

THERMOCODE SERIES 2

OPERATOR INSTRUCTIONS
PARTS LISTING
CIRCUIT DIAGRAMS
INSTALLATION DETAILS

These instructions cover the following models:-

Thermocode 53S

Thermocode 53M

Thermocode 53L

Thermocode 107S

Thermocode 107M

Thermocode 107L

Designed and manufactured by:-

**OPEN DATE EQUIPMENT LIMITED
Unit's 8 & 9
Denvale Trade Park
Morden Road
Mitcham
Surrey CR4 4DG
ENGLAND**

TEL:- 0208 655 4999

FAX:- 0208 655 4990

Web Site:- www.opendate.co.uk

E'mail:- sales@opendate.co.uk

<u>Index Description</u>	<u>Page No.</u>
Declaration of Conformity.	3
Safety Instructions.	4
Introduction.	5
System Overview.	5
Optional Extras.	5
Printer Technical Information.	5
Installation Procedure	6
Thermocode Controlling Relays.	6 - 7
Standard Warranty Terms and conditions.	8
Printer dimensions (53)	9
Printer dimensions (107)	10
Thermal Ribbon Specifications.	11
Threading Diagrams (53S & 107S)	12
Threading Diagrams (53M, 53L, 107M, 107L)	13
System start up sequence	14 - 15
Mini-Terminal Key Mapping.	16
Software flow charts.	17 - 23
Quick selection reference sheets.	24 - 29
Power Supply (dimensional details)	30
Power Supply (top cover removed)	31
Power Supply (I/O Board connections)	32
Power Supply (LED details)	33
Power Supply (fuse details etc.)	34
Airborne Noise Emissions.	35
Fault Finding.	36 - 39
Ribbon not Indexing Enough, Ribbon Indexing Excessive.	36
Ribbon Breaking or Perforated, Ribbon Tracking.	36
Print Quality problems	37
Thermocode Diagnostics Sheet 1.	38
Thermocode Diagnostics Notes.	39
Open Date Group companies Addresses	40
Agents Names & Addresses.	41
Print Speed & Automatic Burn compensation	42
Maximum cycles Charts.	43
Print Time Chart.	43
Computer connection leads.	44

EC DECLARATION OF CONFORMITY

We hereby declare that the following machinery complies with the essential health and safety requirements of the Machinery Directive 89/392/EEC, 91/368/EEC and 93/44/EEC enacted in the United Kingdom by the Supply of Machinery (Safety) Regulations 1992.

Machine Description: **Thermal Transfer Printer.**

Model:.....

Type: **Thermocode Series 2**

Serial Number:.....

Manufactured by:

Open Date Equipment Limited.

Units 8 & 9

Denvale Trade Park,

Morden Road,

Mitcham,

Surrey. CR4 4DG

England

Telephone:- 0208 655 4999

This machinery has been and manufactured in accordance with the following transposed harmonised European standards.

EN292: parts 1 and 2, 1991. Safety of Machinery - Basic concepts, general principles of design.

EN294: 1992. Safety of Machinery - Safety distances to prevent danger zones being reached by the upper limbs.

EN60204: part 1, 1993. Safety of Machinery - Electrical equipment of machines - Specification for general requirements.

EN50081: part 2, 1993. Electromagnetic compatibility - Generic emission standard.

EN50082: part 2, 1995. Electromagnetic compatibility - Generic immunity standard.

EN61000: part 3 - 2, 1995. Harmonic Emissions.

EN61000: part 3 - 3, 1995. Voltage Flicker.

FCC Part 15, Conducted & Radiated Emissions, Class A.

In addition, this machinery has been designed and manufactured in accordance with British Standard **BS5304:** 1988, Safety of Machinery.

A technical construction file for this machinery is retained at the above address.

Signed:.....Date:

Name: **K.F. Wingfield.**

Position: **General Manager**

Being the responsible person appointed by Open Date Equipment Limited.

This Declaration of Conformity complies with Regulation 22 of The Supply of Machinery (Safety) Regulations 1992.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Follow all warnings and instructions marked on the product.
2. Always disconnect the Printer and Power Supply from the mains electrical supply before attempting to clean or service the product.
3. Never operate the Printer, unless it is installed within the mounting frame supplied. When installed correctly, the gap between the printer and print base should be nominally 3mm.
4. Do not use the product near water. Never spill liquid of any kind on to the product.
5. Do not place this product on an unstable stand, table or machine. It may fall causing serious injury to the operator or damage to the product.
6. Never insert objects of any kind into this product through any openings or gaps as they may touch dangerous voltage points or short circuit parts that could result in fire or electric shock.
7. This product should only be connected to the type of electrical supply as indicated on the label located on the rear of the Printer Power Supply.
8. Ensure that the Printer connection cable is fully secured to the printer and power supply, with the screws supplied. Failure to do this will result in the machine not being properly earthed.
9. Use only the power cable supplied with the product. The cable supplied is three core, utilising one wire as a grounding conductor. This must be connected to a suitable earth point at the electrical supply. This is a safety feature. If any doubt arises in trying to connect the power cable, please contact the manufacturer or the agent who supplied the product.
10. Do not allow anything to rest on the power cable. Do not locate the product where people could walk on the cable.
11. If an extension cable is used with this product, make sure that the total ampere ratings of the equipment plugged into the extension cable does not exceed the extension cable ampere rating. Also make sure that the total rating does not exceed the fuse rating.
12. Do not service this product yourself as opening or removing guards may expose you to dangerous voltages, major burns and other risks. Refer all servicing to qualified personnel.
13. Do not attempt to use to use this product in areas where explosive gases or substances are present.
14. Under the following conditions always disconnect the electrical supply and refer to a qualified service engineer.
 - a. If the power cable is damaged or frayed.
 - b. If the printer connection cables are damaged in any way.
 - c. If liquid has been spilled into the product has been exposed to water.
 - d. If the product does not operate normally when the operating instructions are followed.
15. Adjust only those controls covered by these instructions. Improper adjustment could result in permanent damage, requiring qualified technicians to restore the product to normal operating conditions.

INTRODUCTION

This operator manual describes how to operate and maintain a **Thermocode Series 2** printer on a basic level. The mechanical adjustments that can be made to the printer are minimal. The only adjustments normally carried out is to level the Printer approximately in all directions, and set the required clearance from the printer to the print base rubber within the frame. The printer has been designed to operate automatically on its own software, and then be programmed by the operator using the mini-terminal display or a standalone computer.

SYSTEM OVERVIEW

The following components are supplied ready for installation.

- A. 1 off Thermocode Series 2 Printer, complete with Cassette. (See REF 767010 & 767011)
- B. 1 off Power Supply Unit. (See REF 767014)
- C. 1 off Power Supply Interconnection Lead - 1.5 metres long.
- D. 1 off Roll of Thermal Transfer Ribbon, to suit Printer Model ordered. (Wax Resin quality)
- E. 1 off Operator Manual.
- F. 1 off Printhead Cleaning Kit. (Spray can of Isopropanol and pack of Safewipes)
- G. 1 off Windows based Software. (Open Dates Codesoft Premier package)

OPTIONAL EXTRAS

- H. Standard or custom designed Mounting Frame. (Standard Frames see REF 767015-019)
- J. Termode printer management Software.
- K. Netmode, networking management Software.

PRINTER TECHNICAL INFORMATION

- A. Maximum print area. (See REF 767010 & 767011)
- B. Printhead resolution - 12 dots/mm or 300 dots per inch.
- C. 3.5 Megabytes memory for storing Fonts, graphics and custom designed formats.
- D. Single direction printing.
- E. Print designs are stored along with all parameters, allowing quick access for printing.
- F. Automatic updating of printer memory when editing formats.
- G. 110 or 220/240 volt operation, 50/60hz.
- H. Real Time/Date printing with specified offsets if required.
- J. Sequential numbering and Barcode printing.
- K. All text, graphics, lines and boxes can be printed in all four orientations. (0, 90, 180, 270 degrees)

PRINT BASE RUBBER SPECIFICATION

Hardness:- "40 - 50 Shore A" Silicone Rubber. (colour mid blue)

Thickness:- 4.75mm Silicone Rubber bonded to 4.75mm thick Aluminium sheet.

Flatness:- Supplied with ground surface finish, -0.03mm to +0.03mmas Printhead heater specification.

INSTALLATION PROCEDURES

1. Install the **Thermocode Series 2** printer in the Mounting Frame, ensuring that the orientation for the application and clearance between the printer and print base rubber is correct.
2. Connect the Printer and Power Supply using the interconnection lead supplied. The lead has been specifically designed, so it cannot be fitted incorrectly. Please ensure that the plugs and sockets are inserted fully before tightening the fixing screws.
3. Each installation must have an automatic Print signal from the parent machine, this is normally a relay (voltage free) or 24 Volt pulsed output signal.

Please see the following pages:-

Page 31 for Power Supply plan view (with top cover removed)

Page 32 for Print signal connections.

Page 32 for Relay connections.

NOTE ! The print signal can be delayed upon installation if required. Within the Supervisor menu on the Mini-terminal display, there is a "Delay Menu" which allows the operator to change the print signal delay time. (range 0 to 999 milliseconds)

Thermocode Series 2 Controlling Relays

Within the **Thermocode Series 2** Power supply are three relays, which can provide controlling signals to the parent machine. Each relay has three connections, **Normally Open**, **Normally Closed**, and **Common**. The relays have a maximum rating of 240 Volt, 7 amp. Through the Mini-Terminal software the installation engineer can configure each of the relays as required.

Relay 3 (2 options)

Option 1 (Fault Only)

The relay operates when the printer's internal sensors detect a fault or error condition. Typical examples of this are when the Cassette is removed or if the Thermal Ribbon is broken.

Option 2 (Fault & Ready) default software setting

The relay operates as option 1, but will also operate when print images are being generated etc.

The relay should be connected to inhibit the parent machine should any printer fault occur.

Relay 2 (3 options)

Option 1 (Low Foil) default software setting

The relay operates when the amount of Thermal Ribbon left in metres reaches a pre-programmed amount, and is visually indicated to the operator "Low Foil" on the status line of the Mini-Terminal Display.

Option 2 (Ready)

The relay operates when print images are being generated etc.
(when the printer is off line)

Option 3 (Start Machine)

The relay operates after each print cycle giving a trigger/inhibit signal to the parent machine after printing or when the cassette is removed.

Relay 1 (3 options)

Option 1 (Sequence) default software setting

The relay operates after each print cycle giving a trigger/inhibit signal to the parent machine after printing.

Option 2 (Ready)

The relay operates when print images are being generated etc.
(when the printer is off line)

Option 3 (Stop Machine)

The relay operates after each print cycle giving a trigger/inhibit signal to the parent machine after printing or when the cassette is removed.

Installation Notes

If a Printer is to be fitted with a special length interconnection cable (3 or 5 Metres), please ensure that the 5 volt DC supply at the Printer is adjusted correctly. Otherwise the Printer may not function correctly. See separate sheet at rear of this manual.

Standard Warranty Terms and Conditions – Thermocode Series 2 Printers

Open Date Thermal Transfer Printers carry a twelve (12) month return to base (at our discretion) Warranty, with the exception of the following parts:-

1. Thermal Printhead.
2. Print Base Rubber.
3. Cassette Drive and Brake belts.

Printhead Warranty

The Printhead carries a fifty (50) kilometre or six (6) months (whichever is the sooner) warranty providing that the full width thermal transfer ribbon supplied by Open Date is used. Should the Printhead fail during this period, the replacement Printhead will carry the balance of the existing warranty.

Please refer to the ribbon specifications sheet on the following page, select your printer model and check the correct width of thermal transfer ribbon is being used.

The Printhead warranty will not be valid if:-

1. Mechanical damage is apparent from abuse.
2. Excessive wear on edges of Printhead through using narrow ribbon.
3. The Spy Chip Board has been removed or damaged in any way.
4. Cleaning procedures have not been followed.
5. Installation and maintenance procedures are not correct.
6. If the machine is printing on Thermal Print Base not of Open Date Supply.

The Print Base carries no warranty, as it is considered to be a consumable item.

We reserve the right to charge for components replaced during the warranty period which subsequently Are found to be damaged due to any of the above conditions not being followed.

Printhead Spy Chip

Contained within the Printhead assembly, is a small microchip this is programmed when the head is first assembled and tested to retain the following information:-

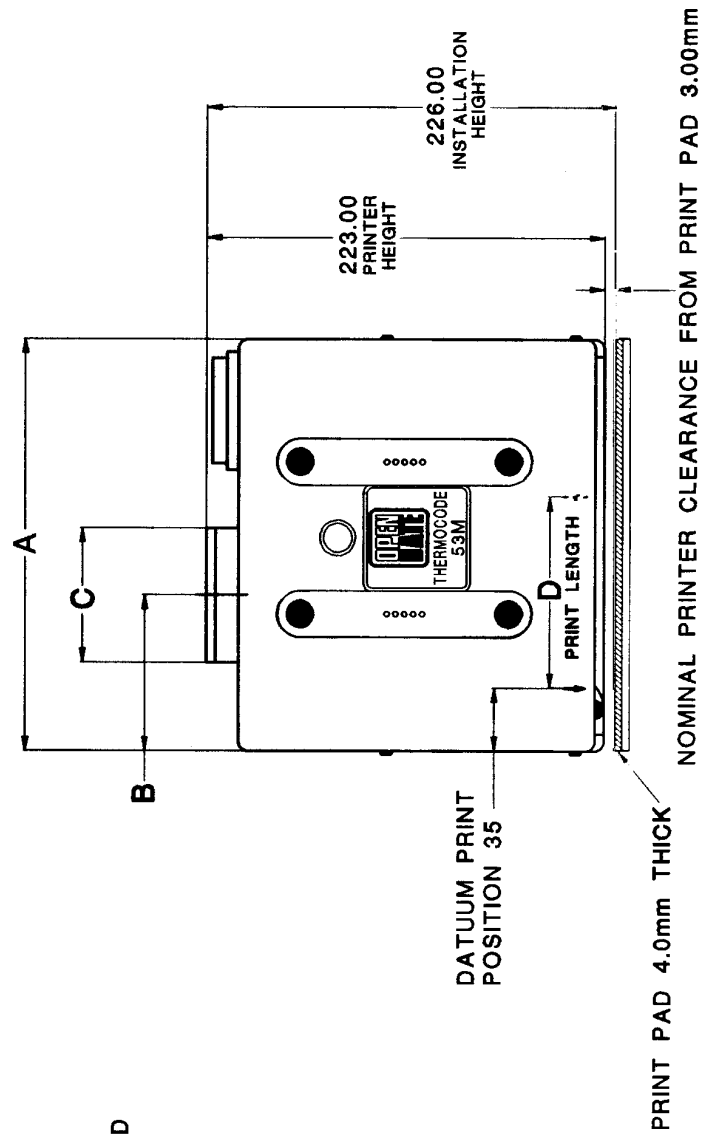
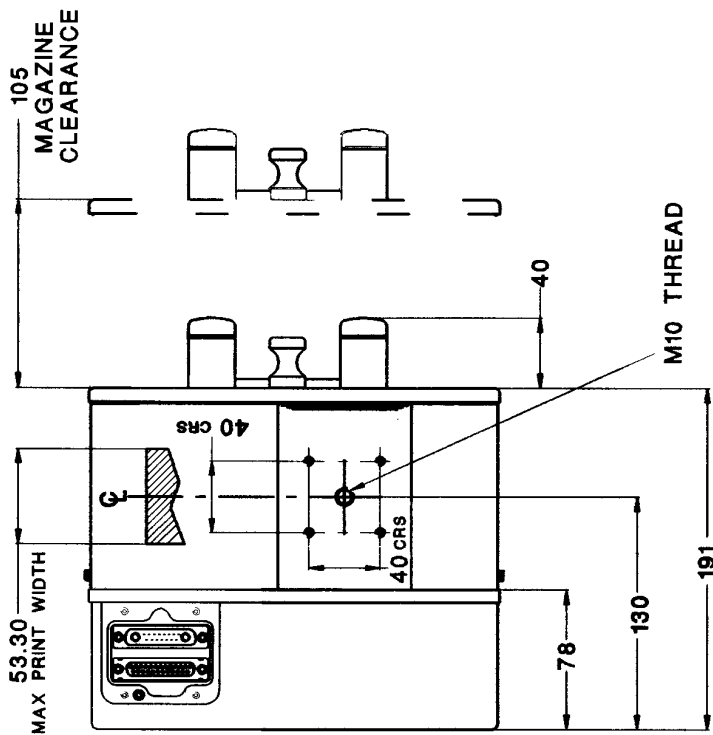
1. Printhead Resistance value. (ohms)
2. Printhead Width. (Dots)
3. Printhead Serial Number.
4. Printhead data lines
5. Programmed Factory Date.
6. Printhead Angle.

During start up of the Printer, the Spy Chip is accessed by the software to determine the width of Printhead and automatically adjusts the resistance value to compensate for the correct print burn calculations. Whilst printing the Spy chip is written to, allowing automatic recording of the print distance achieved during the life of the Printhead.

All the Printhead setting may be viewed at any time, by accessing the Service menu on the Mini-Terminal Display.

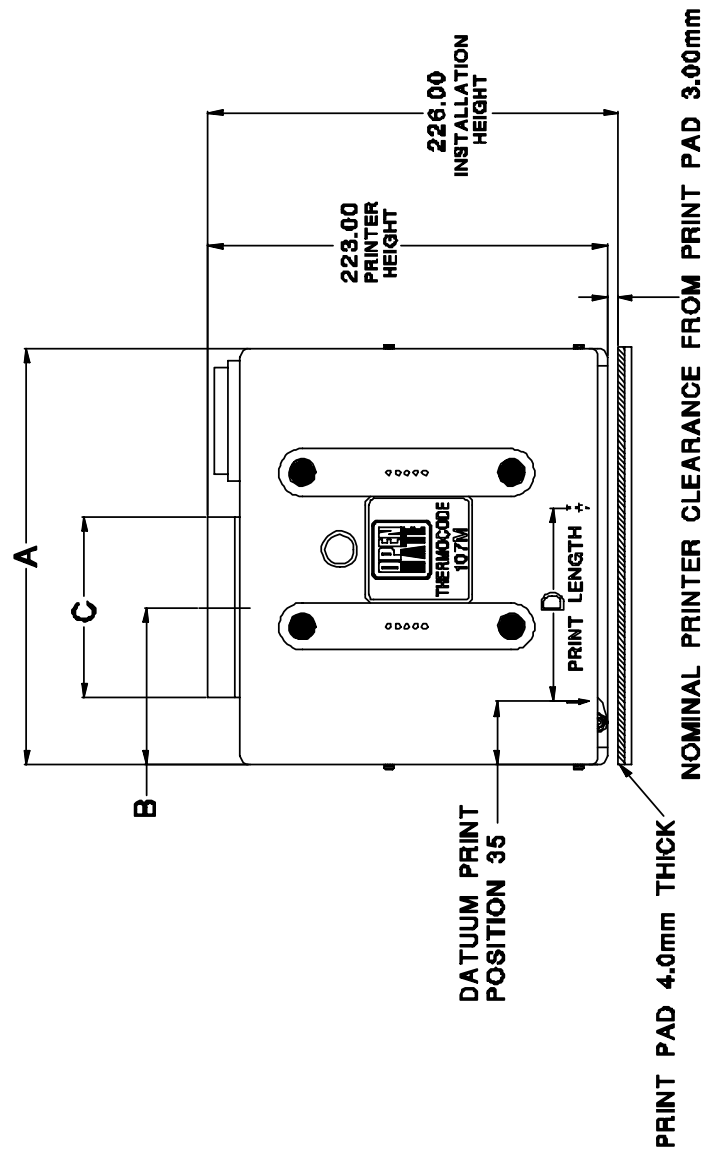
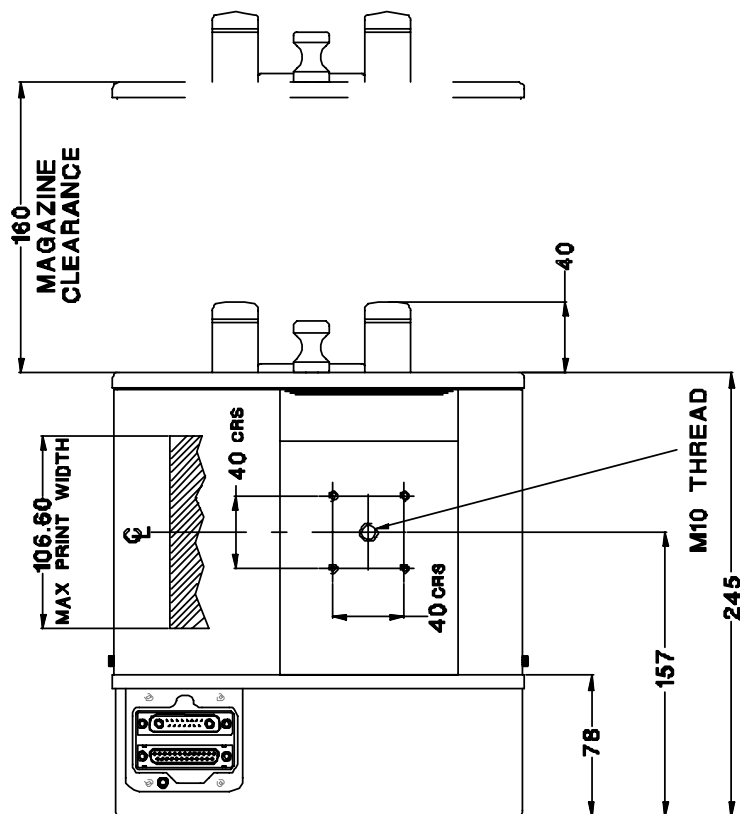
THERMOCODE SERIES 2 (53 Printer Dimensions)

MODEL	DIMENSIONS			
	A	B	C	D
53S	180	60	75	53.30
53M	230	87	75	106.60
53L	290	115	75	160.00



THERMOCODE SERIES 2 (107 Printer Dimensions)

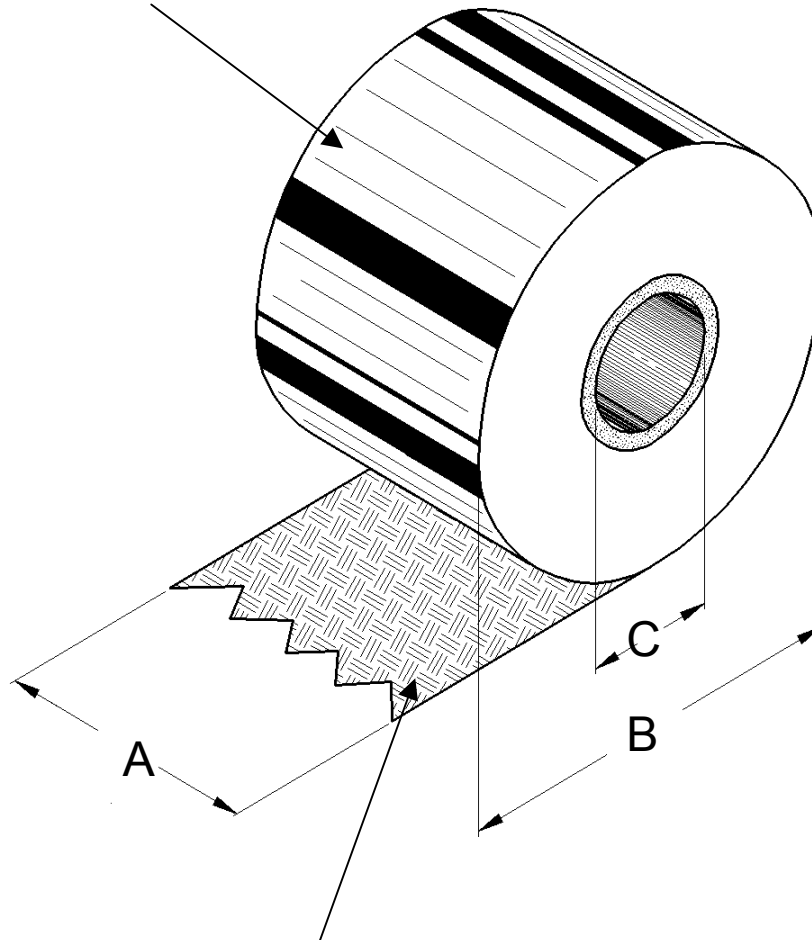
MODEL	DIMENSIONS			
	A	B	C	D
107S	180	60	75	53.30
107M	230	87	100	106.60
107L	290	115	100	160.00



THERMOCODE SERIES 2 RIBBON SPECIFICATIONS

Printer	A (width)	B (max)	C	Core
53S	55	65	25.4	Cardboard
53M	55	80	25.4	Cardboard
53L	55	80	25.4	Cardboard
107S	110	65	25.4	Cardboard
107M	110	80	25.4	Cardboard
107L	110	80	25.4	Cardboard

Silicone Coating Outside



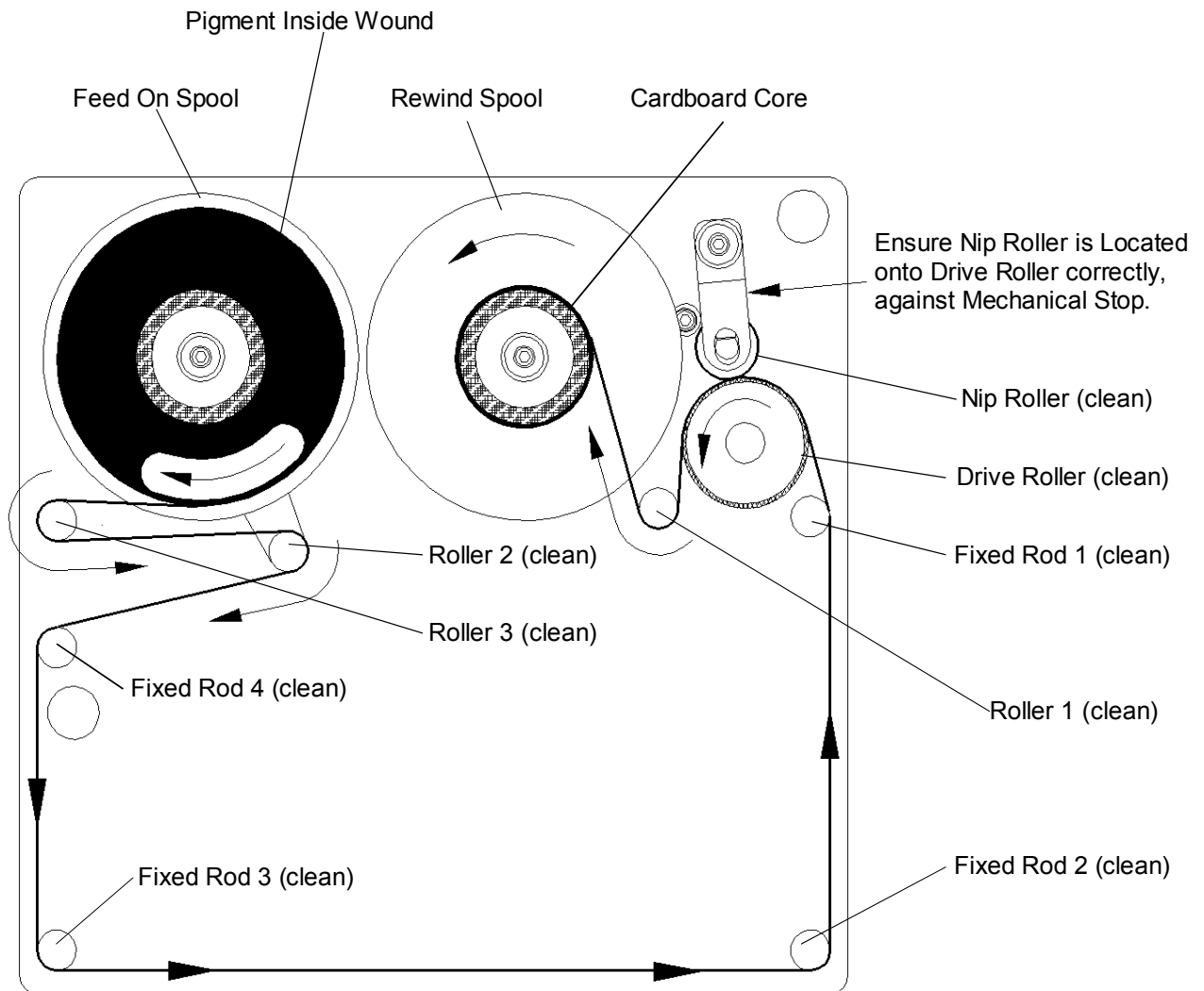
Wax/Resin Pigment Inside Wound

No leaders or Trailers required on Foil.

Open Date Equipment stocks several grades, sizes and colours of Thermal Transfer Ribbon, please call our Sales office for further details specifying the model of Printer that you have. All Ribbons are available on a next day delivery if required.

THERMOCODE SERIES 2 THREADING DIAGRAM (models 53S & 107S)

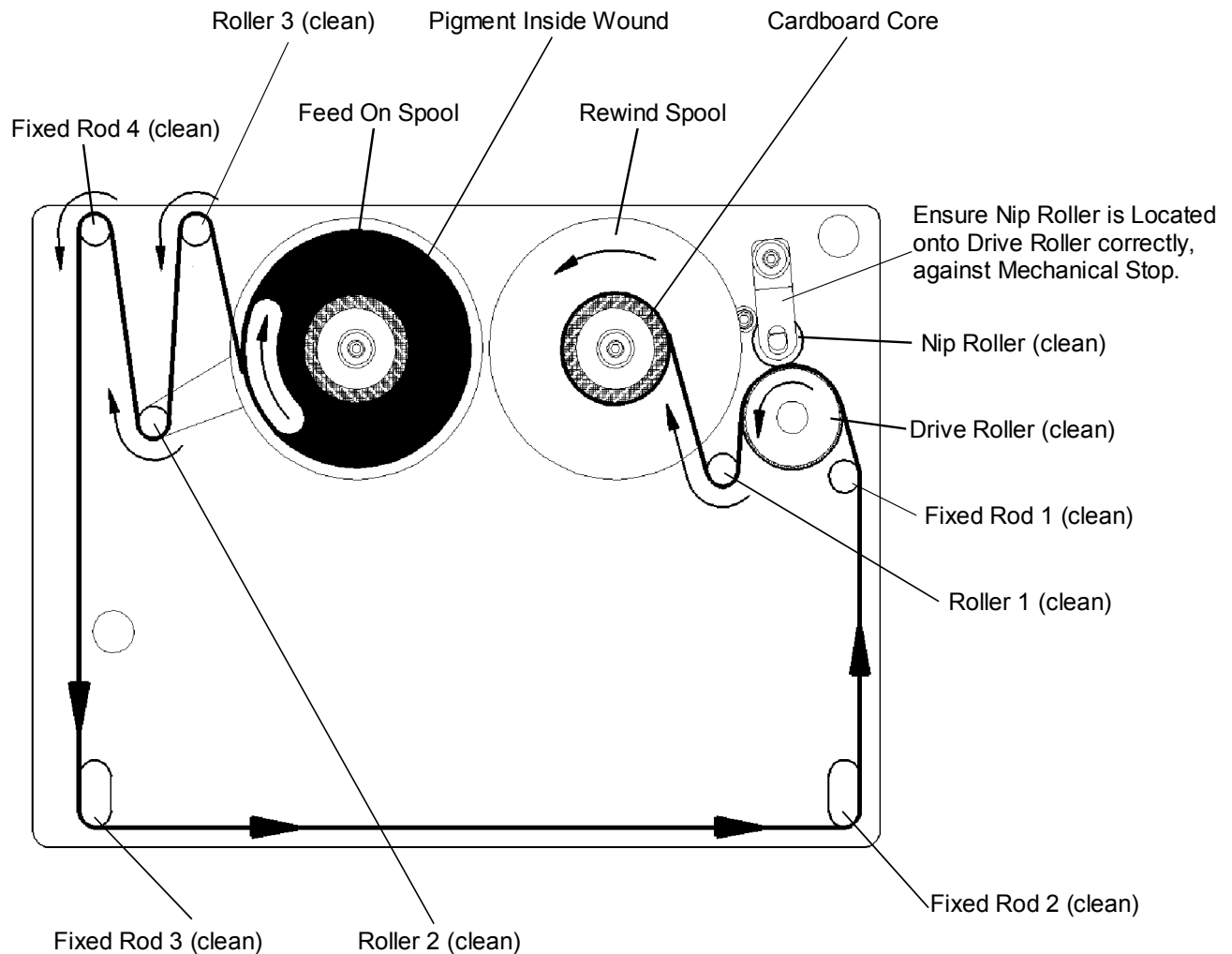
FITTING A NEW RIBBON



1. Remove used ribbon & cardboard core from the rewind spool and dispose off correctly.
2. Remove the empty cardboard core from the feed-on spool and refit to the rewind spool.
3. Clean all the following Rollers & Rods to remove any residue that has built up. (Use Isopropanol)
 - Nip Roller (1 off)
 - Drive Rubber Roller (1 off)
 - Fixed Rods (4 off)
 - Rollers (3 off).
4. Fit new reel of Foil, ensuring that the direction of take off is correct.
5. Thread up foil as diagram above, and fix to empty cardboard core on rewind spool with selotape.
6. Engage Nip Roller to Drive roller assembly.
7. Wind on a few turns of the drive roller to ensure the foil is tracking and tensioned correctly.

THERMOCODE SERIES 2 THREADING DIAGRAM (models 53M, 53L, 107M, 107L)

FITTING A NEW RIBBON

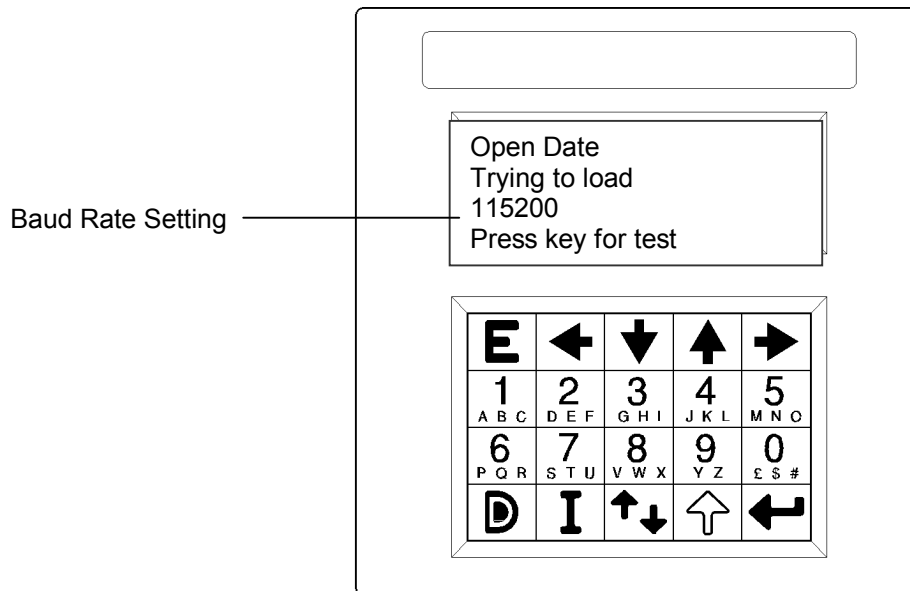


1. Remove used ribbon & cardboard core from the rewind spool and dispose off correctly.
2. Remove the empty cardboard core from the feed-on spool and refit to the rewind spool.
3. Clean all the following Rollers & Rods to remove any residue that has built up. (Use Isopropanol)
 - Nip Roller (1 off)
 - Drive Rubber Roller (1 off)
 - Fixed Rods (4 off)
 - Rollers (3 off).
4. Fit new reel of Foil, ensuring that the direction of take off is correct.
5. Thread up foil as diagram above, and fix to empty cardboard core on rewind spool with selotape.
6. Engage Nip Roller to Drive roller assembly.
7. Wind on a few turns of the drive roller to ensure the foil is tracking and tensioned correctly.

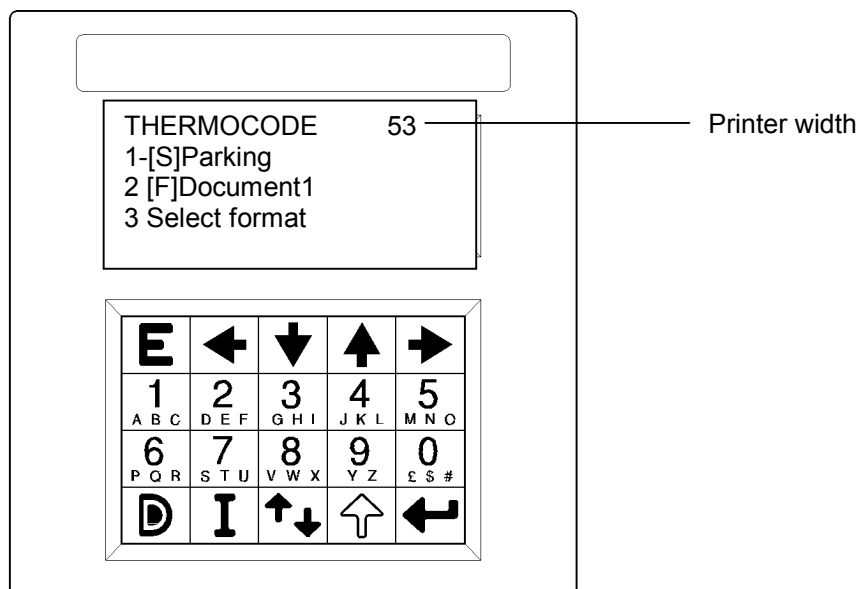
SYSTEM START-UP SEQUENCE

When the printer is first switched on, a specified sequence of events takes place:-

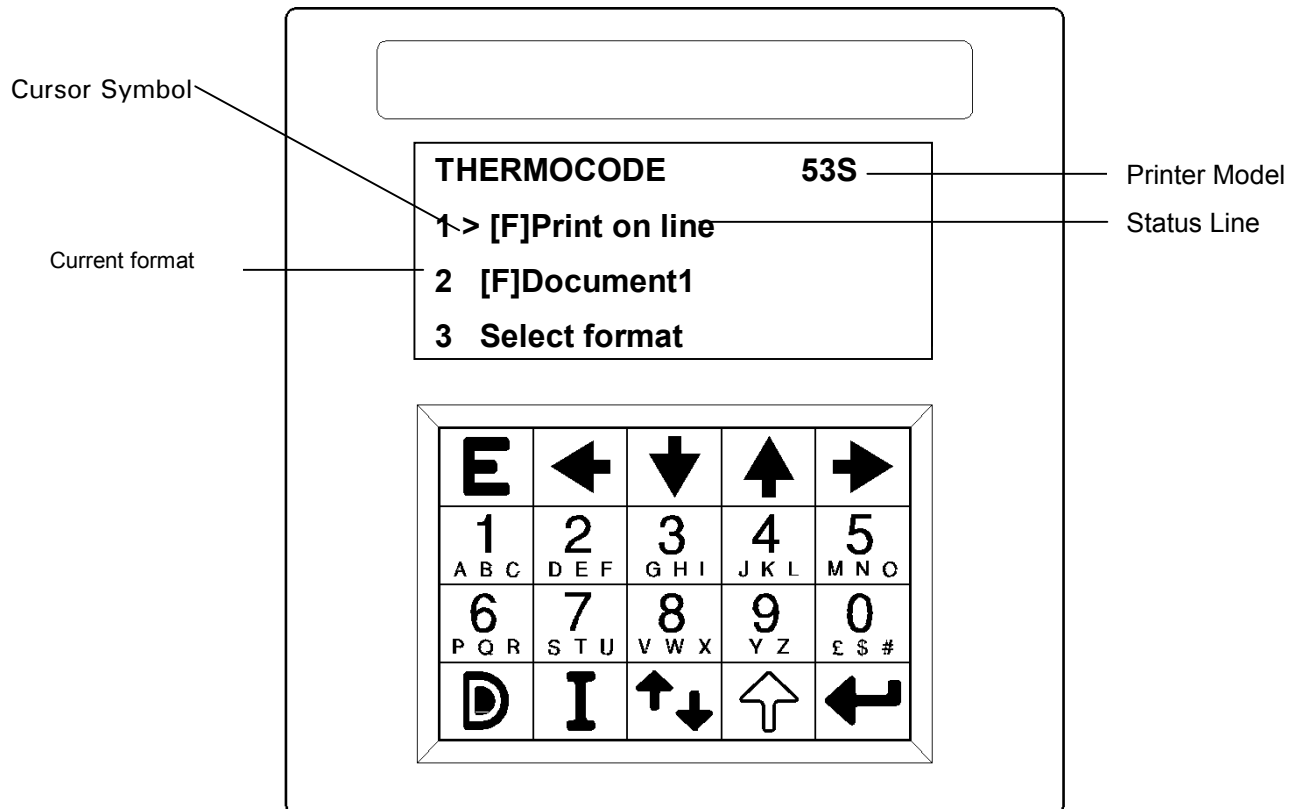
1. After switching on the following screen will be displayed indicating that the start up sequence has started, this screen displays the communication baud rate that is set.



2. After a few seconds the machine will move the Printhead along it's length to determine the maximum print length and then automatically select the printer size. The screen below is as the Printhead is measuring the length.



3. After measuring the length of the machine, automatically the height of the Print Base rubber is detected. This measurement is used by the software to adjust the printer for the correct height above the Print Base rubber. The screen below is after the start up sequence has finished, showing the actual Model of the machine and the format that is ready to print.



[F] Status Line

This line on the display shows the current status of the printer. If errors have occurred the display show "error" , and by either pressing the enter key when the cursor is next to the error or by just pressing "1" on the keypad all errors will be listed.

[F]Document1

This line on the display shows the current format image that is ready to print, pressing number 2 on the keypad would allow the user to edit all functions relevant to the design.

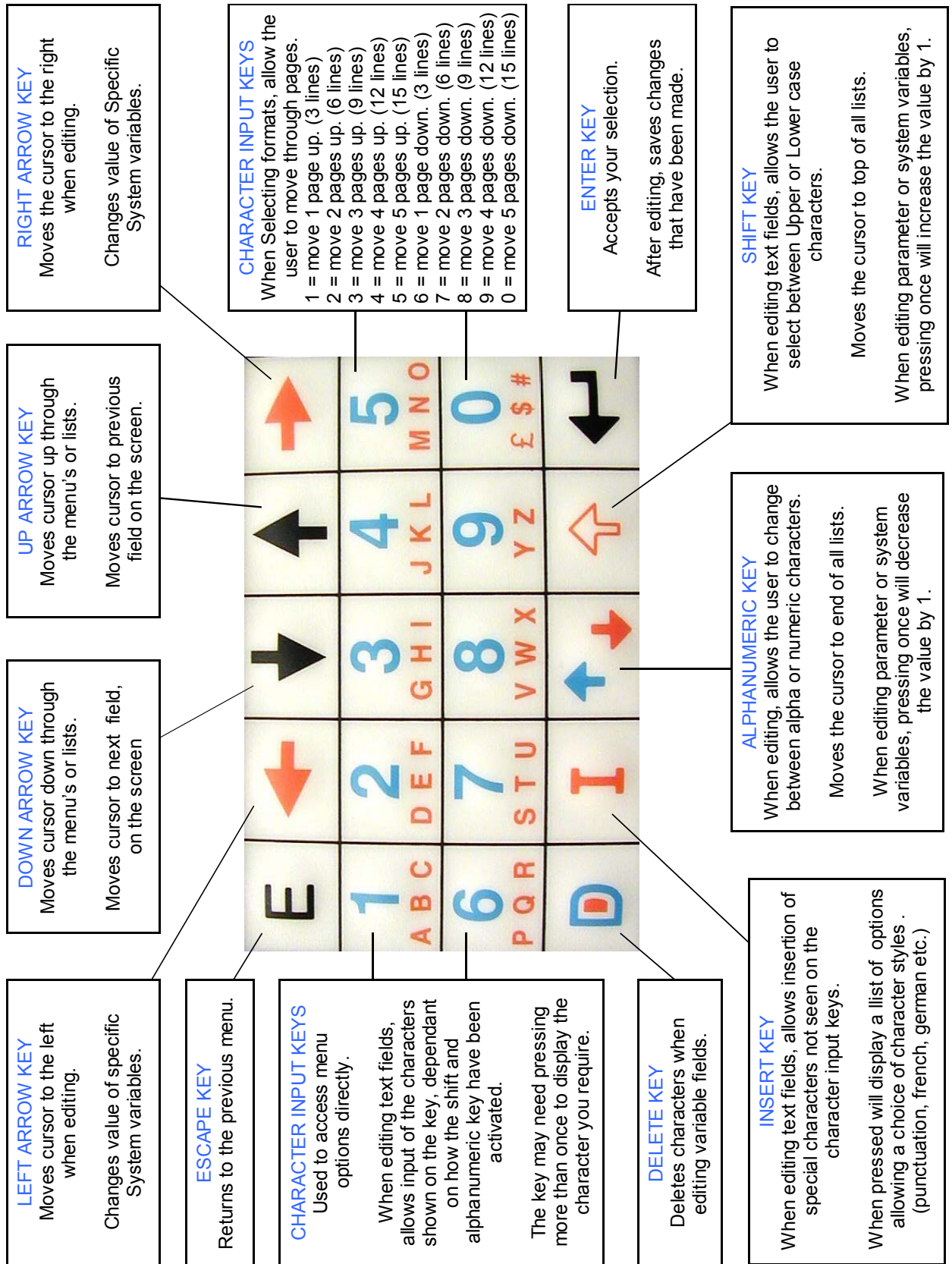
Note!

Accessing of all menu functions can be done by either of two ways:-

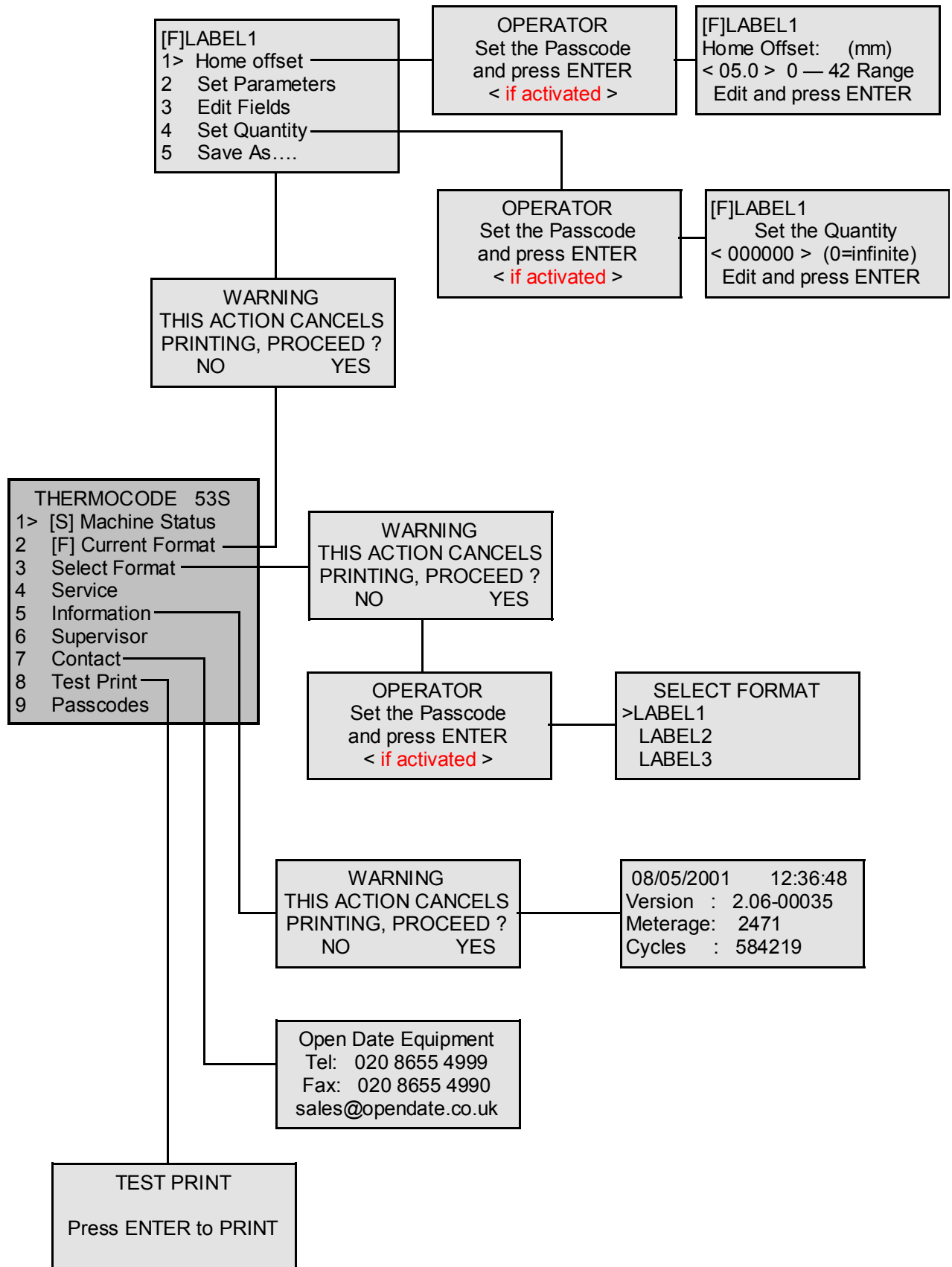
1. Moving the cursor next to the function you wish to go to and press "Enter".
2. Simply press the required number next to the function you require.

Please See next page for a full description of the keys on the Mini-Terminal display unit.

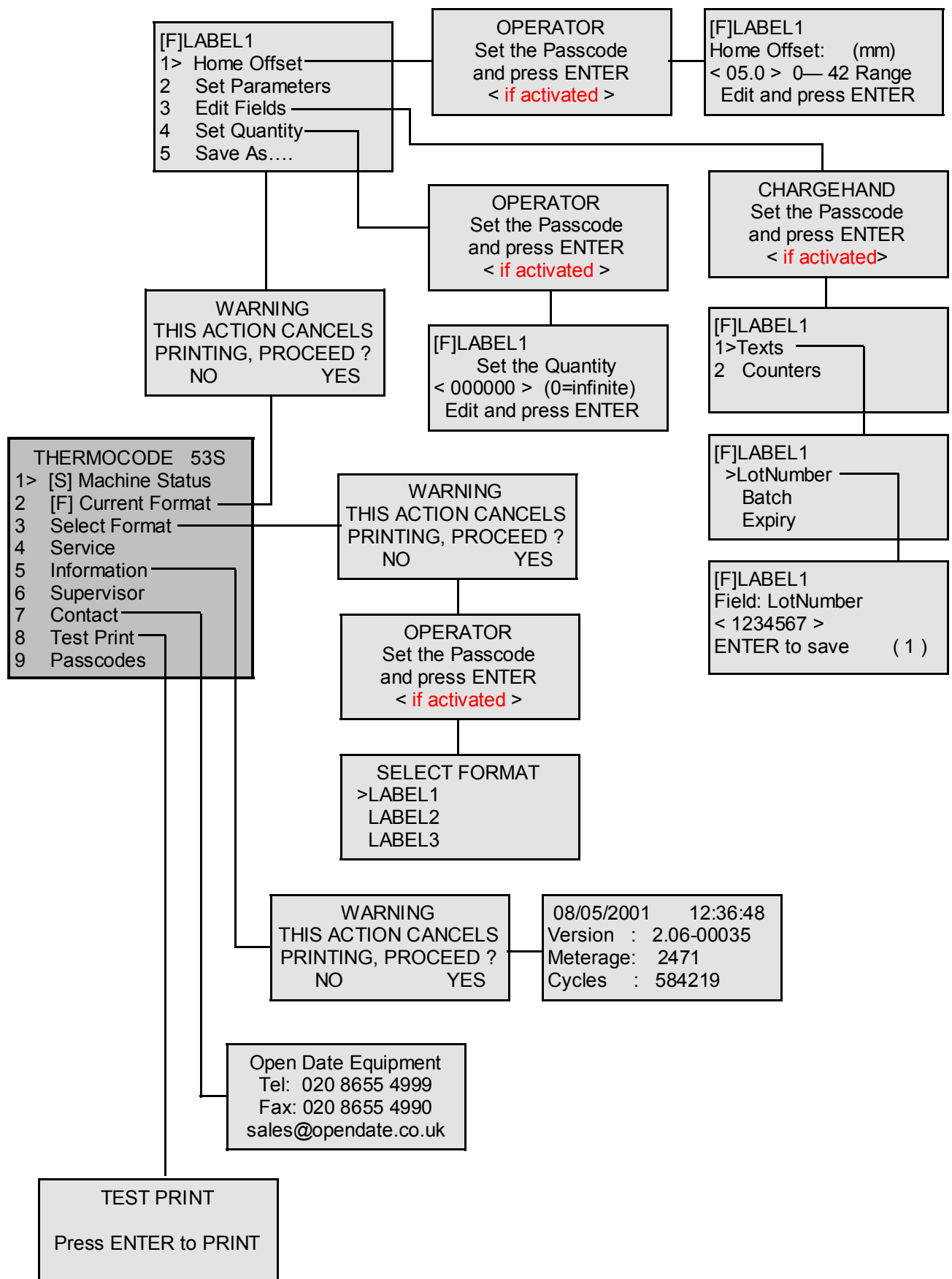
MINI DISPLAY TERMINAL (key mapping)



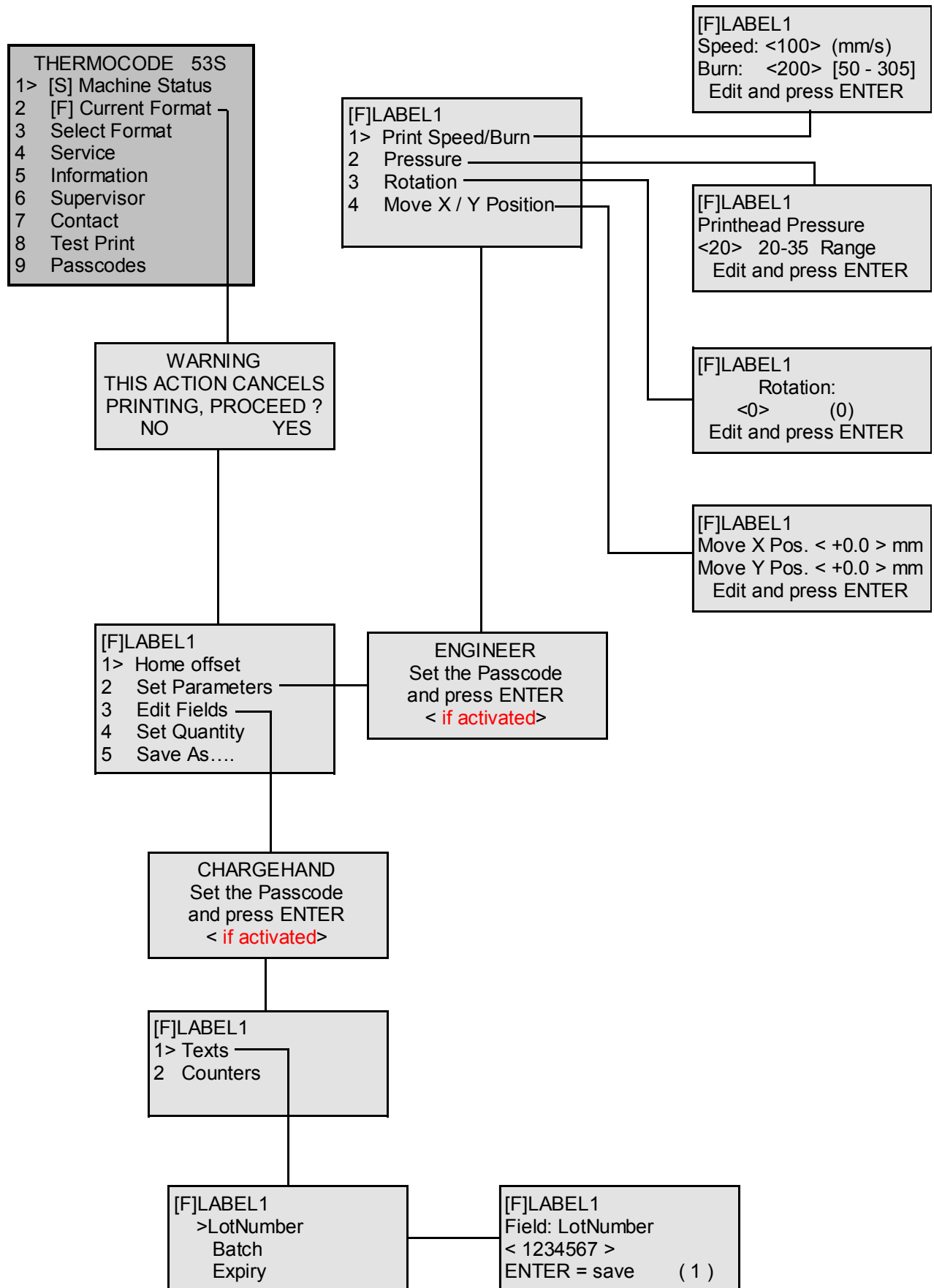
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 1: OPERATOR)



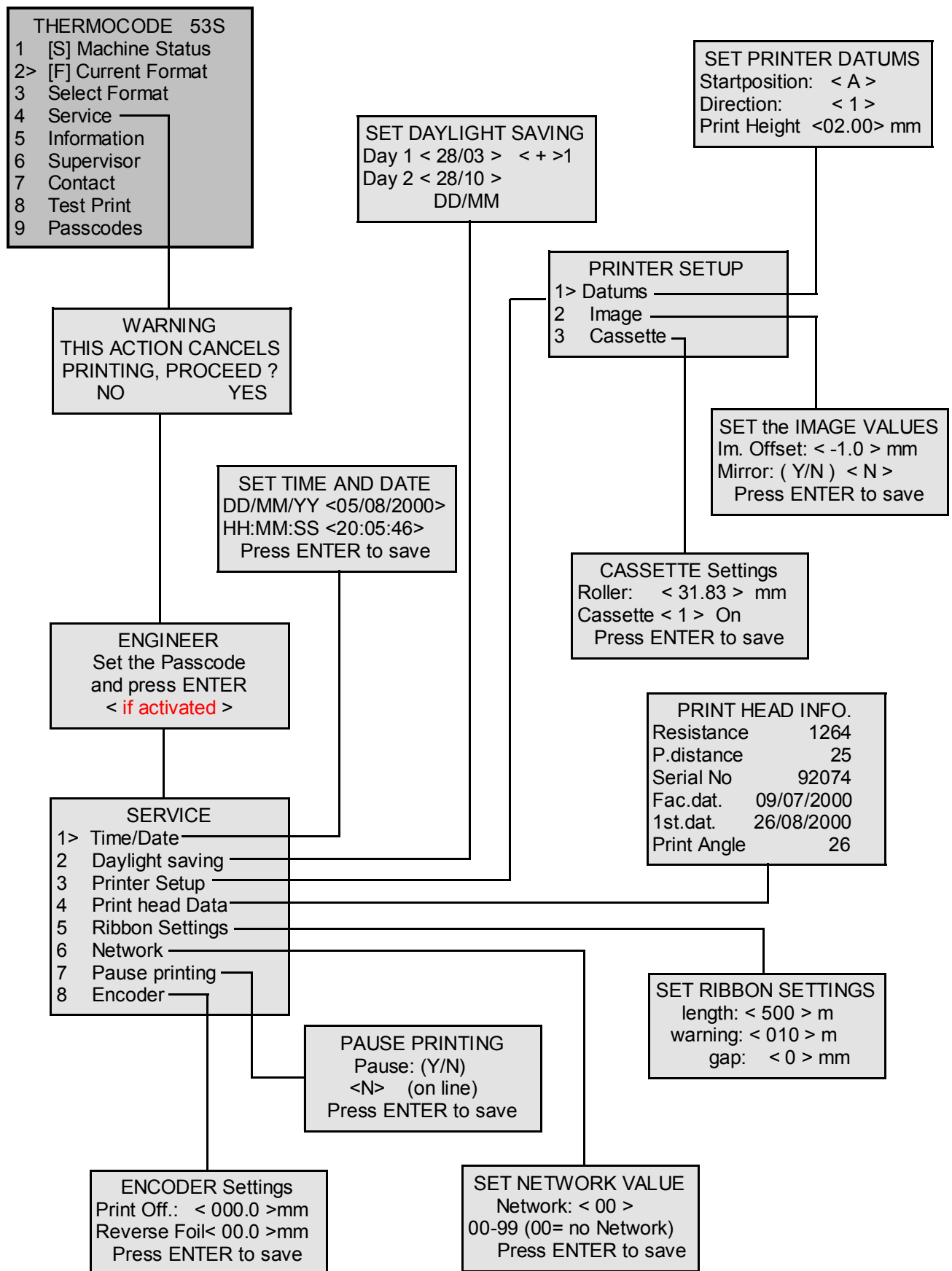
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 2: CHARGEHAND)



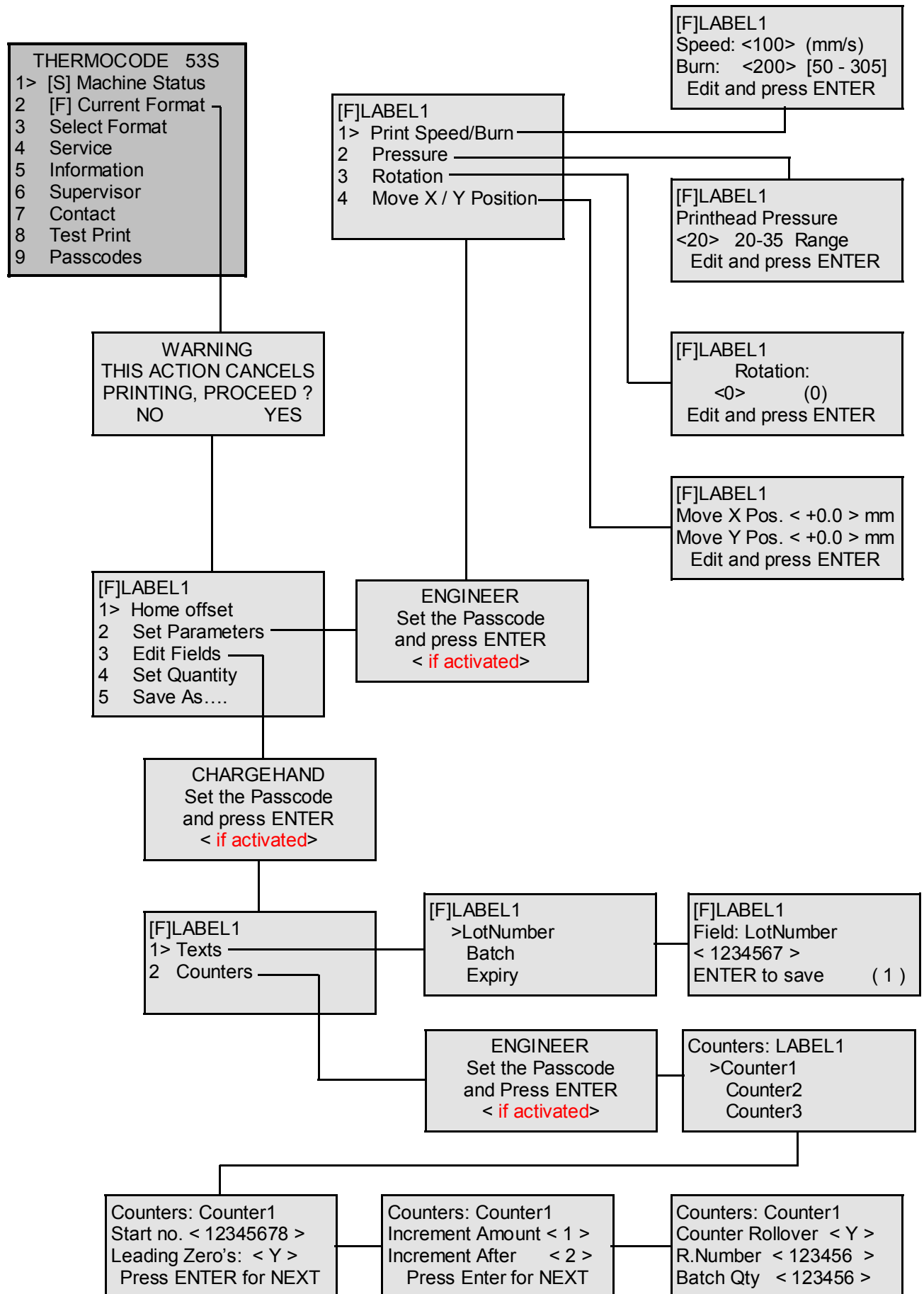
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 3: ENGINEER)



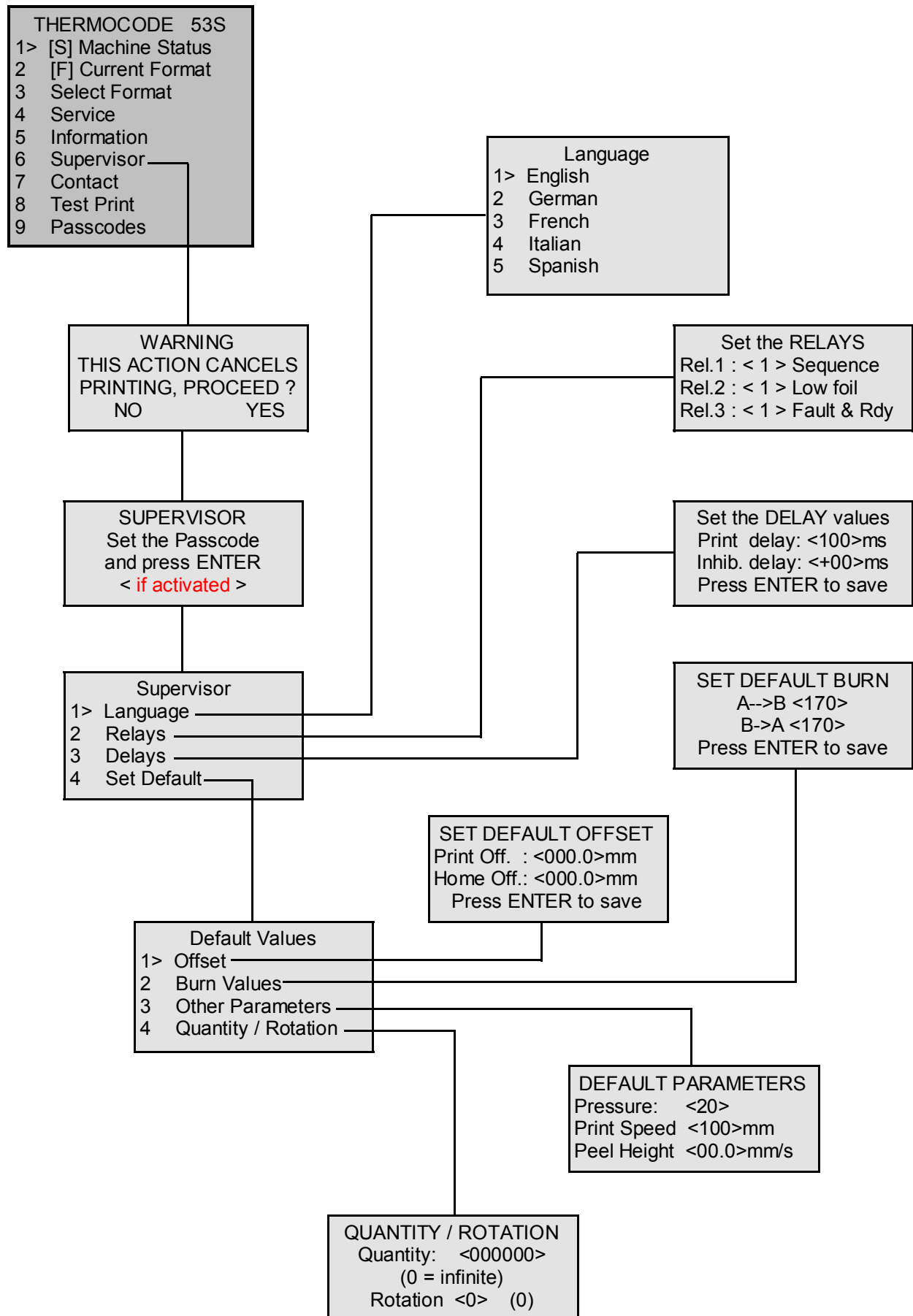
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 3: ENGINEER)



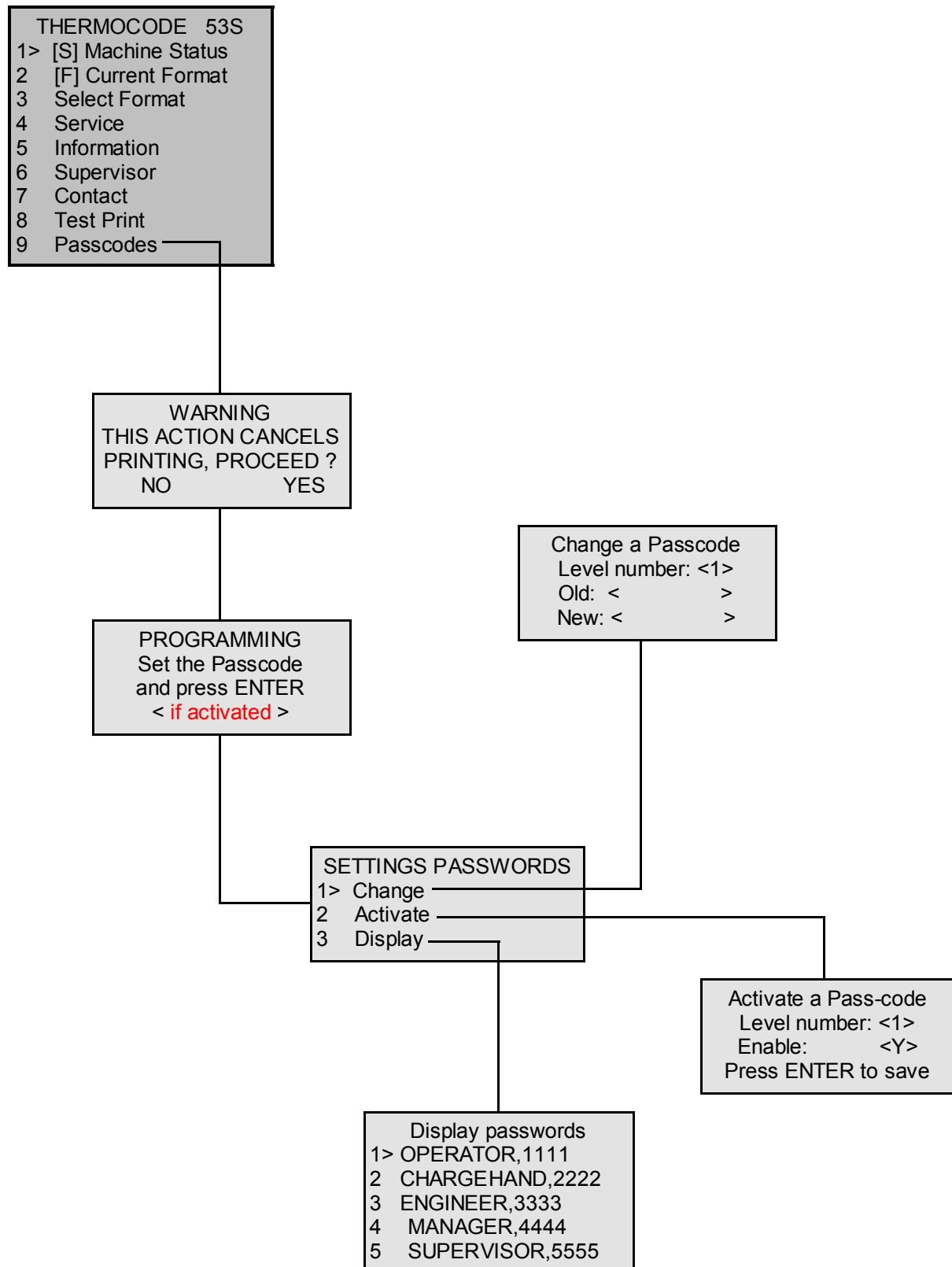
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 4: MANAGER)



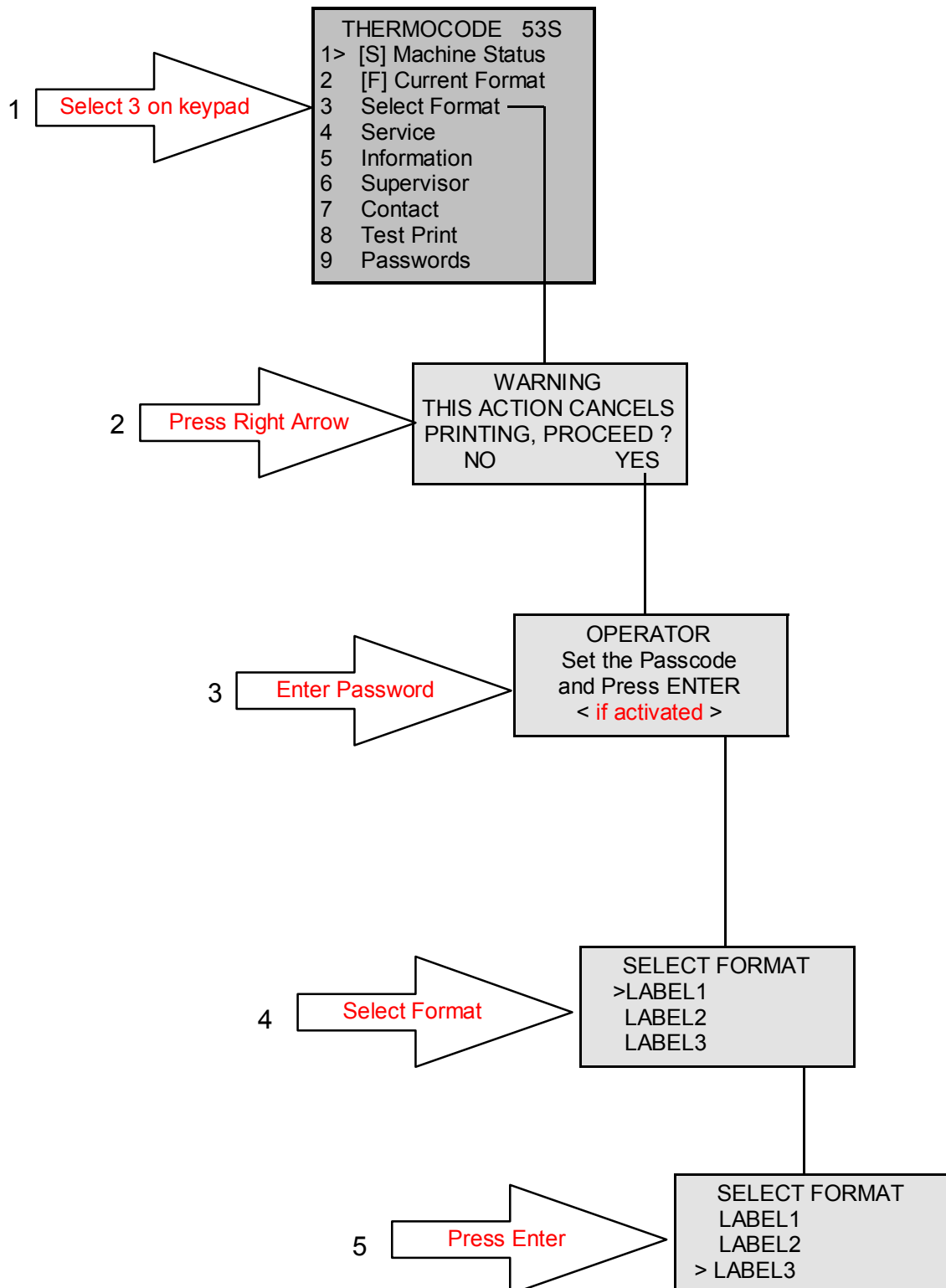
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 5: SUPERVISOR)



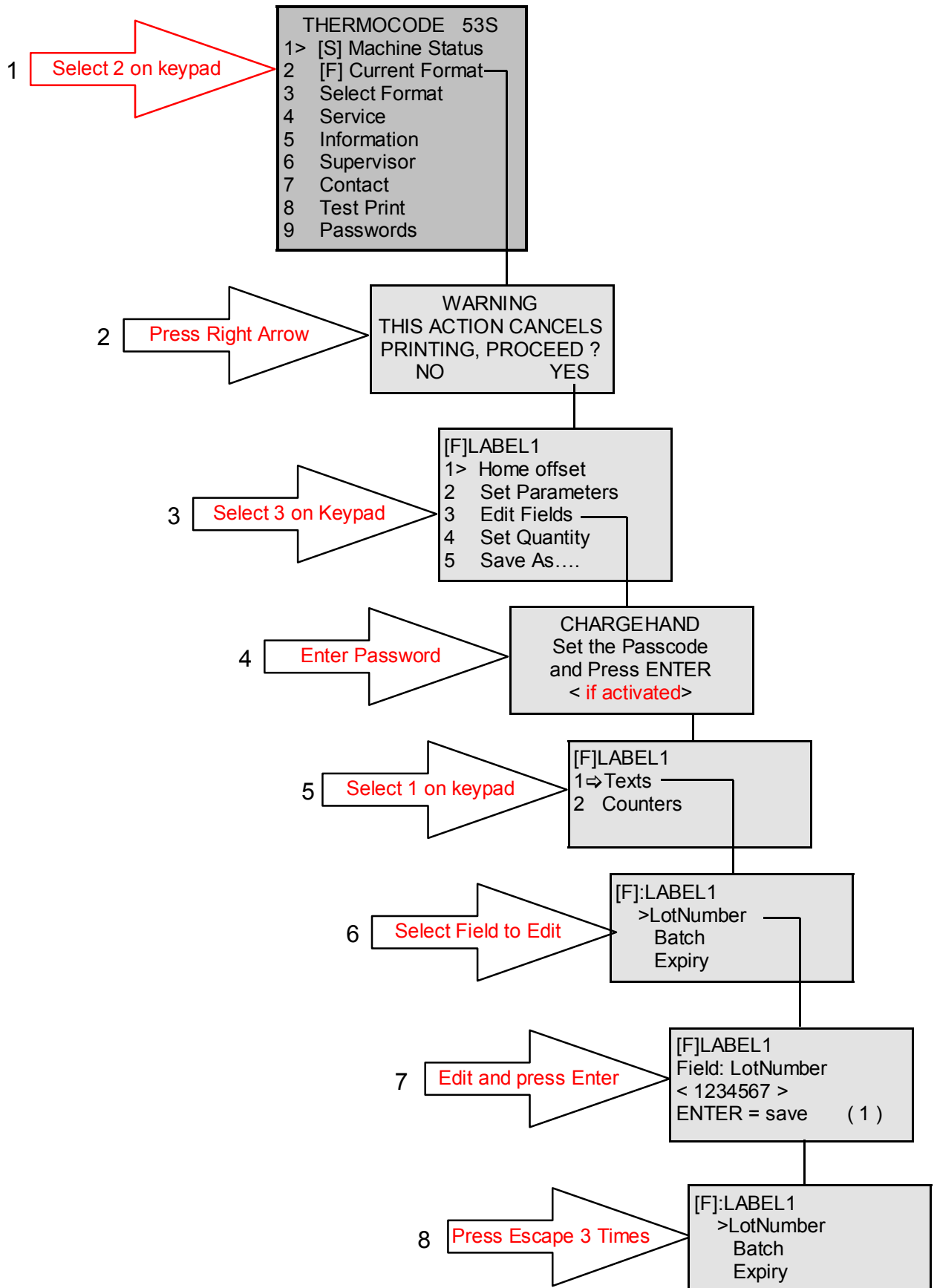
STATUS DISPLAY SOFTWARE FLOWCHARTS (Level 7: PROGRAMMING)



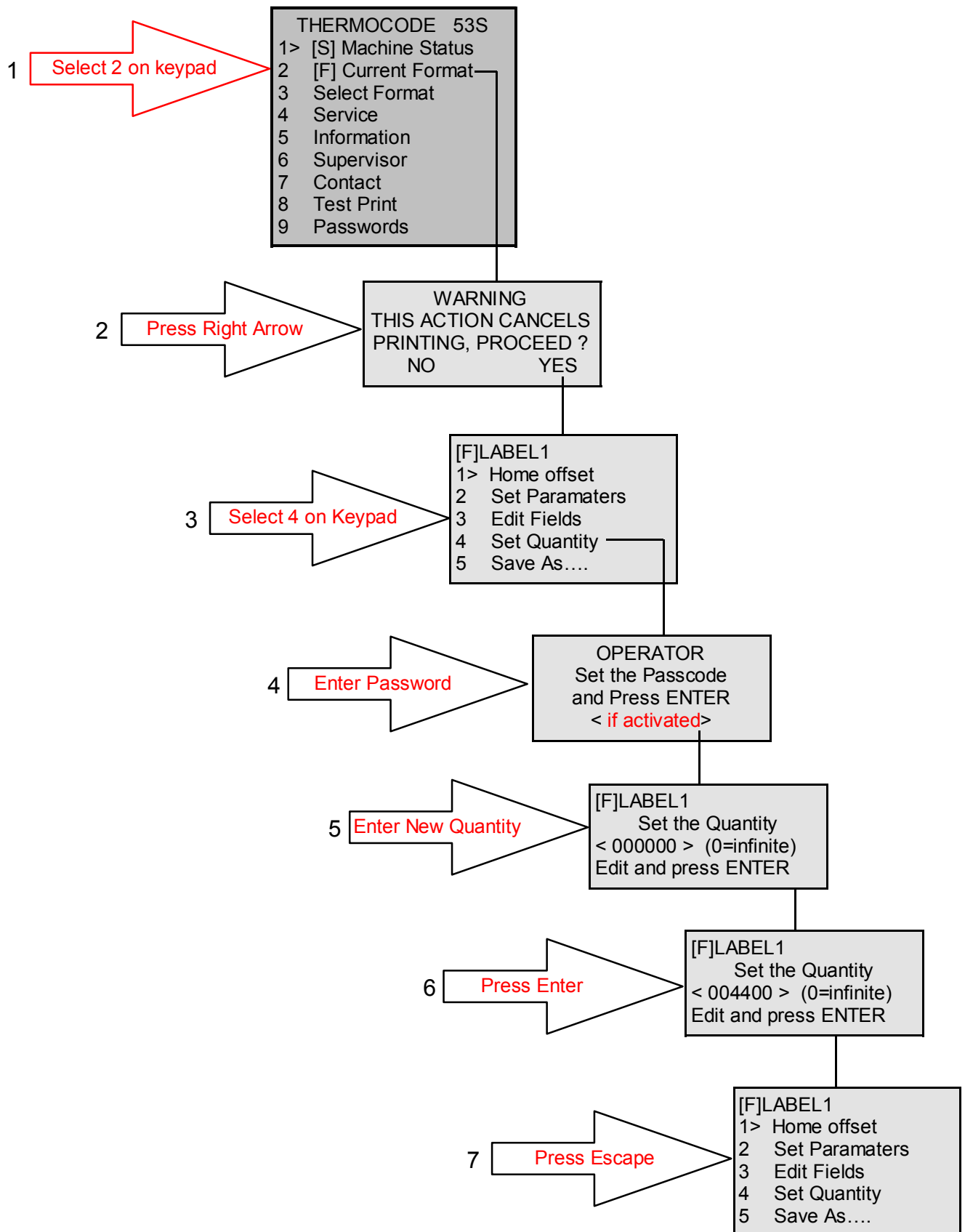
SELECTING A NEW FORMAT



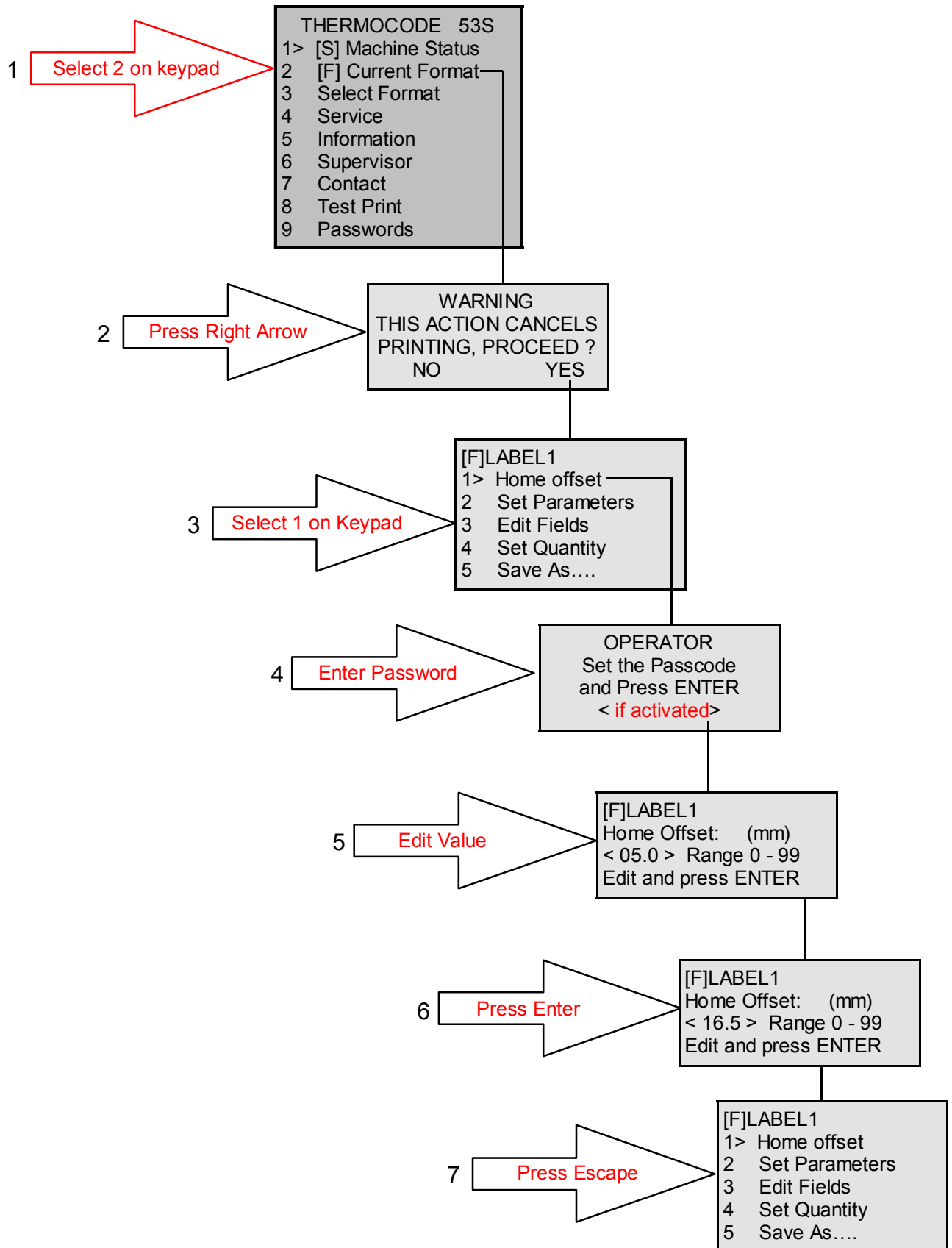
EDITING TEXT FIELDS



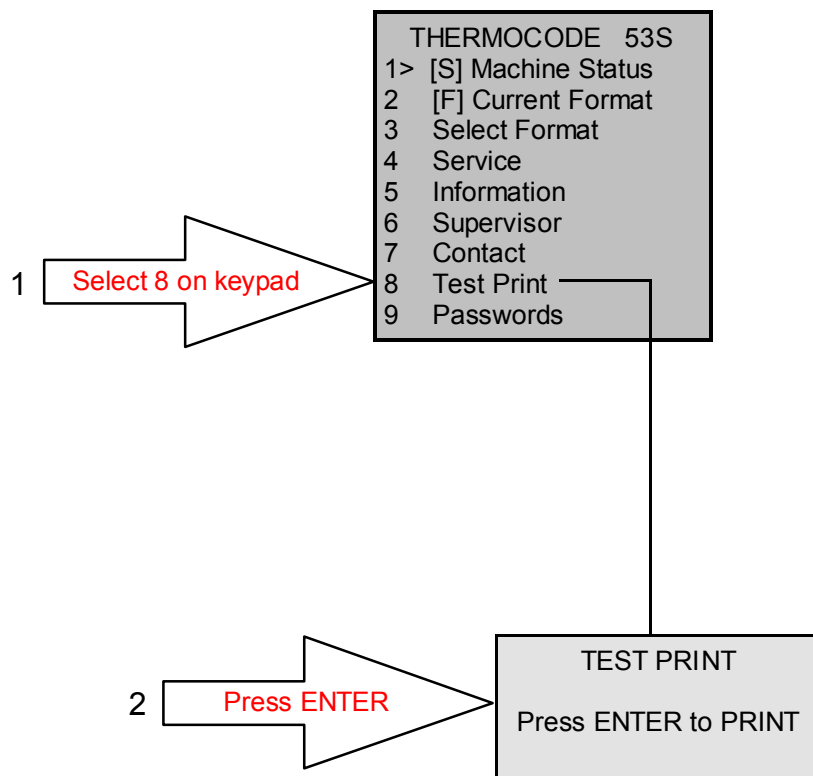
EDITING QUANTITY



EDITING HOME OFFSET



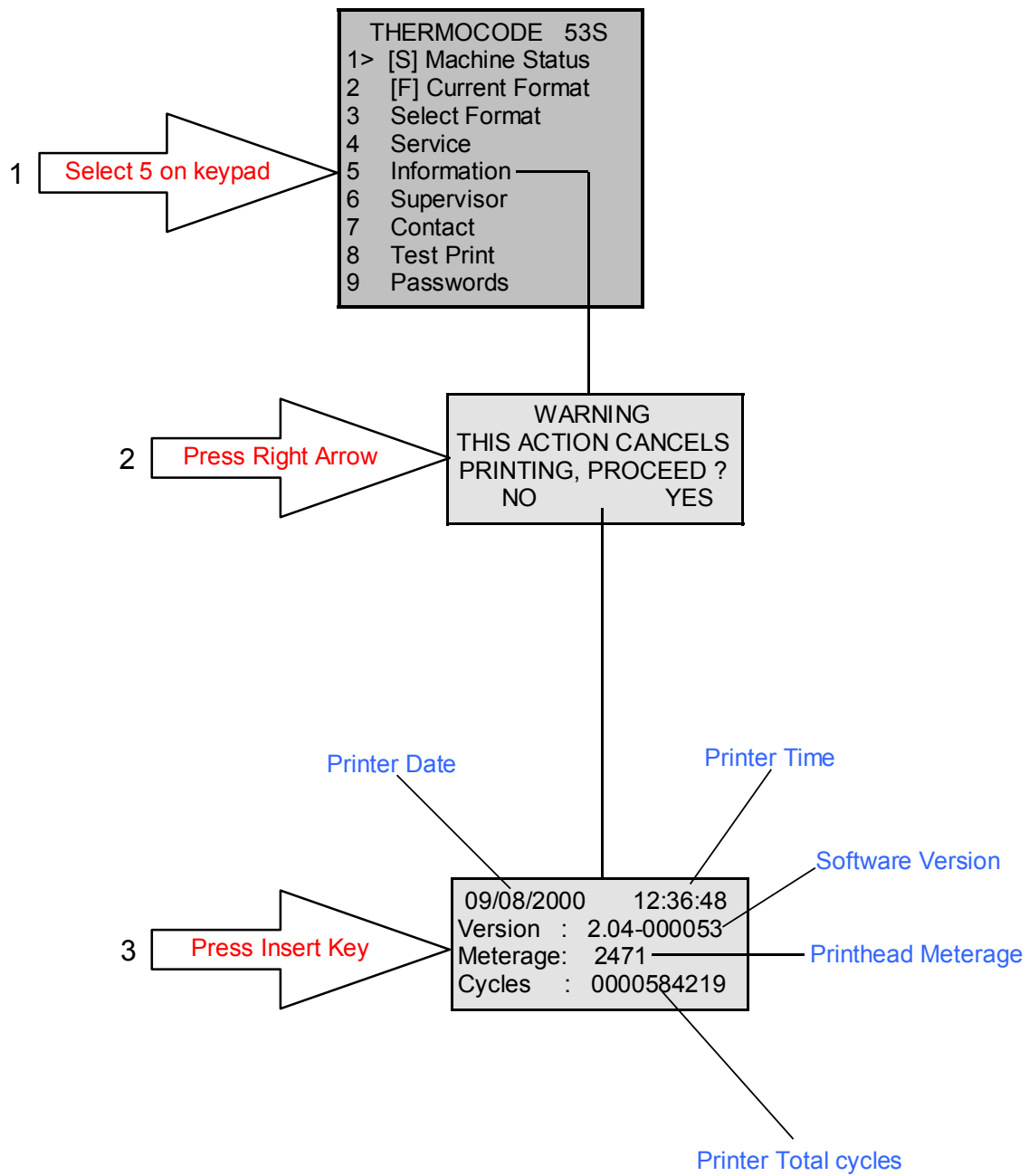
MAKING TEST PRINTS



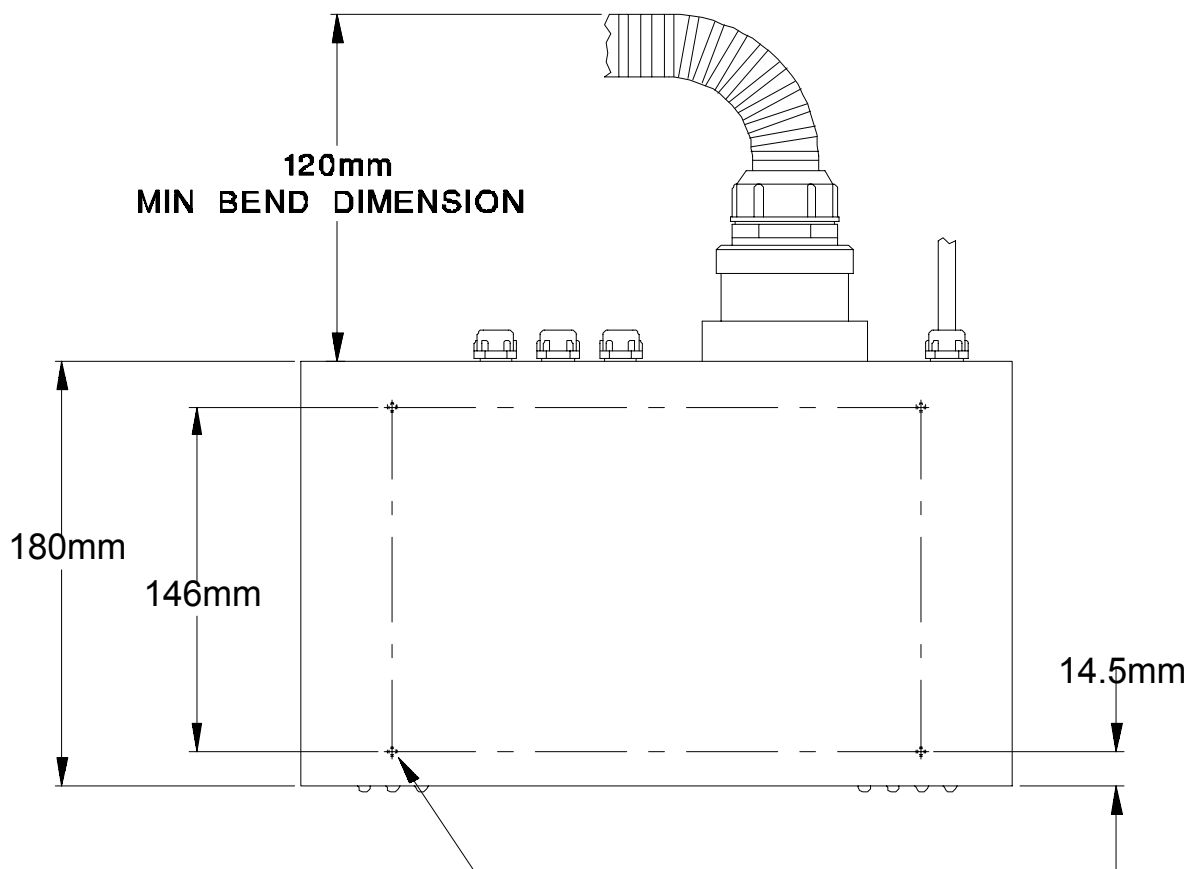
Note!

Holding down the ENTER key will allow continuous Printing

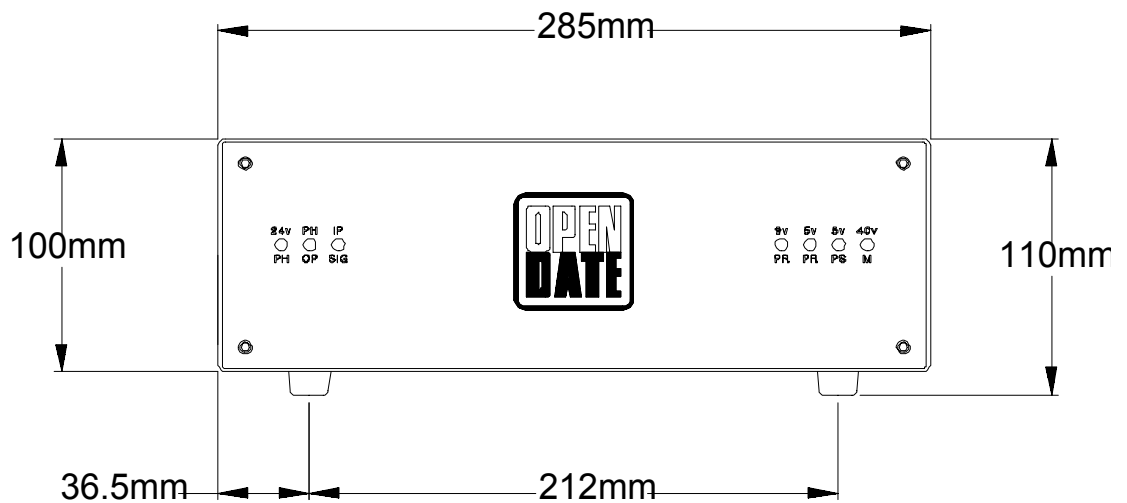
VIEWING INFORMATION SCREEN



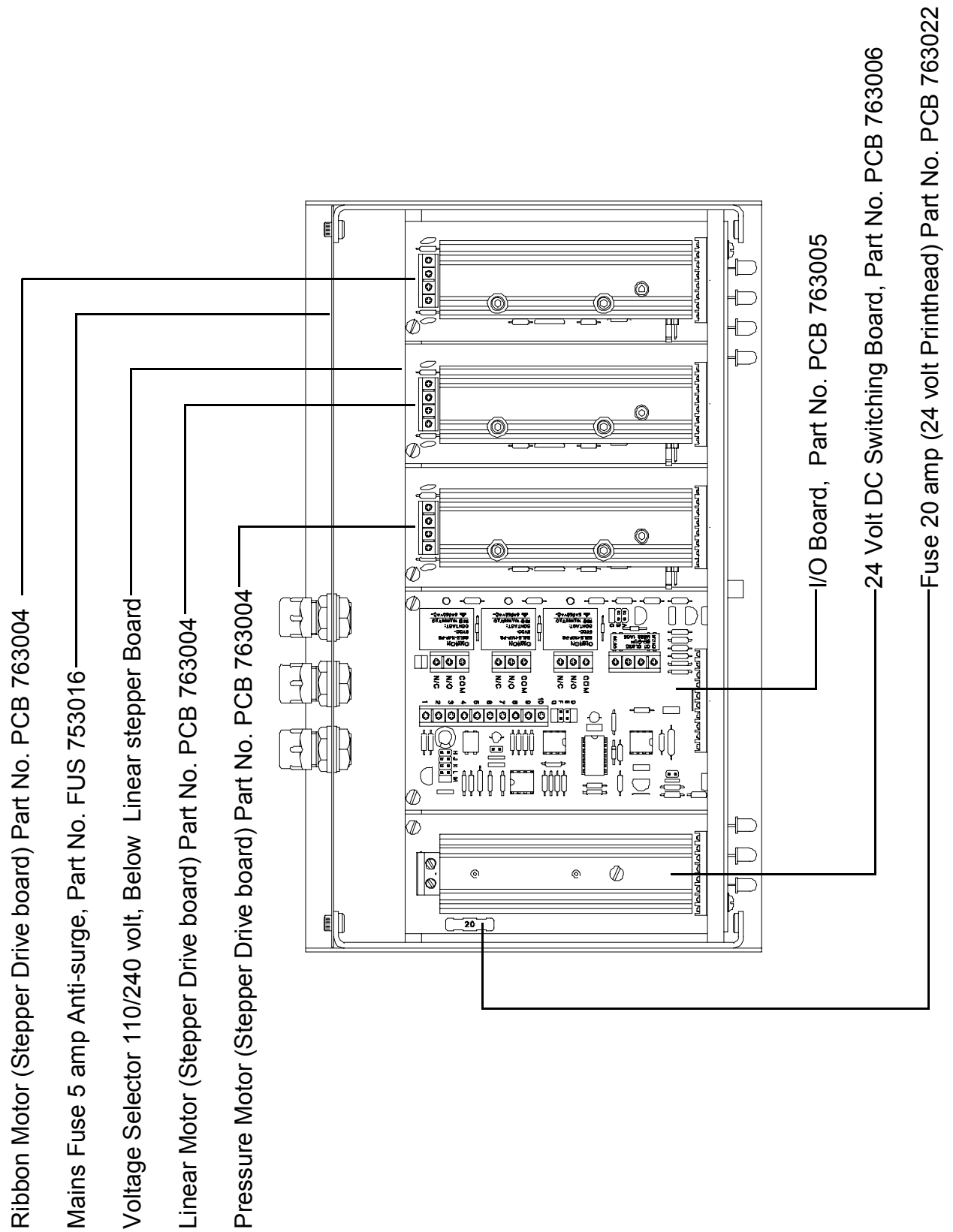
THERMOCODE SERIES 2 (Power Supply Dimensional details)



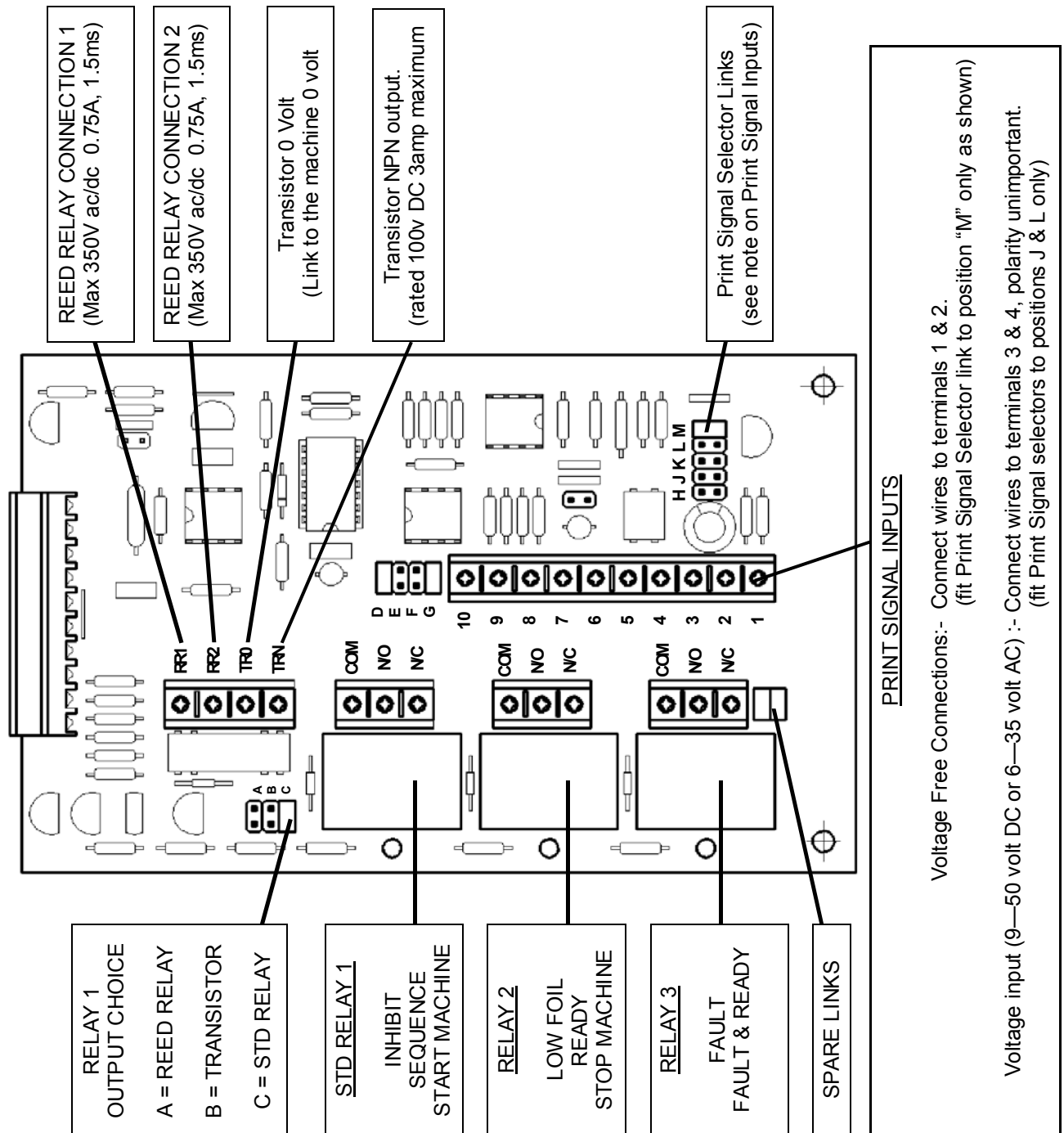
**4 OFF FEET POSITIONS, CAN BE USED FOR MOUNTING.
(M4 THREAD) MAX THREAD LENGTH INSIDE POWER SUPPLY 10mm**



THERMOCODE SERIES 2 (Top Cover removed)



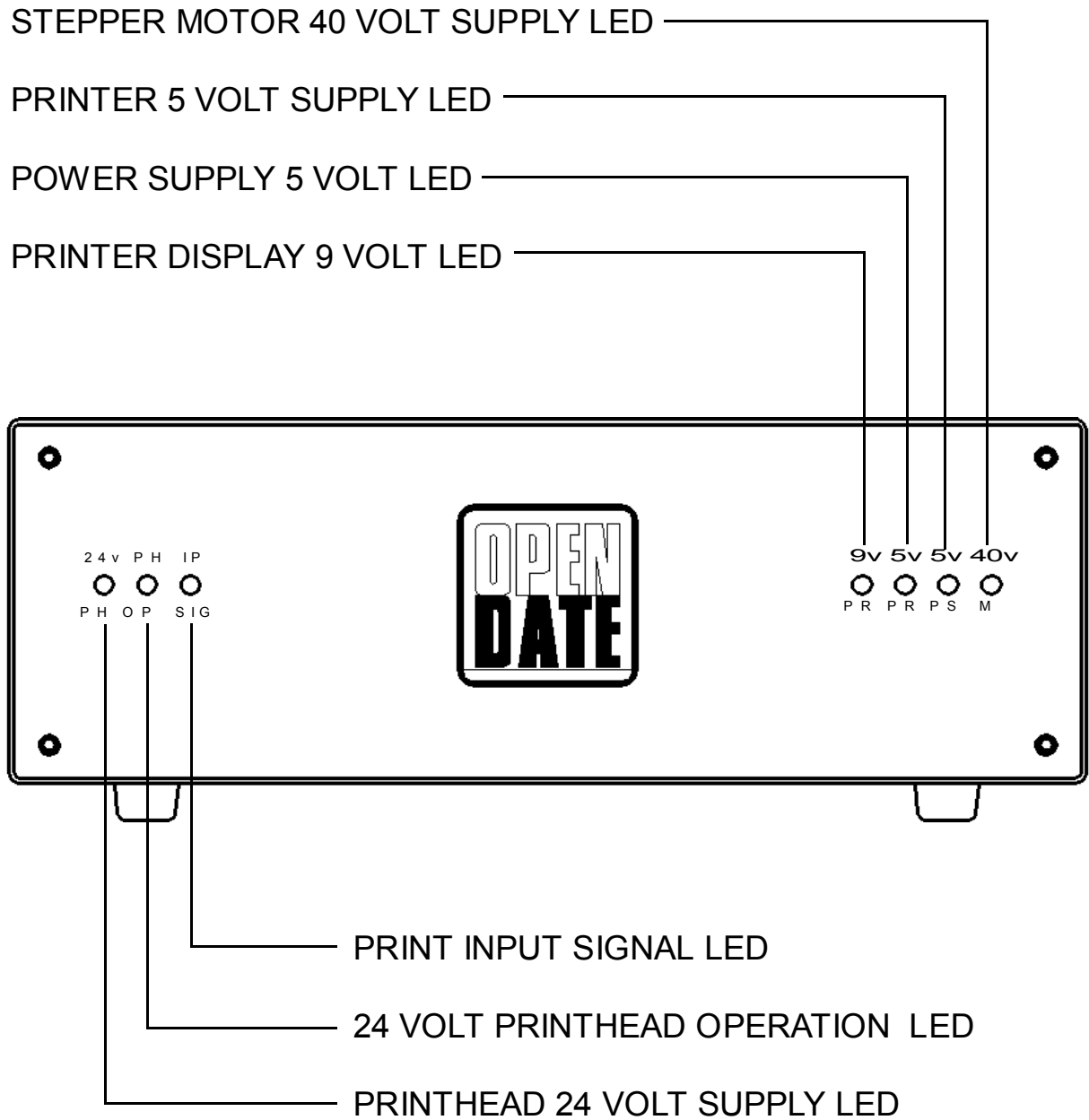
THERMOCODE SERIES 2 (Universal I/O Board connections)



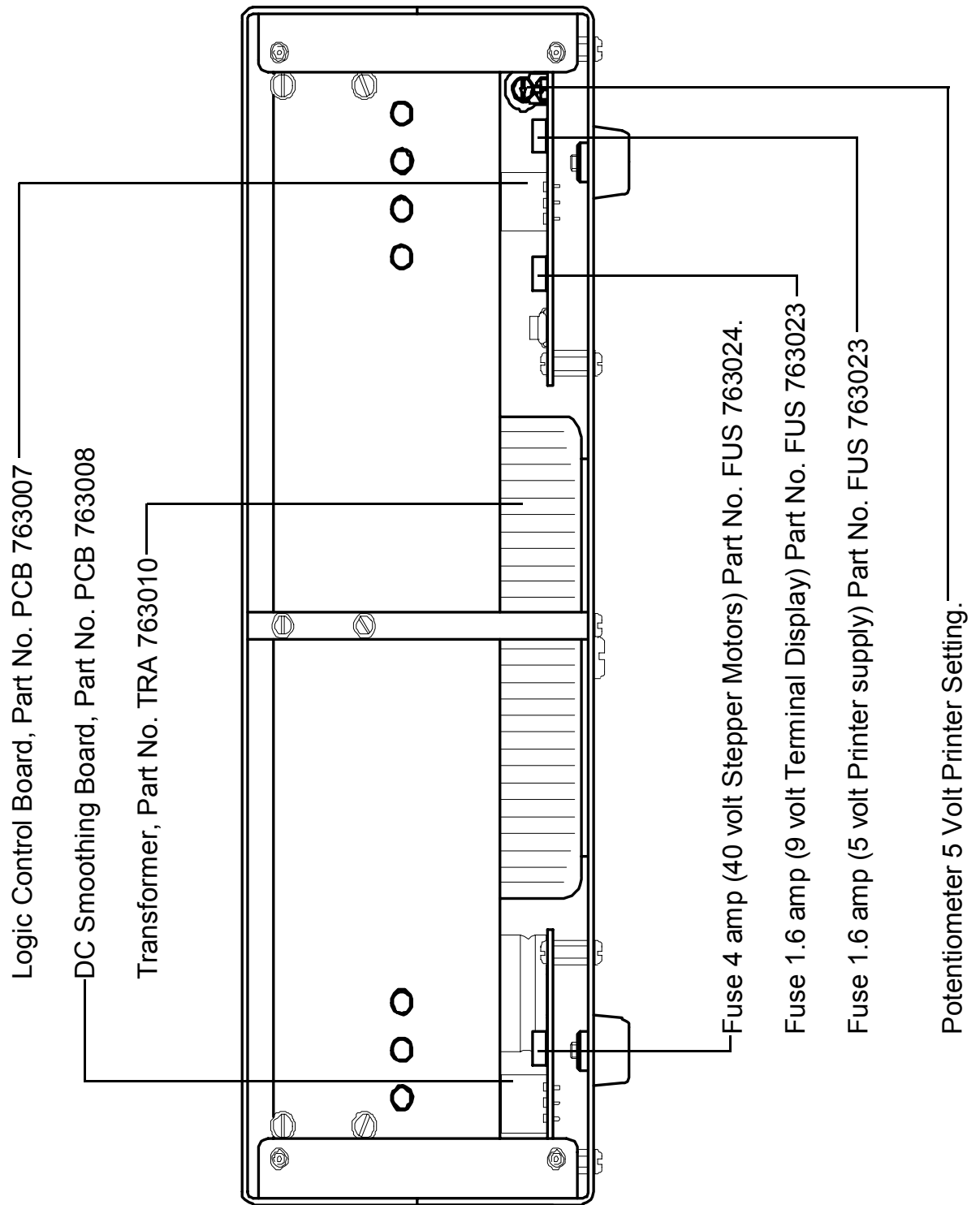
Drawing No:-

REF 767000

THERMOCODE SERIES 2 (Power Supply LED details)



THERMOCODE SERIES 2 (Power Supply front cover removed)



AIRBORNE NOISE EMISSIONS.

Comprehensive tests have been carried out with the Thermocode fitted in a standard printer frame and mounted onto a typical label applicator. Measurements were taken at 1.6 metres above floor level and approximately 1 metre away from the printer in all directions.

The measuring equipment used for conducting the tests was a Digital Sound Level Meter, type d-1405E supplied by Lucas CEL. Before the tests were carried out the instrument was calibrated and fitted with a foam windshield.

The noise levels shown below are the equivalent continuous "A-weighted" sound pressure levels in decibels "dB(A)".

PRINTER STATUS	NOISE LEVEL - DECIBELS (dB)
Awaiting Print signal	0
Continuously printing	66

FAULT FINDING

Ribbon Indexing not Enough (Overlapping Prints)

- Q. Cardboard Core does not fit the Rewind spool Correctly, or is missing ?.**
- A. Fit correct cardboard core, ensure it is located on the spring clips correctly.
- Q. Foil not attached to Cardboard core correctly ?.**
- A. Use adhesive tape to attach the ribbon to the cardboard core, and wind on a few turns.
- Q. Cassette rollers, Printhead rollers or Printhead Assembly are dirty, through build up of wax/resin residue ?.**
- A. Clean cassette and Printhead as described in maintenance section.
- Q. Brake belt on cassette is damaged, worn or dirty ?.**
- A. Renew Brake belt
- Q. Tension arm spring tension on Brake belt not set correctly ?.**
- A. Adjust Belt brake correctly, when functioning correctly the tension arm should be about 6mm from the stop pin.

Ribbon Indexing Excessive

- Q. The Format design has a space before printing any characters ?.**
- A. Change the format design so there is only 1mm from the "X" datum to the first characters to be printed.
- Q. Foil may be sticking to Substrate being printed, and being pulled along ?.**
- A. Adjust the Printhead position from the substrate, possibly the clearance is insufficient and the foil is being indexed along with the substrate. Service Engineer may be required.

Ribbon Breaking or Perforated

- Q. Cassette rollers, Printhead rollers or Printhead Assembly are dirty, through build up of wax/resin residue ?.**
- A. Clean cassette and Printhead as described in maintenance section.
- Q. Foil may be sticking to Substrate being printed, and being pulled along ?.**
- A. Adjust the Printhead position from the substrate, possibly the clearance is insufficient and the foil is being indexed along with the substrate. Service Engineer may be required.
- Q. Temperature "BURN" values may be set to high for the substrate being printed ?.**
- A. Reduce "BURN" values of format to achieve acceptable print quality, if you are bi-directional printing remember to adjust both values for "A" to "B" and "B" to "A" directions.
- Q. Foil indexing problems prints overlapping each other, weakening the ribbon ?.**
- A. See to of this page for Overlapping Prints remedies.

Ribbon Tracking on Cassette

- Q. Cassette rollers, Printhead rollers or Printhead Assembly are dirty, through build up of wax/resin residue ?.**
- A. Clean cassette and Printhead as described in maintenance section.
- Q. Foil may be sticking to Substrate being printed, and being pulled to one side ?.**
- A. Adjust the Printhead position from the substrate, possibly the clearance is insufficient and the foil is being indexed along with the substrate. Service Engineer may be required.
- Q. Cassette may have been dropped, damaging tracking rods or Tension arm ?.**
- A. Call for Service Engineer or send back to manufacturer for checking.

Print Quality Problems

- Q. Print not consistent over printed area ?.**
- A. Ribbon not compatible with substrate.

Temperature (burn settings) too low. Low printing temperatures can give the effect of the edges of characters appearing feint or ragged.

Damaged or dirty print base, clean and check for any imperfections. Normal Thermocode Series 2 print bases are 45-50 shore hardness rubber, which is bonded to an aluminium backing sheet and then ground. Flatness of this pad is very important, on some labelling machines if the backing web is not aligned correctly it will cut into the print base or actually mis-shape it due to the tension of the backing web.

Printer not correctly mounted in Frame.

Printer frame not manufactured to correct dimensions, clearance under printer excessive. See Standard Frame measurements drawings at the end of this manual.

Printhead dirty or Pixels burnt out. Clean Printhead and test print on plain fax paper to confirm Printhead condition.

Ribbon Indexing not enough. See previous page.

Ribbon tracking on magazine, causing creasing. See previous page

Ribbon perforated or broken, See previous page.

Ribbon foil INK Coating inconsistent.

THERMOCODE SERIES 2 (Diagnostics sheet)

FAULT	DESCRIPTION	REMEDY / ACTION
1	No Power to Printer / No Voltage to Power supply	1. Check fuses in mains Plug and Power Supply. 2. Check supply Voltage is at Source. 3. Check all the fuses in Power Supply. 4. Check All Electrical connections are correct.
2	Cassette Removed or Ribbon Broken.	1. Replace Cassette. 2. Check Cassette Brake Tension. 3. Replace or Repair Thermal ribbon.
3	Low Foil Warning.	1. Replace Thermal Ribbon on Cassette, ensure that you press the "yes" key to reset the foil counter.
4	Count completed.	1. Select another Format. 2. Edit Quantity via Mini-Terminal Display
5	No Format name displayed on screen.	1. Format has been de-selected. 2. Load a new Format.
6	No font Loaded to Printer for Format requirement.	1. Load the Font to printer and select the Format again. 2. Load a different format that has printer Fonts. 3. Check which Fonts have been loaded to printer, by interrogating with the "Termode" software
7	X & Y underflow or overflow.	1. Re-load format correcting positional errors. 2. Select another format
8	Print on Line, awaiting Print Signal.	1. Normal Condition
9	Linear Home sensor "A" not registering or Faulty.	1. Check Belt is not broken and tensioned correctly. 2. Check Linear Motor has power applied. 3. Check debris is not stopping full movement linearly. 4. Check Wire crimps and connections. 5. Test Sensor output, in Start up Menu. 6. Replace Sensor assembly.
10	Linear Home sensor "B" not registering or Faulty.	1. Check Belt is not broken and tensioned correctly. 2. Check Linear Motor has power applied. 3. Check debris is not stopping full movement linearly. 4. Check Wire crimps and connections. 5. Test Sensor output, in Start up Menu. 6. Replace Sensor assembly.
11	Pressure Switch Fault.	1. Check the Mounting Frame is not Open. 2. Check the gap between Printer and Print Base. 3. Check Sensor Assembly has not come loose. 4. Check Wire crimps and connections. 5. Check LED on sensor activates correctly. 6. Check Print Base Rubber is not damaged or missing. 7. Check Pressure setting within Format Parameters.
12	Vertical Home Sensor Fault.	1. Check Sensor Assembly has not come loose. 2. Check Wire crimps and connections. 3. Check LED on sensor activates correctly.
13	Printhead Thermistor Fault / Disconnected	1. Check Ribbon Cables are fitted correctly to Printhead and interconnect PCB. 2. Faulty Printhead, replace.
14	Character Generator Failed.	1. The Font loaded to printer is corrupted. 2. Characters missing from font. 3. Re-load fonts to the Printer.
15	Font size wrong / incorrect	1. Alter Font sizes in Text fields, to correct. 2. Load correct specified Bit Map font for the Format.
16	Barcode Failed, characters or code unrecognised.	1. Wrong characters in Barcode string. 2. To many characters in Barcode string. 3. Barcode type not recognised.

THERMOCODE SERIES 2 (Diagnostics Notes)

Printer Errors

All errors that occur within the printer, are shown as "**Error**" on the status line of the Mini-Terminal display. To view the actual error conditions press no.1 on the keypad. Errors are shown as text messages along with a numerical number which must be noted if you are requesting a Service visit or assistance.

Clearing Errors

Once errors have been viewed they can then be cleared, page up to the top of the screen and press "Enter" when the cursor is next to the option "Clear errors".

Note !

Clearing errors can have two consequences, if the errors are mechanical the error is cleared and the format is retained in the image memory. If the error is a format design problem, as the error is cleared the format will be removed from the image memory. The only way to correct format errors is to redesign the format, this can not be corrected by adjusting parameters within the Mini-Terminal parameters.

OPEN DATE GROUP COMPANIES

FRANCE

OPEN DATE FRANCE

Z.I. D'Attichy,
No.8, voie industrielle
60350 Attichy,

Local Tel:- 03 44 42 94 43

Local Fax:- 03 44 42 17 17

International Tel:- (0033) 3 44.42.94.43

International Fax:- (0033) 3 44.42.17.17

GERMANY

OPEN DATE GmbH

PO Box 27,
Schraggasse 14,
97264 Helmstadt.

Local Tel:- 06761 970070

Local Fax:- 06761 970072

International Tel:- (0049) 6761 970070

International Fax:- (0049) 6761 970072

U.S.A

OPEN DATE SYSTEMS INC.

Springfield Road,
PO Box 538,
Georges Mills,
NH 03751-0538.

Local Tel:- 603 763 3444

Local Fax:- 603 763 4222

International Tel:- (001) 603.863.2233

International Fax:- (001) 603.863.2244

AGENTS NAMES & ADDRESSES

<u>BELGIUM</u>	CODIPACK N V Indusrielaan 8, B-2250 Olen.	Tel : Fax :	014/21.25.11 014/21.30.31
<u>DENMARK</u>	DOMINO INK JET A/S Knud Bro Alle 4 B-C, DK-3660 Stenlose.	Tel : Fax :	47 10 73 00 47 10 73 60
<u>FINLAND</u>	OY MECKELBORG AB Tinankuja 3, FIN - 02430 Masala.	Tel : Fax :	(90) 221 011 (90) 221 013 50
<u>HOLLAND</u>	ZOMERDAM PRODUKTIDENTIFICATIE B.V. Pastoriestraat 19, NL-5363 TP velp.	Tel : Fax :	0486-420980 0486-420755
<u>IRELAND</u>	PAK AUTOMATION LTD Unit 29, Hills Industrial Estate, Lucan, Co. Dublin.	Tel : Fax :	01-6282824 01-6262483
<u>ISRAEL</u>	SEMEL TECHNO CHEMICALS SERVICES LTD. P.O.Box 2549, 52124 Ramat Gan.	Tel : Fax :	03-6731127 03-6720546
<u>LITHUANIA</u>	UAB Vygeja Saltiniu g. 3a, 2006 Vilnius.	Tel : Fax :	02 262 370 02 261 602
<u>NEW ZEALAND</u>	FOOD MACHINERY LTD. Unit G, 40 William Pickering Drive, PO Box 302-153, Albany.	Tel : Fax :	64-9-415 4546 64-9-415 2629
<u>NORWAY</u>	ULF ANDERSEN MASKIN A/S Arenga 14, Postboks 64, N-1314 Skui.	Tel : Fax :	67 13 22 23 67 13 22 99
<u>SOUTH AFRICA</u>	AM LABELLING SYSTEMS P.O. Box 517, Allens Nek 1737, Johannesburg.	Tel : Fax :	(011) 477-8719 (011) 477-9153
<u>SPAIN</u>	MARCOPACK S.L. Pologono Industrial Nuevos Accesos, 30564 Lorqui, Murcia.	Tel : Fax :	(968) 692265 (968) 692053
<u>SWEDEN</u>	INKJET AB Box 1242, 58 101 Linkoping.	Tel : Fax :	13 31 18 40 13 10 25 46
<u>TURKEY</u>	DUBA ELECTRONIC Abdulhakhamit Caddesi Serin AP, No. 76/6 Taksim 80090, Istanbul.	Tel : Fax :	90-212-253 7568 90-212-247 5973

Print Speed & Burn Modifications within Software.

The modifications that have been included with the software, automatically adjust all the Printhead CONT lines percentage values for different printing speeds.

Software Advantages

1. Longer Printhead Life. (lower initial power settings)
2. Improved Quality of Print. (Even density of image)
3. Automatic burn adjustment at different speeds. (speed compensation)

Automatic Speed Compensation

The new software allows the user to change print speed of a format without the need to adjust the burn values.

Please see attached Speed Compensation Chart, this will give a guide as to the maximum and proposed values for printing onto various materials using different Thermal Transfer ribbons.

Speed Compensation Chart

Use the values below to configure your format ready for printing, the values are only a general guide and will most probably need changing to suit your material to be printed.

Once the image is correct, the print speed can be adjusted to suit the application, automatically the burn values will be adjusted to suit.

Description	Value
Print Speed	100mm/sec
Maximum Burn Value (Nominal)	303µsec
Polyethylene type Material (Wax/Resin Foil)	180µsec
Polyester type Material (Wax/Resin Foil)	200µsec
Label type Material (Wax/Resin Foil)	240µsec
Polyethylene type Material (Resin Foil)	200µsec
Polyester type Material (Resin Foil)	220µsec
Label type Material (Resin Foil)	260µsec
Thermal Label (Direct thermal)	200µsec

THERMOCODE 53 & 107

MAXIMUM CYCLES CHART (Continuous Printing Mode, with Fixed Text)

The Figures below include time from Print signal to end of Ribbon Move.

Print Speed mm/sec Ribbon Time	Print 3mm 32	Print 4mm 38	Print 6mm 44	Print 8mm 48	Print 10mm 60	Print 12mm 64	Print 15mm 72	Print 18mm 78	Print 20mm 81	Print 25mm 95	Print 30mm 102	Print 35mm 118	Print 40mm 131	Print 45mm 141	Print 50mm 150
50	395	337	268	224	188	165	137	120	111	92	79	68	61	54	50
60	423	364	294	249	209	185	155	137	126	105	91	79	70	63	58
70	445	387	316	270	228	203	170	152	141	117	102	88	79	71	65
80	463	405	335	288	245	219	184	165	153	128	112	97	87	79	72
90	479	421	352	305	260	233	197	178	165	139	121	106	94	86	78
100	492	435	366	319	273	246	208	189	176	148	130	114	102	92	85
110	503	447	378	332	284	257	219	199	186	157	138	121	108	98	90
120	513	457	390	344	295	268	228	208	195	165	146	128	114	104	96
130		466	400	354	305	277	237	217	203	173	153	134	120	110	101
140		474	409	363	313	286	245	225	211	180	159	140	126	115	106
150		481	417	372	321	294	252	233	219	187	166	146	131	120	110
160				380	329	302	259	240	226	193	172	151	136	124	115
170				387	336	308	265	246	232	199	177	156	141	129	119
180				394	342	315	271	252	238	204	183	161	145	133	123
190				400	348	321	277	258	244	209	188	166	149	137	127
200				405	353	326	282	263	249	214	192	170	153	141	130
210				411	358	331	286	268	254	219	197	174	157	144	134
220				416	363	336	291	273	259	223	201	178	161	148	137
230							295	277	263	228	205	182	164	151	140
240							299	282	267	232	209	185	168	154	143
250							303	286	271	235	213	189	171	157	146
260										239	216	192	174	160	149
270										242	220	195	177	163	152
280										246	223	198	180	166	154
290										249	226	201	182	168	157
300										252	229	204	185	171	159

THERMOCODE 53 & 107

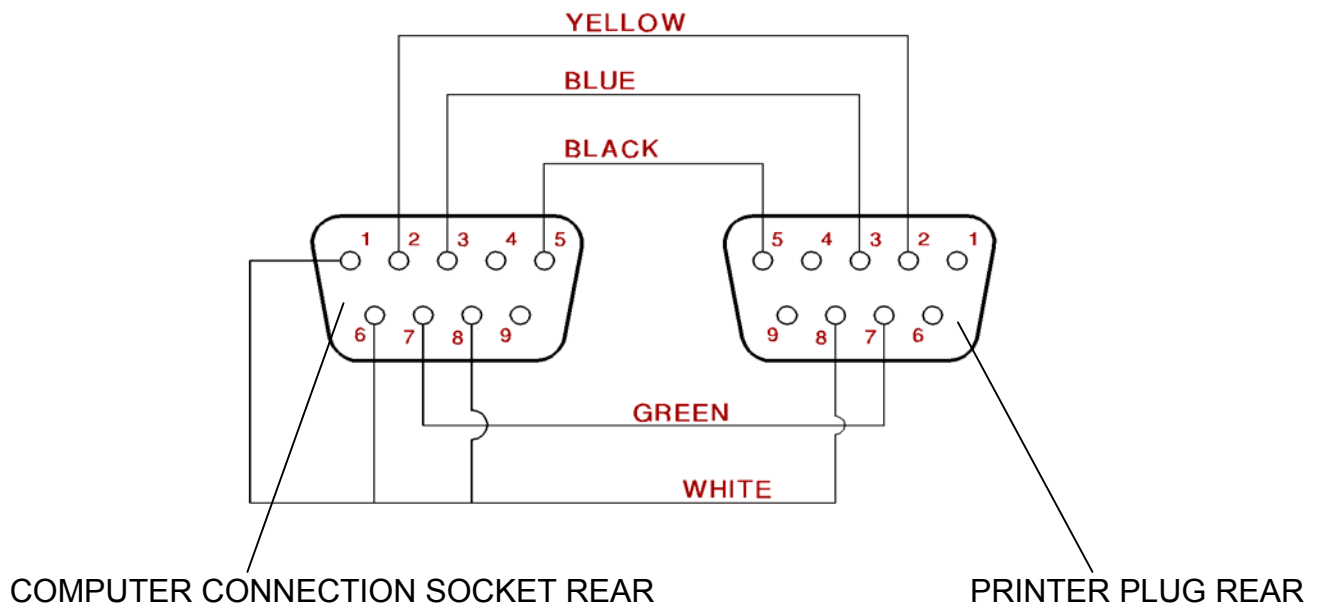
PRINT TIME CHART (Assumimg 1mm Print height + 20 Pressure)

The Figures below show time in milliseconds from Print signal to end of Printed image. (Includes 25 milliseconds for vertical movement.)

Print Speed mm/sec	Print 3mm	Print 4mm	Print 6mm	Print 8mm	Print 10mm	Print 12mm	Print 15mm	Print 18mm	Print 20mm	Print 25mm	Print 30mm	Print 35mm	Print 40mm	Print 45mm	Print 50mm
50	85	105	145	185	225	265	325	385	425	525	625	725	825	925	1025
60	75	92	125	158	192	225	275	325	358	442	525	608	692	775	858
70	68	82	111	139	168	196	239	282	311	382	454	525	596	668	739
80	63	75	100	125	150	175	213	250	275	338	400	463	525	588	650
90	58	69	92	114	136	158	192	225	247	303	358	414	469	525	581
100	55	65	85	105	125	145	175	205	225	275	325	375	425	475	525
110	52	61	80	98	116	134	161	189	207	252	298	343	389	434	480
120	50	58	75	92	108	125	150	175	192	233	275	317	358	400	442
130	48	56	71	87	102	117	140	163	179	217	256	294	333	371	410
140	46	54	68	82	96	111	132	154	168	204	239	275	311	346	382
150	45	52	65	78	92	105	125	145	158	192	225	258	292	325	358
160	44	50	63	75	88	100	119	138	150	181	213	244	275	306	338
170	43	49	60	72	84	96	113	131	143	172	201	231	260	290	319
180	42	47	58	69	81	92	108	125	136	164	192	219	247	275	303
190	41	46	57	67	78	88	104	120	130	157	183	209	236	262	288
200	40	45	55	65	75	85	100	115	125	150	175	200	225	250	275
210	39	44	54	63	73	82	96	111	120	144	168	192	215	239	263
220	39	43	52	61	70	80	93	107	116	139	161	184	207	230	252
230	38	42	51	60	68	77	90	103	112	134	155	177	199	221	242
240	38	42	50	58	67	75	88	100	108	129	150	171	192	213	233
250	37	41	49	57	65	73	85	97	105	125	145	165	185	205	225
260	37	40	48	56	63	71	83	94	102	121	140	160	179	198	217
270	36	40	47	55	62	69	81	92	99	118	136	155	173	192	210
280	36	39	46	54	61	68	79	89	96	114	132	150	168	186	204
290	35	39	46	53	59	66	77	87	94	111	128	146	163	180	197
300	35	38	45	52	58	65	75	85	92	108	125	142	158	175	192

COMPUTER COM1 CONNECTION LEAD

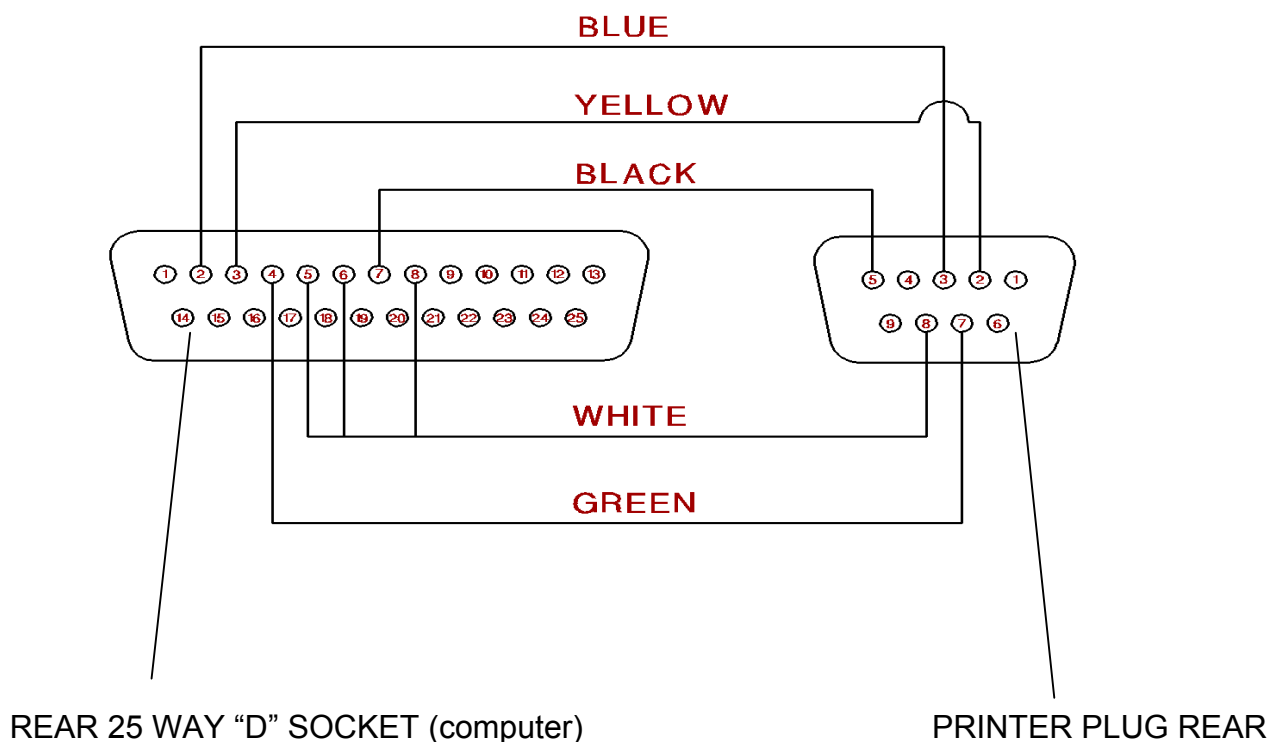
COMPUTER TO PRINTER 9 WAY "D" CONNECTOR (COM1)



PURCHASE PART No. LEA 755021

COMPUTER COM2 CONNECTION LEAD

COMPUTER 25 WAY "D" CONNECTOR (COM2) TO PRINTER 9 WAY "D" CONNECTOR



PURCHASE PART No. LEA 755019