

GOVERNMENT OF INDIA
CIVIL AVIATION DEPARTMENT



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महानिदेशक नागर विमानन का कार्यालय
सफदरजंग एयरपोर्ट के सामने
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OPERATIONS CIRCULAR 3 of 2010

Subject: **Vertical Speed Indicator: Knowledge Needed By Pilots**

1. PURPOSE: To emphasise the importance of pilot awareness regarding the characteristics and capabilities of non-instantaneous vertical speed instruments. It has been developed in response to National Transportation Safety Board (NTSB) safety recommendation and contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements

2. BACKGROUND: Investigation was carried out, of a 1996 accident at LaGuardia Airport, which involved a McDonnell Douglas MD-88. During the approach to runway 13, the MD-88 struck the approach light structure at the end of the runway deck.

- A. It was determined that one of the probable causes of the accident was the inability of the pilot-flying (PF) to overcome a misperception of the airplane's position relative to the runway during the visual portion of the approach.
- B. A contributing cause to the accident was the lack of instantaneous vertical speed information available to the pilots. During the 12 seconds before impact, the airplane's rate of descent, which had been averaging about 700 feet per minute, began to increase. Although the pilot-not-flying (PNF) called out a sink rate of 700 feet per minute, based on the Vertical Speed Indicator

(VSI) information, the NTSB determined that the airplane was actually descending at about 1,200 feet per minute.

- C. The Safety Board concluded that the lag time in the display of vertical speed information in the VSI installed in the airplane caused the PNF to provide the PF with inaccurate vertical speed information.
3. **RECOMMENDATION:** Chief of Safety and of Operations and training managers should make their pilots aware (through specific training, placards, or other means) of the type of vertical speed information (instantaneous/non-instantaneous) provided by the vertical speed indicators installed in their airplanes, and make them aware of the ramifications that type of information could have on their perception of their flight situation.

Sd/-
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