



1. Transport Canada Publication No. <b>TP 14712E</b>		2. Project No.		3. Recipient's Catalogue No.	
4. Title and Subtitle <b>Aircraft Ground De/Anti-Icing Fluid Holdover Time Development Program for the 2005-06 Winter</b>				5. Publication Date	
				6. Performing Organization Document No. <b>CM2020.002</b>	
7. Author(s) <b>Stephanie Bendickson</b>				8. Transport Canada File No.	
9. Performing Organization Name and Address <b>APS Aviation Inc. 634 St-Jacques, 4<sup>th</sup> Floor Montreal, Quebec H3C 1C7 Canada</b>				10. PWGSC File No.	
				11. PWGSC or Transport Canada Contract No.	
12. Sponsoring Agency Name and Address <b>Transportation Development Centre (TDC) 800 René Lévesque Blvd. West, Suite 600 Montreal, Quebec H3B 1X9 Canada</b>				13. Type of Publication and Period Covered <b>Draft</b>	
				14. Project Officer <b>Barry Myers</b>	
15. Supplementary Notes (Funding programs, titles of related publications, etc.) <p>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). Nine reports (including this one) were produced as part of this winter's research program. Their subject matter is outlined in the preface. This project was co-sponsored by the Federal Aviation Administration.</p>					
16. Abstract <p>The primary objective of the 2005-06 holdover time test program was to evaluate the performance of new deicing and anti-icing fluids over the entire range of conditions encompassed by the holdover time guidelines.</p> <p>The objective was met by conducting endurance time tests. The procedure for these tests consisted of pouring fluids onto clean aluminum test surfaces inclined at 10°. The onset of failure was recorded as a function of time in natural snow and artificial conditions including simulated freezing fog, freezing drizzle, light freezing rain, and rain on a cold-soaked wing. APS conducted a total of 618 endurance time tests with seven fluids, including one non-glycol Type I fluid, three Type II fluids and three Type IV fluids.</p> <p>Changes to the holdover time guidelines for the winter of 2006-07 include the introduction of fluid-specific tables for Clariant Safewing MP II Flight (Type II), Kilfrost ABC-TF2 (Type II), Clariant Safewing MP IV Launch (Type IV), Kilfrost ABC-S PLUS (Type IV) and Dow UCAR Endurance EG106 (Type IV). The introduction of the new fluids did not affect the Type II or Type IV generic holdover time tables. No changes were made to the Type I or Type III holdover time guidelines.</p> <p>It is recommended that any new Type I, Type II, Type III or Type IV fluids be evaluated over the entire range of conditions in the holdover time tables.</p>					
17. Key Words <b>Anti-icing, deicing, deicing fluid, holdover times, precipitation, endurance times, Type I, Type II, Type III, Type IV, aircraft, ground, test, winter</b>				18. Distribution Statement <b>Limited number of copies available from the Transportation Development Centre</b>	
19. Security Classification (of this publication) <b>Unclassified</b>		20. Security Classification (of this page) <b>Unclassified</b>		21. Declassification (date) <b>—</b>	22. No. of Pages <b>xviii, 62 app.</b>
					23. Price <b>—</b>