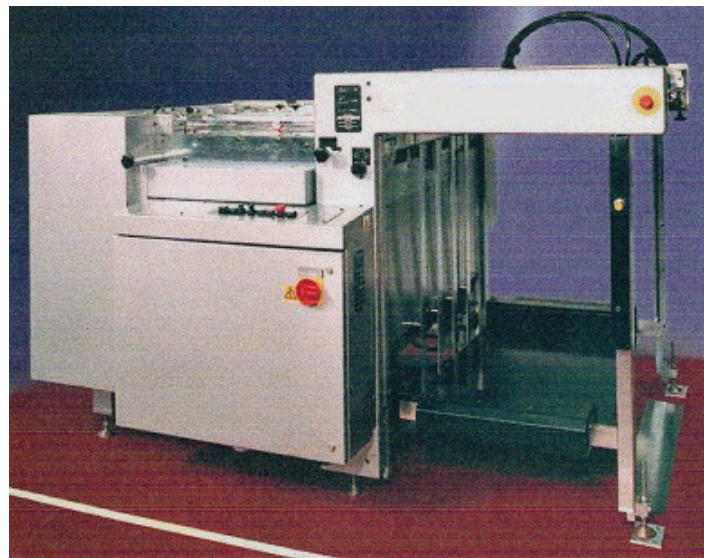




## Maintenance & Spare Parts

### Slipstream Feeder



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## Instruction Information Sheet

**Machine:** Slipstream Feeder

**Serial No:** .....

**Instructions Reference:** 91P-0002

**Issue Number:** 03

## **Operator Competence**

It is assumed throughout these instructions that the operator will be a competent one, having worked with similar machines for at least 2 years previously.

Training can be obtained from qualified Rollem staff upon request, it is recommended that operators attend a brief training session given by the Rollem installation and service engineer upon installation of the machine.

***If in any doubt at all about the setting or operation of this machine – please contact Rollem for assistance.***

## Equipment Safety

### General Safety

If you are unfamiliar with this equipment, read the manual thoroughly before proceeding.

If there is any doubt at any stage, do not proceed but seek clarification.

Before installing, maintaining, cleaning or removing any covers from a machine, switch off and isolate the machine either by disconnecting the plug from the socket, or ensuring that the isolator is switched off and has disconnected all the supply conductors (all lives and neutral).

There is no reason to work inside this equipment before it is correctly isolated.

Besides all procedures listed in this manual, reference must be made to local procedures for safe working practices, particularly the dangers of working with electricity.

Only competent persons trained on the equipment may service, maintain, repair or adjust the machine, or for any other reason remove any covers or part of the machines with a tool (a key is not a tool).

All Rollem manufactured machines are class 1 (to be earthed).

### **WARNING - THIS APPLIANCE MUST BE EARTHED**

Although the machine has circuits at mains voltages and also at lower AC & DC voltages, the electrical safety and insulation of the machine are designed, constructed and are to be maintained at, the higher mains voltage.

- **If the machine is rated 13A:**

The wires in the mains lead are coloured according to the following code:

<b>Green-and-yellow:</b>	<b>Earth</b>
<b>Blue:</b>	<b>Neutral</b>
<b>Brown:</b>	<b>Live</b>

As the colours of the wires in the mains lead may not correspond with the coloured markings identifying the terminals in your plug/isolator unit, proceed as follows:

The wire that is coloured green-and-yellow must be connected to the terminal in the plug that is marked with the letter E or by the earth symbol:



or coloured green, or coloured green-and-yellow.

The wire that is coloured blue must be connected to the terminal that is marked with the letter N or coloured black.

The wire that is coloured brown must be connected to the terminal that is marked with the letter L or coloured red.

If the mains cord requires replacing, only cords supplied by Rollem must be used.

- **If the machine is single phase and rated above 13A:**

The wires in the mains lead are coloured according to the following code:

**Green-and-yellow: Earth**

**Blue: Neutral**

**Brown: Live**

The machine must not be connected to the electricity supply via a 13A (BS 1363) plug and socket; the machine must only be connected to a suitable supply point rated greater than the machine and must only be connected by a suitably qualified person. As the colours of the wires in the mains lead may not correspond with the coloured markings identifying the terminals in the isolator unit, proceed as follows:

The wire that is coloured green-and-yellow must be connected to the terminal, which is marked with the letter E, or by the earth symbol, or coloured green, or coloured green-and-yellow.

The wire that is coloured blue must be connected to the terminal that is marked with the letter N or coloured black.

The wire that is coloured brown must be connected to the terminal that is marked with the letter L or coloured red.

If the mains cord requires replacing, only cords supplied by Rollem must be used.

- **If the machine is rated for 3-phase electricity supply:**

The machine must be connected to a 3-phase electricity supply point, a 13A (BS 1363) plug and socket is not suitable. The machine must only be connected by a suitably qualified person. Note, wire colours for 3-phase supplies may vary; if there is any doubt, do not proceed but seek further clarification.

If the mains cord requires replacing, only cords supplied by Rollem must be used.

If the machine is rated differently from the above, reference must be made to Rollem before proceeding.

All machines must be connected to the mains electrical supply by either a suitable plug and socket (e.g. using a plug to BS4343 / EN60309-2), or by a suitable isolator unit, which can securely disconnect all supply conductors (all lives and neutral).

If left unattended for any time, the machines must be switched off and isolated.

Children must not operate Rollem machines.

Where machines are supplied for “bench use”, the machines must be sited on a work surface, capable of securely supporting them, avoiding positions where the legs or bases of the machines are near an edge and the machines could be inadvertently knocked and fall over; if there is any doubt, the machines must be bolted to a fixed, secure structure.

Attention must be paid to the recommended electrical safety maintenance procedure detailed within this manual.

The machines must not be used outdoors or in any situation where they are likely to be splashed or exposed to excessive damp.

When moving the machines, ensure that suitable facilities, or help, is available to lift or move the machines; particularly into or from awkward locations where overreaching may occur.

Do not block any of the ventilation holes on the equipment, either to the sides or on the top.

Adequate lighting must be provided for the operation of the machine.

Any paper dust should be cleared from the machine on a regular basis *with the machine isolated from the electricity supply.*

## **Safe Working Procedure (Electrical)**

UNDER NO CIRCUMSTANCES MUST SERVICING WORK OF ANY NATURE BE CARRIED OUT WITHIN A LIVE MACHINE. THERE IS ABSOLUTELY NO REASON FOR ANY PERSON TO EITHER TOUCH INSIDE A LIVE MACHINE OR APPROACH THE VICINITY OF LIVE PARTS.

This procedure must be read together with, and does not take the place of, local procedures and Health and Safety Policies.

Before any work commences, people in the vicinity, or likely to approach the machine must be warned that the machine is about to be serviced.

Due regard must be made to site regulations such as permission/permit to work rules.

The electrical supply must be switched off and isolated, either by removing a plug or switching an isolator unit to off and ensuring that the live(s) and neutral are disconnected.

Precautions must be taken to prevent the isolator being turned accidentally back on, either:

- lock it off with a personal padlock.
- instruct a person to prevent the equipment being reconnected.
- if the isolator or plug and socket are in visual sight, attach a notice/sign to the isolation point warning that the connection is not to be remade and keep a visual check to prevent any person approaching the isolation point.

Covers may now be removed.

Before going further, a test must be made to ensure that the machine is isolated from the electrical supply. Particular care must be taken if a switch on an isolator unit disconnects the machine.

If it is necessary to run the machine with a cover removed, suitable precautions must be made to prevent any person approaching the machine and being exposed to danger.

Never leave a machine unattended with covers removed or in an unsafe condition.

Hand held devices for making electrical tests, which rely on the human body to complete a test circuit (such as neon-type screwdrivers) are not to be used; devices with insulated test probes are particularly recommended. Follow this procedure:

- isolate the machine
- check the points to be tested

- reconnect the machine
- take the required readings
- isolate the machine

Every time a machine is serviced, the following minimum checks must be made as a matter of routine:

- Correct wiring of the mains cord into a plug or isolator unit.
- Physical inspection of the mains cord for damage.
- Physical check of the cord grips at both ends of the mains cord.
- Physical inspection of the earth bonding.
- Physical check of cables inside and outside the machine for discolouration/other signs of overheating or damage.
- Any sharp edges in accessible areas.
- The earth bond and insulation tests for any machine connected by a plug and socket, and where practical to machines connected by other means)

## **Routine Electrical Maintenance Procedure**

This procedure covers the minimum tests required to be performed on ROLLEM equipment, to comply with the UK Electricity at Work Regulations 1989. The meaning of words and phrases used in this procedure is to be interpreted according to the definitions within the regulations.

As a minimum, the maintenance procedure should be carried out at least annually, but consideration must be given locally to more frequent maintenance programs if there is a likelihood of the machines becoming dangerous within an annual maintenance period.

Always do the tests in the correct order, if a machine does not pass a test, do not pass onto the next test without rectifying the reason for the failure (a fault indicates danger and the next test may not be safe), if a machine cannot be rectified to pass one of the tests, the machine must not be reconnected and must not be left in a state where it could be used.

### **BEFORE TESTING**

- Check the operating voltage, current and power of the machine and the supply; compare all sources of information (test sheet, serial plate etc.) and correct if necessary.
- Check the environment for hazards: flammable vapours, dusts etc..
- Warn people that tests are about to be carried out, and ensure that precautions are taken to keep a 3m (10') safety area around the machine during the periods when the machine is energised.
- Disconnect any additional equipment from the machine.
- Ensure that the supply for the test equipment is properly earthed.
- Physically isolate the machine from the supply; either by unplugging or by disconnecting and removing the mains cord from its supply point.
- Ensure that the machine on/off switch is in its normal ON operating position.

### **PHYSICAL EXAMINATION**

- Check equipment casing for signs of damage/loose parts that may give rise to a source of danger, e.g. a breakdown of insulation or user access to live parts.
- Check the mains plug (if fitted) for cracks or damage, open it up and check the terminals, fuse and fuse rating; check that the cord grip is effective in preventing the cord being pulled out, pushed in or twisted.
- Check the mains cord for damage to the insulation or other dangerous conditions such as kinking.

### ***Portable Appliance Test***

Carry out the Portable Appliance Test in accordance with the test equipment instructions.

### **Safe Working Procedures (Blades and Other Sharp Areas)**

1. When handling any sharp items, for example slitting blades, suitable protection must be worn that will protect the hands and wrists from any risk of injury.
2. When removing or adjusting shaft assemblies, to avoid the risk of damage to the machine and the risk of personal injury, the shaft must be supported and must only be moved with the assistance of a suitably rated, approved and maintained mechanical hoist or equivalent.

### **Operating Temperature**

Rollem machinery should be operated in an ambient temperature in the range of 5-40°C

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## **Recommended Spares**

### **Electrical Recommended Spares**

<b><i>Part</i></b>	<b><i>Rollem Partcode</i></b>
Inductive Detector	70P-0318
24V AC Relay (3 Pole)	70P-0297
24V AC Contactor	79Z-0353
Auxiliary Contact (N/O)	70P-0302
Switch	79Z-0112
Clutch Solenoid	79Z-0237
Suction Control Solenoid	79Z-0090
Drive Control Board	75P-0056
Sheet Interrupt Board	70P-0253
Micro Switch	79Z-0101
Micro Switch	70P-0314
Micro Switch	70P-0254
Micro Switch	79Z-0354
Micro Switch	79Z-0074

## **Mechanical Recommended Spares**

### ***Feeding Head***

<b><i>Part</i></b>	<b><i>Rollem Partcode</i></b>
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#### ***Consumables***

Suckers (1 set (8) - change every 200 hours or as required)	79Z-0479
Separator Feelers (1 set (2 each) – change every 600 hours or as required)	79Z-0392 (L/H) 79Z-0394 (R/H)
Separator Brushes	79Z-0188

#### ***Maintenance***

Amal Joint	79A-0066
Sideshift Pad	79Z-1121
Lifting Universal Block	79Z-1054
Heavy Foot Spring	79Z-0391
Lifting Cradle Spring	79Z-0397
Forwarding Cradle Spring	79Z-3098

#### ***Maintenance after 2 Years***

Foot Pivot Bearing	79Z-0464
Foot	79A-0083
Foot Cam Runner	79Z-0856
Foot Camfollower Ballrace	79Z-0204
Foot Spring Post	79Z-1024
Lifting Cradle Camfollower Ballrace	79Z-0202
Sideshaft Bush	79Z-0470

**Beltframe****Part****Rollem Partcode****Consumables**

Feed Roller Wheel Tyre	79Z-0033
Sidelay Tyre	79A-1104

**Maintenance after 2 Years**

Drop Wheel	79Z-0955
Feed Wheel	79Z-0955
Brush Wheel	85P-0690
Main Feed Roller Slewing Belt	79Z-1936
Main Feed Roller Drive Belt	79Z-1933
Beltframe Tape	79Z-1934
Tape Tensioner Spring	79Z-0409
Lay and Dropweel Spring	79Z-0397
Return Spring	79Z-0391
Amal joint	79A-0066
Brake Shoe	79Z-1848
Brake Collar	79Z-1940
Brake Spring	79Z-0418

**Maintenance after 4 Years**

Main Feed Roller Wheel Spring	79Z-0412
Brush Wheel and Flatbrush Spring	79Z-0413
Steel Ball (20.6 mm diameter)	
Steel Ball (14.3 mm diameter)	79Z-0223
Chain (Lay Shaft Drive) – 167 Pitches	79Z-0159
Chain (Drive) – 203 Pitches	79Z-0159
Toothed Belt 1000H100	79Z-0167
Toothed Belt 1250H100	79Z-0232
Toothed Belt 1100H075	79Z-0225
Toothed Belt 540H100	79Z-0230
Toothed Belt 630H200	79Z-4007

## ***Air Valve Camshaft***

### ***Part***

### ***Rollem Partcode***

#### ***Consumables***

Air Line Filter	79Z-1017 (Filter Body)
(Change every 3 months or as required)	79Z-3028 (Filter Inner)

#### ***Maintenance***

Camshaft Drive Tension Spring	79Z-0397
Front Fence Return Spring	79Z-0397
Suck & Blow Camfollower Ballrace	79Z-0204
Suck & Camfollower Bush (12DU16)	79Z-0450
Suck & Camfollower Bush (12DU12)	79Z-0449
Motion Camfollower Bush (06DO12)	79Z-0441
Motion Camfollower Bush (06DU08)	79Z-0440
Motion Camfollower Bush (06DU06)	79Z-0439
Valve Return Spring	79Z-0416

**Main Hoist**

**Part**

**Rollem Partcode**

**Maintenance**

Hoist Brake Shoe	79Z-1848
Brake Collar	79Z-1940
Brake Spring	79Z-0419
Chain (Reductions) 12.7mm Pitch x 4.8mm Light	79Z-0158
Chain (Reductions) 12.7mm Pitch x 4.8mm Heavy	79Z-0159
Chain (Hoist) 12.7mm Pitch x 6.35mm	79Z-5224

**Drive**

**Part**

**Rollem Partcode**

**Maintenance**

Clutch Brake Shoe	79Z-1848
Brake Collar	79Z-1940
Brake Spring	79Z-0418
Chain (Camshaft Drive) – 143 Pitches 12.7mm Pitch x 4.8mm Heavy	79Z-0159
Chain (Tape Roller Drive) – 85 Pitches 12.7mm Pitch x 4.8mm Heavy	79Z-0159

## **Standard Parts**

<b><i>Part</i></b>	<b><i>Rollem Partcode</i></b>
Layboard Brush Wheel Assembly	79A-0036 (L/H) 79A-0037 (R/H)
Layboard Wheel Assembly	79A-0034 (L/H) 79A-0035 (R/H)
Inline Filter Assembly	79A-5068
Amal Joint	79A-0066
Lifting Universal Roller	79Z-1096
Lifting Universal Block	79Z-1054
Paper Suckers (for Paper and Card)	79Z-0479
Lifting & Forwarding Search Sucker Assy	79A-0060 (L/H) 79A-0061 (R/H)
Clutch Brake Collar	79Z-1940
Layboard Tyre	79Z-0033
Sidelay Tyre	79A-1104
Nylon Sideshaft Pad	79Z-1121
Foot Cam Runner	79Z-0856
Foot Spindle Assembly	79A-5069
Adjustable Brush Holder & Feeler	79A-1052
Foot for Paper or Card	79A-0083

## **Springs**

<b><i>Description</i></b>	<b><i>Rollem Partcode</i></b>
Spring (17.5mm diameter, 90.5mm long)	79Z-0397
Spring (17.5mm diameter, 194mm long)	79Z-0398
Airvalve Flap Spring	79Z-2160
Airvalve Block Spring	79Z-0416
Synchronised Clutch Pawl Spring	79Z-1837
Layboard Brush Spring	79Z-0413
Adjusting Spring for Separator	79Z-0415
Main Feed Roller Spring	79Z-0414
Sidelay Spring	79Z-0420
Brake Springs	79Z-0418 79A-0419
PVC Tube Search Sucker Spring (Used to prevent pipe collapse)	79Z-0424
Layboard Wheel Spring	79Z-0412

## **Maintenance**

### **Maintenance Schedule**

(Maintenance Schedule is based on 42 hours operation per week)

**DO NOT USE AEROSOL SPRAYS TO LUBRICATE**

**ALWAYS USE RECOMMENDED OILS**

### ***Monthly Maintenance Requirements***

- (a) Clean all filters as in Section 1 of Maintenance Operations.  
Under dusty conditions, weekly cleaning may be found helpful.
- (b) Oil all parts as in Section 2(a) of Maintenance Operations.
- (c) Oil spring as in Section 2(b) of Maintenance Operations.
- (d) Change plastic suckers as in Section 4 of Maintenance Operations.
- (e) Clean blowers as in Section 8 of Maintenance Operations.
- (f) Check the hoist brake(s) as in Section 6 in Maintenance Operations.

### ***6 Monthly Maintenance Requirements***

- (a) Check rollers or wheel running on top of paper for stiffness.
- (b) Check tension of belts and chains as in Section 3 of Maintenance Operations.
- (c) Check free running of all tape tensioners and rollers.
- (d) Check hoist chains and mechanisms as in Section 10 of Maintenance Operations.

***Annual Maintenance Requirements***

Check the hoist limit switches as in Section 5(a) of Maintenance Operations.

***Maintenance Requirements every 3 Years***

Change other frequently used micro switches as in Section 5(c) of Maintenance Operations.

## **Maintenance Operations**

### **1. Filters**

Filters with plastic case in suction line.

The two halves of the filter can be pulled apart, revealing a bronze gauze filter which can be cleaned by blowing or with a brush. The filter should be re-assembled with the fine mesh side of the gauze towards the suckers. This will reduce felting between the gauze.

### **2. Lubrication**

- (a) All cams, ratchets, moving pins etc, or spring ball lubricators should be oiled with any SAE 30 automobile oil every month.

NOTE: The bronze bushes used are porous and oil holes should not be drilled through the bushes.

- (b) All springs should be oiled once per month with the same oil as in (a) above.

### **3. Belts and Chains**

The tension of all belts and chains must be checked every six months.

- (a) There must always be some slack in a chain drive.
- (b) All chain drives have tensioners for adjusting the tension. On slow moving slow moving chains there are non-rotating hardened bosses which cannot be moved sideways.  
On faster moving chassis the tensioner is an adjustable idler sprocket.
- (c) Toothed belts should be tensioned to give approximately 3mm deflection half way between the pulleys when pulled sideways with a force of 4kg, unless otherwise stated.

#### **4. Suckers**

The plastic suckers harden with use and should normally be changed at least once a month.

To change them, pull out the old sucker, using a firm pull and twisting slightly and insert the new ones. Moistening the sucker trunk will assist insertion. It is essential that the suckers are right home so that the lip of their trunk engages in a groove in the sucker piston.

#### **5. Micro Switches**

- (a) Check that each limit switch, both up and down on each hoist is functioning correctly. Up to four switches (single non-continuous chain hoist) altogether.
- (b) Other micro switches that are frequently operated should be changed every 3 years. This applies particularly to the height control switch, replacement of which should always be obtained from Rollem as this is a non-standard switch.

#### **6. Brakes**

- (a) Check that all hoists stop sharply. If they do not, reset the brake as below:
  - (i) Set all brakes with the hoist going down.
  - (ii) The correct brake torque is stamped on the brake arm.
  - (iii) Adjustment is made by spring pressure. A clamp is provided with the feeder for manually turning the motor shafts.
- (b) Camshaft brake – front/side lays and drop wheel control. Check monthly by:
  - (i) Remove the right hand side beltframe guard (right hand when looking forwards in direction of feeding).
  - (ii) The shaft carrying all the cams controlling the motion of the lays and dropwheels is located in the upper side plate of the beltframe.

- (iii) At its inner end is a pair of brake collars, clamped together by plates tensioned by a spring/nut combination.
- (iv) The braking force should be set with a torque applied to the adjusting nut of 10 Nm minimum, 20 Nm maximum.
- (v) Replace the beltframe guard on completion of this procedure.

### **7. Gears & Rollers**

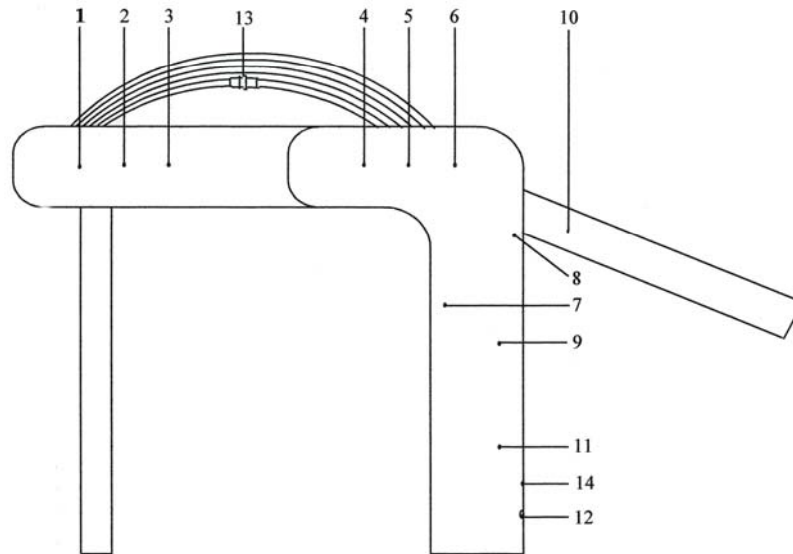
Certain gears and rollers on the machine are fixed to the shaft with adhesive or tolerance rings, which are a stiff fit between the shaft end and the fitting on it.

### **8. Blow**

The main blow and two separating blows should be cleaned out monthly:

- (i) Turn both blow controls to maximum blow.
- (ii) Turn the feeder until the blow is coming out of the main blow.
- (iii) Clean out the slot with a knife or a similar object.
- (iv) Repeat the same with the separating blowers.

## Recommended Maintenance



### *Monthly – Oil Lightly:*

1. Feeding Head
2. Knuckle Joints
3. All Chains
4. Knuckle Joints
5. Cams & Camfollowers
6. Piston Blocks
7. Slowdown Grease
8. Tape Tensioners (Very Lightly)
9. Clutch Linkage
10. Layboard Wheels (Lightly)

### *Monthly – Clean*

13. Filters
14. Paper Filters

### *Every 1000 Hours*

12. Grease the Pump and Motor

### *Every 2000 Hours*

11. Grease the Hoist Motor

*Note: very few oil pipe nipples are provided as all bearings are oil free, place oil next to or on moving surfaces*