



# National Transportation Safety Board

Washington, D.C. 20594

October 26, 1994

Mr. Luis Alberto Figueira Lima Da Silva  
Investigator-in-Charge, Avn Inspection Div.  
Directorate of Civil Aviation  
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1700 Aeroporto  
Lisboa, PORTUGAL

Dear Luis Alberto Figueira Lima Da,

Thank you for the opportunity to comment on the confidential draft report concerning the landing accident at Faro, Portugal involving a Martinair DC-10-30 on December 21, 1992.

It appears that the airplane and autoflight systems worked properly. Information from the quick access recorder indicates that the speed error (which is one of the parameters controlling the autothrottle computer and translates how hard the computer wants to push the throttles forward) suddenly increases when the throttles were reduced to idle at 150 feet radio altitude, rather than at 50 feet when the normal autothrottle retard mode would have been in effect. The report contradicts itself when on page B-5 it indicates the above information, but later, on the last sentence on page D-3, it states "The power was reduced at 150 ft instead of at 50 ft by autothrottle action." Consideration might be given to changing the latter sentence to indicate manual intervention by the crew.

Martinair's Flight Crew Operating Manual (FCOM) dated March 1, 1989 states on page 05-60-09 of Volume II, approach precautions for windshear procedures. It appears from the report that the following procedures were not followed:

Achieve a stabilized approach no later than 1000 feet AGL

Avoid large thrust reductions or trim changes in response to sudden airspeed increases as these may be followed by airspeed decreases.

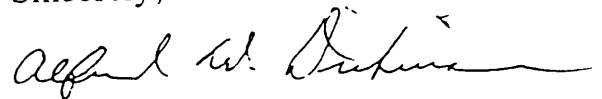
Consider using the recommended flap setting. (Recommended landing flap setting is minimum flap setting authorized for normal landing configuration.)

Use the autopilot and autothrottles for the approach to provide more monitoring and recognition time. If using the autothrottles, manually back-up the throttles to prevent excessive power reduction during an increasing performance shear.

During the approach, use of flaps 50, the low airspeed, and throttle movement to idle, minimized the flight crew's options for recovery and increased the recovery time required. Once the autopilot was disengaged, CWS with ATS remained: functions which were inappropriately used by the flightcrew.

If the commission feels that windshear was present during the approach then consideration should be given to recommending implementation or review of crew training for windshear recovery.

Sincerely,



Alfred W. Dickinson  
U.S. Accredited Rep