ALTUS AIR FORCE BASE

MID-AIR COLLISION AVOIDANCE

97th Air Mobility Wing

Wing Safety Office
(580) 481-SAFE (7233)
97amw.se@us.af.mil

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THE ENCLOSED MATERIAL IS FOR INFORMATIONAL PURPOSES ONLY! IT IS NOT TO BE USED IN FLIGHT PLANNING OTHER THAN AS A SOURCE TO ENHANCE MID-AIR COLLISION AVOIDANCE. ALL INFORMATION, DESCRIPTIONS, ROUTES, AND PROCEDURES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

INTRODUCTION

Mid-Air Collision Avoidance (MACA) is a very important topic within military and civilian aviation. This pamphlet was created as a source of information for aviators using the airspace near Altus Air Force Base (KLTS) or our training routes. The United States Air Force is committed to working with the local civilian aviation community to keep our airspace safe. As part of our continuing public information program, the 97th Air Mobility Wing (97 AMW) would like to educate our civilian counterparts on the intensive military air operations around Altus. Our goal is to heighten awareness and reduce the potential for mid-air collisions.

There are certain places where you can expect to see us conducting our daily operations. Included within this pamphlet is information on our military aircraft, training routes, traffic patterns, and common routing.

The 97th AMW Safety Office is the office of primary responsibility for the development, publishing, and maintenance of the Altus MACA program pamphlet. If you have any questions concerning any information within this pamphlet, please contact the 97th AMW Safety Office at **(580) 481-7289** or **97amw.se@us.af.mil**.

We hope this guide proves useful in avoiding areas of congestion, determining the best routes of flight, and minimizing potential conflicts. We solicit your help in making the skies over Altus a safer place to fly. Thank you for your interest and support.

BRIAN T. HALL, Maj, USAF
97th AMW Chief of Safety

ALTUS AIR FORCE BASE INFORMATION

Operating Hours	Monday-Friday from 0900L to 0230L; closed weekends and holidays; exceptions by NOTAM	
Location	Coordinates N34°40.08'/ W99°16.07'	
Navaids	Altus VORTAC (LTS) Ch 35/109.8 VHF ILS 18R: 111.3 LOC I-ALT ILS 18L: 110.55 LOC I-RUK ILS 36L: 110.3 LOC I-LTS ILS 36R: 110.55 LOC I-FNM	
Instrument Approaches	ILS All runways RNAV All runways RNAV RNP All runways VOR/TACAN 18R/36L VOR/TACAN Circling approaches (Altus AFB use only)	
Airfield & Runway Lighting	Rotating Beacon (1 green, 2 white flashes) All runways: PAPI, HIRL, threshold lights, distance remaining markers 18R/18L: SALSF, Sequenced Flashers 36R/36L: ALSF1, Sequenced Flashers	
Frequencies	Altus ATIS……	109.8 / 273.5
	WX AWOS at AXS……	118.825
	Altus Tower……	119.65 / 254.4
	Altus Ground……..	121.85 / 275.8
	Altus Approach……..	125.1 / 353.7
	Ft Worth Center…….	133.5 / 350.35
	Clinton Sherman Tower…….....	119.6 (CTAF) / 256.9
	Ft Sill Approach…….....	120.55 / 322.4
	Sheppard Approach……	118.2 / 269.025
	Military Training Route Common…….	255.4
Phone Numbers	Altus AFB Airspace Manager……..…….	(580) 481-7570
	Altus Wing Safety Office……..	(580) 481-7289
	Altus AFB Airfield Management…….	(580) 481-6200
	Altus AFB Approach Control…...…….	(580) 481-6905
	Altus AFB Tower….....	(580) 481-6852
	Altus AFB Weather Flight……	(580) 481-5896
	Altus Municipal (AXS) AWOS…….	(580) 477-1745
	Flight Service……..……...	(800) 992-7433
	Clinton Sherman Tower…….	(580) 562-4026

LOCAL AIRCRAFT

BOEING KC-46A "PEGASUS"

Class: Heavy jet / Speed: Up to 350 knots

This aircraft is similar in appearance to the Boeing 767 and produces a large amount of wake turbulence. It is distinguished from the KC-135 by a wider body and having only 2 engines. The KC-46 flies tanker and receiver air refueling training missions. Separation criterion for small aircraft landing behind a KC-46A is **6 nautical miles.**

BOEING KC-135R "STRATOTANKER"

Class: Heavy jet / Speed: up to 350 knots

The KC-135R is much like a commercial Boeing 707, but with larger, turbofan engines and a heavier gross weight. Its primarily used for air refueling mission but can also carry cargo, passengers, and medical patients. The KC-135R also produces a large amount of wake turbulence. Separation criterion for small aircraft landing behind a KC-135R is **6 nautical miles.**

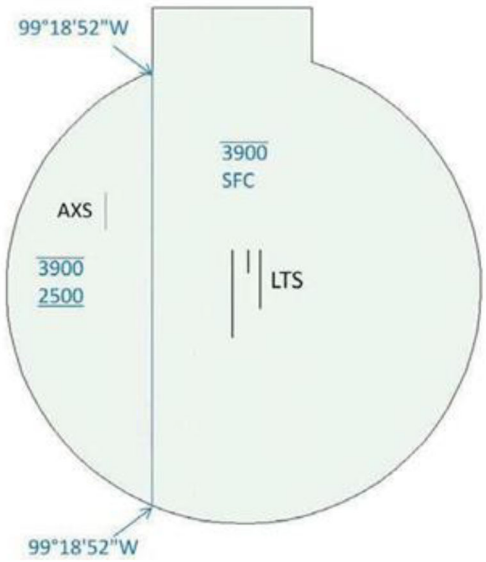
BOEING C-17A "GLOBEMASTER III"

Class: Heavy jet / Speed: up to 350 knots

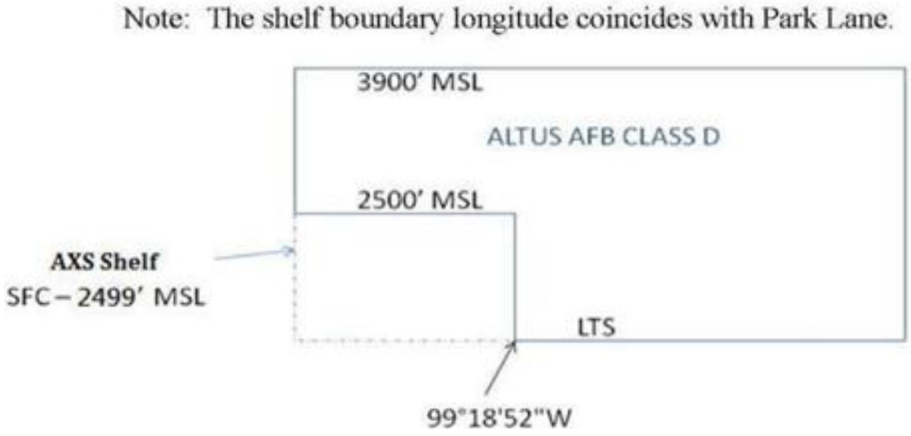
This aircraft flies IR, VR, and SR routes for low level and airdrop training. It also produces a large amount of wake turbulence, which increases dramatically when configured for landing. Separation criterion for small aircraft landing behind a C-17A is **6 nautical miles.**

ALTUS CLASS D AIRSPACE

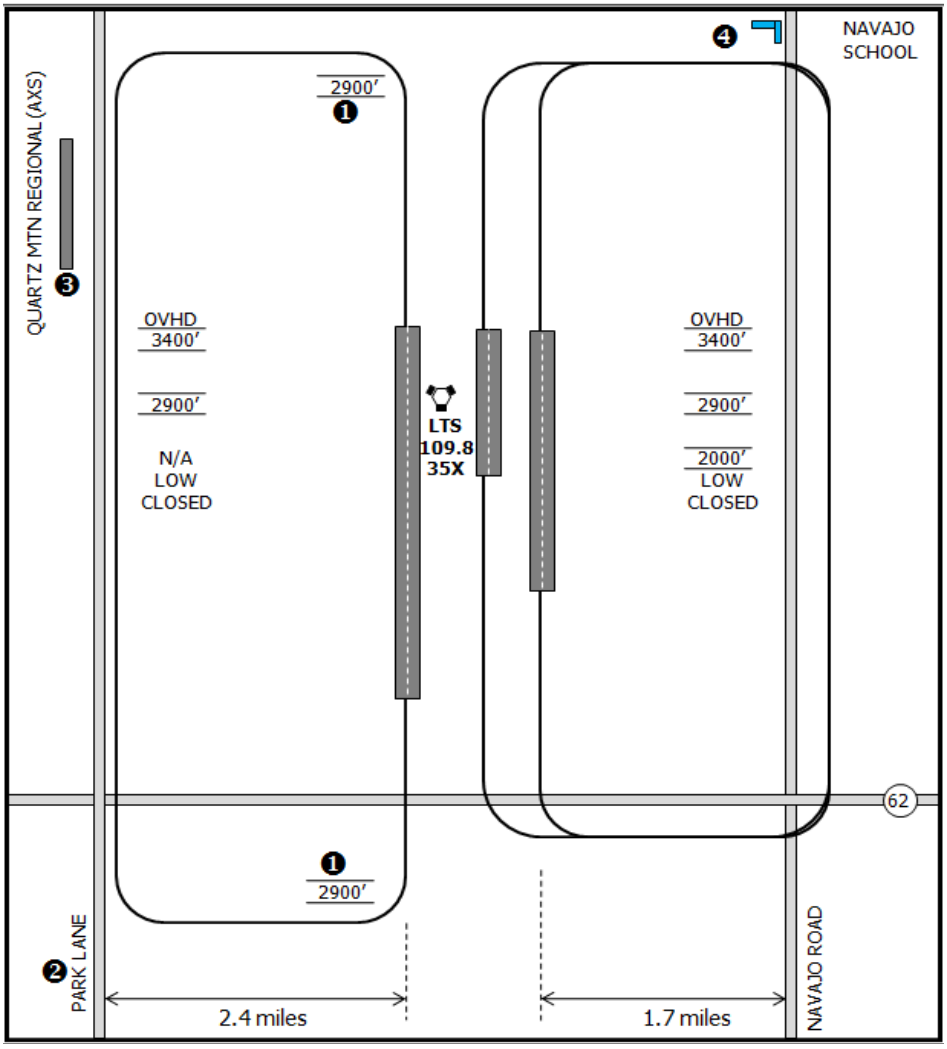
1. Altus Class D Airspace: That airspace extending from the surface up to and including 3,900' MSL within a 6 NM radius of Altus AFB (published as 34°40.08N / 99°16.07 W) and within 2 miles each side of the ILS 18R Localizer north course extending from the 6-mile radius to 7.6 miles north of the airport and excluding that airspace below 2,500' MSL west of longitude 99°18'52"W. Unless otherwise authorized by Air Traffic Control, an operable two-way radio is required. Two-way radio communication must be established with Altus AFB Tower on 119.65 prior to entry into the Class D airspace and thereafter. Arriving aircraft should give their position, altitude, destination, and any request(s). Radio contact should be initiated far enough from the Class D airspace boundary to preclude entering Class D airspace before two-way radio communications are established.



2. Altus Quartz Mountain Regional Airport (AXS) Delegated Airspace: Aircrews shall use caution when operating in the Altus AFB West Pattern. Aircraft operating in the vicinity of AXS are small and difficult to see from the Altus AFB air traffic control tower. Altus tower and approach are normally not in radio communication with aircraft operating in the AXS shelf defined as that airspace West of Longitude 99°18'52"W (Park Lane) below 2,500' MSL.



ALTUS VFR PATTERN OPERATIONS



West Pattern: The pattern altitude is 2900' MSL. Aircraft must be at 2900' MSL prior to turning crosswind. If a 360 is required on downwind, the aircrew shall climb to 3,400' MSL prior to their westbound turn. Descending back to 2900' MSL shall not be accomplished until re-established on the downwind leg. The climb to 3400'MSL shall be directed by Altus tower.

East pattern: The pattern altitude is 2,900' MSL. Aircraft may begin crosswind turn eastbound after passing 400' AGL and past departure end.

ALTUS VFR DEPARTURES AND ARRIVALS

1. Duke Tactical Departure. No later than LTS 3 DME, aircraft will make climbing eastbound turn to 6500' MSL (4500'-8500' MSL available on request) prior to continuing west toward Duke (LTS 261/14).

2. Duke Acceleration Departure. Aircraft will fly runway heading, accelerating to 250 knots max and initiate a max effort climb to 6500' MSL (4500'-8500' MSL available on request). Once leveled off, aircraft turns westbound towards Duke (LTS 261/14).

3. Duke Beam Arrival. Aircraft will depart Duke at 7,500' MSL (4,500'-8,500' MSL available on request) until overhead the airfield and then perform 270 degree, descending turn to the landing runway.

4. Duke Downwind, Straight-In, Initial (Overhead), Teardrop (can also be Hi-Steep or Shallow). These are a variety of tactical approaches that follow the same box-like ground track beginning at Duke (LTS 261/14) and then either north to Mangum near Scott airport (LTS 304/14) or south to a point 5 miles west of the Olustee airport (LTS 230/15) before continuing east until established on approximately 8 mile extended runway centerline. Altitudes are usually 3400' or 7500' MSL but can vary anywhere from 2000-8500' MSL depending on the weather, type of arrival, and distance from Altus.

6. Pattern Altitudes. Overhead: 3400' MSL; Normal VFR pattern: 2900' MSL.

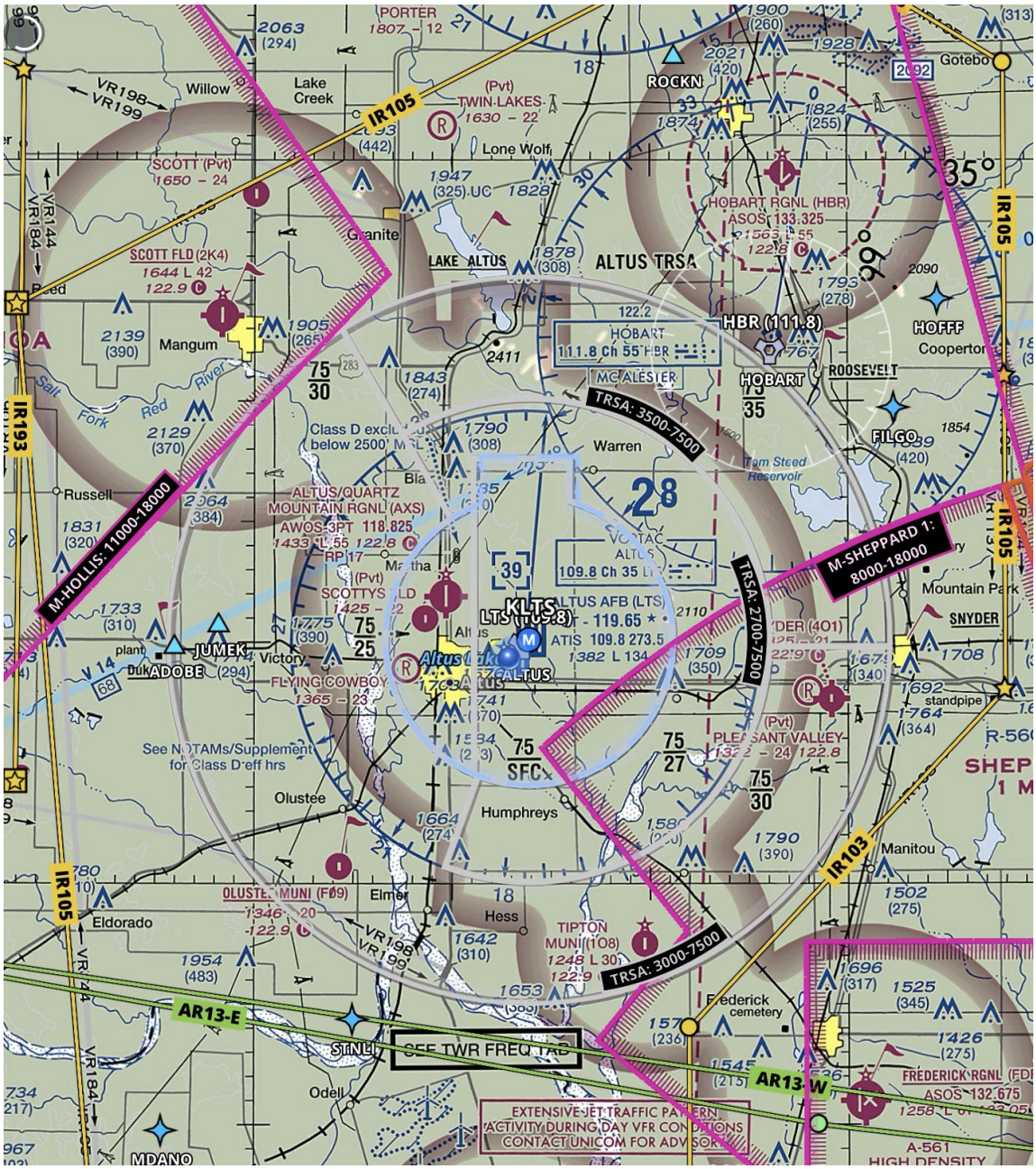
CLINTON SHERMAN OPERATIONS

Pattern Altitudes. Overhead: 3,800' MSL; Normal VFR pattern: 3400' MSL; Low VFR Pattern: 2900'MSL; NVG patterns: 3400' / 4000**'** MSL; Extended VFR: 3,800' MSL

Pattern Saturation. Max of 3 aircraft for IFR Procedures & NVG Ops, 5 max for VFR training.

No Overfly. Altus aircraft are not allowed to overfly the towns of Elk City or Canute.

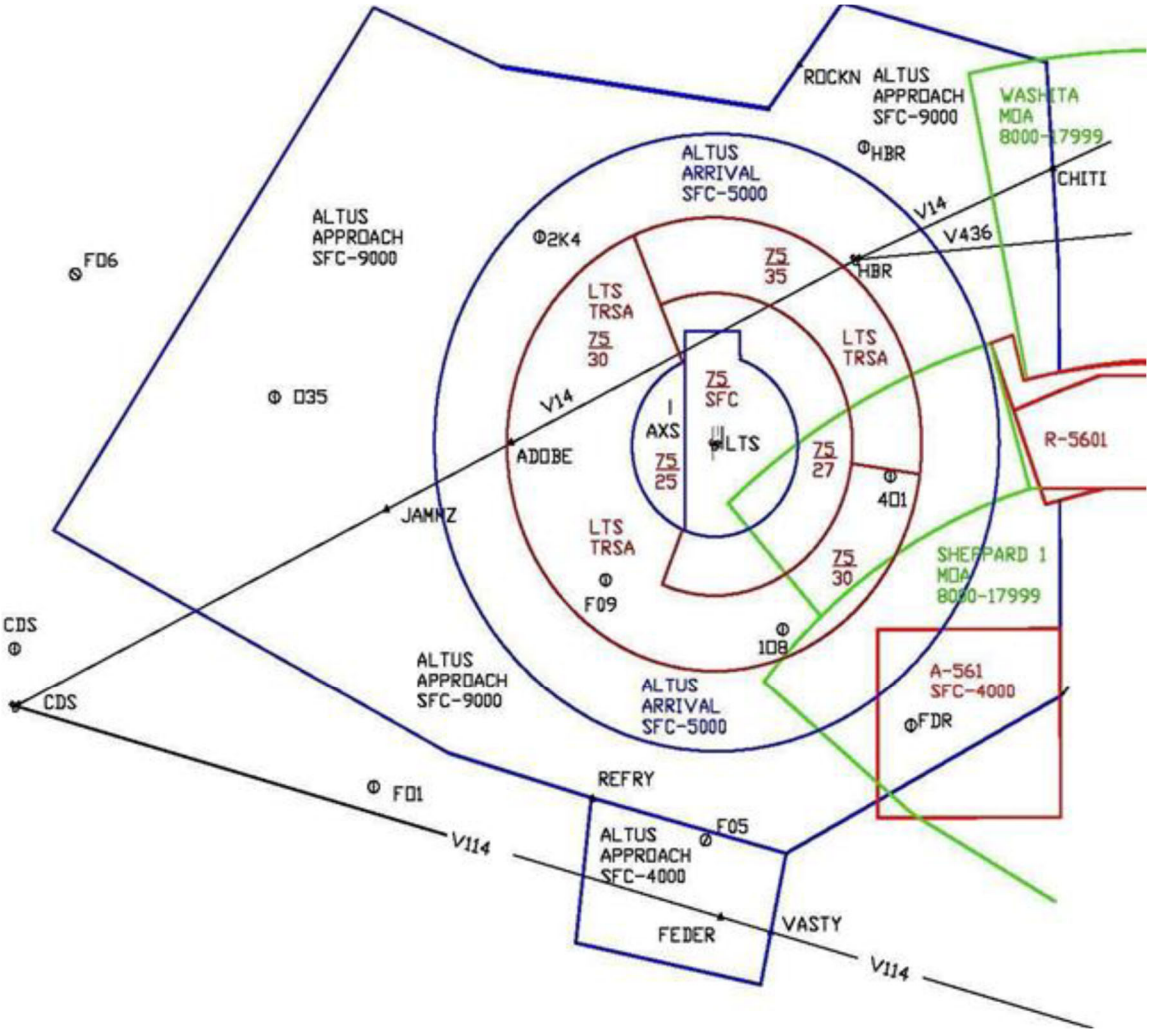
TERMINAL RADAR SERVICE AREA (TRSA) AND APPROACH CONTROL AIRSPACE



1. Altus Terminal Radar Service Area (TRSA): The purpose of the TRSA is to provide separation between all participating VFR aircraft and all IFR aircraft operating within the TRSA. **Pilots operating under VFR are highly encouraged to contact Altus Approach Control on 125.1 and use TRSA Services,** however participation is voluntary on the part of the pilot. All Altus assigned aircraft operating under VFR participate and use TRSA Services. TRSA airspace is within a 6-mile radius of Altus AFB extending from the surface to 7500 feet MSL, and within 2 miles each side of the Altus AFB ILS 18R Localizer north course extending to 7.6 miles north

of the airport, and excluding that airspace below 2,500 feet MSL west of longitude 99°18'52" W (Park Lane); and that airspace extending from the 6- mile radius to a 10-mile radius of Altus AFB beginning at Altus VORTAC 330° radial clockwise to the Altus VORTAC 200° radial excluding that area within 2 miles each side of the Altus AFB ILS 18R Localizer north course extending to 7.6 miles north of the airport, extending upward from 2700 feet MSL to 7500 feet MSL; and that airspace from the 10-mile radius to a 15-mile radius of Altus AFB beginning at Altus VORTAC 330° radial clockwise to the Altus VORTAC 090° radial extending upward from 3500 feet MSL to 7500 feet MSL; and that airspace from the 10-mile radius to a 15-mile radius of Altus AFB beginning at Altus VORTAC 090° radial clockwise to the Altus VORTAC 200° then from the 6-mile radius of Altus AFB to a 15-mile radius clockwise to the Altus VORTAC 330° radial extending upward from 3000 feet MSL to 7500 feet MSL.

2. Approach Control Airspace: Designated airspace includes that airspace within an approximate 25 NM radius of Altus AFB, from the surface up to and including 9,000' MSL, with a western extension to 48 NM from Altus AFB, and extensions North-East around Hobart Regional Airport, and South around Wilbarger County Airport. The South extension is from the surface up to and including 4000' MSL.



MILITARY TRAINING ROUTES (MTRs)

1. The Military Training Route (MTR) program is a joint venture by the FAA and the Department of Defense (DOD). MTRs are mutually developed for use by the military for the purpose of conducting low-altitude, high-speed training. The routes above 1,500 feet AGL are developed to be flown, to the maximum extent possible, under IFR. The routes at 1,500 feet AGL and below are generally developed to be flown under VFR.

2. Generally, MTRs are established below 10,000 feet MSL for operations at speeds in excess of 250 knots. The IFR and VFR routes are as follows:

a) **IFR Military Training Routes (IR).** Operations on these routes are conducted in accordance with IFR regardless of weather conditions.

b) **VFR Military Training Routes (VR).** Operations on these routes are conducted in accordance with VFR except flight visibility shall be 5 miles or more; and flights shall not be conducted below a ceiling of less than 3,000 feet AGL.

c) **Slow Speed Military Training Routes (SR).** Operations are similar to VR routes except weather is 1,500 and 3 and the maximum speed is 250 knots.

3. MTRs with no segment above 1,500 feet AGL shall be identified by four number characters; e.g. IR1206, VR1207. MTRs that include one or more segments above 1,500 feet AGL shall be identified by three number characters; e.g. IR206, VR207. IFR Low Altitude Enroute Charts will depict all IR routes and all VR routes that accommodate operations above 1,500 feet AGL. **VFR Sectionals will depict military training activities such as IR, VR, MOA, Restricted Area, Warning Area, and Alert Area information.** Area Planning (AP/1B) Chart (DOD Flight Information Publication-FLIP) is published by the DOD primarily for military users and contains detailed information on both IR and VR routes**.**

4. Nonparticipating aircraft are not prohibited from flying within an MTR; however, **extreme vigilance should be exercised when conducting flight through or near these routes**. Pilots should contact FSSs within 100 NM of a particular MTR to obtain current information or route usage in their vicinity. Information available includes times of scheduled activity, altitudes in use on each route segment, and actual route width. Route width varies for each MTR and can extend several miles on either side of the charted MTR centerline. When requesting MTR information, pilots should give the FSS their position, route of flight, and destination in order to reduce frequency congestion and permit the FSS specialist to identify the MTR which could be a factor.

5. Altus AFB C-17s routinely use IR154, IR155, IR193/VR106 (same ground track), and VR190. IR193/VR106 and SR217 begin and end at Sooner Drop Zone (LTS 250/22) and are used daily, Mon-Fri, 0900-0230L, by C-17 3-ship formations conducting actual equipment airdrops on Sooner Drop Zone (LTS 250/22). Military aircraft are required to monitor UHF frequency 255.4 while on these routes. Frequency for Sooner Drop Zone is UHF 340.6. These routes are flown between 300’ AGL and 5,000’ MSL and at speeds between 250 and 350 KCAS. The routes are generally active for only 30 minutes at a time. Contact Fort Worth FSS for status of a route. If unable to deconflict your route prior to flight you should attempt to cross these routes at a 90 degree angle and above 5,500’ MSL.

NEAR MID-AIR COLLISION REPORTING

1. Purpose and Data Uses. The primary purpose of the Near Mid-Air Collision (NMAC) Reporting Program is to provide information for use in enhancing the safety and efficiency of the National Airspace System. Data obtained from NMAC reports is used by the FAA to improve the quality of FAA services to users and to develop programs, policies, and procedures aimed at the reduction of NMAC occurrences. All NMAC reports are thoroughly investigated by Flight Standards Facilities in coordination with Air Traffic Facilities. Data from these investigations is transmitted to FAA Headquarters in Washington, DC, where they are compiled and analyzed, and where safety programs and recommendations are developed.

2. **Definition.** A NMAC is defined as an incident associated with an aircraft in which a possibility of collision exists as a result of proximity of **less than 500 feet** to another aircraft, or a report is received from a pilot or a flight crew member stating a collision hazard existed between two or more aircraft.

3. **Reporting Responsibility.** It is the responsibility of the pilot and/or flight crew to determine whether an NMAC occurred and initiate a NMAC report. Be specific, as ATC will not interpret a casual remark to mean that a NMAC is being reported. The pilot should state: **"I wish to report a near mid-air collision."**

4. **Where to File Reports.** Pilots and/or flight crew members involved in NMAC occurrences are urged to report each incident immediately:

a) By radio or telephone to the nearest FAA ATC facility or FSS or,
b) In writing to the nearest Flight Standards District Office (FSDO).

Lubbock FSDO
5225 S. Loop 289, Suite 122
Lubbock, TX 79424
Phone: 806-740-3800
Fax: 806-740-3869

5. Items to be Reported.

a) Date and time (UTC) of incident.
b) Location of incident and altitude.
c) Identification and type of reporting aircraft, aircrew destination, name and home base of pilot.
d) Identification and type of other aircraft, aircrew destination, name and home base of pilot.
e) Type of flight plans; station altimeter setting used.
f) Detailed weather conditions at altitude or flight level.
g) Approximate heading of both aircraft and if one or both aircraft were climbing or descending.
h) Reported separation in distance at first sighting, proximity at closest point horizontally and vertically, and length of time in sight prior to evasive action.
i) Degree of evasive action taken, if any (from both aircraft, if possible).
j) Injuries, if any.

6. MACA Tips. Studies on mid-air collisions show that most occur below 8,000 feet MSL and near airports, navaids, and other high-density traffic areas.

Here are some ideas to help reduce your mid-air collision potential:

1. Know where high-density traffic areas are located.
2. Fly as high as practical.
3. Obtain an IFR clearance or participate in radar flight following whenever possible and continue to practice "see and avoid" at all times.
4. Use landing lights at lower altitudes, especially when near airports.
5. Announce your intentions on UNICOM and use standard traffic pattern procedures at uncontrolled fields.
6. Always use your Mode C transponder and cross-check its accuracy with ATC whenever possible.
7. Use hemispheric altitudes. Practice altimeter discipline!
8. Constantly clear for other aircraft, both visually and on the radio.
9. Keep your windshield clean and clear.
10. Don't get complacent during instruction! Instructors make mistakes too. Many mid-air collisions occur during periods of instruction or supervision.
11. When flying at night, don't use white interior lights if you don't have to. It takes your eyes a while to adjust to low light levels.
12. 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 on a direct collision course with you.
13. Execute appropriate clearing procedures before and during all climbs, descents, turns, abnormal maneuvers, or aerobatics.
14. Above all, AVOID COMPLACENCY! Remember, there is no guarantee that everyone is flying by the rules, or that anyone is where they are supposed be.

ALTUS AIRSPACE INFORMATION CHART