

Volume 3. Air Operator Technical Administration

CHAPTER 16. CABIN SAFETY AND FLIGHT ATTENDANT MANAGEMENT

SECTION 3. INSTRUMENT AND EQUIPMENT REQUIREMENTS

2265. ROUTINE OPENING/CLOSING OF DOORS ON WIDE-BODIED JETS. A routine investigation of a passenger complaint revealed that a person seated next to door/exit 2L, used as a boarding entrance on certain DC-10 aircraft, could receive possible injury during the closing of the door. Air carriers should establish procedures providing adequate protection against possible injury from these seating arrangements.

A. One DC-10 operator who uses door/exit 2L for routine boarding has a seating arrangement that leaves the seat adjacent to the door unprotected. The air carrier instituted a policy whereby the passenger is asked to stand during the opening/closing of the door.

B. A possible safety hazard may also exist at doors/exits 2L and 2R with respect to the protrusions presented by the manual lift bar and evacuation slide container. This presents a possible problem if the occupant experiences excessive forward force and makes contact with the slide container. Due to the limited space, passengers occupying these seats could experience a definite hazard while attempting to assume a brace position under emergency conditions.

2267. UPRIGHT POSITION OF SEAT BACKS FOR TAKEOFF AND LANDING. Flight attendants must be trained that it is necessary to place the seat backs in the fully upright position for takeoff and landing.

A. Title 14 of the Code of Federal Regulations (14 CFR) part 121 § 121.311 requires:

- The seat back to be in the upright position for takeoff and landing.
- Each passenger to comply with instructions given by a crewmember to put their seats in a fully upright position for take off and landing.

B. Transport category airplanes are customarily provided with seats that are part of an approved interior of the particular type design and comply with 14 CFR part 25. This includes many emergency evacuation considerations, such as the seat designs, their pitch, location, and unit approval. When reclined to any degree, the seats are not in the upright position for emergency evacuation, which must be demonstrated during aircraft certification. Part 121 requires that the seat back must be in this fully upright

position, not in any other position, for takeoff and landing, to assure the degree of safety intended for emergency evacuation.

NOTE: Section 121.311 does allow air carriers to develop procedures to accommodate persons who are unable to sit upright for medical reasons, if the seat back does not obstruct any passenger's access to the aisle or to any emergency exit.

2269. PROTRUDING PASSENGER SEAT ARMRESTS. Inspection of the Hardman Model 9500 and other passenger seats installed on several aircraft, disclosed that the armrest in the upright or stowed position can protrude approximately 45 degrees aft the seat back. In the event of an emergency evacuation, protruding armrests could present an obstacle between seat passageways, obstructing emergency exit access. Air Carriers should emphasize to flight attendants that prior to takeoff and landing they verify that the armrests are in the normal forward/down position in order to ensure that they do not obstruct the passageway between the row of seats leading from the aisle to the emergency exit.

2271. EMERGENCY MEDICAL KITS.

A. Part 121, Appendix A, provides a list of the required contents of medical kits. Each air carrier is responsible for assuring that the approved medical kits meet the required specifications.

B. Air carriers should be aware of the temperature range which may be established for some drugs contained in the medical kits. "Damaging temperatures" means temperature extremes which cause the EMK medications to lose their effectiveness. The FDA requires that medications stored at controlled room temperature are stable within a temperature range of 59 to 86 degrees Fahrenheit. However, based on experience in emergency medical vehicles, such as ambulances, and other areas, most current medications appear to be stable within a wider temperature range. In addition, the EMK and aircraft cabin provide some protection from potentially harmful external temperatures. At present, the aircraft cabin environment does not appear to affect the required medications negatively as long as they

are replaced before their expiration date.

(1) If an aircraft has been exposed to extreme hot or cold temperatures, medications in a liquid form (injectable) should be inspected before use. If they are yellow or cloudy, then they may have lost their effectiveness and should not be used. If an aircraft is parked or taken out of service for an extended period of time in a location where it may be exposed to temperature extremes, then the EMK should be taken off the aircraft and protected.

(2) Additional information regarding emergency medical equipment is contained in Advisory Circular (AC) 121-33, as amended, Emergency Medical Equipment, and AC 121-34, as amended, Emergency Medical Equipment Training (www.faa.gov/avr/afs/cabinsafety).

2273. EMERGENCY EVACUATION ESCAPE ROUTES. The location of the vortex generators on the wings of DC-9-10 aircraft present a hazard to emergency evacuees seeking the most direct escape route from the overwing exits to the ground. There may be room for one person to go between the vortex generators and the fuselage, and room for approximately eight or ten abreast to go off the trailing edge of the wing outboard of the vortex generators. Since the leading edge of the wing is less than six feet from the ground, it also offers an acceptable escape route.

A. The passenger safety information briefing cards required by part 121 on DC-9-10 aircraft should indicate that the best escape route is over the trailing edge of the wing and flaps outboard of the vortex generators. However, leaving the wing over the leading edge is also acceptable.

B. The card should also warn evacuees of the possible injuries that may result from using the area near the vortex generators as a slide.

2275. DC-8-61 ESCAPE TAPES. As a result of a DC-8-61 ditching demonstration, it was determined that the forward window overwing escape tapes on each side of the aircraft cannot be used during ditching. These forward escape tapes were found to be approximately 12 inches too short to reach the wing attach fittings located about midway of each wing. It was determined that the aft window overwing escape tapes on each side of the aircraft will reach the wing attach fitting. The air carrier should identify the specific tape on each side of the aircraft that will reach its fitting. This information should be reflected in the appropriate air carrier crewmember manuals and training programs.

2279. B-747 EMERGENCY LANDING CONSIDERATIONS. The body landing gear on a B-747 failed during an emergency landing. The aircraft tilted rearward and came to rest on its wing gear and tail section. As a result, forward escape slides were unsafe due to their steep deployment angles. Several persons were injured before the use of these exits was terminated.

A. Although the B-747 is capable of being landed safely on either the wing gear or the body gear alone, studies indicate that a center of gravity (CG) in excess of approximately 25 percent mean aerodynamic chord (MAC) can create the above condition when wing gear only is being used.

B. Air carriers using the B-747 should emphasize the consideration of fuel management and passenger relocation prior to landing. They should also consider emphasizing flow control during emergency egress so as to maintain a favorable CG and thus prevent a recurrence of this incident.

C. As with all aircraft, crewmembers should continually assess the condition of escape slides to assure their usability.

2281. DIFFERENCES IN AIRCRAFT CABIN EMERGENCY EQUIPMENT. Wherever possible, air carriers should standardize the type and location of aircraft emergency equipment. For example, an airline with B-737s and A320s could equip each aircraft with the same type of halon fire extinguishers and locate them next to the forward and aft flight attendant seats which are occupied by flight attendants during takeoff and landing.

A. When there are differences in the location or operation of emergency equipment, air carriers must ensure that crewmembers are familiar with these differences. Air carriers must familiarize crewmembers on differences by revising appropriate manuals. Air carriers issue these manuals to crewmembers before they are assigned duties on board any of the affected aircraft.

B. During the required emergency training, air carriers should give crewmembers training and competency checks regarding the equipment differences. Air carriers should develop a procedure so that items of emergency equipment are checked, by a crewmember designated in the appropriate company manual, to ensure that each item is properly stowed and serviceable. This procedure will increase crewmember familiarity with the location and operation of emergency equipment, and it is especially needed when there are differences in the location and operation of emergency equipment.

2283. CREWMEMBER PROTECTION FROM BLOODBORNE PATHOGENS

A. This section contains information and guidance for principal operations inspectors (POIs) and CSIs, if applicable and their air carriers concerning crewmember protection from INCIDENTAL EXPOSURE to blood borne pathogens. Although unlikely, it is possible that flight attendants could come in contact with body fluids contaminated with blood borne pathogens. Therefore, air carriers should supply readily accessible protective non permeable gloves and have in place an infection control program consistent with Occupational Safety and Health Safety Administration (OSHA) standards. Infection control

programs for workers who could be exposed to blood borne pathogens include exposure determination criteria, infection control plans, methods of compliance, and work place controls. Also see AC 120-44, Air Carrier First Aid Programs, as amended.

B. POIs and CSIs, if applicable shall advise their assigned air carriers to have an infection awareness program consistent with OSHA standards which provides information about the prevention of infectious diseases, especially those caused by blood borne pathogens; ask their air carriers to provide protective non permeable gloves on the aircraft in sufficient quantities to equal the number of medical and first aid kits.

2285. RESETTING TRIPPED CIRCUIT BREAKERS.

Historically, flightcrews, maintenance personnel, and airplane ground servicing personnel, e.g., airplane cleaners, airplane fuelers, and baggage loading personnel have viewed the resetting of a tripped CB as a relatively common occurrence in operations. Generally, resetting a tripped CB is met with no adverse results. However, a review of Service Difficulty Reports involving tripped and reset CBs reveals that the opposite is sometimes true. Smoke, burned wires, electrical odors, arcing, and loss of related aircraft systems have been reported as a result of resetting tripped CBs.

A. Airplane manufacturers normally provide guidance in their flightcrew operating manuals (FCOM), maintenance manuals, and airplane servicing manuals that enables flightcrews, maintenance personnel, and airplane ground servicing personnel to perform their tasks with a high degree of safety. This guidance generally addresses the resetting of tripped CBs. Air carriers should ensure that specific CB resetting procedures based on manufacturer's guidance are reflected in their manuals. The FAA has developed the following summary statement to emphasize the importance of caution in resetting tripped CBs and to recommend certain general safety practices.

B. The following statement summarizes FAA philosophy, policy, and regulations in respect to resetting tripped CBs. The overriding message is one of caution. Air carriers should develop training programs and manuals for use by flightcrews, maintenance personnel, and airplane ground servicing personnel in which company policies and procedures with regard to resetting tripped CBs are clearly stated and readily available. Pertinent policies and procedures should promote general awareness of safety concerns associated with resetting tripped CBs and should stress the importance of strict adherence to specific safety guidance generated by the manufacturer.

(1) *General.* There is a latent danger in resetting a CB tripped by an unknown cause because the tripped condition is a signal that something may be wrong in the related circuit. Until it is determined what has caused a trip to occur, flightcrews, maintenance personnel, or airplane

ground servicing personnel usually have no way of knowing the consequences of resetting a tripped CB. Resetting a CB tripped by an unknown cause should normally be a maintenance function conducted on the ground.

(2) *In-Flight.* A tripped CB should not be reset in flight unless doing so is consistent with explicit procedures specified in the approved operating manual used by the flightcrew or unless, in the judgement of the captain, resetting the CB is necessary for the safe completion of the flight.

NOTE: A detailed logbook write-up is a proven safety practice for tracking purposes, and may provide maintenance personnel with the key to prompt trouble-shooting and effective corrective action on the ground. That write-up should include the following:

- the conditions existing when the CB trip occurred
- the conditions existing when the CB was reset
- the results of resetting the CB

(3) *On-the-Ground.* A CB tripped by an unknown cause may be reset on the ground after maintenance has determined the cause of the trip and has determined that the CB may be safely reset. A CB may be cycled (tripped or reset) as part of an approved trouble-shooting procedure, unless doing so is specifically prohibited for the conditions existing. If an air carrier's minimum equipment list (MEL) contains procedures that allow a tripped CB to be reset, then the same cautions with reference to resetting tripped CB's identified elsewhere in this bulletin also apply.

(4) *CB Associated with Fuel Pump Circuit or Fuel Quantity Indicating System (FQIS).* Special caution is appropriate where fuel pumps and/or FQIS are involved, because of the possibility that arcing might lead to ignition of fuel or fuel vapors. The FAA has issued airworthiness directives (AD) affecting certain airplane makes and models that: (1) prohibit the resetting of fuel boost pump CB's in-flight; and, (2) prohibit resetting a fuel boost pump CB while the airplane is on the ground, without first identifying the source of the electrical fault. Because of similar arcing potential, resetting FQIS CB's should be likewise restricted.

2287. PROCEDURES FOR OPENING, CLOSING, AND LOCKING OF FLIGHTCREW COMPARTMENT DOORS.

As a result of the events of September 11, 2001, the FAA published Special Federal Aviation Regulation (SFAR) 92-5, which states, in part, that no "key to the flightcrew compartment shall be available to any crewmember during flight, except for flight crewmembers, unless an internal flight deck locking device such as a dead bolt or bar is installed, operative, and in use."

A. On January 15, 2002, 14 CFR part 25, section 25.772,

and part 121, section 121.313, were amended to require each operator to establish a method to enable a flight attendant to enter the flight deck should the flightcrew become incapacitated. Such means are intended to be used only in an emergency situation, and would require complementary emergency flight deck access procedures to facilitate their use. As such, aircraft electronic keypads or electronic push buttons installed in the cabin must be used only in emergency situations. (The only time the crew may use the emergency flight deck access procedure, during normal operations, is when the aircraft is on the ground, the flight deck door is closed and locked, and the flight deck is unoccupied.)

B. Additionally, part 121, section 121.313, requires any associated signal or identity confirmation system to be easily detectable and operable by each flight crewmember from his/her duty station. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

C. On January 15, 2002, the FAA amended part 121, section 121.587, to require authorized persons seeking access and egress to the flight deck to comply with FAA-approved procedures regarding the opening, closing, and locking of the flightcrew compartment doors. Additionally, the FAA amended part 121, section 121.547, specifying those persons who may be admitted to the flight deck.

D. Certificate holders must have approved procedures for opening, closing, and locking flightcrew compartment doors. These procedures should be included in the operators' operations and flight attendant manuals, and must include at least the following:

(1) Normal procedures for opening flightcrew compartment doors to include:

(a) Who is authorized to have access to the flight deck.

(b) How a crewmember verifies the identity of a person requesting access to the flight deck.

(c) An identity confirmation process for granting access to the flight deck. This process should provide a positive means for flight crewmembers to identify persons requesting entry to the flight deck and to detect suspicious behavior or a potential threat prior to unlocking the flightcrew compartment door. While not presently required, the FAA recommends that operators incorporate a visual

component in their process of monitoring the area outside of the flightcrew compartment door.

(d) How cockpit door keypad access codes are disseminated.

(e) Flight attendant procedures to verify there are no passengers in any forward lavatory, and no passengers are standing in the area surrounding the flight deck door.

(f) Flight attendant procedures for blocking the passenger aisle when the flight deck door is opened.

(g) Procedures for two-person flightcrews, when one flight crewmember leaves the flight deck (i.e., a flight attendant or other designated person must lock the door and remain on the flight deck).

(2) Emergency electronic keypad or emergency push button procedures to include:

(a) Events requiring the use of emergency procedures (i.e., pilot alerts, etc.).

(b) Determining when a flight deck crew is, or is suspected of being, incapacitated, or there is no response from the flight deck.

(c) Keeping the flight deck door locked until an audio and visual verification of the person requesting entry is made.

(d) How to determine whether a person requesting access is under duress.

(e) How to determine when the flight deck locking system may be taken out of the deny-access position.

(f) Flight deck crew procedures to follow when an electronic keypad or push button is being used to gain unauthorized access to the flight deck.

(g) When a flightcrew must take immediate action to deny access to the flight deck.

E. Flightcrew and flight attendant training programs should include these procedures, including crewmember duties and responsibilities, crew coordination, and emergency situation training modules, according to the recommendations and information in this notice. Air carriers should ensure all crewmembers adhere to published procedures.

2288. - 2294. RESERVED

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