CS-25 AMENDMENT 7 - CHANGE INFORMATION

The Agency publishes amendments to Certification Specifications as consolidated documents. These documents are used for establishing the certification basis for applications made after the date of entry into force of the amendment.

Consequently, except for a note “Amdt. 25/7” under the amended paragraph, the consolidated text of CS-25 does not allow readers to see the detailed changes introduced by the new amendment. To allow readers to see these detailed changes this document has been created. The same format as for publication of Notices of Proposed Amendments has been used to show the changes:

1. text not affected by the new amendment remains the same: unchanged
2. deleted text is shown with a strike through: ~~deleted~~
3. new text is highlighted with grey shading: new
4. ....
   Indicates that remaining text is unchanged in front of or following the reflected amendment.
   ....

Book 1 Airworthiness Code

Subpart B - FLIGHT

CONTROLLABILITY AND MANOEUVRABILITY

CS 25.143 General

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(j) For flight in icing conditions before the ice protection system has been activated and is performing its intended function, ~~the following requirements apply~~ it must be demonstrated in flight with the ice accretion defined in appendix C, part II(e) that:

~~(1) If activating the ice protection system depends on the pilot seeing a specified ice accretion on a reference surface (not just the first indication of icing), the requirements of CS 25.143 apply with the ice accretion defined in appendix C, part II(e).~~

~~(2) For other means of activating the ice protection system, it must be demonstrated in flight with the ice accretion defined in appendix C, part II(e) that:~~
~~(i) The aeroplane is controllable in a pull-up manoeuvre up to 1.5 g load factor; and~~
~~(ii) There is no pitch control force reversal during a pushover manoeuvre down to 0.5 g load factor.~~

(1) The aeroplane is controllable in a pull-up manoeuvre up to 1.5 g load factor; and
(2) There is no pitch control force reversal during a pushover manoeuvre down to 0.5 g load factor.

CS 25.207 Stall warning

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(b) The warning must be furnished either through the inherent aerodynamic qualities of the aeroplane or by a device that will give clearly distinguishable indications under expected conditions of flight. However, a visual stall warning device that requires the attention of the crew within the cockpit is not acceptable by itself. If a warning device is used, it must provide a warning in each of the aeroplane configurations prescribed in subparagraph (a) of this paragraph at the speed prescribed in subparagraphs (c) and (d) of this paragraph. Except for showing compliance with the stall warning margin prescribed in subparagraph (h)(~~2~~3)(ii) of this ~~section~~ paragraph, the stall warning for flight in icing conditions ~~prescribed in paragraph (e) of this section~~ must be provided by the same means as the stall warning for flight in non-icing conditions. (See AMC 25.207(b))

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(h) For flight in icing conditions before the ice protection system has been activated and is performing its intended function, ~~the following requirements apply,~~ with the ice accretion defined in appendix C, part II(e), the stall warning margin in straight and turning flight must be sufficient to allow the pilot to prevent stalling without encountering any adverse flight characteristics when:

~~(1) If activating the ice protection system depends on the pilot seeing a specified ice accretion on a reference surface (not just the first indication of icing), the requirements of this section apply, except for paragraphs (c) and (d).~~

~~(2) For other means of activating the ice protection system, the stall warning margin in straight and turning flight must be sufficient to allow the pilot to prevent stalling without encountering any adverse flight characteristics when the speed is reduced at rates not exceeding 0.5 m/sec 2 (one knot per second) and the pilot performs the recovery manoeuvre in the same way as for flight in non-icing conditions.~~

~~(i) If stall warning is provided by the same means as for flight in non-icing conditions, the pilot may not start the recovery manoeuvre earlier than one second after the onset of stall warning.~~

~~(ii) If stall warning is provided by a different means than for flight in non-icing conditions, the pilot may not start the recovery manoeuvre earlier than 3 seconds after the onset of stall warning. Also, compliance must be shown with CS 25.203 using the demonstration prescribed by CS 25.201, except that the deceleration rates of CS 25.201(c)(2) need not be demonstrated.~~

(1) The speed is reduced at rates not exceeding 0.5 m/sec² (one knot per second);

(2) The pilot performs the recovery manoeuvre in the same way as for flight in non-icing conditions; and

(3) The recovery manoeuvre is started no earlier than:

(i) One second after the onset of stall warning if stall warning is provided by the same means as for flight in non-icing conditions; or

(ii) Three seconds after the onset of stall warning if stall warning is provided by a different means than for flight in non-icing conditions.

(i) In showing compliance with subparagraph (h) of this paragraph, if stall warning is provided by a different means in icing conditions than for non-icing conditions, compliance with CS 25.203 must be shown using the accretion defined in appendix C, part II(e). Compliance with this requirement must be shown using the demonstration prescribed by CS 25.201, except that the deceleration rates of CS 25.201(c)(2) need not be demonstrated.

Book 1

Subpart F – EQUIPMENT

SAFETY EQUIPMENT

CS 25.1419 Ice protection

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(e) One of the following methods of icing detection and activation of the airframe ice protection system must be provided:
(1) A primary ice detection system that automatically activates or alerts the flight crew to activate the airframe ice protection system; or
(2) A definition of visual cues for recognition of the first sign of ice accretion on a specified surface combined with an advisory ice detection system that alerts the flight crew to activate the airframe ice protection system; or
(3) Identification of conditions conducive to airframe icing as defined by an appropriate static or total air temperature and visible moisture for use by the flight crew to activate the airframe ice protection system.

(f) Unless the applicant shows that the airframe ice protection system need not be operated during specific phases of flight, the requirements of paragraph (e) of this section are applicable to all phases of flight.

(g) After the initial activation of the airframe ice protection system:
(1) The ice protection system must be designed to operate continuously; or
(2) The aeroplane must be equipped with a system that automatically cycles the ice protection system; or
(3) An ice detection system must be provided to alert the flight crew each time the ice protection system must be cycled.

(h) Procedures for operation of the ice protection system, including activation and deactivation, must be established and documented in the Aeroplane Flight Manual.

Book 1

Appendix C

Part II - Airframe Ice Accretions for Showing Compliance with Subpart B

(e) The ice accretion before the ice protection system has been activated and is performing its intended function is the critical ice accretion formed on the unprotected and normally protected surfaces before activation and effective operation of the ice protection system in continuous maximum atmospheric icing conditions. This ice accretion only applies in showing compliance to CS 25.143(j), ~~and~~ 25.207(h) and 25.207(i).