



## Airworthiness Directive of The Netherlands

Bijzondere Luchtwaardigheids Aanwijzing - BLA

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### Caution

*In accordance with the Civil Air Navigation Regulations (RTL), Articles 76 and 88, the following Airworthiness Directive (BLA) is issued by the Director-General of Civil Aviation of the Netherlands (Directeur-Generaal van de Rijksluchtvaartdienst-RLD). Airworthiness Directives affect aviation safety. These are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive.*

**BLA nr : 1994-114/4 (A)**

**Date : July 31, 1996**

**FOKKER SERVICES B.V.**

(formerly Fokker Aircraft B.V.)

**Model F.28 Mk.0070 and Mk.0100**

Type Certificate Nr.:

**T-100-87**

### ICE & RAIN PROTECTION - NO.1 PITOT HEATING SYSTEM - REPLACEMENT

#### Description:

Since 1992, several F.28 Mk.0100 operators have reported occurrences where the No.1 Air Data Computer (ADC #1) failed, accompanied by malfunction alerts from all on-side subsidiary systems (i.e. Flight Control Computer (FCC #1), Auto Throttle (AT #1), Yaw Damper (YD #1) and Horizontal Stabilizer Trim (STAB TRIM #1)). Subsequent investigation revealed that one of two heating elements (the tube part) of the No.1 Pitot Tube had failed, resulting in icing of the tube. Because the electrical current level of a single functioning element (100W) was higher than the trigger level of the Pitot Heat Fault Alert (42W), the failure remained undetected. In 'normal' icing conditions, single element pitot heating will not cause any abnormal flight deck effects. In severe icing, however, a single element produces too little heat to prevent freezing of the pitot probe. If an undetected heating element failure does not lead to malfunctioning of the ADC #1, erroneous data will be supplied to all on-side subsidiary systems mentioned earlier. This may cause the Automatic Flight Control and Augmentation System (AFCAS) to generate control commands, based on incorrect airspeed data. Airworthiness Directive (BLA) 94-114 was issued to require a one-time operational check of the No.1 Pitot Heating System, replacement of the No.1 Pitot Tube, Part Number (P/N) 853JB, with a new unit P/N 853KK, replacement of the single DC current-sensing relay P/N MF88C1R410 with two new relays P/N CS400-007D4A, and the necessary electrical wiring modifications. Subsequently, several incidents occurred, indicating the need for a modification to further improve the effectiveness of the No.1 Pitot Heating System in severe icing conditions, or when operated under emergency power supplied by the batteries. BLA 1994-114/3 was issued to address these concerns and required replacement of the No.1 Pitot Heating System, Rosemount Type 853JB or 853KK, with a new unit, Type 853BR, P/N 2-810A030, which is supplied by 115 Volts AC. However, the wiring that was introduced with the modification in accordance with Fokker Service Bulletin (SB) F100-30-017, appears to have an insufficient wire gauge (AWG16).

Since an unsafe condition has been identified that may still exist or develop on aircraft of the same type design, this directive retains the original requirement, and is further revised to require the installation of a single core power wire to the inverter with an AWG12 wire gauge, and the upgrading to 20 Amps of the No.1 Pitot Heating circuit breaker.

**Applicability:** Fokker Aircraft B.V. Model F.28 Mk.0070 and Mk.0100 aircraft, serial numbers 11244 through 11495, 11497, 11498, 11499 through 11507, 11509, 11511 through 11517, 11519 through 11523, 11527, 11528, 11529, 11532, 11536 through 11541, 11543, 11545, 11547, 11549, 11551, 11553 through 11565, 11567, 11570, 11573 and 11574.

**Effective date:** August 15, 1996

**Compliance:** Required as indicated, unless accomplished previously.

(a) On aircraft that have the Flight Warning System (FWS) speed comparator not activated, and equipped with a Rosemount Type 853JB No.1 Pitot Heating System, within the next 9 calendar months after the effective date of this directive, replace the No.1 Pitot Heating System in accordance with either Part 1, 2, 3 or 4, as applicable, of the Accomplishment Instructions of Fokker SB F100-30-019 dated June 20, 1996 or a later RLD-approved revision.

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(b) On aircraft with the Flight Warning System (FWS) speed comparator activated, or equipped with a Rosemount Type 853KK No.1 Pitot Heating System, within the next 18 calendar months after the effective date of this directive, replace the No.1 Pitot Heating System in accordance with either Part 1, 2, 3 or 4, as applicable, of the Accomplishment Instructions of Fokker SB F100-30-019 dated June 20, 1996 or a later RLD-approved revision.

(c) On aircraft that have already had the No.1 Pitot Heating System replaced in accordance with Fokker SB F100-30-017 dated August 23, 1995 or a later RLD-approved revision, as required by BLA 1994-114/3, and on aircraft that have been delivered with a Rosemount Type 853BR No.1 Pitot Heating System, P/N 2-810A030 unit installed, within the next 18 calendar months after the effective date of this directive, modify the No.1 Pitot Inverter's power supply wiring in accordance with Fokker SB F100-30-020 dated June 20, 1996 or a later RLD-approved revision.

Remarks:

- Operators of the affected aircraft may obtain copies of the referenced service information upon request directly from **Fokker Services B.V., Technical Support Dept., P.O.Box 75047, 1117 ZN Schiphol Airport, The Netherlands; telephone (31) 20-605-2136; facsimile (31) 20-605-2790.**
- Compliance with this AD must be recorded in the proper Aircraft Log Book(s).
- This revision supersedes and cancels Airworthiness Directive (BLA) 1994-114/3, dated September 29, 1995.

Address inquiries concerning this AD to:

Bureau Coordination & Technical Information (CTI); Telephone 31-(0)23-566 3155; Facsimile 31-(0)23-562 3848; Telex 74592 rldli nl