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The Pilot's Lounge #2: Why Not Fly Tailwheel?

Does the thought of flying a tailwheel aircraft scare the you-know-what out of you? AVweb's Rick Durden says there's way too many myths out there about how difficult a tailwheel plane is to fly. Yes, you have to pay attention, but it's just a different set of skills, and a different attitude is required, but a tailwheel is not a demon ready to bite off your head. Rick provides us some easy to follow guidelines that will keep you out of trouble when you get checked out in your favorite tailwheel airplane.

By [Rick Durden](#) | October 7, 1998



Several years ago our local sheriff tried to check out in a Cessna L-19 Bird Dog he had obtained for the county following some major thefts at local farms. It did not go well. OK, that's an understatement. He set some sort of record for groundloops on landing. He went through two instructors trying to figure out how to land the airplane without doing a doughnut during the last portion of the rollout.

Keep in mind the Bird Dog is a tailwheel, single-engine, liaison/reconnaissance airplane used heavily during the Korean War and so good it stayed in the military inventory for a long time. (Cessna called it the model 305.)

During the sheriff's gyrations, we sat on the benches outside the pilots lounge here and watched. He would touch down smoothly on all three wheels, roll reasonably straight down the runway until he was going somewhere between ten and fifteen miles per hour and, ZAP! Around the airplane would go. It reminded us of a runaway swivel chair. The airplane never dropped a wing during the excitement. In fact, our sheriff never damaged the airplane at all. Don't get me wrong, he had a reputation as a pretty good pilot, yet he never could make three landings in a row without whistling around madly during one. It drove him, and the two instructors, nuts.

Taking bets

It got to the point some of the more cynical were taking bets as our sheriff came down final, just like my dad and others used to do at Pensacola in '44 when the Wildcats would be flown back on land after the pilots had spent months at sea doing nothing but arrested landings.

We thought that perhaps the L-19 might be rigged wrong, but some of the other instructors and experienced tailwheel pilots flew the Bird Dog without a problem. In fact, I liked it, and to this day wish I could have spent more time in it. It was one of the best-handling tailwheel airplanes I ever flew. With sixty degrees of flap travel it would do some amazing things and land quite slowly. Unfortunately, the sheriff gave up and got rid of the airplane.

There proved to be a negative side-effect to the wrestling matches our sheriff had with the L-19. The tailwheel checkouts on the rental Citabria here nearly dried up. The combination of the "demon tailwheel" articles in some of the popular aviation magazines and the memory of the whirling sheriff just plain scared off a lot of pilots. It didn't matter that Hack, of indeterminate age, but probably older than the Wrights, smoothly handled the Piper Super Cruiser he had bought new despite almost being a menace in a car. Nor did it matter that the tiny grandmother, Mary, used her Cessna 185 to make flights for LightHawk, the conservation folks, flying from some pretty primitive strips.

The newer pilots regarded tailwheel pilots as some sort of super beings. They didn't notice that the folks who came to fly the Citabria for aerobatic dual also discovered, incidentally, that tailwheel flying was a heck of a lot of fun. It seemed the mythology of the tailwheel had overcome common sense.

I enjoy flying tailwheel airplanes so the reaction of pilots bothered me. In giving tailwheel checkouts for over twenty years, I have found it to be some of the most satisfying instruction I do. That is due in part because many students show up utterly scared to death by the horrible stories they have heard about tailwheel airplanes. Some almost have a fatalism about the idea of a tailwheel checkout. To become a real, macho-type pilot they seem to think that they must learn to fly a tailwheel airplane. Yet, no matter what, they seem convinced it is going to get rolled up into a ball with them cringing inside and saying, "I knew this would happen, I just knew it."

They discover it is not that bad

Most have a heck of a lot of fun and kick themselves for not checking out sooner. However, some of them do aviation a great disservice by spreading the tailwheel terror myth.

There are books dedicated to flying tailwheel airplanes. Most are good. But, due to their length and complexity, they seem to add to the deification of the tailwheel airplane pilot and the demonization of the airplane.

As a result, a few of us here in the pilots lounge decided to see if we could come up with some basic guidelines to apply to flying the little beasts. Just stuff to keep in the forefront of your mind, similar to the short checklists we all memorize. The idea is to give a pilot an assist when, on short final in a gusty crosswind, the mind does the "Now what do I do?" bit.

Semantics: I am only talking about tailwheel airplanes, not taildraggers. Taildraggers have tail skids, not wheels. They are extremely rare. If you have the chance to fly one, get a detailed briefing on its specialized operating practices because they tend to vary from airplane to airplane. Some are incapable of handling a crosswind, being designed when airports were open fields and all operations were into the wind. Taildraggers are beyond the scope of this discussion.

Some basic guidelines

1. You must start and stop each turn. Because the center of gravity of a tailwheel airplane is behind the main landing gear, any turn on the ground requires the pilot to take action to stop the turn. That seems very simple, but think about it. In a nosewheel airplane with the c.g. ahead of the main gear, the pilot must take action to keep the airplane in a turn. Release the rudder pedal or brake and the airplane straightens out. Not so with a tailwheel airplane. A turn will continue and may tighten up unless the pilot does something to stop it. That basic rule must be ingrained into the pilot's consciousness. Rudder deflection is required to stop a turn. By the same token, when the turn has ended, it is necessary to stop the rudder input. Sounds simple, and it is, but it is essential to understand this on an emotional level.

2. Be alert anytime the airplane is on the ground. Yes, I know, aviation needs more Lerts, yet being alert and wary is the key to doing well in tailwheel airplanes when on the ground. In a nosewheel airplane, it is not uncommon for the pilot to breathe a big sigh of relief when the gear touches the runway. It is comparable to the yahoos on airliners who unbuckle their seat belts upon touchdown at 140 knots and then smack the seat in front when the brakes or thrust reversers take hold. In a tailwheel airplane ground time is the time when things get most interesting. When the airplane starts to swerve, it will not correct itself. The pilot must stop the swerve, then make the needed correction to point the airplane back in the direction desired, and then stop the correction. Sure, the adage about flying the airplane until all of the parts stop moving may be a cliché, but many catchy little clichés in aviation tend to have evolved because they were true. It is a good one to heed.

I keep thinking of the new Luscombe owner who came to me for a checkout. I talked landings and the importance of paying attention after touchdown for well over an hour before we flew. He came down final, made one of those absolutely gorgeous landings where the tires slowly start rolling, then looked over at me as if to tell me all my warnings were so much drivel and said, "\$@%#, this is easy." The Luscombe promptly headed for the weeds. Between us we eventually got the airplane straightened out. He never made that mistake again. He was also able to check out very quickly, because he was most alert anytime the airplane was not tied down.

3. Make a decision as to where you want the airplane to go at all times. You must decide as to the route and then act on it. If the airplane turns to the left or right from where you want it pointed, by any amount at all, correct it immediately. That means two degrees of turn, not ten or fifteen or twenty before corrective action is taken. Again, a simple rule. When followed aggressively, it means the pilot is not going to bend an airplane, assuming the original plan as to where the airplane should be going was not faulty. Tailwheel pilots get in trouble when they allow a change in heading rather than intentionally making it. This also means that you plan your turns in those airplanes where you cannot see over the nose and must make 's' turns while taxiing. While heading sloppiness may be tolerable in a nosewheel airplane, in a tailwheel airplane it will mean a groundloop. Everyone has watched pilots who allow their nosewheel airplanes to just sort of head off in some general direction. When doing that in tailwheel birds, they get bit, then complain vehemently it was the airplane's fault. In a tailwheel airplane you pick a point well ahead of the airplane. If the nose is in the way, use points on either side of the nose, then do whatever is necessary to keep the airplane in the correct relation to the reference point(s) and going where you want it to go. That is part of the reason what you are doing is called being pilot in **command**.

4. Be willing to put the controls to the stops. It is sometimes necessary to put a control surface to the stop to get the airplane to go where you want it to go. While it may be something you have only done with the ailerons while taxiing crosswind in a nosewheel airplane, you will find that a normal landing (as well as taxiing) in a tailwheel airplane means the stick or wheel will come to the full aft position. If there is a crosswind, the ailerons may need to be traveled to the stop while on rollout. You rarely put the rudder to the stop in a nosewheel airplane, however, in a tailwheel machine the need will arise from time to time, so be prepared to do it. Additionally, on roll out, you may find that a swerve is so severe that putting the rudder to the stop will not correct things and the throttle then has to be shoved from quiet to noisy to get enough airflow over the tail to have the effect you desire. It may mean a go-around, which may also be a very good thing.

5. When in doubt on landing, make it a full stall. (This is a general rule for single-engine machines, not twins.) If you bounce twice on an attempted wheel landing, either go around or make a full stall landing. That way you will not have to buy a new propeller or embarrass yourself more seriously.

6. If you do not like the landing, go around. Yes, we mouth that platitude on nosewheel airplanes. With tailwheel airplanes, it is one of the quintessential truths. In all candor, it may be the difference between a little delay on getting to the tiedown and a lot of twisted metal.

As a student pilot I made one of my solo cross countries in a Piper J-3, a tailwheel airplane. I went around five or six times before landing at the destination airport because I was having a lot of trouble with the gusty crosswind. I taxied in, shut down and walked into the FBO to get my logbook signed. What I wanted to do was

crawl in a hole because I was deeply embarrassed by my ineptitude. Of course the crowd in the office shut up and stared at me as I walked the mile or so across the room, approaching the desk, to acquire the requisite signature. I was mortified. As I turned to leave, the oldest guy in the room looked at me and said, "Going around was the smartest thing I've seen anyone do here, today." I looked at him in amazement. He smiled, walked over, shook my hand and made some comment about not forcing landings and the wisdom of go-arounds. I've never forgotten him or his advice. I've also made a fair number of go-arounds and have yet to damage an airplane on landing.

7. Land as nearly into the wind as possible. In a crosswind there is no magic to the runway centerline. Landing at an angle across a runway may reduce the effective crosswind component. Choose a grass runway, rather than pavement. If all other things are equal, the rolling resistance of the grass on the tailwheel will assist with directional control. If no runway is sufficiently aligned with the wind for your assessment of your skill level, go to another airport or land on a taxiway which is into the wind.

You have an emergency situation, if you feel you cannot control the aircraft under existing weather conditions. Think a moment; in a Kansas dust storm with sixty mile per hour winds, you wouldn't hesitate to declare an emergency and land into the wind would you? The conditions are clearly above your ability to land with virtually any crosswind component. So, why hesitate to do so in a wind of thirty mph or twenty if those exceed your personal minimums? Remember, you are the pilot in **command**.

So, go and get a tailwheel check out

Yes, there are FBOs which rent tailwheel airplanes. Ask around, you will find where they are.

Yes, you will work hard. Yes, it will be challenging. Have you ever done anything which was really, truly personally rewarding which did not take some determination and hard work?

You will discover many wonderful things: A tailwheel airplane can be landed in far worse wind conditions than a nosewheel airplane. No kidding. Generally its flight controls are more effective. However, you must plan as to how you will go about the process. The built-in control authority will go a long way to allowing you to carry out your plan. On a light wind day you can make turns while taxiing into the wind by deflecting the ailerons, right stick to turn left and vice versa. You will clearly understand why those instructors kept telling you about aileron corrections when taxiing.

Of course it is not easy. However, the day you do a wheel landing in a stiff crosswind, hold the downwind main wheel up until you want it to touch down, then select the point where you want the tail to come down, the level of personal satisfaction will be overwhelming.

Besides, you will never have trouble landing a nosewheel airplane again.

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