

## Cleaning the Fuel Tank

Here are some posts from the former forum on cleaning the fuel tank.

### 1. by North26West80

I was able to clean out the black stuff at the bottom of my tank by using a vacumme tank rigged to a 1/4" length of copper tubing. Use the copper tube to scratch around the bottom of the tank and loosen the sludge. Then suck it out through same using the vacumme tank. It's slow work, just a little at a time, but you can do it all through the little fuel gauge hole in an afternoon. Bend the tube as needed to get around to different places. This is much more effective than fuel "polishing" (i.e. circulating and filtering fuel) because the bottom sludge won't be dislodge by even a vigorous fuel circulation. Don't stop until you see the shiny metal of the tank bottom.

A vacumme tank is a tank you pump down a vacumme by hand pump and then use it like a vacumme cleaner. More commonly used for oil changes. West Marine sells it for about \$50.

### 2. unknown poster

I replaced the fuel tank on my DE38. (A previous owner had allowed the bilge to remain full of water for probably several years). Although it would certainly be possible to cut access holes in the floor/sole & tank, it is probably a much bigger job than you might imagine. Some random thoughts:

1. The floor is ply with Teak & Holly veneer. The sole (structural floor) underneath is approximately ply sandwiched in fiberglass (about 1/8 or 3/16 I would estimate).
2. The tank is aluminum, with three baffles running fore & aft (in alignment with the keel). One baffle is in the center of the tank and the other two are to the right & left. Because of the three baffles, you would need four access points to get full access to the tank. I cant provide specific locations for the baffles because the old tank had to be cut into many, many pieces for removal and was discarded long ago.
3. My experience is that it is difficult to cut access holes and then use the cut-outs as covers. If you have a small enough cutter for the roto-zip (thin kerf) and you can build a custom fence/template, you may be able to pull it off.
4. If you cant use the cut-outs for covers, then you will want to get matching teak & holly to build the covers. I was unable to find teak & holly to match what was in my boat (the width & spacing of the teak/holly pattern was different).
5. A compromise that may work is to make one large inspection hole through the floor/sole, with two inspection plates to each side of the center baffle. This would give you access to the portions of tank (including the bottom) that you would be most concerned about. The kicker here is calculating exactly where the center of the tank is. I cant guarantee that it would be exactly on the centerline of the boat. One approach would be to make a small hole through the floor/sole and then locate the center baffle (sounding should enable you to nail this down). Then enlarge the floor/sole hole to allow placement of inspection plates on each side of the center baffle. Of course, then you will then need to obtain some matching teak/holly for a cover. Actually, I think a cover with teak-only veneer may not look so bad.
6. I ended up building all-new teak & holly floors for my boat. There is a possibility I may have some scrap from the old floors of adequate size.  
Let me know if you need further info.

### 3. Roy rcrmwings@aol.com

WHOA!! We have a DE 32 and I had to repair the tank. They are right you have the 3/4 ply Teak and Holly sole and then the structural floor of 3/4 plywood with 3/16 and 1/8 glass. You will find that the structural floor has a molded in non-skid pattern. The top of the tank is about 1 inch below the structural floor. I still have not succeed in working out a good solution to filling the saw cuts in the holly sole outside of letting it fill up with dirt Unless you have a leak there is an easy way to clean your tank. Take the supply line to the engine off including the elbow and the shut off valve. You can then run a 3/8 semi rigid plastic tube down to the very bottom of the tank, hook it to a pump and run this through the filter. I would suggest removing the fuel gage and return the fuel through there for a good splash action. Suggest you borrow an empty fuel drum and start your cleaning with about ten gallons of fuel in the tank and then add as the cycling fuel comes clean. Would suggest hitting the fuel with a heavy dose of BIOBAR and water dispersant as you are cleaning the tank. For your information the deepest part of the tank is forward so what you see through the the gauge hole is not the bottom of the tank. If you do decide to put inspection ports in they should be about 10 inches in diameter to give you good access. And now for the rub when you install the inspection ports you must use a sealant on the fastening screws. This sealant will form a berry on the end of each screw and when you get in a sea about 3 to 6 months after the job is done these berries break losse from the end of the screw and start plugging up your fuel system. This is no fun under any circumstances. If you do, I will send you a drawing as to how to make what I call a CHORE BOY filter which you place in the fuel line before everything else. Experience has shown that the 3/8 shut off valve (which really has but a 3/16" hole in the ball) will also plug up and the valve should be replaced with a 1/2 valve and a 5/8 hose to the CHORE BOY filter. I replaced the elbow with a 1/2 machined brass TEE set vertically with the fuel line coming off the side and a brass pipe plug in the top. I used the machined brass tee so I can use two wrenches when removing

and installing the pipe cap for the aluminum nipple threads are not that great When I wish to check fuel and tank conditions, I remove the pipe plug and run the 3/8 plastic tube down to the front of the tank (you can feel and hear the tube hit the front of the tank)and using a Parr handy brass pump remove enough fuel to see what is going on. Suggest you replace electric fuel gauge with stand pipe and calibrated down. Instructions available;e if desired.

#### 4.

I ASSUME YOU ARE SOUNDING YOUR TANK THROUGH THE FUEL GAUGE HOLE. BELIEVE IT OR NOT THE DEEPEST END OF THE TANK IS FORWARD. AND THE TANK IS A VEE SHAPE SO INCHES DON'T REALLY COUNT.

WE CALIBRATED OUR TANK IN A 32 AND FOUND FIRST THERE IS ABOUT 6 GALLONS BEFORE YOU CAN SEE FUEL AT THE DIP STICK. WE DID OURS IN 10 LITERS AND CONVERTED THE BACK SIDE OF THE DIP STICK AT 4 LITERS TO THE GALLON. WHEN YOU GET UP CLOSE TO FULL 10 LITERS IS ABOUT 3/16 OF AN IN INCH. OF INTEREST IS THE FACT THAT THE PICK-UP TUBE BENDS AND GOES FORWARD TO THE DEEPEST PART OF THE TANK. IF YOU HOOK A PUMP TO THE FUEL LINE AND TRY TO PUMP THE TANK DRY THERE WILL BE ONLY ABOUT ONE CUP OF FUEL LEFT IN THE TANK. THIS IS A GREAT HELP IF YOU WISH TO CLEAN THE TANK, IT ALSO SHOWS THE CONDITION OF YOUR FUEL IF YOU HAVE A TRANSPARENT BOWL ON ONE OF YOUR FUEL FILTERS.