

OWNERS' MANUAL:

# WATER WINGS

Story and Photos by Guy R Maher



**E**stablished on base leg I have the flaps set at 20 degrees out of a possible 40. The prop control is set to high RPM. Turning final I make one last check of the landing gear and confirm that it is definitely in the “UP” position. Yes, you read that correctly. The landing gear must be in the “Up” position for I am about to land on water.

Turning final the flaps are lowered to full and the power is set to 17 inches of manifold pressure. Maintaining a 65 to 70 knot approach speed followed by a gentle flare and we settle nicely into the lake. Power immediately to idle and full back pressure on the control wheel after splashdown yields a smooth deceleration of this plane now turned boat. That’s what I call fun!





*VanFleet's 172XP is equipped with Wipaire, Inc.'s Wipline 2350 amphibious floats.*



VanFleet's 172XP has a modified engine that increases the horsepower from 195 to 210.

The airplane I'm flying is a beautiful red and white 1978 Cessna 172XP equipped with a set of Wipaire, Inc.'s Wipline 2350 amphibious floats. The original TCM IO-360-K engine has also been modified - upping the horsepower from 195 to 210. The owner of this special XP, affectionately called *Samantha*, is Susan VanFleet, owner/operator of VanFleet Aviation based in Hickory, NC.

VanFleet had been after me for months to experience float flying in *Samantha* and the opportunity finally came on a beautiful May morning in North Carolina. However, before we get to the flying, I believe it's appropriate to offer a little background on VanFleet – an interesting story in of itself.

Although having learned to fly in 1971, it took fifteen more years before Susan VanFleet began her professional career in aviation. First graduating from Stephens College, Columbia Missouri with an AA degree, VanFleet then received her BS in Dietetics at Indiana University, followed by a year's Dietetic Internship at the University of California Medical Center in San Francisco.

Several years later she moved to Georgia to become the dietitian for Athens Regional Hospital. At last she was able to pursue her lifelong dream - to obtain her private pilot license in a Cessna 150 in 1971. Changing jobs to Ross Abbott as a pharmaceutical representative, getting married, having a child and buying a 1956 Cessna 172 to build time kept things busy for VanFleet. The well-paying job also allowed VanFleet to advance in her pilot ratings.

In 1986 VanFleet started her full-time flying career as a flight instructor and shortly after was hired by the University of Georgia to fly their Cessna 421 for the administration and athletic departments. And she purchased a Taifun motor glider for the fun of it.

Like so many career pilots, VanFleet's path had many turns. In early 2001 she became a King Air 200 simulator instructor for Flight Safety International [FSI] in Atlanta. But due to the events of 9/11 and the resultant downturn in aviation, VanFleet's low seniority at FSI meant she was one of the 28 out of 70 to eventually be let go.



Undaunted, VanFleet moved to Abington, VA to start her own flight school, Abingdon Aviation in 2002. Her training aircraft were a leased 1965 172, and a 1973 Cessna 172 named *Rosebud*, that she purchased. And she still had the motor glider, too.

During those early years, the flight school grew and afforded VanFleet the opportunity to make a fateful trip to Alaska, where she experienced float flying for the first time. She fell in love with seaplanes and earned her single engine sea rating in Moose Pass, AK. VanFleet not only returned to Alaska for more seaplane flying, for several years she also spent her vacation time pursuing training in seaplanes in Como, Italy, as well as New Hampshire and Maine. Then in 2008 VanFleet bought *Samantha* in Portland Maine.

Because the Abington area wasn't very conducive to flying on floats, VanFleet based *Samantha* in Hickory, NC, located at the base of the Appalachian Mountains and steeped in beautiful locations to water-land the XP. She decided to move her business to Hickory in 2014 because of the local scenic beauty, the climate, the people, the professional service experience she was having at the Hickory Airport, and to live in the area where she based the XP.

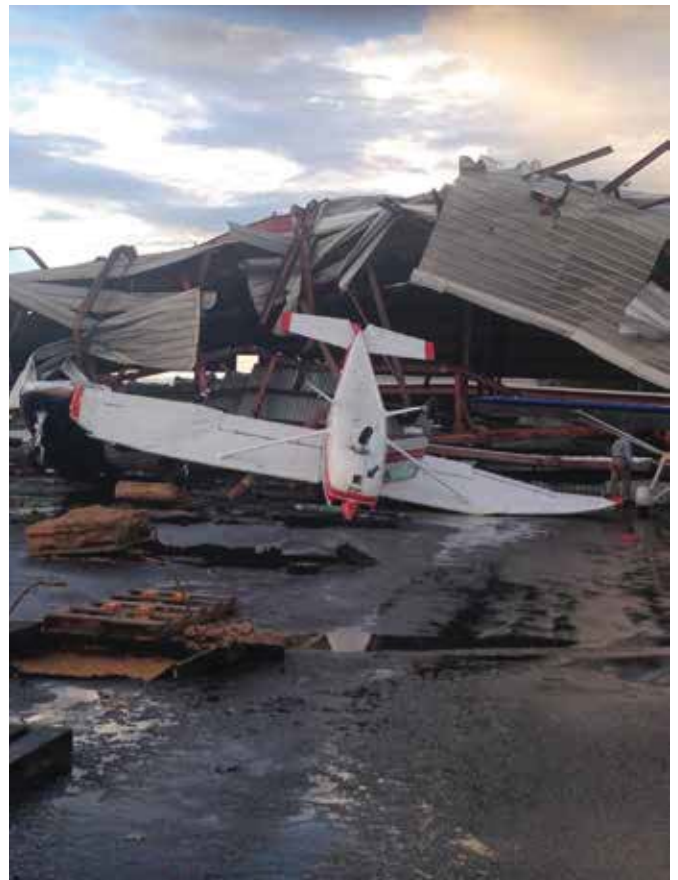


*VanFleet decided to base at the Hickory, NC Regional Airport in part due to their excellent FBO services.*

An ATP licensed pilot with Single Engine Land and Sea, Instrument and Multi Engine ratings, CFI, CFII, MEI, and commercial glider certificates, VanFleet's flight experience includes more than 8,500 hours of which 5,100 hours are as a CFI. She is one of those types of instructors we all wish to find. With an infectious laugh, a booming positive attitude, a true love for teaching and transfer skills to match, VanFleet is one of the best ambassadors General Aviation has in this area. And that goes double for the seaplane world.

And with the move to Hickory, VanFleet was finally living her dream - teaching clients how to fly off of land, water, or both. Primary and instrument instruction was accomplished in *Rosebud*, the 1973 Cessna 172, and the floatplane instruction was done in *Samantha*. [She had sold the motor glider] Mountain flying courses, scenic and photography flights, and special occasion flights also kept VanFleet busy. Then the unthinkable happened.

On October 23, 2017 at 4:20 pm local time, a tornado ripped through the Hickory Regional Airport. *Rosebud*, the major bread-winner for VanFleet Aviation was destroyed along with a number of other airplanes that shared the same hangar. However, *Samantha* - stored in another hangar - was spared of any harm.



*An October 2017 tornado destroyed VanFleet's Cessna 172 fixed gear trainer. The float plane was unharmed.*

Regardless, the effect was devastating to VanFleet's core business. It would take six months before she finished the arduous process of locating, repairing, refurbishing, and ultimately placing the replacement 172 she found in Texas into service. Stated VanFleet, "I couldn't be happier with the finished product. Jones at Iredell Aircare, Gary at Carolina Avionics, and Bill at Boss Painting [all North Carolina shops that are close to

Hickory] really worked hard to get me back into the air as soon as possible and with quality results.”

In early May, *Blue Belle* – the replacement 1974 Cessna 172 – was officially christened during a special ribbon cutting celebration at the Hickory Airport. Over 50 people attended, including local officials and presidents of area chambers of commerce. The genuine love this community has for VanFleet was palpable and impressive. They treated her as if her business was much larger than it actually is.

Both *Blue Belle* and *Samantha* are representative of what we wish more of the legacy general aviation training fleet looked like. Their appearance is clean, fresh and welcoming. Both 172's are equipped with Garmin 430W's and ADS-B in and out with Bluetooth connectivity. But the six-pack still rules here. VanFleet is adamant that primary training should be on steam gauges, then bring on the glass later. Amen to that!



VanFleet, standing next to *Blue Belle*, the 172 that replaced the one lost in the tornado, and with her float XP, *Samantha*, in the background.

Six-pack or not, what stood out most to me once strapped into the XP was the height I was off the ground. This was one sight picture I was going to have to get used to quickly. Except for checking that the gear selector was in the “down” position before turning on the battery power, start-up was typical Hawk XP – meaning effortless.

Then it came time to taxi to the runway – not so effortless. Imagine steering a grand piano on your front lawn and you'd be close. Lots of full rudder pedal with bursts of power while not riding the brakes and with lead times for control inputs measured in yards instead of feet pretty much is how it goes.

I was pleasantly surprised at the take-off acceleration of the XP. Even at gross take-off weight and with the morning temperature already above 80 degrees, *Samantha* was quickly moving down the runway, obviously eager to go flying. With us firmly in the climb and the landing gear tucked away, VanFleet had me climb all the way up to a whopping 1,500 feet above ground level. None of that higher altitude stuff today.

Although there was suitable water nearby for landings, VanFleet had a different plan. We would follow a series of rivers for about 30 minutes that would twist and turn us until we finally arrived at the lake where she wanted to do the water work.

Not only would this get me used to the rudder intensive flying characteristics of *Samantha*, but it would allow VanFleet to discuss the various techniques for spotting obstacles and hazards over, on, and under the surface of the rivers and lakes. This also led into discussions on how to pick the best landing areas.

For me, it was a lot like the techniques I use when flying helicopters in the non-airport environment. We are always looking for wires, poles, towers and other killers in the landing area. But with the floatplane, now you're also concerned about what's just under the surface. Areas that – at first – looked like they'd be fun places to land and beach revealed submerged logs and other hazards upon closer inspection.

Not only that, but with the floatplane there's more to it than just watching the water surface to determine which way the wind is blowing – something most of us have done at some time. Now you are also studying the water to determine the direction and strength of the water current. Remember, once you splash down, you are now a house boat with wings.

VanFleet obviously knows her stuff and how to make learning fun. But she didn't make it easy on me. We circled and circled a particular section of a lake – descending a bit lower on each lap. She admonished me to evaluate the whole situation and decide where we should touch down and in what direction, where our abort point would be, and after take-off where we'd go if the engine quit. She pulled enough answers out of me to earn her a dental degree.

Only then did VanFleet talk me through my first water landing. She didn't even want to do one first to demonstrate. That was the only time during the entire

2+ hours we flew that I questioned her mental acuity! But her instruction was clear and precise and the landing described above went swimmingly. [Sorry, I had to.]

Once we slowed down to typical trolling speed for a small boat, VanFleet had me deploy the water rudders. I've always loved being on the water. And what was unique and enjoyable for me was peacefully cruising across a lake but at the controls of a Cessna.

However, you can't go into a Zen moment. You have 18 feet of wing sticking out of each side of this boat, the toe brakes are useless and this thing doesn't turn on a dime. This is why you don't want to get into a hurry water taxiing. Plus, staying at idle power is much nicer on the prop. The water spray on those blades causes considerable erosion at higher taxi RPM's.



*Water taxiing is done at idle power to minimize prop erosion and increase the reaction time to observed hazards.*

You are constantly exploring for hazards both above and under the surface. And some of them are the human kind. An airplane slowly moving across a lake is an attractive target for the brain-dead idiots in boats or on jet skis. You're always on high alert.

But on this particular morning the on-lookers were content to keep a safe distance and we were soon in position for my first water take-off. With flaps set to 20 degrees, water rudders retracted, and the control wheel held firmly back against the stop, it was time to add full throttle.

VanFleet instructed me to watch for two different times in the early take-off run where the plane will do a small pitch-up and I should respond with small control

adjustments at each point. This sets you up for the perfect attitude in which to leave the water – and we did. You can really feel it when the plane breaks free from the water.

But as much fun as the take-off was, landing is still the best. And VanFleet had me come around and set up for another downwind leg in preparation for the next approach. She is emphatic about using **BGUMPS** as the trigger for preparation. Most of us perform the **GUMP** check before landing, so this isn't much different.

Her acronym stands for **B**rakes, **G**as, **U**ndercarriage, **M**ixture, **P**rop, and **S**ock. When VanFleet first briefed me on this process, I was obviously curious as to why we are checking brakes in advance of a water landing. She explained that the hydraulics for the brakes and the landing gear are both contained in the same area in the floats. If a quick stomp on the brakes reveals a soft pedal and potential problem, she doesn't know if something has damaged the area and possibly effected the landing gear mechanism too.

Being on the water is no place to find out you need repairs to the floats or associated mechanisms. Additionally, if the plan is to taxi up onto a boat ramp after landing, good brakes are essential to quickly stop the plane after using a high-power setting to climb the ramp.

Therefore, if the quick brake check is anything but the way it should be, VanFleet aborts the water landing and heads to the nearest airport to land and investigate the problem. As she put it, "You can always get a mechanic to come to the airport to help you. But finding one willing to come out to do the same thing in the water is another story!"

VanFleet adds the **S** for **S**ock at the end of her final check as a reminder to take one last look at the wind sock – or any other available means to determine wind direction – before turning final. A good habit for any landing, this step is especially important when assessing your water landing conditions and how you are going to deal with a crosswind and resultant drift on the water.

Now that I had a little better idea of what to expect, this landing was even more pleasing than the previous one. Landings are my favorite thing to do in an airplane and doing them on the water just doubled down on the enjoyment. In that we still had to fly to a suitable location for me to shoot the photos that accompany this story, we didn't have the time for VanFleet to take me



through the simulated engine-out procedure.

She explained to me that the majority of the schools that teach on floats typically break off the simulated engine-out approach at about 100 feet above the water. However, she has her students take it all the way to the water. “I want my students to have had the experience of truly landing engine-out on the water – they’ve got to know what to expect.” She added, “With the engine out and the weight and drag of those floats, this plane comes down in a hurry and you have to see what it takes to do a proper flare and touchdown without that engine. Breaking it off with power at 100 feet takes away a critical part of the emergency training.”

VanFleet promised me we’d go out again to do some dead-stick water landings. I akin the value of that maneuver similar to helicopter autorotation training that finishes with a full touchdown versus a power recovery. The power recovery certainly reduces the risk of the maneuver. But periodically doing some “full-downs” with a CFI really skilled in teaching them is essential to really being proficient.

Anyway, we headed back to Hickory for my first

amphib landing on the wheels. And yes, three times we confirmed the wheels were *down* this time. I was gentle with *Samantha* and was rewarded in kind on the landing.

I was surprised to learn from VanFleet that the majority of her float students are already seaplane rated but have never flown on amphibious floats. She explained, “The instruction cost for amphib is twice that of planes with just straight floats.” She continued, “But amphib is becoming more in demand because getting fuel on the water is so much more difficult now.”

Seaplane rated pilots with no amphib or complex aircraft experience are coming to operators like VanFleet to get the training and log the time needed to be insurable for an amphib airplane they intend to purchase. And of course, the same holds true for those looking to work for an operator who has amphib in their fleet.

“People who come to me for training because they want to buy their own amphib are really focused – I love working with them”, exclaimed VanFleet. And they won’t regret it. VanFleet’s syllabus is very com-



Landing on amphibious floats on the water is one of the few times pilots intentionally leave the wheels retracted.

prehensive. And she has her own specially written training manual. [She is quick to give ample credit throughout the manual to the sources she uses.]

I recognized some of the processes that were engrained in VanFleet from her short tenure as an instructor at FSI. Even the smallest of tasks were to be done in a specific order, and a specific way – no deviations. Safety isn't just a word batted around like so many do. Rather, with VanFleet's program, it's integrated within her operational culture so that it's automatic from the starting preflight to the final post flight activity.

It was a real treat to learn as much as I did about this new world – to me – of seaplane flying. And the best part was I was introduced to float flying the right way, by a real pro. And that awesome experience resulted in just one conclusion – I want more!

**Guy R. Maher is a dual-rated ATP/Commercial pilot and CFI for airplanes, helicopters, and instruments with over 17,000 hours – all civilian general aviation. He operates the aviation services company he founded – Lanier Media – specializing in aircraft sales and acquisitions, type-specific training, multi-media productions, and litigation support. Maher is also an NAAA certified aircraft appraiser and owns a 1973 Cessna 310Q. He can be contacted at laniermedia@gmail.com.**

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