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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 on behalf of Transport Canada for previous winters. 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 and the manufacturers that provided fluid.						
16. Abstract <p>The primary objective of the 2001-02 holdover time test program was to evaluate of the performance of new deicing and anti-icing fluids over the entire range of conditions encompassed by the holdover time guidelines. These tests involved using fluid samples selected by the various manufacturers according to the sample selection procedures specified in the proposed Aerospace Standard 5485. Additional tests were also performed to examine the variance in anti-icing fluid endurance times under selected simulated conditions.</p> <p>The endurance time test procedure 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. Type II and Type IV fluids were supplied by Clariant, Kilfrost, Octagon, and Dow/UCAR, and were tested in neat and diluted forms. Type I fluids were supplied by Clariant, Lyondell, HOC Industries, Dow/UCAR, and SPCA. A total of 1191 endurance time tests were performed by APS in natural and simulated conditions. Anti-icing fluid holdover times were determined using a multi-variable regression analysis.</p> <p>None of the Type IV fluids tested will be produced commercially in 2002-03, and no changes were made to the generic Type IV table. Two new Type II fluid-specific tables were produced for use in 2002-03 winter operations, but no changes were made to the generic Type II table as a result of tests conducted with these two products. Testing was carried out with two new Type I products to compare the new results with those of grandfathered fluids, which had been presented in Toulouse in May 2000. The new fluids performed in a similar manner to those previously tested in all precipitation categories. The test protocol for Type I fluids in snow was modified to reflect real-life operations. This resulted in increases to the snow holdover time values of the generic Type I table. In addition, the Type I table format was modified to include an additional temperature breakdown at -3°C (the FAA Type I guidelines include an additional breakdown at -6°C) and a light snow column. Type I data were generated for freezing drizzle and freezing fog at -3°C for inclusion in the new Type I table. The light freezing rain data at -3°C were inconclusive. The results of variance tests showed that the typical variance in APS fluid endurance time tests was within 10% of the mean.</p>						
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