

agency proceeds with the normal public rulemaking procedures. Any ARAC participation in a rulemaking package is fully disclosed in the public docket.

Under this program, the FAA provides ARAC with an opportunity to review, discuss, and comment on the FAA's draft NPRM. In the case of this rulemaking, ARAC concurred with the draft NPRM, without changes.

Discussion of the Proposal

What Is the General Scope of the Proposal?

The scope of this proposal is to revise and reorganize the existing rules in 14 CFR part 25 to provide the following:

1. Clarification of the existing design requirements for doors.
2. Definitive criteria for the door design requirements that are covered in the existing rules by general text.
3. Additional fail-safe requirements and detailed door design requirements, based on the recommendations of the NTSB and the ATA, and on current industry practice.

What Definitions Apply to the Proposed Rule?

To understand the rest of this proposal, the following definitions are helpful:

A *latch* is a movable mechanical element that, when engaged, prevents the door from opening.

A *lock* is a mechanical element that monitors the latch position and, when engaged, prevents the latch from becoming disengaged.

Latched means the latches are fully engaged with their structural counterparts and held in position by the latch operating mechanism.

Locked means the locks are fully engaged.

Latching mechanism includes the latch operating mechanism and the latches.

Locking mechanism includes the lock operating mechanism and the locks.

Closed means the door has been placed within the doorframe in such a position that the latches can be operated to the "latched" condition.

Fully closed means the door is placed within the doorframe in the position that it will occupy when the latches are in the latched condition.

What Are the Specific Proposed Changes?

This action proposes changes mainly to § 25.783, "Doors." First, the title of § 25.783 would be changed from the current "Doors" to "Fuselage doors" to more accurately reflect the applicability of this revised section. The term

"doors," as used in this proposed revision of § 25.783, would also include hatches, openable windows, access panels, covers, etc., on the exterior of the fuselage that do not require the use of tools to open or close. This also would include each door or hatch through a pressure bulkhead, including any bulkhead that is specifically designed to function as a secondary pressure bulkhead under the prescribed failure conditions of 14 CFR part 25.

Other specific changes to § 25.783 are as follows:

Proposed Changes to § 25.783(a)

The format and portions of the text of paragraph (a) would be totally revised. The proposed text would describe the types of doors to which this section of the regulations is applicable, and would clarify the fact that the requirements apply to the unpressurized portions of flight as well as to pressurized flight.

Proposed paragraph (a) also would provide the general design requirements for doors. These general design requirements are not substantively different from the requirements contained in existing § 25.783. A reference to the locking requirements in § 25.607 ("Fasteners") would be included in paragraph (a). Experience has shown that it is advisable to add this reference to ensure that these requirements are not overlooked during the door design process. One provision of this proposed requirement, which is new, would require the removal of all power that could initiate the unlatching and unlocking of the door during flight. It is based on NTSB Safety Recommendation A-92-21, discussed previously.

Proposed Changes to § 25.783(b)

Paragraph (b) would be revised to require safeguards against both inadvertent and deliberate opening of doors during flight. It would clarify the existing requirement that doors must be prevented from opening inadvertently (that is, not deliberately, and without forethought, consideration, or consultation) by people on board the airplane during flight. The intent of this requirement is to protect both the passenger and the airplane from hazards resulting from the unintentional actions by persons on board.

In addition, the proposal would make it clear that the door must be safeguarded against the deliberate opening during flight by persons on board. The proposed text requires that the possibility of deliberate opening be minimized. The intent of this requirement is that, for doors in pressurized compartments, it should not

be possible to open the doors after takeoff, when the compartment is pressured to a significant level. (During approach, takeoff, and landing when compartment differential pressure is lower, intentional opening may be possible; however, during these short phases of the flight, all passengers are expected to be seated with seat belts fastened. The exposure to deliberate opening would therefore be minimized.) Further guidance on this subject is given in draft Advisory Circular 25.783-1X, discussed later in this document.

Further, for doors that can be opened under significant cabin pressure, or for doors in non-pressurized airplanes, the use of an auxiliary securing means, such as speed-activated or barometrically-activated devices, may be necessary. Paragraph (b) would require that, if auxiliary devices are used, they must be designed so no single failure or malfunction could prevent more than one exit from opening. Past interpretations of existing paragraph (f) have resulted in this type of design requirement being applied to type certification projects.

Proposed Changes to 25.783(c)

Paragraph (c) would restate the existing requirements of paragraph (f) for a provision to prevent the airplane from becoming pressurized if the door is not fully closed, latched, and locked. The current requirement states:

External doors must have provisions to prevent the initiation of pressurization of the airplane to an unsafe level if the door is not fully closed and locked * * *

However, this proposal would remove the phrase, "the initiation of" from this text because it is inconsistent and confusing with regard to a common method of preventing pressurization that employs vent doors. Mechanical vent doors allow the pressurization system to initiate and a small amount of pressure may exist as the air flows through the vents. The revised text would correct this inconsistency. It also would allow for certain types of doors that:

- Can safely and reliably act as their own venting mechanism when not fully closed and latched; or
- Would automatically close and latch, as appropriate to the door design, before an unsafe level of pressure is reached.

For these doors without an independent means, the assessment for a safe and reliable closing would include consideration of single failures and adverse conditions, such as debris in the doorway.