

Toilet talk

Selecting the right pumpout loo

LeeSan Director **Gary Sutcliffe** describes a couple of their recent toilet installations in luxury liveboard narrow boats

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While boaters are out enjoying cruising, Gary Sutcliffe, Operations Director of Lee Sanitation Ltd., (aided and abetted by a certain Mr C. Coburn) is waiting for them to break their toilets or decide that this really is the final year on a plastic bucket. Here he describes toilet installations for two satisfied customers.

Regardless of their chosen interest, enthusiasts the world over are opinionated. Of course enthusiasm infers special interest in a subject and strong opinions, likes and dislikes— these are all part of what makes interest groups interesting people. Among boating folk one of the most discussed topics is 'the heads'. Even that name and its origin are hotly discussed!

A bit like the adage, 'it must be true, it's in print', the more enthusiastic the enthusiast the more credible their opinions are considered. My advice regarding marine sanitation is to beware of the towpath toilet expert. Many have opinions based on experience from inappropriate or poor equipment that may have also been wrongly specified or incorrectly installed. Do not be under any illusions regarding toilets on boats. The aforementioned towpath experts may suggest there is no such thing as a completely odourless marine toilet but that is absolutely not true. I speak with my hand on heart; my own boat, NB Progress, now 30 years old, has travelled extensively over pretty much every inch of the mainland UK waterway network as

well as a taste of mainland Europe waterways and 2000 coastal miles (all mentioned to emphasise the durability of the system installed) and it still incorporates the toilets that were installed during the boat's original build—and there are no nasty niffs, not even little ones!

As you would expect of a toilet salesman, I do talk to a lot of people about toilets for boats. I suppose it's because I have been doing it for years and have become, as one does with age, a bit of an old grump. I have developed a tendency towards impatience with those who feel they know better than me or my colleagues. If one wants something to be right, the best way to achieve that is to work with a professional and take their advice.

Pumpout or Cassette

One of the most basic and frequently asked questions is whether to install holding tanks, a cassette system or a portable toilet. Of course, cost can often be the defining element but for the sake of this article I am assuming 'convenience' rather than price to be the objective. So, on that basis I do not want to be emptying my cassette every other day or, worse, having to use a Mickey Mouse portable toilet and then empty that every other day. This therefore leaves us with a holding tank installation. The concerns that are raised regarding a tank system mainly centre on being caught with your trousers down, or rather unable to get them down, in the event of ice or any other barrier to

reaching a pump out station. If that is the concern then carry a small portable toilet for peace of mind. I have done so for 30 years and it has never been used! Of course, there is the issue of the cost of pump-outs but we have already agreed that this article is about convenience and comfort, not economy. I have not mentioned composting toilets because in practice they are most unlikely to suit an 'upmarket' narrowboat owner. The idea sounds great but they are a compromise for those whose boats can't be moved at all and are miles from a foul sewer.

I would like to introduce two customers, Couple A and Couple B (see how creative toilet salesmen can be!) They are both liveaboards. Both craft are in the top echelon of narrowboats and their different toilet systems are from two types available, offering slightly different facilities depending on individual boating and perhaps personal habits.

Couple A

Couple A had their boat built for them in 2001. She is a bespoke boat so they were very closely involved with every aspect of the design and planning and, since they were going to live on board permanently, their decisions about the toilet arrangements were a major consideration, not least because of a medical condition which makes this even more relevant. After much research and discussion with their builder, the couple decided to ask a toilet specialist to work with them to plan, design, supply and commission a vacuum powered system with two 'vacuflush' toilets discharging into a 100-gallon holding tank. As live-aboards who need to move their boat to a pump-out station for tank emptying, tank size and flushing water consumption were serious considerations and were a large part of the reason

for selecting these toilets which feature minimal water use.

The end result is that the tank is pumped out about once every three weeks. The tank capacity would normally allow greater duration between pump-outs but they both admit to being enthusiastic users of their toilets! A simple 'Tankwatch One' gauge gives a red light when the tank is nearly full, but they know by experience and the job is one of easy routine. The holding tank is stainless steel, provided by the boat builder, and was designed with

a sloping bottom and a small sump to ensure maximum efficiency of pump-out. The vacuum generator which powers both toilets is remotely sited under the floor in the wardrobe with maintenance access via a removable panel, although the skipper says that apart from replacing the pump plunger about every five years they never really needed to touch it. The only breakdown was caused by a visitor who dropped a bracelet down the toilet, requiring sequential dismantling of the pipework till the offending item was found. The lady of the boat says that they decided on the toilets because they wanted them to be as close as possible to domestic ones in size, quietness of operation, comfort, ease-of-use and appearance and a vacuum system



Vacuflush Toilet

Boating: Lee Sanitation



because it maximizes the holding tank capacity. A holding tank system was chosen because the couple did not want to be dragging a cassette a quarter of a mile up a rough track on a daily basis to empty it. Last year however, with six inches of ice on the canal, they did have to use a basic portable toilet for a few days, as they were completely frozen in and could not motor to the pump-out station. They comment that this is the first time that this has ever happened since they lived there. Having to use a 'plastic' toilet for only a few days was certainly preferable to 365 days a year. The boat is not on mains power so apart from a 2.5kVA generator, used to occasionally run high-consumption electrical equipment and re-charge the batteries, everything else is operated on 12V. This system is also maintained by a large solar panel. This was the first toilet system of its kind that the builder had installed so they asked us to work closely with them through all stages of planning and we even went back to the yard to commission it on completion. Ongoing maintenance consists of occasional treatments with a commercial de-scaler which has now eliminated a scale problem that built up over some years.

The couple say that they are delighted with every aspect of the equipment and installation and really do feel that, apart from their occasional pump-out trips, they have the best of all worlds and something that is about as close to a domestic installation as it's possible to get, without heavy use of flushing water and the inconvenience that would cause.

Couple B

Couple B are also committed live-aboards but had a different challenge and made some different decisions, and, because they took advice from us, say that they are absolutely de-

Boating: Lee Sanitation

lighted with their new system. Their boat was built in 1991 in a rather more traditional style and was originally fitted with a plastic 'dump-thru' toilet, mounted on top of a steel tank that had been built integral to the boat's construction. The couple purchased the boat in 1995 and in 2009 they discovered that the holding tank was very badly corroded (to the extent that there were pinholes through the hull of the boat) and was therefore in urgent need of replacement! This was not as disastrous as it may have been: a vigilant boatyard had over plated the hull outside the tank and their first warning was when the toilet became loose on top of the tank.

The heads compartment was stripped out and the offending tank cut out of the boat. The owner says that he was horrified when he saw just how bad the corrosion was. Once again, after some research they selected a specialist to provide expert advice, help to design the system and supply all the components. The owner's brother is a plumber so he was press-ganged into helping install everything. The couple had previously had good experience with domestic macerator toilets so decided on a 'Sanimarin 48' toilet and a new plastic holding tank with a 'Tankwatch One' gauge. They purchased the complete system, including tanks and pipework, hoses and fittings, from their chosen supplier. As the heads had been totally cleared, the lady of the boat thought that this would be a great opportunity to fit a big shower and re-site the toilet. So, after the old tank area had been completely re-plated and rust-proofed, new bearers and a new floor were installed, followed by a smart new shower and a very elegant, domestic style toilet. The holding tank was relocated under the main bed, but with the connec-

tions and inspection hatch easily accessible under the wardrobe.

Like Couple A, Couple B are careful about what they do and don't put down the toilet (they say that the sticker under the lid says it all) and don't use chemicals, bleaches etc. that would harm the workings of the toilet or prevent important natural 'action' in the tank. Again, because the 'Sanimarin' toilet incorporates an eco-flush function, water use is minimal and this installation is only pumped out by hand using a manual pump-out kit once a month. The Skipper says he has it down to a fine art and he can do a clean, trouble-free empty in less than 15 minutes. He also says that this saves him the cost of membership to a gym!

Once again the decision to fit this system was influenced by their desire for something as close to a domestic bathroom as possible and their absolute refusal to carry and empty cassettes on a daily basis. Although the boat is on mains electricity on its home mooring, the toilet and most else on board is battery-powered enabling total cruising freedom when time allows. They comment that with hindsight they are both extremely glad about deciding to invest in a properly designed holding tank system. They say it is odour free, quiet and extremely reliable and makes living aboard so much more comfortable than any of the alternatives.

So there we are, two examples that prove that correctly designed, specified and installed holding tank systems really are by far the best and most convenient solution to onboard sanitation installations. For those concerned about any difficulty in getting 'pumped out' a small portable toilet can be hidden in a locker, but experience shows there is no need for compromise on the main installed system.



Sanimarin 48 Toilet



Dometic Tankwatch 1 holding tank warning system



LeeSan manual pumpout kit