

NEVER AGAIN /

Anticipation of adventure

Tablets, turbulence, and a bloody hand

BY TOM FOURNIER



“PALPABLE ANTICIPATION OF adventure” is perhaps the best way to describe what it’s like to approach a waiting biplane. On this cool fall morning, the porcelain blue skies over Tucson, Arizona, were lightly scattered with fluffy clouds adding to that prospect of adventure. My Waco YMF-5C biplane had just undergone an extensive annual, including replacement of mains tires, new brake fluid seals, and complete rerigging of the wings. So, this mission was to be a solo test flight inclusive of aerobatics before taking on any passengers.

Given the amount of work just completed on the airplane, today’s preflight merited the utmost scrutiny. Post-annual issues I’ve experienced in the past include under-inflated tires, missing oil filter safety

wire, wheel cracks, and disconnected electrical wires; but nothing of that sort surfaced today. Everything looked in order.

After manually pulling the propeller through seven compression strokes, I donned my parachute, climbed aboard, strapped in, and cranked the engine. The Jacobs radial chugged to life with its signature belch of smoke and a guttural rumble. Oil pressure swung to the green, so I switched on the avionics and verified wireless communication between the ADS-B receiver and my tablet affixed to the panel with a sturdy double ball clamp arm. The runup was uneventful, so I deemed the airplane good to go.

Once aloft I was greeted with smooth air, few clouds, and enough sunshine to

reward my open cockpit expectations. On the way to my first destination, I trimmed up the airplane and let go of the stick to see how true it would fly after rerigging. Joy! Straight and level perfection without a touch on the controls. It was tempting to stress test the rigging then and there with a loop or roll, but a more cautious approach seemed appropriate. I decided to first stress-test tires and brakes with a landing or two in case a failed rigging wire under aerobatic loads dictated an emergency landing.

Nearby Pinal Airpark (MZJ) was just the place to do so. Its 6,800-foot by 150-foot runway offered lots of room to grapple with any unexpected landing issues. With just one other airplane in the pattern and a single departing National Guard helicopter, there was ample spacing to do full stop-and-go landings. More joy! The landing gear and brakes performed precisely as expected even under heavy braking. I did four patterns and departed the area looking forward to performing a few aerobatic maneuvers.

Climbing at a leisurely pace and enjoying the scenery, I headed out over the Sonoran Desert toward a local golf course—an area free of other air traffic and offering many landing options if things went wrong. At 6,500 feet msl with nearly a mile between me and the dirt, I performed a couple of clearing turns and consulted my tablet for ADS-B traffic alerts. Nothing was in the area, so it was finally time for a loop.

The book says loop entry speed for my Waco is 150 mph indicated, but the airplane only cruises around 95 to 100. It is more like a graceful piggy than a flashy speed demon. So, with a firm and steady push on the stick, down went the nose: 110, 120, 130 mph. I slid the throttle back slightly to prevent overrevving but kept steady forward pressure on the stick. The rigging wires began to hum their pleasing song of excitement: 140, 150, and pull up. It takes purposeful effort to hold the stick back at high speeds because of the large control surfaces of the elevator. I glanced at the accelerometer and eased stick back-pressure just slightly to limit loading at 3.5 Gs. As the airplane went past vertical and began its backward arc to inverted,

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I gradually moved the stick forward to neutral. The rigging wires quieted as my graceful piggy slowed and floated upside down over the top. Then came the back side of the loop as the nose arced downward and speed picked up once again.

I began pulling back on the stick to arrest my dive, but something was stuck. Pull harder! Still no movement. The rigging wires were humming again. This time the hum grew louder as speed picked up and the view out the windscreen became swelling details of approaching terrain. Nose stuck down and gaining speed! There was pressure on my wrist. Without thinking, I pushed the stick forward, wiggled it fiercely, and then pulled back hard. There was a stabbing pain in the back of my hand, and the stick freed up. Finally, I could pull out of the dive while monitoring airspeed. What seemed like an eternity of uncontrolled dive was only a few seconds. Fortunately, the thick double wings and draggy struts and wires connecting them make it difficult to overspeed a Waco. I had reached only 175 mph in the pull-out—far short of the rated 214 mph never-exceed speed. Waco biplanes are difficult to break in the air, which is, in part, why they were used as trainers for first-time pilots at the outset of World War II.

The stick feels wet, I remember thinking. Safely out of the dive, I looked down to find my tablet and its holder tipped on an angle and still touching the back of my bloody hand. The 3.5-G force of the loop entry had overcome ball clamp friction holding the tablet in place and caused it to collapse onto my forearm, trapping the tip of the stick as I pulled it back. My wiggle of the stick was enough to get around the tablet, but not without that final (very determined) pull causing the edge of the tablet holder to open a gash in the back of my hand.

Then came the memory. During post-annual briefing, one of the two very conscientious and competent technicians who worked on my airplane had cautioned that he had temporarily removed my aftermarket tablet mount. He suggested I check to make certain things had been put back the way they belonged. I did just that, and all seemed fine—except I didn't think to check or tighten the force on the ball

clamp arm that held the tablet erect. So, the fault was mine. Yet, that oversight was only partly to blame for my bloody hand and racing heart. The other (and larger) part of blame goes to positioning the tablet where it could unexpectedly interfere with flight controls. The fault was doubly mine, and its seed had been planted several years ago when I first acquired the tablet.

The overworked adage “All's well that ends well” is far from true unless you add the words “provided lessons are learned.” My lessons were trifold: move the tablet away from the controls, give it a backup tether, and add ball clamp force to the preflight checklist. Perhaps you believe it's less likely you will experience this kind of episode because you don't do aerobatic maneuvers. If so, reflect on how the maneuvering speed limit was determined for your aircraft. It is the stall speed multiplied by the square root of the limit load factor, and that factor is federally regulated to a maximum of plus-3.8 G for normal category aircraft. In other words, when turbulence mandates that you throttle back to maneuvering speed, the goal is to keep your craft far away from that load factor. You should be safe—unless, of course, the onset of turbulence occurs suddenly while you are at a high cruise speed and your loosely held tablet shifts into control space precisely when you least need that kind of interference. On the other hand, if you never fly in turbulence, then you might have nothing to worry about—provided you also never have a hard landing and need to go around on the bounce. Then, hopefully, your tablet is not in the way of the yoke or the throttle.

I shared this story with a much younger pilot after noticing that he had a tablet mount much like mine. He blustered that he would never allow such a thing to happen because he is so meticulous about checking everything before lifting off. Maybe so, but I have my doubts. As my flying years continue rolling past at a seemingly increasing pace, I've become more convinced than ever that there is no such thing as an old pilot with nothing to learn. ■ *Tom Fournier is a single and multiengine instrument-rated private pilot living with his wife, Betty, in La Cholla Airpark in Arizona. He has earned degrees in engineering, business, and philosophy.*

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