ON CLEARANCES

BY

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In aviation parlance, a clearance is a message transmitted from an Air Traffic Control facility to a pilot, telling him what ATC wants him to do. My instrument instructor likened the process of giving and receiving clearances to a couple of lawyers haggling over a contract. A clearance is, in a real sense, a contract between the controllers and a pilot. Both parties must be able and willing to abide by this contract, so a pilot should never accept a clearance that he is unable or unwilling to comply with.

Later there can be some more haggling, if either party wishes to amend the clearance. Once again, both parties must be playing off the same page when they revert to plan "B."

A clearance can be very simple or extremely convoluted. A pilot might transmit, "I'd like to make a straight-in approach to runway so-and-so." The tower controller might reply, "That's approved."

Then there are clearances that pilots of IFR flights get from their ATC handlers. These are typically a little more complicated, although abbreviated clearances often help to speed up the communication process, reducing frequency congestion and minimizing the possibility of miscommunication. "Cleared as filed" is a frequently heard message on the clearance delivery frequency. It means, "It's

okay with us if you go ahead and do what you proposed when you filed your flight plan."

The most efficient clearance-givers I've run across were at Denver's old Stapleton Airport. You'd taxi out to the front of the parking ramp and tune up the ATIS frequency. It would tell you something like, "*ALL VFR TRAFFIC HOLD POSITION AND MONITOR 126.7. DO NOT TRANSMIT. IFR AIRCRAFT REQUIRING CLEARANCES, MONITOR CLEARANCE DELIVERY FREQUENCY, 124.9.* Words to that effect.

They didn't want a bunch of pilots, particularly amateur pilots, snarling up their frequencies with unnecessary transmissions. What would usually happen was that they'd finally notice you sitting there and ask you to say your number only.

You'd say, "5478N."

Then they'd say something like: *5478N, SQUAWK 5433, AFTER DEPARTURE TURN 20^{O} LEFT AS SOON AS PRACTICABLE. TAXI STRAIGHT AHEAD AND HOLD SHORT AT THE GREEN LINE, MONITOR GROUND CONTROL, 121.9.*

You were not even supposed to give them a big "ROGER." Ours not to reason why, ours not to make reply, ours but to do or die…

When you got to the line, the next controller would pick you up and tell you where to go next. By the time you got to the runway, you might have gone through 3 or 4 different controllers. But they did move you right along. And there was

none of this nonsense about doing a runup. By the time you got to the active runway, you were expected to be ready, chop chop.

Notice, in the previous clearance, that nobody gave you so much as a "cleared as filed." They didn't really care whether you understood the clearance. They wanted to move you *out of the way* and get you airborne. As long as you had the right transponder code and the correct altitude assignment, they figured you could work out the kinks with the departure controller after you got going.

In that environment, most pilots were prompt and compliant. I have heard stories, however, of hapless souls who did not comply promptly, or who asked for repeats of their instructions: pilots who would then be directed over to some runup pad until the controllers could get back to them. Sometimes the FBOs would have to send gas trucks and survival rations out to these unfortunate souls.

There are some places where the controllers seem to make a sport of challenging pilots with convoluted clearances. Oklahoma City is one place where you never get anything simple. Last time I was up there, I filed something like: …direct XYZ intersection, Victor 777 MOXIE, victor 234 DODOE, direct… Looking at the local low altitude enroute chart, it seemed fairly logical that I could GPS it to the first fix that was maybe fifty miles out in the direction I wanted to fly and then go about my business. I do that all the time going east out of New Orleans. There's a fix just east of Mobile called LOXLY intersection that serves me well as an initial enroute fix. Going direct bypasses the Gulfport VOR by a mile or so, then puts me a little south of the main airport in Mobile. That makes

no difference, of course, because by the time I get to Gulfport, I've reached my cruising altitude and could not by any stretch of the imagination be in conflict with any arrivals or departures at either Gulfport or Mobile.

But that doesn't work in Oklahoma City. It's probably because they have two major civilian airports in addition to a huge Air Force base up there, all snuggled up side by side by side. Some control freak (I think it's very appropriate for the FAA to hire control freaks to be controllers.) undoubtedly sat down with a committee and designed a traffic flow diagram that established order in the arrival and departure paths for their local air traffic.

The result is that you typically get a clearance like this:

Cleared to New Orleans Lakefront via direct Will

Rogers, Will Rogers 242 radial 64 mile fix, V 222

XYZ, flight plan route. Maintain 2000 until the Will Rogers 242 28 DME, then climb and maintain 4000. Expect 7000 28 minutes after departure…

When's the last time you got a *radial* in a clearance? If you feel the need of practice decoding obtuse clearances, I invite you to join the traffic flow at OKC. Last time I got one of these, I whipped out the map, trying to trace what he had said and also to look up the frequency for the Will Rogers VOR. This navaid is located about 2 blocks from the Wiley Post Airport. Why can't they just clear you to the DME fix and have done with it?

By the time I got airborne, the plane was climbing strongly, since I had lightened the load considerably by burning off fuel at

the runup pad while trying to make sense of the clearance and set the nav radios up to comply. After I finally got in the air, I called the departure controller, and he said, "Proceed direct XYZ, climb to requested altitude." By the time I got to him, somebody had noticed that I was the only airplane aloft within a 200-mile radius, and that there was no need for all the gobbledygook.

As an aside, I suspect that there may be good news or bad news for a coming generation of pilots who will have only electronic maps. With a paper map, you may get literally wrapped up in your work, but you can usually scan around and find the fixes in the clearance you've just copied phonetically. The good news is that it's possible that such a clearance will soon be transmitted directly into the GPS navigator and the autopilot might then take you where you need to go, with the pilot encumbered by the thought process.

Until we acquire such advanced systems, having another warm body or a good autopilot in the cockpit helps a lot. This other person or device is used to keep the bird under control while the pilot tries to keep the communications unsnarled. But it doesn't always work out the way you planned. There was one time, early in my charter flying career, when I took along a guy who had been sitting in the pilot lounge and agreed to sit in the copilot's seat and take a ride. We departed VFR and encountered more clag than I had been led to expect. I decided to air file. I handed my copilot a pad and asked him to copy the clearance. I knew I was in trouble just after the controller shot us our instructions. My companion tapped me on the shoulder and asked me whether "intersection" should be written with a capital or a lower-case letter.

That leads to the subject of copying clearances. When I was first getting involved with meter-reading I was intimidated with the prospect of writing all of that stuff and getting it in a form that would allow me to read it back correctly and then to understand what I had just read back, so that I could comply.

In fact, I didn't have a totally solid hold on this skill when I started instructing instrument students. To be brutally honest, the ink was still wet on both my instrument and my instrument instructor ratings when this episode took place. I was flying on an IFR clearance with a student on a training flight from New Orleans to Gulfport. The aircraft had just acquired a DME, and this might have been the first flight I had ever attempted with this device.

We got handed off to the Gulfport controller, who shot us this clearance: *You are cleared for a straight-in ILS to runway 32 via the Gulfport 242 radial and the seventeen mile arc southwest. Report established inbound.*

The student picked up the microphone and uttered one of the most terrifying and memorable words I've ever heard: "*Roger."*

"What did he say?" I asked.

"I dunno," he replied. "I figured you knew what he was talking about."

Notwithstanding the challenges of new technology, understanding and copying instrument clearances is pretty much like understanding VFR clearances. I stopped having trouble with those when my instructor explained to me that the ground control guy was going to tell me the runway, the wind, and the

altimeter setting, always in that order. After that, understanding him was a piece of cake. I already knew pretty much what he was going to say, or at least, how he was going to say it.

In the case of an instrument clearance, he's also going to give you information in a certain order. He's going to give you your clearance limit (where you're being cleared to), then the route, then the altitude, followed by supplemental information, like climbout instructions (i.e. *maintain runway heading* or something like that), departure control frequency, and then the transponder code. So all you have to do is listen in that order and copy in the same order, and you pretty much have it made.

If he reads you something like the name of an intersection that you don't understand, try to write something phonetically, then ask for a clarification, or look for something on your map that sorta matches what you've just written. But whatever you have written, and whatever you've read back, remember, *Do not call ready for takeoff until you thoroughly understand your clearance and have determined that you can comply with it.* You might be embarrassed to have to ask for a clarification, but you'll be a whole lot more embarrassed if you do something wrong after you're in the air because you were trying to fake it. Remember, you have not bought the clearance, indicating your willingness to comply with the contract, until you call ready for takeoff.

I copy clearances vertically, top-to-bottom. The clearance limit goes on top, then the route comes directly underneath that, followed by the altitude, the departure control frequency and transponder code. Often the information is a number, and that's all you have to copy. If it's a four-digit number, it's the

transponder code. If it's a four-digit number at the bottom of the pile, it's the transponder code for sure. There's no need to write "squawk."

Then there's the whole issue of abbreviated clearances. "Cleared as filed" is the most common. I used to write *CAF* when they'd give me that. Then some years later, I was checking the clearance a student of mine had just copied, and I saw a big P right up there on top. "What's that?" I asked.

"That's a P," she replied. "It's the initial of my family, the famous Poole family of central Mississippi. I use it to honor them."

"What's it mean?" I asked.

"It means, 'cleared as filed," she replied. "Why waste time writing three letters when you can do the same job with one?"

Sometimes I hate flying with students who are smarter than I am. It's a guy thing. Anyway, there are several generations of instrument pilots in southern Louisiana who I trained, who now use the letter "P" for "cleared as filed." I know enough to steal a good idea when I see it.

So here's my suggestion. Make up your own symbols for common words found in clearances. You're the only one who's ever going to read them. I draw a big letter D with an arrow through it for "direct." That's dumb, isn't it? Why do I need the arrow? I don't know, I've just always done it that way. I keep my list of clearance items, frequencies, transponder codes, and altimeter settings in a vertical stack, starting at the right edge of my flight log, followed by another vertical column of figures to the left of that, and so on, depending on how much of this stuff I

have to write. I generally don't have to start a second column before I complete my trip. But there's plenty of blank paper on my clipboard to write on, if I need it.

In California they have something called Socal Approach and Norcal Approach to handle the huge volume of general aviation traffic occupying their sub-ten-thousand foot airspace. When flying in this area, you get handed off about every five minutes. All the paper manufacturers rub their hands together at the prospect of the abundant use of their product generated by frequencies and altimeter settings copied by California pilots.

Anyway, clearances are not anything that should intimidate the nascent instrument pilot. The language of ATC is fairly straightforward, for the most part, and once you've gotten used to the grammar and syntax of clearances, you'll find it a very efficient way to communicate potentially complex ideas.

The key to understanding incoming transmissions on the aircraft radio is to know pretty much what the guy's going to say ahead of time. If you don't believe this, try asking the ground controller how his Mama's doin'. I'll guarantee he'll come back with a "Say again?" This from a guy who makes his living, day after day, working that radio. If it's not in standard parlance, he probably won't get it the first time around.