

**Attachment Five**  
**AD 2002-23-11**

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 2001-CE-21-AD; Amendment 39-12955; AD 2002-23-11]**

**RIN 2120-AA64**

**Airworthiness Directives; Raytheon Aircraft Company 200, 300, and 1900 Series, and Models F90 and A100-1 Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that applies to certain Raytheon Aircraft Company (Raytheon) 200, 300, and 1900 series, and Models F90 and A100-1 airplanes. This AD requires you to check the airplane logbook to determine if the elevator(s) has/have been removed from the airplane. If the elevator(s) has/have been removed, this AD also requires you to inspect the elevator balance weight attachment screws for correct length, and, if necessary, install new bolts that are of improved design and rebalance the elevator, depending on the results of the inspection. This AD is the result of the elevator balance weight attachment screws and balance weights being improperly installed when balancing the elevator after it had been removed for repair or repainting. The actions specified by this AD are intended to prevent the balance weight attachment screws from becoming loose. Loose screws could come into contact and interfere with the horizontal stabilizer. This interference could restrict elevator movement and result in loss of elevator pitch control.

**DATES:** This AD becomes effective on January 10, 2003.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of January 10, 2003.

**ADDRESSES:** You may get the service information referenced in this AD from Raytheon Aircraft Company, P.O. 9709 E. Central, Kansas 67201-0085; telephone: (800) 429-5372 or (316) 676-3140. You may view this information at the Federal Aviation Administration (FAA), Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2001-CE-21-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:** Paul DeVore, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Mid-Continent Airport, Wichita, Kansas 67209; telephone: (316) 946-4142; facsimile: (316) 946-4407.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

*What Events Have Caused This AD?*

Raytheon notified FAA of three incidents in which the elevator jammed during takeoff and landing on Models 200, B300, and 1900C airplanes. Investigations showed the cause for the elevator to jam was that the attachment screws and balance weights were not properly installed when the elevators were balanced after they were removed for repair or repainting.

Improperly installed balance weight attachment screws could result in the screws becoming loose and contacting and interfering with the horizontal stabilizer. Interference with the horizontal stabilizer could result in restricted elevator movement.

*What Is the Potential Impact if FAA Took no Action?*

If this condition is not detected and corrected, loose screws could interfere with the horizontal stabilizer, which could cause restricted elevator movement. This condition could result in loss of elevator pitch control.

*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 certain Raytheon 200, 300, and 1900 series, and Models F90 and A100-1 airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on July 17, 2002 (67 FR 46928). The NPRM proposed to require you to check the airplane logbook to determine if the elevator(s) has/have been removed from the airplane. If the elevator(s) has/have been removed, the NPRM would also require you to inspect the elevator balance weight attachment screws for correct length, and, if necessary, install new bolts that are of improved design and rebalance the elevator, depending on the results of the inspection.

*Was the Public Invited To Comment?*

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

**Comment Issue: Replace All Elevator Balance Weight Attachment Screws**

*What Is the Commenter's Concern?*

The commenter states that if the purpose of the proposed AD is to prevent the elevator balance weight attachment screws from becoming loose, then all elevator balance weight attachment screws should be replaced with the new bolts, or at the very least, when the elevators are removed for any reason.

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

We do not concur with the commenter. According to reports and service history, only elevators that were removed and rebalanced (such as would occur after repainting) were reinstalled with incorrect length screws. We have not received any reports of elevator balance weight attachment screws becoming loose on airplanes in which an elevator had not been removed and rebalanced.

Unless an elevator has been removed and rebalancing is necessary, we have no justification for replacing the elevator balance weight attachment screws with the new bolts when an elevator is removed and reinstalled and rebalancing is not necessary.

In paragraph (d)(5) of the proposed AD, we address installing the new balance weight attachment bolts any time an elevator is removed and rebalancing is necessary.

We have not changed the final rule AD 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 minor editorial corrections. We have determined that these minor corrections:

- Provide the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

**Cost Impact**

*How Many Airplanes Does This AD Impact?*

We estimate that this AD affects 2,334 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 check of the airplane logbook:

<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>	<b>Total cost on U.S. operators</b>
1 workhour x \$60 = \$60	None required	\$60	\$140,040

We estimate the following costs to accomplish the inspection of the elevator balance weight attachment screws that will be required based on the results of the logbook check. We have no way of determining the number of airplanes that will need such inspection:

<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>
2 workhours x \$60 = \$120	None required	\$120

We estimate the following costs to accomplish the replacement of the elevator balance weight attachment screws that will be required based on the results of the inspection for airplanes in which the logbook check reveals that further inspection is necessary. We have no way of determining the number of airplanes that will need such replacements:

<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>
1 workhour x \$60 = \$60	\$16 per bolt x 2 bolts per elevator = \$32.	\$92

**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 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).

## 2002-23-11 Raytheon Aircraft Company: Amendment 39-12955; Docket No. 2001-CE-21-AD.

(a) *What airplanes are affected by this AD?* This AD affects the following airplane models and serial numbers that are certificated in any category:

Model	Serial Nos.
(1) F90	LA-2 through LA-236
(2) A100-1 (U-21J)	BB-3 through BB-5
(3) A200 (C-12C)	BC-1 through BC-75 and BD-1 through BD-30
(4) A200C (UC-12B)	BJ-1 through BJ-66
(5) A200CT (C-12D), (C-12F), (RC-12D), (FWC-12D), (RC-12G), (RC-12H), (RC-12K), or (RC-12P).	BP-1, BP-7 through BP-11, BP-22, BP-24 through BP-63, FC-1 through FC-3, GR-1 through GR-19, FE-1 through FE-9, FE-25 through FE-36
(6) B200	BB-734, BB-793, BB-829, BB-854 through BB-870, BB-874 through BB-891, BB-894, BB-896 through BB-911, and BB-913 through BB-1652
(7) B200C	BL-37 through BL-57, BL-61 through BL-72, BL-124 through BL-140
(8) B200C (C-12F), (C-12R), (UC-12M), or (UC-12F)	BL-73 through BL-112, BL-118 through BL-123, BP-64 through BP-71, BU-1 through BU-12, BV-1 through BV-12, and BW-1 through BW-29
(9) B200CT	BN-2 through BN-4, FG-1 and FG-2
(10) B200T and 200T	BT-1 through BT-38
(11) 200	BB-2, BB-6 through BB-733, BB-735 through BB-792, BB-794 through BB-828, BB-830 through BB-853, BB-872, BB-873, BB-892, BB-893, and BB-912
(12) 200C	BL-1 through BL-23 and BL-25 through BL-36
(13) 200CT	BN-1
(14) 300 and 300LW	FA-1 through FA-230 and FF-1 through FF-19
(15) B300	FL-1 through FL-241
(16) B300C	FM-1 through FM-9 and FN-1
(17) 1900	UA-2 and UA-3
(18) 1900C	UB-1 through UB-74 and UC-1 through UC-174
(19) 1900C(C-12J)	UD-1 through UD-6
(20) 1900D	UE-1 through UE-358

(b) *Who must comply with this AD?* Anyone who wishes to operate any of the airplanes identified 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 the balance weight attachment screws from becoming loose. Loose screws could come into contact and interfere with the horizontal stabilizer. This interference could restrict elevator movement and result in loss of elevator pitch control.

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

Actions	Compliance	Procedures
(1) Check the airplane logbook to determine whether the elevator(s) has/have been removed. 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 check the airplane logbook.	Within the next 200 hours time-in-service (TIS) after January 10, 2003 (the effective date of this AD).	No special procedures required to check the logbook. Raytheon Mandatory Service Bulletin SB 27-3187, Rev. 1, Revised: September, 2001, references this airplane logbook check.
(2) If, by checking the airplane logbook: (i) the pilot can positively show that both elevators have never been removed, then the requirements of paragraphs (d)(2)(ii) and (d)(3) of this AD do not apply. You must make an entry into the aircraft records that shows compliance with this portion of the AD, in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9). (ii) the pilot identifies that the elevator(s) has/have been removed, or if complete records of elevator(s) do not exist, inspect the elevator balance weight attachment screws to determine if they are the correct length.	Within the next 200 hours time-in-service (TIS) after January 10, 2003, (the effective date of this AD).	In accordance with the Accomplishment Instructions section of Raytheon Mandatory Service Bulletin SB 27-3187, Rev. 1, Revised: September, 2001.
(3) If, during the inspection required in paragraph (d)(2)(ii) of this AD, the elevator balance weight attachment screws are found to be the correct length, paragraph (d)(4) of this AD does not apply.	Not applicable	In accordance with the Accomplishment Instructions section of Raytheon Mandatory Service Bulletin SB 27-3187, Rev. 1 Revised: September, 2001.
(4) If, during the inspection required in paragraph (d)(2)(ii) of this AD, the elevator balance weight attachment screw(s) is/are found to be the incorrect length, remove and rebalance the elevator(s) by installing the balance weights with the appropriate new elevator balance weight attachment bolts, part number (P/N) in the range of NAS6703HU12 through NAS6703HU22, that have drilled head and are secured with safety wire, and re-install the elevator.	Prior to further flight after the inspection required in paragraph (d)(2)(ii) of this AD.	In accordance with the Accomplishment Instructions section of Raytheon Mandatory Service Bulletin SB 27-3187, Rev. 1, Revised: September, 2001, and the applicable maintenance manual.

(5) Do not install, on any affected airplane, an elevator that has been rebalanced unless it has been rebalanced by installing the balance weights with the appropriate new elevator balance weight attachment bolts, P/N in the range of NAS6703HU12 through NAS6703HU22, that have drilled heads and are secured with safety wire.	As of January 10, 2003 (the effective date of this AD).	Not applicable.
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**Note 1:** The compliance times specified in Raytheon Mandatory Service Bulletin SB 27-3187, Rev. 1, Revised: September, 2001, are different from those required by this AD. The compliance times in this AD take precedence over those in the service bulletin.

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

- (1) Your alternative method of compliance provides an equivalent level of safety; and
- (2) 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.

**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 (e) 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.

(f) *Where can I get information about any already-approved alternative methods of compliance?* Contact Paul DeVore, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Mid-Continent Airport, Wichita, Kansas 67209; telephone: (316) 946-4142; facsimile: (316) 946-4407.

(g) *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 §§ 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.

(h) *Are any service bulletins incorporated into this AD by reference?* Actions required by this AD must be done in accordance with Raytheon Mandatory Service Bulletin SB 27-3187, Rev. 1, Revised: September, 2001. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. You may get copies from Raytheon Aircraft Company, P.O. Box 85, Wichita, Kansas 67201-0085; telephone: (800) 429-5372 or (316) 676-3140. You may view 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.



(i) *When does this amendment become effective?* This amendment becomes effective on January 10, 2003.

Issued in Kansas City, Missouri, on November 12, 2002.

Dorenda D. Baker,  
Acting Manager, Small Airplane Directorate, Aircraft Certification Service.  
[FR Doc. 02-29132 Filed 11-19-02; 8:45 am]  
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