

# Winnipeg Aviation Winter Flying Operations

Winter flying is not particularly hazardous if you, the pilot, use a little extra caution and exercise good judgment in analyzing weather situations. By observing the following precautions, winter operation of your aircraft will be safer.

The following is an excerpt from the Winnipeg Aviation's Rules and Regulations:

- 21) The temperature cut-off for student solo flying shall be  $-25^{\circ}\text{C}$ . For dual flights, the temperature cut off shall be  $-30^{\circ}\text{C}$ . Continuous circuits will not be performed when the temperature is below  $-25^{\circ}\text{C}$ . No flying will be conducted when the "feels like" wind chill value is below  $-35^{\circ}\text{C}$ .

The Chief Flight Instructor or his/her delegate may refuse to rent aircraft to anyone if proper winter clothing is not worn and survival gear is not available.

- 22) All snow, ice and frost must be removed from the aircraft before the engine is started. A final check of critical surfaces shall be completed prior to take-off. The pilot may not take off in any aircraft where critical surface contamination of any type is present.

## Procedures

- Take care of the engine and battery. NEVER start a cold engine! It must be either pre-heated or kept covered with a cowl blanket. If the oil is thick and dripping slowly on the dip stick, DO NOT START the engine as there will be no lubrication to the front bearings.
- A cooler engine requires additional prime than is normally used in the summer. Minimum 4 strokes.
- Do not continue cranking the engine for more than 10 blade rotations. If the engine doesn't start consider additional prime, but be careful not to flood the engine with too much fuel. Cold weather reduces battery life much quicker than in summer.
- Once started, throttle the engine back to minimum idle until taxiing out.
- Be aware that low temperatures encountered in the winter can change the viscosity of engine oils, reduce effectiveness of the battery, and precipitate metal failures in various component parts of you aircraft with little or no warning.
- Conduct your preflight planning and flight preparation with an attention to detail appropriate for the intended operation.
- Winter daylight hours are few; plan your flight accordingly. If your night experience is limited, be aware that night operation in winter can impose a special hazard all in its own. **Are you Night legal and current?**
- When flying cross country, always give yourself some insurance by informing your contact that you intend to fly and will arrive at a certain time, unless the weather conditions are unfavorable.
- A VFR pilot should avoid taking chances if the weather is marginal. Stay on the ground! Marginal weather operations in the winter are doubly hazardous. A pilot may be severely handicapped in selecting an alternate course of action or change of destination.

- Study the trend of the weather religiously in order to operate with maximum safety. Check all available weather information. **What will the Wx be doing for your return?**
- Never fly into snow or rain showers which obscure the terrain. Use good judgment! Make the 180-degree turn before you lose forward vision and become a statistic.
- Do not attempt to fly on instruments or on top of overcast unless you are instrument rated, and current, **AND** flying a properly equipped aircraft.
- Never attempt to take off with frost, ice, or snow on the windshield, wings, or control surfaces of your aircraft.
- Be forewarned, many pilots flying aircraft that have been parked outside overnight have inadvertently been placed on instruments following a takeoff in beautiful VFR weather. The condensation of moisture in the heater ducting can completely fog the windshield from the inside. When conducting such an operation, make sure that the heater and air vents have purged the moist air prior to takeoff.
- Winter conditions can cause the local weather to change radically in a short period of time. A local fixed-base operator or Accident Prevention Counselor has the best advice about local flying conditions. Use their experience and knowledge for your own benefit!
- Have the following items checked for winter operations: cabin heater system for operation and leaks (**CARBON MONOXIDE CAN BE DEADLY**), exhaust system, windshield defrosting system, engine idle-speed, carburetor heat, and brakes.
- **AVOID** prolonged, power off descents - clear engine slowly to full power every 500 ft. During decent, it may be difficult to keep the engine warm enough for high power operation, if needed. It may be desirable to use considerably more power than normal during approaches to avoid excessive engine cooling. **A rapid throttle operation may result in engine failure.**
- Be alert during winter months for white-out conditions. You could find yourself in instrument conditions with a complete loss of visual contact due to snow covered terrain, haze and falling snow.
- Depth perception may be faulty when attempting to land on unbroken snow-covered surfaces or at night in marginal weather conditions.
- You, the pilot, have complete responsibility for the Go/No-Go decision based on the best information available. **DO NOT** let compulsion take the place of good judgment.
- Ensure that all flight surfaces are not contaminated with either snow or ice.
- **Do not** scrape windshield with hard plastic scraper - try credit card - consult staff.
- Cross country trips: Carry proper clothing, blankets, flares and survival gear in case of emergency. **BE PREPARED!**
- **Always cover the engine with a cowl blanket IMMEDIATELY after every flight when temperatures are less than 0° Celsius. Do not remove the blanket while carrying out your walk-around, but REMEMBER to remove it AND complete the under cowl inspection just before boarding the aircraft and starting the engine.**
- Thoroughly familiarize yourself with your aircraft and engine handbooks in order to intimately know all systems and the recommended winter operation procedures.
- **Cessna 152** – Carb heat may be required immediately after start up until engine warms up.
- **Pipers** – Carb Heat is normally not needed for low-power operations during warmer weather but **MUST BE ON** when temperature is below -20° C and engine is below 2000 RPM.
- Know the overnight engine warming systems for your type of aircraft: Oil warmer? Removable heater? Tanis heater system? Consult with the staff if you have any questions or concerns.