

# ILLUSTRATED PARTS LIST AND SERVICE INSTRUCTIONS

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# **SERVICE INSTRUCTIONS**



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# PREFACE

#### SERVICE PREPARATION

This manual provides the instructions for the replacement of all the components that may become worn or damaged during normal usage of the machine.

<u>"Illustrated Parts Lists"</u> with	For each machine give full details of the replacement part numbers supporting diagrams to show the location of the components.	\$
<u>"Service Instructions"</u> with	<ul> <li>For each machine give the recommended servicing proceed supporting pictorial diagrams for added clarity</li> </ul>	Jure

#### WARNING

- 1. Check the machine RATING PLATE DETAILS are compatible with the electrical mains supply.
- 2. Disconnect the electrical mains supply before removing any covers.
- 3. The machine **MUST** have a sound Electrical Earth Connection.

#### NOTE: THE ELECTRIC MOTOR IS PROTECTED BY AN AUTOMATIC THERMAL OVERLOAD CUT-OUT

#### Product Testing after Servicing or Repair.

IMPORTANT. If any electrical component has been changed, an electrical connection broken and remade, or any wiring disturbed, the product being repaired or serviced must be flash tested or PAT tested. This test must be carried before a product is handed back or returned to the customer or returned to stock. The test must be appropriate for the machine being repaired. E.g. double insulated or earthed. A competent person should conduct the test and keep a log of all machines tested, the serial number of the machine, the details of the test, the test results and the date the test was carried out.



PAPER SHREDDER S16 ILLUSTRATED PARTS LIST **SECTION 1** 

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#### FRAME & COVER PANELS ASSEMBLY

NO	PART NO	DESCRIPTION	QTY	COMMENTS
1	25384	REAR COVER PANEL	1	
2	25400	LH FRONT COVER PANEL ASSY	1	
3	A25065	FRAME ASSEMBLY	1	
4	TRU67	GRIP RING	1	
5	SCM43	M3 X 20 POZI PAN SCREW	2	
6	NM8	M5 NUT	4	
7	25238	SAFETY SWITCH BRACKET	1	
8	SHK3	M5 SHAKEPROOF WASHER	8	
9	SHK1	M3 SHAKEPROOF WASHER	4	
10	NM7	M3 NUT	2	
11	SL23-12	DOOR CATCH MAGNET	1	
12	25418	LINKAGE ASSEMBLY	1	
13	25244	LINKAGE BRACKET	1	
14	SCM40	M5 X 12 POZI HEAD SCREW	4	
15	D25398	RH FRONT COVER PANEL ASSY	1	
16	SL18-281	HANDLE	1	
17	SL18-184	LOCKING CASTOR	2	
	SL18-297	NON-LOCKING CASTOR	2	
18	PLN5	M8 PLAIN WASHER	16	
19	SHK5	M8 SHAKEPROOF WASHER	16	
20	SCM38	M8 x 16 HEX HEAD SCREW	16	
21	D25402	DOOR ASSEMBLY	1	
22	25419	HINGE	1	
23	RTS37	POP RIVET	20	
24	SCM15	M6 x 12 SCREW HEX HEAD	11	
25	PLN4	M6 PLAIN WASHER	11	
26	SHK4	M6 SHAKEPROOF WASHER	11	
ISSU	E 2		-	•

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### PAPER SHREDDER S16

# SECTION 1

#### ILLUSTRATED PARTS LIST



**ILLUSTRATED PARTS LIST** 

#### CASING ASSEMBLY

NO	PART	DESCRIPTION	QTY	COMMENTS
	NO			
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 <b>IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</b>	25467 25397 25396 NM8 SHK3 PLN3 39019 D000309 45659 SCM122 A25434 25080 SCM81? 1000748 D000238? 25072 D000157 ? RPS16 RTS19 25073 PLN4 SHK4 SCM13? 25143 SCM31 25094 25075 NM5	TOP COVER ASSY COMPLETE SIDE PANEL UPPER CASE LH REAR PANEL UPPER CASE M5 HEXAGON NUT M5 SHAKEPROOF WASHER M5 PLAIN WASHER LOCATING PEG OILING/WARNING DECAL PLASTIC CAP M5 × 20 SOCKET CAP SCREW FEED CHUTE FACIA PANEL SIDE PANEL UPPER CASE RH M4 × 12 COUNTERSUNK RAISED HEAD SCREW REXEL LOGO DECAL FACIA DECAL SIDE PANEL CASE LH INSTRUCTION DECAL RATING PLATE POP RIVET SIDE PANEL CASE RH M6 PLAIN WASHER M6 SHAKEPROOF WASHER M6 × 40 HEXAGON HEAD SCREW FRONT PANEL CASE S/W ASSY M6 × 30 HEXAGON HEAD SCREW FEED SHELF REAR PANEL M6 HEXAGONAL NUT	1 1 1 2 2 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 2 1 2 2 1 2 2 1 2 1 1 1 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2 1 2 1 1 2 2 2 2 1 2 1 2 2 1 2 2 1 2 2 2 2 1 2 2 2 2 2 1 2 2 2 2 2 1 2 2 2 2 1 2 2 2 2 2 2 1 2 2 2 2 2 1 2 2 2 2 2 1 2 2 2 2 2 2 1 2	Consists of Item Nos.



#### PAPER SHREDDER S16 ILLUSTRATED PARTS LIST

**SECTION 2** 

# CASING ASSEMBLY





## **SECTION 3**

#### **CUTTING HEAD**

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NO		DESCRIPTION	QTY	COMMENTS
NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	PART NO 25449 D25435 D25440 D25454 BR22 BR15 D25443 D25445 D25445 D25446 D25437 KEY31? D25446 D25437 KEY31? D25446 D25437 KEY31? D25446 A5535 D25427 D25448 A25429 D25436 45966 45535 D25427 D25448 A25429 D25442 A25429 D25442 A25429 D25442 A5737 TRU84 A25428 PLN5/L SHK5 SCM32 SCM38	DESCRIPTION CUTTING HEAD COMPLETE INFEED EXTENSION 1 PAPER GUIDE PAPER GUIDE BEARING C/W SNAP RING BEARING STRIPPER BAR CUTTER DRIVE SHAFT CUTTER DRIVE SHAFT CUTTER DRIVEN SHAFT CUTTER KEY 8 x 7 x 18 (ROUND ONE END) COLLAR TAB WASHER 40 NUT NOTCHED M40 x 1.5 MOTOR DUST COVER TIE ROD SUPPORT BUSH BIN FULL FLAP DEFLECTOR PLATE SIDE PLATE LH ASSEMBLY STRIPPER LOCATION PLATE LH STRIPPER LOCATION PLATE RH NUT NYLOC M8 GEARBOX COVER 2 <sup>nd</sup> STAGE PLANET CARRIER GEAR CASING CIRCLIP SIDE PLATE RH ASSEMBLY WASHER PLAIN SHAKEPROOF WASHER M8 x 20 HEX HEAD SCREW M8 x 16 HEX HEAD SCREW	<b>QTY</b> 1         2         2         2         2         2         2         2         2         2         2         2         2         2         1 <tr td=""></tr>	COMMENTS Comprising Item Nos. UP TO S/N 661559 FROM S/N 661559 NOLONGER FITTED COMPRISING COMPRISING
14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37	45966 45535 D25427 D25448 A25429 D25439BI D25438 NM22 D25442 45737 TRU84 A25428 PLN5/L SHK5 SCM32 SCM38 45541 45539BI SL22-82 45667 D25441 TRU70 D45973 45585	TIE ROD SUPPORT BUSH BIN FULL FLAP DEFLECTOR PLATE SIDE PLATE LH ASSEMBLY STRIPPER LOCATION PLATE LH STRIPPER LOCATION PLATE RH NUT NYLOC M8 GEARBOX COVER 2 <sup>nd</sup> STAGE PLANET CARRIER GEAR CASING CIRCLIP SIDE PLATE RH ASSEMBLY WASHER PLAIN SHAKEPROOF WASHER M8 × 20 HEX HEAD SCREW M8 × 16 HEX HEAD SCREW DE-JAM KICK PLATE SPACER BELT GEARBOX COMPLETE REAR HEAD SUPPORT PANEL CIRCLIPS STRIPPERS COLLARS	4 2 1 1 2 1 1 2 1 1 1 6 16 8 10 1 2 1 1 3 268 2	NOLONGER FITTED COMPRISING

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# **SECTION 3**



#### **ILLUSTRATED PARTS LIST**

#### **BIN ASSEMBLY**

NO	PART NO	DESCRIPTION	QTY	COMMENTS
1 2 3 4 5 6 7 8	25386 D-NUT36 SHK5 PLN27 25452 25413 SL18-344 SL18-345	FIBRE BIN M8 DOME NUT M8 SHAKEPROOF WASHER WASHER LARGE BASE REINFORCEMENT BASE STIFFENER CASTOR STEM INSERT (M8 x 15) CASTOR	1 4 4 8 1 2 4 4 4	
<b>ISSUE 2</b>				



#### PAPER SHREDDER S16 ILLUSTRATED PARTS LIST

**SECTION 4** 

#### **BIN ASSEMBLY**



**SECTION 5** 



# **ILLUSTRATED PARTS LIST**

#### ELECTRICS

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#### ELECTRICS

#### PAPER SHREDDER S16 ILLUSTRATED PARTS LIST

#### **SECTION 5**

NO	PART NO	DESCRIPTION	QTY	COMMENTS
NO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	PART NO 25455 NM7 SKH1 SL8-107 SCM78 SL6-33 NM5 SHK4 PLN4 SCM87 SL6-22 SL6-53 PEG6 SL26-10 SL20-255 SL20-265 SL20-265 SL20-309 SHK6 SCM38 KEY 1 SCM27	DESCRIPTION SWITCH/CONTROL UNIT COMPLETE NUT M3 SHAKEPROOF WASHER MICROSWITCH SCREW M3 x 16mm POZI PAN CAPACITOR 90-112uF NUT M6 SHAKEPROOF WASHER PLAIN WASHER SCREW M6 x 16mm CAPACITOR 16uF CAPACITOR 16uF CAPACITOR 15uF PIN 30 x 5mm MOTOR FAN MOTOR 600W 220-240V MOTOR 600W 220-240V MOTOR 600W 220-240V 50Hz MOTOR 600W 220-240V 50Hz MOTOR 600W 220-240V 50Hz SHAKEPROOF WASHER M8 SCREW M8 x 16mm HEX HEAD KEY 5 x 5 x 40mm SOCKET SET SCREW/ M5 x 10mm	QTY 1 2 6 1 4 1 2 2 2 2 1 1 1 1 1 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1	COMMENTS           TO S/N 690498           TO S/N 930900           FROM S/N 930900           C/W CAPACITORS (2) UP TO S/N 690498           FROM S/N 690498 TO S/N 930900           FROM S/N 930900
17 18 19 20 21 22	SCM27 45621 SL9-11 SCM43 NM13 SL5-67 SL5-80	SOCKET SET SCREW M5 x 10mm MOTOR PULLEY 6-WAY TERMINAL BLOCK SCREW M3 x 20mm POZI PAN NUT M3 PILLAR TYPE CONTACTOR CONTACTOR 115V	1 1 2 4 2 2	TO S/N 930900 TO S/N 930900 TO S/N 930900 TO S/N 930900
23 24 25 26 27 28 29	NM8 SHK3 PLN3 23516 SL8-72 SCM6? SCR559B	M5 NUT SHAKEPROOF WASHER M5 PLAIN WASHER M5 INSULATION - SAFETY SWITCH SAFETY SWITCH M4 x 30mm POZI PAN SCREW 2BA x 1" BRASS SCREW	8 8 1 1 2 1	TO S/N 930900 TO S/N 930900 TO S/N 930900
30 31 32 33 34 35 36 27	X1466 SL9-19 SL5-69 V2132/1 NUT 42B SL17-41 PLN3B	INSULATION 16A TERMINAL BLOCK MECHANICAL INTERLOCK EARTH TAG 2BA BRASS NUT SHELL CLAMP 2BA PLAIN BRASS WASHER DAB CLAMP	2 1 1 3 4 3	TO S/N 930900 TO S/N 930900 TO S/N 930900? TO S/N 930900 TO S/N 930900
37 38 39 40 41	SL17-131? SHK2? NM3? SL4-28 SL4-29 SL17-112	SHAKEPROOF WASHER M4 M4 NUT CABLE CABLE 115V SELF-ADHESIVE CABLE CLIP	2 1 1 1 3	TO S/N 930900 TO S/N 930900 TO S/N 930900
42 43 44 ISSUE 2	SL17-111 SL17-126 SL17-127 SCM22	SELF-ADHESIVE CABLE CLIP CABLE ENTRY CLAMP ENTRY CLAMP BUSH SCREW M6 x 20mm HEX HEAD	3 1 1 1	FROM S/N 930900 TO S/N 930900 TO S/N 930900 TO S/N 930900



# **SECTION 5**



ILLUSTRATED PARTS

#### **ELECTRICS**

LIST

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NO	PART	DESCRIPTION	QTY	COMMENTS
	NO			
45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63	D000200 1000728 SL10-45 SL10-62 SL10-46 SL8-117 SCM81 25350 SL17-147 SL17-242 SL17-319 SL8-118 SL8-119 W142 W159 WD283 WD294 SL17-143 25290 SL17-320 SL17-320 SL17-320 SL17-243 SL17-24	CONTROL PANEL DECAL S16 SWITCH DECAL RED NEON INDICATOR LIGHT RED NEON LIGHT 115V RED LED INDICATOR LIGHT EMERGENCY STOP SWITCH M4 x 12mm COUNTERSUNK RAISED HEAD SCREW SWITCH BRACKET S/W ASSY SWITCH PANEL SWITCH PCB SWITCH PCB SWITCH MOUNTING CONNECTOR DP CONTACTOR BLOCK WIRING KIT WIRING KIT WIRING DIAGRAM PCB LUG SUPPORT PCB BRACKET S/W ASSEMBLY PCB PILLAR CONTROL PCB CONTROL PCB CONTROL PCB CONTROL PCB 115V CONTROL LED PCB CABLE CLAMP NO.6 x ¼" POZI PAN (TYPE Z) INLET SOCKET BRACKET APPLIANCE INLET SOCKET 10 AMP FUSE SEMI DELAY SAFETY CICUIT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TO S/N 930900 FROM S/N 930900 TO S/N 930900 TO S/N 930900 TO S/N 930900 TO S/N 930900 FROM S/N 930900 (NOT SHOWN) FROM S/N 930900 (NOT SHOWN)



#### **SECTION 1**



**INSTALLATION NOTES** 

#### POWER SUPPLY

Check that the details marked on the machine rating plate conform with the electrical mains supply.

Single phase power supply operation - 115v. 1ph. 60Hz 240v. 1ph. 50Hz

This machine must be earthed.

#### SAFETY PRECAUTIONS

- Before 'testing' or 'using' the machine, the locking castor wheels <u>MUST</u> be securely locked in the <u>LOCKED POSITION</u>; this is achieved by depressing the locking levers on the two castor wheels at the front of the machine. When the castor wheels are securely locked the machine is prevented from moving on the floor in the event of the paper cutters becoming jammed.
- 2. **<u>DISCONNECT</u>** the electrical mains supply plug from its socket before commencing any services.
- 3. <u>**PAT TEST**</u> after any servicing.

**<u>NOTE</u>**: THE ELECTRIC MOTOR IS PROTECTED BY AN AUTOMATIC OVERLOAD CUT-OUT.

#### PAPER SHREDDER S16

#### **SECTION 2**

#### **LUBRICATION OF CUTTING HEAD**

To avoid a build-up of paper dust, the cutting head should be cleaned thoroughly on a regular basis followed by the application of a small amount of shredder oil to lubricate the cutters. Oil penetration can be assisted by running the machine in reverse and forward modes alternatively.

When the machine is used regularly it is recommended that cleaning and oiling is carried out at weekly intervals.

At six monthly intervals chains, sprockets and gears should be cleaned and re-coated with Rexel Shredder Oil.

**SECTION 3** 



## SERVICE INSTRUCTIONS

#### FEED CHUTE REMOVAL AND REPLACEMENT

- 1. Remove the two plastic screw covers (1, fig. 1) by prising upwards with s screwdriver.
- 2. Remove the two set screws (2, fig. 1), lift front of feed chute, slide forward to unplug at the rear and lift free.
- 3. Assemble in reverse sequence.
- 4. NOTE: if replacing feed chute the two plugs (3, fig.1) can be removed and refitted to a new feed chute by removal of nuts and washers (4,5,6, fig.1).



Fig. 1



#### PAPPAPEN SEIRED BR6S16 SECSECTION 4

#### SERVI**SER NECERINSHIRUNS**TIONS

#### **REMOVAL OF CASING**

- 1. Remove the four screws (1, fig. 2), securing the operating switches assembly to facia panel.
- 2. Lower the switch assembly to the inside of the machine.
- 3. Open the hinged door and withdraw the waste bin (1, fig.3).
- 4. Remove the four nuts and washers (1, fig.4) securing the casing to the frame assembly. These are situated within the main frame, upper section.
- 5. Remove the casing from the main frame assembly (2, fig.4).
- 6. Assemble in reverse sequence.



Fig. 2







## SERVICE INSTRUCTIONS

#### **CUTTING HEAD ADJUSTMENT**

Ensure that machine is disconnected from the electricity supply.

Too much clearance between adjacent cutters can cause incorrect shredding.

To rectify:-

- 1. Remove the casing (section 2 page 4).
- 2. Prose open locking washers on both shafts on the gearbox end.
- 3. Tighten locknuts equally to a finger tight position using a 'C' spanner or by pushing on notches with a screwdriver.
- 4. Peen over locking tabs on to locknuts to secure in position.
- 5. Run amchine and test for quality of cut.
- 6. If cut quality is unacceptable repeat stages 2-5 and tighten lock nuts equally in one notch steps until an accceptable quality of cut is obtained.
- 7. Refit casing and test operation.



# PAPER SHREDDER S16 SERVICE INSTRUCTIONS

#### **REPLACING DRIVE BELT**

- 1. Remove the casing (section 2, page 4).
- 2. NOTE: The gearbox pulley and motor drive are on fixed centres. To remove belt, slaken socket set screw securing motor pulley and wind belt off gearbox pulley as shown (fig. 5).
- 3. to fit replacement belt, position motor pulley half way onto motor shaft. Fit belt and 'wind' onto gearbox pulley.
- 4. Align motor pulley with gearbox and secure with grub screw.
- 5. Refit cover and test.





**SECTION 7** 

# SERVICE INSTRUCTIONS

#### **REPLACING CUTTING HEAD**

- 1. Remove the casing (section 2, page 4).
- 2. Remove the motor dust cover and lift out the bin full flap.
- 3. Note and disconnect motor wires from the rear terminal block, capacitor and earth screw. Disconnect the wires from the bin full switch.
- 4. Remove the drive belt (section 2, page 6) and motor (section 2, page 12).
- 5. Unscrew 4 cutting head fixing screws and lift out the cutting head assembly. **NOTE**: 4 holes are provided in the sideplates for lifting with a hoist if required.
- 6. Replace the new cutting head assembly and reassemble in the reverse sequence.
- 7. Test the operation and adjust the cutter tension if necessary.



#### SERVICE INSTRUCTIONS

#### **REPLACING GEARBOX**

- 1. Remove the cutting head unit (section 2 page 7), drive belt (section 2 page 6), and motor (section 2 page 10).
- Support the cutting head with the gearbox uppermost and remove the screws securing the de-jam plate, gearbox cover and tie rods. Lift away the side plate and gearbox assembly. (Fig 6)
- 3. Remove the circlip securing the gearbox and withdraw the gearbox from the side frame. Retain the de-jam plate.
- 4. On separation of the gearbox, part of the gear train may remain in the gearbox position.

Remove the gears and clean gearbox cover.

NOTE: Examine the shaft bearings and 1/1 gears for wear and replace if required.

5. Should the gears have become dislodged from the replacement gearbox position the centre dowel gear as shown (fig. 7) into drive pulley, locate the centre dowel and engage assembled 1<sup>st</sup> stage gear. Pack with LM2 grease. Engage the assembled 2<sup>nd</sup> stage planet gear carrier with the 1<sup>st</sup> stage drive gear.

Restrain the gear carrier and rotate the drive pulley to seat the gears.

- 6. Align the de-jam plate with the gear casing and secure with the new circlip to the side frame.
- 7. Offer the side frame assembly to the gearbox cover and rotate the drive pulley to locate the gears.
- 8. Locate the de-jam plate with the gearbox mounting holes and secure.
- 9. Reassemble the remaining components in the reverse sequence.



PAPER SHREDDER S16 SECTION 8

# SERVICE INSTRUCTIONS

#### **REPLACING GEARBOX CONT'D**





# SERVICE INSTRUCTIONS

#### CUTTERS AND STRIPPER REPLACEMENT

- 1. Remove the cutting head (section 2, page 7) and gearbox and sideframe assembly (section 2 page 8).
- 2. Remove the 1/1 gears and gearbox cover assembly.
- 3. Prise open the locking washers and unscrew the locknuts on both shafts. Remove the collars from both shafts and lift away the paper guide plate and infeed extensions.
- 4. **NOTE**: The assembly order of cutter s and stripper and remove cutters and strippers as required.
- 5. Reassemble the new cutters and stripper onto the shafts in the original order of assembly (i.e in stacks of 4 components).
- 6. Reassemble the cutting head and test the operation.
- 7. Adjust the cutter clearance (section 2 page ) as necessary to give a good quality cut.



#### **SERVICE INSTRUCTIONS**

#### **MOTOR REPLACEMENT**

- 1. Remove the casing (section 2 page 4), the motor dust guard and the bin full flap.
- 2. Remove the drive belt and motor pulley (section 2 page 6).
- 3. Note the wiring connections and disconnect the motor wires from the terminal block, capacitor and the motor earth screw.
- 4. Remove the screws securing the motor to the side frame.
- 5. Lift away the motor and fit the replacement, ensuring that the details on the motor rating plate are correct for the machine.
- 6. Reconnect motor wires as originally fitted and reassemble the machine.
- 7. Run the machine and test the operation.

# <u>NOTE:</u> Should the motor operate in reverse on test, interchange the black and red motor wires.





#### SERVICE INSTRUCTIONS

#### SWITCH PANEL REPLACEMENT

- 1. Remove the casing (section 2 page 4).
- 2. Disconnect the ten way ribbon plug from the PCB (1, fig.9).
- 3. Note the wiring connections and disconnect the four wires (2, fig.9) from the emergency stop switch.
- 4. Replace with the new switch panel and reconnect the wires as originally fitted (refer to WD221, fig.9A).
- 5. Reassemble the machine in the reverse sequence.
- 6. Run the machine and test the operation.





#### SERVICE INSTRUCTIONS

#### ELECTRONIC ADJUSTMENTS (REED SWITCHES)

Two sensors are mounted on the printed circuit board (PCB) 91, fig.11), each of which comprise a coil supported on a terminal block and encircling a reed switch. One sensor detects the high current present in the event of a phase failure, the other detecting the high current drawn when the motor stalls due to the jamming of the cutting head. The magnetic field from the coils operates the reed switches that form part of the logic circuit controlling the contactors which directly switch the motor. (Warning: the glass encapsulated reed switch is fragile). In the event of a phase failure, the machine will cease to operate, and the control 'STOP' button will illuminate.

When jamming occurs, after a short pause, the motor will automatically reverse momentarily and then stop, the unshredded paper having been returned to the feed chute. The illuminated controls will now indicate the 'STOP' mode. Manual reverse can be obtained by pressing the reverse button on the control panel to give momentary reverse and then stop.

The waste container door is linked to a safety switch which is connected in the logic circuit and when open also reverts the machine to the '[STOP' mode. This condition is indicated by an illumination on the switch control panel/

A 'Fail-Safe' circuit is incorporated within the logic circuit to detect any interruption in the power supply which causes the machine to suddenly cease working. When the power supply is restored the machine will automatically be re-set into the 'STOP' mode.

#### Machine not cutting required number of sheets

to establish whether the fault is mechanical or electrical both sensors on the PCB should be temporarily short circuited as in fig.10. The machine should now be checked on mechanical setting for maximum number of sheets cut and, if satisfactory, will indicate that the fault is electronic, and adjustment is required. During the test avoid stalling the motor for a prolonged period. If the maximum cut is not satisfactory, the problem is mechanical.

#### <u>Adjustment</u>

Revert the sensor connections to the original circuit before proceeding. Correct adjustment is attained by slackening the terminal block securing screw(1,fig 11) and slightly rotating the block to adjust the position of the coil relative to the reed switch (2, fig 11). Adjustment of the coil towards either end of the switch will increase the quantity of sheets cut. Returning the coil towards the centre decreases the quantity. When the coil is set, tighten the terminal block securing screw.

This is the only adjustment on the PCB, should any other problems be encountered with the electronics the complete PCB should be replaced.

#### ELECTRONIC ADJUSTMENTS (REED SWITCHES) CONT'D



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#### SESEMATCHCENENSRURUKTONOS



Fig. 11

#### ELECTRONIC ADJUSTMENTS (SENSING COILS)

The sensor is mounted on the printed circuit board (PCB) (fig 11b) and detects the high current drawn when the motor stalls due to the cutting head jamming. The magnetic field of the wire passing through the coil is sensed by the coil and operates the potentiometer, which forms part of the logic circuit controlling the contactors which switch the motor.

When jamming occurs, after a short pause, the motor will automatically reverse momentarily and then stop; the unshredded paper having been returned to the feed chute. The illuminated controls will now indicate the "STOP" mode. Manual reverse can be obtained by pressing the reverse button on the control panel to give momentary reverse and then stop.

The waste container door is linked to a safety switch which is connected in the logic circuit and when open also reverts the machine to the "STOP" mode. This condition is indicated by an illuminated on the switch control panel.

A "Fail-Safe" circuit is incorporated within the logic circuit, to detect any interruption in the power supply that may cause the machine to suddenly cease working. When the power supply is restored the machine will automatically be reset into the "STOP" mode.

#### Machine Not Cutting the Required Number of Sheets

Each machine is set at the factory to achieve the cutting of the maximum number of sheets. The electrical control is achieved by setting the potentiometer on the PCB (fig 11b). The electrical setting is checked using the 2-pin test plug located by the potentiometer and checking the electrical resistance (ohms); compare the value with the factory setting value.

N.B. The setting screw located on the top of the potentiometer is used to achieve adjustment if necessary. Turning the screw clockwise will increase the maximum number of sheets cut.

Should any other problems be encountered with the electronics, the complete PCB should be replaced.



PAPER SHREDDER S16 SECTION 14



# PAPER SHREDDER S16SECTION 15SERVICE INSTRUCTIONS

#### PRINTED CIRCUIT BOARD REPLACEMENT - REED SWITCH

- 1. Remove casing (ref section 3)
- 2. Note wiring connections and disconnect the two wires from the terminal block on the PCB (1, fig 12).
- 3. Disconnect the 8-way plug (2, fig 12) and the 10-way ribbon plug (3, fig 12) from the PCB.
- 4. Remove the PCB from its support and replace with the new board.
- 5. Reconnect wires and plugs as originally fitted (refer to wiring diagram).
- 6. Reassemble machine in reverse sequence. Carry out PAT test, run machine and test operation.



Fig. 12



# PRINTED CIRCUIT BOARD REPLACEMENT – SENSING COIL

- 1. Remove casing (ref section 3)
- 2. Note wiring connections and disconnect at the (7 Connectors) terminal block on the PCB
- 3. Disconnect the 10-way ribbon plug from the PCB.
- 4. Disconnect the Over Current Wire from the Auto Reset Switch and remove from the centre of the Over Current Coil.
- 5. Remove the PCB from its support and replace with the new board.
- 6. Reconnect wires and plugs as originally fitted (refer to wiring diagrams).
- 7. Reassemble the machine in the reverse sequence. Carry out PAT test, run the machine and test the operation.

# PAPER SHREDDER S16 SECTION 16



1. Remove casing (ref section 3).

2. Note wiring connections and disconnect all wires from contactor(s) to be replaced (1, fig 13).

- 3. Remove the eight screws, nuts and washers (2, fig 13) securing both contactors to the main frame.
- 4. Remove the mechanical interlock clips from between the two contactors using pliers, separate the contactors and remove the mechanical interlock unit (3,fig 13).
- 5. Replace the contactor(s) as required and reassemble the mechanical interlock and clips.
- 6. Reconnect wiring as originally fitted (refer to wiring diagrams).
- 7. Reassemble machine in reverse sequence. Run machine and test for operation.



Fig. 13

## PAPER SHREDDER S16 SECTION 17

#### HINGED GATE SAFETY SWITCH REPLACEMENT

- 1. Remove casing (section 3).
- 2. Remove the four screws, nuts and washers (1, fig 14) securing the switch bracket to the main frame.
- 3. Remove the switch and bracket assembly (2, fig 14) and also the shaft support bracket (3, fig 14).
- 4. Separate the switch and insulating cover from the bracket by removing the two screws and nuts (4, fig 14).
- 5. Disconnect the leads from the switch.
- 6. Replace with new switch and connect the wiring.
- 7. Assemble in reverse sequence and test operation.



## PAPER SHREDDER S16 SECTION 18



#### **BIN FULL SWITCH REPLACEMENT**

- 1. Remove casing (section 3).
- 2. Disconnect switch from the switch located on the left hand side frame.
- 3. Remove the two screws securing switch and insulating cover to bracket.
- 4. Replace with the new switch and reconnect the wiring. Test operation.
- 5. Assemble in reverse sequence.

**SECTION 19** 



# FACTORY POTENTIOMETER SETTINGS

All machines are set in the factory to achieve the maximum number of sheets cut by adjusting the potentiometer to the value shown below.

Individual machines may require adjustment to suit the site conditions, by either increasing or decreasing the resistance value as required.

MACHINE	<u>SUPPLY</u>	RESISTANCE (k ohm)
S16	230V 50HZ	950
S16	115V 60Hz	500-600

These values are for reference only and are not intended to represent the values required by an individual machine site.

# **SPECIFICATION**

MODEL	S16
Power Supply	220-240V 50 Hz
Height	1170 mm
Width	735 mm
Depth	660 mm
With shelf	980 mm
Weight	140Kg
Motor Power	600W
Particle Size	6 mm Strip
Speed	12 m/min
Max Sheets (A4 70gsm)	40
Dimensions of Waste Container (HxDxW)	715 x 510 x 600 mm
Waste Container Capacity	0.205 m3



# WIRING DIAGRAMS



Wiring Diagram 115V with Sensing Coil





# WIRING DIAGRAMS



Wiring Diagram 220-240V with Sensing Coil

(From 2/1/95 S/N 690488 To S/N 930900)



# WIRING DIAGRAMS



Wiring Diagram 220-240V with Reed Switch

(To 23/12/94 S/N 690488)

**PAPER SHREDDER S16** 

#### SECTION 20 CONT'D



# SERVICE INSTRUCTIONS

# WIRING DIAGRAMS



Wiring Diagram 220-240V

(From S/N 930900)



# AMENDMENT RECORD SHEET

ISSUE	DECRIPTION	SERIAL	CARO NO
NO		NO	
1	Original	-	-
2	PCB with sensing coil and new motor	690488	
3	LED PCB and new motor	930900	