

### **Airport patterns©**

Except for traffic conditions where ATC (Air Traffic Control) has override powers, airport pattern directions, and altitudes are decided by local jurisdictions.

### **Class-D airport departures**

From a single runway there are nine standard departures that may be requested if there are no special considerations. If departures can be made from both ends then we have a total of eighteen. If left traffic is standard there are two of these eighteen that need not be requested. They are the two left standard (45 degree) departures, one from each end.

1. If no request is made you are expected to make a left standard departure. The tower may ask for confirmation of as standard departure just to make sure.

From any runway you can request a...

- straight out
- left crosswind
- left downwind
- left 270
- right standard
- right crosswind
- right downwind
- right 270

...on course (destination) may be appended to any of these. You can optionally just say request left/right turn on course (destination) The advantage of naming a destination is that other aircraft are given a more specific idea of the flight line you will be flying. A low visibility or weather related departure would be to request a climb in the pattern.

Typical call would be..."Podunk tower Cessna 1234X ready 32 request right 270 on course Lost Hills" No punctuation should be used in talking or writing airplane.

### **Class-D airport arrivals**

To a single runway there are seven standard arrivals. There are two non-standard arrivals that are relatively hazardous. If no special considerations interfere any of the seven may be requested. If the pattern direction is known a 45 degree entry into the pattern need not be requested. However, the tower must be advised that you will report right or left downwind. As a standard procedure, except for the downwind entries, all other arrivals require a two-mile report unless otherwise advised. The purpose of the report is to allow the tower time to locate you and plan a safe sequence for your arrival.

- straight in
- right base
- right downwind
- right standard (45)
- left base
- left downwind

- left standard (45)
- direct entry to left downwind (not recommended)
- direct entry to right downwind (not recommended)

All of these can be modified by pilot request or ATC suggestion. A modified entry may be at other than a precise number of degrees relative to the runway. I recently heard an aircraft over the airport request and be approved for an overhead arrival. Ask and you may receive.

A typical call might be..."Podunk tower Cessna 1234X the dump at 2100 with Alpha request right base 32 will report two-mile base" Again, no punctuation should be used when writing or talking airplane.

The standard 45 entry has some dimensions that can be used to standardize a landing approach. The ideal towered runway is about 5000', close to a mile. Entering on a 45 and aiming at the runway threshold and turning downwind at mid field would place the aircraft a half-mile from the runway and a half-mile from abeam the numbers. Flying from the numbers to the 'key position would be another half-mile. Base would be a half-mile as would the final. This gives the aircraft a two-mile landing procedure with the first half-mile for pre-landing procedures, the downwind extension for slowing, trimming and configuring the aircraft, the base leg for descent and setting the length of the final approach.

The two-mile reports for the straight in and base arrivals can be segmented much as the standard arrival and used to organize your landing procedures.

#### **Two-mile reports**

The two mile report should be 'measured' from the runway threshold. the 'measuring can be done for the straight-in by using a known site directly in line with the runway or by using a call that says abeam (beside) a known site. The last recourse is to visualize the runway flipped toward you two times. If you use GPS, you should know the point on the airport used as its position and adjust your GPS reading accordingly.

The two-mile base reports can be done much the same as the straight in except for the use of the runway flips. Your entry line should be aimed at a point anywhere from a quarter to a half-mile before the threshold.

There is an instance where the 45 entry and two-mile reports can and do present pilots with illusions that can affect their airport arrivals and landings. A pilot using the 45 entry at a runway of 3000' or less should plan to turn downwind abeam the departure end. Flying to midfield before turning will reduce all the flight segments to 1/4 mile. The best way to see this effect is to compare the pattern of a 5" drawing and a 3 inch drawing of a 45 entry. The best advice I have for flying a pattern at a small or unfamiliar small airport is to keep the downwind twice as far as you think you should and you will be about right.

Where parallel runways exist, any requested departure may be restricted by ATC until they authorize a turn for reasons of conflicting traffic. At any airport, a particular departure may be limited because of terrain, noise abatements, or local considerations where turns are only allowed after reaching a particular point or altitude. Every airport

will usually have a place where the preferred or prohibited flight procedures are explained and/or illustrated.

Intersecting runways make possible restricted clearances to land. The restriction most often requires the pilot to land and hold short of the intersecting runway. A pilot should not accept such a clearance unless able to comply.