Beechcraft

MANDATORY SERVICE BULLETIN

33,35,36

No. 2360
ATA Code 53-10
Recurring Inspection

DEC 7 1990

Kit No. 36-4004-1 S
Kit No. 36-4004-3 S
Kit No. 36-4004-5 S
Kit No. 36-4004-7 S
Kit No. 36-4004-9 S
Kit No. 36-4004-11 S
Kit No. 36-4004-13 S

SUBJECT: **FUSELAGE - WING FORWARD SPAR CARRY-THRU STRUCTURE INSPECTION AND/OR REINFORCEMENT**

REASON: This Service Bulletin is being issued to provide inspection and repair information relating to forward wing spar carry-thru structure forward and aft frames. Reports of frame (web) cracking have been received on in-service airplanes. If these cracks are detected at any time, the repairs described in this Service Bulletin should be applied.

EFFECTIVITY: BEECHCRAFT Debonair/Bonanza 35-33, 35-A33, 35-B33, 35-C33, E33, F33 and G33, serials CD-1 through CD-1304;

Bonanza 35-C33A, E33A and F33A, serials CE-1 through CE-1192;

E33C and F33C, CJ-1 through CJ-179;

H35, J35, K35, M35, N35, P35, S35, V35, V35A and V35B, serials D-4866 through D-10403;

36 and A36, Serials E-1 through E-2397;

A36TC and B36TC, Serials EA-1 through EA-471.

COMPLIANCE: Beech Aircraft Corporation considers this to be a mandatory inspection/modification and it is to be accomplished no later than the first 1500 flight hours. If an airplane has over 1500 flight hours, it is to be accomplished at the next scheduled inspection. If no cracks are found, it should be repeated at 500 flight hour intervals thereafter. If cracks are found, follow the procedures outlined under ACCOMPLISHMENT INSTRUCTIONS in this Service Bulletin.

Any of the areas shown in Figure 1 that are modified by the installation of a doubler need not be inspected until 1500 flight hours after the installation of that particular doubler. If no cracks are found, repeat the inspection of the doubler every 500 flight hours thereafter.

No Airworthiness Directive has been issued on the matter covered by this Service Bulletin as of the issue date shown herein.

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

MANPOWER: The following information is for planning purposes only:

Estimated man-hours for visual and dye-penetrant inspection: 4 hours (if accomplished in conjunction with an annual or routine inspection).

Estimated man-hours for modification: The man-hour determination will be based upon the findings of the inspection. Contact Beech Customer Support Department, Telephone (316) 676-7601, International Telex No. 203603, Telefax No. 316-676-8027, for assistance.

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.

MATERIAL: The following kits required for this modification may be ordered through a BEECHCRAFT Authorized Outlet:

MODEL/SERIAL	PART NUMBER	DESCRIPTION	QUANTITY PER AIRPLANE
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-400); E33C and F33C (CJ-1 through CJ-30); H35, J35, K35, M35, N35, P35, S35, V35, V35A and V35B (D-4866 through D-9414, except D-9379); 36 (E-1 through E-184); A36 (E-185 thru E-379, except E-356)	36-4004-1 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (forward frame)	1 required
36 (E-1 through E-184); A36 (E-185 through E-379, except E-356)	36-4004-3 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (rear frame)	1 required
F33A (CE-401 through CE-1192); F33C (CJ-31 through CJ-179); V35B (D-9379, D-9415 through D-10403); A36 (E-356, E-380 through E-2397); A36TC (EA-1 through EA-241, EA-243 through EA-272);	36-4004-5 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (forward frame)	1 required
F33A (CE-401 through CE-1192); F33C (CJ-31 through CJ-179); V35B (D-9379, D-9415 through D-10403); A36 (E-356, E-380 through E-2397); A36TC (EA-1 through EA-241, EA-243 through EA-272);	36-4004-7 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (rear frame)	1 required
B36TC (EA-242, EA-273 through EA-471)	36-4004-9 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (forward frame)	1 required
B36TC (EA-242, EA-273 through EA-471)	36-4004-11 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (rear frame)	1 required

MODEL/SERIAL	PART NUMBER	DESCRIPTION	QUANTITY PER AIRPLANE
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-400); E33C and F33C (CJ-1 through CJ-30); H35, J35, K35, M35, N35, P35, S35, V35, V35A and V35B (D-4866 through D-9414, except D-9379);	36-4004-13 S	Kit Information - Front Spar Carry-thru Structure Reinforcement (rear frame)	1 required

The value of the kits required to incorporate this Service Bulletin on one airplane is to be advised. Beech Aircraft Corporation expressly reserves the right to supersede, cancel and/or declare obsolete, without prior notice, any kits or publications that may be referenced in this Service Bulletin.

NOTICE

All BEECHCRAFT kits, unless otherwise designated, are approved for installation on BEECHCRAFT airplanes in original or BEECHCRAFT modified configurations only. BEECHCRAFT kits may not be compatible with airplanes modified by STC installations or modifications other than BEECHCRAFT approved kits.

SPARES AFFECTED: None.

WARRANTY CREDIT: None.

SPECIAL TOOLS: None.

WEIGHT AND BALANCE: See kit drawing for weight and balance information.

REFERENCES: None.

PUBLICATIONS AFFECTED: It is recommended that a note "See Service Bulletin No. 2360" be made in the following:

BEECHCRAFT Debonair/Bonanza Parts Catalog, P/N 33-590011-3E or subsequent, Figure 101;

BEECHCRAFT Bonanza Parts Catalog, P/N 33-590010-7F or subsequent, Figure 101;

BEECHCRAFT Bonanza Parts Catalog, P/N 35-590015-9C or subsequent, Figure 7;

BEECHCRAFT Bonanza Parts Catalog, P/N 35-590102-5E or subsequent, Figure 101;

BEECHCRAFT Bonanza 36 Parts Catalog, P/N 36-590001-1G or subsequent, Figure 101.

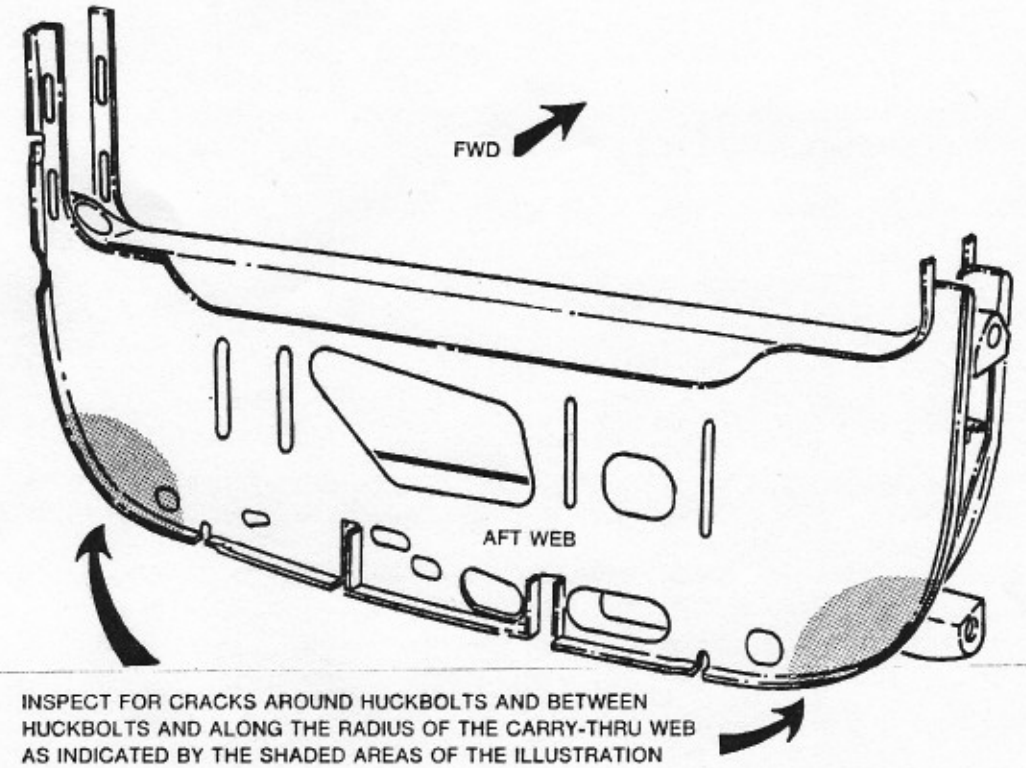
ACCOMPLISHMENT INSTRUCTIONS: This Service Bulletin may be accomplished as follows:

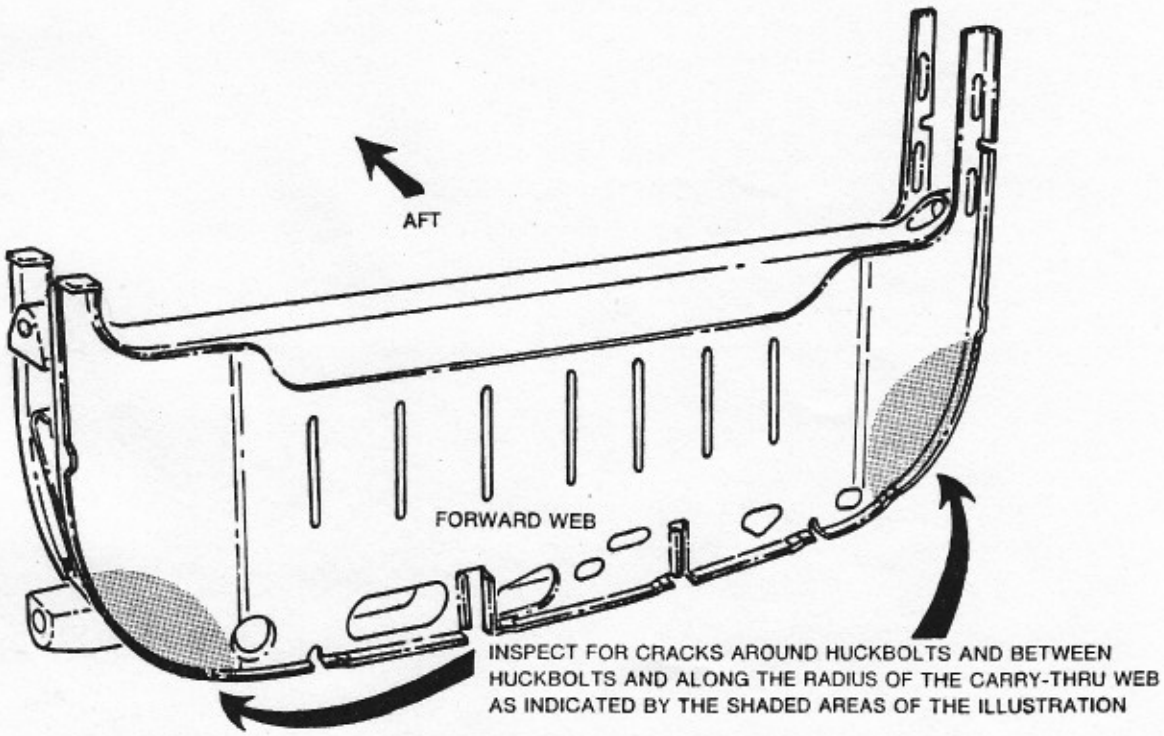
1. Remove the pilot's and copilot's seats and the carry-thru cover to obtain access to the front spar carry-thru structure.

2. Thoroughly clean the forward and aft frames (webs) of the front spar carry-thru structure in the areas shown in Figure 1.

3. Perform a visual inspection of the area cleaned in step 2 for evidence of cracks.

4. Perform a dye penetrant inspection, using visible dyes, of the area cleaned in step 2 for evidence of cracks.





INSPECTION FOR CRACKS IN THE WING FORWARD SPAR CARRY-THRU

Inspection for Cracks in the Wing Forward Spar Carry-Thru
Figure 1

NOTE

The first inspection must be performed no later than the first 1500 flight hours. If an airplane has over 1500 flight hours, the inspection is to be accomplished at the next scheduled inspection. If no cracks are found repeat the inspection every 500 hours.

NOTE

Any of the areas shown in Figure 1 that are modified by the installation of a doubler need not be dye-penetrant inspected until 1500 flight hours after the installation of that particular doubler. If no cracks are found, repeat the inspection every 500 flight hours.

Areas shown in Figure 1 that have cracks that fall within allowable limits and that have **not** been modified by a doubler must be inspected or repaired as indicated in this Service Bulletin on an individual basis.

5. If cracks are discovered, determine allowable limits, inspection procedures and methods of repair according to the following criteria:

NOTE

The extent of repair is limited to cracking in the radius of the web flange and cracks in the web flat areas at the fasteners of the lower front spar cap.

a. For cracks in the bend radius:

1) A crack up to 2.25 inches in length must be stop drilled #30 at crack ends and inspected for progression at each annual inspection or every 200 hours, whichever occurs first. One stop drilled crack per left side and one stop drilled crack per right side of the wing forward spar carry-thru structure bend radius are permissible, if neither one exceeds 2.25 inches.

CAUTION

Caution must be used during the stop drilling operation. Do not drill into spar cap, skin, or any other structure. A thin steel plate may be used to prevent damaging adjacent structure.

2) A crack between 2.25 inches and 4.0 inches in length shall be stop drilled #30 at crack ends. The area is to be repaired per the applicable P/N 36-4004 Kit within the next 100 flight hours.

3) A crack exceeding 4.0 inches in length shall be repaired prior to further flight per the applicable P/N 36-4004 Kit.

b. For cracks in the web face, in the area of the huckbolt fasteners:

1) A crack less than 1.0 inch in length or one crack between two fasteners does not require immediate repair, but shall be inspected for progression at each annual inspection or every 200 hours, whichever occurs first. A crack emanating from one fastener in two directions is considered to be one crack. **Do not stop drill, due to the possibility of damaging structure behind web face.** One crack per left side and one crack per right side of the wing forward spar carry-thru structure web face are allowed, if neither one exceeds 1.0 inch.

2) A crack more than 1.0 inch in length shall be repaired per the applicable P/N 36-4004 kit, within the next 25 flight hours.

A crack which passes through two fasteners but is less than 0.5 inch beyond either fastener shall be repaired per the applicable P/N 36-4004 kit within the next 25 flight hours.

3) A crack passing through two fasteners and extending beyond for more than 0.5 inch on either end shall be repaired prior to further flight, per the applicable P/N 36-4004 kit.

c. A combination of the cracks described in Steps "a" and "b" is acceptable. If cracks are found in both the forward and aft web face and/or the bend radius on the same side of the airplane, and any of the cracks are more than 1.0 inch long, a repair shall be made prior to further flight.

d. If a fuselage skin crack is discovered around the opening for the lower forward carry-thru fitting, an external skin doubler may be required. Contact Beech Customer Support Department, Telephone (316) 676-7975, International Telex No. 203603, Telefax No. 316-676-8495, for further instructions.

6. Repair all cracks per the appropriate P/N 36-4004 Kit if the limitations in Steps "5a", "5b", or "5c" are exceeded.

7. Reinstall the carry-thru cover and the pilot's and copilot's seats.

RECORD COMPLIANCE: Upon completion of this Service Bulletin, make an appropriate maintenance record entry specifying the kit identification number and the kit serial number. It is recommended that the parts list contained in the kit be filed for future reference.

NOTE

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