TransTank® INTERNATIONAL

Operator's Product HandBook

AquaPath™

Slip On Water Cart / Fire Fighting Unit





"HELPING TO DEVELOP AND PROTECT THE LAND"

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Disclaimer

All information, illustrations, and specifications contained in this manual are based on the latest product information available at the time of this publication's printing. TransTank International (TTi) reserves the right to alter and substitute specifications and methods at any time, in line with our commitment to continuous improvement.

No patent liability is assumed with respect to the use of information contained within this manual. While every precaution has been taken in the preparation of this manual, TTi assumes no responsibility for errors or omissions.

Thank you for purchasing a AquaPath™ Skid-Mounted Water Cart (AquaPath), which will provide many years of reliable service when operated and maintained in accordance with this manual.

TTi manufacture a range of AquaPath units, from 2,000 through to 6,000 litre tanks, supplied with petrol or diesel pump options. This manual describes the operation, driving stability and maintenance procedures applicable to all units, noting additional requirements to options where necessary.

All TTi AquaPath tanks are rotationally moulded from quality polyethylene, purpose designed and manufactured to high standards. The AquaPath is a skid-mounted tank water dispensing system designed for civil works, dust suppression, tree watering and firefighting. With the dual deflector system with wireless remote control fitted as standard when the electric start engines are optioned, the AquaPath can be used for dust suppression on unmade roads, construction sites, etc. With a galvanised steel frame with forklift pockets, the AquaPath is easy to load onto any tipper, flat tray or trailer.

The AquaPath unit is supplied complete, tested and ready to go. TTi recommends that only water be used in the AquaPath unit. TTi warrants that the AquaPath has been designed and built for its intended purpose for dispensing water, such as dust suppression and tree watering.

The owner is responsible to ensure that the equipment is operated in accordance with this manual, with Australian WorkSafe requirements, applicable road rules and local council regulations. TTi is not liable for any loss, injury or death resulting from the failure to observe all safe working regulations as required by law.

Included with your AquaPath unit is the following documents:

1. Operator's Handbook (this manual, which includes the Warranty Registration Card)
2. Integral Honda Petrol or optional Yanmar Diesel engine and pump manufacturer's handbook
3. Tank Quality Check Form. This is your verification that the unit has been quality checked, and verifies the serial number affixed to the unit.

Safety

This manual is intended for use by personnel experienced in the use of this and similar equipment. Read and understand this manual before attempting to operate or perform routine maintenance on this equipment. Your safety is of prime priority.



A WARNING highlights an essential operating or maintenance procedure, practice, condition or statement, which, if not strictly observed, could result in injury or death of personnel, or long-term health hazards.



A CAUTION highlights an essential operating or maintenance procedure, practice, condition or statement, which, if not observed, could result in damage or destruction of equipment.



A NOTE highlights or clarifies an essential systems description, operating or maintenance procedure, condition or statement.

General Safety Instructions

1. This unit is designed and manufactured solely for the purpose of carrying and pumping water for dust suppression duties, tree watering and firefighting. Under no circumstances should it be used for any other purpose. It must never be used for transporting fuel or chemicals.

2. Only authorised and trained personnel are to operate this equipment. Operators must have read and fully understood this manual before operating the AquaPath unit.

3. Do not operate this equipment while under the influence of alcohol or any drugs that could impair your capabilities in any way.

4. Personal Protection Equipment (PPE) must be worn when refuelling or operating the pump on the AquaPath. Exposure to excessive noise over an extended period can cause impairment or loss of hearing.

5. Avoid unleaded petrol or diesel contact with skin and eyes; and avoid breathing vapours or mists. Refer to the relevant Safety Data Sheet (SDS).

6. Any spillage of fuel while refilling the pump engine's tank should be immediately cleaned up and the materials used in the clean-up disposed of safely and in accordance with relevant regulations applying to the safe use, storage and disposal of fuel.

7. Disconnect the battery, if fitted, before conducting any electrical maintenance work.

8. Ensure the capacity of the vehicle is suitable for the loaded mass of the AquaPath. Refer to the vehicle's operator manual for safe working loads and relevant safety instructions. Do not exceed the carrying and braking capacity as specified by the vehicle manufacturer.

9. The unit must be securely restrained when being transported on a vehicle. Ensure all bolts and fasteners are tightened and secure before operation.

10. Be aware of the height of the unit when mounted on a vehicle. Keep clear of overhead obstructions, such as bridges, low hanging tree limbs and power lines.

11. This AquaPath unit must not be lifted when partially or completely filled. The tank must be empty prior to lifting.

12. The AquaPath must never be left unattended while being filled with water.

13. Do not operate the pump when there is no water in the tank.

14. Do not disconnect any hoses, nozzles or filters while the equipment is operating. Disconnecting any components while under pressure may result in uncontrolled water discharge which may be hazardous.

15. Care should be taken at all times, particularly when operating on rough or steep terrain. Drivers should be aware of fluid surge affecting the centre of gravity.

16. The AquaPath has safety labels affixed to various locations on the unit. These labels should be kept clean and legible, and replaced if damaged.

17. Any unauthorised modifications to this equipment may affect its function and create a serious safety risk. Any unauthorised modifications will void any warranty on the unit.

General Information

Specifications

Tank	UV resistant polyethylene tank (2,000 to 6,000 litre capacity), complete with LiquidLocker™ Baffle Safety System
Skid Frame	Fully welded and galvanised heavy duty steel frame with forklift pockets
Standard Equipment	LiquidLocker™ Baffle Safety System
	Honda GX200 petrol engine with Davey twin impeller pump
	36m 19mm fire hose reel with adjustable nozzle
	Pressure regulator
	Open funnel for standpipe fill
	Tank bottom fill kit via integral pump
	Solenoid controlled dual deflector spray head system with wireless remote control (only with electric start engine options)
	Level sight tube
Options	Electric start on petrol engine
	Yanmar Diesel engine pump upgrade option
	Hydrant fill kit
	20m 19mm spring rewind hose reel

Description

The TTi AquaPath is designed to carry and distribute water using a self-contained pump with a fire hose reel and dual deflector water dispensing systems as standard. Figure 1 shows a typical unit mounted in the tray of a tipper.



Figure 1 – AquaPath Skid-Mounted Water Cart

The AquaPath has the following features, refer to Figure 2.

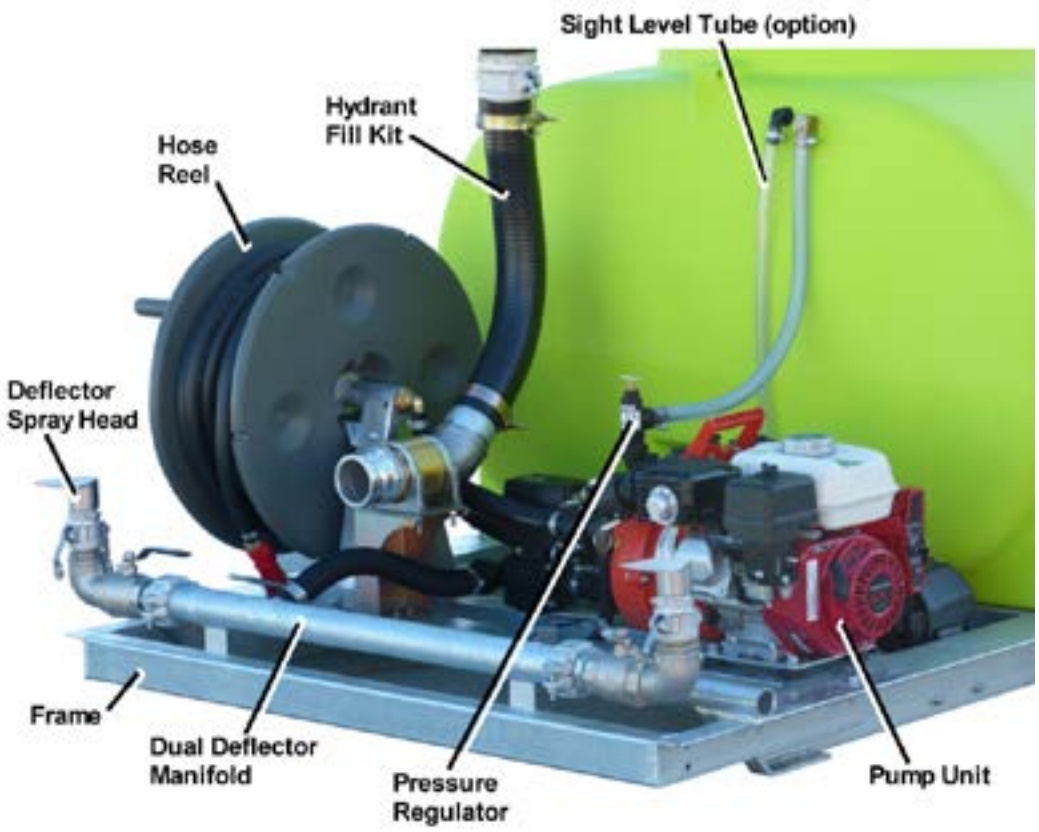


Figure 2 – Component Identification

Tank

All TTi tanks are constructed from UV resistant, virgin material polyethylene. Due to the rotational moulding process, there may be a small variance in the overall dimensions of the tank, therefore, calibration markings should be used as a guide only. The tank has a top opening funnel for standpipe filling.

LiquidLocker Safety Baffle System

The LiquidLocker baffle system within the tank demonstrates measurable improvements in braking performance and dynamic stability and controllability. The system has been independently tested, with the report available upon request.

Tank Level Indicator

An optional level sight tube is fitted to the rear of the tank and provides an accurate level indication of water within the tank.

Pressure Regulator

A pressure regulator is fitted to the pump discharge flange to control line pressure and prevent pump cavitation. The factory-set regulator feeds excess water back to the tank and is set to relieve at 50 – 60 psi.

Hose Reel

Each AquaPath is fitted with a 36m 19mm diameter fire hose mounted on a manually operated hose reel. The hose is fitted with an adjustable nozzle which locates in a securing bracket on the hose reel support when the hose is stowed. The nozzle adjusts from closed through to jet and mist sprays, depending on requirement.

A spring rewind 20m hose reel is available as an option.

Pump

The AquaPath is fitted with a twin impeller Davey firefighting pump as standard. The pump is coupled to a Honda GX200 engine or optional Yanmar diesel engine. The petrol engine is recoil (pull) start with a remote electric start upgrade option available. The diesel engine option comes with electric remote start as standard.

Battery

With the optioned electric pump start upgrade, a 12-volt battery is installed behind the pump. Power to start the pump is always provided by this battery, which also provides power to the solenoid actuated valve.

Quick Fill Hose Kit

Each AquaPath is supplied with 6m quick fill hose. The hose is fitted with a filter at one end and a camlock coupling on the opposite end, for direct connection to the pump.

Hydrant Fill Kit

An optional hydrant fill kit is available, which feeds into the top of the tank, with a camlock coupling to directly connect to a hydrant hose. The kit includes a tilt-lid which automatically opens under hydrant pipe or standpipe water pressure, dropping back to prevent debris entering the tank when the water supply is shut off.

Frame

The frame is an all steel, fully welded construction and hot dip galvanised for corrosion resistance. The frame incorporates forklift pockets for lifting when necessary. The tank must be fully drained of water prior to lifting the unit.

Deflector Spray Head

A dual deflector spray head system is fitted as standard. Each deflector spray head is fitted with its own dedicated ball valve for individual operation. Where an electric start engine is optioned, a solenoid actuated valve enabling the system to be activated via a remote control unit is fitted as standard.

Each of the dual deflectors are mounted on a hot dip galvanised steel manifold fed directly from the pump outlet manifold via a high pressure flexible hose, which absorbs vibration from the pump. The deflector spray heads are secured with a camlock fitting, allowing removal for cleaning and adjustment for water spray direction.

Ball Control Valves

The AquaPath has several ball control valves used to open or close water flow from the pump to the discharge points (hose reel and deflector spray head manifold). A ball control valve is fitted on the suction line (tank outlet) prior to entering the pump.

Solenoid Valve

The electrically operated solenoid valve (available only where an electric start engine is optioned) is fitted to the deflector manifold to enable spray control via the remote control unit.

Remote Control Unit

The remote control enables the operator to start the dual water deflector spray system while in the vehicle's cab. The remote control unit enables pump start and stop, in addition to the water deflector spray system operation.

Machine Limitations

The AquaPath unit is subject to operating limitations. It is the operators' responsibility to ensure that this equipment is being operated safely and within these limitations.

Driving Stability

The AquaPath unit is heavy when filled with water. To maintain stability while operating this unit:

- Ensure the vehicle's tyres are inflated to their correct pressure at all times. Underinflated tyres can cause excessive lateral motion of the tyre, which may cause a rollover.
- Allow extra room for braking and turning when the tank is full.
- Ensure any side gradient (slope) is accounted for, especially when the AquaPath tank is full, as the unit will have a higher centre of gravity.

Operating Instructions

Before first use

Your AquaPath Skid-Mounted Water Cart is delivered fully assembled. Before use, it needs to be set up using the following instructions:

1. Complete the warranty registration online at www.tti.com.au/warranty-registration, or use the Warranty Registration Card at the back of this handbook.

2. Store this handbook, along with the Tank Quality Check Form and pump unit's manual in the provided leather pouch, in a safe and easily accessible place for future reference.



WARNING: The operator must fully understand all aspects of this handbook. Do not operate the AquaPath if you are unfamiliar with its operation until you have read this handbook.

3. Read and thoroughly understand this handbook, paying particular attention to all safety requirements, before using the AquaPath for the first time.

4. Check that all fittings, valves, hoses and electrical leads are secure following transit, and are not damaged in any way.

5. Inspect the tank for any damage or abrasions.



CAUTION: The unit must be securely mounted to the vehicle. Failure to do so may result in the unit moving or falling off the moving vehicle. Warranty is conditional on the unit being correctly mounted.

6. Position your AquaPath onto the vehicle and mount securely, refer to the AquaPath Loading Procedure.



CAUTION: The engine must be inspected and prepared in accordance with the manufacturer's instructions. Failure to fulfil this requirement may void the engine's warranty.

6. Prepare the pump engine in accordance with the selected engine's manual supplied with your AquaPath unit.

7. Where an electric start petrol option or diesel pump is fitted, ensure the 12-volt battery is fully charged and correctly connected to the pump unit's engine. The battery box is located behind the pump unit. Refer to the supplied pump unit's manual and prepare the engine for use, such as filling its tank with fuel.

Pump Operation – Petrol Engine

The AquaPath's petrol pump engine is started as follows, refer to Figure 3:

1. Turn the fuel lever to ON.
2. If the engine is cold, turn the choke lever to ON.

CAUTION: Ensure the engine's throttle is set to idle if the engine is cold. Do not adjust the throttle to maximum speed until the engine has warmed up.

3. Set the throttle lever to idle for cold starting. If restarting a warm engine, the throttle can be left at normal engine operating speed.
4. For a manual start engine, turn the power switch to ON. Pull the recoil starter handle until the engine starts, then back off the choke lever to OFF.

NOTE: Ensure the ignition key is switched ON. The engine will crank in the OFF position but will not start unless switched to ON.

5. For an optional electric start engine using the remote control, insert the key and switch the engine to ON. Press and hold the START button on the remote control unit for several seconds. When the engine starts, release the pushbutton and back off the choke lever to OFF.
6. Once the engine is warmed up, adjust the throttle to increase the engine speed to normal operating revs.
7. When the engine needs to be stopped, turn the power (manual start) to the OFF position. For the remote control option, press the STOP button and then turn the key to the OFF position.

If the AquaPath is not going to be used within the next few hours, shut the system down by turning the fuel tap to OFF.



Figure 3 – Engine Start-up (Petrol Engine shown)

Pump Operation – Diesel Engine Option

The AquaPath's optional diesel pump engine is started as follows:

1. Turn the fuel tap to ON..

CAUTION: Ensure the engine's throttle is set to the start position. Do not adjust the throttle to maximum speed until the engine has warmed up.

2. Insert the key and switch the engine to ON.
3. Set the throttle lever to the START or RUN position (depending on model).
4. Press the START on the remote control unit for several seconds. When the engine starts, release the pushbutton.
5. Once warmed up, adjust the engine speed to normal operating revs using the throttle lever.
6. When the engine needs to be stopped, turn the throttle back to the idle position and press the STOP pushbutton.

If the AquaPath is not going to be used within the next few hours, shut the system down by turning the fuel tap to OFF.

Filling the Tank

The AquaPath tank can be filled in any of the following three ways:

CAUTION: The AquaPath unit is designed for water use only. It must not be used for transporting or storing chemicals or fuel.

1. Standpipe filling method using a standpipe to fill directly into the top of the tank via the open mesh funnel.
2. Bottom filling method, using the pump to draw water from a dam or other source, such as a tank.
3. Optional hydrant filling method, drawing pressurised water directly from a hydrant via the filling hose.

Standpipe Filling Operation

The AquaPath tank is filled by gravity from an overhead standpipe as follows:

1. Position the AquaPath unit's top-mounted fill point funnel under the standpipe.
2. Remove the filling lid from the tank's top opening. Where the optional hydrant fill kit is installed, the standard lid is replaced with a tilt-lid which automatically opens under water pressure.
3. Open the standpipe's valve and allow water to flow into the tank.

CAUTION: To prevent overflow, do not leave the filling operation unattended.

4. An optional sight level tube is fitted to the rear of the tank, providing a visual indicator of the level of water in the tank. If a sight level tube is not fitted, observe the water level directly in the tank. When the tank is filled, close the standpipe's valve.
5. Upon completion of filling, replace the tank's filling lid. The optional tilt-lid will automatically close when the water supply is shut.

Bottom Filling Operation

The tank is filled by drawing water using the AquaPath's pump as follows, referring to Figure 4:

CAUTION: Ensure all ball valves have been correctly set prior to commencing the filling operation, and that all camlock fittings are securely engaged and fully locked.

1. Close the ball valve on the suction line from the bottom of the tank to the pump.
2. Remove the camlock cap from the pump's suction line.
3. Attach the bottom fill supply hose supplied with the AquaPath to the camlock end of the pump's suction line.
4. Place the filter end of the bottom fill hose into the water source. Ensure the filter is deep enough in the water to prevent it sucking air.
5. If required, prime the pump by unscrewing the cap at the top of the pump and fill it with water. Once full, replace the cap and tighten firmly.
6. Open the pump's discharge manifold ball valve on the feed line to the bottom of the tank.
7. Referring to Pump Operation procedures (diesel or petrol engine), start the pump.
8. Ensure the pump is drawing water and discharging it into the AquaPath's tank.

CAUTION: To prevent overflow, do not leave the filling operation unattended.

9. A level sight tube is fitted to the rear of the tank, providing a visual indicator of the level of water in the tank. When the tank is filled, stop the pump.
10. At the pump's discharge manifold, close the ball valve on the feed line to the bottom of the tank.
11. Disconnect the bottom fill supply hose from the pump's suction port.
12. Reinstall the camlock cap to the pumps' suction line.
13. Open the tank's suction line valve.
14. Drain and clean the bottom fill hose and return it to its stowed position.

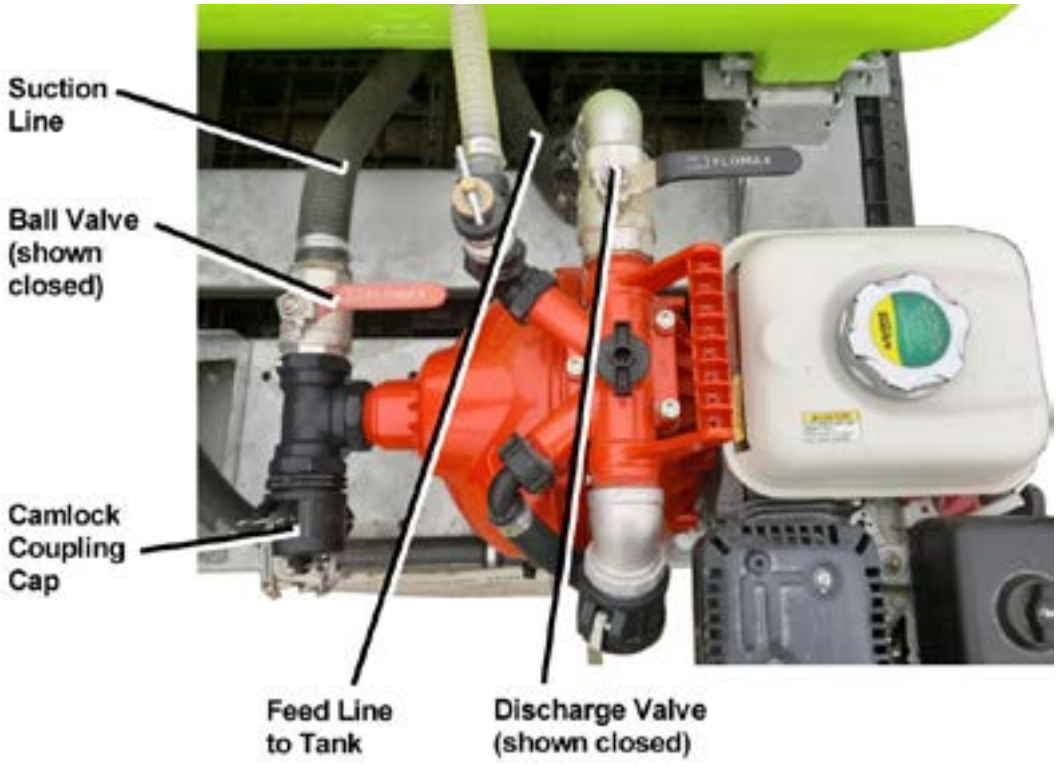


Figure 4 – Tank Filling Operation

Hydrant Filling Operation

The AquaPath tank is filled from a hydrant via the optional hydrant fill system as follows, referring to Figure 5:

1. Attach one end of a 3" hydrant hose (not supplied) to the AquaPath's hydrant port, the other end to the hydrant.

2. Open the supply hydrant's valve slowly; water will flow under pressure through the AquaPath's pipe system into the top of the tank, automatically tipping the tilt-lid.

CAUTION: To prevent overflow, do not leave the filling operation unattended.

3. An optional sight level tube is fitted to the rear of the tank, providing a visual indicator of the level of water in the tank. If a sight level tube is not fitted, observe the water level directly in the tank. When the tank is filled, close the supply hydrant's valve. The tilt-lid will fall flat to close off the tank's opening to prevent debris entering.
4. Disconnect the hydrant supply hose and stow it.



Figure 5 – Hydrant Filling Operation (optional fill kit)

AquaPath Operation

Initial Operation Set Up

The AquaPath Skid-Mounted Water Cart is operated as follows:

1. Install the unit onto the vehicle and check security of all connections (refer to Before First Use procedure above).
2. Fill the tank from an appropriate water source, refer to the Filling the Tank procedure above.
3. Open the ball valve on the suction hose at the bottom of the tank.

4. Start the pump (referring to the procedure above) and allow to warm up. The regulator (bypass valve) fitted to the top of the pump will divert the water back into the tank.

Fire Hose Use

With the AquaPath unit operating as described above, the fire hose is used as follows, refer to Figure 6:

1. Unlock the hose reel and release the hose's nozzle from its retaining bracket. Pull out the length of fire hose required.
2. Adjust the pump engine's speed to achieve the optimum flow rate.
3. Open the fire hose's nozzle by rotating it to achieve the desired spray pattern.
4. Upon completion of the task, close the fire hose nozzle and turn the pump engine to OFF, referring to the appropriate Pump Operation procedure above.
5. Open the fire hose nozzle again to release the residual pressure.
6. Rewind the hose onto the reel by manually winding the handle on the side of the reel. Close the nozzle and lock the nozzle back into its bracket.
7. Close the ball valve on the suction hose at the bottom of the tank.



Figure 6 – Fire Hose Reel

Water Deflector Spray Head

The AquaPath is fitted with a dual deflector spray head system mounted across the back of the unit, with a deflector spray head located at each corner. This system may be used for dust suppression or similar watering activities.

CAUTION: The solenoid is electrically active when in use. Ensure it is switched to the ON position.

An electrically operated solenoid controls the ball valve on the water deflector spray head system. Power for the solenoid actuated valve is drawn from the pump engine's battery, located behind the TTi Multi-Controller, refer to Figure 7.



Figure 7 – Solenoid Control Box

The dual deflector spray head system is operated as follows:

1. If required, release the camlock connector to rotate the deflector spray head to the desired angle, refer to Figure 8. Lock the spray head back into place, ensuring the camlock levers are fully home.
2. Open the ball valves adjacent to the spray heads. If only one spray is needed, leave the other spray head's valve closed.
3. At the TTi Multi-Controller (refer to Figure 7), press the rocker switch on the side from OFF to the ON position.
4. Start the AquaPath's pump system as described above.
5. Open the solenoid actuated valve by pressing the VALVE 1 and/or VALVE 2 button/s on the remote control. Water will spray from the deflector(s).
6. Commence driving the vehicle at a moderate speed to achieve the required water coverage.
7. Upon completion, stop the vehicle and press the VALVE 1 and/or VALVE 2 button/s on the remote control to close the solenoid actuated valve.
8. Shut the pump down as described above.
9. Close the ball valve on the suction hose at the bottom of the tank.
10. 1Move the TTi Multi-Controller's switch to the OFF position (Figure 7).



Figure 8 – Water Deflector Spray Head

AquaPath Loading Procedure

Loading

The AquaPath is designed to slip into a tipper tray or mount on a flat tray or trailer. When not required, it can be easily removed. The AquaPath unit is loaded as follows:

WARNING: The AquaPath is heavy and must be loaded or unloaded correctly. Ensure this procedure is followed exactly to avoid injury or death to personnel or damage to the unit.

The AquaPath unit must never be loaded or unloaded with water in the tank. Ensure the tank has been completely emptied prior to installation or removal from the vehicle.

1. For a small to medium capacity tipper, release and fold down the side of the body to enable access for the AquaPath and forklift. For a tipper that doesn't have drop-down sides, TTi recommend using a crane to lift the unit into the tipper body.
2. The AquaPath unit has lifting points at each corner of the steel frame, and two forklift slots across the width of the frame. Lift the unit up from the ground using a suitable capacity forklift, crane or excavator boom to a sufficient height above the donor vehicle's tray.

CAUTION: Ensure that there is an observer to direct the driver when manoeuvring the donor vehicle to load the AquaPath unit.

3. Using an observer, carefully manoeuvre the vehicle underneath the AquaPath unit, ensuring it aligns accurately with the centre of the tipper or flat tray. Alternatively, carefully manoeuvre the forklift or crane suspended AquaPath over the top of the donor vehicle's tray.

4. Carefully lower the AquaPath until it rests on the tray floor, ensuring it is centred evenly across the tray.
5. Secure the AquaPath to the floor of the tray, using a suitable system to ensure the unit, when filled with water, cannot move.

Securing the AquaPath

With the AquaPath correctly positioned in the tipper body or on the vehicle tray, it must be securely fastened using at least two, but preferably more, of the following methods.

WARNING: The AquaPath is heavy when filled with water. The operator must ensure that the securing systems used are strong enough to restrain the AquaPath to the vehicle in all situations.

Tailgate Airlock Angle Mount Option

If the tipper body is fitted with tailgate airlocks, an optionally available steel angle can be bolted to the underside of the AquaPath's steel frame as follows, refer to Figure 9:

1. With the AquaPath correctly located, position a suitable length of heavy duty angle to the underside of the frame. Using G-clamps or similar, secure the angle firmly against the underside of the AquaPath frame and the edge of the tipper body.
2. Using high tensile bolts and nuts, mount the bolts through the pre-drilled holes in the FloodRite frame and the angle. Fit and tighten the nuts firmly.

CAUTION: The airlocks can cause serious injury if fingers are trapped between the angle and the tipper tray. Take extreme care when positioning the angle.

3. Using the vehicle's air system, close the airlocks such that the angle is clamped against the rear of the tipper tray body.



Figure 9 – Tailgate Airlock Option

Rear Chains Mounting Option

The use of rated dog chains is recommended at each rear corner of the AquaPath, attached to suitable points on the vehicle's body as follows, refer to Figure 10:

1. If not fitted, install rated eye-bolts at each rear corner of the the AquaPath's steel frame.
2. Drill if necessary and install rated eye-bolts to the rear of the vehicle's body.
3. Using rated D-shackles, fit a suitable length of chain between the eye-bolts.



Figure 10 – Rear Chains Option

Front Chains Mounting Option

Where there are no suitable securing points at the front of the tipper body, one option is to use dog chains to secure to purpose-built lugs as follows, refer to Figure 11:

1. Where no securing points exist, steel lugs can be welded inside the tipper body, either side of the hoist well.
2. If not fitted, install rated eye-bolts at each front corner of the the AquaPath's steel frame.
3. Using rated D-shackles, fit a dog chain with a tensioner device between the eye-bolts. Tension each chain sufficiently to prevent the AquaPath moving.



Figure 11 – Front Chains Option (viewed from above)

Forklift Pocket Mounting

Where there are suitably located mounting points on the vehicle's tray, dog chains with tensioners can be feed through the the forklift pockets of the AquaPath's steel frame. Ensure the dog chains are tensioned sufficiently to prevent the AquaPath moving.

Over Tank Strap Option

This method is only recommended for transporting an empty AquaPath. A minimum of two heavy-duty ratchet straps should be used over the top of the tank and secured to the vehicle's body or tray, refer to Figure 12.



Figure 12 – Over Tank Strap Option (Typical)

Remote Control Pairing

Replacement Remote Control Pairing

The AquaPath comes supplied with a wireless remote control. If the remote control is lost or damaged, a replacement unit can be ordered by contacting TTi at tti.com.au. The replacement remote control needs to be paired with the AquaPath's solenoid control switch (Figure 7). This is done as follows, referring to Figure 13:

NOTE: Make sure power is connected to both the solenoid control switch and the remote control.

1. Remove the rear cover and insert a new 9-volt battery into the remote control. Set all dipswitches next to the battery to the OFF (up) position.
2. Remove the cover from the solenoid control switch box. Set all dipswitches to the OFF (up) position.
3. Using a multi-meter's probes, earth the Add/Delete pin in the solenoid control switch box. The LED in the box will light up ORANGE while the probe is earthing the Add/Delete pin. This cancels any previous codes and generates a new code.

NOTE: Broadcasting will be latched ON for 10 seconds unless any dipswitch is set to ON.

1. Flick the solenoid control switch box's dipswitch 12 to ON by pressing down, then back to OFF (up position). The LED will now light up GREEN for 10 seconds.
2. While the solenoid control switch box's LED is GREEN, press and hold the remote control's Button 1 for three (3) seconds then release. The LED on the remote control light up RED during the button press. On release, the LED will flash RED three (3) times, indicating the programming was successful.

The above process programs all functions of the new remote control. The remote control is now ready for use.



Figure 13 – Solenoid Control Switch and Remote Control

Risk Assessment

Task	Hazard	Risk	Control Measure/Mitigation
Partially fill the tank with water, start the motor & test the spray unit	Manual handling; slips, trips or falls; petrol; diesel; fumes; fingers jammed	Medium	Concentrate on task; follow safe manual handling techniques: • Don't lift on your own if > 20kg, bend knees & keep back straight; Keep fingers clear; • Keep unit at least 8m away from overhead powerlines; • Fire extinguisher nearby; • Follow warning stickers on tanks; Wear PPE for petrol & diesel fumes-mask & gloves.
Check weather conditions	Manual handling; slips, trips or falls	Low	• Follow safe manual handling techniques: don't lift on your own if >20kg, bend knees & keep back straight.
Use spray or fire fighter units.	As above; loss of load; heat & cold; noise; exceed load limit of vehicle; hose entanglement; exhaust fumes; terrain & slopes; run over by unit	High	• As above • Wear clothes to suit heat & cold; • Wear hearing protection if noise >85 dBa; • Follow the manufacturer 's safe operation instruction for the vehicle and the spray unit • Don't overload - water weighs 1kg for every 1 litre • Secure unit to tow vehicle; • Keep hose tidy; • Put unit brakes on (if fitted).
Clean up, maintenance & storage	As above	Low	• As above; • Wear PPE for clean up; • Store unit in a dry, well ventilated area.
Burn risk	Hot exhaust/muffler	Med	• Do not reach over hot exhaust • Do not service engine while hot • Wear appropriate PPE

Maintenance

Your AquaPath Skid-Mounted Water Cart requires minimal maintenance, but regular cleaning and checks will ensure safe and reliable service over its lifetime. Periodic checks and inspections will identify any potential issues, enabling timely rectification and minimising downtime

Periodic Checks

The following checks and cleaning operations should be undertaken on a regular basis. The frequency of these activities will depend on the nature of the operating environment and the operational hours of the AquaPath unit. Refer to the maintenance schedule tables below for details of maintenance intervals.

1. Clean the unit and inspect it for any signs of damage or wear. Replace any safety labels if they are damaged or illegible.
2. Check all hoses, fasteners and fittings are firmly secured, tighten if necessary.
3. Unwind the hose from the reel fully to check that hose is in good order. Pressurise the line and check operation of spray nozzle. Rewind the hose onto the reel, ensuring it retracts all the way.
4. For the petrol or optional diesel engine driven pump, check the engine's oil level weekly. Top up as required.
5. Check for any signs of fuel or oil leaks. If detected, investigate and rectify immediately.
6. Check the condition of the optional diesel or petrol pump engine's 12-volt battery, replace it or charge it as necessary.
7. If the AquaPath is to be stored for an extended period, ensure the tank and all pipelines are empty and are not pressurised. Store the unit is a clean, dry and well-ventilated area.

Maintenance

The AquaPath has been designed and built for minimal maintenance requirements, however, to ensure a long and reliable unit life, the following tasks must be undertaken on a periodic basis.



CAUTION: In dusty, dirty or smoky environments, cleaning, inspection and servicing of the unit on a regular basis is essential. The cleaning, inspection and servicing must be undertaken more frequently in harsh conditions to avoid damage or destruction of equipment.

The frequency of these activities will depend on the nature of the operating environment and the operational hours of the AquaPath unit.

For the petrol or optional diesel engine driven pump, refer to the supplied pump manual, drain and replace the engine oil in accordance with the manufacturer's recommendations.

Maintenance Schedule

The following tasks are be conducted in accordance with each of the schedules. All scheduled tasks are to be undertaken concurrently. For example, at the three month maintenance interval, all task listed are to be undertaken, in addition to the daily, weekly and monthly tasks.



NOTE: Maintenance is important. Keep a record of all maintenance tasks conducted on the AquaPath unit.

TTi recommends photocopying these schedules in order to keep a detailed log of all maintenance tasks. A copy of these schedules will be required to support any warranty claim.

Daily Tasks

The following tasks are to be undertaken daily, or prior to each use, of the AquaPath unit.

No.	Task	Notes
1	Inspect the AquaPath for any signs of damage or wear	Clean, repair or replace
2	Check fuel	Top up as required
3	Inspect engine's air filter and housing for dust	Clean, replace as necessary

Weekly Tasks

The following tasks are to be undertaken each week or 10 operating hours, whichever occurs first

No.	Task	Date	Signed
1	All Daily tasks		
2	Remove and clean the engine's air filter		
3	Check engine oil level, top up as required		

Monthly Tasks

The following tasks are to be undertaken each month or 20 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily and Weekly tasks		
2	Check hose and hose reel by unwinding fully		
3	Check securing system used to fasten unit to vehicle		
4	* Change pump engine oil (and filter, if fitted) (first change, thereafter every six months or 100 operating hours)		

Three Monthly tasks

The following tasks are to be undertaken every three months or 50 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly and Monthly tasks		
2	Inspect the air filter, replace if clogged or damaged		
3	Check all hoses, fasteners, nozzles and fittings		

Six Monthly tasks

The following tasks are to be undertaken every six months or 100 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly, Monthly and 3-Monthly tasks		
2	Change engine oil (and filter, if fitted)		
3	Inspect spark plug (petrol engine only)		

Twelve Monthly tasks

The following tasks are to be undertaken every twelve months or 200 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly, Monthly, 3-Monthly & 6-Monthly tasks		
2	Check the battery condition (if fitted)		
3	Replace the engine's air filter		
4	Drain and flush the fuel tank		
5	Replace the engine's fuel filter		
6	Replace the spark plug (petrol engine only)		
7	Replace the battery in the remote control		

Two-Yearly tasks

The following tasks are to be undertaken every 24 months or 500 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly, Monthly, 3-Monthly, 6-Monthly and 12-Monthly tasks		

Trouble Shooting

If a fault develops with the AquaPath, the following trouble shooting table provides guidance to identify and rectify the problem.

Problem	Possible Cause	Remedy
Pump will not feed water	Ball valve closed on outlet/s	Open ball valve/s
Engine will not crank (petrol or optional diesel engine)	Flat battery	Check battery state-of-charge
	Flat battery in remote control	Replace battery
	Melted fusible link/circuit breaker	Replace fusible link/breaker
	Loose Connections	Clean and tighten connections
	Faulty Ignition Switch	Check switch operation, replace as needed
	Faulty magnetic, relay, neutral start or clutch switches	Check and replace as needed
	Mechanical problem in engine	Check Engine
	Problem in theft deterrent system	Check service manual for system tests
Engine cranks too slowly to start	Weak Battery	Check battery and charge as needed
	Loose or corroded connections	Clean and tighten connections
	Faulty starter motor	Test Starter
	Mechanical problems with engine or starter	Check engine and starter, replace worn out parts
Starter keeps running	Damaged pinion or ring gear	Check gears for wear or damage
	Faulty plunger in magnetic switch	Test starter pull-in and hold-in coils
	Faulty ignition switch or control circuit	Check switch and circuit components
	Binding ignition key	Check key for damage
Starter spins, but engine will not crank	Faulty over-running clutch	Check over-running clutch for proper operation
	Damaged or worn pinion gear or ring gear	Check gears for damage and wear; replace as needed
Starter does not engage/disengage properly	Faulty magnetic switch	Bench test starter
	Damaged or worn pinion gear or ring gear	Check gears for damage and wear; replace as needed

Warranty

Your rights under the law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.

You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

About this document

This document sets out the terms of the defects warranty that we offer to retail purchasers of our goods, including components, parts, and accessories (referred to as "products" in this document). We offer this defects warranty in addition to the consumer guarantees referred to above. Nothing in this document excludes or reduces your rights under those consumer guarantees.

What this warranty covers

This warranty covers defects in materials or workmanship (or both) which are found to be present in our products, other than the defects in the parts and components listed below.

What this warranty does not cover

This warranty does not cover defects or damage caused by your negligence, your failure to follow instructions (including incorrect assembly or mounting by you), or the improper use, maintenance, or abuse of the products.

This warranty does not cover engines, gearboxes, pumps, or regulators. These come with separate warranties from their manufacturers. By offering this defects warranty, we do not assume any additional obligations or liability on behalf of those manufacturers beyond what we must do to comply with the consumer guarantees referred to above.

How long this warranty lasts for

Except in the case of products used for rental purposes, the period of our defects warranty is as follows for our various products:

Tanks (non-diesel), excluding frames	25 Years
Steel frames	5 Years
Other TTi Manufactured Components	1 Year

This warranty lasts for one year from the date of your retail purchase of the products, unless it is used for rental purposes, in which case this warranty is limited to 90 days.

What we will do if you make a claim under this warranty

If you make a claim under this warranty, we will consider it in good faith. If we agree that the products are covered by this warranty and are defective, we will either (at our option) repair or replace them without charge to you.

What you must do (and not do) to entitle you to a claim under this warranty

You must be able to provide proof of purchase, either by providing details of your warranty registration or a purchase receipt.

You must not repair or modify (or allow the repair or modification of) the products without prior authorisation from us. Further, you must not use any non-genuine parts with the products. Doing any of these things will void this defects warranty.

How to make a claim under this warranty

If you believe that you have a claim under this warranty, please contact your reseller, or contact us using the following details:

Name:	**Trans Tank International**
Postal Address:	**PO Box 137 Nathalia, VIC, 3683**
Physical Address:	**Murray Valley Highway, Nathalia, VIC, 3638**
Phone:	**1800 816 277**
Email:	**ProductSupport@tti.com.au**

You must make the defective products available for inspection by returning them to us, and (if requested to do so) by making them available for inspection by us on site beforehand. You must ensure that the products are made safe for transportation and inspection, including by cleaning them thoroughly to remove any chemical residues. All returned products must be accompanied by a completed Return Goods Note. Please contact us using the details displayed above for a copy of this document.

Who is responsible for expenses for claims made under this warranty

You are responsible for any expenses associated with the warranty claim, including transportation, charges made for service calls, and clean-up time.

TransTank®
INTERNATIONAL

SCAN HERE!

1800 816 277

sales@tti.com.au

PO Box 137, Nathalia, VIC, 3638

Murray Valley Hwy, Nathalia, VIC 3638

Proudly Built By:	Quality Checked By:
_____	_____
_____ _____	_____ _____
Signature Date	Signature Date

www.tti.com.au