FLIGHT INTO KNOWN ICING CONDITIONS EQUIPMENT - DESCRIPTION AND OPERATION

1. General

A. The flight into known icing conditions equipment packages permit flight penetration of icing conditions as defined by the FAA. The packages include all the previously mentioned ice protection systems and either a pneumatic/electrically heated deicing system, or a TKS anti-ice system.

(1) The pneumatic anti-ice system includes deicing boots on the leading edges of the wings, wing struts, and horizontal and vertical stabilizers. It also includes an electrically heated removable windshield deicing panel, electrically heated propeller deicing boots and anti-ice ammeter, electrically heated pitot-static and stall warning systems with optional right heated pitot-static system, and an icing low airspeed awareness system (110 KIAS). Also included are a standby electrical system that uses a 75-amp alternator, control surface mounted static discharge wicks, and an ice detection light for detection of ice buildup on the leading edge of the left wing at night.

(2) The TKS anti-ice system is a freezing point depressant fluid anti-ice system to prevent ice formation on the leading edges of the wings, horizontal stabilizers, struts, vertical stabilizer, propeller, and the windshield. A monoethylene glycol/isopropyl alcohol/deionized water solution is used to anti-ice/de-ice the airframe surfaces and windshield in flight. The fluid solution is a freezing point depressant that is swept rearward over the surfaces and prevents ice buildup. This system also has a right and a left electrically heated pitot-static and a low airspeed awareness system (97.5 KIAS). The model 208B airplane with the TKS installed, uses vortex generators (VG's) installed on the wings to improve air flow on control surfaces. The model 208B and model 208 with the TKS installed, also have VG's installed on the flaps. The equipment package has included a standby electrical system that uses a 75-amp alternator, a control surface mounted static discharge wicks, and an ice detection light for detection of ice buildup on the leading edge of the left wing at night. Refer to Chapter 12, Replenishing - Description and Operation.

B. For information on the following items, refer to the specified locations.

(1) Wing, Wing Strut, Horizontal and Vertical Stabilizers Deice System, refer to Pneumatic Surface Deice - Description and Operation or to TKS Anti-Ice - Description and Operation.

(2) Windshield Anti-ice System, refer to Windshield Anti-Ice - Description and Operation or to TKS Anti-Ice - Description and Operation.

(3) Propeller Anti-ice System, refer to Propeller Anti-Ice - Description and Operation or to TKS Anti-Ice-Description and Operation.

(4) Pitot and Static Heaters, refer to Chapter 34, Pitot/Static System - Description and Operation.

(5) Icing Low Airspeed Awareness System (110 KIAS), refer to Chapter 34, Pitot/Static System - Description and Operation.

(6) Ice Detector Light, refer to Chapter 33, Ice Detector Light - Maintenance Practices.

(7) Electrostatic Discharger Installation, refer to Chapter 23, Static Discharging- Maintenance Practices.

(8) Standby Electrical System, Refer to Chapter 24, Standby Electrical System - Description and Operation.