

# **SPE9G-1**

## **Operating Manual**

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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



Honeyholes Lane, Dunholme, Lincoln LN2 3SU, England  
Tel: +44 (0) 1673 860709 Fax: +44 (0) 1673 861119  
Email: [sales@spe-int.com](mailto:sales@spe-int.com)

## INDEX

Page No

1	Introduction
2	Machine Description
3	Identification of Major Components
4	Basic Operation
5	Safety
6	Service Information – Blastwheel/cage replacement/adjustment
7	Spare Parts Breakdown
8	Body Components
9	Castings & Blasting Components
10	Power & Control Components
11	Shot Valve Components
12	Specifications
13	Noise/Vibration Assessment
14	Warranty
15	Declaration of Conformity
16	Conditions of Sale



<p><b>SPE9G-1</b> Operating Manual</p>
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## INTRODUCTION

The life of your SPE equipment and the delivery of the high performance built into it will depend on the care it receives throughout its life. It is the operators responsibility to ensure that the maintenance operations outlined in this manual are carried out regularly and daily checks for wear etc. are maintained with great discipline.

Where the terms 'right' or 'left' occur in this manual they refer to the respective sides of the equipment when viewed from the operator handle of the machine.

Your SPE 9G has been designed and built to produce reliable and economic output for many hours of service. However, no amount of engineering ingenuity or care during manufacture can alleviate the need for reasonable attention and avoidance of mis-use by the operator.

It is important to be thoroughly familiar with the points requiring periodical attention, as it is to know how to operate the unit. Regular maintenance will result in minimum operating costs.



<p><b>SPE9G-1</b> Operating Manual</p>
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## MACHINE DESCRIPTION

The **SPE 9G** has been developed for the preparation of concrete and steel surfaces.

The cleaning operation is performed by abrasive being thrown at high velocity against the surface to be cleaned. The throwing action is achieved through centrifugal force, where a wheel with paddle type blades attached radially is revolved at a continuous maximum shaft speed of 8500 rpm. Onto this wheel, abrasive is fed in such a manner that it travels along the radial length of the blades and is then thrown off in a high velocity stream at the surface to be cleaned. The energy put into the abrasive is sufficient to enable it to rebound from the work surface. This rebound (kinetic energy) is used to recover the abrasive for re-use. The machine is designed so that the blast wheel is throwing abrasive at an inclined angle relative to the work surface. This means that after striking the work surface, the abrasive rebounds at a similar angle into the reclaim duct which directs it back into the hopper for re-use. Assisting with this reclaim cycle, the air flow created by the dust collector enters the machine through a brush screen at the rear of the cabinet and flows across the work surface, up the reclaim duct, through the separator and into the dust collector then through the fan and into the atmosphere.

Abrasive is contained within the machine at the work surface levels by seals around the machine. There is a brush screen across the air intake at the rear and magnetic seals at each side. An alternative seal system is available for the preparation of steel surfaces.



**SPE9G-1**  
Operating Manual

## IDENTIFICATION OF MAJOR COMPONENTS

The **SPE 9G** machine is assembled from several major components. It is essential that the operator becomes familiar with the names and functions of these components before attempting to carry out servicing procedures.

### **MAIN HOUSING**

The main housing is the frame of the machine. Externally all other major components are attached to it and internally wear liners and all blast wheel components are fitted.

### **ABRASIVE STORAGE HOPPER**

This contains the abrasive

### **SEPARATOR**

Within this component the flow of abrasive and dust laden air is separated. It is constructed in such a way that as the air flows through the separator the speed/flow of the abrasive is reduced which results in the heaviest particles (the steel abrasive) falling out of the flow and into the storage hopper for re-use. The lighter dust and debris stays with the air flow and passes through the separator on the way into the dust collector.



## BASIC OPERATION

### TO COMMENCE OPERATION

1. Remove the separator cover and place the abrasive into the storage hopper. Do not overfill, allow a clearance of approx 25mm. Replace the separator cover and secure with the over centre latches.
2. Make sure the electrical supply is connected to the machine and vacuum.
3. The vacuum hose should be correctly attached to the vacuum and machine.
4. Switch on the vacuum.
5. Pull the lock pin (part number: 3006A) and twist to lock into open position.
6. Pull the lever (part number: 11021) and the motor will automatically start, and the shot valve (part number: 11405) will open. This allows a predetermined amount of shot to flow onto the blastwheel.
7. Push the machine slowly forward to create the required blast specification. This specification is altered by varying the forward motion of the machine.
8. To stop the blast motor and shot flow, release lever (part number: 11021).
9. After use reset the lock pin (part number: 3006A) to prevent accidental operation of the machine.

### NOTE:

Condition of the blastwheel, blastwheel control cage, side liners and hood liner must be checked on a regular basis. When worn replace parts immediately.

**Serious damage can be caused to the blast motor if the blastwheel is allowed to wear to the point where it shatters during use.**

Do not use on wet or oily surfaces, as the abrasive/contamination will not separate effectively.



**SPE9G-1**  
Operating Manual

## SAFETY

Only trained operatives should be allowed to operate the SPE9G-1 Autoblast machine.

*NOTE:*

It is possible that the noise level produced by the 9G Autoblast machine could exceed 90dbA. Appropriate PPE must be worn and the equipment must be used in line with guidelines laid down by the Health and Safety Executive.

**Never tip machine backward whilst in use.**

Always ensure that all power leads are disconnected before attempting to adjust or service the machine.

Do not use or store in wet conditions as electrical components are not waterproof.

Noise and vibration will occur at various levels dependant on the work being completed. SPE have assessments conducted under test conditions detailed in the operating manual (see page 13), however, it is recommended that additional tests are taken on site to provide the operator with accurate information on using the equipment within guidelines laid down by the Health and Safety Executive.



## SERVICE INFORMATION

FIRSTLY ISOLATE ALL ELECTRICAL SUPPLIES TO THE EQUIPMENT

### TO REPLACE THE BLASTWHEEL

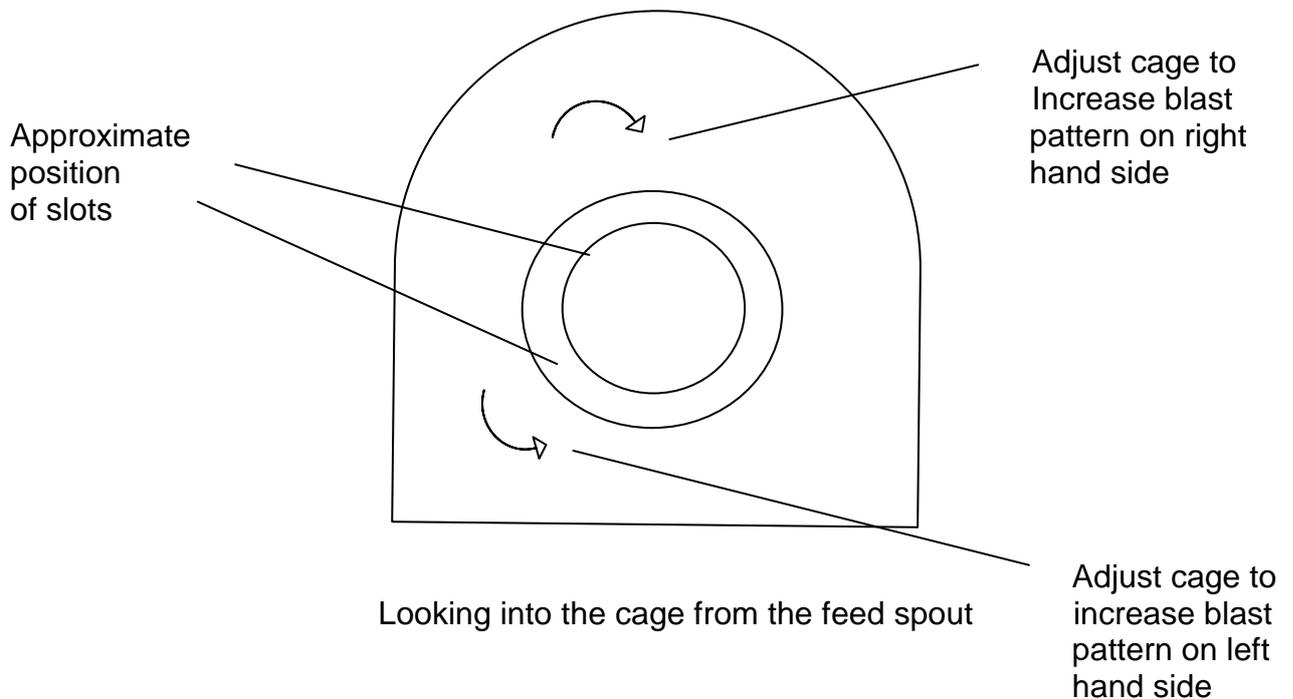
Remove the four set screws holding the rear wheel and motor assembly to the main body. This gives access to the blastwheel. Take off the central cap head screw and remove the blast wheel. Clean the hub assembly and fit the new blast wheel. Refit and firmly tighten the centre screw. Replace all items in reverse order.

### TO REPLACE THE CAGE

Unscrew the bolts holding the abrasive feed tube and remove. Unscrew the bolts on the clamps and withdraw the cage after taking note of the position of the two slots on the outer ring of the cage. Place in the new cage with the slots in the correct position, taking care to centralise the cage with the 4no cast impellor fingers in the centre of blastwheel. Replace the clamps and tube as previously removed. Minor adjustment to the cage position may be necessary to set the blast pattern correctly.

Right hand side of machine

Left hand side of machine



**NOTE: Blast pattern viewed from rear-operator handle of machine**



**SPE9G-1**  
Operating Manual

# Spare Parts Breakdown



<b>SPE9G-1</b> Operating Manual
------------------------------------

## SPECIFICATION SHEET

<b>Type</b>	SPE9G-1 Electric
<b>Part number</b>	SPE9G-1
<b>Power output</b>	2.6 h.p
<b>Voltage</b>	110v
<b>Cycles</b>	50/60
<b>Cleaning width</b>	230mm
<b>Machine dimensions (mm)</b>	
<b>Length</b>	830
<b>Width</b>	340
<b>Height</b>	840
<b>Weight (kg)</b>	62
<b>Suggested Vacuum</b>	Model VAC 316

## ELECTRICAL REQUIREMENTS

<b>Machine</b>	<b>Volts</b>	<b>Plug size</b>	<b>Cable size (mm)</b>	<b>Norm Cable Length</b>	<b>Transformer</b>	<b>Generator</b>
SPE 9G-1	110	16 amp 3 pin	2.5 3 core	30 metres	3Kva	5 kva



**SPE9G-1**  
Operating Manual

## RECORD OF NOISE AND VIBRATION ASSESSMENT

Manufacturer:	SPE
Type:	Blast machine
Model No.	9G-1
Operation :	Free Running
HAV	Acoustic
Note:	Associates

### HAND-ARM VIBRATION

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

Measurement Position	Acceleration ( $m/s^2$ )			
	X axis	Y axis	Z axis	Vector Sum
Handle	0.93	1.47	0.98	2.06

### NOISE LEVELS

#### Sound Power Level ( $L_{WA}$ )

$L_{WA}$ at Octave Band Centre Frequency (Hz)								Sound Power Level $L_{WA}$
63	125	250	500	100	200	4000	8000	
56.9	68.7	80.1	97.4	0	0	95.0	91.1	102.4

#### 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	100	200	4000	8000		
37	51.3	62.8	86.2	81.6	84.4	79.7	72.1	92.3	104





<b>SPE9G-1</b> Operating Manual
------------------------------------

## WARRANTY

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

<i>Warranty start date:</i>	<b>As despatch date</b>
<i>Model:</i>	<b>SPE9G-1</b>
<i>Serial no:</i>	
<i>Customer name:</i>	
<i>Customer Address:</i>	

<i>Manufacturer:</i>	<b>SPE International Ltd</b>
	<b>Honeyholes Lane</b>
	<b>Dunholme</b>
	<b>Lincoln</b>
	<b>LN2 3SU</b>
	<b>England</b>
<i>telephone:</i>	<b>+44 (0) 1673 860709</b>
<i>fax:</i>	<b>+44 (0) 1673 861119</b>
<i>Email:</i>	<b>sales@spe-int.com</b>
<i>Web site:</i>	<b>www.spe-int.com</b>



**SPE9G-1**  
Operating Manual

## 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)           SPE9G Autoblast Machine

(Model/type)                 SPE9G-1

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'.

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



## CONDITIONS OF SALE

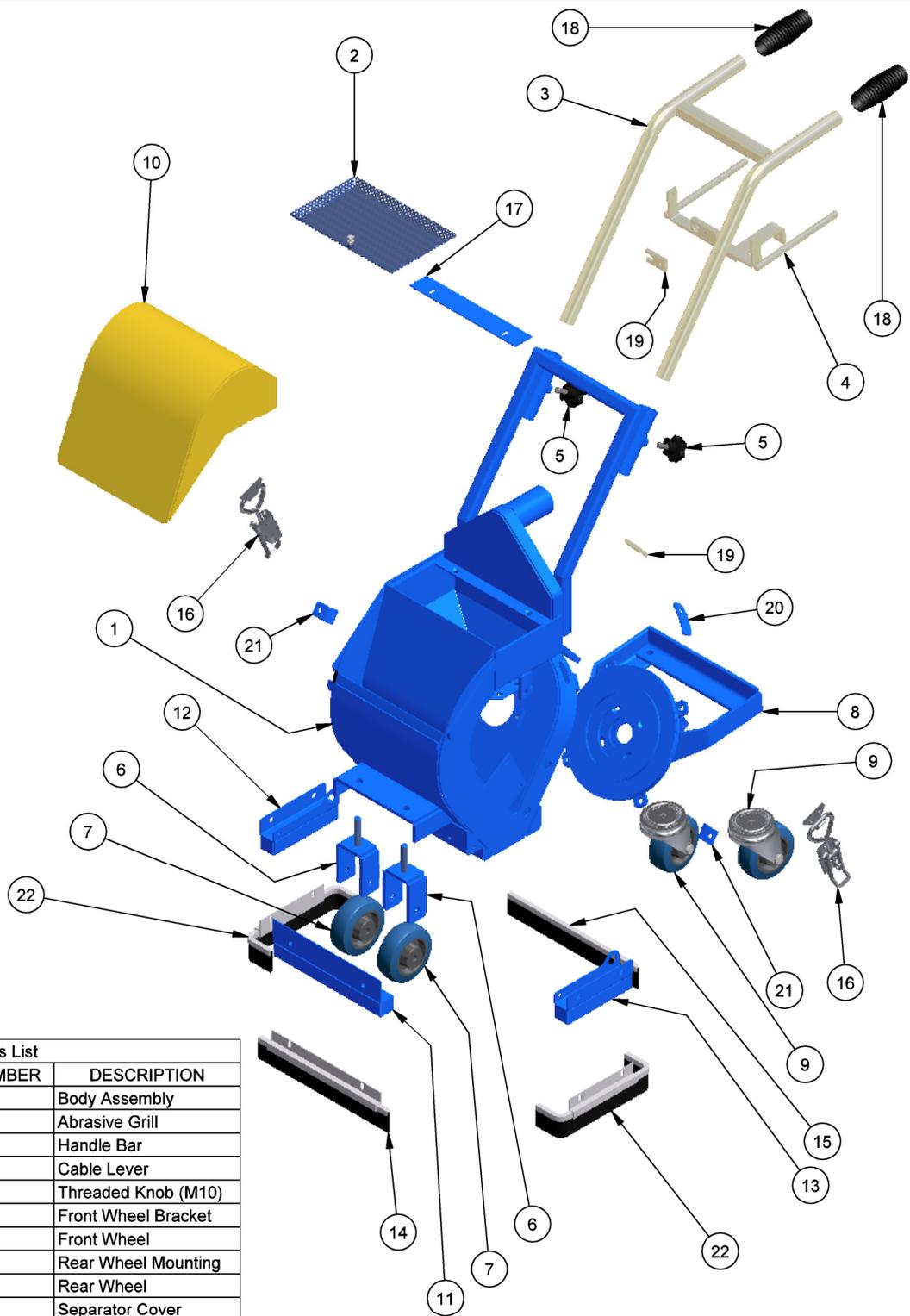
## SPE9G-1 Operating Manual

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.



 <b>Surface Preparation Equipment™</b>	<p>SPE International Limited Honeyholes Lane, Dunholme Lincoln, LN2 3SU, England Tel: +44 (0) 1673 860 709 or +44 (0) 1673 860 330 Fax: +44 (0) 1673 861 119 Web Site: <a href="http://www.spe-int.com">http://www.spe-int.com</a> E-mail: <a href="mailto:sales@spe-int.com">sales@spe-int.com</a></p>
	<p><b>SPE 9G</b></p>



Parts List

ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	11015	Body Assembly
2	1	11007A	Abrasive Grill
3	1	11022	Handle Bar
4	1	11021	Cable Lever
5	2	C321	Threaded Knob (M10)
6	2	11020	Front Wheel Bracket
7	2	11019	Front Wheel
8	1	11018	Rear Wheel Mounting
9	2	11017	Rear Wheel
10	1	11001A	Separator Cover
11	1	11500	Front Magnet
12	1	11501	Right Hand Magnet
13	1	11502	Left Hand Magnet
14	1	11503	Front Brush
15	1	11504	Rear Brush
16	2	10064	Over-Centre Latch
17	1	11013	Adjustable Baffle
18	2	9104	Handlebar Grip
19	2	11023	Cable Clamp
20	1	11024	Liner Slot Cover
21	2	11301A	Cage Retaining Lug
22	2	11505	Side Brush

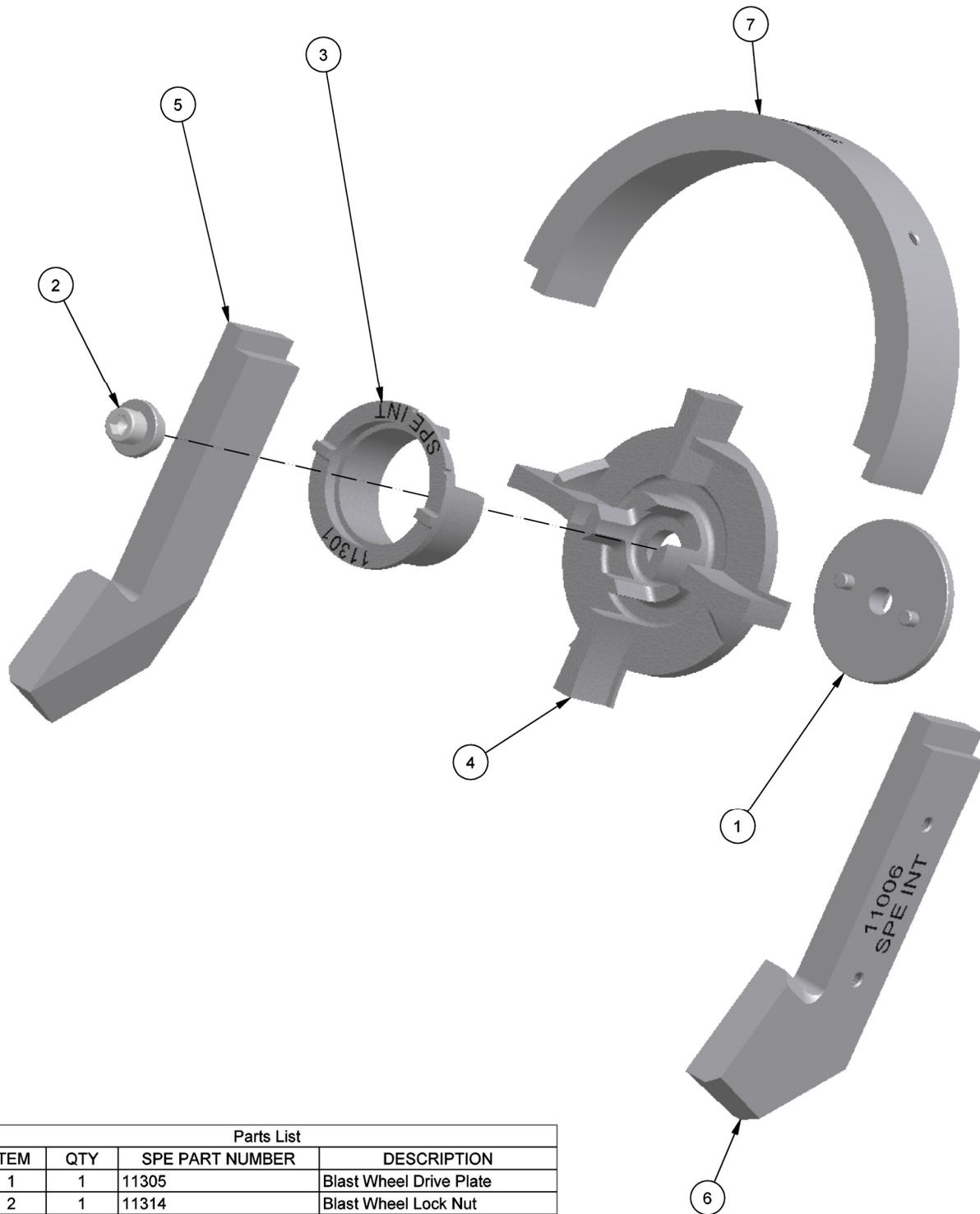
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SPE International Limited  
 Honeyholes Lane, Dunholme  
 Lincoln LN2 3SU, England  
 Tel: +44 (0) 1673 860 709  
 or +44 (0) 1673 860 330  
 Fax: +44 (0) 1673 861 119  
 Web Site: <http://www.spe-int.com>  
 E-mail: [sales@spe-int.com](mailto:sales@spe-int.com)

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Drawn	TITLE		Body Components
D.G.A.			
Checked	Drawing No.	MACHINE	
P.A.	SPE-9G_Bdy-01	SPE 9G-1	



Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	11305	Blast Wheel Drive Plate
2	1	11314	Blast Wheel Lock Nut
3	1	11301	Blast Wheel Cage
4	1	11302	Blast Wheel Assembly
5	1	11005	Right Hand Side Liner
6	1	11006	Left Hand Side Liner
7	1	11004	Hood Liner

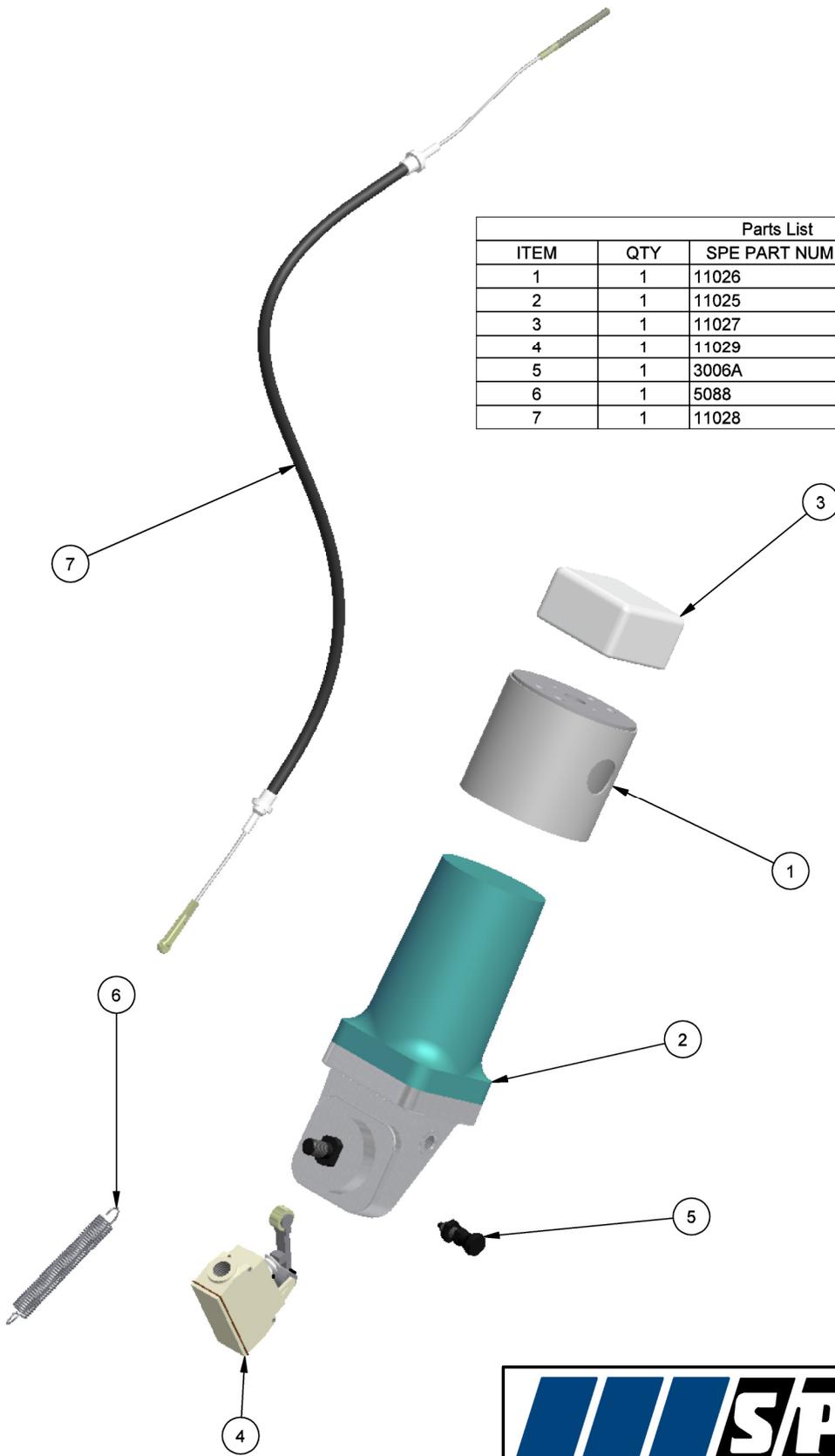


SPE International Limited  
 Honeyholes Lane, Dunholme  
 Lincoln, LN2 3SU, England  
 Tel: +44 (0) 1673 860 709  
 or +44 (0) 1673 860 330  
 Fax: +44 (0) 1673 861 119  
 Web Site: <http://www.spe-int.com>  
 E-mail: [sales@spe-int.com](mailto:sales@spe-int.com)

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Drawn	TITLE Castings & Blasting Components	
D.G.A.		
Checked	Drawing No.	MACHINE
P.A.	SPE-9G_Bst-01	SPE 9G-1



Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	11026	Motor Cover
2	1	11025	Blast Motor
3	1	11027	Terminal Box
4	1	11029	Micro-Switch
5	1	3006A	Locking Plunger
6	1	5088	Spring
7	1	11028	Control Cable

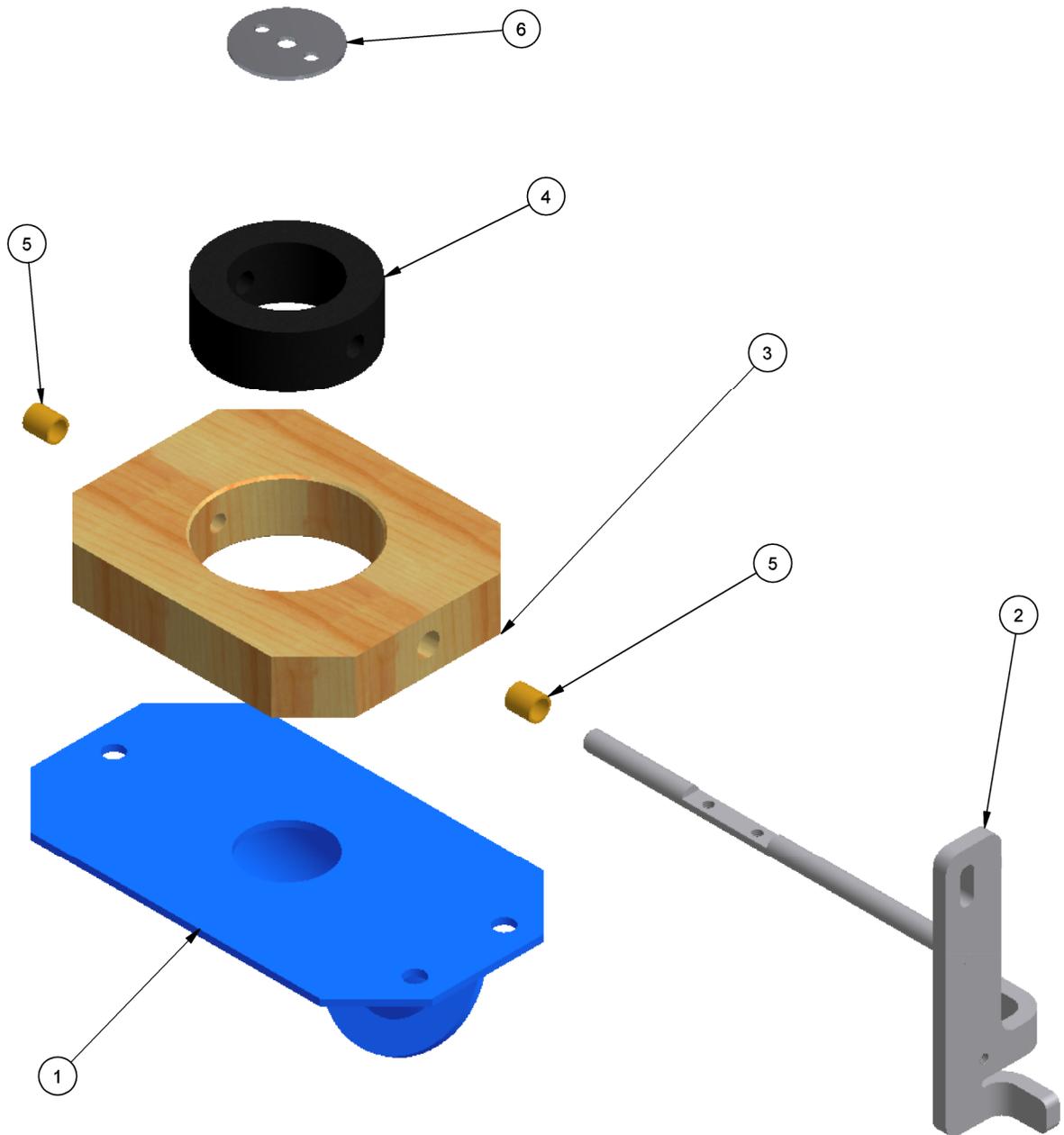
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 Honeyholes Lane, Dunholme  
 Lincoln, LN2 3SU, England  
 Tel: +44 (0) 1673 860 709  
 or +44 (0) 1673 860 330  
 Fax: +44 (0) 1673 861 119  
 Web Site: <http://www.spe-int.com>  
 E-mail: [sales@spe-int.com](mailto:sales@spe-int.com)

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Drawn	TITLE Power & Control Components	
D.G.A.		
Checked	Drawing No.	MACHINE
P.A.	SPE-9G_PwC-01	SPE 9G-1



Parts List			
ITEM	QTY	SPE PART NUMBER	DESCRIPTION
1	1	11002	Feed Spout
2	1	11030	Valve Block Spindle
3	1	11400	Valve Block
4	1	11401	Valve Block Liner
5	2	11403	Valve Block Oilite Bush
6	1	11405	Shot Valve Butterfly



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 Honeyholes Lane, Dunholme  
 Lincoln, LN2 3SU, England  
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 or +44 (0) 1673 860 330  
 Fax: +44 (0) 1673 861 119  
 Web Site: <http://www.spe-int.com>  
 E-mail: [sales@spe-int.com](mailto:sales@spe-int.com)

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Drawn	TITLE		Shot Valve Components
D.G.A.			
Checked	Drawing No.	MACHINE	SPE 9G-1
P.A.	SPE-9G_ShV-01		

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