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COMMENTARY / THE CLASSIC INSTRUCTOR



This is what happens when taxiing with a stiff surface wind and not properly positioning the control stick.

Common Mistakes

Bad habits to watch for

BY STEVE KROG

IT IS IMPORTANT to be your own toughest critic when at the controls of an airplane. A good pilot will never accept “that’s good enough” when describing his or her flying.

As a result of many hours of dual flight, I have observed and noted many small mistakes commonly made in a single-engine tailwheel airplane of less than 1,320 pounds gross weight. Though many of these mistakes may seem minute, each can lead to a greater mistake, or even an embarrassing incident of which none of us want to be a part.

STARTING AND TAXIING MISTAKES

- Positioning the throttle for starting. If the operating manual says crank the throttle no more than 1/4 inch, why do pilots want to add another 1/2 inch? The engine catches and immediately hits 1800 rpm or more. This is not only hard on the engine but also can lead to a nose-over situation destroying the propeller, engine, and engine mount.
 - Not positioning or tying the control stick/yoke back when starting. Should the engine start and speed up due to item No. 1 above, the immediate prop blast can easily lift the tail of the aircraft, possibly damaging the prop or more.
 - Forgetting to position the elevator and ailerons correctly when taxiing across the ramp to the runway. A good gust of wind from around the hangar as you taxi into the open area can cause some very interesting wing and tail lifts as well as gear pirouettes. To make a lasting impression I allow my students to remain lax on the controls while taxiing only to hear a shrill but muffled scream when the windward wing lifts off the ground and the aircraft immediately does a 90-degree turn. Generally, it only takes once
- and the individual never again forgets about control inputs while taxiing.
 - Continuous throttle/power changes (throttle jockeying) while taxiing. Are you one of those who must increase and decrease the throttle every few seconds? I’ll bet you’re hilarious to ride with in an auto. Adjust the power for a slow but steady taxi speed and leave it there. Make minor adjustments for turning, headwind, or taxiing on turf.
 - Forgetting to look where you are going and forgetting to watch for other aircraft in the air or on the ground nearby. In today’s world, it seems that everyone is flying with an iPad or something similar and fixating on making all the inputs while taxiing to the runway.
 - Not pointing the nose into the wind when conducting the pre-takeoff checklist if there is a surface wind greater than 10 mph. Doing the run-up with the stick in the full-forward position due to the surface tailwind can cause the tail to lift when power is applied. The airflow over the tail surfaces far exceeds the tailwind velocity.

- Pointing the nose so there are obstructions in front of the aircraft during engine run-up. I watch individuals swing the tail around pointing the nose somewhat into the wind and set the brakes with runway markers, lights, and drainage ditches directly in front of the aircraft. Should a brake or brakes fail, significant damage can result. Why not be a bit more aware of the surroundings and point the nose so that an incident won't result if the brakes aren't working.

TAKEOFF MISTAKES

The takeoff can be quite an adventure if lax practices are employed, ultimately causing an adrenaline rush. Some of the situations I've observed as an instructor include:

- Forgetting to put the control stick in the full aft position before power is applied. Remember, the only true directional control you have as the pilot of a tailwheel airplane during the first few seconds of the takeoff is with the steerable tail wheel. The desire is to keep it firmly in contact with the runway surface until the controls become effective. Pushing the stick forward before adding power decreases the download on the tail surfaces, increasing the potential for a problem.
- Neglecting to use the right rudder until the aircraft has made a 30-degree turn toward the left edge runway lights. Anticipate,

then tap the right rudder lightly as needed to keep the airplane in alignment with the runway centerline.

- Ramming the power from idle to full rather than making a smooth power application. I like to have the students count off one-one thousand, two-one thousand, three-one thousand from idle to full power. Smooth, steady application lessens the abrupt leftward attitude change of the aircraft while on the takeoff roll.
- Pushing and holding right rudder after liftoff. Depending on the aircraft being flown, it usually takes very light but steady right rudder pressure while conducting the full power climb-out. Holding hard right rudder configures the airplane in a skidding climb to the right, significantly reducing climb efficiency. Feeling the blood in your head rush to your left ear should be enough to tip one off about the skid. However, until it is pointed out and then practiced, less experienced pilots are unfamiliar with the feel.
- Chasing the airspeed throughout the first 500 feet of the climb out. This always indicates fixation on the airspeed indicator rather than positioning the nose on the horizon for a steady and constant climb.

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Grasping the control stick too firmly causes poor blood circulation, stiff fingers, and tired, sore forearm muscles. Control inputs will be stiff and mechanical.



A more relaxed grip allows for smooth fluid control inputs.

LEVEL FLIGHT

Straight and level flight should be both easy and relaxing. However, there are always methods of refuting that. Most are usually very minor miscalculations and can easily be corrected by relaxing and allowing one's self to "feel" the airplane. Assuming the aircraft you are flying is properly rigged, common mistakes I've observed include:

- Forgetting to relax right rudder pressure. After a three- or four-minute climb while holding light but steady right rudder pressure, it feels almost natural. The nose is lowered, power set for cruise flight, but the right rudder remains causing an uncoordinated skid to the right and reducing airspeed by 8-10 mph. Even if you can't feel it, a quick look at the turn and bank indicator will show the ball being pushed leftward. Relax your foot and you'll be amazed at how the ball stabilizes in the middle as your airspeed increases.
- Not adjusting the trim after establishing level cruise flight. I'll frequently ask the student to let go of the control stick and see what the airplane wants to do. More often than not it will pitch upward creating the need for application of forward control stick pressure to re-establish level flight. Pilots aspire to fly in a relaxed manner employing two to three fingers on the control stick. (Hold the control stick as if you were holding a Churchill cigar.) Do not grip it with a full hand. Adjust the trim so that you can release the control stick, and the aircraft will remain in level flight.

APPROACH TO LAND

It is a true pleasure to fly the low-horsepower, single-engine airplanes as many of us do. But little mistakes are still made. Very few will get you in serious trouble, but improving on the little errors will make you a better and safer pilot. Things I've observed that can be improved include:

- After making the initial power reduction on the downwind leg, many will not use a bit of nose "up" trim to ease the amount of back pressure on the control stick. Thus, the nose will pitch downward a bit lower than desired. Increased airspeed and more rapid altitude loss occur. What wasn't a problem initially has now become two problems. The more stable and constant the approach, the less adjusting will be needed on final. Losing too much altitude on the downwind or base legs will cause a low approach, requiring added power to safely reach the runway. Lowering the nose also increases speed or excess energy. This excess energy needs to be dissipated before a safe landing can be made.
- Flying the final approach 8-10 mph faster than recommended. When I've asked individuals why they do this, they reply, "Safety, a little faster is better." This philosophy might apply when dealing with a strong headwind or even gusty conditions, but under normal conditions, an 8-10 mph increase in approach speed will generally double the amount of runway needed for a safe landing and rollout.

- Improper aileron and rudder inputs when turning to final and aligning the aircraft with the runway centerline. It's very easy to become preoccupied talking to your passenger, looking for traffic, and talking on the radio. But don't forget to use the aileron and rudder inputs in a coordinated manner so as to prevent a possible stall/spin situation.

Improving on the little errors will make you a better and safer pilot.

LANDING

Landing is quite easy if the approach has been stable. Again, there are several common mistakes I've observed including:

- Holding one's breath and letting your lower legs tense up in preparation for the landing. I have every student do the following exercise every time we turn final. Take a deep relaxing breath and wiggle your toes in your shoes and flex your fingers. I may even have them do this exercise two or three times. This helps the muscles relax. Relaxed muscles allow for smooth rather than jerky inputs, creating a better safer landing.
- Forgetting to keep the control stick all the way back after touching down and rolling out. This is an error most commonly made by individuals transitioning from tricycle to tailwheel aircraft. If the stick moves forward, the elevator allows the tail to come up and the wings begin generating lift rather than remaining in a stalled configuration. Keep the stick back, the wings stalled, and the wind forces pushing downward on the tail for positive directional control with the steerable tail wheel.

The small errors I've dissected in this article are not meant to be critical of anyone's skills. Rather, I hope they will help you become an even better pilot if you put some of these tips to work for you.

Keep flying, safely. *EAA*

Steve Krog, EAA 173799, has been flying for more than four decades and giving tailwheel instruction for nearly as long. In 2006 he launched Cub Air Flight, a flight-training school using tailwheel aircraft for all primary training.