

### Exercise©

I have used a pre-solo lesson for many years designed to overcome a student pilot fear that is often left unsaid although deeply sensed. "What do I do when ATC tells me to do something I don't understand?" I select a multiple runway airport and phone the tower to make sure that they fully understand my request. Calm conditions are best in no or very light traffic. After this lesson the full radio responsibility rests with the student. (I wish.) This is a very worthwhile lesson for the student who has trained exclusively at an uncontrolled airport although it is a bit much for an introduction.

Prior to the flight I use an airport diagram chalked on the tarmac to walk through the maneuvers as may occur. Examples may be similar to what occurs if the active runway changes, traffic conflicts exist, or conditions warrant.

- Make a 360 on downwind,
- Make a 270 and re-enter on base,
- Extend downwind,
- Make short approach,
- Overfly the field,
- Go-around to right side of runway,
- Make full stop,
- Plan 180 on runway and departure (runway),
- Make course reversal on upwind,
- Make 180 on upwind (to parallel runway),
- Continue straight-out until advised,
- I will call your base,
- Fly base leg past final and make(L/R) 270 to final,
- Make S-turns as required for spacing,
- You are drifting over parallel runway,
- Canceled clearance,
- Confirm intentions,
- Advise traffic in sight,
- Follow robin ahead, (trick)
- Caution sea gulls on final,
- Fox reported on runway,
- Construction on right side of runway,
- Turn left NOW,
- Fly wide downwind to follow traffic,
- Number four to land,
- Traffic to follow on two mile final advise in sight,
- Caution wake turbulence clear for takeoff
- Report (specific point unknown to student)
- When speed and altitude permit...
- Remain clear call back in five minutes
- Unable request report downwind, etc.

The same sort of exercise can be carried out while on the ground to improve awareness of taxiing situations as well as control positions required for 'selected' winds. The ability to recognize orientation on the ground is just as difficult as in the air. When orientation is lost knowing how to identify your position and how to request taxi assistance

is just as important as in the air. Knowing the symbolism of runways and taxiways is time well spent. It is just as important to plan your taxi routes as it is your landing and departure routes. Recent changes in procedures require that all pilots readback all holding instructions such as:

- Taxi into position and hold,
- Hold short of (runway or taxiway)
- Taxi closer and hold,
- (Ident) Say position,

Additionally, all runway designations are to be read back as confirmation of clearance instructions.

- Taxi to (runway)
- Taxi to (runway) via (route)
- Cross (runway) hold short (runway) contact (ATC)

It is not wrong to readback takeoff clearances but may be considered unnecessary. If you are requested to monitor a frequency, do just that, do not talk. "Remain this frequency", (obvious). If you do not understand what is said, it is important that you let ATC know. Even the best of us miss things once in a while. Not a serious problem if you know what to do.

- If you just didn't hear, say, "(ident) say again".
- If you didn't hear who ATC gave information to, say, "Confirm (information) was for (ident)".
- If you only heard part of a communication, say, (Ident) say again all (after/before) specific word/phrase.

I have had ATC simulate radio difficulty, use the light signals, simulate failure to give clearance, ignore radio calls, you name it. They can get rather creative. While on the ground I assure the students that I will not let them make a mistake. I have made mistakes, however. When we visit the tower afterwards with a pound of coffee they never fail to make some appropriate comment.

When ATC gives an instruction you perform the action while acknowledging. ATC instructions are expected to be performed without undue delay. If, for any reason you are unable to perform a given ATC instruction, don't delay letting them know.

- (Ident) unable short approach
- (Ident) Unfamiliar (reporting point)
- (Ident) Negative traffic advise
- (Ident) Unfamiliar aircraft type advise
- (Ident) UN familiar area request assistance (? by voice inflection)
- (Ident) Request priority because of fuel, turbulence, weather, engine,
- (Ident) Unable x-wind (runway) request taxiway (name)

Certain words should be **avoided** when giving position reports.

- "Over (place)", in an airplane you are supposed to be over.
- "Abeam (Point)", Term often used related to mountain in my area. Abeam means off the wingtip. You could be going in any direction.
- "miles" and "feet" "Five north" has to be five miles.  
Two-thousand five-hundred has to be feet.

The actual flight is rather anti-climatic as it should be. The entire exercise takes less than an hour since many of the maneuvers can be combined into one pattern. I very much recommend that the entire flight be recorded so that it can be reviewed by the student and even drawn out in its entirety.

#### **Dessert**

By prior arrangement with the tower I may have planned a radio failure lesson. This is quite easy to do equipped with headsets. We depart the area and remove the student's headset. We don't tell ATC of our direction of arrival and I have student overfly the airport at twice pattern altitude (I keep my headset on and monitor traffic so I can advise ATC as may be necessary) After we select a runway. Depart outbound at 45 degrees, make a course reversal well away from airport and enter pattern at pattern altitude on 45 entry. Look for steady green light. Turn downwind, base, and final. If (by prior arrangement) no green light is given we make go around and re-enter on downwind, etc.

With the advent of full transistor radios, failure is not as common as years previously but it does happen. Knowing what to do is just another stress bump removed from your system.