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Columbus Collision Avoidance

A guide to Columbus Air Force Base and the surrounding area

This booklet was prepared by the 14th Flying Training Wing Safety Office. If you have any questions or comments, we are available at (662)-434-2522 (front desk).

This guide is current as of October 2013. Please refer to current aviation publications for the latest aeronautical information.

Introduction:

The United States Air Force needs a constant supply of highly qualified pilots to fly aircraft in support of our national defense. Columbus Air Force Base (CAFB), home of the 14th Flying Training Wing (14 FTW) is the pilot training base for many of our nation's Air Force Aviators.

The 14 FTW's goal is to safely and effectively conduct its training with fellow aviators. Don't hesitate to call the 14 FTW Safety Office if you have any questions or require additional information.

Why We Publish This Booklet:

Recent near mid-air involving CAFB aircraft		
08 Aug 2008	Nashville, TN	Hot Air Balloon
05 Dec 2008	15NM NW of Gunshy	Cessna 172/182
08 Dec 2008	5NM S of CAFB	Helicopter
05 May 2010	15NM NE of KTUP	Helicopter
27 Feb 2012	10NM S of KUBS	Cessna Citation
03 Jan 2013	Gunshy	Piper Cherokee

This is the Head's Up Display (HUD) view from a T-38. They were 353 kts when another aircraft crossed through the Military Training Route (MTR) they were on. Neither aircraft had any situational awareness on the other. Both were operating legally.

Aircraft at Columbus:

T-6 Texan II
Max Speed: 316 kts
Cruise/Pattern: 200 kts
Final: 110 kts

All USAF pilots begin Undergraduate Pilot Training on the T-6. The T-6 pattern is to the southwest of CAFB extending out 5 NM. They primarily land on runway 13R/31L and are under the control of a Runway Supervisory Unit (RSU) operating on a different frequency from the control tower. The pattern is from the surface up to 3200' MSL. Airspeeds range from 100 KIAS on final to 200 KIAS in the pattern itself. Another area of high T-6 activity is approximately 40NM south of CAFB at the auxiliary field (1MS8) called Gunshy. This field is near Restricted Area 4404. One part of the T-6 training includes emergency landing pattern training. This is to ensure aircraft suffering from engine trouble are able to safely land.

T-1 Jayhawk
Max Speed – 465 kts
Cruise – 250 kts; Pattern – 180 kts

The T-1 aircraft primarily flies instrument approaches to CAFB. When T-1's fly the VFR pattern, they are to the northeast out to 10NM and utilize 13L/31R. Their altitude is from surface to 1700' MSL and airspeeds range from 250 KIAS down to 115 KIAS. This trainer is used for future Air Force cargo and tanker pilots.

T-38 Talon
Max Speed – 814 kts (1.23 Mach)
Cruise/Pattern – 300 kts

The T-38 is a supersonic jet trainer, flown by students who will go on to fly fighter or bomber aircraft. The T-38 pattern is to the northeast of the field extending to approximately 10 NM. They primarily land on runway 13L/31R. The T-38 aircraft in the pattern are VFR under the control of an RSU most times. Altitudes in the pattern range from the surface to 3500' MSL. Airspeeds are generally 300 KIAS to as slow as 160 KIAS, but may be up to 400 KIAS in MTRs.

Golden Triangle MACA Partner

An American Eurocopter production facility is located at Golden Triangle Regional Airport (KGTR). They fly acceptance flights primary in the area west of KGTR from 2000' to 10000' MSL. There are on average, 5 flights per day. Flights generally take place from 0830L to 30 minutes prior to sunset.

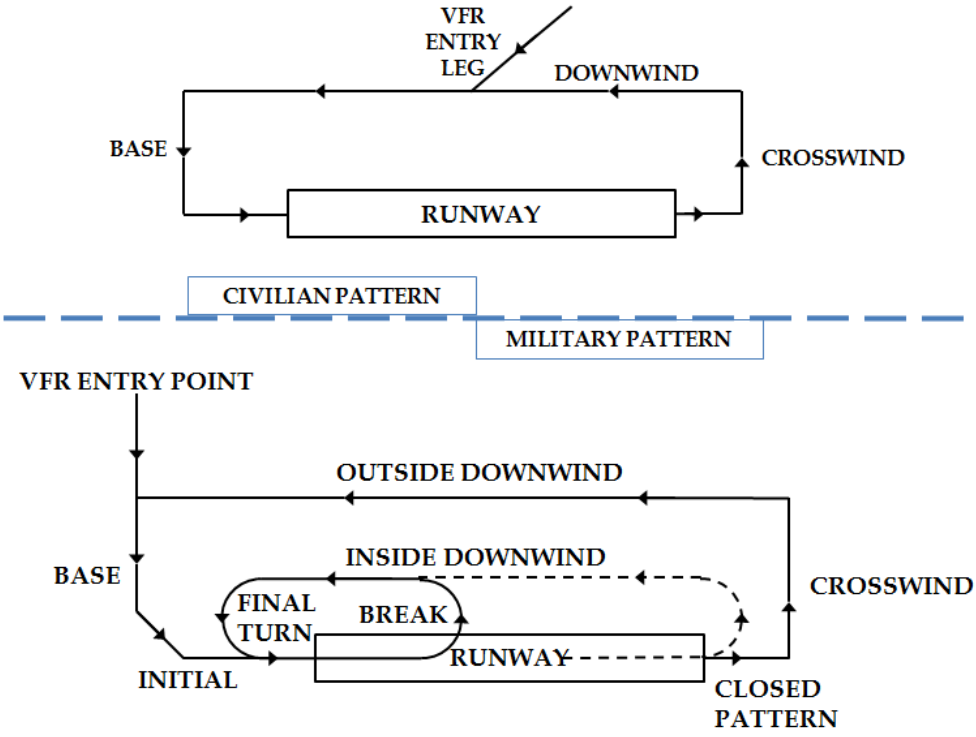
Acceptance flights are designed to fly the aircraft up to the design limits. These flights include rapid descents, autorotations and VNE checks. In general all aircraft with Eurocopter will be under flight following with Columbus approach.

Military Traffic Pattern:

The military traffic pattern differs from the standard civilian VFR traffic pattern in several areas. There are generally two types of patterns that are simultaneously in use.

1. CLOSED PATTERN: Aircraft flies to INITIAL which is roughly 4NM from the runway, aligned with the centerline. The aircraft is in a clean configuration and flies over the runway at 1000' - 1500' AGL. The aircraft performs a hard-turn, or "breaks", to lose airspeed and enter into the INSIDE DOWNWIND. This ground-track keeps them within 1.5 NM of the runway. They then fly the final turn to landing. If on the departure leg an aircraft wants to enter the closed pattern, they can "pull closed" to enter the INSIDE DOWNWIND.

2. VFR PATTERN: This pattern is similar to the civilian pattern with the exception of the entry from the 45-entry to downwind. Aircraft will still enter the patter through the VFR entry point and proceed to either initial or fly a base leg for a straight-in. Aircraft either on departure leg or carrying through INITIAL will turn crosswind 1NM past the runway.



Low-Level Military Training Routes (MTRs)

The centerfold map displays the Military Training Routes used by Columbus AFB aircraft. Within these routes, which normally extend 5 NM to either side, extensive high speed, low-level training is conducted to simulate actual wartime missions. Actual combat missions require high speed low-level penetrations to avoid detection by the enemy. MTRs are used not only by Columbus training aircraft, but also by various other fighter, bomber, and transport aircraft. Flight in or near MTRs requires constant vigilance since the midair collision hazard potential is great.

Training aircraft fly from 500’ to 1500’ AGL at speeds up to 400 KIAS. While civilian flight through these routes is not prohibited, it is not recommended. If you pass through an MTR, a good safety precaution is to avoid flying below 2,000’ AGL. Should you choose to operate below this altitude near an MTR, be sure to use all available anti-collision lighting (to include landing lights, if practical) and increase clearing efforts.

Consult the latest Sectional Aeronautical Chart for exact route locations. Call the nearest FSS for the current route status.

Proper Clearing/Scanning Techniques

An efficient scan pattern is paramount to visual collision avoidance procedures. When developing a proper san technique, remember that when your head is in motion, vision is blurred and the brain will not be able to identify conflicting traffic. Therefore a constant motion scan across the windscreen is not practical.

A proper scan technique is to divide your field of vision into blocks approximately 10 to 15 degrees wide. Examine each block individually using a system that you find comfortable. It should only take a few seconds to focus on a single block and detect conflicting traffic.

A moving target will naturally attract your attention, which makes it easy to detect. The greatest danger comes from conflicting traffic that is not moving in your windscreen; this is difficult to detect and the most likely scenario to result in a MIDAIR COLLISION.

Common Collision Factors

A recent National Transportation Safety Board study determined the following:

- Most aircraft involved in collisions are engaged in recreational flying, without any type of flight plan.
- Most midair collisions occur in VFR weather conditions during weekend daylight hours.
- The vast majority of accidents occurred at or near uncontrolled airports at altitudes below 1,000 feet.
- Flight instructors were on board in 37% of the accidents in the study.
- Most collisions occur in daylight with visibility greater than 3 miles.
- Pilots of all experience levels, student to veteran, were involved.

Radar Advisory Service

As an aid to mid-air collision avoidance, approach or center controllers provide radar advisories to VFR aircraft upon request. A transponder is required within Class C airspace, which includes Columbus AFB. To obtain radar advisories, state your position, altitude and intentions, then request radar advisories. Once radar contact is established, traffic advisories will be issued for IFR and known VFR traffic (controller workload permitting).

Your Role in Collision Avoidance

- Practice the "see and avoid" concept at all times, regardless of whether operating under Instrument (IFR) or Visual (VFR) Flight Rules.
- Under IFR control, do not always count on ATC to keep you away from other aircraft.
- Understand the limitations of your eyes and use proper visual scanning techniques. Remember, if another aircraft appears to have no relative motion, but is increasing in size, it is likely to be on a collision course with you.
- Execute appropriate clearing procedures before all climbs, descents, turns, training maneuvers or aerobatics.
- Be aware of the type airspace in which you intend to operate.
- Traffic advisories should be requested and used when available to assist the pilot's own visual scanning – advisories in no way lessen the pilot's obligation to see and avoid.
- If not practical to initiate radio contact for traffic info, monitor the appropriate frequency.
- Make frequent position reports along your route and at uncontrolled airports broadcast your position and intentions on Common Traffic Advisory Frequency (CTAF).
- Make your aircraft as visible as possible – turn on exterior lights below 10,000' MSL and landing lights when operating within 10 miles of any airport, in conditions of reduced visibility, where any bird activity is expected or under special VFR clearance.
- If the aircraft is equipped with a transponder, turn it on and adjust it to reply on both mode 3/A and Mode C (if installed). Transponders substantially increase the capability of radar to see all aircraft and the MODE C feature enables the controller to quickly determine where potential traffic conflicts exist. Even VFR pilots who are not in contact with ATC will be afforded greater protection from IFR aircraft receiving traffic advisories.

AVOID COMPLACENCY!