

**Exemption No. 9813**

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
RENTON, WASHINGTON 98057-3356**

In the matter of the petition of

**Enflite, Inc.**

for an exemption from § 25.813(e) of Title  
14, Code of Federal Regulations

**Regulatory Docket No. FAA-2008-1133**

**PARTIAL GRANT OF EXEMPTION**

By letter dated October 17, 2008, Mr. Ken Arnold, Quality Assurance Manager, Enflite, Inc., 105 Cooperative Way, Georgetown, Texas, 78626, petitioned the Federal Aviation Administration (FAA) for an exemption from § 25.813(e) of Title 14, Code of Federal Regulations (14 CFR). This exemption, if granted, would permit relief from the requirement that no interior doors be installed between passenger compartments on Dassault Aviation, Models Falcon 2000 and 2000EX aircraft. The proposed exemption is specifically for the installation of an executive interior on Dassault Aviation, Models Falcon 2000 and 2000EX aircraft, designated as private/corporate airplanes.

**The petitioner requests relief from the following regulation:**

**Section 25.813(e), Amendment 25-46** - No door may be installed in any partition between passenger compartments.

**The petitioner supports their request with the following information:**

This section summarizes the petitioner's request. Their complete petition is available at the Department of Transportation's Federal Document Management System, is on the Internet at <http://www.regulations.gov>, in Docket No. FAA-2008-1133.

The petitioner requests exemption from 14 CFR 25.813(e) to install doors in partitions between passenger compartments of the above-referenced airplanes, which are registered in the US and used for private/corporate transport. Enflite proposes alternative design requirements to provide an equivalent level of safety appropriate to the operation of such airplanes equipped with doors in cabin partitions.

Enflite requests relief from the standard public-comment period because a public-comment period was applied for the same exemption for another Bombardier BD700-1A10 airplane, with no comments received.

The Falcon 2000 and 2000EX, when configured for private/corporate operations, have the same passenger cabin size, layout, and type of interior. The Falcon 2000EX is a derivative of the Falcon 2000 and both are on Type Certificate No. A50NM.

The petitioner states that the airworthiness standards for transport-category airplanes were primarily written for airplanes with seating capacities of up to 500, used to carry fare-paying passengers. The Falcon 2000 and 2000EX, however, are type certified for a maximum of 19 passengers, and outfitted exclusively for private/corporate use. Enflite contends that airplanes specifically designed for corporate service, whether private or charter, should be eligible by exemption for certain cabin features and facilities which do not comply with the full requirements of 14 CFR part 25, provided an equivalent level of safety is provided and can be demonstrated.

The petitioner states that aircraft specifically designed and outfitted for private/corporate operation generally carry passengers who are very familiar with the specific aircraft on which they travel. The crew of a corporate aircraft has day-to-day contact with their private/corporate passengers, thus simplifying and reinforcing communication about safety procedures and concerns. These aircraft are generally operated continuously by a limited number of crewmembers who are intimately familiar with the specific aircraft involved, further enhancing the safety environment. The petitioner believes that these factors provide a level of safety not easily achieved in air carriers. Thus, Enflite contends, air carriers require a more complete set of regulatory safety features to achieve the same result. Enflite has incorporated mechanical features in its cabin-door design which, they believe, will enhance the safety of the Falcon 2000 and 2000EX aircraft equipped with a partition and door dividing the passenger seating area.

### **Description of the aircraft, partition, and door**

1. The cabin of the subject airplanes is approximately 7 feet wide. A side corridor is impractical so, to produce a private area, it is necessary to divide the cabin full-width laterally. Installed doors would be sliding pocket doors, which retract into the partition on one side of the cabin. The doors require a retracting footer because, with a cabin head-room of 6 feet, the door must slide downward and tangential to the fuselage contour. The door is frangible, capable of being broken open by a 5<sup>th</sup> percentile female in an emergency. It would have blow-out capability for decompression. Because the partition and door are installed so that passengers could be seated forward or aft of them, the door is designed to be frangible in either direction, allowing access to emergency exits in front of or behind the partition and door.
2. Partitioning the seating area with a door installed would allow one section of passenger-seating area to be used as a private office or bedroom during long flights. Proposed door(s) would have a placard requiring they be open for takeoff and landing.

3. Door(s) would have two ways of being locked in the open position. The probability of unlocking because of distortion of the fuselage in an emergency landing would be remote. Either locking means alone will be capable of supporting the inertia loads specified in 14 CFR 25.561.
4. The doors will be equipped with a means to signal the flight crew, via a remote indicator, when the door is stowed or not stowed.
5. The emergency-exit sign requirements will be addressed separately to ensure that the level of passenger guidance required to find an exit is provided. Due to differences between the individual airplanes' interior arrangements, the level of guidance will be customized on each aircraft.
6. The passenger-information card will contain a section describing the action of the partition door, the emergency features it includes, and instructions for latching the door open for takeoff and landing.

The petitioner believes that the safety features described above ensure a clear path through any partition to an emergency exit. If some extreme condition should result in a door being closed or partially closed after an accident, the design provides simple, failsafe means to get through the door and reach an exit. The frangibility feature will be tested using a 5<sup>th</sup> percentile female. The resulting aperture will be demonstrated to be large enough to allow a 95<sup>th</sup> percentile male to pass through.

The petitioner believes that the above features address the basic issues involved in a passenger finding and reaching an exit in an emergency. The petitioner presented additional safety parameters inherent in corporate operation, and maintains that the exemption, as requested, would provide a level of safety for passengers on a Falcon 2000 or 2000EX that is equal to that required for commercial carrier aircraft.

### **Public interest**

Enflite believes that the design of the Falcon 2000 and 2000EX pocket door, with its combination dual-latchable sliding door and cabin partition, meets or exceeds the level of safety required by 14 CFR 25.813(e) because it permits absolute access by all passengers to all of the aircraft's normal and emergency exits. Enflite believes that the restrictions of § 25.813(e) were primarily aimed at large, commercial, transport-category aircraft used in part 121 operations. Enflite states that, unlike passengers in those larger aircraft, all Falcon 2000 and 2000EX passengers are only steps away from the nearest emergency exit.

Enflite believes that installation of the combination dual-latchable sliding door and cabin partition is in the public's best interest because it permits the conduct of important business meetings which, because of their sensitivity, require privacy. The petitioner contends that an enormous amount of commercial activity occurs on board the US general-aviation fleet and that such commercial activity, including private business meetings, where important commercial decisions are made, is vital to maintaining the competitiveness and overall strength of the US

economy. Sick or infirm passengers can be more-comfortably transported with the divided cabin configuration as well.

Enflite previously received Exemption 9676 for the Bombardier Models BD-700-1A10, BD-700-1A11 and all CL-600 variants (Regulatory Docket No. FAA-2007-28817). The BD-700-1A10, BD-700-1A11, and CL-600 airplanes with the Enflite pocket-door installation are direct competitors with the Falcons 2000 and 2000EX. Enflite states that denial of this petition would put Enflite and its customer, Dassault Falcon Jet, at a competitive disadvantage in the general aviation marketplace for executive aircraft sales. This would not only be unfair, contends Enflite, but would have a detrimental effect on the welfare of:

- Enflite’s Texas and Washington workforce (almost 330 strong)
- its customer, Dassault Falcon Jet (almost 2000 strong), in Little Rock, Arkansas, and Teterboro, New Jersey
- hundreds of vendors across the country who supply parts and labor in connection with the sales of Enflite and Dassault Falcon Jet products

### **Federal Register publication**

No summary of this petition was published in the Federal Register. The nature of this exemption is effectively identical to those of previous petitions for which no public comments were received.

### **The FAA’s analysis**

We consider the petitioner’s proposal to be in the public interest for the same reasons as those previously stated by the petitioner.

We note that the petitioner has used the terminology “private/corporate use” in their petition for exemption. We further note that the applicant contends that airplanes specifically designed for corporate operations, whether private or charter, should be eligible by exemption for certain cabin features and facilities which do not comply with the full requirements of 14 CFR, part 25. While the FAA has granted exemptions to allow the installation of doors between passenger compartments, there has been an explicit limitation that the airplanes are only to be operated in “private use,” that is, not-for-hire, not-for-common-carriage. It is our intent to continue the application of that limitation to this petition as well.

As increasing numbers of transport-category airplanes have been configured (or re-configured) for private, not-for-hire, not-for-common-carriage use, we have given considerable attention to the issue of appropriate regulation of such airplanes. Some of the current regulations governing design certification of transport-category airplanes are not compatible with operators’ desire to use these airplanes for private-use, not-for-hire, not-for-common-carriage operations. As a result, we have received a number of petitions for exemption from certain regulations. We have granted such exemptions when we find that to do so is in the public interest and does not adversely affect the level of safety provided by the regulations. We published a notice of proposed rulemaking, Notice No. 07-13, “Special Requirements for Private Use Transport Category Airplanes” (72 FR

38732, July 13, 2007), which, if issued, will eliminate the need for case-by-case review of individual petitions for exemption.

## **Interior Doors**

The placement of interior doors is clearly quite significant to the owner/operator of the private- or corporate-use airplane. Operators consider availability of private meeting rooms and bedrooms to be essential. Therefore, flexibility to partition the airplane into individual rooms or compartments, such as private meeting rooms or bedrooms, is paramount to an acceptable interior. We acknowledge the desirability of these features from the operator's point of view.

When the regulations pertaining to interior doors were adopted, they did not necessarily consider "rooms." They considered two possible types of interior doors in a passenger compartment: an interior door between passenger compartments, and one between the exit and the passenger compartment.

Until recently, only the first type of door was prohibited by § 25.813(e). But now part 25, as amended by Amendment 25-116, prohibits interior doors between the exit and the passenger compartment. In addition, Amendment 121-306 prohibits these doors in airplanes operated under 14 CFR part 121 that were manufactured after November 27, 2006. Amendments 25-116 and 121-306, titled "Miscellaneous Cabin Safety Changes," were published in the Federal Register on October 27, 2004.

It is beyond the scope of this exemption to permit operation in part 135. Any interior door installed would be required to be deactivated (requiring tools and a maintenance action to reactivate it) for it to be considered for operation in part 135 service.

For airplanes configured for private use, i.e., not-for-hire, not-for-common carriage, passenger cabins may contain one of five different categories of doors.

**Category 1.** A door in a room and the room is less than the full width of the airplane. An aisle is on the outside of the room. This type of room may be occupied during takeoff and landing, and only the occupants of the room must use the door to reach an exit.

**Category 2.** A door in a room and the same as Category 1, except a single emergency exit or pair of emergency exits is within the room.

**Category 3.** A door or doors in a compartment and the compartment is the full width of the airplane. There are passengers seated on both sides of the door(s) and the main aisle leads out of or passes through the compartment. The compartment does not have any emergency exits. This type of compartment may be occupied during takeoff and landing.

**Category 4.** A door in a room and the room is the full width of the airplane. Passengers are seated on both sides of the door, and there is a pair of emergency exits is at one end. This type of room may be occupied during takeoff and landing.

**Category 5.** A door in a room and the room may or may not be full width of the airplane. This type of room is not occupied during takeoff and landing. This room is occupied only during flight. Passengers are not seated on both sides of the door. Passengers seated in taxi, takeoff, and landing seats must not need to pass through this door to get to any emergency exits.

Because not all interior doors between passenger compartments are equivalent, we have determined that the following requirements produce an adequate level of safety:

1. To maximize the level of safety, doors in Category 2, 3, or 4, installed across the main cabin aisle, must open and close in a transverse direction. That is, the direction of motion of the door must be at a right angle to the longitudinal axis of the airplane. A “pocket door” is one example of such a design. This tends to minimize the chance that the inertia forces of an accident could force the door closed.
2. Redundant means are necessary to latch doors open for takeoff and landing. Each latching means must have the capability of retaining the door in the takeoff and landing position under the inertia forces of § 25.561.
3. Each interior door must be frangible, in the event that it is jammed in the closed position in flight or during taxi, takeoff, or landing. Frangibility is intended to ensure that if a door is jammed closed, occupants can escape in either direction and emergency equipment can be moved. Frangibility may be demonstrated in either of the following ways:
  - A 5<sup>th</sup> percentile female can break through the door, creating a large enough opening that a 95<sup>th</sup> percentile (or larger) male can pass through. (See Advisory Circular 25-17, “Transport Airplane Cabin Interiors Crashworthiness Handbook,” paragraph 43b(2)).
  - A 5<sup>th</sup> percentile female can break a hinge on the door, or a hinge on a smaller door within the door, such that the door can swing open to allow a 95<sup>th</sup> (or larger) percentile male to pass through the opening with the door swung open. This evaluation must be made with any cabin furnishing or equipment installed that could limit the swing-arc of the door and which is placed in the most adverse position. In using this approach, one must consider the possibility that the door is physically jammed in the closed position by distortion of the fuselage or furnishings. This possibility must be considered even if the door normally translates into the open and closed positions.
4. Doors in Category 1 must be in the open position during taxi, takeoff, and landing, only when the room is occupied.
5. Doors in Categories 2, 3, or 4 must be in the open position during taxi, takeoff, and landing, regardless of occupancy.
6. Doors in Category 5 must be in the closed position during taxi, takeoff, and landing.

With respect to the possibility that a door will remain closed when it should not be, we have determined that a higher level of awareness is required to address this issue. Due to the relative complexity of the cabin interior, we have determined that inspection by flight attendants prior to takeoff and landing is not sufficient to verify that interior doors are in the proper position. Consequently, some type of remote indication is considered necessary. The petitioner's proposal to provide remote indication to the flightcrew is considered adequate.

### **The FAA's decision**

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator, I grant Enflite, Inc. an exemption from 14 CFR 25.813(e) to the extent necessary to allow installation of an executive interior on private use, not-for-hire, not-for-common-carriage, Dassault Aviation, Models Falcon 2000 and 2000EX airplanes. Specifically, the exemption allows relief from the requirement that no interior doors be installed between passenger compartments. This exemption is subject to the following conditions. Provisions 1, 3, 4, 5, 6 and 9 must be documented as operating limitations in the limitations section of the Airplane Flight Manual.

1. The airplane must not be operated for hire or offered for common carriage. This provision does not preclude the operator from receiving remuneration to the extent consistent with 14 CFR parts 125 and 91, subpart F, as applicable.
2. Each door between passenger compartments must be frangible.
3. Doors in Category 1 must be in the open position during taxi, takeoff, and landing, when the room is occupied or when passengers must pass through the room to reach an emergency exit.
4. Doors in Categories 2, 3, and 4 must be in the open position during taxi, takeoff, and landing, regardless of occupancy of the room.
5. Doors in Category 5 must be in the closed position during taxi, takeoff, and landing.
6. Appropriate procedures must be established to signal the flightcrew that a door between passenger compartments is closed, and to prohibit takeoff or landing when a door between passenger compartments is not in the proper position.
7. Doors between passenger compartments must have dual means to retain them in the open position. Each means must be capable of withstanding the inertia loads specified in § 25.561.
8. Doors in Categories 2, 3 and 4 that are installed across a longitudinal aisle must translate laterally to be opened and closed.

9. Any interior door installed must be deactivated so that it would require tools and a maintenance action in order to reactivate it, for the aircraft to be considered for operation in part 135 service.

Issued in Renton, Washington, on January 30, 2009

/s/

Stephen P. Boyd  
Acting Manager, Transport Airplane Directorate  
Aircraft Certification Service