

NTSB Recommendations, American Airlines Flight 965

“Therefore, as a result of the investigation of this accident, and with the concurrence of the Aeronautica Civil of Colombia, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Evaluate the effects of automatically stowing the speedbrakes on existing airplanes when high power is commanded and determine the desirability of incorporating automatic speedbrake retraction on these airplanes for windshear and terrain escape maneuvers, or other situations demanding maximum thrust and climb capability.(Class II, Priority Action) (A-96-90)

Require that newly certified transport-category aircraft include automatic speedbrake retraction during windshear and ground proximity warning system escape maneuvers, or other situations demanding maximum thrust and climb capability. (Class II, Priority Action) (A-96-91)

Evaluate the Boeing Commercial Airplane Group procedure for guarding the speedbrake handle during periods of deployment, and require airlines to implement the procedure if it increases the speed of stowage or decreases the likelihood of forgetting to stow the speedbrakes in an emergency situation. (Class II, Priority Action) (A-96-92)

Evaluate the terrain avoidance procedures of air carriers operating transport-category aircraft to ensure that the procedures provide for the extraction of maximum escape performance and ensure that those procedures are placed in procedural sections of the approved operations manuals. (Class II, Priority Action) (A-96-93)

Require that all transport-category aircraft present pilots with angle-of-attack information in a visual format, and that all air carriers train their pilots to use the information to obtain maximum possible airplane climb performance. (Class II, Priority Action) (A-96-94)

Develop a controlled flight into terrain training program that includes realistic simulator exercises comparable to the successful windshear and rejected takeoff training programs and make training in such a program mandatory for all pilots operating under 14 CFR Part 121.(Class II, Priority Action) (A-96-95)

Require all flight management system (FMS)-equipped aircraft, that are not already capable of so doing, to be modified so that those fixes between the airplane's position and the one towards which the airplane is proceeding are retained in the FMS control display unit and FMS-generated flightpath following the execution of a command to the FMS to proceed direct to a fix. (Class II, Priority Action) (A-96-96)

Inform pilots of flight management system (FMS)-equipped aircraft of the hazards of selecting navigation stations with common identifiers when operating outside of the United States and that verification of the correct identity and coordinates of FMS-generated waypoints data is required at all times.(Class II, Priority Action) (A-96-97)

Develop and implement standards to portray instrument approach criteria, including terminal environment information and navigational aids, on FMS-generated displays that match, as closely as possible, the corresponding information on instrument approach charts. (Class II, Priority Action) (A-96-98)

Until such time as common standards are developed for flight management system (FMS)-generated displays and instrument approach charts, require the Jeppesen- Sanderson Company to inform airlines operating FMS-equipped aircraft of each difference in the naming and/or portrayal of navigation information on FMS-generated and approach chart information, and require airlines to inform their pilots of these differences. (Class II, Priority Action) (A-96-99)

Require pilots operating under 14 CFR Part 121 to have open and easily accessible the approach and navigation charts applicable to each phase of flight before each phase is reached. (Class II, Priority Action) (A-96-100)

Examine the effectiveness of the enhanced ground proximity warning equipment and, if found effective, require all transport-category aircraft to be equipped with enhanced ground proximity warning equipment that provides pilots with an early warning of terrain. (Class II, Priority Action) (A-96-101)

Require that all approach and navigation charts graphically present terrain information. (Class II, Priority Action) (A-96-102)

Require that approach charts to airports that do not have radar coverage available at the time of the publication of the chart prominently state, on the chart, that radar coverage is unavailable. (Class II, Priority Action) (A-96-103)

Review, with the International Civil Aviation Organization (ICAO) member states, the naming conventions used for standard instrument departures (SIDs) and standard terminal arrival routes (STARs), and urge member states with SIDs and STARs that do not follow the ICAO naming convention to rename them in accordance with the ICAO recommendation. (Class II, Priority Action) (A-96-104)

Develop, with air traffic authorities of member states of the International Civil Aviation Organization, a program to enhance controllers' fluency in common English-language phrases and interaction skills sufficient to assist pilots in obtaining situational awareness about critical features of the airspace, particularly in non-radar environments. (Class II, Priority Action) (A-96-105)

Revise Advisory Circular 120-SIB to include specific guidance on methods to effectively train pilots to recognize cues that indicate that they have not obtained situational awareness, and provide effective measures to obtain that awareness. (Class II, Priority Action) (A-96-106)