

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

In the matter of the petition of

Cessna Aircraft Company

for an exemption from § 25.1447(c)(1) of
Title 14, Code of Federal Regulations

Regulatory Docket No. FAA-2015-0449

PARTIAL GRANT OF EXEMPTION

By letter dated February 16, 2015, Mr. Brian Richardet, Airworthiness Manager, Cessna Aircraft Company, One Cessna Boulevard, Wichita, Kansas, 67277-7704, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of § 25.1447(c)(1) of Title 14, Code of Federal Regulations (14 CFR). This exemption, if granted, would permit relief from the requirement that oxygen dispensing units must be automatically presented to occupants before the cabin pressure altitude exceeds 15,000 feet on Cessna Model 750 airplanes.

The petitioner requests relief from the following regulation(s):

Section 25.1447(c)(1) requires, in pertinent part, that there must be an oxygen-dispensing unit connected to oxygen-supply terminals immediately available to each occupant, wherever seated. If certification for operation above 30,000 feet is requested, the dispensing units providing the required oxygen flow must be automatically presented to the occupants before the cabin-pressure altitude exceeds 15,000 feet, and the crew must be provided with a manual means to make the dispensing units immediately available in the event of failure of the automatic system.

The petitioner supports its request with the following information:

This section quotes the relevant information from the petitioner's request, with minor edits for clarity. The complete petition is available at the Department of Transportation's Federal Docket Management System, on the Internet at <http://regulations.gov>, in Docket No. FAA-2015-0449.

Background

Cessna Aircraft Company requests an exemption from the portion of § 25.1447(c)(1) that requires the oxygen dispensing units to be automatically presented to the occupants before the cabin pressure altitude exceeds 15,000 feet.

The present aircraft uses Transport Airplane Directorate equivalent level of safety (ELOS) memo TC0002WI-T-SG-8 to address suppression of the 10,000 foot cabin pressure altitude warning required by § 25.841(b)(6) when operating to and from airports with a field elevation between 8,000 and 14,000.

To avoid nuisance oxygen mask deployments when operating to and from airports with a field elevation greater than 14,000 feet, an exemption is requested to allow use of an “Elevation > 14K” button to shift the oxygen mask deployment altitude to $15,750 \pm 250$ feet. (The petitioner incorrectly referred to cabin altitude *warning* at *14,700 feet* in this paragraph. We corrected this erroneous information based on the entirety of the petition.)

The Petitioner Supports its Request with the Following

China currently has four airports with elevations in excess of 14,000 feet, including Daocheng Yading Airport at 14,472 feet. It is requested that the aircraft be capable of operations at these and other airports with field operations above 14,000 feet (with anticipated barometric pressure variations) and up to 15,000 feet. In order for the Model 750 Citation X+ to provide the additional capability for operation at these airports, the cabin pressure control system (CPCS) and passenger oxygen control system (POCS) will be modified to allow the cabin pressure altitude to reach as high as $15,150 \pm 150$ feet. Manual control of the oxygen system is not affected and can be activated at any time the crew deems necessary.

Public Interest Statement

Cessna’s leadership position in the global business jet market is due to the efforts of its nearly 8,000 employees in manufacturing plants, completion centers, and service centers across the United States. This further includes the many vendors located across the United States that provide the numerous aircraft pieces such as avionics, oxygen components, as well as the modified CPCS components that would be used for the aircraft to operate at this high elevation. Cessna competes for new business all over the world. Although the current economy has slowed, Cessna is striving to gain international markets for its business jets. This increased market directly affects the viability of Cessna and would aid in the stabilization of the job market, as well as the growth of the American economy, which is directly in the interest of the public.

Supporting Information

A requirement for automatic presentation of masks for airplanes certified to operate above 30,000 feet originated in § 4b.651(d)(3)(i) of the Civil Aviation Regulations (CAR)

and was carried over as § 25.1447(c)(1) when part 25 was codified. The CAR requirement did not specify the maximum cabin pressure altitude allowed prior to presentation. The requirement that oxygen equipment be automatically presented before the cabin pressure altitude reaches 15,000 feet was added at Amendment 25-41, effective September 1, 1977. This additional requirement recognized the hazard of oxygen deprivation on the average human being and its effect on carrying out actions under stressful conditions. It should be recognized that in travel requiring use of the Elevation >14K mode, the persons on the aircraft will be disembarking at an altitude near 15,000 feet. Therefore, the cabin altitude conditions are comparable to the environmental conditions to which they will be exposed.

The oxygen mask presentation at $15,750 \pm 250$ feet is only selected when an “Elevation > 14K” button is activated by the pilot. The button will remain illuminated and an advisory ELEV > 14K message will be displayed to indicate that the plane is in Elevation > 14K mode. These features assist in limiting the use of this mode to conditions when the airplane will be operating at airfields with an elevation greater than 14,000 feet. The activation point for the cabin altitude warning is also shifted to avoid nuisance alerts. Appropriate procedures will be provided in the airplane flight manual to address proper operation of the Elevation > 14K mode. These procedures will instruct the flight crew to select this mode when descending to land at an airfield with an elevation greater than 14,000 feet, and to reset the “Elevation > 14K” button back to the “normal” mode while climbing after takeoff. These procedures will minimize the duration of the elevated cabin altitudes. These procedures are for China-based aircraft and will be similar to those for the previously certified Model 680 high altitude option.

Federal Register publication

The FAA has determined that good cause exists for waiving the requirement for *Federal Register* publication for public comment because the request is identical in all material respects to previously granted exemptions; the exemption, if granted, would not set a precedent; and any delay in acting on this petition would be detrimental to the Cessna Aircraft Company.

The FAA’s analysis

The FAA considers that granting the petition is in the public interest for the reasons stated by the petitioner and because the exemption is effectively identical to previously granted exemptions to § 25.1447(c)(1).

The petitioner requests an exemption for Cessna Model 750 airplanes and seeks relief from the requirement in § 25.1447(c)(1), which states that oxygen dispensing units must be automatically presented to occupants before the cabin pressure altitude reaches 15,000 feet. A requirement for automatic presentation of oxygen masks for airplanes certificated to operate above 30,000 feet originated in § 4b.651(d)(3)(i) of the Civil Aviation Regulations (CAR) and was carried over as § 25.1447(c)(1) when 14 CFR part 25 was codified. The CAR requirement did not specify the maximum cabin pressure altitude allowed prior to presentation. The requirement that the oxygen

dispensing units be automatically presented before the cabin pressure altitude reaches 15,000 feet was added at Amendment 25-41, effective September 1, 1977.

For operation of the Cessna Model 750 airplane into and out of an airport with a landing field above 14,000 feet, the flightcrew must activate the “Elevation >14 K” button. This results in automatic deployment of the passenger oxygen masks when the cabin pressure altitude is 15,750 feet, ± 250 feet. This feature is necessary to reduce the occurrence of inadvertent deployment of oxygen masks.

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 Cessna Aircraft Company an exemption from the requirement of 14 CFR 25.1447(c)(1) that the passenger oxygen equipment must be automatically presented before the cabin pressure altitude exceeds 15,000 feet. For Cessna Model 750 series airplanes, this grant of exemption will permit passenger oxygen masks to be automatically presented before the cabin pressure altitude exceeds 16,000 feet when operating into and out of airports with altitudes above 14,000 feet. This exemption is granted to the extent necessary to reduce the occurrence of inadvertent deployment of oxygen masks.

Issued in Renton, Washington, on May 15, 2015.

/s/

Michael Kaszycki
Acting Manager, Transport Airplane Directorate
Aircraft Certification Service