



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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**Subject:** Installation of Physical Secondary  
Barriers for Transport Category Airplanes

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**Date:**  
**Initiated By:** AIR-600

**AC No:** 25.795-10

This advisory circular provides an acceptable means of showing compliance with the requirements of paragraph (a)(4) of title 14, Code of Federal Regulations (14 CFR) 25.795, *Security Considerations*, at amendment 25-150. Section 25.795(a)(4) requires installation of a physical secondary barrier that protects the flightdeck in certain transport category airplanes.

If you have suggestions for improving this AC, you may use the [Advisory Circular Feedback Form](#) at the end of this AC.

DANIEL J.  
ELGAS

Digitally signed by DANIEL J.  
ELGAS  
Date: 2023.06.27 15:40:58  
-04'00'

Victor Wicklund  
Acting Director, Policy & Standards Division  
Aircraft Certification Service

## 1 **PURPOSE.**

- 1.1 This advisory circular (AC) provides an acceptable means of showing compliance with the requirements of § 25.795(a)(4). Section 25.795(a)(4) requires installation of a physical secondary barrier in order to delay intrusion into the flightdeck.

## 2 **APPLICABILITY.**

- 2.1 The guidance in this AC is for airplane manufacturers, modifiers, foreign regulatory authorities, and Federal Aviation Administration (FAA) engineers, managers, and designees.
- 2.2 The contents of this document do not have the force and effect of law and are not meant to bind the public in any way, and the document is intended only to provide information to the public regarding existing requirements under the law or agency policies. Conformity with the guidance is voluntary only and nonconformity will not affect rights and obligations under existing statutes and regulations. The FAA will consider other methods of demonstrating compliance that an applicant may elect to present. Terms such as “should,” “may,” and “must” are used only in the sense of ensuring applicability of this particular method of compliance when the acceptable method of compliance in this document is used. If the FAA becomes aware of circumstances in which following this AC would not result in compliance with the applicable regulations, and we may require additional substantiation as the basis for finding compliance.
- 2.3 This material does not change, create any additional, authorize changes in, or permit deviations from existing regulatory requirements.

## 3 **RELATED DOCUMENTS.**

### 3.1 **Regulations.**

The following 14 CFR regulations are referenced in this AC. You can download the full text of this regulation at the [U.S. Government Printing Office e-CFR](https://www.ecfr.gov/) website. You can also order a paper copy by sending a request to the U.S. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-0001; by calling telephone number (202) 512-1800; or by sending a request by facsimile to (202) 512-2250.

- Section 25.301, *Loads*.
- Section 25.365, *Pressurized Compartment Loads*.
- Section 25.772, *Pilot Compartment Doors*.
- Section 25.795, *Security Considerations*.
- Section 25.803, *Emergency Evacuation*.
- Section 25.813, *Emergency Exit Access*.

- Section 25.815, *Width of Aisle*.
- Section 25.1411, *General*.
- Section 25.1447, *Equipment Standards for Oxygen Dispensing Units*.
- Section 25.1541, *General*.
- Section 121.584 of 14 CFR at amendment 121-389.

### 3.2 **Advisory Circulars.**

The following ACs are related to the guidance in this AC. The latest version of each AC at the time of publication of this AC is identified below. If any AC is revised after publication of this AC, you should refer to the latest version for guidance, which can be downloaded from the Internet at [www.faa.gov/regulations\\_policies/advisory\\_circulars](http://www.faa.gov/regulations_policies/advisory_circulars).

- AC 25-17A, Change 1, *Transport Airplane Interiors Crashworthiness Handbook*, dated May 24, 2016.
- AC 25.795-1, *Flightdeck Intrusion Resistance*, dated October 24, 2008.
- AC 120-110A, *Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures*, dated June 1, 2023.

### 3.3 **Reports.**

*Recommendation Report to Aviation Rulemaking Advisory Committee for Implementation of Section 336 of P.L. 115-254*, dated February 20, 2020.

## 4 **DEFINITION.**

### 4.1 **Installed Physical Secondary Barrier (IPSB).**

For the purposes of this AC, an IPSB (or “assembly”) consists of the following parts: barrier, operating mechanisms (e.g. hinges, sliding rails, etc.), operation contacts (such as handles and knobs), miscellaneous hardware and closures, and the barrier frame (including the header and jamb structures plus the attachment to the surrounding airplane structure).

## 5 **BACKGROUND—IPSB.**

- 5.1 Section 336 of The FAA Reauthorization Act of 2018 directed the Administrator to require installation of a secondary cockpit barrier on each new airplane manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121.
- 5.2 A small number of U.S. air carriers have been installing IPSBs, on a voluntary basis, on a portion of their fleets. The FAA approved these installations on the basis of requirements in place at the time, which did not include any performance standards for the IPSB itself other than § 25.1301(a). With the adoption of amendments 25-150 and

121-389, IPSB installations on newly manufactured airplanes as of August 25, 2025 need to meet additional performance requirements in order to be approved.

## 6 GENERAL GUIDANCE APPLICABLE TO § 25.795(a)(4).

- 6.1 The guidance in this AC, like the rule, is based on the FAA's assumption that any IPSB will only be deployed for a short amount of time. Therefore, the only requirement that this AC provides a means of compliance with when the IPSB is deployed is § 25.795(a)(4). Other requirements in part 25 that address, for example, evacuation or other issues where the IPSB is expected to be stowed, do not need to be assessed with the IPSB deployed. As noted in the preamble to the rule, this includes the pressurized compartment loads required by § 25.365, the crash loads of § 25.561, the emergency evacuation requirements of § 25.803, and the aisle width requirements of § 25.815. Section 25.795(a)(4) requires the IPSB to provide physical resistance to a person attempting to pass through the IPSB, when it is deployed, and when the flightdeck door is open. The specific ways a person might attempt to pass through the IPSB will be dependent on the design, but are assumed to include the use of force; thus the rule contains several requirements to resist specific amounts of force.
- 6.2 An IPSB meets the regulatory requirement to “resist intrusion” if it has these three attributes:
1. It must be “physical,” rather than simply procedures;
  2. it must be a “barrier,” in that it occupies sufficient space that it cannot be avoided by going over, under, or around it. To meet the method set forth in this AC, a range of occupants from a 5<sup>th</sup> percentile female to a 95<sup>th</sup> percentile male should be considered; and
  3. the IPSB must provide an impediment to physical force, in the event a person tries to overcome (go through) the IPSB. As part of this capability, the IPSB should operate in a manner that cannot be immediately opened by means such as throwing a bolt or turning a latch.
- 6.3 Having a door opening mechanism with a 5 second delay (i.e., it takes 5 seconds for the mechanism to operate) would also not be an acceptable means of compliance, unless a formal safety analysis, considering all potential failure modes demonstrates that this is a reliable method.
- 6.4 This AC contains information on test methods and means of compliance with the requirements of § 25.795(a)(4). Some of the associated test methods are contained in RTCA<sup>1</sup> DO-329. The test methods contained in these documents may be used to demonstrate the tested part, assembly, or installation satisfies the requirements of the rule.

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<sup>1</sup> RTCA, formerly known as the Radio Technical Commission for Aeronautics.

## 7 ACCEPTABLE METHODS OF COMPLIANCE FOR PARTS, ASSEMBLIES, AND INSTALLATION.

- 7.1 Section 25.795(a)(4) applies to the airplane design and therefore to the parts, assemblies, and installations that make up the design. This does not mean the actual installation must be tested to substantiate it to the regulatory requirements. In some cases, a test of the detail parts or assemblies may be sufficient to certify the installation.

## 8 INSTALLED PHYSICAL SECONDARY BARRIERS (IPSB).

### 8.1 General.

Section 25.795(a)(4) is intended to protect the flightdeck from unauthorized intrusion when the flightdeck door is open.

### 8.2 Static Loads Intrusion Resistance.

The IPSB must be designed to resist intrusion. Experience has shown that a 250 pound pull load and a 600 pound push load is foreseeable in this regard, and therefore the rule requires the IPSB to resist those static loads at the most critical locations. Such critical locations should be determined by a critical assessment of the design, but should always include the IPSB center and IPSB latch area.

### 8.3 Visual Situational Awareness.

To facilitate compliance with the requirement for line-of-sight visibility, the applicant may wish to design the IPSB to be transparent. The transparency can be accomplished via a transparent material or open space created by intermittent structural features, such as slats, gaps, or bars, in the IPSB.

### 8.4 Reach Requirements.

As noted above, the design of the IPSB may incorporate openings in order to provide the aforementioned visual situational awareness requirement. Thus, new § 25.795(a)(4) requires that the IPSB prevent a person from reaching through the barrier and touching the opened flight deck door. When reviewing proposed showings of compliance with anthropometric standards, the FAA and applicants have typically interpreted the word “person” as a range of human sizes, from a 5th percentile female to a 95th percentile male. In this case, however, larger individuals will likely also have larger arms, which would be less likely to fit through openings in the IPSB. Thus, the FAA plans to accept a simpler method of showing compliance. If the slats, bars or other intermittent structural features leave no more than a 2-inch gap between them, then an applicant can show compliance with this reach requirement using the arm-reach of a 50th percentile male.<sup>2</sup> Proposed designs that incorporate greater than 2-inch openings will likely need to show a commensurately longer distance to the opened door, to maintain the same level of protection.

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<sup>2</sup> Data for a 50<sup>th</sup> percentile male can be found in the “National Health and Nutrition Examination Survey,” produced by the Centers for Disease Control and Prevention and available at <https://wwwn.cdc.gov/nchs/nhanes/default.aspx>, and “The Measure of Man and Woman: Human Factors in Design,” Henry Dreyfuss Associates (Rev. Ed. 2002).

**8.5 IPSB Jamming.**

The IPSB is only deployed for short durations to allow the flightcrew to egress from the flightdeck, and is required to be placarded to be stowed for taxi, take-off, and landing by § 25.1541(b)(1). Therefore, it is not at risk of becoming jammed in the deployed position during landing, and the applicant need not consider such jamming when substantiating the airplane to the requirements of § 25.772.

**8.6 Pressurized Compartment Loads.**

Since the IPSB is only deployed during door transitions, and is stowed at all other times, only the stowed configuration needs to be evaluated for pressurized compartment loads in accordance with § 25.365.

**8.7 Placarding.**

Section 25.1541, *General*, requires that transport category airplanes contain the specified markings and placards, and any additional information and placards required for safe operation. Due to the intended function of the IPSB, operating instructions of the IPSB should be in the operating manuals for the cabin crew and not in a placard installed on the airplane. The means to operate the IPSB locking mechanism should not be placarded. Other required placards, such as, “Stow When Not In Use” and “Crew Use Only,” or equivalent must be installed in a conspicuous location as required by § 25.1541(b)(1).

**8.8 Emergency Access.**

There should be a means to provide emergency access to the flightdeck, when the IPSB is deployed and subsequently fails to stow. The means to provide access to the flightdeck must not violate the requirements of § 25.795(a)(4).

**8.9 Other Barriers.**

In the event that an operator chooses to use an IPSB to serve some additional function, (e.g., as a privacy barrier in which the IPSB would be maintained in the deployed position rather than for short-duration necessary crew activities), the guidance of this AC may not cover all of the necessary compliance requirements. The requirements for an IPSB used for additional functions, such as a privacy divider, will need to be evaluated by the FAA separately from, and in addition to, the means provided this AC.

**9 TESTING**

This section describes acceptable test methods for demonstrating compliance with the flightdeck door requirements of § 25.795(a)(4). Alternative methods may also be used if shown to satisfactorily demonstrate compliance with the requirements of § 25.795(a)(4). Any mandatory language, such as “must,” in this section is only to indicate a requirement to satisfy the means of compliance provided by this section, and section 10, of this AC.

## 9.1 **Test Equipment.**

The test equipment used to apply the required static push and pull loads must be capable of attaching to the IPSB and providing the required load without slippage. The equipment may be hydraulic or mechanical and must include a load cell, strain gauge, or other calibrated load-measuring device. If weights are used to apply load, account for the 1-g load due to gravity with the fixture or show that this would not have an influence on the test results.

## 9.2 **Assembly Support Fixture.**

The fixture for tests must consist of representative airplane framing members and representative wall structure, providing rigid, transverse restraint around the periphery of the assembly. The restraint provided by this fixture must simulate the rigidity provided in the airplane by the ceiling, floor, and walls, including the IPSB installation. The test-panel fixture should not provide a significant increase in damping or energy absorption compared to the airplane configuration. That is, the fixture should not artificially contribute to the performance of the IPSB.

## 9.3 **Test Preparation.**

The assemblies to be tested, including the IPSB, must consist of all relevant components, such as doorknobs or handles, locks, jambs, hinges, grills, etc. Attach and orient these assemblies to the assembly support fixture, as they will be installed in the airplane, with the push/pull loading mechanism on the passenger cabin side.

### 9.3.1 Ambient test conditions.

9.3.1.1 Temperature:  $21\text{ }^{\circ}\text{C} \pm 2.9\text{ }^{\circ}\text{C}$  ( $70\text{ }^{\circ}\text{F} \pm 5\text{ }^{\circ}\text{F}$ );

9.3.1.2 Relative humidity:  $50\% \pm 20\%$ ; and

9.3.1.3 No additional environmental effects need be considered for the test.

### 9.3.2 Test specimens.

9.3.2.1 The test specimens must be manufactured using the materials and manufacturing processes used for production parts. A sufficient number of specimens must be provided by the applicant to accomplish all tests. Test specimens must be conditioned to ambient conditions for at least 24 hours prior to testing unless the materials used are shown to be insensitive to variations in temperature and humidity.

## 9.4 **Test Procedures.**

### 9.4.1 Installed Physical Secondary Barrier loading Test.

9.4.1.1 Prepare the test specimen in accordance with section 9.3 of this AC, and lock the IPSB in the deployed position. Set up the IPSB loading mechanism so that its axis is horizontal to the ground and perpendicular to

the face of the IPSB. The load should be applied at the IPSB center and IPSB latch as well as at any point determined to be critical for door strength and distortion from loading, accounting for door design and load reaction points.

- 9.4.1.2 Apply a minimum load of 600 pounds, in the direction of the flightdeck, to the IPSB center and IPSB latch area as well as any area where an IPSB design weakness could be exploited, for three seconds.

#### 9.4.2 Pull Test.

- 9.4.2.1 Prepare the test specimen in accordance with section 9.3 of this AC, and lock the IPSB in the deployed position. Attach the tension-loading device to the IPSB by a means that require only minimum alteration, if any, of the IPSB (i.e., friction devices, drilling holes, or cutting slots) ensuring that it will not slip during the test.

- 9.4.2.2 Apply a minimum tensile load of 250 pounds, in the direction of the passenger cabin (for hinged doors) or the direction of the IPSB opening (for pocket doors), to the IPSB center and IPSB latch area as well as any other feature that could be pulled, if it is more critical, for three seconds.

#### 9.4.3 Ingress Test.

- 9.4.3.1 After application of the loads specified in §§ 9.4.1.2 and 9.4.2.2, a test subject with knowledge of the IPSB operating (normal and emergency) methods should attempt to gain access to the flightdeck door as quickly as possible. Simple tools, as listed on the Transportation Safety Administrations list of permissible carry on items, may be used in this test. The time starts when the test subject makes first contact with the IPSB and stops once they have their hand on the flightdeck door.

## 10 **PASS/FAIL CRITERIA.**

- 10.1 The assembly fails a test if one or more of the following occurs:
- 10.1.1 The IPSB is opened during the push or pull test.
- 10.1.2 The IPSB fails in a manner that allows a person to touch the flightdeck door within 5 seconds from the time they make first contact with the IPSB. Such disqualifying entry may be through removable panels on the IPSB or gaps formed as a result of the loading.
- 10.1.3 The IPSB latching mechanism fails or reacts in a manner that enables the IPSB to be opened within 5 seconds from the time a person make first contact with the IPSB, including failure resulting from the use of simple tools, such as pocketknives, nail files, or keys.



## Advisory Circular Feedback

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If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) emailing this form to ([9-AWA-AVS-AIR-DMO@faa.gov](mailto:9-AWA-AVS-AIR-DMO@faa.gov)) or (2) faxing it to the attention of the LOB/SO \_\_\_\_\_ N/A \_\_\_\_\_.

Subject: \_\_\_\_\_

Date: \_\_\_\_\_

*Please mark all appropriate line items:*

An error (procedural or typographical) has been noted in paragraph \_\_\_\_\_ on page \_\_\_\_\_.

Recommend paragraph \_\_\_\_\_ on page \_\_\_\_\_ be changed as follows:

In a future change to this AC, please cover the following subject:  
*(Briefly describe what you want added.)*

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_