

MESABA AIRLINES

125242
March 28, 2001

DEPT OF TRANSPORTATION
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U. S. Department of Transportation
Docket Management System
400 7th Street, SW, Room PL-401
Washington, DC 20591-0001

FAA-2001-9245-1

Request for Exemption from Federal Aviation Regulation: 14 CFR 121.344

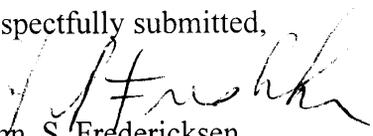
Dear Sir or Madam:

Pursuant to 14 CFR Part 11, Mesaba Aviation, Inc., hereby requests an exemption from the provisions of 14 CFR 121.344 to allow Mesaba to complete the retrofit of the flight data recorder systems on its fleet of RJ-85 aircraft by 150 days after the current due date of August 20, 2001. The information required in 14 CFR Section 11.81 is provided below:

- A. MESABA AVIATION, INC.
7501 26th Avenue South
Minneapolis, MN 55450
John S. Fredericksen, Exec.V.P./ General Counsel
(612) 713 6316
Dale C. Armstrong, Dir. Q/C & Engineering
(612) 713-6226
- B. 14 CFR 121.344 (d): This rule requires installation of digital flight data recorders with enhanced parameter recording systems by August 20, 2001.
- C. Mesaba seeks permission to complete its fleet retrofit within 150 days beyond the time frame specified in FAR 121.344(d). Mesaba has been in the procurement process since August 11, 1999. The manufacturers of the required kits, Honeywell and Aircraft Systems & Manufacturing, were not able to obtain Supplemental Type Certificates in the time frame initially indicated. PMA authority for the installation kits was not received until October 23, 2000. This caused a delay in Mesaba's installation plans, since the work was scheduled to be accomplished in the heavy check cycle. The attached documents detail the timeline and salient dates of the delays. Mesaba operates 36 Avro 146 RJ-85 aircraft. At this time, the installations of the required kits are complete on nine aircraft. The heavy check schedule will permit another nine aircraft to be completed by the due date of August 20, 2001. Mesaba will be able to complete the remaining eighteen aircraft by December 31, 2001, by performing the installations both inside and outside the heavy maintenance schedule.

- D. Without the exemption, Mesaba Airlines would be required to take several AVRO 146 RJ-85 airplanes out of revenue service. This would severely limit service to many medium and small market cities.
- E. The Avro 146 RJ-85 is presently equipped with an approved Digital Flight Data Recorder (DFDR). The parameter items 12a, 13a, 14a, of FAR 121. Appendix M, are additional parameters required by the rule, but all other parameters are being recorded by the original equipment. The DFDR provides no direct safety enhancement, but is used as an investigative tool after an incident or accident. Therefore safety would not be adversely affected by granting this exemption for the short period of 150 days.
- F. Suggested Summary: Mesaba Aviation, Inc., dba Mesaba Airlines, requests an Exemption from 14 CFR Section 121.344 (d) to allow it to extend the deadline for installing enhanced parameter Digital Flight Recorders on its Bae 146 RJ-85 fleet from August 20, 2001 until December 20, 2001. The extension is requested because of delays in the STC process of the installation kits.
- H. Mesaba Airlines operates these aircraft on its scheduled routes into Regina, and Montreal, Canada . It is therefore essential that this exemption be extended to Transport Canada to allow our continued operation of those scheduled flights.

Respectfully submitted,


John S. Fredericksen
Executive Vice President

Attachments

PURCHASE ORDER

DATE 3/27/01
TIME 21:09:34

MESABA AIRLINES - PRODUCTION
OPEN PO INQUIRY

PGM: P007
WKST: QPADEV007G
USER: BUSSELLS

PO NO: 132163 Original Currency: USD Date: 8/11/1999
Ship Via: FED EX STD F.O.B: Priority: ORIG DEL LOC: MSP
Vendor: 54001 PO Created by: STEINM

Owner	Terms	Code	Description	Days	%	DISC	Confirmation
A			NET 30	30		.00	

Vendor Name: ALLIED SIGNAL
Address: 15001 N.E. 36TH ST.
PO BOX 97001
City: REDMOND
State: WA Zip-Code: 980739701

Memo: . 200792
Requisition
0
Buyer ID.
STEINM
Authorized
STURMS

Line	Part	Code	Vendor	P/N	Description				
0001	34	10	242	967-0212-002	FLIGHT DATA ACQUISITION UNIT				
DEL	Date	ORIG	Item	Price	PUR QTY RCV QTY UOM	ORIG Total	AMT	CAPITL	LT
	1/01/2000				36 17 EA				NEW

Tax: .00
Other: .00
Waybill NO: NO of Print: 3
S/I: RE AS CP99-4036A:SW Memo: . 0
F3=Exit

STC COVER PAGES

Supplemental Type Certificate

Number ST097445C

This Certificate issued to Aircraft Systems & Manufacturing
302 Toledo Trail
Georgetown, TX 78628

*certifies that the change in the type design for the following product with the limitations and conditions
changes as specified herein meets the airworthiness requirements of Part 25 of the Federal Aviation
Regulations.*

Original Product Type Certificate Number: A49EU
Make: British Aerospace
Model: Avro 146-RJ85A

Description of Type Design Change: Installation of a Digital Flight Data Recorder (DFDR) expanded parameter sensor
upgrade in accordance with ASM Top Drawing List 5561-0001-00, Revision D, dated July 10, 2000, or later FAA
approved revision.

Limitations and Conditions: Compatibility of this design change with previously approved modifications must be
determined by the installer. If the holder agrees to permit another person to use this certificate to alter the product, the
holder shall give the other person written evidence of that permission.

*This certificate and the supporting data which is the basis for approval shall remain in effect until
suspended, rescinded, revoked, or a termination date is otherwise established by the Administration of the
Federal Aviation Administration.*

Date of application: December 03, 1999

Date issued:

Date of issuance: July 14, 2000

Date amended:



By director of the Administration

S. Frances Cox
(Signature)

S. Frances Cox
Manager, Special Certification Office
Southwest Region

(Title)

United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number ST00844SE

This certificate, issued to **Honeywell International, Inc.**
155001 NE. 36th Street
P.O. Box 97001
Redmond, Washington 98073-9701

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 25 of the Federal Aviation Regulations.

Original Product—Type Certificate Number: A49EU
Make: British Aerospace
Model: Avro 146-RJ85A

Description of the Type Design Change: Installation of a the Honeywell Flight Data Acquisition Management System in accordance with Master Drawing List 756-0055-001, Revision D, dated September 14, 2000, or later FAA approved revisions.

Limitations and Conditions: This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and other previously approved modification will introduce no adverse effect upon the airworthiness of the aircraft. A copy of this Certificate and the FAA Approved Airplane Flight Manual Supplement must be maintained as part of the permanent records for the modified aircraft. The STC holder will provide a written permission statement to each person it authorizes to use this certificate to alter the product.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: December 6, 1999

Date reissued:

Date of issuance: October 5, 2000

Date amended:



By direction of the Administrator

Sheila J. Narion
(Signature)

Acting Manager, Seattle Aircraft
Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

STC CHRONOLOGY

***CRONOLOGY OF EVENTS: STC FOR MESABA AIRLINES
FLIGHT CONTROL INPUT POSITION SENSORS***

- 12-AUG-99 Mesaba Airlines issues P.O. to Air Atlantic for RJ-85 FDAMS modification.
- 24-AUG-99 Transport Canada Regional Office advised of IMP's intention to obtain FAA STC for Mesaba FDR Sensor mod.
- 24-AUG-99 Transport Canada replies noting that absence of Canadian Type Certificate for RJ-85 can cause FAA STC application process to become "tricky" and agrees to look into this further.
- 2-SEPT-99 Air Atlantic issues P.O. to IMP for RJ-85 Cockpit Flight Control Position Sensor installation design and certification (FAA STC).
- 8-SEPT-99 IMP contacts Transport Canada Regional Manager, Aircraft Certification (RMAC) to discuss FAA STC application procedures.
- 16-SEPT-99 IMP Engineering visits Montreal to view Mesaba Airlines RJ-85 aircraft on overnight turnaround.
- 21-SEPT-99 IMP contacts Transport Canada RMAC regarding lack of Canadian TC for RJ-85 aircraft. IMP formally notifies TC of intention to apply for STC directly to FAA NY ACO through TC Regional Office.
- 21-SEPT-99 Transport Canada RMAC contacts FAA NY ACO and proposes alternate procedure for FAA STC application, within the spirit of the bilateral agreement between Canada and the U.S.
- 22-SEPT-99 FAA responds stating that since this project does not fall strictly within the terms of the bilateral agreement, FAA will be required to develop an "undue burden" decision paper within FAA. The "undue burden" review normally takes 45 days to complete.
- 1-OCT-99 In order to expedite the project, IMP contacts Konard Aerospace, Minneapolis, MN to discuss DER services for STC.
- 4-OCT-99 Konard Aerospace declines participation due to workload.
- 12-OCT-99 IMP requests clarification of sensor accuracy requirements from the FAA (through Transport Canada).
- 26-OCT-99 IMP contacts Terry Prentice, FAA DER at Advanced Avionics Technologies (AAT) to discuss subcontracting certification activities to AAT.
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26-OCT-99 AAT provides SOW and price quotation to IMP for program management and FAA approval (STC) for Mesaba FDR Sensor mod, and states that once data is submitted to FAA, approval is usually received in 30-45 days.

26-OCT-99 IMP requests revised quotation from AAT with IMP providing certification documents and reports.

28-OCT-99 *AAT provides revised quotation to IMP.*

5-NOV-99 PO issued to AAT with schedule that requires data delivery to AAT 8 NOV 99

8-NOV-99 Preliminary data package sent to AAT.

9-NOV-99 AAT sends responses to the preliminary data package with examples of the changes to be incorporated.

1-DEC-99 Clarification of sensor accuracy requirements received from FAA (through Transport Canada).

3-DEC-99 RJ-85 technical data received from Mesaba and incorporated into IMP data package.

10-DEC-99 Maintenance information for Patriot sensors received from Durham Instruments and incorporated into IMP data package.

21-JAN-00 S Kang (IMP) visits St. John's, Newfoundland to get final dimensions from Mesaba RJ-85 aircraft in order to revise drawings.

27-JAN-00 Air Atlantic provides final bracket dimensions and control movement measurements to IMP.

1-FEB-00 Air Atlantic provides additional control movement measurements to IMP, for incorporation into Technical Memorandum.

14-FEB-00 Drawings are revised and changed.
Second revised drawing package is sent to AAT.

1-MAR-00 Ken Blore (IMP) visits T Prentice at AAT.
AAT recommends drawing changes to include wire identification and specification information and approval signatures for the EDL.

6-MAR-00 Revised drawings sent to AAT.

13-MAR-00 FAA requires the word “prototype” to be removed if follow on kits are to be produced from the STC data package. AAT complains that FAA project engineer is not being responsive/realistic to customer needs.

13-MAR-00 AAT asks for revised Data Package, removing the word prototype (verbal).

23-MAR-00 Revised packages sent to AAT. AAT advises that our program is being transferred to a new FAA Project Engineer, who is out of the office this week. AAT states that they are confident that certification can be achieved by the end of April or the first week of May.

28-MAR-00 AAT meets with FAA and presents revised drawings. In response to AAT’s demands for faster action, FAA reassigns AAT project to new project engineer. Notes that some delay should be expected while new engineer comes up to speed.

3-APR-00 AAT provided FAA structures comments on the Data Package to IMP (re:bend radius, notch dimensions), and advises that drawing revisions may delay certification schedule. FAA admits responsibility for delays but reminds AAT that they only have two structures engineers handling over 100 projects

4-APR-00 Last change to IMP Drawing M100C1001 incorporating FAA requested changes sent to AAT.

6-APR-00 AAT presents new data to FAA and asks for approval schedule.

12-APR-00 AAT asks for updated review schedule from FAA.

19-APR-00 FAA responds to review schedule request with date of 26 Apr. for structures, and project engineer approval to begin no later than May 10, reminding AAT that regional FAA conference is week of May 15 (more delays).

9-MAY-00 AAT requested that FAA issue the Request for Conformity (RFC) by 22 May to accommodate schedule for aircraft currently undergoing maintenance. FAA declined, stating that personnel required for Safety Review Board were not available until 24 May.

10-MAY-00 AAT meets with FAA project engineer who gives verbal commitment to have review and signatures for FAA RFC no later than MAY 26.

23-MAY-00 AAT meeting with FAA project engineer. FAA Project engineer requests additional clarification of “provisioning” the new sensors. FAA’s position is that “Provisions STCs” are no longer issued. AAT produces FAA commitment to the “sensors only” STC and FAA agrees to keep commitment of 26 MAY approval for RFC.

25-MAY-00 FAA provides acknowledgement of RFC signoff with delivery of paperwork by 26 MAY.

14-JUL-00 STC# ST09744SC Installation of DFDR expanded parameter sensor upgrade was issued.

3-AUG-00 Mesaba Airlines acquired authorization from Aircraft Owner to make application for Experimental Certificate to support STC Flight testing.

Completed Installation of FDAMS system, Ground test and Flight test of Aircraft N513XJ.

5-OCT-00 STC # ST00844SE installation of FDAMS for British Aerospace AVRO 146-RJ85A was issued to Honeywell International, Inc.

23-OCT-00 PMA was granted to AEI for production of the FDAMS installation Kits.