

SERVICE BULLETIN

Beechcraft

TITLE: STABILIZERS - INSPECTION OF ELEVATOR AND RUDDER HINGES FOR MANUFACTURING DAMAGE

1. Planning Information

A. Effectivity

NOTE

The suspect lot for this condition is elevator hinge brackets installed on production airplanes after February, 2001 and any elevator and rudder* spares replacement parts including hinge assemblies, spar assemblies, and stabilizer assemblies manufactured from February 2001 through December 2006.

(1) Airplanes

(a) Civil

Beechcraft Model 35, Serials D-1 through D-1500;
Beechcraft Model A35, Serials D-1501 through D-2200 and D-15001;
Beechcraft Model B35, Serials D-2201 through D-2680;
Beechcraft Model 35R, Serials R-1 through R-14;
Beechcraft Model C35, Serials D-2681 through D-3292 and D-3294 through D-3400;
Beechcraft Model D35, Serials D-3401 through D-3698;
Beechcraft Model E35, Serials D-3293 and D-3699 through D-3998;
Beechcraft Model F35, Serials D-3999 through D-4375 and D-4377 through D-4391;
Beechcraft Model G35, Serials D-4376, and D-4392 through D-4865 and D-15002;
Beechcraft Model H35, Serials D-4866 through D-5061 and D-5063 through D-5330;
Beechcraft Model J35, Serials D-5062 and D-5331 through D-5725;
Beechcraft Model K35, Serials D-5726 through D-6161;
Beechcraft Model M35, Serials D-6162 through D-6561;
Beechcraft Model N35, Serials D-6562 through D-6841;
Beechcraft Model P35, Serials D-6842 through D-7139 and D-7141 through D-7309;
Beechcraft Model S35, Serials D-7140 and D-7310 through D-7976;
Beechcraft Model V35, Serials D-7977 through D-8598;

The export of these commodities, technology or software are subject to the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited. For guidance on export control requirements, contact the Commerce Department's Bureau of Export Administration at <http://www.bis.doc.gov>.

Hawker Beechcraft Corporation (HBC) issues Service Information for the benefit of owners and fixed base operators in the form of two classes of Service Bulletins. The first class, Mandatory Service Bulletins (red border) includes changes, inspection and modifications that could affect safety or crashworthiness. HBC also issues Service Bulletins with no red border which are designated as either recommended or optional in the compliance section within the bulletin. In the case of recommended Service Bulletins, HBC feels the changes, modifications, improvements or inspections will benefit the owner/operator and although highly recommended, Recommended Service Bulletins are not considered mandatory at the time of issuance. In the case of Optional Service Bulletins, compliance with the changes, modifications, improvements or inspections is at the owner/operator's discretion.

Both classes are available on the web at <http://pubs.hawkerbeechcraft.com> and mailed to:

- (a) Owners of record on the FAA Aircraft Registration Branch List and the HBC Safety of Flight Information (SOFI) List.
- (b) Those having a publications subscription.

Information on Safety of Flight Information (SOFI) or subscription can be obtained through the Hawker Beechcraft Corporation Technical Manual Distribution Center (TMDC). As Mandatory Service Bulletins and Service Bulletins are issued, the Service Bulletin Master Index will be updated and available online at <http://pubs.hawkerbeechcraft.com>. Warranty will be allowed only when specifically defined in the Service Bulletin and in accordance with HBC Warranty Policy.

Unless otherwise designated, HBC Mandatory Service Bulletins, Service Bulletins and HBC Kits are approved for installation on HBC airplanes in original or HBC modified configurations only. HBC Mandatory Service Bulletins, Service Bulletins and Kits may not be compatible with airplanes modified by STC installations or modifications other than HBC approved kits.

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Beechcraft Model V35A, Serials D-8599 through D-9068;
Beechcraft Model V35B, Serials D-9069 through D-10403;
Beechcraft Model 35-33, Serials CD-1 through CD-224, CD-233, CD-234, CD-236, CD-241, and CD-246 through CD-250;
Beechcraft Model 35-A33, Serials CD-225 through CD-232, CD-235, CD-237 through CD-240, CD-242 through CD-245, and CD-251 through CD-387;
Beechcraft Model 35-B33, Serials CD-388 through CD-813;
Beechcraft Model 35-C33, Serials CD-814 through CD-1118;
Beechcraft Model E33, Serials CD-1119 through CD-1234;
Beechcraft Model F33, Serials CD-1235 through CD-1254;
Beechcraft Model G33, Serials CD-1255 through CD-1304;
Beechcraft Model 35-C33A, Serials CE-1 through CE-179;
Beechcraft Model E33A, Serials CE-180 through CE-289;
Beechcraft Model F33A, Serials CE-290 through CE-1791;
Beechcraft Model E33C, Serials CJ-1 through CJ-25;
Beechcraft Model F33C, Serials CJ-26 through CJ-179;
Beechcraft Model 36, Serials E-1 through E-184;
Beechcraft Model A36, Serials E-185 through E-3629 and E-3631 through E-3635;
Beechcraft Model G36, Serials E-3630 and E-3636 through E-3666, E-3668 through E-3699, E-3701 through E-3705, E-3707, E-3709 through E-3715, E-3717 through E-3720, E-3722 through E-3728, E-3730, E-3731, E-3733, and E-3737;
Beechcraft Model A36TC, Serials EA-1 through EA-241 and EA-243 through EA-272;
Beechcraft Model B36TC, Serials EA-242, EA-273 through EA-695;
Beechcraft Model 95, Serials TD-1 through TD-302*;
Beechcraft Model B95, Serials TD-303 through TD-452;
Beechcraft Model B95A, Serials TD-453 through TD-533;
Beechcraft Model D95A, Serials TD-534 through TD-707;
Beechcraft Model E95, Serials TD-708 through TD-721;
Beechcraft Model 95-55, Serials TC-1 through TC-190;
Beechcraft Model 95-A55, Serials TC-191 through TC-349, TC-351 through TC-370 and TC-372 through TC-501;
Beechcraft Model 95-B55, Serials TC-371, TC-502 through TC-2456;
Beechcraft Model 95-C55, Serials TC-350 and TE-1 through TE-451;
Beechcraft Model D-55, Serials TE-452 through TE-631;
Beechcraft Model 56TC, Serials TG-1 through TG-71.

* If the owners of these airplanes have replaced the vertical stabilizer or the rudder hinge assemblies, these airplanes require inspection.

(b) Military

Beechcraft Model 45, All Serials;
Beechcraft Model YT-34, All Serials;
Beechcraft Model T-34A, All Serials;
Beechcraft Model B-45, All Serials;
Beechcraft Model A-45, All Serials;
Beechcraft Model D-45, All Serials;
Beechcraft Model T-34B, All Serials;

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Beechcraft Model T-34B(M), All Serials;

Beechcraft Model T-42A, All Serials.

If you are no longer in possession of the airplane, please forward this information to the present owner.

(2) Spares

All D Serial Spares;

All CD Serial Spares;

All CE Serial Spares;

All CJ Serial Spares;

All E Serial Spares;

All EA Serial Spares;

All TD Serial Spares;

All TC Serial Spares;

All TF Serial Spares;

All TE Serial Spares;

All TG Serial Spares.

B. Reason

This Service Bulletin is being issued to inspect elevator and rudder hinge brackets in the bearing area for a rupture in the base material. This damage may have occurred during the manufacturing process and may exist on airplanes and spares listed in Section 1. A. **Effectivity**.

C. Description

NOTE

*Only Model 95 airplanes may require both elevator and upper rudder hinge bracket inspections.

Airplanes listed in Table 1 require visual inspection per Section 3.A. **Accomplishment Instructions** procedures. All other airplanes listed in Section 1. A. **Effectivity** will require a review of maintenance records to determine if the airplane has had elevator or rudder* hinge bracket(s), hinge assemblies, spar assemblies, or stabilizer assemblies obtained as replacement parts between February 2001 and December 2006. If so, an inspection of each hinge bracket is accomplished in the area of the hinge bearing.

If a rupture of the base material in any hinge bracket(s) is found, the affected hinge assembly shall be replaced.

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Table 1
Airplane Serials Requiring Visual Inspection

Airplane Model	Airplane Serial Numbers
A36	E-3365 through E-3629 and E-3631 through E-3635
G36	E-3630, E-3636 through E-3666, E-3668 through E-3699, E-3701 through E-3705, E-3707, E-3709 through E-3715, E-3717 through E-3720, E-3722 through E-3728, E-3730, E-3731, E-3733, and E-3737
B36TC	EA-663 through EA-695

D. Compliance

(1) Civil Airplanes

Hawker Beechcraft Corporation (HBC) recommends that this Service Bulletin be accomplished within the next 100 flight hours, but no later than the next 12 calendar months, whichever occurs first.

(2) Military Airplanes

For compliance information on military airplanes affected by this Service Bulletin, contact the appropriate headquarters.

E. Approval

The engineering data contained in this Service Bulletin is FAA approved.

F. Manpower

The following information is for planning purposes only:

Estimated man-hours for inspection: 0.5 hour.

NOTE

The following estimates are applicable to Model 36 airplanes only. HBC does not have current estimates for replacement of affected hinges on out-of-production airplane models. If inspection reveals a rupture in the base material of any hinge assembly on any out-of-production airplane, contact Hawker Beechcraft Technical Support as noted in Section 3.A. **Accomplishment Instructions.**

Estimated man-hours for replacement of each inboard hinge half installation: 4.0 hours.

Estimated man-hours for replacement of each outboard hinge half installation: 10.0 hours.

Suggested number of men: 1 man.

The above is an estimate based on experienced, properly equipped personnel complying with this Service Bulletin. Occasionally, after work has started, conditions may be found which could result in additional man-hours.

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G. Weight and Balance

Not applicable.

It is the responsibility of the owner/operator to maintain compliance with the applicable Airworthiness Regulations.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

J. References

Flight Controls and Control Surfaces Sections or Chapters of the applicable airplane Shop or Maintenance Manuals.

K. Publications Affected

None.

L. Interchangeability of Parts

Not applicable.

M. Warranty Credit

(1) Civil Airplanes

No warranty credit will be allowed for the inspection portion of this Service Bulletin

Warranty credit for parts only, to the extent noted under Section 2. **Material Information**, will be allowed on all affected airplanes. Replaced parts must be returned to RAPID/Hawker Beechcraft Corporation at the following address to receive warranty credit:

Rapid Parts Inventory and Distribution Company, LLC (RAPID)

Attention: Warranty Hold Area

370 N. Webb Road, West Dock, Building 65

Wichita, KS 67206

(Phone: 1-888-RAPID-44 or 1-888-727-4344 or 316-676-5000; FAX: 316-676-3131)

Warranty coverage offered in this Service Bulletin will expire 12 months from the last day of the month this Service Bulletin is issued. After this date, the owner/operator assumes the responsibility for compliance cost. Hawker Beechcraft Corporation (HBC) reserves the right to void warranty coverage in the area affected by this Service Bulletin until the date the Service Bulletin is accomplished by a Hawker Beechcraft Corporation Authorized Service Center (ASC).

All warranty work must be accomplished by a Hawker Beechcraft Corporation Authorized Service Center rated to perform maintenance on the specific model of Hawker Beechcraft airplane. The HBC ASC will submit the appropriate paperwork direct to HBC Warranty for parts only to the extent noted

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under Section 1.M. **Warranty Credit** for warranty consideration. The owner/operator should contact an HBC ASC to schedule the work to be accomplished.

In the event that work will not be accomplished at an HBC ASC, parts may be purchased direct from RAPID and a warranty claim for parts only should be submitted direct to HBC Warranty.

After the Service Bulletin has been accomplished, a warranty claim must be submitted to HBC within 60 days of the Service Bulletin completion date.

(2) Military Airplanes

For warranty information on military airplanes affected by this Service Bulletin, contact the appropriate headquarters.

2. Material Information

A. Materials - Price and Availability

Contact a Hawker Beechcraft Authorized Service Center for information.

B. Industry Support

Not applicable.

C. Airplanes

The following parts required for this modification may be ordered through a Hawker Beechcraft Authorized Service Center or RAPID:

Part Number	Description	Quantity Per Airplane
35-650121-2	Hinge Half, Elevator Outboard	As Required
35-650122-2	Hinge Half, Elevator Center	As Required
35-650120-2	Hinge Half	As Required
35-650120-7002	Hinge Half	As Required
45-640005-39	Hinge Half	As Required
45-640005-43	Hinge Half	As Required
95-620010-60	Hinge Half	As Required
CR-3253-4-XX (MS20426-X-X)	Rivet, Blind	As Required
EA-9309NA	Epoxy Adhesive	As Required
MS20470-X-X	Rivet, Universal Head	As Required

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Hawker Beechcraft Corporation expressly reserves the right to supersede, cancel and/or declare obsolete, without prior notice, any parts or publications that may be referenced in this Service Bulletin.

D. Spares

None.

E. Reidentified Parts

None.

F. Tooling - Price and Availability

Not applicable.

3. Accomplishment Instructions

This Service Bulletin shall be accomplished as follows:

NOTE

Should any difficulty be encountered in accomplishing this Service Bulletin, contact Hawker Beechcraft Corporation at 1-800-429-5372 or 316-676-3140 for commercial aircraft, and appropriate headquarters for military aircraft.

A. Airplane

WARNING

Observe all Warnings and Cautions contained in the aircraft manuals referenced in this Service Bulletin.

Whenever any part of this system is dismantled, adjusted, repaired or renewed, detailed investigation must be made on completion to make sure that distortion, tools, rags or any other loose articles or foreign matter that could impede the free movement and safe operation of the system are not present, and that the systems and installations in the work area are clean.

PART I

NOTE

*Only Model 95 airplanes may require both elevator and upper rudder hinge bracket inspections.

Airplanes listed in Table 1 of Section 1.C. **Description** require visual inspection in accordance with PART II procedures. All other airplanes listed in Section 1. A. **Effectivity** will require a review of maintenance records to determine if the airplane has had elevator or rudder* hinge bracket(s), hinge assemblies, spar assemblies, or stabilizer assemblies obtained as replacement parts between February 2001 and December 2006. If so, an inspection of each hinge bracket is accomplished in the area of the hinge bearing in accordance with PART II procedures.

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PART II

- (1) Remove all power from the airplane and disconnect the battery. Display warning notices prohibiting reconnection of airplane electrical power.
- (2) Visually inspect the center and outboard elevator hinges on both the left and right horizontal stabilizer (and upper hinge of the vertical stabilizer on Model 95) for a rupture of the base material in the dimpled area of hinge halves of the elevator hinge bracket(s). Refer to Figures 1 through 3 for illustrations of correctly-formed and incorrectly-formed hinges.
- (3) If there is no indication of a rupture of the base material in the dimpled area of the hinge halves, proceed to Steps (6) through (8). If there is indication of rupture of the base material in the dimpled area of the hinge halves, accomplish the following to replace the applicable parts:

NOTE

Maintenance procedures are typical for each bracket. Procedures are described for only one location. Repeat procedures for each hinge half that exhibits a rupture of the base material.

- (a) Remove the flight control surface in accordance with the appropriate chapter of the applicable airplane Maintenance or Shop Manual.
- (b) Drill out rivets securing the affected hinge bracket.
- (c) Remove the discrepant hinge half. Return discrepant hinge half (halves) to the address listed in Section 1. M. **Warranty Credit** to receive warranty credit for removed/replaced parts.
- (d) Dress out the hinge half rivet holes, as required, to ensure a smooth, clean surface is available for installation of rivets for the new hinge halves. Refer to the applicable Illustrated Parts Catalog (IPC) for the required replacement hinge half.

NOTE

Blind rivets [P/N CR-3253-4-X (MS20426-4-X)] of appropriate length may be used in areas where access cannot be gained to buck universal head rivets. Install blind rivets wet with EA-9309NA epoxy adhesive.

- (e) Install the hinge halves using the same type, length and diameter of rivets, except as indicated in the NOTE above, that were removed from the discrepant hinge half.
- (f) Repeat steps (3)(b) through (3)(e) for each hinge half that requires replacement.

NOTE

Control surface balancing is not required for accomplishment of this Service Bulletin procedure.

- (4) Install the flight control surface in accordance with the applicable airplane's Maintenance or Shop Manual.
- (5) Functionally check each removed flight control surface for proper operation and freedom of movement. Refer to appropriate chapter of the applicable airplane Maintenance or Shop Manual.
- (6) Reconnect the airplane battery, remove warning notices and restore power.

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- (7) Ensure all work areas are clean and clear of tools and miscellaneous items of equipment.
- (8) Return airplane to service.

B. Spares

Inspect spares stock for any discrepant hinge halves. Purge discrepant hinge halves and return to the address listed in Section 1. M. **Warranty Credit** to receive warranty credit.

C. Record of Compliance

Upon completion of this Service Bulletin, make an appropriate maintenance record entry.

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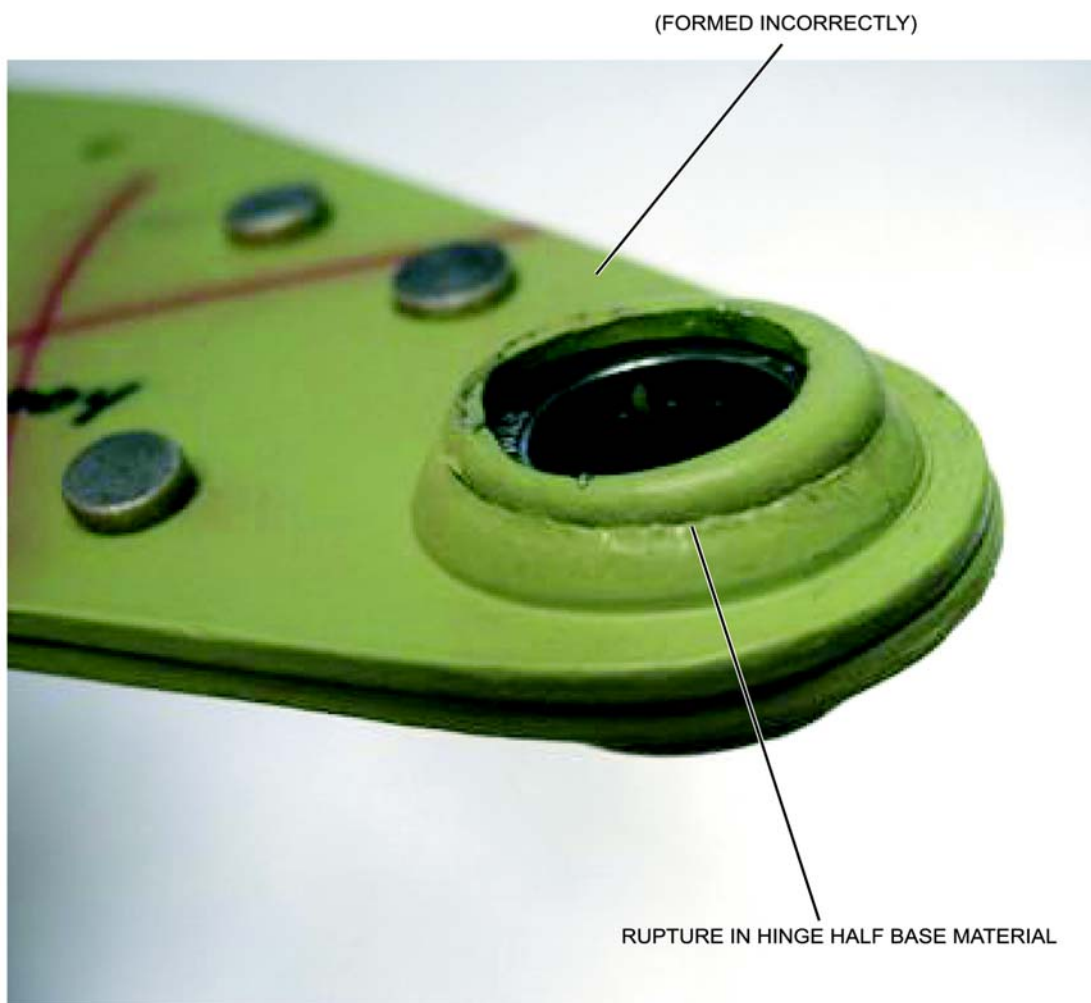
Typical Hinge Half and Hinge Assembly
Figure 1

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Typical Hinge Assembly and Hinge Half
Figure 2

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Typical Hinge Assembly with Rupture in the Base Material
Figure 3