Factual Report – Attachment 9

Boeing Flight Operations Bulletin

OPERATIONAL FACTORS

DCA17FA076

F O B
FLIGHT OPERATIONS BULLETIN

FLIGHT OPERATIONS

Boeing Long Beach

June 25, 2001
ATA: 27-00, Flight Controls
Bulletin No. DC-9-01-02
MD-80-01-02
MD-90-01-02
B-717-01-05

Applicable to: *All DC-9, C9, MD-80, MD-90 & B-717 Aircraft*

Subject: FLIGHT CONTROL JAM

One MD-80 operator has reported a single event during which a revenue flight experienced a high speed Rejected Takeoff when the pilot was unable to rotate the airplane at Vr. The airplane reached a speed of 175 KIAS, but was able to stop on the runway with no damage other than overheated brakes. Subsequent investigation revealed that while the right elevator operated normally, the left elevator was jammed in the full-nose-down position.

During the night prior to the attempted flight, the airplane had been subjected to very strong winds, with gusts approaching 100 MPH; at times, these winds were believed to have been quartering tailwinds. It is also believed that this wind forced the left elevator into a trailing edge down (TED) position beyond the design limits, and caused it to jam when the limits were exceeded. Both the flight crew and line maintenance had expressed concern about the possible effects of the wind on the flight controls, but because the wind was still strong and gusting, found it inadvisable to use a lift to physically inspect and ensure freedom of movement. Maintenance therefore responded to the Maintenance Manual requirement for a high wind speed "operational check" by exercising the flight controls from the cockpit; the flight crew did the same. In these cases, it is believed that the control tabs responded properly to the cockpit input, but that the 'feel' with one elevator jammed was not sufficiently different from the norm to alert the crew to the problem.

This is the first recorded case of an elevator jam from this type of damage in the 35 year history of the DC-9/MD-80 flight control system. For all these years, the Maintenance Manual has required an "operational check" of the controls after high wind exposure,

Flight Operations, Boeing Long Beach, 3855 Lakewood Boulevard, M/C: (D041-0055)
Long Beach, CA 90846-0001, USA/Phone: [redacted]
BOEING

but has not provided any detail on how that check was to be performed. A revision to the manual is underway which will state:

> IF THERE IS ANY POSSIBILITY THAT THE AIRCRAFT HAS BEEN SUBJECTED TO WINDS IN EXCESS OF 75 MPH, PERFORM VISUAL AND PHYSICAL INSPECTIONS (MOVING THE SURFACES BY HAND) OF ALL FLIGHT CONTROLS, AND AN OPERATIONAL CHECK OF THE SYSTEMS.

If weather conditions are such that this cannot be safely performed, an acceptable alternative would be to turn the airplane into the wind and visually observe that both elevators move to a faired position; this check should then be followed by a flight control check from the cockpit, with the surfaces and tabs visually verified to move properly in response to control column input.

Operators should ensure that flight and maintenance personnel are aware of the contents of this bulletin, and understand that following a high wind exposure, verification of the proper functioning of the flight controls is absolutely essential prior to dispatching the aircraft for flight.

Should additional information be required, please submit your inquiries through your local field service representative or to Boeing Long Beach, ATTN: Flight Operations Customer Service, 3855 Lakewood Boulevard, Mail Code: D041-0055, Long Beach, California 90846-0001, USA, fax: (562) 593-3471.

[redacted]
T. G. Dineen
Chief Test Pilot
Experimental & Production Test
Flight Operations Long Beach

PAB:csl

Q:\FOCS\AOLS\windfob.doc