

# RV Toilet System

## Care & Maintenance of Your RV's Toilet System

It's probably no secret to you that your RV toilet system has the potential to create a source of undesirable odour within your coach. Proper use of deodorizing chemicals, along with swift repair of minor problems, will be your best weapon against those pervasive smells descending upon the interior of your vehicle.

A wide variety of products are available to deter odour from overtaking the holding tanks and permeating into the coach. Specially designed RV bathroom cleaners, level sensor treatments, holding tank deodorants and RV toilet paper have all been manufactured to protect the components of the RV toilet system.

Unwanted odour is the number one culprit in RV camping. Before buying any product to treat the toilet system, you should:

1. Research what will best fit your needs based upon temperature, use and type of toilet.
2. Make purchases through a reputable manufacturer.
3. Buy products that are the result of extensive research and design which have been developed to not only control odour, but to extend the life of the toilet and holding tanks.
4. Know the type of toilet you have before buying cleaning and odour control chemicals.

Calibrate the measurements to how full you keep the tanks. When adding formulas to the tanks, use the full amount you have calculated instead of small amounts at a time. In that way you will achieve better odour control and use fewer chemicals in the long run. Keep in mind that too much formula is possible.

Knowing the limits of certain chemicals will assist you in determining whether a product is up to the task of your particular needs. Most chemicals are rated by biodegradability. A substance is considered biodegradable when the combination of oxygen, sunlight, nutrients in the soil and heat all work together to break the material down. The amount of time that this chemical breakdown should occur is still debatable in scientific circles.

According to a paper published by the Thetford Corporation, formaldehyde is one of the most popular odour control chemical due to its effectiveness. Formaldehyde has proven to be 99% biodegradable under treatment plant conditions in a standard five day test. Although there are currently no bans on formaldehyde, some campsites may prohibit dumping this chemical into their

system due to the limited size and operation of their particular waste treatment plant.

Generally speaking, however, the use of LOO BLUE in RV flushing toilets is not recommended as it has a harmful effect on the seals in the toilet and the holding tank system, in particular the waste dump valve seals.

Some chemicals deodorize by killing bacteria at low levels but these may be less than 25% biodegradable. Although these chemicals may be rated as a fair deodorant they are not reliable in extreme temperature conditions or for long periods of time.

Nitrates are found to have a fair to good deodorant performance. The process occurs as a result of organic decay and the tanks must be emptied every seven days.

Enzymes are described as a natural formula. Enzymes work by speeding up the natural breakdown of waste. Enzymes

the new.

Toilet paper can cling to the RV indicator level sensor and harden like concrete. Manufacturers of household toilet paper are seeking to develop a product that will not quickly dissolve in water. Even a basic household toilet paper rated 1-ply is made with a tight weave designed to resist saturation. This may or may not cause problems to the RV toilet. Toilet paper specially-designed for RV use is manufactured to prevent clogs by rapidly dissolving in holding tanks. RV toilet paper is designed to be 100% biodegradable. Having said all this there are some toilet papers which are available from supermarkets in the UK which may be found to be more than suitable for use in an RV toilet system – low wet strength products should perform well. If in doubt ask other RVers what they use or buy some test them out for yourself.

Protecting the seals in the RV toilet



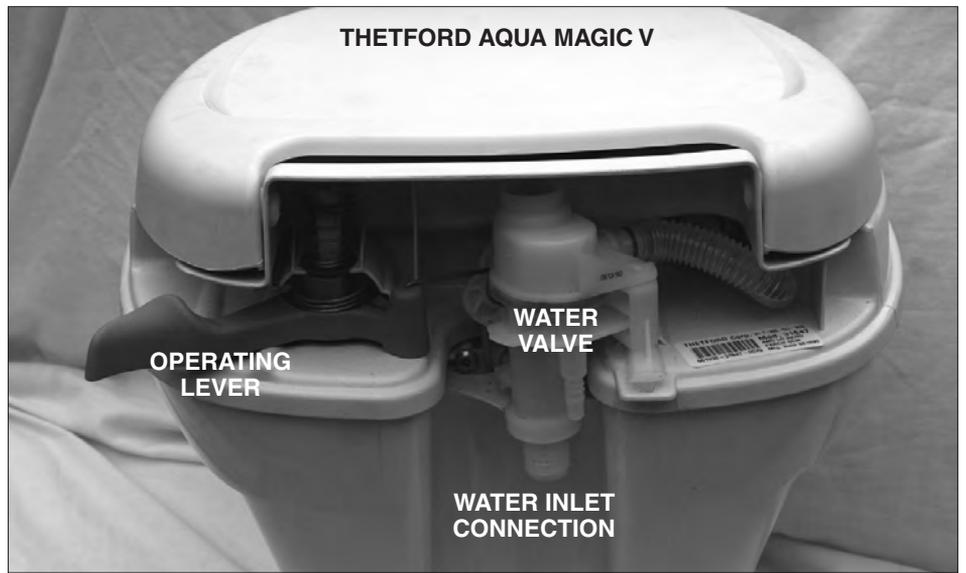
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are listed as a poor deodorant performer and it is advised that enzymes should not be mixed with most deodorant and cleaning products.

Check the contents of all odour control formulas carefully before purchasing to learn what chemicals you will be using. Don't shop by cost alone. Cutting corners on supplies puts you at risk for expensive service repairs down the road.

"Home brew"-type deodorants may contain chemicals that could damage the toilet and seals and should be avoided. Never mix chemicals and risk exposure to toxic fumes or even an explosion. If you choose to change chemicals in your system, first rinse and flush the old substance out of the tanks before adding

must be foremost in mind when cleaning the toilet. Bleach and acids found in most household cleaning products will potentially dry out and damage the seals. Carefully read the labels of all cleaning products prior to application. Steer clear of formulas containing bleach or acid. Products containing citric acid, a mild organic acid, will not harm the toilet system. However, any other type of acid, like those generally found in household toilet bowl cleaning products, will dull and pit the surface – plastic bowl toilets can be damaged very easily if you use harsh cleaning products. Pine oil is capable of swelling the seals in the RV toilet system. "Non-abrasive" household cleaning products may still contain



enough abrasive to dull and scratch the RV toilet bowl, making it vulnerable to future stains.

Approximately two quarts of water is pulled from the fresh water tank and run through the toilet each time it is flushed if you have an electric flush model. On manual flush toilets the amount of water used to flush is controlled by the user. A small amount of that water should remain in the bowl after the flush. This water flush, together with seals in the toilet and black tank drain valve, all work in concert with the odour control chemicals to defend against odour escaping into the coach. Therefore, the toilet bowl and seals must be properly maintained to perform at their maximum capacity.

The holding tanks are designed to carry a load until you determine when it's time to drain. When hooked up to on-site dump facilities, we are less bothered by leaving tank valves open and allowing water to run through the holding tanks. Never do this with the black tank. If the black tank valve is left open then each time the toilet is flushed the waste must travel from the toilet, into the black tank, out the dump valve and through the dump hose. As was mentioned earlier, the few quarts of water coming from the fresh water tank will not supply enough force to flush solids completely through the system and into the waste disposal system. Leaving an active black tank in the open valve position will increase the potential for clogging the system. Always keep the black tank closed until the holding tank reaches half to three-quarters full. Dump the tank and again close it off for refilling.

The grey holding tank valve can be left open since solids are not travelling through that system. However it is better to leave it closed and open it only when you need to empty the tank. Also, after dumping the black tank you will need water from the grey tank to flush out the drainage hose.

The grey tank may sometimes produce odour that can smell as bad, or worse, as the black tank. Consider using grey holding tank odour control chemicals. Grey tank odour can be deterred by keeping water in the drain traps at all

times. To do this, merely run a small quantity of water down each drain such as the galley sink, bathroom sink, shower and washer/dryer drain trap.

In addition to odours, problems that may occur with the RV toilet can include leaks, looseness of the toilet bowl, lack of water in the bowl, or in some cases, the toilet's failure to flush. The indicator level sensor in the holding tank may become clogged and produce a false reading.

There is a wide variety of toilet types. The best source for details on a particular toilet is the product manufacturer's owner's manual. The troubleshooting information in this article is a general overview and may not pertain to all the components of each particular unit.

Proper resealing will cure most leaks. Seals can be found at the bottom of the toilet, in the floor of the coach and on the holding tank dump valves. The use of incorrect sealing lubricants can damage the seals. Petroleum products may irreversibly swell the seals. Use spray silicone to lubricate the seals during maintenance performance. Other sources of leaks can include the water supply line connection, loose screws at the base of the toilet and the flange height.

If a toilet bowl becomes loose, it should only be tightened to stop the wobble. A new seal or wax gasket may need to be installed. Never over-tighten a toilet

fitting, because each valve has been set to a particular unit.

Failure to flush can be manually corrected on some units by a manual turn valve located on the back of the toilet. If the toilet is getting a poor flush, there may be an inadequate flow rate through the water supply line. If the bowl will not hold water, a quick check can be made for foreign material that may be holding open the valve blade groove in the flush drain. Check the toilet manufacturer's manual for troubleshooting suggestions on your particular toilet.

For winter storage, it will be necessary to remove all water from the toilet system. This can be done either by blowing air through the lines to remove water, or by flushing the lines with RV antifreeze. If using antifreeze, use only antifreeze containing propylene glycol and specifically designed for RV use. Automotive antifreeze contains ethylene glycol and windshield wiper fluid contains methanol. Antifreeze containing these types of substances are too toxic for exposure to your RV water system.

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