

1689

NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: May 25, 1984

Forwarded to:

Honorable Donald D. Engen
Administrator
Federal Aviation Administration
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-84-53 and -54

On May 17, 1984, a Northwest Orient Airlines' McDonnell Douglas DC-10-40, N150US, departed the Minneapolis/St. Paul International Airport, Minnesota, as Flight 42. There were 236 passengers and a crew of 12 including 3 flight crewmembers and 9 flight attendants on board. While climbing through flight level 330, smoke and sparks erupted from beneath the first officer's glareshield panel, and the master caution light on the first officer's glareshield, and the master warning light and the engine failure warning lights on both the captain's and first officer's glareshield illuminated. The insulation on a wiring bundle and a plastic insulator under the glareshield burned for about 2 minutes. The burning ceased spontaneously. The flightcrew declared an emergency and the flight safely returned to the Minneapolis/St. Paul International Airport. The flightcrew did not use smoke goggles or protective breathing equipment and a fire extinguisher was not needed.

The Safety Board's investigation of the incident revealed that the wiring bundle under the first officer's glareshield, which supplies electrical power to the master caution light, the master warning light, and the engine failure warning light and possibly other circuits, was chafed and burned and that the wire bundle was improperly routed under the Isolume 1/ light, P/N 90090-1, in such a way that the sharp edge of the light bracket had rubbed through the wiring sleeve and the insulation, causing the wires to short circuit. It is possible that the wiring was routed improperly on this airplane during reinstallation of the glareshield panel which had been removed for maintenance. In this incident, the short circuit occurred beneath the first officer's glareshield; however, the same condition could occur on the captain's side.

Our inspection of several other Northwest Orient Airline's DC-10 airplanes revealed similar instances of improperly routed wire bundles, indicating that the conditions exist for the possible repetition of a similar incident. Although we have not inspected the fleets of other operators, we believe that a similar improper routing of the wire bundles could have occurred in other DC-10 airplanes. We have been informed that the McDonnell Douglas Corporation is preparing an All Operators Letter to be issued shortly on this subject and that a visual inspection can be easily accomplished. However, the Safety Board believes that operations of DC-10 airplanes should be made aware of this potential immediately and that the wiring bundles should be visually inspected immediately.

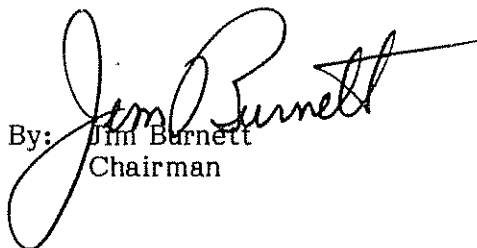
1/ Vendor name.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue a telegraphic Air Carrier Operations Bulletin to all DC-10 principal operations inspectors for immediate notification of DC-10 operators providing information that (1) the potential for a short circuit exists in electrical wiring beneath the glareshields above both pilot stations; (2) such a short circuit could be accompanied by sparks and smoke and (3) circuits to the master caution light, master warning light, and engine failure warning light could be activated. (Class I, Urgent Action) (A-84-53)

Require an immediate visual inspection of wiring bundles beneath the DC-10 cockpit glareshields to determine that they are not chafed and are routed so that they are not sandwiched between the Isolume light, and the flight guidance control panel or the glareshield. (Class I, Urgent Action) (A-84-54)

BURNETT, Chairman, GOLDMAN and BURSLEY, Members, concurred in these recommendations. GROSE, Member, did not participate.

By: 
Jim Burnett
Chairman