

the blood, the general physical state, and experience and recency of exposure. The pilot should consult an Aviation Medical Examiner prior to aerobatic training and be aware that poor physical condition can reduce tolerance to accelerative forces.

f. The above information provides pilots with a brief summary of the physiologic effects of G forces. It does not address methods of “counteracting” these effects. There are numerous references on the subject of G forces during aerobatics available to pilots. Among these are “G Effects on the Pilot During Aerobatics,” FAA-AM-72-28, and “G Incapacitation in Aerobatic Pilots: A Flight Hazard” FAA-AM-82-13. These are available from the National Technical Information Service, Springfield, Virginia 22161.

REFERENCE-

FAA AC 91-61, *A Hazard in Aerobatics: Effects of G-forces on Pilots.*

8-1-8. Judgment Aspects of Collision Avoidance

a. **Introduction.** The most important aspects of vision and the techniques to scan for other aircraft are described in paragraph 8-1-6, Vision in Flight. Pilots should also be familiar with the following information to reduce the possibility of mid-air collisions.

b. **Determining Relative Altitude.** Use the horizon as a reference point. If the other aircraft is above the horizon, it is probably on a higher flight path. If the aircraft appears to be below the horizon, it is probably flying at a lower altitude.

c. **Taking Appropriate Action.** Pilots should be familiar with rules on right-of-way, so if an aircraft is on an obvious collision course, one can take immediate evasive action, preferably in compliance with applicable Federal Aviation Regulations.

d. **Consider Multiple Threats.** The decision to climb, descend, or turn is a matter of personal judgment, but one should anticipate that the other pilot may also be making a quick maneuver. Watch the other aircraft during the maneuver and begin your scanning again immediately since there may be other aircraft in the area.

e. **Collision Course Targets.** Any aircraft that appears to have no relative motion and stays in one scan quadrant is likely to be on a collision course. Also, if a target shows no lateral or vertical motion, but increases in size, *take evasive action.*

f. **Recognize High Hazard Areas.**

1. Airways, especially near VORs, and Class B, Class C, Class D, and Class E surface areas are places where aircraft tend to cluster.

2. Remember, most collisions occur during days when the weather is good. Being in a “radar environment” still requires vigilance to avoid collisions.

g. **Cockpit Management.** Studying maps, checklists, and manuals before flight, with other proper preflight planning; e.g., noting necessary radio frequencies and organizing cockpit materials, can reduce the amount of time required to look at these items during flight, permitting more scan time.

h. **Windshield Conditions.** Dirty or bug-smearred windshields can greatly reduce the ability of pilots to see other aircraft. Keep a clean windshield.

i. **Visibility Conditions.** Smoke, haze, dust, rain, and flying towards the sun can also greatly reduce the ability to detect targets.

j. **Visual Obstructions in the Cockpit.**

1. Pilots need to move their heads to see around blind spots caused by fixed aircraft structures, such as door posts, wings, etc. It will be necessary at times to maneuver the aircraft; e.g., lift a wing, to facilitate seeing.

2. Pilots must ensure curtains and other cockpit objects; e.g., maps on glare shield, are removed and stowed during flight.