

# Traffic Pattern





Every flight begins and ends at an airport or other suitable landing field.

It is essential that pilots learn the traffic rules, traffic procedures, and traffic pattern layouts that may be in use at various airports.

It is imperative that a pilot form the habit of exercising constant vigilance in the vicinity of airports even when the air traffic appears to be light.



To assure that air traffic flows into and out of an airport in an <u>orderly manner</u>, an airport traffic pattern is established.

If the pilot is familiar with the basic <u>rectangular pattern</u>, it is easy to make proper approaches and departures from most airports, regardless of whether or not they have control towers.

Which Way do We Takeoff and Land -Controlled

For the rest of this lesson 'runway' will be not only the large section of pavement/grass/dirt used but also the <u>direction</u> you are using.

For each large section of pavement/grass/dirt, there are actually two runways.

Which Way do We Takeoff and Land -Controlled

On any runway you will see giant runway numbers at both ends. The number indicate which way you takeoff and land. Cobb County International Airport (KRYY) has runways 9 and 27.

Runway 9 = takeoff/land to the east Runway 27 = takeoff/land to the west. Which Way do We Takeoff and Land -Controlled

At an airport with a tower the controllers will tell you which runway to use.

At an airport without a tower ('uncontrolled'), you have a choice but some days it feels like a negotiation or stand off with other pilots.

# Right or Left Traffic?

Standard traffic pattern turns are always to the <u>left</u>, unless the airport specifies it otherwise.

RP = Right Pattern...Right Turns



Which Way do We Takeoff and Land – Uncontrolled

Takeoff and land into the wind unless there is a good reason to use the opposite direction.

At an airport without a tower, it is up to the pilot to decide which (side of the) runway to use.

# The Windsock

Most airports have frequencies that you can use to check the weather...but a windsock is always accurate and current

The wind is going into the large hole The windsock 'points' to the runway to use.



# The Standard Pattern

The traffic pattern altitude is <u>usually 1,000</u> feet <u>above the elevation</u> of the airport surface.

At some airports like the Griffin public airport it is <u>nonstandard</u>...it is 800 AGL

The use of a common altitude at a given airport is the key factor in <u>minimizing the risk</u> of collisions



### Standard Entry

The traffic pattern is normally entered at a  $45^{\circ}$  angle to the downwind leg.

You should arrive <u>at</u> the pattern altitude...not above or below.



# Pattern Altitudes

The official source for pattern altitude information in the US from the FAA is the <u>Chart Supplement</u>.

You can also find this information in ForeFlight, Garmin Pilot, the GPS in the planes, and other places.

KHMP: Elevation = 882 ft Pattern = 1882 ft (I round to 1900) 6A2: Elevation = 958 ft Pattern = 1800 ft

# Pattern Altitudes

#### <u>AIM 4-3-3.</u>

Standard traffic pattern altitude is defined by AIM 4-3-3 as:

1. 1,000 feet above ground level (AGL) for Propeller–driven aircraft.

2. Large and turbine–powered aircraft enter the traffic pattern at an altitude of not less than 1,500 feet AGL or 500 feet above the established pattern altitude.

3. Helicopters operating in the traffic pattern may fly a pattern similar to the fixed-wing aircraft pattern, but at a <u>lower altitude</u> (500 AGL) and closer to the runway. This pattern may be on the <u>opposite side</u> of the runway from fixed-wing traffic when airspeed requires or for practice power-off landings (autorotation) and if local policy permits. Landings not to the runway must avoid the flow of fixed-wing traffic.

# Downwind Leg

The downwind leg is a course flown <u>parallel</u> to the landing runway, but in a direction <u>opposite</u> to the intended landing direction.

This leg is flown approximately 1/2 to 1 mile out from the landing runway and at the specified traffic pattern altitude.



## Downwind Leg

When flying on the downwind leg, the pilot should complete all before landing checks and extend the landing gear if the airplane is equipped with retractable landing gear.



GUMPS Check Mindful of wind

Go Around Ready

# Downwind Leg

#### Flaps: 0

Pitch: +5 degrees

Airspeed: whatever is reasonable



### Abeam the numbers

Reduce power and begin a descent.

Flaps: 10 degrees Pitch: -5 degrees Airspeed: 85 45° ENTRY DOWNWIND 45° DEPARTURE 45° DEPARTURE 45° DEPARTURE STRAIGHT-OUT DEPARTURE FINAL UP WIND

### Downwind to Base turn

The pilot should continue the downwind leg past a point abeam the approach end of the runway to a point approximately 45° from the approach end of the runway, and make a <u>medium bank turn</u> onto the base leg.



### Base Leg

Flaps: 20 degrees Pitch: -5 degrees Airspeed: 75



#### Base Leg

The <u>ground track</u> of the airplane while on the base leg is meant to be <u>perpendicular</u> to the extended centerline of the landing runway.

If you are in a high wind situation it is ok to have a crab angle.



# Clear Right Clear Left

There could be other aircraft doing very wide patterns and not using the radios.

At most non towered airports having a radio installed is not required.



# § 91.113

When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of way.

Pilots should not take advantage of this rule to cut in front of another aircraft that is on final approach to land or to overtake that aircraft.



### Final

Flaps: 30 degrees

Pitch: -5 degrees

Airspeed: 65, 60 at runway edge

Say out loud on loop: Speed Height Center Nose



#### Departing

Straight Out or 45° first depends on where you plan to go next.

Caution for aircraft on approach. There maybe be a plane doing an instrument approach planning on doing a <u>circle to land</u>. This would be a good time to depart at 45° instead of straight out.



Airports with Towers At airports with operating control towers, the tower operator can instruct pilots to enter the traffic pattern at any point or to make a straight-in approach without flying the usual rectangular pattern.

Many options are possible if the tower operator and the pilot work together in an effort to keep traffic moving smoothly.

# Entry Diagram



Figure 7-4. Preferred entry from upwind leg side of airport (A). Alternate midfield entry from upwind leg side of airport (B).

# Can't I Just Fly Straight In?

#### Towered Airport

Yes, if you are flying into a towered airport and they allow you to.

#### Non Towered Airport

Yes, if you are cleared by ATC on an instrument approach in IMC.

Yes, if you are practicing an instrument approach.

If you do, make sure to make radio calls every couple of miles.

If you do not hear anyone, do not assume there is nobody else around, planes are allowed to fly without using the radios at most non towered airports.

# Watch Out for Human Strikes

Pay special attention to airports with jumpers.





Any questions I can answer or follow up later on?