

CY 70-2



DEPARTMENT OF TRANSPORTATION  
NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20591

January 12, 1970

A70-2

OFFICE OF  
THE CHAIRMAN

Honorable John H. Shaffer  
Administrator  
Federal Aviation Administration  
Department of Transportation  
Washington, D. C. 20590

Dear Mr. Shaffer:

In the course of the Board's investigation of an accident involving a Scandinavian Airlines System (SAS) McDonnell-Douglas DC-8-62, in Santa Monica Bay, during an approach to Los Angeles International Airport on January 13, 1969, a certain characteristic of the landing gear position indicator light system was noted. We believe that a change should be accomplished in this system in the interests of greater indicator light reliability and aircraft operational safety.

The flight had been cleared for an approach on the back course ILS to Runway 7R. While entering the descent phase, and as the landing preparations were being completed, the crew could not get a "safe" down and locked nose gear indication. The approach was continued with the first officer flying the aircraft and the captain and flight engineer attempting to ascertain whether or not the nose gear was down and locked. Immediately after the flight engineer had visually verified and verbally reported that the nose gear was, in fact, down and locked, the aircraft struck the water.

Of the 45 persons on board the aircraft at the time of the accident, 15 were fatally injured or missing and 17 persons sustained varying degrees of injury.

The "fail-safe" concept of having two separate light units in the "safe" light indicator system for the DC-8 landing gear is fine if true redundancy in practice is provided. In this case, however, the opaque cover shield of the double light unit could be completely illuminated by one bulb. In effect, with this system, it normally takes failure of the second bulb to make known the fact that the first bulb has failed previously. In addition, there is no "press to test" circuit to determine whether or not both bulbs in any one down and locked indicator are inoperative.

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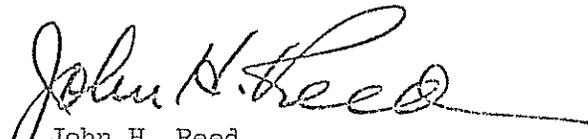
Investigation of this accident also disclosed that one of the two nose gear indicator bulbs had a broken filament, the other had a loose electrical connection. Thus, the unsatisfactory aspects of the indicator light system are pointed up when the conclusion is made that one of these bulbs had been inoperative for some time, probably a long enough time for correction if failure of the first bulb had been noticeable.

It should further be noted that, even if a previously failed bulb has not been replaced, the knowledge that there has been one-bulb operation for some time can be valuable toward a rapid fault assessment upon failure of the second bulb.

In consequence of the foregoing, the Board recommends that the FAA take the action necessary to ensure correction of the above-noted deficiency in landing gear position indicator dependability.

Personnel of our Bureau of Aviation Safety will be pleased to provide any further information or assistance that might be considered desirable in respect to this matter.

Sincerely yours,



John H. Reed  
Chairman