Log 1435

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: SEP 7 1982

Forwarded to:

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

SAFETY RECOMMENDATION(S)

A-82-117

On January 12, 1982, an Embraer EMB-110 airplane operated by Aeromech Airlines, departed Greensboro, North Carolina, on a scheduled flight to Beckley, West Virginia, when the crew noticed that as the gear retracted the right main wheel appeared to be cocked at an abnormal angle. Additionally, after the gear had retracted, the in-transit instrument panel light remained on. The crew elected to land at their home station at Clarksburg, West Virginia, and upon lowering the gear for landing they observed that the upper and lower torque links of the right gear had separated and that the main wheel had slewed about 30 degrees from its normal position. After excess fuel was burned off, the crew successfully landed the aircraft without further incident. Post-inspection disclosed that the right gear torque link assembly and the right main tire, which had taken on a side-wise (90 degrees) alignment on touchdown, were the only components damaged.

Investigation of this incident by the National Transportation Safety Board disclosed that a self-locking nut, part number 52NTE048, which secures the main landing wheel alignment assembly in position, was loose. The self-locking nut and other pieces of the right main gear alignment assembly were damaged in a manner that indicates the wheel had moved out of alignment, causing stresses which ultimately separated the upper and lower torque links.

A random check of other EMB-110 airplanes operated by Aeromech Airlines revealed that the same self-locking nut on several main landing gear alignment assemblies was not sufficiently tightened.

Provisions in the EMB-110 maintenance manual, T.O. 1C95A-2-4, for adjusting main landing gear wheels convergency stipulates that the self-locking nut be tightened; however, no torque setting is provided. Thus, depending on the individual mechanic, the nut may not be tightened sufficiently to ensure that the alignment assembly will stay in position. Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

In conjunction with the manufacturer, determine the proper torque setting for the self-locking nut, part number 52NTE048, on the main landing gear alignment assembly and revise the EMB-110 maintenance manual to include this torque setting. (Class II, Priority Action) (A-82-117)

BURNETT, Chariman, GOLDMAN, Vice Chairman, McADAMS, BURSLEY, and ENGEN, Members, concurred in this recommendation.

Donald D. Engen

for By: Jim Burnett
Chairman