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AC 61-134 - Controlled Flight into Terrain Awareness

Author: Federal Aviation Administration

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9. GA IFR Operations in IMC Conditions on an IFR Flight.

These operations also pose special risks. Whether it is failure to follow safe takeoff and departure techniques, recommended en route procedures - which includes loss of situational awareness - or failure to maneuver safely to a landing, IFR operations can be dangerous for those not prepared to operate or not current and proficient in the IMC and IFR environments. Many of these accidents result in fatalities. Techniques or suggestions for avoiding some of these IFR risk factors include:

- a. Importance of the pilot in command being qualified, current, and proficient for the intended flight.
- b. Importance of the aircraft being properly equipped for the intended flight.
- c. Having the proper charts and approach plates for the intended flight. VFR charts, although not required, should be onboard because they can provide important obstacle and terrain data for an IFR flight.
- d. Knowing the planned procedure well enough to know if air traffic is issuing an unsafe clearance or if the pilot flying, when a crewed aircraft, is not following the published procedure.
- e. If in a crewed aircraft, both pilots have adequately briefed the flight and operation of the aircraft, including shared responsibilities.
- f. Having complete weather data for the flight, including knowing where visual meteorological conditions exist or a safe alternative is since many GA aircraft flown IFR have limited range or speed to fly out of unforecasted weather conditions.
- g. Importance of maintaining situational awareness, both horizontal and vertical, throughout the flight to avoid flying into hazardous terrain or known obstacles.
- h. Complete knowledge on how to operate all equipment onboard the aircraft. This includes the limitations and operations of new types of navigation equipment.
- i. If a crewed aircraft, the crew is aware of and follows FAA and industry recommended crew resource management principles. If a single-piloted flight, the pilot knows to use all available resources including air traffic control to help ensure a safe flight as well as any onboard resource such as a passenger or onboard charts or manuals.
- j. Pilot in command follows the rules for making a missed approach and is prepared to make a missed approach when conditions fall below minimums as specified in the regulations, company policy, pilot's personal minimums checklist, or the approach becomes destabilized.
- k. Knowledge of minimum safe or sector altitudes and of the highest terrain in the area.
- l. Pilot in command is aware of the risks involved when transitioning from visual to instrument or from instrument to visual procedures on takeoff or landing.
- m. Pilot in command uses all available safety equipment installed in the aircraft and on the ground.
- n. Pilot in command is aware of the risks involved in setting the aircraft's altimeter including inherent limitations of barometric altimeters.
- o. Knowing the air traffic control system well enough to be proficient in it.
- p. Knowing when not to fly.
- q. Properly using an installed autopilot, if so equipped, to reduce pilot workload.
- r. Proper use of checklists as outlined in the aircraft manual or if not listed, before reaching 1,000 feet above ground level (AGL) to minimize any distractions when operating close to the ground.
- s. The importance of flying a stabilized approach. A common definition of a stabilized approach is maintaining a stable speed, descent rate, vertical flightpath, and configuration throughout the final segment of the approach. Although originally designed for turbojet aircraft, a stabilized approach is also recommended for propeller-driven aircraft. The idea is to reduce pilot workload and aircraft configuration changes during the critical final approach segment of an approach. The goal is to have the aircraft in the proper landing configuration, at the proper approach speed, and on the proper flightpath before descending below the minimum stabilized approach height. The following are recommended minimum stabilized approach heights: (1) 500 feet above the airport elevation during VFR weather conditions; (2) MDA or 500 feet above airport elevation, whichever is lower, for a circling approach; and (3) 1,000 feet above the airport or touch down zone elevation during IMC.
- t. The increased [CFIT](#) risk of nonprecision approaches.
- u. The increased [CFIT](#) risk of high descent rates near the ground.
- v. The importance of good communications between the pilot and air traffic control concerning any flight instruction or clearance. The old rule of asking for clarification whenever in doubt about any instruction or clearance applies.
- w. The dangers of complacency for the single-pilot, as well as multi-piloted crews, when making routine flights.
- x. The dangers of misunderstanding air traffic control instructions or accepting an incorrect clearance.
- y. The dangers of not knowing the safe altitudes for your en route as well as your terminal area.



U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
1-866-TELL-FAA (1-866-835-5322)

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