

## Winter Operations

Winter flying is a great time for flying. The air is cold and dense and you will have plenty of lift. There are less thermal updrafts, which means smooth flying. And generally we'll have less demand on the club aircraft which means you can get in flying easier, weather permitting.

Having said that, we have a few things you need to keep in mind for winter flying. The cold temperatures can be detrimental on the engine unless you follow certain rules:

### Insulating blankets/cowl covers

To maintain engine heat and efficient preheating we have a fitted cowl cover for N757ZU and blankets and a ratchet strap for N2459V (cowl cover coming soon). These are generally located either in the back of the hanger or in the back of the plane. When you shut down, please wrap the cowl cover/blankets around the engine and strap them down snug but not overly tight. For 59V, plug in a small extension cord into the heater plug in the oil fill door so that the heater can be plugged in easily. Please plug in the engine preheater using the available extension cords if the next pilot isn't right there to fly and the plane isn't being put back in the hangar.

Please do this after each flight. Failure to do so could cause the next pilot's flight to be canceled because the plane wasn't preheated and was left out in the cold. *If you find that the previous member who flew didn't follow this procedure then please let a club officer know. If a member is repeatedly failing to ensure the plane is properly preheating for the next pilot after them then there may be disciplinary actions involved.*

We don't want members coming out to a cold plane expecting to fly that day and being torn between canceling a flight or flying anyway without preheating. If it's only 20°F degrees out and the next person is flying in 3 hours, the plane will need to be preheating for when they arrive. If the temperature warmed up to 30°F and their flight is scheduled for shortly after when your flight ends, then you can skip the pre-heating and just put the cowl cover on.

### Preheating of the engine

7ZU has an engine heater installed on the engine block. For early morning flight please call ahead and have general aviation plug in the pre-heater overnight or at least three hours before flight. For flights later in the day, the previous pilot should be ensuring that the plane is blanketed and preheating. If your flight is critical (like a checkride) I highly encourage you to make sure it's plugged in and preheating yourself personally a few hours before the flight. Also, make sure the cowl cover/blanket is on during preheating to help retain the heat in the engine compartment. If you need to stop somewhere, bring the cover and/or an extension cord so you can plug in the plane at your destination. Note that sometimes when the plane is pulled out in the morning there's not enough extension cords to reach out that far and it will be on the ramp without preheating. I recommend you avoid having Bangor pull the plane until right before you need it or otherwise ensure it continues to be plugged when pulled out on the ramp.

**Club temperature rule**

The club restricts operations below 10°F (surface air temp). This rule is in place to minimize shock cooling of the engine and unnecessary wear and tear of the engine and instruments and electronics. It is important to note that some winter mornings start below 10°F, but then warm up above 10°F during the late morning and early afternoon. As long as the air temperature is above 10°F when you start the engine for your flight, you are good to go.

**Cold weather procedures**

Make sure to review the cold weather procedure section of the POH. This section will give you information about the cold start procedure and other considerations. For example, it is important to check the crankcase breather tube for ice buildup, since a blocked breather tube can pressurize the engine and cause seals to fail.

**Considerations in-flight**

Please be careful during maneuvers and landing setup that require lower RPM's. If possible, keep the RPM's slightly higher than normal for these operations during cold weather.

**N2459V**

The University aircraft has similar rules and procedures but has the extra step of using a winterization kit on the cowl cooling air inlets and using an internal heater to warm up the avionics. Remove the winterization baffles if there's an unexpectedly warm day and reinstall them at the end of your flight.

If you are in doubt about any winter flying rules and procedures make sure to consult your CFI. You are also welcome to call or email Soren or any other officer of the club with any questions you may have.