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Appendix A Communicating Facilities

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Glossary

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Sectional Chart Foldout
The Pilot-Controller Partnership For Safety

Aviation communication is a team effort, not a competition between pilots and controllers. Air traffic controllers are just as anxious as you are for your flight to be completed safely. They will cooperate with you whenever they can do so and still remain consistent with safety. They are not the equivalent of the stereotypical law enforcement officer just waiting for you to do something wrong. They hate paperwork as much as anyone, and filing a violation against a pilot starts an avalanche of forms and reports. On the other hand, they have a tremendous amount of responsibility and can be severely overloaded with traffic; that means you can’t expect a controller to ignore everyone else in order to give you special treatment.

Many pilots are reluctant to use the radio because they feel that they are imposing on the controller. They should put themselves in the controller’s seat: There are 20 targets on the scope and the controller knows the altitude, course, and intentions of 19 of them because they are on instrument flight plans or are receiving radar flight following services. For the 20th target, the controller knows only its altitude and present direction of flight (VFR flight plans are not seen by the air traffic control system). Will that target change altitude and/or course and create a conflict? There is no way for the controller to know, and thus the unknown target imposes a greater workload on the controller. Don’t be that target.

Doing Things by the Book

The controller’s actions are bound by FAA Handbook 7110.65, the Air Traffic Control Handbook. This publication tells controllers exactly what phraseology to use in virtually every situation, and woe to the controller who has had a slip of the tongue when he or she sits down with a supervisor to jointly monitor tapes
during a quarterly evaluation. That is not to say that the controller operates in a procedural straitjacket. If you don’t understand what a controller has said, or do understand but don’t know what you are being told to do, just say “I don’t understand,” or words to that effect. The controller won’t be out pounding the pavement, since the intent of the communication was to extend a helping hand and make your life a little easier.

As a pilot, you do not have a manual of canned phrases that are expected to meet every situation. The *Aeronautical Information Manual* contains a section on communication procedure, and if you read it (and you should) you will receive guidance on the best way to get your message across to the controller.

Both the *Aeronautical Information Manual* (AIM) and the *Air Traffic Control Handbook* contain the Pilot/Controller Glossary. The intent of the Glossary is to ensure that certain words have the same meaning to both the pilot and the controller. Before you ask your instructor a question like “What does ‘resume own navigation’ mean?” look it up in the Pilot/Controller Glossary. There are very few terms used in normal aviation communication that do not appear in the Glossary.

An historical sidelight: The Pilot/Controller Glossary didn’t exist before 1974. It became apparent only after a major airline accident that some phrases meant one thing to controllers and something entirely different to pilots, and the glossary was born. A very good reason for you to familiarize yourself with the P/C Glossary in the AIM.

**Can’t We All Just Get Along?**

An important part of the teamwork concept is negotiation. Many pilots, both novices and old hands, think that a directive from an air traffic controller must be obeyed without question. Those pilots have forgotten that the Federal Aviation
Regulations make the pilot-in-command of the airplane solely responsible for the safety of the flight. A controller cannot direct you to do something that is unsafe or illegal. You must remember that you are almost always in a better position to determine the safety of a given action than is the controller.

For example, let’s assume that you are flying in Class B airspace (to be defined later). In that type of airspace the controller can give you specific altitudes and/or headings to fly; you are required by 14 CFR §91.123 to comply with those clearances. When the controller says “Turn right to 330” and you can see that to do so would take you too close to a cloud, it becomes your responsibility to say “Unable due to weather.” After all, the controller can’t see clouds on the radar screen and has no way of knowing that you would be turning toward a cloud. 14 CFR §91.3 says that you are the final authority as to operation of your aircraft and this rule supersedes all others.

Another example: You have just touched down on the runway and the controller says “Turn right at the next taxiway.” If you are rolling too fast to make the turn without wearing a big flat spot on your main landing gear and overheating the brakes, it is your responsibility to say “Unable.” If you are really busy with the airplane, don’t say anything until you can reach for the microphone without losing directional control.

Other situations where negotiation might be used include being assigned a landing runway that requires a lot of taxiing to get to your destination or, in light winds, a departure runway that takes you in a direction that you don’t want to go. Simply say,

PILOT “Cessna 1357X requests runway 23”

(instead of runway 14, for example). If the change can be accomplished without affecting either your safety or that of other flights, your request will be granted. There are almost as many exceptions to the rules as there are rules, but too many pilots simply go by the rules without attempting negotiation.

Mike Fright

We are all afraid of saying the wrong thing, especially when dozens of other people are listening. Aviation magazines frequently print stories of humorous communication mistakes or misunderstandings. In aviation, it is far more important to say something than to keep quiet and proceed into a potentially tight situation—especially when traveling at two miles a minute.
Call-in talk shows are quite common on both radio and television, and the callers are in the same situation as you are when you pick up the microphone in your airplane as a “first-time caller”—thousands of people will be able to hear their “er’s” and “uh’s.” The difference is that their safety and that of others does not depend on their making that call—yours does.

**Technobabble Not Spoken Here**

Use plain English. “Tell me what you want me to do” might not appear in the AIM, but if it is necessary to use that phrase, it gets the job done. The following suggestion will be repeated later more than once, because it is important: Listen to your radio. Other airplanes will be talking to ATC, getting weather reports, or communicating with advisory services. The information they are receiving might be useful to you and make it unnecessary for you to make a transmission (or allow you to drastically shorten your transmission). Go to any small airport (one without a control tower) with a VHF receiver that covers the aviation frequencies and just monitor the airport’s Common Traffic Advisory Frequency (CTAF)—ask one of the local pilots if you aren’t sure what the CTAF for that airport is. You will hear a dozen airplanes reporting that they are landing or taking off on runway 14 (for example), and then a strange voice will come on the frequency and ask “What runway is in use?” That pilot hasn’t learned to listen.

Note: Advisory Circular 90-42F contains instructions for communication at airports without control towers.

That VHF receiver is your best source of information on how to communicate as a pilot. Get a copy of the *Airport/Facility Directory (A/FD)* for your area and look up the frequencies that are used by the local airports and air traffic control facilities. Look in the back of the directory for Air Route Traffic Control Center (ARTCC) frequencies, then tune in and listen to how the airliners communicate when en route. You will hear lots of good examples and a few alarmingly bad examples. You may not be able to hear both ends of the communication unless you live within line-of-sight distance of the ground station’s antenna, but a visit to a local tower-controlled airport will eliminate that problem.

When you are surfing the web, spend some time at www.liveatc.net. On your computer, you will be able to listen to controller-aircraft traffic at a number of facilities nationwide and internationally.

While you are at your computer, go to www.faa.gov and click on “Regulations and Guidance” in the right column. Then click on “Orders and Notices.” That will lead you to FAA Order 7110.65, the *Air Traffic Control Handbook*. This directive
tells controllers what to say and how to say it, and they are required to follow its dictates. This is important to you because you will see that controller transmissions follow a fixed format for each situation; only things like headings, altitudes, and facility names change. With this in mind, you will know what to expect in each situation. However, if it becomes apparent to the controller that the approved phraseology is not getting through to you, he or she is free to use plain language. By the same token, you are free to say, “I don’t understand what you want me to do” if that is the case. Most of the ATCH will not apply to you, but read it anyway...it is a treasure trove of information.

No matter what your instructor says, you can’t say something “wrong” on the radio. Read AIM 4-2-1; in it, you will find this gem: “Since concise phraseology may not always be adequate, use whatever words are necessary to get your message across.” With experience, we all catch on to the lingo, but failure to use specific phraseology is not a big deal. The Private Pilot Practical Test Standard does require the applicant to “Transmit using AIM-specified phraseology and procedures,” but a quick look at the AIM reveals that while it tells you how to report headings, altitudes, and speeds, and provides the phonetic alphabet for pronunciation of letters and numbers, there is not much required phraseology. Read Advisory Circular 90-42F as a better source of information for this.

You might want to take a look at www.asf.org/askatc. This site offers pilots the opportunity to ask controllers any and all questions about communications. You do not have to be an Air Safety Foundation member to access this site. The ASF also has a free program called “Say it Right,” available at www.asf.org/courses. In it are illustrated many, if not all of the lessons in this book.

**Licensing**

Federal law does not require U.S.-registered airplanes to have a Federal Communications Commission (FCC) radio station license unless international flight is contemplated—an FCC license is not required for U.S. operations.

To use an installed aircraft radio in the United States, you don’t have to have any kind of operator’s license. Travel to Canada or Mexico, however, and you will be expected to carry a Third Class Restricted Radiotelephone operator’s license. Any FCC office can issue one if you promise to avoid saying bad words on the air. An FCC commercial license is even better than a Third Class Restricted license, but an amateur radio license is no good on aircraft frequencies. Keep in mind that you won’t even get into a hassle about an operator’s license unless you are outside of the good old U.S.A. and subject to another country’s laws. To my knowledge,
neither the Canadian Mounties nor the Mexican Federales are enforcing this requirement.

Handheld transmitter-receivers (to be called transceivers from here on) are very popular for emergency use. If you are flying an airplane with its own station license, that license covers the handheld. You will use the airplane registration number as an identifier. If you want to use a handheld in an airplane without a station license, however, you will have to apply to the FCC for a “mobile” license, which will assign an identifier to the handheld—something like “N12345MOB.”

Don’t look to the Federal Aviation Regulations for anything about how radios are to be used—that is the sole province of the FCC.

Hello, Operator?

Cellular phones are becoming more and more popular, and many pilots use their cellular phones in business. What could be better than calling that hot prospect from 12,500 feet and setting up a lunch date? The hard fact is that doing so would violate FCC (not FAA) regulations. The cellular phone system is designed to be used on the surface, where callers are automatically switched from one small cell to another as they travel. From 12,500 feet or any other altitude, the signal from your phone might activate a dozen cells at once, and that is frowned upon by the FCC. To make matters worse, when you use your cell phone it transmits enough identifying information (for billing purposes) for the FCC enforcement officers to easily prove a violation.

There are approved airborne telephones—ask at your local avionics shop. One entrepreneur (AirCell) has received FCC approval of a cellular network specifically for airborne cell phones. Their equipment and service is more expensive than your regular wireless service.

Can you use your cell phone on the ground to call for gas or file a flight plan? Absolutely.

By the way, leave your cell phone in your luggage while on an air carrier. Even if you want to use it on the ground, you may find that the flight attendants will not permit you to do so. The regulations make the captain the final authority on the use of portable electronic equipment, and there are documented instances of cell phones interfering with air carrier avionics while in the receive mode.
Figure 1-2. FCC license application, required only for operations outside the U.S.