



Flying in Winter

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It is officially winter here in New England and while there are still plenty of sunny winter days, the air temperatures aloft are typically below freezing, setting up a scenario for icing conditions if you're flying in IMC.

Whenever we're planning flight through visible moisture (clouds & precip) with freezing temperatures, we must consider the possibility of icing. Airframe icing increases the weight of the aircraft and reduces lift due to wing contamination. It should, therefore, be regarded as a consistent hazard to consider when flying in IMC in below freezing temperatures.

The Cirrus SR22 and SR22T (that's T for Turbocharged) are both equipped and certified for flight into known icing (or FIKI). This means that the SR22 and SR22T have anti-icing systems that consist of heated surfaces like pitot tubes, and an anti-ice fluid distribution system that provides icing protection to critical parts of the aircraft such as the wings, tail, and propeller. The fluid in this system is an anti-ice fluid called TKS fluid (named after the company that originally produced it) and it works by lowering the freezing point of water making it harder for ice to form on the protected surfaces. Also, since MGAV operates numerous SR20s, please note, they are not FIKI certified therefore not approved for flight in icing conditions.

It goes without saying that winter pre-flight planning and preparation should aim to mitigate the risk of inflight icing. Cirrus pilots of FIKI certified aircraft are required to complete Cirrus Icing Awareness training at least once every two years. It's our recommendation, however, that pilots take the course annually prior to the beginning of winter. The course can be found here, for free on Cirrus Approach, <https://cirrusaircraft.com/approach/icing-awareness/> .

Once your Icing Awareness course is complete, it's time to start flight planning and preparation. If after a thorough weather briefing you find that you may encounter icing on your proposed flight plan, there are a few important things to consider. One of the most important considerations is that our aircraft (and all FIKI certified aircraft for that matter) are not certified for sustained flight in icing conditions. Our FIKI certification and anti-ice system provides us protection for flight through ice. We, as pilots, should aim to spend as little time in the ice as possible. It is important to have an escape plan if you experience prolonged icing during a flight.

Another consideration when planning flight into known icing conditions is your pre-flight inspection. During the walk-around, be sure to check the operation of your ice lights, heated surfaces (pitot tube and stall transducer), TKS flow out of the wings, tail, and vertical fin, as well as the windshield and prop. These checks are all included in your walk around checklist but many of us overlook them during summer months so it's crucial that we reintroduce them into our winter walk around routine.

While we only typically think about icing in the winter, your aircraft's anti-ice system should be run monthly all year round. One of the primary reasons for this is to ensure that the spongy matter behind the leading-edge panels on your aircraft's protected surfaces is sufficiently wet at all times. This spongy matter is what helps TKS fluid distribute evenly along the aircraft's leading edges. If it dries out, you may not get complete TKS coverage and, consequently, lose full anti-ice protection.

In addition to providing peace of mind during the winter months, the icing protection provided by the Cirrus SR22 and SR22T allow you much more flexibility and opportunity to explore and enjoy flying in the winter. With proper planning and preparation, pilots can safely fly in IMC during winter conditions.