

Raytheon Aircraft

MANDATORY SERVICE BULLETIN

33, 36

No. 2333, Rev. 1
ATA Code 27-20
Recurring Inspection

Kit No. 33-6001-1 S

SUBJECT: FLIGHT CONTROLS - INSPECTION OF RUDDER FORWARD SPAR FOR CRACKS

REASON: This Service Bulletin is being issued to provide an inspection which will determine if there are any cracks in the rudder forward spar. Cracks in the rudder spar could result in loss of airplane control.

SYNOPSIS OF CHANGE: This revision announces a kit to strengthen the rudder and add inspection covers at the upper and center hinges. In addition, it provides serial effectivity and replacement rudder part numbers for airplanes which require complete rudder replacement.

EFFECTIVITY: BEECHCRAFT Debonair/Bonanza 35-33, 35-A33, 35-B33, 35-C33, E33, F33, and G33, serials CD-1 through CD-1304;
35-C33A, E33A and F33A, serials CE-1 through CE-1425;
Bonanza E33C and F33C, serials CJ-1 through CJ-179;
36, A36, serials E-1 through E-2518;
A36TC, and B36TC, serials EA-1 through EA-500.

COMPLIANCE: Beech Aircraft Corporation considers this to be a mandatory inspection and it should be accomplished within the next 50 flight hours, if the airplane has 1,000 hours or more of total flight time, and at each 500 flight hours or annual inspection thereafter, whichever comes first.

After installation of Kit No. 33-6001-1 S or a replacement rudder per the MATERIAL section of this Service Bulletin inspections will be according to step 10 of ACCOMPLISHMENT INSTRUCTIONS.

An airworthiness directive has been issued on the matter covered by this Service Bulletin.

APPROVAL: Engineering data contained in this Service Bulletin is FAA approved.

MANPOWER: The following information is for planning purposes only:
Estimated man-hours:
Rudder spar inspection for cracks: 4 hours.
Rudder structural modification per Kit No. 33-6001-1 S: 29 hours.
Suggested number of men: 1 man.

ECR-362 M

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(c) Those having a publications subscription

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Service Bulletin No. 2333, Rev. I

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.

MATERIAL:

The following parts, if required to accomplish this Service Bulletin, may be ordered through a BEECHCRAFT Authorized Outlet:

MODEL/SERIAL	PART NUMBER	DESCRIPTION	QUANTITY PER AIRPLANE
All	33-6001-1 S	Kit - Rudder Structural Modification	1
33 series, 36 and A36: CD-1 thru CD-1304; CE-1 thru CE-489; E-1 thru E-511	33-630000-167	Replacement Rudder Assembly (Replaces "basic" 33-630000 (no dash number) assemblies)	1
E33C and F33C: CJ-1 thru CJ-155	33-630000-169	Replacement Rudder Assembly (Replaces 33-630000-73 and 33-630000-105 assemblies)	1
F33A, A36, A36TC, B36TC: CE-490 thru CE-1425; E-512 thru E-2110 except E-1946 and E-2104; EA-1 thru EA-272 except EA-242	33-630000-137	Replacement Rudder Assembly (Replaces 33-630000-83 and 33-630000-115 assemblies)	1
A36, B36TC: E-1946, E-2104, E2111 thru E-2518; EA-242, EA-273 thru EA-500	33-630000-141	Replacement Rudder Assembly (Replaces 33-630000-93 and 33-630000-113 assemblies)	1
F33C: CJ-156 thru CJ-179	33-630000-139	Replacement Rudder Assembly (Replaces 33-630000-99 assemblies)	1

The value of the parts required to incorporate this Service Bulletin on one airplane is to be advised.

WARRANTY CREDIT: None.

SPECIAL TOOLS: None.

WEIGHT AND BALANCE: Refer to the Kit drawing for weight and balance information.

REFERENCES: BEECHCRAFT Debonair/Bonanza 33 series Shop Manual P/N 33-590011-1C or subsequent, Section 3;

BEECHCRAFT Bonanza 36 series Shop Manual P/N 36-590001-3B or subsequent, Section 3;

BEECHCRAFT Bonanza 33, 35, 36 Maintenance Manual P/N 36-590001-9 or subsequent, Chapter 27-20;

PUBLICATIONS

AFFECTED:

It is recommended that a note "See Service Bulletin No. 2333, Rev. I" be made in the following:

BEECHCRAFT Debonair/Bonanza 33 Series Shop Manual, P/N 33-590011-1C or subsequent, Section 8;

BEECHCRAFT Bonanza 36 Series Shop Manual, P/N 36-590001-3B or subsequent, Section 8;

BEECHCRAFT Bonanza 33, 35, 36 Maintenance Manual, P/N 36-590001-9 or subsequent, Chapter 5;

BEECHCRAFT Bonanza 33, 35, 36 Series Continuing Care Inspection Guide, P/N 98-36711D or subsequent;

BEECHCRAFT Bonanza 33, 35 and 36 100-Hour or Annual Long Form Inspection Guide, P/N 98-32227H or subsequent;

BEECHCRAFT Bonanza 33, 35 and 36 100-Hour Short Form Inspection Guide, P/N 98-38999B or subsequent.

ACCOMPLISHMENT

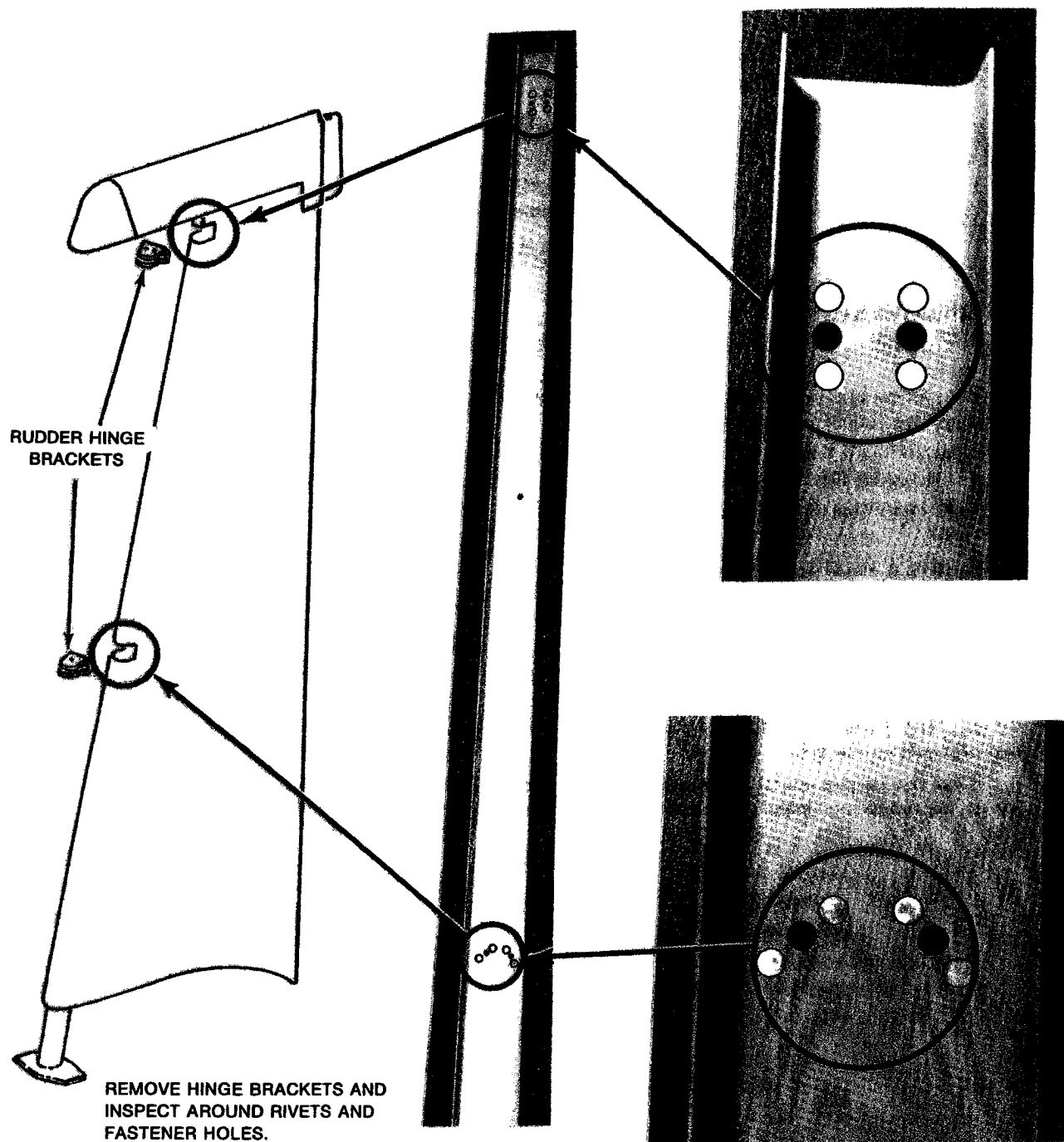
INSTRUCTIONS:

This Service Bulletin shall be accomplished as follows:

1. Refer to the appropriate shop/maintenance manual and remove the rudder from the airplane.
2. Refer to Figure 1 and remove the two hinge brackets from the rudder forward spar.
3. Perform a visual inspection of the entire rudder and spar.
4. Perform a visual and a dye penetrant inspection, using visible dyes, on the spar, in the areas around the hinge brackets. Pay particular attention to the following areas:
 - a. Areas around rivets which are used to attach the nutplates.
 - b. The holes for the screws which attach the hinge brackets to the spar.
5. If no cracks are found install the hinge brackets back on the rudder and install the rudder back on the airplane.
6. If cracks are found:
 - a. If cracks are found in any area of the rudder spar, Kit No. 33-6001-1 S must be installed, or a new rudder assembly installed. Refer to the MATERIAL Section for the part number of a new rudder assembly.
 - b. Paint and check the balance of the rudder per the appropriate shop/maintenance manual.
 - c. Install the rudder on the airplane.
7. Install all equipment which was removed to facilitate this inspection.
8. Move the rudder, by hand, through the entire range of its travel, checking for freedom of movement.
9. Check the rigging of the rudder per the shop/maintenance manual.
10. After installation of Kit No. 33-6001-1 S or a replacement rudder per the MATERIAL section, future inspections will be as follows:
 - a. Inspection intervals will be according to the inspection program used for your airplane.
 - b. When inspecting the rudder, open the inspection covers adjacent to the upper and center hinges. Inspect ribs, spar, hinges, and all rudder components in the areas of the hinges for attachment security, cracks, and general condition using a flashlight and mirror.

WARNING

If cracks are found in the rudder spar, do not fly the airplane until you have complied with step 6.



NOTE: MOUNTING CONFIGURATION OF THE NUTPLATES MAY VARY.

Figure 1

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

NOTE

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