

Inadvertent-IMC: Being Somewhere Other Than on Cloud 9

By Steve Sparks (IHST team member)

The helicopter pilot was on his final instrument approach for completing the requirements in the Instrument Rating Practical Test Standards and weather conditions were perfect. At Decision Height, the examiner called out “runway in sight.” The aircraft was slightly right of course and less than a dot above glideslope. Not perfect, but well within the standards. He let out a sigh of relief signifying his confidence in having passed the check ride. After a positive exchange of controls, they began air-taxiing to the ramp for shutdown. As the rotors wound down, the examiner asked him to finish securing the aircraft and to meet her inside to finish up the paperwork.

During the debriefing, the examiner complimented the pilot on his performance and provided suggestions for improving. She concluded by presenting the airman a new temporary certificate including the freshly printed words “Instrument-Helicopter.” The examiner told him to enjoy this day, because “it’s the best you’ll ever be flying on instruments”.

While driving home, the pilot reflected back on the check ride and thought about the comment made about this being the “best he’d ever be”. He wrestled with this and wondered why such a comment would be made by the examiner. With minimal instrument training under his belt, how could this be true? Certainly he could improve with added time and experience. At that moment, he dedicated himself towards becoming the best instrument pilot possible. In no way was today going to define his best.

Most instrument rated pilots can relate to this scenario. The notion of “use it or lose it” is certainly true when it comes to maintaining instrument proficiency. Since helicopters are predominately operated in VFR conditions, and since most helicopters are not IFR certified, instrument skills tend to be marginal at best. Given the prominent news coverage of weather related accidents involving helicopters, instrument proficiency has become a major concern.

Unexpected Weather

On average, it takes only 178 seconds – less than 3 minutes - for non-instrument rated airplane pilots to lose control after inadvertently flying into instrument conditions. Because helicopters are inherently less stable and often less equipped, it takes even less time for equally qualified helicopter pilots. Welcome to the dangerous world of Inadvertent-IMC.

So, what is Inadvertent-IMC? It occurs when pilots fly into unexpected weather conditions preventing them from maintaining visual reference to the ground or horizon. These conditions are obviously dangerous and disorienting.

The FAA and other industry stakeholders such as the International Helicopter Safety Team (www.IHST.org) are spearheading several initiatives aimed at mitigating weather induced accidents. In 2014, the NTSB included helicopter operations in their Top 10 Most Wanted List, and the FAA implemented several new regulations aimed at reducing these types of accidents. In addition, safety experts at the IHST have been developing and distributing Safety Bulletins focused on the issue of Inadvertent-IMC.

Fatal Statistics

Drawing from the statistics, more than two thirds of all weather related helicopter accidents result in at least one fatality ... a rate three times higher compared to all other general aviation accidents. A common factor in many of these accidents was the pilot's decision to "press on" into deteriorating conditions.

Based on mission profiles, Emergency Medical Services (EMS) helicopter operators are extremely susceptible to Inadvertent-IMC. On a daily basis, EMS flight crews are called on to fly into unprepared landing sights littered with obstacles and other lurking hazards. A surprise encounter with low clouds or fog can easily overwhelm any pilot.

The Best Defense

Avoidance is the best defense against deteriorating weather conditions. However, if caught in such conditions, pilots are urged to divert, or make a precautionary landing as quickly as possible. Never press on! Remember, it's better to be on the ground wishing you were in the air than being in the air wishing you were on the ground.

If already instrument rated, pilots should maximize as much flight time under simulated instrument conditions with a qualified instructor on a regular basis. Remember, seconds count when trying to escape Inadvertent-IMC. Finally, if not instrument rated, make the investment. Instrument training enhances Aeronautical Decision Making and will vastly improve piloting skills ... an investment well worth the time and money.

Primary Options

Pilots have three primary options for escaping Inadvertent-IMC: climb, descend, or reverse course. Descending is considered most risky, since it involves flying closer to the ground. Descending also is likely to increase airspeed resulting in less time to recover from unusual attitudes.

Climbing or reversing course, or a combination of the two, is likely to be the safest option. Additional altitude increases distance from the ground and will enhance reception for tracking a new course. Regardless of technique, maintaining positive aircraft control is the highest priority. Pilots who remain calm and make subtle input changes are more likely to maintain positive control, while seeking safer skies.

At this point, pilots should attempt to land as soon as possible to regain situational awareness. Flying further into deteriorating weather conditions is never a win-win. It's better to land and wait out the weather, versus trying to complete a mission that is truly impossible.

Bottom line; be prepared for those days when perfect weather conditions suddenly disappear. Invest in your skills and understand what your options are when Inadvertent-IMC occurs. Even if you think your skills are at their best, there is always room to be better.

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