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(Don't Get)
**Lost in
Translation**

Mastering the Language of Aviation

Though the quote is sometimes attributed to Winston Churchill, playwright George Bernard Shaw generally gets credit for the deft observation that “England and America are two countries divided by a common language.” Shaw was of course referring to the way that the same word — “biscuit,” for instance — can conjure a cookie in the mind of a Briton but bring breakfast to mind for an American.

The wonder and woe of language, though, is that even two people from the same cultural background — or a single household — can hear the same word or phrase and reach a different conclusion as to its meaning. A case in point is the phrase, “language of aviation.” Some will instantly think it refers to English as being the ICAO-prescribed official language of global aviation. Others will think first of the peculiar jargon unique to our preferred pastime. Both meanings are accurate, and both have important implications for the subject at hand: Ensuring that aviation-related communication is clear enough for both sender and receiver to have an identical understanding of its meaning.

Common Language — Part 1

In little more than a generation, aviation spread from its humble beginnings on the wind-swept sands of America’s Kitty Hawk to the wind, sand, and stars of Saint-Exupéry’s African Sahara airmail routes and far beyond. It quickly became clear to aviators that safety and common sense required a global language for such an inherently global activity.

English owes its selection as that language not to logic, but rather to historical circumstance. At the time the 52 nations who founded the International

Civil Aviation Organization (ICAO) first convened in Chicago in 1944, WWII had devastated many countries’ industrial capacity — including aviation manufacturing and operations. ICAO made English the official *lingua franca* of global aviation primarily because English-speaking countries dominated not only the era’s flight operations, but also the design, development, and manufacture of commercial aircraft. Although there was (and still is) no prohibition on the use of the local language(s) in domestic airspace, ICAO’s 1951 adoption of English as the official language for aviation guaranteed — sort of — that English language capability would be available for all international flights.

Why the qualifier? Until January 2008, ICAO’s standards and recommended procedures (SARPs) required only that aviation personnel in contact with international flight operations master a set of words and phrases known as “ICAO Radio Telephony Phraseology.” As you might imagine, though, there is a significant difference between a relatively limited set of technical aviation terms and true language fluency and proficiency, especially in a language as large, nuanced, and complex as English.

Though native speakers have the luxury of a lifetime’s exposure, the complexities and quirks of English make its mastery a daunting prospect. Consider these facts:

- Along with its rich vocabulary of more than 171,000 words, English has a wealth of

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Who’s Roger, and Why Do Pilots Talk So Much About Him?

If it isn’t true, it ought to be. Ever wonder why aviators say “roger?” A very plausible explanation arises from aviation’s early days, when the emerging industry adopted customs, procedures, and terms from more established industries.

One such industry was the telegraph business, which of course operated in Morse code. Given the uncertain quality and reliability of such transmissions, standard procedure upon successful receipt of a message was for the receiver to transmit a single letter — “R” — to signify that “I have received and understood your last transmission.”

Voice communications being similarly subject to garbles, early aviators and their ground-bound interlocutors needed a similar protocol. As it was not possible to transmit a Morse-coded “R,” they did the next best thing by transmitting the word “roger,” which was at that time the spelling (phonetic) alphabet version of the letter “R.” Then, as now, it was simply an acknowledgement that “I have received and understood your last transmission.”

So now you know. And “R” you not grateful that aviation adopted this practice before the phonetic alphabet “R” changed from “roger” to “romeo?”

- irregular (and, most would agree, illogical) spellings and grammatical constructions.
- Nearly 1,500 English words with the same spelling have different pronunciations, grammatical functions, and meanings (e.g., “close” is an adjective in “close call,” and a verb in “close your flight plan”).
- Around 8,000 English words have the same pronunciation, but with very different spellings and meanings. A common aviation example — an area rife for aeronautical misunderstanding — involves “to,” “too,” and “two.”
- English has nearly 40 dialects, and that doesn’t even begin to account for the wide variety of regional accents that can confound and confuse even a native speaker.
- Idiomatic expressions can be baffling, to say the least. For instance, how can “fat chance” and “slim chance” mean the same thing? Or, as another Internet example observes, how is it that skating on thin ice can get you into hot water?

Complete mastery of such highly nuanced complexity is neither realistic nor necessary for aviation safety. Still, the presence of miscommunication due to lack of English proficiency as a probable cause or contributing factor in so many of the world’s aviation accident investigation reports led ICAO to make an important amendment to Annex 1 (Personnel Licensing). Starting in January 2008, ICAO required that all air traffic controllers and

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flight crew members who are engaged in, or in contact with, international flights be proficient in English as a “general spoken medium” as well as in

any other language(s) used by the ground station(s) involved in a given flight operation. ICAO defines the required English proficiency as Level 4, which means that the speaker not only possesses a specified level of vocabulary and grammatical knowledge, but also demonstrates skills in pronunciation, word stress, rhythm, and intonation that are sufficient for clear and efficient communication.

Although ICAO leaves it up to its individual contracting states to determine how such proficiency is determined, airman certificates are expected to indicate the results. In the United States, 14 CFR stipulates that the ability to read, speak, write, and understand the English language is a basic eligibility requirement for an FAA airman certificate. Since the examiner cannot issue a certificate unless the appli-

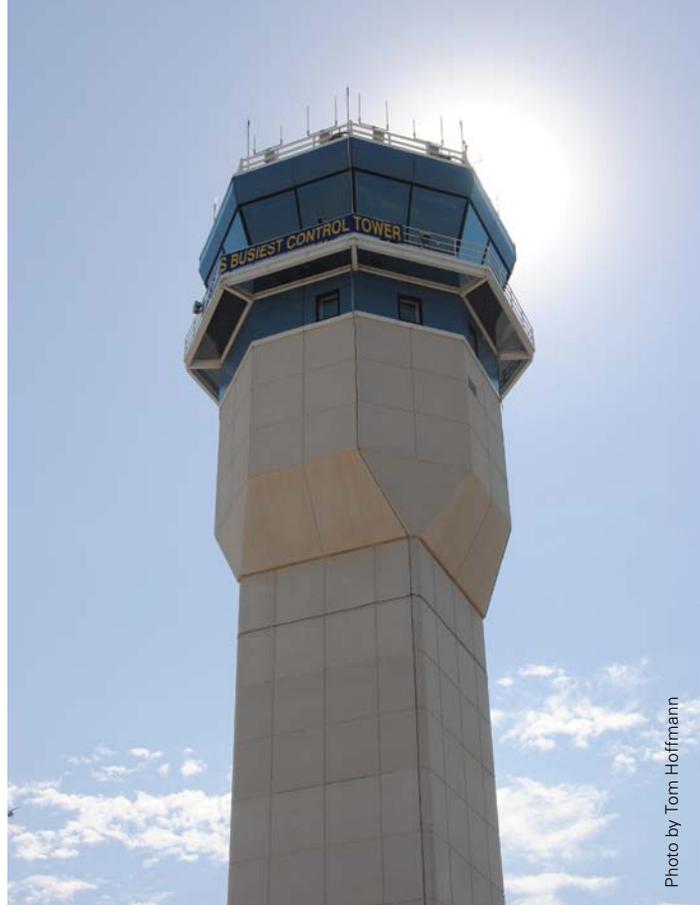


Photo by Tom Hoffmann

cant clearly meets this requirement, the FAA does not require any additional assessment of English language skills. To comply with ICAO requirements, though, airman certificates issued since 2008 include a notation with the words “English proficient.”

Common Language — Part 2

Now that we’ve established English language proficiency as the baseline, let’s talk about the second meaning of the “language of aviation” phrase. Think back for a moment to the first time you listened to an aeronautical radio frequency.

English is my native tongue, and I like to joke that I also speak French, Spanish, (rusty) Bengali, and three dialects of “Guy.” But on the day of my first flight lesson, none of that linguistic experience helped me make sense of the static-filled gibberish flowing from the little Cessna’s tired comm radios into my shiny new aviation headset. When I could occasionally discern a few individual words, I recognized them as belonging to the English language vocabulary. Overall, though, the words, phrases, rhythms, and cadences were completely foreign to me. I’m sure my primary flight instructor still chuckles at the memory of my wide-eyed deer-in-the-headlights reaction to that first exposure to the language of “Airplane.” For my part, I remember all too well the time and dedicated effort it required for me first to understand, then to speak, this strange new dialect. As with learning any language, there were many misunderstandings along the way,

International “Spelling Alphabets”

According to some sources, the International Telecommunications Union (ITU) created the world’s first spelling alphabet, which is a more accurate term for what most of us call the “phonetic” alphabet. The initial version was used from 1927 until 1932 when, with changes made to improve functionality, it was also adopted by the International Commission for Air Navigation (one of ICAO’s predecessor organizations).

The 1932 spelling alphabet consisted of the following:

Amsterdam Baltimore Casablanca Denmark Edison Florida Gallipoli Havana Italia Jerusalem Kilogramme Liverpool Madagascar New York Oslo Paris Quebec Roma Santiago Tripoli Upsala Valencia Washington Xanthippe Yokohama Zurich.

In 1941, the United States began using the Joint Army/Navy Phonetic Alphabet, which was more commonly known as the “Able Baker” version. Its terms were as follows:

Able Baker Charlie Dog Easy Fox George How Item Jig King Love Mike Nan Oboe Peter Queen Roger Sugar Tare Uncle Victor William X-ray Yoke Zebra

Several other domestic and international variants (e.g., Latin America’s “Ana Brazil” spelling alphabet) were used in this era, with lessons learned with respect to global functionality and understandability. In November 1955, ICAO provided a recording of its proposed Radiotelephony Spelling Alphabet to all member states for testing, and adopted the final version for aeronautical use in March 1956:

Alpha Bravo Charlie Delta Echo Foxtrot Golf Hotel India Juliett Kilo Lima Mike November Oscar Papa Quebec Romeo Sierra Tango Uniform Victor Whiskey X-ray Yankee Zulu

and I have rueful memories of the way I fumbled, mumbled, and stumbled through my earliest efforts to speak Airplane. I can only guess at the number of controllers I confounded.

Now imagine how much more challenging that must be for a non-native English speaker. Such pilots have truly earned my admiration and respect, since they must master not only one of the world’s more complicated languages, English, but also the highly specialized Airplane dialect.

Simple, you say? Not so fast, and certainly not so simple. There are now more than 1,300 terms in the FAA’s 80-page Pilot-Controller Glossary (P-CG), which also lists nearly 50 terms whose use in the U.S. National Airspace System (NAS) differs from the official ICAO definition. The number of abbreviations and acronyms takes the total to around 2,000 words, phrases, or terms that the pilot is expected to correctly understand, and that in an environment that includes aircraft noise, multi-tasking, and what I will politely call less-than-perfect aeronautical radios. When you pause to ponder that overall picture, it’s a minor miracle that miscommunication is no more common than it is.

So, how can you use this information to improve aviation safety? Regardless of where you fly, remember that you may be sharing the airspace — and the radio frequency — with pilots who speak English as a second language. There are several things you can do to give them a helping hand and enhance safety for everyone.

- First, always try to speak as clearly, concisely, and precisely as you can.
- Efficiency counts, but remember that you aren’t in a speed-speaking contest with our fast-talking friends in ATC. A reasonable pace takes less radio time than a repeated need for “say again” requests on either side of the mic.
- Finally, make it a point of personal pride to sound like a professional. That means mastering the content of the Pilot-Controller Glossary, and avoiding non-standard terminology. For instance, don’t “take the runway,” and please, please, *please* banish the word “active” from your aeronautical vocabulary. Transmitting your intentions with respect to “the active” without providing a runway number leaves your fellow fliers in the dark as to which runway is in use, and your position relative to that runway.

As virtually every foreign pilot will tell you, the level of freedom afforded to private and recreational fliers in the U.S. NAS is unmatched elsewhere in the world. Let’s ensure that every part of our flying behavior, including use of correct English and aviation terminology, helps us keep it that way. 

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