



## **MULTI-LANE HOT FOIL PRINTER FOR CFS**

OPERATOR INSTRUCTIONS  
PARTS LISTING

Designed and manufactured by:

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**CFS MULTI-LANE UNIT - INDEX.**

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## **IMPORTANT SAFETY INSTRUCTIONS**

1. Read these instructions carefully. Follow all warnings and instructions marked on the product.
2. Always disconnect the print heads and controller from the mains electricity and air supply before attempting to clean or service them.
3. Never operate the print heads unless they installed within the mounting frame supplied. When installed correctly the gap between the print heads and print base should not be greater than 4mm.
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 damage to the product or injury to the operator.
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 operated from the type of electrical supply as indicated.
8. Ensure that the print head connection cables are fully secured to the print heads. Failure to do this will result in the machine not being properly earthed.
9. Do not service this product yourself as opening or removing guards may expose you to dangerous voltage points, major burns and other risks. Refer all servicing to qualified personnel.
10. Do not attempt to use to use this product in areas where explosive gases or substances are present.
11. Once the product is under normal working conditions, care must be taken when removing the type holder as you can easily burn yourself. There is a yellow warning sign on the type holder access door indicating a danger. Open the door by holding the black handle. The type holder should be held by its plastic handle only. Never touch metal parts as temperatures could be as high as 220 degrees C.
12. Disconnect the product from the electrical and air supplies and refer servicing to qualified personnel under the following conditions.
  - a. If any cable are damaged or frayed.
  - b. If the air pipes are damaged in any way.
  - c. If liquid has been spilled into or if the product has been exposed to rain or water.
  - d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the instructions. Improper adjustment may result an damage needing qualified technicians to restore the product to normal operating conditions.

## **INITIAL SETTING UP PROCEDURE**

1. Remove the type holders from the print heads.
2. Ensure that the rubber print base is clean, undamaged and securely fixed in position.
3. Set the air pressure using the regulator. An operating pressure of between 5 and 7 Bar (70 to 100 PSI) is recommended.
4. Set the print dwell time to approximately 120 milliseconds and the temperature to approximately 125°C (257°F).
5. Switch the heat on. Three to four minutes should be allowed for the print heads to reach their working temperature.
6. Load the printing Type or dies into the type holders, centrally if possible and fasten securely. Make sure that the Type or die faces are clean.
7. Load the type holders into the print heads and the close doors. If cold, allow three to four minutes for the holders to heat up before printing.
8. Load the printing foil as detailed in the *Foil Threading* section.
9. Calculate the foil index amount as detailed in the *Calculating the Foil Index Value* section and enter the value using the index switches on the foil feed control panel.
10. Position a piece of the substrate material under the printing foil beneath the print heads and operate them. Inspect the resulting print.
11. Adjust the print head levelling screws until light, even prints are achieved. Lock the levelling screws.
12. Adjust the print dwell time and temperature settings for optimum print quality.

### **FITTING TYPE OR DIE HOLDERS**

#### **NEVER ASSUME THAT A TYPE OR DIE HOLDER IS COLD.**

Only pick up a type or die holder by its handle. Ensure that the face of the magnetic catch is clean, open the type holder access door, align the type/die holder within the two side locators and slide in until the magnet catches on the heater block end plate. Close the door.

### **PRINT DWELL TIME SETTING**

- Normal setting is approximately 120 milliseconds.
- 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, print heads can only print when the web is stationary, 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.

### **TEMPERATURE SETTING**

- Normal setting is approximately 125°C (257°F).
- Should the prints not fully adhere to the substrate 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.

## **FOIL FEED CONTROL PANEL**

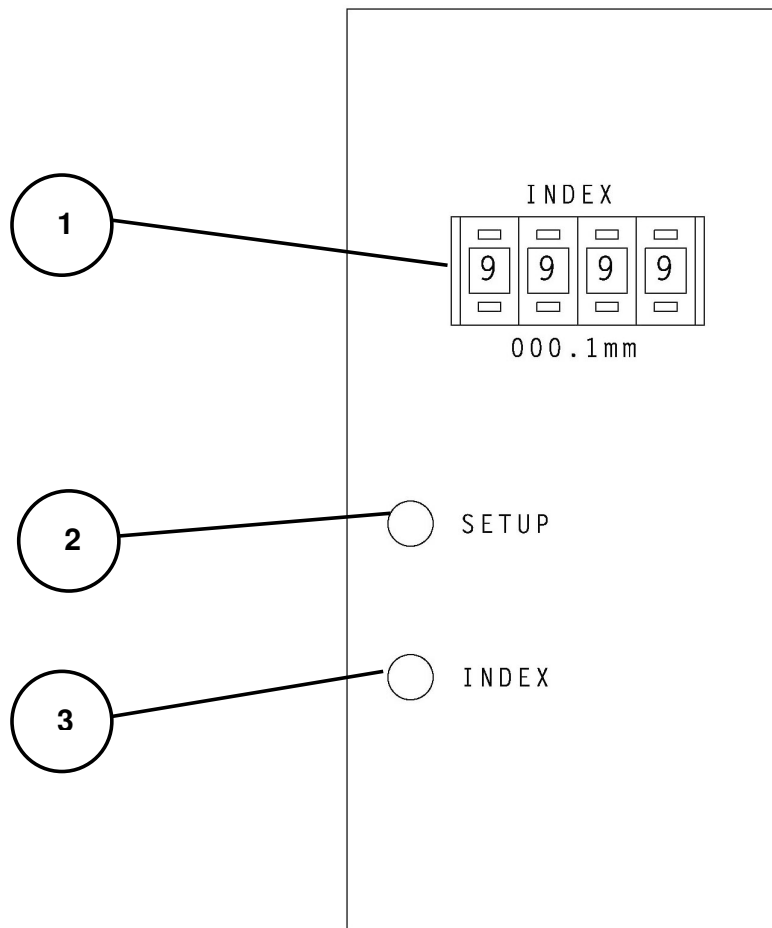


Figure 1

### **1. INDEX SWITCHES**

The four digit thumbwheel switches set the length of foil which is pulled under the print heads after each print. The pull can be adjusted to a maximum of 999.9mm in increments of 0.1mm.

### **2. SET UP BUTTON**

Pressing this button causes the foil feed motor to run continuously until it is released.

### **3. INDEX BUTTON**

Advances the foil by the amount set on the index switches.

## **CALCULATING THE FOIL INDEX VALUE**

The value that needs to be entered into the index setting switches (figure 1) can be calculated in the following way.

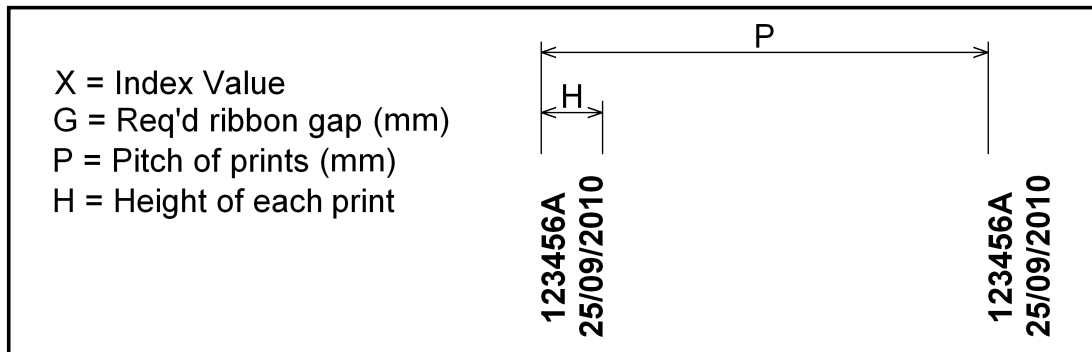


Figure 2

The formula for calculating the index value (X) for the above example is;

$$X = P - (H + G)$$

If the required ribbon gap (G) is 1mm, the pitch of the prints (P) is 59mm and the height of each print (H) is 5.5mm then the calculation for the index value (X) is;

$$X = 59 - (5.5 + 1)$$

Therefore the amount of foil to be indexed per print (X) is **52.5mm**.

## **FOIL THREADING**

1. Refer to the foil threading diagram (figure 3).
2. Fit an empty foil core onto the rewind mandrel.
3. Disengage the pinch drive roller.
4. Remove the label from a new roll of foil.
5. Fit the new roll of foil onto the take-off mandrel (note the unwind direction as shown on the threading diagram).
6. Thread the foil around all rollers as shown on the threading diagram. Note, the gloss side of the foil should face outwards throughout the foil path.
7. Attach the foil to the empty core the on rewind mandrel, gloss side facing outwards.
8. Engage the pinch drive roller.
9. Press and hold the Setup button on the foil feed control panel until the foil is aligned and tensioned.

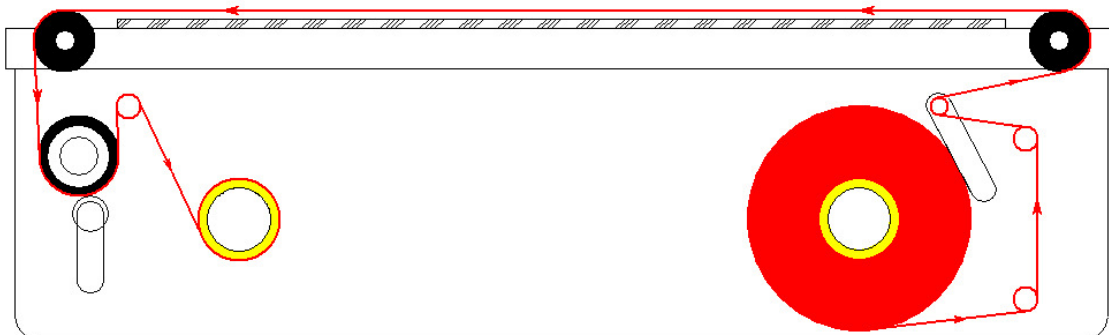


Figure 3

## **PRINT QUALITY PROBLEMS.**

Poor print quality can be caused by any of the following;

<b>POSSIBLE CAUSE</b>	<b>CURE</b>
Print dwell time incorrectly set.	<ul style="list-style-type: none"> <li>• Adjust as necessary.</li> </ul>
Too much or too little heat.	<ul style="list-style-type: none"> <li>• Check that settings are correct for the substrate and printing foil.</li> </ul>
Printing foil not suitable for substrate.	<ul style="list-style-type: none"> <li>• Contact foil supplier.</li> </ul>
Insufficient air pressure.	<ul style="list-style-type: none"> <li>• Check pressure regulator setting.</li> <li>• See that pipes are not damaged.</li> </ul>
Print head not level with print base.	<ul style="list-style-type: none"> <li>• Adjust levelling screws.</li> </ul>
Dirty, worn or damaged dies or Type.	<ul style="list-style-type: none"> <li>• Clean or replace.</li> </ul>
Damaged or out of position print base rubber.	<ul style="list-style-type: none"> <li>• Replace or re-position.</li> </ul>
Print piston not completing full stroke.	<ul style="list-style-type: none"> <li>• Adjust air flow.</li> <li>• Increase air pressure.</li> </ul>
Substrate moving before print head is clear.	<ul style="list-style-type: none"> <li>• Reduce print dwell time.</li> </ul>
Insufficient foil pull.	<ul style="list-style-type: none"> <li>• Incorrect foil feed setting.</li> <li>• Pinch roller not engaged.</li> <li>• Rubber drive roller damaged or dirty.</li> </ul>

## **FAULT FINDING**

<b>FAULT</b>	<b>POSSIBLE CAUSE</b>
Print heads do not operate.	<ul style="list-style-type: none"> <li>• No air.</li> <li>• Faulty solenoid valve.</li> <li>• Blocked air pipe.</li> </ul>
Solenoid valve operates but print heads do not.	<ul style="list-style-type: none"> <li>• No air.</li> <li>• Air pipe damaged.</li> <li>• Type holder door(s) open.</li> </ul>
Print heads are sluggish.	<ul style="list-style-type: none"> <li>• Insufficient air pressure.</li> <li>• Insufficient air flow.</li> <li>• Faulty solenoid valve.</li> </ul>
Print head does not heat.	<ul style="list-style-type: none"> <li>• Cartridge heater failure.</li> <li>• Temperature probe failure.</li> <li>• Plug &amp; socket disconnected.</li> <li>• Broken or damaged wire.</li> </ul>
Printer operates but does not print, i.e. impression but no print.	<ul style="list-style-type: none"> <li>• Printing foil has run out.</li> <li>• Printing foil is not being driven through.</li> <li>• Printing foil is not suitable for substrate.</li> <li>• Little or no heat.</li> </ul>
Printing foil tracks over to one side.	<ul style="list-style-type: none"> <li>• Bent spindle.</li> <li>• Brake arm loose.</li> <li>• Pinch roller misaligned with drive roller.</li> </ul>
Foil rewind is loose.	<ul style="list-style-type: none"> <li>• Green drive belt worn out or dirty.</li> <li>• Foil feed too rapid (reduce motor speed).</li> </ul>

## CFS PRINT HEAD - SPARES LISTS

Item numbers refer to those on the assembly drawing. When ordering spare parts please use the stock reference.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY (PER HEAD)</u>	<u>NOTES</u>
1	MAIN BODY	BRA160001	1	N/A
2	MOUNTING BODY	BOD160002	1	N/A
3	HEATER BLOCK	HEA120013	1	
4	HINGED GUARD	GUA160004	1	
5	GUARD	GUA160007	1	
6	BUSH	BEA520009	1	
7	O-RING	O-R512016	1	
8	O-RING	O-R512005	1	
9	BEARING	BEA520002	2	
10	SEAL	SEA512006	1	
11	SEAL	SEA512007	1	
12	BUTTON HD. SCREW.		6	M3 x 6
13	LOCK NUT		1	M10
14	CAP SCREW		4	M4 x 30
15	C/SK. SCR.		2	M3 x 6
16	BUTTON HD. SCREW		4	M4 x 8
17	CAP SCREW		4	M6 x 60
18	GUIDE PIN	GUI120004	1	
19	PISTON	PIS120076	1	
20	MOUNTING PLATE	PLA160006	1	
21	SIDE LOCATOR	SID120014	2	
22	CYLINDER BARREL	BAR120029	1	
23	KEEP PLATE	KEE120030	1	
24	POT MAGNET		2	
25	HINGE BLOCK	HIN160025	1	
26	HINGE PIN		2	3.0 DIA x 12
27	MICRO VALVE	AIR510523	1	
28	C/SK. SCREW		2	M3 x 16
29	PLUNGER	PLU160029	1	
30	GRUB SCREW		1	M3 x 4
31	SPRING	SPR530011	1	
32	MAGNET BLOCK	BLO160032	2	
33	MANIFOLD	MAN160033	1	
34	CAP SCREW		2	M6 x 35
35	O-RING	O-R512030	1	
36	HANDLE	HAN530502	1	
37	INSULATOR PLATE	INS120012	1	
38	BLOCK	BLO160008	1	
39	BUTTON HEAD SCREW		2	M3 x 25 Mod length
40	JACKING CAP	CAP160034	4	

### ELECTRICAL SPARE PARTS

<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY</u>	<u>NOTES</u>
CARTRIDGE HEATER	HEA501506	1	
TEMPERATURE SENSOR	SEN500506	1	

### RECOMMENDED SPARES LIST

<u>DESCRIPTION</u>	<u>STOCK REF.</u>	<u>QTY</u>	<u>NOTES</u>
GREY SELF ADHESIVE PRINT BASE (300 X 450MM SHEET)	SABASE	1	
FOIL FEED DRIVE BELT	DRI620049	1	
CARTRIDGE HEATER (240V)	HEA501506	2	
TEMPERATURE SENSOR	SEN500506	2	



# **CFS PRINT HEAD ASSEMBLY DRAWING**

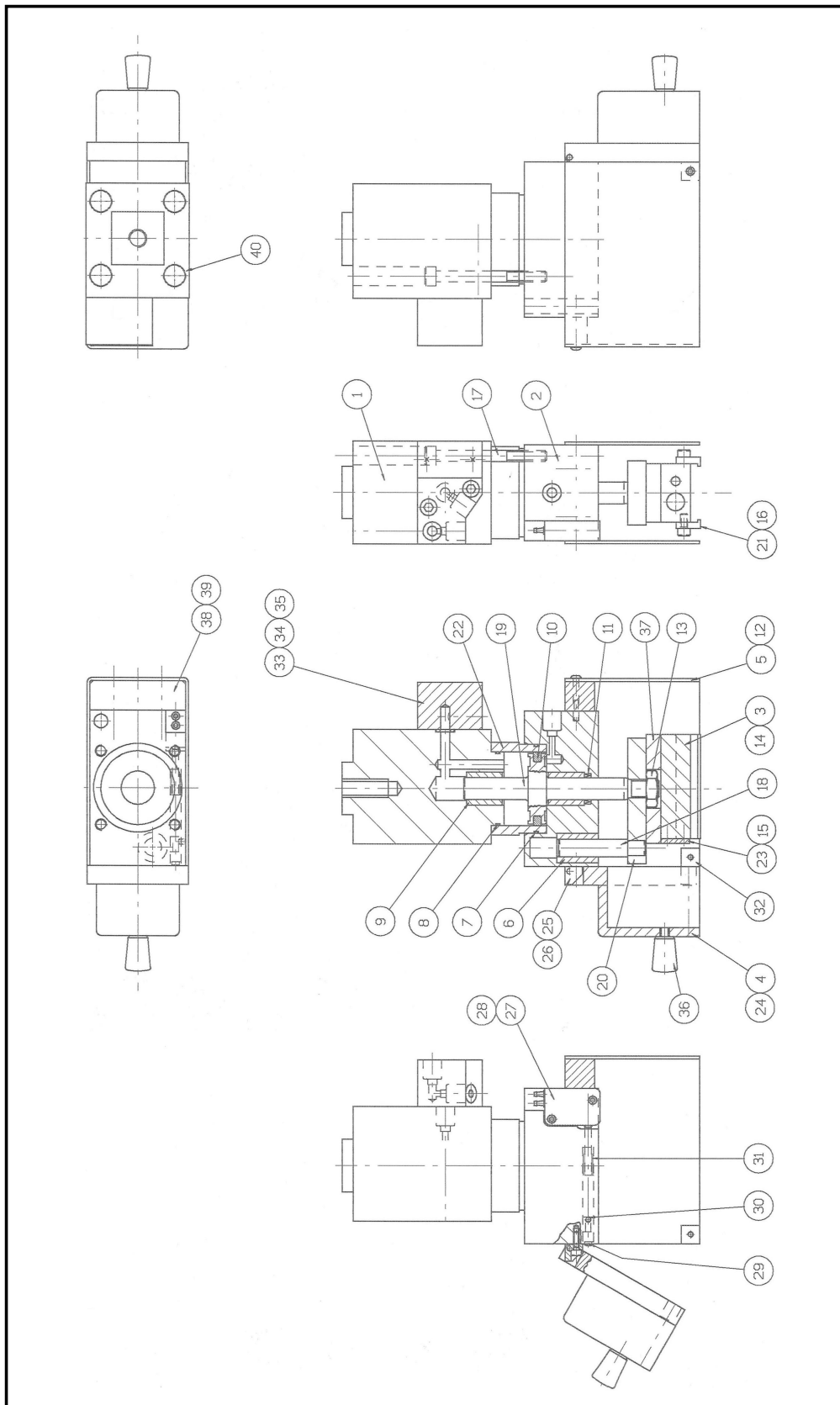


Figure 4

## **FOIL FEED SYSTEM SPARE PARTS**

### Foil Unwind System

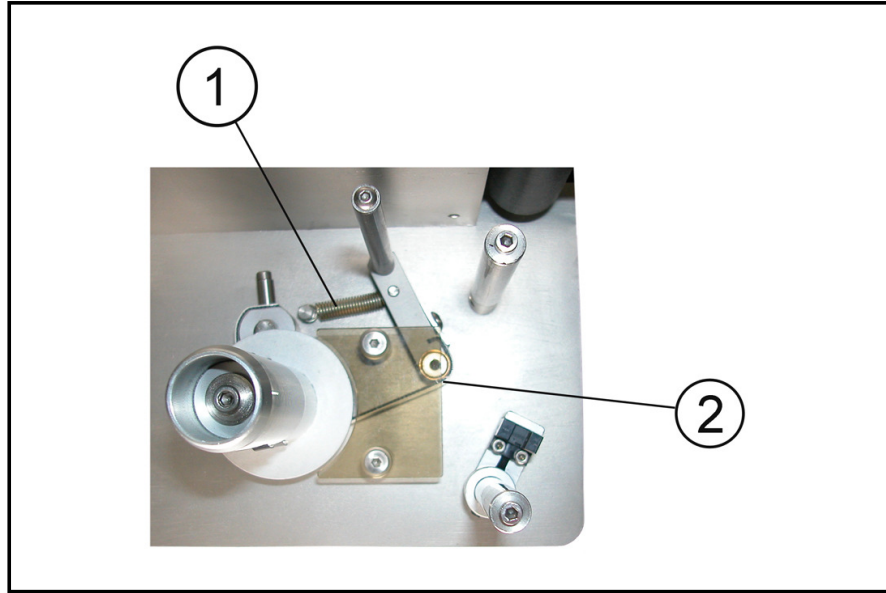


Figure 5

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF</u>	<u>QTY</u>	<u>NOTES</u>
1	EXTENSION SPRING	SPR620220	1	
2	BRAKE STRAP	BRA620051	1	

### Foil Rewind System

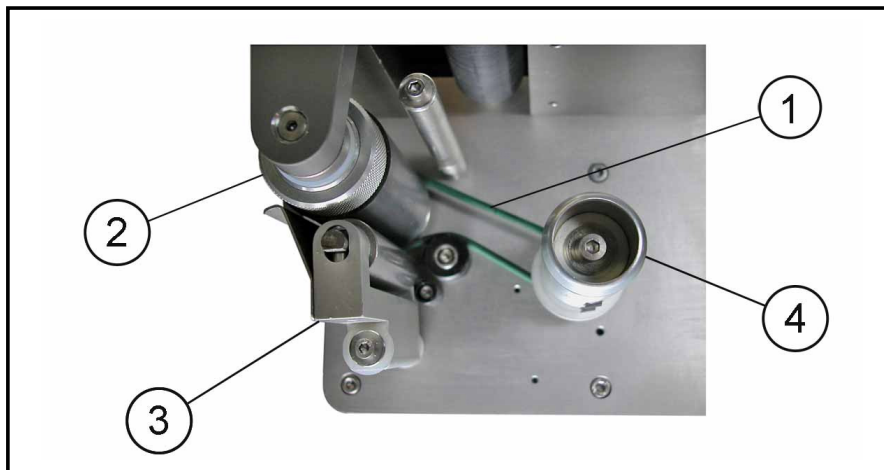


Figure 6

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STOCK REF</u>	<u>QTY</u>	<u>NOTES</u>
1	FOIL DRIVE BELT	DRI620049	1	
2	FOIL DRIVE ROLLER	ASY761100	1	
3	PINCH ROLLER & BRACKET ASSEMBLY	ASY761104	1	
4	FOIL REWIND HUB ASSEMBLY	HUB125118	1	

## **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.**

