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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2000-CE-44-AD; Amendment 39-12920; AD 2002-21-13]**

**RIN 2120-AA64**

### **Airworthiness Directives; Raytheon Aircraft Company Beech Models 35, 35R, A35, and B35 Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment supersedes Airworthiness Directive (AD) 98-13-02, which currently requires operating limitations on Raytheon Aircraft Company (Raytheon) Beech Models 35, 35R, A35, and B35 airplanes. This AD is the result of Raytheon developing inspection and modification procedures that, when accomplished on the affected airplanes, will eliminate the need for the operating limitations. This AD retains the operating limitations for the affected airplanes until the recently developed inspection and modification procedures are accomplished. This AD also requires repetitive inspections of the fuselage structure. The actions specified by this AD are intended to prevent structural failure of the V-tail, which could result in loss of control of the airplane.

**DATES:** This AD becomes effective on December 10, 2002.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of December 10, 2002.

**ADDRESSES:** You may get the service information referenced in this AD from the Raytheon Aircraft Company, P.O. Box 85, Wichita, Kansas 67201-0085; telephone: (800) 625-7043 or (316) 676-4556. You may examine this information at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2000-CE-44-AD, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Mr. T.N. Baktha, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4155; facsimile: (316) 946-4407.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

#### *Has FAA Taken Any Action on the Raytheon Airplane Ruddervator System to This Point?*

AD 98-13-02, Amendment 39-10590 (63 FR 31916, June 11, 1998), currently requires the following on Raytheon Beech Models 35, A35, B35, and 35R airplanes:

- Fabricating a placard that restricts the never exceed speed (Vne) to no more than 144 miles per hour (MPH) or 125 knots (KTS) indicated airspeed (IAS) and installing this placard on the instrument panel within the pilot's clear view;
- Marking a red line on the airspeed indicator glass at 144 MPH (125 KTS);
- Marking a white slippage mark on the outside surface of the airspeed indicator between the glass and case; and
- Inserting a copy of this AD into the Limitations Section of the pilot's operating handbook/airplane flight manual (POH/AFM).

In addition, AD 94-20-04, Amendment 39-9032 (59 FR 49785, September 30, 1994), requires the following on certain Beech Models C35, D35, E35, F35, G35, H35, J35, K35, M35, N35, P35, S35, V35, V35A, and V35B airplanes, as well as the Beech Models 35, A35, B35, and 35R airplanes:

- Checking the ruddervator static balance and rebalancing the ruddervators when the balance is not in accordance with manufacturer's specifications or anytime the ruddervators are repaired or repainted;
- Repetitively inspecting the fuselage bulkheads for damage and replacing any damaged parts;
- Installing stabilizer reinforcements for some airplane models, as applicable;
- Fabricating and installing airspeed limitation placards;
- Incorporating certain airspeed limitations into the POH/AFM;
- Inspecting the empennage, aft fuselage, and ruddervator control system for damage and replacing or repairing any damaged parts; and
- Ensuring the accuracy of the airplane basic weight and balance information and immediately correcting any discrepancies.

Accomplishment of these actions is required in accordance with the instructions to either Beech Kit No. 35-4016-3, 35-4016-5, 35-4016-7, or 35-4016-9, as applicable and as specified in Beech Service Bulletin No. 2188, dated May, 1987, and the applicable maintenance and shop manuals.

#### *What Has Happened Since AD 94-20-04 and AD 98-13-02 To Initiate This Action?*

AD 94-20-04 contains minor errors and FAA receives periodic calls from the public for clarification.

In addition, Raytheon has issued Recommended Service Bulletin No. SB 27-3358, Issued: February, 2000, which includes procedures for inspecting the aft fuselage, ruddervator, and related systems for acceptable condition and rebalancing the ruddervators to new specifications (upper limit reduced from 19.8 to 18 inch-pounds (tail heavy)). Accomplishing these inspections will eliminate the need for the operating limitations of AD 98-13-02. This service bulletin also includes the procedures necessary for continuing the repetitive inspections of the empennage, aft fuselage, and ruddervator control system (the inspections that AD 94-20-04 currently requires).

### *Has FAA Taken Any Action to This Point?*

We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to Raytheon Beech Models 35, 35R, A35, and B35 airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on March 26, 2001 (66 FR 16418). The NPRM proposed to supersede AD 98-13-02, Amendment 39-10590. The NPRM also proposed to require you to inspect the aft fuselage, ruddervator, and related systems for acceptable condition on Beech Models 35, 35R, A35, and B35 airplanes; adjust ruddervator balance to the new limits; and repair or replace damaged parts, as necessary. This proposed inspection requirement along with the new proposed limits for the ruddervator balance (set forth in Raytheon SB 27-3358, section 3.A) would terminate the need for the operating limitations for those airplanes.

### *Was the Public Invited to Comment?*

The FAA encouraged interested persons to participate in the making of this amendment. The following presents the comments received on the proposal and FAA's response to each comment:

### **Comment Issue No. 1: Allow Equipment Options for Propeller Balancing and Give Credit if the Equipment Has Been Recently Balanced**

#### *What Is the Commenter's Concern?*

Several commenters state that requiring the propeller to be balanced in accordance with the service information is too restrictive. Raytheon Service Bulletin SB 27-3358 specifies the propeller balance in accordance with the Chadwick-Helmuth Dynamic Propeller balancer/analyzer procedure. These commenters believe that this is too restrictive because several different manufacturers' equipment is available. They request that FAA include other options. These commenters also request that we give credit to those owners/operators who already recently had the propeller balancing accomplished.

#### *What Is FAA's Response to the Concern?*

The proposed AD does not specify balancing of the propellers. This is only specified in paragraph (12) of Raytheon Service Bulletin SB 27-3358, Issued: February, 2000. We do recommend balancing the propellers to 0.02 inch per second (ips) or better using suitable equipment (if you have not already done the balancing within the last 5 years).

We are not changing the final rule based on these comments.

### **Comment Issue No. 2: Allow Equipment Options for Skin Thickness and Acknowledge Differences in Skin Thickness**

#### *What Is the Commenter's Concern?*

Several commenters present the same concern with the equipment used to measure skin thickness as that concern with the propeller balancing. That concern is specifying only one piece of equipment. These same commenters also state that there are differences in skin thickness, e.g., 0.016 inch instead of 0.018 inch.

### *What Is FAA's Response to the Concern?*

We concur that specifying only one piece of equipment for the skin thickness measurement is too restrictive.

We are changing the final rule AD action to state that you must accomplish this measurement in accordance with a digital ultrasonic skin tester or equivalent skin tester or by direct methods that utilize calipers and micrometers.

We also concur that there are differences in skin thickness. We are adding to the final rule AD action reference to the different skin thicknesses that are specific to each airplane serial number and the location (fuselage stations) of each affected skin part number.

### **Comment Issue No. 3: Only Require a Designated Engineer Review (DER) of Modifications When Major Structural Changes Have Been Made**

#### *What Is the Commenter's Concern?*

Several commenters state that a DER review for major structural modifications can be very expensive. These commenters recommend that an airframe and powerplant (A&P) mechanic be allowed to accomplish this review.

#### *What Is FAA's Response to the Concern?*

The proposed AD does not specify a DER review of major structural modifications. This is only specified in Raytheon Service Bulletin SB 27-3358, Issued: February, 2000. If an A&P mechanic suspects that the modifications might extensively affect the structural integrity of the airplane, a DER review is highly recommended.

We will add the following note to the final rule AD:

"Only the inspections, repairs, replacements, and airplane basic weight and balancing requirements are required by paragraphs (d)(5), (d)(6), (d)(7), (d)(7)(i), and (d)(7)(ii) of this AD and the Appendix to this AD. Other actions specified in Raytheon Service Bulletin SB 27-3358 such as a DER review for major structural modifications are not required by this AD. If you have major modifications incorporated in the aft fuselage or empennage, we recommend a Structures DER review to ensure that the structural integrity is maintained after the modifications."

### **Comment Issue No. 4: This AD Will Not Address the Problem Unless the Counterweight Configuration is Updated**

#### *What Is the Commenter's Concern?*

One commenter relates an experience of making physical changes to counter weights as part of repainting. These changes used modified Beech parts that resulted in getting good balance and minimum weight. In fact, the commenter states that the balance required the same weight as was used with the airplane's 1949 delivery, even though the ruddervators had new skins with factory epoxy primer. The commenter points out the proposed AD will not address the problem unless the counterweight configuration is updated.

#### *What Is FAA's Response to the Concern?*

We do not concur. We do not have any information that indicates a balance specified in the service information cannot be obtained on the affected airplanes. If the balance cannot be obtained,

we will consider alternative methods of compliance (AMOCs) to this portion of the AD provided substantiating information is submitted with the request.

We are not changing the final rule AD action based on this comment.

### **Comment Issue No. 5: The NPRM Is Confusing About When the Speed Restrictions Are Required and When They May Be Removed**

#### *What Is The Commenter's Concern?*

One commenter states that it is unclear when the speed restrictions must be incorporated and when they may be removed. The commenter requests clarification on this subject.

#### *What Is FAA's Response to the Concern?*

The NPRM retains the speed restrictions from AD 98-13-02, which was effective on July 7, 1998. The Compliance column of the chart in paragraph (d)(1) of the AD states this.

In addition, paragraph (d)(7)(iii) states "Discontinue the placard and operating limitations required by paragraphs (d)(1) through (d)(4) of this AD." This is in sequence with the actions required that lead up to this limitations removal.

We are not changing the final rule AD action based on this comment.

### **Comment Issue No. 6: This AD Does Not Address the Root Cause of the Problem**

#### *What Is the Commenter's Concern?*

One commenter states that FAA has not found any specific fault with the affected airplanes that could be corrected to prevent the tail vibration. The proposed AD would only provide actions to detect and correct the damage after it happened and would allow this potential damage to occur. The commenter requests that FAA identify the root cause of the problem and then work to develop a modification that would prevent the problem from reoccurring.

#### *What Is FAA's Response to the Concern?*

Raytheon has analyzed and tested for many years to find the root cause for the problem. Raytheon has not been able to identify an obvious single cause for the ruddervator problems on the affected airplanes. However, Raytheon's analyses indicate that the new limits of the ruddervator balance set by this AD will greatly enhance the ruddervator stability.

Therefore, FAA has determined that it is imperative that those operating the affected airplanes follow all operating limitations and restrictions, ensure that all balance limits are correct, and follow all criteria and maintenance manual procedures.

Because of the age of these airplanes (some of which are over 40 years old), we must closely monitor the continued airworthiness safety even if all limits, operations, and maintenance procedures are followed.

Additional maintenance or operating procedures may be necessary to ensure their continued operational safety.

We are not changing the final rule AD action based on this comment.

### **Comment Issue No. 7: Increase the 2-year Compliance Time to 3 Years**

*What Is the Commenter's Concern?*

One commenter states that there are not enough maintenance facilities to accomplish the inspections in paragraph (d)(7) of the proposed AD on all affected airplanes within 2 years. The commenter recommends that FAA change this compliance time to 3 years.

*What Is FAA's Response to the Concern?*

We concur and will change the final rule AD action accordingly.

**Comment Issue No. 8: This AD Is Being Used for Maintenance**

*What Is the Commenter's Concern?*

One commenter states that FAA is using this AD to enforce the use of correct maintenance procedures and to establish better or improved maintenance procedures on the affected airplanes. The commenter states that this is an incorrect use of an AD and punishes those who have adequately maintained their airplanes. We infer that the commenter either wants the NPRM withdrawn or wants an exemption from the AD.

*What Is FAA's Response to the Concern?*

Although we concur that part of this action is mandating better or improved maintenance procedures, we do not agree that this is an incorrect use of an AD. We are not issuing this AD to enforce the current procedures in the maintenance manual. An incorrect use of an AD would be to mandate the exact same actions that were part of the operators maintenance program at the time of aircraft delivery.

The actions of this AD are not to be used instead of the current maintenance practices. They are to work concurrently with the current maintenance practices. Based on the service history we have received on this subject over the years and our evaluation of the subject, we have determined that this AD is justified and the proposed actions should be complied with.

We are not changing the final rule AD action based on this comment.

**Comment Issue No. 9: Remove the Repetitive Requirement for the Skin Thickness Measurement**

*What Is the Commenter's Concern?*

Several commenters request that FAA remove the repetitive requirement for measuring the skin thickness. The commenters state that the inspection is done to determine whether the thickness is reduced beyond acceptable limits due to corrosion or due to surface polishing or abrasion over time.

*What Is FAA's Response to the Concern?*

The FAA concurs. The intent was to only require the skin thickness measurement once within the next 100 hours TIS.

We will change the repetitive skin thickness measurement in the final rule AD to a one-time action.

**Comment Issue No. 10: Do Not Require the Rebalancing of the Ruddervator if the Logbooks Show it is Already Within the Correct Balance Limits**

*What Is the Commenter's Concern?*

One commenter states that the ruddervator rebalancing limits should not be required if the logbook shows that these limits are currently met. The commenter recommends that we give accomplishment credit for this portion of the AD when the logbook entry shows that the ruddervator limits are met.

*What Is FAA's Response to the Concern?*

We concur that accomplishment credit should be given if the logbook "positively" shows that the ruddervators meet the limits specified in the service bulletin. To "positively" show this, the entry must indicate that the ruddervator is within the specified limits and list the details of the balancing. This includes balancing methods used and the amount of weights and washers used.

We will change the final rule AD action accordingly.

**Comment Issue No. 11: Allow the Option of Accomplishing Either the Inspections, Modifications, and Balancing Requirements or Operating Within the Current Speed Restrictions**

*What Is the Commenter's Concern?*

Several commenters state the actions in the proposed AD should only be required for those airplane operators who choose to exceed the current speed restrictions. The commenters suggest that the AD should provide the choice of accomplishing the proposed inspections, modifications, and balancing requirements or maintaining the speed restrictions currently required by AD 98-13-02.

*What Is FAA's Response to the Concern?*

We do not concur that the inspections, modifications, and balancing requirements should be optional. Some of the affected airplanes are over 40 years old. A thorough inspection over that provided during annual and 100-hour inspections is necessary to ensure the continued airworthiness of these airplanes. The inspections in the proposed AD provide this type of inspection.

Also, this AD will impose tighter margins on the ruddervator balance and this will improve the dynamic characteristics of the airplane and yield a more stable airplane.

We are not changing the final rule AD action based on this comment.

**Comment Issue No. 12: Do Not Require 100-Hour TIS Inspections of the Ruddervator Travel**

*What Is the Commenter's Concern?*

Several commenters state that the ruddervator travel need not be inspected every 100 hours TIS. These commenters state that this is too repetitive. The commenters do not recommend a different compliance time so we infer that the commenters want a one-time inspection of the ruddervator travel.

*What Is FAA's Response to the Concern?*

We concur that the ruddervator travel should only be a one-time action.  
We are changing the AD final rule action accordingly.

**Comment Issue No. 13: Make the Repetitive Inspection Intervals Annual Instead of Every 100 Hours TIS**

*What Is the Commenter's Concern?*

One commenter states that the 100-hour TIS interval for the proposed inspection is too frequent. The commenter recommends FAA change these to annually.

*What Is FAA's Response to the Concern?*

We do not concur. These aging airplanes are prone to fatigue cracking in the frames and skins. Our analysis indicates that this is due to airplane operation and that 100-hour TIS interval inspections are necessary to address the continued operational safety of these airplanes.

We are not changing the final rule AD action based on this comment.

**Comment Issue No. 14: Allow Removal and Weighing of the Elevator Assembly Using a Simple Balance Beam Method**

*What Is the Commenter's Concern?*

The commenter states that the method outlined in the service bulletin for balancing the ruddervator is unnecessary and could be accomplished using a simple balance beam method. The commenter recommends FAA change the proposed AD to allow this method.

*What Is FAA's Response to the Concern?*

We partially concur. We have determined that the AD should require the ruddervator be balanced using procedures in Raytheon Service Bulletin SB 27-3358. We would consider other methods on a case-by-case basis if substantiating information is submitted with a request for an alternative method of compliance.

We are not changing the final rule AD action based on this comment.

**FAA's Determination**

*What Is FAA's Final Determination on This Issue?*

After careful review of all available information related to the subject presented above, we have determined that air safety and the public interest require the adoption of the rule as proposed except for the changes and clarifications discussed above and minor editorial corrections. We have determined that these changes, clarifications, and minor corrections:

- Will not change the meaning of the AD; and
- Will not add any additional burden upon the public than was already proposed.



## Cost Impact

*How Many Airplanes Does This AD Impact?*

We estimate that this AD affects 2,211 airplanes in the U.S. registry.

*What Is the Cost Impact of This AD on Owners/Operators of the Affected Airplanes?*

We estimate the following costs to accomplish the initial inspections:

<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>	<b>Total cost on U.S. operators</b>
55 workhours at \$60 per hour = \$3,300	\$500 per airplane	\$3,800	\$8,401,800

The above figures are based only on the initial inspections and do not take into account the cost of repetitive inspections or adjustments, repairs, or replacements that will be necessary based on the results of the inspections. We have no way of determining the number of repetitive inspections each owner/operator of the affected airplanes will incur or what adjustments, repairs, or replacements will be necessary based on the results of the inspections.

## Regulatory Impact

*Does This AD Impact Various Entities?*

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

*Does This AD Involve a Significant Rule or Regulatory Action?*

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the final evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

## List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

## **PART 39–AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. FAA amends § 39.13 by removing Airworthiness Directive (AD) 98-13-02, Amendment 39-10590 (63 FR 31916, June 11, 1998), and by adding a new AD to read as follows:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

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

*We post ADs on the internet at "www.airweb.faa.gov/rgl"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and 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 (reference 14 CFR part 39, subpart 39.3).

**2002-21-13 Raytheon Aircraft Company (Beech Aircraft Corporation formerly held Type Certificate (TC) No. A-777):** Amendment 39-12920; Docket No. 2000-CE-44-AD; Supersedes AD 98-13-02, Amendment 39-10590.

(a) *What airplanes are affected by this AD?* This AD affects Beech Models 35, 35R, A35, and B35 airplanes, all serial numbers, that are certificated in any category.

(b) *Who must comply with this AD?* Anyone who wishes to operate any of the airplanes referenced in paragraph (a) of this AD must comply with this AD.

(c) *What problem does this AD address?* The actions specified by this AD are intended to prevent structural failure of the V-tail, which could result in loss of control of the airplane.

**Note 1:** Only the inspections, repairs, replacements, and airplane basic weight and balancing requirements as specified in this AD are required by paragraphs (d)(5), (d)(6), (d)(7), (d)(7)(i), (d)(7)(ii) of this AD and the Appendix to this AD. Other actions specified in Raytheon Service Bulletin SB 27-3358 such as a DER review for major structural modifications are not required by this AD. If you have major modifications incorporated in the aft fuselage or empennage, we recommend a Structures DER review to ensure structural integrity is maintained after the modifications.

(d) *What actions must I accomplish to address this problem?* To address this problem, you must accomplish the following:

Actions	Compliance	Procedures
(1) Fabricate a placard that restricts the never exceed speed (Vne) to no more than 144 miles per hour (MPH) or 125 knots (KTS) indicated airspeed (IAS), and install this placard on the instrument panel within the pilot's clear view. The placard should utilize letters of at least 0.10-inch in height and contain the following words: "Never exceed speed, Vne, 144 MPH (125 KTS) IAS".	Within the next 10 hours time-in-service (TIS) after July 7, 1998 (the effective date of AD 98-13-02), unless already accomplished.	Not Applicable.
(2) Mark a red line on the airspeed indicator glass at 144 MPH (125 KTS) and mark a white slippage mark on the outside surface of the airspeed indicator between the glass and case.	Within the next 10 hours time-in-service (TIS) after July 7, 1998 (the effective date of AD 98-13-02), unless already accomplished.	Not Applicable.

(3) Insert a copy of this AD into the Limitations Section of the airplane flight manual (AFM).	Within the next 10 hours time-in-service (TIS) after July 7, 1998 (the effective date of AD 98-13-02), unless already accomplished.	Not Applicable.
(4) The owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7) may fabricate and install the placard as required by paragraph (d)(1) of this AD and insert this AD into the Limitations Section of the AFM as required by paragraph (d)(3) of this AD.	Within the next 10 hours time-in-service (TIS) after July 7, 1998 (the effective date of AD 98-13-02), unless already accomplished.	Make an entry into the aircraft records showing compliance with this AD in accordance with 43.9 of the Federal Aviation Regulations (14 CFR 43.9).
(5) Visually inspect the empennage, aft fuselage, and ruddervator control system for damage: (i) Part of this is an inspection of the aft fuselage skin for wrinkles or cracks. Specific skin thicknesses are presented in Figures 1 and 2 of this AD. The skin thickness measurement is not repetitive. (ii) The inspection and setting of the travels on the elevator and elevator trim tabs are not repetitive. (iii) Repair or replace any damaged parts and set the elevator controls, rudder and tab system controls, cable tensions, and rigging.	Inspect within the next 100 hours TIS after the last inspection required by AD 94-20-04 or within the next 25 hours TIS after December 10, 2002 (the effective date of this AD), whichever occurs later, and thereafter at intervals not to exceed 100 hours TIS, except for the skin thickness measurement and the inspection and setting of the travels on the elevator and elevator trim tabs, which are one-time actions. Accomplish any repairs, replacements, and adjustments prior to further flight after the applicable inspection.	Accomplish the inspection and repairs or replacements in accordance with the procedures in paragraphs (5)(a) through (5)(f) of the ACCOMPLISHMENT INSTRUCTIONS section of Raytheon Service Bulletin No. SB 27-3358, Issued: February, 2000, and use a digital ultrasonic skin tester or equivalent skin tester or direct methods that utilize calipers and micrometers. Specific skin thicknesses are contained in Figures 1 and 2 of this AD.
(6) Verify the accuracy of the airplane basic weight and balance information and correct any discrepancies.	Accomplish the airplane basic weight and balance accuracy verification within the next 100 hours TIS after December 10, 2002 (the effective date of this AD), unless already accomplished as previously required by AD 94-20-04. Correct any discrepancies prior to further flight after the verification.	Use the procedures contained in the Appendix to this AD.

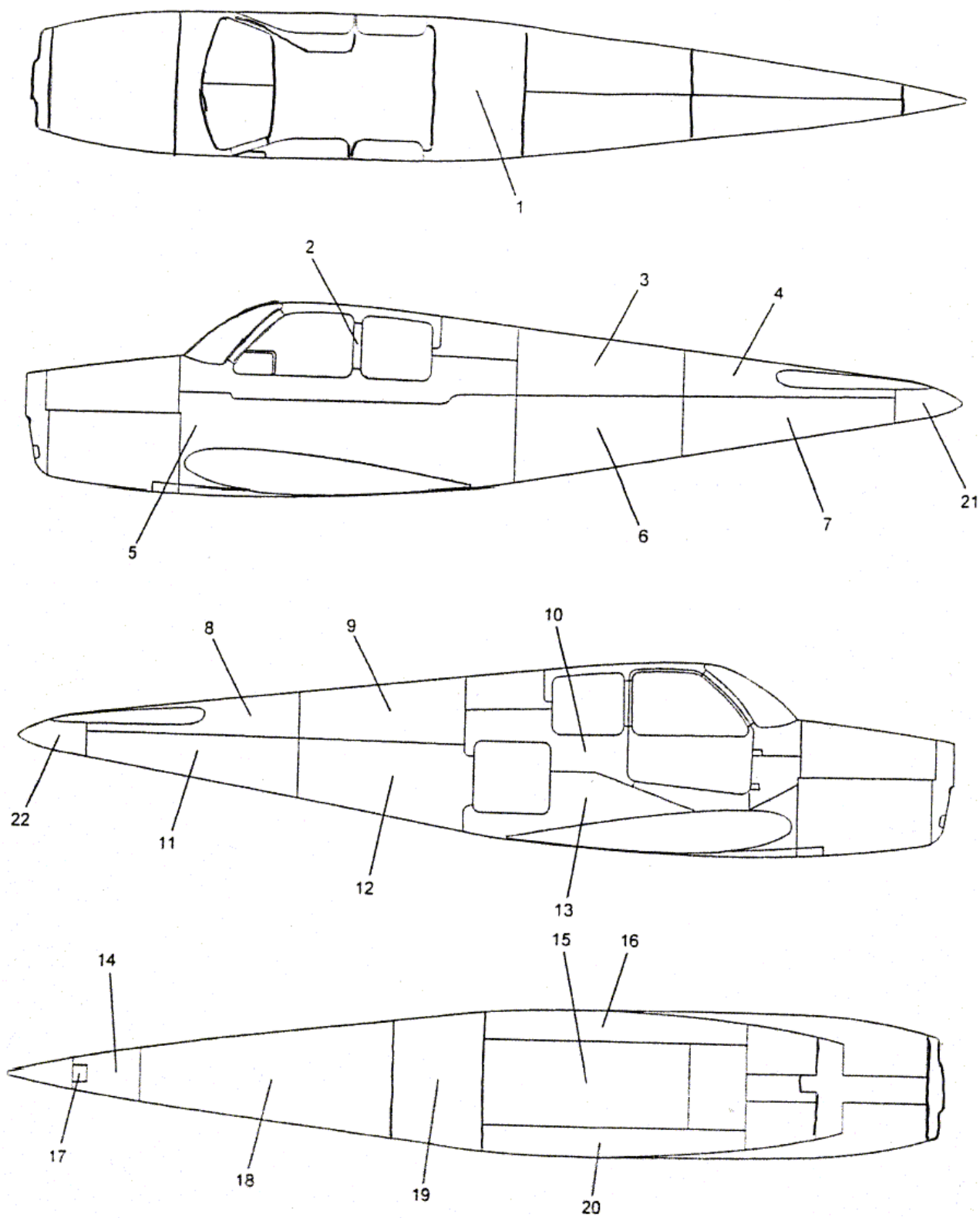
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<p>(7) Inspect the aft fuselage, ruddervator, and related systems for acceptable condition:</p> <p>(i) Repair or replace any parts found unacceptable as specified in the service bulletin.</p> <p>(ii) Rebalance the ruddervators to the new specifications that reduce the upper limit from 19.8 to 18 inch-pounds (tail heavy). This is not necessary initially if you can positively verify in the logbook that the ruddervators meet the limits specified in the service bulletin:</p> <p>(A) To positively show this, the entry must indicate that the ruddervator is within the specified limits and list the details of the balancing.</p> <p>(B) This must include the balancing methods used and the amount of weights and washers used.</p> <p>(iii) Discontinue the placard and operating limitations required by paragraphs (d)(1) through (d)(4) of this AD.</p>	<p>Accomplish the inspections within the next 3 years after December 10, 2002 (the effective date of this AD), unless already accomplished. Accomplish any repair or replacement prior to further flight after the inspection. Accomplish any ruddervator rebalancing prior to further flight after the inspection, unless previously accomplished within the last 100 hours TIS, and thereafter when the ruddervators are repaired or repainted (even if stripes are added or paint is touched up).</p>	<p>Accomplish the inspection and repairs or replacements in accordance with the procedures in the ACCOMPLISHMENT INSTRUCTIONS section of Raytheon Service Bulletin No. SB 27-3358, Issued: February, 2000. Accomplish the rebalancing in accordance with Section 3A(8) of the service bulletin and use the procedure in Section 3 of Beech Shop Manual 35-590096B19 (or subsequent revision).</p>
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(e) *Where can I find Figures 1 and 2 of this AD?* Figures 1 and 2 of this AD, as referenced in paragraph (d)(5)(i) of this AD, follow:

**Skin Thickness - Raytheon Aircraft (Beech) Models 35, 35R, A35, and B35**



**Figure 1**

**Skin Thickness – Raytheon Aircraft (Beech) Models 35, 35R, A35, and B35**

<b>INDEX NUMBER</b>	<b>PART NUMBER</b>	<b>SKIN THICKNESS</b>	<b>SKIN TOLERANCE</b>	<b>LOCATION</b>	<b>EFFECTIVITY</b>
1	35-410006-26	0.016	See ANSI AA H35.2(M)		
2	35-410006-20	0.025	See ANSI AA H35.2(M)		
3	35-410008-2	0.016	See ANSI AA H35.2(M)	FS 151 - FS 272	D-1 through D-15
	35-410008-2	0.016		FS 151 – FS 233.5	D-16 through D-1574
	35-410008-20	0.016		FS 151 – FS 207	D-1575 & After
4	35-410008-18	0.025	See ANSI AA H35.2(M)	FS 233.5 – FS 272	D-16 through D-1574
	35-410008-22	0.025		FS 207 – FS 272	D-1575 & After
5	35-410006-6	0.025	See ANSI AA H35.2(M)		D-1 through D-1500
	35-410359-2	0.025			D-1501 & After
6	35-410007-2	0.016	See ANSI AA H35.2(M)	FS 207 – FS 272	D-1 through D-1574
	35-410007-24	0.016			D-1575 & After
	35-410007-24	0.020			Class III
7	35-410007-26	0.020	See ANSI AA H35.2(M)	FS 207 – FS 272	D-1575 & After
8	35-410009-12	0.025	See ANSI AA H35.2(M)	FS 233.5 – FS 272	D-16 through D-1574
	35-410009-18	0.025		FS 207 – FS 272	D-1575 & After
9	35-410009-2	0.016	See ANSI AA H35.2(M)	FS 151 - FS 272	D-1 through D-15
	35-410009-2	0.016		FS 151 – FS 233.5	D-16 through D-1574
	35-41009-16	0.016		FS 151 – FS 207	D-1575 & After
10	35-410006-22	0.025	See ANSI AA H35.2(M)	FS 207 – FS 272	
11	35-410010-18	0.020	See ANSI AA H35.2(M)		D-1575 & After
12	35-410010-2	0.016	See ANSI AA H35.2(M)	FS 151 - FS 272	D-1 through D-1574
	35-410010-16	0.016		FS 151 – FS 233.5	D-1575 & After
	35-410010-16	0.020		FS 151 – FS 207	Class III
13	35-410006-8	0.025	See ANSI AA H35.2(M)		D-1 through D-1500
	35-410359-4	0.025			D-1501 & After
14	35-410022BSC	0.032	See ANSI AA H35.2(M)		
15	35-410006-42	0.020	See ANSI AA H35.2(M)		D-1 through D-1500
	35-410359-6	0.020			D-1501 & After
16	35-410006-34	0.020	See ANSI AA H35.2(M)		D-1 through D-1500
	35-410359-8	0.020			D-1501 & After
17	35-410012-2	0.016	See ANSI AA H35.2(M)		
18	35-410011-2	0.016	See ANSI AA H35.2(M)		
19	35-410006-40	0.016	See ANSI AA H35.2(M)		
	35-410014BSC	0.016			Record Change
20	35-410006-32	0.020	See ANSI AA H35.2(M)		D-1 through D-1500
	35-410359-10	0.020			D-1501 & After
21	TAILCONE				
22	TAILCONE				

**Figure 2**

(f) *Can I comply with this AD in any other way?* (1) You may use an alternative method of compliance or adjust the compliance time if:

(i) Your alternative method of compliance provides an equivalent level of safety; and

(ii) The Manager, Wichita Aircraft Certification Office (ACO), approves your alternative.

Submit your request through an FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

(2) Alternative methods of compliance approved in accordance with AD 98-13-02, which is superseded by this AD, are approved as alternative methods of compliance for the corresponding portion of this AD.

**Note 2:** This AD applies to each airplane identified in paragraph (a) of this AD, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if you have not eliminated the unsafe condition, specific actions you propose to address it.

(g) *Where can I get information about any already-approved alternative methods of compliance?*

Contact Mr. T.N. Baktha, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4155; facsimile: (316) 946-4407.

(h) *What if I need to fly the airplane to another location to comply with this AD?* The FAA can issue a special flight permit under sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate your airplane to a location where you can accomplish the requirements of this AD.

(i) *Are any service bulletins incorporated into this AD by reference?* Actions required by this AD must be done in accordance with Raytheon Service Bulletin SB 27-3358, Issued: February, 2000. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. You can get copies from Raytheon Aircraft Company, PO Box 85, Wichita, Kansas 67201-0085. You can look at copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(j) *Does this AD action affect any existing AD actions?* This amendment supersedes AD 98-13-02, Amendment 39-10590.

(k) *When does this amendment become effective?* This amendment becomes effective on December 10, 2002.

## **Appendix to AD 2002-21-13**

### *Weight and Balance Accuracy Method No. 1*

1. Review existing weight and balance documentation to assure completeness and accuracy of the documentation from the most recent FAA-approved weighing or from factory delivery to date of compliance with this AD.



2. Compare the actual configuration of the airplane to the configuration described in the weight and balance documentation.

3. If equipment additions or deletions are not reflected in the documentation or if modifications affecting the location of the center of gravity (e.g., paint or structural repairs) are not documented, determine the accuracy of the airplane weight and balance data in accordance with Method No. 2.

*Weight and Balance Information Accuracy Method No. 2*

1. Determine the basic empty weight and center of gravity (CG) of the empty airplane using the Weighing Instructions in the Weight and Balance section of the airplane flight manual/pilot's operating handbook (AFM/POH).

2. Record the results in the airplane records, and use these new values as the basis for computing the weight and CG information as specified in the Weight and Balances section of the AFM/POH.

Issued in Kansas City, Missouri, on October 15, 2002.

Dorenda D. Baker,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

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