

Non-residential

Large Vehicle Washing Guidelines

November 2007



Vehicle Washing Part 3 - Large Vehicles: Mobile Vehicle Washers; Detailers and Fixed Vehicle Washing Locations

Large Vehicle Washing Guidelines

Introduction

South East Queensland is currently suffering from the worst drought on record. Water supplies are low and it is essential that town water supplies are only used in an efficient manner for all purposes.

The Queensland Water Commission (QWC), in association with key transport stakeholders, has developed this best practice guideline for washing large vehicles in accordance with water restrictions currently in force in South East Queensland.

These Guidelines complement the following Vehicle Washing Guidelines for addressing best practice washing of standard vehicles:

- Vehicle Washing Part 1 - Standard Vehicles: Mobile Vehicle Washers and Detailers
- Vehicle Washing Part 2 - Standard Vehicles: Fixed Vehicle Washers Commercial Locations

The Large Vehicle Washing Guidelines consist of:

- a definition of best practice in response to the drought;
- a description of the requirements for washing large vehicles;
- an outline of how compliance can be demonstrated;
- specific recommendations for Mobile Commercial Operators;

and replaces the previously designated Vehicle Washing Part 3 - Large Vehicles: Mobile Vehicle Washers and Detailers and Vehicle Washing Part 4 - Large Vehicles: Fixed Vehicle Washers Commercial Locations.

This guideline is applicable to non-residential large vehicle owner/operators, transport companies with vehicle washing bays, and mobile commercial operators contracted or hired to wash large vehicles, such as:

- buses*;
- trains;
- aircraft;
- trucks, prime movers, truck tractors, and road trains*;
- trailers*;
- earthmoving and other construction equipment; and
- others
 - military vehicles
 - emergency vehicles

* - as defined under Queensland Transport registration codes (see **Appendix 1**)

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This Guideline does not cover the following vehicles:

- cars;
- caravans and campervans;
- utility vehicles;
- light trailers;
- four wheel drives; or
- boats.

Restriction 4.1 applies to the vehicle types listed above. Please contact your local water service provider for information and advice if you are unsure whether these Guidelines refer to your large commercial vehicle.

The Commission is currently developing Guidelines addressing the washing of boats and until such time as these Guidelines are available, boats should be washed in accordance with Restrictions 4.1 and 4.2.

Definition of best practice in response to the drought

For the purposes of this document, the definition of best practice is:

“an adequate wash result with a minimum use of reticulated (town) water”.

It is acknowledged that under non-drought conditions, a “better” result would be obtained using a greater amount of town water. In addition, best practice recognises that the frequency of vehicle washing should decrease in line with other measures to improve water efficiency such as reducing the amount of water used.

This Guideline recognises that the “large vehicles” category covers a wide range of vehicle types. The Guideline therefore provides the ability to maintain large vehicles in an adequate condition while managing the amount of water used in vehicle washing activities.

How compliance must be demonstrated

All owner/operators, transport companies, and mobile commercial operators must comply with relevant water restriction requirements as well as the practices and targets set out in these Guidelines when washing large vehicles.

Therefore, all large vehicle owner/operators, transport companies and mobile commercial operators wishing to wash large vehicles in accordance with these Guidelines must:

- be registered with Commerce Queensland;
- ensure a designated staff member from the business attends a training program recognised by the QWC;

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- display training certification; and
- on request, be able to provide a registration card.

Further information is provided in the *Training and Registration Process* FAQs on the QWC website at www.qwc.qld.gov.au.

Requirements for washing of large vehicles

Mandatory requirements

1. If alternative water sources (ie: rainwater from a tank, recycled water) are available, water from this source **must** be used first rather than reticulated (town) water.
2. Only high pressure water cleaning units or automatic washing machines must be used.
3. High pressure water cleaning units must operate at a flow of no more than 21 litres per minute.
4. Washing activities must be limited to either no more than 5 minutes per vehicle or to a maximum volume of 105 litres of water per vehicle.
5. Large vehicles must only be washed a maximum of once per week.

WASHING FREQUENCY

- This requirement does not apply to washing activities undertaken to prevent material risks associated with an accident, fire or hazard to health, safety or the environment.
- This requirement does not apply in the case of washing activities undertaken to provide necessary operational maintenance, for example, but not limited to, the removal of concrete from cement trucks.
- Also note, that Restriction 4.1(b) permits water from the reticulated (town) supply system to be used to flush an inboard or outboard motor or vehicle brakes to prevent corrosion and maintain safe operation.

General Requirements

1. Accessories for pressure cleaners should include, either:
 - a. A turbo head; or
 - b. A rotary head attachment.

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2. Extension poles with adjustable nozzles must be used on high areas from the ground. This will assist in ensuring that the water jet is directed specifically to the target area reducing potential overspray. The use of click-on fittings will facilitate rapid interchange from standard lance to extension, and reduce down-time.
3. All pressure cleaners should be equipped with either:
 - a. A thermal dump valve; or
 - b. A header tank (with a minimum capacity of 150 litres) fitted with a bypass return hose and float valve.

This will eliminate waste that may occur when the trigger is not engaged.

4. Water supply to the header tank should be turned off prior to the completion of a cleaning task in order to minimize wastage. To avoid pump damage the following time limits are recommended:
 - a. Low-pressure cleaning: 10 minutes prior to the completion of the task; and
 - b. High-pressure cleaning: 5 minutes prior to the completion of the task.
5. The use of hot water should be considered for certain cleaning tasks (particularly when cleaning fats, oils and grease). This can be done with certain equipment types, and should be done in accordance with any health and safety requirements.

IMPORTANT: All chemicals should be used in accordance with:

- a. environmental (e.g. EPA) regulatory requirements; and
- b. comply with all occupational health and safety requirements.

This Guideline in no way seeks to override any current regulatory requirements in relation to environmental, public health, and occupational health and safety matters.

Cleaning Process

When undertaking cleaning, the following approaches should be taken:

- a. *Area preparation.* A broom / blower / vacuum must be used to clear away loose debris from the surface to be cleaned. This will greatly reduce the amount of water needed to rinse an area.
- b. *Application of cleaning agents.* When applying cleaning solutions or solvents to a surface, the following can be used:
 - Pump up sprayer

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- Diaphragm pump (both 12vDC and 240v AC)
- Engine-driven diaphragm or roller pump
- High pressure pump (spray pre-mixed solution through pump at low pressure)
- High pressure pump (low pressure venturi injector to mix concentrate with water and spray at low pressure)
- High pressure pump (high pressure venturi injector (such as acid injector) to mix concentrate with water and spray at high pressure)

When applying solutions to a surface, low pressure / low volume equipment should be used with multiple applications (as needed). This will allow more cleaning solution to stay on the surface as opposed to "misting", "bouncing" or "running off" the surface.

- c. *Agitation.* After applying solutions to a surface for cleaning, the solution should be scrubbed to ensure that its cleaning capability is maximised. This can be done by the following:
- By hand with brush/broom
 - Rotating brush powered by water flow from tap or engine driven pump
 - Rotating brush or brushes
 - Direct pressure of water from mains pressure tap delivered by one or more nozzles
 - Direct pressure of water engine driven pump delivered by one or more nozzles (zero degree rotating nozzles, single nozzle, surface cleaner with two or more rotating nozzles, water broom with two or more fixed nozzles)
- d. *Rinsing.* When finishing the cleaning process, and removing all soiling from a surface, the following methods can be used:
- Mains pressure water delivered by one or more fan shaped nozzles
 - Engine driven pump to deliver water by one or more fan shaped nozzles

Rinsing efficiency can be improved with cleaning solutions that separate and pick-up the soiling and are soluble in water - pressure can be used to push the dislodged soil off the surface (particularly useful on flat surfaces).

Specific requirements for Mobile Commercial Operators

1. Alternative water sources **must** be used prior to accessing reticulated (town) water for mobile vehicle washing and, in doing so, consideration be given to any health and safety issues. Mobile Commercial Operators must implement strategies to capture, store and transport rain water or other

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- appropriate types of water to minimise reliance on the reticulated (town) water supply.
2. Large vehicles must be washed away from direct sunlight to reduce evaporation.
 3. Large vehicles must be washed on grass or on a containment mat
 4. Collect wash water and reuse for other non-potable uses such as washing other vehicles or irrigation of gardens/lawns.
 5. Weekly checks and maintenance of water equipment must be undertaken to limit waste from leaks.
 6. Operators must carry a hose replacement kit to ensure immediate replacement when a leak occurs.
 7. All run-off must be managed in accordance with EPA and/or local Council requirements

Water Efficiency Management Plans (WEMPs)

Currently, water restrictions in place in south east Queensland require the preparation and approval of WEMPs for all non-residential customers using more than 10ML/year (and other water use categories as specified in the restrictions). Water Efficiency Management Plans aim to help businesses better manage water use, save on water costs, improve efficiency and reduce water consumption.

While current water restrictions require the approval of WEMPs in certain circumstances, the *Water Act 2000* provides for *any* non-residential customer to prepare a WEMP for any reason. Please contact your local water service provider for information and advice on the preparation of WEMPs.

Please note that Mobile Commercial Operators, who operate on premises where an approved WEMP is in place, should ensure that they meet the individual requirements of any such WEMP.

Definitions

| Term | Definition |
|----------------|--|
| lpm | Litres per minute |
| psi | Pounds per square inch (unit of pressure). 1 psi = 0.06895 bar = 0.006895 MPa |
| bar | Unit of pressure. 1 bar = 0.1 MPa = 14.5 psi |
| MPa | MegaPascals (unit of pressure). 1 MPa = 10 bar = 145 psi. |
| ML (megalitre) | 1ML = one million litres |

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High pressure cleaning unit accessories



Turbo head for high pressure cleaning unit



**Top: Rotary nozzle
Bottom: Fan-jet nozzle with adjustable pressure.**

The turbo head nozzle creates a hard-hitting, fan- shaped cleaning pattern.

The rapidly rotating pencil jet produced by the rotary nozzle is ideal for overcoming stubborn dirt.

The fan jet is ideal for cleaning large surfaces gently yet thoroughly.



Extension poles for use on high areas



Wash-water treatment systems to treat and recycle cleaning water from a pressure washer

APPENDIX 1

Queensland Transport definitions for buses, trucks, and trailers

| Vehicle description |
|---|
| <p>Prime mover A short combination prime mover designed to tow one semi trailer. 'Semi trailer' means: a trailer (including a pole type trailer) that— (a) has 1 axle group towards the rear; and (b) is attached to its towing vehicle—</p> <ul style="list-style-type: none"> • using a turntable or a fifth wheel coupling; and • in a way that results in some of the load being imposed on the towing vehicle. <p>Note: A dolly and semi trailer when used together are regarded as one trailer.</p> |
| <p>Federal interstate (FIRS) prime mover A short combination prime mover designed to tow one semi trailer. Note: A dolly and semi trailer when used together are regarded as one trailer.</p> |
| <p>Prime mover road train A long combination mover road train.</p> |
| <p>FIRS Prime mover road train A long combination mover road train.</p> |
| <p>Truck road train A long combination truck road train nominated to haul two or more trailers (excluding dolly).</p> |
| <p>FIRS Truck road train A long combination truck road train nominated to haul two or more trailers (excluding dolly).</p> |
| <p>Prime mover B-double A prime mover hauling two semi trailers where the second semi is a mounted B-double. Body shapes include a combination of prime mover and semi trailers.</p> |
| <p>FIRS B-double A prime mover hauling two semi trailers where the second semi is a mounted B-double. Body shapes include a combination of prime mover and semi trailers.</p> |
| <p>Prime mover B-triple A long combination prime mover B-triple.</p> |

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| Vehicle description |
|---|
| <p>Rigid truck</p> <p>Means a rigid motor vehicle built mainly as a load carrying vehicle.</p> <p>Load carrying vehicle means a vehicle designed and built to carry goods in addition to any fuel, water, lubricants, tools and any other equipment or accessories necessary for the vehicles normal operation.</p> |
| <p>FIRS Rigid truck</p> <p>Means a rigid motor vehicle built mainly as a load carrying vehicle.</p> <p>Load carrying vehicle means a vehicle designed and built to carry goods in addition to any fuel, water, lubricants, tools and any other equipment or accessories necessary for the vehicles normal operation.</p> |
| <p>Short combination truck tractor</p> <p>A short combination truck designed to carry one trailer (excluding dolly).</p> <p>Less than seven axles and up to and including 42.5 t total operating mass.</p> |
| <p>FIRS Short combination truck tractor</p> <p>A short combination truck designed to carry one trailer (excluding dolly).</p> <p>Less than seven axles and up to and including 42.5 t total operating mass.</p> |
| <p>Medium combination truck tractor</p> <p>A medium combination truck designed to carry one trailer (excluding dolly).</p> <p>Seven axles or more, or more than 42.5 t total operating mass.</p> |
| <p>FIRS Medium combination truck tractor</p> <p>A medium combination truck designed to carry one trailer (excluding dolly).</p> <p>Seven axles or more, or more than 42.5 t total operating mass.</p> |
| <p>Trailers with a ATM > 4.5 t</p> <p>For the purpose of determining fees, the following rules apply:</p> <ul style="list-style-type: none">• Two axles less than one meter apart are taken as one axle.• Three axles two meters or less apart are counted as two axles.• Three axles two meters or less apart are counted as two axles.• Four axles less than 3.2 meters apart are counted as three axles. |
| <p>FIRS Trailers with a ATM > 4.5 t</p> <p>For the purpose of determining fees, the following rules apply:</p> <ul style="list-style-type: none">• Two axles less than one meter apart are taken as one axle.• Three axles two meters or less apart are counted as two axles.• Three axles two meters or less apart are counted as two axles.• Four axles less than 3.2 meters apart are counted as three axles. |
| <p>Bus</p> <p>Means a motor vehicle designed mainly to carry 10 seated adults or more (including driver).</p> |