

RADIO COMMUNICATIONS HANDOUT

Radio communications may seem complicated at first, but you'll get used to them. Most things controllers 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>
YOU	1. Whom you're talking to	Control	<i>Downtown Ground</i>	<i>New Century Tower</i>
ME	2. Who you are	Aircraft ID	<i>Warrior 40616*</i>	<i>Cessna 5297E*</i>
WHERE	3. Where you are	Position	<i>At hangar 6 bravo</i>	<i>Ten miles southwest</i>
WHAT	4. What you want	Request	<i>Ready for taxi</i>	<i>Inbound for landing</i>
[WITH]	5. Are you informed	ATIS	<i>With X-Ray</i>	<i>We have Bravo</i>

(*Note: don't say, "This is Warrior 40616." 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. "Warrior 6394C," or "Cessna 5297E." 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. "94C 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 4811G. As noted, 4811G could be abbreviated to just 11G after the first call, if there are no similar call letters on the same frequency.)

"..."

Repeat whatever they said. If they say, "616 cleared to land," you say, "Cleared to land, 616." (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 "Kansas City approach, 6394C request." Wait. Kansas City approach responds: "6394C go ahead." You answer: "6394C 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. "Downtown tower, 6394C requests the right base to 19"; "Cessna 4811G 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: "Downtown tower, Warrior 40616 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 19" "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, "Downtown tower, Cessna 4811G." Then wait until the tower says, "4811G 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, "5297E downwind." "Report base": call the tower as you start to turn base and say, "97E 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 3500" means you should climb up to 3500 MSL and stay there until they tell you otherwise. "Maintain 2000 until Liberty": do not descend below 2000 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] close

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 [133.3]

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, "6394C going to tower," switch your radio frequency to 133.30, and report in by saying, for example, "Downtown Tower, Warrior 6394C 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 21] [via Delta and Golf]

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 Delta, turn on to Golf, and taxi up to the hold-short line of runway 21.

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 Downtown

The pilot of 5297E (5297 Echo) has gotten ATIS C (Charlie) on 120.75, and found out that the active runway is 19. The plane is now ten miles out, heading west toward Downtown from the practice area.

5297E: "Downtown Tower, Cessna 5297Echo, one-zero miles east, landing, with Charlie."

Downtown Tower: "Cessna 5297Echo, Downtown Tower, report the left downwind to runway one-niner."

5297E: "Report left downwind to one-niner. 97Echo"

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 left downwind to one-niner."

"Report a three-mile left base to runway two-one."

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

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

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

Here are a couple other instructions that tower frequently gives, after a first call:

"Fly your base for runway one south of the buildings."

"Fly your base for runway one south of the antennas."

"Fly your downwind for runway one east of the buildings."

(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 "Columbia Radio," and up in most of Iowa it's "Fort Dodge." 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: *"Columbia Radio, Cessna 5297E 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 "Cessna 5297E stand by," then try again. If that doesn't work, try another frequency, or listen over a VOR, as listed on the sectional.

Columbia Radio: "Cessna 5297E, Columbia 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 Springfield to Kansas City. Our time off was One-four-five-five Zulu."

Bridgeport Radio: "Roger Cessna 5297E, that flight plan is now activated."

Uncontrolled airport procedure

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

For Clay County, 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: "Clay County UNICOM, Warrior 6394C requests the active."

UNICOM: "Active at Clay County is one eight."

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: "Clay County traffic, Warrior 40616, six miles southeast, will over fly the field at two thousand feet for a left downwind entry to runway one-eight, Clay County."

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

Pilot: "Clay County traffic, Warrior 40616 is one mile to the east, to enter the left downwind for runway one-eight, Clay County."

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

Pilot: "Clay County traffic, Warrior 40616, left downwind for runway one-eight, Clay County."

Pilot: "Clay County traffic, Warrior 40616, left base for runway one-eight, Clay County."

Pilot: "Clay County traffic, Warrior 40616, turning/on final for runway one-eight, touch-and-go, Clay County."

Pilot: "Clay County traffic, Warrior 40616 is clear of the active, Clay County."

Pilot: "Clay County traffic, Warrior 40616, taking the active one-eight [for departure to the south] [for work in the pattern], Clay County."

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: "Downtown Tower, Cessna five two nine seven echo at runway three, ready for departure, request coordination for flight following to Columbia, charlie oscar uniform."

Tower: "nine seven echo 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 Kansas City Approach. To do this, tune to 119.00, 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: "Kansas City Approach, Cessna five two nine seven echo."

Approach: "Cessna five two nine seven echo, Kansas City Approach, go ahead."

Pilot: "nine seven echo requests flight following to Manhattan Kansas at 6500 feet."

Approach: "nine seven echo squawk 5669."

Change the transponder.

Approach: "Cessna five two nine seven echo, 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 five two nine seven echo, contact Kansas City Center on 124.9"

Pilot: "Switching to Kansas City Center 124.9, nine seven echo."

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 6394C, flying from Kansas City Downtown to Butler 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..."] 6394C. I'm going to be going from Kansas City Downtown to Des Moines, Iowa 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 or www.duats.com can give you a legal briefing.

www.Fltplan.com is another powerful website for weather and flight planning.