LUFTFARTSVERKET
Luftfartsinspektionen

LUFTVÄRDIGHETSDIREKTIV (LVD)

Flygplan BEECH
LVD Nr 1116E
Upphäver 1116D

Sektion 2. Utlandstillverkad flygmateriel

TITEL: **Sprickundersökning - utbyte av bärande struktur i vingarna**

GÄLLER: Beech modell 99, S/N U-1 t o m U-49 och U-51 t o m U-164 med mer än 3000 flygtimmar (dock ej flygplan som modifierats enligt Beech Wing Modification, Kit No. 99-4023-1S).

ÅTGÄRD: Utför sprickundersökning och utbyte av vingstruktur i enlighet med anvisningarna i angivet underlag.

TID FÖR ÅTGÄRD: Inom tidsangivelser som uppräknas i FAA AD 92-15-13 (bifogas detta LVD).

UNDERLAG: Beech Structural Inspection and Repair Manual P/N (SIRM) FAA AD 92-15-13.

REFERENS: FAA AD 92-15-13.

UTGIVNINGS-DATUM: 1992-10-08

LFS: 1992:32

Åtgärd enligt LVD utgör nödvändig förutsättning för ifrågavarende flygmateriels luftvärdighet. Referens BCL M 1.11. Anteckning om åtgärd, som vidtagits i enlighet med LVD, skall införas i teknisk journal för berörd flygmateriel med hänvisning till ifrågavarande LVD-nummer. Angivet underlag refererar till senaste gällande revision/utgåva. LVD utges i luftfartsverkets författningssamlingar LFS.

L 1563-1

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U.S. Department
of Transportation
Federal Aviation
Administration

92-15-13 BEECH: Amendment 39-8307. Docket No. 92-CE-02-AD. Supersedes AD 90-04-04; Amendment 39-6487.

Applicability: 99 series airplanes (serial numbers U-1 through U-49, and serial numbers U-51 through U-164) that have 3,000 hours or more time-in-service (TIS), except those airplanes that have Beech Wing Modification Kit No. 99-4023-1S installed, certificated in any category.

Compliance: Required as indicated, unless already accomplished.

To prevent fatigue failure of the wing front spar lower cap and associated structure, accomplish the following:

(a) For airplanes that do not have a spar reinforcing strap installed in accordance with the instructions in STC SA1178CE, accomplish the actions specified in paragraphs (a)(1) through (a)(4) of this AD using the criteria in the Beech Structural Inspection and Repair Manual (SIRM).

(1) Upon the accumulation of 3,000 hours TIS on the front spar lower cap or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished within the last 500 hours TIS (the inspection interval established by either superseded AD 77-05-01 R3 or superseded AD 90-04-04), and thereafter at intervals not to exceed 500 hours TIS, inspect the areas of structure defined by Index Number 1 (lower forward fitting only) and Index Numbers 2 through 7 on Page 202, Section 57-15-00, of the Beech SIRM, using the visual, fluorescent penetrant, and eddy current methods as specified in the Beech SIRM. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(2) Upon the accumulation of 10,000 hours TIS on the nacelle splice plates, or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished (superseded AD 90-04-04), and thereafter at intervals not to exceed 1,000 hours TIS, inspect the nacelle splice plates as defined by Index Number 9 on Page 202, Section 57-15-00, of the Beech SIRM, using visual methods as specified in the Beech SIRM. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(3) Upon the accumulation of 10,000 hours TIS on the wing structure or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished within the last 500 hours TIS (the inspection interval established by either superseded AD 77-05-01 R3 or superseded AD 90-04-04), and thereafter at intervals not to exceed 500 hours TIS, inspect the wing structure components defined in paragraph (d) of this AD using visual and dye penetrant methods as indicated. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(4) Upon the accumulation of 10,000 hours TIS on the front spar lower cap or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished (superseded AD 90-04-04), and thereafter at intervals not to exceed 10,000 hours TIS, replace the structural components set forth on Page 203, Section 57-15-00, of the Beech SIRM, and summarized below:

(i) Lower cap of the front spar, with attachment fitting, in each outer wing panel.

(ii) Lower cap of the front spar, with left and right attachment fittings, in the center section.

(b) For airplanes that have a spar reinforcing strap installed in accordance with Supplemental Type Certificate (STC) SA1178CE, accomplish the actions specified in paragraphs (b)(1) through (b)(5) using the Beech SIRM and Aerocon California, Inc., Engineering Order No. E.O. B-9975-2, dated November 14, 1975. Strap tension is to be adjusted in accordance with the instructions in Aerocon California Service Letter, dated May 25, 1976.

(1) If the strap was installed before 1,000 hours TIS on the front spar lower cap, within the next 2,000 hours TIS after the effective date of this AD, unless previously accomplished within the last 2,000 hours TIS (the inspection interval established by either superseded AD 77-05-01 R3 or superseded AD 90-04-04), and thereafter at intervals not to exceed 2,000 hours TIS:

(i) Remove and inspect the STC SA1178CE strap in accordance with the instructions in Aerocon California, Inc. Engineering Order No. E.O. B-9975-2, dated November 14, 1975. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace in accordance with the instructions in Aerocon California, Inc. Engineering Order No. E.O. B-9975-2.

(ii) Inspect the following areas of structure using the visual, fluorescent penetrant, and eddy current methods as specified in the Beech SIRM. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(A) Areas defined by Index Number 1 (lower forward fitting only) and Index Numbers 2 through 7 on Page 202, Section 57-15-00, of the Beech SIRM.

(B) Areas defined by paragraphs (d)(5) and (d)(8) of this AD.

(iii) Reinstall the STC SA1178CE strap and adjust its tension in accordance with the instructions in Aerocon California Service Letter, dated May 25, 1976.

(2) If the strap was installed at or after 1,000 hours TIS on the front spar lower cap, within the next 1,000 hours TIS after the effective date of this AD, unless previously accomplished within the last 1,000 hours TIS (the inspection interval established by either superseded AD 77-05-01 R3 or superseded AD 90-04-04), and thereafter at intervals not to exceed 1,000 hours TIS, accomplish the following:

(i) Remove and inspect the STC SA1178CE strap in accordance with the instructions in Aerocon California, Inc. Engineering Order No. E.O. B-9975-2, dated November 14, 1975. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace in accordance with the instructions in Aerocon California, Inc. Engineering Order No. E.O. B-9975-2.

(ii) Inspect the following areas of structure (specified in paragraphs (b)(2)(ii)(A) and (b)(2)(ii)(B) of this AD) using the visual, fluorescent penetrant, and eddy current methods as specified in the Beech SIRM. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(A) Areas defined by Index Number 1 (lower forward fitting only) and Index Numbers 2 through 7 on Page 202, Section 57-15-00, of the Beech SIRM.

(B) Areas defined by paragraphs (d)(5) and (d)(8) of this AD.

(iii) Reinstall the STC SA1178CE strap and adjust its tension in accordance with the instructions in Aerocon California Service Letter, dated May 25, 1976.

(3) Upon the accumulation of 10,000 hours TIS on the nacelle splice plates or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished (superseded AD 90-04-04), and thereafter at intervals not to exceed 1,000 hours TIS, inspect the nacelle splice plates as defined by Index Number 9 on Page 202, Section 57-15-00, of the Beech SIRM, using the visual methods as specified in the Beech SIRM. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(4) Upon the accumulation of 10,000 hours TIS on the wing structure or within the next 100 hours TIS after the effective date of this AD, whichever occurs later, unless already accomplished within the last 500 hours TIS (the inspection interval established by either superseded AD 77-05-01 R3 or superseded AD 90-04-04), and thereafter at intervals not to exceed 500 hours TIS, inspect the wing structure components defined in paragraph (d) of this AD using visual and dye penetrant methods as indicated; compliance is not required with paragraphs (d)(5), (d)(8), and that portion of paragraph (d)(12) of this AD that refers to the lower spar cap and hinge. If a crack, loose fastener, or corrosion is found, prior to further flight, repair or replace as specified in the Beech SIRM.

(5) Replace the structural components that are set forth on Page 203, Section 57-15-00, of the Beech SIRM (summarized in paragraphs (b)(5)(i) and (b)(5)(ii) of this AD) upon the accumulation of the front spar's allowable service life. Determine the allowable service life by subtracting the front spar lower cap hours TIS at which the strap was installed from 48,000 hours TIS.

NOTE 1: For example, if the spar cap had been in service 5,000 hours TIS when the strap was installed, then the spar cap's allowable service life becomes 43,000 hours TIS (48,000 minus 5,000).

(i) Lower cap of the front spar, with attachment fitting, in each outer wing panel.

(ii) Lower cap of the front spar, with left and right attachment fittings, in the center section.

(c) The inspection intervals established by superseded AD 77-05-01 R3 and superseded AD 90-04-04 may be substituted for the "unless already accomplished" statement in paragraphs (a)(1), (a)(3), (b)(1), (b)(2), and (b)(4) of this AD.

(d) The items specified in paragraphs (d)(1) through (d)(13) of this AD define the additional structural items to be inspected as referenced by paragraphs (a)(3) and (b)(4) of this AD.

(1) Inspect the lower fuselage skin at the attachment to the main spar for possible cracks or loose rivets.

(2) Inspect the lower left hand (LH) and right hand (RH) nacelle skins for cracks or loose rivets.

(3) Remove the aft fabric covers in the wheel wells and inspect for possible cracks in the center section skin under the top nacelle fairing. Check around the nacelle attach flange on the top side for possible loose rivets or cracks in the top skin.

(4) Inspect the structure and attaching fasteners of both keel beam assemblies at Butt Line (BL) 68 inboard, BL 88 outboard, at the center section rear spar, Nacelle Station 160.50.

(5) Inspect for possible cracks or loose rivets in the LH and RH dimpled skin attachment holes on the forward side of the main spar at the four countersunk screws and at all rivets between the fuselage and the nacelles.

(6) Inspect for possible cracks or loose rivets along the top skin attachment to the aft spar.

(7) Inspect for possible loose fasteners in the lower aft spar cap and skin.

(8) Inspect for possible cracks or loose fasteners in the lower strap on the main spar at Wing Station 68.5.

(9) Inspect the lower stringers running forward and aft between the main spar and the aft spar for possible cracks or loose fasteners to the lower fuselage skin. This area is to be checked from the center aisle and through access panels inside of the airplane.

(10) Inspect for possible cracks or loose fasteners in frames and angle clips of the center wing/fuselage at Fuselage Stations 188, 197, and 207.

(11) Using dye penetrant procedures outlined in AC 43.13-1A, inspect the four upper forward wing to center section fittings and the eight aft wing to center section fittings for possible cracks. Do not remove the wing attachment bolts unless cracks are indicated.

(12) Inspect the outer wing upper and lower spar cap and hinge for possible cracks, loose rivets, or wear of hinge.

(13) Lower the flaps and remove the lower aft access covers of the outer and center wing to inspect the aft spar and ribs for possible cracks near the inboard flaps.

(e) Airplane maintenance record entries must be made and notification in writing sent to the Manager, Wichita Aircraft Certification Office, FAA, 1801 Airport Road, Room 100, Wichita, Kansas 67209, stating the location and length of any cracks found during inspections required by this AD and also the total hours TIS of the component at the time the crack was discovered. Reports may be submitted by letter or through M or D (Malfunction or Defect) or MRR (Maintenance Reliability Reports) procedures. (Reporting approved by the Office of Management and Budget under OMB No. 2120-0056).

(f) The eddy current inspections required by this AD must be performed by personnel who have received training and are qualified in the operation of eddy current equipment that has been calibrated using a specimen obtained from the airplane manufacturer and simulates cracking of the spar cap.

(g) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(h) An alternative method of compliance or adjustment of the compliance times that provides an equivalent level of safety may be approved by the Manager, Wichita Aircraft Certification Office, FAA, 1801 Airport Road, Mid-Continent Airport, Wichita, Kansas 67209. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Wichita Aircraft Certification Office.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita Aircraft Certification Office.

(i) The strap inspection or modification required by this AD shall be done in accordance with Aerocon California, Inc., Engineering Order No. E.O. B-9975-2, dated November 14, 1975; and Aerocon California Service Letter, dated May 25, 1976. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be obtained from Western Aircraft Maintenance, 4444 Aeronca Street, Boise, Idaho 83705. Copies may be inspected at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri, or at the Office of the Federal Register, 1100 L Street, NW; Room 8401, Washington, DC.

(j) This amendment supersedes AD 90-04-04, Amendment 39-6487, which superseded AD 77-05-01 R3 and AD 75-27-10.

(k) This amendment becomes effective on August 24, 1992.

FOR FURTHER INFORMATION CONTACT:

Mr. Don Campbell, Aerospace Engineer, Airframe Branch, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209; Telephone (316) 946-4128.