Stop making it difficult

Teach your students to manage workload

By Larry Bothe

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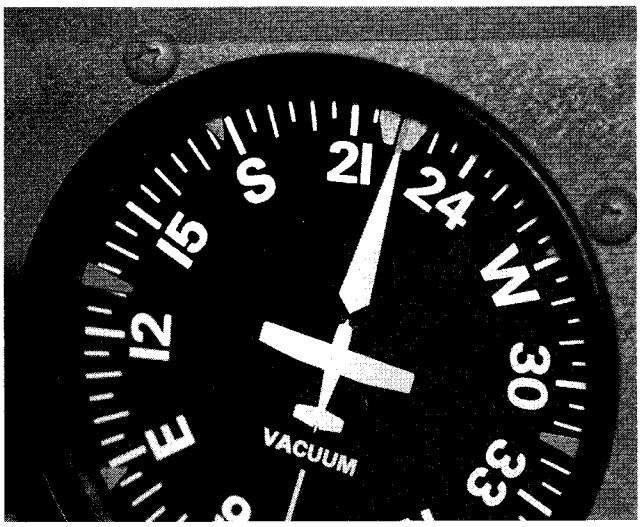
Flying an airplane is actually pretty easy, once you get some instruction. But as an FAA designated pilot examiner (DPE), time and again I examine sport or private pilot applicants who are working really hard—too hard—to fly the airplane.

There are many things these low-time pilots could be doing to ease their workload, but nobody showed them how. When I talk to their instructors after the checkride, I find that they know these work-saving procedures but just haven't told their students. Why not? I hear things like "Oh, that's an advanced technique," or "I didn't think the student could do that," or "We teach that in the instrument program." It's as if instructors are requiring students to "pay their dues" at the entry level by making things harder than they need to be.



Here are some of the more egregious workout items I routinely see on sport and private checkrides. The number-one thing is in the level-off after climb, while transitioning to cruise flight. Most pilots climb up to their desired altitude, then simultaneously lower the nose and reduce power. The problem is that the airplane is initially still at climb airspeed, and with the power reduced it takes a relatively long time, perhaps two or three minutes, to accelerate to cruise speed. During this acceleration period the pilot must repeatedly adjust pitch, power, and trim while the airplane is stabilizing in cruise. The airplane porpoises through the air while the poor pilot makes constant corrections.

The better way to do the cruise transition is to climb about 40 feet above the desired cruise altitude, lower the nose all the way to level flight attitude, and then make a single gross nose-down trim movement (one roll, bottom to top, works well in Cessnas) without touching the throttle. With the throttle still wide open and the airplane in level flight, cruise speed will show up rapidly on the airspeed indicator. Once at the expected cruise speed, reduce the throttle to the desired cruise power setting. Other than perhaps one small trim refinement, you're all done. It takes about 15 seconds. Lean the mixture when time permits.

There are several other work-saving procedures related to trim.

Descent: Reduce the power as appropriate, but don't touch the trim! Let the nose seek its own attitude. You'll get a 500- to 600-fpm descent. For level-off, take 10 percent of the descent rate and initiate the level-off that many feet above the desired altitude. If it's a 600-fpm rate of descent, then start the level-off 60 feet early by promptly returning the throttle to the cruise power set-

ting. The nose will come up by itself and the airplane will use that last bit of altitude to return to level cruise flight. No trimming will be necessary because the trim wasn't changed. Richen the mixture as necessary.

Takeoff: Setting the trim indicator opposite the takeoff mark doesn't always yield the desired climb airspeed, usually because of wear in the system. A better procedure is to note the trim setting after you have taken off and trimmed for climb. Use that setting for takeoff in the future. Then, on subsequent takeoffs, you won't have to trim once airborne.

Engine failure: We tell our students that the first thing to do after engine failure is to pitch for best-glide airspeed and then trim. The student then proceeds to take half

course because VORs are laid out on the chart relative to magnetic north, and the VOR radio signal is not affected by wind. I often see applicants set the OBS to the course magnetic heading, which they have calculated using a wind correction angle. The best way for students to get the magnetic course is to simply read it from where the course line on the sectional chart passes through the blue compass rose around the VOR.

Check the directional gyro/heading indicator: If navigation isn't working out, the first thing to do is to check the DG against the wet compass, and reset the DG if necessary. That usually solves the problem and gets students back on course.

Turning: After clearing the direction of the turn for traffic, have the student look straight

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of forever to get the trim set using the trim-and-test method. A much better way is to just trim full nose up; move the trim wheel or crank all the way to the stop. No, it won't stall (a certification requirement), and the resultant airspeed will be very close to best glide. Don't believe me? Try it.

There are several other extra-workload items I often see when performing checkrides. Consider teaching these procedures to your students.

Radio setup: Have your primary students set up the VOR or GPS on the ground. They will be much less likely to make errors. Once in the air, they will have more time to look for traffic since they won't be fiddling with the radios. Setting up a VOR must include both the frequency and the omnibearing selector (OBS). Approximate the OBS setting if you haven't bothered to calculate it.

Magnetic course: The OBS needs to be set to the magnetic

ahead while setting the bank. If he continues to look in the direction of the turn, he'll usually overbank.

Use the rudder correctly: No flat-footed turns! Rudder and aileron are used simultaneously; one does not lead the other. Common errors are not using rudder at all, continuing to hold rudder pressure after the bank is established, and using rudder while rolling into a turn but not when rolling out. Please don't accept shoddy rudder usage by your students, because I won't.

"Sawing" the ailerons: Don't let your students continuously "saw" the yoke back and forth in a vain attempt to correct for every little bump they feel. Tell them to let the airplane fly itself. Initiate correction only when a trend (wing low) develops. That makes flying so much easier.

Here are some ideas for saving work and effort during the landing phase.

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Short-field landings: Have your students start out by going a little farther downwind than normal, then everything else will fall into place. Also tell them to "aim" about 150 feet short of where they actually expect to touch down.

Soft-field landings: Use a final approach speed five knots faster than for a short-field approach. Ensure a soft touchdown by carrying a little power all the way to touchdown. About 200 rpm above flight idle should do the trick.

Slip to a landing: Note the side from which the crosswind is blowing and slip with that wing down. It's much easier to use all the rudder there is (pin it to the firewall) and then "steer" with the ailerons.

Why shouldn't we make things as easy as we can for our students? If a given task is more difficult and time consuming than it needs to be, that spills over into the next task. If the student is struggling for several minutes to get the airplane stabilized in level cruise flight, he or she may unwittingly fly past a checkpoint, creating an unnecessary navigation problem.

Often, during a flight review, I demonstrate some of these techniques and let the pilot try them. The reaction I usually get is "Boy, that was easy! I've been doing it the hard way for all these years. I wish my primary instructor had showed me that."

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