Spedo 9400 Web Buffer

Instruction Manual
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History Sheet

Manual Issue	Date	Changes Incorporated
1	August 2011	First Issue
2	December 2012	Change of address
3	May 2015	Changed Format
4	June 2015	Added Control Mode Setup

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Safety Measures

This instruction manual contains certain WARNING and CAUTION notices which must be followed by the user to ensure safe operation and to retain the equipment in a SAFE condition.

All users of the equipment described in this manual MUST have received adequate training in its use and application in order to ensure SAFE AND PROPER USE.

Any adjustment, maintenance or repair of the opened apparatus under voltage shall be carried out only by a skilled person who is AWARE OF THE HAZARD INVOLVED.

Spedo 9400 Web Buffer

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DESCRIPTION SECTION 1

Introduction.

The Spedo 9400 Web Buffer is an interface unit designed to allow Spedo continuous forms cutters to be run in line with high speed continuous forms printers.

The 9400 is able to pause both the cutter and the printer as needed, as well as being able to speed up and slow down to match the speed of the input device.

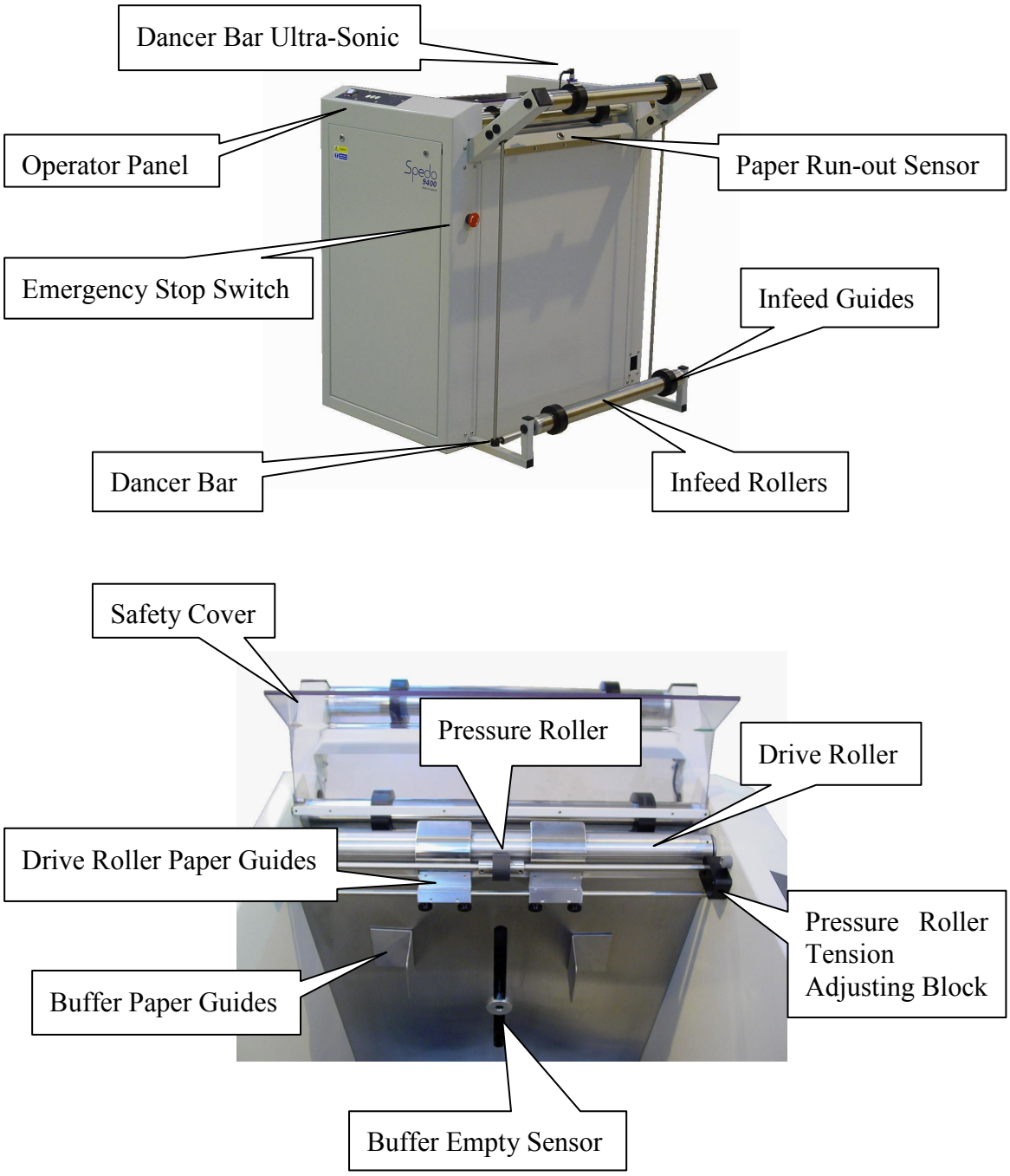

Fig 1.0 Identification of Main Assemblies.

TECHNICAL DATA

EMC Conformity:

The electrical equipment incorporated in this machine with EMC Directive (89/336/EEC amended by 91/236/EEC and 92/31/EEC), TUV Rheinland Certification & CE Certification.

Finish:

Spedo white main frame with graphite grey operator panel.

Paper Weight:

Single Web: 40 g/m^2 to 360 g/m^2.
Multipart Set: 90 g/m^2 - 400 g/m^2 max.

Form Width:

90 mm - 520 mm

Feed Speed:

Up to 400ft/min automatically adjusted to match input device.

Power Requirements:

Voltage:	230 V +/-10%
Frequency:	50 Hz to 60 Hz.
Power Consumption:	161 W (approx).

Noise Emissions:

69dB

Dimensions:

Length:	810 mm.
Width:	850 mm.
Height:	1050 mm.

Weight:

105kg (approx).

INSTALLATION & OPERATION SECTION 2

INTRODUCTION

- The installation procedures given in this section should only be carried out by a competent trained service technician.
- Once the Web Buffer has been declared ready to operate, the operating personnel should be made familiar with its safe operation.

UNPACK

- Unpack the equipment and examine it thoroughly to ascertain whether any damage has occurred in transit. Report immediately any such damage to the agent or manufacturer. Retain the packing should further transportation be necessary.

ACCESSORIES

- The following items are supplied as standard:
  - Mains Cable, 9400-to-forms cutter.
  - Loop Control Cable, 9400-to-forms cutter.
  - Interface Cables, 9400-to-printer.
  - Fixing screws, 9400-to-forms cutter.
  - 3-bar Infeed Guide.
  - Instruction Manual CD.

SITING CONSIDERATIONS

- The distance from the web Buffer to the printer can be up to 2 metres maximum.
- Consideration must also be given to the layout and positioning of work tables and cupboards surrounding working area, at the same time leaving enough space around the system for the operator to have access to all operational requirements.
- All units in the system should be set square in relation to each other.
- Refer to the relevant instruction manual of any other unit in the system, before making up the combined system.

Description of Operation:

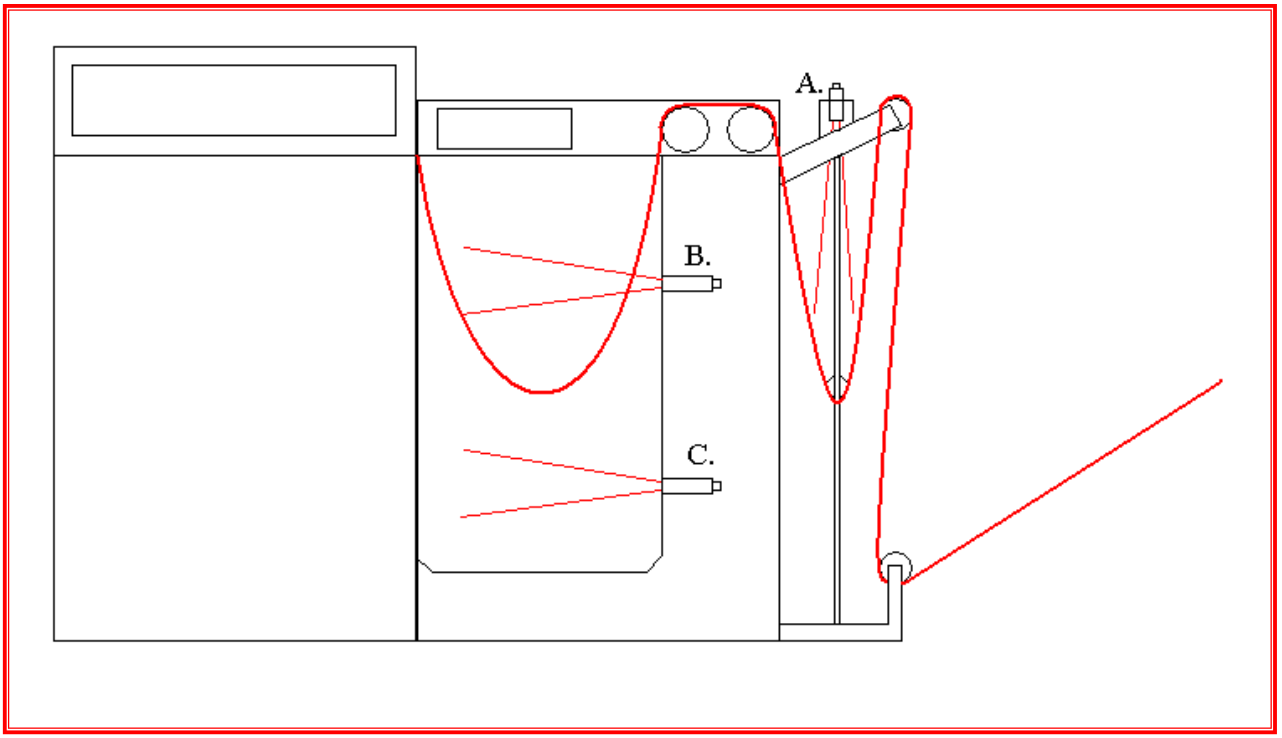

Fig 1.1 Spedo 9400 Web Buffer

The Spedo 9400 is an interface unit designed to allow continuous forms to be processed in line with a printing device.

Once the web is loaded correctly the through put can be carefully controller using a series of sensors which communicate directly with the 9400 control unit.

Sensor A. is used to control the paper input from the printing device. The sensor detects the height of the dancer bar and adjusts the speed of the 9400 until the performance matches that of the printer.

If the dancer bar falls too low it is deemed that the 9400 has stopped / paused and a signal is given to the printer to pause. The printer will not resume until the bar rises to the start position.

If the dancer bar rises too high it is deemed that the printing device has stopped / paused and the 9400 will also pause. The 9400 will not resume until the bar is lowered to the start position.

Sensor B. is used to control the cutter. If the paper web is too high and thus not covering sensor B, it is deemed that the 9400 has stopped / paused and the cutter will pause. The cutter will not resume until the sensor has been covered.

Sensor C. is used to control the 9400. If sensor C is covered it is deemed that the cutter has stopped / paused and the 9400 will pause. The 9400 will not resume until the sensor has been uncovered.

Summary of Controls

- Fig 1.2 describes the functions of the operating controls.

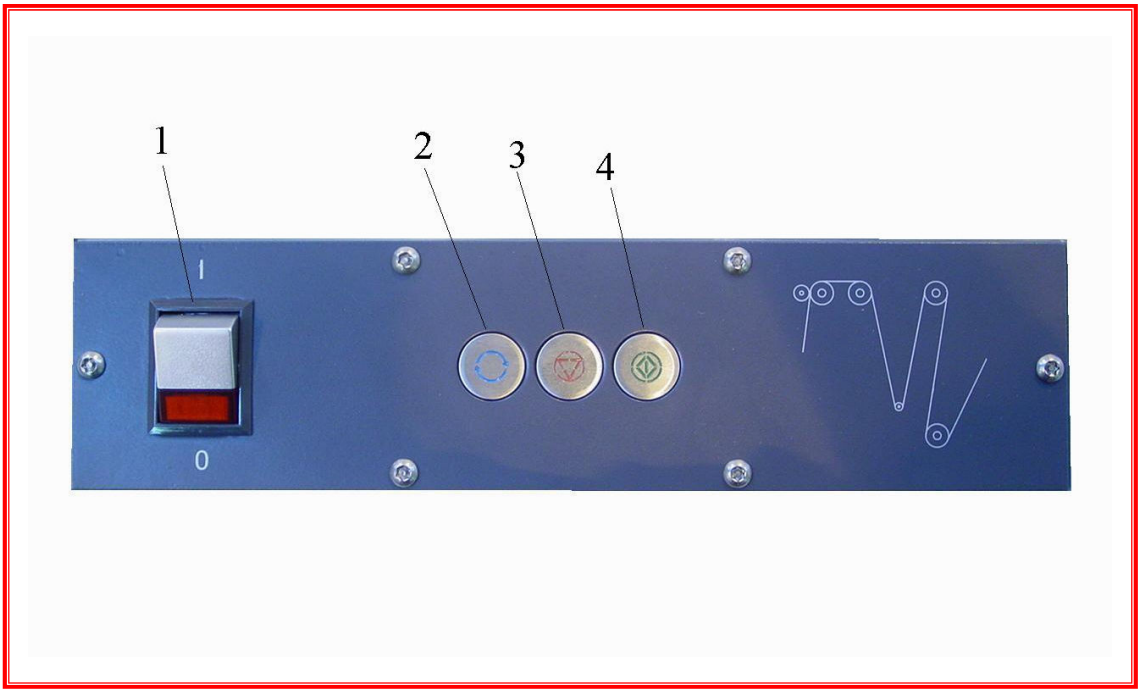

Fig 1.2 Summary of Controls

1. MAINS ON/OFF Switch. Toggles the power on and off.

2. AUTO BUTTON. Toggles continuous run mode on and off.

3. STOP BUTTON. Stops the operation of the 9400.

4. START BUTTON. If the AUTO button is illuminated, pressing the START button will activate the continuous run mode. If the AUTO button in not illuminated, pressing the START button will activate the set-up mode.

INSTALLATION

Installation Check

- WARNING: Never operate the unit when wearing items of loose clothing or loose decorative jewellery, as they could become entrapped in the machinery and cause injury

Mains (Power) Cable

- Insert the mains (power) plug into the mains input socket and then the other end into the forms cutter power output socket.
- If an alternative plug is required for the forms cutter, remove the plug from the cable and re-connect it to a suitable plug. The colour codes are as follows:
    - L (live) = BROWN wire
      N (neutral) = BLUE wire
      E (earth / ground) = GREEN/YELLOW wire.
- To Switch On Depress the MAINS ON:OFF switch and check that it illuminates
- Press the START button once. The STOP button will be extinguished and that unit will enter set-up mode.
- Press and hold the START button to jog. Check that the feed roller rotates anti-clockwise. Release the START button and check that the roller stops.
- Repeat the step above several times, checking that the roller runs each time.
- Press AUTO once. Check that the AUTO button and the STOP button illuminate and the fans start.
- Cover the paper run-out sensor. Press the START button once. Check that the STOP button extinguishes and the drive roller runs continuously.
- Check (manually) by covering each loop sensor with paper that the drive roller stops running. This denotes that the sensors are detecting the presence of the loop.
- Uncover the paper run-out sensor. Check that the STOP lamp illuminates and the driver roller stops running.
- Open the safety cover and check that both the STOP and START buttons are flashing simultaneously. Press the START button and check that no operations are available.
- Connect the required printer interface cable from the 9400 to the printer. Connect the loop control cable to the forms cutter. Manually check that the lower infeed sensor controls the printer.
- Operate the complete system and check that it functions satisfactorily. Before handing over, ensure that the operating personnel; are familiar with all the operating procedures and are aware of any safety hazards involved.

OPERATING PROCEDURES

Operation of 9400

Fig 1.3 – Showing Paper Route

- Fit the 3-bar infeed guide to the forms cutter if necessary.
- Plug in the loop control and power cables between the 9400 and the forms cutter.
- Adjust paper guide of the infeed rollers as needed.
- Set the cutter and web buffer sensors to the correct height if necessary.
- Loop the paper web through the guide rollers as shown in Fig1.3.
- Once the paper has been loaded, ensuring that the AUTO lamp is extinguished press the START button once to enter set-up mode.
- Press and hold the START button to jog the required amount of paper into the buffer unit. The paper can be reversed at any time by holding the START and STOP button together.
- Once the required amount of paper is available the web can be loaded onto the forms cutter.
- With the forms cutter loaded set the 9400 to continuous mode, press the AUTO button so that the lamp is illuminated then press the START button once.
- The 9400 will run until all sensors are covered and then wait for the cutter to become ready.

OPERATOR LED STATUS:

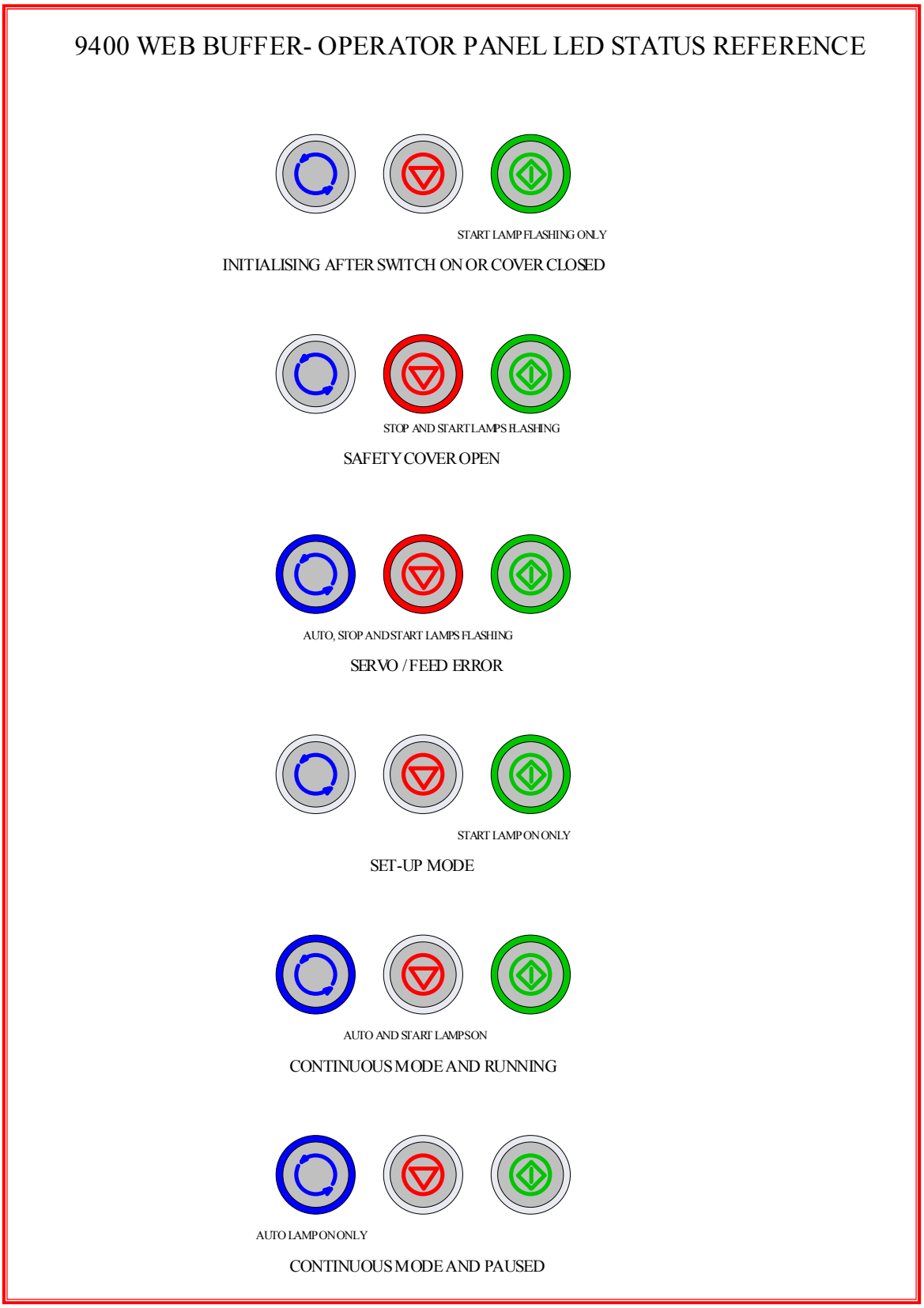

Fig 1.4 Operator LED status explained.

DIP SWITCH CONFIGURATION:

It is possible to adjust the operation of the Web Buffer using the DIP switches provided on the logic control panel. Roller Speed, Printer Stop and Printer Run signals can all be changed to suit the specifications of the input device.

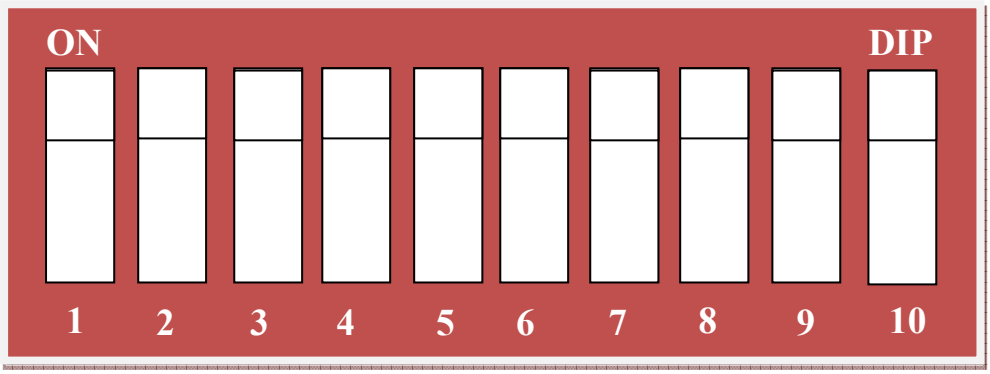

Fig 1.5 DIP Switches in ON position. (ON=1 and OFF=0)

The point at which printer is allowed to start running is dependent on the input start position as read by the dancer bar ultrasonic sensor. You can adjust this start position by setting switches 1 and 2 using the table below.

1	2	Input Start Position
0	0	1
1	0	2
0	1	3
1	1	4

The point at which the printer is signalled to stop is dependent on the input stop position as read by the dancer bar ultrasonic sensor. You can adjust this stop position by setting switches 3 and 4 using the table below.

3	4	Input Stop Position
0	0	1
1	0	2
0	1	3
1	1	4

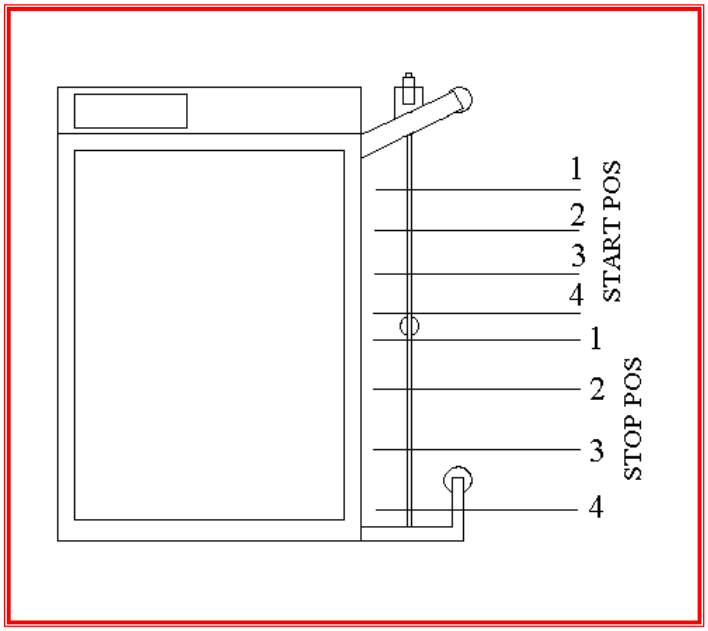

Fig 1.6 Showing approximate positions.

The average speed of the web buffer can be adjusted to match the speed of the input device by setting switches 5, 6 and 7 using the table below. Note: This is the speed achieved by the web buffer when the dancer bar is in its middle position.

5	6	7	Input Speed
0	0	0	30 M/Min
1	0	0	40 M/Min
0	1	0	50 M/Min
1	1	0	60 M/Min
0	0	1	70 M/Min
1	0	1	80 M/Min
0	1	1	90 M/Min
1	1	1	100 M/Min

CONTROL MODE SETUP

The control mode can be changed depending on the type of input device and cutter version. You can adjust the control mode by setting switches 8 and 9 using the table below.

8	9	Control Mode
1	1	Cutter Following Mode
0	1	Standalone Mode
1	0	Printer Interface Mode

Cutter Following Mode:
Used when connected to a Spedo Forms Cutter (software version 18 and above), this mode allows the cutter to control the speed web buffer directly.
Use this mode when pull to feed unwinders are in use.
NOTE: The Spedo Forms Cutter must be enabled for use with a 9300 in the USER MENU.

Standalone Mode:
Used when the speed of the 9400 Web Buffer need to be controlled by third party equipment. The Speed on the Spedo 9400 Web Buffer must be set using an external speed control device.
NOTE: The ENET cable must be disconnected.

Printer Interface Mode:
The speed of the Spedo 9400 Web Buffer is controlled by the height of the dancer bar assembly.
NOTE: The ENET cable must be disconnected and the Spedo Forms Cutter must not be enabled for use with a 9300 in the USER MENU.

PAPER RUN OUT SWITCH OVERRIDE

The Paper Run Out Switch can also be toggled on and off if needed by selecting switch 10.

10	Paper Run Out Switch Override

REMOVAL PROCEDURES

Side Compartment Doors

- The left side compartment door is secured in position by two locks. This prevents the operator from accessing the internal moving parts and electrical assemblies.
- The right side compartment is held by two catches only.
- Unlock both locks on the left side door and lift out and upwards from its retainers.
- Release the catches on the right side door and lift out and upwards from its retainers.

RENEWAL PROCEDURES

Replacement of Drive Belts:

Main Drive Belt (Fig 1.7)

- Loosen x4off main drive motor mounting screws.
- Push main drive motor upwards to slacken the drive belt.
- Fit new drive belt and tension by moving the main drive motor downwards.
- When correct tension is achieved, tighten all main drive motor screws.

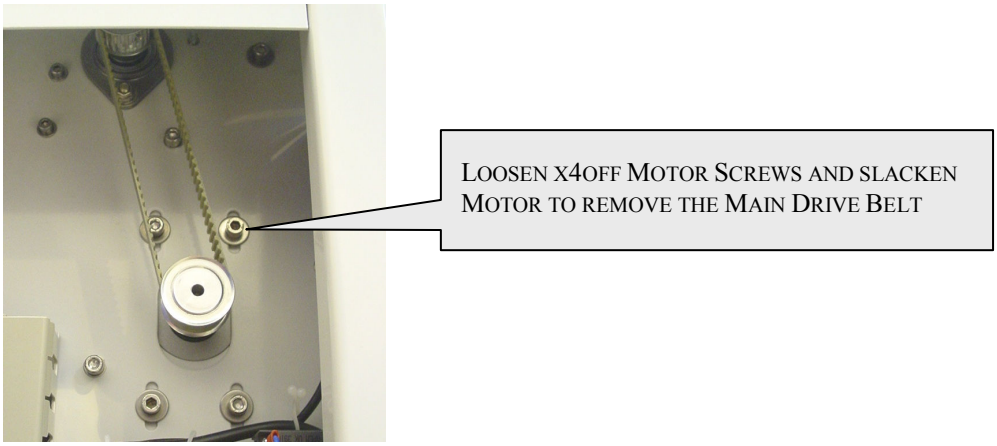

Fig 1.7 Removal of Main Drive Belt

9400 ELECTRICAL SCHEMATIC:

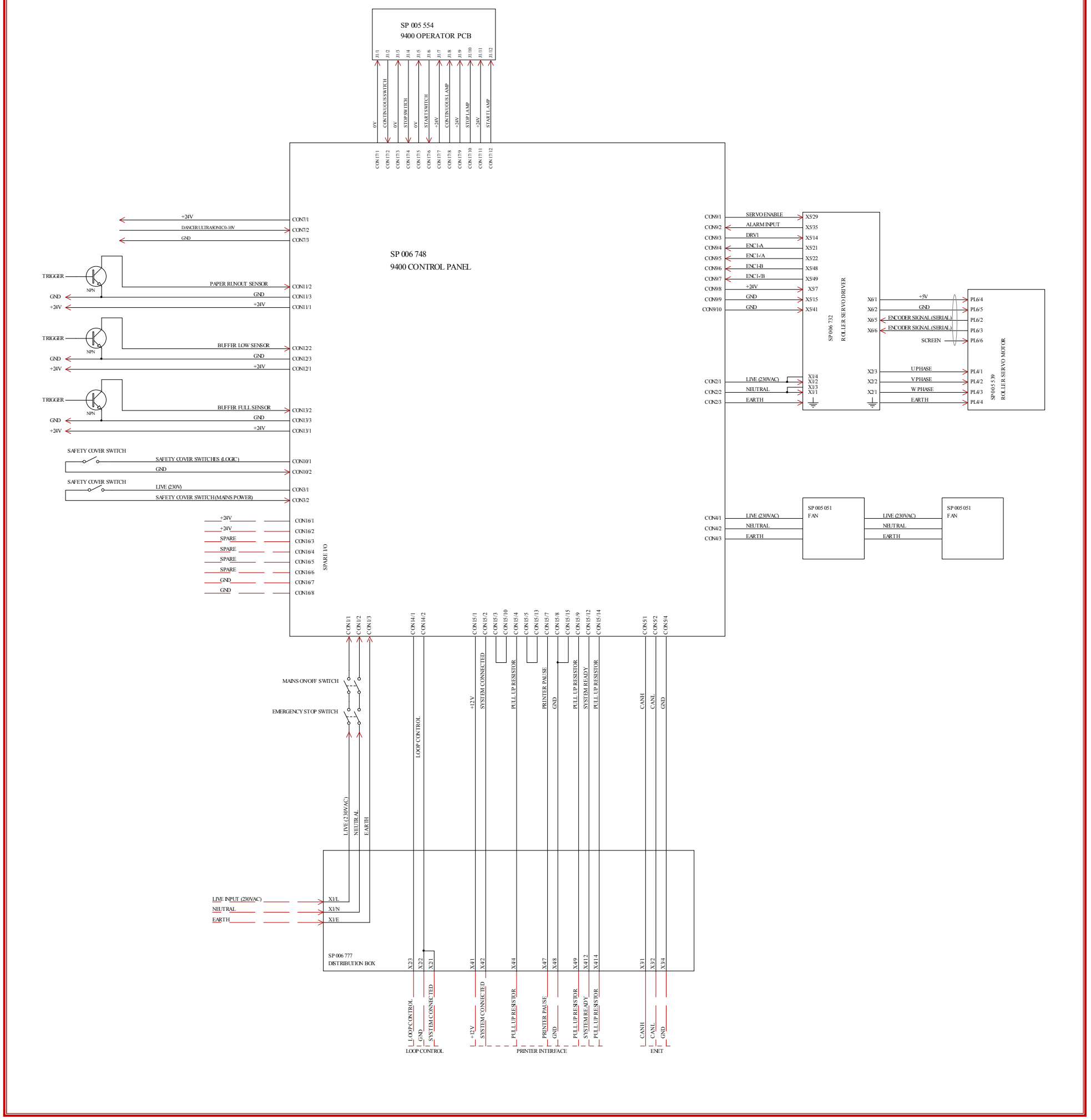

Fig 1.8 Showing 9400 Electrical Schematic