

# RADIO COMMUNICATIONS HANDOUT

Radio communications may seem complicated at first, but you'll get used to them. Most things a controller will say are standard and will become familiar to you. The order of most of your initial communications is standard, too. Think of these five items: YOU ME WHERE WHAT WITH

1. **YOU:** Whom you're talking to
2. **ME:** Who you are
3. **WHERE:** Where you are
4. **WHAT:** What you want
5. **WITH:** Airport information (ATIS)

In other words:

	<u>ITEM</u>	<u>MEANS</u>	<u>EXAMPLE 1</u>	<u>EXAMPLE 2</u>
<b>YOU</b>	1. Whom you're talking to	Control	<i>Hanscom Ground</i>	<i>Lawrence Tower</i>
<b>ME</b>	2. Who you are	Aircraft ID	<i>Katana 505EC*</i>	<i>Cessna 92747*</i>
<b>WHERE</b>	3. Where you are	Position	<i>On the West Ramp</i>	<i>Eight miles southwest</i>
<b>WHAT</b>	4. What you want	Request	<i>Ready for taxi</i>	<i>Inbound for landing</i>
<b>[WITH]</b>	5. Are you informed	<b>ATIS</b>	<i>With X-Ray</i>	<i>We have Bravo</i>

(\*Note: don't say, "This is Katana 505EC." That's implied. You can always tell an amateur because they say, "This is...")

**ATIS needs only be mentioned on first contact with a new control facility.**

You won't need to say all five of these every time you talk. For a typical flight out of controlled airspace, here is the order in which you'll talk on the radio, and the items to be included:

1. CLEARANCE 1, 2, 3, 4, 5
2. GROUND 1, 2, 3, 4
3. TOWER 1, 2, 3, (4)
4. DEPARTURE 1, 2, 3
5. CTAF
6. APPROACH (or tower) 1, 2, 3, 4, 5
7. TOWER (if handed off) 1, 2, 3
8. GROUND 1, 2, 3, 4
9. FUEL

Notice that "You and me" is in every one. In your first contact with someone, you identify yourself by aircraft make and tail number, e.g. "Arrow 173ND," or "Katana 505EC." In future communication, the tail number gets abbreviated to just the last three numbers/letters, if there is no confusion with any other similarly-tailed aircraft.

The idea is to keep communications brief. Practice in your head before you push the button. We often shorten communications down to just a few words, e.g. "5EC downwind." Over time, communications will become easy for you.

## Things you might want to say:

(Note: in the following explanations, "ATC" means "air traffic control," also known as the controller; the explanations all assume that you are flying in tail number 505EC. As noted, 505EC could be abbreviated to just 5EC after the first call, if there are no similar call letters on the same frequency.)

**"..."**

Repeat whatever they said. If they say, "5EC cleared to land," you say, "Cleared to land, 5EC." (Note: Typically when reading back, we put the aircraft ID at the end.) It lets them know that you got your instructions, and that you'll follow them. These conversations also get put on to the tape recording, so if anything goes wrong you're safer. It's much better than...

**Roger/Wilco**

"Roger" means, "I understand." "Wilco" means "I will comply." These are abbreviations used sometimes when the airwaves are very busy, but as a general rule they aren't a good idea. The problem is that the ATC does not know what you think you understand or will comply with. "Roger," by the way, does not mean "Yes." That's said by:

**Affirmative/Negative:**

Pilot-speak for "Yes," and "No." (Short words sometimes can be cut off by the microphone, or misunderstood.) These are used only in response to a question from ATC.

**Say again:**

This is the proper form to ask ATC to repeat something.

**Request**

Use this word to ask for something, or prepare ATC for an upcoming request. Example: You're flying in Class B at an assigned altitude of 5,500 feet and there are clouds ahead "Boston approach, 505EC request." Wait. Boston approach responds: "505 EC go ahead." You answer: "505EC would like to descend to 3,500 because of clouds." Use this word also to make a request at any time, without waiting, e.g. "Hanscom tower, 505EC requests the right base to 23"; "Cessna 92747 requests you call my base."

**Looking for the traffic (or just "Looking").**

An acknowledgement after ATC tells you about another aircraft in your area.

**Traffic in sight**

ATC has given you a traffic report and you see the other aircraft.

**Negative contact**

ATC has given you a traffic report, and after a reasonable search you still don't see the other aircraft.

**Student pilot:**

You will be amazed at how much help, cooperation, and forgiveness you can get, and often how much nicer ATC becomes, when you tell them you're a student pilot. If you're having trouble understanding what they're saying or what they want, this is a good phrase to start with. There is no shame in telling them this. Example: "Hanscom tower, 505EC student pilot requests say again?"

*General tip: Keep it short; don't be chatty.*

## Things an air traffic controller might say:

**Cleared to/for**

**Cleared for the option**

**Continue**

**Go Ahead**

**Report downwind/base**

**State (your) intentions**

**Maintain [1500] until...**

**Climb to...**

**Descend to...**  
**Fly heading...**  
**Make [left] closes**  
**You're number [three] following a...**  
**Traffic at two o'clock [high/low] is a...**  
**Check wheels down**  
**Confirm...**  
**Hold short of...**  
**...the ILS critical area**  
**Position and hold**  
**Do you want advisories?**  
**Ident**  
**Radar contact**  
**Contact [tower] on [118.5]**  
**Cleared out of class [D]**  
**Squawk VFR**  
**Frequency change approved**  
**Radar service is terminated**  
**Recycle**  
**Taxi to...**  
**Taxi into position and hold**  
**Extend downwind**  
**I'll call your base**  
**Do a 360 and re-enter the [downwind]**

## WHAT THEY MEAN:

### **Cleared...**

ATC has given you the permission and right to do something. "Cleared to land, runway 11" "Cleared for takeoff."  
"Cleared to enter Class B."

### **Cleared for the option**

Said when preparing for a landing, without further clearance you may do any of these things as you wish: full stop, stop-and-go, touch-and-go, or go-around.

### **Continue**

Keep doing what you're doing. Go straight if you were told to go straight. If you were told earlier to enter the pattern downwind on the 45, then do that.

### **Go ahead**

Talk to ATC. Perhaps the airwaves have been very busy and you finally manage to get in, saying, "Hanscom tower, Katana 505EC." Then wait until the tower says, "505EC go ahead." It's your turn to talk, now.

### **Report...**

ATC is telling you that when you arrive at the given position, you should radio the tower and tell them so. "Report downwind": when you're established on the downwind and are at midfield, call the tower and say, "505EC downwind." "Report base": call the tower as you start to turn base and say, "5EC turning base."

### **State (your) intentions**

This is most often tower's polite way of saying that they don't understand what you're doing, or that you are not on the right heading, or that you are not following instructions. They want to know what you want to do, or what you think you're doing. Then they can give you appropriate guidance.

### **Maintain...**

Stay at a given altitude. "Climb and maintain 4500" means you should climb up to 4500 MSL and stay there until they tell you otherwise. "Maintain 1500 until Cider Hill": do not descend below 1500 until you reach this landmark.

**Climb to/descend to...**

Go to the altitude they give you.

**Fly heading...**

Turn to the direction given. "Fly heading 180": go south until told otherwise.

**Make [left/right] closes**

This could also be phrased, "**Make (left/right) close traffic.**" You are going to work in the traffic pattern, and make left or right turns, as instructed.

**You're number [three] following a...**

You are in the traffic pattern, and there will be planes landing in front of you. "You're number three following a Cessna" means that one plane is cleared to land, there's a Cessna behind that, and you should be looking for the Cessna so you can follow behind it.

**Traffic at two o'clock [high], [three miles] is a [Dash 8].**

The standard traffic advisory: in this example, look forward and to the right for a big twin commuter plane above you and a few miles away. This advisory will often be accompanied by information on the direction that the Dash 8 is traveling.

**Check wheels down**

At some airports, this is a standard thing to say whether your wheels are down or not. It would be a good time to check, though, as this is only said once you're cleared to land.

**Confirm...**

ATC wants you to repeat some instruction you've been given.

**Hold short of...**

Said when taxiing. Stop before reaching and do not cross the given runway or taxiway. Always repeat this instruction back to the controller.

**Hold short of the ILS critical area**

Stay behind not just the runway hold-short solid lines, but behind the ILS hold-short line (looks like a ladder with double rungs).

**Position and hold**

Go on to the runway and wait in position to take off.

**Recycle**

ATC isn't reading your transponder, so they want you to turn your transponder off, then turn it back on again.

**Ident**

Push the little button on the transponder. This makes your radar blip blossom on their screen, so they can find you easily and know who you are.

**Radar contact**

ATC is informing you that it has you on radar. You don't need to respond to this.

**Contact [tower] on [118.5]**

ATC is "handing you off" to another controller, telling you to change your radio frequency and talk to someone else. In this example, you would respond, "505EC going to tower," switch your radio frequency to 118.50, and report in by saying, for example, "Hanscom Tower, Katana 505EC at 2000."

**Cleared out of class [D]**

ATC is informing you that you are leaving its airspace and can go on your own recognizance. This phrase is often followed by...

**Radar service is terminated**

ATC is telling you that it will not provide separation or traffic advisories any more. This phrase is often followed by...

**Squawk VFR**

Change your transponder code to 1200. And this phrase is often followed by...

**Frequency change approved**

This call is permission to stop communications with ATC, usually because you're leaving their airspace and continuing on a visual flight.

**Do you want advisories?**

You can request to stay on the radio with a controller, and be advised of traffic in your vicinity, as ATC's workload allows. This is called traffic advisories, or "flight following."

**Taxi to [runway 29]. [via Juliet and Echo]**

A taxi clearance: if cleared to taxi TO a runway, you are allowed to cross all other taxiways and runways on the way there, but you must hold short of the final runway. In the case of this example, you should go on taxiway Juliet, turn on to Echo, and taxi up to the hold-short line of runway 29.

**Taxi into position and hold (or just, "Position and hold")**

Drive your airplane on to the beginning of the runway and stop. Do not take off. You are being put in position for your takeoff, but another plane is still on the runway, or other traffic considerations (e.g. wake turbulence) make your departure unsafe.

**Extend downwind**

Don't turn from downwind to base yet. This is to separate your plane from other traffic in the pattern. This is often followed by...

**I'll call your base**

Stay on downwind, at traffic pattern altitude, until the tower tells you to turn in.

**Do a 360 and re-enter the [downwind]**

The controller wants you to do a standard two-minute turn-around-a-point in the pattern (360 degrees of turn), and reenter the pattern wherever you left it. This is for spacing purposes. This instruction could also happen on base or final. If you're just about to turn left base, ATC could also tell you to do a right 270 (degree turn) and come back in on base. A 360 gives you the perfect opportunity to use that stuff you learned in "turns around a point," and to practice one.

## Likely calls when coming in to Hanscom

*The pilot of 3572M (3572 Mike) has gotten ATIS C (Charlie) on 124.6, and found out that the active runway is 29. The plane is now ten miles out, heading southeast toward Hanscom from the practice area.*

**3572M:** "Hanscom Tower, Warrior 3572Mike, one-zero miles northwest, landing, with Charlie."

**Hanscom Tower:** "Warrior 3572M, Hanscom Tower, report the right downwind to runway two-niner."

3572M: "Report right downwind to two-niner. 72M"

Note that when you call, the tail number goes first. When you respond, the tail number comes at the end

Here are instructions that tower commonly gives, after a first call:

"Report entering a right downwind to two-niner."

"Report a two-mile right base to runway two-three."

"Report a three-mile left base turn to final, runway five."

"Fly a straight-in for runway one-one. Report a three-mile final."

"Remain clear of class D and give me a call in ten minutes."

(In these examples, all runway numbers are interchangeable.)

## What to say to FSS, to open a flight plan in the air.

When you go on a cross country, file a flight plan by calling 1-800-WX-BRIEF. Open the plan using the radio, after you've taken off and are outside of controlled airspace.

Flight Service Stations are called "[City] Radio." For example, around here, it's "Bridgeport Radio," and up in most of New Hampshire and Maine it's "Bangor Radio." The city name is the one that's listed on the nearby VOR or RCO boxes on the sectional. Those boxes also tell you frequencies you can use to contact them. First try 122.2. This is the standard FSS frequency everywhere. The first call is merely: you, me, frequency.

**Pilot:** "Bridgeport Radio, Katana 303EC on 122.2."

Wait for a response. The operator may be working on several different frequencies at once, talking to other people. If you wait a full minute without getting at least a "Katana 303EC, stand by," then try again. If that doesn't work, try another frequency, or listen over a VOR, as listed on the sectional.

**Bridgeport Radio:** "Katana 303EC, Bridgeport Radio, go ahead."

Tell them you'd like to open your flight plan, from where to where, and what time you took off.

**Pilot:** "We'd like to open our flight plan from Bedford to White Plains. Our time off was One-four-five-five Zulu."

**Bridgeport Radio:** "Roger Katana 303EC, that flight plan is now activated."

## Uncontrolled airport procedure

When coming in to an uncontrolled airport, such as Fitchburg, start by getting the pertinent information, such as ASOS (if it's available).

For Fitchburg, you may then want to talk to their UNICOM-which is simply somebody sitting at the FBO desk waiting to fuel planes and listening to the radio-to find out which runway is in use:

**Pilot:** "Fitchburg UNICOM, Tomahawk 9171A requests the active."

**UNICOM:** "Active at Fitchburg is three-two."

From then on, you're talking to other traffic in the area, in order that everyone be aware of each other. Call the traffic by "[City name] traffic." For uncontrolled airport communications, it's still: YOU, ME, WHERE, WHAT, and then add to the end the city name again.

The first call for the sake of traffic control should be made when still 5-10 miles away, declaring your intention to enter the pattern.

**Pilot:** "Fitchburg traffic, Tomahawk 9171A, six miles southeast, will overfly the field at two thousand feet for a left downwind entry to runway three two, Fitchburg."

The next call is from a mile or two out, on the 45 to enter the downwind.

**Pilot:** "Fitchburg traffic, Tomahawk 9171A is one mile to the west, to enter the left downwind for runway three two, Fitchburg."

Thereafter, the calls are: on downwind, on base, on final, and exiting or entering the runway. On final, you could announce your intentions.

**Pilot:** "Fitchburg traffic, Tomahawk 9171A, left downwind for runway three-two, Fitchburg."

**Pilot:** "Fitchburg traffic, Tomahawk 9171A, left base for runway three-two, Fitchburg."

**Pilot:** "Fitchburg traffic, Tomahawk 9171A, turning/on final for runway three-two, touch-and-go, Fitchburg."

**Pilot:** "Fitchburg traffic, Tomahawk 9171A is clear of the active, Fitchburg."

**Pilot:** "Fitchburg traffic, Tomahawk 9171A, taking the active three two [for departure to the west] [for work in the pattern], Fitchburg."

Note: You are probably not alone out there. The purpose of these calls is to make others aware, and for you to be aware of others. Keep your eyes open and be courteous and cautious about your place in the pattern, and your turn.

Note: None of these calls are mandatory, and there could very well be people in the pattern who don't even *have*

radios. Radio calls are not a substitute for awareness, so keep your eyes open. It is always your responsibility to see and avoid other traffic, regardless of radio calls.

Final note: Not all of these calls may be necessary, and in fact some examiners and experienced pilots prefer that people not jam up the airways with every single detail of their pattern. Use your judgment, and keep the calls short.

## Flight following

"Flight following" means staying in constant contact with a tower or flight control center, who watches your position and gives you reports of other traffic in your area when they have the time (which is almost always). It is also known as getting "advisories." ATC will give you a squawk code for your transponder, and watch on the radar.

There are several ways to start flight following. You can ask for help from the tower while you're still on the ground:

**Pilot:** "Lawrence Tower, Cessna niner two seven four seven at runway two-three, ready for departure, request coordination for flight following to Burlington, Vermont."

**Tower:** "Seven four seven roger, squawk 6245."

Tower may be able to help you with this, and may not. ATC may tell you whom to contact once you're flying. Around here, it's most common to get flight following once you're in the air, by contacting Boston Approach. To do this, tune to 124.40, and say only your call sign and wait for a response. (The approach controllers may be talking on several frequencies at once. They'll reply when able.)

**Pilot:** "Boston Approach, Cessna niner two seven four seven."

**Approach:** "Cessna niner two seven four seven, Boston Approach, go ahead."

**Pilot:** "Seven four seven requests flight following to Burlington Vermont at 6500 feet."

**Approach:** "Seven four seven squawk 5669."

Change the transponder.

**Approach:** "Cessna niner two seven four seven, radar contact."

The controller will then tell you when other traffic is in your area. Later, he/she will give you to another controller on a different frequency.

**Approach:** "Cessna niner two seven four seven, contact Manchester on 124.9"

**Pilot:** "Switching to Manchester 124.9, seven four seven."

## Weather information

Always get a weather briefing before going flying.

By phone to the FSS is always: 1-800-WX-BRIEF (1-800-992-7433)

You can get some recorded information, but it's best always to talk to a briefer beforehand. Tell the briefer your tail number and pertinent information. The pertinent information is: where you're departing from, where you're going, when you're leaving, the expected duration of the flight, and at what altitude. E.g. "Hello, I'm in tail number 108CM, flying from Bedford to Nashua at 11:00 local time today. Could I get a local area weather briefing?" E.g. "This is [Yes, here you can say, "This is..."] 9171A. I'm going to be going from Hanscom to Montreal, Canada taking off at about 1300 zulu and landing at about 1600 zulu, at 4500 feet. I'd like an enroute weather forecast and winds aloft, please."

Websites:

<http://adds.aviationweather.noaa.gov> I like this one for all the basic information, including an overview of the area, prog charts, TAFs and METARS, and even radar and satellite images.

Once you have a license (including a student pilot certificate): [www.duat.com](http://www.duat.com) or [www.duats.com](http://www.duats.com) can give you a legal briefing.