

# GOOD PILOTS DON'T JUGGLE

AVOIDING COCKPIT OVERLOAD

» *By Natalie Bingham Hoover*

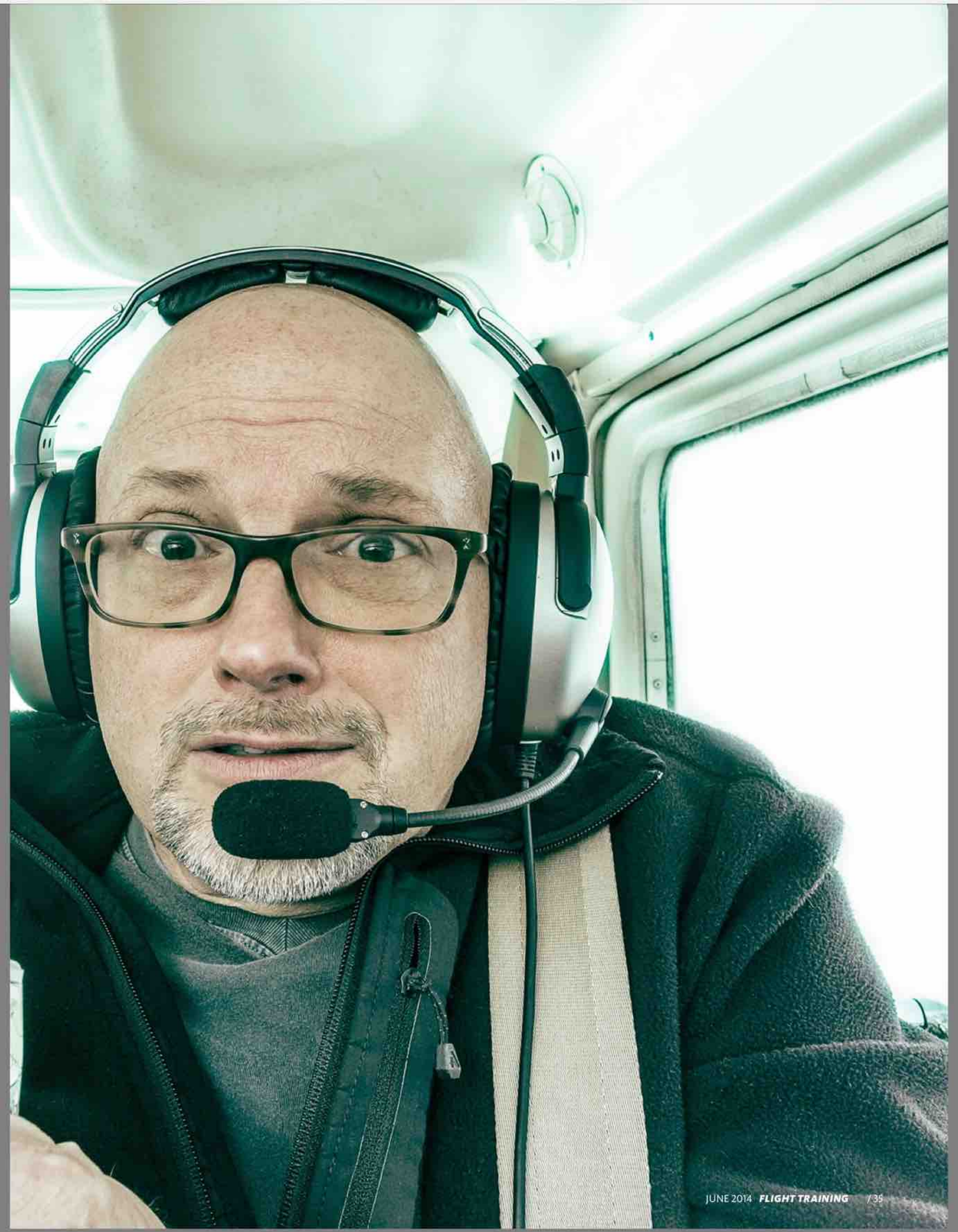
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**Juggling 101: Don't drop the ball.**

**Juggling 102: If things start to fall, you are trying to juggle too much at once.**

Flying an airplane can sometimes feel like a circus juggling act, especially when trying to manage an unfamiliar aircraft or master a new piloting skill. There are many times during the course of learning to fly when students frequently feel overwhelmed: mastering the traffic pattern, dealing with equipment malfunction, learning to fly an instrument approach, and upgrading to more complex aircraft, just to name a few. During these times, cockpit skills needed to





perform safely in those high-stress conditions. Most new pilots report feeling rushed, distressed, and even a little panicky when that much multitasking is required. And when panic sets in, balls get dropped.

When learning a new skill, dealing with inoperative equipment, or flying in adverse weather, some level of stress is unavoidable. But what do we do when cockpit multitasking raises pilot stress to an uncomfortable or dangerous level? And how do we avoid putting ourselves into those situations in the first place?

**THERE HAVE BEEN** several times during the course of my aviation career when stressful cockpit environments managed

### **WHEN YOU DO GET YOURSELF IN A STICKY SITUATION, DON'T TRY TO BE A HERO. ASK FOR HELP.**

to take all the fun out of flying. It's during those times that I remember words of wisdom spoken by my first boss in aviation. He was an experienced airline captain and part-owner in a charter outfit where I had just been hired. He had the dubious job of teaching me to fly a Beechcraft King Air 200, when the majority of my previous flying experience didn't involve anything faster than a Cessna 172 truing at a whopping 110 knots. The King Air was much bigger and faster, and had a lot more buttons to push. During our first training session, I was trying to set up for an instrument approach, run a descent and landing checklist, and deal with the unfamiliarity of the procedures that accompany a pressurized airplane, all while traveling 250

knots and feeling like I was plummeting toward Earth at a dangerous rate. In short, that airplane was flying me, not the other way around. Somewhere around this point, my irritatingly calm instructor decided to speak up. "You're working awfully hard over there. Why don't you ask for help? Let me run a checklist for you. Ask ATC to vector us around again. And for goodness' sake, slow down." And then he added with a smug smile, "Remember, good pilots are lazy." I couldn't quite understand what he meant then, as my mind was task-saturated. But time and perspective are good teachers, and I eventually grasped what he was trying to say: A good pilot knows her limits and flies the airplane in such a way that the workload will never exceed the pilot capability. And, when you do get yourself into a sticky situation, don't try to be the hero. Ask for help.

**THERE ARE SEVERAL WAYS** to quickly minimize pilot workload. First of all, slow down. If an instrument approach or a trip around the traffic pattern seems to be moving too fast, it may be because you are still flying at an airspeed more appropriate for cruise flight. Reduce the power and get some drag out, whatever that may be on your airplane. Flaps, gear, controllable-pitch propellers, and spoilers are all tools for helping to reduce the airspeed. If you have really gotten behind the airplane, you may be too fast and also too high. In that case, most pilots find themselves way above maximum flap-extend speed because they are aggressively pitching down to get on glideslope. The wisest thing to do in this situation is to momentarily sacrifice getting on the glideslope so that you can pitch up to reduce your airspeed below  $V_{FE}$ . With the drag of the flaps, the airplane will be much easier to slow down and also attain a descent rate that will get you back on glideslope. Don't forget, a go-around is always the safe decision if you find yourself in a situation where a stable approach is no longer possible.

Adverse weather conditions and equipment malfunctions are other high-workload situations that often get pilots into trouble. This is where good cockpit resource management (CRM) comes in handy. CRM has become an annoyingly overused aviation buzz term, but don't let that turn you off. "Poor CRM technique" is listed as the reason for any number of recent accidents and incidents. We are all more than familiar with the resources available to us. The problem is that we don't think we need to use them. How many times have we let our altitude fluctuate while reading and performing a checklist when there's a perfectly capable person sitting in the right seat? Why not let that person read the checklist out loud so that we can fly the airplane and look outside for traffic?

The autopilot is another underused resource that can help increase the margin of safety during situations that require a high amount of multitasking. While there's a lot to be said for staying proficient and hand flying as often as you can, it may be wiser to let the autopilot do most of the work during adverse weather conditions so that you can manage more effectively. Remember that ATC also is a valuable resource, especially when dealing with an equipment malfunction. Focus all of your attention on flying the airplane safely and don't waste your time on tasks that ATC will be more than happy to help with, such as providing vectors to the nearest suitable airport.

**THERE IS NOTHING** like the feeling of being so stressed in the cockpit that you would give anything to be on the ground. Once you have experienced that unpleasantness—and you will if you fly long enough—you come up with ways to make sure you never find yourself in that situation again. There are several ways to do this; and they all involve planning ahead.



**THERE IS NOTHING LIKE THE FEELING OF BEING SO STRESSED IN THE COCKPIT THAT YOU WOULD GIVE ANYTHING TO BE ON THE GROUND.**

If you are trying to learn a new piloting skill or upgrade to a more complex aircraft, spend some time on the ground chair-flying before you actually get in the airplane. It's cheap and stress free!

If you are flying to an unfamiliar destination, make sure you have an airport diagram handy, complete with a pencil mark to show the direction from which you will be arriving. This only takes a second, but it can make a big difference when the tower tells you to cross over midfield and plan a left downwind entry for Runway 21. When staring at an unfamiliar airport complex, especially one with intersecting runways, an instruction like that from ATC can really be confusing for a pilot who is already nearing the extent of his or her personal workload capacity.

**ONCE YOU HAVE** done all the ground prep work before you depart, remember there are things you can do in the air as well to make sure your flight goes smoothly. A

study on pilot workload management and decision making conducted by Mireille Raby and Christopher D. Wickens, found that the subjects who performed best were those who scheduled minor tasks earlier in the flight. In other words, they knew their personal limitations and planned ahead for the high workload situation of approach and landing. So, perform checklists as early as possible, review approach plates and airport diagrams before starting the descent, and listen to destination weather as soon as radio or satellite reception makes that possible.

Also realize that just because a flight may be legal for you to take, it isn't always wise to do so. An approach to minimums may seem attractive to a newly minted IFR pilot, ready to test his or her recently acquired privileges, but it may not be smart until you have had more experience. So, set personal weather minimums and systematically push your limits in small increments if you want to avoid getting in over your head in an airplane. And believe me, you do. While experience and intelligence may render you perfectly capable of juggling several things at once, why risk it? Remember, good pilots are lazy and feel no shame about minimizing their workload to experience stress-free and enjoyable flying. After all, it is an airplane—if you aren't enjoying yourself, you are doing something wrong. 🐼

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