

Two Tanks Are Better Than One
(even when one is empty)

When a model boat fan becomes a model airplane fan, he sometimes brings his model boat ideas with him. That's the beginning of a story about a great idea brought by Ed Gansen, a model power boat enthusiast as well as an expert builder and not half bad flyer.

When he and Jim Taylor collaborated on a Cessna Skylane two years ago, they mounted the fuel tank in the recommended position and orientation which was crosswise in the nose. As a result, when the tank was less than half full, a right turn sometimes exposed the fuel pickup when fuel sloshed to the low end of the tank. That happened on the maiden flight and resulted in a not-so-good dead-stick landing in a freshly plowed field.

The Cessna met its demise a few months later, so a new one is under construction in Ed's basement. This time, a change had to be made in the fuel tank position, so Ed adopted an idea used in hydroplane racers. He installed two fuel tanks, each one half of the total fuel capacity needed, and

pipied them in series. Tank one has the muffler pressure connection to the vent of the tank, and the fuel pickup is piped to the vent connection of tank two. Tank two, in turn, has its pickup connected through a fueling valve and a filter to the carburetor of the OS FX .61. The two tanks are filled through the fueling valve; tank two fills first, and then fuel flows through it into tank one.

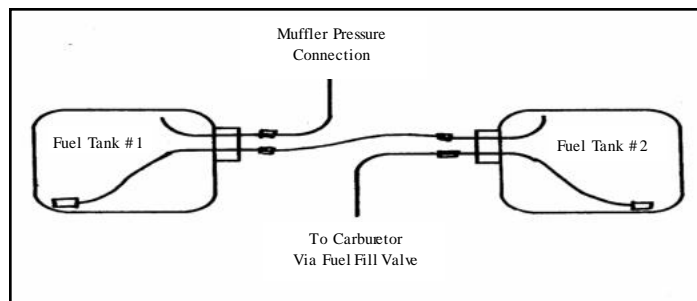
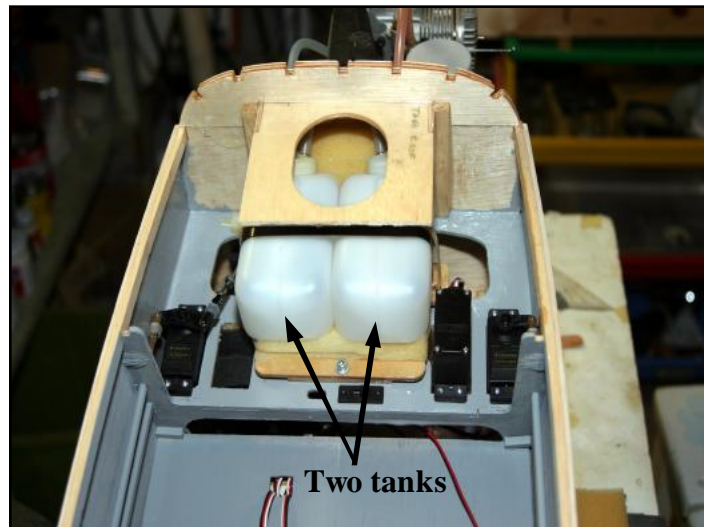
Under pressure, tank one empties into tank two as fuel is drawn to the engine.

When tank one is empty, fuel from tank two is then

consumed. The nice part about this arrangement is that for half the of the fuel consumption time, fuel is being drawn from a full tank with constant head pressure to the carburetor.

The tanks are mounted fore and aft with the pickup tubes toward the rear of the plane in the conventional manner, and therefore, the flexible pickup tubes can function as intended.

The real test will take place on the first flight of Cessna Skylane N199EG, but it sure looks like a slick idea that should finally solve a nasty problem.



Fuel Tank Tubing Diagram