

## Section II: Airworthiness Directives

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# MESSERSCHMITT-BOLKOW-BLOHM-GMBH AND MESSERSCHMITT-BOLKOW-BLOHM HELICOPTER

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**80-10-02 MESSERSCHMITT-BOLKOW-BLOHM:** Amendment 39-3765. Applies to Model BO-105 series helicopters with tail rotor blade grip P/N 105-31711 or P/N 105-31722 installed, certificated in any category.

To prevent failure of the tail rotor system, accomplish the following:

- (a) Within the next 10 hours time in service after the effective date of this AD, unless already accomplished within the last 90 hours time in service, and thereafter at intervals not to exceed 100 hours time in service from the last inspection, inspect the visible part of the inner surface of the tail rotor blade grip clevis area (do not remove blade retaining bolt bushings) for cracks using the dye penetrant method in accordance with Messerschmitt-Bolkow-Blohm BO-105 Alert Service Bulletin No. 18 dated March 15, 1979, or an FAA-approved equivalent.
- (b) Within the next 100 hours after installing a replacement tail rotor blade grip in accordance with paragraph (g) of this AD, and thereafter at intervals not to exceed 100 hours time in service from the last inspection, inspect the visible part of the inner surface of the tail rotor blade grip clevis area (do not remove blade retaining bolt bushings) for cracks using the dye penetrant method in accordance with Messerschmitt-Bolkow-Blohm BO-105 Alert Service Bulletin No. 18 dated March 15, 1979, or an FAA-approved equivalent.
- (c) Within the next 100 hours time in service after the effective date of this AD—
  - (1) Visually inspect the inboard end of the tail rotor blade grip for cracks in accordance with paragraph 2.A.1 “Accomplishment Instructions” of Messerschmitt-Bolkow-Blohm Service Bulletin 30-24 dated December 1, 1978, or an FAA-approved equivalent; and
  - (2) Inspect the tail rotor blade grip in the vicinity of the bore of the laminated pack retaining bolt (on the inner side) for cracks using the dye penetrant method in accordance with paragraph 2.A.2 “Accomplishment Instructions” of Messerschmitt-Bolkow-Blohm BO-105 Service Bulletin 30-24 dated December 1, 1978, or an FAA-approved equivalent.
- (d) Within the next 100 hours time in service after accomplishing the inspection required by paragraph (c)(1) of this AD or installing a replacement tail rotor blade grip in accordance with paragraph (g) of this AD, and thereafter at intervals not to exceed 100 hours time in service from the last inspection, visually inspect the inboard end of the tail rotor blade grip for cracks in accordance with “Special Inspections,” Chapter 10 of the Messerschmitt-Bolkow-Blohm BO-105 Maintenance and Overhaul Manual or an FAA-approved equivalent.
- (e) Within the next 600 hours time in service after accomplishing the inspection required by paragraph (c)(2) of this AD or installing a replacement tail rotor blade grip in accordance with paragraph (g) of this AD, and thereafter at intervals not to exceed 600 hours from the last inspection, inspect the tail rotor blade grip in the vicinity of the bore of the laminated pack retaining bolt (on the inner side) for cracks using the dye penetrant method in accordance with “Special Inspections,” Chapter 10, of the Messerschmitt-Bolkow-Blohm BO-105 Maintenance and Overhaul Manual or an FAA-approved equivalent.
- (f) If, during any inspection required by this AD, any cracks are found, before further flight, replace the cracked tail rotor blade grip in accordance with paragraph (g) of this AD.
- (g) For all replacement tail rotor blade grips installed after the effective date of this AD—
  - (1) Use a new or used crack-free tail rotor blade grip of the same part number. Before installation of a used tail rotor blade grip, inspect the part using the dye penetrant method to ensure that it is crack-free; and
  - (2) Comply with the repetitive inspection requirements of paragraphs (b), (d), and (e) of this AD.

**NOTE:** This AD applies to both tail rotor blade grips installed on the helicopter.

This amendment becomes effective May 1, 1980, as to all persons except those persons to whom it was made immediately effective by the telegram dated March 30, 1979, which contained this amendment.



AGUSTA, COSTRUZIONI  
AERONAUTICHE GIOVANNI

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**80-15-12 COSTRUZIONI AERONAUTICHE GIOVANNI AGUSTA:** Amendment 39-3854. Applies to Model A109A series helicopters, certificated in all categories, all serial numbers up to S/N 7165 inclusive, which have main rotor mast bearing inner race P/N 109-0404-14 installed.

Compliance required as indicated.

To prevent failure of the main rotor mast upper thrust bearing, accomplish the following:

- (a) Within the next 25 hours time in service after the effective date of this AD, unless already accomplished, visually inspect the area between the swashplate support, P/N 109-0110-05, and the main transmission upper case flange, for evidence of oil leaks in accordance with "ACCOMPLISHMENT INSTRUCTIONS," Part I, paragraph A, of Agusta Service Bulletin No. 109-12, Revision A, dated December 12, 1979 (hereinafter referred to as the Service Bulletin), or an FAA-approved equivalent.
- (b) If no evidence of oil leaks is found, continue in service and comply with paragraph (d) of this AD.
- (c) If, as a result of the inspection required in paragraph (a) of this AD, or of a repetitive inspection required by paragraph (d) of this AD, evidence of oil leaks is found, raise swashplate support, P/N 109-0110-05, and carefully inspect, using the visual method, the entire exposed surface of the bearing inner race, P/N 109-0404-14, for evidence of damage or cracks.
  - (i) If no cracks or damage are found, replace the packing P/N 109-0406-68, with new packing in accordance with "ACCOMPLISHMENT INSTRUCTIONS," Part I, paragraph B.2 of the Service Bulletin, or an FAA-approved equivalent.
  - (ii) If cracks or damage are found, before further flight, except that the helicopter may be flown to a base in accordance with FAR 21.197 and 21.199 where the repairs may be accomplished, replace the bearing inner race with a new part number inner race, P/N 109-0404-14-15, in accordance with "ACCOMPLISHMENT INSTRUCTIONS," Part II, of the Service Bulletin, or an FAA-approved equivalent.
  - (iii) Upon accomplishment of paragraph (c)(i) or (c)(ii) of this AD, return to service and comply with paragraph (d) of this AD.
- (d) After the termination of each flight, conduct the inspection described in paragraph (a) of this AD on all helicopters up to S/N 7165, inclusive.
- (e) Within the next 200 hours time in service after the effective date of this AD, unless already accomplished, for all helicopters up to S/N 7165 inclusive, and except for helicopters S/N 7140, 7142, 7148, 7150, 7152, 7158, 7160, 7161, 7162, 7163 and 7164, remove the main rotor mast upper bearing inner race, P/N 109-0404-14, and replace with a new part number bearing inner race, P/N 109-0404-14-15, in accordance with Part II of the Service Bulletin, or an FAA-approved equivalent, and continue to comply with paragraph (d) of this AD.
- (f) For all main transmission gearboxes S/N 58 and below, held as spares, replace the main rotor mast upper bearing inner race, P/N 109-0404-14, with a new inner race P/N 109-0404-14-15 in accordance with Part II of the Service Bulletin before release of the gearbox to service.
- (g) Upon request of an operator, the Chief, Aircraft Certification Staff, FAA, Europe, Africa, and Middle East Office, c/o American Embassy, Brussels, Belgium, may adjust the compliance time specified in paragraph (d) of this AD provided such requests are made through an FAA maintenance inspector and the request contains substantiating data to justify the request for that operator.
- (h) For the purpose of this AD, and FAA-approved equivalent may be approved by the Chief, Aircraft Certification Staff, AEU-100, Europe, Africa, and Middle East Office, Federal Aviation Administration, c/o American Embassy, Brussels, Belgium.

This amendment becomes effective August 7, 1980.



## BEECH

**81-23-01 R1 BEECH:** Amendment 39-4289. Applies to the following model airplanes regardless of the category or categories of airworthiness certification:

MODELS	SERIAL NUMBER (S/N)*
65, A65 & A65-8200	LC-181 through LC-335
70	LB-1 through LB-35
65-A80, 65-A80-8800 & 65-B80	LD-151 through LD-511 and LD-34,
	LD-46, LD-119
65-A88, 65-88	LP-1 through LP-54
65-90, 65-A90, B90 & C-90	LJ-1 through LJ-929
E90	LW-1 through LW-342
99, 99A, B99	U-1 through U-164
100 & A100	B-1 through B-247
B100	BE-1 through BE-102, and BE-104
<b>Military:</b>	
L23F**	**LF-7 through LF-76**
65-A90-1	LM-1 through LM-144
65-A90-2	LS-1, -2, -3
65-A90-3	LT-1, -2
65-A90-4	LU-1 through LU-16
NU-8F	LG-1

\*Except that airplanes which have installed BEEHCRAFT Kit No. 90-4077-1 S, BEEHCRAFT Kit No. 99-4023-1 S, or Aviadesign Supplemental Type Certificate SA1178CE or SA1583CE are not affected by this AD.

\*\*Except that Model L23F airplanes which do not have a preload indicating washer assembly (i.e., one with radial holes in a center ring) are not affected by this AD.

COMPLIANCE: Required as indicated, unless already accomplished.

In order to assure integrity of bolts and nuts at the lower forward attachments of outer wing panels to the wing center section, accomplish the following:

A) Prior to next flight, accomplish all of the following:

1. Remove all bolts, washers, and nuts from each lower forward wing attachment and thoroughly clean each removed part. Throughout all action required by this AD:
  - a. Use procedures in the applicable Beech Maintenance Manual except where other procedures are specified by this AD,
  - b. Unless different instruction from Beech Aircraft Corporation is obtained and followed, reposition wing, as necessary, to remove or reinstall bolt by hand without using any tool,
  - c. Keep parts of each preload indicating washer assembly together so that parts of one assembly cannot be intermingled with parts of another assembly,
  - d. Clean each removed part with naphtha or methyl ethyl ketone (MEK) using a bristle brush, and repeat this cleaning as necessary prior to each subsequently specified action until lubricant is applied, and
  - e. Accomplish all of the specified actions on both (i.e., left and right) sides of the airplane.

2. Visually inspect each bolt and nut for reddish rust. Do not classify copper residue over cadmium plating as rust. For a bolt, rust is acceptable only on the end (including not more than one thread) farthest from the head and within counterboard recess between wrench serrations of the bolt head. For compliance with Paragraph A)6 and C), below, classify a bolt as rusted if rust is found elsewhere. Classify a nut as rusted if rust is found anywhere.
3. Visually inspect each bolt and nut for a pit or crack in steel (not cadmium or copper plating) material. Use 10X or stronger magnifying glass. For each bolt, pay particular attention to the fillet and shank, including threads. For each nut, pay particular attention to the chamfer (that faces the bolt head when installed) and perceptible threads adjacent to this chamfer. (Refer to Paragraphs A)6 and C) below.)
4. Bake each bolt and nut continuously for 23 hours at 350 degrees to 400 degrees Fahrenheit and cool in still air.
5. After accomplishment of Paragraph A)4, above, use a magnetic particle method of Advisory Circular AC43.13-1A to inspect each bolt and nut for a crack, paying particular attention to locations specified in Paragraph A)3, above. For each bolt, use a fluorescent particle method with 5250 to 6750 ampereturns in a coil to produce longitudinal magnetization in each bolt. (6,000 ampereturns means 2,000 amperes in a 3-turn coil or 1,000 amperes in a 6-turn coil, etc.) For each nut, use any magnetic particule method with 500 to 700 amperes through a central conductor of at least 0.6-inch diameter through two nuts to produce circular magnetization. Demagnetize each bolt and nut after the above inspection.
6. Replace each rusted, pitted, and/or cracked nut and bolt with a new Part Number (P/N) as follows:
  - a. If new preload indicating (PLI) washer assembly is to be used in accordance with Paragraph A)9, below, nut P/N is 72789-1414, 72789M-1414, FN22-1414, or FN22M-1414. ("M" in P/N denotes black coating. All eligible nuts have a locking feature which necessitates use of a wrench for full engagement with bolt.)
  - b. If a used PLI washer assembly is reinstalled in accordance with Paragraph A)9, below, nut P/N is 72789-1414 or FN22-1414.
  - c. Bolt is P/N LWB 22-14-XX or VEP 220121-14-XX where XX is 31 for airplanes with S/N LD-34, LD-46, LD-119, and LJ-1 through LJ-67, and XX is 32 for all other airplanes affected by this AD.

Replace preload indicating washer with new P/N 61475-14-43.5 assembly (not any other P/N) if this assembly is available. Obtain new parts only from Beech Service Centers or Beech Aircraft Corporation. (Neither baking nor field inspection of new parts is necessary.) Do not replating any part.

7. Clean the bore and recessed washer seat area of the outboard and inboard wing fittings with naphtha or methyl ethyl ketone (MEK). Visually inspect these areas for corrosion, burrs, gouges and coining. If any defect is found, contact Beech Aircraft Service Department, 9709 East Central, Wichita, Kansas 67201; telephone (316) 681-7261, 7278, or 7352, for rework disposition. Also, if any defect is found, treat the bore and recessed washer seat areas of the inboard and outboard wing fittings with Alodine 1200, 1200S, or 1201. Allow the alodine coating to dry for 5 minutes. Wash the coating with water and blow dry with air without wiping. Paint treated washer seat areas with zinc chromate primer (obtain locally) and allow primer to dry.
8. Coat the inspected areas of the wing fittings, all of each bolt, all of each nut, and all of each preload indicating washer assembly with either clean MIL-C-16173, Grade 2 corrosion preventative compound or clean General Electric G322L Versilube Silicone Lubricant.
9. Install removed or new parts using standard procedures except as follows:
  - a. Preload indicating (PLI) washer assembly may be reused with P/N 72789-1414 and/or P/N FN22-1414 nuts, only.
  - b. Ascertain that a radius of the adjacent washer is next to the fillet under the bolt head and next to the outer edge of the recess in each wing fitting. Position wing as necessary to allow bolt to slide into fitting without use of any tool.
  - c. Tighten the joint by rotating the nut (do not turn the bolt). Use standard procedure if new PLI washer assembly is installed. If used PLI washer assembly is reinstalled, make necessary correction for any torque wrench adapter and apply 3250 to 3400 inch-pounds torque, but install new PLI washer assembly if center ring of the used assembly turns after 3400 inch-pounds torque is applied. Do not allow wrench to bear against fitting.

- d. Coat entire portion of bolt that projects beyond nut, using a material that is specified in Paragraph A)8, above.
  - e. Make aircraft maintenance record entry showing work accomplished, especially procedure used for tightening nut, and whether new or used PLI washer was installed. Indicating washer assembly with either clean MIL-C-16173, Grade 2 corrosion preventative compound or clean General Electric G322L Versilube Silicone Lubricant.
- B) Between 90 and 110 hours time-in-service after accomplishment of action specified by Paragraph A) of this AD, check nut tightness, using the same procedure that was used for accomplishment of Paragraph A)9c, above.
- C) Within 3 days after replacing a part in accordance with Paragraph A)6, above, or noting a defect when complying with this AD, submit a written report to the Federal Aviation Administration via an FAA M or D Report (FAA Form 8330-2) or a letter to the office specified in Paragraph E), below and send the replaced part(s) to Beech Aircraft Corporation. In the submitted report, please advise date of last previous bolt removal.
- D) A special flight permit in accordance with Federal Aviation Regulation 21.197 for flight to the nearest base is permitted in order to accomplish Paragraph A) of this AD. The nearest FAA Flight Standards District Office may be contacted to obtain a telegraphic special flight permit.
- E) Any equivalent method of compliance with this AD must be approved by the Chief, Aircraft Certification Program, Federal Aviation Administration, Room 238, Terminal Building 2299, Mid-Continent Airport, Wichita, Kansas 67209; Telephone (316) 269-7000, 7001, or 7002.

This amendment becomes effective on January 4, 1982, to all persons except those to whom it has already been made effective by an airmail letter from the FAA dated October 31, 1981.



## AIR TRACTOR, INC.

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**82-06-12 AIR TRACTOR:** Amendment 39-4350. Applies to Models AT-300 (S/Ns 300-0001 through 300-9999); AT-301 (S/Ns 301-0001 through 301-9999); AT-302 (S/Ns 302-0001 through 302-9999); AT-400 (S/Ns 400-0244 through 400-9999); and AT-400A (S/Ns 400A-0397 through 400A-9999) airplanes certified in any category and equipped with 1-inch-thick (P/N 40007-2 or P/N 40058-1) main landing gear struts.

COMPLIANCE: Required as indicated, unless already accomplished.

To prevent possible failure of the P/N 40007-2 or P/N 40058-1 main landing gear struts accomplish the following:

- (a) Models AT-300 and AT-301 airplanes:
  - (1) On struts having exceeded, or upon accumulating, 1,000 hours time-in-service or 5,000 landings, whichever occurs first, within 20 hours time-in-service or 100 landings, whichever occurs first, after the effective date of this AD and thereafter at intervals of 100 hours time-in-service or 500 landings, whichever occurs first, inspect and replace as necessary the landing gear struts in accordance with paragraph (c).
  - (2) On struts having exceeded, or upon accumulating, 2,000 hours time-in-service or 7,500 landings, whichever occurs first, prior to further flight, replace the struts with new struts of the same part number.
- (b) Models AT-302, AT-400 and AT-400A airplanes:
  - (1) On struts having exceeded, or upon accumulating, 600 hours time-in-service or 3,000 landings, whichever occurs first, within 20 hours time in-service or 100 landings, whichever occurs first, after the effective date of this AD and thereafter at intervals of 100 hours time-in-service or 500 landings, whichever occurs first, inspect the struts and replace as necessary in accordance with paragraph (c).
  - (2) On struts having exceeded, or upon accumulating, 1,200 hours time-in-service, or 6,000 landings, whichever occurs first, prior to further flight, replace the struts with new struts of the same part number.
- (c) Remove the left and right outboard fuselage clamp blocks. Remove all minor corrosion on both main landing gears by sandblasting. Inspect both main landing gears using dye penetrant or magnetic particle inspection procedures with special attention in the areas of strut contact with the clamp blocks. Replace all parts which are damaged, cracked, or have severe corrosion pitting with new parts of the same part number before further flight. All struts returned to service must be painted.
- (d) The aircraft hours and landings may be used as the time-in-service or landings on the struts if time-in-service or landings on the struts cannot be established by the airplane maintenance records.
- (e) A special flight permit may be issued in accordance with FAR 21.197 to allow flight of the aircraft to a location where this AD can be accomplished.
- (f) An equivalent method of compliance with this AD may be used when approved by the Chief, Aircraft Certification Division, Federal Aviation Administration, 4400 Blue Mound Road, Fort Worth, Texas 76101.

Snow Engineering Company Service Letter No. 45, dated November 1, 1981, covers the subject matter of this AD.

Compliance with this Service Letter within the last 100 hours time-in-service or 500 landings, whichever comes first, satisfies the initial inspection requirement of paragraphs (a) and (b) of this AD.

This amendment becomes effective on March 25, 1982.



## BENDIX

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**82-11-05 BENDIX:** Amendment 39-4389. Applies to Bendix Engine Products Division D-2000 and D-2200 series magnetos with serial numbers below 35480 (red identification plate) and with serial numbers below 8122106 (blue identification plate), unless identified with an "X" in the upper left corner of the identification plate.

Compliance required as indicated, unless already accomplished.

To reduce the possibility of engine power loss and engine damage resulting from looseness of the distributor gear electrode, accomplish Paragraphs (a) and (b):

- (a) Comply with the inspection requirements specified in the "Detailed Instructions" of Bendix Service Bulletin No. 617, dated November 1981, or later FAA-approved revision in accordance with the following schedule:

### MAGNETO TIME IN SERVICE

SINCE NEW OR OVERHAUL	ACCOMPLISH
Less than 500 hours	Within the next 50 hours in service and every 100 hours in service thereafter up to 550 hours in service.
500 hours or more	Within the next 50 hours in service.

- (b) Magnetos with 1900 hours or more in service since new or overhaul: Within the next 100 hours time in service, replace distributor gear assembly with new serviceable gear assembly in accordance with Bendix Service Bulletin No. 617, dated November 1981, or later FAA approved revision.
- (c) If the distributor block is contaminated with brass filings or bronze colored dust, inspect the engine as follows:
- (1) Observe engine pistons through spark plug hole for evidence of burning.
  - (2) Check valve dry tappet clearance per engine manufacturer's instructions.

If piston damage, or lower than specified dry tappet clearance, is present, the engine must be inspected in accordance with the engine manufacturer's instructions for continued airworthiness.

Equivalent means of compliance may be approved by the Chief of the New York Aircraft Certification Office, ANE-170, Federal Aviation Administration (FAA), New England Aircraft Certification Division, Federal Building, JFK International Airport, Jamaica, New York 11430. As permitted by FAR 21.197, aircraft may be flown to a base where maintenance required by this AD can be accomplished.

This AD is effective June 9, 1982.



**90-01-06 ENSTROM HELICOPTER CORPORATION:** Amendment 39-6457. Docket No. 89-ASW-59.

Applicability: Enstrom Model F-28, F-28A, F-28C, F-28C-2, F-28F, 280, 280C, 280F and 280FX Series Helicopters, equipped with tail rotor gearboxes, P/N 28-13500-1, 28-13525-1, -3, and 5, containing spiral miter gear-set “Boston Gear XR 137 2YR” and “Boston Gear XR-137-2YL.”

Compliance: Required as indicated, unless already accomplished.

To prevent the loss of tail rotor thrust and directional control, which could result in loss of the helicopter, accomplish the following:

- (a) Within the next five hours’ time in service--
  - (1) Determine from the aircraft log book if tail rotor gearbox, P/N 28-13500-1, 28-13525-1, -3, or -5, is installed in the helicopter;
  - (2) Remove all -1, -3 or -5 tail rotor gearboxes containing spiral miter gear-set “Boston Gear XR-137-2YR” and “Boston Gear XR-137-2YL”, with 1,200 or more hours’ time in service since the last overhaul, and replace with an airworthy gearbox; and
  - (3) For tail rotor gearboxes with less than 1,200 hours’ time in service since the last overhaul, remove the magnetic chip detector (plug), drain the oil from the tail rotor gearbox, filter the oil using a white filter paper, and inspect the magnetic plug and the filter paper with a ten power magnifying glass--
    - (i) If no metal contaminants are found, return the tail rotor gearbox to service;
    - (ii) If the inspection required by paragraph (a)(3) above reveals the presence of more than 15 thin metal flakes, splinters, or granular-shaped steel particles greater than 0.005 inches thick or longer than 0.015 inches, remove and replace the tail rotor gearbox with an airworthy gearbox; and
    - (iii) If metal contaminants are found that are fewer in number and smaller than those described in paragraph (ii) above, conduct further servicing and inspection in accordance with paragraph (a)(4).
  - (4) Flush the gearbox with clean oil and clean the magnetic plug with a cotton swab and/or an air gun.

NOTE: Do not clean the magnetic plug with a strong magnet. This weakens the magnet on the chip detector.

- (i) Refill the tail rotor gearbox with Mil-L-6082B Shell SAE10W, Mil-L-6082B Texaco SAE 10W, or Mil-L-22851B Phillips SAE 20W-50W lubricant. If any of these lubricants are not available, consult Enstrom Helicopter Corporation, Customer Service Department, for a possible alternative.
    - (ii) Conduct a serviceability check by flying the helicopter for one hour at various power settings up to full power, and then repeat the inspection required by paragraphs (a)(3) above.
      - (A) If no metal contaminants are found, return the tail rotor gearbox to service.
      - (B) If the repeat inspection reveals the presence of any metal contaminants, regardless of size or number, remove and replace the tail rotor gearbox with an airworthy gearbox.
- (b) At intervals not to exceed 100 hours’ time in service on all gearboxes returned to service after passing the inspections of paragraph (a), remove the magnetic chip detector (plug), drain the oil from the tail rotor gearbox, filter the oil using a white filter paper, and inspect the magnetic plug and the filter paper with a ten-power magnifying glass.
  - (1) If the inspection reveals the presence of any metal contaminants, regardless of size or number, remove and replace the tail rotor gearbox with an airworthy gearbox.
  - (2) If no metal contaminants are found return the tail rotor gearbox to service.
- (c) Within 1,200 hours’ time in service since the last overhaul, remove and replace the tail rotor gearbox with an airworthy gearbox.

- (d) An alternate method of compliance with this AD, which provides an equivalent level of safety, may be used when approved by the Manager, Chicago Aircraft Certification Office, FAA, 2300 East Devon Avenue, Room 232, Des Plaines, Illinois 60018.
- (e) In accordance with Sections 21.197 and 21.199, flight is permitted to a base where the maintenance required by this AD may be accomplished.

This amendment (39-6457, AD 90-01-06) becomes effective on February 1, 1990.

## BEECH

**90-08-14 BEECH:** Amendment 39-6563. Docket No. 89-CE-26-AD.

Applicability: The following airplanes certificated in any category.

MODELS	SERIAL NUMBERS
95, B95, B95A, D95A, E95	TD-1 through TD-721
95-55, 95-A55, 95-B55 and 95-B55A	TC-1 through TC-2456, except TC-350
95-C55, 95-C55A, D55, D55A, E55 AND E55A	TC-350 and TE-1 through TE-1201
95-B55B (T42A)	TF-1 through TF-70
56TC, A56TC	TG-1 through TG-94
58, 58A	TH-1 through TH-1475

Compliance: Required as indicated in the body of the AD, unless already accomplished.

To prevent cracks in the wing forward spar carry-through web structure from propagating to lengths that could compromise the integrity of the wing attachment to the fuselage, accomplish the following:

- (a) Within the next 100 hours time-in-service (TIS), after the effective date of this AD, or upon the accumulation of 1,500 hours total TIS, whichever occurs later, and thereafter at the intervals specified below, inspect the wing forward spar carry-through web structure in accordance with the instructions in Beech Service Bulletin (SB) No. 2269, Revision 1, dated March 1990.
  - (1) If no cracks are found, repeat the inspection at 500 hour TIS intervals thereafter.
  - (2) For cracks in the bend radius:
    - (i) If the crack length is less than 2.25 inches, prior to further flight stop drill the crack in accordance with the instructions in Beech SB No. 2269, Revision 1, and reinspect for crack progression every 200 hours TIS thereafter. Only one stop drilled crack for the left side and one stop drilled crack for the right side of the web structure are permissible.
    - (ii) If the crack length is greater than 2.25 inches but less than 4.0 inches, prior to further flight stop drill the crack in accordance with the instructions in Beech SB No. 2269, Revision 1, and within the next 100 hours TIS, repair the web structure with the applicable Beech Part Number (P/N) 58-4008 kit as specified in the above SB. After installation of the applicable Beech P/N 58-4008 kit, dye-penetrant inspect this area for cracks within the next 1,500 hours TIS from the time of installation of the applicable kit, and reinspect for cracks at 500 hours TIS intervals thereafter. If cracks are detected in these subsequent inspections, prior to further flight, contact the Wichita Aircraft Certification Office at the address below for disposition.
    - (iii) If the crack length is greater than 4.0 inches, prior to further flight repair the web structure with the applicable Beech P/N 58-4008 kit as specified in the above SB. After installation of the applicable Beech P/N 58 4008 kit, dye-penetrant inspect this area for cracks within the next 1,500 hours TIS from the time of installation of the applicable kit, and reinspect for cracks at 500 hours TIS intervals thereafter. If cracks are detected in these subsequent inspections, prior to further flight, contact the Wichita Aircraft Certification Office at the address below for disposition.
  - (3) For cracks in the web face, in the area of the huckbolt fasteners:
    - (i) If the crack length is less than 1.0 inch, reinspect for crack progression every 100 hours TIS thereafter. Only one crack for the left side and one crack for the right side are permissible, provided neither crack exceeds 1.0 inch in length.

NOTE 1: Do not stop drill these cracks due to the possibility of damaging the structure behind the web face.

- (ii) If any crack length is greater than 1.0 inch, or a crack is connecting two fastener holes, within the next 25 hours TIS, repair the web face with the applicable Beech P/N 58-4008 kit as specified in the above SB. After installation of the applicable Beech P/N 58-4008 kit, dye-penetrant inspect this area for cracks within the next 1,500 hours TIS from the time of installation of the applicable kit, and reinspect for cracks at 500 hours TIS intervals thereafter. If cracks are detected in these subsequent inspections, prior to further flight, contact the Wichita Aircraft Certification Office at the address below for disposition.
- (iii) If any crack passes through two fastener holes and extends beyond the holes for more than 0.5 inch, prior to further flight repair the web face with the applicable Beech P/N 58-4008 kit as specified in the above SB. After installation of the applicable Beech P/N 58-4008 kit, dye-penetrant inspect this area for cracks within the next 1,500 hours TIS from the time of installation of the applicable kit, and reinspect for cracks at 500 hours TIS intervals thereafter. If cracks are detected in these subsequent inspections, prior to further flight, contact the Wichita Aircraft Certification Office at the address below for disposition.
- (4) If cracks are found on the same side of the airplane in both the forward and aft web face, or the bend radii, and any of the cracks are more than 1.0 inch long, prior to further flight repair the web structure with the applicable Beech P/N 58-4008 kit as specified in the above SB. After installation of the applicable Beech P/N 58-4008 kit, dye-penetrant inspect this area for cracks within the next 1,500 hours TIS from the time of installation of the applicable kit, and reinspect for cracks at 500 hours TIS intervals thereafter. If cracks are detected in these subsequent inspections, prior to further flight, contact the Wichita Aircraft Certification Office at the address below for disposition.

NOTE 2: If a fuselage skin crack is discovered around the opening for the lower forward carry-through fitting, an external doubler may be required.

- (b) Airplanes may be flown in accordance with FAR 21.197 to a location where the AD may be accomplished.
- (c) An alternate method of compliance or adjustment of the initial or repetitive compliance times, which provides an equivalent level of safety, may be approved by the Manager, Wichita Aircraft Certification Office, FAA, Room 100, 1801 Airport Road, Wichita, Kansas 67209.

NOTE 3: The request should be forwarded through an FAA Maintenance Inspector, who may add comments and then send it to the Manager, Wichita Aircraft Certification Office.

All persons affected by this directive may obtain copies of the document referred to herein upon request to Beech Aircraft Corporation, Commercial Service, Department 52, P.O. Box 85, Wichita, Kansas 67201-0085; or may examine this document at the FAA, Office of the Assistant Chief Counsel, Room 1558, 601 East 12th Street, Kansas City, Missouri 64106.

This amendment (39-6563, AD 90-08-14) becomes effective on May 7, 1990.

# BEECH AIRCRAFT CORPORATION

**93-24-03 BEECH AIRCRAFT CORPORATION:** Amendment 39-8752; Docket No. 93-CE- 22-AD. Supersedes AD 92-15-06, Amendment 39-8300 which superseded AD 91-23-07, Amendment 39-8076.

Applicability: The following Beech model and serial numbered airplanes, certificated in any category:

MODELS	SERIAL NUMBERS
35-33, 35-A33, 35-B33, 35-C33, E33, F33, and G33	CD-1 through CD-1304
35-C33A, E33A, and F33A	CE-1 through CE-1425
E33C and F33C	CJ-1 through CJ-179
36 and A36	E-1 through E-2518
A36TC and B36TC	EA-1 through EA-500

Compliance: Required as indicated after the effective date of this AD, unless already accomplished (compliance with superseded AD 92-15-06 or superseded AD 91-23-07).

To prevent separation of the rudder from the airplane caused by cracks in the forward rudder spar, accomplish the following:

- (a) Upon the accumulation of 1,000 hours time-in-service (TIS) or within the next 100 hours TIS, whichever occurs later, inspect the rudder forward spar for cracks in accordance with the instructions in Beech Service Bulletin (SB) No. 2333, Revision 1, dated November 1991.
- (b) If no cracks are found, accomplish one of the following:
  - (1) Reinspect the rudder forward spar for cracks in accordance with the instructions in Beech SB No. 2333, Revision 1, dated November 1991, at intervals not to exceed 500 hours TIS until either paragraph (b)(2), (b)(3), or (b)(4) of this AD is accomplished;
  - (2) Install Kit No. 33-6001-1 S in accordance with Beech SB No. 2333, Revision 1, dated November 1991;
  - (3) Install a Spacecraft Machine Products (SMP) rudder spar upper-hinge reinforcement bracket in accordance with Supplemental Type Certificate (STC) SA4899NM; or
  - (4) Replace the rudder assembly with either part number 33-630000-137, - 139, -141, -167, or -169, as applicable, in accordance with the instructions in Beech SB No. 2333, Revision 1, dated November 1991.
- (c) If cracks are found, prior to further flight, accomplish one of the following:
  - (1) Replace the rudder assembly with either part number 33-630000-137, - 139, -141, -167, or -169, as applicable, in accordance with the instructions in Beech SB No. 2333, Revision 1, dated November 1991;
  - (2) Install Kit No. 33-6001-1 S in accordance with Beech SB No. 2333, Revision 1, dated November 1991; or
  - (3) If the cracks are found in the area of the upper hinge, the middle hinge, or both the upper and middle hinge as specified in Beech SB No. 2333, Revision 1, dated November 1991, then stop drill the cracks and install an SMP upper-hinge reinforcement bracket in accordance with STC SA4899NM. For cracks in the middle hinge, install the upper-hinge reinforcement bracket and also install an SMP rudder spar middle-hinge reinforcement bracket in accordance with STC SA5870NM.
- (d) If a modification or replacement has been accomplished in accordance with either paragraph (b)(2), (b)(3), (b)(4), (c)(1), (c)(2), or (c)(3) of this AD, then no repetitive inspections are required by this AD.
- (e) 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.

- (f) An alternative method of compliance or adjustment of the initial or repetitive 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: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita Aircraft Certification Office.

- (g) The inspections, installations, or replacements required by this AD shall be done in accordance with Beech Service Bulletin No. 2333, Revision 1, dated November 1991. This incorporation by reference was previously approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51 on August 22, 1992. Copies may be obtained from Beech Aircraft Corporation, P.O. Box 85, Wichita, Kansas 67201-0085. 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, 800 North Capitol Street, NW., suite 700, Washington, DC.
- (h) This amendment (39-8752) supersedes AD 92-15-06, Amendment 39-8300 which superseded AD 91-23-07, Amendment 39-8076.
- (i) This amendment (39-8752) becomes effective on January 21, 1994.

# PRATT & WHITNEY AIRCRAFT OF CANADA, INC.

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**95-13-08 Pratt & Whitney Canada:** Amendment 39-9288. Docket 95-ANE-33. Supersedes AD 94-10-02, Amendment 39-8909.

Applicability: Pratt & Whitney Canada (PWC) Model PT6A-67D turboprop engines with serial numbers prior to PC-E114100, installed on but not limited to Beech Model 1900D airplanes. NOTE: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (o) to request approval from the Federal Aviation Administration (FAA). This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any engine from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent aircraft handling problems due to imposition of the engine RPM restriction, accomplish the following:

- (a) For those operators that have previously complied with AD 94-10-02, this AD requires compliance with only paragraph (n).
- (b) Prior to further flight, amend the Beech Model 1900D Aircraft Flight Manual (AFM), Part Number (P/N) 129-590000-3, by inserting the following requirements between pages 2-4 and 2-5: "ENGINE OPERATING LIMITATIONS

Gas Generator RPM (N1) - Continuous operation of the gas generator between 94.0% and 97.1% is prohibited.

## NOTES

1. This limitation does not prohibit the use of N1's between 94.0% and 97.1% when the pilot in command determines that the power setting is required for the safe operation of the airplane. If such occurrences exceed 5 minutes, the engine(s) must be inspected in accordance with Pratt & Whitney Canada Service Bulletin No. 14128, Revision 3, dated April 19, 1993.
2. This limitation does not prohibit the use of static Take-Off Power and Maximum Continuous Power between 94.0% and 97.1% N1 to meet the required Take-Off performance. If such occurrences exceed 5 minutes, the engine(s) must be inspected in accordance with Pratt & Whitney Canada Service Bulletin No. 14128, Revision 3, dated April 19, 1993.
3. Operation at 94.0% and below, and at 97.1% and above are permitted. Continuous operation at 94.1% through 97.0% is prohibited.
4. "Continuous Operation" means time periods exceeding 5 minutes.
5. High Speed Cruise Power Tables found in the Pilot's Operating Manual may produce N1's in the prohibited range. Flights should be planned using Intermediate or Long Range Power settings. 6. The goal of the operator should be to keep the total time of operation in the prohibited range to the absolute minimum, since the effects of operating between N1's of 94.0% and 97.1% are cumulative. PLACARDS

Located in front of the pilot on the aft edge of the glareshield between the Master Caution annunciator and the fire extinguisher control switch:

CONTINUOUS OPERATION BETWEEN  
94.0% AND 97.1% N1 IS PROHIBITED  
SEE AFM"

- (c) Compliance with the requirements of paragraph (b) of this AD may also be accomplished by inserting a copy of this AD into the Beech Model 1900D AFM.
- (d) Prior to further flight, install the placard as specified in paragraph (b) of this AD.
- (e) For engines that have not been inspected prior to the effective date of this AD in accordance with PWC SB No. 14128, Revision 1, dated November 13, 1992, or debladed and inspected in accordance with PWC SB No. 14128, Revision 2, dated December 22, 1992, or PWC SB No. 14128, Revision 3, dated April 19, 1993, accomplish the following:
  - (1) For engines with Serial Numbers PC-E114001 to PC-E114044, within 25 hours time in service (TIS) after the effective date of AD 94-10-02, June 15, 1994, deblade the CT disk, inspect the entire disk surface area and fir tree area of the CT blades for cracking and the trailing edge of the blade airfoil section for irregularities, and replace, if necessary, with serviceable parts, in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993.
  - (2) For engines with Serial Numbers PC-E114045 to PC-E114099, within 50 hours TIS after the effective date of AD 94-10-02, June 15, 1994, deblade the CT disk, inspect the entire disk surface area and fir tree area of the CT blades for cracking, and replace, if necessary, with serviceable parts, in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993.
- (f) For engines that have been inspected in accordance with PWC SB No. 14128, Revision 1, dated November 13, 1992, prior to the effective date of this AD, deblade the CT disk, inspect the entire disk surface area and fir tree area of the CT blades for cracking, and replace, if necessary, with serviceable parts, in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993, as follows:
  - (1) For blade sets with greater than 600 hours TIS since new on the effective date of AD 94-10-02, June 15, 1994, deblade, inspect, and replace, if necessary, within the next 50 hours TIS after the effective date of AD 94-10-02, June 15, 1994.
  - (2) For blade sets with greater than or equal to 250 hours TIS, and less than or equal to 600 hours TIS, since new, on the effective date of AD 94-10-02, June 15, 1994, deblade, inspect, and replace, if necessary, within the next 100 hours TIS after the effective date of AD 94-10-02, June 15, 1994.
  - (3) For blade sets with less than 250 hours TIS since new on the effective date of AD 94-10-02, June 15, 1994, deblade, inspect, and replace, if necessary, within the next 250 hours TIS after the effective date of AD 94-10-02, June 15, 1994.
- (g) For uninstalled CT disk and blade assemblies that have not been inspected in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 2, dated December 22, 1992, or PWC SB No. 14128, Revision 3, dated April 19, 1993, in the preceding 250 hours TIS from the effective date of AD 94-10-02, June 15, 1994, deblade the CT disk, inspect the entire disk surface area and fir tree area of CT blades for cracking, and replace, if necessary, with serviceable parts, in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993, prior to installation.
- (h) For engines with CT disk and blade assemblies that have been debladed and inspected in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 2, dated December 22, 1992, or PWC SB No. 14128, Revision 3, dated April 19, 1993, prior to the effective date of AD 94-10-02, June 15, 1994, within 250 hours TIS since the last deblading and inspection, deblade the CT disk, inspect the entire disk surface area and fir tree area of CT blades for cracking, and replace, if necessary, with serviceable parts, in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993.
- (i) For CT disk and blade assemblies that have been debladed and inspected in accordance with paragraphs (e), (f), (g), and (h) of this AD, deblade the CT disk, reinspect the entire disk surface area and fir tree area of CT blades for cracking, and replace, if necessary, with serviceable parts, in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993, at intervals not to exceed 250 hours TIS since the last deblading and inspection performed in accordance with the Accomplishment Instructions of PWC SB No. 14128, Revision 3, dated April 19, 1993.

- (j) Install a CT stator assembly, a CT shroud housing, and a small exit duct assembly in accordance with PWC SB No. 14132, Revision 1, dated May 12, 1993, at the next shop visit after the effective date of this AD, or within 30 days after the effective date of this AD, whichever occurs first.
- (k) Install CT blades and feather seals in accordance with PWC SB No. 14142, Revision 1, dated May 12, 1993, at the next shop visit after the effective date of this AD, or 30 days after the effective date of this AD, whichever occurs first.
- (l) For the purpose of this AD, a shop visit is defined as when major engine flanges are separated.
- (m) Installation of improved hardware in accordance with paragraphs (j) and (k) of this AD constitutes terminating action for the inspections required by paragraphs (e) through (i) of this AD.
- (n) For aircraft equipped with engines that have complied with paragraphs (j) and (k) of this AD, or AD 94-10-02, accomplish the following:
  - (1) Remove the amendment to the Beech Model 1900D AFM, P/N 129-590000-3, described in paragraphs (b) or (c) of this AD.
  - (2) Remove the placard described in paragraph (d) of this AD.
- (o) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Engine Certification Office.  
  
NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Engine Certification Office.
- (p) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.
- (q) The inspections and modifications shall be done in accordance with the following SB's:

Document No.	Pages	Revision	Date
PWC SB No. 14128 Total pages: 5	1-5	3	April 19, 1993
PWC SB No. 14132 Total pages: 6	1-6	1	May 12, 1993
PWC SB No. 14142 Total pages: 7	1-7	1	May 12, 1993

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 Pratt & Whitney Canada, 1000 Marie-Victorin, Longueuil, Quebec, Canada J4G 1A1. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

- (r) This amendment becomes effective on July 12, 1995.

END OF SECTION 2