

LOG 1454

Ref to GE AI-4

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

Proj Manager, CF6 engine  
Mr. Jim Tucker

May Lou Caldwell  
4:05 P.M.  
4-6-82

ISSUED: April 6, 1982

Forwarded to:

Honorable J. Lynn Helms  
Administrator  
Federal Aviation Administration  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-82-34 through -37

Members of the National Transportation Safety Board's technical staff have been working closely with engine certification personnel from the Federal Aviation Administration's (FAA) Northeast Region, engineers from the General Electric Company, and other trained investigative personnel in an effort to identify the failure modes involved in the recent failures of the General Electric CF6-50 stage 1 high pressure turbine disks.

The Safety Board fully appreciates the complexity of the problem in formulating effective corrective action as evidenced by three previous Airworthiness Directives issued by the FAA. However, the Safety Board is greatly concerned about the catastrophic potential of repeated failures of this type, and therefore urges the FAA to formulate immediate corrective action to preclude a continuation of these failures. As the investigation of this matter continues, the Safety Board may have additional recommendations. Accordingly, the National Transportation Safety Board recommends that, as an interim measure, the Federal Aviation Administration:

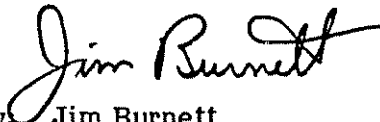
Immediately issue an Airworthiness Directive to require more conservative repetitive inspection intervals and a conservative life limit to the stage 1 high pressure turbine disk P/N 9045 M34 P07 and 9045 M34 P09. The cyclic limits specified should be predicated on both the lowest number of cycles at which cracks have been detected in service experience and the estimated propagation rate of the cracks. (Class I, Urgent Action) (A-82-34)

Convene a team of experts in nondestructive inspection technology to review the adequacy of the inspection procedures used by the engine maintenance and overhaul facilities to detect cracks in their initial stages in CF 6-50 stage 1 high pressure turbine disks. (Class I, Urgent Action) (A-82-35)

Reevaluate the methods used during the certification of the CF 6-50 engine to assure the adequacy of tests and analyses to validate the design strength and the determination of maximum safe life of the stage 1 high pressure turbine disk. (Class II, Priority Action) (A-82-36)

Communicate the contents of these recommendations to the Civil Aviation Authorities of all foreign countries operating aircraft with the CF6-50 engine. (Class I, Urgent Action) (A-82-37)

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

  
By Jim Burnett  
Chairman