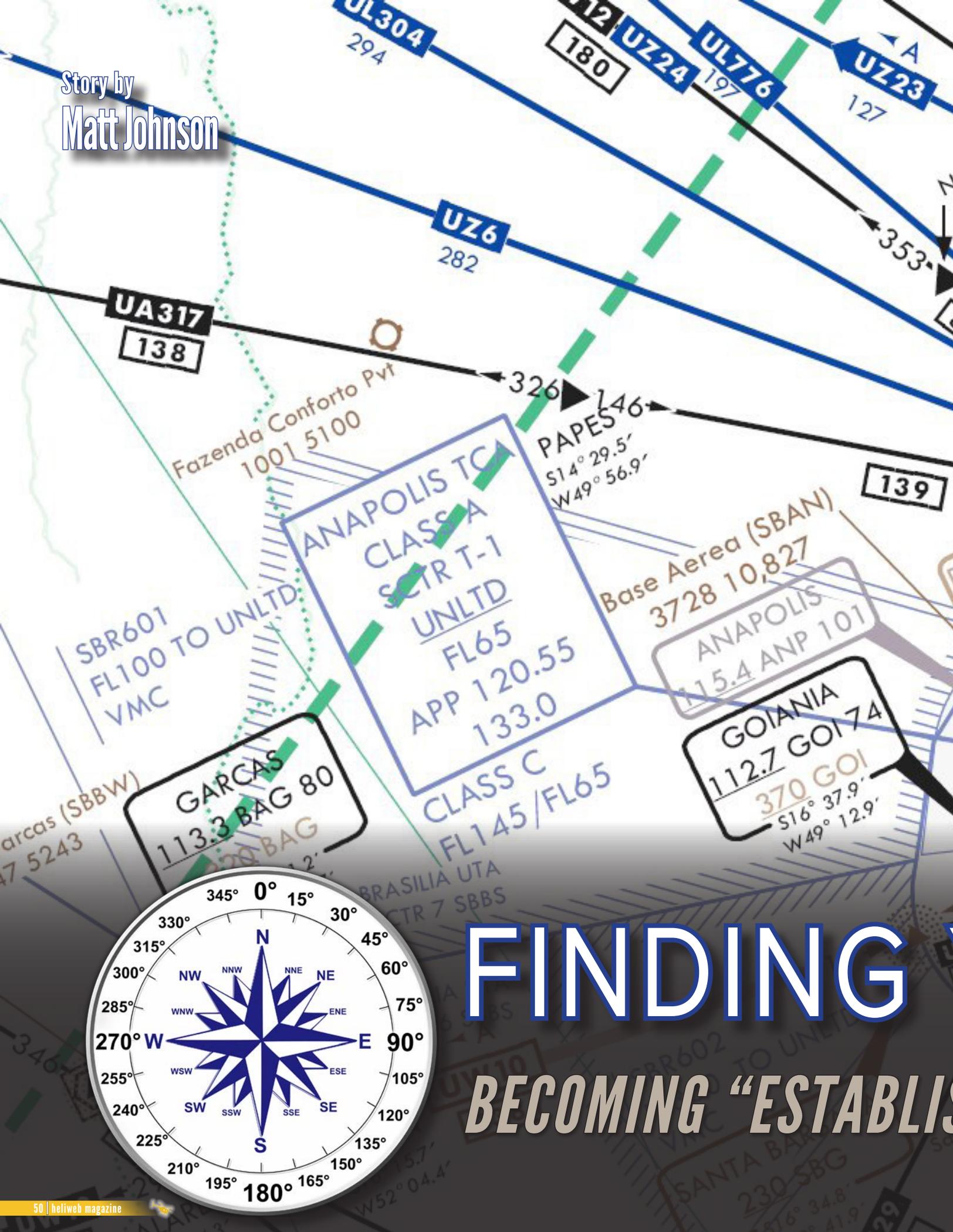
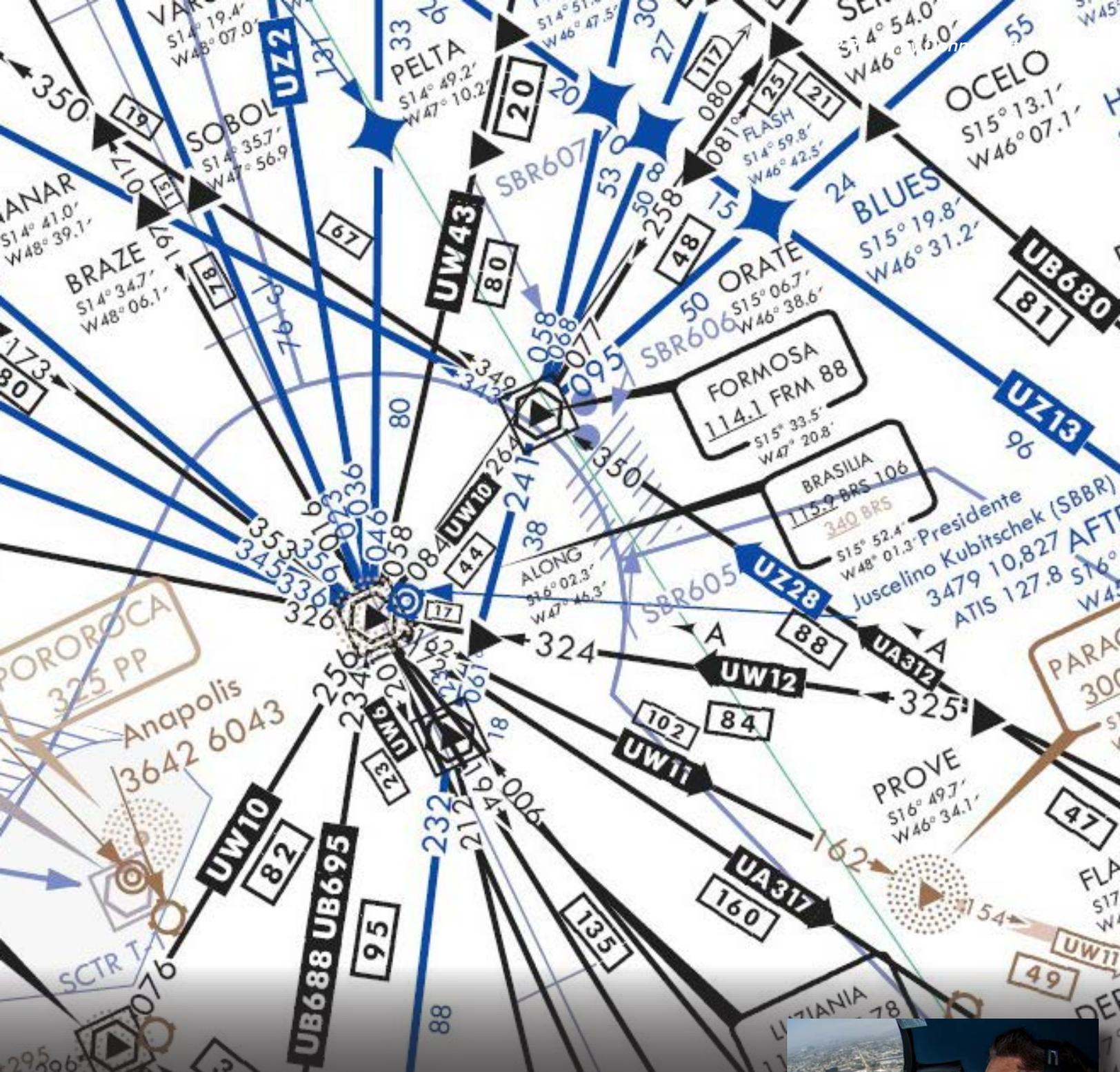


Story by
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FINDING BECOMING "ESTABLISHED"



YOUR WAY

"STAYED ON-COURSE"





If one thing is for sure in aviation, beyond the obvious slap in the face of over inflated prices on many aspects of the industry, it is the difference of opinions that promulgates amongst pilots and instructors. As the worn out cliché goes; *“the only thing two flight instructors can agree on is what the third one is doing wrong.”*

One such friendly debate that is common among aviators is that of how we define (determine) when we are *“established on course”* as it relates to flying an instrument approach. Before we begin, let’s be clear that we’re talking about the *“established on-course”* phrase as it relates to an ILS or Localizer approach—the *“established on-course”* criteria for these types of approaches is in fact defined differently than those for RNAV/RNP operations which will be covered in a future article.

Your interpretation or definition of *“established on course”* may be determined by your past experience, which includes your initial instrument

training, when you received your training, type of navigation equipment used, company procedures, etc.

You have probably heard a plethora of phrases used to describe when you are established on course: needle is alive, case break, off peg, half-scale, and others.

When and Why

So, when does this *“established on-course”* business come into play? On your basic ILS instrument approach, you are probably most familiar with hearing, *“Helicopter N12345 you are three miles from final approach fix. Turn left heading zero one zero. Maintain two thousand until established on the localizer. Cleared I-L-S runway three six approach.”*

This example is straight out of the ATC Bible (ORDER: JO 7110.65W). It explains when you will hear this phrase. The reason why you hear it concerns itself with keeping the aircraft protected at an altitude that complies with obstacle

clearance requirements. While there are many interesting things inside the ATC Manual, let’s focus on two important points.

First, the ATC Manual includes a note in section 4-8-1, (approach clearance) that states, *“An aircraft is not established on an approach until at or above an altitude published on that segment of the approach.”*

Second, as part of the ATC Manual, the *“Pilot/Controller Glossary”* is included at the back of the manual. While a definition for *“established on-course”* isn’t specifically listed (more from another resource later) we do find a definition for *“on-course.”* It reads, *“An indication on an instrument, which provides the pilot a visual means of determining that the aircraft is located on the centerline of a given navigational track, or an indication on a radar scope that an aircraft is on a given track.”* I think the key take-away here is the word *“centerline.”* After all, that is where we want to be for the maximum amount of obstacle/terrain clearance.



But Wait, There's More

If the information above didn't give you the warm and fuzzy feeling you were looking for on this subject, you are not alone. There is an area of ambiguity here (yes, pun intended). Using the above definitions and cited sources, one can surmise how so many different interpretations and phrases for knowing when one is actually "established on-course." This is likely because the terms "established" and "on-course" are essentially defined independent of one another.

Thankfully, most of us don't lug around the official ATC Manual and we stick-wigglers have an easy go-to resource that will hopefully settle the "established on-course" definition debate.

This pilot-friendly definition is found in the FAA's Instrument Procedures Handbook (FAA-H-8083-16B). It

specifically states, "The FAA definition of established on course requires the aircraft to be established on the route centerline." The text goes on to tell us that, "Generally, the controller assigns an altitude compatible with glideslope/ glidepath intercept prior to being cleared for the approach." (Note: so that you know you're receiving the most current information, the latest version of this manual was just published on 9/14/2017.)

It Wasn't Always This Way

If you go back into your FAA publication archives for a manual published in 2007, specifically, FAA-H-8261-1A you will find that this is the predecessor to the previously mentioned Instrument Procedures Handbook published in September of 2017.

In this manual you will find a totally different definition for "established on-

course" that reads, "The International Civil Aviation Organization (ICAO) definition of established on course requires the aircraft to be within half scale deflection for the ILS and VOR, or within $\pm 5^\circ$ of the required bearing for the NDB."

Why the change from a specific metric (half scale, $\pm 5^\circ$) to "aircraft to be established on the route centerline?" Those with more FAA publications in their archives may know the answer to that. My guess (which is purely conjecture) is that the new definition takes into account the vast reduction of NDB's and VOR's over the past 10 years and more importantly, to simplify things. Regardless, now that you have a better understanding and definition of "established on course" for that ILS approach, you and your fellow pilot or instructor can enjoy a cold beer while talking about what the third one is doing wrong. 🍺

