

ADVENTURE TOGETHER

Van Plumbing & Water Basics

Fresh water, gray water and the plumbing between them - explained simply

The big picture

Your van's plumbing is easier to understand when you picture water making a simple trip through the van.

1	2	3	4	5
FRESH WATER	WATER PUMP	FAUCETS + SHOWER	DRAINS	GRAY TANK
Clean water you bring aboard.	Moves tank water through the van.	Where you use the water.	Carry used water away.	Holds most sink/shower wastewater.

FRESH TANK → PUMP → FAUCET / SHOWER → DRAIN → GRAY TANK

Two tanks - two very different jobs



FRESH WATER TANK

What it does: Stores the clean water used by your van's plumbing.

Think of it as: Your clean-water pantry.

Why you care: Keep what goes into it clean: use a potable-water hose and a trustworthy water source.



GRAY WATER TANK

What it does: Collects used water from sinks and showers in a typical RV plumbing system.

Think of it as: The dirty-dishwater bucket you never have to carry.

Why you care: Food particles, soap, grease and stagnant water can create odor and buildup, so regular emptying and rinsing matter.

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Meet the Plumbing System

The pieces you interact with most



FRESH-WATER FILL

What it does: The connection used to put potable water into your fresh tank.

Think of it as: The front door for your drinking-water system.

Why you care: Keep the cap and connection clean. Use a hose intended only for potable water.



WATER PUMP

What it does: Pressurizes water from the fresh tank so it flows at faucets and the shower.

Think of it as: The heart that pushes water through the plumbing.

Why you care: If tank water is not flowing, check water level, pump power and whether the pump is running before assuming something major failed.



HOT-WATER SYSTEM

What it does: Heats water before it reaches the hot side of your faucets or shower.

Think of it as: A small on-demand or stored hot-water source, depending on your van.

Why you care: Its operation and winterization can vary a lot by system, so follow the equipment-specific instructions.



STRAINERS / FILTERS

What it does: Catch debris or improve water quality, depending on the component.

Think of it as: The gatekeepers.

Why you care: They can clog and reduce flow. Filters also need replacement according to their own instructions.



DRAINS + TRAPS

What it does: Move used water away from sinks and showers and help control odors.

Think of it as: The exit lane.

Why you care: Hair, food and residue can slow drainage and contribute to smells.



GRAY TANK + DUMP VALVE

What it does: Stores wastewater until you empty it at an appropriate disposal location.

Think of it as: The holding area at the end of the line.

Why you care: Do not wait for wastewater to back up into a sink or shower. Empty before the tank is completely full.

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Fresh Water Tank Care

Keep the clean side clean

Everyday habits

- ✓ **Use a potable-water hose:** Keep it dedicated to fresh water. Protect the ends from dirt and contact with dump equipment.
- ✓ **Know your water source:** If you are unsure the water is safe, do not assume that putting it in the tank makes it safe.
- ✓ **Don't let questionable water linger:** If water smells, looks unusual, or you suspect contamination, stop using it for drinking and follow the manufacturer's cleaning/sanitizing guidance.
- ✓ **Keep fill connections clean:** Avoid laying hose ends or caps on the ground and keep fresh-water gear separate from wastewater gear.
- ✓ **Use and replace filters correctly:** A filter is not a substitute for a safe water source unless it is specifically rated for the contaminant you are trying to remove.

Sanitizing - the simple concept

There are several ways RV owners sanitize a fresh-water tank and plumbing system. The important part is using a method and product appropriate for a potable-water system and following the directions for your van and the sanitizer you choose.

What we personally use - hydrogen peroxide

In our van, we use 3% hydrogen peroxide rather than bleach to periodically sanitize our fresh-water system. We prefer it because it avoids the chlorine smell and taste associated with bleach. We circulate the sanitizing solution through the fresh tank and plumbing, then drain and flush with fresh water.

The traditional method - bleach

Diluted plain, unscented household chlorine bleach is a traditional method described in many RV manuals. Bleach concentration, tank size, filters, water heaters and plumbing configurations vary, so follow your RV manufacturer's procedure rather than relying on one universal formula.

Other RV sanitizing products

RV stores and online retailers also sell fresh-water tank sanitizers and water-system cleaning products made for RV potable-water systems. Follow the product label for concentration, contact time and flushing, and confirm compatibility with your van and components.

Adventure Together Tip: We use hydrogen peroxide in our own fresh-water system. Other owners use diluted bleach or commercial RV sanitizing products. There is more than one approach - know your equipment and follow the instructions for the sanitizer you choose.

When should I think about sanitizing?

Think about sanitizing at the interval recommended by your van manufacturer, after extended storage or suspected contamination, and when returning the system to service if recommended.

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Gray Water Tank Care

The goal: empty it, rinse it, don't let gunk build up

What goes into gray water?

Water from sinks and showers commonly enters the gray tank. It may contain soap, toothpaste, hair, food particles, cooking residue and bacteria. That is why gray water can smell even though it does not contain toilet waste.

Simple habits that make a big difference

- ✓ **Scrape dishes first:** Keep food scraps out of the drain whenever possible.
- ✓ **Limit grease and oil:** Wipe greasy pans before washing instead of sending cooking fat into the tank.
- ✓ **Use a sink strainer:** Catch food and debris before it enters the plumbing.
- ✓ **Empty regularly:** Stagnant wastewater develops odor. Do not routinely leave a full tank sitting.
- ✓ **Rinse when practical:** After dumping, rinsing with clean water can help remove residue and improve tank-sensor performance.
- ✓ **Close the valve when finished:** Make sure the dump valve is fully closed before traveling.
- ✓ **Use approved disposal locations:** Gray-water discharge rules vary. A designated RV dump or sewer connection is the safest default.

Why does my gray tank smell?

Food / grease buildup	Reduce what goes down the drain; rinse the tank.
Water sitting too long	Empty and rinse rather than storing wastewater.
Dry or dirty drain area	Clean the drain/strainer and check traps where applicable.
Plumbing / vent issue	Persistent odor after cleaning may need inspection rather than more chemicals.

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Something Isn't Working

Start simple before assuming the plumbing system has failed

1

NO WATER AT THE FAUCET

Is there water in the fresh tank? Is the water pump on? Do you hear the pump? Are valves in their normal-use positions?

2

PUMP RUNS BUT WATER SPUTTERS

Air may be in the plumbing, the tank may be low, or the pump may be having trouble drawing water. Check the simple things first.

3

LOW WATER FLOW

Check more than one faucet. A single clogged aerator or strainer can look like a whole-system problem. Filters can also restrict flow when clogged.

4

WATER UNDER THE VAN

First determine whether it is expected drainage/condensation or a plumbing leak. If you suspect a leak, stop the water source/pump and investigate.

5

SINK OR SHOWER DRAINS SLOWLY

Check the gray-tank level and drain strainer. A nearly full gray tank can eventually cause drainage problems or backup.

6

GRAY-WATER ODOR

Empty and rinse the tank, remove debris from drains/strainers, and investigate persistent odor rather than simply masking it.

Remember the flow

SOURCE → FRESH TANK → PUMP → FIXTURE → DRAIN → GRAY TANK → APPROVED DISPOSAL