



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

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Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest.

SUBJECT: Polished Frost

Purpose: This SAFO is to emphasize that when taking off with polished frost on the wings or control surfaces, as currently permitted by regulations, pilots should do so only in accordance with an aircraft manufacturer's approved procedures.

Background: The practice of making takeoffs with frost on an airplane, polished to ensure that a smooth surface exists, dates back to at least 1960. A Civil Air Regulations Draft Release addressed the procedure which has evolved into Title 14 of the Code of Federal Regulations (14 CFR) part 91, subpart F, 14 CFR part 125, and finally 14 CFR part 135. FAA guidance regarding this technique appears in Advisory Circular 135-17 which states that "It is recommended that all wing frost be removed by means of conventional deicing process; however, if polished frost is desired, the aircraft manufacturer's recommended procedures should be followed."

Discussion: Since 1960, operational experience and accident history have shown that contamination of any kind can adversely affect the aerodynamic properties of an airfoil, and that the safest course of action is to completely remove all contaminants from wing and flight control surfaces.

Therefore, the FAA cannot support the practice of merely polishing frost on a wing or control surface **unless** an aircraft manufacturer has developed explicit, approved procedures for doing so, and these procedures are strictly adhered to in operations and supported in training.

Recommended action: Pending rule changes, directors of operations, directors of training and pilots should ensure (1) that during operations in ground icing conditions no contaminants including frost are adhering to wings or to stabilizing or control surfaces immediately prior to takeoff; and (2) that "polishing frost" as a means to meet this objective is not practiced unless an aircraft manufacturer has developed explicit, approved procedures for doing so, and these procedures are strictly adhered to in operations and supported in training.