

10 March 1999
B-H200-16632-ASI



Mr. Tom Haueter, AS-10
National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594

Subject: Crossover Speed - USAir 737-300 N513AU Accident near
Pittsburgh, Pennsylvania - 08 September 1994

Reference: Your e-mail to Rick Howes, February 18, 1999

Dear Mr. Haueter:

This letter is in response to the reference request in that one of the NTSB Board Members asked if Boeing had developed the cross over speeds for the 727, 757, 767, 747, and 777, and whether pilots have been informed.

The importance of crossover speed to the operation of an aircraft has been thoroughly considered following the subject accident. "Crossover speed" is a term used to denote the speed where full lateral control is required to statically balance full rudder deflection. The sensitivity of crossover speed to minor variations in flying the maneuver, results in it not being a good indicator of how controllable an aircraft may be in rudder upset situations.

Given the above, we have concluded there are no operational procedures that require knowledge of the crossover speed. Boeing's position is that crossover speed knowledge neither enhances nor warrants changes to the operational procedures of any aircraft. Therefore, Boeing does not plan to include information on crossover speeds in any of its operational information. It should be noted that USAir flight 427 was operating at or slightly above the crossover speed when the accident scenario started.

Page 2
Mr. Haueter
B-H200-16632-ASI

What is important is that proper recovery procedures be followed during recovery from any lateral-directional upset. The Airplane Upset Recovery Training Aid developed by an industry team has provided guidance to flight crews which will enhance their ability to recover from upsets whatever the cause. Training of this type has been implemented and praised by several airlines and is highly desired by aircrews.

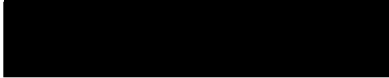


If you have any questions, please do not hesitate to call.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ronald J. Hinderberger", written over a black rectangular redaction box.

Ronald J. Hinderberger
Director, Air Safety Investigation
Org. B-H200, M/S 67-PR



cc: Mr. John Clark, AS-2T