

# Prop-Nutz — Fuel Tanks

By Ron Stevenson

In this article, I want to show you some processes that I go through to restore the famous two-line Outboard Marine pressure tank. In order not to get too technical here, I will describe how these tanks work in the simplest form.

In order to get gasoline up to the outboard carburetor (i.e. in order to start the motor), you have to PRIME it first. Pushing down on the Primer button causes the rubber diaphragm to flex up and down which causes a **suction**. This suction causes the fuel to be sucked up the pick-up tube, and then, when the primer button is pushed down again, the gasoline travels up the hose to the outboard.

This back and forth movement of the rubber diaphragm is the heart of the tank. Any pin holes in the rubber, will let AIR in, causing a malfunction of the unit and it will not suck nor pump fuel (and won't hold air pressure).

In one of the pictures you will see a **CUT-AWAY** of the pick-up tube and check valve. The check valve is a flat disc which is pulled up off its seat and re-seals itself when the primer button is pushed down. Old gummy gasoline will clog up this check valve, so it is very important to treat all gasoline at every fill up.

The above explanation of the fuel regulator is my simplified version of how it basically works. There are more parts with various functions which I will skip to keep it simple.

When I restore a customer's fuel tank, all the old parts are replaced and the unit is made like new (see picture of regulator parts).

The other pictures show a step-by-step process of what is involved to clean, strip, prime, and paint the tank. The fuel tank must be rust free. Rust, in any amount, will be sucked up by the outboard and clog vital parts of the fuel system (see arrow pointing at rust-clogged pick up screen in cut away photo).

Another cause of rust is the plain steel screws OMC used to mount the regulator to the tank. Over time, the threads on these screws will rust, and this will precipitate to the bottom of the tank. I only use a high grade of stainless steel screws and new nylon washers instead of the old OMC hard fabric washer which flatten out when the screws are tightened (see photo of stainless screws and nylon washers).

I hope you have enjoyed the article on fuel tank restoration and the amount of work involved to get it perfect.

