

Docket No. SA-533

Exhibit No. 2-PP

NATIONAL TRANSPORTATION SAFETY BOARD


WASHINGTON, D.C.

Excerpts from ATR 42 FCOM (Anti Icing Advisory System)

(3 Pages)

ATTACHMENT

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GENERAL

An anti icing advisory system (AAS) is installed.

The AAS system includes.

- An ice detector.
- Three lights in the cockpit.
 - icing (amber) and ICING AOA (green) lights on central panel,
 - DE ICING blue light on memo panel.

This system has been designed to alert the crew on the correct procedures to be applied when flying in icing conditions :

- Increase of minimum maneuver/operating speeds + selection of anti-icing.
- Selection of the de icing system at first indication of ice accretion.
- Switching the de icing system OFF when ice does not build up any more on the airframe.

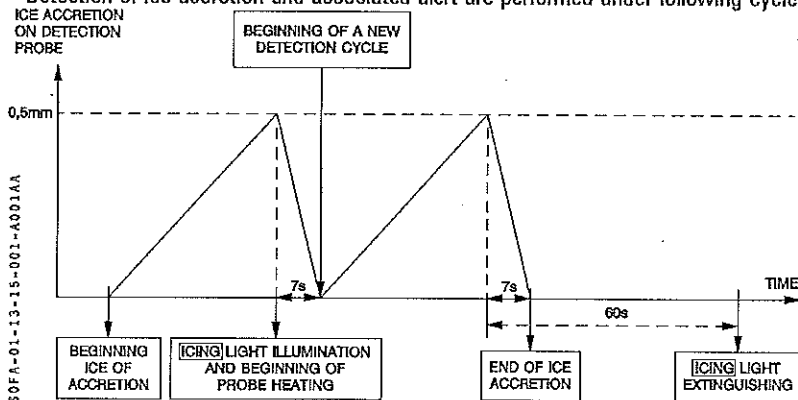
ICE DETECTOR DESCRIPTION AND FUNCTIONING

The ice detector, located under the left wing, alerts the crew as soon as and as long as ice accretion is sensed by the probe.


Alert is generated by the amber ICING light on the central panel.

The system is self tested constantly, and any failure generates a FAULT light illumination with single chime.

Detection of ice accretion and associated alert are performed under following cycle :



CAUTION : The ice detector indicates ice accretion is building up on aircraft. Therefore, extinguishing of the ICING light must be regarded as an end of ice accretion and not as an absence of ice on aircraft. Consequently a visual check must be performed to assure aircraft is cleared of ice after having encountered ice accretion conditions.

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AA

CAUTION

- ice accretion on the aircraft under certain circumstances may sublimate. If the ice accretion rate is low, the balance accretion/sublimation may tend to be low or nil. Under those circumstances, the ice detector may not detect ice accretion (sublimation is much more faster on the ice detector than on the airframe)
- freezing rain is a precipitation composed of large super cooled water droplets which may be transformed into clear ice when impacting the aircraft's skin in negative temperature condition. Nevertheless, if the SAT is slightly negative, these large droplets may not freeze immediately when impacting : clear ice builds up behind the leading edge. The ice detector may become inefficient.

ELECTRICAL SUPPLY

EQUIPMENT	DC BUS SUPPLY (C/B)	AC BUS SUPPLY (C/B)
ICE detector	-- Nil --	ACW BUS 2 (on lateral panel ICE DET PWR SPLY)
ICING/FAULT light	DC EMER BUS (on lateral panel ICING CAUTION/ Boots A and B ind)	-- Nil --
ICING AOA light	DC EMER BUS (on lateral panel DE ICING-AAS/ Boots A and B ind)	-- Nil --