

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

FOR RELEASE: 6:30 A.M., E.D.T., MARCH 9, 1976

(202) 426-8787

ISSUED: March 9, 1976

Forwarded to:

Honorable John L. McLucas
Administrator
Federal Aviation Administration
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-76-6 and 7

On August 27, 1975, an Air Executive Inc., Piper PA-31, N66873, was involved in an incident in flight about 5 miles from the Baltimore Washington International Airport. The National Transportation Safety Board's investigation of the incident revealed a maintenance problem which we believe warrants your attention.

When the landing flaps were selected to the 15⁰ extended position, the right flap extended but the left flap remained in the full-up position. The aircraft then rolled to the left. The pilot reselected the flaps to the retract position, but the right flap did not respond. The pilot tried various airspeeds and found that the aircraft stabilized at about 140 mph. Fuel was depleted from the left wing auxiliary tank to compensate for the additional lift on the right wing and the aircraft was landed without further difficulty.

Examination revealed that the transmission assembly for the left landing flap (P/N 489-380) was jammed in the full-up position. Further examination disclosed that the transmission assembly's worm gear and mating-gear teeth were worn. Some of the teeth on both gears were almost worn away which resulted in the jamming of the gear assembly and prevented the flap system from operating normally.

The transmission assembly had been on the aircraft for 1,079.2 flight-hours. There is no record that it had been removed for maintenance or inspection.

Your General Aviation Inspection Aids Summary (August 1974, August 1975, and December 1975 issues) has cited three incidents of split flaps on the PA-31. Furthermore, a survey of FAA's Maintenance Analysis Center's records indicates that four transmission assemblies have been removed for similar gear failures.

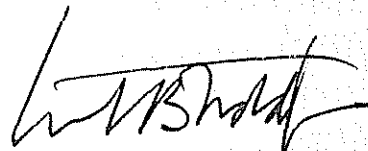
The manufacturer's service manual for the PA-31 indicates that the flap transmission assembly should be disassembled, cleaned with a dry solvent, filled with lubricant and a thin coating of lubricant be applied to the jackscrew every 500 flight-hours.

In view of these recent failures and the possible consequences of such failures, the Safety Board believes that flap transmission assemblies should be inspected and lubricated as indicated by the PA-31 service manual.

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

1. Issue an AD to require a one-time inspection of all landing flap transmission assemblies on the PA-31 which have more than 500 hours of service, and to require replacement of those which have excessively worn interior components. (Class II--Priority Followup.)
2. Issue an AD to require that all landing flap transmission assemblies on PA-31 aircraft are inspected and maintained in accordance with the manufacturer's service manual. (Class III--Longer Term Followup.)

TODD, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendations.



By: Webster B. Todd, Jr.
Chairman

THESE RECOMMENDATIONS 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.