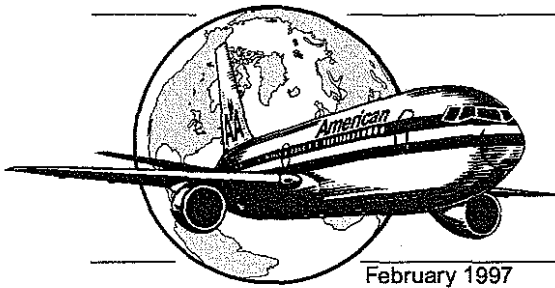


Attachment 6

to Operational / Human Factors Group Report

DCA07MA310

FLIGHT OPERATIONS TECHNICAL INFORMATION BULLETIN



February 1997

Number 97-02

Flight Operations Technical Informational Bulletin

Emergency Evacuations

When an abnormal or emergency situation arises the Captain may be faced with a difficult decision as to whether or not to conduct an emergency evacuation. Acting with limited information, the Captain must balance the hazard of passenger evacuation against the hazard of remaining onboard. It is not feasible for the Flight Department to establish a rigid set of rules regarding evacuation since there are many situational variables that can occur. The Captain alone must evaluate the specific condition and make the appropriate decision.

Passengers and crew are subject to two risks in an emergency evacuation. First is the obvious risk of injury during egress, particularly in the case of wide-body airplanes, or high wind conditions which may blow the slides askew. Passengers may be injured, perhaps seriously. Second, after the passengers are off the airplane, they may be exposed to rain, snow, freezing temperatures, or other adverse weather conditions while the local airport arranges ground transportation. Finding a warm place to assemble two hundred or more persons, especially at an off-line, emergency airport may be difficult.

On the other hand, there may be risks to the passengers for staying aboard. Other than an explosive or catastrophic situation in which the need to evacuate is obvious, the primary danger is fire or smoke. Since fire or smoke itself can take different forms posing a wide range of risks, from negligible to serious, a discussion of possible events may provide a framework for decision-making.

- Fire or smoke originating in the cabin or cargo compartment is the most dangerous condition that can face an airplane and its occupants. The Captain may have little information as to the source or the severity of a fire since it can be behind bulkheads or in a cargo container. The adverse consequences are so severe and escalation so rapid that an immediate landing should be accomplished. The passengers and crew should then be evacuated if the situation continues to pose a threat.

- Engine or APU fire or smoke. Engines and APUs are built to contain high temperatures and nothing in these areas will normally support combustion except fuel which can be cut off with the fire handle. Furthermore, fire extinguishing agent is available. Engines have been known to "torch" on start, or incur small residual fuel fires which may produce smoke, and even some flames within the engine, which normally burn out quickly once the fire handle is pulled. A more serious engine fire, possibly caused by an uncontained engine failure, may be spread by pneumatic pressure from damaged ducts which can be isolated by the fire handle.
- Brakes and wheel assemblies become hot after braking and there have been instances of hydraulic fluid leaking onto these components causing smoke. This smoke, which is outside the pressurized area of the airplane will normally not pose a threat to the occupants. On the other hand, hard braking of a heavy airplane during a rejected takeoff can cause enough heat to create a brake or landing gear fire which could potentially be dangerous.

Accordingly, the following guidelines are suggested for your consideration:

1. The decision to evacuate should be deliberate and carefully considered weighing the risks against evacuating against the risks of remaining aboard.
2. The most hazardous event is fire or smoke within the pressurized area of the airplane (cabin or cargo compartment).

3. Smoke, or some flames, in the engines, APU, or wheel assembly areas will normally burn out quickly and not endanger the cabin. Request airport fire equipment, pull the fire handle, discharge fire suppression agent as appropriate, carefully monitor the area and communicate with crash vehicle crews and tower. Time and situation permitting, clear the active runway. Evacuate the passengers if the fire does not extinguish in a reasonable time or appears to be spreading.

Whatever your decision, you must be specific and unambiguous in conveying your intent to the Flight Attendants. Do not use colloquial expressions like "dump em out." One evacuation happened after the Captain said "we may have to evacuate." The only word the flight attendant heard was "evacuate."

Notwithstanding these guidelines, only the Captain can evaluate a specific situation, apply good judgment, and reach the *best* decision given the information available. The emergency evacuation is a powerful tool. Use it cautiously.

Captain P. W. Railsback
Managing Director
Flight Operations Technical
