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<p>Surface Preparation Equipment™</p>	
<p>MS 330</p>	

MS330-2

MULTISTRIPPER

Operating Manual

This manual is provided to persons purchasing an SPE machine and may not be reproduced in part or full without written permission of SPE International Ltd.

This manual provides the basic information required and is only to be used as a guideline.
The SPE machines are manufactured and covered by SPE design registrations granted and pending.
SPE International Ltd reserves the right to alter the equipment design and specification as required without notice.

The SPE product range is subject to amendment and improvement as a result of on going research



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<p>MS330-2 MULTIS RIPPER Operating Manual</p>

This manual covers to the best of our knowledge, the operation and maintenance of the **MS330** Multistripper. Before operation of the equipment the manual should be read and understood by the operator. The safety regulations must be followed at all times. Service of electrical components should be carried out by authorised personnel. Failure to follow these instructions could result in damage to the machine and/or serious personal injury or death.

WARNING

Failure to follow these instructions may result in serious personal injury or death. SPE disclaims all responsibility for damage to persons or objects arising as a consequence of incorrect handling of the machine and failure to inspect the machine for damage or other faults that may influence the operation prior to starting work.



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STARTING WORK

- Check the condition of the cutter blade assembly
- Check all nuts and bolts for tightness
- Check the drive belt for condition and tension
- Check the plugs and cables for damage

Before starting the machine ensure that the blade is clear of any obstructions

Adjust the handlebar to a comfortable height and position.

Ensure the power supply is correct for the machine. See Page 11 Electrical Requirements for details. Connect the machine to the power supply.

Start the motor by pressing the green start button on the panel.

To stop the machine, press the red stop button on the panel.

OPERATING INSTRUCTIONS

With the motor running, the blade will now be operation. To drive the machine forwards, engage the clutch by moving the lever on top of the machine forwards. To cease the drive, pull the lever backwards.

The machine can also be moved manually (i.e. in confined areas), if required, by leaving the clutch lever in the rearward position.

Care should be taken when operating the drive clutch mechanism. Should the machine become stuck/jammed into the material whilst in forward drive, the following procedure should be followed.

Stop the forward drive of the machine by pulling the clutch lever backwards. If the drive does not disengage freely on operation of the lever, do not force the lever and mechanism. Stop the machine by pressing the red stop button and then operate the clutch lever backwards to disengage the drive. Free the machine from the material and recommence work.

Excessive pressure on the clutch mechanism will result in the bending of the clutch operating arms and the potential failure of the clutch release bearings.

NOTE: If removing sheet vinyl or carpet, cut the material into strips with a knife at approximately the width of the MS330 blade.



MAINTENANCE

Prior to any maintenance or adjustment, isolate the power supply.

AFTER USE:

Clean the machine to remove all the build up of dust and surface residue. If using hosepipe or pressure water take care that water is not directed onto electrical components and switches. (Note: Motors and switches are not waterproof)

The drive belts are tensioned by sliding the motor forwards to tension the gearbox drive belt and then adjust the tensioner arm/pulley to tension the front blade drive belt. It is important that the drive belts are not over tensioned. Serious damage could be caused to the drive shaft, drive shaft bearings, drive motor and/or gearbox if the belt is excessively tight.

All components should be checked daily for tightness and the drive belt for tension.

Check the individual manufacturer's service recommendations for full details on motors and engines.

BLADE CHANGE

Loosen the blade clamp bolts and slide out the blade. Insert the new blade and tighten the clamp bolts

Note: The operator should be aware the blades are sharp and use suitable protection when handling them.

BLADE ANGLE

The angle of the blade can be altered to suit different applications by adjusting the angle of (part no. 7095) the blade carrier. This procedure is as follows:

- a) Loosen the M12 lock nut at the rear of the adjuster bar (part no 7097)
- b) Adjust the other M12 nut on the adjuster bar until the required angle of the blade carrier is reached. Moving this adjuster nut rearward will increase the blade angle.
- c) Once the blade angle is adjusted, retighten the lock nut.

BASIC MAINTENANCE/CHECKLIST:

This checklist should be undertaken every 8hrs to 10hrs - taking into account the vibrating action of machine

Firstly remove the outer covers and guard to gain access to check all components

Check the condition of the blade

Check all nuts and bolts for tightness

Check the condition and tension of the belts

Check the plugs and cables for damage.

Grease all the moving parts on the sliding blade mechanism

Check the condition of the bearings.



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SAFETY

1. Only trained operatives should be allowed to work the MS330
2. Appropriate PPE must be worn.
3. Keep hands and feet away from the moving blade at all times
4. Keep the electric lead away from the moving blade
5. Never leave the MS330 unattended whilst in use. Always stop the motor before leaving the machine.
6. Always ensure that the power supply is disconnected before attempting to service the machine. Never tip the machine backwards until the blade has stopped moving.
7. Do not use in wet conditions
8. Always use correct voltage for the machine and RCD protection
9. Be careful when working around pipes or ducts protruding from the floor as the moving blade may cause damage to them
10. Extreme care should be taken when changing the blades. The blades are sharp and suitable protection should be used when handling them.
11. Equipment must be used in line with guidelines laid down by the Health & Safety Executive.

Noise and vibration will occur at various levels dependent on the attachments and work being completed, SPE have assessments conducted under test conditions detailed in the operating manual (see page 12). However it is recommended that additional tests are taken on site to provide the operator with accurate information on using the equipment within the guidelines laid down by the Health & Safety Executive.



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Spare Parts Breakdown



ELECTRICAL COMPONENTS

QTY	DESCRIPTION	SPE PART NO
1	Panel Box	SP2518-11
1	Hinge Kit	SP190005
1	Back Plate	9249
1	On/Off Switch	SPLM2B7223
1	Contactor	SPBF181023
1	Trip	SP60HD216
1	Overload	SPRF3814
1	On/Off Contact	SPLM2TC01
1	On/Off Contact	SPLM2TC10
1	Contact Holder	SPLM2AU120
1	Conduit Gland	9258
1	Conduit (mtr)	9259



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SPECIFICATION SHEET

Type	MS330 Electric
Part Number	MS330-2
Power Output	3.0hp
Voltage	220
Cycles	50hz
Machine Dimensions (mm)	
Length	1100
Width	480
Height	1000
Weight (kg)	132
Working width (mm)	330
Motor (rpm)	2800

ELECTRICAL REQUIREMENTS

Machine	Volts	Plug Size	Cable Size	Max Cable Length	Transformer	Generator
MS330	220	16 Amp 3 pin	2.5 - 3 core	30 metres		8 kva



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RECORD OF NOISE AND VIBRATION ASSESSMENT

Manufacturer:	SPE
Type:	Tile Lifter
Model No.	MS330-2 Electric
Operation :	Removing vinyl tiles
Running Conditions:	1410 rpm
HAV Note:	Operc

HAND-ARM VIBRATION

Frequency Weighted Energy Equivalent Accelerations ($a_{h,w}$)

Measurement Position	Acceleration (m/s^2)
	Vector Sum
Handle	9.4

NOISE LEVELS

Sound Power Level (L_{WA})

L_{WA} at Octave Band Centre Frequency (Hz)								Sound Power Level L_{WA}
63	125	250	500	1000	2000	4000	8000	
60.7	88.9	90.7	94.8	95.7	93.2	86.3	73.1	90.4

Operator's Ear

$L_{Aeq,T}$ at Octave Band Centre Frequency (Hz)								Overall Level ($L_{Aeq,T}$)	L_{Peak} dB(C)
63	125	250	500	1000	2000	4000	8000		
30.4	59	64.8	72.4	73.6	66.5	57.8	44.7	76.7	90.9



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WARRANTY

The standard warranty period of this equipment is **12 months** from the date below in accordance with the company Conditions of Sale (copy attached).

<i>Warranty start date:</i>	As despatch date
<i>Model:</i>	MS330-2
<i>Serial no:</i>	
<i>Customer name:</i>	
<i>Customer Address:</i>	

<i>Manufacturer:</i>	SPE International Ltd
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DECLARATION OF CONFORMITY

WE
SPE INTERNATIONAL LTD

OF
Honeyholes Lane
Dunholme
Lincoln
LN2 3SU

DECLARE that under our sole responsibility for the supply/manufacture of the product

(Description/name) MS330 Multistripper

(Model/type) MS330-2

to which this declaration relates is in conformity with the following standards and other normative documents following the provisions of Directive 2006/42/EC.

A handwritten signature in black ink, appearing to read 'B. Jacklin', is positioned above a horizontal dotted line.

.....
Brian Jacklin – Technical Manager
SPE INTERNATIONAL LTD

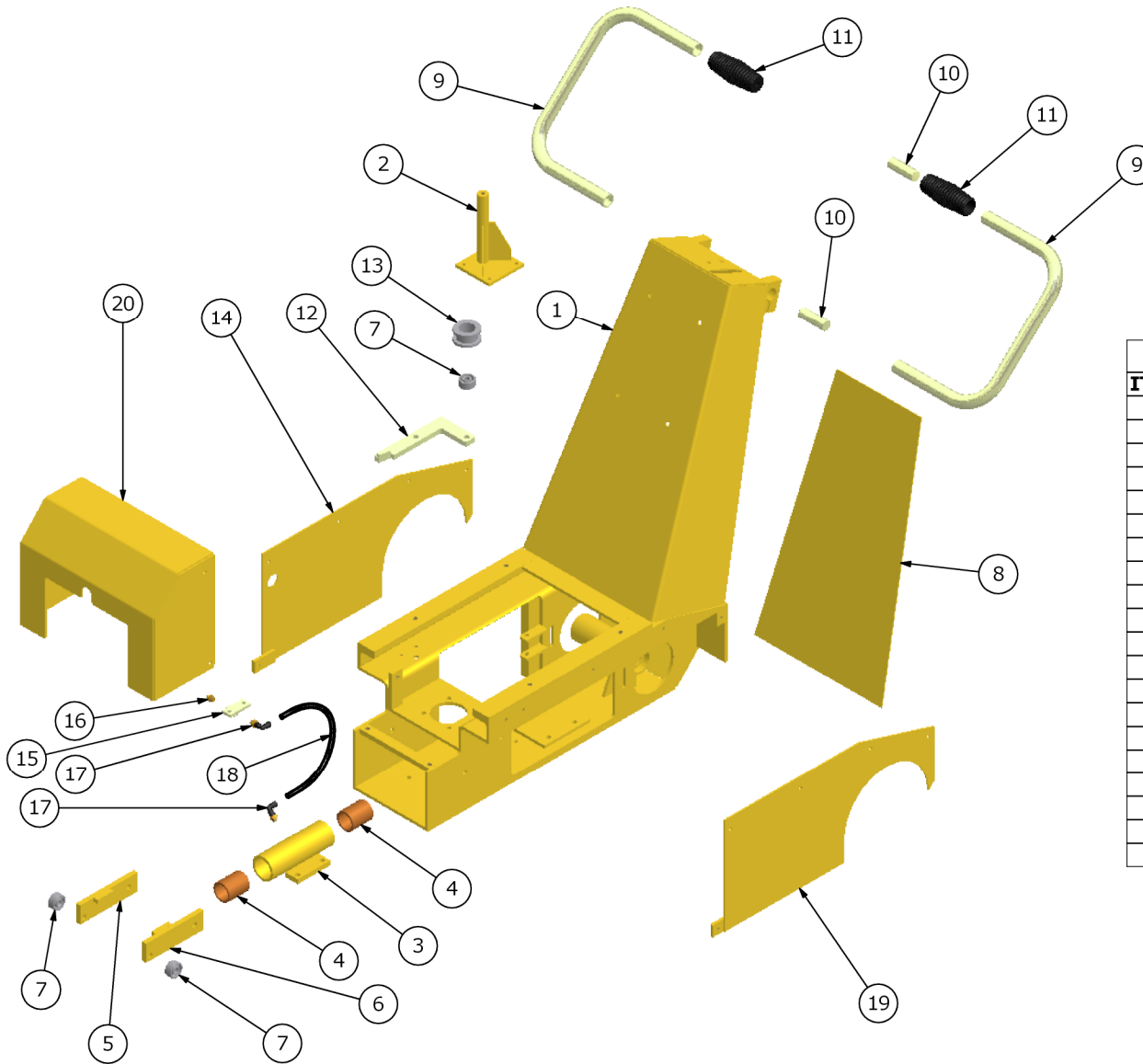


CONDITIONS OF SALE

MS330-2 MULTIRIPPER Operating Manual

The quotation overleaf and any order placed following such quotation are subject to the following conditions of sale in which SPE International Limited is referred to as the "Company".

1. **Validity of quotation**
No order received from a customer by the Company shall constitute a contract until accepted in writing by the Company.
2. **Prices**
Prices quoted by the Company are firm for 30 days only or until previously withdrawn. Unless otherwise stated all prices are exclusive of any applicable Value Added Tax for which the customer shall be additionally liable to the Company.
3. **Delivery**
Delivery periods and dates are given in good faith but are not the subject of any warranty or condition and time shall not be of the essence of the contract in these respects. No liability will attach to the Company if delivery periods or dates are not met for any reason whatsoever.
4. **Payment**
Save as may otherwise be agreed in writing the customer shall pay the price in full on or before the estimated delivery date whereupon the Company shall raise a receipted invoice. Each invoice includes an Overdue Account Levy of 5% of the total invoice value inclusive of VAT. Subject to payment in full being made on or before the due date a sum equal to the Overdue Account Levy shall be credited to the customers account with the Company. Until such time as payment in full has been made the Company shall be under no obligation to allow or effect of any goods to the customer.
5. **Warranty**
The Company warrants that all goods supplied by it will correspond to their specifications and will be free from defects in materials or workmanship for a period of 12 months from the date of delivery. The Company's obligation in the event of a breach of this warranty is limited to the repair or replacement of any defective goods which shall be returned at the cost and expense of the customer to the Company. This warranty is given in lieu of all the other warranty or conditions expressed or implied (whether by statute or otherwise) and is subject to the following conditions:-
 - 5.1 Claims must be notified in writing to the Company within seven days from the date of delivery or (where the defect is not apparent on reasonable inspection) as soon as practicable after discovery of the defect.
 - 5.2 The Company shall be under no liability in respect of any defect in the goods arising from any drawing, design or specification supplied by the customer.
 - 5.3 The Company shall be under no liability if the defect or failure in the reasonable opinion of the Company arises from wilful damage or misuse, negligence by the customer or any third party. Failure to follow the Company instructions, usage of non-recommended parts and materials, alteration or repair of the goods without the prior approval of the Company or non-recommended maintenance.
 - 5.4 The Company shall be under no liability if the price for the goods has not been paid by the due date for payment.
 - 5.5 The above warranty does not extend to:-
 - 5.5.1 Parts, materials or equipment not manufactured by the company in respect of which the customer shall be entitled only to the benefit of any such warranty or guarantee as is given by the manufacturer to the Company.
 - 5.5.2 Any component part of the goods or associated parts coming into contact with abrasive elements or dust within surface Preparation equipment.
 - 5.5.3 Fair wear and tear of moving parts within the goods.
 - 5.6 Except in the case of death or personal injury caused by the Company negligence, the Company shall not be liable for any consequential loss or damage (whether for loss of profit or otherwise) or other claims for consequential compensation.
6. **Carriage**
Packing, carriage and insurance charges in respect of delivery of the goods to the customer will be charged to the customer at cost to the company.
7. **Damage in Transit**
The company does not accept any liability for loss or damage to the goods while in transit to the customer.
8. **Risk**
The risk in the goods shall pass to the customer on delivery to the customer or (if earlier) when possession of the goods is taken by a carrier for delivery to the customer.
9. **Force Majeure**
The Company shall not be liable to the customer or be deemed to be in breach of any contract with the customer by reason of any delay in performing or any failure to perform any obligation of the Company obligation in relation to the goods if the delay or failure was due to force majeure or to any other cause beyond the Company's reasonable control.
10. **Reservation of Title**
The goods sold under these conditions shall remain the absolute property of the Company and legal title in the goods shall remain vested in the Company until payment in full of all amounts invoiced or due to the Company in respect of the goods. If the customer shall enter into liquidation have a winding up order made against it or have a Liquidator, receiver, administrator or administrator receiver shall be appointed over its assets, income or any part thereof before the property in the goods has passed in accordance with this condition the Company shall be entitled immediately after giving notice of its intention to repossess any goods to enter upon the premises of the customer with such transport as may be necessary and to repossess any goods to which it has title under this condition. No liquidator, receiver, administrator or administrative receiver of the customer shall have authority to sell goods to which the Company has title without the prior written consent of the Company.
11. **Insolvency of Customer**
If the customer being a body corporate, shall pass a resolution or suffer an order of the Court to be made for winding – up, or if a Receiver, Administrator or Administrative Receiver shall be appointed or, being an individual or partnership, shall suspend payment, propose or enter into any composition or arrangement with his or their creditors, or have a bankruptcy order made against him or them, then the Company shall have the right, without prejudice to any other contract with the customer, not to proceed further with the contract and shall be entitled to charge for work already carried out (whether completed or not) and for goods and materials already purchased for the customer such charge to be an immediate debt due from the customer.
12. **Patent Rights, etc**
The acceptance of a quotation includes the recognition by the customer of the Company under any patents, trademarks, registered designs or other intellectual property rights relating to the goods and the customer undertakes that patent numbers, trademarks or other trade markings on goods supplied shall not be obliterated, altered or defaced.
13. **Applicable Law**
These conditions shall be governed by and construed in accordance with English law and parties acknowledge and accept the exclusive jurisdiction of the English Courts.



Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	7100	Main Chassis
2	1	7080	Pivot Bracket
3	1	7099	Phosphor Bronze Bush Holder & Assembly
4	2	7099A	Blade Tube Bush
5	1	7087	Bearing Carrier - R/H
6	1	7086	Bearing Carrier - L/H
7	3	11310	Bearing
8	1	7106	Back Panel
9	2	7107B	Half Handle
10	2	7107A	Handle Connector
11	2	9104	Handlebar Grip
12	1	7094	Tensioner Arm
13	1	11317	Tensioner Pulley
14	1	7101	Side Panel R/H
15	1	7090	Grease Nipple Holder
16	1	7091	Grease Nipple
17	2	10093	Push-In Connector
18	1	7093	Feed Pipe
19	1	7102	Side Panel L/H
20	1	7103	Front Panel

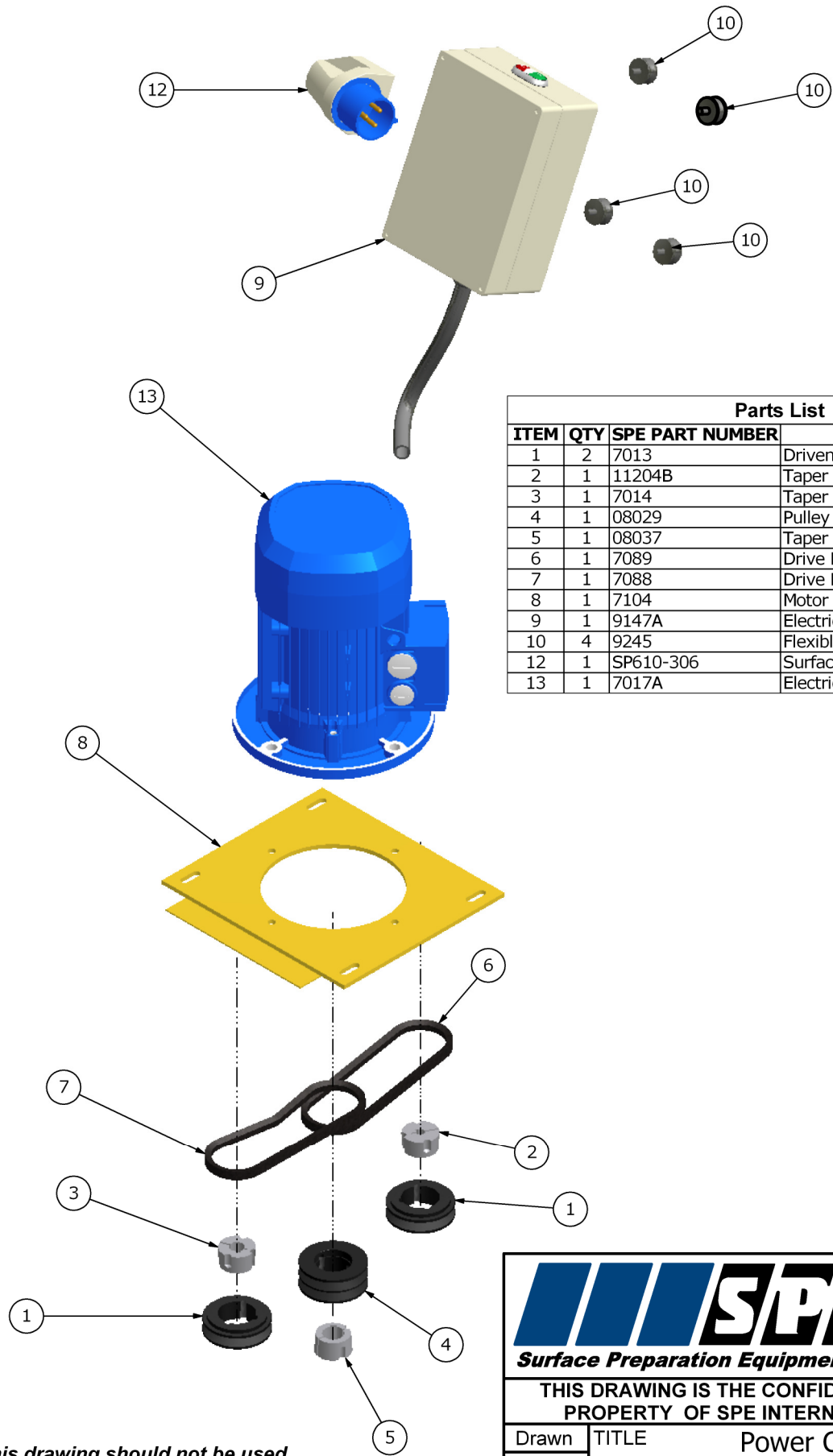


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Drawn	TITLE	Body Components
D.G.A.		
Checked	Drawing No.	MACHINE
R.C.	MS-330_Bdy-02	MS 330-2

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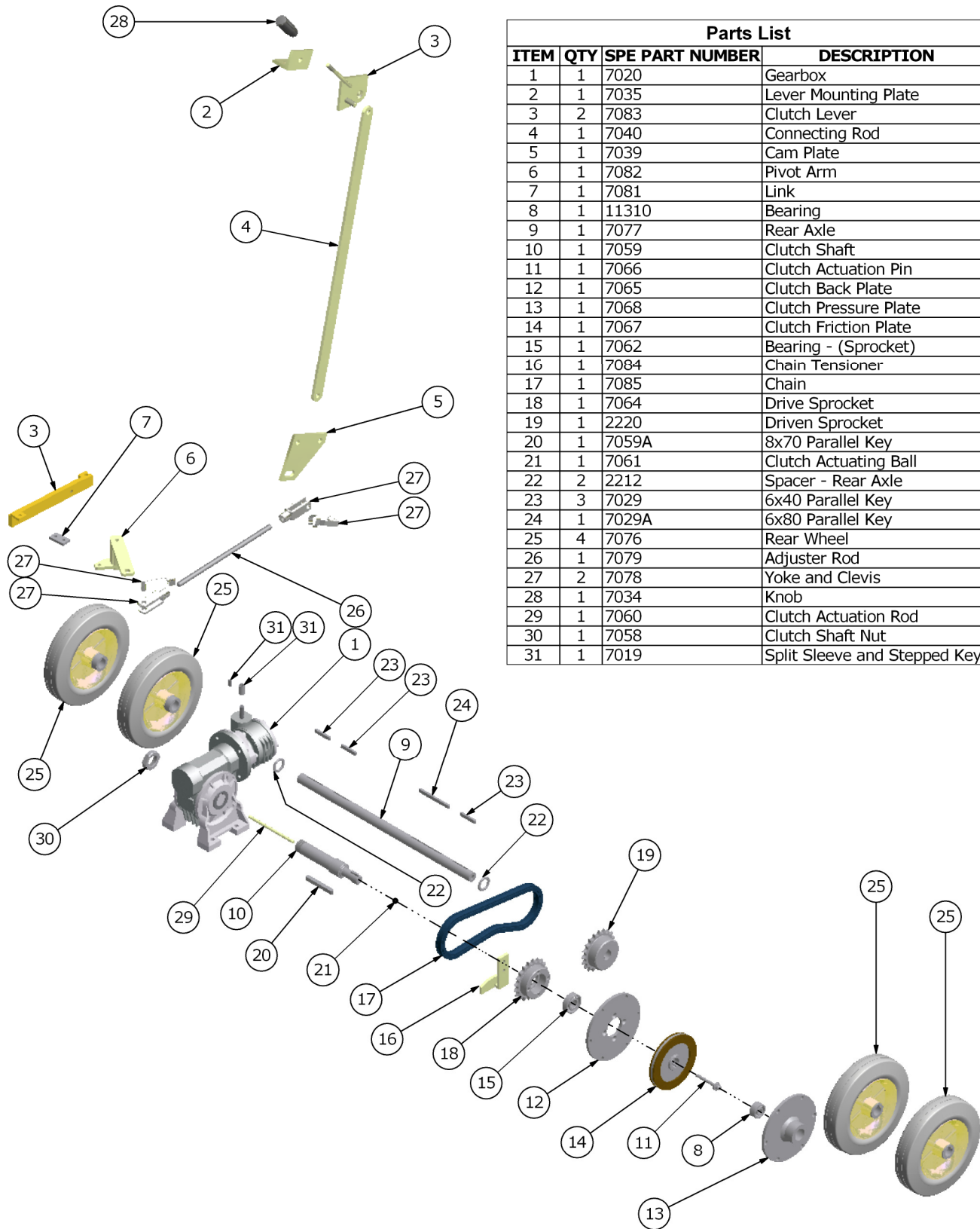
Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	2	7013	Driven Pulley
2	1	11204B	Taper Lock Bush [1210 - 12mm]
3	1	7014	Taper Lock Bush [1210 - 20mm]
4	1	08029	Pulley
5	1	08037	Taper Lock Bush [1210 - 28mm]
6	1	7089	Drive Belt - Rear / Electric
7	1	7088	Drive Belt - Front / Electric
8	1	7104	Motor Mounting - Electric
9	1	9147A	Electrical Panel Assembly
10	4	9245	Flexible Mounts
12	1	SP610-306	Surface Mounted Plug
13	1	7017A	Electric Motor

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Drawn	TITLE		Power Components
D.G.A.			
Checked	Drawing No.	MACHINE	
R.C.	MS-330_Pwr-02	MS 330-2	



Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	7020	Gearbox
2	1	7035	Lever Mounting Plate
3	2	7083	Clutch Lever
4	1	7040	Connecting Rod
5	1	7039	Cam Plate
6	1	7082	Pivot Arm
7	1	7081	Link
8	1	11310	Bearing
9	1	7077	Rear Axle
10	1	7059	Clutch Shaft
11	1	7066	Clutch Actuation Pin
12	1	7065	Clutch Back Plate
13	1	7068	Clutch Pressure Plate
14	1	7067	Clutch Friction Plate
15	1	7062	Bearing - (Sprocket)
16	1	7084	Chain Tensioner
17	1	7085	Chain
18	1	7064	Drive Sprocket
19	1	2220	Driven Sprocket
20	1	7059A	8x70 Parallel Key
21	1	7061	Clutch Actuating Ball
22	2	2212	Spacer - Rear Axle
23	3	7029	6x40 Parallel Key
24	1	7029A	6x80 Parallel Key
25	4	7076	Rear Wheel
26	1	7079	Adjuster Rod
27	2	7078	Yoke and Clevis
28	1	7034	Knob
29	1	7060	Clutch Actuation Rod
30	1	7058	Clutch Shaft Nut
31	1	7019	Split Sleeve and Stepped Key

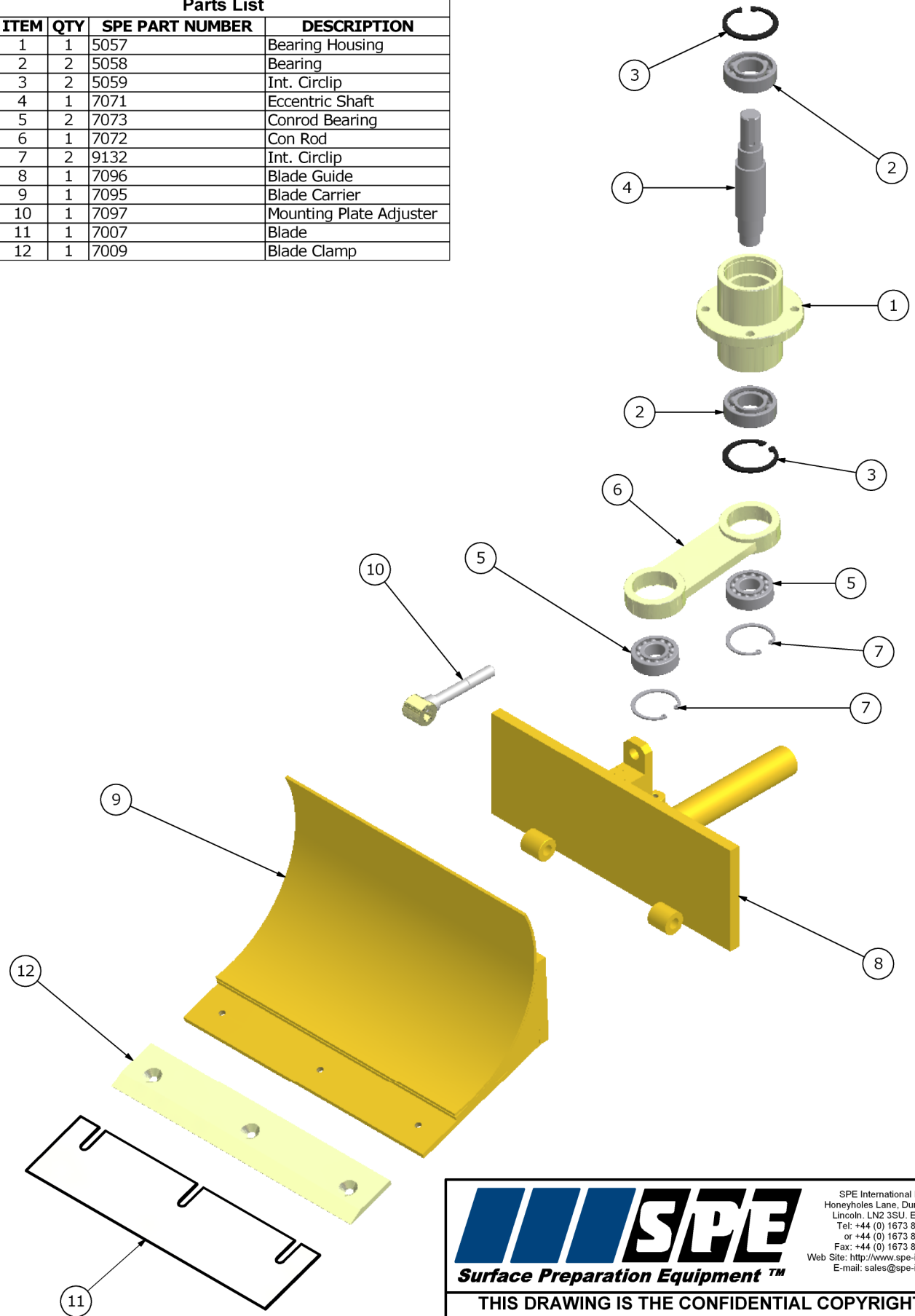
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Drawn	TITLE		Drive Components
D.G.A.			
Checked	Drawing No.	MACHINE	
R.C.	MS-330_Drv-02	MS 330-2	

Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	5057	Bearing Housing
2	2	5058	Bearing
3	2	5059	Int. Circlip
4	1	7071	Eccentric Shaft
5	2	7073	Conrod Bearing
6	1	7072	Con Rod
7	2	9132	Int. Circlip
8	1	7096	Blade Guide
9	1	7095	Blade Carrier
10	1	7097	Mounting Plate Adjuster
11	1	7007	Blade
12	1	7009	Blade Clamp



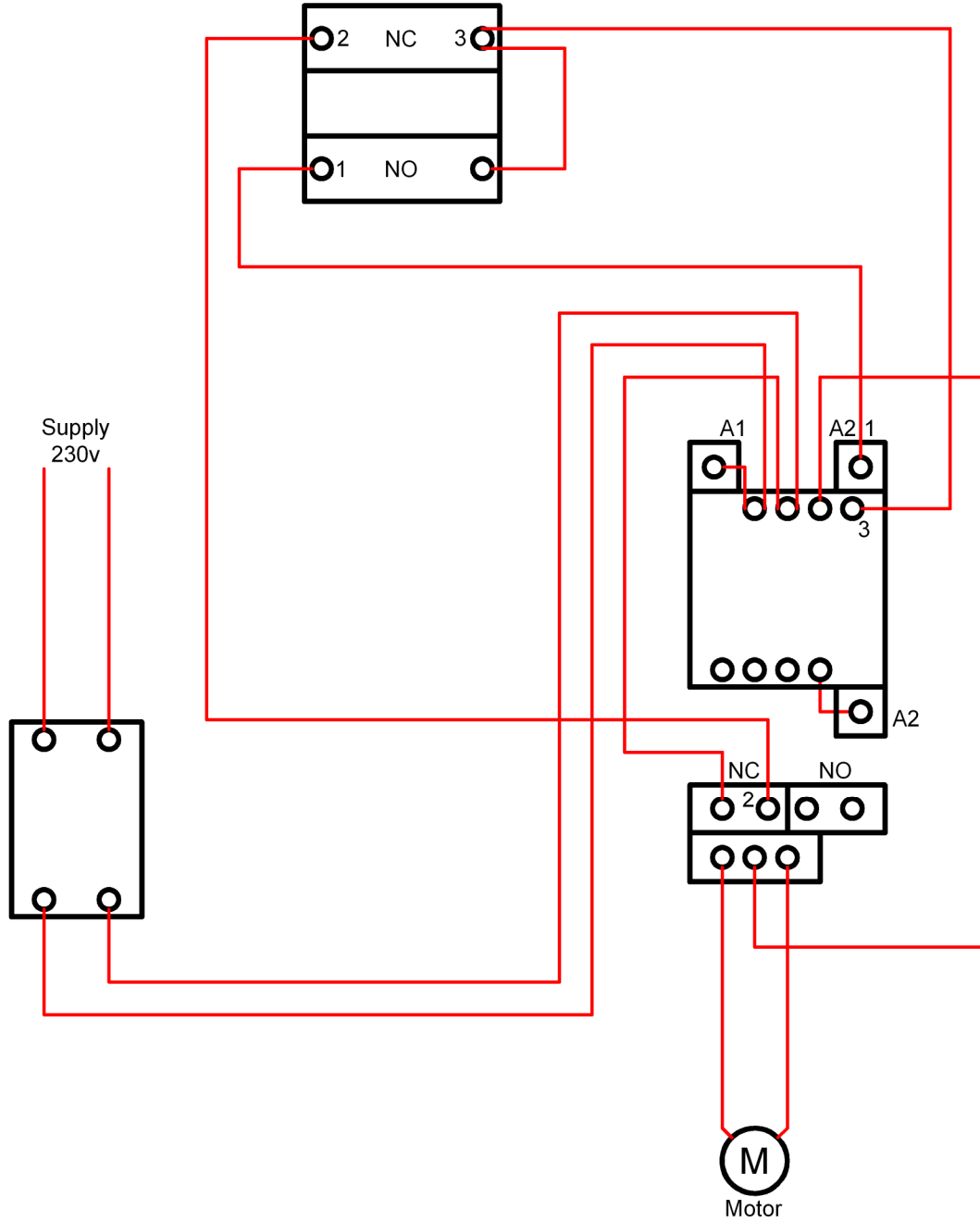
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Drawn	TITLE Blade & Motion Components	
D.G.A.		
Checked	Drawing No.	MACHINE
R.C.	MS-330_Bld-02	MS 330-2

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Drawn	TITLE	
D.G.A.	Wiring Diagram	
Checked	Drawing No.	Machine
J.J.	MS-330_Elec-02	MS 330-2