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Shifting Gears

Tips for Tackling Transition Training

In the flight school where I worked as a part-time CFI some years ago, it was common to assign newly-certificated instructors to flights deemed less challenging than training for a certificate or rating. Intuitively, it makes sense. Rather than pairing a completely novice instructor with a completely novice trainee, the school would initially assign flight-seeing jaunts, introductory disco (discovery) flights, flight reviews, and rental checkouts to give new instructors an opportunity to get accustomed to the right-seat role.



Photo by H. Dean Chamberlain

And so it was that on one fine autumn day, I was on the schedule to conduct an aircraft rental check-out in one of the school's single-engine Cessna aircraft. The client was a genial, recently-retired airline pilot anxious to get back in the sky.

His credentials and qualifications were impressive — and more than a tad intimidating to a newbie like me. I couldn't imagine that I could possibly teach him anything about aviation, and it seemed arrogant to even try. As I reviewed his neatly-completed paperwork, I realized that I didn't even need all of the fingers on one hand to count the number of aircraft types I had flown. My client, on the other hand, didn't have enough room on the school's standard checkout sheet to list all of his. My total time was a very modest three-digit number. His was somewhere north of 20,000 hours. Sure, most of that flight time, and all of his most recent hours, were logged in heavy metal. Still, he and I both approached his single-engine Cessna checkout with more than a little of the "how-hard-can-it-be?" mentality.

You know where this story is going, right? The sight picture, speeds, and power settings that had become second-nature from his long airline career simply did not work in a light GA aircraft. Suffice it to say that he and I were both surprised and humbled by the experience. The first landing qualified as "great" only because we were both able to walk away from an airplane that could be flown again without a visit to maintenance.

Up, Down, or Over?

As you might imagine, this early experience taught me several important lessons. The most important was to never, *ever* make assumptions on how previous training and experience might translate to a different aircraft.

Another lesson involves perspective. When we think about transition, pilots often focus more on what we perceive as moving "up" in the aircraft taxonomy. With more capable aircraft, we naturally expect to invest considerable time and effort to master the machine by understanding its avionics, its systems, its performance, and its handling characteristics.

Too often, though, we tend to give short shrift to the idea of moving "down" to an aircraft that appears deceptively simple to operate. Therein lies the trap. To assume that moving down is always going to be less demanding is every bit as inaccurate and dangerous as responding to the intuitive sense of "up and down" that can lead pilots to mishandle

an aerodynamic stall. As Northrop test pilot Max Stanley famously noted:

The J3 Cub is the safest airplane in the world; it can just barely kill you.

Any pilot who has transitioned from a standard category airplane to a light sport aircraft (LSA) will attest to the very real challenges involved in moving to a lower-performance airplane. In addition to being less capable in weather and possibly less robustly equipped, some LSAs have very different handling characteristics that can bite the unwary or ill-prepared pilot.

The bottom line is that whether moving to a more capable aircraft or to a simpler machine, every bird we fly deserves, and indeed demands, the utmost level of respect from its

pilot. For that reason, we would do well to banish the notions of "up" and "down" when it comes to aircraft transition, except to the extent we focus on the correct way to make a particular aircraft properly go *up* on takeoff and smoothly come *down* again for landing. To establish a more appropriate mindset, think of it instead as moving *on* or *over* to a different aircraft.

Transition Training Trifecta

Any kind of aircraft transition demands appropriate training. The specifics for such training are rigidly prescribed in the air carrier world, but what constitutes proper transition training for GA? Whether you are transitioning to a higher- or lower-performance aircraft, or even a different model, a sound transition training program should involve:

- **Structure:** Transition training should be conducted in accordance with a written training syllabus. Think of the syllabus as a checklist for training. As with an aircraft checklist, the syllabus provides a logical, systematic, and comprehensive approach to ensuring that you cover all the basics. It is also helpful to review the applicable practical test standards (PTS), which list the flight proficiency standards appropriate for the certificate and/or rating that the transitioning pilot holds.
- **Specifics:** Transition training is intended to teach the pilot what is different about

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the aircraft or its installed equipment (e.g., avionics). The syllabus should thus address basic characteristics of the aircraft's systems (e.g., fuel, electrical, control, hydraulic, avionics, environmental, etc.), but with emphasis on how characteristics of the new aircraft differ from those in aircraft the pilot

has already flown.

It should cover normal, abnormal, and emergency procedures. The

syllabus should also

cover performance characteristics, including what to expect on takeoff and landing, climb, cruise, descent, and glide. Finally, it must address limitations, such as weight and balance, speeds, and kinds of operations (e.g., landing surfaces, maximum demonstrated crosswind component).

- **Qualified Instructor:** To get the greatest benefit from your transition training, you need to hire an instructor who is current, qualified, and thoroughly knowledgeable about the airplane and/or equipment you want to master. The instructor should conduct

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your training in accordance with a comprehensive training syllabus. While it is important to cover all the material, a good instructor will have the ability to change the arrangement of the subject matter and/or shift the emphasis to fit the qualifications of the transitioning pilot, the characteristics of the aircraft or equipment involved, the circumstances of the training environment, and the goals of the transitioning pilot.

What About Experimental?

If you are making the transition to an experimental airplane, you will find a great resource in FAA Advisory Circular 90-109, *Airmen Transition to Experimental or Unfamiliar Airplanes*. While not intended to address testing of newly-built experimental airplanes, AC 90-109 provides information and guidance to owners and pilots of experimental airplanes, as well as to flight instructors who teach in these airplanes. AC 90-109 provides recommendations for training experience in a variety of groupings based on performance and

handling characteristics.

As the AC's introduction notes, pilots making the transition to any unfamiliar fixed-wing aircraft (including type-certificated airplanes) can also benefit from the information and guidance provided in this document, which includes tips on hazard identification and risk mitigation strategies.

Regardless of the nature of the transition, any pilot moving to an unfamiliar aircraft needs to use a transition training strategy appropriate to the airplane or equipment in question. ✈️

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Learn More

Advisory Circular 90-109, *Airmen Transition to Experimental or Unfamiliar Airplanes*

www.faa.gov/documentLibrary/media/Advisory_Circular/90-109.pdf

Airplane Flying Handbook (FAA-H-8083-3A), chapters 11 to 15

www.faa.gov/regulations_policies/handbooks_manuals