Inspectie Verkeer en Waterstaat

Civil Aviation Authority Netherlands
Airworthiness Directive

Nr. NL-2005-003 Distribution : **L**

Issue Date : April 29, 2005

Type Certificate Holder :

FOKKER SERVICES B.V.

(formerly Fokker Aircraft B.V.)

F.27 Mk.500, if equipped with Rough-Field landing gear

CAA-NL Type Certificate Nr. A22F

Caution

This Airworthiness Directive is issued by the Minister of Transport, Public Works and Water Management in accordance with the Aviation Act 2001 (Wet Luchtvaart), Article 3.22. Airworthiness Directives affect aviation safety. These are regulations which require immediate attention. No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements thereof, unless otherwise agreed with the Authority of the State of Registry (EC2042/2003, M.A.201 & M.A.303).

THIS AIRWORTHINESS DIRECTIVE IS PUBLISHED BY THE CAA-NL :
• acting for and on behalf of the European Aviation Safety Agency (EASA), as Airworthiness Authority (ICAO Annex 8) of the State of Design for the affected product(s) with reference to 21A.3B (a) and (b); and
• has been approved under EASA reference Number 2005-3869 dated April 29, 2005.

Supersedure : Not Applicable

Subject : LANDING GEAR - MLG DRAG STAY UNITS – INSPECTION / REWORK / REPLACEMENT

Applicability : **Fokker Aircraft B.V.** F.27 Mk.500 series, All Models, all serial numbers, if equipped with **Messier-Dowty** (formerly known as **Dowty Aerospace Gloucester**) Rough-Field Main Landing Gear (MLG) that have Drag Stay units with Part Numbers (P/N) 200261001, 200485001 or 200684001 installed; or with re-identified units P/N 200261002, 200485002 or 200684002 installed.

Reason :

Recently, following a MLG "unsafe" indication (red warning light) during flight and subsequent confirmation by the control tower that the RH MLG was not fully extended, the crew decided to make an emergency landing. Shortly after touchdown, the RH MLG collapsed. Investigation revealed that the RH Drag Stay unit was broken. The fracture was located at the lower side of a transition from a smaller internal diameter on the upper piece to a larger internal diameter on the lower piece. Initiations of fatigue were found in the cracked surface. In 1993, following an earlier similar incident, the RLD (now CAA Netherlands) issued Airworthiness Directive (BLA) 1993-169 to require re-identification, inspection and, when necessary, rework or removal from service of the MLG Drag Stay Tubes on all F.27 aircraft, if equipped with MLG Drag Stay Units with P/N 200684001, 200261001 or 200485001, as well as the inspection of all MLG Drag Stay units held as spares. The related Fokker Service Bulletin (SB) F27/32-167, however, mentions in paragraph B "Reason" that "All F27 aircraft, except the MK500, could be equipped with drag stay p/n 200261001, p/n 200485001 or p/n 200684001." This statement may have led to the confusion that operators of F.27 variants Mk.500RF (Rough-Field) and Mk.500CRF (Cargo; Rough-Field) have not complied with these requirements, as was intended. As a result of this confusion, there may be aircraft flying which are non-compliant or only partially compliant with the earlier AD, having inspected the MLG Drag Stay units and re-identified them as P/N 200XXX002 without implementing the required 1,500 flight cycle repetitive inspection or accomplishing the required terminating action: rework and subsequent re-identification to P/N 200XXX003 or replacement with P/N 200XXX004 units no later than the next scheduled MLG overhaul after May 15, 1993. This condition, if not corrected, may adversely affect the structural integrity of the MLG Drag Stay units and could lead to further MLG failures. Since an unsafe condition has been identified that may continue to exist or develop on aircraft of this type design, this Airworthiness Directive requires an inspection for cracks, follow-on repetitive inspections and rework or replacement of the affected MLG Drag Stay units.

Effective date : May 15, 2005

Mandatory Actions and Compliance Times : Required as indicated, unless accomplished previously.

(a) Before July 1, 2005, inspect MLG Drag Stay units P/N 200261001, 200485001 and 200684001, including units held as spares, to establish which type of tube is installed, either P/N 200259300, with a change in section (stepped bore) or P/N 200485300 with a straight bore, in accordance with Appendix A, paragraph 3 of the Accomplishment Instructions of Dowty Aerospace SB 32-82W Rev.2 or SB 32-169B Rev.2, both dated July 29, 1994 or a later CAA-UK approved revision;

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Note 1: When the requirements of this directive result in the replacement of a MLG Drag Stay Unit, the unit that is removed from service must be clearly marked and made permanently unserviceable.
Note 2: Although not immediately apparent from the content of the Dowty Aerospace SB's, P/N 200261001 Main Landing Gear Drag Stay units are known to be installed in Fokker F.27 Mk.500 aircraft variants with Rough-Field version landing gear.

(1) MLG Drag Stay units P/N 200261001, 200485001 and 200684001 with tubes identified as P/N 200485300 with no signal indication (straight bore) must be re-identified as P/N 200261004, 200485004 and 200684004, respectively. After re-identification, no further action is required;

(2) MLG Drag Stay tubes identified as P/N 200259300 with less than 20% signal indication (but greater than zero) have a correctly blended radius. Re-identify the affected MLG Drag Stay units as P/N 200261003, 200485003 and 200684003, respectively;

(3) MLG Drag Stay tubes identified as P/N 200259300 with signal indication of 20% or more have an incorrectly blended radius. Re-identify the affected MLG Drag Stay units as P/N 200261002, 200485002 and 200684002, respectively;

Note 3: Fokker Services SB F27/32-171 dated December 16, 2004, also pertains to this subject.

(b) Before July 1, 2005, inspect all MLG Drag Stay units, including units held as spares, (re-)identified as required by paragraphs (a)(2) and (a)(3) of this directive, for cracked tubes in accordance with Appendix A, paragraph 4 of Dowty Aerospace SB 32-82W Revision 2 or SB 32-169B Revision 2, as applicable, both dated July 29, 1994 or a later CAA-UK approved revision;

(1) MLG Drag Stay units with tubes having crack signal indications of 80% or more must be replaced, before further flight, with MLG Drag Stay units (re-)identified as P/N 200261004, 200485004 and 200684004 (straight bore tube) or units (re-)identified as P/N 200261003, 200485003 and 200684003 (correctly blended radius tube or reworked tube), as applicable;

(2) MLG Drag Stay units with tubes having crack signal indications less than 80% (but greater than zero) must be re-inspected for cracks at intervals not to exceed 1,500 flight cycles after the last inspection in accordance with the Accomplishment Instructions of Dowty Aerospace SB 32-82W Revision 2 or SB 32-169B Revision 2, both dated July 29, 1994 or a later CAA-UK approved revision. Re-identify (unless previously accomplished) the affected MLG Drag Stay units as P/N 200261002, 200485002 and 200684002, respectively;

(3) MLG Drag Stay units (re-)identified as P/N 200261003, 200485003 and 200684003 (correctly blended radius tube or reworked tube), having no crack signal indication may be returned to service and require no further action;

(4) MLG Drag Stay units (re-)identified as P/N 200261002, 200485002 and 200684002 (incorrectly blended radius tube) having no crack signal indication must be re-inspected for cracks at intervals not to exceed 1,500 flight cycles after the last inspection in accordance with the Accomplishment Instructions of Dowty Aerospace SB 32-82W Revision 2 or SB 32-169B Revision 2, both dated July 29, 1994 or a later CAA-UK approved revision;

(c) Before or at the next scheduled MLG overhaul, accomplish the following:

(1) MLG Drag Stay units which have been (re-)identified as P/N 200261002, 200485002 and 200684002 (incorrectly blended radius tube) and that have been verified to have no crack signal indication as required by paragraph (b)(4) of this directive, must be reworked in accordance with Appendix B of Dowty Aerospace SB 32-82W Revision 2 or SB 32-169B Revision 2, as applicable, both dated July 29, 1994 or a later CAA-UK approved revision. After rework, the MLG Drag Stay units must be re-identified as P/N 200261003, 200485003 and 200684003, respectively. After re-identification, no further action is required;

(2) MLG Drag Stay units which have been (re-)identified as P/N 200261002, 200485002 and 200684002 (incorrectly blended radius tube, but with crack signal indication) as required by paragraph (b)(2) of this directive, must be replaced with MLG Drag Stay units (re-)identified as P/N 200261004, 200485004 and 200684004 (straight bore tube) or units (re-)identified as P/N 200261003, 200485003 and 200684003 (correctly blended radius tube or reworked tube), as applicable.

Reference Publication(s) :
Dowty Aerospace SB 32-82W Revision 2
Dowty Aerospace SB 32-169B Revision 2
Fokker Aircraft SB F27/32-167
Fokker Services SB F27/32-171
RLD BLA 1993-169/2

Remarks :

- Operators of the affected aircraft may obtain copies of the referenced service information upon request directly from **Fokker Services B.V., Technical Services Dept., P.O.Box 231, 2150 AE Nieuw-Vennep, The Netherlands; telephone (31) 252-627-350; facsimile (31) 252-627-211; e-mail technicalservices.fokkerservices@stork.com or can be downloaded from www.myfokkerfleet.com.**
- Compliance with this directive must be recorded in the proper Aircraft Log Book(s).
- Where applicable, the requirements of this directive must be integrated into the aircraft's Maintenance Schedule.

Address inquiries concerning this AD to : Civil Aviation Authority, Aircraft Division, Section C&D, P.O. Box 575, 2130 AN Hoofddorp, The Netherlands; telephone +31-23-566-3155; facsimile +31-23-566-3006; e-mail Info.Register@ivw.nl.