



CLASS II

SERVICE INSTRUCTIONS

19, 23, 24

No. 1167
ATA Code 55-10
Recurring Inspection

SUBJECT: STABILIZERS - INSPECTION AND/OR REPLACEMENT OF THE HORIZONTAL STABILATOR AFT CENTER SPARS

EFFECTIVITY: BEECHCRAFT A23-19, 19A, M19A and B19, serials MB-1 through MB-520;
B19 Sport 150, serials MB-521 through MB-905;
23, A23, A23A, B23 and C23, serials M-1 through M-1361;
C23 Sundowner 180, serials M-1362 through M-2270;
A23-24 and A24, serials MA-1 through MA-368;
A24R, serials MC-2 through MC-95;
A24R, B24R and C24R Sierra 200, serials MC-96 through MC-726.

REASON: To inspect the horizontal stabilator aft center spars for cracks and replace the spars with improved spars if necessary.

COMPLIANCE: At the owner's discretion, however, Beech Aircraft Corporation recommends that this inspection/modification be accomplished as soon as possible after the accumulation of 500 hours total time in service, or if cracks are noted in the horizontal stabilator skins adjacent to the rivets in the aft center spars. The inspection for cracks should be repeated each scheduled thereafter unless the improved spars are installed as specified in steps 5 through 23 of the ACCOMPLISHMENT INSTRUCTIONS. The improved aft center spars should be installed if cracks are found on the initial or subsequent inspections.

APPROVAL: FAA Approved - DOA CE-2.

MANPOWER: The following information is for planning purposes only:

Estimated man-hours for initial inspection: 10 hours.
Estimated man-hours for subsequent inspections: 0.8 hours.
Estimated man-hours to replace spar: 6 hours per side.
Suggested number of men: 2 men.

MATERIAL: The following parts required for this inspection/modification may be ordered through BEECHCRAFT Aero or Aviation Centers and International Distributors and Dealers.

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AW-1225
381 R

98-34238D

Beech Aircraft Corporation issues service information for the benefit of owners and fixed base operators in the form of three classes of Service Instructions. CLASS I (Red Border) are changes, inspections, and modifications that could affect safety. The factory considers compliance mandatory. CLASS II (Green Border) covers changes, modifications, improvements or inspections the factory feels will benefit the owner and although highly recommended, they are not considered mandatory compliance, unless specified at the time of issuance. Class I and II are mailed to:

- (a) BEECHCRAFT Aero or Aviation Centers and International Distributors and Dealers.
- (b) Owners of record on the FAA Registration list and the

BEECHCRAFT International Owner Notification Service List.

- (c) Those having a publications subscription.

CLASS III (No Border) covers changes which are optional, maintenance aids, product improvement kits and miscellaneous service information. Compliance is at the owner or operator's prerogative. Copies of Class III are distributed per a and c above. Information on Owner Notification Service or Subscriptions can be obtained through any BEECHCRAFT Aero or Aviation Center, International Distributor and Dealer, or the Factory. As Service Instructions are issued, temporary notation in the index should be made until the index is revised. Warranty will be allowed only when specifically defined in the Service Instructions and in accordance with Beech Warranty Policy.



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PART NUMBER	DESCRIPTION	QUANTITY PER AIRPLANE
169-110000-199	Door	4
169-110000-197	Doubler	4
AN525-832R8	Screw	32
130006A832BC	Nut Plate	32
169-620001-65	Aft Center Spar	2 (if required)
PR1425B2	Sealer	1 Qt. (if required)
MS20470AD3-4	Rivet	as required
NAS1738B4-2	Rivet	as required
MS20426AD3-3	Rivet	as required
MS20426AD3-4	Rivet	as required

The value of the parts required to incorporate these Service Instructions on one airplane is to be advised. Prices, when issued, will be subject to change without notice.

WARRANTY: None.

SPECIAL TOOLS: None.

WEIGHT AND BALANCE: None.

REFERENCES: BEECHCRAFT 19, 23 and 24 series Shop Manual, P/N 169-590015G or subsequent, Section 3; FAA Advisory Circular AC 43.13-1A or subsequent; Acceptable Methods, Techniques and Practices-Aircraft Inspection and Repair.

PUBLICATIONS AFFECTED: It is recommended that a note to "See Service Instructions No. 1167" be made in the following: BEECHCRAFT 19, 23 and 24 series Shop Manual, P/N 169-590015G or subsequent, Section 5; BEECHCRAFT 19, 23 and 24 series Parts Catalog copies, P/N 169-590012I or subsequent, Figure 132; BEECHCRAFT 19, 23 and 24 series Parts Catalog copies, P/N 169-590026C or subsequent, Figure 132.

ACCOMPLISHMENT INSTRUCTIONS: These Service Instructions may be accomplished as follows:

NOTE

All sheet metal work should be accomplished in accordance with FAA Advisory Circular AC 43.13-1A.

1. Refer to the Shop Manual and remove the horizontal stabilator from the airplane. Use care to prevent damage to the tail cone.

2. Cut four 5 inch diameter inspection holes in the bottom of the horizontal stabilator as shown in the illustration.

3. Visually inspect the aft side of the horizontal stabilator aft center spars for cracks. Use a mirror and flashlight as required to inspect the spars through the four inspection holes which were cut in step 2. Particular attention should be paid to the spar flanges in the vicinity of rivets.

4. If no cracks are found in the horizontal stabilator aft center spars, proceed with step 24. If cracks are found

in the horizontal stabilator aft center spars the cracked spars will need to be replaced, proceed with step 5.

5. Refer to the Shop Manual and remove the horizontal stabilator trim tab.

6. Remove the horizontal stabilator tip assemblies.

7. Drill out the rivets which attach the horizontal stabilator upper skins to the aft center spars.

8. Drill out the rivets which attach the lower center skin to the horizontal stabilator and remove the lower center skin.

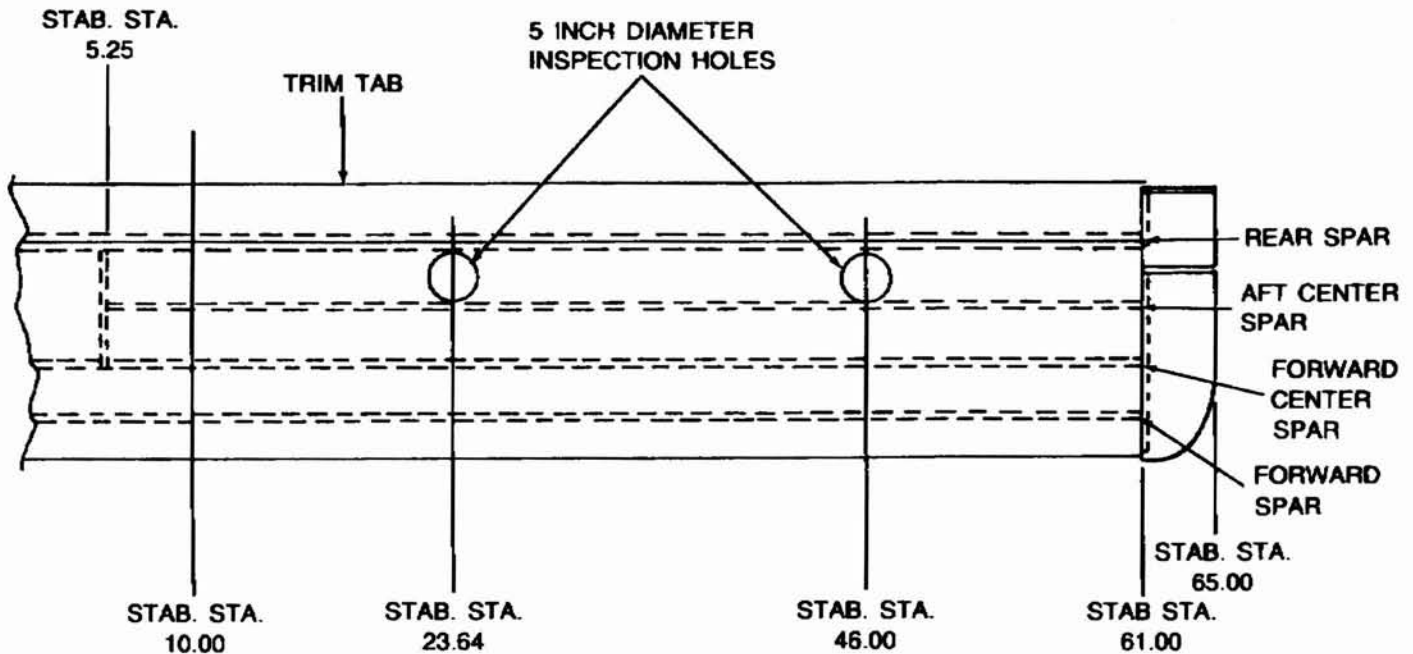
9. Drill out the rivets which attach the horizontal stabilator lower skins to the rear spar and aft center spars.

10. Drill out the rivets which attach the horizontal stabilator lower skins to the horizontal stabilator ribs. Start at the rear of the horizontal stabilator and remove the rivets only far enough forward to gain access to the aft center spars.

11. Drill out the rivets which attach the aft center spars to the angles on the horizontal stabilator ribs. The angles should be left in place to aid in aligning the new P/N 169-620001-65 spars.

NOTE

FOUR INSPECTION HOLES SHOULD BE CUT IN THE LOWER SURFACE OF THE STABILATOR, TWO ON EACH SIDE. THESE 5.0 INCH DIAMETER INSPECTION HOLES SHOULD BE LOCATED MIDWAY BETWEEN THE AFT CENTER SPAR AND THE REAR SPAR AT STABILATOR STATION 23.64 AND 46.00. THE RIVET PATTERNS FOR THE AFT CENTER SPAR AND REAR SPAR MAY BE USED TO HELP LOCATE THE CENTER OF THE 5.0 INCH DIAMETER INSPECTION HOLES.



**Bottom View of Horizontal Stabilator
(R.H. shown L.H. opposite)**

12. Using a felt tip pen, draw a line down the center of the upper and lower flanges of the new P/N 169-620001-65 spars from end to end. Place the new spars in position with the lines centered in the rivet holes in the upper and lower skins.

13. Drill the necessary rivet holes using the upper and lower skins and angles as a guide. The spars must not be allowed to drift from position during the drilling operation.

14. Deburr all holes and rivet spars to the angles attached to the ribs using P/N MS20470AD3-4 rivets.

15. Clean the outer flanges of the P/N 169-620001-65 aft center spars and the upper and lower skins with naphtha or equivalent (obtain locally).

16. Apply PR1425B2 sealer (mix per manufacturers instructions) in a smooth thin coat to the upper flange of the P/N 169-620001-65 aft center spars.

17. Rivet the upper skin to the spars using P/N MS20470AD3-4 rivets.

18. Apply PR1425B2 sealer in a smooth thin coat to the lower flange of the P/N 169-620001-65 aft center spars and attach the lower skins to the spars using P/N NAS1738B4-2 rivets.

19. Attach the lower skins to the ribs using P/N MS20426AD3-3 rivets where the horizontal stabilator tip assemblies overlap the lower skins and P/N NAS1738B4-2 rivets elsewhere.

20. Reinstall the horizontal stabilator lower center skin using P/N NAS1738B4-2 rivets.

21. Attach the horizontal stabilator lower skins to the aft spar using P/N MS20470AD3-4 rivets.

22. Reinstall the horizontal stabilator tip assemblies.

23. Refer to the Shop Manual and reinstall the horizontal stabilator trim tab.

24. Install eight P/N 130006A832BC nut plates on each of the four P/N 169-110000-197 doublers using P/N MS20426AD3-4 rivets.

NOTE

The P/N 169-620001-65 aft center spars must be riveted in place within 30 minutes after the PR1425B2 sealer is mixed.

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25. Install a P/N 169-110000-197 doubler inside the horizontal stabilator centered in each 5 inch inspection hole which was cut in step 2. Use sixteen P/N MS20426AD3-4 rivets equally spaced around the doubler.

26. Install a P/N 169-110000-199 door on each P/N 169-110000-197 doubler using eight P/N AN525-832R6 screws per door.

27. Touch up the paint on the horizontal stabilator as required.

28. Refer to the Shop Manual and balance the horizontal stabilator as required.

29. Refer to the Shop Manual and reinstall the horizontal stabilator.

RECORD

COMPLIANCE:

Upon completion of these Service Instructions, make an appropriate maintenance record entry.