



CLASS II

SERVICE INSTRUCTIONS

19, 23, 24

No. 0465-202, Rev. II
ATA Code 32-10

SUBJECT: LANDING GEAR - MODIFICATION OF HOUSING INSTALLATION.

SYNOPSIS OF CHANGE: Added alternate Jo-Bolt callout and instructions for repair to oversize and/or elongated holes. Service Instructions rewritten in current format.

EFFECTIVITY: BEECHCRAFT A23-19, 19A, M19A, and B19, serials MB-1 through MB-520;
Sport B19, serials MB-521 through MB-536;
23, A23, A23A, B23, and C23, serials M-2 through M-1361;
Sundowner C23, serials M-1362 through M-1392;
A23-24 and A24, serials MA-1 through MA-368.

REASON: To improve the service life and reliability of the main landing gear, and eliminate the necessity for periodic inspection of the main landing gear housings.

COMPLIANCE: Beech Aircraft Corporation recommends that this be accomplished at the next periodic inspection if not already accomplished on the original issue or Revision I of these Service Instructions.

APPROVAL: FAA Approved - DOA CE-2.

MANPOWER: The following information is for planning purposes only:

Estimated man-hours: 10 hours.
Suggested number of men: 2 men.

MATERIAL: The following parts may be ordered through a BEECHCRAFT Aero or Aviation Center. The chromium trioxide (CrO₃) and calcium sulphate (CaSO₄ · 2H₂O) required for the chromic acid brush-on treatment and the zinc chromate primer should be obtained from local sources.

PART NUMBER	DESCRIPTION	QUANTITY
169-810011-21*	Housing	As required
NAS1669-6L7	Jo-Bolt	4 per airplane
NAS1751-6L7**	Oversize Jo-Bolt	As required

* Required only if replacement is necessary.
** Alternate Jo-Bolt for oversize holes.

AW-762
272
R874
R1078 II

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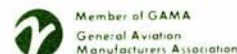
Beech Aircraft Corporation issues service information for the benefit of owners and fixed base operators in the form of three classes of Service Instructions. CLASS I (Red Border) are changes, inspections, and modifications that could affect safety. The factory considers compliance mandatory. CLASS II (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.

98-34238D



CLASS II

Service Instructions No. 0465-202, Rev. II

- WARRANTY:** This is a product improvement and may be accomplished at the owner's discretion, therefore no warranty is applicable.
- SPECIAL TOOLS:** None.
- WEIGHT AND BALANCE:** None.
- REFERENCES:** FAA Aircraft Inspection and Repair Manual AC43.13-1A.
BEECHCRAFT 19, 23, and 24 Series Shop Manual, P/N 169-590015F or subsequent.
Military Specification MIL-M-3171, "Magnesium Alloy, Processes for Pretreatment and Prevention of Corrosion on."
- PUBLICATIONS AFFECTED:** It is recommended that a note to "See Service Instructions No. 0465-202, Rev. II" be made in the following:
19, 23 and 24 series Shop Manual copies, P/N 169-590015F or subsequent, Section 3;
19, 23 and 24 series Parts Catalog copies, P/N 169-590012I or subsequent, Figure 202.

ACCOMPLISHMENT INSTRUCTIONS:

This modification may be accomplished as described in the following procedure.

1. Raise the airplane and cradle the fuselage and wings to allow removal of each main landing gear housing.
2. On each main gear remove the fairing from the upper portion of the housing, then remove the housing attaching nut and bolt and remove the housing from the wing strut adapter. Discard the housing attaching parts.
3. Inspect the areas around the retention bolt holes in the magnesium housings for possible cracks using dye penetrant procedures as outlined in FAA Advisory Circular Manual AC43.13-1A. If cracks exist, discard the housing and obtain a new 169-810011-21 housing.
4. Insert the housings into the strut adapters and lower the airplane until the housings are fully seated in the adapters so that the landing gear is supporting the total weight of the airplane.
5. Align the bolt attaching holes in each housing with the holes in the strut adapter. If a new housing was required, align the wheel as described in Section 3 of the Shop Manual.
6. On the inboard and outboard sides of each wing strut adapter, locate a hole to be drilled through the adapter and housing as shown in the illustration. Drill the holes slightly undersize, then ream to .375 to .378-inch diameter.
7. Raise and cradle the airplane as in Step 1.
8. Remove each main gear housing from the strut adapter and deburr the newly drilled holes in the adapter and housing.
9. Apply a chromic acid brush-on treatment to the housings per MIL-M-3171 as follows:
 - a. Make certain that the housings are free of oil, grease, and any other contaminants.
 - b. Place approximately 3/4 gallon of water in a stainless steel, aluminum, vinyl polyethylene, or rubber lined container in which 1 gallon of fluid can be measured. The water should be at a temperature of between 70° and 90°F.
 - c. First add 1-1/3 ounces of chromium trioxide (CrO₃) to the water to form chromic acid, then add 1 ounce of calcium sulphate (CaSO₄ · 2H₂O) to the chromic acid

solution. Add water to make 1 gallon of solution and stir vigorously for at least 15 minutes.

- d. Brush the solution around the edges of the housing holes drilled in Step 6 and the existing holes, also on any scratched or abraded areas on the housings; the area around the base of the housing sleeve should be given special attention. Keep the regions wet with the solution for 1 to 3 minutes to produce a gold to dark brown coating for best adhesion of the zinc chromate primer (Step 10).

CAUTION

Do not apply the solution for more than 3 minutes. Prolonged treatment produces loose powdery coatings to which the zinc chromate primer will not adhere.

- e. Rinse the housings with cold running water (do not use hot water), then dry, either in an oven or by exposure to a blast of hot air. If cold running water is not available, the rinsing operation may be omitted and the housings dried as described above without materially altering the coating effectiveness.

10. As soon as practical after the housings are dry, and before exposure to overnight, outdoor atmospheric conditions, brush or spray a liberal coating of zinc chromate primer onto the housings in the areas treated in Step 9, and around the edges of the newly drilled and existing holes in the wing strut adapters.

11. Insert the housings into the strut adapters and lower the airplane until it is supported entirely by the landing gear.

12. Align the newly drilled holes in each adapter and housing and attach each housing to the adapter with two NAS1669-6L7 blind fasteners (Jo-Bolts) as shown in the illustration.

NOTE

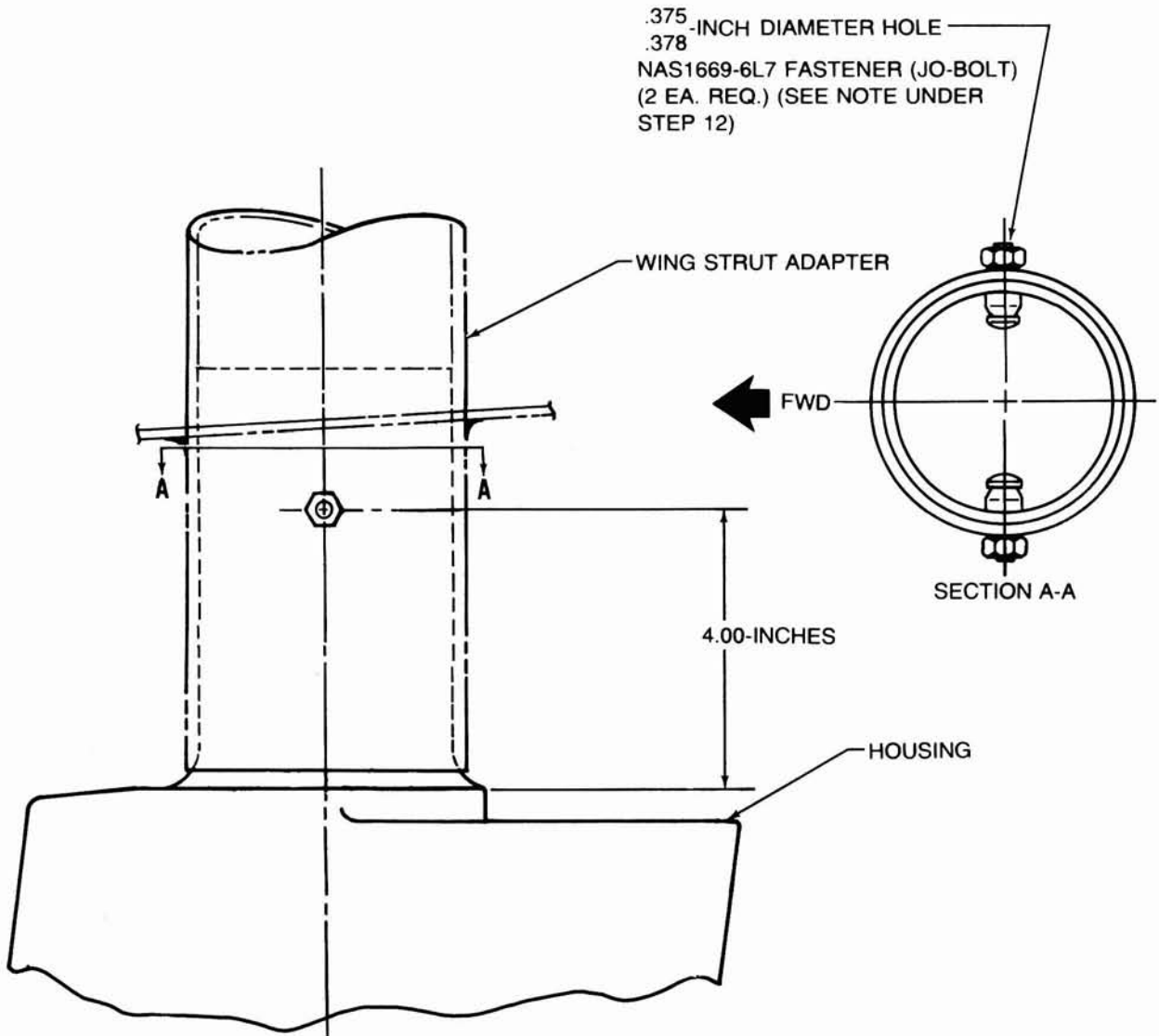
Oversize or slightly elongated holes may be reamed to .3905/.3935 inch diameter and NAS1751-6L7 Jo-Bolts may be installed. If holes cannot be reamed to this diameter in order to eliminate oversize or elongated holes, new holes may be located and drilled 1.25 inch lower than the existing holes. The new holes should be reamed to .375/.378 inch diameter and NAS1669-6L7 Jo-Bolts installed. Jo-Bolts must be directly opposite each other and must be parallel to the main spar. The Jo-Bolts may be installed by holding the fastener head tightly against the housing with vise-grip pliers and

turning the fastener shaft clockwise with an open end wrench until the shaft shears.

CAUTION

Check the Jo-Bolt installation by applying 30 inch-pounds torque to the hex head of the Jo-Bolt. DO NOT apply more than 30 inch-pounds of torque. If the Jo-Bolt does not turn, installation is satisfactory. If the Jo-Bolt turns, grind off the head, remove the Jo-Bolt and install a new one.

13. Reinstall the fairings on the housings.



Modification Of Main Landing Gear Housing Installation

RECORD COMPLIANCE:

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