



Nr. NL-2005-015

Distribution : **L**

Date : November 30, 2005

Type Certificate Holder :

FOKKER SERVICES B.V.
(formerly Fokker Aircraft B.V.)

F27 Mark 050, Mark 0502 and Mark 0604

EASA Type Certificate Nr.

A.036

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 2005-6428 dated November 30, 2005.

Supersedure : This AD supersedes and cancels AD NL-2005-007, including corrections thereof dated July 6, 2005 and August 26, 2005.

Subject : POWER PLANT - ENGINE MOUNTING FRAME WELDS - INSPECTION

Applicability : Fokker Aircraft B.V. F27 Mark 050, 0502 and 0604 aircraft, all serial numbers

Reason : During scheduled X-ray inspections of Fokker 50 (F27 Mark 050) engine mounting frames, welding defects were discovered. In two forward frames and one aft frame, defects were found in a total of 4 weld locations. Investigation showed that during manufacture of the frames, when the tubes were welded to the end fittings, unintentional sideways movement of the electric arc resulted in some welds running beside the borderline for a part of the tube circumference. Where a weld runs beside the borderline, there is no connection between tube and end fitting for that part of the circumference, directly affecting the structural integrity of the engine mounting frame connections. The defective welding process appears to have happened at some of the welds in an unknown number of engine mounting frames. This condition, if not corrected, could lead to failure of the engine mounting frame in cases where multiple welds are severely affected, potentially resulting in in-flight loss of an engine. Since an unsafe condition had been identified that may exist on aircraft of the same type design, Airworthiness Directive NL-2005-007 was issued to require (a.o.) a one-time inspection for improper welds. The present AD further specifies the criteria and compliance times for the follow-up NDT-inspection and repair or replacement of engine mounting frames, as necessary.

Effective date : December 15, 2005

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

(a) Within the next two calendar months after June 30, 2005 (the effective date of AD NL-2005-007), inspect the engine mounting frames, including units held as spares, to identify those that have any sideways deviations in the welds in accordance with Part 3. Accomplishment Instructions of Fokker Service Bulletin (SB) F50-71-048 or Component Service Bulletin (CSB) F8200-035-71-10, as applicable, both dated May 30, 2005 or later CAA-NL approved revisions;

(b) When deviations are found between 0 and 2 mm, no further action is required on that frame and the aircraft may be returned to service. Any spare frame similarly inspected and identified may be used as replacement part;

(c) When, during the inspection as required by paragraph (a) of this directive, deviations are found between 2 and 2.5 mm on any of the welds of the engine mounting frame, except those of tubes 7, 8 and 12 of the rear frame, within the next 12 months after the effective date of this directive, NDT-inspect the affected frame tubes in accordance with Part 3. Accomplishment Instructions of Fokker SB F50-71-049 dated October 25, 2005 or a later CAA-NL approved revision. Any spare frame similarly inspected and identified must be NDT-inspected in accordance with Part 3. Accomplishment Instructions of CSB F8200-035-71-11 dated October 25, 2005 or a later CAA-NL approved revision. Within the compliance time period, these frames may be used as replacement part;

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(d) When, during the inspection as required by paragraph (a) of this directive, deviations are found between 2.5 and 3 mm on any of the welds of the engine mounting frame, except those of tubes 7, 8 and 12 of the rear frame, within the next 9 months after the effective date of this directive, NDT-inspect the affected frame tubes in accordance with Part 3. Accomplishment Instructions of Fokker SB F50-71-049 dated October 25, 2005 or a later CAA-NL approved revision. Any spare frame similarly inspected and identified must be NDT-inspected in accordance with Part 3. Accomplishment Instructions of CSB F8200-035-71-11 dated October 25, 2005 or a later CAA-NL approved revision. Within the compliance time period, these frames may be used as replacement part;

(e) When, during the inspection as required by paragraph (a) of this directive, deviations are found between 3 and 3.5 mm on any of the welds of the engine mounting frame, except those of tubes 7, 8 and 12 of the rear frame, within the next 6 months after the effective date of this directive, NDT-inspect the affected frame tubes in accordance with Part 3. Accomplishment Instructions of Fokker SB F50-71-049 dated October 25, 2005 or a later CAA-NL approved revision. Any spare frame similarly inspected and identified must be NDT-inspected in accordance with Part 3. Accomplishment Instructions of CSB F8200-035-71-11 dated October 25, 2005 or a later CAA-NL approved revision. Within the compliance time period, these frames may be used as replacement part;

(f) When, during the inspection as required by paragraph (a) of this directive, deviations are found between 3,5 and 5 mm on any of the welds of the engine mounting frame, except those of tubes 7, 8 and 12 of the rear frame, within the next 3 months after the effective date of this directive, NDT-inspect the affected frame tubes in accordance with Part 3. Accomplishment Instructions of Fokker SB F50-71-049 dated October 25, 2005 or a later CAA-NL approved revision. Any spare frame similarly inspected and identified must be NDT-inspected in accordance with Part 3. Accomplishment Instructions of CSB F8200-035-71-11 dated October 25, 2005 or a later CAA-NL approved revision. In the meantime, these frames may be used as replacement part;

(g) When, during the inspection as required by paragraph (a) of this directive, deviations are found between 2 and 5 mm on tubes 7, 8 and 12 of the rear frame, within the next 3 months after the effective date of this directive, NDT-inspect the affected frame tubes in accordance with Part 3. Accomplishment Instructions of Fokker SB F50-71-049 dated October 25, 2005 or a later CAA-NL approved revision. Any spare frame similarly inspected and identified must be NDT-inspected in accordance with Part 3. Accomplishment Instructions of CSB F8200-035-71-11 dated October 25, 2005 or a later CAA-NL approved revision. Within the compliance time period, these frames may be used as replacement part;

(h) Within 7 days after the NDT-inspection in accordance with paragraph (c), (d), (e), (f) or (g) of this directive, as applicable, report all findings to Fokker Services, Department FS/TOMR, address indicated in the remarks section of this directive. Within 30 days after receipt, Fokker Services will supply detailed instructions, which must be adhered to. Until such time when the instructions are received, operation of the aircraft may be continued and the frames may be used as replacement part;

(i) When, during the inspection as required by paragraph (a) of this directive, deviations are found exceeding 5 mm, before further flight, report the inspection findings to Fokker Services, Department FS/TOMR, address indicated in the remarks section of this directive, and wait for detailed instructions which must be adhered to, as the affected frame may need to be replaced before further flight. Any spare frame similarly inspected and identified may only be used as replacement part after the written consent of Fokker Services;

(j) As of June 30, 2005 (the effective date of AD NL-2005-007), no person may install an engine mounting frame having Part Number F8200-035-427/-441/-451/-463 (Forward Frames); F8200-035-425/-443 (A-frames); or F8200-035-403/-439/-449/-461 (Rear Frames) as a replacement part, unless it has been inspected and identified in accordance with the requirements of this directive.

Reference Publication(s) :

Fokker SB F50-71-048

Fokker SB F50-71-049

Fokker CSB F8200-035-71-10

Fokker CSB F8200-035-71-11

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).

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.