

A Science Service Feature

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? WHY THE WEATHER ?

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ICE ON AIRPLANES

The formation of ice on airplanes during flight - especially in the form of smooth, clear deposits of so-called "glaze" - has been recognized for some years as one of the great dangers of flying. The ice menaces the safety of the plane not so much on account of adding to its load as because of altering the shapes of the wing surfaces and hence diminishing the craft's efficiency. Several methods of preventing the ice from forming or of removing it promptly when formed have been proposed and tried.

As a result of numerous experiments, the National Advisory Committee for Aeronautics has apparently found the solution of this problem in the use of waste heat from the airplane engine. A recent report (No. 403) of this committee says, among other things:

"Experiments on ice prevention both in the laboratory and in flight show conclusively that it is necessary to heat only the front portion of the wing surface to effect complete prevention. The actual amount of heat needed for ice prevention is surprisingly small, being of the order of one-tenth of that available in the engine exhaust gases."

In the case of an all-metal plane, the exhaust gases can be applied directly to heating the wings. In the equipment recommended for other planes the exhaust gases heat a mixture of water and alcohol, and the resulting steam is distributed through pipes to the wings.

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