



**Transtank<sup>®</sup>**  
INTERNATIONAL

Operator's Product HandBook

# DieselSergeant<sup>™</sup>

Portable Refuelling 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 DieselSergeant<sup>™</sup> Diesel Refueling Unit (DieselSergeant), which will provide many years of reliable service when operated and maintained in accordance with this manual.**

TTi manufacture two DieselSergeant units, 220 and 400 litre tanks, supplied with an electric pump as standard and mounting frame options. This manual describes the operation, driving stability and maintenance procedures applicable to all units, noting additional requirements to options where necessary.

All TTi DieselSergeant tanks are rotationally moulded from quality polyethylene, purpose designed and manufactured to high standards, and complying with AS1940-2004 and AS2809.2-2008. The DieselSergeant is designed as a trailer or tray-mounted tank diesel fuel dispensing system, to deliver and refuel your equipment in the field.

The DieselSergeant unit is supplied complete, tested and ready to go. TTi recommends that only diesel be used in the DieselSergeant unit. TTi warrants that the DieselSergeant has been designed and built for its intended purpose for transporting and dispensing diesel fuel.

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 DieselSergeant unit is the following documents:

- Operator's Handbook (this manual, which includes the Warranty Registration Card)
- Dieselflo electric pump manufacturer's handbook
- Optional four-digit mechanical flow meter or 5-digit electronic flow meter manuals
- 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.



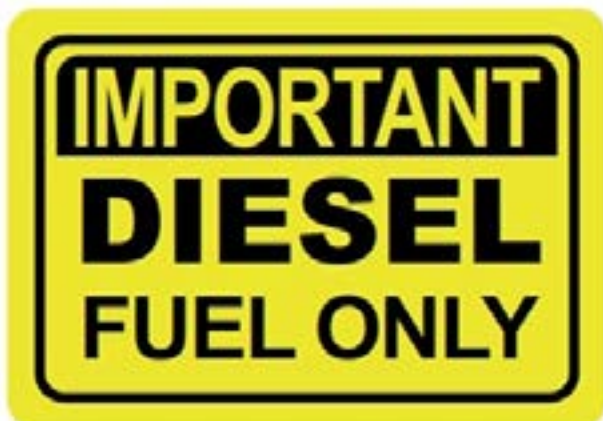
**A CAUTION** highlights an essential operating or maintenance procedure, practice, condition or statement, which, if not observed, could result in damage or destruction of equipment.



**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 diesel fuel for refueling duties. Under no circumstances should it be used for any other purpose. It must never be used for transporting petrol 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 DieselSergeant 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 DieselSergeant. Exposure to excessive noise over an extended period can cause impairment or loss of hearing.
5. Avoid 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 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. Ensure the capacity of the vehicle is suitable for the loaded mass of the DieselSergeant. 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. As a guide, one litre of diesel weighs approximately 0.85 kilograms (kg), therefore a full 400 litre DieselSergeant with optional steel frame will weigh in excess of 500kg.
8. If equipped, the earth (static) lead must be unwound and attached to the vehicle's metal tray or suitably earthed object.
9. The DieselSergeant must never be left unattended while being filled with diesel.
10. Do not operate the pump when there is no diesel in the tank.
11. Do not disconnect any hoses or nozzles while the equipment is operating. Disconnecting any components while under pressure may result in uncontrolled diesel discharge which may be hazardous.
12. 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.
13. The DieselSergeant has safety labels affixed to various locations on the unit. These labels should be kept clean and legible, and replaced if damaged.



14. The tank is a confined space. Ensure compliance with AS 2865: 2001 Safe Working in a Confined Space Guidelines and relevant state legislation.
15. 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	Heavy duty UV resistant diesel grade polyethylene tank (220 and 400 litre capacities)
Standard features	250mm dia. lid and seal assembly
	Lockable filler cap with inlet filter
	Anti-static earth strap
	¾ inch drain bung
	Dieselflo 40L/min 12V electric pump (tank lid mounted)
Options	4m 19mm diesel hose with auto shut-off dispensing nozzle
	Fully welded and galvanised heavy duty steel frame
	4-digit mechanical flow meter
	5-digit electronic flow meter

## Description

The TTI DieselSergeant is designed to carry and dispense diesel fuel using the self-contained pump and fuel dispensing hose and auto shut-off nozzle. The DieselSergeant has the following features, refer to Figure 1:



*Figure 1 - Component Identification - 1,000 L DieselMajor*

### 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.

An earth cable is fitted to the lid of the tank for connection to the vehicle's chassis or the optional steel frame. The lid of the DieselSergeant tanks incorporates an integral lockable filler cap with an inlet filter. Mounted to the top of the tank is a breather, to prevent damage to the tank structure when discharging diesel fuel.

### Pump

The DieselSergeant is fitted with a Dieselflo 12V electric pump, delivering fuel at 40L/min. The pump has an integrated bypass valve, enabling the pump to run when the dispensing nozzle is not squeezed. The pump is mounted on the DieselSergeant tank's lid.

### Hose and Nozzle

The DieselSergeant is supplied with a 4m 19mm diameter high quality diesel grade hose with crimped fittings as standard when supplied with a pump. The hose is fitted with an auto shut-off dispensing nozzle.

### Flow Meter

As standard equipment, a mechanical 4-digit flow meter is mounted adjacent to the pump.

### Pump Power Supply

Power to the 12V electric pump is supplied by the tow vehicle via integral 4m long cable and alligator clips.

## Steel Frames

The 220 and 400 litre DieselSergeant tanks are available with optional skid frames, fully welded steel and hot-dip galvanised for long-lasting protection. The frames incorporate forklift pockets.

## Machine Limitations

The DieselSergeant 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 DieselSergeant unit is heavy when filled with diesel. To maintain stability while operating this unit:

- Ensure the vehicle or trailer 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 DieselSergeant tank is full, as the unit will have a higher centre of gravity.

# Operating Instructions

## Before first use

Your DieselSergeant Cartage Tank is delivered fully assembled. Before use, it needs to be set up using the following instructions:

- Complete the warranty registration online at [www.tti.com.au/warranty-registration](http://www.tti.com.au/warranty-registration), or use the Warranty Registration Card at the back of this handbook.
- 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.



**NOTE! The operator must fully understand all aspects of this handbook. Do not operate the DieselSergeant if you are unfamiliar with its operation until you have read this handbook.**

- Read and thoroughly understand this handbook, paying particular attention to all safety requirements, before using the DieselSergeant for the first time.
- Check that all fittings, hoses and electrical leads, where applicable, are secure following transit, and are not damaged in any way.
- 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.**



- Position your DieselSergeant onto the vehicle and mount securely to the tray. If using tie-down straps, they must be rated to at least the total mass of the unit when filled with diesel. There are two tie-down recesses across the 400L tank, and one recess across the 220L unit. Alternatively, the tanks incorporate horizontal mounting holes on its base, to enable a bolt and bracket system to secure the unit to the vehicle.
- If the DieselSergeant is supplied with an optional steel frame, ensure the steel frame is securely mounted to the vehicle.
- Fill the DieselSergeant's tank with diesel, refer to the Filling the Tank procedure below.

## Filling the Tank

The DieselSergeant tank is filled as follows:



**CAUTION! The DieselSergeant unit is designed for diesel fuel use only. It must not be used for chemicals or petrol.**



**CAUTION! Ensure the filling area is in an open, well ventilated space. Ensure the static lead is properly connected to a metal earth point.**

- Position the DieselSergeant near the diesel fuel supply point.
- If not permanently connected to the vehicle's chassis, uncoil the blue earth (static) lead and connect it to the vehicle's tray or an earthed object.
- Unscrew the filler cap from the tank's top opening, refer to Figure 2.
- Inspect the inlet filter for any sign of contaminants. If dirty, lift the filter out and clean it before reinserting it.
- Insert the diesel supply nozzle and commence filling the DieselSergeant tank.



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

- Observe the diesel level directly in the tank. When the tank is filled, close the diesel's supply nozzle and remove.
- Replace the DieselSergeant's filler cap.
- Disconnect, recoil and stow the blue earth lead (if not permanently connected).



Figure 2 – Tank Filling Operation

## Operation

The DieselSergeant is operated as follows, refer to Figure 3:



**CAUTION! Ensure the filling area is in an open, well ventilated space. Ensure the static lead is properly connected to a metal earth point.**

- Park the DieselSergeant's vehicle near the equipment to be refueled.
- Uncoil the blue earth (static) lead and connect it to the vehicle's tray or an earthed object.
- Remove the DieselSergeant's hose and nozzle from its stowed position, then insert the nozzle into the equipment's fuel tank.

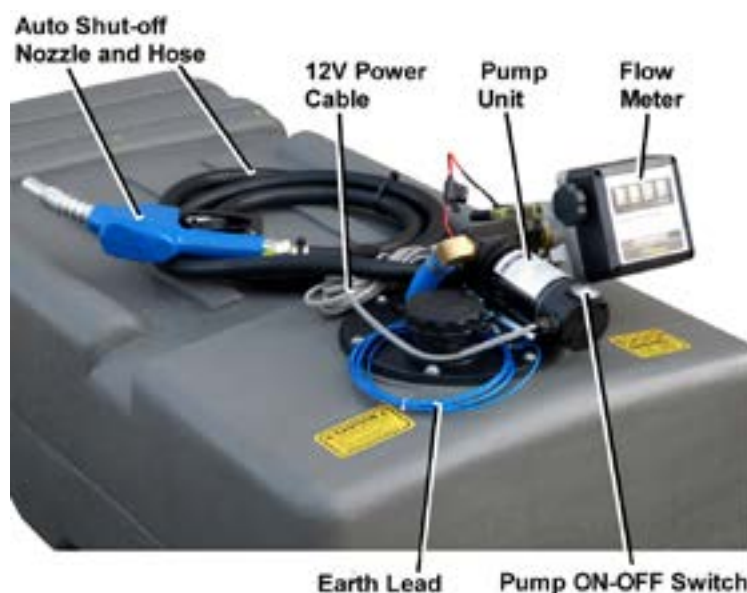


Figure 3 – Transfer Operation



**CAUTION! Ensure the electrical cables are connected correctly. Always connect the negative power cable's alligator clip to the negative terminal first, followed by the positive.**

- Uncoil and connect the pump's electrical cable's alligator clips to the power supply, ensuring each clip is connected to the correct terminal – black clip to NEGATIVE, red clip to POSITIVE, refer to Figure 4.
- At the rear of the pump, press the control switch to ON. The pump will start operating, with the diesel bypassing back into the DieselSergeant's tank.



**CAUTION! Do not allow the pump to run in bypass mode for more than two (2) minutes.**

- At the dispensing nozzle, squeeze the supply trigger. The nozzle will shut off automatically when the equipment's tank is full.



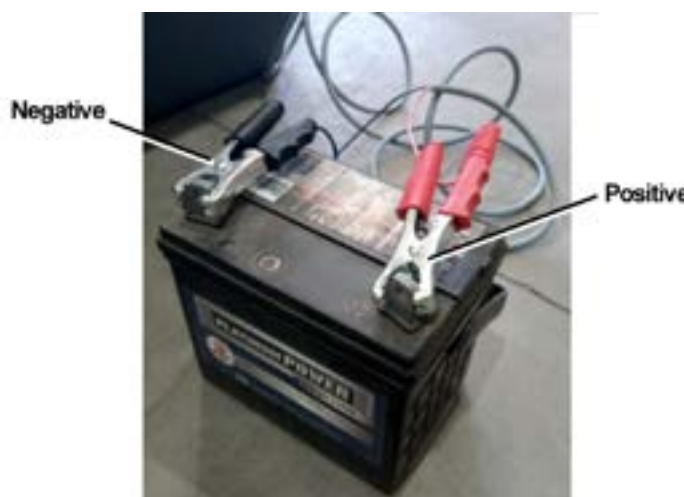
**CAUTION! The pump has a maximum duty cycle of 30 minutes of continuous operation. After 30 minutes, turn the pump to OFF for at least 30 minutes before next use.**

- After completing the filling operation or 30 minutes of continuous use (whichever comes first), press the pump's control switch to OFF.
- Withdraw the filling nozzle and coil the hose, taking care to prevent kinks or tangles and return it to its stowage location.



**NOTE! Always disconnect the positive power cable's alligator clip from the power supply first, followed by the negative.**

- Unclip the pump's electrical cable from the power supply and stow the cable.
- Disconnect, recoil and stow the blue earth lead (if not permanently connected).



**Figure 4 – Battery Connection – Electric Pump**

# Risk Assessment

Task	Hazard	Risk	Control Measure/Mitigation
Partially fill the tank with diesel, connect the 12V cable to the power supply (electric pump option), start the pump (electric or petrol options) and test the unit	Manual handling; slips, trips or falls; petrol; diesel fumes; fingers jammed	Medium	Concentrate on task; follow safe manual handling techniques: <ul style="list-style-type: none"> <li>• Don't lift on your own if &gt; 20kg, bend knees &amp; keep back straight; Keep fingers clear;</li> <li>• Keep unit at least 8m away from overhead powerlines;</li> <li>• Fire extinguisher nearby;</li> <li>• Follow warning stickers on tanks; Wear PPE for petrol &amp; diesel fumes-mask &amp; gloves;</li> <li>• Tank mounting to comply with relevant codes and transport authority requirements.</li> </ul>
Check weather conditions, select appropriate PPE for refueling operations	Manual handling; slips, trips or falls; petrol; diesel fumes	Low	<ul style="list-style-type: none"> <li>• Wear PPE for petrol &amp; diesel fumes</li> <li>• Follow safe manual handling techniques: don't lift on your own if &gt;20kg, bend knees &amp; keep back straight.</li> </ul>
Fill diesel tank	As above; diesel fume drift, diesel spillage, emission of vapours or flammability; weather; untrained visitors; tank used for non-diesel products	High	As above <ul style="list-style-type: none"> <li>• User trained in accordance with relevant requirements</li> <li>• Wear hearing protection if noise &gt;85 dBA;</li> <li>• Follow the relevant Environment Protection Authority requirements;</li> <li>• Fire extinguisher present – CO2 or powder;</li> <li>• Keep visitors away from the job unless wearing full PPE;</li> <li>• Check load secure; "DIESEL ONLY" sticker on</li> <li>• Don't overload - diesel weighs 0.85kg for every 1 litre</li> <li>• Keep hose tidy</li> </ul>
Transportation and use of unit	As above; loss of load; noise; exceed load limit of vehicle; hose entanglement; exhaust fumes; terrain & slopes	High	As above; <ul style="list-style-type: none"> <li>• Wear hearing protection if noise &gt; 85 dBA;</li> <li>• Follow the manufacturer's safe operation instruction for the vehicle and 12 volt transfer from vehicle to unit;</li> <li>• Don't overload – diesel weighs 0.85kg for every 1 litre;</li> <li>• Secure unit to vehicle;</li> <li>• Check earth strap;</li> <li>• Hoses tidy.</li> </ul>
Clean up, maintenance & storage	As above	Low	As above; <ul style="list-style-type: none"> <li>• Wear PPE for clean up;</li> <li>• follow state legislation &amp; AS 2865: 2001 Safe Working in a Confined Space Guidelines;</li> <li>• Store unit in a dry, well ventilated area.</li> </ul>

## Maintenance

Your DieselSergeant Refueling Unit 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



**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 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 DieselSergeant unit. Refer to the maintenance schedule tables below for details of maintenance intervals.

- Clean the unit and inspect it for any signs of damage or wear. Replace any safety labels if they are damaged or illegible.
- Check all hoses, fasteners and fittings are firmly secured, tighten if necessary.
- Unwind the hose from the optionally fitted hose reel fully to check that hose is in good order. Pressurise the line and check operation of the dispensing nozzle, including auto shut-off function. Rewind the hose onto the reel, ensuring it retracts all the way.
- Check the condition of the electrical pump's 12V cable and connectors.
- If the DieselSergeant is to be stored for an extended period, ensure the tank and all pipelines are empty and are not pressurised. Store the unit in a clean, dry and well-ventilated area.

### Maintenance Schedule

The following tasks are to 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 tasks 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 DieselSergeant 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 DieselSergeant unit.

No.	Task	Notes
1	Inspect the DieselSergeant for any signs of damage or wear	Clean, repair or replace
2	Inspect electric pump's cable and connectors	Repair or replace

### 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		

### 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 for damaged electrical cable on electric pump		
3	Check hose by unwinding fully		
4	Check security of mounting system		

### 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	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		

### 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	Drain tank and flush		

## 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 DieselSergeant, the following trouble shooting table provides guidance to identify and rectify the problem.

Problem	Possible cause	Remedy
Motor does not run	No electrical power to pump	Ensure correct connection to battery or power supply.
		Check for blown fuse
		Check fuse holder for loose connection
Motor runs slowly with low fuel flow	Low voltage supply	Test power supply and ensure adequate voltage
Motor runs, but no fuel delivery	Tank level too Low	Add fuel to tank
	Clogged suction line	Clean suction line and filters
	Filter air leak in suction line	Check all joints for leaks
Pump makes a squealing or scratching sound while running	Dirt or debris in pump chamber	Clean impeller and vanes.

# Warranty

## Warranty Policy

TTi will, at its option, repair or replace without charge any part covered by this warranty which is found to be defective in material and/or workmanship within one (1) year after date of sale to the original retail purchaser. If the product is used for rental purposes, this warranty is limited to ninety (90) days.

Upon request, the customer will make the defective part available for inspection and/or return the defective part to TTi, transportation charges prepaid. All parts and components are covered by this warranty except the following, which are warranted separately by their respective manufacturers:

- engines
- gearboxes
- pumps
- regulators.

TTi does not assume any warranty obligation, liability or modification for these items, which are covered exclusively by the stated warranty of the respective manufacturers.

## What this Warranty Does Not Cover?

**This warranty does not cover:**

- defects caused by depreciation or damage caused by incorrect mounting, normal wear, accidents, improper maintenance, improper use or abuse of the product, alterations or failure to follow the instructions and warnings provided.
- Any charges for making service calls, clean up time and transport charges.
- The use of non-genuine parts on equipment supplied by TTi. This will automatically negate any warranty.

## How to Obtain Service Under this Warranty?

Warranty service can be arranged by contacting your dealer, or by contacting TTi directly on 1800 816 277.

Proof of warranty registration and date of purchase may be required to verify warranty coverage. Any defective parts returned to TTi must be accompanied by a Return Goods Note. This form can be obtained by contacting Product Support on 1800 816 277 or emailing ProductSupport@tti.com.au.

## Warranty Limitations

**Warranty limitations are as follows:**

1. There is no other express warranty. Any warranty that may be implied from this purchase including merchantability and fitness for purpose is hereby limited to the duration of this warranty and to the extent permitted by law. Any and all implied warranties are excluded.
2. TTi will not be liable for any incidental, consequential or special damages and/or expenses in connection with the purchase or use of this equipment, to the extent permitted by law.
3. Only the warranty expressed in this limited warranty shall apply and no dealer, distributor or individual is authorised to amend, modify, or extend this warranty in any way. Accordingly, additional statements, whether oral or written, do not constitute warranties by TTi, and should not be relied upon.











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Date

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