

REVISED SPECIAL AIRWORTHINESS INFORMATION BULLETIN

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This is information only. Recommendations are not mandatory.

Introduction

As a result of continued accidents due to loss of power from snow or ice ingestion on turboshaft powered rotorcraft, we are reissuing this Special Airworthiness Information Bulletin (SAIB) and are urging you to follow our recommendations.

This SAIB alerts you, owners and operators of turboshaft powered rotorcraft, of the possibility of in-flight engine loss of power, due to the ingestion of ice and snow. Accumulation of ice and snow can occur in the area of the airframe engine inlet while the rotorcraft is on the ground or in the air. **This SAIB describes procedures to reduce the probability of engine in-flight shutdown due to ice and snow ingestion.**

Background

We have determined that ingested ice and snow accumulation in the airframe engine inlet while the rotorcraft is on the ground can cause the engine to lose power. This has resulted in accidents and fatalities. Snow and ice can build up in the engine intakes and plenums when the rotorcraft is on the ground without the engine(s) operating or when the engine is at a low power setting on the ground for extended periods. When a pilot increases engine power during takeoff, the accumulated snow and ice can separate from the airframe inlet surface and be ingested into the engine resulting in decreased power or complete engine failure. **Some of the early turboshaft engines with axial inlets are particularly susceptible to loss of power due to ice and snow ingestion.**

On the ground with the engine(s) operating at a low power setting, ice and snow can accumulate on the airframe cowl forward of the inlet, on the inlet lip, and inside the inlet. Under extreme conditions, usually when the rotorcraft is on the ground waiting for clear weather, the buildup of ice and snow can be enough to cause the engine(s) to lose power or fail completely if it is ingested.

On the ground with the engine(s) **not** operating, proper use of inlet inserts (pillows) or inlet covers can eliminate the accumulation of snow, but these measures cannot fully guarantee non-formation of ice in the inlet. Ice can also develop in the inlet area when water seeps into the inlet from rain or snow melting on a warm cowl, even when you use proper inlet protection.

Recommendations

We highly recommend and strongly urge you to perform the following:

- Review the aircraft Flight Manual for Limitations and Operations guidance in falling/blowing snow and/or icing. Many aircraft are prohibited from operating in known icing and/or heavy snow.
- Perform Basic Airmanship in the appropriate evaluation of current and predicted weather briefings from the area Flight Service Station.
- When the aircraft is on the ground without the engines operating install inlet and exhaust inserts or covers.
- Prior to engine start, after removing the inlet/exhaust inserts or covers, perform a complete inlet/exhaust inspection (using a flashlight). The inspection should include surfaces inside the inlet, the cowl area forward and around the inlet, and the area behind the particle separator or screen (if installed). Remove all accumulated snow or ice.
- **CAUTION: DO NOT remove ice or snow by chipping or scraping!** Use heated air or deicing fluid as necessary. In freezing temperatures, pay particular attention to sheet ice on the bottom and forward of the inlet. This ice can also form behind particle separators. Engine preheating may be required.
- If it is necessary to keep the rotorcraft on the ground for an extended period (i.e. waiting for clear weather), you should shutdown the engine(s). Prior to takeoff, you should accomplish a detailed pre-flight/inspection, removing any snow/ice build-up. You should perform the inspection even if the rotorcraft is fitted with some form of inlet protection such as screens or baffles.

For Further Information Contact

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