By Jay Hopkins

Training

Striving for Perfection

WE LIVE IN AN IMPERFECT WORLD. Pilots have varying levels of skill, and even the most skilled pilot can have a bad day. Systems break down, things go wrong, and the weather sometimes doesn't bear even a passing resemblance to the forecast. With all those uncertainties and problems, it can be easy to give up and accept less than perfect performance. What is the big deal if we are a little left of course, or if our airspeed is just a little slow?

While perfection may not be possible in aviation, we should always be striving for it. That means that if anything is not exactly as it should be, we are working hard to get it there. There is nothing wrong with being a half dot left of the localizer as long as we are in the process of correcting the situation. The problem comes when we accept a half dot left as "close enough."

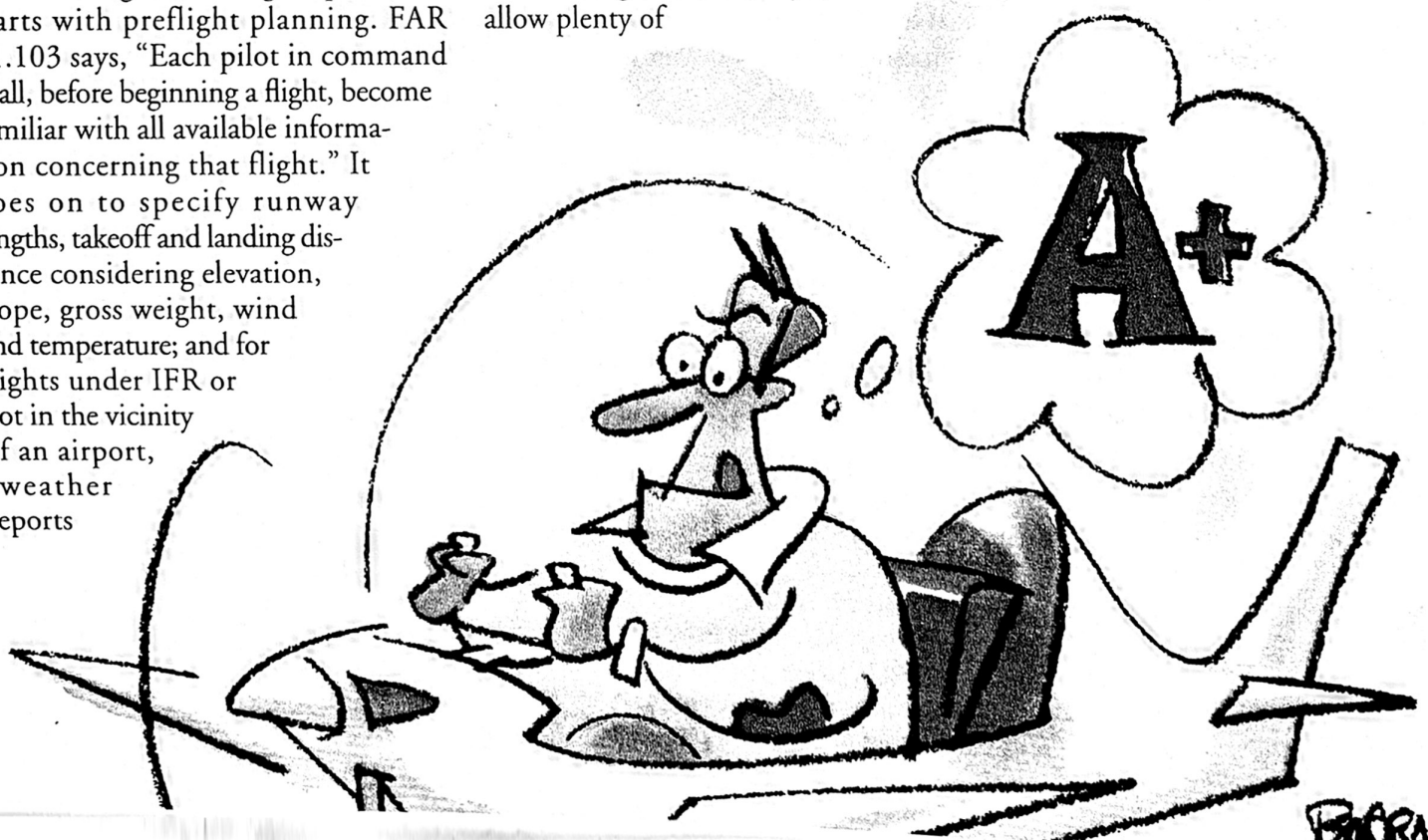
Let's take a look at some of the situations in which a pilot might be tempted to accept less than perfection, and the risks of doing so. Striving for perfection starts with preflight planning. FAR 91.103 says, "Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight." It goes on to specify runway lengths, takeoff and landing distance considering elevation, slope, gross weight, wind and temperature; and for flights under IFR or not in the vicinity of an airport, "weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays."

That covers a lot of information. In a light aircraft most pilots ignore the takeoff and landing computations and assume any runway over a certain minimum length is adequate. Most of the time this works, but every once in a while a pilot discovers the hard way that even a 5,000-foot runway may not be adequate under the current conditions of elevation, weight, temperature and wind.

It also can be tempting to watch the weather on the television in the morning or even just look out the window and assume the beautiful clear weather will continue to your destination. With DUATS (duats.com), it only takes a couple of minutes to get a complete flight log, check the weather, winds aloft and notams (including airspace restrictions), and file a flight plan, so there is no excuse for not doing so. Make sure you allow plenty of time so you can carefully investigate all the possible risks and even if time is short, don't give in to the pressure to get going. Keep an eye on yourself to see if you are getting rushed or starting to skip over or ignore important information. Take the time to clarify anything you are not sure of, and plan for a reasonable cushion for fuel and weather.

Preflight inspection is another area pilots can tend to skimp on the details. Just because you are "positive" the tanks are full is no reason not to check each tank visually. If the oil is "just a little bit" below where you normally add oil, take the time to put in a quart rather than waiting until you get to your destination. Many pilots have been very glad they took the time to carefully check the aircraft and investigate further when something didn't seem right.

Ready to taxi? In our rush to get going it is tempting to make



the call to clearance delivery or ground control while we are still buckling in. This results in a mad scramble to get the clearance written down, so wait until you are sitting with pen in hand, ready to copy. If you do miss anything or are unsure of what something means, take the time to ask.

Taxiing out, no one will be measuring your distance from the center line on the taxiway with a ruler, but the professional pilot doesn't accept any deviation from the middle. If you are not on the line, you should be correcting back. Same thing on takeoff. Except for extreme wind conditions, you should be right down the center of the runway.

I already mentioned an ILS approach. Accepting a half dot low means that in the case of a sudden downdraft you are that much closer to busting the approach. High on the approach? A decreasing headwind on short final could cause a long landing and an overrun. The same goes for airspeed. Being just "a little" fast or slow can snowball into a major problem if the approach starts to go sour. The best approach involves an immediate action to stop any deviation from getting worse, followed by a smooth correction back to where you should be.

The same philosophy applies to most other parameters in flying: attitude, altitude, airspeed, rate of turn, rate of descent. The key is to realize that while perfection is not possible, deviation is also not acceptable, so any deviation should result in a quick correction to stop further deviation followed by a smooth return to the desired value. This means that on a check ride, even if the test guide allows 10 degrees off your heading or 100 feet off your altitude, you start a gentle correction at the slightest deviation. Done well this can result in "almost perfect" flying, with deviations so small and corrections so smooth that it appears the plane is exactly on the desired path.

It is critical that instructors realize the importance of this approach. I have known some instructors who don't accept anything less than perfection. Every time the student deviates from the desired value, the instructor starts raving and ranting at the student about their sloppy flying. This usually causes students to become very frustrated and even depressed because they can never seem to do anything right. Also, constant harassment by the instructor means that students don't learn to pick up the deviations on their own.

Since everyone makes mistakes, it is much more important to train the student how to detect and correct a mistake rather than establishing unrealistic expectations about perfect flying. If I see a deviation developing on an instructional flight, I would rather wait quietly to see how long it takes the student to detect the error and how the correction is made. If it goes too far, it is likely the student doesn't have a good scan technique or perhaps just doesn't realize the importance of initiating a correction as soon as a deviation is detected.

This approach to instruction can even be applied to crew situations. It used to be that the "pilot not flying" was not supposed to say or do anything to help the pilot flying on an instructional flight or a check ride. Finally people realized that the reason for a two person crew was that the pilot not flying could keep an eye on things and alert the pilot flying to deviations or problems. This led to check rides in which the emphasis was on early recognition and effective communication and problem solving as a team, which is exactly what should be happening in the cockpit. While the pilot flying the aircraft should not rely on the pilot not flying to pick up every deviation or problem, there is nothing wrong with the pilot not flying pointing out something the pilot flying has missed or suggesting an alternate course of action.

No one is a super pilot, always doing everything exactly right, but don't let that become an excuse for sloppy flying. Whether you are a student pilot just starting out or an airline transport pilot with thousands of hours; whether you are on a local flight just for the fun of flying or on a trip across the country for business; approach every flight as a professional, always alert for any deviation from the desired parameters and ready to gently, but quickly, correct back to the ideal state.

Risk Assessment for Takeoffs and Landings

King Schools has developed a follow-on training program to its Practical Risk Management program that specifically addresses risks involved in takeoffs and landings. The 93-minute, three CD-ROM program, *Practical Risk Management For Takeoffs and Landings*, features computer-based interactive video and concerns those phases of flight that Avemco's Jim Lauerman said result in 25 percent of all claim dollars. Course completion qualifies pilots for both the ground school portion of a FAA Wings program and for the Avemco Safety Rewards program. The course is

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