



Pilot survey explores safety-related communication with flight attendants.

BY JAMIE CROSS

Sources of Friction

On March 10, 1989, an Air Ontario Fokker F-28 with four crewmembers and 65 passengers on board crashed shortly after takeoff from Dryden (Ontario, Canada) Municipal Airport during a heavy snow squall.¹ The captain and first officer, one of two flight attendants and 21 passengers were killed. The accident investigation commission focused partly on the pre-takeoff reluctance of the two cabin crewmembers to inform the flight crew

about passenger concerns that the wings needed to be deiced.

Results from the author's 2011 survey of 263 flight attendants (ASW, 11/11, p. 44) and 2012 survey of 264 airline pilots suggest that issues revealed by such reluctance continue to impede safety-related communication between these work groups.

As passengers boarded Air Ontario Flight 1363 at Dryden for its next leg to Winnipeg, snow was falling, increasing

in intensity and accumulating on the airplane's wings. By the time the flight crew had taxied to the runway threshold, a number of passengers, the flight attendants and two company captains traveling as passengers had noticed the buildup of snow on the wings, later estimated as at least 0.5 in (1.3 cm) of wet layered snow.

During its hearing, the commission repeatedly asked why two flight attendants, two captain-passengers and the other cabin occupants who had

perceived danger had not brought the wing contamination to the captain's attention. A surviving passenger, a special constable of the Royal Canadian Mounted Police, testified that he had asked the flight attendants why the airplane was not deiced, and he had doubted the incorrect explanation.

The surviving flight attendant told the commission — and the commission found — that this airline's cabin crews essentially had been trained to trust flight crews' judgment and not to question it. From knowledge of a similar 1987 situation and her experience, she said she expected certain captains not to treat seriously operational concerns expressed by flight attendants. Moreover, company flight attendant training had no technical content about the effects of snow and ice on lift.

The flight attendant said, in part, "The pilots and the flight attendants have respect among one another as friends but when it comes to working as a crew, we don't work as a crew. We work as two crews. You have a front-end crew and a back-end crew, and we are looked upon as serving coffee and lunch and things like that."

Pilot Survey

The author's 2011 ASW article about the survey of flight attendants explored the history of how several factors have led to breakdowns of cabin-to-cockpit communication. Some responses about communication noted disrespect from pilots, being treated with scorn, surly rejection of their input, a sense of intimidation and an attitude that the cabin crew's safety role was insignificant.

The survey of pilots also looked at these factors. The findings indicate that responding pilots were aware of sometimes instilling feelings of alienation among cabin crew. While pilots may

become very busy dealing with a situation, consequences may be serious if they neglect to keep the cabin crew informed. Unwillingness to believe what they are told is going on in the cabin may be due partly to few or no cabin crew inputs during flight simulator sessions.

Both groups indicated that, in practice, "two crews" still exist and work independently, with each group lacking a full concept of the information the other group needs. Some said the groups are working better together than ever before, but it is a forced harmony, dictated more by corporate pressure than by mutual respect and understanding. They suggested that joint rostering, joint training and consistent preflight introductions and briefings would strengthen their effectiveness as one aircraft crew.

Survey Methodology

The anonymous survey of global airline pilots, contacted through the Professional Pilots Rumour Network forum <www.pprune.org> and other methods, consisted of a 28-item, Web-based questionnaire posted for two months. A number of questions duplicated those in the survey of flight attendants, to allow the pilots' perceptions and interpretations of a survey scenario to be directly compared to those of flight attendants.

In the pilot sample, 98 percent of the responses were from males, and 57 percent of respondents were in the 26-45 age range. The majority (76 percent) self-identified as currently employed as pilots with airline experience of between two to five years in which at least one flight attendant was aboard, and 53 percent were captains or training captains.

The research found that 19 percent of 196 total responses

to the question gave the opinion that cabin crew "sometimes" or "occasionally" take their work seriously, especially in matters of safety (Table 1). It also found that 48 percent of 196 respondents were "not at all" confident or were "occasionally" confident in flight attendants' ability to accurately describe or name parts of the airplane such as the flaps, winglets or horizontal stabilizer. Eighty-five percent of 196 respondents indicated that a flight attendant at least "occasionally" had reported to them safety information that the pilot considered trivial, unimportant or inconsequential.

Some pilots presumed that safety information originating with the cabin crew would be of low quality, and therefore, they would be less likely to act upon information from the cabin, and perhaps would respond negatively.

Through added comments, some pilots indicated that they generally were willing to entertain any communication from a flight attendant. Data also showed that 44 percent noted there was at least "sometimes" reluctance — fearing they would be chastised, ignored or dismissed — among cabin crew to pass information forward to the flight deck

How seriously do you believe cabin crew take their work, especially in matters relating to safety?		
Answer Options	Response Percent	Response Count
Never seriously	0%	0
Occasionally seriously	9%	17
Sometimes seriously	10%	20
Usually seriously	54%	105
Frequently/always seriously	28%	54

Note: A total of 264 airline pilots completed the 28-item survey; 196 answered this question. Percentages are rounded.
Source: Jamie Cross

Table 1

(Table 2). Thirty-seven percent of 196 responses indicated that pilots ignored interphone calls from the cabin at least “occasionally.”

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History Matters

On Aug. 31, 1988, Delta Air Lines Flight 1141, a Boeing 727, crashed shortly after takeoff from Runway 18L at Dallas-Fort Worth (Texas, U.S.) International Airport. Among the 108 people on board, there were 14 fatalities and 26 were seriously injured.² The probable cause was the inadequate cockpit discipline that resulted in the flight crew’s attempt to take off without the wing flaps and slats properly configured, and the failure of the takeoff configuration warning system. One finding was that the flight crew’s vigilance had been reduced by extensive, non-duty-related conversations and the lengthy presence of a flight attendant in the cockpit during the 25-minute taxi.

On Feb. 3, 1988 — about five minutes before landing at Nashville (Tennessee, U.S.) International Airport — the cabin crew of American Airlines Flight 132, a McDonnell Douglas DC-9-83, observed and quickly took the initiative to report light smoke and irritating fumes. These later were determined to have emanated from undeclared, improperly packaged and mislabeled hazardous materials causing a chemical reaction in the cargo compartment.³

One of the four flight attendants continued to report deteriorating cabin conditions to the

first officer, but investigators found these reports were not taken seriously by either pilot. On final approach, part of the cabin floor had started to soften and sink — and passengers in one row had to be moved — because of the heat generated.

The captain only began to verbalize that more than fumes might be involved when a deadheading first officer corroborated the flight attendant’s observations. Nevertheless, the captain remained skeptical about the smoke, did not declare an in-flight emergency and after landing, did not order an evacuation until the deadheading first officer described “a big problem” of smoke and heat coming through the floor, said the investigation report.⁴

The flight crew landed safely, and there were no serious injuries during an evacuation via slides, but the report said no evacuation instructions had been given to the passengers over the public address system, the evacuation should have been conducted on the runway, and aircraft rescue and fire fighting (ARFF) personnel should have been requested to meet the landing airplane. The report said that “while it is unlikely that the captain could have taken any action to land the airplane more quickly, the cockpit crew failed to use the cabin crew effectively to obtain an accurate understanding of the developing problem.”

Less serious events reported by flight attendants also have described cabin-cockpit challenges. An Airbus A320 on arrival at an airport was met by ARFF vehicles. It was only after deplaning that a flight attendant found out from ARFF personnel that they had responded to an engine fire as the aircraft taxied from the runway.⁵ A Boeing 777 flight crew shut down an engine, dumped fuel and returned to the departure airport, reportedly without communicating with the cabin crew, including a flight attendant who had noticed the fuel dumping.⁶

During their training, flight attendants learn that pilots prioritize their actions in response to an emergency or abnormality, and may consider communication with them a low priority. However, a concern expressed by some survey respondents was that routine lack of communication only alienates them as a work group, and

Do you believe cabin crew are reluctant to contact the flight deck with safety information in case they may be chastised, ignored or dismissed?

Answer Options	Response Percent	Response Count
Often reluctant	2%	4
Occasionally reluctant	21%	41
Sometimes reluctant	21%	41
Rarely reluctant	33%	64
Never reluctant	23%	46

Note: A total of 264 airline pilots completed the 28-item survey; 196 answered this question. Percentages are rounded.

Source: Jamie Cross

Table 2

may even strengthen an inclination to act independently when acting collaboratively would be best.

Exploring Implications

Together, these surveys suggest some ways that undesirable patterns may develop gradually in cabin-cockpit communication. If an airline's flight attendants lack adequate training about what safety information the pilots need, how to present this information and when the timing is suitable to present the information, their tendency — commendably — may be to pass forward to the flight deck everything that, to them, seems to have potential value.

An example cited by the pilots was flight attendants not being trained, or being trained inadequately, for reseating passengers within the cabin; 7 percent indicated that they were not consulted, or only sometimes were consulted, when the cabin crew shifted a significant number of passengers enough to possibly affect the aircraft center of gravity.

If these pilots perceive the typical flow of information from the cabin crew as irrelevant or rarely relevant to safety, or presented in a unprofessional manner, or presented at an inappropriate time, their response or lack of response may come across as rude and, on occasion, offensive to a flight attendant. A cycle of conflict and hostility — an us-versus-them culture — could evolve.

The Dallas-Fort Worth accident was the basis for one survey question about adherence to the sterile cockpit rule. In response, 70 percent of the pilots reported that they had been contacted for non-emergency events during taxi, 5 percent had been contacted for non-emergency events during takeoff, and 57 percent had been contacted

for non-emergency events during the climb below 10,000 ft, all phases where the sterile cockpit rule applies. In addition, 26 percent marked that their cabin crews “never” adhere to this rule.

These rule infringements may imply a need for renewed emphasis on compliance, with periodic reminders of the lessons learned from relevant accidents and voluntary safety reporting. They also may go some way in explaining the sometimes negative responses of pilots to cabin crewmembers; that is, the context of being interrupted unnecessarily too many times in safety-critical phases of flight when workload is high.

The survey also asked what pilots would do during an in-flight scenario in which they had failed to identify which engine was on fire, and a flight attendant tried to present them accurate information. This scenario, also posed to flight attendants, was adapted from the fatal 1989 accident in which a British Midland Airways Boeing 737 crashed short of the runway after shutdown of the wrong engine.⁷

When asked if they received information from the cabin crew that there was a discrepancy between the engine they had shut down and engine fire observed by the cabin crew, 16 percent of the pilots said they would act immediately based solely on that information. They either would restart the engine or restart the procedure to identify the affected engine. However, the majority, 84 percent, said that they would ask for additional confirmation from the reporter or in-charge cabin person before they would reconsider their initial decision.

Although the majority's response takes extra time, that viewpoint can be understood partly in terms of how airline pilots respond in simulators based on procedures, which call for implicitly trusting instrumentation and checklists.

Rarely does such training include a call from a flight attendant saying that, maybe, they should reconsider their decision. 🌀

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Notes

1. Moshansky, V.P. *Final Report – Commission of Inquiry Into the Air Ontario Crash at Dryden, Ontario*. The Commission (Ottawa) Canada, 1992. The report noted that “Air Ontario F-28 pilots had access to numerous cautions, warnings and instructions not to take off unless all of the aircraft lifting surfaces were completely cleared of ice and snow.” An analysis in its human factors appendix noted that “it seems inconceivable that the crew would have been unaware of snow on the wings.”
2. U.S. National Transportation Safety Board (NTSB). *Delta Air Lines, Boeing 727-232, N473DA, Dallas-Fort Worth International Airport, Texas, August 31, 1988*. NTSB/AAR-89/04, 1989.
3. NTSB. *In-Flight Fire, McDonnell Douglas DC-9-83, N569AA, Nashville Metropolitan Airport, Nashville, Tennessee, February 3, 1988*. NTSB/HZM-88/02, 1988.
4. Investigators found varying degrees of thermal damage, such as a melted and separated aluminum strap supporting aft bulkhead liners, only in the aft one-third of the mid-cargo compartment and the area immediately above the compartment ceiling panels, up to and including the cabin flooring.
5. U.S. National Aeronautics and Space Administration (NASA) Aviation Safety Reporting System (ASRS) report no. 714718, July 2006.
6. NASA ASRS report no. 577723, February 2003.
7. U.K. Air Accidents Investigation Branch. *Report on the Accident to Boeing 737-400 G-OBME Near Kegworth, Leicestershire on 8 January 1989*. Aircraft Accident Report 4/90, 1990.