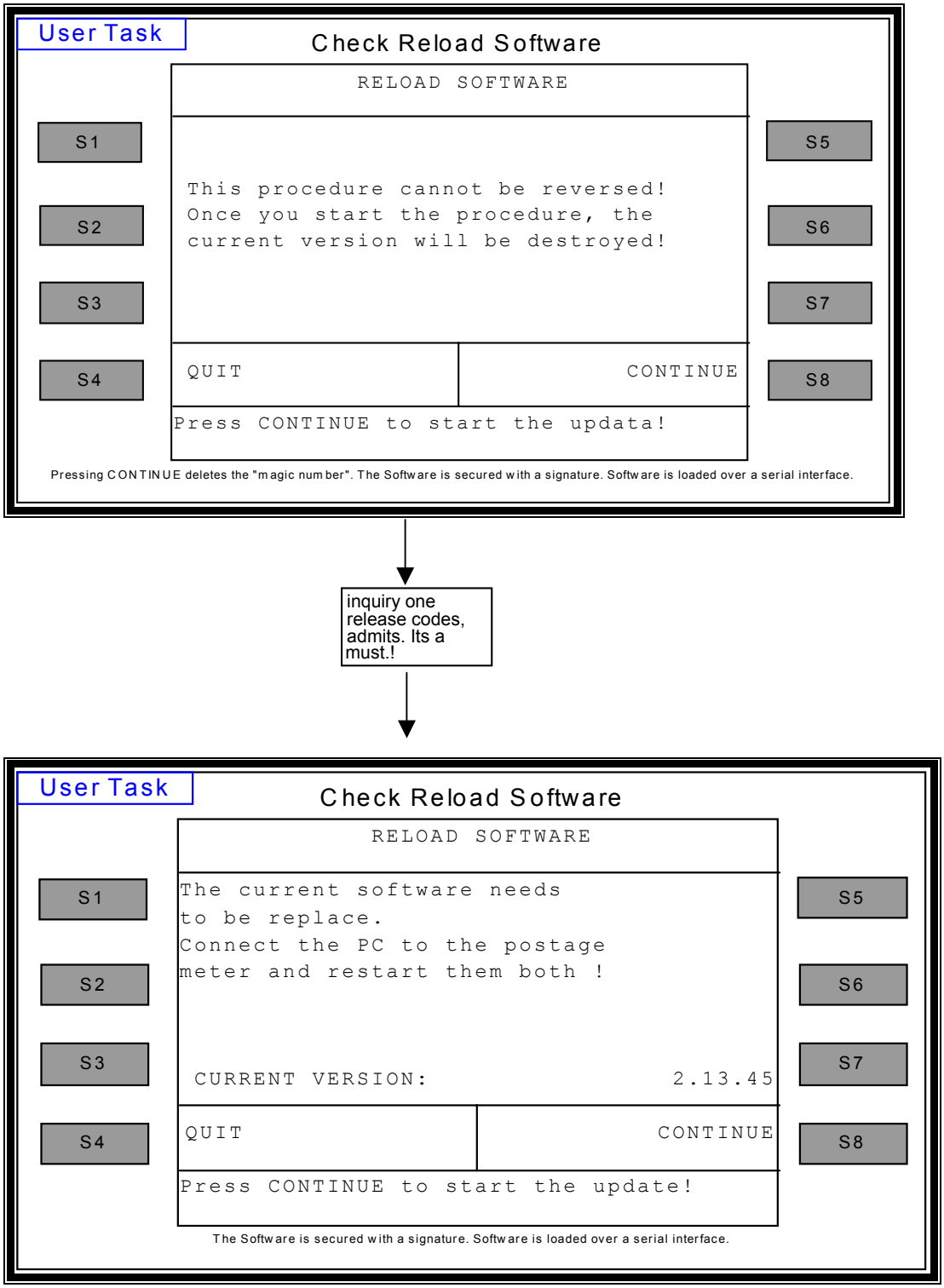


In this menu the service interval message can switched off = deactivated (S4) or again (S8) become switched on = activated.

With the option "activating" is added additionally to the current service item counter (see menu information/general Settings/system attitudes) the number of 50,000. Thus the service interval is thus increased by further 50,000 stamps.

2.3.12 Service menu 2: S4: Restart

2.3.13 Service menu 2: S5: Reload Software



Chapter 3 Hardware Mailhandler

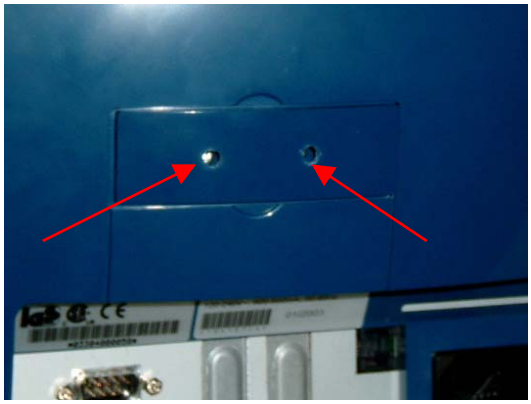
Main Menu

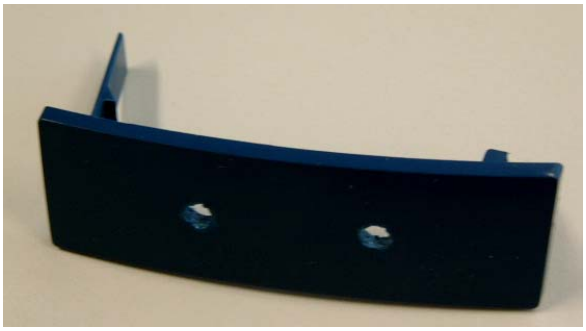
1 POSTAGE MACHINE HARDWARE (CHANGING SUB ASSEMBLIES)

Opening the machine

View Video

To open the housing first drill two 5mm holes into the security plate to uncover the screws.
Attention! Make sure that a new security plate is available before removing the existing security plate from the machine.





- If the machine has an internal scale the load platform must be removed. To do this turn the platform one quarter turn counter clockwise and then lift straight up.
- Remove the customers „Master“ card and store in a safe location.

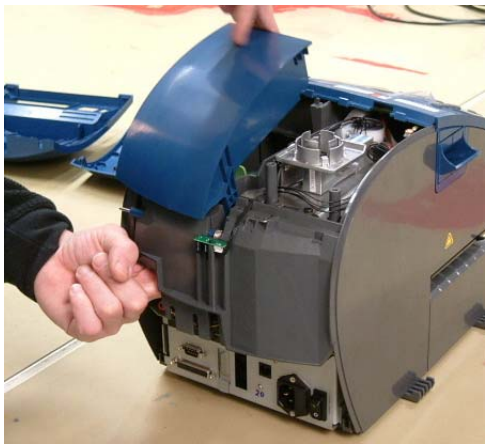
Remove the two screws (T20) on the back of the unit.

Attention!! Opening the housing will break the electronic security HS-Loop. This security loop can only be reset in the service mode (see chapter. 2 „Servicemode“) and by completing a zero value reset.

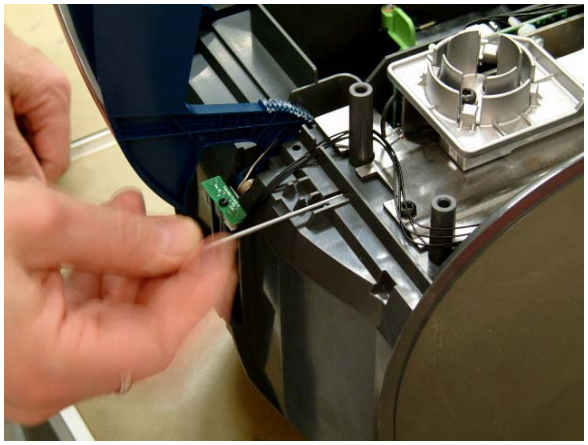
Now remove the scale cover.

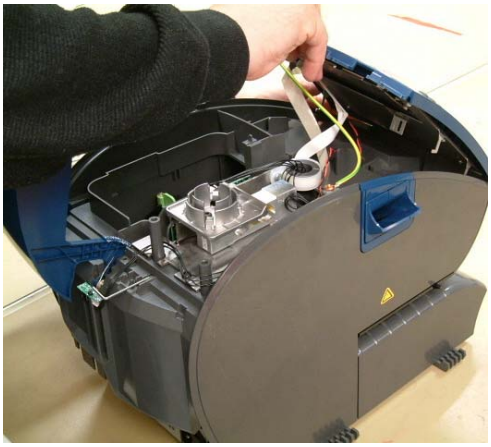
Security switch for the HS-Loop

Next open the ink cartridge door

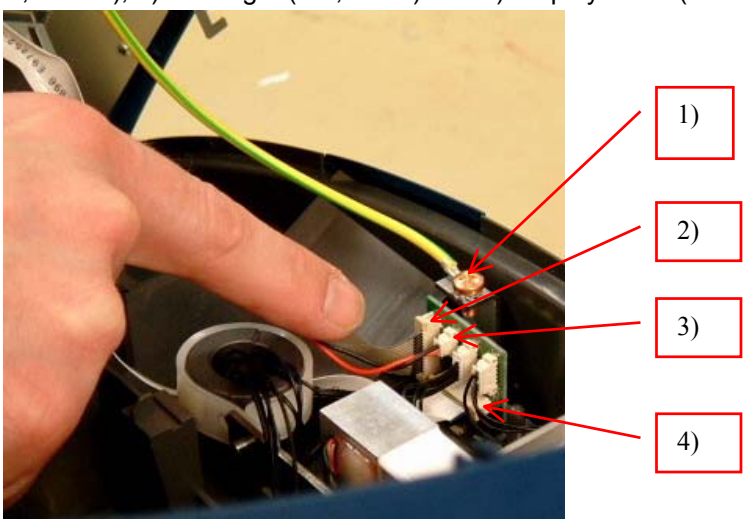


To release the display turn the locking lever at the back of the machine one quarter turn clockwise and then pull out. Now slide the display forward and lift from the back.





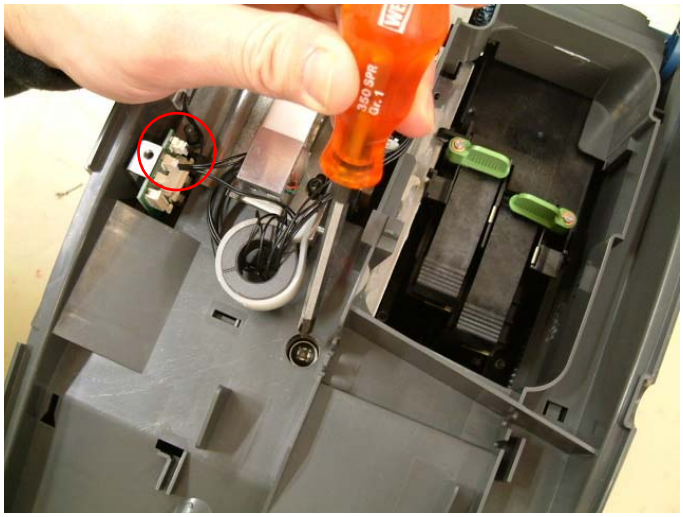
Disconnect the connector plugs from the splitter board 1) Ground cable (yellow and green cable), 2) Keyboard cable (ribbon cable; 13 Pin), 3) back light (red, black) and 4) Display cable (ribbon cable 12 Pin).



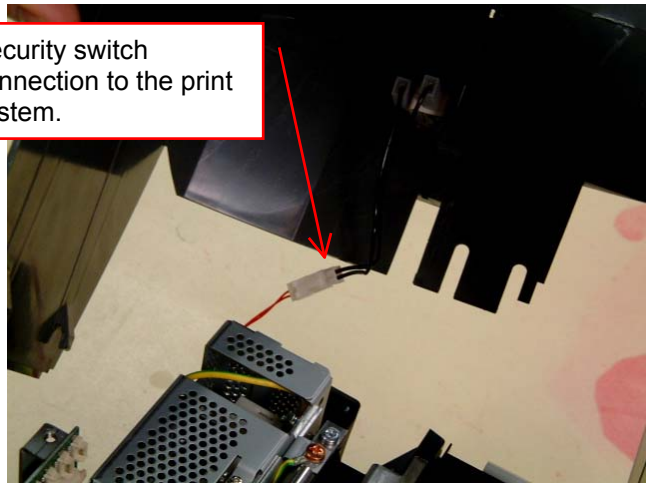
Next remove the two screws (IP20) at the front of the machine (1) slide the tape dispenser out (2) and if necessary remove the dispenser frame (3).

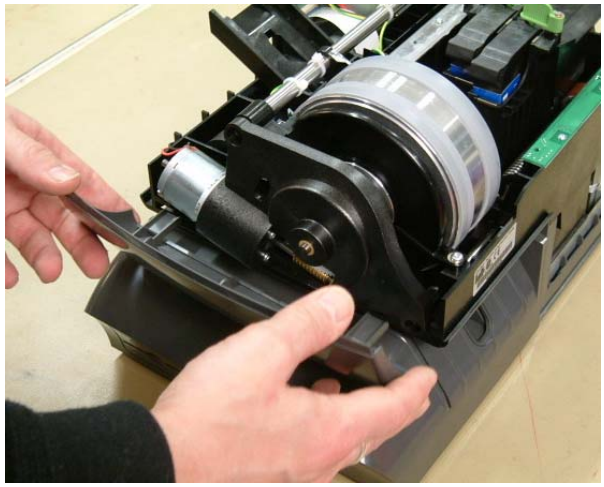
1) 2) 3)

Now remove the center screw (phillips) from the top of the housing and disconnect the scale cable (black, 6 Pin) and the ink cartridge flap control cable (black, 5 Pin) from the splitter board.



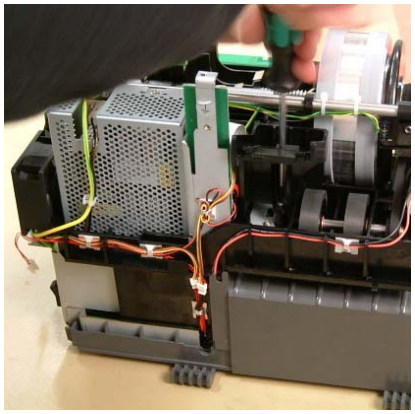
Carefully lift the top housing up taking care not to damage the splitter board in the process. Now disconnect the security switch from the flap and then remove the front cover.

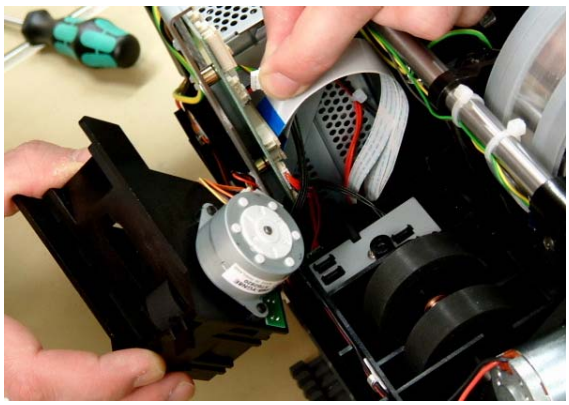


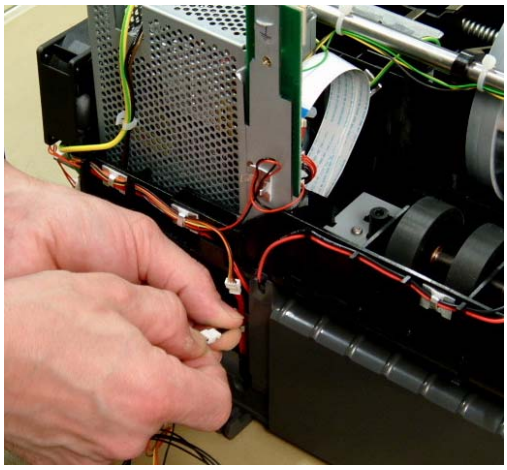


Removing the tape dispenser

Remove the screw (IP20) from the tape dispenser, and then disconnect the lightsensor cable (black, 5 Pin) from the splitter board and the motor cable (red, orange and yellow 4 Pin) from the side of the machine. Note that the opposite end of this cable is black



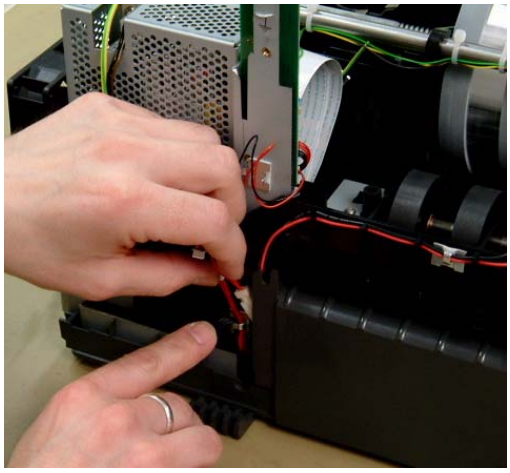


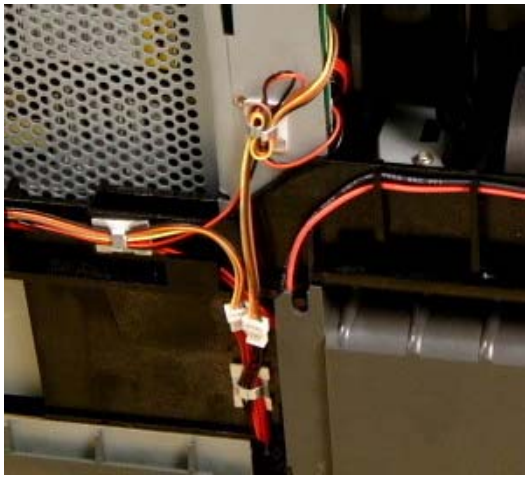


Separating the upper and lower chassis

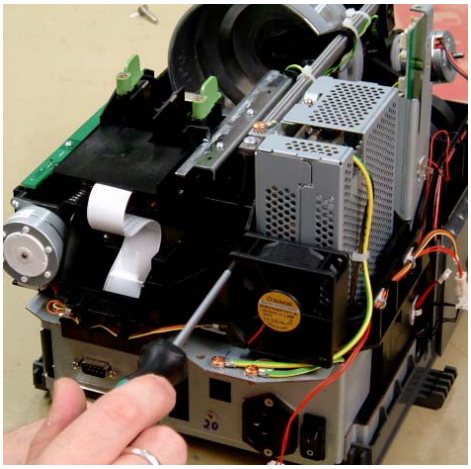
View Video (Upper Assembly) View Video (Lower Assembly)

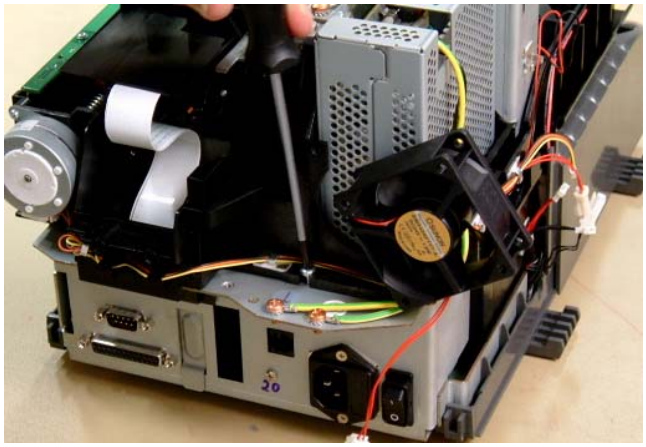
Disconnect all connections from the side of the machine (during reassembly check the block diagram to ensure correct connects to the splitter board and other plugs)





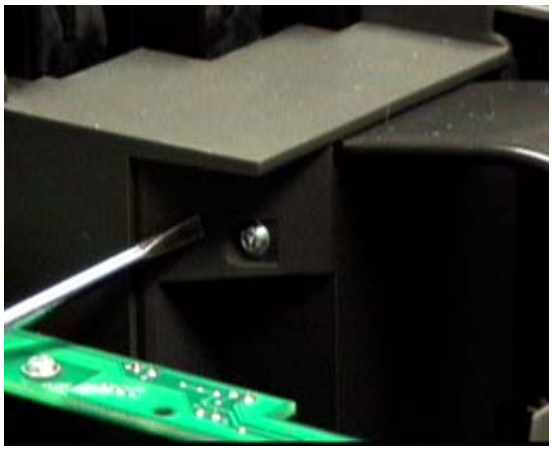
Now the screw(IP15) in the upper left corner of the fan can be removed. Tilt the fan to the side and then remove the screw that is located below the fan.

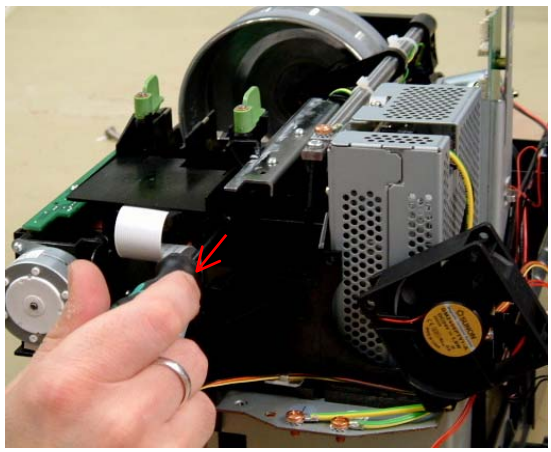


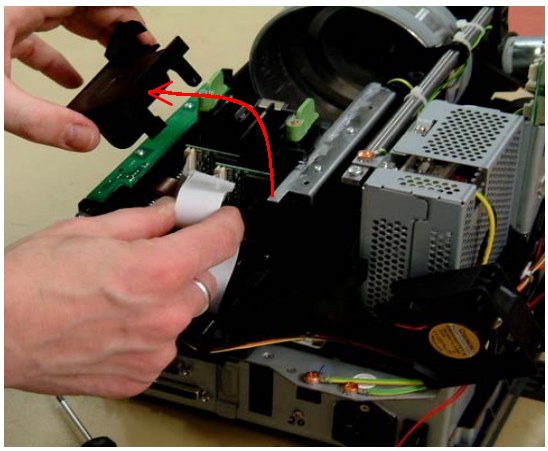


1.1.1 Separate the print data cable

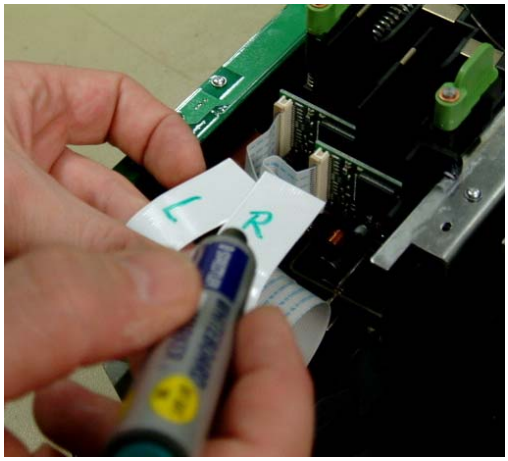
Next the data cable cover must be removed. To do this remove the screw (IP8) from the left side of the cover and then pull the cover back and down. Now remove the screw (IP8) from the upper cover and then turn the cover up and to the left.

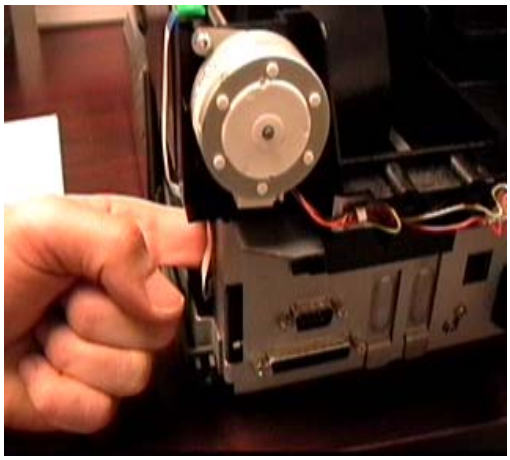






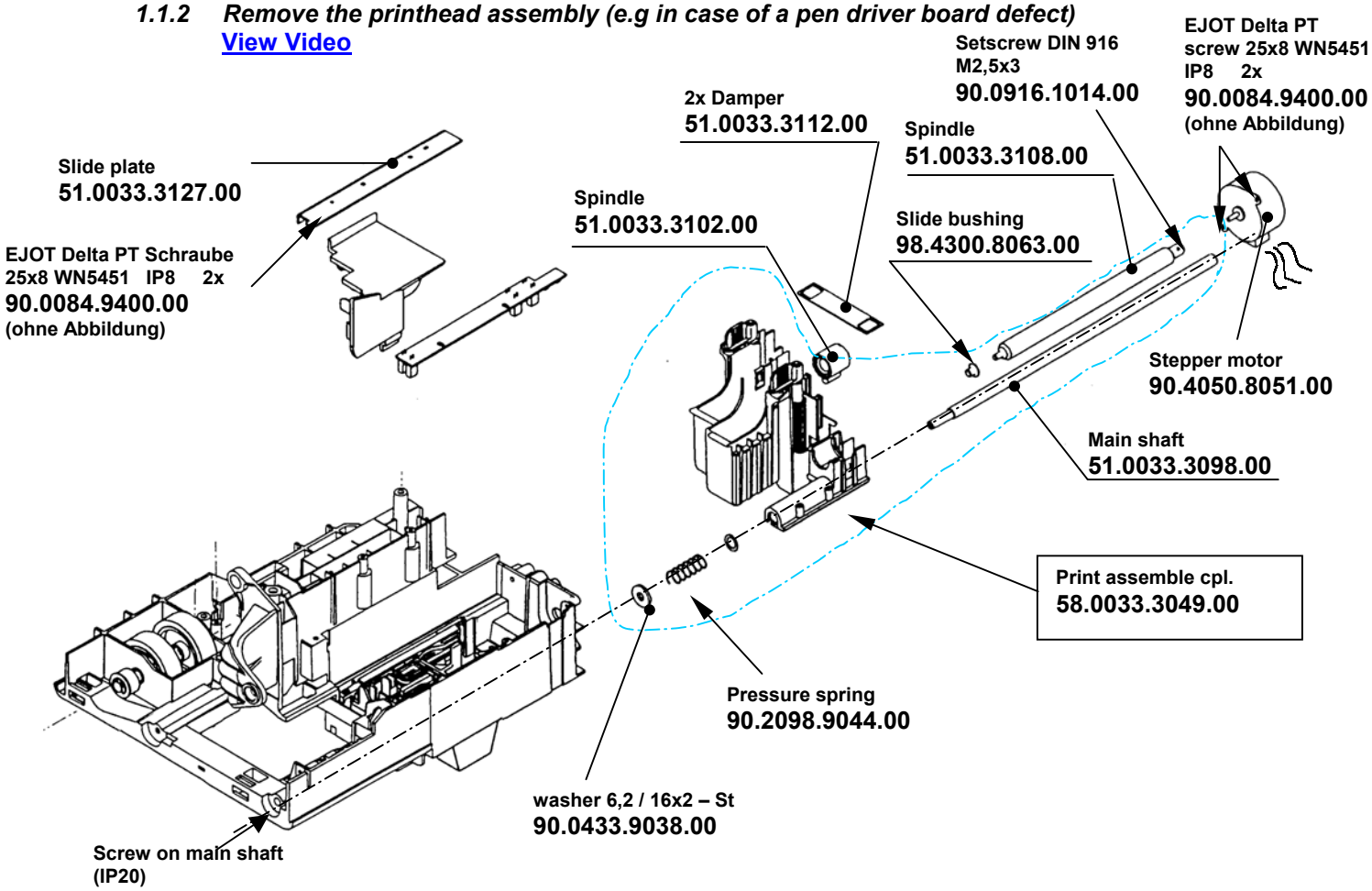
Mark both data cables, left and right, before disconnecting from the pen driver boards. Now remove the cable clamp by inserting your finger into the left (from the back) side of the unit and pushing the clip on the under side of the clamp in an upward direction.





1.1.2 Remove the printhead assembly (e.g in case of a pen driver board defect)

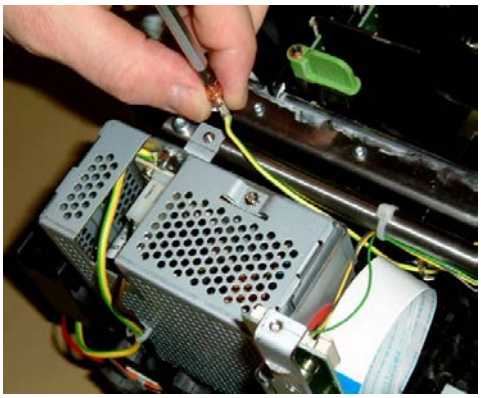
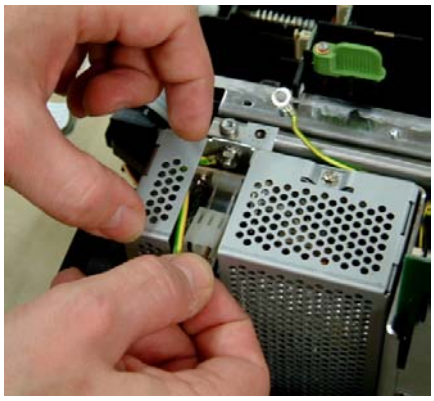
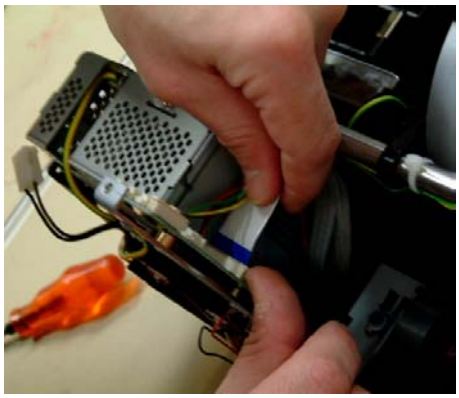
View Video



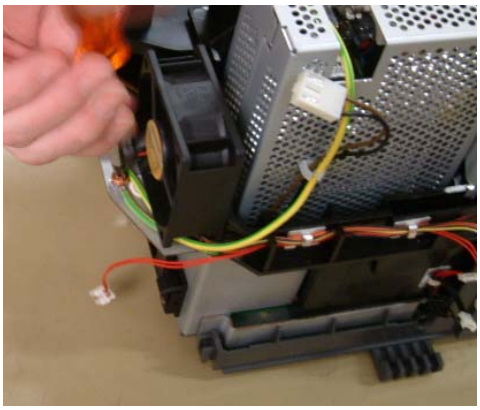
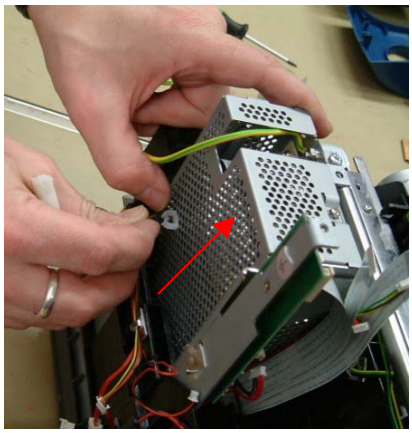
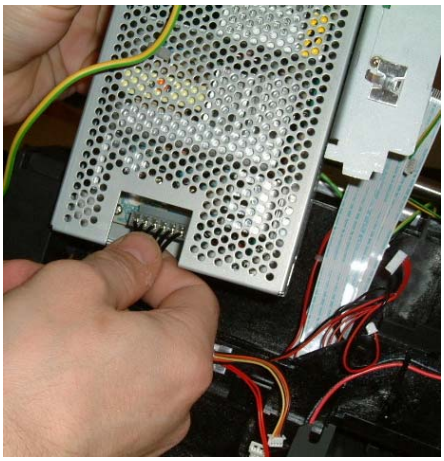
1) Remove two screws from the stepper motor
2) Loosen the set screw on the spindle and remove the motor
3) Remove the spindle taking care that the slide bushing does not get lost.
4) Remove the screw from the main shaft and then pull the shaft out, take care not to loose the washer and spring.
5) Print unit assembly exchange.

1.1.3 Removing the power supply

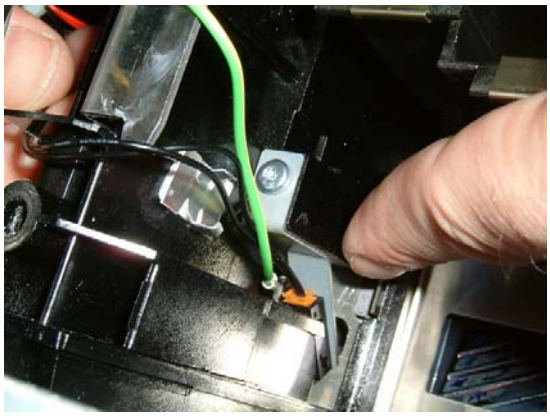
The power supply is held in place by one screw IP20 (Ground cable, screw and locking washer). To remove the power supply this screw must be removed. Disconnect the connector plug (2 Pin) from inside the power supply and all other connectors from the splitter board (The power supply and splitter board are all one assembly)

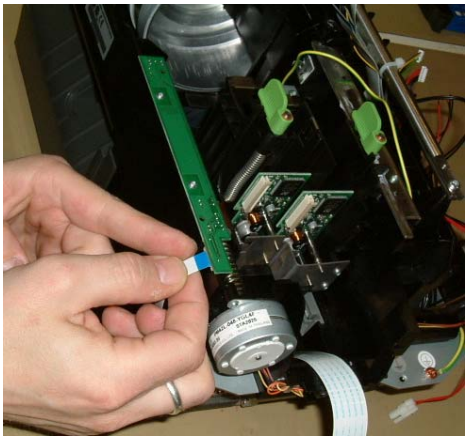




Unscrew the ground cable from the Chassis, slide the power supply up and then disconnect the connector cable from the bottom of the power supply.

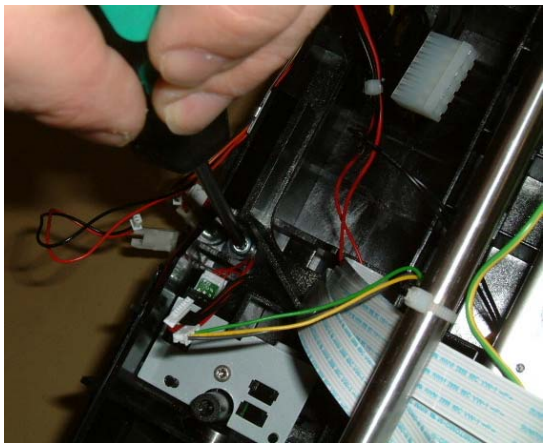




To continue separating the upper and lower Chassis you must disconnect the print start sensor and ribbon cable from the sensor board.

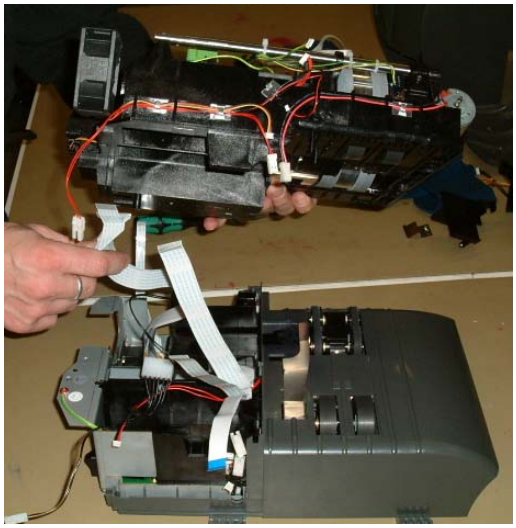


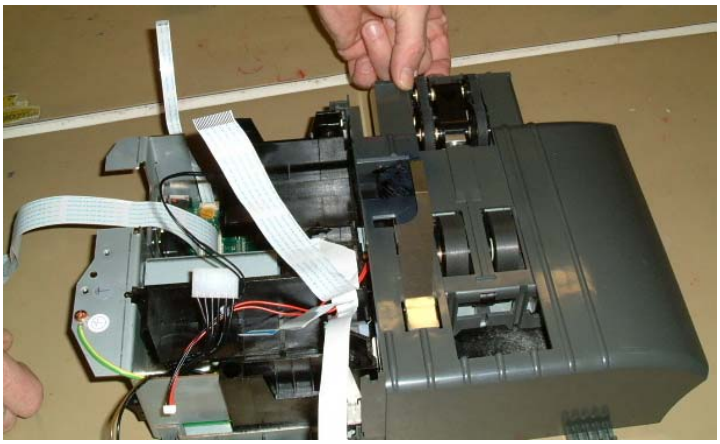


Remove the two screws (IP20) 1 near the entry sensor and 2 is below the print unit spindle.

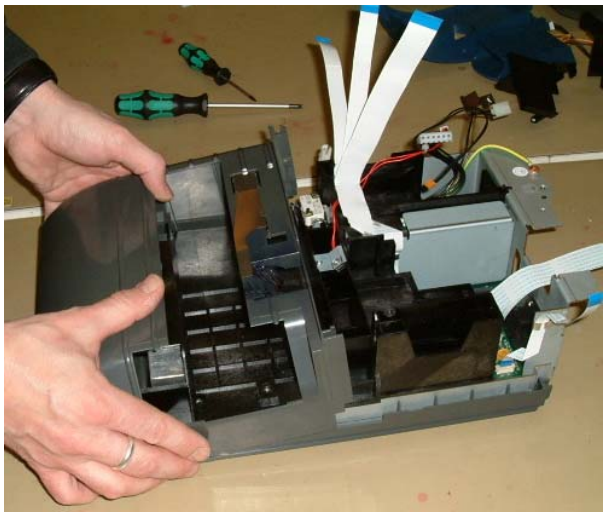


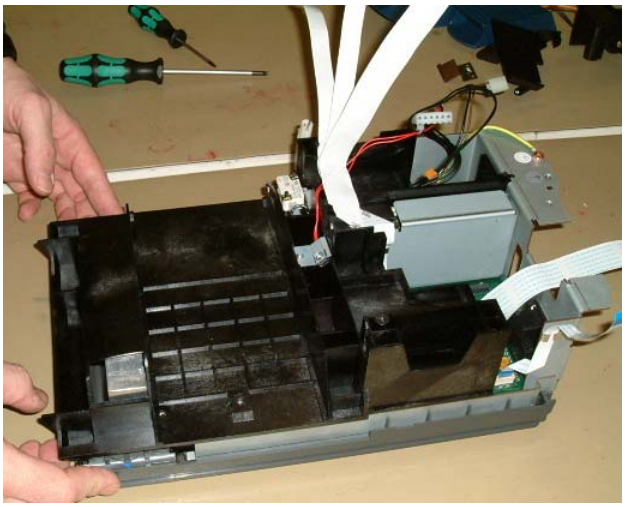
The upper Chassis can now be moved in an upward direction and removed (be careful that the ribbon cables do not get damaged).



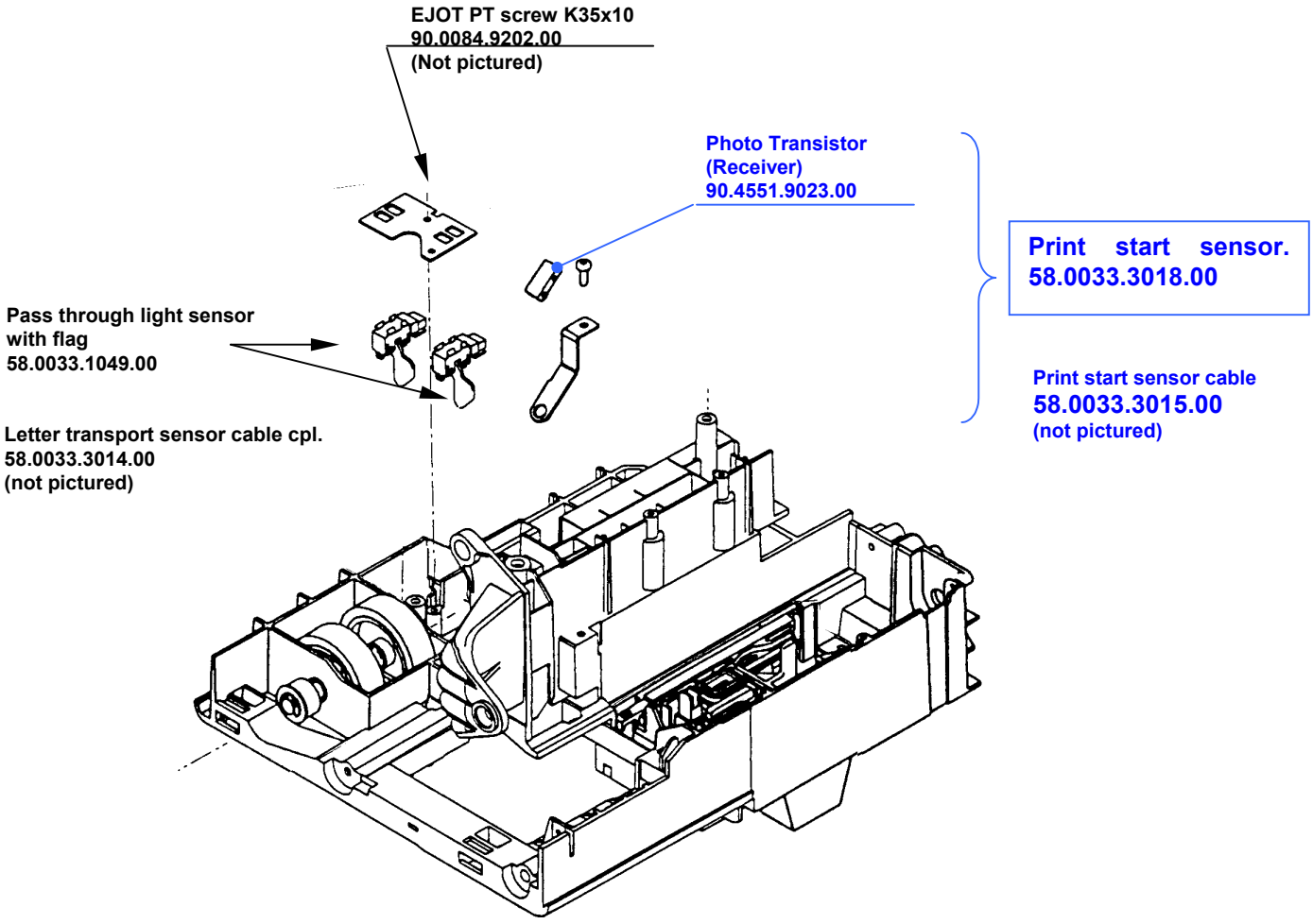


If the letter transport draw is out, the feed table can now be removed. From a service standpoint no further disassembly is recommended.





Print light sensor

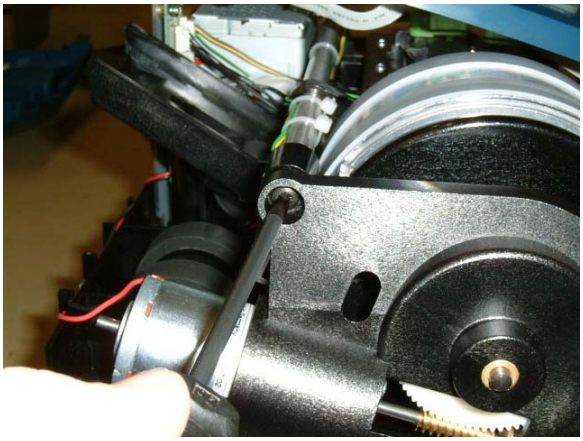


The opposite part of the photo transistor is the emitter which is located in the lower Chassis.

Exchanging the transport drum

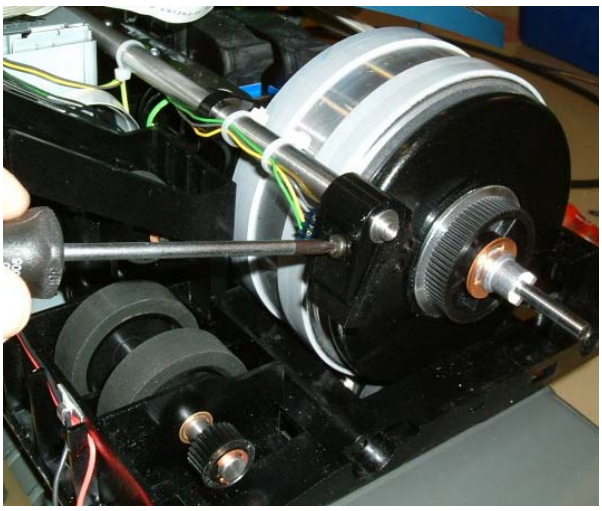
View Video

To remove the transport drum first remove the encoder cover which is secured by one main screw and then the motor bracket by removing the three screws that are located at each corner of the bracket.

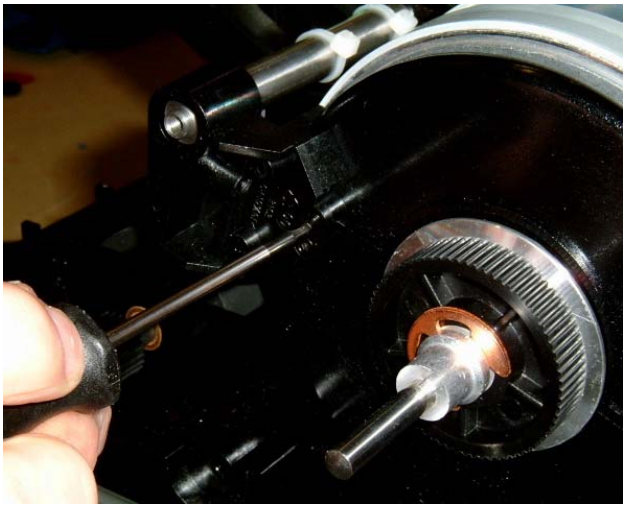


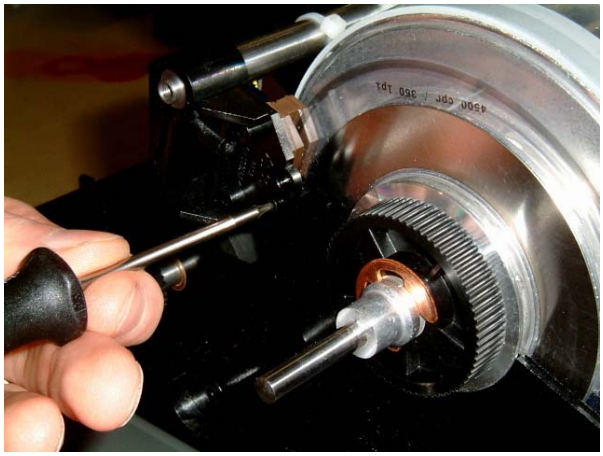
Now slide the bracket off, making sure that the plastic washer is not lost, now remove the white worm gear.

Now remove the transport belt and the Encoder (HEDS 9200-360) by loosening the screw(IP20).

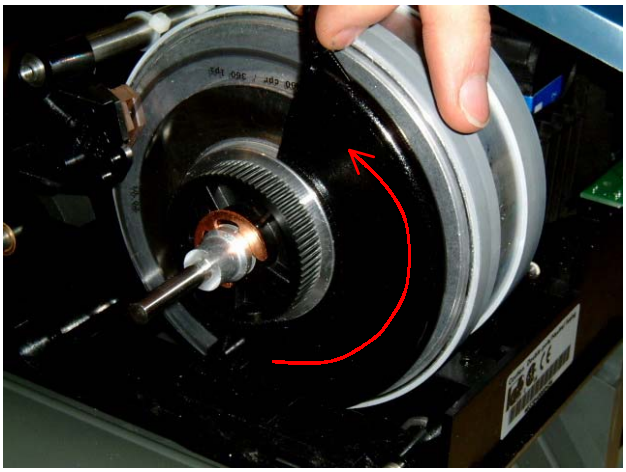


Remove the upper part of the encoder cover by removing one screw (IP6).

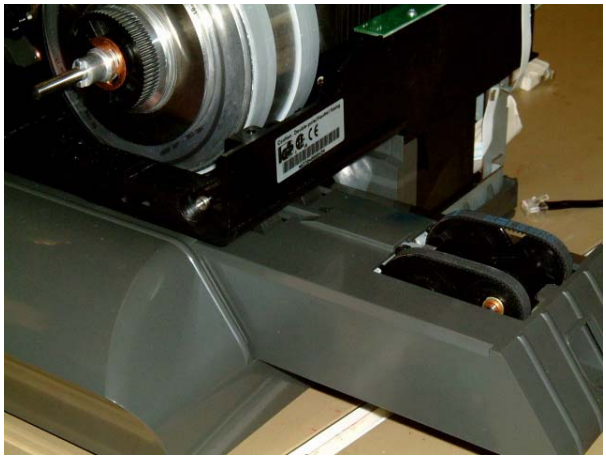


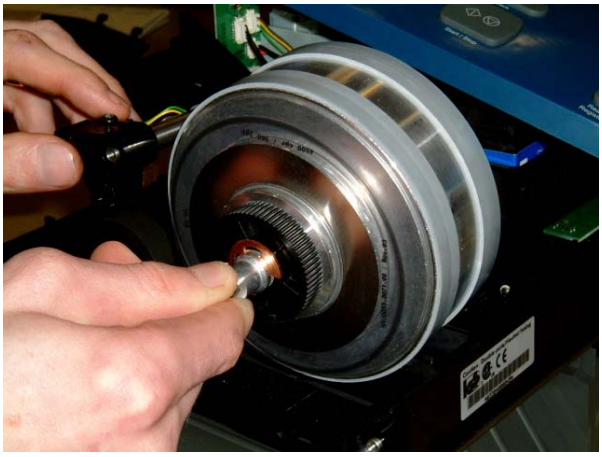


To remove the lower part of the encoder cover remove the lower screw and carefully rotate counter-clockwise.

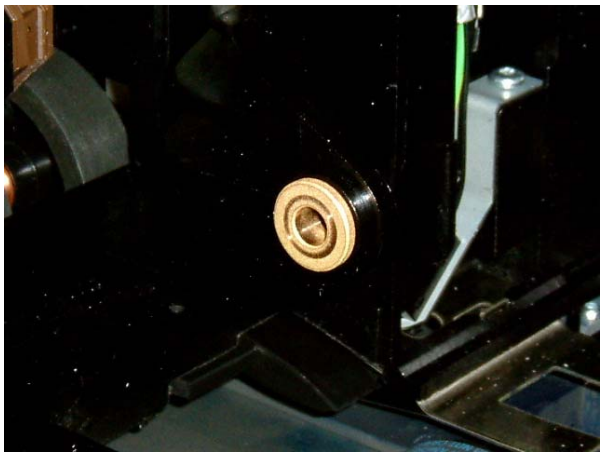


Before removing the transport drum the letter transport draw must be removed and the encoder must be held to the left.

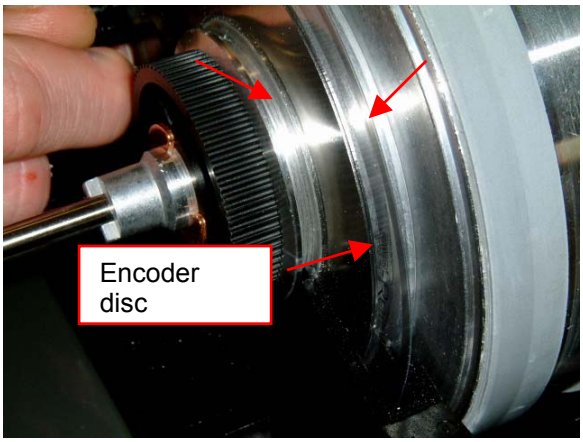


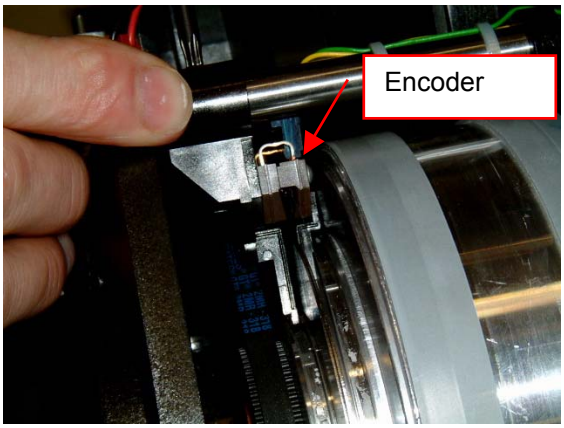


When removing the transport drum make sure that the bearing is not lost and that any spacers that may be present are kept.



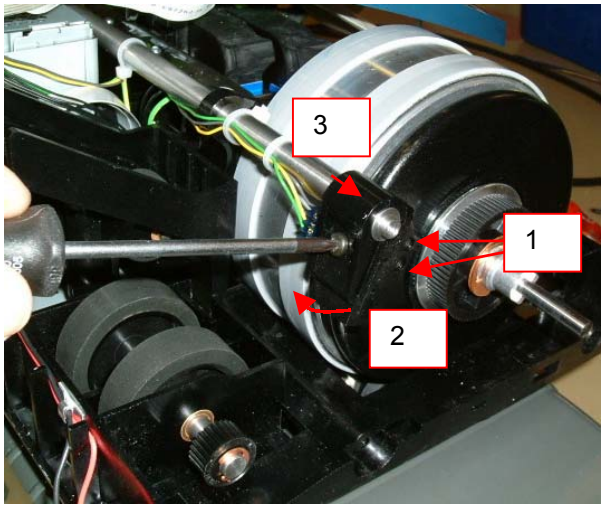
When re-installing the transport drum make sure that the upper and lower encoder covers are correctly located in the groove on the drum. Also make sure that the encoder disc is located in the center of the encoder sensor.





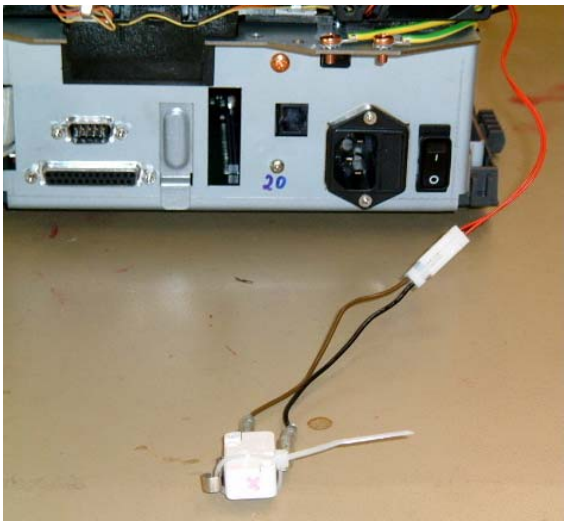
Exchanging the Encoder

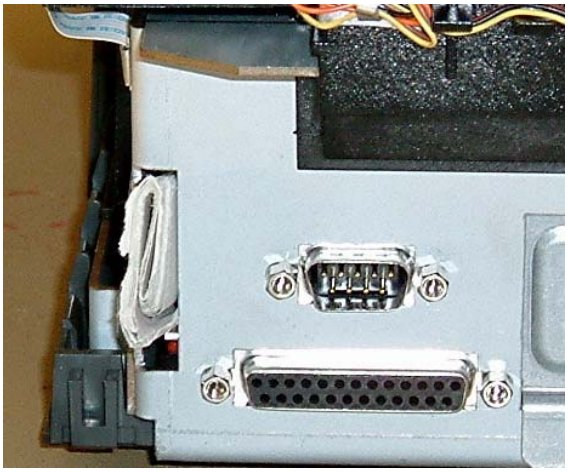
The encoder can be removed without removing the motor bracket. Remove the two screws located on the upper and lower encoder cover (1), loosen the clamp screw at the encoder (2) move the encoder to the left and pull off from the shaft (3).



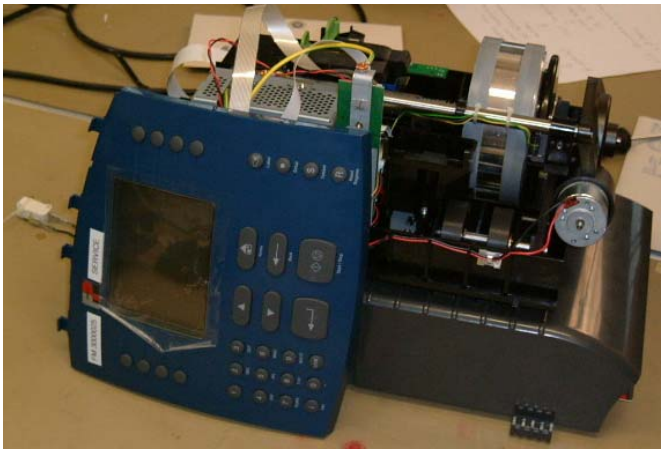
1.1.4 Adjusting the Encoder

Before any adjustment can be made to the encoder the HS-loop and the cartridge flap sensor must be bridged. The HS-loop can be activated by inserting a piece of card or paper in between the chassis and the switch.





The keyboard must be completely connected to the splitter board and can be placed to the side of the machine. The adjustment must be done in the service mode (Dealercard required)
Service-Mode -> Testfunction -> Encodertest (Ref chapter. 2 „Servicemode“)



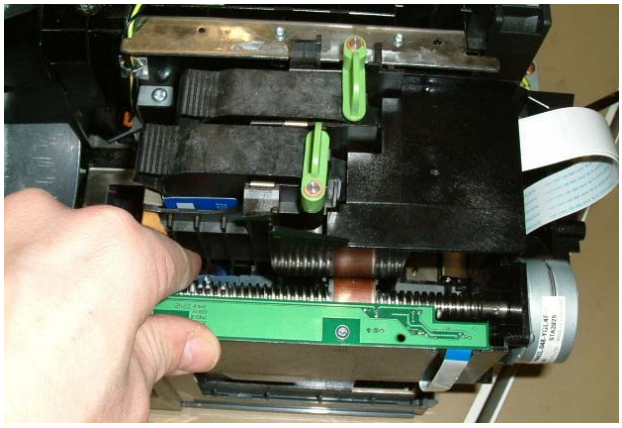
The measurement must be made using a minimum of one drum rotation. The goal is to have a no faulty measurment in the service display and a minimum of scratching noise from the encoder cover. If the two goals are met you must exit the service test and then restart the test. If there are still no fault indications the adjustment was successful (Once you have tightened the screws the test must be run again to ensure that the two goals are still OK).

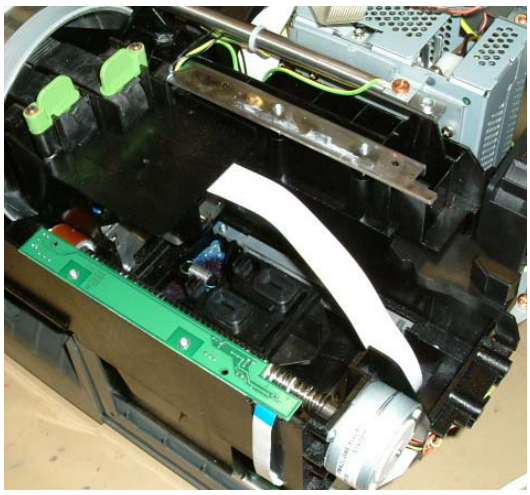
Exchanging the sealing station

View Video

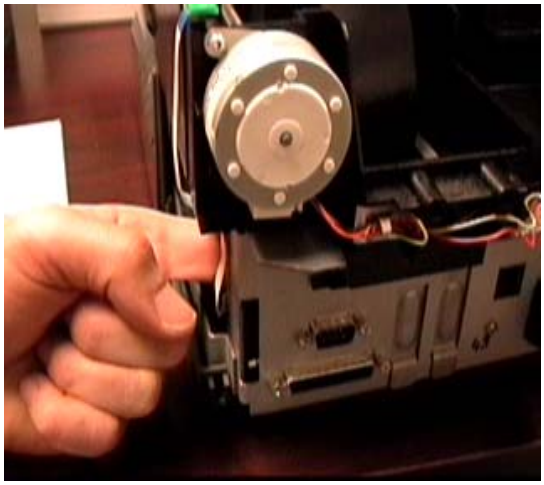
During any maintenance or if the ink cartridges continually dry out the sealing station must be replaced.

To do this rotate the spindle by hand so that the printing assembly moves to the forward position.

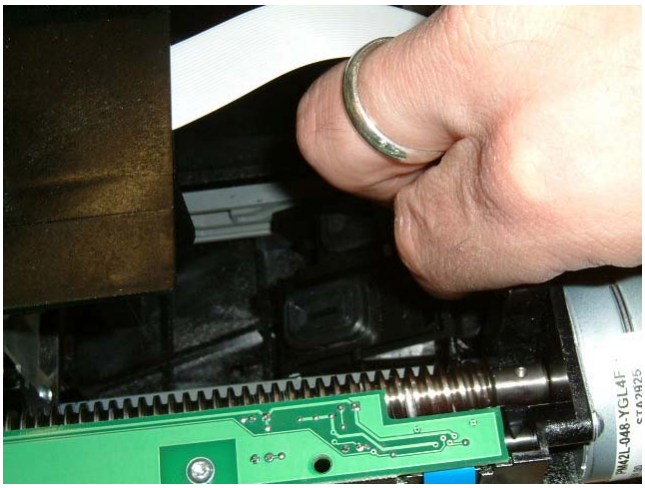




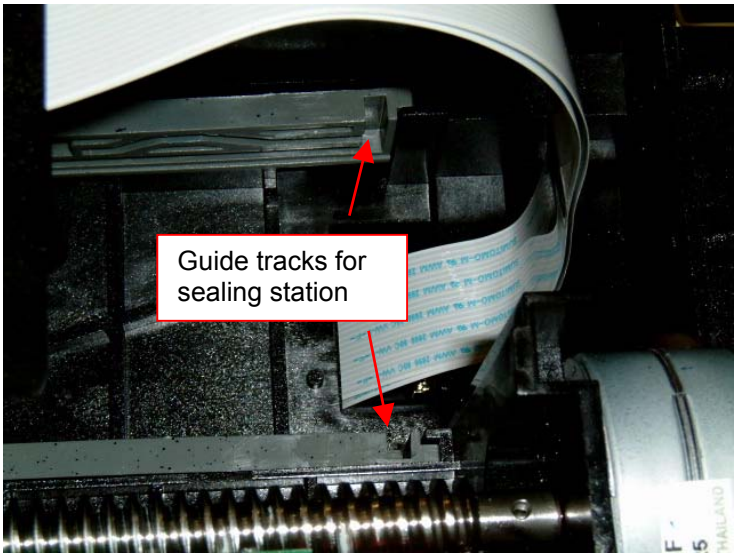
Now remove the spring using a spring hook and then remove the cable clamp by inserting your finger in to the left side of the unit and push the clip on the under side of the clamp in an upward direction



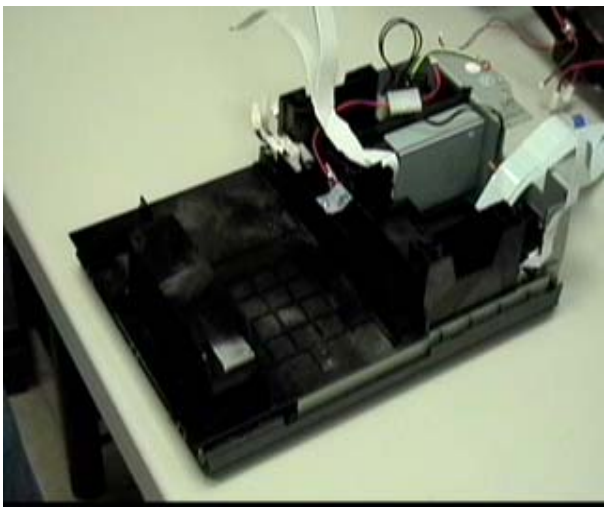
Rotate the spindle by hand to move the print assembly into the center position, lift up the ribbon cable and then pull the sealing station back and up so that the guide pin comes out of the track.



To install a new sealing station follow these steps in reverse order.



Lower Chassis

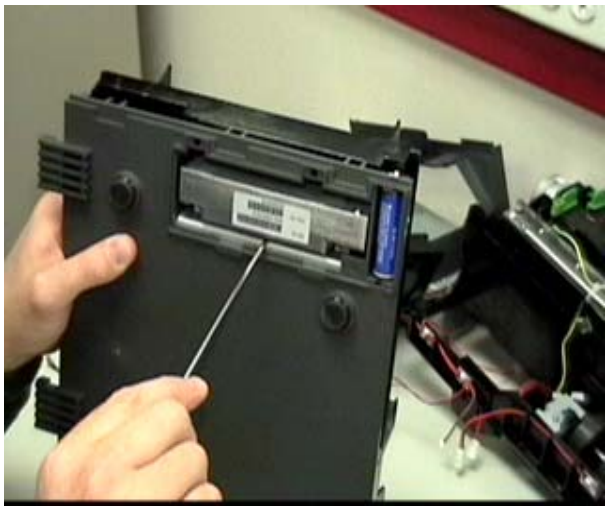


Remove the PSD cover

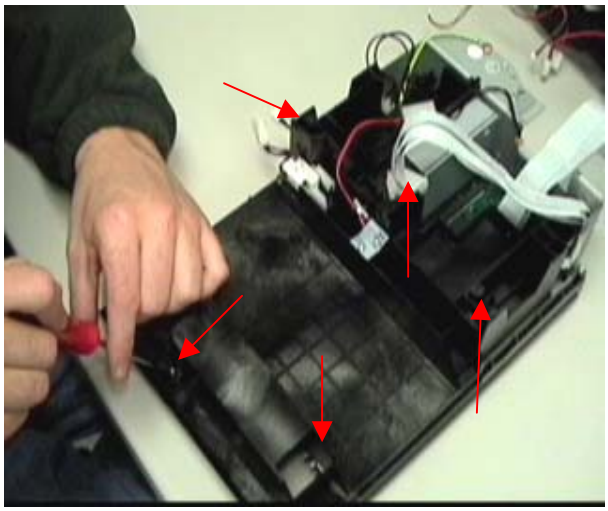
First remove the external battery cover

Loosen the two torx screws on the PSD

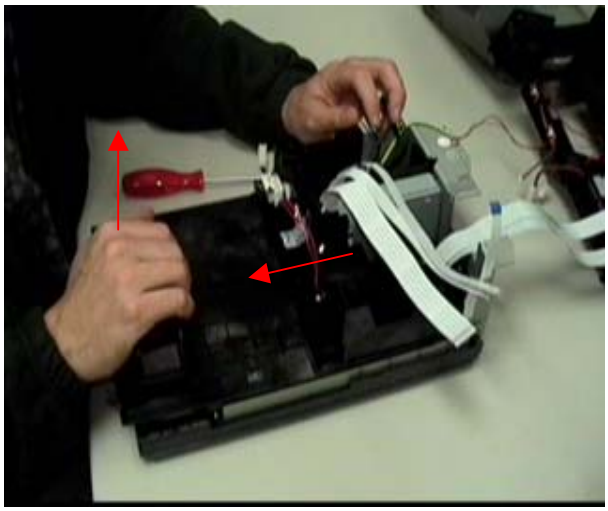
Lift the PSD and then slide out



Remove four screws as shown and open the cable ties



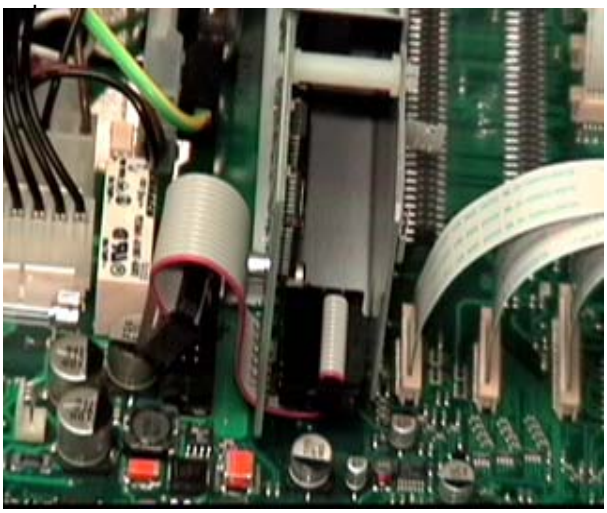
Lift the cover from the front and pull out and up.



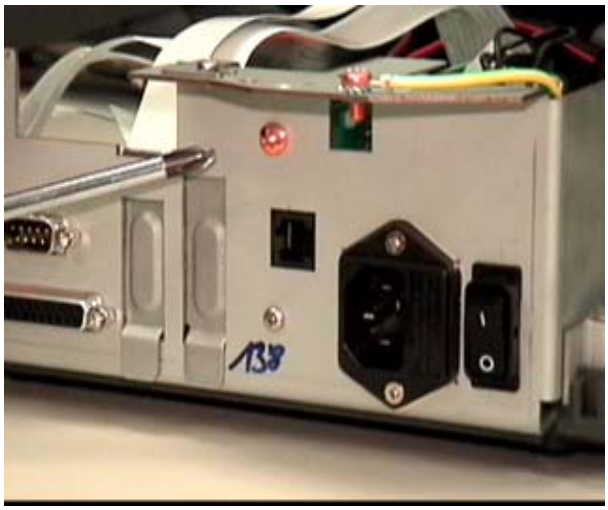
Unplug the connector

Open the cable ties

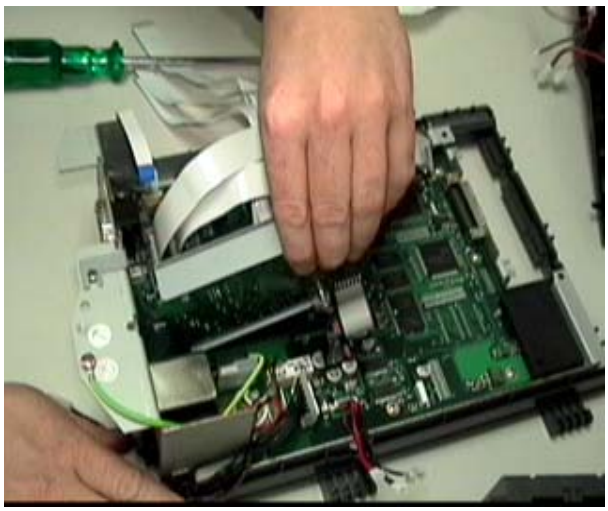
Disconnect the modem plug



Remove the two screw that hold the modem in



Lift the modem out.

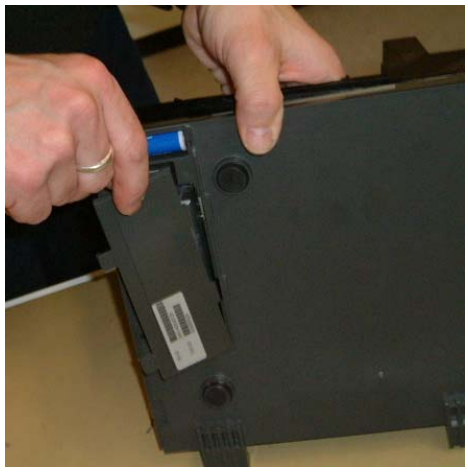


Exchange the Postage Security Device (PSD)

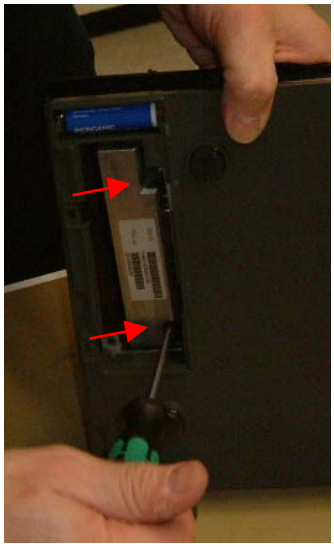
The Ultimail has a security device that holds information pertaining to the postal registers, Teleset parameters and, machine identification. The PSD is the actual meter which has been approved by the USPS the surrounding mechanism is the mailhandler or base unit.
In case of scenario 1 (see below) the mailhandler is defect and the PSD is OK. It is easy to take the PSD out and place it into a new mailhandler.

1.1.5 Removing the PSD from a defective mailhandler

Ensure that the unit is not connected to power and then open the battery and security device door..



Loosen the two screws (IP20) that secure the PSD and then gently push the PSD unit until the interface between the PSD and the main baord is separated



1.1.5.1 Scenario 1, Mailhandler is defect, PSD is OK

Install the removed PSD into a new mailhandler.
How to transfer the customer specific information into the mailhandler is still not available.

1.1.5.2 Scenario 2 Mailhandler is OK, PSD is faulty

This scenario is logistically more complicated because it is equal to a meter change. You would have to complete a manual PVR and then a new installation of the PSD (meter).

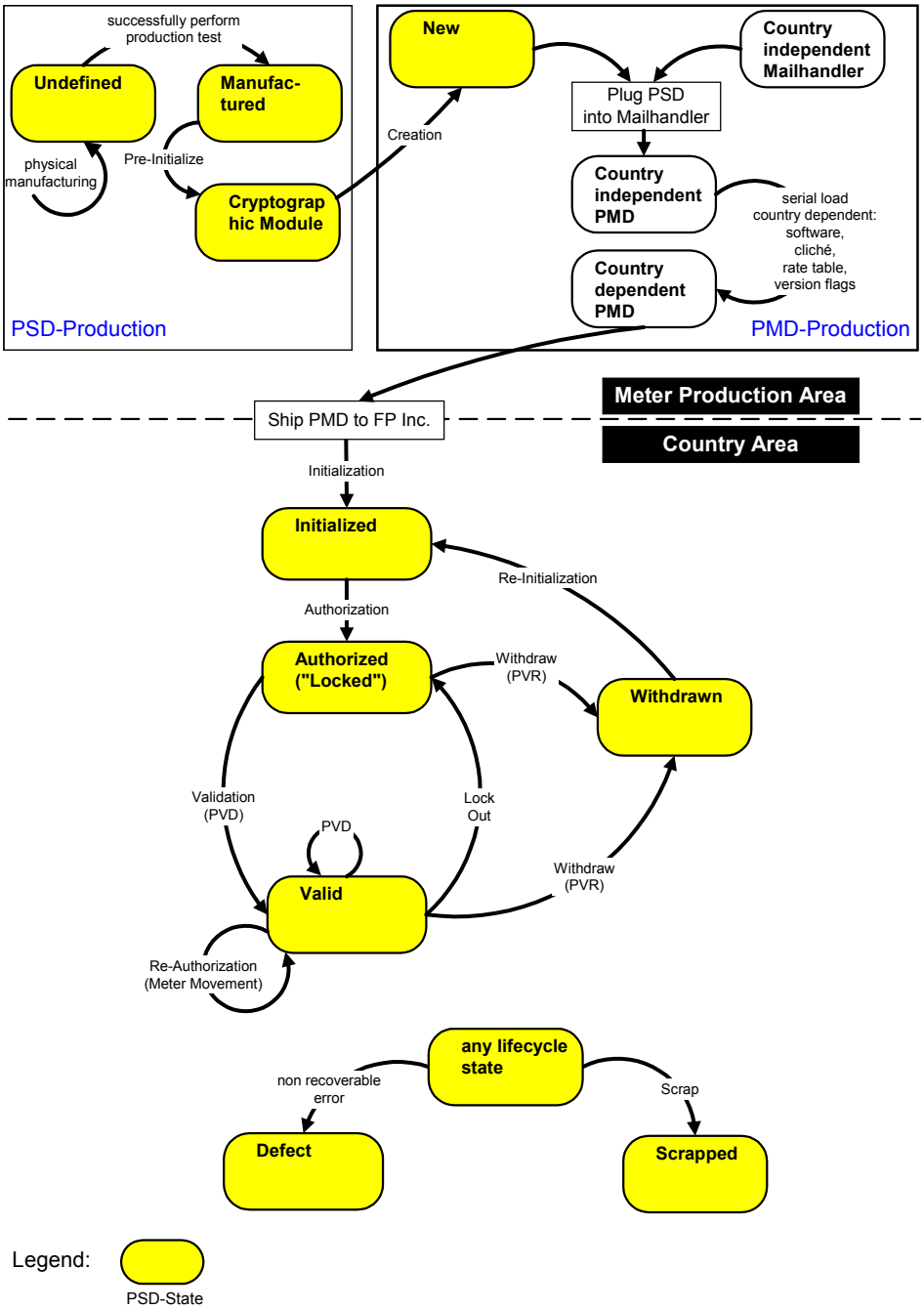
Before the exchange, if possible the postage register should be recorded using the SSM-PC. This record will be used to process the manual PVR.
Now the faulty PDS can be removed from the mailhandler and a new one inserted.

The requirements for the new exchanged PSD are:

1) The PSD must be in the initialized state before sending to any dealer.
2) The PSD must be in the state „Authorized“ (dealer card required)

After the new PSD is installed the HS-Loop MUST be reset in the dealer mode and a PVD with money must be completed. A zero rest is not enough to get into the valid state.

Life cycle of the PSD



CONTENTS

Main Index

5 DISASSEMBLY & REPLACEMENT COMPONENTS FEEDER / SEALER

5.1 Needed Equipment / Tools: view video

- Phillips-Screwdriver (With a long extension)
- Torx Nr. 20
- Spring Hook
- Magnetizer / Demagnetizer
- Tweezers
- Spring Clip
- ESD-Kit

5.2 Which replacement Assemblies are spare parts?

#	Components
1	**Housing covers**
2	**Upper Transport with Rollers**
3	**Moistening Assembly**
4	**Separating Assembly**
5	**Main Drive Motors with Encoders**
6	**All Belts, Rollers, and Pulleys**
7	**Power Supply**
8	**Feeder Control Board**
9	**Sensors**

5.3 Housings Divided / Components:

- Upper housing and cover for the Water tank
- Letter Transport Feeder (With Roller Box)
- Letter transport table with sealing unit.
- Lower Housing (Frame, Mechanical, Electrical components)

The overhead panel locks the housing upward and carries the water bottle.
The upper transport houses the separating and the roll box assemblies.
The frame is attached to the lower housing. The frame holds all the mechanical and electronic assemblies, but not the moistening unit and water tank.

5.4 (A) Disassembly of the Upper Letter Transport View Video

- This assembly includes the separation arm, fingers, deflectors, and two self-adjusting rollers. The complete assembly is called a roller box.
- Below the roller box is the moistening brush and felt.

Complete the following steps in order:

- Take the water tank out and unlock the upper transport (see Fig.1 and Fig. 2 below)

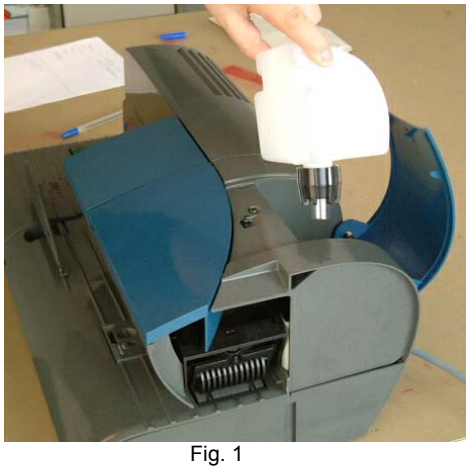


Fig. 1

Fig. 2

- Lift the Moistening Brush Up and to the left and (Fig.3), then slide the water tray out from the back of the feeder (Fig.4).

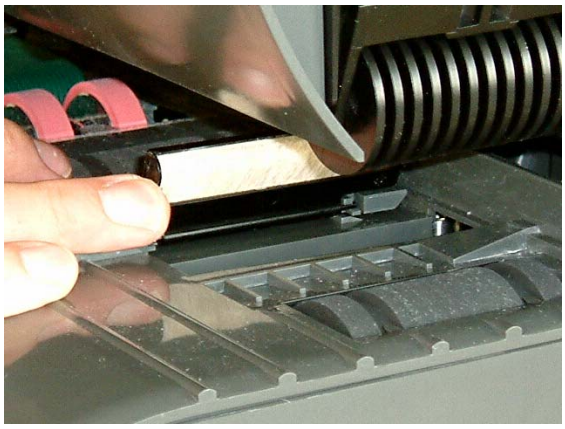


Fig.3

Fig.4

- To remove the top gray housing cover, remove the 3 Philips screws in the back (Fig.5), and 1 Philips screw above the water tank cover (Fig.6)

Fig. 5

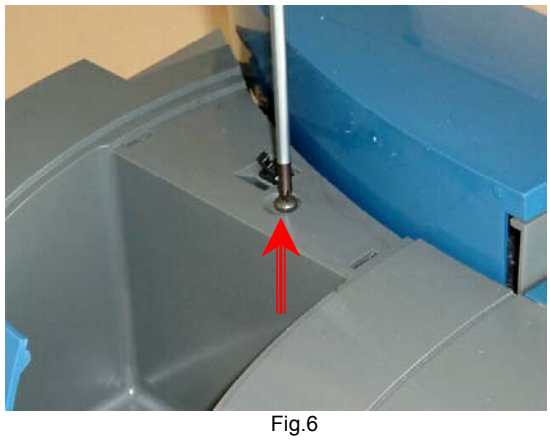


Fig.6

- Then lift the top gray housing cover up from the back, and remove (Fig.7)

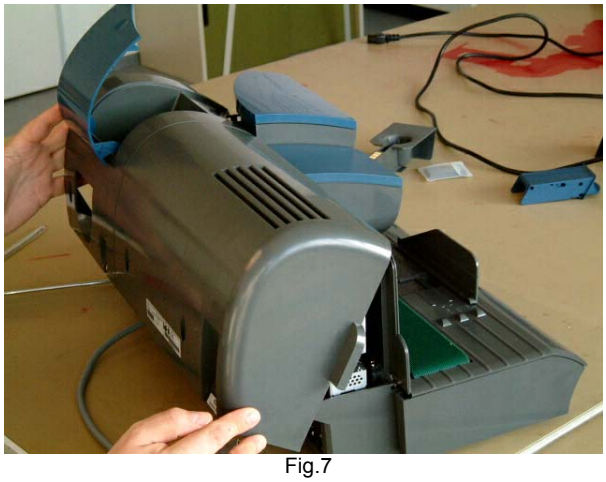


Fig.7

- Unsnap the blue cover over the separating assembly (Fig.8), then remove the 2 Philips screws (Fig.9)

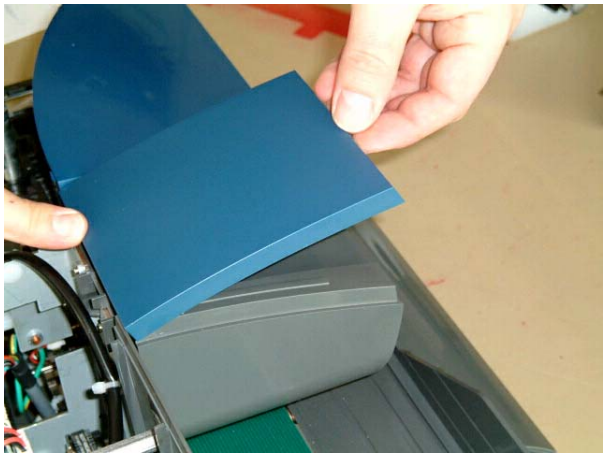


Fig.8

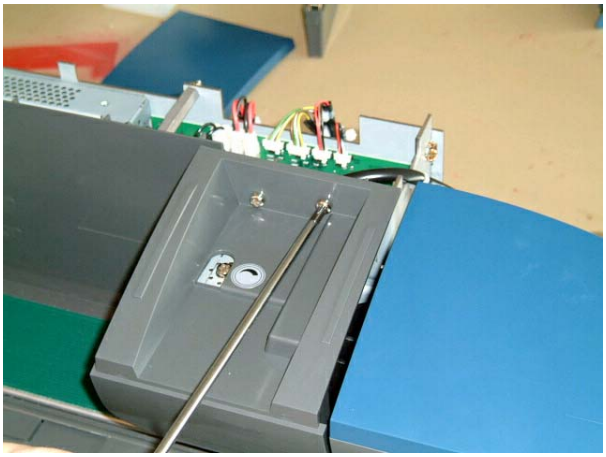


Fig.9

- Slide the gray cover back and remove (Fig.10)

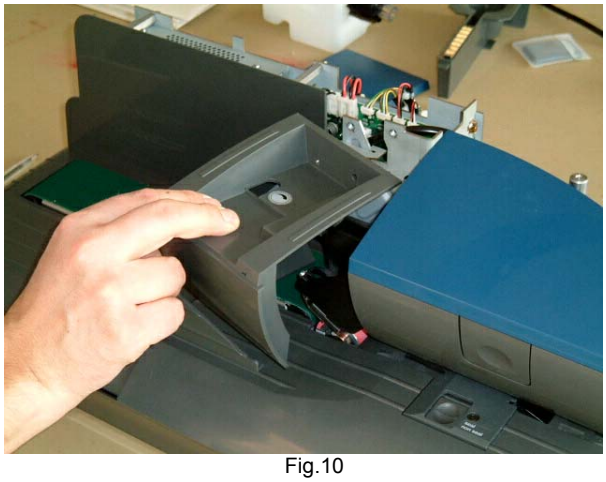


Fig.10

- Press and hold the release button, and remove the roller box from the shaft assembly (Fig.11)

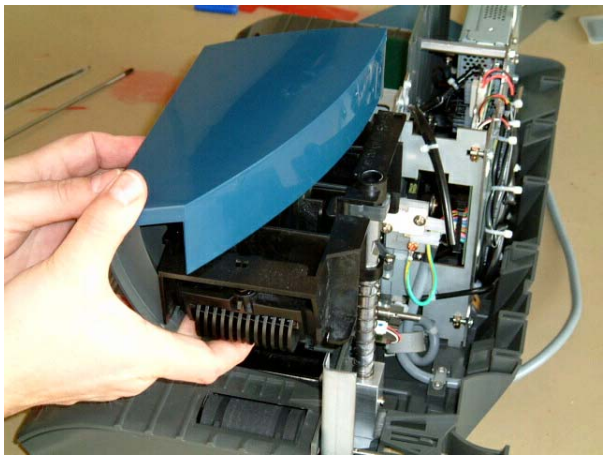


Fig.11

The Roll Box assembly includes the separation arm, fingers, deflectors, and two self-adjusting rollers.

5.5 (B) Disassembly of the Letter Transport Table with Sealer

The letter transport table is attached to the frame by 4 Philips screws in the back (Fig.12 & Fig.13), and four clips on the bottom (Fig.15).

With the letter transport table removed, the mechanical components are accessible.

Objective: The following are steps for disassembly of the upper letter transport and Roll box assemblies

Complete the following steps in order:

- Remove the 4 Philips screws in the back of the letter transport table. (see Fig.12 & Fig.13 below)

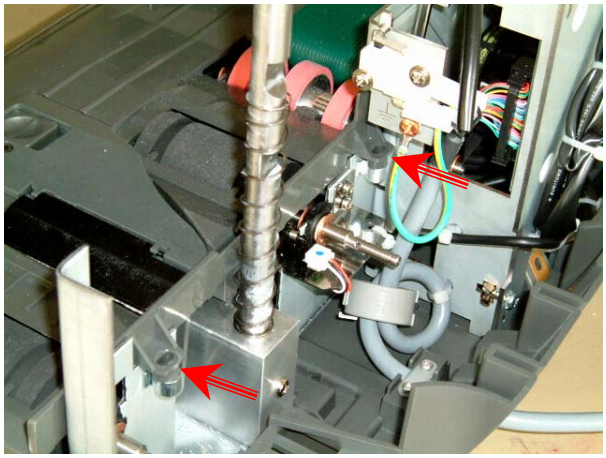


Fig.12

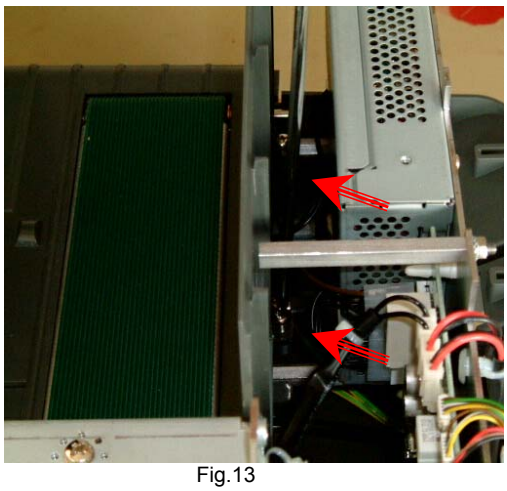


Fig.13

- slide the letter guide out to the last mark, then pull out, and the remove the philips screw.(Fig.14)

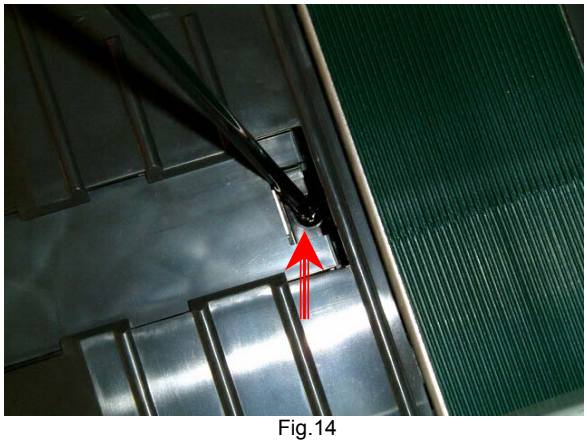


Fig.14

- Release the 4clips on the bottom of the feeder with a flat head screwdriver(Fig.15)

Note:
Insert the flat head screw driver into the slots and move the handel in the dirction of the arrows shown in Fig.15 to release the bottom cover.

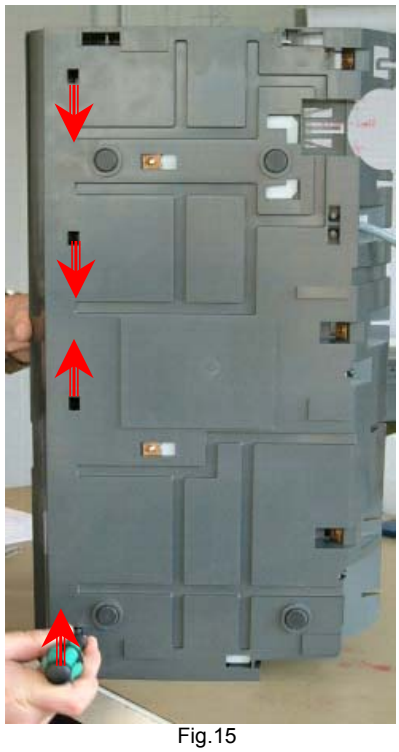


Fig.15

- Press and hold down the envelope preset sensor, lift up on the front and slide the letter feed tray out (Fig.16 & Fig.17)

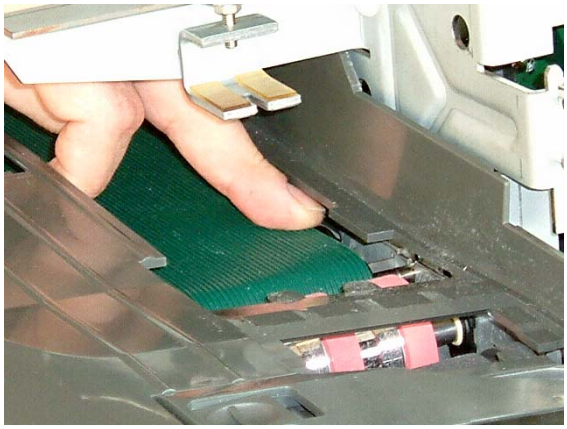


Fig.16

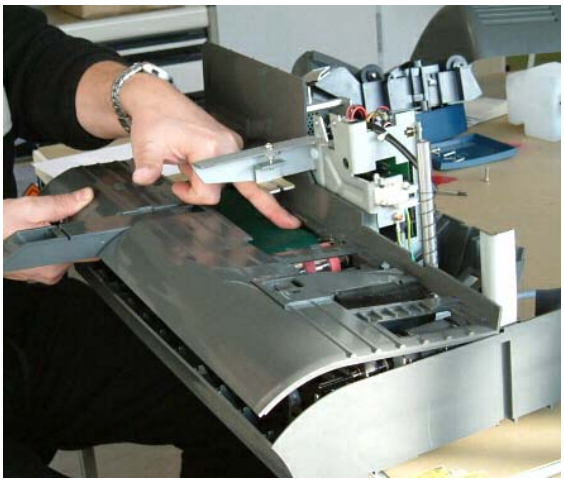


Fig.17

- Under the letter transport table toward the center, release the flat spring, which holds the deflector plate. (Fig.18)

Fig.18

- Remove the Philips screw holding the sealing blade to the letter transport table and remove the sealing blade. (Fig.19 & Fig. 20)

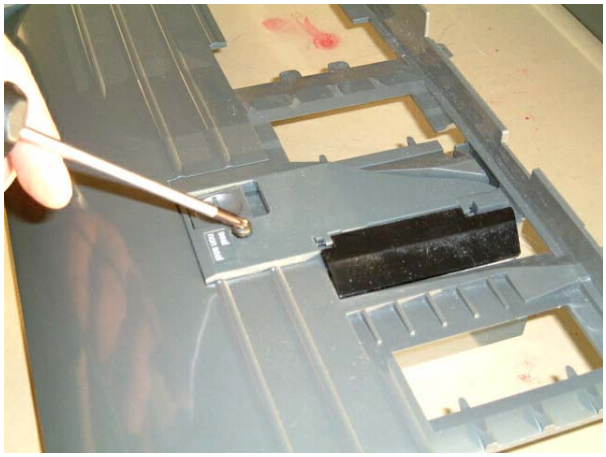


Fig.19

Fig.20

- With the sealing blade removed, now remove the flat spring from the letter transport table, by straightening the twisted end.

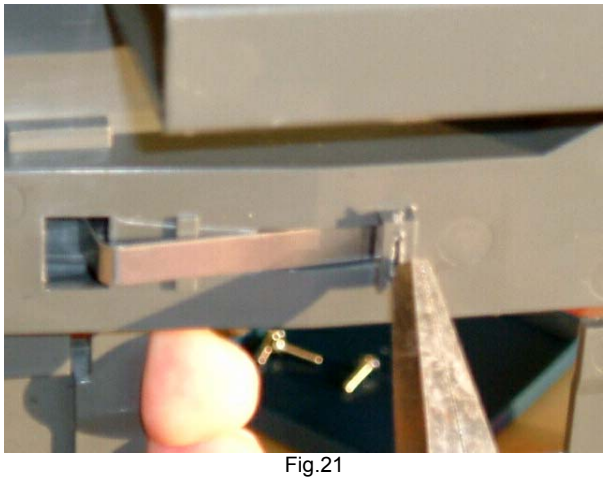


Fig.21

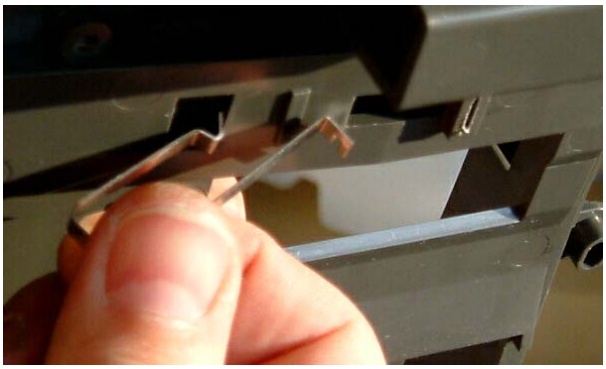


Fig.22

5.6 (C) Removing the Lower Housing

In the Lower Housing are the following components:

- Power Supply/Power Filter
- Feeder Control Board
- Light Sensors
- The Main Drive Motors, Transport Rollers, and Transport Belt.

5.6.1 Power Supply

The power supply is encased in a metal protective case. This type of power supply is called a switched power supply. This assembly can only be changed as a complete unit. To change the power supply, the entire frame needs to be removed from the lower housing, in order to gain access to the main ground cable.

Remove:

- First follow steps A & B
  (A) Disassembly upper letter transport
  (B) Letter Transport Table with Sealer

- Remove the ground screw and interface cable.(Fig.23)

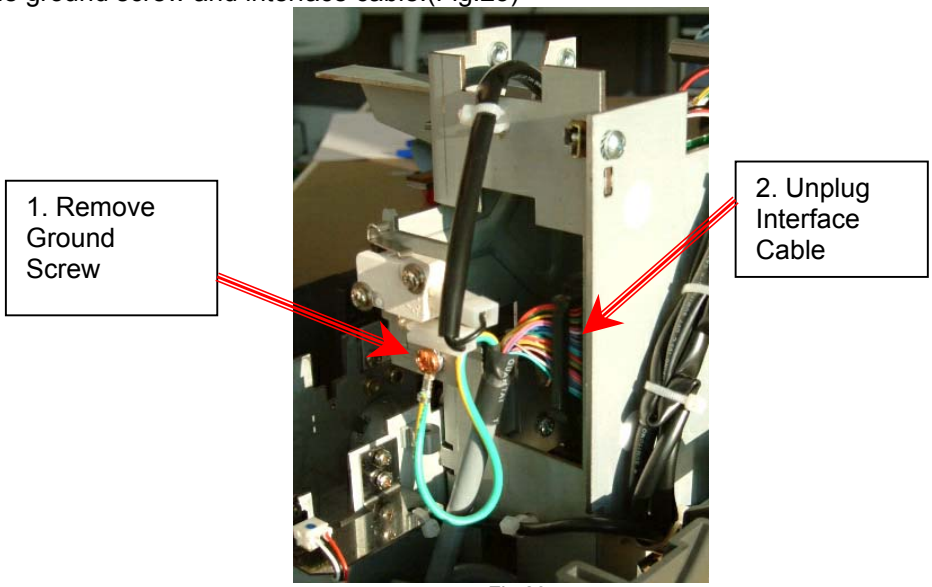


Fig.23

- Unscrew the clamp fastening the Main Cable (Fig. 24)

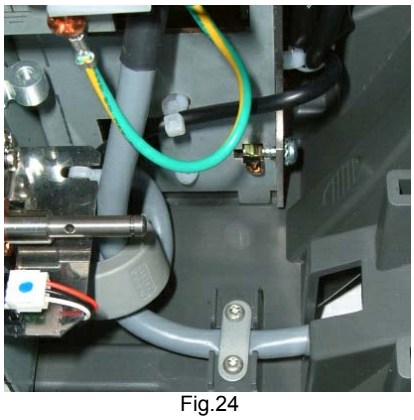


Fig.24

- Remove the 4 screws holding the frame to the lower housing; find 2 Philips screws on the inside and 2 Torx screws on the outside. (See Fig.25-27)

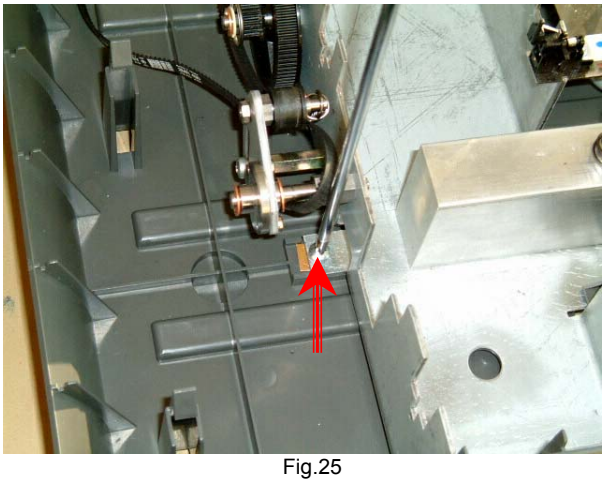


Fig.25

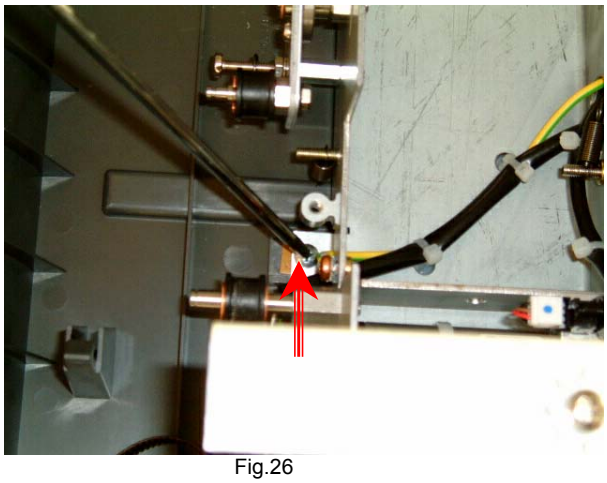


Fig.26

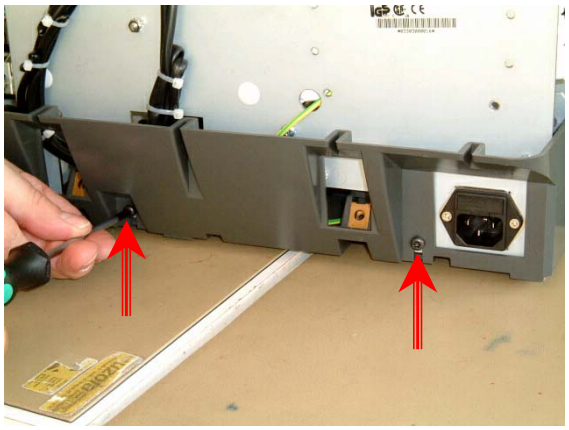


Fig.27

- Lift up on the frame from the front, and slide frame forward, then remove the frame from the lower housing. Do not lift from the upper separating arm (Fig.28)

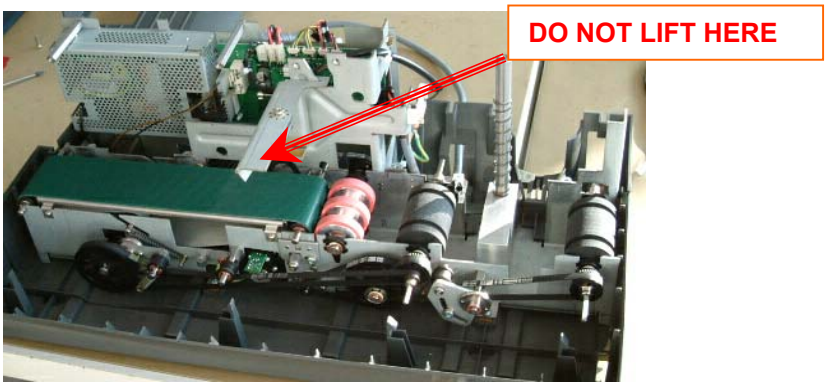


Fig.28

Now the power supply can be removed from the frame. (See Fig.29-32)

- Remove the ground screw and cut the wire tie. (Fig.29)

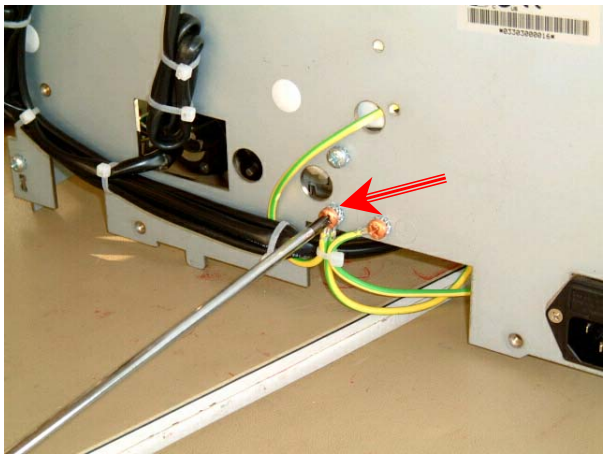


Fig.29

- Disconnect plug X11 and X10 from the main board. (Fig.30)

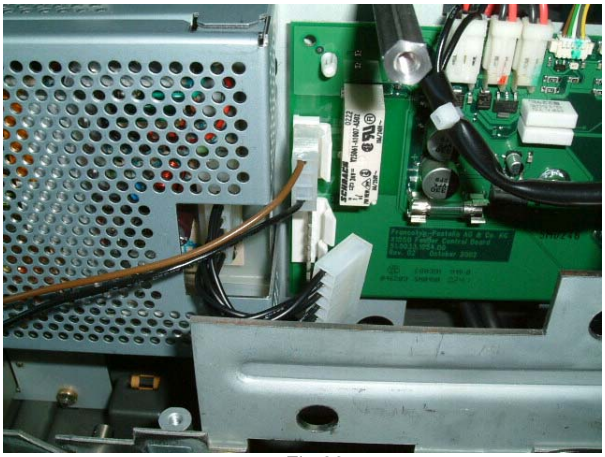


Fig.30

- On the left side disconnect the plug (Fig.31)

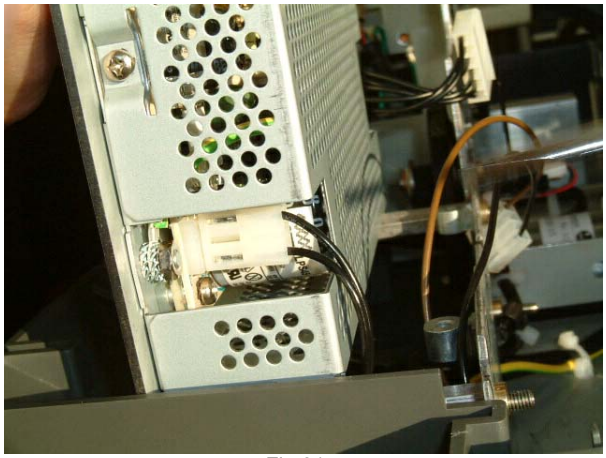


Fig.31

- Remove the 4 screws holding the power supply to the frame, by sliding it out and to the right. (Fig.32)

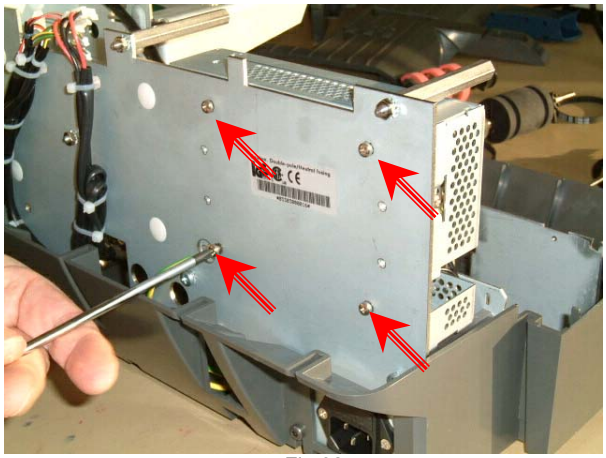


Fig.32

5.6.2 Feeder Control Board

Functions:
(X11) Activates the power supply
Controls the motors
Controls the sensors (Water sensor, Letter Present sensor, Separation sensor, and 2 Encoders)

Remove:
- First follow steps A & B
  (A) Disassembly upper letter transport
  (B) Letter Transport Table with Sealer
- Remove the interface cable (See Fig.23 and Fig.24)
- Label all connectors and disconnect them from the Feeder Control Board
- Remove the central screw holding the Feeder Control Board to the frame.
- Compress the 4 holding pins individually, and remove the Feeder Control Board. (Fig.33)

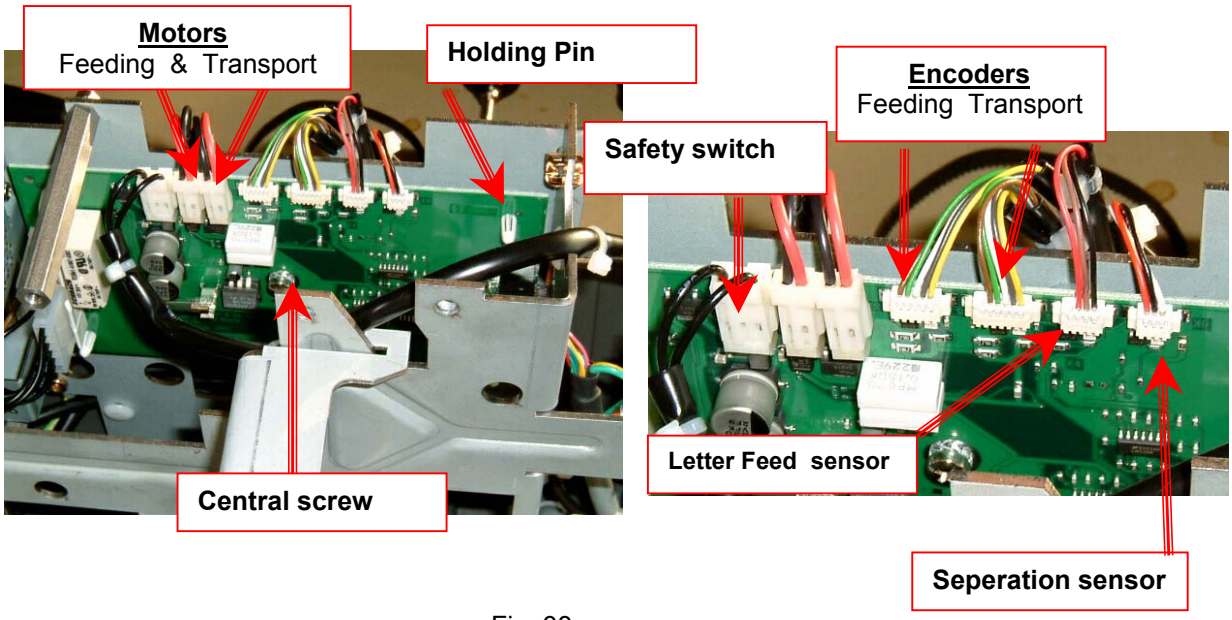


Fig. 33

5.6.3 Main Drive Assembly

Components:

- Introduction Motor
- Transport Motor
- Letter Transport Belt
- Rollers, Drive Belts, and Pulley's

5.6.3.1 Motors

There are 2 motors, Transport and Introduction.

The Transport Motor– is responsible for transporting the envelope through the feeder /sealing.
The Introduction Motor – is only responsible for the envelope separating section of the feeder.
Both motors have an encoder disk, and sensor. The only difference between the motors is the length of the cables (See Fig.34).

Attention:	To prevent any electrical interference, make sure the two cables (sensor, motor) are separated from each other. See (Fig.34)

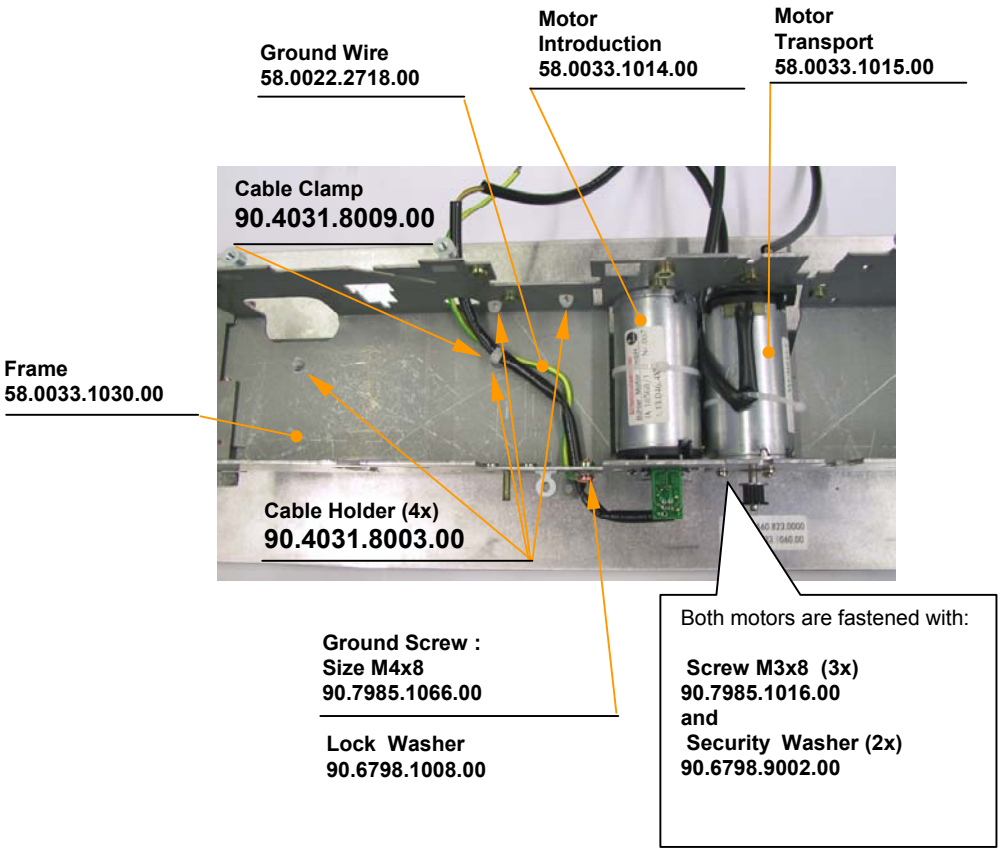


Fig. 34

Removing the Motors:

- To remove the motors first complete steps (A, B, and If Necessary C)
- Remove the drive belt from the motor (Fig.35)
- Remove the three screws holding the motor to the frame (Fig.36)

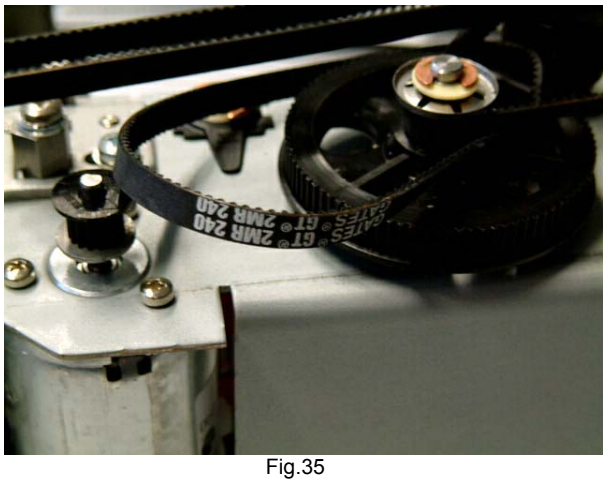


Fig.35

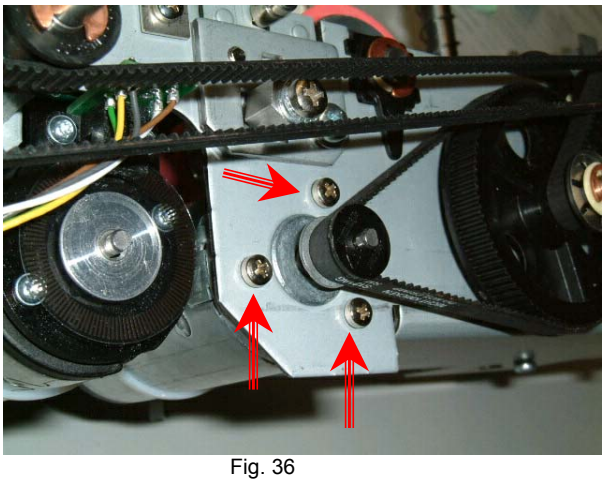


Fig. 36

- Carefully remove the motor (Fig.37)


Fig.37

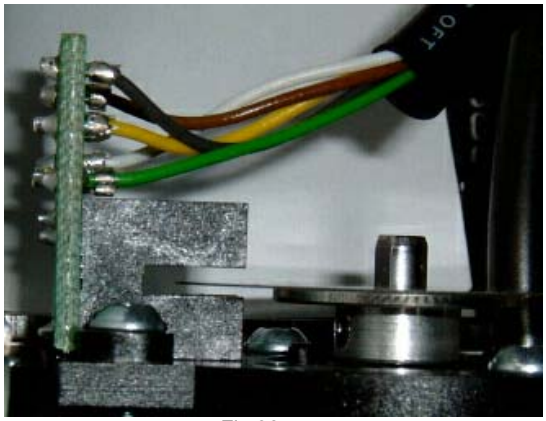


Fig.38

Attention:	Do not damage the Encoder! (Fig.38)

5.6.3.2 Drive Belt Assembly

The transport belt drives the envelope into the separating assembly.
The belt must be aligned straight otherwise the letter present sensor may become blocked. This may cause a loud noise. In either case adjust the belt tension to fix the problem.

Remove:

- Complete steps (A, B, and If Necessary C)
- Remove the spring and belt marked (2MR660)

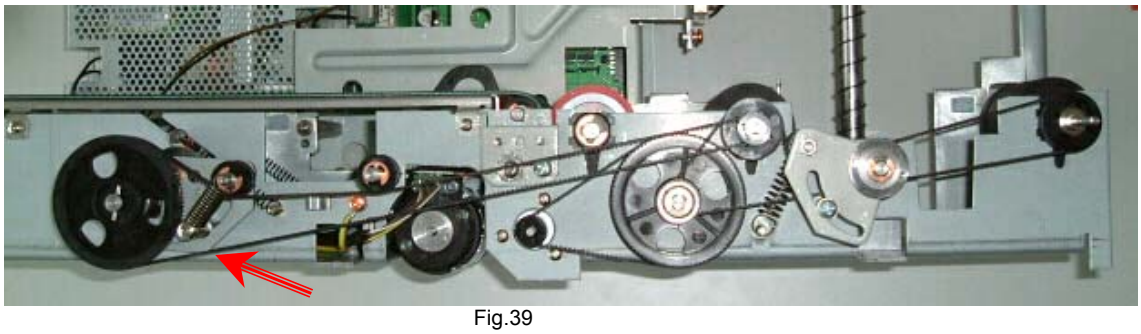


Fig.39

- Remove the Left and Right drive rollers for the Letter Transport Belt

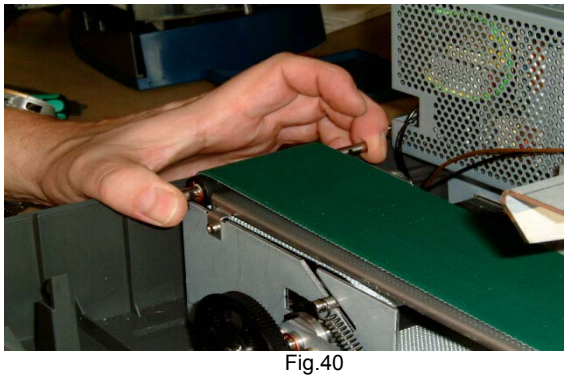


Fig.40

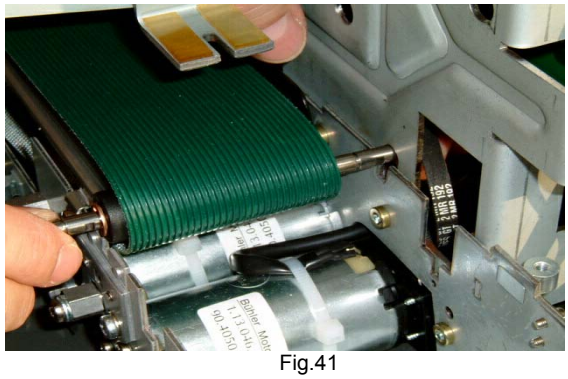


Fig.41

- Disconnect the two screw holding the guide plate, and remove the guide plate

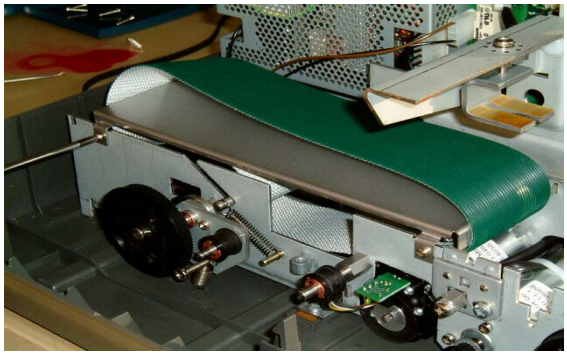


Fig.42

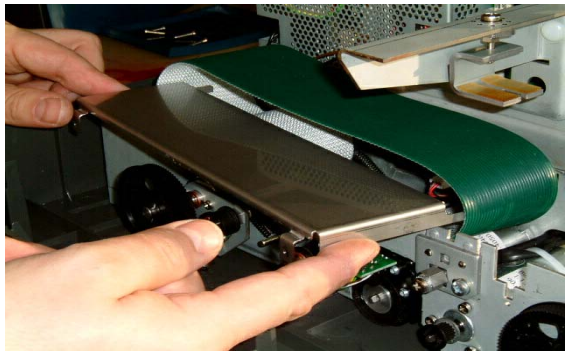


Fig.43

Attention:	Be aware there maybe 2 spacer's behind the guide plate.

- Remove the Tention Springs on either side of the Tention Roller with a spring hook.

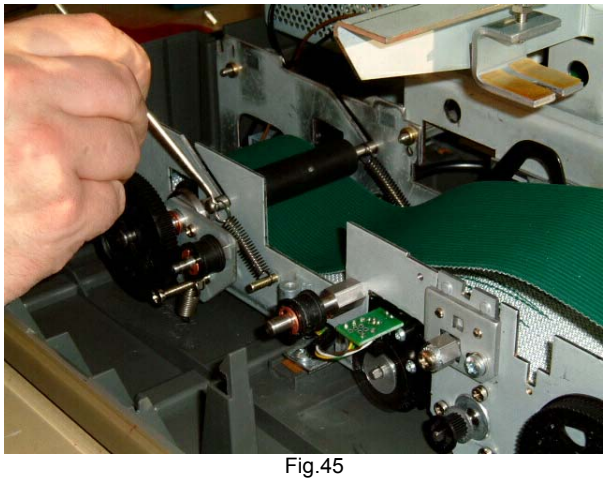


Fig.45

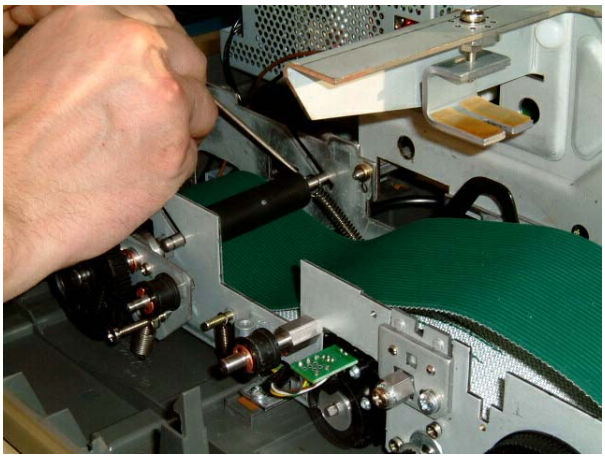


Fig.46

- With a flat head screw driver, unclip the bearings on either side of the lower transport roller.

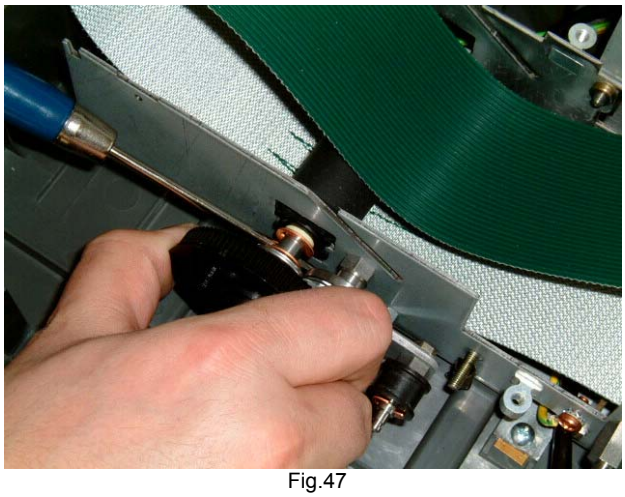


Fig.47

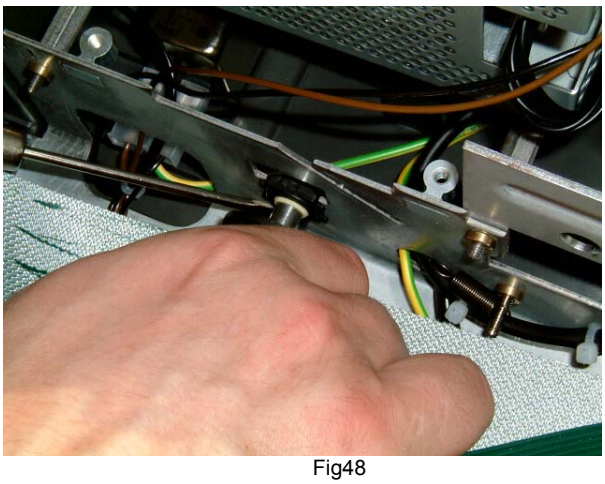


Fig48

- Remove the C-clip, and then slide the shaft off the roller.

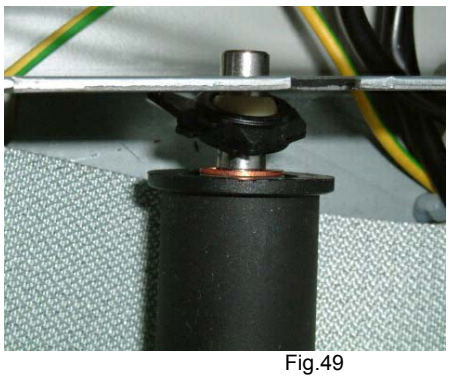


Fig.49

Lower Transport Roller


Fig.50

Attention:	Do not loose the pin and plastic washer!

Remove the Letter Transport Belt.
Now the letter Present Sensor is accessible to view and disconnect.

5.6.3.3 Sensors

5.6.3.3.1 Removing the Letter Present sensor:

- Remove the sensor plug (Fig.51)
- Unclip the sensor and arm from the metal bracket, or unscrew the 2 screws holding the metal bracket and cut the wire tire.

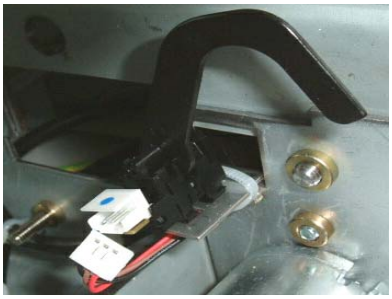


Fig.51


Fig.52

- Remove Locking screw for the bracket

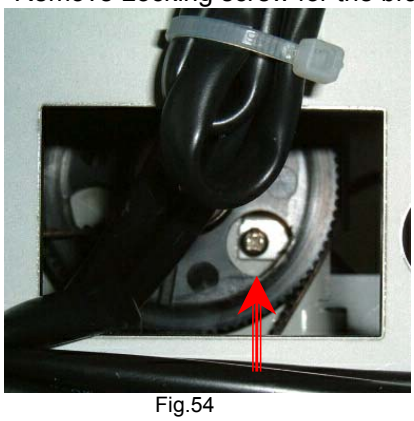


Fig.54

- Remove the bracket with Letter present sensor (as described above).


Fig.55

5.6.3.3.2 Removing the Letter Transport sensor:

- Disconnect the sensor plug
- Remove the two Philips screws holding the sensor bracket and cut wire ties. (Fig.56)
- Unclip the sensor from the holing bracket. (Fig.57)

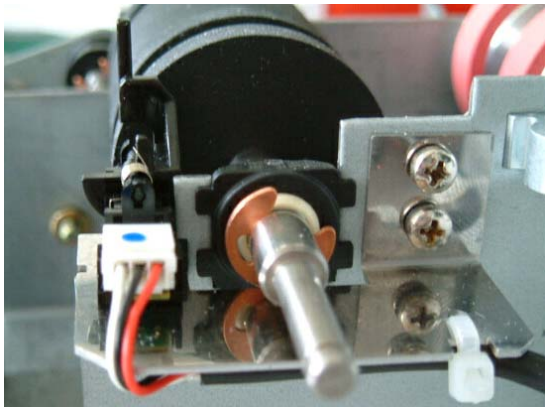


Fig.56

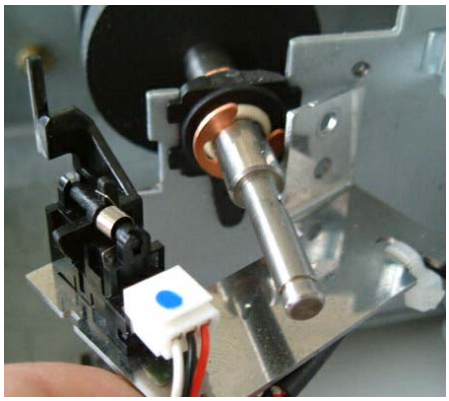


Fig.57

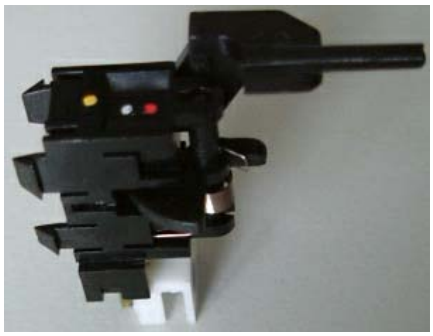


Fig.58

5.6.3.4 Introduction Roller

The Introduction roller transports the envelope into the separating assembly
The Pulley attached to the Introduction roller has a one way bearing, so that the envelopes can pass through freely, preventing stoppage.

Remove:

- Unclip both J bearings (See Fig.59 & 60)

Fig.59

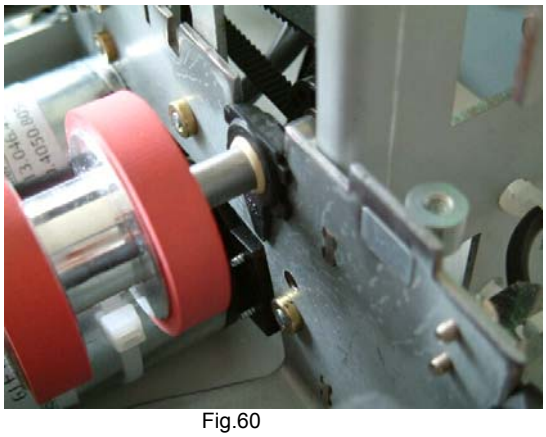


Fig.60

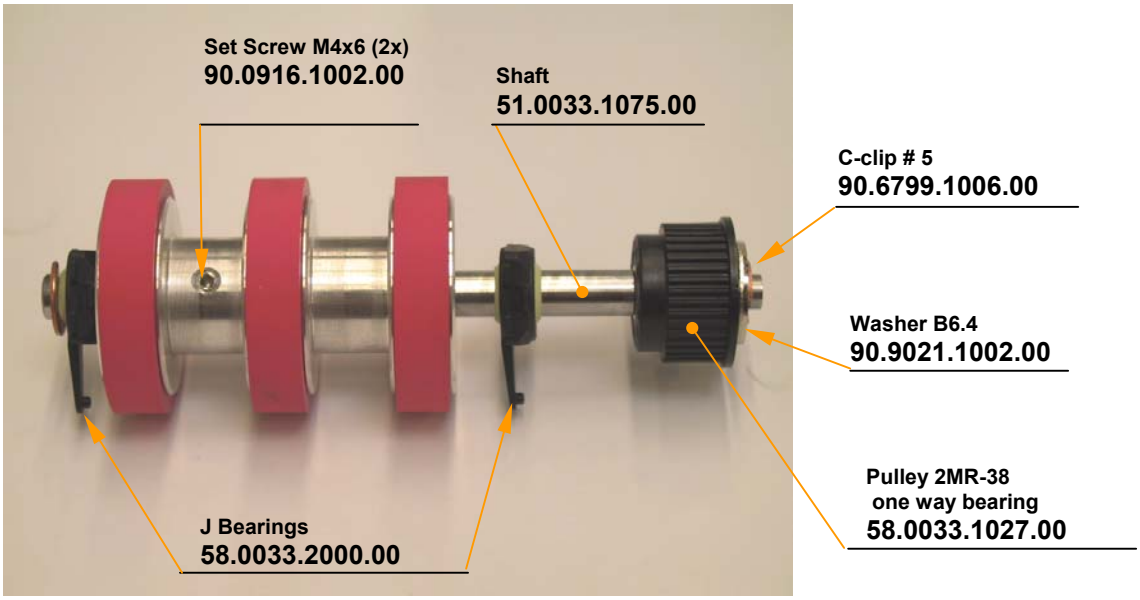


Fig.61

5.6.3.5 Input Roller and Exit Roller

Both rollers work together to transport the envelope through the feeder.
The **Input Roller** transports the letter through the separating unit, then through the moistening section.

The **Exit Roller** completes the letter transport and feeds the letter to the postage meter.

5.6.3.6 Removing the Input Roller / Exit Roller

- Remove the belt, and unclip the J bearings from the frame. (All the J bearing face the same direction except for the J bearing located next to the Letter transport sensor.) (Fig.62-64)

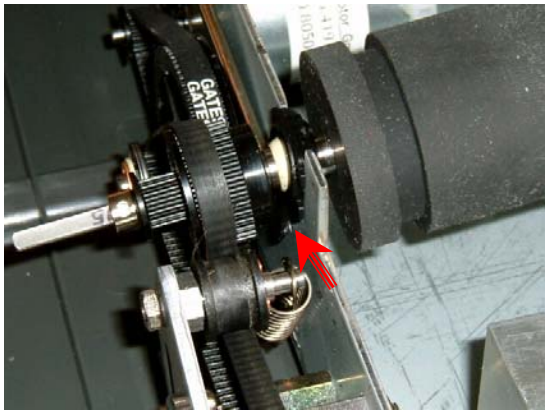


Fig.62

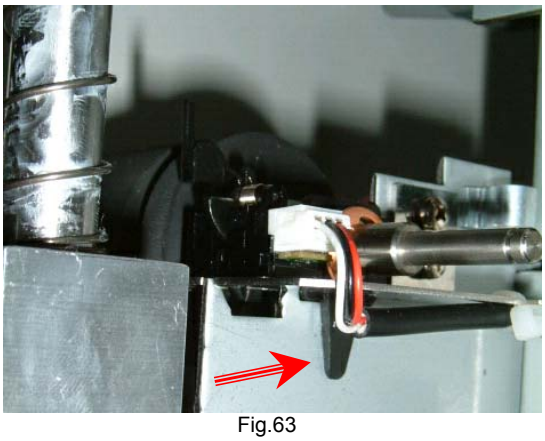


Fig.63

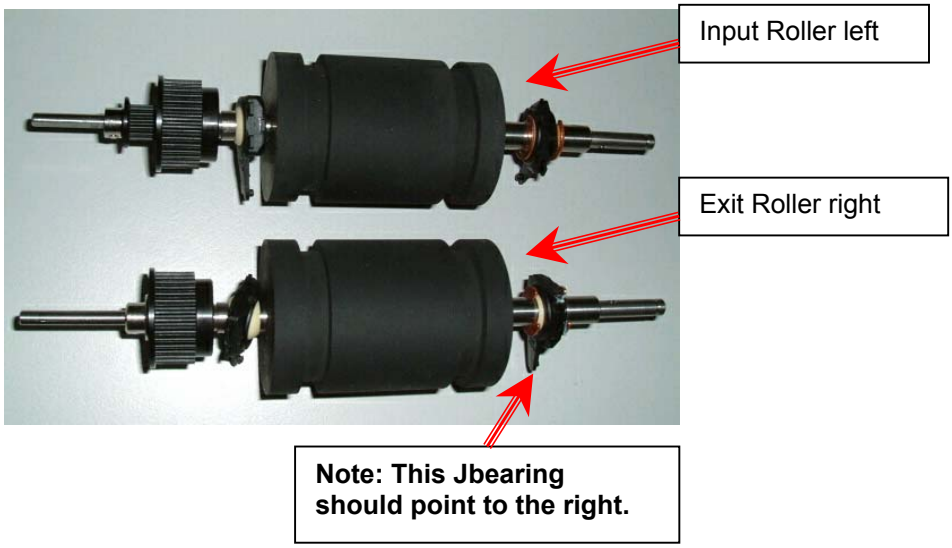


Fig.64

5.7 Functions & Adjustments

5.7.1 Separator Assembly

- From the front and the top check to make sure the separating arm is aligned in the roller box assembly, also lift upward on the arm to ensure that it moves freely.

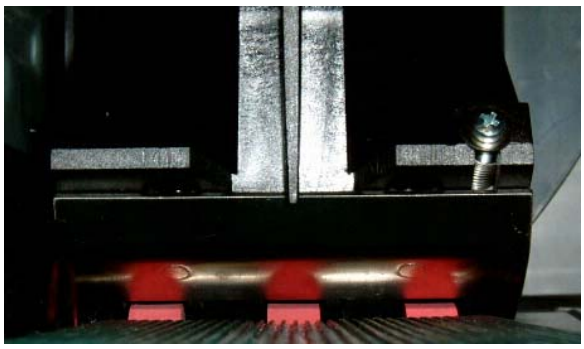


Fig.65

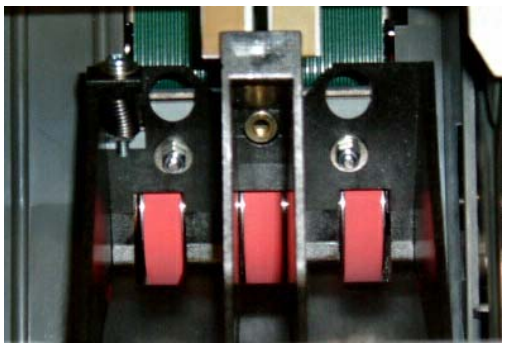


Fig.66

- There must be exactly a 1 mm gap between the tip of the separating finger and the sliver rim of the Introduction roller.

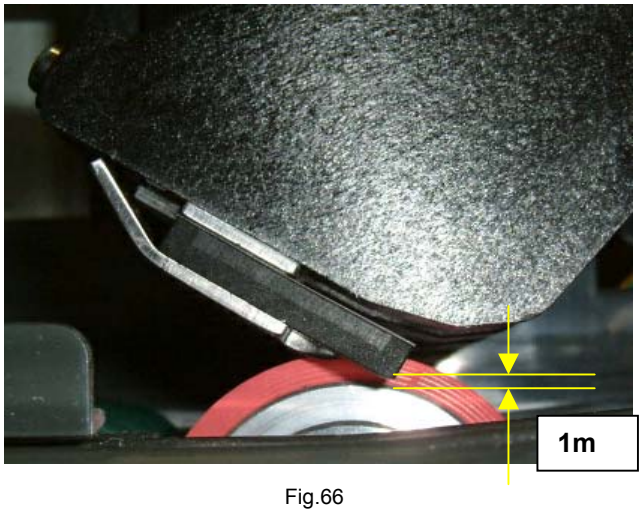


Fig.66

Note : If there is not a 1mm gap, proceed with the following adjustment.

5.7.1.1 Adjusting the Separating Arm:

- If needed use the adjusting screw to raise and lower the separating arms.

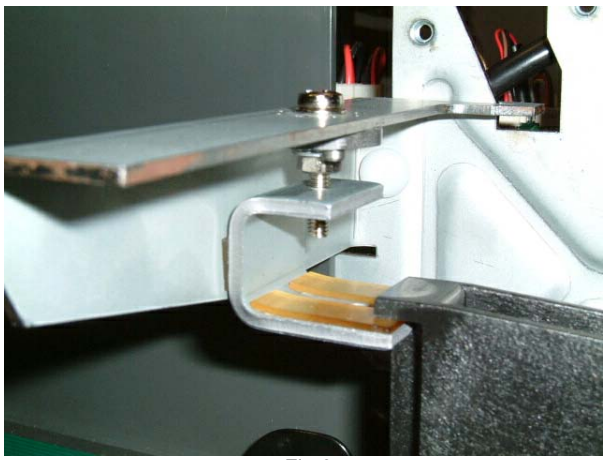


Fig.67

- Lift the arm up, to see if the tips of the fingers are mis-aligned from the Introduction Rollers.

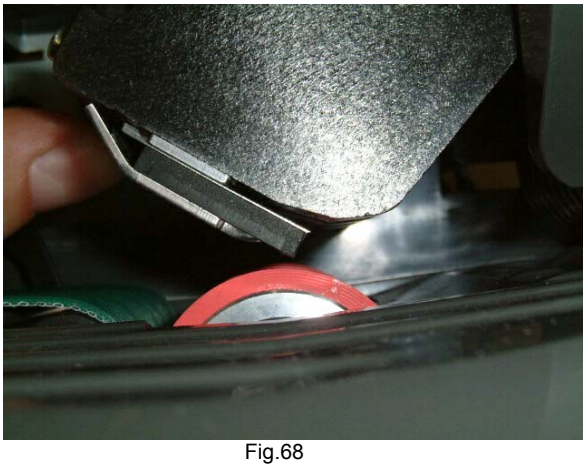


Fig.68

5.7.1.2 Adjusting the Separating Fingers:

- If needed adjust the fingers by turning the adjusting screw on the right side, before turning the screw loosen the 2 locking nuts located on the top of the arm. (Fig.69-70)

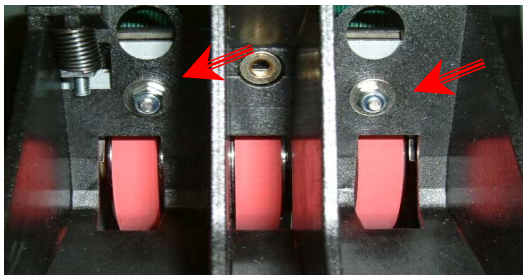


Fig.69

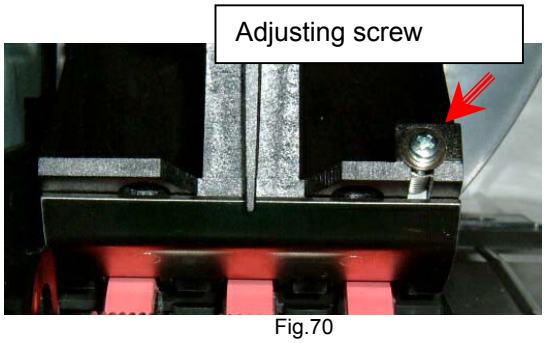


Fig.70

Attention:	If there is no torx wrench available, adjust the two locking nuts by turning them gently downward alternating between the two, until they touch the plastic spacer. Then make one half turn in the opposite direction. Do not pinch the rubber separating fingers.

- Examine from the Top, through the two openings weather the distance of the separating fingerplate is even on both sides. (Fig.71)
- Tighten the locking nuts with a 15ncm torx wrench

- Examine from the front, between both sides of the separating fingers and the Red Introduction rollers the gap should be even.
- If the gap is uneven loosen the setscrew and slide the Introduction Roller to the left or right then tighten the sets crew. (Fig.72)

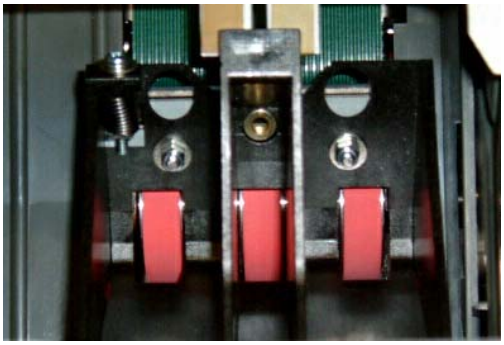


Fig.71

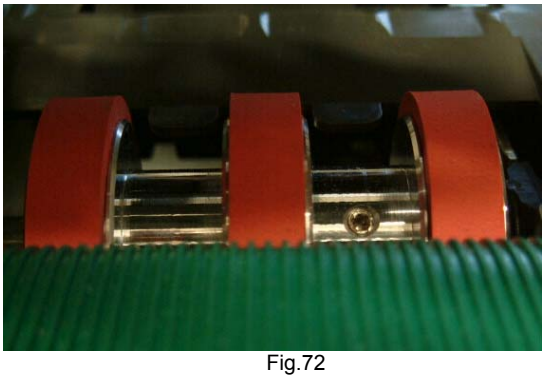


Fig.72

Overview: Installing the pulleys, belts and belt tension adjusters left and right

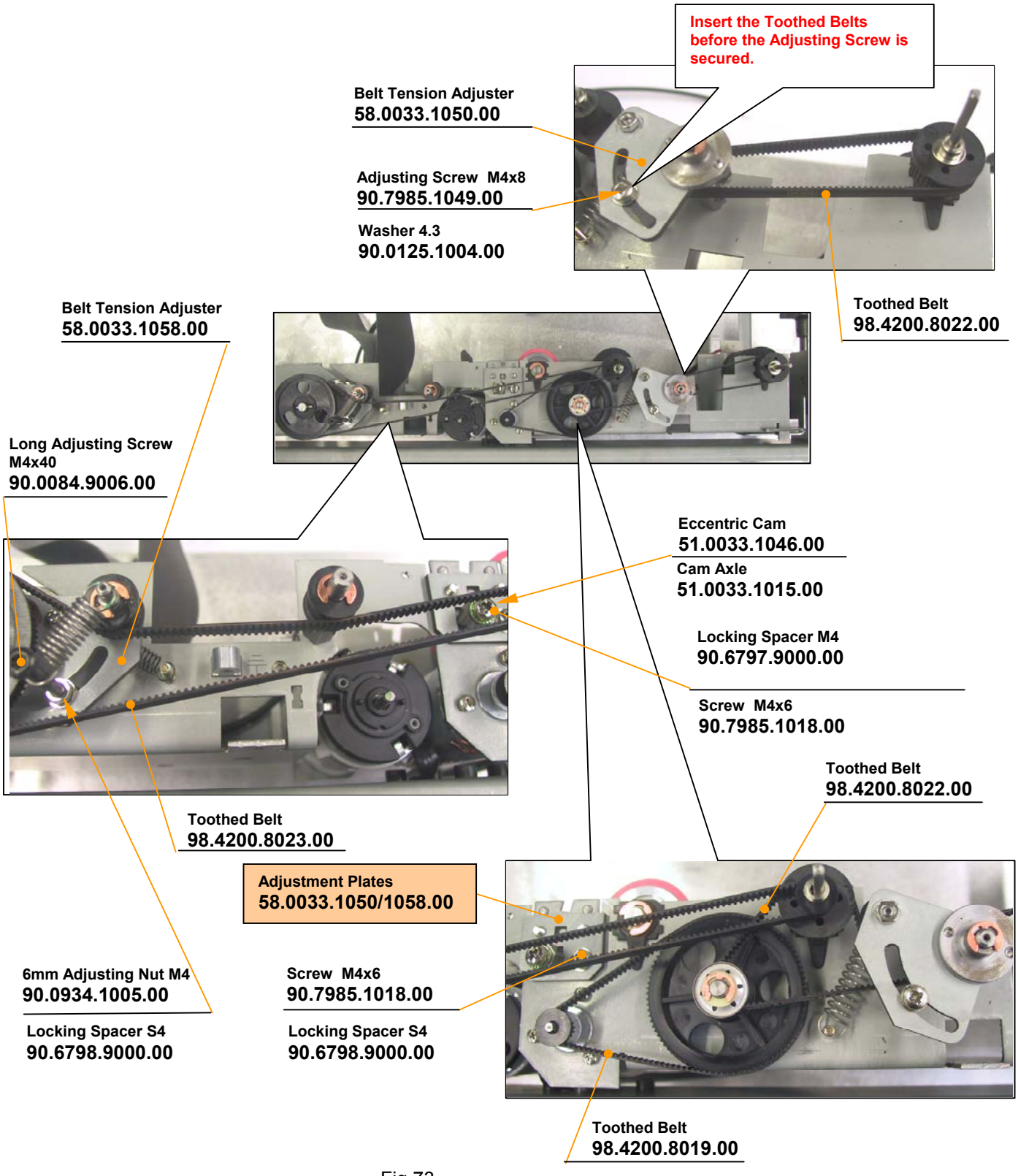


Fig.73