JMV ROBOTIQUE

COMPLETE SOLUTIONS FOR ON-DEMAND CD & DVD PRODUCTION

MEP120 CD Sleever
For carton, paper, tvyek and plastic sleeves

OPERATING & MAINTENANCE MANUAL

Thank you for purchasing a JMV Robotique MEP120 CD Sleever

OPERATING & MAINTENANCE MANUAL

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Production Standard

T.ZZ 003 034

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	**WARNING** To avoid electrical shock hazards, unit covers should only be removed by authorized personnel.
	**COPYRIGHT** This document is the property of JMV Robotique and it may not be reproduced, copied or exhibited to a third party without the written permission of JMV Robotique.
	**ENVIRONMENTAL PROTECTION** Waste electrical products should not be thrown away with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

JMV Robotique reserves the right to amend or modify the specifications and design criteria applying to these products.

WARRANTY TERMS

The MEP120 is covered by the JMV Robotique standard warranty.

WARRANTY EXCLUSIONS

We will not provide warranty repairs if, in our opinion, the problem resulted from externally caused damage, use outside the product's specification, faults caused by inexperienced or non-approved repairers.

The warranty does not cover the replacement of used consumables (or of parts which need periodic replacement during the life of the product as a result of the use made of them) unless the consumable itself is defective.

IF YOUR PRODUCT FAILS WITHIN THE WARRANTY PERIOD

- Prepare a description of the problem you have had
- Make sure you have your proof of purchase document (invoice or receipt.)
- Contact your supplier

OPTIONAL EXTENDED WARRANTY PROGRAMMES

Optional extended warranty programs are available. JMV Robotique extended warranty programs can only be purchased at the same time or shortly after the product to be covered has been purchased. Contact JMV Robotique for details.

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SECTION 1: SPECIFICATION

Power Supply:	110v to 240 volts 50Hz or 60Hz Self-adjusting
Fuse:	2 amp
Vacuum Supply:	In 6 mm inlet -800 mbars @ 3m^3 per hour (2.94 p.s.i. absolute @ 1.8 C.F.M)
Air Supply:	In 4mm inlet2 - 4 bar pressure @ 6m^3 per hour (30-60 p.s.i @ 3.6 C.F.M.)

Note:
PSI IS ABSOLUTE PRESSURE NOT GAUGE PRESSURE

Dimensions:	Length	800 mm (31.5”)
	Width	380 mm (15”)
	Height	560 mm (22”)
	Weight:	38kg (83.6lbs)
Throughput:	50 - 55 CD’s Sleeved per minute	
Sleeve Hopper:	Height	180 mm (7”)
	Capacity	180 Medium Thickness Sleeves

Sleeve Specification (general)

Overall Dimensions:

Width	128 mm (5.04”) MAX
Length	120 mm (4.7”) to 130mm (5.1”)
Inside Width	122 mm (4.8”) MIN
Flap Size	38 mm (1.5”) MAX

Plastic Sleeves

Recommended Material: 150um (0.006”) MIN Polypropylene

SECTION 2: INTRODUCTION & INSTALLATION

2.1 Introduction

The MEP120 CD Sleever can be used as a stand-alone unit or fully integrated into a packaging line.

The unit is supplied as standard to accommodate the most commonly used spindles, however it can easily be adjusted to suit customers own spindles. Please contact JMV Robotique for more information on special spindle adapters.

As an aid to production, the MEP120 has a pre-set switch. This switch stops the unit after a set number of discs have been sleeved, to avoid the need for counting of sleeved disks. A resettable four digit counter displays the total production since power up of the unit. When you receive the Sleever, the pre-set will be factory set at 25 CDs.

2.2 Installation

2.2.1 Unpacking

Your MEP120 has been fully tested at the factory and our Quality Control Department has ensured before despatch that it performs satisfactorily to the full specification. Should any damage have occurred in transit, please contact your shipper immediately and also inform JMV Robotique.

2.2.2 Power Wiring

The power connection is made to the MEP120 via the power cable supplied. The power circuit to the MEP120 should be rated in accordance with the national and local electrical codes.

The MEP120 has been specially designed to accept power in the range 110v to 240v and either 50 or 60Hz.

Caution:
A good electrical ground must be connected to the MEP120.

2.2.3 Vacuum Supply

A vacuum supply of -800 mbars at $3m^3$ per hour (2.94 psi absolute, 1.8 CFM) is required by the unit via the 6mm inlet at the right side of the unit.

2.2.4 Air Supply

An air supply of between 2 and 4 bars, at $6m^3$ per hour (30 & 60 psi, 3.6 CFM) is required by the unit via the 4mm inlet at the right side of the unit.

Caution: Incorrect connection to the vacuum supply may result in permanent damage to the vacuum gauge.

SECTION 3: SET-UP PROCEDURE

Note:

1) In the interest of safety the MEP120 is fitted with both an emergency stop button and interlock switches on the perspex doors. Upon initial application of power to the unit or if either of these switches is activated, the unit will cease to work. Simultaneously the restart button adjacent to the emergency stop button will illuminate. To clear this condition the restart button must be depressed. Providing the emergency stop button is reset and the perspex doors are closed the unit will continue its original activity.

2) Because of the very different types of sleeve, i.e. paper, card, plastic, flaps, no flaps, adjustments have to be made to ensure correct operation.

3.1 Sequence of Operation

3.1.1 Before commencing the set-up procedure it is helpful to understand the sequence in which the MEP120 operates.

3.1.2 When the run button is pressed, the CD lifting arm moves to the right and the larger upper sucker picks up a CD from the spindle, it then moves to the left and the CD is placed on the plastic CD insertion slide.

3.1.3 At the same time as the CD is picked up, the two lower suckers lift up and using vacuum, pull a sleeve out from the hopper and hold it in line with the CD insertion slide.

3.1.4 The small top sucker lowers down onto the sleeve and with vacuum holds it, the arm then rises and opens the sleeve.

3.1.5 The CD pusher arm now rises up behind the CD and inserts it into the sleeve.

3.1.6 The vacuum is removed from all the suckers holding the sleeve and it slides into the finished product hopper.

3.2 Spindle Adjustment

The MEP120 is supplied as standard with a $1^{11}/_{16}$“ spindle adapter plus a smaller adapter $1^{1}/_{8}$“ which may be secured to the larger one (see item 112 on diagram 3) These two adapters will be suitable for most applications however special adapters can be supplied on request.

3.2.1 First open the perspex operator door which encloses the CD spindle.

3.2.2 Place a spindle loaded with CDs into the spindle support.

3.2.3 The unit has been factory set for standard spindles, however customers should check that their spindles are in the correct position i.e. the top of the spindle must be 10mm - 11mm (0.40”-0.44”) above the disk table. See Fig. 1

3.2.4 If the spindle top is not at the correct height, it must be adjusted up or down by loosening the single socket screw inside the perspex door and the 2 nuts located inside the unit. To locate these 2 nuts, the front cover must be removed from the unit.

Caution:
Remove the mains supply from the MEP120 before removing panels.

Care should be exercised when repositioning the spindle height to ensure that
The spindle is not tilted over. i.e. The top of the spindle is in the correct position
relative to the disk sucker and disk sensor.

Note:
If customer finds their spindles will not fit the standard MEP120's spindle support, additional parts and specials are available. Please contact JMV Robotique.

3.3 Sleeve Hopper Adjustment (see fig. 2)

Note:
1) Sleeves with flaps must be placed with the flap uppermost i.e. flaps coming over the disk**.**

2) Sleeves without flaps must be placed with the folded and glued faces of the sleeve face down

3.3.1 Place the required sleeves into the sleeve hopper.

3.3.2 The width of the hopper must be adjusted to a loose fit by the black knob on the front of the unit. The sleeves must slide up and down in the hopper without restriction.

3.3.3 The hopper must then be positioned centrally about the CD Loading Track by means of the black knob on the rear of the hopper.

3.3.4 For the correct dispensing of the sleeves from the hopper, the small fingers at the exit of the hopper must be the correct ones for the type of sleeves being used. There are three types of fingers:

a.	Large Closed End	-	For plastic without flaps
b.	Large Open End	-	For plastic and paper with flaps
c.	Small	-	For card

Note:
The large open-ended fingers have slots and holes for fixing. The slots are correct for normal operation, however the holes may be used with plastic sleeves if problems occur due to the sleeves being badly deformed. See Fig. 2.

3.3.5 For efficient sleeve dispensing the fingers at the exit of the hopper must be adjusted by means of the small black finger screws on either side of the hopper. Lock nuts are provided to hold them in position.

The correct position of the fingers for each type of sleeve material is achieved by experiment. For stiff cardboard sleeves, the fingers must be almost fully retracted to allow the sleeves to be pulled out of the hopper by the lower sucker arm.
For thin paper the hopper fingers must be fully engaged to prevent multiple sleeves from falling out of the hopper.

3.3.6 To position the hopper correctly up and down the CD loading track, unscrew the 2 black knobs on the top of the Sleever. The hopper must be positioned to ensure the 2 suckers on the lower sucker arm contacts the sleeve approximately 10 mm (0.4") from the open edge.

This can be observed as follows:-

Place sleeves in the hopper but with no CDs on the spindle. Close the perspex safety covers and press the "START/STOP" button.

The Sleever executes a cycle, but does not pick up the sleeve due to there being no CDs available. By repeated pressing of the "START/STOP" button, the position of the hopper can be checked.

3.4 Sleeve Upper Sucker Arm

3.4.1 The upper sucker arm must be adjusted sideways along the CD loading track to achieve correct operation.

a) For sleeves without flaps approx. 10 mm (0.4") from the open edge.

b) For sleeves with flaps the suckers should be positioned between 10 mm (0.4") from the flap edge and as near the edge of the flap as possible. The latter position is required particularly if the sleeve hits the upper sucker when it is pulled down from the hopper.
The arm has a friction clamp so it can be moved without unscrewing the arm attachment.

3.4.2 The upper sucker arm can be adjusted for height by means of the two Allen socket screws. When the arm is in it's lowest position the sucker bellows should be approximately 50% compressed onto the sleeve before the arm rises and opens the sleeve.

3.4.3 2 sizes of sucker are provided with the MEP120 and when not in use is located on top of the unit. The suckers are removed by simply pulling from the arm and replaced by pushing onto the arm.

Generally speaking the small sucker is for sleeves with flaps and the large sucker is for sleeves without flaps. However for TYVEX sleeves with a large flap (between 1" and $1^1/_2$") best results may be obtained by not using the upper sucker at all and moving the arm away from the sleeves.

Note:
A degree of trial and error is required to optimum results with each specific sleeve.

3.4.4 To help the opening of plastic sleeves a non-adjustable air jet is provided on the upper sucker arm near the sucker.

3.5 Air Pressure Adjustment.

The positive airflow into the suction cups is controlled by 2 separate adjustments.

The one on the left of the machine is only for the lower sleeve arm suckers, the one on the right of the machine is for disk and upper sleeve arm suckers.

Adjust these air flow limiters to the minimum air, i.e. just enough to reject the sleeve and the disk correctly.

3.6 Set Up Test

To enable the set up to be fully tested, place the “up - o - down” switch on “0”. Press the on/off switch once, this will make the MEP120 complete one cycle, it will take one CD, one sleeve and place the CD in the sleeve. To repeat the cycle, press the on/off switch again

3.7 Pre-set Adjustment

3.7.1 When the Pre-set/Run switch on the control panel is set to Pre-set, the unit will sleeve CDs continuously until the pre-set number has been reached. This is set at the factory for 25 CDs but can be changed in the range 10-90.

3.7.2 To change the pre-set, you will need to remove the rear panel and disconnect the unit.

Caution:
Remove the main power, air pressure and vacuum from the MEP120 before removing panels.

3.7.3 With the rear cover removed, you will see the DIL switches that change the pre-set. (See control Pcb Layout Revision 6)

SECTION 4: SET-UP FAULT FINDING

4.1 Problem

CD upper sucker arm (very large bellows) does not pick up CD.

Solution
Insufficient vacuum check gauge reading for -800 mbar - increase vacuum by checking filters or increasing vacuum supply

4.2 Problem

Sleeve is not removed from hopper

Solution
a. Insufficient vacuum check gauge reading for -800 mbar - increase vacuum by checking filters or increasing vacuum supply.
b. Wrong fingers fitted - fit correct fingers.
c. Fingers incorrectly adjusted, see section 3.3.5.

4.3 Problem

Sleeve upper sucker arm does not open sleeve.

Solution
a. Sleeve arm height incorrect - reset height, see section 3.4.2.
b. Sleeve lateral position incorrect - reset position, see section 3.4.1.
c. Insufficient vacuum check gauge reading for -800 mbar - increase by checking filters or increasing vacuum supply.
d. Sleeve position incorrect - reset hopper, see section 3.3.
e Excessive air pressure - reduce pressure, see section 3.5

4.4 Problem

The sleeve is positioned correctly but the CD does not slide down into the sleeve under gravity when the CD 'stop' is lowered and the unit stops.

Solution
Hopper position incorrect - reset hopper, see section 3.3.

4.5 Problem

The CD is not fully inserted into the sleeve.

Solution
Move the hopper to the right, i.e., nearer the disk. If the hopper position is correct and the fault persists adjust the CD pusher position to the left, see section 7.10.

4.6 Problem

The plastic sleeves fall through the hopper.

Solution
Check the specification of the sleeve. Very thin materials cannot be processed by this equipment. Refer to the specification in this manual.

SECTION 5: OPERATION

Note:

1) In the interest of safety the MEP120 is fitted with both an emergency stop button and interlock switches on the Perspex doors. Upon initial application of power to the unit, or if either of these switches is activated, the unit will cease to work. Simultaneously the restart button adjacent to the emergency stop button will illuminate. To clear this condition the restart button must be depressed. Providing the emergency stop button is reset and the Perspex doors are closed the unit will continue its original activity.

2) Because of the very different types of sleeve, i.e. paper, card, plastic, flaps, no flaps, adjustments have to be made to ensure correct operation.

5.1 Open both Perspex doors and place a loaded spindle onto the spindle support.

Note:

The CD's must be loaded onto the spindle, printed side upwards. Permanent damage may result if the spindle is incorrectly fitted Onto the support.

5.**2** Close the Perspex doors.

5.3 Place sleeves in the sleeve hopper with the opening towards the loaded CD spindle.

Note:

1) Sleeves with flaps must be placed with the flap uppermost. I.E. flaps coming over the disk.
2) Sleeves without flaps must be placed with the folded and glued faces of the sleeve face down.

5.4 Switch the unit on and put the 3-position switch in **UP** position. The disk elevator then lifts the disks until the optical fibre sensor detects the first disk. The switch must be in the **UP** position for disk sleeving.

5.5 Press the **START/STOP** push button. The red LED illuminates and the MEP120 will commence sleeving.

5.6 To stop the unit at any time, press the "START/STOP" push button.

5.7 When the spindle is empty, the disk elevator goes down, do not open the Perspex protection door until the disk spindle has stopped in the full down position. After replacing the empty spindle for a loaded one, move the 3 position switch to "0" and then immediately "UP".

Note:

The spindle can be lowered at any time by setting the 3-position Switch to **DOWN**.

5.8 When the hopper is empty, the machine will stop automatically. Reload the sleeve hopper and to restart press the “START/STOP” push button.

5.9 The 2-position switch at the front of the MEP120 controls the quantity of disks to be sleeved. Position setting as follows:-

RUN - The MEP120 works continuously
PRESET- The MEP120 stops every 25 sleeves.

The 25 are pre-set in the factory and can be changed internally from 10 to 90, see section 3.7.

The 4-digit counter on the front panel totalises the disks processed and is reset by depressing the button on the left-hand side of the display.

SECTION 6: OPERATION FAULT FINDING LIST

6.1 Problem

The CDs do not rise when “up-0-down” switch is put in ‘Up’ position.

Solution

a Emergency stop button is depressed - reset the button.
b. One or both Perspex doors are not closed - close Perspex doors.
c. Perspex door interlock switch faulty or out of adjustment
- Re-adjust or replace door interlock switch.
d. No mains power - check main power supply and fuse at the MEP120 mains switch.
e No internal low voltage power - check internal power supplies including the 2.5 amp fuse mounted on each power supply Pcb.
f. No output drive from the control Pcb - check fuses 1.6 amp and 1.0 amp mounted on the Pcb.

6.2 Problem

CD spindle raises, but no other functions will work.

Solution

a. Main arm not in home position - return main arm to home position i.e. in fully left position.
b. No output drive from the control Pcb - check fuses 1.6 amp and 1.0 amp mounted on the Pcb

Caution:

Fully qualified personnel must only undertake the following activity. Failure to disconnect the connector J3 from the control pcb and depress the emergency stop button may result in serious personal injury.

During fault finding of this equipment it may be advantageous to operate the MEP 120P by hand but with the air pressure, vacuum and control pcb operative. By depressing the emergency stop button and removing the electrical connector J3 from the control pcb the primary drive shaft, (27) diagram 1, may be rotated by hand, in an anticlockwise direction (when viewed from the rear of the unit) to allow slow speed monitoring of all aspects of sleeving one disk. However at all other times the mains power, air pressure and vacuum supplies must be removed unless specifically requested otherwise.

SECTION 7: MAINTENANCE INSTRUCTIONS

The following sections are intended to provide assistance when replacing certain items on the MEP120.

Suitably qualified personnel should only undertake the following activities.

IMPORTANT:
Before carrying out any form of maintenance it is essential that the MEP120 be disconnected from the mains supply.

Sections:

7.1. FRONT COVER REMOVAL:

a) Remove the five socket head screws securing the front cover and lay the cover down in front of the unit. Take care not to stress any interconnecting leads.

7.2. REAR COVER REMOVAL:

a) Remove the seven socket head screws securing the rear cover and lay the cover down beside the unit. Take care not to stress the interconnecting earth lead.

7.3. TOP COVER REMOVAL:

a) Remove the two socket head screws securing the top cover complete with the hinged Perspex cover. The screws are accessible through the holes in the top face of the cover. The cover may then be rolled over to the rear or the right hand side of the unit but it must be supported. Movement is limited due to the interlock sensor leads. Take care not to subject the sensor or its leads to any undue stress.

7.4. PNEUMATIC VALVE REPLACEMENT:

a) Remove the front cover.
b) Identify the valve to be removed and pull off the pressure and vacuum tubes. Identify each tube as it is removed in order to simplify replacement.
c) De solder the wires to the valve, again noting where each wire is connected.
d) Remove the two securing socket head screws securing the valve and remove the valve.
e) The replacement valve is fitted in the reverse order.

Note:
Check that the on/off selector screw in the new valve is turned fully anti clockwise.

7.5. MICRO SWITCH REPLACEMENT:

7.5.1. Cam Operated Switches. (Diagram 1)

These micro switches maybe removed/adjusted individually or as a single assembly. To remove a single switch (261):-

a) Remove the rear cover.
b) Identify the switch to be replaced and de solder the wires to the switch. Identify the wires to ease reconnection.
b) Remove the two socket head screws securing the micro switches to the switch bracket.
d) Remove the switch. Take care to note the position of any spacers between the switches/bracket.
e) The replacement switch is fitted in the reverse order.
f) The new switch must be positioned such, that when the actuating cams are rotated the switches are actuated at certain high point positions around the cam. The operating levers on the switches must not 'bottom' against the switch body or be subjected to excessive loads. Additional adjustment may be obtained for both switches by slackening the two screws securing the switch-mounting bracket.

7.5.2 Upper Spindle Micro Switch (Diagram 3)

To remove the switch (261):-

a) Remove the rear cover.
b) Remove the main Pcb assembly to gain access to the switch.
c) De solder the wires on the switch and indentify the wire position to ease replacement.
d) Remove the two socket head screws securing the switch and remove the switch
e) The replacement switch is fitted in the reverse order.
f) Check that the switch is actuated by the lever on the disk carrier at a point when the spindle adapter, without a spindle fitted, reaches a height of 0.75" below the top face of the chute plates (see figure 1). Adjust the lever position if necessary after slackening the two lever securing screws.

7.5.3 Lower Spindle Micro Switch (Diagram 3)

To remove the switch (261):-

a) Remove the rear cover.
b) Remove the main Pcb assembly to gain access to the switch.
c) Remove the socket head screw behind the right hand Perspex cover, which is also used to secure the spindle support bracket, to release the switch and mounting plate.
d) Move the switch to a position that allows the wires to be de soldered and the mounting plate to be removed. Indentify the wire positions to ease replacement, and remove the switch.
e) The replacement switch is fitted in the reverse order.
f) Check that the switch is actuated by the lever on the disk carrier at a point when the spindle adapter reaches a height of 0.1" above the spindle base. Adjust the lever (110) position if necessary after slackening the two lever securing screws.

7.6. MAIN MOTOR/GEARBOX REPLACEMENT (Diagram 1)

To remove the Motor/Gearbox:-

a) Remove the rear cover.
b) Remove the front cover.
c) Remove the main Pcb assembly.
d) De solder the wires to the motor. Indentify the wires to ease **r**eplacement.
e) From the front of the unit slacken the four socket head screws securing the motor and slide the motor sideways to slacken the rubber drive belt. Remove the belt.
f) Slacken the screw securing the pulley to the motor/gearbox shaft and remove the pulley.
g) Remove the four motor securing screws and remove the motor.
h) The replacement motor is fitted in the reverse order.

Note:
The rubber drive belt must not be over tightened. Adjust the motor position to just remove any slack movement in the belt.

7.7. SPINDLE MOTOR/GEARBOX REMOVAL (Diagram 3)

To remove the motor/gearbox:-

a) Remove the rear cover.
b) Remove the top cover.
c) Remove the main Pcb assembly.
d) De solder the wires to the motor. Indentify the wires to ease replacement.
e) From the top of the unit slacken the four socket head screws securing the motor and slide the motor sideways to slacken the rubber drive belt. Remove the belt.
f) Slacken the screw securing the pulley to the motor/gearbox shaft and remove the pulley.
g) Remove the four motor securing screws and remove the motor.
h) The replacement motor is fitted in the reverse order.

Note:
The rubber drive belt must not be over tightened. Adjust the motor position to just remove any slack movement in the belt.

7.8. SPINDLE LIFT MECHANISM REMOVAL (Diagram 3)

To remove the mechanism:-

a) Remove the rear cover.
b) Remove the top cover
c) Remove the main Pcb assembly
d) Remove the spindle motor/gearbox.
e) Remove the two screws securing the top ends of the lift guide rails. (21)
f) Remove the two screws securing the bracket (122) at the bottom of the guide rails and remove the mechanism.
g) The replacement mechanism is fitted in the reverse order.

7.9. ADJUSTMENT OF LEDs

Adjustment of the sleeve and disk presence sensors is limited to keeping them clean and setting them as close to the products to be detected as is practical without fouling any other components.

7.9.1 Adjustment of the sensor used for checking the presence of disks on the spindle:-

a) Place a loaded spindle onto the spindle support.
b) Close the Perspex doors.
c) Put the three-position switch in the **Up** position. The disk elevator
d) Then lifts the disks until the optical sensor detects the first disk. The position of the top disk relative to the chute top surface should be 2 to 3 mm see FIG 1.
e) Switch the unit off and slacken the two screws securing the sensor.
f) Adjust the sensor as required and tighten the two screws.
g) Apply power to the unit and put the three position switch in the **Down** position then the **Up** position to move the disk elevator down and up.
h) Re-check the sensor setting and repeat the above procedure if necessary.

7.9.2 Adjustment of Flag Led Sensors. (262 Diagram 1)

The sensors are secured to a mounting bracket using two screws allowing very little adjustment and replacement of a sensor should not require any special adjustment. However it should be ensured that the flags pass through the centre of the sensor slot and do not touch the sensor body.

7.10. DISK PUSHER ADJUSTMENT.

Adjustment for the positioning of the disk pusher item 101 in diagram 1

a) Slacken the two screws securing the disk pusher in place. This will allow the disk pusher to slide up and down the chute.
b) The position of the disk pusher is not critical however it must not foul the disk or sleeve when they are placed on the chute. The optimum position is a distance of approximately 5-mm between the edge of the disk and the pusher when the pusher pops up to push the disk into the sleeve.
c) Tighten the two securing screws when the correct position has been established.

7.11. DISK SUCKER ADJUSTMENT (Diagram 1)

Three adjustment are provided for obtaining the correct position of the sucker
(200) I. E.

I. The screw securing the pulley (24) to the shaft (27) when slackened will allow radial movement about the centre of pulley (25)
II. The screw securing lever (28) to the shaft (23) when slackened will allow variation in timing between the sucker position and the rest of the unit.
III. Adjustment of screw thread (26) which sets the position of the sucker over the disk.

Note:
Adjustment II. above must be set first.

a) Rotate the shaft (23) manually in an anti clockwise direction (when viewed from the back) until the lever (2) is at right angles to the slot in the disk pusher carrier (100) see

FIG 3. Slacken the screw securing the lever (28) to shaft (23) and position the lever as shown in FIG 3. Tighten the securing screw.

b) Place a loaded spindle onto the spindle support, close the Perspex door.
c) Put the three-position switch in the “Up” position. Wait for the disk elevator to stop.
d) Open both Perspex doors and push in the ‘E’ stop button.
e) Rotate the shaft (23) anti clockwise manually and note the movement of the disk sucker. The sucker should move over to the disk to a position near the centre of the disk, pick up the disk and place it on the chute. Using adjustments 1) and 3) above ensure that the sucker picks up the disk and places it on the chute without unnecessary distortion of the sucker and that the approach angle of the sucker relative to the disk is correct to ensure an airtight seal.

7.12. COMPLETE PCB ASSEMBLY REMOVAL

The pcb assembly is secured by one screw only but is also located in two slots in the base of the MEP120.To remove the assembly:-

a) Remove the rear cover.
b) Remove the Pcb assembly securing socket head screw. This is located approximately half way up the left-hand sloping side of the MEP120. (Looking from the rear of the unit)
c) At this point decide if access only behind the assembly is required or if the assembly is to be removed. If access is required behind the assembly then lift the assembly approximately 0.5" so that the locating tabs clear the slots in the base of the unit. Then rotate the assembly down about its lower edge away from the unit. If it is required to remove the assembly then first remove the electrical connectors to the pcbs indentifying their positions to ease replacement.
d) Cut the tie wraps securing the optical fibres in the wire loom, remove the screws securing the optical fibre amplifiers to the Pcb assembly and lay the amplifiers down in the base of the MEP120.
e) Remove the Pcb assembly.
f) The replacement Pcb assembly is fitted in the reverse order.

7.13. PCB REPLACEMENT

The three main pcbs i.e., +24v, +12v and Control are secured to a single plate.
See diagram 2. Each pcb may be removed separately:-

a) Remove the rear cover.
b) Identify which Pcb is to be removed and disconnect the electrical connectors from the pcb.
c) Remove the nuts and screws securing the pcb - 4 off for each of the PSU’s and 5 off for the control board,- and remove the pcb.
d) The replacement Pcb is fitted in the reverse order, no adjustment is necessary on the board except the possible checking/setting of the pre-set disk count on the control board. See layout.

SECTION 8: RECOMMENDED SPARES

MEP120 CD Sleever

(REFER TO DIAGRAMS FOR COMPONENT IDENTIFICATION)

Item No.	VSL Part No.	Description	
30.1	T.JM000022	Toothed Belt	1
200.3	T.JM000002	Upper sucker for flap sleeves	2
200.1	T.JM000004	Disk sucker	2
200.2	T.JM000003	Lower sucker for sleeve	2
213	T.JM000023	Toothed Belt	1
214	T.JM000024	Toothed Belt	1
250	T.JM000070	Electro valve	1
261	T.JM000047	Microswitch	1
262	T.JM000056	Sensor	1
269	T.JM000079	12v power supply	1
270	T.JM000080	24v power supply	1
276	T.JM000083	Cable and DIL connector	1
277	T.JM000085	Vacuum filter	2
F1	T.JM000088	Fuse 1.6A (control pcb)	5
F2	T.JM000089	Fuse 1.0A (control pcb)	5
F3	T.JM000090	Fuse 2.0A (mains supply)	5
F4	T.JM000091	Fuse 2.5A (+ 12v & 24v supply)	5
201	T.JM000094	Plastic Stopper	2

SECTION 9: SPARE PART LIST

MEP120 CD Sleever
(REFER TO DIAGRAMS FOR COMPONENT IDENTIFICATION)

Item No.	VSL Part No.	Description	QTY	DIAGRAM NO.
3	T.JM000033	*Guide Rod*	2	1
12	T.JM000034	Lower sucker cam	1	1
13	T.JM000035	Upper sucker cam	1	1
16	T.JM000014	Toothed pulley	1	1
17	T.JM000037	Lower sucker switch cam	1	1
18	T.JM000038	Upper sucker switch cam	1	1
19	T.JM000015	Toothed pulley	1	1
20	T.JM000040	Ball screw with nut	1	3
21	T.JM000041	Ball slide	2	3
24	T.JM000016	Toothed pulley	1	1
25	T.JM000017	Toothed pulley	1	1
30	T.JM000018	Toothed pulley	1	3
30.1	T.JM000022	Toothed belt	1	3
31.1	T.JM000020	Toothed pulley & clutch	1	3
112.1	T.JM000043	Spindle adapter	1	3
120	T.JM000065	Chute plate	2	4
125.2	T.JM000066	Sleeve finger (For plastic, paper or soft sleeves without flap)	2	4 & FIG 2
125.3	T.JM000032	Pair of fingers for carton sleeve	1	6
125.5	T.JM000036	Pair of fingers for plastic sleeve without flap	1	6
126	T.JM000029	Pair of fingers for sleeve with flap	1	6
200	T.JM000005	Upper sucker for sleeve	1	1
200.1	T.JM000004	Disk sucker	1	1
200.2	T.JM000003	Lower sucker for sleeve	2	1
200.3	T.JM000002	Upper sucker for flap sleeves	1	1
200.4	T.JM000092	Suction cup holder	4	1
200.6	T.JM000006	Lower sucker for tyvek	2	1
205	T.JM000008	Linear ball bearing	8	1 & 3
206	T.JM000009	Bearing	4	3
207	T.JM000010	Bearing	4	1
213	T.JM000023	Toothed belt	1	1
214	T.JM000024	Toothed belt	1	1
223	T.JM000068	Electro magnet/solenoid	1	1
224	T.JM000030	Knob	2	4
250	T.JM000070	Electro valve	3	5
251	T.JM000071	Vacuum guage	1	5
252	T.JM000073	Adjustable link rod	1	1
253	T.JM000026	Ring	4	4
255	T.JM000074	Washer	1	1
256	T.JM000031	Knob	1	4
257	T.JM000075	Spring	4	1
258	T.JM000027	Ring	13	1
259	T.JM000028	Ring	2	1
260	T.JM000044	Spindle	1	4
261	T.JM000047	Microswitch	4	1 & 3
262	T.JM000056	Sensor	2	1
ND	T.JM000057	Transistor sensor alone MRD300	2	

ITEM NO.	VSL PART NO.	Description	QTY	DIAGRAM NO.
ND	T.JM000058	LED sensor alone MLED81	2	
263	T.JM000048	Push button	1	2
264	T.JM000049	2-Position button	1	2
265	T.JM000050	3-Position button	1	2
266	T.JM000077	DC motor	2	3 & 1
266.1	T.JM000078	Spindle motor 21-RPM	1	3
267	T.JM000059	Sensor with wire and connector	1	2
269	T.JM000079	12v power supply	1	2
270	T.JM000080	24v power supply	1	2
271	T.JM000060	Optical fibre	2	2
272	T.JM000061	Amplifier for optical fibre	2	2
274	T.JM000081	Control board	1	2
275	T.JM000082	Display board	1	2
276	T.JM000083	Cable & DIL connector	1	2
277	T.JM000085	Vacuum filter	3	5
278	T.JM000051	E-stop push button	1	2
279	T.JM000052	Start push button	1	2
280	T.JM000053	Re-set switch	1	2
ND	T.JM000086	24v light for E-stop	1	
ND	T.JM000062	Reed relay	2	
ND	T.JM000063	Magnet for reed relay	2	
400	T.JM000045	Spindle protector	1	4
401	T.JM000076	Top cover	1	4
F1	T.JM000088	Fuse 1.6A (control pcb)	1	control pcb
F2	T.JM000089	Fuse 1.0A (control pcb)	1	control pcb
F3	T.JM000090	Fuse 2.0A (mains supply)	1	2
F4	T.JM000091	Fuse 2.5A (+ 12v & 24v supply)	2	2
ND	T.JM000012	E-stop Relay	1	

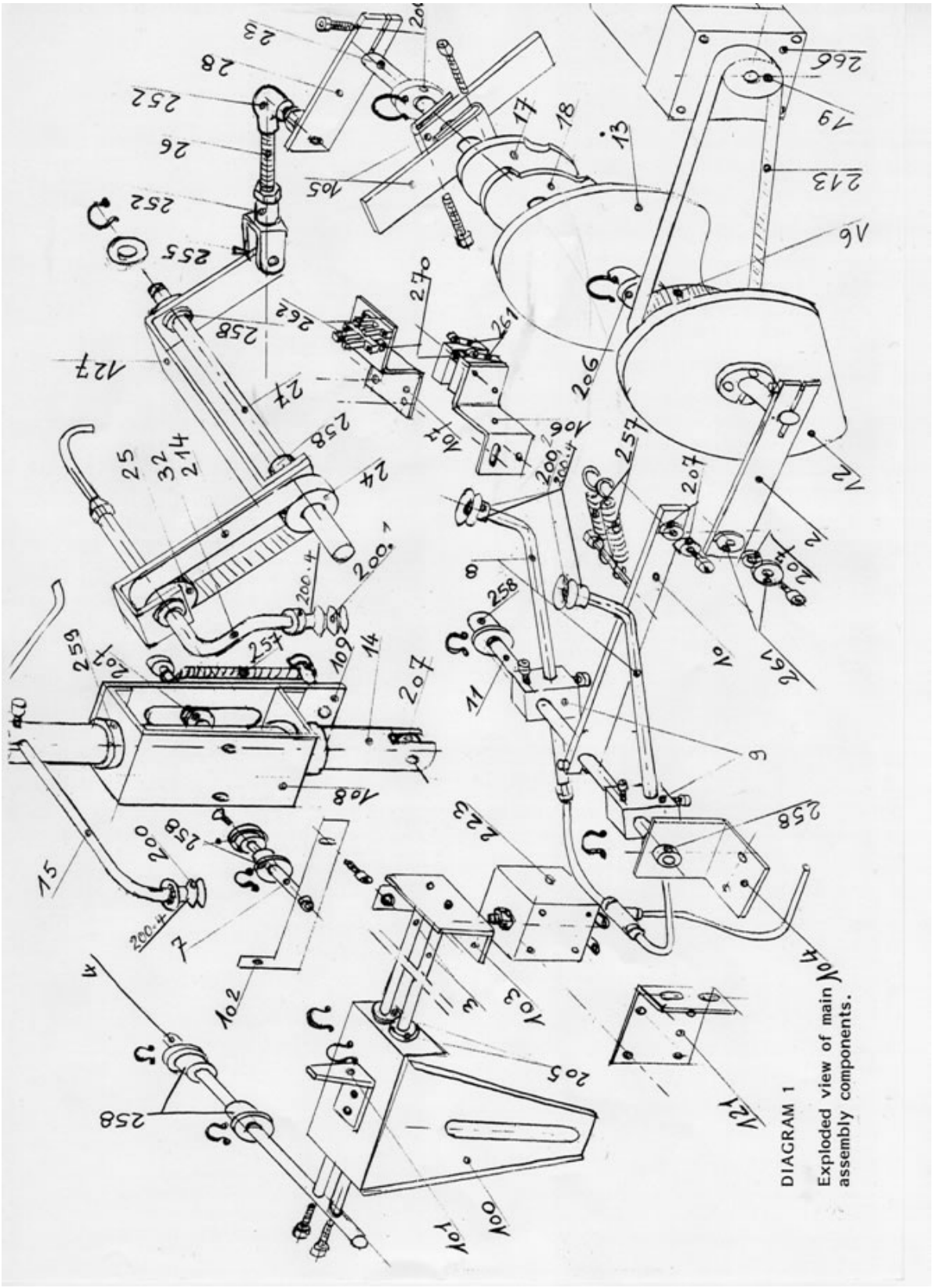


DIAGRAM 1

Exploded view of main assembly components.

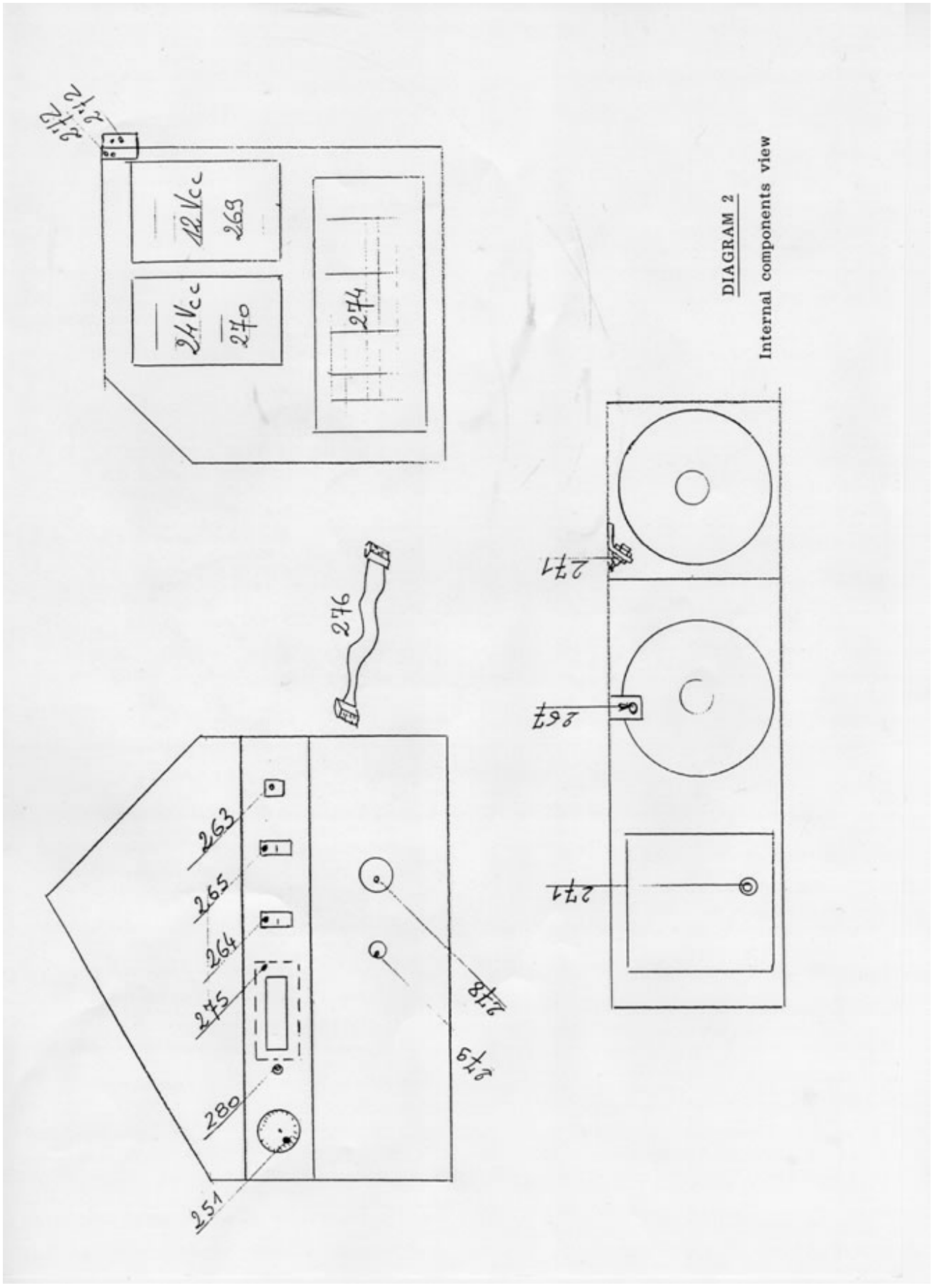


DIAGRAM 2
Internal components view
12 Vcc
263
24 Vcc
270
274
276
271
262
273
263
265
264
275
278
279
280
251

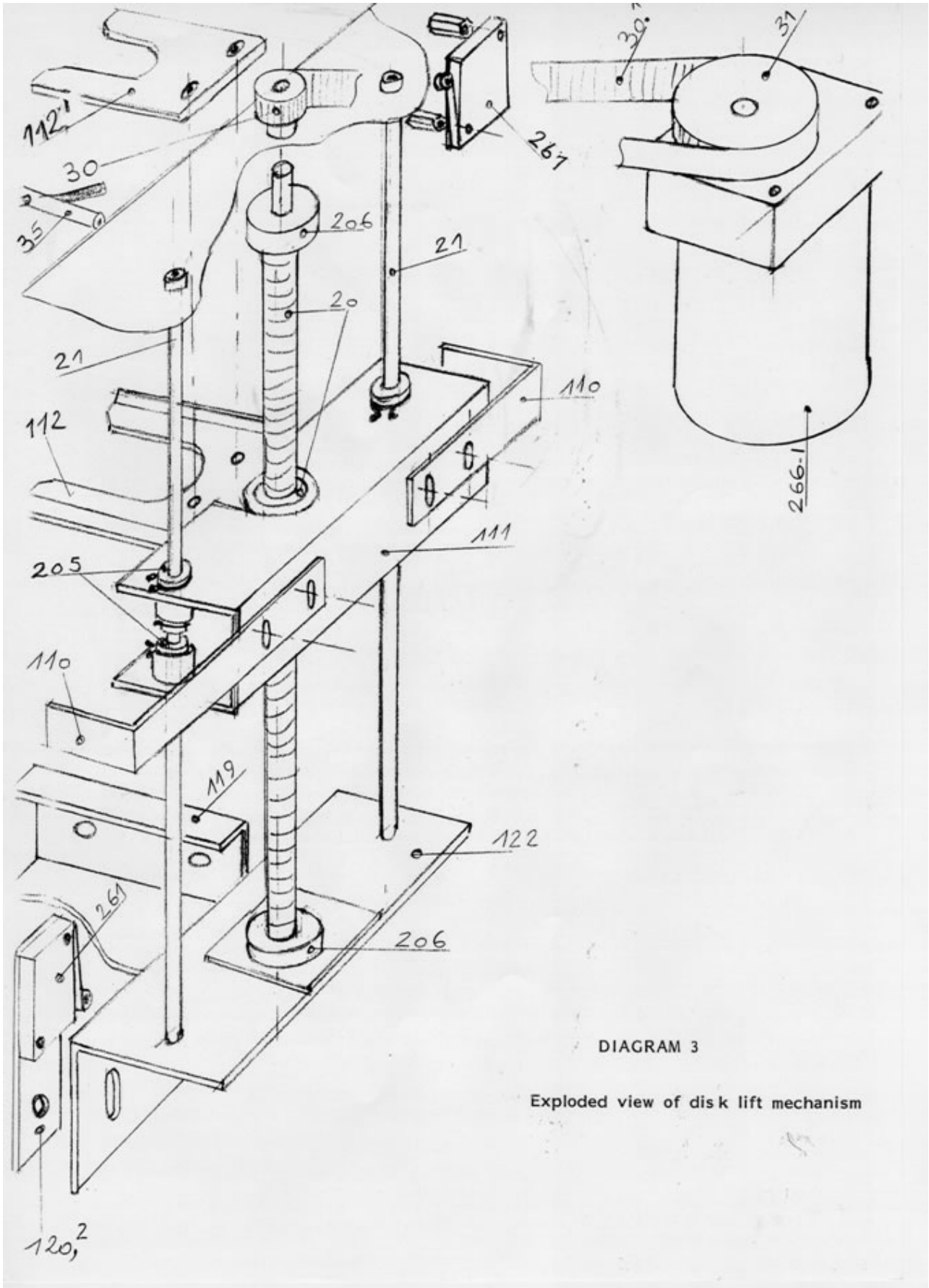


DIAGRAM 3

Exploded view of disk lift mechanism

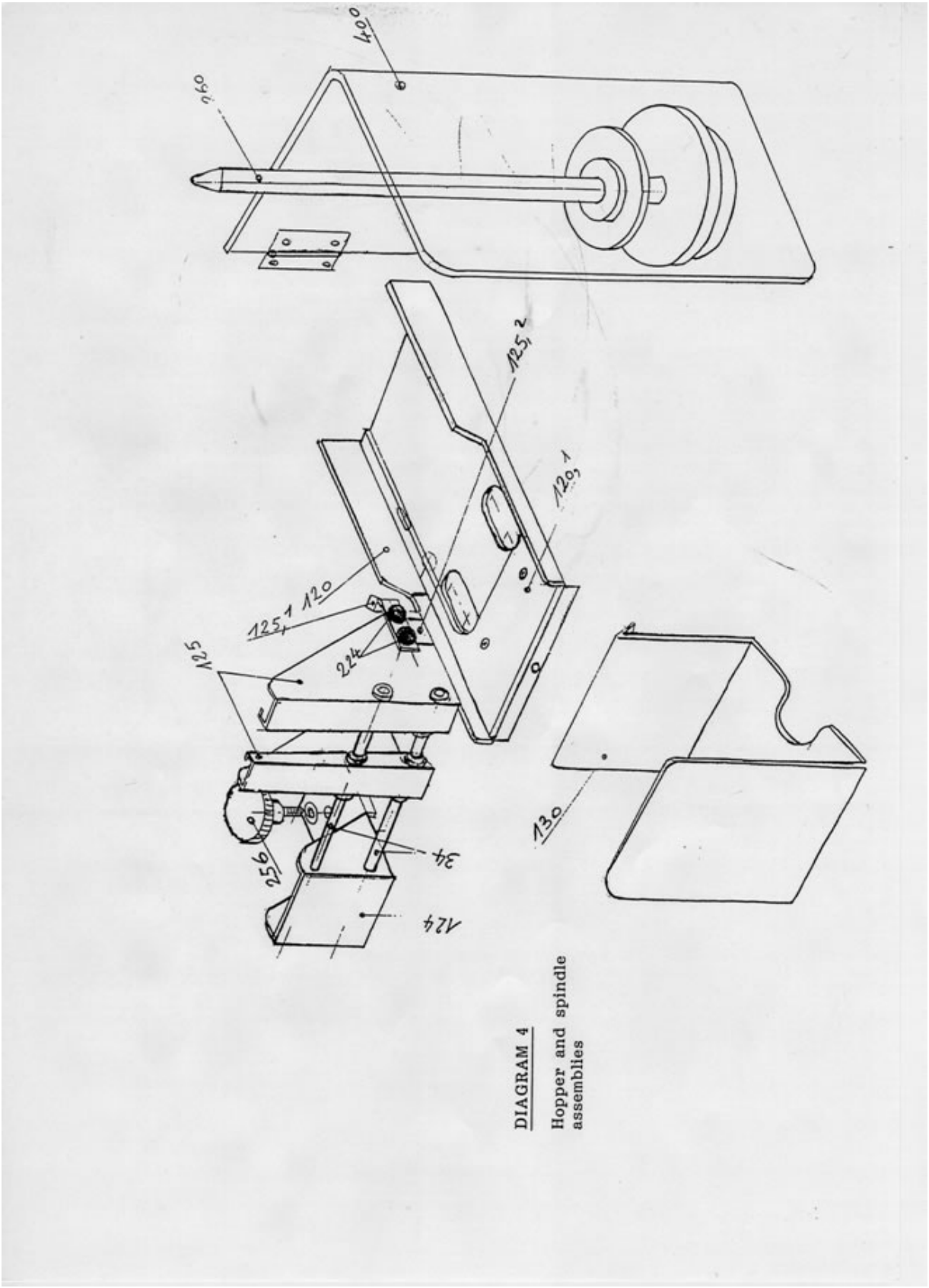


DIAGRAM 4 Hopper and spindle assemblies

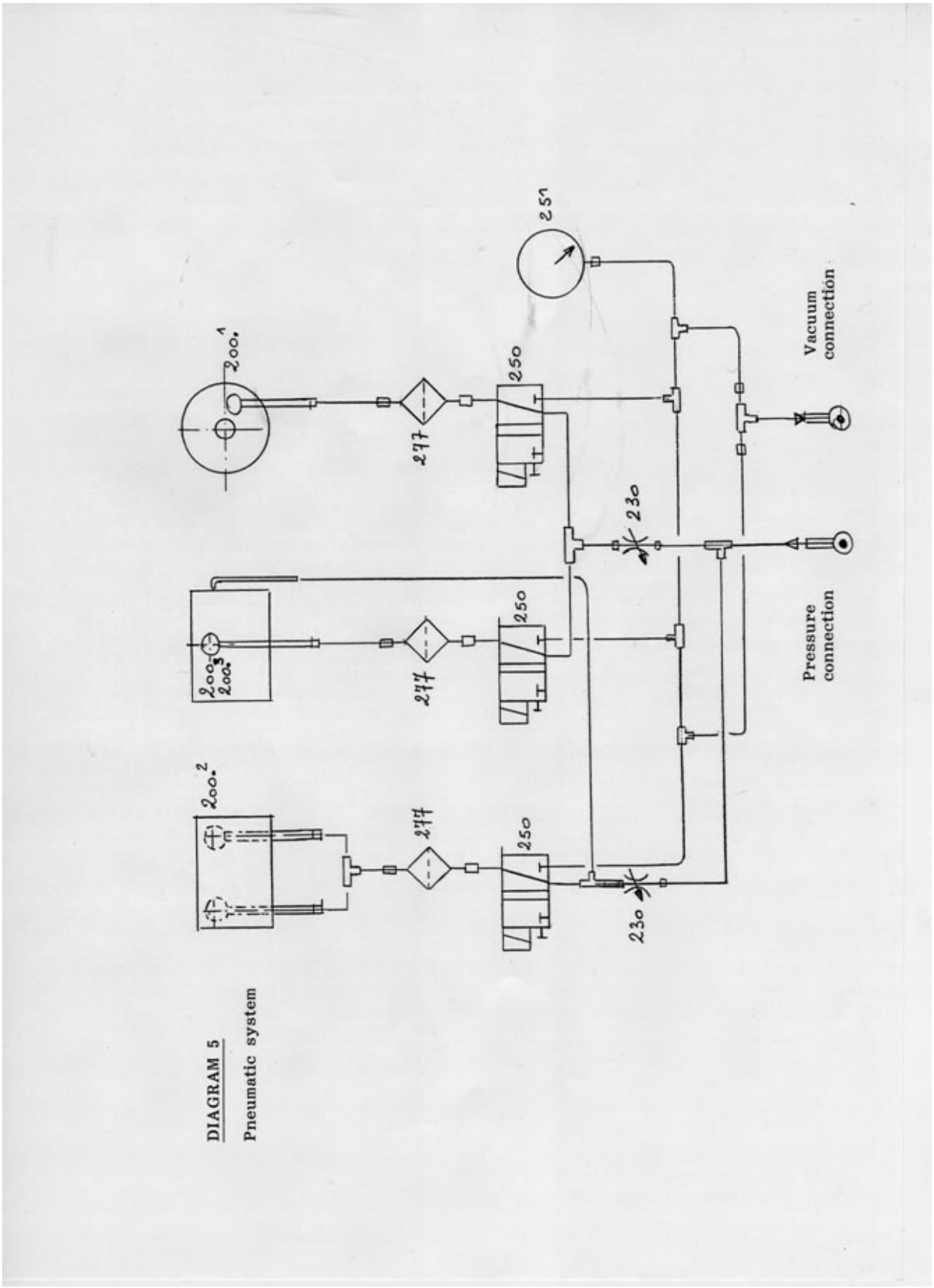
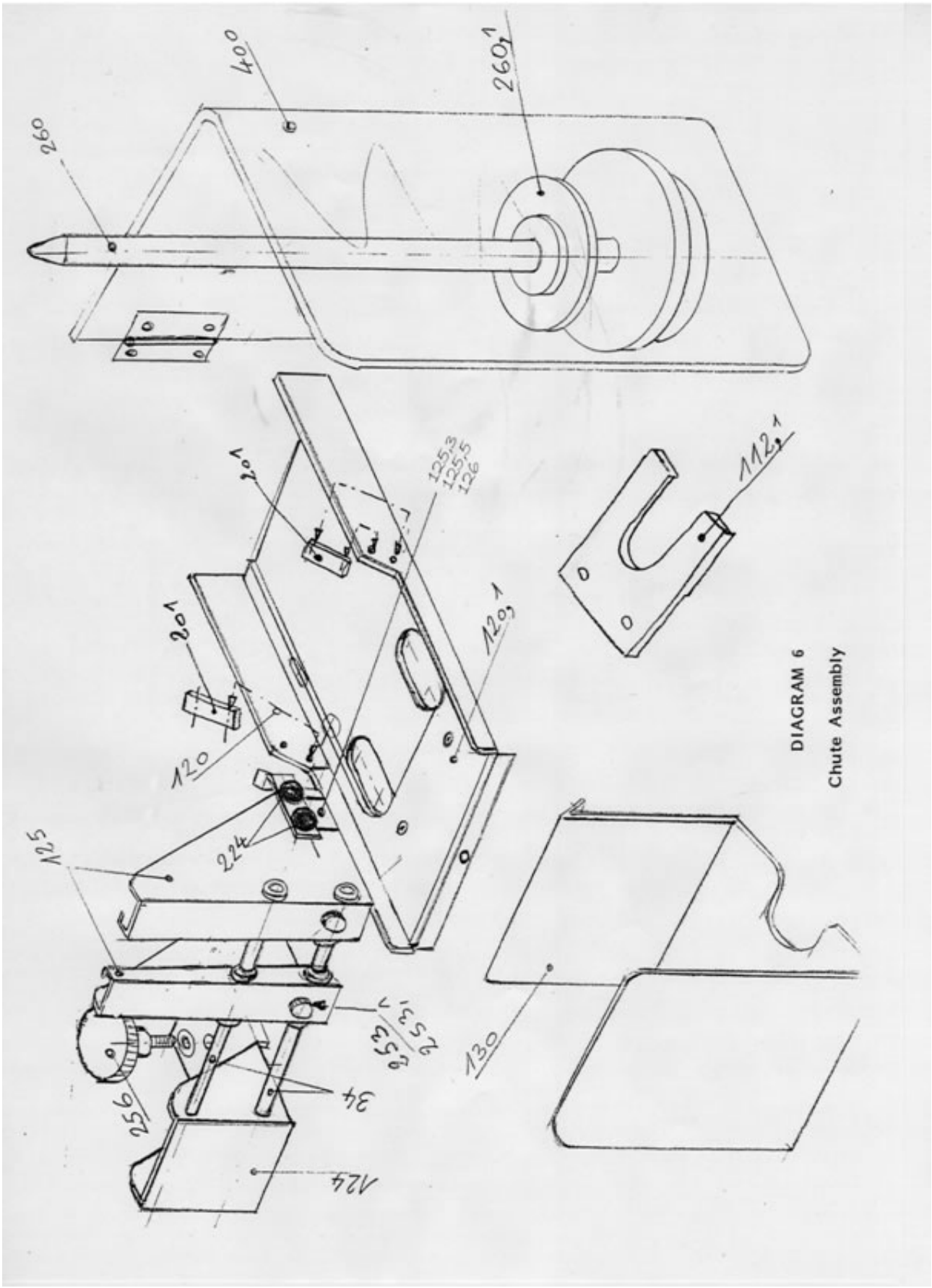
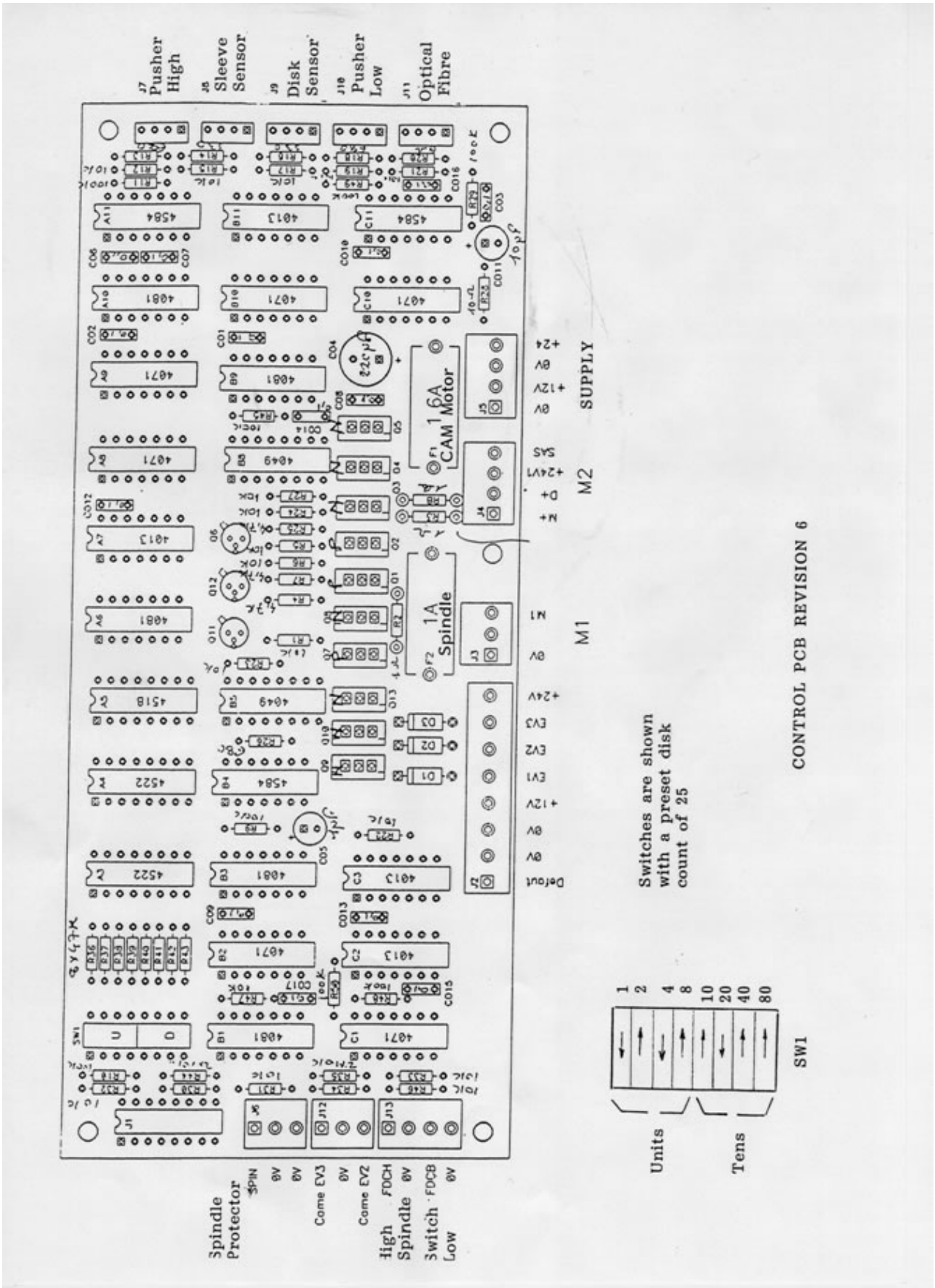
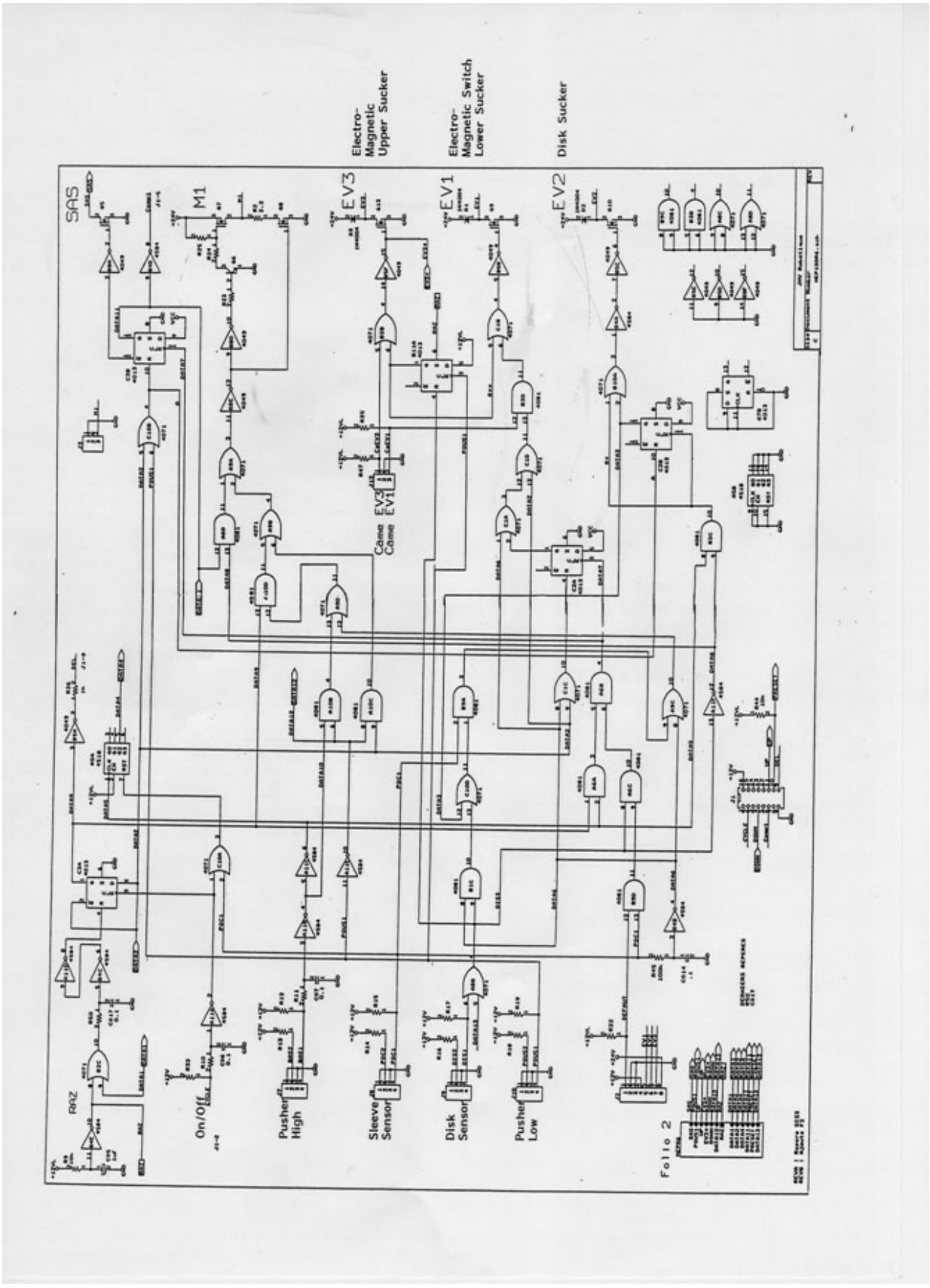
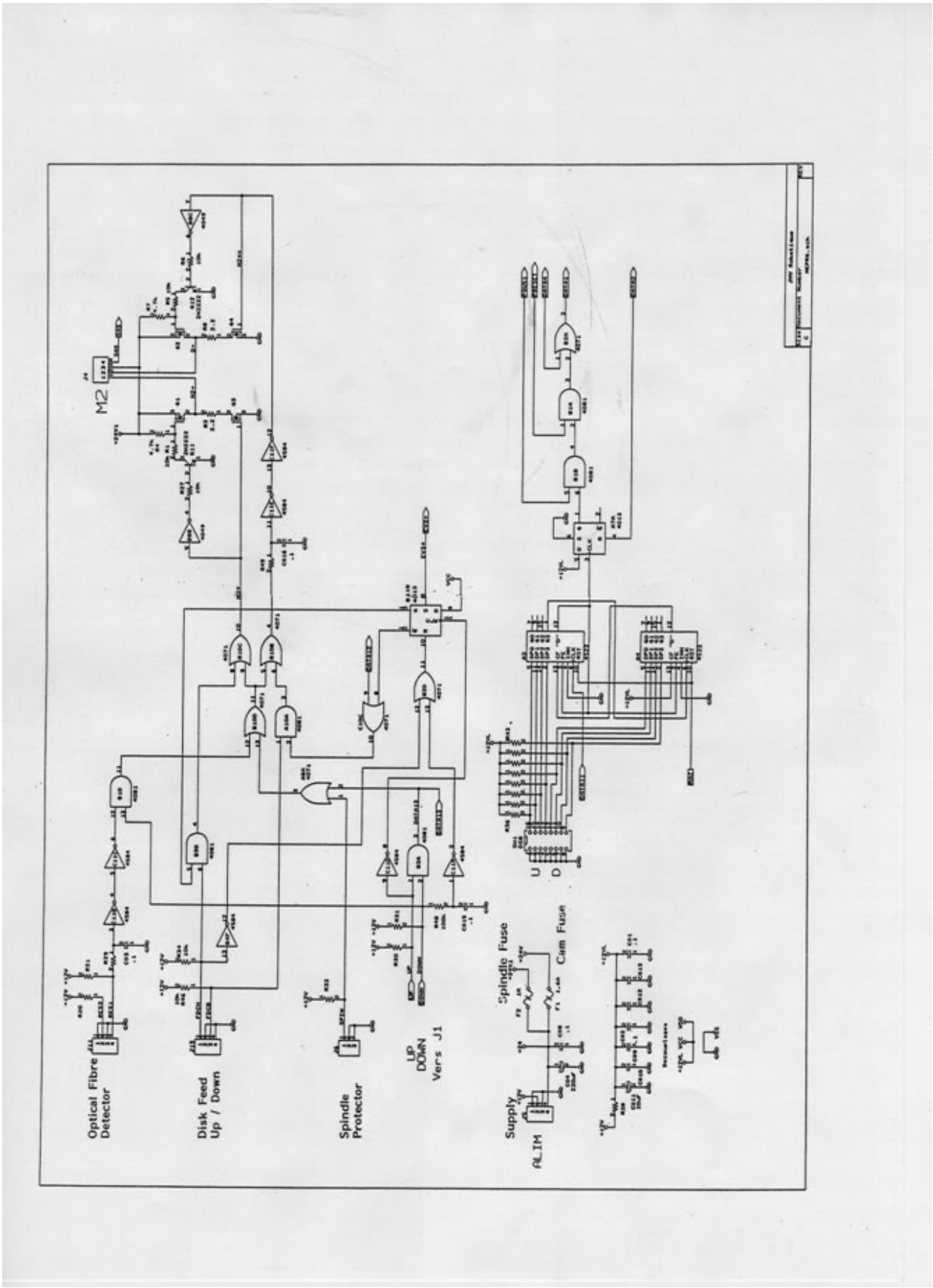


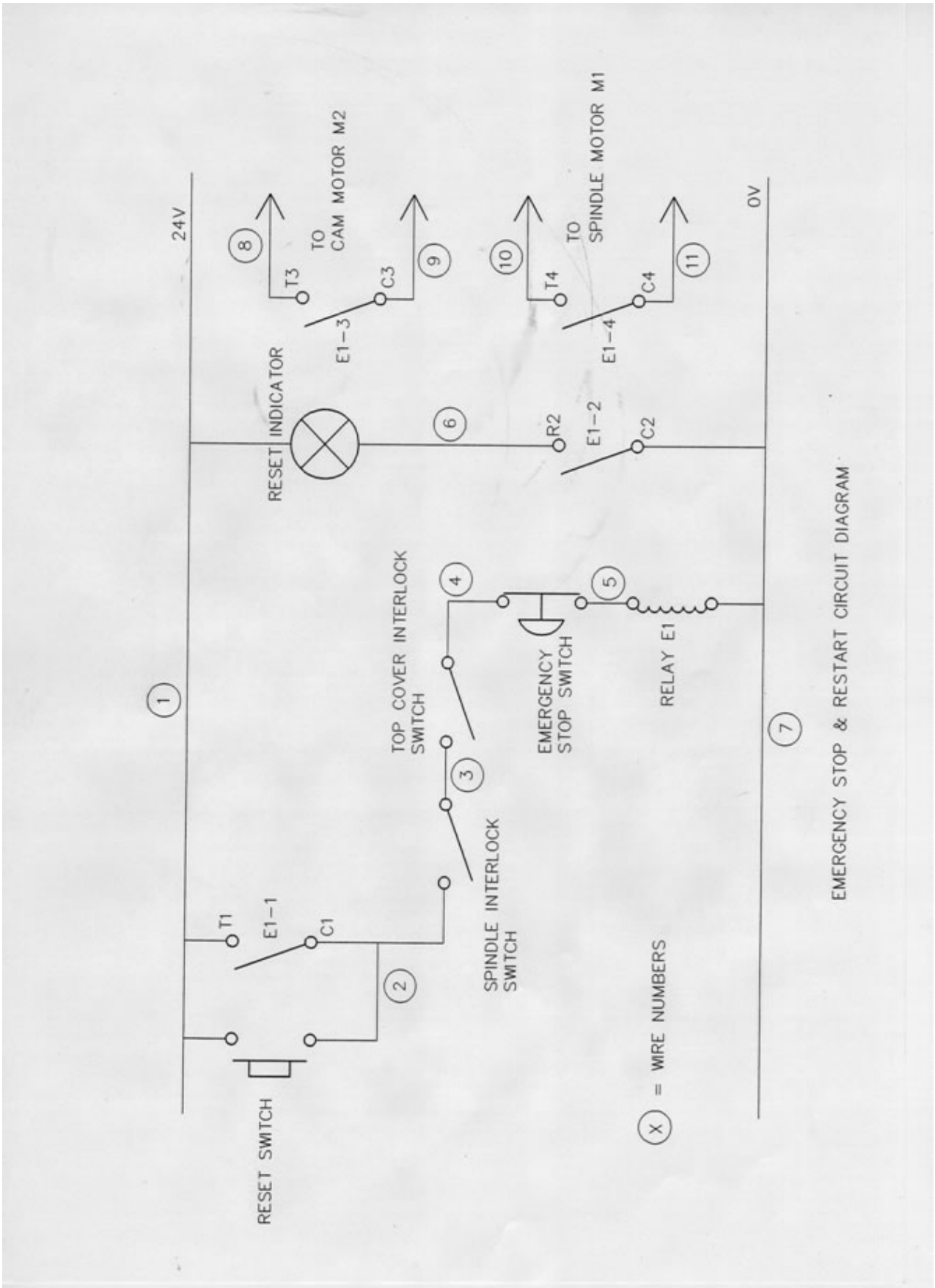
DIAGRAM 5
Pneumatic system
200.1
200.2
200.3
277
250
251
230
Vacuum connection
Pressure connection


400
260.1
260
201
1253
1255
126
112.1
120.1
120
224
125
253.1
253
130
34
256
124
DIAGRAM 6
Chute Assembly


J7 Pusher High
J5 Sleeve Sensor
J9 Disk Sensor
J10 Pusher Low
J11 Optical Fibre
1.6A CAM Motor
1A Spindle
M1
M2
SUPPLY
+24
0V
+12V
0V
SAS
+24V1
D+
N+
N1
0V
+24V
EV3
EV2
EV1
+12V
0V
0V
Defaut
CONTROL PCB REVISION 6
Switches are shown with a preset disk count of 25
SW1
1
2
4
8
10
20
40
80
Units
Tens
Spindle Protector
SPIN
0V
0V
Come EV3
0V
Come EV2
High Spindle
FDCH
0V
Switch Low
FDCB
0V


Electro-
Magnetic
Upper Sucker
Electro-
Magnetic Switch
Lower Sucker
Disk Sucker
SAS
M1
EV3
EV1
EV2
Come EV3
Come EV1
R02
On/Off
Pusher
High
Sleeve
Sensor
Disk
Sensor
Pusher
Low
Follo 2


M2
Optical Fibre Detector
Disk Feed Up / Down
Spindle Protector
UP DOWN Vers J1
Spindle Fuse
Cam Fuse
Supply ALIM
U
D


24V
0V
RESET SWITCH
T1
E1-1
C1
SPINDLE INTERLOCK SWITCH
TOP COVER INTERLOCK SWITCH
EMERGENCY STOP SWITCH
RELAY E1
RESET INDICATOR
R2
E1-2
C2
T3
E1-3
C3
TO CAM MOTOR M2
T4
E1-4
C4
TO SPINDLE MOTOR M1
(X) = WIRE NUMBERS
EMERGENCY STOP & RESTART CIRCUIT DIAGRAM

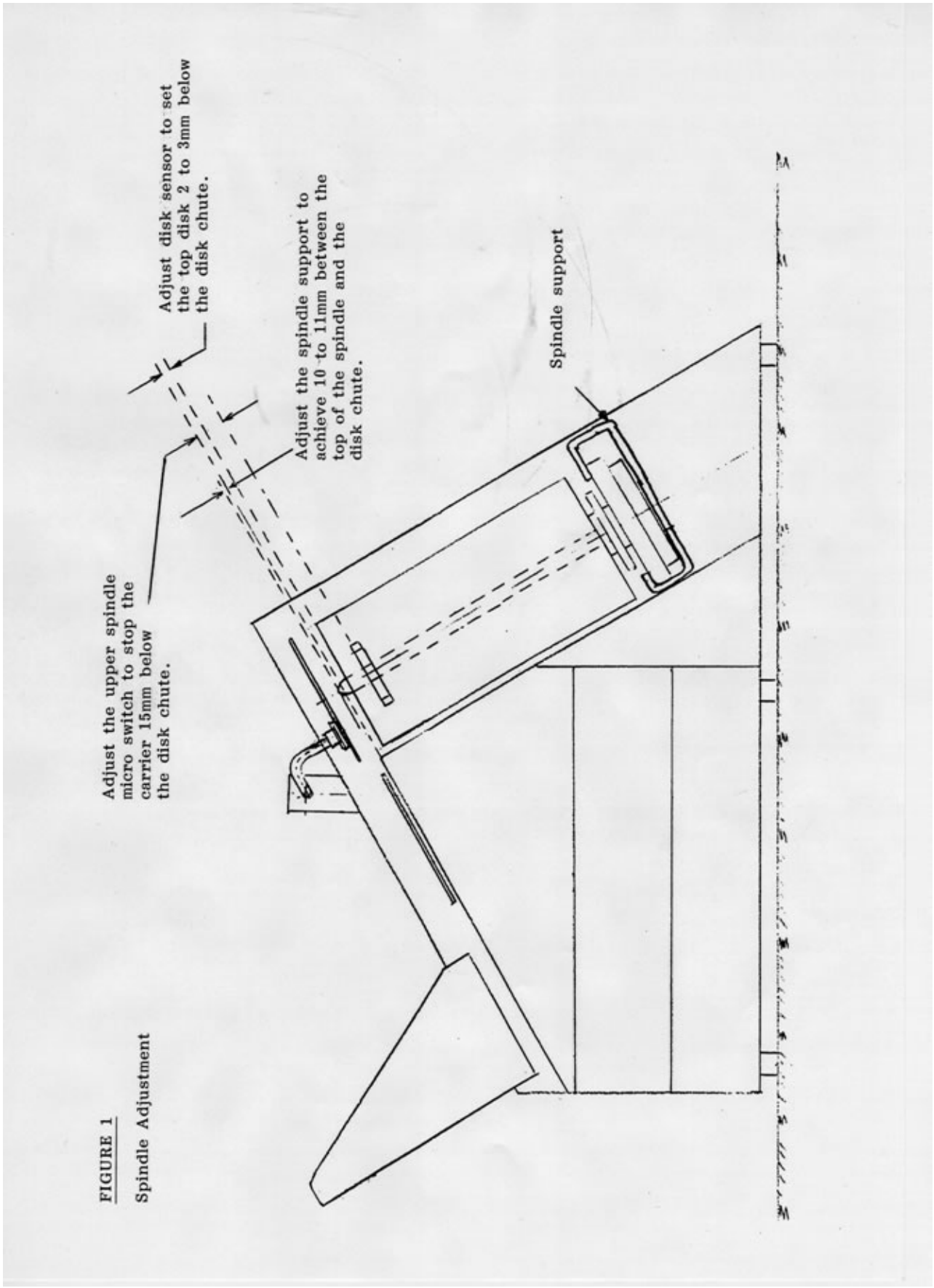


FIGURE 1

Spindle Adjustment

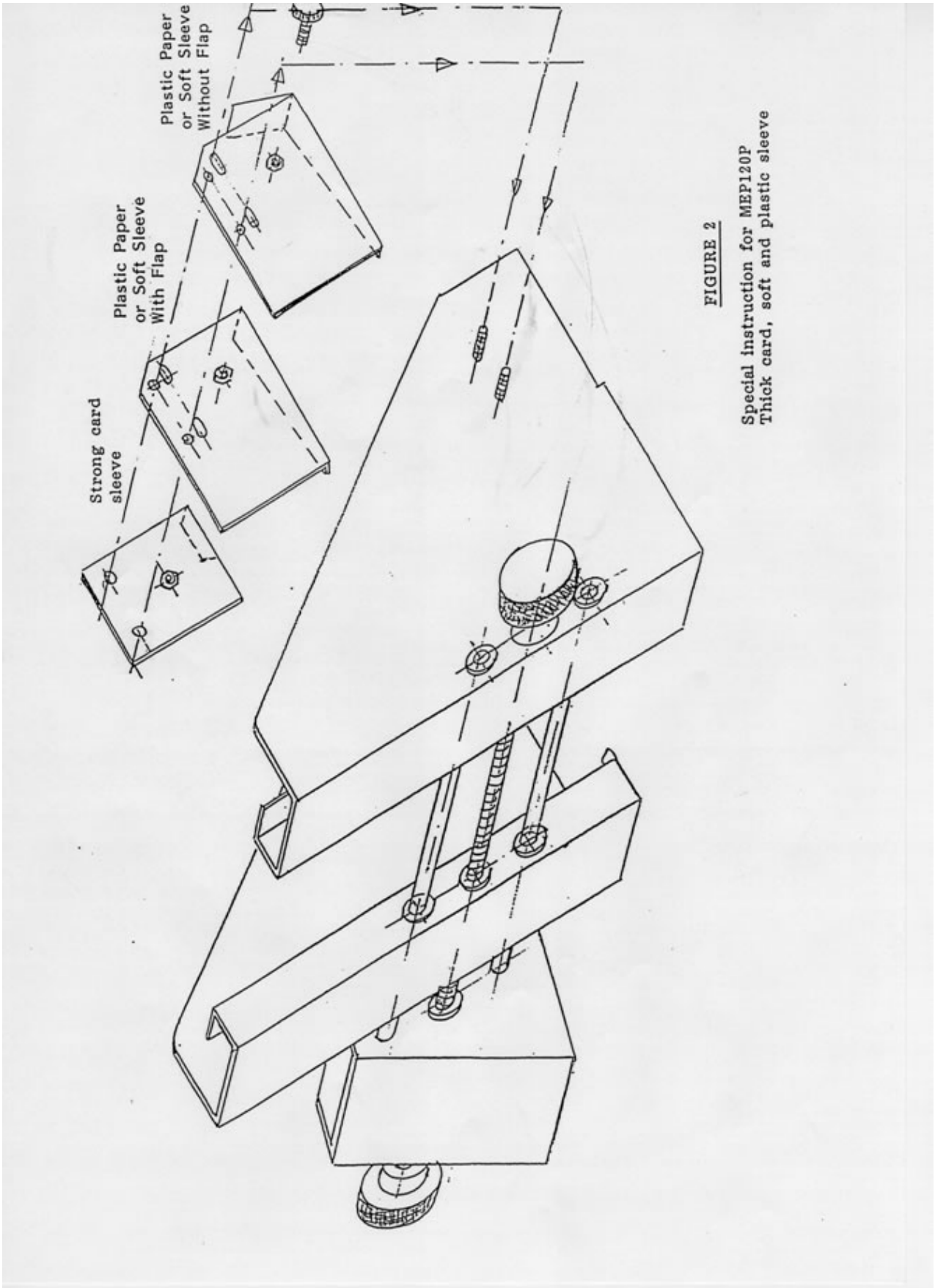


FIGURE 2

Special instruction for MEP120P
Thick card, soft and plastic sleeve

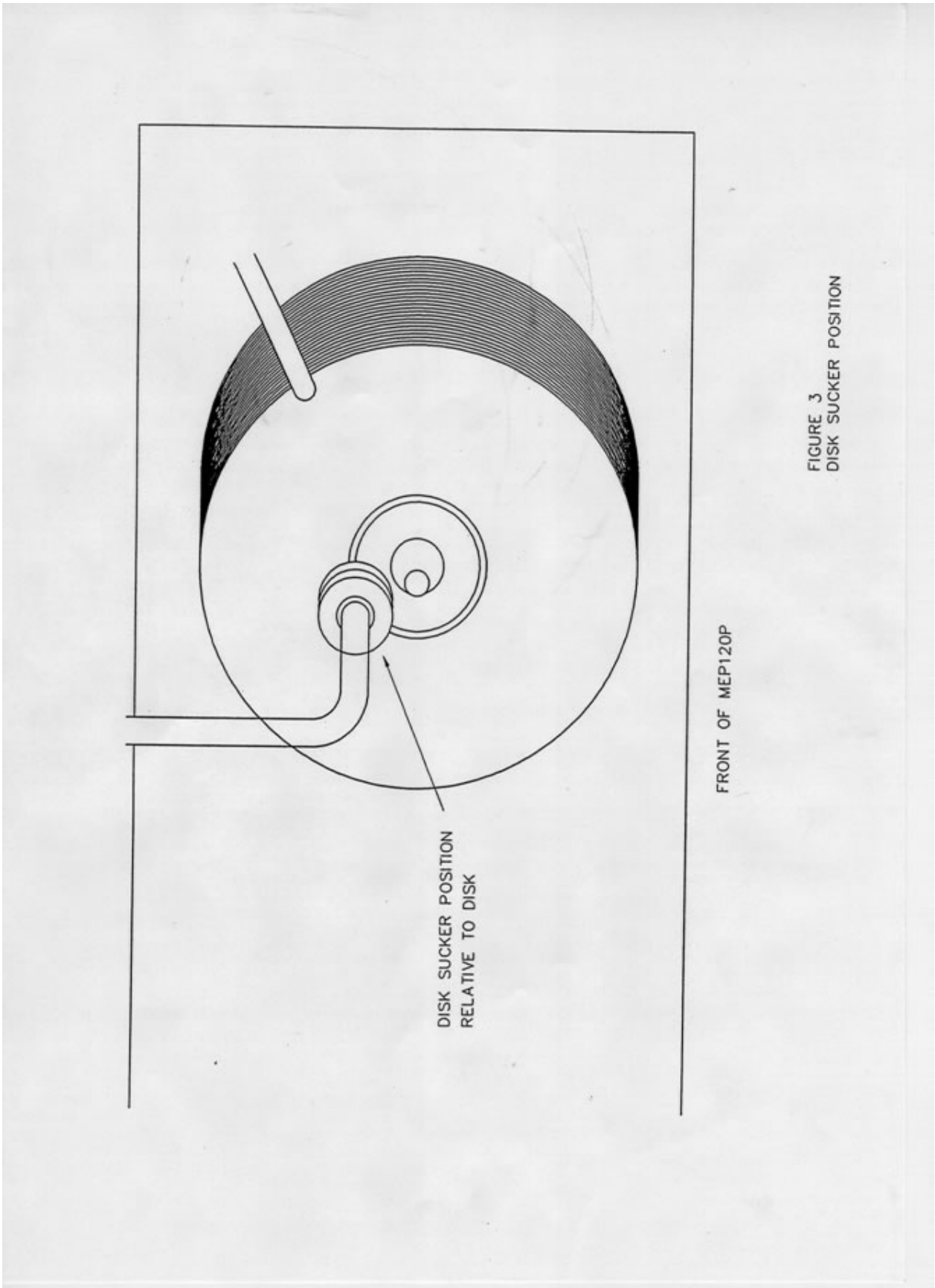


FIGURE 3
DISK SUCKER POSITION

STANDARD TERMS AND CONDITIONS OF SALE

In these conditions JMV Robotique has its registered office at ZI du Clos Aux Pois, 6/8 Rue de la Closerie, LISSES, 91048 EVRY Cedex, France. And the "Purchaser" is an individual or company with whom JMV Robotique contracts.

All orders are accepted by JMV Robotique subject to Conditions of Sale set out below

1. GENERAL
   These conditions shall prevail over any terms or conditions, which the Purchaser may seek or have sought to impose. Any conditions in the Purchaser's Order will be binding only so far as they are compatible with these Terms and Conditions and are expressly accepted by a Director of JMV Robotique in writing.

2. ERRORS
   Clerical errors may be corrected by JMV Robotique at any time.

3. PRICES
   The prices quoted are Ex Works and exclude Value Added Tax/sales tax. Any published list price shall be subject to revision without notice according to JMV Robotique prices ruling at the time of delivery.

4. SETTLEMENT TERMS
   Punctual payment is the essence of the Contract and the Purchaser will pay interest at the rate of 2% per month or part thereof of any overdue payments. Provided that the Purchaser has produced references which are in JMV Robotique' opinion are satisfactory Settlement Terms will be net 30 days from delivery. In all other cases payment shall be in advance upon submission by JMV Robotique of a pro forma invoice.

5. DELIVERY
   All times quoted for delivery are from receipt from the purchaser of a written order to proceed. Unless otherwise agreed in writing any quoted delivery date shall only be an estimate thereof and shall not be essence of the Contract. Whilst all reasonable endeavours will be made to comply with estimated delivery dates JMV Robotique does not accept any liability in respect of failure or delay in delivery. Where a Purchaser's Order calls for a number of items JMV Robotique reserves the right to deliver all or any as soon as they are available at JMV Robotique' premises and the Purchaser shall honour all statements presented in respect of such deliveries in accordance with the Settlement Terms. Notification to the Purchaser by JMV Robotique that the goods are available for delivery to an independent carrier or to the Purchaser or his agent shall constitute delivery to the Purchaser. In all cases the carrier acts as Agent of the Purchaser.

6. EXPORT CONTROL
   If the goods or components thereof are licensed by the US Government for ultimate destination within the United Kingdom and any other EEC Country then the goods may not be re-exported without the approval of JMV Robotique in writing.

7. INSPECTION AND ACCEPTANCE
   THE PURCHASER MUST INSPECT THE PRODUCTS as soon as is reasonably practicable after delivery and shall within 3 working days of delivery give notice to JMV Robotique in detail of any defect in the Products or of any other complaint which the Purchaser may have in relation to the Products. Upon acceptance of the goods the Purchaser shall be deemed to acknowledge that the goods so accepted conform in all respects with the specification of the goods ordered. If the Purchaser desires to inspect the goods prior to delivery such inspection must be made at JMV Robotique' premises and notification of this requirement must be given in writing at the time of placing the order. If upon inspection the goods are approved by or on behalf of the Purchaser such approval shall constitute acceptance of the goods If no such inspection is made the Purchaser shall be deemed to have accepted the goods when they are delivered to him or his agent or carrier unless the Purchaser gives written notice to the contrary to JMV Robotique within three working days of delivery. If the Purchaser fails to give such notice, the Products shall be conclusively presumed to be in all respects in accordance with the contract and free from any defect which would be apparent

on reasonable examination and the Purchaser shall be deemed to have accepted the Products accordingly. The Purchaser acknowledges that JMV Robotique does not write software comprised in Products sold by it and, accordingly, the Purchaser acknowledges that it is its sole responsibility to check (by the application of appropriate diagnostic software) for the presence of computer viruses in software comprised in Products before such Products are used or disposed of. In the event that the Purchaser establishes to JMV Robotique' reasonable satisfaction that the Products are not in accordance with the contract or are so defective, the Purchaser's sole remedy in respect of such non-accordance or defects shall be limited as JMV Robotique may elect to the replacement of the Products or refund of the purchase price or, where sums are owed by the Purchaser to JMV Robotique, the issue of a credit note against the return of the Products.

THE PURCHASER MUST REFUSE PARCELS DELIVERED TO HIM IN A DAMAGED CONDITION.

In no circumstances shall JMV Robotique be liable to compensate the Purchaser in damages or otherwise for non-delivery or late delivery of the Products or for any loss consequential or otherwise arising from non-delivery or late delivery.

8. CANCELLATION OF ORDER

If at any time the Purchaser cancels an order for goods or services which JMV Robotique specifies to be "non-standard", i.e. not detailed on the current price list, JMV Robotique shall be entitled to claim as damages an amount equal to 75% of the value of the order. For standard goods or services damages would equate to 50% of the value of the order. These amounts the Purchaser agrees represents a genuine pre-estimate of JMV Robotique' loss. Upon the cancellation of any order, JMV Robotique shall have the right to realize at its discretion after 60 days all monies, securities or goods pledged with or held by it on behalf of the Purchaser and to apply the proceeds in or towards the satisfaction of such claim for damages and the Purchaser shall have no claim whatsoever against JMV Robotique in connection therewith.

9. PASSING OF PROPERTY AND RISK

The goods shall remain the sole and absolute property of JMV Robotique as legal and equitable owner until such times as the Purchaser shall have paid to JMV Robotique the agreed price. From delivery of the goods the Purchaser acknowledges that he is in possession of the goods solely as bailee for JMV Robotique as shall as bailee insure and keep the same insured in the name of JMV Robotique in their full reinstatement value in some reputable insurance office and indemnify JMV Robotique for any uninsured loss thereof. For the purpose of recovering the goods JMV Robotique may enter any premises where the goods are stored or where they are reasonably thought to be stored and may repossess the same. Until such time as the purchaser becomes the owner of the goods he will store them on his premises in a manner, which makes them readily identifiable as the goods of JMV Robotique. The Purchaser is licensed by JMV Robotique to agree to sell JMV Robotique' goods subject to the express conditions that the entire proceeds thereof are held in trust for JMV Robotique and are not mingled with other monies or paid into any overdrawn Bank Account and shall be at all times identifiable as JMV Robotique monies. The Purchaser is licensed to use the goods in the manufacture of other goods provided that if the goods being the property of JMV Robotique are mixed with goods being the property of the Purchaser or are processed with or incorporated therein the product shall be deemed to be the sole and exclusive property of JMV Robotique.

If the goods being the property of JMV Robotique are mixed with goods being the property of any person other than the Purchaser or incorporated therein the product thereof shall become or shall be deemed to be owned in common with that other person in proportion to the value of the constituent parts therein. The Purchaser is licensed by JMV Robotique to agree to sell on the said product subject to the express condition hereinbefore mentioned in relation to the proceeds of sale thereof.

10. SPECIFICATION

All drawings, specifications and particulars of the goods submitted are approximate only. The descriptions and illustrations contained in catalogues, price lists and other advertising of JMV Robotique are intended merely to present a general idea of the goods described therein and shall not form part of the Contract. Whilst every effort is made to ensure that the latest specification is available JMV Robotique reserves the right to incorporate new features and to supply products which may not be strictly in accordance with the specification agreed upon, provided that any changes in specification shall not materially prejudice the performance of the goods.

11. FORCE MAJEURE

JMV Robotique shall not be liable for failure to perform or delay in performance of any contract or for the loss or damage to goods directly or indirectly caused by force majeure to include acts of God, fire, theft, riot, war, embargo, strike, shortage of labour, delays in delivery of material by suppliers, prohibition or export or import, confiscation or any other occurrence (whether or not of a similar nature to those specified) beyond the control of JMV Robotique. No consequences of any such event shall give rise to the recession of the Contract unless in the opinion of JMV Robotique the contract becomes incapable of performance.

12. WARRANTY

a) JMV Robotique warrants that the goods will be of good quality and that JMV Robotique has title to sell the same. JMV Robotique' warranty of workmanship (if provided) shall be effective from the date on which the goods were accepted in accordance with Clause 8 and limited to 12 months from dispatch or such period as may be notified ("the warranty period"). During the warranty period JMV Robotique will replace, free of charge, any part or parts of the goods which fail to function as a result of faults caused during their manufacture providing always that such faulty goods are returned carriage paid to JMV Robotique' premises. The goods when repaired by JMV Robotique will then be returned carriage paid to the Purchaser. JMV Robotique shall not be liable under this warranty:

   i) where the defect results from the goods being subjected to abnormal usage or where the defect is due to the act, neglect or default of anyone other than JMV Robotique
   ii) for the replacement or repair of the goods or part or parts thereof where such replacement, or repair becomes impossible as a result of force majeure or any other circumstances beyond JMV Robotique' control
   iii) where the goods or any components or parts thereof are the subject of a separate guarantee given by a third party.
   iiv) where failure is caused by abuse or neglect.

a) The Purchaser acknowledges that if he has not notified to JMV Robotique any particular purpose for which the goods are required all express or implied warranties or conditions statutory or otherwise as to quality of or fitness for any particular purpose of the goods are hereby expressly excluded and JMV Robotique shall not (except as set out above) be under any liability whatsoever in respect of defects in goods delivered or for any injury, damage or loss resulting from such defects from any cause whatsoever.

13. LEGAL CONSTRUCTION

except where otherwise stipulated in writing the relations, arrangements and agreements between the parties shall be governed by the laws of England and all disputes which may arise under out of or in connection with any contract between JMV Robotique and the Purchaser shall be submitted to arbitration by the London Court of Arbitration in accordance with its Rules for the time being in force. Service of any notices in the course of such arbitration to the address of the Purchaser given in the Contract shall be valid and sufficient. All references in the Terms and Conditions to the masculine gender shall be deemed to include the feminine and neuter genders. Failure or neglect by JMV Robotique to enforce at any time any of the provisions hereof shall not be construed a waiver of JMV Robotique' rights nor in any way affect the validity of the whole or part of this contract nor prejudice JMV Robotique' rights to take subsequent action. The headings of the Terms and Conditions are inserted for convenience or reference only and are not intended to be part of or to affect the meaning or interpretation of any of the terms and conditions of this Contract. In the event that any of these terms, conditions or provisions shall be determined invalid, unlawful or unenforceable it shall be severed from the remaining terms, conditions and provisions that shall continue to be valid to the fullest extent permitted by law.

14. STERLING PROTECTION

any quoted or listed sterling prices are subject to variation in the rate of exchange between sterling and the currency paid by JMV Robotique for whole or major components between the date of the contract and the time of the submission of JMV Robotique' invoice to the Purchaser. JMV Robotique reserves the right to vary the price so that it accords with the said rate of exchange prevailing at the time of JMV Robotique' invoice.

15. DEFAULT

If the Purchaser shall default in the performance of any of its obligations under the Contract JMV Robotique shall on giving the Purchaser notice in writing have the right without prejudice to any other rights or remedies to take all or any of the following actions:

a) cancel all or any part of any discount which might otherwise have been due under the terms of the contract;
b) suspend any outstanding delivery of goods or parts thereof until such default shall have been made good;
c) recover possession of that part of the goods to which the default relates and the Purchaser shall allow JMV Robotique free access to his premises to enable JMV Robotique to do so.

No waiver or delay in exercise by JMV Robotique of its right under this clause shall be deemed to imply acceptance of the default or any subsequent default. If the Purchaser shall become bankrupt, go into liquidation, have a Receiving Order made against him, or carry on his business under a Receiver JMV Robotique shall have the liberty without prejudice to any further remedies under the Contract to terminate the Contract forthwith by notice in writing to the Purchaser or Liquidator and recover possession of all equipment for which full payment of the contract price has not been received in c. above.

Supplied by:

JMV ROBOTIQUE
ZI du Clos Aux Pois
6/8 Rue de la Closerie
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90148 EVRY Cedex
France

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Fax: 33 (0) 1 60 86 10 74
Email: contact@jmvrobotique.com

Website: www.jmvrobotique.com