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Communicating in the IFR System

There are a number of ways you can make your IFR communications more efficient, one of which is to get rid of the habit of prefacing every transmission with "ah." There is probably some psychological theory underlying the several types of ahs, which range from the student pilot who truly doesn't know what to say and uses ah to fill a verbal void to the 20,000-hour airline captain whose well-practiced ah is pitched at least two octaves below anyone else's and is a hallmark of accomplishment. There's nothing illegal, immoral, or fattening about using your own ah, but it takes time that can be better spent in meaningful communication. If you are a habitual aher, don't do it when you're IFR in the New York area. By the time you've finished ahing, New York Approach Control will have cleared three airline flights for approaches to JFK, handed off two Bonanzas and an Apache to LaGuardia Tower, and coordinated a Civil Air Patrol search for a sailboat missing on Long Island Sound! As terminal areas get busier and until data link systems are in common use, it is incumbent on every pilot—especially those using the IFR system—to become better managers of their communications.

Airborne communications problems have not escaped the attention of the wonderful world of research. Someone conducted a study a while back with the aid of a number of in-cockpit recorders, taping transmissions to and from the aircraft as well as pilot responses on the flight deck. The researchers found that in almost every case radioed instructions from the ground were followed by one of these phrases between pilots (listed in order of usage):

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1. "What'd he say?"
2. "Was that for us?"
3. "Oh, shucks."

Practice communication management right from the start. When you turn the radio switch to the ON position, know ahead of time where the volume knob should be for normal reception. If there isn't some kind of mark on the knob, make one. On those radios provided with a manual squelch control, adjust it to a point just short of where the noise begins, and you've set up your transceiver properly for the first transmission. You can usually listen to others talking (or the ATIS broadcast) to help adjust your receiver before you talk to anyone.

✝ Tips for Talking

Here are several things you should do (and some things you should *not* do) to improve the quality of your communications in the air:

1. Always listen to be sure the frequency is clear before starting a transmission. You will often hear just one side of a radio conversation, so take that into consideration. If a controller asks somebody else a question, but "somebody else" is too far away for you to hear the answer, allow a reasonable length of time before you begin. You'll probably hear the controller's acknowledgment of the other pilot's answer; use that as your go-ahead signal.

2. Before you transmit to anyone at any time, know what you want to say before you press the mike button. It's not necessary to abbreviate your words as they do in the movies, but do compress the message so that you get your point across with the minimum number of words.

3. Don't make transmissions that are unnecessary. This should not preclude a friendly chat with the controllers when they aren't busy and exhibit a willingness to pass the time of day.

4. Don't click the mike button to acknowledge a transmission. To a controller, all clicks sound alike, and the instructions will have to be repeated for confirmation. If you're too busy to acknowledge (and this is not an isolated circumstance, especially IFR), it's better to comply now and acknowledge a few seconds later when you have the time.

5. If you intend to fly a lot of single-pilot IFR in busy areas, invest in a headset/boom mike and a yoke-mounted mike switch.

6. Hold the mike close to your lips and speak in a lower-than-normal tone and volume (if the person seated next to you in the airplane can hear you talking, you're probably talking too loudly). This will help eliminate engine and aircraft noise, making your transmission much more readable. Most aircraft microphones "clip" the peaks of volume and pitch, and shouting just makes a bad situation worse.

7. After you have identified a VOR, turn off the audio side of the VOR receiver. The noise and occasional conversation on the VOR frequency will serve only to distract you from more important business. Tune, identify, and turn off the sound.

8. Never, never sacrifice the control of your aircraft for the sake of talking on the radio. If you didn't know better, you'd sometimes think that Tower controllers were watching your takeoff with binoculars so they can ask you for your first estimate when they see you reach for the gear handle! The same philosophy applies to the required report on executing a missed approach—get the airplane on its way, and when everything is completely under control, let somebody know of your intentions. *Fly the airplane first!*

✝ Be a Conformist

You must realize that when you file and fly IFR, you become part of a highly structured and organized system intended to provide the fastest, safest service to all comers. You cannot be denied access if you are qualified, so your task is to fit into the system as smoothly as possible, going along with the established procedures, becoming a round peg when ATC wants to fit you into a round hole (assuming that it's a *safe* round hole!). Communication represents a key element of the system; no matter how distinctive you like to be on the air, you must become a "system communicator." There are two parts to the problem: First, knowing exactly *what* to say (and no more) and, second, knowing *when* to say it.

About this matter of your aircraft identification—except for those worshipers at the altar of distinction who obtain nonstandard registration numbers, nearly all civil aircraft in the United States consist of four numbers and a letter suffix. Remember that controllers will usually be mentally juggling several aircraft call signs at once, so on your initial transmission, use just the "last three" of yours to get their attention. Suppose your full set of numbers is 1234A; say "34 Alpha" the first time and provide the make and the rest of the call sign after you've established communications. If the controller answers with all of your numbers, you should use the full identification in subsequent

transmissions because there may be another aircraft on the frequency with a similar call sign. If there are *two* Barnburners with numbers ending in 34A being worked by the same controller, confusion can reign supreme if both parties insist on acknowledging with just "34 Alpha." Use of the full identification completely eliminates this problem. However, if yours is the only one that comes close to 34 Alpha, the controller will probably shorten the call sign; then you may respond with the abbreviated number.

Clearance amendments that involve rerouting and other major changes should obviously be read back to ensure complete understanding by both pilot and controller. More specifically, any clearance or instruction that involves a new heading or altitude requires a readback. "34 Alpha, turn right heading one five zero, descend to and maintain 6000" should elicit this response from the pilot, "34 Alpha, right one five zero, cleared 6000, leaving 7000."

In that last exchange, notice the controller's care to place "and maintain" between "to" and "6000." There's good reason for this, since "to" can be easily mistaken for "two," and the possibility of the Barnburner pilot interpreting the new altitude as "two six thousand (26,000)" becomes a potential source of confusion. When controllers take pains to make *their* half of such a communication clear and unmistakable, it behooves pilots to respond in like manner. By reading back the new clearance as in the preceding paragraph, the controller heard exactly what was expected—the phrases and numbers that had just been transmitted and in the same order. That will surely be more understandable.

In addition to fostering more efficient communication, this technique (that is, reading clearances and instructions in the same order as they are transmitted) is based on regulation and good practice: Pilots are required to acknowledge a new clearance ("cleared 6000") and to report vacating an assigned altitude ("leaving 7000"). So, when you are established in level flight and then cleared to climb or descend, develop the habit of responding the same way every time, as in: "34 Alpha is cleared 9000, leaving 4000." You've acknowledged and reported in one fell swoop.

As you cruise about the airspace, you'll hear many variations on the theme of altitude reporting, such as "two point three" and "five point oh," but there's no altitude message that comes through as loud and clear as "two thousand three hundred" or "five thousand." Say it right the *first* time and save the time it takes to "say again."

Another opportunity to streamline IFR communications arises when you are handed off to another controller during a climb or descent. The initial report should include altitude information, but

remember that the acquiring controller has been advised of your climb or descent and is most interested in confirming where you intend to level, not where you are now. Good practice suggests that you say merely, "Minneapolis, 34 Alpha climbing [or descending] 8000." 'Nuff said. A controller who needs to know your present altitude will ask.

If you receive a new altitude clearance from the *same* controller while you're climbing or descending, reply "34 Alpha now cleared 4000." No more words are required to confirm the clearance.

Just as excess verbiage seems to clog communications channels, pilots and controllers who are not positive and assertive often cause problems. Questions seem to beget questions:

PILOT: Fort Worth, this is Barnburner 34 Alpha, did you want me to turn right to a heading of two five zero to intercept the localizer or was it a left turn?

CENTER: 34 Alpha, Fort Worth, did you copy right to two five zero?...ah, negative, that's a left turn, I say again, a left turn heading two five zero to intercept. Did you copy?

And sometimes, more questions follow. How much better, when you're unsure, to be *assertive:* "Fort Worth, Barnburner 34 Alpha, *say again.*" Elimination of confusing questions is a good enough reason for having "say again" in the aeronautical vocabulary.

The use of radar transponders introduces an opportunity to save time, too. When a controller requests that you squawk "ident," you shouldn't even think about using the microphone; just press the "ident" button and let the black box do the talking. There's no need to tell the controller that you have responded because your target on the scope will "bloom," and when you're advised "in radar contact," all you need reply is, "Roger, 34 Alpha." The same is true of a code change. For example, if a controller directs you to squawk one three six four, your communication should be just that—turn the knobs until the proper code appears and wait for an acknowledgment. In those rare cases where the change isn't noticed right away, you'll be asked to confirm that you have made the change. The important thing is that you didn't clutter the frequency with an unnecessary exchange at the outset.

In passing, it's interesting to note that the term *squawk* is an outgrowth of World War II terminology that labeled the brand-new military transponders "parrots"; they replied to a coded electronic message just as the raspy-voiced green birds do. On a day when everything has gone wrong and you need an outlet for your emotions, a Center

request to "squawk ident" provides a golden opportunity. Pick up the mike and, in the screechiest voice you can generate, make like a parrot: "Ident! Ident! Ident!" (You should expect some sort of nasty retaliation from ATC, but this little exercise is guaranteed to relieve your tensions.)

✛ Say Only What's Needed

There is a standard procedure for communicating when you are handed off from one Center sector to another or from one Center to the next. You must realize that, before controllers request that you "contact Cleveland Center now on 124.7," they have contacted the acquiring facility by land line (all Centers and their sectors are linked by phone lines), confirmed that you are in radar contact, and asked what frequency you should use. The subsequent controllers therefore know who you are, where you're going, and really only need confirmation of your altitude, the most important ingredient of safe separation at this point. So, when you check in with the new facility, you should say merely, "Cleveland Center, Barnburner 1234 Alpha, 8000." If they want to make absolutely sure, they may require you to squawk "ident," but they are not obligated to advise you "radar contact." You may assume you've been radar identified unless you're advised otherwise—another case of the system eliminating needless conversation. If the handoff occurs while you are climbing or descending, make this information part of your report: "Cleveland Center, Barnburner 1234 Alpha, climbing [or descending] 8000."

If it hasn't happened to you yet, it will: "Hometown Unicom, this is 1234 Alpha; I'll be on the ground in 10 minutes, will you call my wife and tell her to pick me up at the airport?" Followed by, "Roger, 1234 Alpha, we'll be happy to make that call for you, but it will be long distance; this is Albuquerque Center." By switching back and forth from one radio to the other, you have transmitted on the wrong frequency! Using both radios can cause a great deal of confusion; eliminate it by using only one of your transceivers; the "other" radio should be considered a standby unit. In addition to preventing you from talking to the wrong people, this procedure takes one more monkey off your back, that of figuring out which radio is the right one to use. When you're in the IFR system, anything you can do to decrease your mental workload is good.