



User Guide

# Powerbrush

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## Product Information

### Overview

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The Conquip Powerbrush is a hydraulic powered forklift sweeper that collects dirt and waste. The Powerbrush incorporates a large water tank for dust suppression and a cleaner sweep. The unit is durable and inexpensive to maintain.

Customisation options include a pressurised water spray system and a kerb brush.

The Powerbrush is a very cost effective, easy method to keep construction sites clean, helping keep sites tidy and safe at all times. It offers total flexibility and is much more cost efficient than a truck road sweeper.

### Key Benefits

- Brushes can be replaced quickly, with just 7 brush sections, that can be easily height adjusted as they wear.
- Simple hydraulic system with a single 1-way hydraulic valve, reducing the number of wearing parts.
- Only 4 grease points for easy maintenance.
- Robust collector hopper gathers dirt and waste and the durable design offers maximum protection from manhole covers.
- 3 wheels for maximum stability and the ability to follow uneven ground.
- Manufactured in UK from high quality British and European steel and components.

### Customisation Options

- Pressurised water spray system for dust suppression and a clean sweep.
- Kerb / side brush for cleaning gullies and kerbs.

### Flow Rate

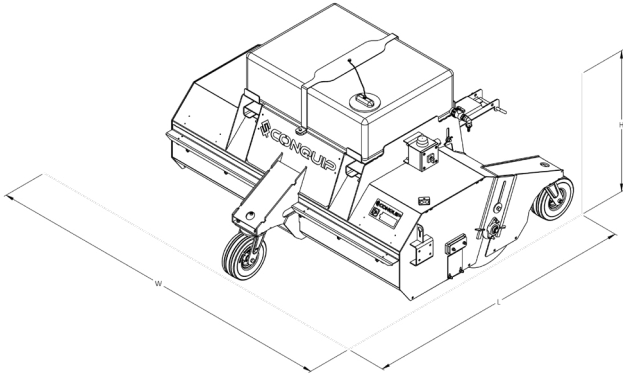
- 90 litres per minute minimum requirement intermittent.
- 78 litres per minute minimum requirement continuous running.

Product Information

**Specification**

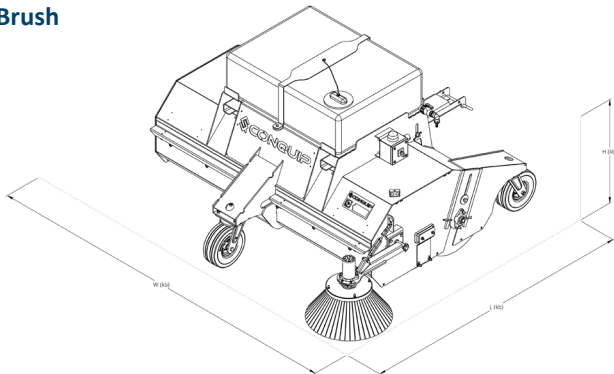
| Item       | Product Code  |
|------------|---------------|
| Powerbrush | SA800AN-02100 |

**Standard**



| Height | Width  | Length | Weight | Fork Pockets | Tank Capacity |
|--------|--------|--------|--------|--------------|---------------|
| 1260mm | 2340mm | 2180mm | 560kg  | 148x60mm     | 250 litre     |

**With Kerb Brush**

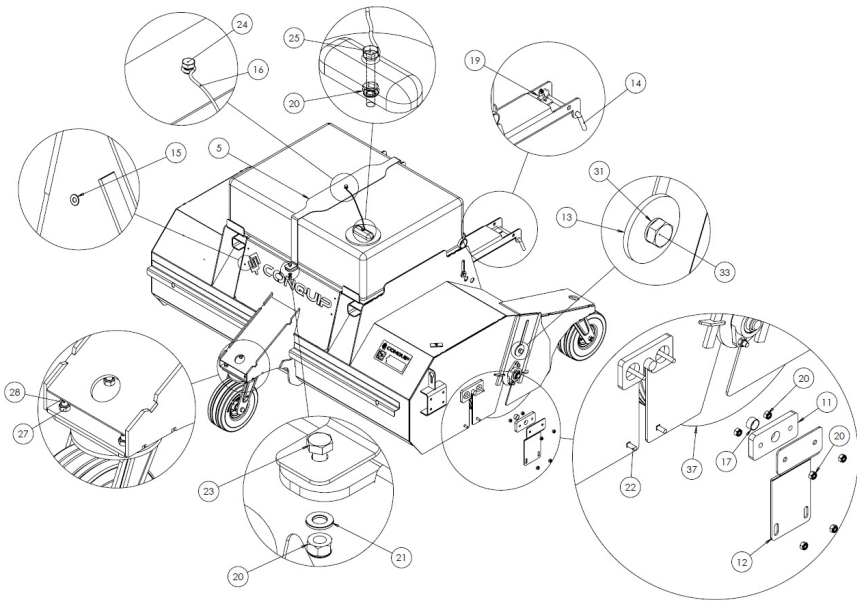
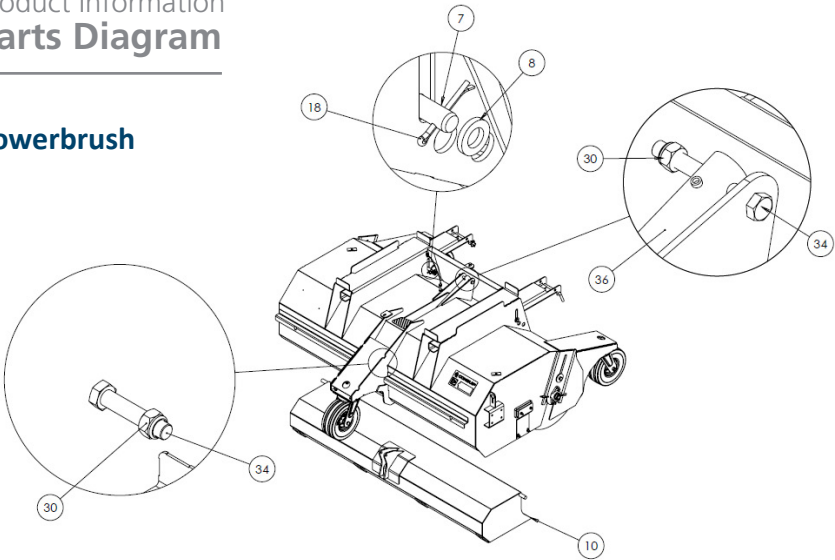


| Height | Width  | Length | Weight | Fork Pockets | Tank Capacity |
|--------|--------|--------|--------|--------------|---------------|
| 1260mm | 2700mm | 2300mm | 585kg  | 148x60mm     | 250 litre     |

Product Information

**Parts Diagram**

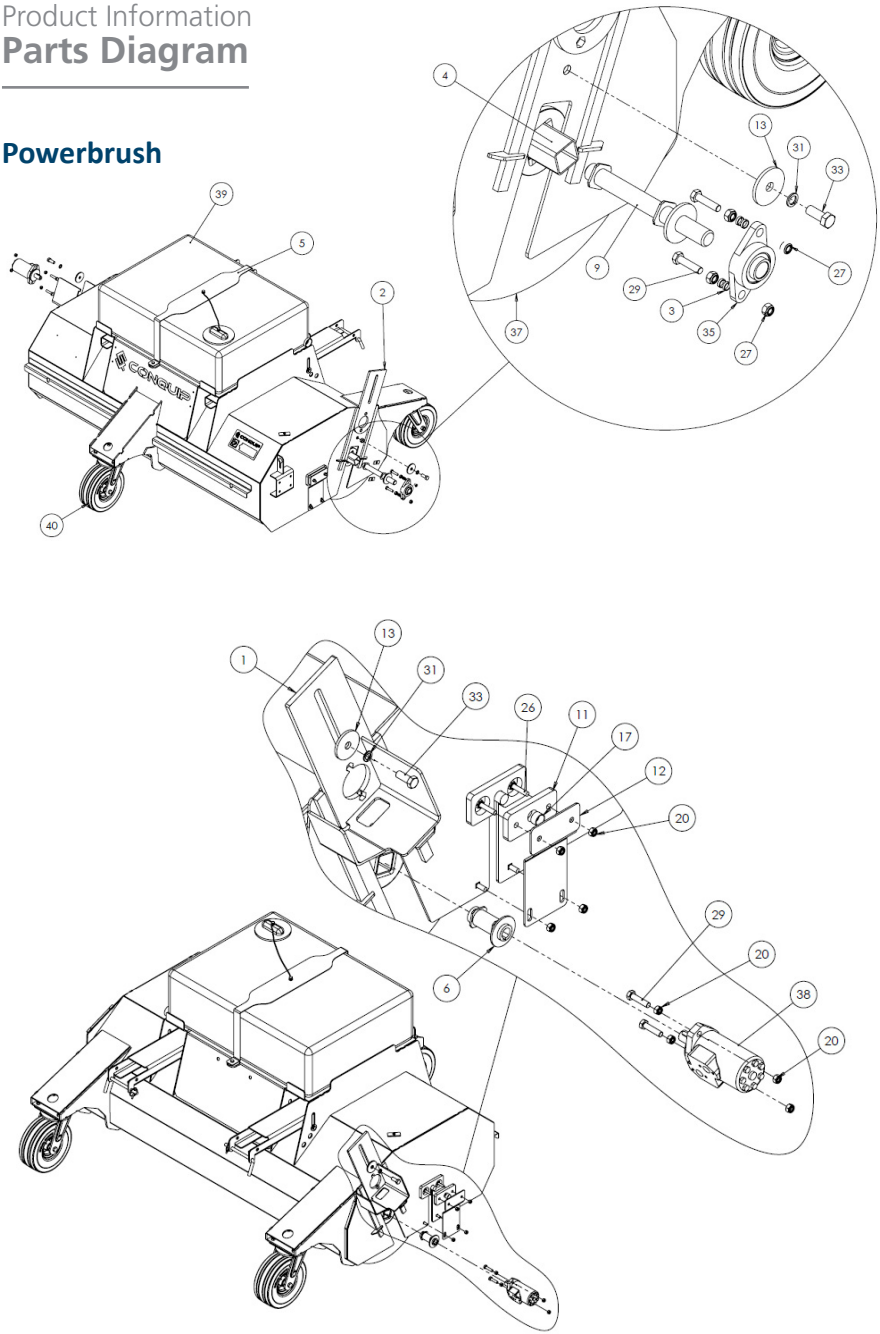
**Powerbrush**



Product Information

# Parts Diagram

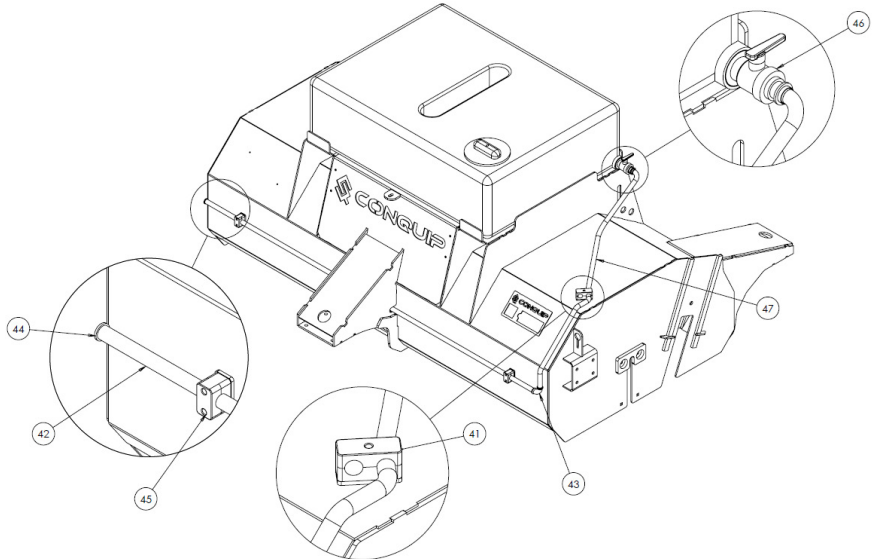
Powerbrush



Product Information

# Parts Diagram

Powerbrush



NOTE: These parts are for this model, they may differ for previous versions. Please contact Conquip with any queries.

| Item Number | Part Number | Description   | Quantity |
|-------------|-------------|---|----------|
| 1           | ZZ220169    | Brush Adjustment Assembly                             | 1        |
| 2           | ZZ220170    | Brush Adjustment Assembly c/w Bearing                 | 1        |
| 3           | ZZ960079    | Washer 4mm x OD: 15.5mm x ID:12.5mm                   | 4        |
| 4           | ZZ220173    | Main Brush Shaft, Length: 2065mm                      | 1        |
| 5           | ZZ220174    | Water Tank Strap                                      | 1        |
| 6           | ZZ220187    | Shaft Motor Insert Assembly                           | 1        |
| 7           | ZZ220176    | Fork Pocket Retaining Pins                            | 2        |
| 8           | ZZ960078    | Washer 6mm x OD:37mm x ID:21mm                        | 2        |
| 9           | ZZ220177    | Shaft Bearing Insert Assembly                         | 1        |
| 10          | ZZ960077    | Washer 6mm x OD:73mm x ID:30.5mm                      | 1        |
| 11          | ZZ220178    | Hopper Bearing Bracket                                | 2        |
| 12          | ZZ220179    | Hopper Safety Guard                                   | 2        |
| 13          | ZZ960063    | Washer 6mm x OD: 70mm x ID: 17mm                      | 2        |
| 14          | ZZ990000    | Heel Pin, 16mm dia. Max Pocket Width 180mm (Single)   | 2        |
| 15          | NS800804    | 4.8 x 20mm Alu Large Flange Blind (Pop) Rivets        | 4        |
| 16          | ZZ990510    | Coated Galvanised Restraint Wire, 500mm c/w Nylon Eye | 1        |
| 17          | ZZ960064    | Sleeve Bearing, Oilon, OD: 25mm x ID:15mm x 28mm      | 2        |
| 18          | ZZ220167    | Splined Hub, 8mm Key, 100mm L, OD: 50mm Ø, ID: 25mm Ø | 1        |
| 19          | ZZ990009    | Linch Pin 6mm x 42mm                                  | 4        |
| 20          | NS800013    | M10 Nyloc Nut   | 18       |
| 21          | NS800262    | M10 Steel Washer A BZP                                | 2        |
| 22          | NS800888    | M10 x 30mm Coach Bolt                                 | 4        |
| 23          | NS800666    | M10 X 30 Hex Head set BZP                             | 2        |
| 24          | NS800066    | M10 x 35 8.8 HT Hex Head Set Screw BZP                | 1        |
| 25          | NS800622    | M8 x 30 Hex Head Set Screw BZP                        | 1        |
| 26          | NS800860    | M10x60 Coach Bolt                                     | 4        |

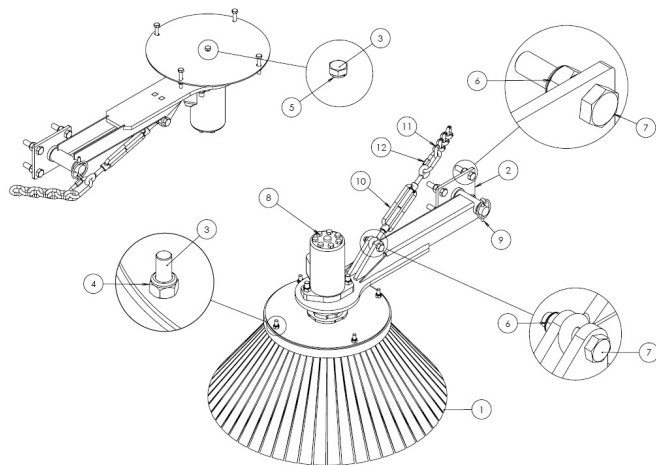
NOTE: These parts are for this model, they may differ for previous versions. Please contact Conquip with any queries.

| Item Number | Part Number | Description                                     | Quantity |
|-------------|-------------|---|----------|
| 27          | NS800015    | M12 Nyloc Nut BZP                               | 16       |
| 28          | NS800889    | M12 x 40 Hex Head Set Screws 8.8 HT             | 12       |
| 29          | NS800817    | M12 x 50 8.8 HT BZP Hex Set Screws              | 4        |
| 30          | NS800121    | M16 Nyloc Nuts BZP                              | 2        |
| 31          | NS800249    | M16 Spring Washer                               | 2        |
| 32          | NS800566    | M16 x 130 Bolts BZP                             | 1        |
| 33          | NS800379    | M16 x 40 Set Screw                              | 2        |
| 34          | NS800801    | M16 x 70 Bolt BZP                               | 1        |
| 35          | ZZ220003    | Flanged Bearing, 30mm c/w Grease Nipple         | 1        |
| 36          | ZZ960065    | Hydraulic Cylinder, 20mm Ø Piston, 400mm Stroke | 1        |
| 37          | ZZ270000    | Brush 100% PPN 295mm x 600mm Ø                  | 7        |
| 38          | ZZ220185    | Hydraulic Motor AGMR 160                        | 1        |
| 39          | ZZ990506    | Water Tank, 250L, c/w Conquip Branding          | 1        |
| 40          | ZZ270141    | Swivel Castor, Heavy Duty, 305mm Wheel Diameter | 3        |
| 41          | ZZ220180    | Hydraulic Double Hose Clamp, 3/8"               | 2        |
| 42          | ZZ220042    | 2m UPVC Pipe, ID: ½"                            | 1        |
| 43          | ZZ220040    | 90° Elbow, ½" Thread, ½" Solvent UPVC           | 1        |
| 44          | ZZ220043    | End Cap, ID: ½" Solvent UPVC                    | 1        |
| 45          | ZZ220181    | Hydraulic Single Hose Clamp, ½"                 | 2        |
| 46          | ZZ220126    | Water Tap                                       | 1        |
| 47          | ZZ220125    | PVC Water Hose                                  | 1        |

# Product Information

## Parts Diagram

### Powerbrush Kerb Brush



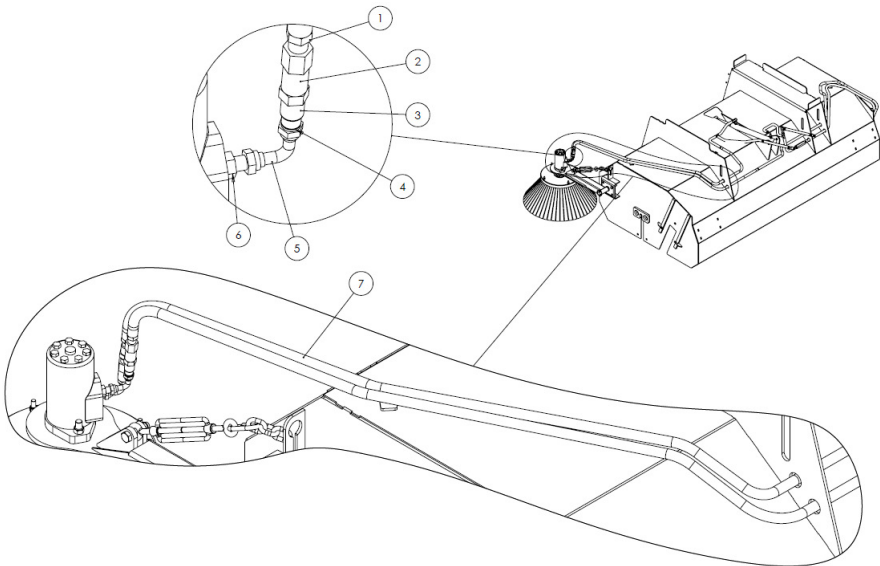
NOTE: These parts are for this model, they may differ for previous versions. Please contact Conquip with any queries.

| Item Number | Part Number | Description  | Quantity |
|-------------|-------------|--|----------|
| 1           | ZZ220051    | Poly Kerb Brush, 4 Fixing Bolts                            | 1        |
| 2           | ZZ220054    | Kerb Brush Bracket   | 1        |
| 3           | NS800370    | M8 x 50 HT Hex Bolt BZP                                    | 5        |
| 4           | NS800011    | M8 Nylon Inset Nut BZP                                     | 4        |
| 5           | NS800378    | M8 Spring Washer   | 1        |
| 6           | NS800817    | M12 x 50 8.8 HT BZP Hex Set Screws                         | 7        |
| 7           | NS800015    | M12 Nylon Inset Nut BZP                                    | 4        |
| 8           | ZZ220185    | Hydraulic Motor AGMR 160                                   | 1        |
| 9           | ZZ990009    | Linch Pin 6mm x 42mm                                       | 1        |
| 10          | ZZ220054    | Kerb Brush Bracket   | 1        |
| 11          | ZZ990515    | Chain, Galvanised, 8mm x 52mm x 32mm Long Link (per metre) | 4        |
| 12          | ZZ110009    | Quick Link, 8mm  | 1        |

# Product Information

## Parts Diagram

### Powerbrush Kerb Brush Hydraulics



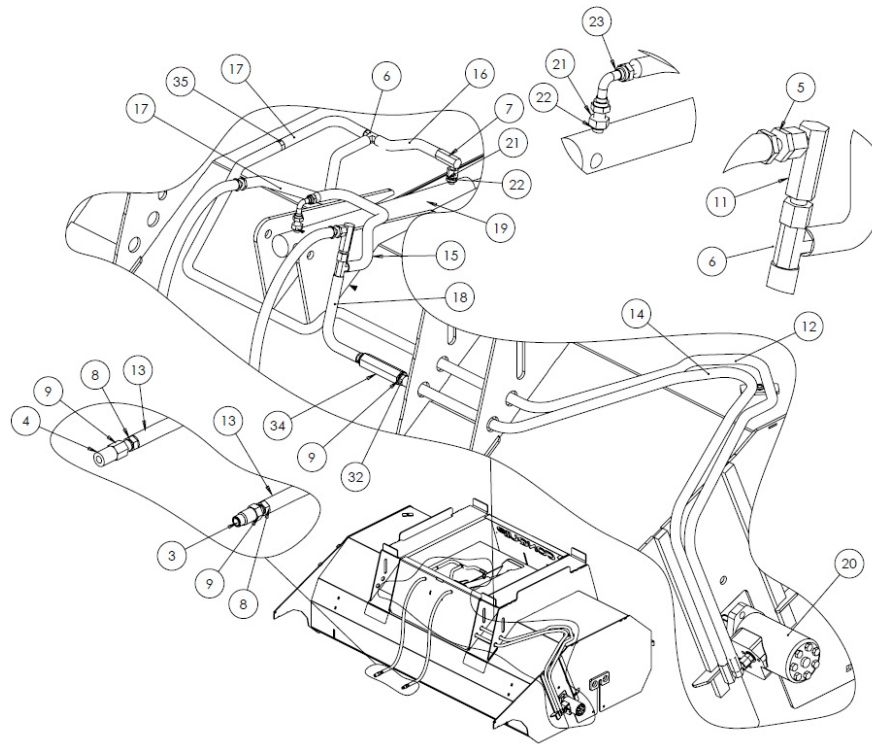
NOTE: These parts are for this model, they may differ for previous versions. Please contact Conquip with any queries.

| Item Number | Part Number | Description  | Quantity |
|-------------|-------------|--|----------|
| 1           | ZZ220071    | Male-Male Adaptor 3/8" X 3/8" BSP                    | 3        |
| 2           | ZZ220097    | 1/2" Flat Face Female Quick Release Coupling         | 2        |
| 3           | ZZ220096    | 1/2" Flat Face male Quick Release Coupling           | 2        |
| 4           | ZZ990561    | Rubber Bonded Seal 1/2" (Dowty Washer)               | 4        |
| 5           | ZZ220202    | Male-Female Adaptor Swept 90° 1/2" x 1/2" BSP        | 2        |
| 6           | ZZ220070    | Male-Male Adaptor, 1/2" X 1/2" BSP                   | 2        |
| 7           | ZZ220203    | Hydraulic Hose, 3/8" Ø, 200mm, Ends: 3/8" F / 1/2" F | 2        |

## Product Information

# Parts Diagram

### Powerbrush without Kerb Brush Hydraulics



NOTE: These parts are for this model, they may differ for previous versions. Please contact Conquip with any queries.

| Item Number | Part Number | Description   | Quantity |
|-------------|-------------|---|----------|
| 1           | ZZ220071    | Male-Male Adaptor 3/8" X 3/8" BSP                                 | 5        |
| 2           | ZZ990562    | Rubber Bonded Seal 3/8" (Dowty Washer)                            | 4        |
| 3           | ZZ220092    | 3/8" Flat Face male Quick Release Coupling                        | 1        |
| 4           | ZZ220093    | 3/8" Flat Face Female Quick Release Coupling                      | 1        |
| 5           | ZZ220193    | Bulkhead Fitting c/w Locknut, 3/8" BSP                            | 2        |
| 6           | ZZ220123    | 3/8" M/M/M Tee Piece  | 2        |
| 7           | ZZ220122    | Male-Female Adaptor Compact 90° 3/8" x 3/8" BSP                   | 3        |
| 8           | ZZ220137    | Male-Male Adaptor, 3/8" X 1/2" BSP                                | 6        |
| 9           | ZZ990561    | Rubber Bonded Seal 1/2" (Dowty Washer)                            | 6        |
| 10          | ZZ220138    | 1 way Valve Female to Female 1/2in                                | 1        |
| 11          | ZZ220194    | Female-Female Adaptor Compact 90° 3/8" x 3/8" BSP                 | 1        |
| 12          | ZZ220195    | Hydraulic Hose, 3/8" Ø, 2200mm, Ends: 3/8" F / 3/8" F             | 1        |
| 13          | ZZ220184    | Hydraulic Hose, 3/8" Ø, 2100mm, Ends: 3/8" F / 3/8" F             | 2        |
| 14          | ZZ220196    | Hydraulic Hose, 3/8" Ø, 1600mm, Ends: 3/8" F / 3/8" F             | 1        |
| 15          | ZZ220197    | Hydraulic Hose, 3/8" Ø, 470mm, Ends: 3/8" F / 3/8" F              | 1        |
| 16          | ZZ220198    | Hydraulic Hose, 3/8" Ø, 2100mm, Ends: 3/8" F / 3/8" Compact 90° F | 1        |
| 17          | ZZ220199    | Hydraulic Hose, 3/8" Ø, 220mm, Ends: 3/8" F / 3/8" F              | 2        |
| 18          | ZZ220200    | Hydraulic Hose, 3/8" Ø, 170mm, Ends: 3/8" F / 3/8" F              | 1        |
| 19          | ZZ960065    | Hydraulic Cylinder, 20mm Ø Piston, 400mm Stroke                   | 1        |
| 20          | ZZ220185    | Hydraulic Motor AGMR 160  | 1        |
| 21          | ZZ220201    | Male-Male Adaptor, 1/4" X 3/8" BSP                                | 2        |
| 22          | ZZ990563    | Rubber Bonded Seal 1/4" (Dowty Washer)                            | 2        |



## Original Working Instructions

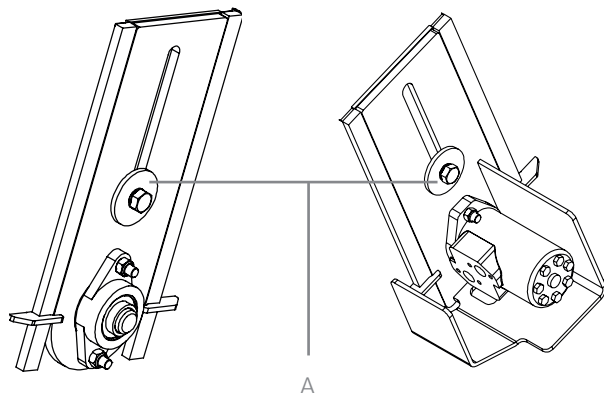
### Usage Instructions

#### Important Usage Notes

- The Powerbrush is supplied with a heel pin; this must be fitted correctly before use. If the heel pin is missing do not use the equipment, do not use alternatives, but contact Conquip Engineering Group for a replacement.

#### Pre-Use Check List

1. Check hydraulic hoses and connections are not damaged in anyway. Connect to the telehandlers' hydraulic system and check for any leaks.
2. Check that the wheels of the Powerbrush are free to swivel, not damaged and the bearings are well greased.
3. Check that you have 2 heel pins, in the heel pin storage slots, that can be inserted after the telehandler has inserted the forks into the fork pockets.
4. Ensure that the brush is adjusted correctly. Always set up the Powerbrush on a level surface. The bristles should be touching the ground very slightly with a small deflection where the bristle meets the floor. To adjust the brush, undo bolt A on one side of the brush (see diagram) and apply a small amount of pressure to push the brush to the ground. Re-tighten the bolt. Repeat this procedure to the other side of the brush
5. Fill the water tank with 250 litres of water. Unscrew the cap from the tank and fill the tank through the hole with a water hose. Ensure that the outlet tap between the tank and the spray bar is turned off while filling.



## Original Working Instructions

### Usage Instructions

6. Check that the water is distributing correctly. Turn the water on. Make sure it is coming out of the spray bar and the water is coming out of each hole or spray nozzle. Now turn the water off until ready to start sweeping.
7. Connect to the telehandlers' hydraulics to check that the brush rotates and the hopper can open and close.

#### If you have a kerb brush fitted:

8. Check that the kerb brush is lowered to the ground using the chain and catch system on the side of the sweeper. The bristles should be touching the ground very slightly with a small deflection where the bristle meets the floor

#### Connecting the Powerbrush to your Forklift

1. To attach the Powerbrush to a forklift, set the machine's forks to the correct width for the Powerbrush fork pockets. Make sure that they are equidistant from the centre.
2. Drive the telehandler to the Powerbrush aligning the forks with the Powerbrush fork pockets.
3. Double check that all is correctly aligned, then move the telehandler forward until the forks are fully inserted into the fork pockets.
4. Apply the park brake and switch off the forklift engine.
5. Release any pressure in the auxiliary hydraulic line of the forklift by operating the control lever with the engine off.
6. Remove the heel pins from the heel pin storage by removing the linch pin.
7. Insert both heel pins into the holes behind the heel of the forks and use the linch pins to lock the heel pins in place, securing the forks within the Powerbrush fork pockets.
8. Take the 2 hydraulic hoses from the Powerbrush and connect them to the 2 outputs on the arm of the forklift. The quick release female on the Powerbrush connects to the male on the forklift. The quick release male on the Powerbrush connects to the female on the forklift. The Powerbrush is now ready for use.

NOTE: Configuration may differ on different forklift make and models.



## Original Working Instructions

### Usage Instructions

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#### Using the Powerbrush

1. Open the water tap, to allow water to dribble evenly from the dust suppression bar at the front of the Powerbrush.
2. Lower the brush to the floor and ensure that the floating forks are in the centre of the floating area and forks are level.
3. Activate the brush by operating the hydraulic circuit of the forklift or telehandler.
4. Drive forward at a suitable speed to achieve the desired sweep results.
5. Once the hopper is full, lift the Powerbrush to a suitable location and reverse the flow of the hydraulic circuit to empty the hopper.

#### Removing the Powerbrush from your Forklift

1. To remove the Powerbrush from a forklift, first park in a suitable place.
2. Apply the park brake and switch of the forklift engine.
3. Operate the auxiliary control lever, without the engine running, to release the pressure and close the hopper.
4. Remove the hydraulic hoses from the 2 outputs on the arm of the forklift. Use gloves as the connections will be hot due to hydraulic oil passing through the connections.
5. Remove the linch pins and replace in the heel pin storage holes.
6. Drive the forklift away.

## Original Working Instructions

### Usage Instructions

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#### Assembly Instructions for Optional Kerb Brush

1. Bolt on the Kerb Brush Pin Bracket (ZZ220054) to the Powerbrush, using 4 M12 x 50mm bolts, provided.
2. Slide the gulley brush arm onto the pin.
3. Insert the linch pin to secure the arm to the bracket.
4. Pass the chain through the anchor point to a position where the bristle of the kerb brush is just off the floor.
5. Use the turn buckle for fine adjustment to a point where the front bristles are just touching the floor with a small amount of deflection.

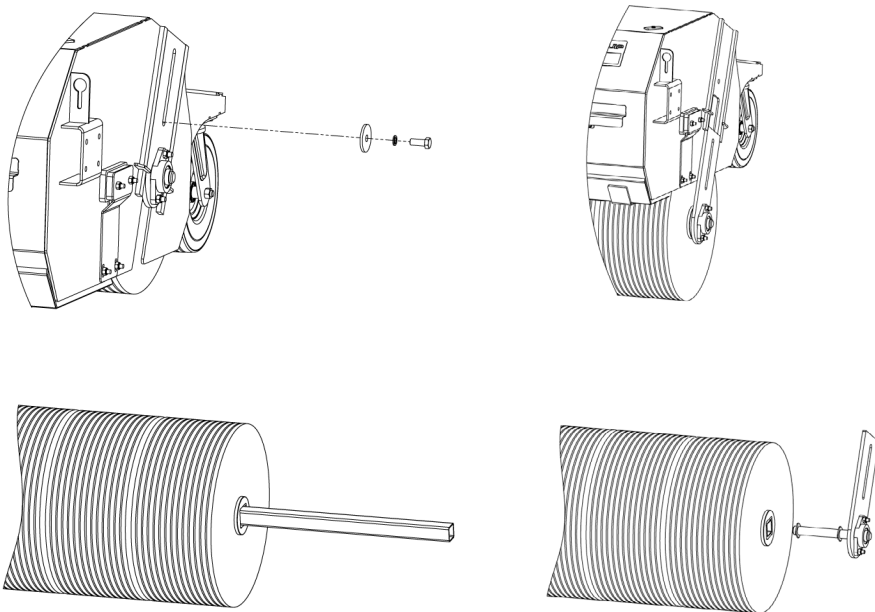
## Original Working Instructions

# Usage Instructions

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### Assembly Instructions for replacing the main brushes

1. Remove the bolt and washer from the top plate fixing on both sides of the Powerbrush body, and detach the hydraulic hoses.
2. With the fixings now removed on both sides, lift the Powerbrush with the forklift. The brush, along with any fixings attached, will now slide down the plate guide and detach itself from the Powerbrush body.
3. Once the brush is fully detached from the Powerbrush body, detach the fixing, bearing and bearing shaft (as shown).
4. Once fixing and bearing parts are removed, the brush sections with the brush can pull out.



# Original Working Instructions

## Safety Instructions

### Basic Safety

A site-specific Risk Assessment, and lift plan where applicable, must be completed by the responsible person before using this equipment to control risks, produce a safe system of work and ensure safety for you, your colleagues and others. Your risk assessment will determine the correct Personal Protective Equipment (PPE) for the task you are doing. You must use it. Conquip recommends that you should wear:

- Suitable clothing
- Gloves
- Hard hat
- Protective footwear (steel toecaps)
- Safety glasses



### Important Safety Notes

- Read these instructions before using this equipment. If there is anything you do not understand or if you have any concerns do not use this equipment. Contact your supervisor or Conquip Engineering Group for advice.
- You must check that you have considered all the safety requirements for the task you are doing and that this equipment is suitable.
- You must protect bystanders and the general public by preventing access to the working area.
- Do not use this equipment if you are tired, unwell or under the influence of alcohol or drugs. If you are taking any medicine or undergoing treatment you should inform your supervisor.

### Usage & Transportation

- Never unevenly load this equipment.
- The weight of the equipment, together with its attachments, must be added to the weight of the load when calculating the total load that will be imposed on the lifting apparatus / operating machine.
- This equipment must be used in conjunction with the load ratings of the lifting apparatus / operating machine. (Refer to the manufacturers' load ratings and original working instructions).
- Make sure you know how to use this equipment and understand all aspects of its operation in case of emergency.
- This equipment weighs more than 25kg. Do not lift or manhandle without machine assistance.
- Do not operate this equipment near overhead power lines.
- Take care in confined spaces, near ceilings or similar hazards. This equipment was designed for vertical lifting. Do not drag, or swing.
- Before operating this equipment, check that you have enough space for you to work safely and make sure that the working area is clear of hazards, obstructions and personnel.
- Before lowering equipment make sure that the landing zone is clear and capable of accepting the size and weight of the load.
- Crush Risk. Keep hands and feet clear of the equipment at all times to avoid injury.
- Do not exceed the maximum Working Load Limit (WLL) shown on the serial plate. Ensure that the WLL on the individual lift points is not exceeded.

### Personnel

- All personnel must wear relevant personal protective equipment.
- Do not wear loose clothing or jewellery and tie back long hair to avoid becoming tangled or trapped in this equipment. You must make everyone in the work area aware of what you are doing.
- All personnel involved in the lifting operation must be competent to do so and must have been briefed in conjunction with this User Guide available from Conquip Engineering Group, the manufacturer.

### Equipment Maintenance & Cleaning

- It is mandatory that the equipment is thoroughly examined regularly, by a qualified engineer, to ensure compliance with relevant regulation/s. (Conquip recommend to carry out thorough examination every six months).
- This product may incorporate various loose and detachable items of lifting gear. Refer to the separate requirements for the safe use of those items.
- When not being used, store the unit in a clean, upright condition and in a safe place where it will be protected from thieves and unauthorised users.
- This equipment must be inspected by the responsible person before each use and then regularly, as determined by your risk assessment or working practice. If you have any concerns about condition or suitability do not use.

# Disclaimer

## Warranty

The products supplied by Conquip Engineering Group are all guaranteed by a 12 month warranty.

Apart from where exceptions apply, Conquip Engineering Group promises to repair or replace any fault which the Company considers to be due to defective material or workmanship within 12 months of the date of sale, at no additional cost.

- Faults arising from unauthorised alterations (see modifications section below for full details).
- Damage caused by abuse, neglect, misuse or falling.
- Damage caused because of failure to follow transportation, storage, loading, cleaning or operating instructions.
- Replacement or repair of components due to fair wear and tear.
- Any consequential damage or wear arising from the use or fitting of additional or non-standard parts.

## Modifications

If any third-party modifications or alterations, involving drilling, welding, cutting or distortion of materials in any form, are to be carried out on the product, Conquip Engineering Group must provide full written approval prior to the work being carried out.

Alterations, modifications, additions or repairs must be carried out by Conquip Engineering Group's recognised distributors, if they are not carrying out the work themselves.

Conquip Engineering Group operate a continuous improvement policy and therefore reserve the right to alter technical specifications and user guide details at any point without notice.

Conquip Engineering Group will not cover or reimburse any transportation and/or shipment costs to and from their premises or their recognised agents, or any material and/or labour costs for repair, replacement or assessment against a warranty claim.

Conquip Engineering Group and/or their directors, employees, insurers or recognised agents will not be held liable for consequential damages, losses or expenses relating to the inability to use the product correctly for its purpose.

# EC Declaration of Conformity

## In accordance with EN ISO 17050-1:2004

Declaration: As defined by the Machinery Directive 2006/42/EC and subsequent amendments

We, CONQUIP ENGINEERING GROUP, herewith declare that the following indicated equipment meets the fundamental health and safety requirements concerning the EU guide line(s), due to their design and manufacture.

This declaration will be rendered null and void if the machine is changed without our approval.

**Signed:**  **Dated: 2022**

**Garry Critchley, Managing Director**

|  |   |
|--|---|
| <b>Product Code(s):</b>                  | SA800AN-02100   |
| <b>EC Directive/ Regulation:</b>         | 2006/42/EC,<br>Provision and Use of Work Equipment Regulations 1998 |
| <b>Harmonised Standards:</b>             | BS EN ISO 12100:2010  |
| <b>General Description/ Designation:</b> | Powerbrush – SA800AN-02100  |
| <b>WLL:</b>                              | SA800AN-02100 = N/A   |

## Important Notes

- This User Guide is for this Conquip product only.
- Any movements of the product must be thoroughly planned before the work commences to identify potential hazards and assess risk.
- All personnel involved in lifting and transportation of this product must have read this User Guide and must be properly briefed.
- You must be competent, alert and medically fit when using this equipment. If you have a medical condition, a mental or physical disability, you must seek advice from a medical professional before using this equipment.

Talking to us is easy

**We're here to help**

Call us on +44 (0) 333 3000 3470

Email us at [sales@cqegroup.com](mailto:sales@cqegroup.com)

[www.cqegroup.com](http://www.cqegroup.com)

**Conquip Engineering Group**

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