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| 7. Author(s) Marco Ruggi, David Youssef and Victoria Zoitakis | | | | 8. Transport Canada File No. | |
| 9. Performing Organization Name and Address APS Aviation Inc. 6700 Cote-de-Liesse, Suite 105 Montreal, Quebec H4T 2B5 Canada | | | | 10. PWGSC File No. | |
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| 15. Supplementary Notes (Funding programs, titles of related publications, etc.) Several research reports for testing of de/anti-icing technologies were produced for previous winters on behalf of Transport Canada. These are available from the Transportation Development Centre (TDC). Several reports were produced as part of this winter's research program. Their subject matter is outlined in the preface. The work described in this report was, in part, co-sponsored by the Federal Aviation Administration (FAA). | | | | | |
| 16. Abstract This objective was met by conducting a series of full-scale tests using the NRC open circuit wind tunnel to examine the flow-off properties of anti-icing fluids contaminated with various forms of simulated freezing precipitation to investigate several recent industry operational concerns; this work was completed in conjunction with the ice pellet research being conducted at the NRC PIWT. <ul style="list-style-type: none"> • EVALUATION OF AN AIRFOIL PERFORMANCE MONITOR: The testing conducted provided Marinvent with a platform for evaluating the APM unit, the details of which remain internal to Marinvent. Initial observations saw fluid get into the pressure probes of the APM unit; however the extent of the effects should be further investigated by the manufacturer. Future testing should be done with a wireless unit to minimize aerodynamic effects of passing wires over the wing. • AERODYNAMIC TESTING OF ICE PHOBIC COATINGS: A broader test plan was developed and conducted during the winter of 2012-13 to investigate some additional areas to gain some new insight into the potential applications of these coatings for aircraft operations, and to continue the research to include newly developed coating formulations. As part of this test plan, it was recommended that testing continue to investigate the effects of these coatings on de/anti-icing fluids from a HOT and aerodynamic perspective. • EFFECT OF FLUID VISCOSITY ON AERODYNAMIC FLUID-FLOW OFF PERFORMANCE: In general, the lift losses with mid-production fluid were slightly higher as compared to the LOWV fluid results; these results seem more prominent in the case of fluid and contamination as compared to fluid only. | | | | | |
| 17. Key Words Ice Pellet, Allowance Time, Fluid Adherence, Fluid Flow-Off, Wind Tunnel, Ice Phobic, Mixed Precipitation, Snow on an Un-Protected Wing, Heavy Snow, Viscosity | | | 18. Distribution Statement Limited number of copies available from the Transportation Development Centre | | |
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