

### **Installation Report - Legacy tank monitor & external sensor**

There have been many references in this forum to the Profile system for tank monitoring but not many installation reports, and none with pictures that I can remember. So here goes...

Our boat is a 1999 model Hunter 340. Both holding and diesel tanks are 30 gallon plastic tanks located in the stern quarters under the cockpit seats. Water is a 75 gallon plastic tank under the V-berth.

The trigger to my doing this was a non-functioning fuel tank gauge and a reoccurrence of the holding tank gauge giving a false reading. The fuel gauge always read empty - I believe the float on the end of the arm on the Teleflex sending unit had absorbed diesel fuel and was no longer a "float". Not a huge problem as I have been tracking fuel consumption based on engine hours and an average consumption of 0.45 gal/hr. The holding tank gauge read half full when in fact the tank was overfilled - big problem (again a sending unit issue, as the sending unit installed at the Hunter factory was a float inside a cylinder that in this case hung up on dried poo, etc. over the winter). The diesel tank sending unit is relatively easy to access once you empty the port lazarette and remove the floor panel. The holding tank is a pain, as on this H340, the batteries are located in the starboard lazarette, and have to be removed before removing the floor panel.

The factory gauges for water and holding were round WEMA analog displays over the nav table down below. (see picture) I ended up removing the radio, electrical panel and speaker to have easier access. The fuel gauge is a round gauge located in the cockpit, below the engine start panel.

Given the positive references in this forum to Dennis Ferriello and the external sending unit and Profile multi tank monitor system he sells, I emailed Dennis with my situation and asked for advice on a Sunday afternoon. His reply was a call within an hour (Dennis, you really need to relax!) And he was not only timely, but very helpful.

The external sending unit does NOT work with the factory WEMA gauges, so you need to go with the full solution or keep cleaning waste tank sending units. Dennis recommended a new WEMA sending unit for the diesel tank and an external sensor for the waste tank to go with a new panel in the cabin. The water tank sending unit is working fine. On the H340, you need to use the 6 inch wide Legacy panel, which easily covers the two holes of the old round WEMA gauges. It's a tight fit, as the wood is  $\frac{3}{4}$  inch solid teak (!) and there is little room between the electrical panel and the cleats used behind the panel to secure the face and top of that side of the paneling around the chart table. I ended up with about a 1/16 inch clearance between the edges of the Legacy panel and the electrical distribution panel. (see picture)

Electrically, the factory gauges were getting power from the distribution panel and were grounded at a bus bar located behind the gauges. The signals from the sending units were just a single wire, and they were grounded "locally" near the tanks. Just mark the two signal wires as you disconnect from the two gauges so you don't mix up the water and waste signals. The external sending unit on the waste tank requires a new power wire to be run, and I decided to run all new wires to the two aft tanks, so I had to pull a total of three new wires aft to the tanks - two signals, and one power to the new holding tank external sensor. Hunter provided a PVC wire chase from the back of the closet to the starboard lazarette, and I found the string to pull new wire available at each end (remove the closet wall just aft of the chart table), although I could only pull from aft to forward, probably due to some tangles of the existing wires in the PVC chase. I ran a new ground wire from a bus bar located in the starboard stern swim platform compartment and attached both new sending unit grounds to it.

On the H340 access to the tanks is available by removing the large wood aft wall of the aft cabin. With a bright light you can see through the walls of the tanks to verify the levels. I mounted the external tank sensor on the inboard aft side of the holding tank. (see picture). I removed the old fuel tank float gauge and replaced it with a new WEMA sending unit.

For grins, I connected the old holding tank sending unit (after cleaning it out again) to the new monitor panel to compare readings between the two types of sending units. When the float starts sticking again, I'll just program it out of the monitor and forget it.

Once everything was connected per the instructions and power is turned on, all that's left is the calibration process. This requires making an adjustment to the stored data in the monitor panel as each tank is emptied and then topped off. I've done this with the water tank and now just waiting for the holding tank to get full for the F calibration, and after a pumpout, an E calibration. The diesel will take some time due to our low rate of consumption (about 10 gallons a year) and the fact that we have 2/3 of a tank right now. I'll probably set the E calibration point where I still have about 6-7 gallons or so in the tank and F after a fillup. Right now the reading on the monitor looks about right.

First impressions of the product are excellent, the initial display is a summary of all tanks, and then you can cycle through each tank in detail. The display is backlit with a programmable light sensor to determine when to use the backlighting. There is an alarm that can be set when the tank level reaches an interesting level, e.g., full for holding, empty for water or diesel, but I'm not sure how much that will get used as I will probably leave the tank monitor off unless I want to check the levels. The two biggest challenges in the installation were the cutting of the hole for the monitor and pulling the wires aft.

Hope this helps someone else considering this project. Dennis is great to work with and he has some special pricing for the forum readers.

Attached Thumbnails



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