



IHST

International Helicopter Safety Team

Our Vision: An International Civil Helicopter Community With Zero Accidents

Training Fact Sheet – Inadvertent Entry Into Instrument Meteorological Conditions (IIMC)

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Inadvertent Entry into Cloud....or Fog



What is IIMC? Inadvertent entry into IMC is a situation where deteriorating weather prevents you from flying under visual meteorological conditions when you were planning to fly under VFR.

IIMC can also be stated as loss of horizon references and/or an accompanying loss of visual contact with the ground.

Inadvertent IMC encounters are some of the most demanding, disorienting, and dangerous conditions a pilot can experience. These encounters result in the highest percentage of fatal injuries from helicopter accidents. NTSB 2011 figures show that 45 of the 52 IIMC accidents occurring that year were fatalthat is 86% giving you a 14% survivability rate if you go IIMC!

“Once you encounter IIMC, the ground is no longer your friend!”

Comprehensive training on inadvertent flight into instrument meteorological conditions (IIMC) is necessary for all rotorcraft helicopter training. This training should include, but not limited to:

- Determination of enroute weather
- Avoidance of inadvertent flight into instrument meteorological conditions.
- In-flight weather abort procedures.
- Recovery from inadvertent flight into instrument meteorological conditions.

Synthetic Training

The use of simulators and ground instruction is highly recommended to improve instrument flying skills and proficiency. The training in instrument skills is a necessary component of all levels of rotorcraft helicopter training as these are considered to be perishable skills.

IIMC Immediate Actions

A pilot's immediate actions after encountering inadvertent IMC will determine the outcome of the entire event. Pilots who possess a plan of action prior to encountering it are more likely to experience a successful outcome (live) than those who are less trained and proficient in the recognition and recovery procedures.

If you hold an IR and are in current instrument flying practice maybe you may use the **4 “Cs”**: **Control, Climb, Course, and Communicate.**

- Control:** Fly the aircraft. Refocus the scan inside the cockpit to the primary flight instruments – airspeed, altitude, and attitude.

•**Climb:** As soon as the aircraft is under control by reference to the instruments, a controlled climb should be initiated. Inadvertent IMC encounters often occur at low altitudes where rising terrain poses a serious threat. The pilot should initiate a straight ahead controlled climb to an altitude that will provide obstruction clearance in the area of operation. Always review Maximum Elevation Figures (MEF) on VFR charts prior to departure.

•**Course:** After the aircraft is in a controlled climb, the pilot can elect to turn to a new heading if known obstacles are ahead and/or divert to a different location with better known or forecast weather conditions.

•**Communicate:** After the pilot has control of the aircraft, initiated a climb, and on course, they should communicate with ATC regarding their intentions and need for assistance.

Careful preflight planning will allow a pilot to focus their attention on maintaining control of the aircraft and reduce the distraction of having to formulate a complete plan in the midst of a dangerous situation. Pilots must be prepared to deal with (recognize & accept) such inadvertent IMC encounters whenever they occur in a reliably disciplined and practiced manner.

But what do you do if you don't hold an IR or have not flown for a while on instruments?

Firstly, go and get an IR or get current now or at the very least undergo some IIMC synthetic training!

But let's take worst case...you are not current and don't hold an IR....

...well don't get anywhere near the clouds or fog... and don't fly at night when you cannot see the clouds. If you do go IIMC avoid the 180 descent....it will probably kill you!

How to Avoid IIMC

- Get a good forecast for departure, enroute, and arrival.
- Avoid flight in Marginal VFR (MVFR).
- Check weather ahead of you enroute, use ATC & Flight Watch.
- Use planned Enroute Decision Points (EDP)s.
- Recognize signs
 - Deteriorating weather, obscured hills, fog, visual precipitation.
 - Descent below planned altitude.
- Assess the situation and if signs back up the warnings, decide to land or turn around before you go IIMC.

Get over yourself (ego), it is not a COMPETITION!

IIMC Ground School

A ground curriculum covers a full range of topics vital to avoiding and, when necessary, recovering from inadvertent IMC.

- *Air Medical Resource Management (AMRM).*
- *Human Factors.*
- *Situational Awareness.*
- *Effective Communications.*
- *Aeronautical Decision Making.*
- *Spatial Disorientation (Night & Day).*
- *Preflight Planning.*
- *Weather & Terrain Avoidance.*
- *Inadvertent IMC Procedures.*
- *IIMC CRM procedures for multi crew.*
- *Recovery from Inadvertent IMC.*

Make sure you cover all these aspects in any training.



Recommendations

Simulator instruction reinforces ground school, providing an opportunity to apply policies and procedures and practice IIMC recovery.

Stay instrument current; use your IR and fly the 4 "C"s (Control, Climb, Course and Communicate) if you go IIMC.

Apply company or self-limitation weather policies.

Apply weather and terrain avoidance procedures.

If you don't hold an IR or are not in current instrument practice avoid flight in MVFR.

References

More information about the IHST, its reports, its safety tools, and presentations can be obtained at its web site: (www.IHST.org).

