

EMERGENCY AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

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DATE: December 30, 2005

AD #: 2006-01-51

Emergency airworthiness directive (AD) 2006-01-51 is sent to all owners and operators of Frakes Aviation (Gulfstream American) Model G-73 (Mallard) series airplanes, and Model G-73 airplanes that have been converted to have turbine engines. These airplanes were originally manufactured by Grumman.

Background

On December 19, 2005, the right wing of a Frakes Aviation (Gulfstream American) Model G-73 (Mallard) airplane separated from the fuselage on takeoff, which resulted in the airplane impacting the water near Miami Beach, Florida. The wing separated between the fuselage attachment and the engine attachment.

This twin-engine airplane was manufactured in 1947. This particular airplane was operated in passenger service and in a salt-water environment. The airplane had accumulated over 31,000 total flight hours and over 39,000 total flight cycles. Although the cause of this accident has not yet been determined by the National Transportation Safety Board (NTSB), preliminary indications from the investigation reveal occurrences of fatigue cracking of a wing spar, skin cracking, and a broken z-stringer.

The loss of the lower skin capability, or the spar and stringer capability, will likely lead to wing failure. This condition, if not corrected, could result in structural failure of the wing and loss of control of the airplane.

FAA's Determination and Requirements of this AD

We have evaluated all pertinent information and identified an unsafe condition that is likely to exist or develop on other airplanes of this same type design. Therefore, we are issuing this AD to prevent structural failure of the wing and loss of control of the airplane. This AD requires (1) a detailed visual inspection to detect repairs, cracking, or corrosion of the wings from wing station (WS) 77L to WS 77R, front spar to rear (main) spar; (2) removal of repairs, if found, to allow for inspection of the wing structure underneath the repairs; (3) removal of sealant from the interior of the wet bays to allow for inspection of the skins, stringers, and both spars; and (4) repair of any crack or corrosion. The inspection and repair are required to be done in accordance with a method approved by the FAA. This AD also requires sending the inspection results (both positive and negative) to the FAA.

Additional Source of Service Information

Operators should note that Frakes Aviation may be contacted as a source of preliminary service information as follows: Frakes Aviation, Cleburne Airport, Route 3, Box 229-B, Cleburne, TX 76031; telephone (817) 556-0700.

Interim Action

This AD is considered to be interim action. The inspection reports that are required by this AD will enable the FAA to obtain better insight into the nature, cause, and extent of the cracking, and eventually to develop final action to address the unsafe condition. Frakes Aviation may be contacted as a source of preliminary service information as follows: Frakes Aviation, Cleburne Airport, Route 3, Box 229-B, Cleburne, TX 76031; telephone (817) 556-0700.

Frakes Aviation has advised the FAA that it is developing special detailed (i.e., non-destructive testing) inspection procedures that are expected to be available within 45 days. You may choose to comply with the interim action required by this AD if you must fly before the special detailed inspection becomes available. Otherwise, you may wait for the service information that is being developed by Frakes Aviation. Once that service information is available and approved, we anticipate superseding this AD to require compliance with that information.

Examining the Docket

You may examine the contents of this AD docket on the Internet at <http://dms.dot.gov> (on the next business day after we have issued the AD), or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, on the plaza level of the Nassif Building, Washington, DC. This docket number is FAA-2005-23440; the directorate identifier for this docket is 2005-NM-256-AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Determination of Rule's Effective Date

This emergency AD is issued under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator, and is effective immediately upon receipt.

Effective Date

(a) Emergency airworthiness directive (AD) 2006-01-51, issued on December 30, 2005, is effective immediately upon receipt.

Affected ADs

(b) None.

Applicability

(c) This AD applies to all Frakes Aviation (Gulfstream American) Model G-73 (Mallard) series airplanes; and Model G-73 airplanes that have been converted to have turbine engines; certificated in any category.

Unsafe Condition

(d) This AD results from a report indicating that the right wing of a Frakes Aviation (Gulfstream American) Model G-73 (Mallard) airplane separated from the fuselage on takeoff, which resulted in the airplane impacting the water near Miami Beach, Florida. Although the cause of this accident has not yet been determined by the National Transportation Safety Board (NTSB), preliminary indications from the investigation reveal occurrences of fatigue cracking of a wing spar, skin cracking, and a broken z-stringer. This condition, if not corrected, could result in structural failure of the wing and loss of control of the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Inspection

(f) Before further flight, perform a detailed visual inspection to detect repairs, cracking, or corrosion of the wings from wing station (WS) 77L to WS 77R, front spar to rear (main) spar; remove any repair that is found, to allow for inspection of the wing structure underneath the repairs; and remove the sealant from the interior of the wet bays to allow for inspection of the skins, stringers, and both spars. Perform the inspection in accordance with a method approved by the Manager, Airplane Certification Office (ACO), ASW-150, Rotorcraft Directorate, FAA.

Note 1: For the purposes of this AD, a detailed visual inspection is: “An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required.”

Reporting

(g) Before further flight, submit a report of the findings (both positive and negative) of the inspection required by paragraph (f) of this AD to Robert A. Romero, Aerospace Engineer, ACO, ASW-150, Rotorcraft Directorate, FAA; 2601 Meacham Boulevard, Fort Worth, Texas 76137-4298; fax (817) 222-5960. The report must include the inspection results, a description of any discrepancies found, the airplane serial number, and the number of total flight cycles and flight hours on the airplane. Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD and has assigned OMB Control Number 2120-0056.

Repair

(h) If any cracking or corrosion is found during the inspection required by paragraph (f) of this AD, repair before further flight, in accordance with a method approved by the Manager, ACO, ASW-150, Rotorcraft Directorate, FAA.

Special Flight Permit

(i) Special flight permits, as described in Section 21.197 (“Special flight permits”) and Section 21.199 (“Issue of special flight permits”) of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), may be issued to operate the airplane to a location where the requirements of this AD can be accomplished but concurrence by the Manager, ACO, ASW-150, Rotorcraft Directorate, FAA, is required prior to issuance of the special flight permit.

Alternative Methods of Compliance (AMOCs)

(j)(1) The Manager, ACO, ASW-150, Rotorcraft Directorate, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

Contact Information

(k) For technical information about this AD, contact: Robert A. Romero, Aerospace Engineer, ACO, ASW-150, Rotorcraft Directorate, FAA, 2601 Meacham Boulevard, Fort Worth, Texas 76137-4298; telephone (817) 222-5102; fax (817) 222-5960; or Hung V. Nguyen, Aerospace Engineer, ACO, ASW-150, Rotorcraft Directorate, FAA, 2601 Meacham Boulevard, Fort Worth, Texas 76137-4298; telephone (817) 222-5155; fax (817) 222-5960.

Issued in Renton, Washington, on December 30, 2005.

Original signed by:

Linda M. Navarro, Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.