

SCOUT Projects: *Tank Pressure Tester Kit*

m/v SCOUT (Great Harbour N37)

Ray Henry

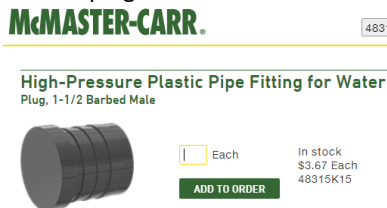
Description

I had what I thought was a holding tank smell/leak (turned out not to be). I assembled a kit of parts that could be used to pressure test tankage. I bought a few of several flavors of things, not knowing exactly what I would run into once I got into the boat. The hoses and fittings for this particular tank were all 1-1/2", so that's what I focused on.

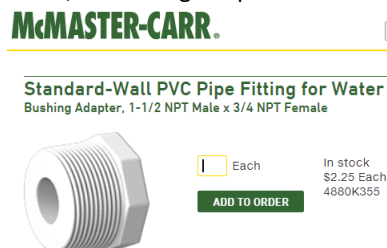
Parts Ordered

McMaster-Carr (<http://www.mcmaster.com>)

1-1/2" hose plugs



1-1/2 to 3/4 reducing adapter



3/4 to 1/4 reducing adapter



1-1/2 barb to 1-1/2 NPT fitting



Amazon (<http://www.amazon.com>)

0 to 15psi pressure gauge



Winters PEM Series Steel Dual Scale Economy Pressure Gauge, 0-15 psi/kpa, 2" Dial Display, +/-3-2-3% Accuracy, 1/4" NPT Bottom Mount
Sold by: Amazon.com Services, Inc.
Return eligible through Aug 9, 2018
\$7.89

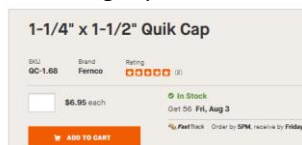
Air pressure inlet valve



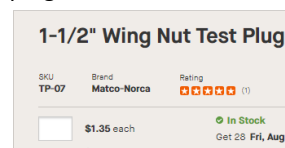
Milton (S-684-4) 1/4" MNPT Male Tank Valve
Sold by: Amazon.com Services, Inc.
Return eligible through Aug 9, 2018
\$4.71
Condition: New

Supply House (<http://www.supplyhouse.com>)

1-1/4 to 1-1/2 tank fitting cap



1-1/2 wingnut test plug



Assembly

I used the bushings and barbed fittings to make a short hose for both the gauge and the pressure inlet valve.



In my case, I used the tank fitting caps on the tank which had extruded male fiberglass fittings for hose connections. I used one of the tank fittings to inject the air pressure. I used the barbed hose plugs to temporarily plug any removed hoses.



While the wingnut plugs were nice, they didn't fit (well) either the hose ends or the fiberglass tank fittings, so I didn't use them this time. I'll keep them with the "kit" just in case.

I used one of the vent hose ends where it exited the boat to insert the pressure gauge and monitor the pressure.



Completion

I pressurized the tank to about 2psi using an air compressor (a 100+ gallon tank takes quite a bit of volume!). There were no obvious leaks, but the pressure dropped to about 1psi over about an hour or so.

I used a pair of headphones and a random, free smartphone microphone amplifier app to “listen” for leaks. This worked surprisingly well by moving the phone in and around the area.



I found the culprit of the slow leak by holding the smartphone microphone all around the connection points and some suspect screw holes around the tank. It turns out that the vent hose connection to the pressure gauge was not clamped well.

Once I re-clamped the fitting, I re-pressurized the tank to 2psi and it held overnight with no leaks.

My suspected smell problem was due to something else, but at least now I had a nifty test kit that I'll hopefully never have to use again.....