

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

FOR RELEASE: 6:30 P.M., E.D.S.T., APRIL 2, 1975

ISSUED: April 2, 1975

Forwarded to:
Honorable Alexander P. Butterfield
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-75-28

The National Transportation Safety Board's recent investigation of an incident involving a National Airlines Boeing 727 indicates that a leaking toilet service drain may have contributed to the cause of the incident.

On April 30, 1974, the airplane was cruising at 33,000 feet, 60 miles east of El Paso, Texas, when the No. 3 engine separated from the fuselage and fell to earth. The airplane was landed safely at Houston, Texas; there were no injuries to passengers or crew.

The Safety Board's investigators and a powerplants engineer from the FAA's New England Region have determined that the engine separated because a mount bolt failed due to excessive loads when the engine stopped suddenly. The engine stopped because one or more of the first stage fan blades failed.

Evidence strongly suggests that ice was ingested which caused the blade to fail. Evidence also indicates that the ice was formed from leaking fluid from a toilet service drain. A large blue stain was found on the right lower forward fuselage skin adjacent to the toilet service door, and similar stains led from this area aft, to a broken landing light lens at the wing root fillet and then over the wing in line with the No. 3 engine inlet.

After the landing at Houston, blue toilet flushing fluid was leaking from the forward toilet service door, and the drain plug under the drain line cap at the service panel was incorrectly positioned. About 8 ounces of fluid were found in the drain line. Under normal conditions, this line should contain no fluid except when the manual drain valve at the toilet tank is opened. During subsequent examination of the separated engine, laboratory analysis identified traces of human waste on the engine inlet nose dome.


Recently there have been several incidents in which large pieces of blue ice separated from aircraft in flight and caused varying degrees of damage on ground impact. Such occurrences constitute a hazard to life and property not only on the aircraft but also on the ground.

The Federal Aviation Administration has advised all operators and FAA maintenance inspectors of the problem and emphasized more frequent inspections and improved maintenance practices in servicing toilets.

However, the Safety Board believes that more positive action is required in order to prevent the fluid leakage from toilet drains. Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue an Airworthiness Directive to require that all external ground service fluid drains on Boeing 727 series airplanes be modified to incorporate a more positive method of sealing to prevent overboard leakage in flight of fluid subject to freezing in the flight environment.

REED, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members concurred in the above recommendation.


By: John H. Reed
Chairman

THIS RECOMMENDATION WILL BE RELEASED TO THE PUBLIC ON THE ISSUE DATE SHOWN ABOVE. NO PUBLIC DISSEMINATION OF THE CONTENTS OF THIS DOCUMENT SHOULD BE MADE PRIOR TO THAT DATE.