



# Interagency Aviation Accident Prevention Bulletin



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**Subject:** Winter Weather Safety

**Area of Concern:** All Aviation Activities

**Distribution:** All Aviation Users

**Discussion:** The beautiful colors of fall are just about gone and winter is right around the corner. Although still a month or two away (at least in the L48), the time to prepare for winter operations is now, before winter arrives.

Last year we published the following winter checklist from the AOPA Air Safety Foundation. While by no means all inclusive, it was meant to get you thinking about winter operations. Because the information is timeless, it is published again for those that may not have seen it last year and for those of us who need a little refresher from year to year. Winter flying has unique hazards that need to be addressed and mitigated through deliberate risk assessment. Don't be left out in the cold - be prepared.



And speaking of cold, this is the cold and flu season. One remedy is to self-medicate using over-the-counter (OTC) drugs. However, OTC medications can have adverse side effects and potentially create an unsafe environment in the cockpit. Check with an Aviation Medical Examiner (AME) to determine what medications are suitable for a pilot / aircrew to take that won't impair the decision-making skills needed for a safe flight. For further information on the use of medications, see 14CFR Part 91.17a(3).

## Flight Planning

**Briefing** — During your preflight briefing, pay particular attention to the possibility of in-flight icing, and be sure to check for icing airmets and pilot reports along your route of flight. A caveat, though: Pilot reports are great "real-world" information, but remember that weather often changes rapidly in the winter. Look at the big picture: One "good" pirep doesn't necessarily mean it's safe to go.

**Flight plans** — It's *always* smart to file a flight plan (IFR flight plans are preferred) for cross-country trips, but it's particularly important in the more challenging survival conditions of winter. The best way to survive is to be found, and that means having someone looking for you. If you fly in remote areas, carry a good survival kit as well.

**Eyewitness reports** — The information you need doesn't always come in an official report. For example: have the taxiways at your destination been plowed since last night's blizzard? Sometimes it's best to pick up the phone and talk to someone on the scene.

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## Airport Operations

**Airport diagrams** — It's easy to get lost at snow-covered airports when runway and taxiway markings are hidden. Download and print free airport taxi diagrams (<http://www.aopa.org/asf/publications/taxi/>) from AOPA's Air Safety Foundation; use them to help increase your situational awareness.

**Taxiing** — Taxi at a slower pace when surface areas are covered in snow or slush, and use brakes sparingly to avoid sliding across icy patches. Use the throttle and rudder to control speed and direction. As you advance the throttle for run-up, look outside to be sure that you're not sliding on ice. Also, be careful if snow or ice is obscuring the edges of paved areas. It's easy to let a main wheel drop off the edge, and it may take a great deal of effort to get it back on a paved surface.

**Braking action reports** — At towered airports, pay attention to braking action reports. If conditions are reported as *good* or *fair* you're probably OK for taxi, takeoff and landing, but allow extra distance for all operations. If the report is poor or nil, you may want to rethink your entire flight, or, if airborne, divert to another airport. Even light crosswinds will complicate landings.

## Preflight

**Gloves, hats, and boots** — Preflight will take longer in cold weather, and it's easier to do a thorough job if you're warm and comfortable. Good winter gear may also help ensure survival in the event of an off-airport landing.

**Engine preheat** — Be kind to your engine: Have it preheated before starting, particularly when the outside temperature is below 25 degrees Fahrenheit. One thing to remember: Wind chill only applies to living things. Your engine will be no more difficult to start on a cold day with a 30-knot gale than it is when winds are calm (though a warm engine *will* cool down faster when exposed to wind).

**Ice removal** — If there's snow or ice on the aircraft, it must be completely removed before flight. Visually inspect the top of each wing and the tail, then touch them to verify they're ice-free. Snow may look light and fluffy, but don't count on it blowing off during taxi or takeoff. Remove all snow (and any ice it was hiding) during preflight.

**Engine start** — In cold weather, piston engines can be temperamental, to say the least. If it's really cold, delay any preflight item that draws current from the battery (radios, electric flaps, etc.) until *after* the engine has started. Cold start procedures vary, but generally avoid pumping the throttle during start attempts, as it can lead to an engine fire.

## In Flight

**Pireps** — When it comes to avoiding nasty weather, pilot reports are some of the best tools at your disposal. Ask for them during your preflight briefing, and check with ATC or Flight Service for new ones enroute. While you're at it, take a minute to give your own: Your fellow pilots will thank you!

**Get the picture** — Around weather, keep the big picture in mind. Where are the fronts? How are they moving? Cloud bases and tops? Is the Minimum Enroute Altitude (MEA) below the freezing level? The weather tends to change faster in winter, and systems are often smaller, meaning you're more likely to pass through changing conditions in a given flight.

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**Ice is a drag** — If you encounter ice, don't hesitate. Turn around, descend to warmer temperatures, climb to colder temps, or divert. Tell ATC you're picking up ice, and don't be afraid to ask for an "immediate" climb, descent or turn. If necessary, declare an emergency.

**Let it snow?** — Depending on temperature and the moisture content of the snow, it may or may not present an icing hazard. Still, it doesn't have to stick to the airframe to be dangerous. Falling snow can very quickly produce a "whiteout" condition, in which visibility drops to nothing almost instantaneously.

**Landing**

**Runways** — Landing surfaces can be very treacherous in cold weather. Be aware of other hazards such as snow banks on the sides of the runways and poorly marked runways. Information about runway surface conditions should be obtained, but if it is not readily available, circle the airport to check for snow drifts or other obstacles before landing.

**Braking action** — When braking action is reported as less than good, the number of acceptable landing runways may diminish quickly as landing surfaces deteriorate. Under these conditions, land into the wind (no crosswind landing here) and make sure there is plenty of extra landing distance available. Doubling the landing distance published in the pilot operating handbook may be a good place to start.

**Taxi** — Don't ruin a successful wintertime landing with a bad taxi. Remember that landing is only half of the battle. The other half is making it from the runway to the ramp unscathed. Expect taxiing to be a challenge as well. Runway and taxiway markings may be hidden under snow and obscured by snowdrifts. Allow extra room to maneuver around high snow piles. Pay close attention to your speed and plan ahead – stomping on the brakes may only help you slide across the ramp.

With a little planning, winter flying can be safe and enjoyable.



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