
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Beechcraft 1900 Series Aeroplanes

AD/BEECH 1900/46**Aircraft Flight Manual - Flight
Into Icing Conditions****4/2005**

Applicability: Raytheon / Beech Aircraft Corporation (Beech) Models 1900, 1900C and 1900D Aircraft.

Requirement: 1. Revise the **Limitations Section** of the aircraft's Aircraft Flight Manual (AFM) by incorporating the following:

"WARNING

- Severe icing may result from environmental conditions outside of those for which the airplane is certificated. Flight in freezing rain, freezing drizzle, or mixed icing conditions (supercooled liquid water and ice crystals) may result in ice build-up on protected surfaces exceeding the capability of the ice protection system, or may result in ice forming aft of the protected surfaces. This ice may not be shed using the ice protection systems, and may seriously degrade the performance and controllability of the airplane.
- During flight, severe icing conditions that exceed those for which the airplane is certificated shall be determined by the following visual cues. If one or more of these visual cues exists, immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the icing conditions.
 - Unusually extensive ice accreted on the airframe in areas not normally observed to collect ice.
 - Accumulation of ice on the upper surface of the wing aft of the protected area.
 - Accumulation of ice on the propeller spinner farther aft than normally observed.
- Since the autopilot may mask tactile cues that indicate adverse changes in handling characteristics, use of the autopilot is prohibited when any of the visual cues specified above exist, or when unusual lateral trim requirements or autopilot trim warnings are encountered while the airplane is in icing conditions.

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AD/BEECH 1900/46 (continued)

- All icing detection lights must be operative prior to flight into icing conditions at night. **This supersedes any relief provided by any Minimum Equipment List "**
- 2. Revise the **Procedures Section** of the aircraft's AFM by incorporating the following:

"THE FOLLOWING WEATHER CONDITIONS MAY BE CONDUCTIVE TO SEVERE IN-FLIGHT ICING:

- Visible rain at temperatures below 0 degrees Celsius ambient air temperature.
- Droplets that splash or splatter on impact at temperatures below 0 degrees Celsius ambient air temperature.

PROCEDURES FOR EXITING THE SEVERE ICING ENVIRONMENT:

These procedures are applicable to all flight phases from takeoff to landing. Monitor the ambient air temperature. While severe icing may form at temperatures as cold as -18 degrees Celsius, increased vigilance is warranted at temperatures around freezing with visible moisture present. If the visual cues specified in the Limitations Section of the AFM for identifying severe icing conditions are observed, accomplish the following:

- Immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the severe icing conditions in order to avoid extended exposure to flight conditions more severe than those for which the airplane has been certificated.
- Avoid abrupt and excessive manoeuvring that may exacerbate control difficulties.
- Do not engage the autopilot.
- If the autopilot is engaged, hold the control wheel firmly and disengage the autopilot.
- If an unusual roll response or uncommanded roll control movement is observed, reduce the angle-of-attack.
- Do not extend flaps during extended operation in icing conditions. Operation with flaps extended can result in a reduced wing angle-of-attack, with the possibility of ice forming on the upper surface further aft on the wing than normal, possibly aft of the protected area.

Beechcraft 1900 Series Aeroplanes

AD/BEECH 1900/46 (continued)

- If the flaps are extended, do not retract them until the airframe is clear of ice.
- Report these weather conditions to Air Traffic Control."

Note 1: Certificate of Registration holders should initiate action to ensure that notification of this change is conveyed to any person who may operate their aircraft as pilot in command.

Note 2: FAA AD 96-09-13 Amendment 39-9589 refers.

Certification for accomplishment of this Directive may be carried out:

- a) after a copy of this Directive is included in the appropriate sections of the aircraft's AFM; and
- b) may be carried out at a minimum, by the holder of a private pilot's licence.

Compliance: Unless already accomplished, within 30 days after the effective date of this Directive.

Ensuring that the AFM revision includes the information contained in this AD meets the intent of this Directive.

This Airworthiness Directive becomes effective on 14 April 2005.

Background: This AD requires revising the AFM to provide the flight crew with recognition cues for, and procedures for exiting from, severe icing conditions, and to limit or prohibit the use of various flight control devices.

The actions specified by this AD are intended to minimize the potential hazards associated with operating the airplane in freezing rain or freezing drizzle conditions by providing more clearly defined procedures and limitations associated with such conditions.



James Coyne
Delegate of the Civil Aviation Safety Authority

2 March 2005