

Exemption No. 8164

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

Custom Air Transport

for exemption from §§ 25.855(a),
25.857(e) and 25.1447(c)(1) of Title 14,
Code of Federal Regulations

Regulatory Docket No. FAA-2003-16037

GRANT OF EXEMPTION

By letter dated August 22, 2003, Mr. Bill Rathmanner, Aero Design Services, Inc., 6574 N. State Road 7, #114, Coconut Creek, FL 33073, petitioned on behalf of Custom Air Transport for an exemption from §§ 25.855(a), 25.857(e), and 25.1447(c)(1) of Title 14, Code of Federal Regulations, to allow the carriage of up to 12 non-crewmembers (commonly referred to as supernumeraries), who are animal handlers or grooms, on Boeing 727-200 passenger-to-freighter converted airplanes to attend to live animal cargo.

The petitioner requests relief from the following regulations:

Section 25.855(a), at Amendment 25-93, requires that cargo compartments must meet one of the class requirements of § 25.857.

Section 25.857(e), at Amendment 25-93, defines the attributes of a Class E cargo compartment, and mandates that a Class E cargo compartment may not be on any airplane other than one utilized exclusively for the carriage of cargo.

Section 25.1447(c)(1) at Amendment 25-87 requires, in pertinent part, that oxygen masks must be immediately available to each seated occupant, be automatically deployed with manual backup, and exceed in number the quantity of seats by ten percent, with the extra units distributed evenly throughout the cabin.

Related regulations:

Section 121.285 provides requirements pertaining to the carriage of cargo in passenger compartments.

Section 121.310 requires, in pertinent part, emergency escape means in accordance with § 25.809(f)(1), emergency exit markings and signs, emergency lighting in accordance with § 25.812, and passageways and accesses to emergency exits.

Section 121.317 provides requirements for “No Smoking” and “Fasten Seat Belts” signs in accordance with § 25.791 and “No Smoking” placards in accordance with § 25.1541.

Section 121.583(a) contains a listing of categories of the people who may be carried aboard an airplane in part 121 service without complying with all the passenger-carrying airplane requirements of part 121.

The petitioner supports its request with the following information:

“Custom Air Transport is an airline company specializing in providing worldwide cargo services including the transportation of bloodstock – racehorses, show horses, etc. The company utilizes 727 aircraft.

“These animals are very valuable, many worth over one million dollars. The animals cannot be properly insured for air transport unless there are a sufficient number of qualified handlers on board.

“The interest of the petitioner is in providing a level of safety for the animals and aircraft that will allow an expansion of his service to include international events such as the Olympics and other world events which involve a large number of race or show horses.

“The 727-200 freighters presently have no provisions for a sufficient number of supernumerary seats to help in the care of the horses for long haul flights.

“The petition is for an exemption from 14 CFR 25.857(e) and 25.1447(c)(1). The exemption from 25.857(e) will allow for the accommodation of up to 12 livestock attendants or grooms on the main deck of a 727-200 freighter in a specially designated area. The exemption from 25.1447(c)(1) will mandate an equivalent level of safety for attendants leaving the vicinity of the attendants’ area by requiring them to carry portable oxygen units. The 12 installed oxygen units plus the 12 walk around oxygen units meet the requirements of 25.1447(c)(1), which requires the number of oxygen units to exceed the number of seats by at least ten percent. All features of the Class E cargo compartment required by 25.855 and 25.857 will be retained and all safety requirements of part 25 as defined by the certification basis of the airplane in Type Certificate Data sheet (TCDS) 4A25 [sic] will be complied with.

“The FAA approved Aircraft Flight Manual (AFM) will contain a supplement with the operating limitation restricting the carriage of occupants accommodated by the specially modified section of this aircraft to animal handlers who are being trained for such duties. The

seats may be similarly occupied during operations in which no cargo at all is being transported, but not to be occupied during operations in which any cargo whatsoever other than live animals is being transported.

“In addition, an FAA approved training plan will be initiated to instruct the animal handlers in the prohibition against smoking, and procedures in equipment use relating to ditching and emergency evacuation.

“Three exemptions from the federal aviation regulations are being requested – an exemption from 25.857(e), and 25.855(a) to allow for attendants to be accommodated on the main deck of a 727-200 freighter and an exemption from 25.1447(c)(1) to provide for an equivalent level of safety in the dispensing of oxygen in emergency situations. All safety features of part 25 as defined by the certification basis of the airplane in Type Certificate Data Sheet (TCDS) 4A25 [sic] will be complied with.

“This request for exemption generally follows those granted to FedEx for STC00453AT and another exemption granted to Instone Air Services.

“Exemptions Being Petitioned

“Custom Air Transport is requesting an exemption from 14 CFR 25.857(e) to allow the carriage of up to 12 livestock handlers on the main deck of a 727-200 freighter, and an exemption from 25.1447(c)(1) to allow portable oxygen units to be worn/carried by the animal attendants while they are away from the seat installed oxygen. Furthermore, it is requested that 25.1447(c)(1) be allowed for an equivalent level of safety that would consider 12 portable oxygen units and 12 seat mounted oxygen units for seated attendants as meeting the requirement that the number of oxygen masks exceed the number of seats by ten percent.

“By extension, exemption from 14 CFR 25.855(a) is also requested, as this FAR requires any cargo compartment to comply with a designated classification of 25.857.”

Request for Waiver of Public Comment

“The petitioner requests expedited handling of this petition including waiver of the normal public comment process for the following reasons:

“A contract for providing these services commences on November 15, 2003 and failure to achieve the required exemption will jeopardize the contract resulting in significant loss of revenue.

“Other similar petitions have already been granted to accomplish the same objective with very similar conditions.

“Justification for Request

“1. Rationale

“Horses are usually transported in shipping containers that can carry as many as four horses each. The containers are designed to fit into the existing pallet positions of the 727-200 freighters, and depending on the configuration, could have up to 12 pallets. For this petition, the aft two pallets are removed to accommodate the groom seating leaving 10 pallets remaining. A typical load could be up to 40 horses on the main deck of a 727-200 and the number of qualified grooms is commensurate with the value and safety of the horses on board.

“For safety reasons, the International Air Transport Association (IATA) recommends that for up to four pallets, one experienced groom be provided for each pallet of horses. For more than four pallets of horses, it is at the discretion of the carrier and the shipper to determine the optimum requirement.

“The safe transport of large numbers of horses by air therefore requires the carriage of a commensurate number of qualified handlers on the main deck.

“The FedEx STC allows for the transport of up to 24 handlers on the main deck and Instone has 28 handlers.

“2. Public Interest

“The carriage of an appropriate number of animal handlers aboard an aircraft to monitor and to attend to the special requirements of live animal cargo, especially race horses and show horses, serves the public interest in raising the level of safety of livestock, the airplane, the flight crew, and consequently, the public in general.

“Designing the animal handlers’ station to meet the certification basis requirements as well as the some of the more recent safety requirements of 14 CFR part 25 raises the safety level of the animal handlers to that intended for passengers.

“This exemption, therefore serves the public interest for safety reasons and also for increased airfreight deliveries of these animals internationally.

“3. Safety

“Safety is the primary concern of the modification. As stated earlier, all safety requirements of the original type certification of the aircraft will be complied with as defined by the aircraft type certification data sheet (TCDS) A3WE. Any adverse effects that the exemption and the equivalent level of safety of the modification will cause are discussed below.

“4. Adverse Effects

“The exemption is to allow for the carriage of livestock attendants on the main deck of a 727-200 freighter. Because of the level of safety provided by 14 CFR part 25, and the restrictions placed on the carriage of attendants as specified in the FAA approved AFM supplement, there are no apparent adverse effects.

“5. Equivalent Level of Safety

“The modification will be designed to incorporate certain features that will ensure the animal attendants enjoy a level of safety equivalent to that enjoyed by passengers, as provided by the original certifications basis of the aircraft, and some of the updated part 25 regulations.

“5.1 Animal Attendant Seats

“The animal attendant seats will be fully certified to support the weight of the attendants, as well as any equipment, such as oxygen bottles, that will be installed to the seats, to the maximum load factors of the aircraft at the FS position of the seats, and for the emergency landing provisions of the original certification basis for the aircraft, CAR 4B and FAR Amendment 25-15.

“5.2 Emergency Equipment

“In providing for a compensating level of safety for the main deck occupants, a fire extinguisher, CPBE, first aid kit, transmitter (ELT) and any other required equipment would be provided. For emergency egress assistance, an axe will be provided to assist in the case of a jammed or stuck exit door.

“5.3 Emergency Egress, 14 CFR 25.810

- “1. Doors 2R and 2L will be reactivated to serve as emergency exits.
- “2. Approved and certified slides will be installed at the doors to provide emergency egress from the aircraft.
- “3. Flotation for the occupants will be provided by life vests and slide rafts, or rafts.

“5.4 Supplemental Oxygen, 14 CFR 25.1447

“Section 25.1447(c)(1) states that oxygen must be automatically presented and immediately available to the occupants, and the quantity of masks must exceed the number of seats by ten percent. We are seeking an exemption from the requirement for the oxygen to be automatically presented. However, we would like it to be considered an equivalent level of safety due to required training and familiarization of the handlers.

“5.4.1 Seated Occupants

“It is the plan of the modification to provide the seated occupants with self contained oxygen bottles with protective breathing masks under each seat. The attendants will be trained in the use of these oxygen units.

“5.4.2 Working Grooms

“Each groom will be provided with a portable oxygen source with protective breathing masks that will be carried whenever the groom is not in the vicinity of the seats.

“Note: It is considered that the portable oxygen units, plus the fixed oxygen sources meet the requirement of 25.1447(c)(1) that the quantity of masks exceed the number of seats by at least ten percent.

“5.4.3 Decompression Signal

An automatically activated decompression signal immediately recognizable throughout the cabin area will be provided to automatically notify supernumeraries when to don oxygen.

“5.5 Emergency Lighting System, 14 CFR 25.812

“An emergency lighting system will be provided to meet amendment 25-15 including the following items:

- “1. Emergency lighting illumination of the seating area, passageways, door signs, instructions, etc. will be provided.
- “2. Exit Identifier Signs.
- “3. Exterior lighting at the base of the slide.

“Due to the proximity of the seats to the intended exits and that the occupants have a direct view of those exit doors, it is believed that EPL (escape path lighting) installation will not add to the safety level and therefore, will not be installed.

“5.6 Lighted Fasten Seat Belt Signs, 14 CFR 25.791

“Flight crew activated lighted “Fasten Seat Belt” signs will be provided that are visible while seated.

“5.7 Lighted Return to Seat Signs

“Flight crew activated ‘Return to Seat’ signs will be provided along the length of the aircraft.

“5.8 Flight Deck Communications, 14 CFR 25.1423

“A standard aircraft intercom/public address (PA) system will be installed and the PA system will be audible from anywhere within the aircraft. The PA system will be activated from either the flight deck, or from the supernumerary seating area.

“5.9 Flight Phone

“Two-way communication from the supernumerary seating area to the flight deck will be provided by means of a flight phone installed within reach of at least one of the handlers at their seats.

“5.10 Placards

“The following placards will be provided:

- “1. No Smoking Signs
- “2. Door Operating Instructions
- “3. Slide Operating Instructions
- “4. Raft Operating Instructions
- “5. External Door Exit Marking

“6. AFM Supplement

“The FAA approved Aircraft Flight Manual (AFM) will be supplemented to contain operating limitations restricting the carriage of occupants to animal handlers under specified conditions, as well as the training required for animal handlers.

- “1. The AFM supplement will limit the seats to being occupied by animal handlers only. They may be similarly occupied during operations in which cargo is not being carried, but not during operations in which cargo, other than live animals, is being carried.
- “2. The AFM supplement will have a prorated scale for the number of handlers based on less than full utilization of the aircraft to carry livestock.

“7. FAA Approved Training Plan

“An FAA Approved Training Plan to instruct handlers in the prohibition against smoking, procedures, and equipment use relating to ditching and emergency evacuation.

Notice and Public Procedure Provided

The FAA has determined that good cause exists for waiving the requirement for Federal Register publication because this petition is similar to those granted in the past and delay in acting on this petition would be detrimental to Custom Air Transport. Despite this determination to waive publication, however, the summary of the petition for exemption has been published, due to a clerical error. Therefore, although the decision document is hereby issued, any comments that are received as a result of publication of the summary of petition will be considered and, if any substantive comments are received, we may re-evaluate and change this decision document based on comments received.

The FAA's analysis/summary is as follows:

The petitioner has requested relief primarily from the requirements of § 25.857(e), which permits only carriage of cargo when a Class E cargo compartment is installed on the airplane. Class E cargo compartments are usually remote from the flightdeck and encompass the entire interior of the airplane. The means of controlling fires that might occur in the cargo compartment is to starve the fire of oxygen. This is accomplished by depressurizing the airplane and maintaining an altitude that will not support combustion. For this reason, only crewmembers are permitted on board such airplanes.

The certification regulations for transport category airplanes address airplane occupants as being either “crew” or “passengers.” Due to differences in training, physical capabilities, and other factors (such as familiarity with the airplane), the means required by part 25 to address emergency evacuation and emergency equipment for passengers and crewmembers differ. Because supernumeraries are not crewmembers, they must be considered “passengers” by default, with respect to part 25. However, supernumeraries do hold a special status because of their training and other factors. The FAA, therefore, has granted certain exemptions to allow the carriage of supernumeraries on cargo airplanes without compliance with all of the part 25 standards for passengers, provided that certain other conditions are met. Those conditions have varied, depending on the airplane design, the nature of the proposals under consideration, and the number and location of persons to be carried.

The petitioner's request is noted to allow remotely located supernumerary seating at the aft portion of the main cabin, without benefit of immediately available flightcrew or flight attendants. The petition is also understood to address the carriage of supernumeraries to attend to live animals. Any operations that include the carriage of any cargo other than live animals, either exclusively or in combination with live animals, is beyond the scope of this evaluation, and must be considered separately. However, cargo necessary for care of the animals may be carried. Additionally, supernumeraries may be on board the return flight to their initial departure location without live animals being carried. Limiting the cargo to live animals and the cargo needed for their care will minimize the risk of a fire in the Class E cargo compartment and provide an adequate level of safety, in conjunction with the other limitations, for the carriage of supernumeraries on the airplane.

The FAA also considers that smoking should be prohibited within the cargo compartment and that a placard indicating this prohibition, as specified in § 25.853(c) at Amendment 25-15, must be displayed in a conspicuous location.

The petitioner has indicated that flightcrew activated and lighted “Fasten Seat Belt” signs that are visible to persons sitting in the supernumerary seats will be provided. A requirement for these signs is not included in the certification basis of the 727-200 airplane; however, these signs are required by § 121.317. Part 25 has been amended to include a requirement for installation of these signs since type certification of the 727-200 airplane, and the FAA considers that these signs should be required as a condition of this exemption.

The FAA considers that a flightcrew operated aural or visual annunciation, which would be recognized in the cargo compartment, must be installed to indicate during turbulence

that persons must return to their seats. The petitioner has proposed to install “Return to Seat” signs along the length of the cargo compartment to address this issue.

The petitioner has proposed to install a standard airplane intercom/public address (PA) system that would be audible from anywhere within the cargo compartment and flight deck. A functioning PA system is considered essential for initiating and directing emergency evacuations and for providing pre- and post-impact instructions and will be required as a condition of this exemption.

The FAA considers that supernumeraries should have a supplemental oxygen system that is comparable to that required for passengers by part 25. However, taking into account the extra knowledge and training that supernumeraries will have, the FAA does not find that an equivalent system needs to be provided. The petitioner has proposed to install an oxygen unit on each of the 12 supernumerary seats, to provide 12 portable oxygen units for supernumeraries to use when they are not near the oxygen units installed at their seats, and to provide an automatically activated decompression signal which would be immediately recognizable throughout the cargo compartment. This design is intended to address the “immediately available,” “automatically presented,” and “uniformly distributed” requirements of § 25.1447(c)(1). The FAA considers that a manual backup for operation of the decompression signal must be provided, that the oxygen units must be sized adequately for continuous and uninterrupted use during worst-case flight duration following a decompression, and that supernumeraries must be trained about the location and use of these oxygen units. Although the petitioner has proposed to install 12 portable oxygen units, in addition to the oxygen units installed at the supernumerary seats, the FAA finds it acceptable for the portable oxygen units to be the same units installed at the supernumerary seats. If this is the case, the supernumeraries must be trained to re-secure the portable units to their seats upon returning to their seats.

Section 25.1447(c)(1) requires that there be ten percent more oxygen masks than occupants. The FAA considers that the rationale behind this requirement does not apply in this case and that the applicant’s proposal for providing oxygen units and masks is acceptable for this exemption.

The petitioner has indicated the intention to retain all required attributes of a Class E cargo compartment, as addressed in §§ 25.855 and 25.857(e), with the single exception of allowing occupants to be accommodated in this cargo compartment. Hence, the FAA interprets this petition as indicating that the operator will retain the means required by § 25.857(e)(3) to control a Class E cargo compartment fire, in other words decompression of the airplane. Accordingly, this grant is conditioned on the retention of these procedures.

Note that this exemption does not provide relief, beyond that explicitly stated, from applicable airworthiness requirements. This exemption discusses specific regulations that must be met for approval of the proposed design, but does not discuss all the applicable regulations. As mentioned above, regulations that are applicable to passengers are applicable to supernumeraries. The following highlights some significant areas which must be addressed to meet the applicable airworthiness requirements at the certification

basis of the 727-200. Note that later amendments of these rules may be applicable as determined in accordance with § 21.101.

1. The right and left side doors at station 1052 must be reactivated and qualify as emergency exits.
2. Colored exit bands must be provided on the outside of the airplane for these exits in accordance with § 25.811(f) at Amendment 25-15.
3. Approved means to assist occupants in descending to the ground must be provided at these exits in accordance with § 25.809 at Amendment 25-15.
4. Flotation means must be provided for the occupants.
5. Section 25.811 at Amendment 25-15 requires exit identifier signs, means for locating the exits in dense smoke, and opening instructions marked on or near the exit.
6. Emergency lighting must be provided in accordance with § 25.812 at Amendment 25-15.
7. Required emergency equipment for passenger compartments and Class E compartments must be provided. For example, a fire extinguisher and protective breathing equipment must be provided in accordance with § 25.853(f) at Amendment 25-15 and 4b.380(c) at Amendment 4b-11, respectively.

The above list of applicable airworthiness requirements is based on the certification basis of the 727-200 airplane. Operating regulations, such as part 121, may require later amendments of the airworthiness requirements to be met. For example, §§ 121.309 and 121.310 contain additional emergency equipment requirements.

In conclusion, the FAA has determined that the existing regulations for type certification do not address occupants that are neither crew nor passengers, and an exemption is warranted to permit carriage of these supernumerary individuals.

The Grant of Exemption

In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator, Custom Air Transport is hereby granted an exemption from 14 CFR 25.855(a), 25.857(e), and 25.1447(c)(1). The petition is granted to the extent required to permit type certification of the Boeing 727-200 passenger-to-freighter converted airplanes with provisions for the carriage of supernumeraries. The following limitations apply and limitations 1 through 7 and 9 through 11 must be documented in the limitations section of the Airplane Flight Manual (AFM):

1. Occupants are limited to the categories specified in § 121.583(a)(4)(ii) and in § 121.583(a)(5), applicable only to persons referenced in § 121.583(a)(4)(ii).
2. Maximum occupancy outside of the flight deck is restricted to 12 supernumeraries.
3. Each occupant must be instructed by the operator, in accordance with an FAA accepted training plan, and briefed by a flight crewmember prior to each flight, in the

prohibition against smoking and in procedures and equipment use relating to ditching and emergency evacuation, decompression, fire extinguishment, seat belt use, and communications with the flight deck.

4. The operator must determine that each occupant is physically able to accomplish the necessary emergency procedures.
5. A supplemental oxygen bottle with a mask connected to it must be mounted on or immediately next to each supernumerary seat and be located so that each occupant can don the mask and activate oxygen flow while seated. The supernumeraries must be trained in the use of these oxygen units.
6. Each supernumerary must be provided with a portable oxygen source with the mask connected to it that must be carried whenever the supernumerary is not in the vicinity of his/her seat. The portable oxygen units may be located in a common area or may be the same units installed at the supernumerary seats. The supernumeraries must be trained in the use of these oxygen units.
7. An automatically activated aural decompression signal immediately recognizable throughout the cargo compartment must be provided to notify supernumeraries when to don oxygen masks. The flightcrew must be provided with a manual means to activate the signal in the event of failure of the automatic system. This signal and the accompanying procedures for donning a mask and activating oxygen flow must be included in the training and pre-flight briefing.
8. The oxygen units must be sized adequately for continuous and uninterrupted use during worst-case flight duration following a decompression.
9. A flightcrew-operated aural or visual annunciation which would be recognized in the cargo compartment must be installed to indicate during turbulence that persons must return to their seats. Signs that notify when seat belts should be fastened must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each supernumerary seated in the cargo compartment. Appropriate procedures/limitations must be established to ensure that the flightcrew signals the supernumeraries to return to their seats and fasten their seat belts at the onset of turbulence and for landing. The pre-flight briefing must explain the actions supernumeraries must take upon a "return to seat" signal and upon lighting of the "fasten seat belt" signs.
10. Operations are limited to the carriage of live animal cargo and cargo which is needed to care for the animals. Supernumeraries may be on board the return flight to their initial departure location without live animal cargo provided no other cargo is being carried; however, the other conditions of this exemption are still applicable to this flight.
11. A limitation must be established to prohibit smoking in the cargo compartment.

12. A public address system must be installed that is audible from anywhere within the occupiable compartments of the airplane and can be activated from either the flight deck or from the supernumerary seating area. The public address system must comply with § 25.1423 at Amendment 25-79.
13. An interphone system must be installed that provides two-way communication between the supernumerary seating area and the flight deck and is within reach of at least one of the supernumeraries at his/her seat. This system must be independent of the public address system except for handsets, headsets, microphones, selector switches, and signaling devices.

This exemption will remain in effect unless superseded or rescinded.

Issued in Renton, Washington, on November 3, 2003.

/s/ Kalene C. Yanamura
Kalene C. Yanamura
Acting Manager
Transport Airplane Directorate,
Aircraft Certification Service