



HUGH CRANE

Cleaning Equipment Limited

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FS09628

COMMANDO DUSTGUARD

DUST SUPPRESSION OPERATING & MAINTENANCE MANUAL



No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical for any purpose other than to assist in the safe operation and maintenance of the [Dustguard Water Spray Unit](#) without the express permission of [Hugh Crane \(Cleaning Equipment\) Ltd.](#)

For Sales, Service and Spare Parts contact: HUGH CRANE (Cleaning Equipment) Ltd.

www.hughcrane.co.uk TEL: 01493 750072 FAX: 01493 751854 Email: sales@hughcrane.co.uk

IMPORTANT

This handbook should be read and understood by the operator before using the equipment, and should be kept with the equipment and made available to anybody who is intending to use it.

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1. DESIGNED AND MANUFACTURED BY:

Hugh Crane Cleaning Equipment Ltd,
South Walsham Road,
Acle,
Norwich,
NR13 3ES

Telephone: 01493 750072
Email: sales@hughcrane.co.uk.

2 MACHINERY DESIGNATION:

“Dustguard” oscillating water spray attachment for Commando 500D Electric Start pressure washer.

3. GENERAL DESCRIPTION & INTENDED USE:

Hugh Crane Ltd high pressure cleaning equipment is manufactured to rigorous quality standards. The basic design concept is to use quality materials and proven designs to attain reliability and safe functional operation.

This manual is provided to assist the operator to obtain the best from the equipment via correct operating and maintenance procedures, together with basic safety points.

The Dustguard unit is designed to easily bolt on to a standard Hugh Crane 500D Electric Start pressure washer and can be supplied either as an attachment for the customer to fit or as a complete unit already attached to the 500D washer.

To power the oscillation device, electrical connections have to be made to the 12 volt positive supply at the terminal block on the side of the engine and a negative/ground connection made to the washer metalwork.

Should you require further information or technical assistance regarding the unit or any aspect of jetting or pressure cleaning, do not hesitate to contact Hugh Crane (Cleaning Equipment) Ltd or their approved distributor.

4. EC DECLARATION OF CONFORMITY & WARRANTY

DECLARATION OF CONFORMITY	
<p>We: Hugh Crane (Cleaning Equipment) Ltd, South Walsham Road, Acle, Norwich, NR13 3ES.</p>	
<p>Certify that the:</p>	
<p>COMMANDO[®] DUSTGUARD</p>	
<p><i>Has been designed and manufactured in accordance with the essential requirements of the following European Directives and any subsequent amendments to them:</i></p>	
<i>Directive</i>	<i>Standards Applied</i>
Machinery Directive 2006/42/EC	EN12100:2010
Low Voltage Directive 2006/95/EC	EN60204-1
<p>Date: 28th February 2017</p>	
<p>Signed by:</p>	
<p>Philip Crane Managing Director On behalf of Hugh Crane (Cleaning Equipment) Ltd</p>	
<p>J:\Engineering\CEcertificates\CEDustguard.docx</p>	

GUARANTEE

COMMANDO products are guaranteed for one year for parts and labour from the date of purchase (guarantees are not transferable) subject to good use and adherence to recommended service procedures. Major components are subject to individual manufacturer's warranty conditions. Wearing parts, including tyres, pump seals, valves, hoses, filters, jets and tooling are excluded from warranty cover unless subject to faulty materials or manufacture.

5. HEALTH & SAFETY

5.1 OPERATION & MAINTENANCE

General

This equipment/machinery is designed and constructed for industrial use only for the suppression of dust and similar in controlled environments with limited access, for example fenced construction/demolition sites.

It should only be used by persons trained and competent in its operation in accordance with the instructions within this manual, and should only be maintained / repaired by persons trained and competent to do so, following the isolation and making safe of the equipment as detailed within this manual.

The machine must not be misused in any way, nor any hazardous areas accessed, for example inside the oscillating mechanism during operation.

The machine should only be used in a safe location away from other persons not involved in the demolition activity and a safe working area should be established with other persons kept away.

The machine should not be left unattended where there is the possibility of access or operation by unauthorised persons.

Safety in Operation

- This equipment/machinery is designed and constructed for industrial use only for the suppression of dust and similar in controlled environments with limited access, for example fenced construction/demolition sites.
- It should only be used by persons trained and competent in its operation in accordance with the instructions within this manual, and should only be maintained / repaired by persons trained and competent to do so, following the isolation and making safe of the equipment as detailed within this manual.
- The machine must not be misused in any way, nor any hazardous areas accessed, for example inside the oscillating mechanism during operation.
- The spray head must never be directed at any person or animal.
- The machine should only be used in a safe location away from other persons not involved in the demolition activity and a safe working area should be established with other persons kept away, and monitored on a continuous basis.
- The machine should not be left unattended where there is the possibility of access or operation by unauthorised persons. No guards or other safety features may be disabled or bypassed, nor may they be removed unless for authorised maintenance or repair, again following the correct isolation procedures.
- The operator must not access, or allow access by others to any hazard area during operation, and all other persons must be kept away from these areas, notably:
 - From around the machine
 - From the area in which the spray is directed

Safety features and regular checking

Safety features are provided for the protection of all and their effectiveness must be verified and recorded on a daily basis as follows:

- Oscillating mechanism enclosure/guard be in place, undamaged and effective.
- Correct operation of oscillation Off/On selector and HP water isolation valve.
- Safety signage in place and legible.

Isolation for intervention, maintenance and repair

- Before accessing any parts of the machine/equipment for purposes of maintenance or repair, make safe and isolate energy sources as follows (and in accordance with the user's procedures):
 - Ensure the Commando unit is stopped and take precautions to prevent it from being started.
 - Ensure that the HP water is depressurised.

<p><u>Slipping, tripping and falling</u></p> <ul style="list-style-type: none"> • The equipment is designed to spray water which will inevitably create wet and potentially slippery areas • Such areas should be avoided when wet. • Be aware of and take additional precautions in adverse weather, notably ice and snow. • Protective (slip resistant) safety footwear with crush protection should be worn.
<p><u>Electricity and Electrical Hazards – shock, fire, burns etc.</u></p> <ul style="list-style-type: none"> • Only trained and competent persons, as authorised by the user, are permitted to access electrical panels or equipment or carry out electrical work. • Electrical panels and equipment must always be secured closed and only accessible/openable using a tool or key which is not available to untrained personnel. • The electrical supply must be isolated by disconnection of the battery before carrying out any work on the panel or equipment, and “proven dead” before contacting any potentially live parts. Live working should be avoided. • The electrics and electrical installation must be periodically inspected and tested to maintain safety.
<p><u>Hot surfaces– scalds and burns</u></p> <ul style="list-style-type: none"> • The engine exhaust gets hot in operation, but is thermally insulated within the engine enclosure. • Avoid all unlagged exhaust parts and allow to cool before making contact with any hot parts
<p><u>Noise</u></p> <ul style="list-style-type: none"> • The equipment is engine powered and can generate noise levels of typically 116dB depending on use. • Hearing protection should be worn • When in operation a noise survey should be carried out to determine and areas which may exceed the relevant hearing action limits 80/85dB with appropriate precautions being put in place by the user.
<p><u>Legionellosis</u></p> <ul style="list-style-type: none"> • Legionella bacteria can be present and breed in water at temperatures between 20 and 45C, and can thrive in the presence of nutrients such as rust, sludge, scale, algae, organic material or other bacteria. • The equipment should therefore be operated outside these temperatures and regularly cleaned, flushed and maintained to prevent the development and existence of conditions where nutrients can exist. • The system should also be included by the user within his overall legionella assessment and management programme which will determine any further actions/precautions/monitoring which may be necessary.
<p><u>Moving vehicles – potential hazards to O&M staff (pedestrians/on foot)</u></p> <ul style="list-style-type: none"> • The unit is mobile and therefore can be used in a variety of locations including those where moving vehicles can be present. • It is recommended that the user carries out his own assessment to ensure the safety of pedestrians/those on foot from any moving vehicles in the area/associated with the wider operation of this equipment/machinery. • Health and Safety Executive publication HSG 136 is one document that covers these matters.
<p><u>Adequacy of lighting in the area.</u></p> <ul style="list-style-type: none"> • It is recommended that the user carries out his own assessment to ensure the adequacy of lighting in each area the machine is to be used to allow safe operation and maintenance of the equipment.
<p><u>Access to items installed above ground level/prevention of falls from height</u></p> <ul style="list-style-type: none"> • Machine operation and access to operating controls is intended to take place at ground level. • For any use above ground level the operator should assess the task and provide the necessary access equipment, ensuring that the equipment (Commando unit & sprayer) are prevented from falling

High pressure water (from the spray)

- The machine must be used in a controlled and managed environment by trained operators only, ensuring that persons are not present in the spray zone.
- Before use, the machine must be set up and started by a competent operator to ensure basic safety criteria are met.
- The machine should never be moved nor any adjustments made unless the Commando unit is shut down and HP water valved off.
- Persons must be made aware of and instructed to keep themselves and others away from hazard areas, notably within 20m of the spray head.
- The spray head should never be directed at any individual
- The HP water system should be visually checked daily for any leaks which should be rectified before continuing to use the equipment.
- Appropriate face/eye protection should be worn when using the machine.

Starting up of the machine and spray should be carried out in the following sequence:

- With the engine stopped, locate the machine in the required position on site.
- Ensure the valve controlling the HP water to the spray unit is OFF; the oscillation is OFF; and the oscillation stroke set to minimum.
- Set the spray elevation and stroke to meet anticipated requirements.
- Ensuring yourself and others are well clear of the spray zone, start the Commando unit.
- Once up to pressure and ensuring the spray zone remains clear of people, gently open the HP water valve and when fully open, check that the spray is going where required.
- Any further adjustment of the spray elevation angle or stroke should only take place with the HP water valve isolated/ Commando engine stopped.

Lifting and moving of unit

- The Commando washer and spray unit may be fitted with larger wheels and/or a lifting frame to facilitate movement around site.
- All such lifting/movement should only be carried out by trained and competent persons using approved and tested equipment.
- The lifting frame, if fitted, should be periodically inspected and tested as required under the Lifting Operations and Lifting Equipment Regulations to ensure continuing integrity.

5.2 INSPECTION & TESTING - BEFORE USE:

5.2.1 Routine Maintenance:

The Dustguard unit is designed to need minimal maintenance by the user.

All repairs to this equipment must be carried out by qualified personnel. No modifications or changes to the specification of this machine should be made without consultation and approval of the manufacturer.

5.2.2 Hose Assemblies:

Hose assemblies are of paramount importance with respect to water jetting equipment. Before using any hose assembly, it is essential to check the following points.

No hose should be used where there is any evidence of external damage. Particular attention should be paid to exposed or broken wires which are not only likely to be a source of rupture but may also cause severe cuts.

Of particular relevance are the end fittings of hoses, which can be subjected to stress caused by pulling at sharp angles or stretching. Hoses must be inspected regularly.

Where quick release couplings are employed they should be inspected regularly for wear, damage and for condition of any sealing rings.

5.2.3 Guarding:

The machine is provided with guarding in compliance with current legislation. The machine should not be operated with any of the guards, covers or any other safety equipment removed or damaged.

5.2.4 Controls:

Control functionality, principally the HP water shut off valve and oscillation controls should be checked.

All throttle couplings and engine stop devices on the associated pressure washer shall be checked to ensure that they are functioning properly before high pressure jetting work commences.

6. LEGIONELLA/LEGIONNAIRE'S DISEASE:

All pressurised water jetting, spraying and cleaning equipment has the potential to produce aerosols and if the water supply to the machine contains legionella bacteria, these bacteria can become airborne within the jetting aerosol.

The attention of users is thus also drawn to the UK Health & Safety Executive "Approved Code of Practice" L8 which details the precautions that employers are required to take in respect of legionnaire's disease including the needs to carry out a risk assessment; have an appointed competent person; have in place a legionella control scheme; and review of control measures.

7. NOISE:

In normal operation the Commando washer powering the Dustguard unit generates noise levels of typically 116dB.

Customers are advised that they should carry out their own noise survey with the machine in place in its normal work environment to determine actual noise levels to which operators are exposed and any precautions necessary.

8. OPERATING INSTRUCTIONS.

8.1 GENERAL

- 8.1.1 Before putting the Dustguard unit into operation it is vital to risk assess the task and environment and formulate a plan/"Safe System of Work" which ensures protection of all persons who could potentially enter the area of operation including operators.

Any persons or properties directly affected by the spraying should be notified prior to work commencing and measures taken to keep them clear of hazard areas, for example using signage, barriers, and supervision/ monitoring.

High pressure jets are dangerous if subjected to misuse.

Care should be taken to ensure that animals and children are well away from the working area. **The jet/spray must not be** directed at people, animals, the machine itself, non-waterproof, fragile or electrical equipment, or overhead electric cables.

- 8.1.2 It is essential that any person who is required to operate or use high pressure water jetting equipment is trained and totally competent to use that equipment. By the very nature of the equipment and the purposes for which it is used, it is essential that only physically capable people use the equipment.

8.2 MACHINE OPERATION

IMPORTANT

This handbook should be read and understood by the operator before using this equipment. It should be kept with the equipment and made available to anybody who is intending to use the equipment.

8.2.1 BEFORE USING THE EQUIPMENT

- a) Before using this equipment, operators should have undergone basic training in its safe use. Training courses are available from Hugh Crane (Cleaning Equipment) Ltd. if required.
- b) Suitable protective clothing should be provided and worn, as a minimum eye protection and safety footwear.
- c) **High pressure jets are dangerous if subjected to misuse.** Care should be taken to ensure that all other persons, especially animals and children, are well clear of the working/hazard areas.
- d) All repairs to this equipment must be carried out by qualified personnel. No modifications or changes to the specification of this machine should be made without consultation with and approval of the manufacturer.
- e) The machine is supplied with guarding in compliance with current legislation. The machine should not be operated with any of the guards, covers or any other safety equipment removed or damaged.
- f) Chemicals may be used in conjunction with this equipment. Only chemicals supplied or recommended by the manufacturer should be used, as other products may affect the safe use of the equipment. Consideration should also be given to environmental and COSHH regulations.
- g) **Never attempt to adjust or clean any part of the machine with the engine running.** Always stop the engine before carrying out adjustments, especially to the high pressure pipework etc.
- h) Daily and before each use, check the following:
 - Oscillating mechanism enclosure/guard in place, undamaged and effective.
 - Correct operation of oscillation Off/On selector and HP water isolation valve.
 - Safety signage in place and legible.
 - All fixings secure.

8.3 OPERATOR CONTROLS

The vertical (up/down) angle of the spray can be manually adjusted at the spray head, using the black knob to tighten the spray head in the required position.

The oscillation controls are located on the side of the oscillation unit, comprising an Off/On switch and “stroke” selector.



The former Stops/Starts the oscillation action.

The latter determines the length/ angle of the stroke and thus the extent of the spray area – either a Long (L), Medium (M) or Short (S) stroke.

In addition, a valve is provided where the oscillation water supply is connected to the HP pressure washer outlet which allows the water supply to the oscillation unit to be turned on and off.



Adjustments should only be made to the oscillation unit and/or spray angle with the water isolated and/or engine of the washer stopped.

Refer to the 500D operators manual for details of the pressure washer itself.

8.4 LOCATING & STARTING THE UNIT

Starting up of the machine and spray should be carried out in the following sequence:

- With the engine stopped, locate the machine in the required position on site.
- Ensure the valve controlling the HP water to the spray unit is OFF; the oscillation is OFF; and the oscillation stroke OFF.
- Set the spray elevation and oscillation stroke to meet anticipated requirements. Ensure the black knob securing the elevation angle is tight.
- Ensuring yourself and others are well clear of the spray zone, start the Commando unit.
- Once up to pressure and ensuring the spray zone remains clear of people, gently open the HP water valve and when fully open, check that the spray is going where required.
Any further adjustment of the spray elevation angle or stroke should only take place with the HP water valve isolated/ Commando engine stopped.

8.5 FROST PROTECTION

- **It is essential to protect the unit from damage by frost.** When frost is anticipated therefore, either drain the unit or store it inside where temperatures are above 0°C

9. MAINTENANCE & SERVICING

9.1 GENERAL AND SAFETY

When maintaining or assembling pressure washing hoses and attachments, it is essential to use the correct size of tools. Tools such as Stillson wrenches should be avoided wherever possible and correctly fitting spanners employed instead. Serrated gripping jaws damage equipment and leave sharp edges, which can easily cut the operator.

Cleanliness of all equipment is of paramount importance to ensure reliability and ultimately the safety of equipment employed. After use it is essential that all equipment is clean and prepared for the next usage. Particular attention should be paid to clean hoses and assemblies, jets, couplings exposed threads and any such associated tooling.

WARNING

NEVER ATTEMPT TO ADJUST OR CLEAN ANY PART OF THE MACHINE WITH THE ENGINE RUNNING. .

9.2 MAINTENANCE

The unit is designed to require minimal maintenance and there are no user-serviceable parts.

10. SPARE PARTS & ORDERING

Should any spare parts be required, please contact Hugh Crane Ltd, quoting the following information

- a) Your Company Name and Address
- b) Model Type and Serial Number of unit
- c) Full description of parts required
- d) Your contact name and telephone number
- e) Your order number