



Cleaning and Maintenance Manual

English

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1. Cleaning

Cleaning and maintaining your wheel washing system will ensure its optimum performance and prolong its life. The frequency of the suggested cleaning and maintenance regime can be adapted to suit its usage.

As part of the installation and commissioning process, your Wheelwash engineer will provide additional information and training on site to assist in this regard.

1.1 Daily Cleaning Procedure

- 1.1.1 Visually inspect the wash platform floor for any debris that can be manually removed from in between the steel angle treads.

Keeping the wash platform clean maximises water clarity so you are always washing with good quality recycled water.



- 1.1.2 Check all spray nozzles for blockages. To remove blockages, unscrew the nozzle, clean and replace. Note the orientation of the nozzle as this could affect the spray pattern of the unit when in operation.

Keeping nozzles clear ensures the wash spray can be as effective as possible.



1.1.3 Check the water levels in all the tanks provided are adequate.

This will be self-maintaining if the wheel wash system is connected to a mains water supply, as recommended.

As this is a closed loop system, it will only operate optimally when all the tanks supplied are full with water.



1.1.4 Inspect for damage through incorrect use such as, but not exclusively limited to bent pipework, damage to grids, bumper bars or side screens.

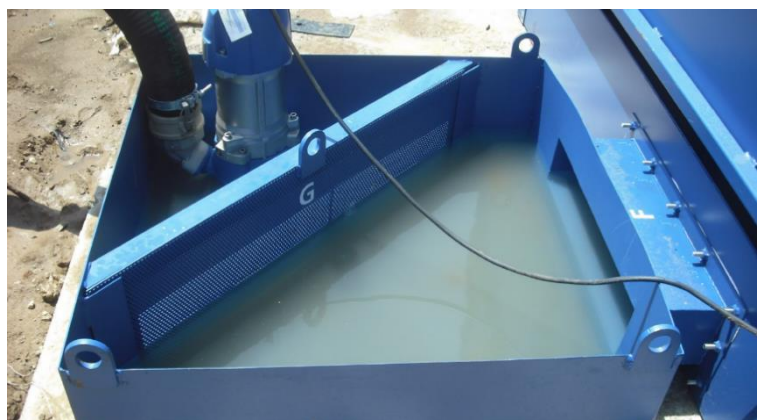
As the water delivery pipework is attached to the side screens, it is important they are repaired as soon as possible to reinstate the spray configuration.

Other structural damage may become a safety issue so contact Wheelwash for assistance with repairs.



1.1.5 Check for silt accumulation around the recovery pump located in the sump. The pump will remove debris up to 45mm x 55mm; larger waste material requires removal by hand.

A clean sump will prevent sludge from being recirculated.



1.2 Weekly Cleaning Procedure

- 1.2.1 Dry wipe the sensor clean with a soft cloth to ensure proper activation.

Ensure it is put back in the correct position.



- 1.2.2 Partially open the drain valve at the base of the primary tank / primary chamber of the tank supplied. This tank / chamber has the waste water inlet. Check the viscosity of the discharged material (water / sludge).

If the discharge is clear and runny, shut off the valve.

If the discharge is dirty / semi-solid material, keep the valve open until it runs clear. Repeat the operation, opening the valves of the remaining chambers in sequence moving towards the wash pump. Run until the discharge is clear.

If nothing at all is being discharged, the silt has accumulated to the extent it requires removal by either:

- a) A mechanical bucket loader from above by using to scrape the material from each of the three chambers and replenish the water with clean water.
- b) Using a vacuum tanker or similar to remove the silt deposits in the tank.



Tanks are supplied with Bauer couplings / butterfly valves / threaded caps.

- 1.2.3 If a settlement tanks is supplied, check the filter plate inside the tank which is positioned in front of the two outlet pipes.



1.3 Monthly Cleaning Procedure

- 1.3.1 Isolate the mains power and check all electrical cables for security of attachment and condition including:

Wash pump
Recovery pump
Sensor(s)
Plugs
Control panel



- 1.3.2 Check for damaged bumper bars.



- 1.3.3 Check the wash platform for signs of large debris particles or silt accumulations.

These can be removed by lifting the internal grids and central walkway from the wash platform and manually removing the debris by shovel.



- 1.3.4 Remove the end caps of the side spray bars and run the main wash pump on manual to flush through the pipes.

Replace end caps, tightening securely using 36" pipe wrench (stilson) or similar.



2. Maintenance Principles

A regular and thorough maintenance regime will help to ensure that your wheel washing equipment is permanently protected.

Wheelwash Limited recommends performing the following detailed, periodic inspections at regular intervals in order to keep your equipment in perfect working condition and to minimize the cost of preventative maintenance.

The inspections provide an opportunity for condition monitoring of components which can identify potential problems before they arise, eliminating the opportunity for equipment failure and possible production losses or site shut down.

2.1 Planning a Maintenance Inspection

A thorough maintenance inspection can take 2 – 3 hours, depending on the experience of the engineer carrying out the work. It may take longer if cleaning or reparation work is required in addition. It is necessary therefore, to ensure that the maintenance inspection can be carried out when the wheel washing equipment is not required to be operational and the engineer carrying out the work can do so in a safe environment.

2.1.1 Essential Considerations for Carrying out a Maintenance Inspection

- Engineer to wear full PPE
- Wheel wash equipment to be cordoned off with barriers
- Traffic management system to be put in place for diverting exiting traffic away from the wheel wash location
- Suitably qualified electrician to check the electrical connections
- Ladders to be available for access to settlement tank filter plate and ball float valves
- Correct risk assessment and method statement to be completed prior to commencement

2.2 Recommended Inspection Procedure

The following items are checked thoroughly during a Wheelwash Maintenance Inspection. The engineer completes the form in the Appendix whilst on site, which is a summary check list of the same items.

Check	Details
Wash Platform	A visual inspection is made for signs of damage to the steel work on the wash platform generally. This includes the condition of welds, of the deflector bars (if present) and walkway and nozzles
	Check all spray nozzles for blockages or damage
	Check the unit has the correct number of nozzles, nozzle position and type
	Remove all nozzles, entirely flush system and replace worn nozzles as required
	Check water levels in bath unit and header tank adjusting equilibrium valves or float switches as required
Main Wash Pump	Check all lifting points
	Pressure test checking pump efficiency and impellor wear. Take pressure readings at the nozzle to prove the whole system is working efficiency
Sensors	Check the operating performance, the waterproof connectors, condition of cable range and the range and position of the sensor
	Clean sensor
Sidescreens/Ramps/ Sump/Chute	Check all remaining steelwork on equipment directly associated with the wash platform for signs of obvious damage and general weld condition
	Clear sump/chute of any obstructions
Submersible Sump Pump	Check condition of cable and check attachment is secured
	Check pump and ensure that it is moving freely
	Check efficiency of the pump and sump, removing any obstructions
Settlement Tank	Visually inspect steelwork for signs of damage and leaks, checking the condition of welds
	The hoses and connections are checked internally and externally
	Check operation of the discharge valves
	Check attachment of hoses and cables to the recovery pump
	Check filter screen for blockages
	Check for indications of frequency of cleaning

Check	Details
Pump House	Checks are made on door opening and hinges
	Check steel work for signs of damage, and the condition of welds for signs of any leaks
	Check the high and low float valve levels inside the header tank and alter if necessary
	Check all lifting points
	Check to ensure warning labels are visible
	Visually inspect auxiliary/instruments to ensure they are fitted as per the specification
	Check all cables are final and secure
	Check all cables are final and bonded
	Check to ensure the equipment is secure
Interior	Motor cables and terminals to be checked to ensure security
	Check air filters and replace as necessary
	Check equipment labels for visibility
	Check connections are earthed/bonded
	Check contactors/overloads for heat fusion and replace if necessary
	Check cable containment and available free space
	Visually inspect interior to ensure it is clean and free of moisture
	Check for corrosion on terminals
Electrical Testing	Check internal timer settings
	Check the main voltage supply
	Check the control circuit voltage
Functional Test	Check all control switches and push button functions are functioning correctly, checking operation of status indication lamps
	Change faulty lamps if necessary
	Check the operation of the emergency stop function
	Reset overload settings
	Check operation of relays
	Check heater and light are in operation
	Check MCBS
	Check main control valves and assembly

3. Common Faults and Solutions

In addition to the information provided in the Operations Manual, we provide below, a few common and easy-to-solve problems that may arise with your wheel washing equipment should regular inspections and cleaning not take place.

Equipment	Problem	Solution
Sensors	Not detecting vehicles	Clean sensor
		Ensure sensor is located 1m back from the traffic
		Re-position sensor ensuring beam points in the direction of the traffic
	Detecting other traffic	Ensure the sensor is positioned correctly and the sensitivity turned down to low; it has a maximum range of 2m
	Pumps in operation too long or not long enough	Reposition sensors. Contact Wheelwash for instruction on changing the timers in the control panel
Nozzles	Blocked nozzles reduces spray efficacy	Unscrew brass nozzles, remove obstruction and replace.
	Dirty water is being sprayed	Clean out water recycling tanks, replenish with clean water. Ensure a regular cleaning regime to minimise dirt particles being recirculated. Check wash platform is free from debris.
Recovery Pump	Pump tripped or not working	Isolate the power, inspect the pump for blockages around the impeller. Check the sump for dirt accumulations impeding operation. Clean, re-set trip in panel (following correct procedure as outlined in the Operations Manual). Test in manual.
Settlement Tank	Silt accumulation in tank not removable via discharge valves	If the sediment in the tank is not removed regularly, the build-up can become difficult to remove via the discharge valves due to the downward bearing weight of the water causing, in extreme cases, solidification. Remove the sediment using a loading shovel from above or by vacuum tanker via the discharge valves. Instigate a regular cleaning regime.
Ball Valve	Header tank overflowing	Check ball float valve operation, reposition or replace.

4. Support



Our Service Team is available to respond to any query or difficulty you may encounter with your wheel washing system once installed on site. In our experience, many issues can be resolved over the telephone or email, so please contact us directly using the following contact details.

Head Office Contact

Wheelwash Limited,
Units 1 & 2
Road Four
Winsford Industrial Estate
Winsford
Cheshire
CW7 3QN

Tel: 00 44 1270 214 886
sales@wheelwash.com

Customer Support

Fred Bentley
Tel: 07753 983274
Email: fbentley@wheelwash.com

5. Appendix – Maintenance Check List Form



Maintenance Visit Check sheet

Date.....
 Time on site..... Time off site.....
 Engineer.....
 Site Contact.....
 Site Location.....
 System and Unit.....
 Serial Number.....
 Company.....
 Site Contact No.....

Indicate **RED**, **AMBER**, **GREEN** for the below with observations
 RETURN SHEET TO WHEELWASH LTD

WASH PLATFORM		Signs of leaks		FUNCTIONAL TESTS	
Signs of Damage	● ● ●	Welds	● ● ●	All push button functions	● ● ●
Condition of Welds	● ● ●	Float switch level. Adjust if necessary	● ● ●	All control switches	● ● ●
Nozzles – Number	1	Check Motorised Valve	● ● ●	Emergency stop operation test function	● ● ●
Ring main Flow	● ● ●	Instructions sheet visible	Y/N	Reset Overload Settings	● ● ●
Wash Pressure	Bar	Check filters	● ● ●	Wash counter on LOGO (If fitted)	Counter
Deflector Bar	● ● ●	Any warning lights on	● ● ●	Connecting Bolts are they tight	● ● ●
Pipework connectors and Pipework condition	● ● ●	Wash Pump condition	● ● ●	Anchor Bolts are they tight	● ● ●
General condition	● ● ●	Make: _____ Model: _____		Check MCBs	● ● ●
Sensor Operative	● ● ●	CONTROL PANEL		Check operation of main wash and spray sequence	● ● ●
Condition of sensor cable	● ● ●	Condition of enclosure	● ● ●	TANKSET	
Clean Sensor	● ● ●	Functional Panel Labels	● ● ●	Signs of Damage	● ● ●
Check Range – 2m	● ● ●	ID Label	● ● ●	Signs of Leaks	● ● ●
SIDE SCREENS		Warning Labels	● ● ●	Welds	● ● ●
Welds	● ● ●	Auxiliary/ Instruments	● ● ●	Check Flow	● ● ●
Obvious Damage	● ● ●	All Cables Final and Secure	● ● ●	Check filters	● ● ●
Attachments to wash platform	● ● ●	Equipment Labels	● ● ●	Check filter basket (if fitted)	● ● ●
SUMP/CHUTE		Earthed. Complete Check connections	● ● ●	Check Ball valve	
Clear of obstructions	● ● ●	Cable Containment/Free Space	● ● ●	HOSE & CONNECTIONS	
Mesh Cover fitted OK	● ● ●	Panel clean and Dry	● ● ●	Camlocks	● ● ●
RECOVERY PUMP		Corrosion Check on Terminals	● ● ●	Wash Pump Attachment	● ● ●
Cable Attachment	● ● ●	Tighten connections	● ● ●	Internal Connections	● ● ●
Cable Condition	● ● ●	ELECTRICAL TESTING		External Connections	● ● ●
Recovery Pump condition	● ● ●	Check Voltages	● ● ●	Drain Valves	● ● ●
Make: _____		Main supply	● ● ●	Recovery pump Attachment	● ● ●
Model: _____		Check operation of relays	● ● ●	CLEANING	
Phase Rotation checked	● ● ●	Control Circuit	● ● ●	Is cleaning being done?	● ● ●
PUMP HOUSE		Amp Test		Discuss with operator	● ● ●
Padlocks (Supplied by Wheelwash)	● ● ●	Wash _____ Amps	Waste _____ Amps		
Signs of Damage	● ● ●				

Observations/Recommendations/Action Points	Replacement parts used / required

Signed WW Engineer:

Signed Customer:

Print

PLEASE SEE OVER