



# FLIGHT SAFETY FOUNDATION

# CABIN CREW SAFETY

Vol. 36 No. 5

*For Everyone Concerned With the Safety of Flight*

September–October 2001

## **Remaining Seated During Taxi, With Restraints Fastened, Encourages Safety Focus, Prevents Crewmember Injury**

*Civil aviation regulations and guidance for air carriers vary among countries but generally seek to limit cabin crewmembers' exposure to risk of injury from sudden stops or turns and from ground-collision forces. Industry practices distinguish between service-related duties and safety-related duties of cabin crews during taxi.*

—  
*FSF Editorial Staff*

Among civil aviation authorities that have revised or reinterpreted regulations on flight attendant restraint since the late 1990s, the Japan Civil Aviation Bureau (JCAB), Ministry of Transport, in 2000 issued a directive explaining the risks underlying requirements for flight attendants to be seated and to fasten seat belts and shoulder harnesses at specific times during airplane operation on the surface.<sup>1</sup>

While incorporating this directive into their policies and procedures, Japanese airlines have recognized that regulations must be enforced and reinforced by airline procedures and training to prevent injuries to flight attendants and passengers.<sup>2</sup>

“Before amending company rules about restraint of cabin attendants during airplane surface movement, Japan Airlines



[JAL] made a survey and analysis of all cabin attendants' tasks and duties before departure and during surface movement,” said Hideki Tanaka, deputy general manager, JAL Corporate Safety Department. “By this analysis, we found it necessary to reduce cabin attendants' tasks, especially relating to cabin services, at this phase and to restrict their tasks to any items relating directly to safety.”

Tanaka said that JAL's implementation of the JCAB directive includes the following elements:

- “Cabin attendants are not allowed to leave their jump seats while the aircraft is moving except when they have to do any duties relating to safety; for example, observation of seat-belt [compliance] and seat-back

[position] of passengers, securing any passenger baggage, safety instruction or any other item necessary for safety;

- “Cabin attendants [must] finish securing galley equipment prior to leaving a ramp. However, collection of refreshment glasses is allowed for safety if any glasses are left at passenger seats; and,
- “No service unrelated to safety is allowed.”

“[Although] it is very difficult to have cabin attendants follow these rules, there is no other best practice but to instruct them repeatedly,” said Tanaka.

The JCAB directive contains the following provisions (paragraph numbering deleted):

- “While the aircraft is moving on the ground, a fundamental responsibility for cabin attendants is to be prepared to accomplish an emergency evacuation of the aircraft in response to any emergency requiring this action; and in order to ensure that they do not become incapable of carrying out these actions through incapacitation, they should, in principle, be secured in their seats during this time and move around the cabin only in order to perform duties related to their security/safety functions;
- “Other service functions are to be accomplished before the aircraft begins to move at departure, and after it has reached its parking spot on arrival. Any service in progress when the aircraft begins to move at these times must be concluded as soon as practicable; [and,]
- “When [cabin] crewmembers find [that] they must leave their seats while the aircraft is taxiing, the following points must be clearly understood:
  - “Such activities may take them no further from their assigned duty positions than would allow them to speedily return there in the event of any emergency;
  - “It must be ensured that items such as service carts/wagons, passenger cabin baggage and other items are not situated in such a way that an emergency evacuation of the aircraft would be hindered or delayed; [and,]
  - “Cabin attendants must conduct themselves with the awareness that sudden braking or maneuvering of the aircraft may occur at any time and be fully prepared to protect themselves against possible injury from such occurrences.”

International data about flight attendant injuries during surface movement, in occurrences other than accidents, were not

readily available from public sources. Nevertheless, some U.S. aviation safety databases contain anecdotal information about such injuries and associated circumstances.

For example, a 1997 report in the U.S. National Transportation Safety Board (NTSB) Aviation Accident/Incident Database (AAID) said, “The captain [of a McDonnell Douglas DC-9-50] and a ground handler reported that pushback was normal. When the tug vehicle stopped, the (lead) flight attendant lost his balance ... the flight attendant reported that as the aircraft was being pushed back, it jerked, and he hit his head on a galley door. The captain was then informed that the lead flight attendant had been injured and was complaining of dizziness and nausea. The airplane was returned to the gate. The flight attendant [had] received serious injuries and was taken to a hospital. He received medical attention, and the initial indication was that he had received a concussion and torn muscles to the neck and head.”<sup>3</sup>

For the year 2000, no reports of flight attendant injuries during taxi were found in the AAID, but the following examples of U.S. accidents — involving airplane movement on the surface for scheduled domestic passenger flights — resulted in no injuries to aircraft occupants:

- The collision during taxi of a Beech 1900 with a tug and baggage cart at Miami, Florida, U.S.;<sup>4</sup>
- The collision during pushback of a Boeing 737-49R and a parked McDonnell Douglas MD-80 at La Guardia International Airport, Flushing, New York, U.S.;<sup>5</sup> and,
- The collision of a Boeing 727-214 during taxi with a stationary Bombardier CL-600 Regional Jet at La Guardia International Airport.<sup>6</sup>

Current practices in the United States have evolved from regulatory changes in the early 1990s and related interpretations, which were influenced by reports from investigations of a 1986 incident (discussed below) and a 1990 accident,<sup>7</sup> and by U.S. Federal Aviation Administration (FAA) inspectors’ reports, cited in a 1992 amendment to U.S. Federal Aviation Regulations (FARs).<sup>8</sup>

NTSB in 1989 recommended that FAA air carrier principal operation inspectors review relevant air carrier operations bulletins with air carriers to “verify that the carrier emphasizes to its flight attendants the requirement during airplane taxi for flight attendants to remain at their duty stations with safety belts and shoulder harnesses fastened except when required to perform safety-related duties.”<sup>9</sup> This was based on the passenger-initiated evacuation of an Eastern Air Lines Lockheed L-1011 at John F. Kennedy International Airport, New York, New York, U.S., on Feb. 15, 1986. The NTSB recommendation said, “The flight attendant who was assigned the L-3 exit was away from her duty station getting a blanket for a passenger. Passengers opened the unattended L-3 exit

and initiated an evacuation [after a tailpipe fire occurred and the flames were visible to some of the passengers].”

Some flight attendants believe that specific regulatory restriction of their duties during taxi is the method most likely to reduce risk of injury.

“I have noticed on aircraft with minimum crew what I consider to be a very unsafe practice, that is, the crewmembers walking forward and backward while the aircraft is taxiing so that the passengers can view the crewmembers’ safety demonstration,” said Bev Maunsell, a member of the Asia Pacific Cabin Safety Working Group of the Australian Society of Air Safety Investigators, and flight attendant. “Crew being thrown to the ground or through the cockpit door when the aircraft is braked suddenly is not uncommon. My view is that the rules need to be very prescriptive to ensure they are consistent.”<sup>10</sup>

## Canadian Process Identifies Problems in Procedure Manuals

Frances Wokes, chief, cabin safety and standards, Transport Canada, said that current Canadian Aviation Regulations (CARs) and oversight of air carriers emphasize the safety of flight attendants during taxi.<sup>11</sup>

“Some operators want flight attendants to do extra duties on the surface that are not safety-related,” Wokes said. “When operators have tried to add other duties, the problem was that flight attendants then would not be doing what they are supposed to do for safety. Also, the compartments in the galley and cabin are closed for a safety reason, so another problem is any duty involving unstowing of service items or equipment.”

Beliefs about what constitutes low-risk duties for flight attendants — during flight and during pushback and taxi — have changed over the years, she said. For example, retrieving passengers’ coats and handing them to passengers during descent just prior to landing — or during taxi after landing — were considered good service in the past.

“The best service an air carrier can provide is good safety,” Wokes said. “A flight attendant should not get up from a jump seat during taxi to pick up coats or to hand back passengers’ belongings stowed in a closet, for example. Flight attendants should handle stowage of all passenger items before pushback.”

The CARs require flight attendants to be at duty stations during surface movement (including taxi), takeoff and landing. When the pilot-in-command directs that seat belts be fastened, however, a flight attendant is not required to comply during movement on the surface if he or she is performing safety-related duties. No such exception exists for takeoff and landing.

Transport Canada believes that the normal cabin-safety inspection process — including the approval of air carrier

procedure manuals — provides an appropriate method for differentiating between acceptable safety-related duties and prohibited service-related duties during taxi, she said.

“This has not been a big issue — Canadian flight attendants are well aware of what they are allowed to do and not allowed to do,” said Wokes. “Basically, the default is that the flight attendants are strapped in the jump seat at their station. In Canada, if the airplane is under tow, being pushed back or moves on land or water — no matter what the reason — that is considered surface movement, the starting point for restraint requirements.”

International Civil Aviation Organization (ICAO) Annex 6, *Operation of Aircraft*,<sup>12</sup> the European Joint Aviation Regulations (JARs)<sup>13</sup> and the regulations of the U.K. Civil Aviation Authority (U.K. CAA) also require — in general terms — restraint of flight attendants during specified phases of flight, except to perform safety-related duties. Some of these requirements, such as those in the United Kingdom, have not been defined or interpreted with the level of detail that has evolved in the United States.<sup>14</sup>

## U.S. Regulations, Interpretations Evolve on Restraint During Taxi

FARs regarding the restraint of flight attendants during taxi and during airplane movement on the surface have not changed significantly since 1998, said Nancy Claussen, an FAA cabin safety inspector.<sup>15</sup>

During taxi, FAA-required flight attendants — under FARs Part 121.391, “Flight Attendants” — “must remain at their duty stations with safety belts and shoulder harnesses fastened except to perform duties related to the safety of the airplane and its occupants.” When the airplane is stationary, being pushed back or being towed, this regulation does not apply because the taxi phase is defined as the time when the airplane is moving under its own power, said Claussen.

“FAA’s requirement to be in the jump seat is not triggered until the aircraft is being taxied,” she said. “In contrast, passengers must be seated with seat belts fastened during all movement on the surface, taxi, takeoff and landing.” There are no distinctions in the FARs between safety-related duties when taxiing for departure versus safety-related duties when taxiing after arrival.

Nevertheless, a few specific limitations on flight attendant duties apply during airplane movement on the surface, she said.

“Airlines had asked FAA if the requirement to be restrained during taxi applied only to the minimum number of required flight attendants, enabling non-required flight attendants to perform service-related duties during taxi,” Claussen said. FAA said in its interpretation that required flight attendants and non-required flight attendants alike must follow the same rules.

Non-required flight attendants who are not performing safety-related duties and supernumerary personnel — non-flight-attendant employees who conduct in-flight service-related duties in the cabin — must be restrained like passengers during movement on the surface.

The question of permitting collection of paper cups and plastic glasses during taxi also was resolved by an FAA interpretation. FAA Flight Standards Handbook Bulletin (HBAT) 98-02, “Galley Security,” effective Jan. 15, 1998, was instrumental in standardizing some cabin-safety procedures in the U.S. airline industry — specifically, the use of these disposable beverage-service items during predeparture services, said Claussen.

FAA’s overriding concerns are hazards to crewmembers — including risk of injury to a passenger if an unrestrained flight attendant falls or strikes a passenger — while the airplane is moving on the surface, and preventing the possibility of an obstruction to evacuation, she said. HBAT 98-02 and other FAA policy documents assume that airplane movement on the surface constitutes a relatively unstable environment for flight attendants because they are subject to forces generated by sudden stops or sudden turns, she said.

“The FARs require all commissary items to be picked up prior to surface movement,” said Claussen. “Three years ago, however, [HBAT 98-02] delayed the compliance schedule indefinitely. Based on this regulatory interpretation, airlines routinely hand out drinks in disposable cups and glasses in first class and business class before pushback. They must then pick up those cups and glasses before takeoff. FAA said that picking up commissary items absolutely is a safety-related duty — part of ensuring a crashworthy environment. So flight attendants will not serve beverages during taxi but will pick up [paper cups and plastic glasses] during taxi within this regulatory framework.”<sup>16</sup>

FAA believes that handling paper cups and plastic glasses does not involve a risk equivalent to handling rotatable (reusable) service items in terms of either galley-security issues or in terms of distraction of flight attendants from their focus on safety-related duties, said Claussen.

“When they can pick up service items and toss them in the trash, the flight attendants are out of the jump seats for less time,” she said. “This usually does not require unlatching drawers, opening compartments, handling glassware and china, manipulating heavy pieces of galley equipment or leaving large objects unrestrained while moving on the surface. If any china, glassware or other commissary items that require restowage in the galley are used, the items must be picked up and the galley must be secured before the airplane moves.”<sup>17</sup>

Commissary items specified in the FARs do not include magazines, pillows, blankets and headsets, which can be at a

passenger’s seat in the cabin during takeoff and landing, she said.

“Activities such as taking drink orders or passing out pillows or magazines are clearly service-related,” said Claussen. “Passenger-safety demonstrations in the aisle or closing an unlatched overhead bin during taxi clearly are safety-related.”

Nevertheless, some reasons for deciding to leave the jump seat during taxi are not as straightforward for flight attendants.

“In answering a passenger’s call bell, for example, the flight attendant will not know until reaching the passenger’s seat whether there is a safety-related issue or a service-related issue,” said Claussen. “If the passenger asks for a blanket, pillow or magazine during taxi, the appropriate response is to decline politely, saying something like ‘I will be right back after takeoff.’”

Conceivable scenarios during taxi are too numerous to cover in training and require professional judgment, she said.

“The rules generally have been written so that a majority of safety-related duties — but not all of them — are completed prior to aircraft taxi,” Claussen said. “We recognize implicitly that as little movement as possible by flight attendants during taxi is a good thing, but we cannot create an environment where that never will be necessary. We recognize there will be a need for flight attendants to move through the cabin to perform safety-related duties. We want to ensure that it is highly likely that these duties will be completed prior to taxi.”

## **Flight Attendant Union Supports Further Duty Restriction During Taxi**

The Association of Flight Attendants (AFA), a U.S. union, believes that flight attendants should be restrained during all movement of the airplane on the surface, said Candace Kolander, coordinator, air safety and health, AFA.<sup>18</sup>

“We do not agree with FAA’s position that flight attendants can move in the cabin to pick up disposable beverage containers during taxi,” said Kolander. “The ideal situation is that prior to surface movement, the flight attendants would be in the jump seat, strapped in and observing the cabin — that for integrity of galley security, all service items would be picked up and the passenger safety demonstration would be finished. We have known of some flight attendants sustaining injuries while standing and while doing demonstrations during taxi but do not have hard data. Anytime the aircraft moves on the surface, there is risk of injury — the only way to mitigate the risk is to have demonstrations and service completed prior to surface movement. The most reasonable expectation is that the time to provide services is after takeoff.”

When flight attendants are restrained during taxi, the decision may be taken to leave the jump seat for a variety of safety-related reasons, she said.

“If the flight attendant sees a passenger in distress, for example, training prepares the flight attendant to get up and attend to the passenger,” she said. “The flight attendant would want to assist if there were a heart attack, for example, which would involve preventing the takeoff by telling the captain.”

Occasionally, flight attendants leave their seats during taxi if an overhead bin opens and a passenger does not close the bin, because of the risk of an object falling during taxi or takeoff, she said.

“When in the jump seat, the flight attendant should be focusing on going over emergency duties, deciding who would be able-bodied passengers, checking that everything in the cabin is OK and no passengers are standing — because monitoring everything happening in the cabin is the flight attendant’s first responsibility,” said Kolander.

## **U.S. Airline’s Crews Avoid Non-safety Duties During Taxi**

A majority of U.S. airlines conduct passenger safety briefings soon after the airplane doors are closed and armed — often during pushback — said Cindy Hoene, director, Onboard Safety Department, Division of In-flight Services, Northwest Airlines.<sup>19</sup>

“All U.S. carriers strongly emphasize, in procedures and training, the expectation that flight attendants take their seats and follow the regulatory guidelines on restraint as soon as their safety-related duties are completed,” said Hoene. “They stress that flight attendants should not spend time on non-safety-related duties in the galley, for example, once the aircraft is moving during taxi. They need to be in their seats and secured.”

Reducing the risk of injury caused by a quick stop or quick turn during taxi — perhaps by falling in the aisle or striking an object in the galley — is part of the training about flight attendants’ personal safety, their role as safety providers during taxi and their situational awareness, she said.

The company’s policy is that the safety briefing and the final cabin check — including seat belts, seat backs, tray tables and galley security — are conducted during taxi, she said.

“We must be sure the galley is secure before pushback or powerback,” she said. “One last check is performed to ensure that galley compartment latches are secure. The cabin crew must tell the flight deck that passengers are seated and the cabin and galley are secured before pushback.”

Each flight attendant’s decision to leave the jump seat during taxi requires differentiation of service-related duties and safety-related duties, she said.

“For example, for indication of an emergency such as smoke in the cabin, the flight attendant would leave the jump seat to respond appropriately by getting the fire extinguisher and protective breathing equipment,” said Hoene. “We mention some of these scenarios in training but must rely on the flight attendant to use situational awareness and judgment. We train to develop those skills. Our expectation is that when flight attendants graduate from training, they are fully responsible for regulatory compliance.”

Practical aspects of conducting passenger safety briefings also influence the need for flight attendants to stand and/or to walk during taxi, said Hoene.

“Demonstrations must be performed so they can be observed by all passengers,” she said. “The FAA-required minimum crew complement does not always provide a situation in which flight attendants can stand in one spot and be seen by everybody.”

For predeparture service in the premium cabin, the safety-related duties are to pick up all service items, stow them in the galley and secure the galleys before pushback, she said.

“The attempt is to pick up all service items before pushback,” Hoene said. “If there are remaining throwaway cups, they are picked up in the final cabin walkthrough and put down the trash chute during taxi without disrupting the security of the galley.”

She said that to further minimize exposure to risk of injury during taxi and to prepare passengers, every attempt is made to present passenger-safety information early during pushback and taxi.

“Timing is very important — we want to give the passenger safety briefing as soon as the door is closed and the exits are armed,” said Hoene. “On some video-equipped aircraft, procedures are affected because occupying a jump seat blocks the view of the video screen. We also have our flight attendants stand next to the video screen to call attention to the briefing and so that passengers will recognize them as crewmembers.”

From training and practice, flight attendants typically are familiar with how to move safely around the cabin during taxi, she said.

“It is important to provide service to our customers,” Hoene said. “But whenever flight attendants do not have safety-related duties to perform during aircraft movement on the ground — they should be restrained in their jump seats.”

The consensus view of these air carriers, civil aviation authorities, safety investigators and flight attendants is that

regulations should acknowledge the possibility of injury to occupants whenever the aircraft is moving on the surface. Therefore, exposure time should be minimized by adopting procedures and training to help ensure that each time flight attendants decide to leave their jump seats, the safety benefit is commensurate with the risk. ♦

## Notes and References

1. Japan Civil Aviation Bureau (JCAB), Ministry of Transport. JCAB Directive KUUKOU-9292 and KUUKI-350, "Promotion of Full-time Use of Seat Belts of Air Passengers and Related Matters." Appendix, "Response by Cabin Attendants When the Seat Belt Sign Is On." March 29, 2000. Provided and translated by Japan Airlines for Flight Safety Foundation.
2. Nakata, Hideki. E-mail communication with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Sept. 28, 2001, Oct. 1, 2001 and Oct. 4, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S.
3. U.S. National Transportation Safety Board (NTSB). NTSB Aviation Accident/Incident Database (AAID) Report no. CHI98LA058. Dec. 7, 1997. NTSB, in its final report, said that the probable cause of the accident was "the flight attendant lost his balance during pushback and struck his head on a galley door."
4. NTSB. AAID Report no. MIA00LA115 (Preliminary). March 18, 2000.
5. NTSB. AAID Report no. NYC00LA267 (Preliminary). Sept. 15, 2000.
6. NTSB AAID Report no. NYC01LA023A (Preliminary) and Report no. NYC01LA023B (Preliminary). Oct. 23, 2000.
7. NTSB. Aircraft Accident Report NTSB/AAR-91/05. *Northwest Airlines, Inc. Flights 1482 and 299 Runway Incursion and Collision, Detroit Metropolitan/Wayne County Airport, Romulus, Michigan, U.S., December 3, 1990*, 67. On Dec. 3, 1990, Northwest Airlines Flight 1482, a McDonnell Douglas DC-9, and Northwest Airlines Flight 299, a Boeing 727, collided near the intersection of Runway 09/29 and Runway 03C/21C at Detroit (Michigan, U.S.) Metropolitan/Wayne County Airport. The B-727 was on its takeoff roll on Runway 3C at the time of the collision, and the DC-9 had taxied onto the runway just prior to the accident. The B-727 was substantially damaged, and the DC-9 was destroyed during the collision and subsequent fire. Seven passengers and one flight attendant aboard the DC-9 were killed; 10 passengers received serious injuries. None of the passengers or crewmembers aboard the B-727 were injured. NTSB said, in its final report, that the probable cause of the accident was "a lack of proper crew coordination, including a virtual reversal of roles by the DC-9 pilots, which led to their failure to stop taxiing their airplane and alert the ground controller of their positional uncertainty in a timely manner before and after intruding onto the active runway." The report said, "[NTSB] strongly supports the regulation that requires flight attendants to be seated during taxi, except when they are performing safety-related duties. About six minutes prior to the accident, the [DC-9] lead flight attendant stated that she informed the pilots that the cabin was ready for departure. She later got out of her jump seat to resecure some galley equipment and a passenger tray table. However, passengers reported that she was standing in the cockpit doorway just before the collision. The pilots stated that they were unaware of her presence during this time. If she had been seated at her duty station when the collision occurred, she would have been in a better position to aid in the subsequent evacuation. It is probable that one or more passengers reached the L-1 door area before the lead flight attendants, a situation that is unacceptable."
8. FAA. Amendment 121-230, "Miscellaneous Operational Amendments," effective Oct. 15, 1992. 901.
9. NTSB. *NTSB Recommendations to FAA and FAA Responses Report*. Report no. A-87-94. Sept. 14, 1987. Peduzzi, Lauren. NTSB. Telephone communication with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Oct. 2, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S. Peduzzi said, "Our position has not changed since our 1987 recommendations; the cabin crew should be seated during taxi except when completing safety procedures."
10. Maunsell, Bev. E-mail communication with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Sept. 1, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S.
11. Wokes, Frances. Telephone interview with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Sept. 28, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S. Canadian Aviation Regulations (CARs) 605.25(1) says (paragraph numbering omitted), "The pilot-in-command of an aircraft shall direct all of the persons on board the aircraft to fasten safety belts during movement of the aircraft on the surface; during takeoff and landing; and at any time during flight that the pilot-in-command considers it necessary that safety belts be fastened." CARs 605.27(2) says, "Where the pilot-in-command directs that safety belts be fastened by illuminating the safety belt sign, a crewmember is not required to comply with [the requirement to be seated with seat belts fastened at any time that the pilot-in-command directs] during movement of the aircraft on the surface or during flight, if the crewmember is performing duties related to the safety of the aircraft or of the passengers on board; where the aircraft is experiencing

light turbulence, if the crewmember is a flight attendant and is performing duties relating to the passengers on board; or if the crewmember is occupying a crew rest facility during cruise flight and the restraint system for that facility is properly adjusted and securely fastened.”

12. International Civil Aviation Organization. Annex 6, *Operation of Aircraft*, Chapter 12, “Cabin Crew,” says, “Each cabin crewmember shall be seated with seat belt or, when provided, safety harness fastened during takeoff and landing and whenever the pilot-in-command so directs. (Note: The foregoing does not preclude the pilot-in-command from directing the fastening of the seat belt only, at times other than during takeoff and landing.)”
13. European Joint Aviation Regulations—Operations (JAR—OPS). JAR-OPS 3.320, “Seats, Safety Belts and Harnesses,” says, “During taxi, takeoff and landing, and whenever deemed necessary by the commander in the interest of safety, each crewmember shall be properly secured by all safety belts and harnesses provided.”
14. Butcher, Nick. U.K. Civil Aviation Authority (U.K. CAA). E-mail communication with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Sept. 25, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S. Butcher said that U.K. CAA’s policy, similar to FAA’s policy, is that required cabin crewmembers should be seated at their stations with seat belts and shoulder harnesses fastened during taxi except to perform safety-related duties. “There is no definitive requirement in this respect, and it is left to individual operators to determine their own operational procedures,” he said. “When we identify inadequate procedures, then we deal with this on an individual [operator] basis.” In a 1999 article, Butcher said that U.K. CAA in the past has observed conflicts between operators’ commercial considerations and cabin safety considerations. “For example, drinks or hot towels often are provided prior to takeoff, resulting in the unacceptable practice of flight attendants walking in the cabin while the aircraft is taxiing,” Butcher said. “Airlines must ensure the security of cabin crews during the taxi phase and all other critical phases of flight.” Knight, Sue; Butcher, Nick. “Planning Prevents Conflict Between Cabin Service and Safety.” *Cabin Crew Safety* Volume 34 (November–December 1999). 2.
15. Claussen, Nancy. Telephone interviews with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Sept. 20, 2001 and Oct. 4, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S.
16. FAA. Flight Standards Handbook Bulletin for Air Transportation (HBAT) 98–02, “Galley Security,” effective Jan. 15, 1998, says [paragraph numbers omitted]: “All galley items with the exception of paper cups and plastic glasses should be picked up and properly stowed prior to movement on the surface. Extension of the compliance schedule for the pick-up of paper cups and plastic glasses should not result in the safety problem of having galley components unrestrained. When an operator wishes to serve food or beverages while the airplane is stationary, the operator should ensure that this service will not affect galley security. ... Pick-up of service items is considered safety-related and, therefore, all flight attendants assigned duties on that flight may pick up galley-service items during movement on the surface.”
17. FAA. Air Carrier Operations Bulletin no. 1–94–11, “Stowage of Galley Service Items,” contains the following rationale for U.S. Federal Aviation Regulations (FARs) Part 121.577, “Stowage of Food, Beverage and Passenger Service Equipment During Airplane Movement on the Surface, Takeoff and Landing”: “[Part] 121.577 of the [FARs] prohibits a certificate holder from movement on the surface, taking off or landing an airplane when any food, beverage or tableware, furnished by the certificate holder, is located at any passenger seat. In an emergency situation requiring evacuation, litter from food service of any kind (including coffee and rolls) can be hazardous due to poor footing. ... In addition, any food item or container which the passenger carries on board the aircraft would be considered carry-on baggage and must be properly stowed in accordance with [Part] 121.589 [“Carry-on Baggage”] for movement on the surface, takeoff and landing. ... During movement on the surface, takeoff and landing, passenger food-and-beverage trays, service carts and each movie screen that extends into an aisle must be secured in the stored positions; that is, correctly positioned in their storage compartment and restraint means, if any, fastened. If there is a question regarding the stowage of a particular item, and it must be stowed for takeoff and landing, then it must also be stowed for movement on the surface. ... It should be noted that certificate holders may arrange to provide limited food and beverage service to their passengers when the aircraft is no longer moving on the [surface] (an example of this is while the aircraft is stationary on a taxiway in a long queue awaiting takeoff). In such cases, the certificate holder should have specific procedures for flight crewmembers and flight attendants to follow, including coordination and communication between the flight deck and the passenger cabin(s), to ensure that these requirements are met before aircraft movement on the surface resumes.”
18. Kolander, Candace. Telephone interview with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Oct. 2, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S.
19. Hoene, Cindy. Telephone interview with Rosenkrans, Wayne. Alexandria, Virginia, U.S. Oct. 1, 2001. Flight Safety Foundation, Alexandria, Virginia, U.S.

**Choose charter providers  
with confidence that they  
meet high standards.**



The Q-Star online database provides information about charter providers that meet standards set by the corporate aviation industry in consultation with Flight Safety Foundation. Subscribers can view details about the charter providers, including aircraft and crewmembers, at **www.qstar charter.com**.

Subscribe to the Q-Star program today.

For more information, contact Robert Feeler, Q-Star program administrator,  
by e-mail: [qstar@flightsafety.org](mailto:qstar@flightsafety.org) or by telephone: +1 (410) 604-0004.



**Flight Safety Foundation**

*An independent, industry-supported,  
nonprofit organization for the  
exchange of safety information*

**Want more information about Flight Safety Foundation?**

Contact Ann Hill, director, membership and development,  
by e-mail: [hill@flightsafety.org](mailto:hill@flightsafety.org) or by telephone: +1 (703) 739-6700, ext. 105.

Visit our World Wide Web site at <http://www.flightsafety.org>

**We Encourage Reprints**

Articles in this publication, in the interest of aviation safety, may be reprinted, in whole or in part, but may not be offered for sale, used commercially or distributed electronically on the Internet or on any other electronic media without the express written permission of Flight Safety Foundation's director of publications. All uses must credit Flight Safety Foundation, *Cabin Crew Safety*, the specific article(s) and the author(s). Please send two copies of the reprinted material to the director of publications. These reprint restrictions apply to all Flight Safety Foundation publications.

**What's Your Input?**

In keeping with FSF's independent and nonpartisan mission to disseminate objective safety information, Foundation publications solicit credible contributions that foster thought-provoking discussion of aviation safety issues. If you have an article proposal, a completed manuscript or a technical paper that may be appropriate for *Cabin Crew Safety*, please contact the director of publications. Reasonable care will be taken in handling a manuscript, but Flight Safety Foundation assumes no responsibility for material submitted. The publications staff reserves the right to edit all published submissions. The Foundation buys all rights to manuscripts and payment is made to authors upon publication. Contact the Publications Department for more information.

**Cabin Crew Safety**

Copyright © 2001 by Flight Safety Foundation Inc. All rights reserved. ISSN 1057-5553

**Suggestions and opinions expressed in FSF publications belong to the author(s) and are not necessarily endorsed by Flight Safety Foundation. Content is not intended to take the place of information in company policy handbooks and equipment manuals, or to supersede government regulations.**

Staff: Roger Rozelle, director of publications; Mark Lacagnina, managing editor; Wayne Rosenkrans, senior editor; Linda Werfelman, senior editor; Karen K. Ehrlich, web and print production coordinator; Ann L. Mullikin, production designer; and Susan D. Reed, production specialist; and, Patricia Setze, librarian, Jerry Lederer Aviation Safety Library

Subscriptions: One year subscription for six issues includes postage and handling: US\$240. Include old and new addresses when requesting address change. • Attention: Ahlam Wahdan, membership services coordinator, Flight Safety Foundation, Suite 300, 601 Madison Street, Alexandria, VA 22314 U.S. • Telephone: +1 (703) 739-6700 • Fax: +1 (703) 739-6708