Water tank replacement on SV Mojito
Tayana 48 080

09/2025-04/2026

I am overdue writing up a summary of our tank replacement project for the group. I was going to do something polished, but that perfection will never happen, and I just had a question from a group member on how we did it, so here it is.

The original idea for this concept was not mine. I am indebted to Mark Hill for how he approached the project on SV Oasis. He provided great insight and encouragement as our project unfolded. Thank you Mark!

The aft factory installed stainless steel tank had started a slow leak when we had to stopped sailing in 2023. The tank was usable, but there was noticeable fresh water in the bilge. The forward tank was OK, but had similar corrosion visible around the seams inside the tank.

I considered trying to seal the seams with food-grade epoxy, as others had done. Access beyond the baffles made sealing seams beyond half of the tank in the bilge a difficult task.

Summary:

Determine compromise of how much of the interior you want to remove; furniture and floor. That will determine what is possible. There are descriptions of other successful approaches on the forum.

I decided not to touch the settees, because one was full of systems (batteries, aircon, water maker, inverter / charger, solar chargers etc) and the other side would not have made much difference to capacity. The "wings" on the factory tanks extend a long way outboard, but there's not a lot of added capacity at the edges. Settee configurations vary widely across T 48's.

If you do not remove the entire interior then it is difficult to remove the entirety of the old tanks, and hard to make up structure below the settees (beams sit on the tanks at some points). Our new tanks sit inside the shells of the old tanks (with drains cut in the bottoms). The shape and size of the new tanks are determined by fit through the companionway (originals were installed before the deck, let alone the furniture), old tank interior dimensions, installation (sliding them under the remaining lids of the old tanks) and space for plumbing between the tanks.

This design is for groups of 3 new tanks for each original tank; a center tank in the bilge and two wing tanks. Each wing tank is connected to the central one with 1.5" hose at their bottom and 1" hose for venting air at the top. Space for these connections is made by having the central tank shorter fore/aft than the wing tanks.

The existing deck fill is connected to one of the wing tanks, and the existing deck vent to the opposite wing tank (not necessary in theory, but was in practice).

This configuration has given me 75-80% of the original capacity. I believe that others have used a pair of two side tanks connected together, but without the center (bilge) tank.

The new tanks each have inspection hatches - easy to access on 2 out of 3 tanks through the existing hatches in the floor, more difficult on the other tank. There are internal baffles in all of them.

Project

- Identify and move all plumbing and wiring below where the floor will be cut and tanks exposed. This was a great time to re-route all wires through the factory conduits they should have been in.
- Cut the floor and beams, trying to retain as much as possible, and designed where it will look OK going back, and where can build structural support
- Seal off all other parts of the boat. Cover everything! Dust will still get everywhere, but try.
- Cut the tops off and the baffles out of the tanks
- Make templates for new tanks. I had modelled the tanks based on measurements of the inside of the old tanks, but templates are key. Nothing is the same across boats, and nothing is completely symmetrical.
- Change deck fill and vent hoses (access is not simple)
- Install tanks, secure and connect plumbing.
- TEST
- Reinstall wiring and plumbing (easier with the floor up, but ensure access / no interference with new floor struture)
- Build floor structure, reinstall floor

Learning

The approach has delivered a working system

Our aft tank had the vent and fill on the same wing tank. Despite theoretically having vents across the top of all three tanks, air was trapped in the center and opposite wing tank. Changing the vent to the opposite side to the fill resolved that. Test before the floor goes back in

It takes a long time. In a big yard, there may be the skills to do all of it, but I had to engage a general boat work company, specialist metal worker, tank constructor and carpenter separately. I did the electrical and plumbing removal / replacement myself, because I am qualified (ABYC) and know where everything is. Having someone else do that would have taken a lot longer

Carpenters and tank builders are amazing - that part will hopefully be less painful than you expect.

Labour rates in Greece are way less than half US boatyard rates, and it still hurt.