

Mid-Air Collision Avoidance



Holloman AFB



January 2005



This booklet is courtesy of the 49th Fighter Wing, Holloman AFB, NM. It contains material that can change at anytime and is strictly for informational purposes.

Please direct question, comments or requests for this MACA pamphlet to:

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Holloman AFB, NM 88330
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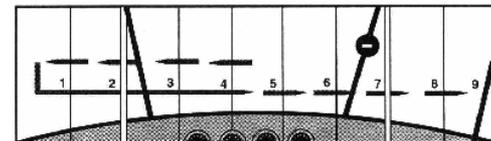
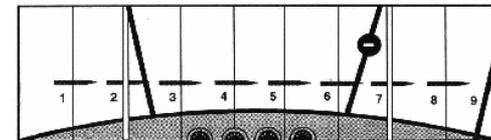
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Guide To An Efficient Scan

How well do you scan? Next time you are out and about check yourself. See how long you go without looking out the window. If you find that you glance out and give the old one-two without stopping to focus on anything or you stare out into one spot for an extended period of time, your “scan” is inadequate and you may be headed for an in-flight collision.

So what can you do? LEARN AN EFFICIENT SCAN PATTERN!

There are currently two basic methods which have proven best for pilots. The first, is the “side to side” (figure 1). Start at the far left of your visual area and make a methodical sweep to the right, pausing in each block to focus. At the end of the scan, return to your instruments. The second is the “front to side” (figure 2). Start with a fixation in the center of the block of your visual field. Move your eyes to the left, focusing in each block, swing quickly back to the center block, and repeat the procedure to the right.



There are other methods of scanning which may be as effective for you as the two listed above. Whichever method you choose, it takes a lot of hard work to become proficient at it. The best way to become proficient is through practice, and the best way to practice is on the ground, in your own airplane or the one you usually fly in. Good luck, and we'll SEE you in the skies!

MACA TIPS & TECHNIQUES

DON'T

- 3. Fly VFR in marginal weather. You can't avoid what you can't see.**
- 4. Frequent high density traffic areas or low level routes unless absolutely necessary.**

DO

- 6. Study your route prior to flight and deconflict when possible.**
- 7. File a flight plan. Let others know you're out there.**
- 8. Look around - the responsibility to avoid other aircraft lies with you, the pilot.**
- 9. Utilize landing lights during approach and takeoff phases of operation and while in terminal or other high density areas.**
- 10. Learn and practice good visual scanning techniques.**
- 11. Avoid Military Operating Areas (MOA's) and Low level Military Training Routes (MTR's). Always assume that they are active. It may be legal to fly there, but it is not smart.**

Introduction

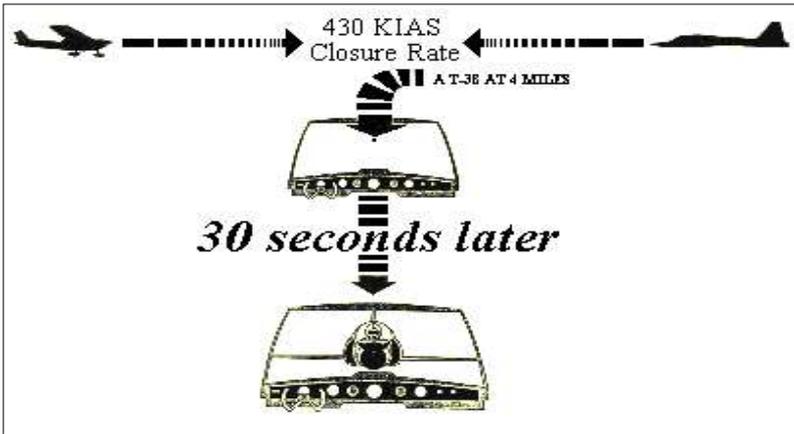
Holloman AFB is home to the 49th Fighter Wing. It has a demanding and dynamic mission involving a wide variety of aircraft. This creates a highly congested area of military flight operations in the Tularosa basin. The most common aircraft types flown are the F-117A (Stealth), T-38A (Talon), QF-4 (Drone), MRC PA-200 (Tornado), and UH-1 (Huey).

This pamphlet is an integral part of the USAF's Mid-Air Collision Avoidance (MACA) program. MACA's aim is to allow you to operate your aircraft in and around Holloman AFB in a safe manner. This pamphlet provides insight into the possible air traffic hazards you may encounter.

Additionally, you should be alert for other aircraft types associated with Holloman AFB and using the surrounding military ranges and MOAs.

The key to safe operations is understanding our operations and how they might affect your flight in and around Holloman AFB.

Look-out is Paramount



Holloman Air Traffic Control

Holloman Approach Control provides IFR radar services to Holloman AFB and the Alamogordo White Sands Regional Airport. Traffic advisories are provided to VFR aircraft by request on:

Holloman Approach 120.6

Holloman Tower 119.3

Check NOTAMS for Tower/Approach closures.

For further assistance, call Holloman AFB Base Operations at (505) 572-5410.

1 PLAN AHEAD - Thoroughly review your intended route of flight before walking out to your airplane. Plan to avoid alert areas, restricted areas, MTRs and MOAs if possible. Check NOTAMS and identify possible conflict areas.

2 SEE AND AVOID - Scan the airspace ahead of you and to the side using proper scanning techniques. Periodically check behind you since the majority of midairs occur with one aircraft over-taking another.

3 CLEAR - Before executing a climb, turn, descent or any other maneuver ensure the area is clear using appropriate clearing procedures.

4 COMMUNICATE - When flying into or out of uncontrolled airports broadcast positions and intentions. Make frequent position reports along your route. If radio contact with Center, Approach or Tower is not required, monitor an appropriate facility frequency. Finally, request and use available radar services. Remember, you are ultimately responsible for seeing and avoiding other traffic and should not relax your visual scanning vigilance.

5 SQUAWK - If your aircraft is transponder equipped turn it on and adjust to reply on both Mode 3/A and Mode C. You are reminded that Mode 3/A and Mode C operations are required: (1) at or above 10,000' MSL over the 48 contiguous states, excluding the airspace below 2,500' AGL; (2) within 30 miles of Class B Airspace primary airport below 10,000' MSL; (3) within and above all Class C Airspace.

6 BE SEEN - In order to enhance the see-and-avoid concept, you are encouraged to turn on your anticollision lights or other appropriate lights whenever your engines are running. You are further encouraged to turn on your lights when operating below 10,000' MSL, day or night, especially within 10 miles of an airport, or in areas of reduced visibility. While use of landing lights is appreciated, please observe aircraft manufacturer's recommendations for landing light(s) operations.

7 ABOVE ALL AVOID BECOMING COMPLACENT!

Profile Of A Midair

During a three year study of midair collisions involving civilian aircraft, the National Traffic Safety Board (NTSB) determined that:

- (1) The occupants of most midairs were on a pleasure flight with no flight plan filed.
- (2) Nearly all midair collisions occurred in VFR conditions during weekend daylight hours.
- (3) The majority of midairs were the result of a faster aircraft overtaking and hitting a slower aircraft.
- (4) No pilot is immune. Experience level in the study ranged from initial solo to the 15,000 hour veteran.
- (5) The vast majority of midairs occurred at uncontrolled airports below 3,000 feet.
- (6) Enroute midairs occurred below 8,000 feet and within 25 miles of the airport.
- (7) Flight instructors were onboard one of the aircraft in 37% of the midairs.

MIDAIR COLLISION AVOIDANCE AND YOU

Have you ever landed and got out of your plane with your hands sweaty and body shaking because someone nearly took your wing off? If so, you are not alone. As aviation activity increases throughout America, the possibility of being party to a near midair or an actual collision increases. The FAA has instituted several policies to alleviate the midair collision potential, but the ultimate responsibility lies with you, the pilot. Here are seven simple rules of engagement you can follow to make flying safer, and hopefully reduce your chance of being the victim of a midair collision.

Special Use Airspace

Holloman based aircraft routinely operate in special use airspace and various high and low altitude routes within 200 miles of Holloman.

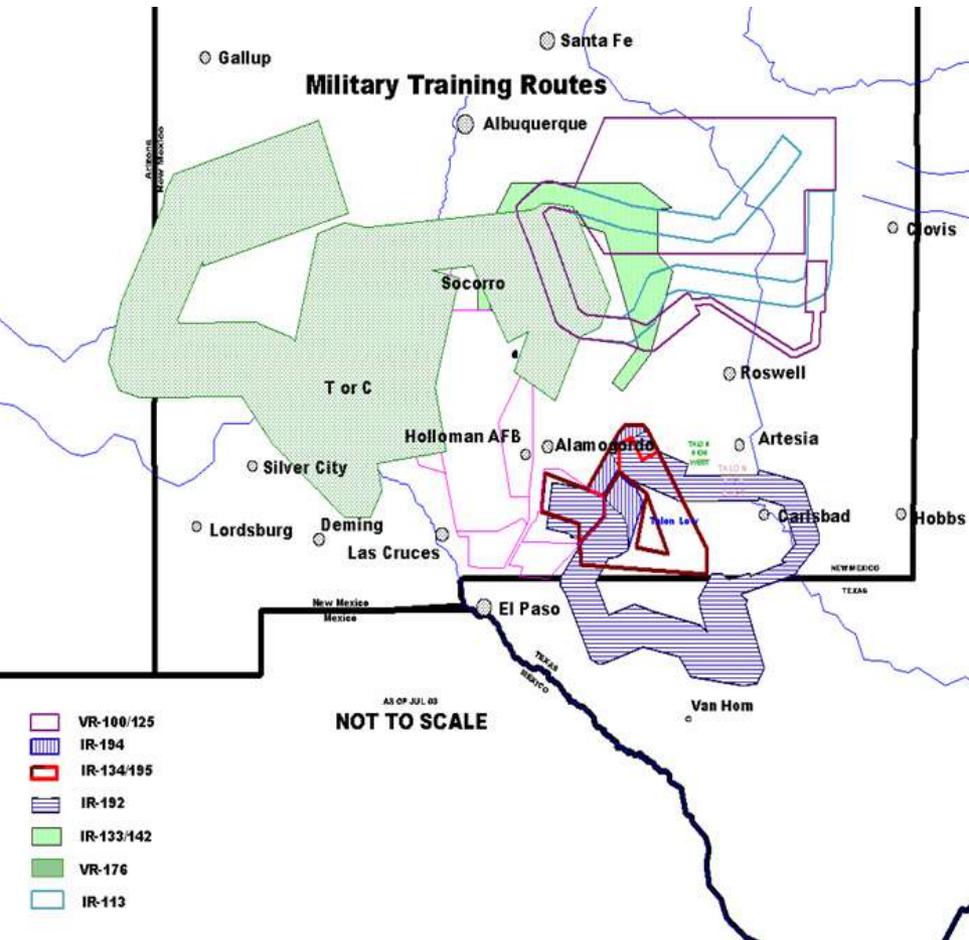
The airspace consists of Military Operating Areas (MOAs), Military Training Routes (MTRs) Restricted airspace, and Air Refueling Tracks (AARs).

While VFR aircraft can legally transit MOAs, MTRs and AARs, it should be done with extreme caution since military jets operating in these areas will be maneuvering and could be generating closure rates equaling 1000 feet per second.

An FAA facility or Flight Service Station (FSS) as well as Holloman ATC can provide you with information regarding the activity on these routes and airspace. Frequencies and altitudes of these areas are found on low altitude IFR charts.

Local Civilian Traffic

Holloman AFB Local Military Training Routes



Holloman AFB has an active Aero Club. The fleet consists of two Cessna 172s, four T-41s, one C-172RG, and one C-310. The Aero Club does a great deal of flight training in the local area from private pilot through ATP. They work primarily in the pattern and in the local practice areas north and south of Alamogordo.

The White Sand Soaring Association is based at Alamogordo/White Sands Municipal Airport. The glider club flies primarily on weekends, but periodically stages gatherings where twenty or more gliders arrive from out of town to take advantage of the excellent soaring conditions in New Mexico. These gliders can range along the Sacramento Mountains for many miles at altitudes up to 30,000 feet, when the conditions are right.

Hang gliders also enjoy the benefits of the strong lift available here. They usually fly just north of Alamogordo.

There are about 50 aircraft based at Alamo Muni, many of which use the local practice areas for flight training, aerobatics or just plain flying around.

Many of these aircraft do not have transponders. Some don't even have radios. Add to the mix scheduled airline flights, business aviation and firebombers in the spring and summer months and it is easy to see the importance of a good visual scan and defensive flying.



QF-4 Drone

Crew	Zero to Two
Speed	1,243 Knots

Military Training Routes **(MTRs)**

MTRs are VFR/IFR airspace of defined vertical and lateral dimensions established for conducting military flight training at **airspeeds in excess of 250 knots IAS**.

MTR's with no segment above 1,500 feet AGL are identified by four number characters (i.e., IR1206, VR1207).

MTR's that include one or more segments above 1,500 AGL are identified by three number characters (i.e., IR206, VR207).

Aircraft on these routes typically fly low (~500 feet AGL) and fast (400-500 knots).

Non-participating aircraft are not prohibited from flying within an MTR. However, **extreme vigilance** should be exercised when conducting flight through or near these routes.

The FSS has information about route usage.

Military Operations Area **(MOA)**

Airspace of defined vertical and lateral dimensions established outside Class A airspace to separate certain military activities from IFR traffic and to identify for VFR aircraft where these activities are conducted.

Military pilots conducting flight in DOD aircraft within a designated MOA are exempt from the provisions of FAR part 91.303 (c) and (d) which prohibit acrobatic flight within Federal airways and Class B, C, D and E surface areas.

MOA's are depicted on sectional, VFR Terminal, and Enroute Low Altitude charts.

Restricted Airspace

Airspace where flight within is not wholly prohibited but is subject to restriction. Most restricted areas are designated joint-use and IFR/VFR operations may be authorized by the controlling air traffic control (ATC) facility.

Restricted areas denote the existence of unusual, often invisible, hazards to aircraft such as artillery fire, aerial gunnery, or guided missiles. Where other operations are authorized the name of the ATC controlling facility is published in low altitude charts.



MRC PA-200 Tornado

Crew	Two
Max Speed	1250 Knots



Crew	3
Speed	121 Knots



F-117A Nighthawk

Crew	One
Speed	High Subsonic



T-38 Talon

Crew	One or Two
Speed	812 Knots

VFR Corridor

A VFR corridor is provided for aircraft to transit from El Paso, TX to Alamogordo, NM. This corridor follows the ground track of Hwy 54 through Orogrande, NM. Fly VFR at the appropriate altitude for direction of flight. Remain below 12,500 MSL for de-confliction.

El Paso Approach: **124.25** Northbound
119.15 Southbound
 Holloman Approach: **120.6**

