

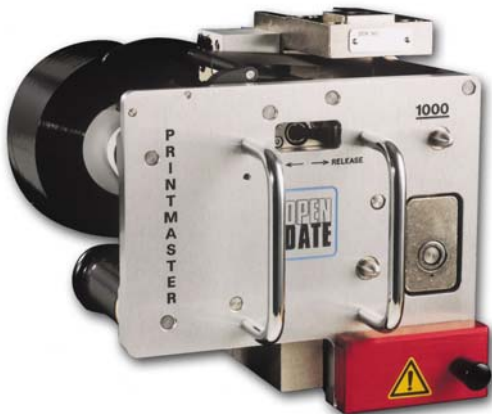


PRINTMASTER HOT FOIL PRINTER WITH DIGI-60 CONTROLLER

OPERATOR INSTRUCTIONS
PARTS LISTING
CIRCUIT DIAGRAMS
INSTALLATION DETAILS

Covering the following models;

**PRINTMASTER 400
PRINTMASTER 1000
PRINTMASTER PLUS**



Designed and manufactured by:

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Printmaster-Digi60 17/04/14

DECLARATION OF CONFORMITY

IMPORTANT SAFETY INSTRUCTIONS

THIS EQUIPMENT MUST BE EARTHED TO AVOID RISK OF ELECTRIC SHOCK.

TO AVOID INJURY OR ELECTRIC SHOCK ALL PERSONNEL RESPONSIBLE FOR INSTALLING, OPERATING AND SERVICING THIS EQUIPMENT MUST READ AND FOLLOW THE INSTRUCTIONS IN THIS MANUAL AND THE SAFETY INFORMATION GIVEN BELOW:

1. Read this manual fully. Follow all warnings and instructions.
2. Installation, servicing and training of users must be undertaken by suitably qualified personnel.
3. Disconnect the printer and controller from mains electricity and air supplies before cleaning or servicing.
4. Never operate the printer unless it is installed in the mounting frame supplied. When installed correctly the gap between the printer and print base should not be greater than 4mm (see page 35).
5. Do not expose any part of the product to liquids or vapours including pressure washing or steam cleaning.
6. Do not place the product on an unstable stand, table or machine. It may fall causing serious damage and/or injury.
7. Never insert objects through apertures in the product as they may touch dangerous voltages or short circuit parts that could result in fire or electric shock.
8. The product must be operated from the type of electrical supply shown on the product identification label at the rear of the printer controller (see page 7).
9. The controller to printer cable must only be connected to an Open Date printer. It is not a signal or data cable. Connecting the cable to anything other than the specified printer may risk electric shock or damage.
10. To ensure proper earthing the connecting cable from the controller must be fitted securely to the printer by tightening the two retaining screws on the connector body.
11. The controller has a standard IEC C14 mains connector. A C13 (supplied) or C15 terminated cable must be used to connect mains power.
12. The mains supply to the controller must be protected by a 5 amp fuse.
13. All cabling must be routed to avoid damage that may cause failure or risk of electric shock.
14. The product is not user serviceable. Opening or removing covers exposes persons to dangerous voltages, major burns and other risks. Refer all servicing to qualified personnel.
15. Do not use to use the product in areas where explosive gases or substances are present.
16. In use type-holders become hot enough to cause serious burns (<240°C). Never touch metal parts of a type holder. Handle type-holders only by their insulated plastic handles. Never assume a type holder is cold.
17. Adjust only those controls and settings covered by these instructions. Improper adjustment may result in damage needing qualified technicians to resume normal operation.
18. Disconnect the product from the electrical and air supplies and refer to qualified personnel under the following conditions:
 - If the cabling or connectors are damaged.
 - If the air pipes are damaged or leaking.
 - If any part of it has been exposed to liquid.
 - If the product does not operate normally.

If in doubt contact the manufacturer or authorised agent before proceeding with installation, operation or servicing.

Digi-60 Controller Operating Instructions

Temperature button

To adjust the temperature setting, press and hold down the temperature button and use the up/down arrow buttons to the left of the display to increase or decrease the set point. (Required Temperature)

Set point range:- Minimum 70°C (158°F), Maximum 240°C (464°F).

Note! When selecting operating Modes 1, 3 or 5, the printer will not operate on the external trigger until the temperature has reached the pre-programmed set point. (see page 13 for ranges of the mode settings etc.)

In normal operation the temperature will fluctuate by up to $\pm 4^{\circ}\text{C}$ from the set point.



Print dwell button

To adjust the print dwell setting, press and hold down the print dwell button and use the up/down arrow buttons to the left of the display to increase or decrease.

This adjustment controls the time the type/die face is in contact with the substrate. Higher numbers indicate longer dwell times.

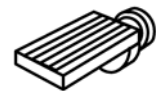
Range: 10mS to 2000mS. (0.01 – 2.0 Seconds)



Print switch

Switches the print signal between ON and OFF LINE.

- ON LINE; Green LED lit. The printer accepts external trigger signals (automatic print cycle). The test button does not operate.
- OFF LINE; Green LED not lit. The printer does not accept external trigger signals, The test button operates the printer.



Note! Fault warnings automatically take the printer OFF LINE. When faults are cleared the printer can resume ON LINE status automatically or require a manual reset using the print switch. Refer to page 15 "Settings for ON LINE options" to use this feature.

Test Button.

Manually triggers the printer when OFF LINE. (Green LED is not lit).

Note! The test button is disabled when the printer is ON LINE



Fault warnings - Red LEDs

Red LEDs indicate the fault conditions shown below. The printer goes OFF LINE when a fault is detected.

(Refer to pages 22 & 23 for system faults)

Air pressure



Heater



Foil



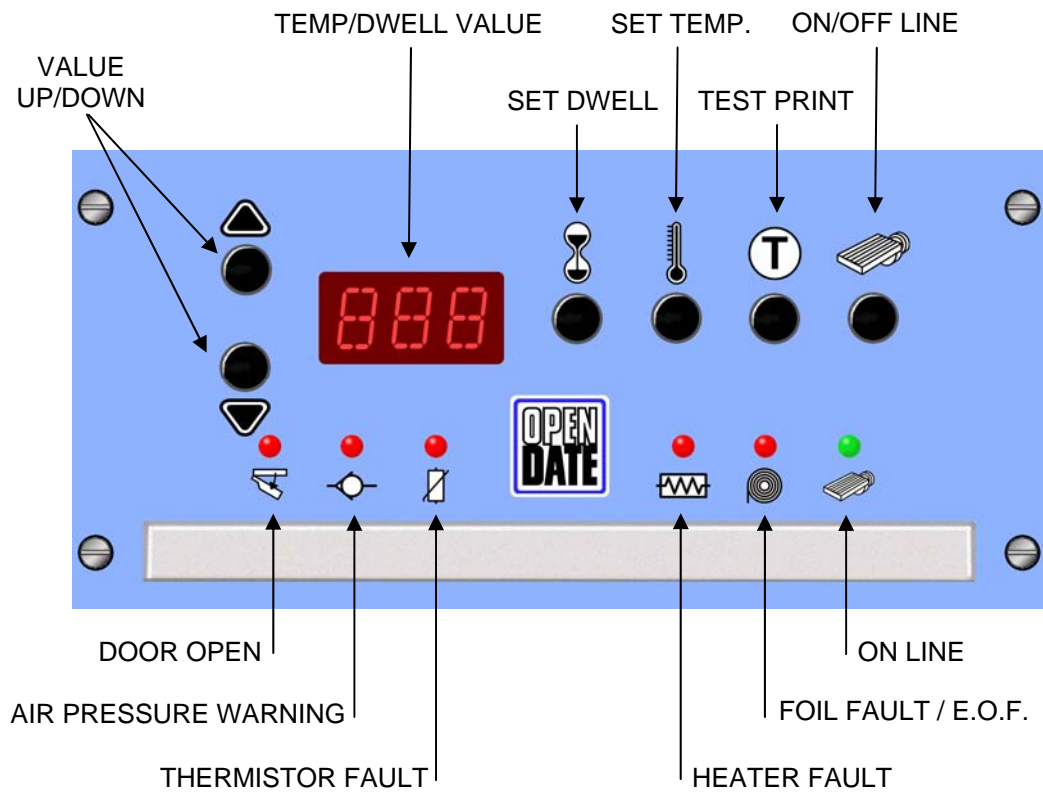
Thermistor



Door



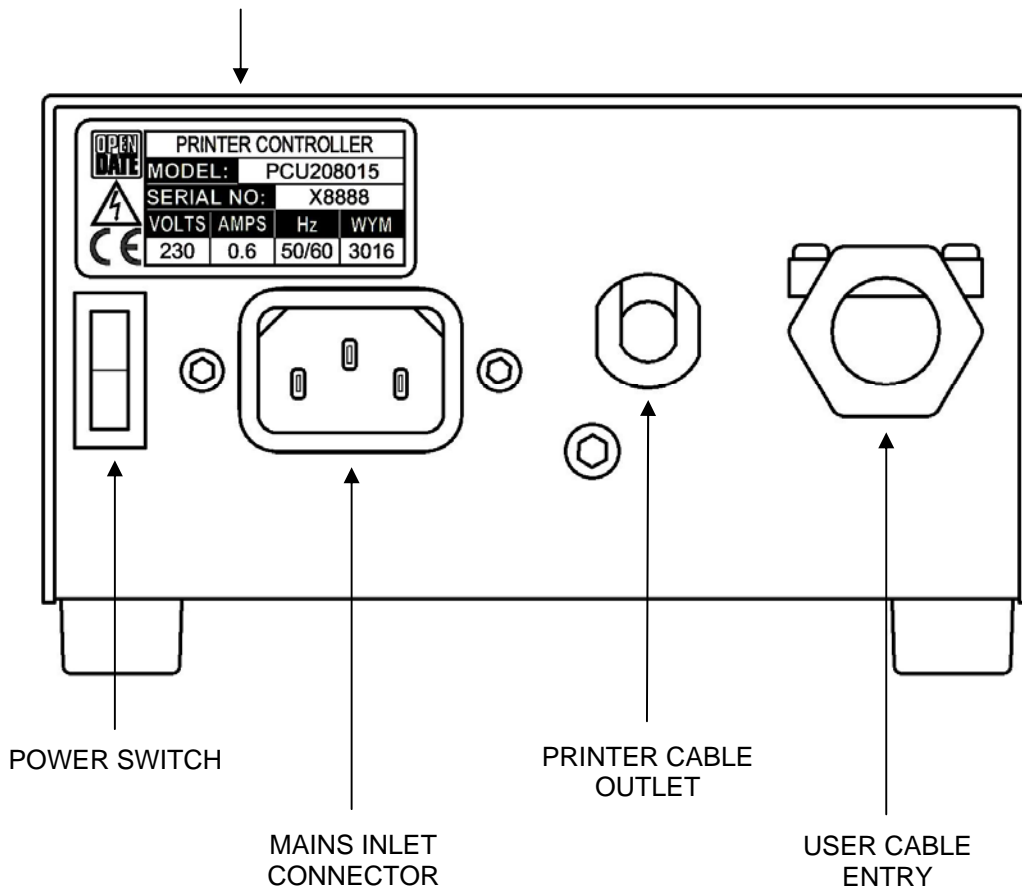
Digi-60 Front Panel Layout



Digi-60 Controller Rear Panel Layout

For clarity cabling is not shown.

PRODUCT IDENTIFICATION LABEL
Showing model number, serial number and
mains supply requirements for the controller



Operating Instructions - Printer

MAGAZINE REMOVAL (see Diagram A. below)

To remove the foil magazine, slide the black catch, hold in place and withdraw the magazine using the black handle. If the printer is on-line (Print LED on) the alarm will sound. Press the **PRINT** switch to silence this.

FOIL THREADING (refer to Diagram B. below)

1. Fit an empty foil core onto the rewind mandrel.
2. Disengage the pinch drive roller.
3. Remove label from a new roll of foil.
4. Fit new roll of foil onto take-off mandrel (note unwind direction as shown on threading diagram).
5. Thread foil around all rollers as shown on threading diagram. Note, the gloss side of the foil should face inwards throughout the foil path.
6. Attach end of foil to empty core on rewind mandrel, gloss side facing inwards.
7. Wind foil on a few turns to track and tension it.
8. Engage pinch drive roller.

Foil Loading Diagram

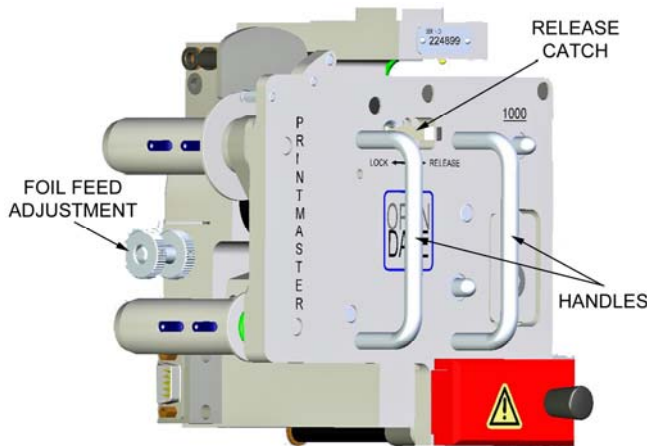


Diagram A.

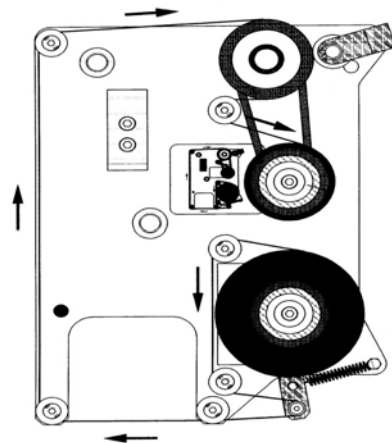


Diagram B.

RE-FITTING FOIL MAGAZINE

Hold the magazine by the handle, slide it onto the locating pins and push to lock in place. Press the **PRINT** switch on the control unit if the printer is to be put on-line.

FITTING TYPE/DIE HOLDER

NEVER ASSUME THAT A TYPE/DIE HOLDER IS COLD.

Only pick up the type/die holder by its handle. Ensure that the face of the magnetic catch is clean, remove the foil magazine as detailed above, align the type/die holder within the two side locators and slide in until the magnet catches on the keep plate. Re-fit the foil magazine.

FOIL FEED ADJUSTING SCREW (refer to Diagram A. above)

This adjusts the amount of foil used per print. Winding the adjusting screw in reduces the foil pull and vice versa. Ensure that the locking nut is fully tightened after adjustment. A gap of 1 to 2mm is recommended between each portion of used foil.

INITIAL SETTING PROCEDURE

1. Ensure that printing foil and substrate are compatible. If in doubt, contact foil supplier for assistance.
2. Remove Type Holder from printhead.
3. Ensure that rubber print base is clean, undamaged and securely retained in position under printer.
4. Set air pressure regulator. 4 to 7 Bar is recommended (60 to 100 PSI).
5. Switch controller on.
6. Set print dwell time to 120 milli-seconds and temperature to 125°C (257°F). 3 to 4 minutes should be allowed for printer to reach working temperature.
7. Load type or die into holder, centrally if possible and fasten securely. Make sure that typeface is clean.
8. Load type/die holder into printer and close door. If cold, allow 3 to 4 minutes for holder to heat up before printing.
9. Ensure the printer is off line
10. Place a sample of substrate material under printer and press **TEST** button. Inspect resulting print.
11. Adjust print levelling screws until a light, uniform print impression is achieved. Lock levelling screws.
12. Adjust foil metering screw for economic foil use as detailed previously and tighten thumb nut.
13. Switch the printer to on line for automatic operation.

PRINT ORIENTATION

To rotate the printer and therefore turn the overprint through 90 degrees, remove the foil magazine (if applicable), unscrew the clamping handle until the location square on top of the printhead is clear of the top rails, turn it to the required position, tighten the clamping handle and replace the magazine.

TEMPERATURE ADJUSTMENT (refer to page 5)

- Normal setting is about 125°C. (257°F).
- Should the print not fully adhere to the substrate then a higher setting may be used.
- Small, fine detail print generally requires a lower temperature.
- Thermoplastic films and especially polyethylene generally require a lower temperature.
- Aluminium foils, paper and untreated polyester require a higher temperature.

See pages 13 & 20 for temperature mode & calibration

PRINT DWELL ADJUSTMENT (refer to page 5)

- Normal setting is about 120 milli-seconds.
- Generally, the larger the print, the higher the setting.
- Should the print not adhere fully to the substrate, a higher setting may be used.
- Remember, the printhead can only operate during the stationary cycle of the web, if the print time is longer than this the web may break.
- Should the dwell time have to be decreased to accommodate higher production speeds, it may be necessary to compensate by increasing the temperature setting.

Air Flow Controls

The airflow restrictors are usually attached to the solenoid valve exhaust ports. They work by regulating the speed at which air is exhausted from the air cylinder. Turning the adjusting screws will alter the exhaust airflow and consequently the print ram velocity, it will also affect noise levels.

Increasing the exhaust airflow from the forward stroke of the print ram will increase the print pressure. Decreasing the exhaust airflow will reduce print pressure and the resulting print will be lighter.

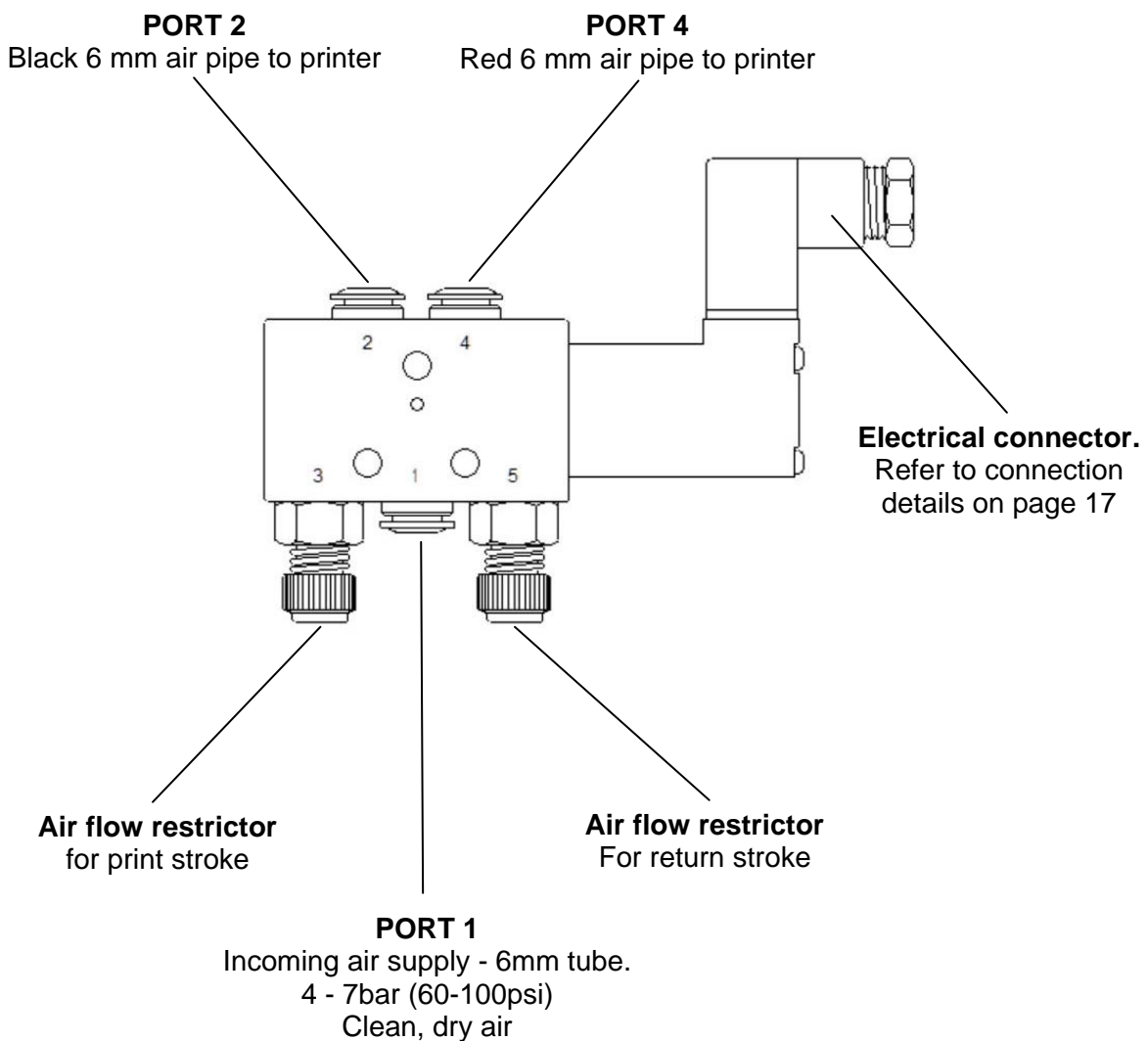
The drive for the printing foil is taken from the return stroke of the print ram. Increasing the exhaust airflow will speed up the foil feed. To ensure efficient foil feeding, the return stroke should be as gentle as possible.

For higher speed operation, the exhaust airflow from both the forward and return strokes will have to be increased.

Note, it is very important that the print ram returns fully before the next print cycle commences.

Solenoid Valve Details

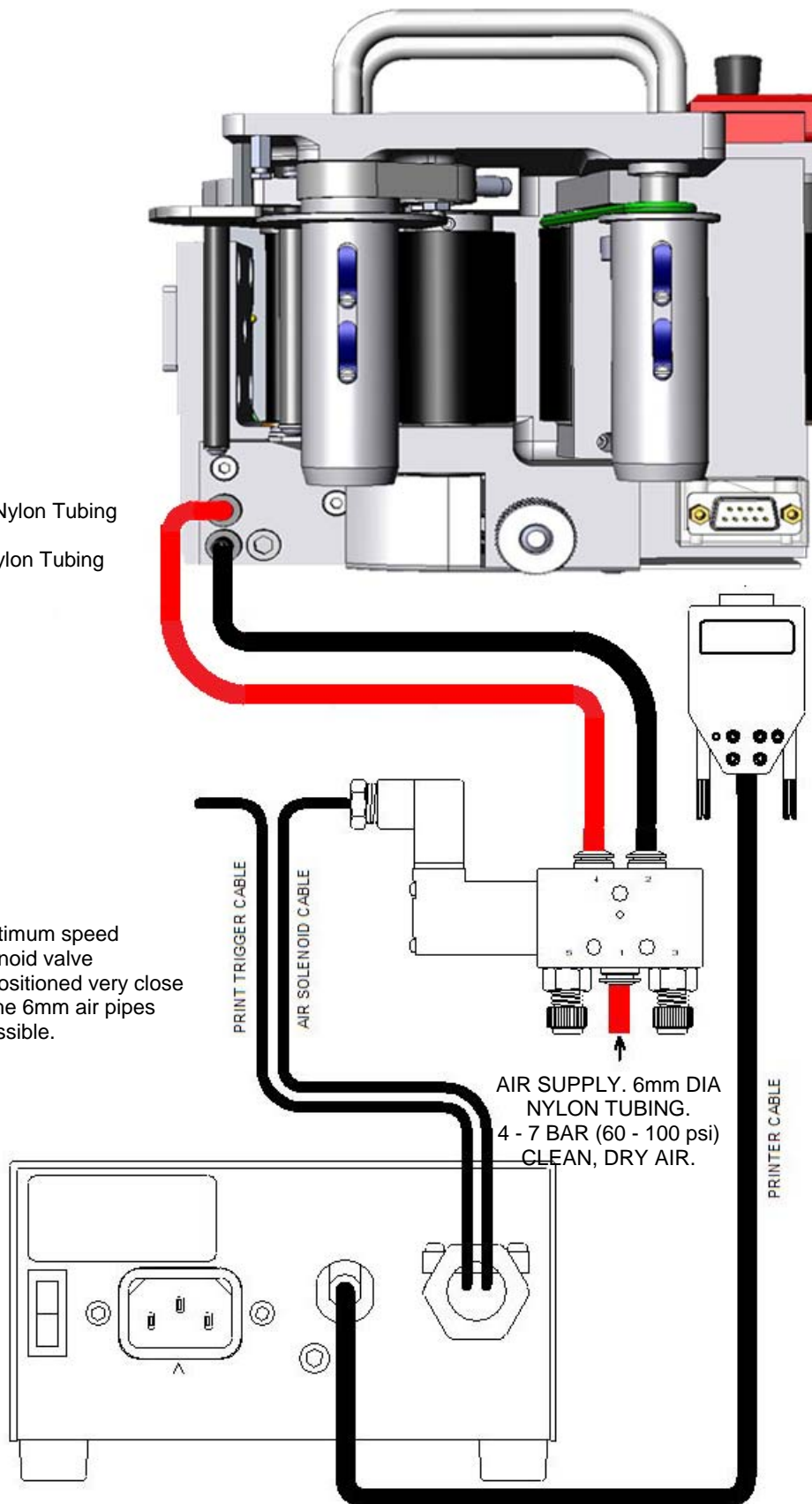
Refer to the diagram on page 11 for correct orientation of black and red air pipes to printer. Reversed printer air connections will force the print ram fully down (print position) instead of fully up (home position)



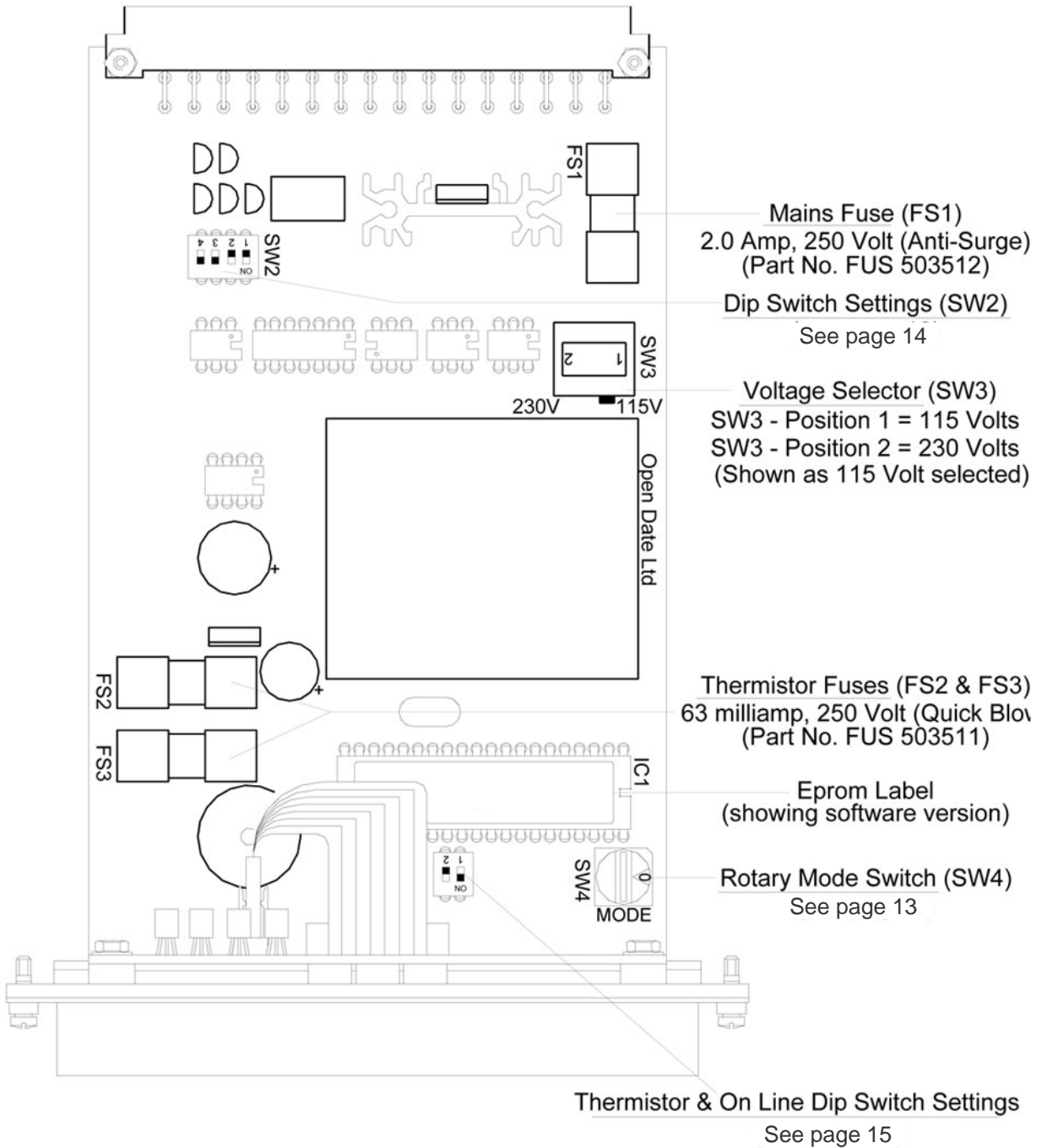
PRINTMASTER CONNECTION DETAILS (R/H VERSION SHOWN)

5mm Black Nylon Tubing
5mm Red Nylon Tubing

Note
In order to achieve optimum speed performance, the solenoid valve assembly should be positioned very close to the printer so that the 6mm air pipes can be as short as possible.



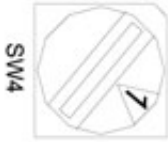
SETTING UP DIGI-60 CONTROLLER



DIGI-60 MODE SETTINGS FOR TEMPERATURE TOLERANCE RANGES

The Mode selector is a Rotary Switch located between the Front Panel and the Transformer.

Mode 1 (Default)



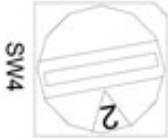
Temperature Range. -5% to +10% of the set point.

Printer operates on all temperatures.

Fault relay functions within the temperature range of the set point.

(The printer will continue to print when under or over temperature)

Mode 2

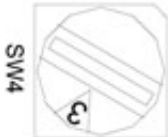


Temperature Range. -5% to +10% of the set point.

Printer operates within the temperatures range of the set point.

Fault relay functions within the temperature range of the set point.

Mode 3



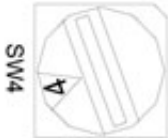
Temperature Range. -5% to +5% of the set point.

Printer operates on all temperatures.

Fault relay functions within the temperature range of the set point.

(The printer will continue to print when under or over temperature)

Mode 4

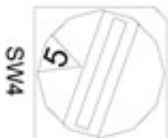


Temperature Range. -5% to +5% of the set point.

Printer operates within the temperatures range of the set point.

Fault relay functions within the temperature range of the set point.

Mode 5



Temperature Range. -10% to +10% of the set point.

Printer operates on all temperatures.

Fault relay functions within the temperature range of the set point.

(The printer will continue to print when under or over temperature)

Mode 6



Temperature Range. -10% to +10% of the set point.

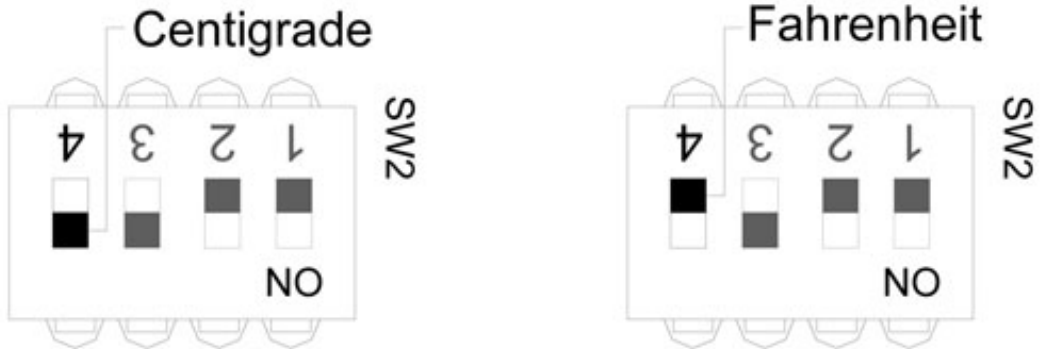
Printer operates with in the temperatures range of the set point.

Fault relay functions within the temperature range of the set point.

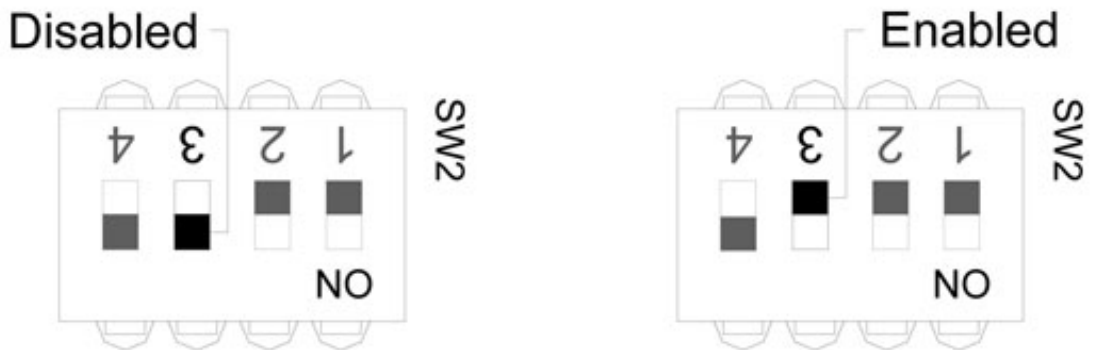
Modes 7, 8, 9 and 0 are the same as the default value. (Mode 1)

DIGI-60 DIP SWITCH SETTINGS

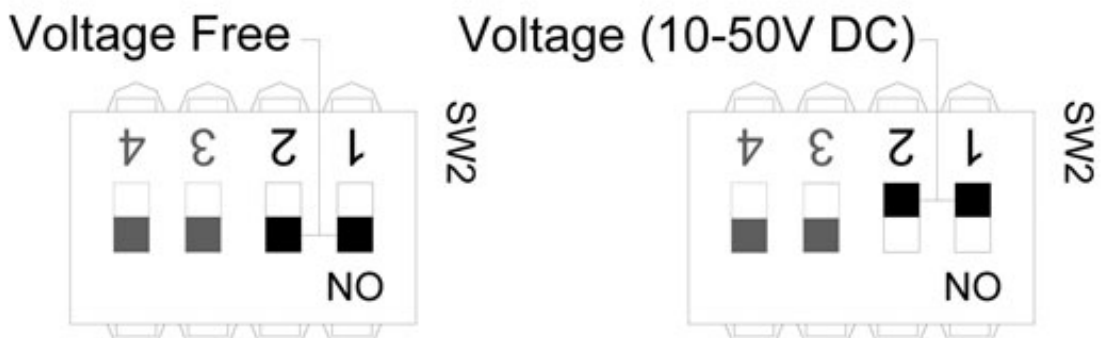
Temperature Range SW2 (No 4)



Low Air Configuration SW2 (No 3)

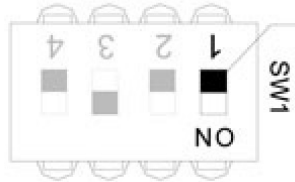


Print Trigger Selection SW2 (No 1 & 2)



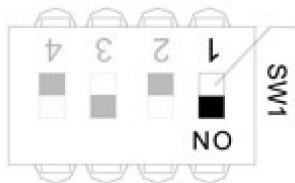
Thermistor & ON-LINE DIP Switch Settings (SW1)

Settings for the Standard Thermistor. (see note below)



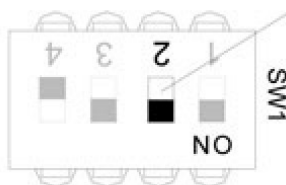
Set switch No. 1 to "OFF"
Part No. THE 312080
Thermistor Type USP 5362
Black Connection wires.

Settings for optional Thermistor.

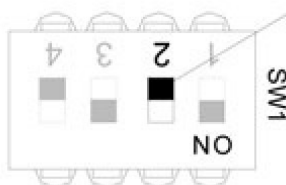


Set switch No. 1 to "ON"
Part No. THE 500502 (Optional)
Thermistor Type G55-Bead
White Connection wires.

Settings for the "ON LINE" options (With Eprom Versions 3.0 or later)



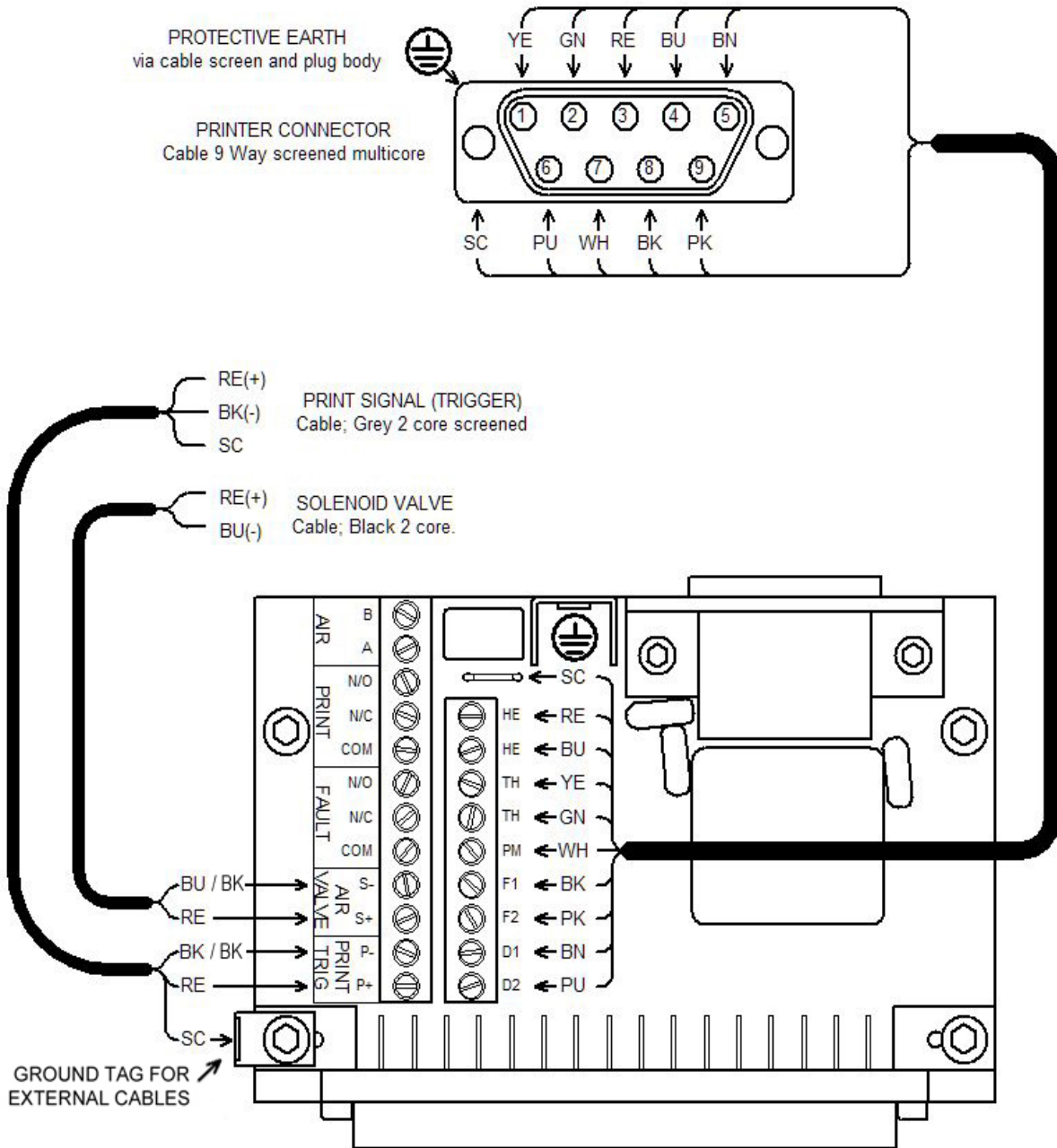
Set switch No. 2 to "ON"
The printer automatically, leaves the
printer "ON LINE" ready for printing.
(once the fault is corrected)



Set switch No. 2 to "OFF"
The printer automatically, puts the
printer "OFF LINE" .
Correct the fault, and press the "PRINT" Switch.

Digi-60 Basic Connections

(See page 17 for details)



KEY TO COLOUR CODES:

BK = black, BN = brown, RE = red, YE = yellow, GN = green, BU = blue,
 PU = purple, WH = white, PK= pink, SC = screen or braid of cable

IMPORTANT—TO AVOID SHOCK RISK

THE PRINTER IS EARTHED VIA THE CONNECTOR AND BRAIDED SCREEN OF THE CONTROLLER CABLE. THE CONNECTOR RETAINING SCREWS MUST BE FULLY TIGHTENED FOR PROPER EARTHING. THE PRINTER MUST NOT BE USED IF THE CONNECTOR OR CABLE IS DAMAGED OR THE SCREEN IS NOT ATTACHED TO THE CONNECTOR BODY

Digi-60 Connection Details

PRINT TRIG PRINTER TRIGGER SIGNAL - grey 2 core screened cable.

See page 14 print trigger selection for details of input print signals.

P+ Red External trigger input + volts connection.
P- Black/Blue External trigger input - volts connection.

AIR VALVE PRINTER AIR SOLENOID VALVE - black 2 core unscreened cable.

N.B. To avoid internal damage do not short these wires or allow them to be grounded. Be sure to use the correct terminals on the valve connector for +ive and -ive wires.

S+ Red Air solenoid valve output +ive connection. **Use terminal 1 on the connector**
S- Blue Air solenoid valve output -ive connection. **Use terminal 2 on the connector**

PRINTER Multicore screened cable to D9 socket.

N.B. Shock risk; mains voltage. See safety warnings on pages 4 and16.

<u>C/U</u>	<u>Colour</u>	<u>Function</u>	<u>D Connector</u>
TH	Yellow	Thermistor connection.	Pin 1
TH	Green	Thermistor connection.	Pin 2
HE	Red	Heater LIVE connection. (230Vac!)	Pin 3
HE	Blue	Heater NEUTRAL connection. (230Vac!)	Pin 4
D1	Brown	Door switch and foil sensor 0V.	Pin 5
D2	Purple	Door switch state.	Pin 6
PM	White	Foil sensor. Printmaster only.	Pin 7
F1	Black	Foil sensor output.	Pin 8
F2	Pink	Foil sensor +24V.	Pin 9
Screen		Protective Earth.	Connector body

MAINS ELECTRICITY SUPPLY

A standard IEC C14 connector is fitted to the rear of the controller
 This accepts the IEC C13 or C15 (hot condition) 3 pin connector (Commonly called a 'Kettle' lead)

MAINS SAFETY - To avoid shock or fire hazards:

- The incoming mains supply must be protected by a 5A fuse.
- The controller must be earthed via the mains connector.
- Refer to page 4 for detailed safety information.

For PRINT and FAULT relay connections refer to page 18

For AIR SW optional low air pressure warning refer to page 19

DIGI-60 Fault and Print Relay Connections

There are two relays for indicating printer system status to external equipment. The relays may be used independently or linked in series to obtain full warning status on a single connection.

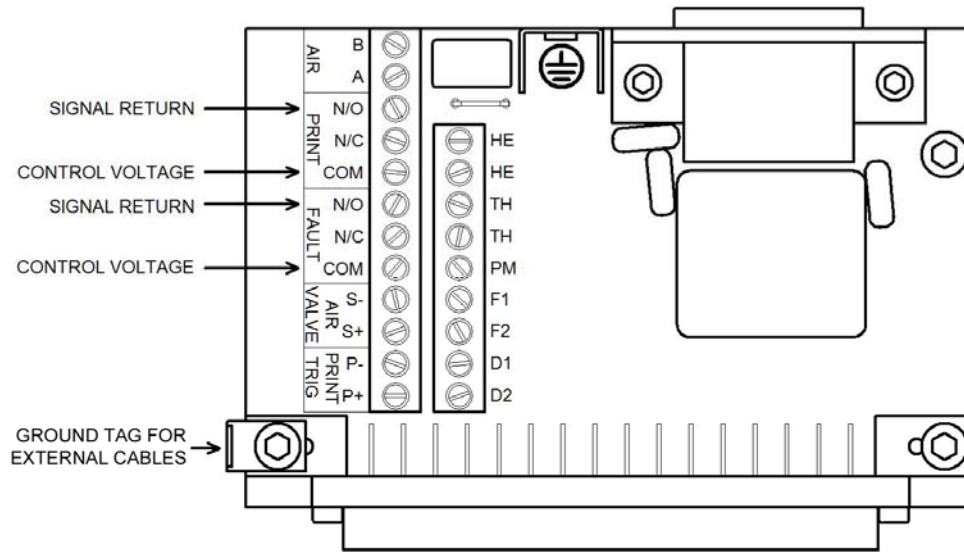
Each relay has COM, N/C and N/O contacts rated 24V @ 1A maximum

Using the N/O contact of each relay gives a positive indication only when the printer is in normal/ready condition and the control voltage is present. (Fail safe operation)

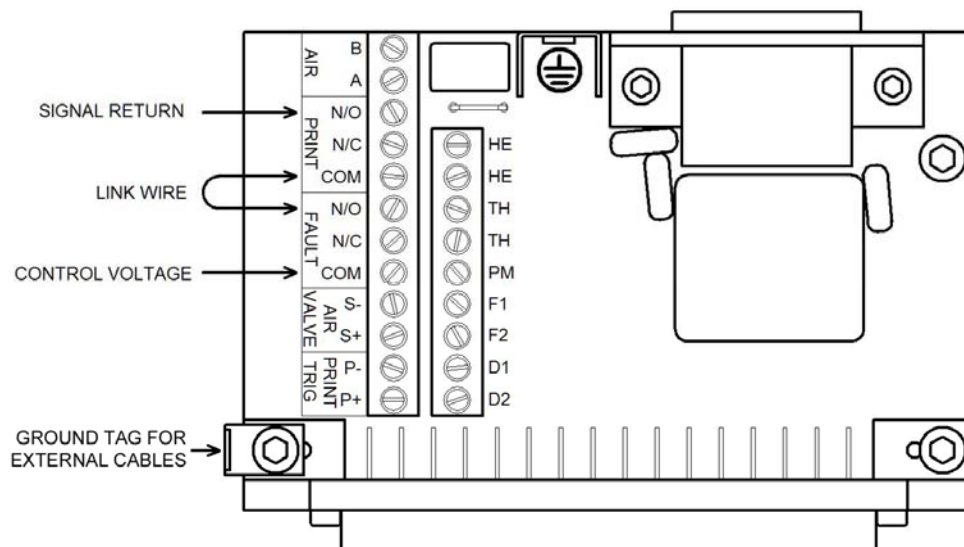
FAULT RELAY Changes state when a fault is detected. (door open, foil fail, heater fault, thermistor fault or low air pressure).

PRINT RELAY Changes state when the printer is ON or OFF line.

Wiring for Independent Fault/Print Indications



Wiring for Combined Fault/Print Indications



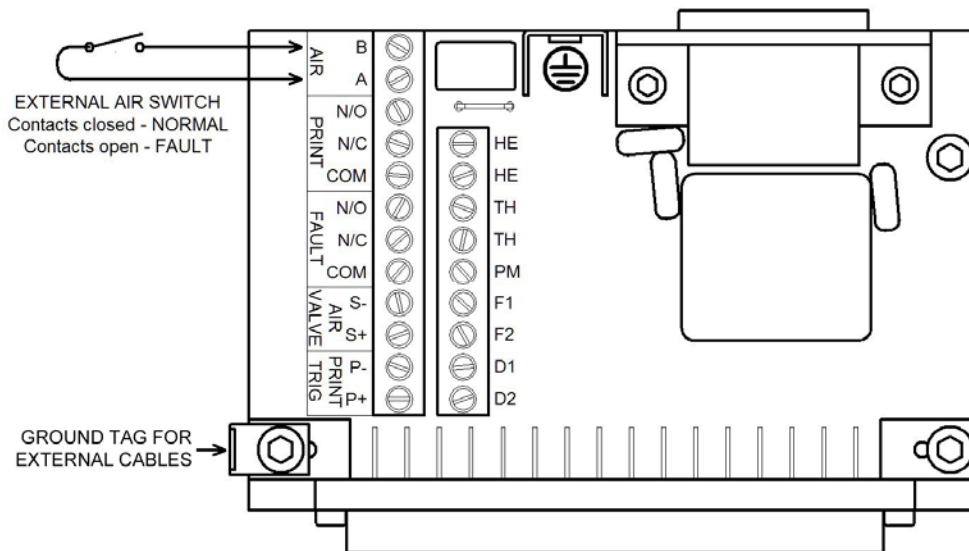
Digi-60 Low Air Pressure Warning (optional)

The printer will not operate without a compressed air supply. An air pressure sensor switch (optional, not supplied) may be fitted to provide a low air fault condition to the Digi-60 controller and operate the fault relay.

- The switch contacts should be closed when the air pressure is OK.
- The switch contacts should open when the air pressure is low.
- Adjust the switching pressure to suit the application

Connect the switch as shown in the diagram below. The low air pressure feature must be activated by changing a DIP switch on SW2. Refer to page 12 for the location of SW2 on the Digi-60 controller and page 14 "Low air configuration SW2" for switch settings.

Wiring for Low Air Pressure Warning



DIGI-60 CALIBRATION METHOD

Note: Calibration Temperature Range = 70°C to 220°C (158°F to 428°F)

The control unit is factory calibrated at 130°C, and is set up in "MODE 1" supplied as standard. See page 13 for a list of the different modes available.

Unless you are running temperatures outside the range 70°C to 180°C (158°F to 356°F), the default calibration should not be altered.

Fitting of an alternative thermistor (THE 515002) will require (SW1) position to be altered (See page 15), again this will be accurate to plus or minus 7°C. If accurate temperatures are needed, you should recalibrate to suit the individual thermistor fitted.

For normal running temperatures above 180°C you should recalibrate at 200°C.

External Calibration Method

Switch the Digi60 unit on and adjust the temperature setting to 130°C or 266°F.

Leave on for 10 to 15 minutes, allowing the temperature to stabilise.

Measure the temperature at the type face using a temperature probe.

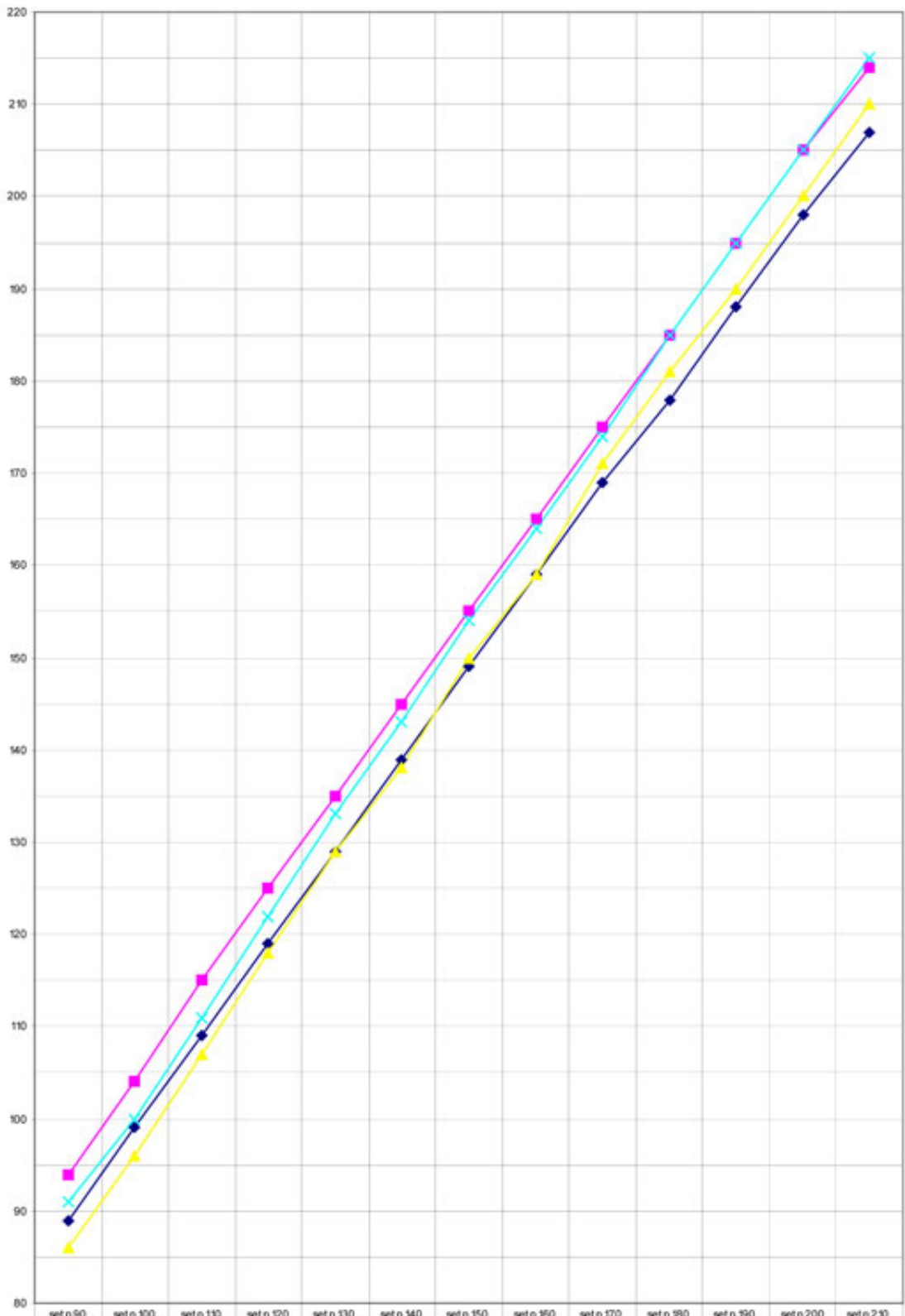
Allow the temperature probe to stabilise before noting the reading.

Adjust the Digi60's set point to match the temperature probe reading.

Press the both the up and down arrow keys at the same time then press the print switch.

The controller is now calibrated.

STATIC TEMPERATURE RESULTS CALIBRATED AT 130°C

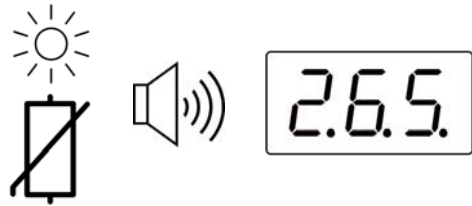


display low	89	99	109	119	129	139	149	159	169	178	188	198	207
display high	94	104	115	125	135	145	155	165	175	185	195	205	214
probe low	86	96	107	118	129	138	150	159	171	181	190	200	210
probe high	91	100	111	122	133	143	154	164	174	185	195	205	215

DIGI-60 System Fault Indications

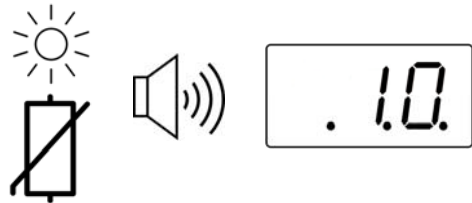
Thermistor - Short circuit

- Red thermistor fault LED lit.
- Internal beeper sounding.
- Display shows "265" (or similar value).
- Heater disabled.



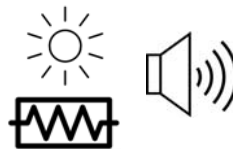
Thermistor - Open circuit

- Red thermistor fault LED lit.
- Internal beeper sounding.
- Display shows " 10" (or similar value).
- Heater disabled.



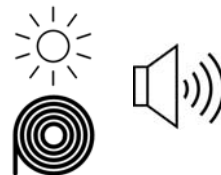
Heater - Open circuit

- Red heater fault LED lit.
- Internal beeper sounding.



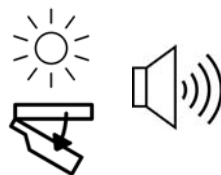
Foil - Run out or broken

- Red foil fault LED lit.
- Internal beeper sounding.



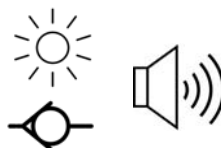
Type holder door open

- This feature is not available on E-Coder.



Air pressure - Low

- Red heater fault LED lit.
- Internal beeper sounding.

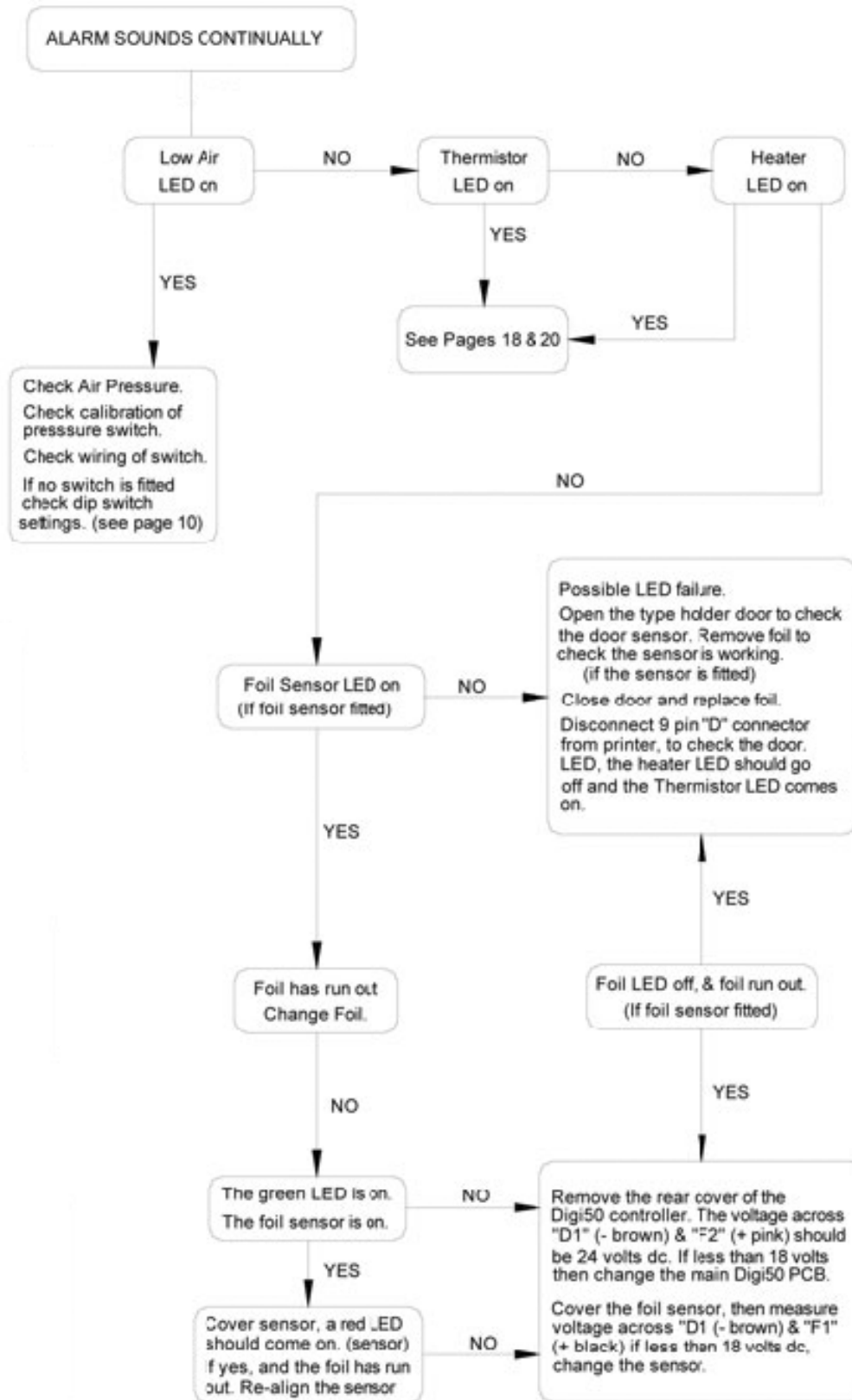


Note! Low air pressure warning uses an optional pressure switch. (see pages 14 and 19 for details).

In any of the above fault conditions, the fault relay will be de-energised. See pages 18 & 19 for connection details.

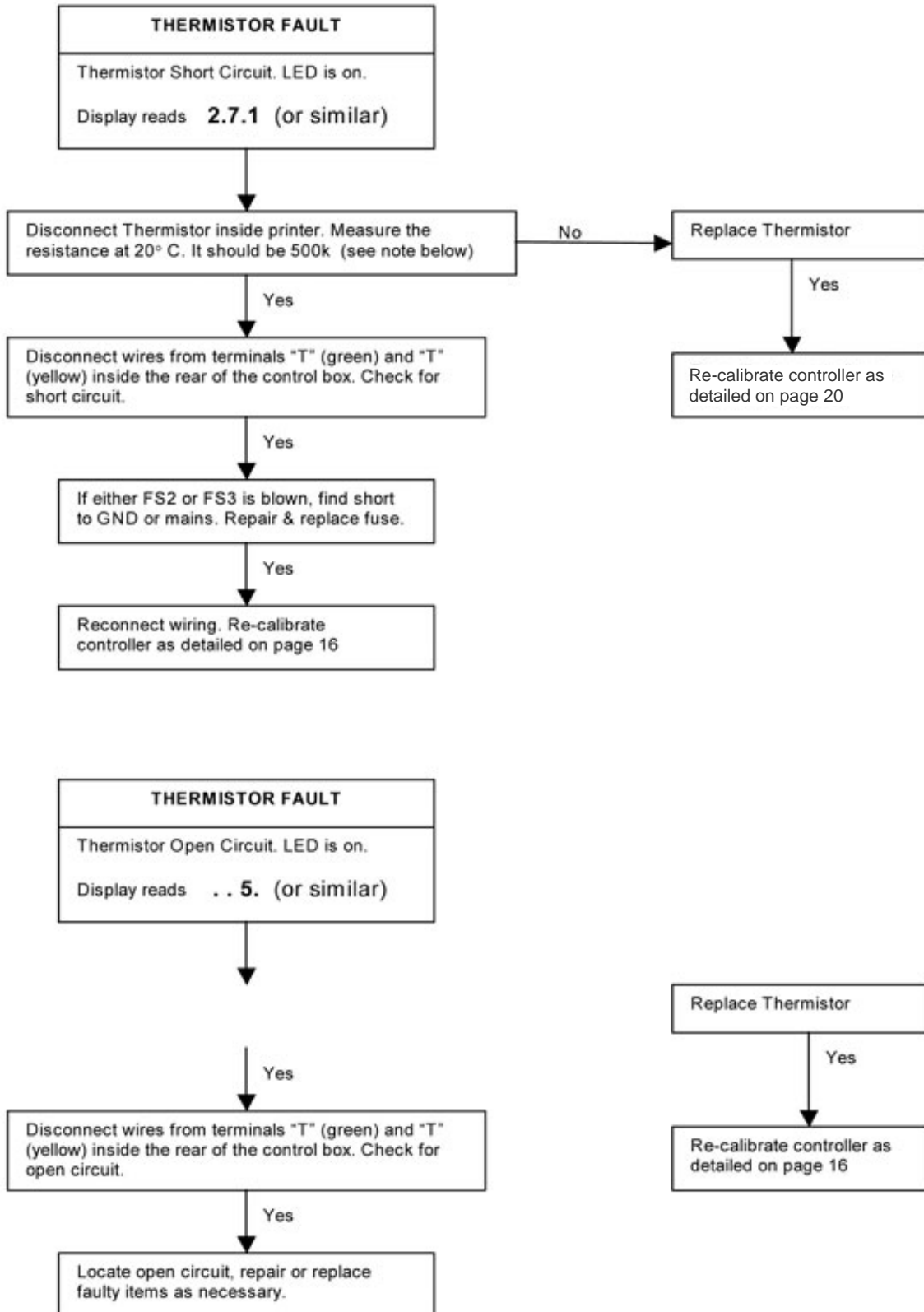
Digi-60 Alarm System Faults

If no LEDs are on, check the mains supply and the fuses on the PCB. For wiring connections see



THERMISTOR FAULTS

Digi60 controller utilising the Open Date printer range and a standard thermistor.



NOTE. Results may vary, depending on type of Thermistor and actual temperature.

MECHANICAL FAULTS

FAULT	POSSIBLE CAUSE
Insufficient foil pull.	<ul style="list-style-type: none"> • Foil adjusting screw wound in too far. • Pinch roller not engaged. • Broken torsion Spring in body. • Grub screw loose in cam or lever. • Rubber drive roller damaged or dirty. • Foil feed air flow restrictors incorrectly set. • Clutch bearing failure in gear or body. • Cam and/or fork end roller worn.
Solenoid operates but printer does not.	<ul style="list-style-type: none"> • No air. • Air pipe damaged.
Printer operates but does not print, i.e. impression but no print.	<ul style="list-style-type: none"> • Printing foil has run out. • Printing foil not being driven through. • Printing foil not suitable for substrate. • Little or no heat.
Printing foil tracks over to one side.	<ul style="list-style-type: none"> • Bent spindle on foil magazine. • Brake arm loose. • Pinch roller misaligned with drive roller.
Foil rewind is loose.	<ul style="list-style-type: none"> • Green Drive Belt worn out or dirty. • Foil feed too rapid (slow down return stroke of piston, see page 10). • Foil retaining discs misaligned.
Printer is sluggish.	<ul style="list-style-type: none"> • Insufficient air pressure. • Faulty valve. • Incorrect flow restrictor settings.

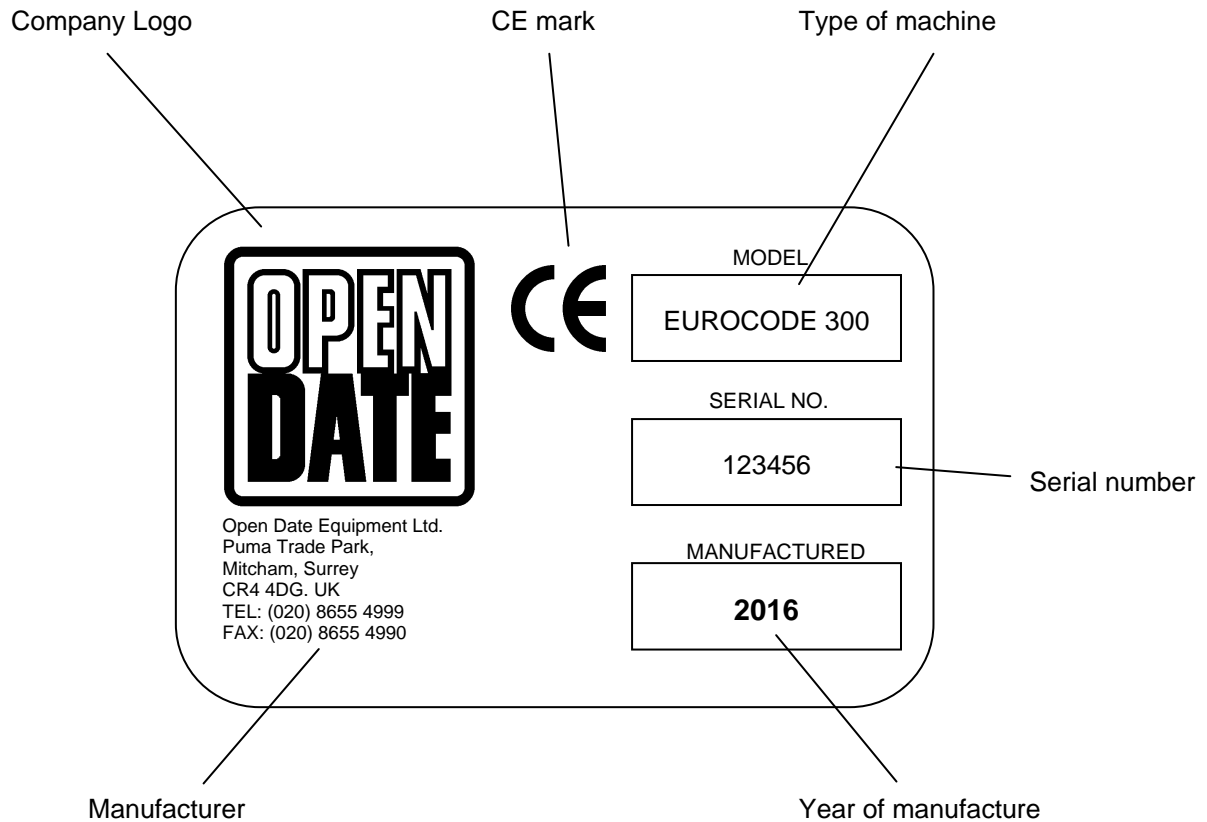
PRINT QUALITY DETERIORATION

POSSIBLE CAUSE	CURE
Insufficient foil pull	See page 8.
Insufficient air pressure.	Check pressure regulator setting. See that pipes are not damaged.
Printer not level with print base.	Adjust levelling screws.
Too much or too little heat.	Check that settings are correct.
Dirty, worn or damaged dies or type.	Clean or replace.
Damaged or out of position print base rubber.	Replace or re-position.
Printing foil not compatible with substrate.	Contact foil supplier.
Substrate surface altered, i.e. different coating.	Contact substrate or foil supplier.
Print ram not completing full stroke.	Open forward flow restrictor (where fitted). Increase print dwell time.
Substrate moving before print head is clear.	Reduce print dwell time.
Print Dwell incorrectly set.	Adjust as necessary.

MACHINE SERIAL NUMBER IDENTIFICATION

The identification label can be found on the outside of the printer, usually on the rear guard.

Always quote the model and serial number when ordering spare parts.



RECOMMENDED SPARES LIST

Covering R/H & L/H Versions of:

PRINTMASTER 400
PRINTMASTER 1000
PRINTMASTER PLUS

MECHANICAL

STOCK REF

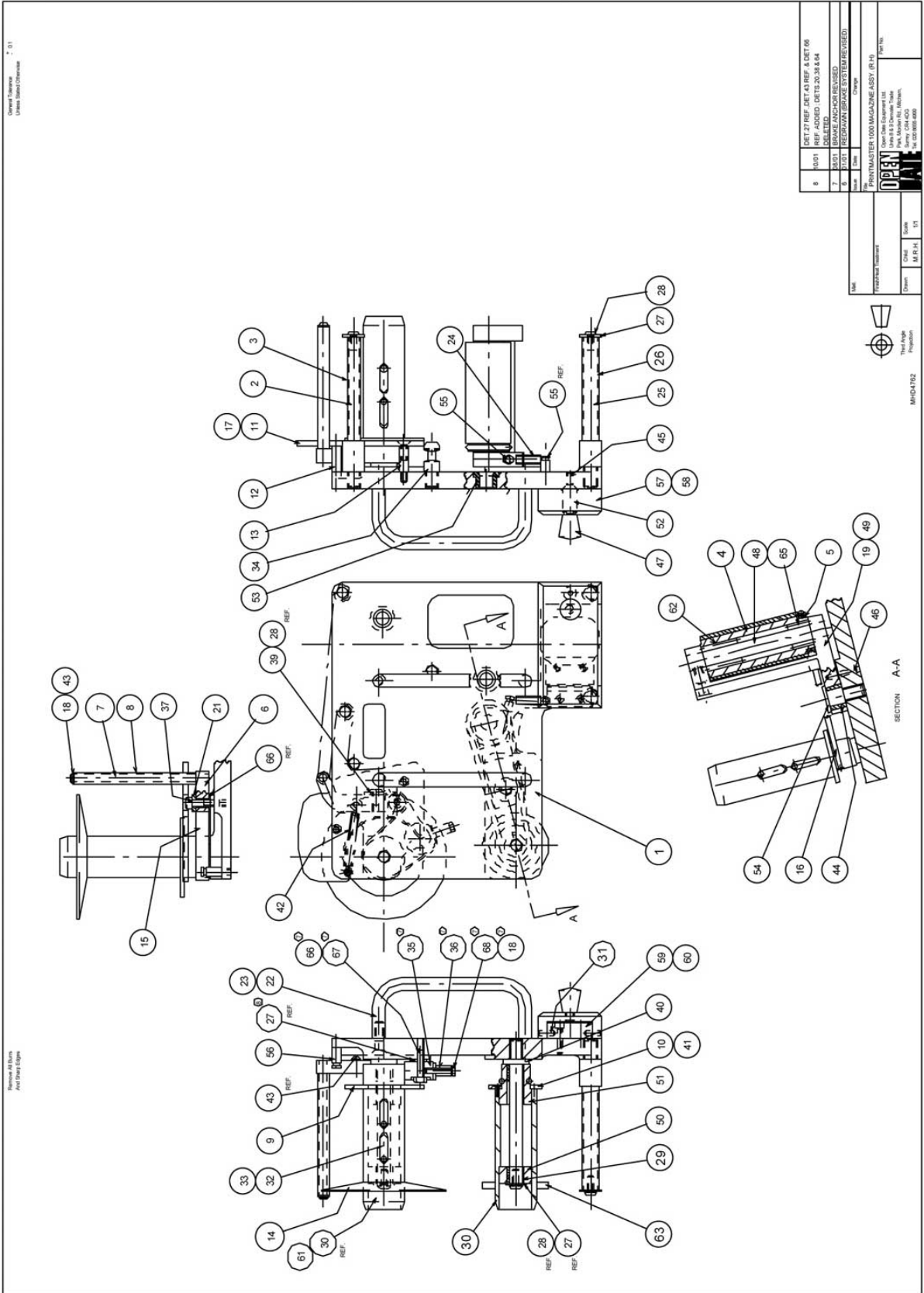
1.	Spring Set (PM1000 & Plus)	SPR129505
	Spring Set (PM400)	SPR129502
2.	Drive Belt (PM1000 & Plus & "S")	DRI121014
	Drive Belt (PM400)	DRI120047
3.	Grey Self Adhesive Print Base 300 x 450mm sheet	SABASE
or 4.	White Silicone Rubber Print Base 300 x 300 x 3mm thick sheet	SRBASE
5.	Rubber Drive Roller (Body)	DRI120019
6.	Rubber Pinch Roller (R/H printer)	ROL129210
	Rubber Pinch Roller (L/H printer)	ROL129211
7.	Brake Strap	BRA120088
8.	Fork End Roller Assembly	FOR129506

ELECTRICAL

1.	Cartridge Heater 240v	HEA501506
2.	Thermistor Probe	THE500522
3.	End of Foil Detector Card	ALA129510
4.	Proximity Switch for Door	SWI395003
5.	Plug-In Control Card;	
	115v	CPC293507
	230v	CPC293506
6.	Solenoid Valve Assembly	VAL400021
7.	Pack of Fuses (5)	FUS393504

Note. The stock reference for the plug-in control card listed above refers to the standard 240v, unit. Other variations are available which your printer may have been supplied with. If in doubt,

PRINTMASTER 1000 MAGAZINE ASSEMBLY



PRINTMASTER 1000 FOIL MAGAZINE PARTS LIST (1 of 2)

When ordering spare parts please use the Stock Reference.

Item numbers refer to those on assembly drawing MHD4762 issue 8 (see page 28).

List refers to machines from serial number 249101 onwards.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY</u>	<u>NOTES</u>
	1 Magazine Plate	N/A	1	
	2 Foil Spindle	SPI121002	1	
	3 Foil Roller	ROL121003	1	
	4/5 Pinch Roller Assembly	ROL129210	1	For R/H printer only.
or	Pinch Roller Assembly	ROL129211	1	For L/H printer only.
or	Pinch Roller Assembly	ROL129222	1	Part assembled. Suitable for either hand.
	6 Dancing Arm	ARM120086	1	
	7 Dancing Bar	DAN120037	1	
	8 Dance Arm Roller	ROL121007	1	
	9 Brake Hub Back Disc	N/A	1	Part of item 30.
	10 Rewind Hub Back Disc	DIS121009	1	Part of item 30.
	11 Foil Guide	GUI121010	1	For R/H printer only.
or	Foil Guide	GUI121503	1	For L/H printer only.
	12 Foil Guide Support	SUP121011	1	
	13 Foil Guide Support	SUP121012	1	
	14 Reel Clamp	CLA121013	1	
	15 Brake Strap	BRA120088	1	
	16 Drive Belt	DRI121014	1	
	17 Countersunk Screw	SCRM4CSS12	2	M4 x 12.
	18 Plain Washer	WASM3F	3	M3.
	19 Pinch Roller Bracket Assy	BRA129208	1	For R/H printer only. Includes items 44 & 56.
or	Pinch Roller Bracket Assy	BRA129209	1	For L/H printer only. Includes items 44 & 56.
	20			
	21 Pivot Bush	BUS120032	1	
	22 Magazine Handle	HAN120079	2	
	23 Countersunk Screw	SCRM5CSS20	4	M5 x 20.
	24 Spring	SPR530008	1	
	25 Foil Spindle	SPI120033	4	
	26 Foil Roller	ROL120034	4	
	27 Washer	WAS120035	8	
	28 Button Head Screw	SCRM4BH508	8	M4 x 8.
	29 Bearing	BEA520003	4	Part of item 30.
	30 Take-Off Hub Assy	HUB125114	1	Includes items 9, 29, 32, 33, 50 & 61.
or	Rewind Hub Assy	HUB125118	1	Includes items 10, 29, 32, 33, 41, 50 & 51.
	31 Dowel		2	3 dia x 10.
	32 Spring Clip	SPR530001	8	Part of Sprint Set. Part of item 30.
	33 Pan Head Screw	SCR2-56PHS1/8	8	No. 2-56 UNC x 1/8".
	34 Pull Stud	PUL120040	1	
	35 Anchor	ANC120087	1	
	36 Brake Tension Sleeve	SLE751036	1	
	37 Cap Head Screw	SCRM4SCS20	1	M4 x 20.
	38			
	39 Brake Strap Clamp	CLA620041	1	
	40 Hub Spindle	SPI120044	2	
	41 Pan Head Screw	SCRM2PHS06	2	M2 x 6.
	42 Brake Spring	SPR530018	1	
	43 Button Head Screw	SCRM3BHS06	2	M3 x 6.
	44 Bush	BEA520004	1	Part of item 19.
	45 Countersunk Screw	SCRM4CSS08	1	M4 x 8.
	46 Roll Pin		1	1/8" dia x 3/4"
	47 Door Handle	HAN530502	1	Part of item 57.
	48 Pinch Roller Shaft	SHA120050	1	
	49 Grub Screw	SCRM5SSS10	1	M5 x 10.
	50 Hub Boss	N/A	2	Part of item 30.
	51 Drive Boss	N/A	1	Part of item 30.
	52 Door Magnet	MAG531001	1	Part of item 57.

PRINTMASTER 1000 FOIL MAGAZINE PARTS LIST (2 of 2)

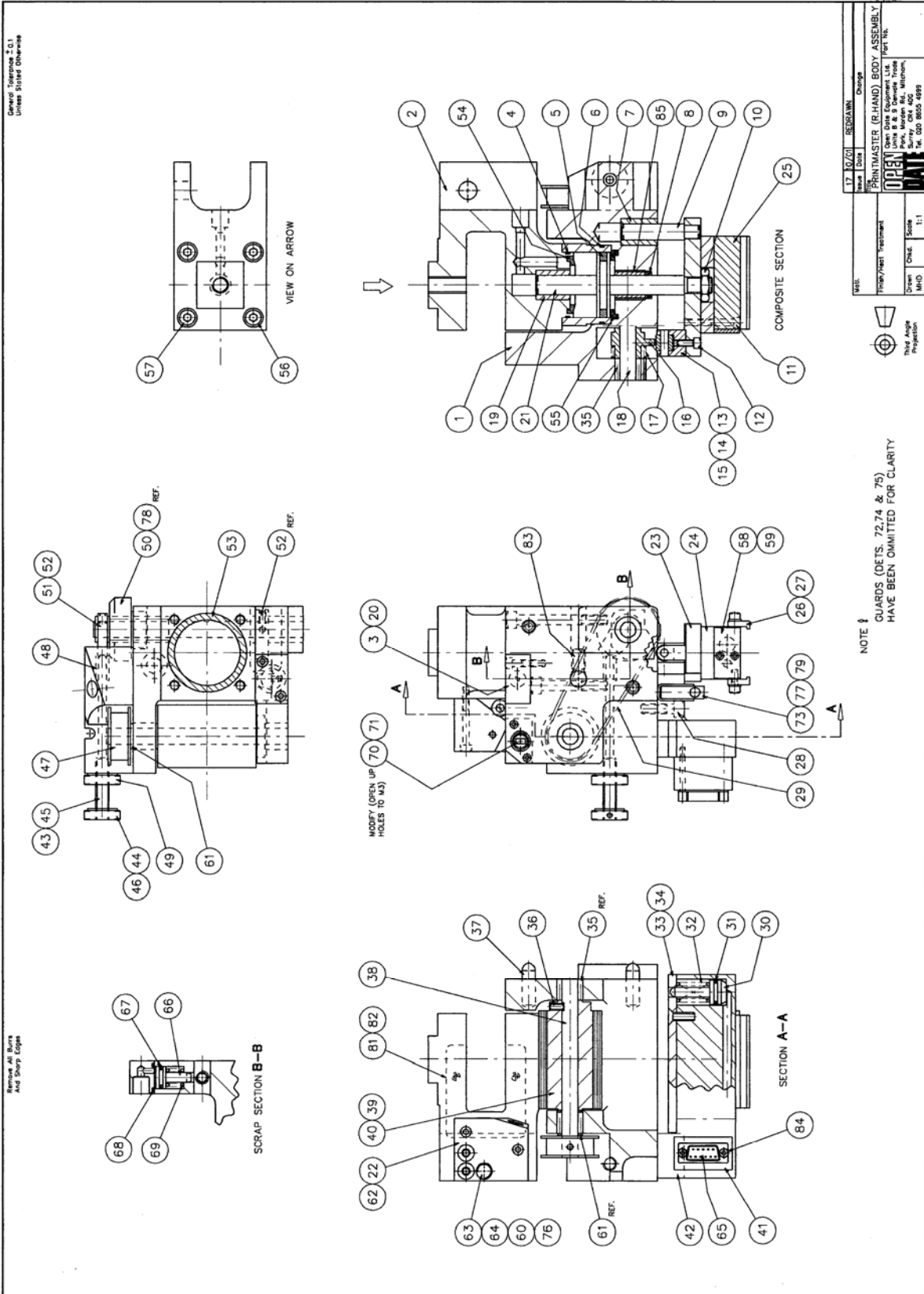
When ordering spare parts please use the Stock Reference.

Item numbers refer to those on assembly drawing MHD4762 issue 8 (see page 31).

List refers to machines from serial number 249101 onwards.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY</u>	<u>NOTES</u>
53	Location Bush	BUS120053	2	
54	Shoulder Screw	SHO120056	1	
55	Spring Post	SPR120058	2	Part of item 19.
56	Spring Post	SPR120059	1	
57	Door Assembly	DOO125152	1	For standard Magazine.
or	Door Assembly	DOO125154	1	For Databox Magazine.
58	Sensor Magnet	MAG120078	1	Part of item 57.
59	Hinge Block	HIN120062	1	Part of item 57 for standard Magazine.
or	Hinge Block	HIN122006	1	Part of item 57 for Databox Magazine.
60	Cap Head Screw	SCRM3SCS16	2	M3 x 16.
61	Brake Hub	N/A	1	Part of item 30.
62	Clutch Bearing	BEA521501	1	Part of item 4/5.
63	Foil Retainer	RET129501	1	
64				
65	Needle Bearing	BEA521001	1	Part of item 4/5.
66	Washer	WASM4F	2	M4.
67	Hexagon Screw	SCRM4HSS16	1	M4 x 16.
68	Hexagon Screw	SCRM3HSS16	1	M3 x 16.

PRINTMASTER BODY ASSEMBLY



PRINTMASTER BODY PARTS LIST (1 of 2)

When ordering spare parts please use the Stock Reference.
Item numbers refer to those on assembly drawing on page 31.
List refers to machines from serial number 249101 onwards.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY</u>	<u>NOTES</u>
	1 Body	N/A	1	
or	2 Top Bracket Assy	BRA125158	1	For R/H printer only.
	Top Bracket Assy	BRA125162	1	For L/H printer only.
	3 Port Block	POR129221	1	
	4 O-Ring	O-R512005	1	Part of Seal Kit.
	5 Main Piston Seal	SEA512006	1	Part of Seal Kit.
	6 O-Ring	O-R512016	1	Part of Seal Kit.
	7 Oilite Bearing	BEA520009	1	
	8 Nose Seal	SEA512007	1	Part of Seal Kit.
	9 Guide Pin	GUI120004	1	
	10 Nut	NUTM10H	1	M10
	11 Cap Head Screw	SCRM4SCS30	4	M4 x 30
	12 Cap Head Screw	SCRM4SCS10	1	M4 x 10
	13 Fork End Assembly	FOR129506	1	
	14 Fork End Roller	N/A	1	Part of Fork End Assembly.
	15 Dowel Pin	N/A	1	Part of Fork End Assembly.
	16 Cam	CAM120007	1	
	17 Torsion Spring	SPR530006	1	Part of Spring Set.
	18 Cam Shaft	SHA120008	1	
	19 Oilite Bearing	BEA520002	1	
	20 Cap Head Screw	SCRM4SCS16	2	M4 x 16
	21 Main Piston	PIS120009	1	or Piston/Seal Ass'y – PIS125050
or	22 Manifold Assembly	MAN129215	1	For R/H printer only.
	Manifold Assembly	MAN129216	1	For L/H printer only.
	23 Mounting Plate	N/A	1	
	24 Insulator Plate	INS120012	1	
	25 Heater Block	HEA120013	1	
or	26 Side Locator	SID120014	2	
	Side Locator	SID122503	2	For Printmaster Plus only.
	27 Button Head Screw	SCRM4SSS08	6	
	28 Cap Head Screw	SCRM6SCS20	2	M6 x 20
or	29 Timing Belt	BEL522501	1	
	Timing Belt	BEL522508	1	For Printmaster Plus only.
	30 Piston	PIS120015	2	or Piston/Seal Ass'y – PIS125076
	31 Seal	SEA512008	2	Part of Seal Kit.
	32 Compression Spring	SPR530007	2	Part of Spring Set.
	33 Keep Plate	KEE120016	1	
	34 CSK Screw	SCRM5CSS16	2	M5 x 16
	35 Needle Bearing	BEA521001	4	
	36 Grub Screw	SCRM4SSS08	2	M4 x 8
	37 Location Pin	LOC120017	2	
	38 Drive Roller Shaft	SHA120018	1	
	39/40 Drive Roller	DRI120019	1	
	41 Plug Housing	PLU120020	1	
or	42 Piston Bracket Assy	BRA129217	1	For R/H printer only.
	Piston Bracket Assy	BRA129218	1	For L/H printer only.
	43 - 46 Foil Adjusting Screw	ADJ120057	1	
or	47 Timing Pulley	PUL120025	1	
	Timing Pulley	PUL122501	1	For Printmaster Plus only.
	48 Lever Stop	N/A		
	49 Thumb Nut	THU120023	1	
or	50 Timing Pulley Assy	PUL129212	1	For R/H Printmaster 1000 & S only.
	Timing Pulley Assy	PUL129213	1	For L/H Printmaster 1000 & S only.
or	Timing Pulley Assy	PUL125092	1	For R/H Printmaster Plus only.
	Timing Pulley Assy	PUL125093	1	For L/H Printmaster Plus only.
	51 Lever	LEV120028	1	
	52 Grub Screw	SCRM5SSS06	2	M5 x 6
	53 Main Cylinder Barrel	BAR120029	1	
	54 Top Damper	DAM120075	1	
	55 Bottom Damper	DAM120074	1	
	56 Cap Head Screw	SCRM6SCS40	2	M6 x 40
	57 Cap Head Screw	SCRM6SCS55	2	M6 x 55

PRINTMASTER BODY PARTS LIST (2 of 2)

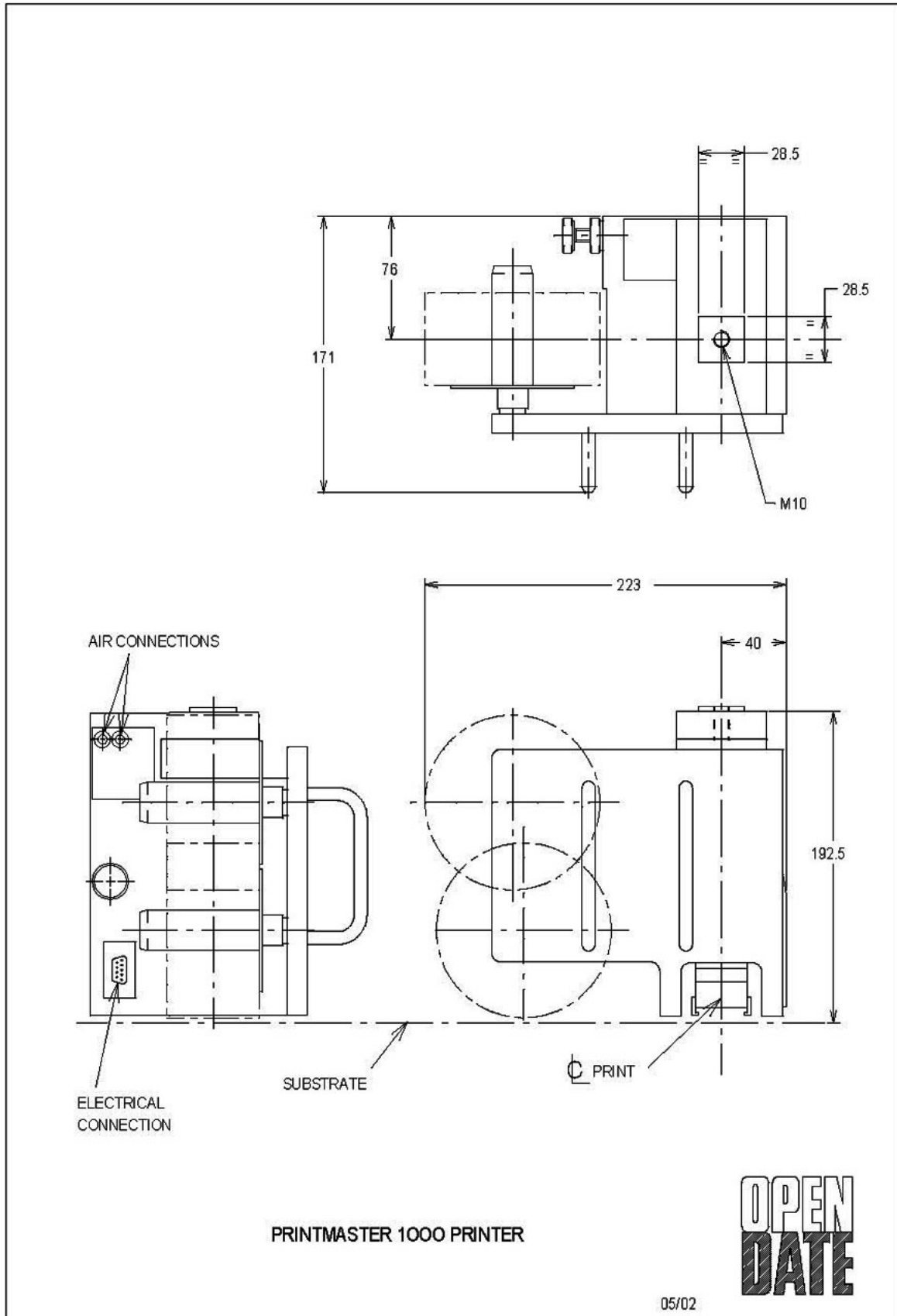
When ordering spare parts please use the Stock Reference.
Item numbers refer to those on assembly drawing on page 31.
List refers to machines from serial number 249101 onwards.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY</u>	<u>NOTES</u>
58	Keep Plate	KEE120030	1	
59	CSK Screw	SCRM3CSS06	2	M3 x 6
60	Poppet	POP120054	1	Part of item 22.
61	Spacer	SPA120055	2	
62	Cap Head Screw	SCRM4SCS35	2	M4 x 35
63	Plug		1	1/8" BSP. Part of item 22.
64	Compression Spring	SPR530011	1	Part of Spring Set. Part of item 22.
65	Plug/Wiring Assy	PLU399400	1	For R/H printer only.
or	Plug/Wiring Assy	PLU399401	1	For L/H printer only.
66	Lock Piston	PIS120064	1	or Piston/Seal Assy – PIS125166
67	Seal	SEA512009	1	Part of Seal Kit.
68	O-Ring	O-R512010	1	Part of Seal Kit.
69	Spring	SPR530027	1	Part of Spring Set.
70	Air Switch	AIR120065	1	
71	Cap Head Screw	SCRM3SCS25	2	M3 x 25
72	Air Switch Guard	GUA120066	1	For R/H printer only.
or	Air Switch Guard	GUA120512	1	For L/H printer only.
73	Door Switch Guard	GUA120067	1	
74	Back Guard	GUA120068	1	For R/H printer only.
or	Back Guard	GUA120513	1	For L/H printer only.
75	Side Guard	GUA120069	1	For Standard R/H printer only.
or	Side Guard	GUA120514	1	For Standard L/H printer only.
or	Side Guard	GUA122008	1	For Databox R/H printer only.
or	Side Guard	GUA122009	1	For Databox L/H printer only.
76	O-Ring	O-R512011	1	Part of Seal Kit.
77	Door Switch Holder	HOL120080	1	
78	Clutch Bearing	BEA521501	2	One used in item 50.
79	Door Switch	SWI395003	1	Part of item 65.
80				
81	Foil Run-Out Card	ALA129510	1	
82	Cap Head Screw	SCRM3SCS06	2	M3 x 6
83	Ball Catch	SPR531005	1	
84	Mounting Screw	SCR120070	2	
85	Nose Bearing Assy	BEA120071	1	Part of Seal Kit.

ADDITIONAL SPARE PARTS AND REPAIR KITS

<u>PNEUMATIC</u>		
Solenoid valve without fittings.		VAL400021
<u>ELECTRONIC</u>		
Cartridge Heater, 240V, 250w.		HEA501506
Thermistor probe.		THE500522
Plug-in Digi-60 printer control card;		
115v		CPC293507
230v		CPC293506
<u>REPAIR KITS</u>		
Spring set containing all springs plus drive belt.		SPR129505

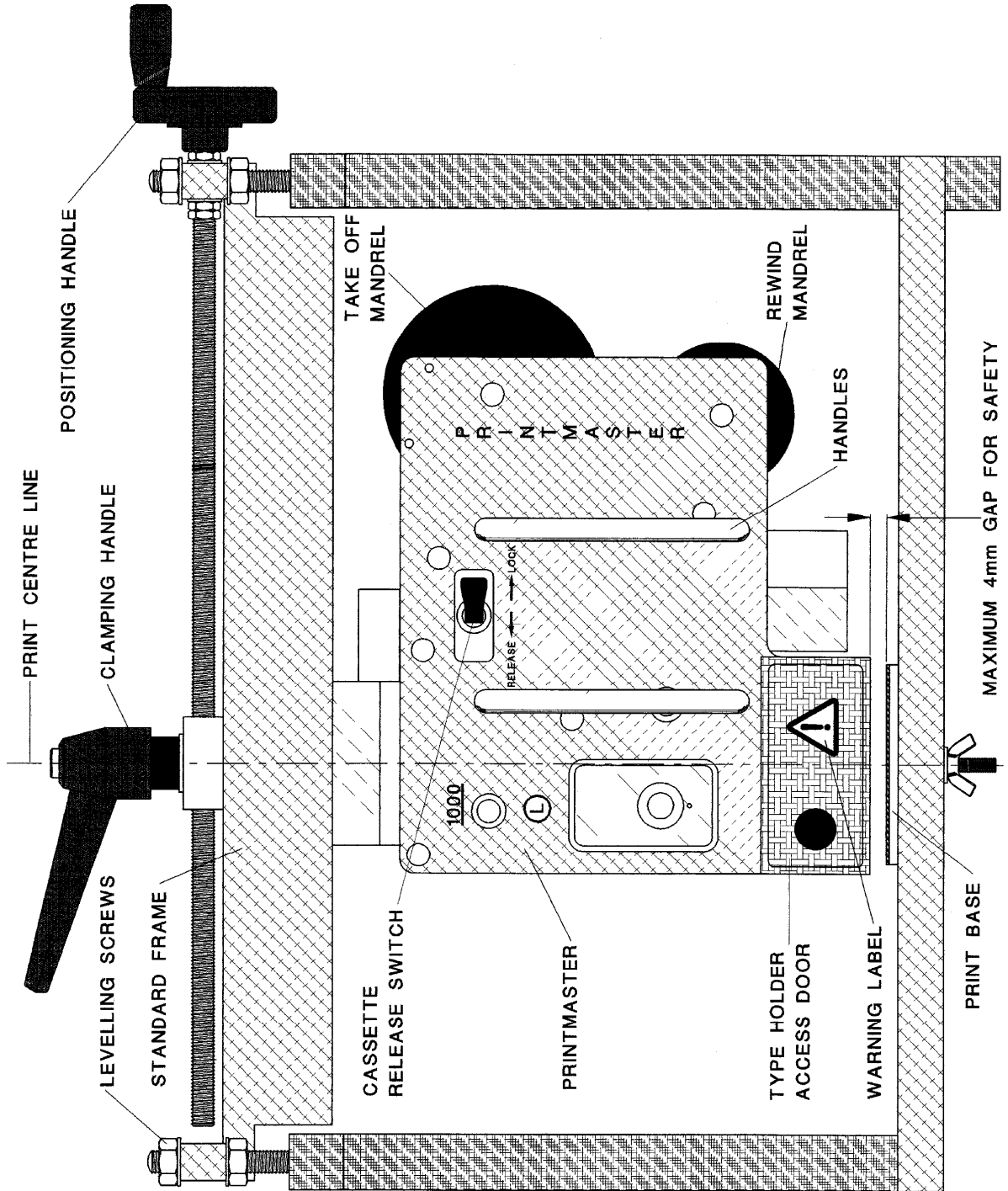
PRINTMASTER SERIES DIMENSIONAL DRAWING



05/02

MHD4787

PRINTMASTER - STANDARD FRAME INSTALLATION



PRINTMASTER AIRBOURNE NOISE EMISSIONS

Comprehensive tests have been carried out with the Printmaster 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 results shown below are based upon a standard type installation for the printer, the operating air pressure was set at 6 bar and the air flow restrictors correctly adjusted.

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

PRINTS PER MINUTE	NOISE LEVEL - DECIBELS (dB)
100	65
200	68
300	70
400	74

STANDARD WARRANTY TERMS & CONDITIONS **FOR HOT FOIL PRINTERS**

All Open Date Hot Foil Printers Carry a twelve (12) month return to base (at our discretion) warranty. Open Date printers should be installed and operated according to the instructions given in the operating manual. No liability will be accepted for faults caused by incorrect installation or operation of the equipment or if the product has been altered or subjected to unreasonable use.

The following components are not covered by the warranty as they will be subject to wear and tear: -

1. Print base rubber.
2. Type characters, dies and rotary databox wheels.

Should you have cause to claim for repair under warranty then please contact our service department stating the model, serial number of the product and the nature of the problem or fault.

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

Any items repaired or replaced under warranty will carry the balance of the original warranty period only.

OPEN DATE GROUPS COMPANIES AND DISTRIBUTORS

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