ZANTOP INTERNATIONAL AIRLINES, INC.

Extra

April 27, 1992

FAA - Aircraft Certification Office
Attn: Mr. John Tigue - Manager
Suite 210C
1669 Phoenix Parkway
Atlanta, GA 30349

Dear Mr. Tigue,

This letter is to request an alternate means of compliance for Airworthiness Directive (AD) 53-23-03, which applies to Stol Aircraft Corporation Model RC-3 Sea Bee aircraft.

The current AD mandates the use of a pointed instrument to test the integrity of the right and left upper and lower lift strut fittings, fuselage wing lift strut fittings and wing lift strut fittings at each 25 hours or six months, whichever occurs first. Zantop International Airlines, Inc. (ZIA) Non-Destructive Testing Lab has developed an alternate method for testing these fittings using modern technology, namely ultrasonics.

Our proposal for alternate means of compliance for this AD includes the use of a Nortec 400C-1/4-5MHz Transducer with wear shoe attached to a Sonic 434 UT Thickness Gauge. With this modern technology, ZIA will be able to detect internal corrosion to the fittings more readily than with a pointed instrument. Owing to this refined method of testing the fittings, we also believe the inspection frequency should be increased from the present limit of '25 hours or six months, whichever occurs first' to '110 hours or 1 year, whichever occurs first.' The destructive method of testing these fittings with a pointed instrument would be discontinued upon approval of this alternate means of compliance.

We are prepared to demonstrate this method of compliance at our Ypsilanti, Michigan facility any time it is convenient for you. It is also our intention to limit this inspection procedure to only those persons specially trained to perform the inspection.

If you have any questions or desire to set up a demonstration time, call us at 313-485-8900 X 284.

Regards,

John M. Liechty
Director of Quality Control

ATTACHMENTS: 2

ZANTOP INTERNATIONAL AIRLINES, INC., 840 WILLOW RUN AIRPORT, YPSILANTI, MI. 48198-0840
PHONE (313) 941-8900 / 485-8900 • TELEX 230-479 ZANTOP YPSI

Sea Bee

Stan observed inspection by new method on Dec. 10, 1993.

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Gave copy of letter to new PMI Ed Pytlarz 01/11/94 10:00 am:

Said he'd check into it.

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

Small Airplane Directorate
Atlanta Aircraft Certification Office
1669 Phoenix Parkway, Suite 210C
Atlanta, Georgia 30349

JAN 24 1994

RECEIVED
JAN 28 1994
ZANTOP INT'L AIRLINES

Mr. John M. Liechty
Director of Quality Control
Zantop International Airlines, Inc.
840 Willow Run Airport
Ypsilanti, Michigan 48198-0840

Dear Mr. Liechty:

This is in reference to your request for an alternate means of compliance to Airworthiness Directive (AD) 53-23-03, applicable to STOL Aircraft Corporation Model RC-3 Sea Bee airplanes.

In addition to your request to use ultrasonic procedures in lieu of the punch test for lift strut fittings, you have requested an increase in the repetitive inspection interval from 25 hours time-in-service to 110 hours time in service or from 6 months to 1 year.

The Atlanta ACO has evaluated your submittal, "Alternate Inspection Procedure for AD 53-23-03, Digital Ultrasonic Thickness for Republic Seabee". Also, the Detroit Flight Standards District Office sent an Aviation Safety Inspector to witness an application of your procedure and have concurred with its suitability to detect corrosion.

Zantop International Airlines, Inc.: Nondestructive Testing Lab April 92 N.D.T. Procedure "Alternate Inspection Procedure for AD 53-23-03 Digital Ultrasonic Thickness for Republic Seabee" is approved as an alternate means of compliance to AD 53-23-03. It is permissible to increase the repetitive inspection interval from 25 hours time-in-service or six months, whichever occurs first to 110 hours time-in-service or one year, whichever occurs first.

Sincerely,

for James K. Greenler
Paul C. Sconyers
Manager, Atlanta Aircraft
Certification Office

ZANTOP
INTERNATIONAL
AIRLINES, INC.

FAX MESSAGE

PLEASE DELIVER THE FOLLOWING PAGES TO:

FIRM: FAA

ATTN: Charles Perry

CITY:

FAX NO: 404-991-3606

DATE: August 26, 1992

SUBJECT: Attached, is a copy of the letter sent to John Tigue in April of this year.

(Resent July 29, 1993)

FROM: John Liechty

DEPT: Q.C. PHONE: (313) 485-8900 EXT: 284

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER SHEET): 5

ZANTOP DEX 3200 NUMBERS PLEASE DIRECT YOUR RESPONSE TO AREA CHECKED:

| | | | | | |
|---|---|---|---|---|---|
| ADMINISTRATION | (313) 485-4813 | ___ | CARGO | (313) 485-6712 | ___ |
| A/C RECORDS | 485-6727 | X | CARGO | 482-6001 | ___ |
| BILLING | 485-6724 | ___ | CARGO PICKUP | 485-6716 | ___ |
| PURCHASING | 485-6722 | ___ | OS&D | 485-6721 | ___ |
| RECEIVABLES | 485-6706 | ___ | | | |
| STOCKROOM | 485-6723 | ___ | | | |

IF YOU DO NOT RECEIVE ALL OF THIS MESSAGE OR IT IS ILLEGIBLE, PLEASE CONTACT _____ AT (313) 485-8900, EXT: _____

ZANTOP INTERNATIONAL AIRLINES, INC., 840 WILLOW RUN AIRPORT, YPSILANTI, MI. 48198-0840
PHONE (313) 941-8900 / 485-8900 • TELEX 230-479 ZANTOP YPSI

ALTERNATE INSPECTION PROCEDURE FOR AD:53-23-03
DIGITAL ULTRASONIC THICKNESS FOR REPUBLIC SEABEE

Equipment Required:
-Sonic 434 UT Thickness Gauge
-One Nortec 400C-1/4-5MHz Transducer with wear shoe
-Ultrasonic couplant:Lubriplate 6701
-0 to 1 inch micrometer or dial caliper
-Flexible blue plastic with white ultrasonic cable through center.

Background Information:
This inspection is to detect fitting corrosion. The ultrasonic beam will be reflected back at the beginning of internal corrosion indicating the actual thickness of the remaining sound fitting material between the ultrasonic transducer and the corrosion.

Initial thickness gauge check and set up:

1. Turn the model 434 on and check the battery voltage by momentarily pushing the 'BATTERY' button. Battery voltage is displayed. If the voltage displayed is under 6.0 the inspection can still be performed by plugging the battery charger into a wall socket and into the back of the 434.

2. Attach the top mount transducer specified above to the 434 through the lead wire with the B&C and Micro Dot connectors.

NOTE:If you are unable to perform any of the steps below, check to see if an arrow is below 'LOCK' on the top of the numeric display. A three second push and hold of the 'LOCK' button will release all functions by removing the arrow below 'LOCK'.

3. Push the green 'DISPLAY' button until the arrow on the left side of the numeric display is to the right of 'THICK' in the green bordered area.

4. Push the blue 'RANGE' button until the arrow pointing to the top of the numeric display is pointing to 5in/127mm in the blue bordered area above the numeric display.

6. Push the 'UNITS' button until 'in' (indicating that the 434 is reading in inches and not millimeters) is to the right of the digitized display.

7. Push the red 'ALARM' button. An arrow will appear on the screen over the 'HIGH' in the red bordered area below the numeric display. The number that is now displayed is the 'thick' alarm value. You will not be using the alarm in this inspection so check to see that the number displayed is greater than .750 in. If the number is smaller than .750 in, the alarm may sound while you are checking the thickest fitting. You adjust the value on the display by pushing the arrows above the green 'ON/OFF' button. After checking or adjusting the 'HIGH' value, the next push of the red 'ALARM' button will display the low alarm value. Adjust this using the same arrow buttons to 0.000, as you will not be using the alarm in this inspection. A third push of the red 'ALARM' button will remove the arrow from above the 'LOW' in the red bordered area below the numeric display.

8. Check to see that the screen on the 434 has the following displayed: 2 arrows, 1 pointed to 'THICK' (in green) and 1 pointed to 5in/127mm (in blue); a numeric display with 'in' after the last digit. If this is not what you see, look through the Sonic 434 Thickness Gauge Operation Manual and then try steps 1 through 7 again. Step nine will begin the actual 'on aircraft' part of the procedures.

Inspection of Fittings:

9. With the one inch micrometer or dial caliper, measure the thickness of an accessible wing fitting or lift strut fitting. After placing a dab of grease on the accessible side of the area that was just measured with the micrometer, place the transducer wear shoe on the dab of grease. You should see the word 'COUPLED' appear in the lower right corner of the display. The only time an accurate thickness measuring signal is entering the material to be tested is when 'COUPLED' is showing. The sound beam must not only enter the material to be measured. It also must return to the instrument through the same transducer and cable in order to register a thickness value on the screen. While 'COUPLED' is still shown on the display, adjust the numeric display to read the value of the thickness which was just measured with the micrometer. While still holding the transducer in a position so that 'COUPLED' is shown, press and hold the 'LOCK' button until the arrow appears under 'LOCK' above the display.

10. Now that you have set the thickness gauge for the fitting material to be tested, Check all accessible areas of all the external fittings. A corroded fitting will indicate a substantially thinner dimension than is visible or that can be measured by the micrometer. Remember to wait for the 'COUPLED' on the display indicating that a reading has been made by the digital thickness gauge.

NOTE:If you cannot get a 'COUPLED' on the display with the transducer on either side of the fitting, paint may have to be removed so that the sound can couple into the fitting material.

11. To inspect the areas of the fittings inside the wing it will be necessary to remove the Micro Dot connector from the top mount transducer and snake the wire through the flexible blue plastic piping. The blue piping must be almost straight to allow the Micro Dot connector through its center hole. After reconnecting the Micro Dot connector to the transducer push the transducer into the small end of the blue plastic. Recalibration will not be necessary unless you have turned off the 434 machine.

12. After illuminating the front face of the fitting inside the wing. Place a dab of grease on the transducer face and carefully guide the flexible tube through the existing holes in the wing skin placing the transducer at all the desired areas of the fitting to be thickness gauged. A corroded area of the fitting will be indicated by a substantially thinner dimension than is visible.