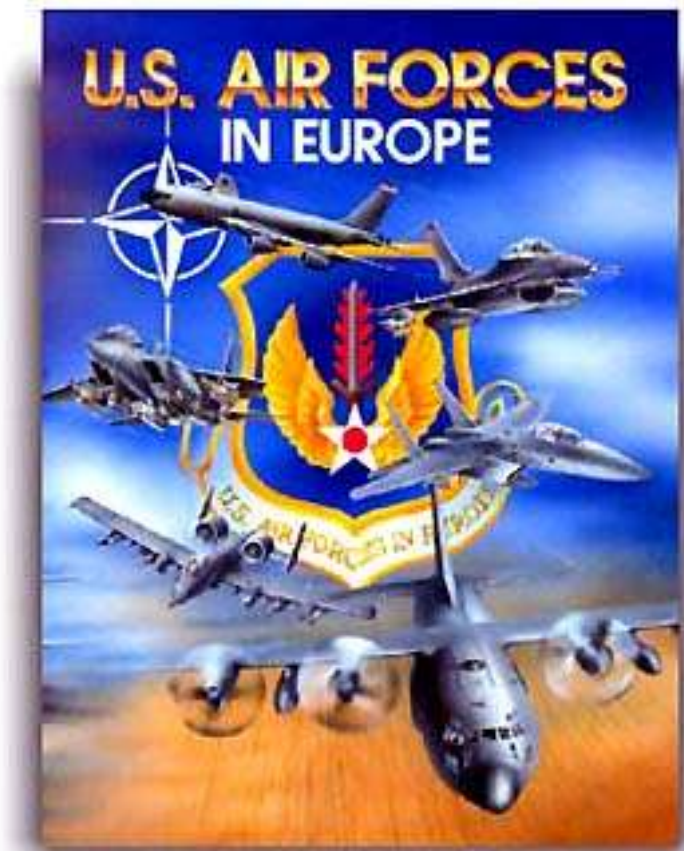


# RAF LAKENHEATH AND RAF MILDENHALL MID AIR COLLISION AVOIDANCE 2012



## MID AIR COLLISION AVOIDANCE

Mid-air collision avoidance has increasingly become an important topic within both military and civilian aviation. The purpose of this pamphlet is to provide information about the RAF Lakenheath/RAF Mildenhall area to help aircrew recognize and avoid mid-air collision hazards.

Both RAF Lakenheath and RAF Mildenhall have been active military installations since World War II. However, RAF Lakenheath and RAF Mildenhall aircraft frequently deploy to areas throughout Europe and Southwest Asia. The resulting fluctuation in traffic density may lull some pilots into relaxing their vigilance when flying through/near the local area. This is a potential hazard. RAF Lakenheath is home to the 48th Fighter Wing with F-15E, F-15C and HH-60G aircraft. These aircraft fly upward of 60 missions per day. RAF Mildenhall supports the 100th Air Refueling Wing, which supports KC-135R aircraft; the 352d Special Operations Group, comprised of two squadrons of MC-130P/N and MC-130E, the U.S. Navy's BE-200 and a multitude of Air Mobility Command aircraft, including C-5, C-17, and KC-10 aircraft. This level of traffic density creates a potential for mid-air collisions, and a demand for greater vigilance by all pilots transiting in the vicinity of the RAF Lakenheath/RAF Mildenhall Combined Military Aerodrome Traffic Zone (CMATZ).

To aid in seeing and avoiding military traffic in the RAF Lakenheath/RAF Mildenhall area, information on locally based aircraft, training routes, traffic patterns, and arrival/departure routes is attached. Listed airspeeds are in knots indicated airspeed (KIAS), which is roughly equivalent to true airspeed at low altitude.

Them seeing you is just as important as you seeing them. Therefore, we strongly encourage all traffic transiting the RAF Lakenheath/RAF Mildenhall area to utilize traffic advisory services provided by Lakenheath Approach Control on 128.9 / 242.05. This service can help both military and civilian pilots to see and avoid each other. **Due to the speeds involved, many military aircraft routinely conduct practice approaches under radar services outside the boundaries of the CMATZ.**

In the interest of improved flying safety the 48FW and 100ARW Flying Safety Offices are available to speak to any assembly of pilots on the subjects contained in this pamphlet. The Flying Safety Office telephone numbers are (01638) 525659 at RAF Lakenheath, and (01638) 544719 at RAF Mildenhall. The RAF Lakenheath Radar Approach Control services RAF Lakenheath as well as RAF Mildenhall; the telephone number is (01638) 523942. If you have any questions regarding this pamphlet, don't hesitate to call.

**PLEASE CALL LAKENHEATH  
APPROACH CONTROL ON  
128.9 / 242.05  
Within 20 Miles of the CMATZ**

## **RAF Lakenheath/RAF Mildenhall Combined Military Aerodrome Traffic Zone (CMATZ) and Aerodrome Traffic Zones (ATZs)**

The extensive air traffic activity in the RAF Lakenheath/RAF Mildenhall area brings into clear focus the potential for mid-air collisions. While the final responsibility for avoiding such mishaps rests with the pilot, a number of services are available which can help lighten the pilot's burden in this regard. RAF Lakenheath Radar Approach Control (RAPCON) provides all Basic Radar Service, Traffic Service and Deconfliction Service to all aircraft transiting the Combined MATZ.

RAF Lakenheath RAPCON is responsible for the airspace within the Combined MATZ. Military aircraft transiting this zone must contact Lakenheath Approach before entering the CMATZ. Civilian aircraft, although not required, are strongly encouraged to contact Lakenheath Approach before entering the CMATZ. The CMATZ, by definition, is the airspace within five nautical miles of the mid-point of the longest runway, from the surface to 3000 ft above the aerodrome level. The airspace includes "stubs" extending 10nm from the end of each runway, and a width of 4nm (2nm either side of extended centerline) from surface to 3000 ft. The airspace includes a non-standard extension 5nm to the south of the Mildenhall runways (Ref: UKLF Handbook/MILDI 13-201 4.1.2) In general, the CMATZ shall include the area of approximately 15 miles surrounding the RAF Lakenheath and RAF Mildenhall airports. Pilots requesting traffic advisories and flight following are encouraged to contact Lakenheath Approach on VHF frequency 128.9/UHF frequency 242.05.

Additionally, the RAF Lakenheath and RAF Mildenhall Aerodrome Traffic Zones (ATZs) fall within the confines of the CMATZ. The dimensions of an ATZ are as follows: a 2.5 nautical mile radius centered on the mid-point of the longest runway of the airfield, extending from the surface to 2000 feet above the aerodrome level. Pilots need to be aware of the requirement to receive prior approval from Air Traffic Control prior to entering an ATZ.

If your route of flight will take you near the RAF Lakenheath/RAF Mildenhall area, maintain a constant visual scan for conflicting traffic. **Although our military aircraft are receiving radar service, many of the smaller civil aircraft which are not transponder equipped may not be picked up on radar.** Also, almost all RAF Lakenheath aircraft operate on UHF only and do not hear civilian pilots (operating on VHF) making radio calls. Therefore, it is essential that all pilots employ the "see and avoid" concept. Remember---heads up, eyes out and fly safely.

## **UNITED KINGDOM LOW FLYING SYSTEM (UKLFS)**

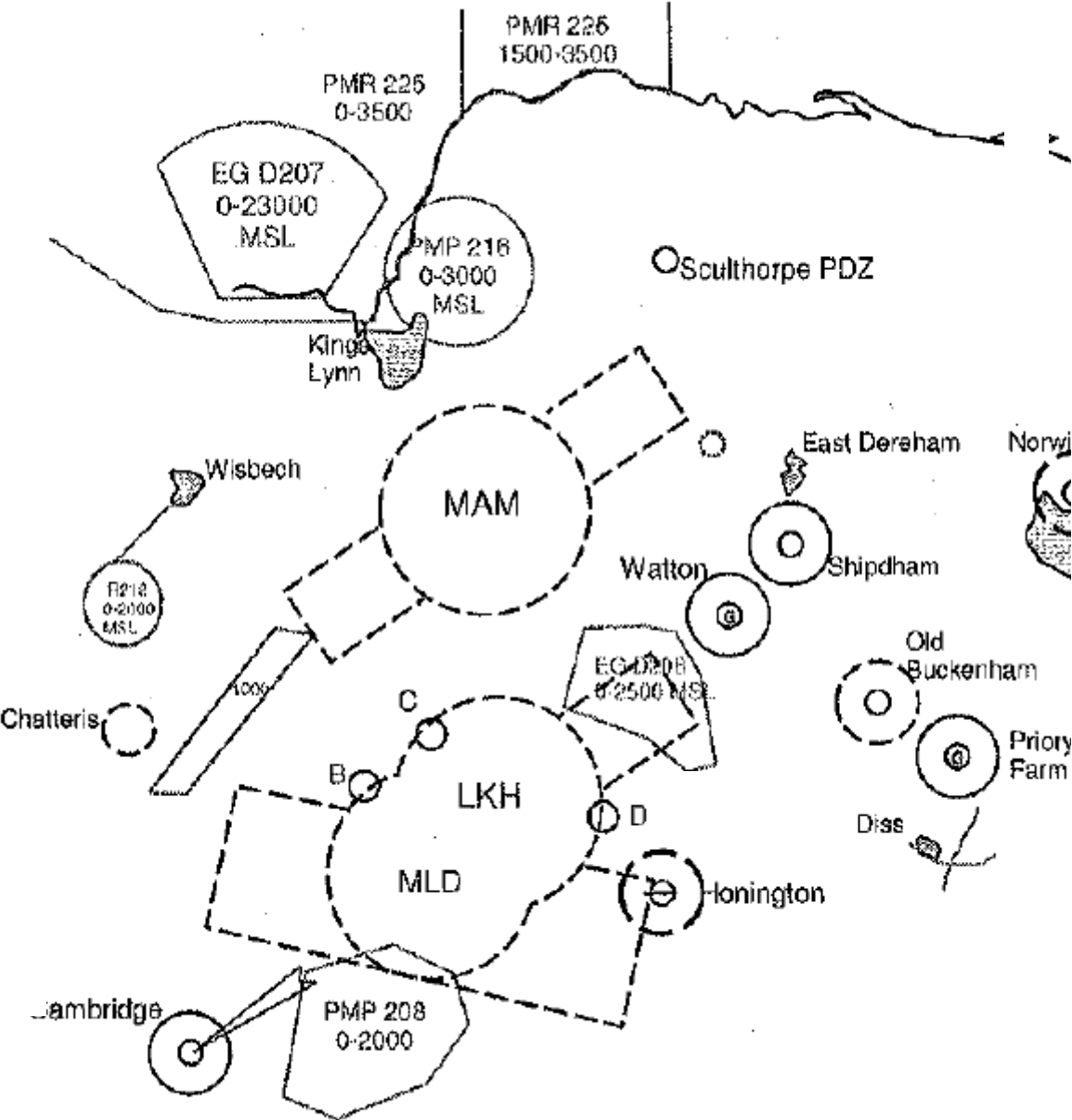
The UK Low Flying System is designed to facilitate low-altitude military training in the United Kingdom. The 352d Special Operations Group (SOG) and 56 Rescue Squadron (RQS) conduct extensive training in the low flying system and in the area of East Anglia, especially the airspace surrounding RAF Mildenhall. These organizations conduct numerous operations utilizing the UKLFS, including area drop zones, landing zones, infiltration/exfiltration, Combat Search and Rescue (CSAR), helicopter air-refueling, assault zone reconnaissance and assessment, combat medical care, and the direction of Close Air Support (CAS) assets.

Many operations are carried out exclusively at night between the surface and 2000 feet AGL, at airspeeds ranging from 90 to 280 KIAS. Although night-vision goggles are an integral part of unit operations, they cannot be relied upon for visual de-confliction. Therefore, aircraft transiting the UK should avoid operating at altitudes approximating 2000 feet AGL to reduce mid-air strike potential.

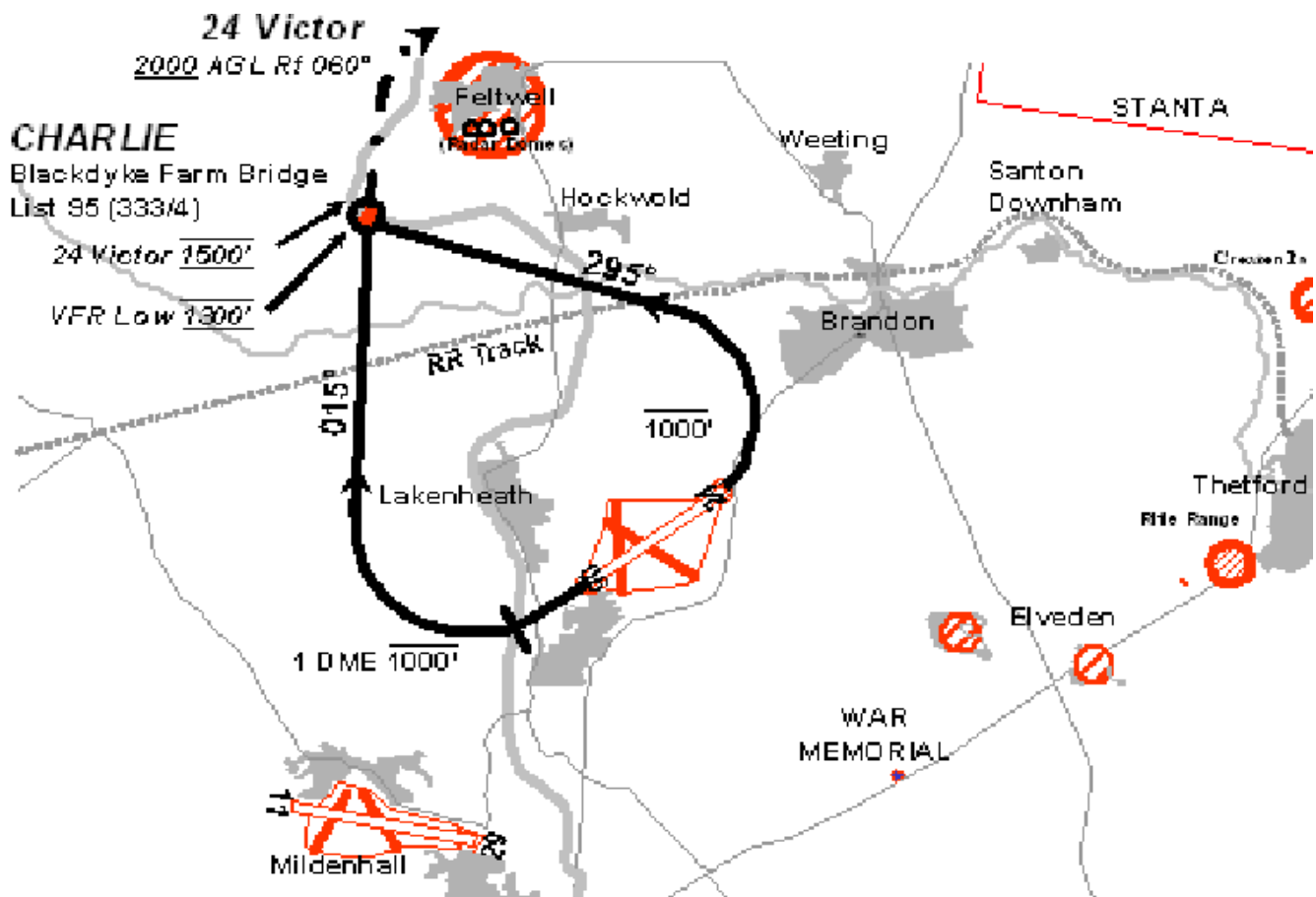
See the following map or consult the UK Low-Fly Handbook for information regarding the system's operational constraints and limitations. Any additional information can be obtained from the 352d SOG Safety Office at (01638) 544408 or 48 Fighter Wing Flight Safety Office at (01638) 525659.

Note: US military pilots are encouraged to utilize/become familiar with the UK Low-Fly Handbook as a flight planning tool; it provides valuable information on glider operations, restrictions, etc.

# RAF LAKENHEATH/MILDENHALL COMBINED MATZ/ AERODROME TRAFFIC ZONES



# RAF LAKENHEATH VISUAL DEPARTURES



**24 VICTOR** (48 FW A/C requesting VFR Departure to IFR pick-up): Min WX is 2500' (8 km)

Climb VMC on track 240°. Cross LKH 1 DME at or below 1000 ft, turn right to PT Charlie cross

PT Charlie at 1500 ft. Cross Feltwell above 2000' AGL, right 060° to intercept LKH 026°R. Cross 13 DME at or below FL190. Depart VMC or as instructed.

*Note:* If proceeding on an IFR flight plan, maintain VMC until able to pickup RAS past PT Charlie. Avoid direct over flight of satellite tracking facility at RAF Feltwell.

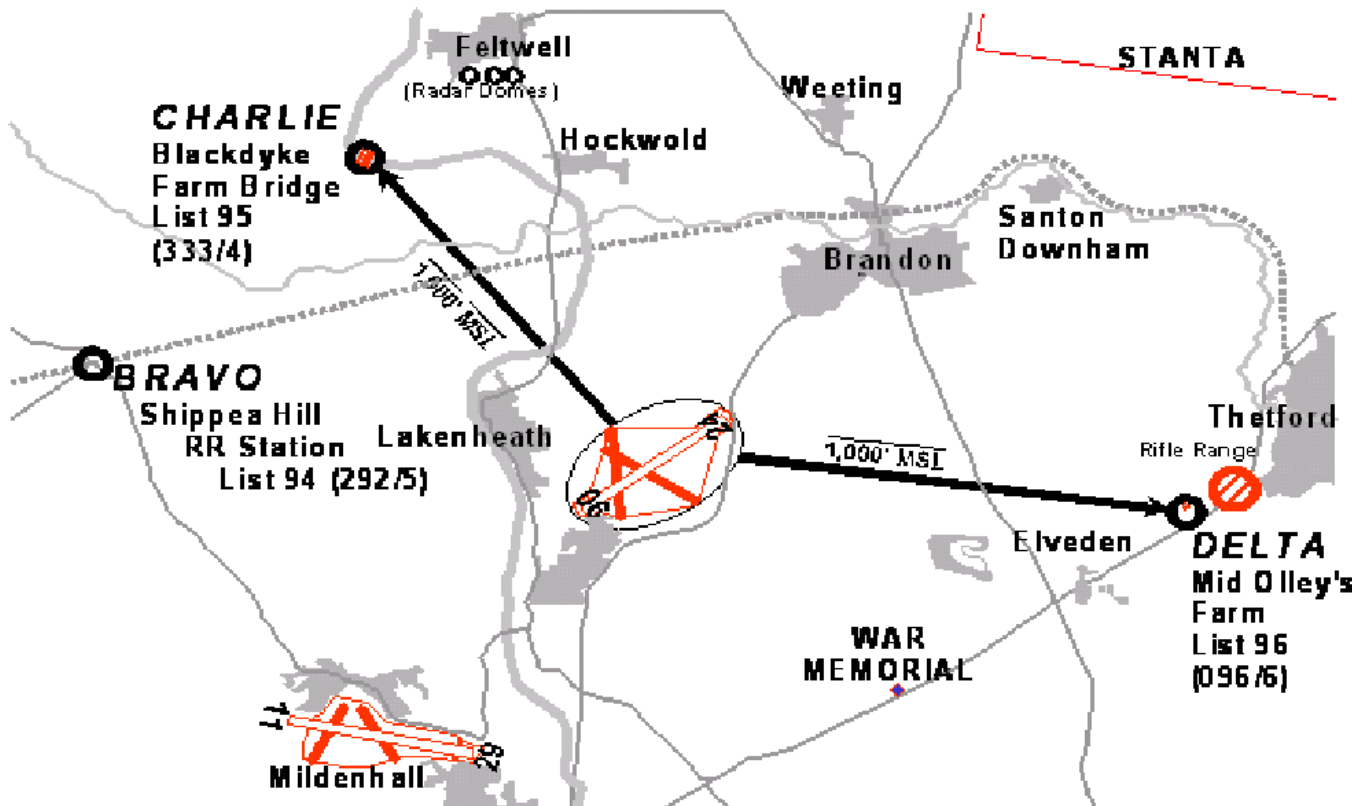
**VFR LOW** (VFR dept to enter low fly 5/6, Min WX: 1800' (8 km, squawk: 7001):

**RWY 24:** Cross 1 DME at or below 1000 ft, turn direct PT Charlie (HDG 015°), climb to 1300 ft.

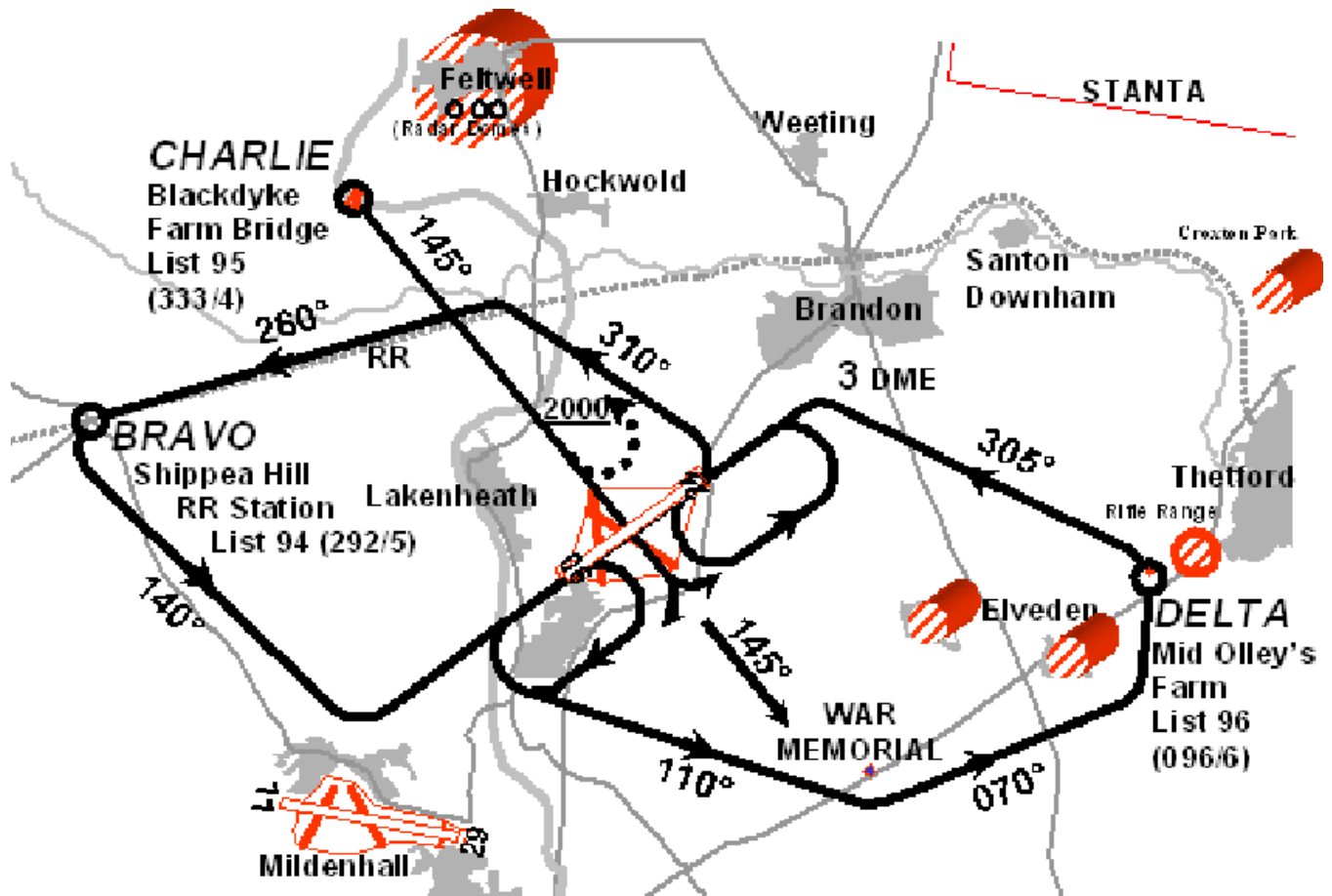
**RWY 06:** Turn direct PT Charlie (HDG 295°) NLT departure end of RWY to avoid Brandon. Cross the departure end of RWY at or below 1000 ft, then climb to 1300 ft. Descend into low fly past PT Charlie.

**AVOID BRANDON/SANTON DOWNHAM BY 0.5NM AND 5000 FT AT ALL TIMES, UNLESS ESTABLISHED ON FINAL DURING A PRECISION OR NON-PRECISION INSTRUMENT APPROACH TO RWY 24 (VMC OR IMC). AVOID LOCAL TOWNS OR VILLAGES BELOW 3000 FEET AGL WHEN OPERATING VFR. AVOID CROXTON PARK BY 1NM AND 3000 FEET.**

# Helicopter VFR Departure Procedure

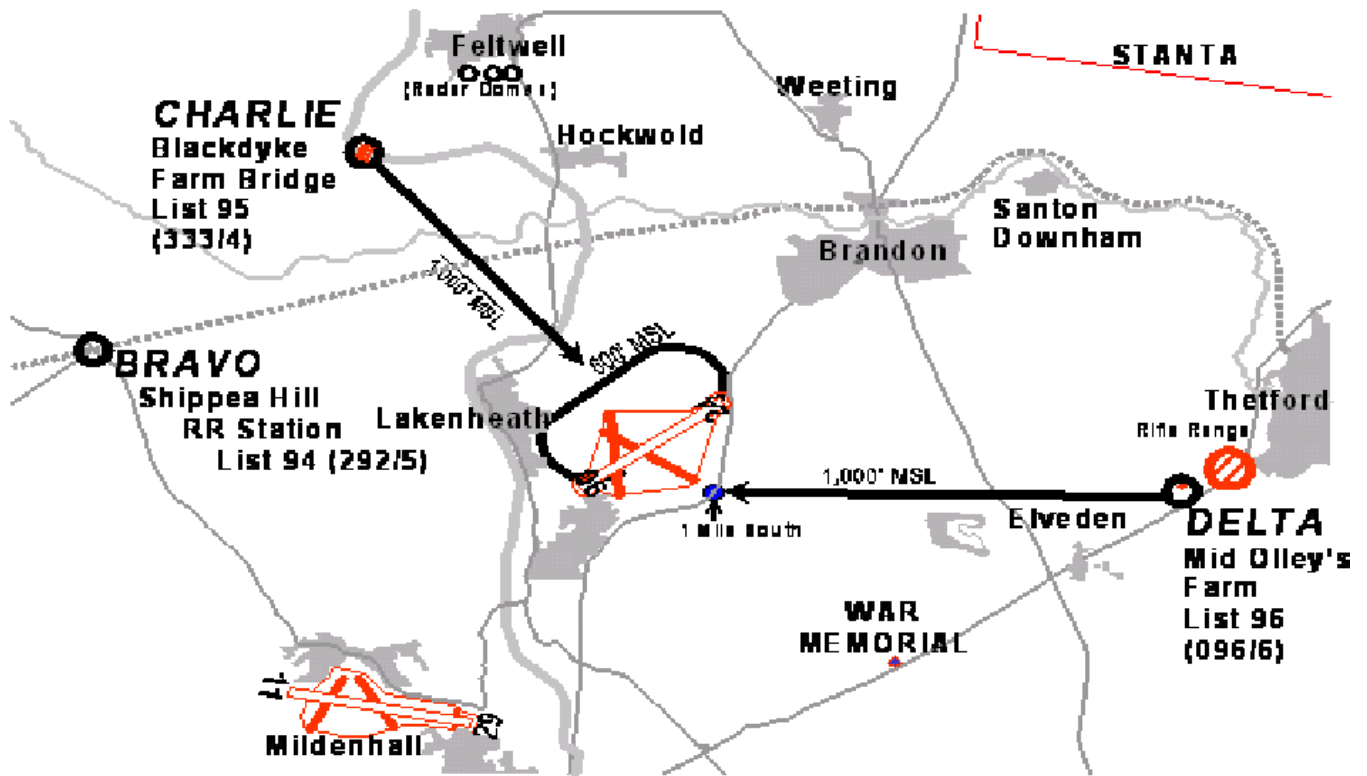


# RAF LAKENHEATH VISUAL PATTERNS



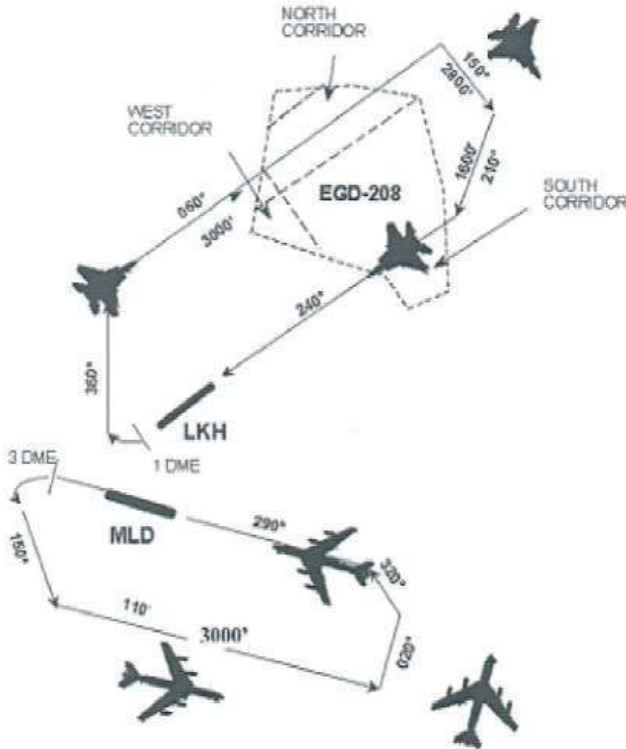


# Helicopter VFR Arrival Procedure/Pattern

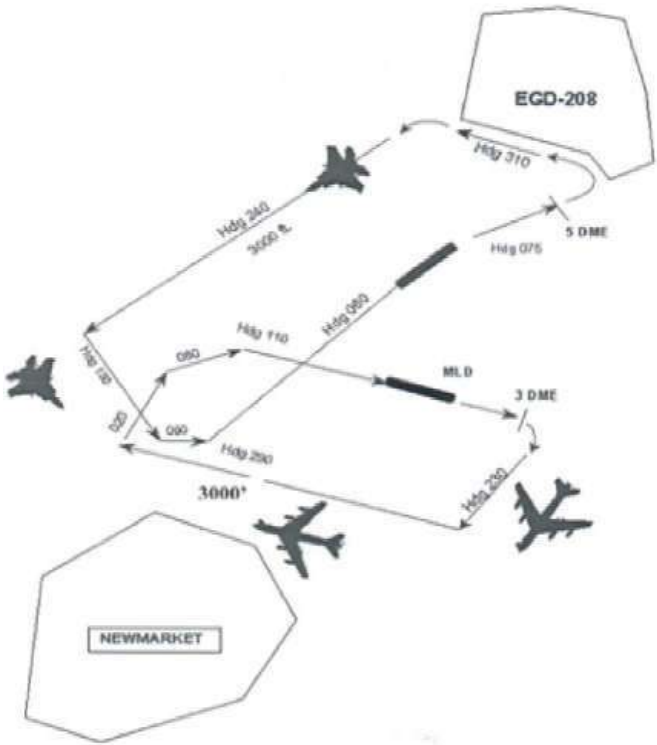


# Radar Traffic Patterns

## Runways 24 & 29



## Runways 06 & 11



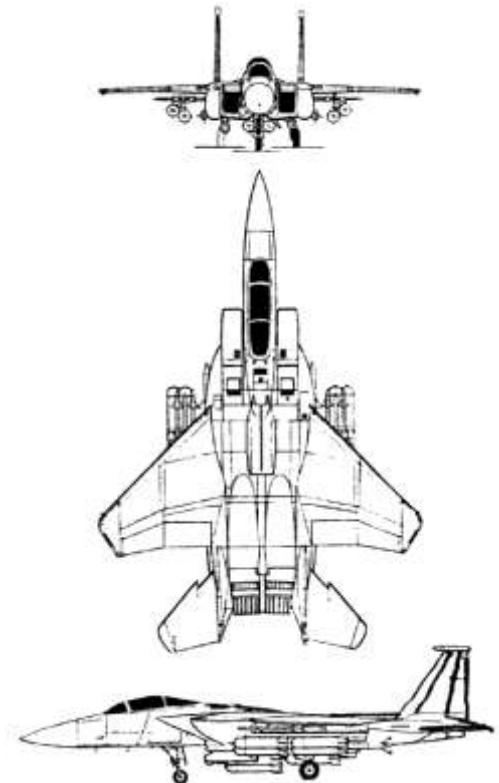


# UNITED STATES AIR FORCE AIRCRAFT

The following aircraft are permanently stationed in the UK at RAF Lakenheath and RAF Mildenhall:

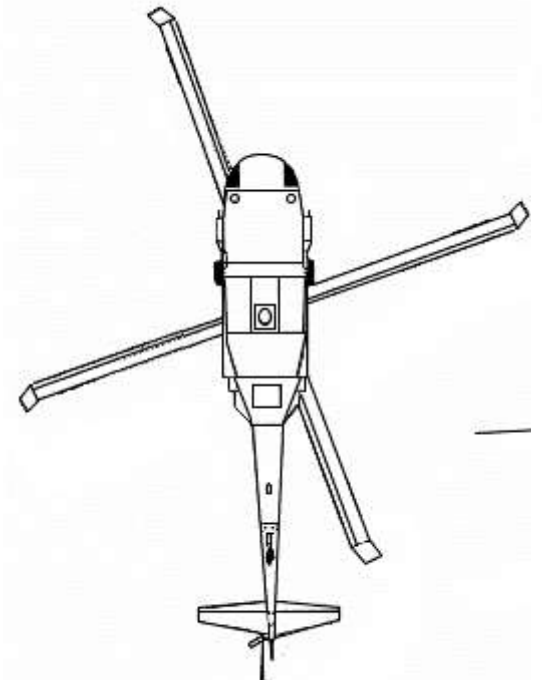
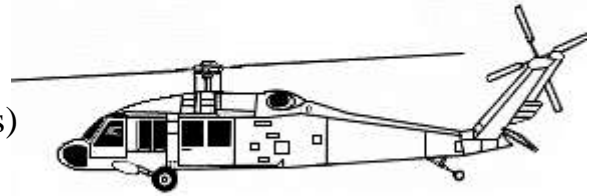
## McDONNELL DOUGLAS F-15E/F-15C

- **MISSION:** Multipurpose Fighter
- **CREW:** 2/1
- **WEAPONS LOAD:** 24,500 lbs.
- **WING SPAN:** 42 feet 10 inches
- **LENGTH:** 63 feet 9 inches
- **ENGINES:** Two Pratt and Whitney turbofans with afterburners. 30,000 lbs. of thrust per engine
- **CEILING:** Above 60,000 feet
- **RANGE:** 2,400 nautical miles with external tanks
- **SPEEDS:** Initial Approach-300 KIAS  
Pre-landing speed: 200-250 KIAS  
Final approach speed: 130-140 KIAS  
Touchdown speed: 120-135 KIAS



## HH-60G PAVE HAWK

- **MISSION:** combat search and rescue
- **CREW:** Two pilots, one flight engineer and one gunner
- **ENGINES:** Two General Electric T700-GE-700 or T700-GE-701C
- **THRUST:** 1,560-1,940 horsepower, each engine
- **LENGTH:** 64 feet, 8 inches (17.1 meters)
- **HEIGHT:** 16 feet, 8 inches (4.4 meters)
- **ROTOR DIAMETER:** 53 ft, 7 in (14.1 meters)
- **SPEED:** 184 mph (294.4 kph)
- **MAXIMUM TAKEOFF WEIGHT:** 22,000 pounds (9,900 kilograms)
- **RANGE:** 445 statute miles; 504 nautical miles (unlimited with air refueling)
- **ARMAMENT:** Two 7.62mm or .50 caliber machineguns



## **BOEING KC-135R: Military version of the Boeing 707**

- **MISSION:** Aerial refueling of US and NATO aircraft
- **CREW:** 4 or 5
- **MAX GROSS WEIGHT:** 322,500 lbs.
- **WING SPAN:** 130 feet 10 inches
- **LENGTH:** 136 feet 3 inches
- **ENGINES:** Four CFM- International F108-CF-100 turbofans
- **THRUST:** 22,224 pounds per engine
- **LOAD:** 50,000 lbs. of cargo/200,000 gallons of fuel
- **SPEEDS:** Enroute descent: 285 KIAS  
Pre-landing: 190-250 KIAS  
Final approach: 130-170 KIAS



**CAUTION WAKE TURBULENCE!**

- **LOCKHEED C-130 HERCULES**
  - **MC-130E (Combat Talon II)**
    - **MISSION:** Airlift, Infil/Exfil, Airdrop
    - **CREW:** 7
  - **MC-130P/N (Combat Shadow)**
    - **MISSION:** Airlift, Infil/Exfil, Airdrop, Air-refueling
    - **CREW:** 8
- **MAX GROSS WEIGHT:** 175,000 lbs.
- **WING SPAN:** 133 feet
- **LENGTH:** 100 feet
- **ENGINES:** Allison T56-A-15
- **SPEEDS:** Approach: 100-150 KIAS  
Departure: 180 KIAS



**OTHER US AIR FORCE AIRCRAFT THAT MAY TRANSIT RAFM and RAFL**

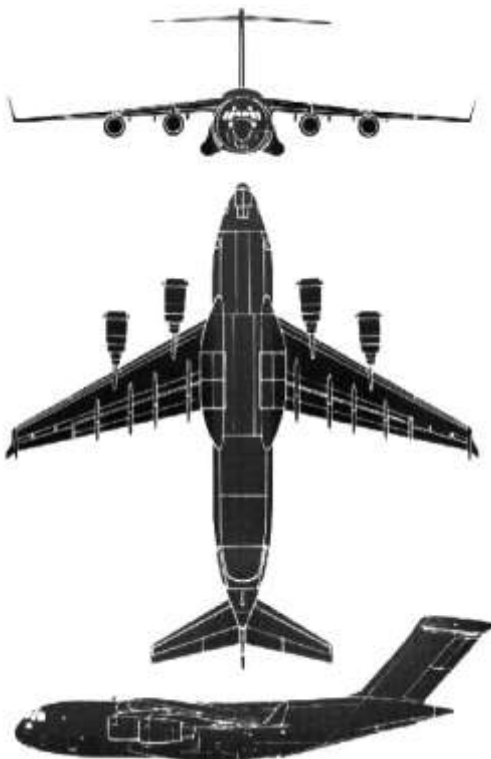
**BOEING E-3 SENTRY**



**MCDONNELL DOUGLAS KC-10  
EXTENDER**



**BOEING C-17A GLOBEMASTER**

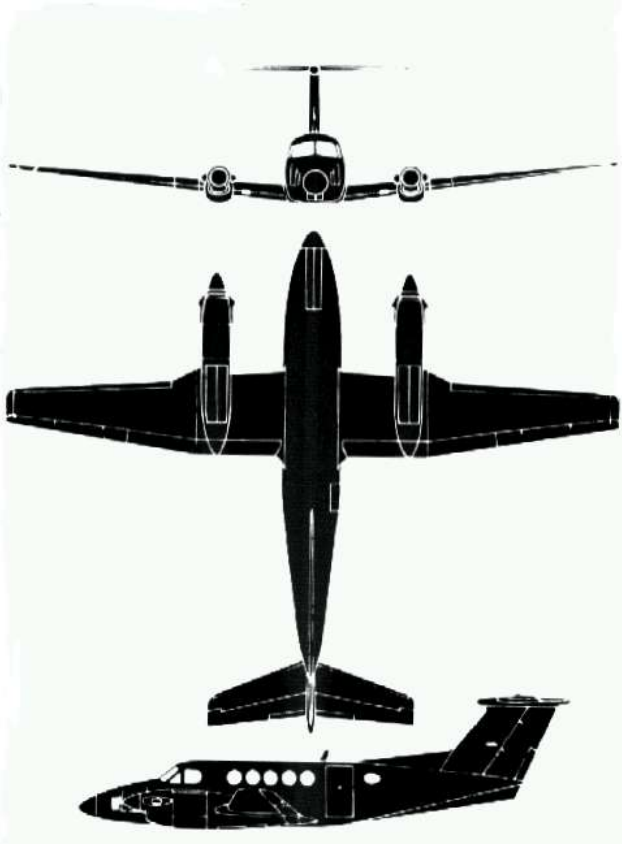


**LOCKHEED C-5 GALAXY**





**BEECHCRAFT BE-200**



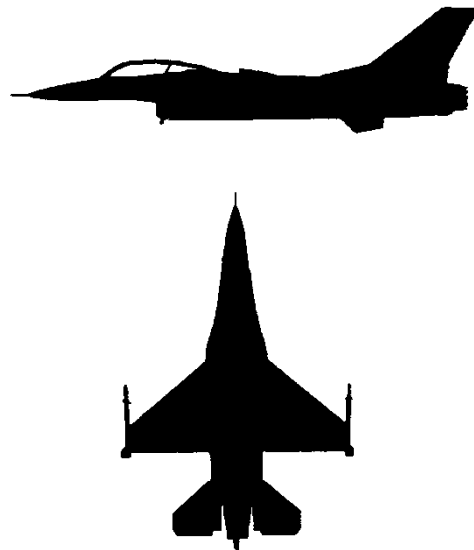
**GULFSTREAM GLF-3**



**LEARJET LJ-35**



**F-16 FIGHTING FALCON**



# PILOT ROLE IN COLLISION AVOIDANCE

This section contains actions that you, the pilot, can take to assist in collision avoidance. Also included are visual scanning techniques and information on the limitations of the human eye.

## Maintain Vigilance

1. Maintain a vigilant lookout regardless of the type aircraft being flown. Remember that most air misses occur during good VFR weather conditions and during the hours of daylight.
2. Prior to take-off, scan the approach areas for possible landing aircraft by maneuvering the aircraft to provide a clear view of such areas.
3. During climbs and descents in flight conditions, which permit visual detection of other traffic, execute gentle banks left and right at a frequency which permits continuous visual scanning of the airspace around you.
4. Execute appropriate clearing procedures before all turns, abnormal maneuvers, or aerobatics.
5. Be aware of the type of airspace in which you intend to operate, in order to comply with the flight rules applicable to that airspace.
6. Be knowledgeable of the specific flight rules governing operation of aircraft within the various airspace.
7. Be familiar with and exercise caution in areas where you may expect to find a high volume of traffic or special types of aircraft operation i.e., airport traffic patterns, special rules zones, restricted areas, training areas, military bases, etc.
8. Make maximum use of communications equipment and radar services. Know the air traffic facilities providing traffic advisory service and the areas in which they provide these services.
9. Request and use traffic advisories when available to avoid other traffic.
10. Compensate for the blind spots due to aircraft design and flight attitude by moving the head and maneuvering the aircraft.

## WHAT CAN I DO ???

**This is a non-comprehensive list of actions you can accomplish to promote MACA.**

- **Ensure your windscreen is clean.**
- **Have your charts, approach plates, etc. well organized prior to flight.**
- **Do not assume an IFR clearance guarantees separation at all times.**
- **If you're issued or sight conflicting traffic---do not fixate on it, scan other areas, too.**
- **Avoid congested and/or training areas as much as possible.**
- **Clear for other aircraft by using the radio.**
- **Use passengers to clear.**
- **On descents and letdowns, complete checklists as soon as possible, prior to descending to crowded lower altitudes.**
- **Intersperse checklist items with deliberate outside scans.**
- **Scan, scan, and scan. The next time you fly, consciously note how much time you spend outside the cockpit.**

We all play a role in mid-air collision avoidance...

Fly Smart,  
**FLY SAFE!!!**