

Beech Aircraft Corporation


OVERHAUL SPECIFICATION


EMPERNAGE ASSEMBLY - MODEL C-45G

Overhaul Specification 6001

ISSUED February 25, 1953

REVISED August 18, 1954


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TITLE EMERGENCY ASSEMBLY - MODEL C-45G

ISSUED February 25, 1953

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1. SCOPE

1.1 Purpose.- The purpose of this specification is to authorize the use of reconditioned parts and provide reconditioning instructions for component parts of the tail surfaces installations 186000 and 804-186000 and instruction for the modifications required to adapt them for installation on C-45G aircraft in accordance with Drawing 694-186000.

1.2 Application.- All reconditioning operations and repairs covered by this specification may be accomplished where required without further authorization. Repairs not authorized by this specification cannot be performed without further authorization.

1.3 List of Pages and Revisions.- This specification consists of the pages listed below. An asterisk (*) denotes pages revised at the current revision.

<u>Page</u>	<u>Date</u>	<u>Description of Revisions</u>	<u>Serial Effectivity</u>
* 1	8-18-54	To note revision	Record Change
2	2-25-53		
3	2-25-53		
4	2-25-53		
5	7-7-53		
6	10-9-53	Correct P/N Callouts in Para. 3.4.2 (d) and delete erroneous information in Para. 3.4.3 (c)	
7	10-9-53	Correct P/N Para. 3.4.3 (c)	Record Change
* 8	8-18-54	Delete the word "adversely" in Para. 4.1.2 (c)	Record Change
9	2-25-53		
10	2-25-53		
11	2-25-53		
12	2-25-53		

2. APPLICABLE PUBLICATIONS

2.1 Specifications:

2.1.1 Beech.-

- FS 370A Finish Specification for C-45G Aircraft
- OS 5211 Tab Systems - Model C-45G
- OS 6101 Elevator Assembly - Model C-45G
- OS 6301 Rudder Assembly - Model C-45G
- OS 6401 Vertical Stabilizer - Model C-45G
- OS 7002 Cleaning Procedures for Reconditioned Aircraft
- OS 7003 Air Frame and Control Antifriction Bearings
- OS 7008 General Acceptable Quality Standards
- OS 7010 Removing Corrosion from Aluminum Parts
- OS 7007 Sheet Metal Repairs

3. REQUIREMENTS

3.1 Parts Involved.- For parts involved in addition to those covered by this specification, refer to the overhaul specifications listed below:

- OS 5211 Tab System - Model C-45G
- OS 6101 Elevator Assembly - Model C-45G
- OS 6301 Rudder Assembly - Model C-45G
- OS 6401 Vertical Stabilizer - Model C-45G

3.1.1 Parts Not Used.-

- 186000-4 Fairing Assembly, Horizontal Stabilizer
- 804-186000-4 Fairing Assembly, Horizontal Stabilizer
- 186068 Fairing Assembly, Vertical Stabilizer
- 804-186000-1 Skin, Horizontal Stabilizer to Fuselage
- 186000-1 Skin, Horizontal Stabilizer to Fuselage
- 804-185700 Tail Cowl, Outer
- 186262-1 Fairing, Rudder Horn

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3.1.1 Parts Not Used.- (Continued)

186262-2 Fairing, Rudder Horn
 18099 Support, Position Light
 Model C Grimes Position Light
 AN280H204 Key, Rudder and Elevator Tab Drives

3.1.2 Parts to be Reconditioned.- The following parts are to be reconditioned in accordance with the instructions contained herein. "Reconditioned" means the disassembly, cleaning, inspection and correction of discrepancies, repair and/or replacement of components to assure an operationally safe and serviceable aircraft, and modifications to incorporate specific improvement changes in accordance with applicable engineering drawings.

84-186175 Elevator Assembly
 186350 Rudder
 186350-1 Rudder
 186200 Vertical Stabilizer
 186050A Horizontal Stabilizer
 185700-3 Tail Cowl, Inner
 185700-1 Tail Cowl, Outer

3.1.3 Parts to be Supplied New.-

186068 Fairing, Vertical Stabilizer
 186262-1 Fairing, Rudder Horn
 186262-2 Fairing, Rudder Horn
 407-186000-2 Skin, Fuselage to Horizontal Stabilizer
 AN280H204 Key, Rudder and Elevator Tab Drives
 407-186000-4 Fairing, Horizontal Stabilizer
 407-186000-5 Fairing, Horizontal Stabilizer
 694-186166 Bonding Jumper

3.2 Cause for Rejection.- Damage or wear which cannot be corrected by one or more of the authorized repairs listed in Paragraph 3.4 of this specification is cause for rejection.

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3.3 Reconditioning Operations:

3.3.1 Tail Cowl, Inner, 185700-3.-

- (a) Inspect for nonrepairable conditions.
- (b) Clean in accordance with OS 7002.
- (c) Remove corrosion in accordance with OS 7010.
- (d) Replace 185700-3-9 and 185700-3-12 angles.
- (e) Repair as necessary as authorized herein.
- (f) Finish in accordance with FS 370A.

3.3.2 Tail Cowl, Outer 185700-1.-

- (a) Inspect for nonrepairable conditions.
- (b) Clean in accordance with OS 7002.
- (c) Remove corrosion in accordance with OS 7010.
- (d) Drill a 3/4-inch drain hole and install an 185701 drain grommet at the lower forward end of the outer tail cowl as shown on Drawing 404-185700.
- (e) Trim upper edge of the outer tail cowl as required at installation up to a maximum of 3/8 inch, to maintain a minimum of 1/16 inch clearance from the 185700-3-9 and 185700-3-12 angles on the inner tail cowl, when the elevator is at the extreme down travel. Add rivets and relocate felt as required.
- (f) Enlarge the jack point cutout as required to conform to Drawing 404-185700.
- (g) Install new 404-185700-8 felt strip.
- (h) Trim the cutout at the upper forward end of the outer tail cowl as required to maintain a minimum of 1/16-inch clearance from the elevator leading edge with the elevator in the extreme up position.
- (i) Repair as necessary as authorized herein.
- (j) Finish in accordance with FS 370A.

3.3.3 Horizontal Stabilizer Assembly, 186050A.-

- (a) Inspect for nonrepairable conditions.
- (b) Clean in accordance with OS 7002.
- (c) Remove corrosion in accordance with OS 7010.

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3.3.3 Horizontal Stabilizer Assembly 186050A.- (Continued)

- (d) Modify the horizontal stabilizer to conform to Drawing 694-186050 except do not install the 694-186050-2 and 694-186050-3 nose skins and 694-186050-5 skin. Install OS 6001-2 doubler shown in Figure 5 in place of 404-186052 doubler shown on Drawing 694-186050.
- (e) Install a new 186050A-4 skin if stabilizer attaching-holes are mislocated in the old skin.
- (f) Install deicing boots in accordance with Drawing IL80482.
- (g) Install new 186033-3 felt strips in the 186033 rudder horn box. If the No. 40 holes are oversize or elongated, use AN426AD4 rivets for attaching the new felt.
- (h) Recondition the 4707-2-10 Breeze drive for the rudder tab in accordance with OS 5211.
- (i) Recondition the 187690 elevator tab drives and 187719 shafts in accordance with OS 5211.
- (j) Recondition the 186170 rudder bellcranks and all phenolic pulleys in accordance with OS 5201.

3.4 Authorized Repairs:

3.4.1 Tail Cowl Inner 185700-3.-

- (a) Remove dents in accordance with shop practice.
- (b) Patch cracks and holes in the 185700-5 strip. Form patch to fit the inner contour of 185700-5. Stop drill cracks with No. 40 drill before installing patch. Make patch from 24S-0 AL or 24S-T AL. Heat treat 24S-0 AL after forming.

3.4.2 Tail Cowl Outer 185700-1.-

- (a) Remove dents in accordance with shop practice.
- (b) Replace damaged nut plates.
- (c) Patch cracks and holes in the 185700-6 strip. Form patch to fit the outer contour of 185700-6. Stop drill cracks, No. 40,

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3.4.2 Tail Cowl Outer, 185700-1.- (Continued)

before installing patch. Make patch from 24S-0 AL or 24S-T AL. Heat-treat 24S-0 AL after forming.

- (d) Fit 404-185700 or 185700 to cheek fixture, coded 125, to determine if forward trim line is correct. If either 404-185700 or 185700 outer tail cowling is 1/8-inch or more short, the following repair will be accomplished:

Trim a 1-inch wide strip from forward edge of 404-185700-2 and 404-185700-3 or 185700-2 sheets and from 404-185700-6 center strip or 185700-6 center strip. Do not trim any from 404-185700-4 and 404-185700-5 or 185700-8 stiffeners. Make a doubler from .032 sheet 24S-T3 AL clad 1/4 inches in width. Form to the contour of outer tail cowling. Trim to match top edge of 404-185700-4 and 404-185700-5 or 185700-8. Mount the 1/4-inch doubler inside of outer tail cowl by lapping 1/2 inch and spotwelding in accordance with Specification MIL-W-6860. Trim and drill to fit fuselage at assembly. Enlarge jack point hole as necessary at assembly.

3.4.3 Horizontal Stabilizer Assembly, 186050A.-

- (a) Replace or reinforce buckled or deformed ribs.
- (b) Perform sheet metal repairs to skin, ribs, stringers, and spars in accordance with OS 7007.
- (c) On stabilizers which have the 186059-15 rib assembly reinforced with doublers around lightening holes, install an OS 6001-4 guard in place of the 186069 guard. The OS 6001-4 guard is the same as the 186069 guard except the width dimension is 3 inches, the hole spacing is 2-1/4 inches instead of 1-1/2 inches and the hole size 5/32-inch diameter. Drill three 5/32-inch holes through the rib to match OS 6001-4 and attach OS 6001-4 guard with three each AN526-6-8 screws, AN960-6 washers and AN365-632 nuts.

On stabilizers on which the 186069 guard is worn or frayed excessively, install a new 186069 guard.

To facilitate installation of the OS 6001-4 or 186069 guard, an inspection opening may be cut in the upper skin of the

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APPROVAL <i>R. B. Bennett</i>	DATE REVISED 10-9-53	Beech Aircraft CORPORATION Wichita 1, Kansas	OVERHAUL SPECIFICATION NO.	PAGE
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3.4.3 Horizontal Stabilizer Assembly, 186050A. (Continued)

stabilizer between the 186050A-11 and 186050A-12 stringers of the same size as dimensioned on Drawing 186050A for 186048 plate assembly. The outboard edge of the inspection opening should be located 2-1/4 inches inboard of the rivet line in the 186059-15 left-hand rib. Install an 186048 plate assembly, 186050A-20 doubler, 186093 and 186093-1 reinforcement as shown on Drawing 186050A.

- (d) Replace cracked or bent fin attaching angles, 186050A-15 and 186050A-21.
- (e) Replace damaged rudder bellcrank stops, 186037.
- (f) Replace damaged Dzus fastener springs.
- (g) Using a No. 40 drill, stop drill all cracks in 186070, 186071, 186072, 186073, and 186074 fairings. Patch cracks over 1/2 inch long and all holes larger than 3/8-inch diameter. Install the patches on the forward side of the fairings with AN426AD3 rivets. Dimple the fairing and patch. Remove dents and straighten the fairings in accordance with shop practice.
- (h) If the attaching holes through the 694-186050-7 skin for the 694-186040 door do not align with the holes in the 186050A-5 skin, install an OS 6001-1 doubler between the 186050A-5 skin and the 694-186033 spar. Pick up all existing rivets and add eleven AN470AD3 rivets as shown in Figure 1.
- (i) If the 5/8- by 2-inch cutout in the 186050A-4 skin for the elevator tab chain is oversize or cracked and does not exceed 3/16 inch, install an OS 6001-3 doubler on the outside of the skin as shown in Figure 2. Pick up the 5 existing rivets and add 7 AN470AD4 rivets spaced as shown in Figure 2, maintaining 1/4 inch edge distance. If cracks exceed 3/16 inch, repair the skin in accordance with OS 7007. Stop drill cracks.
- (j) If the extreme aft 3/16-inch diameter fin attaching screw hole through the 186050A-15 or 186050A-21 attaching angles and fin rear spar (as shown in Detail E, Drawing 407-186000) is oversize, it may be reamed to 1/4-1/32 providing a 1/8 inch minimum edge margin is maintained. See Figure 3. Replace the AN502-10-12 screw, AN960-10 washer and AN365-1032 nut with AN4-6A bolt, AN960-416 washer, and AN365-428 nut.

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WRITTEN BY E. J. Lee Revisions: T. R. Taylor

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4. INSPECTION

4.1 General.- Parts will be inspected to the general acceptable quality standards in OS 7008 and the specific conditions listed below:

4.1.1 Tail Cowl, Inner, 185700-3 and Tail Cowl, Outer, 185700-1.-

- (a) Small dents and irregularities in the surface of the tail cowls are acceptable.
- (b) A minimum clearance of 1/16-inch must be maintained between the 185700-3-9 and 185700-3-12 angles on the inner tail cowl and the upper edge of the outer cowl when the elevator is in the extreme down position. Trimming into rivets and spotwelds to maintain this clearance is not cause for rejection.

4.1.2 Horizontal Stabilizer Assembly 186050A.-

- (a) Skin deformity at ribs and stringers and small dents and scratches in the skin are not cause for rejection.
- (b) Scrap cracked or bent hinge castings, and those which show evidence of chisel marks, bar marks, nicks, dents, or scratches in the encircled areas shown in Figure 4. Small surface scratches, nicks, and dents not in the encircled areas will be acceptable if polished out with aluminum wool.
- (c) Skins installed under the elevator hinge castings on airplanes as they are received from the field are acceptable so long as alignment of the hinge points is not affected.

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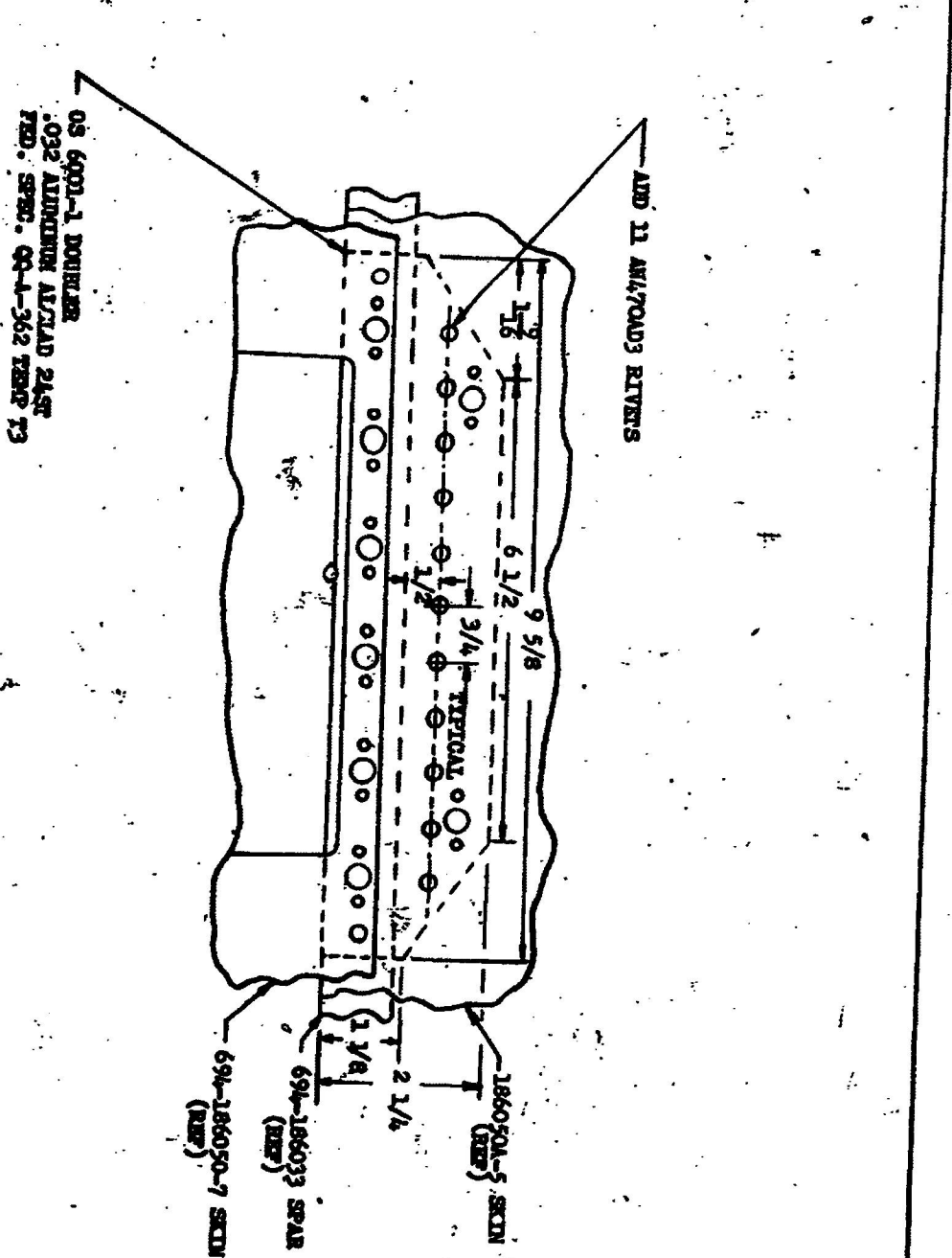


Figure 1

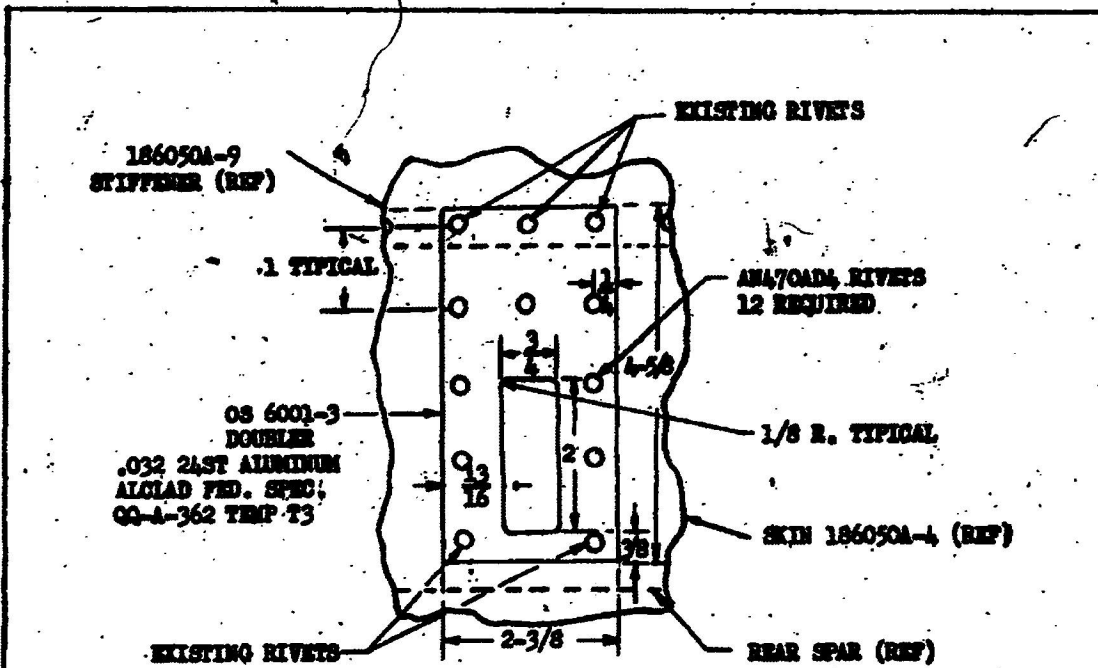


Figure 2

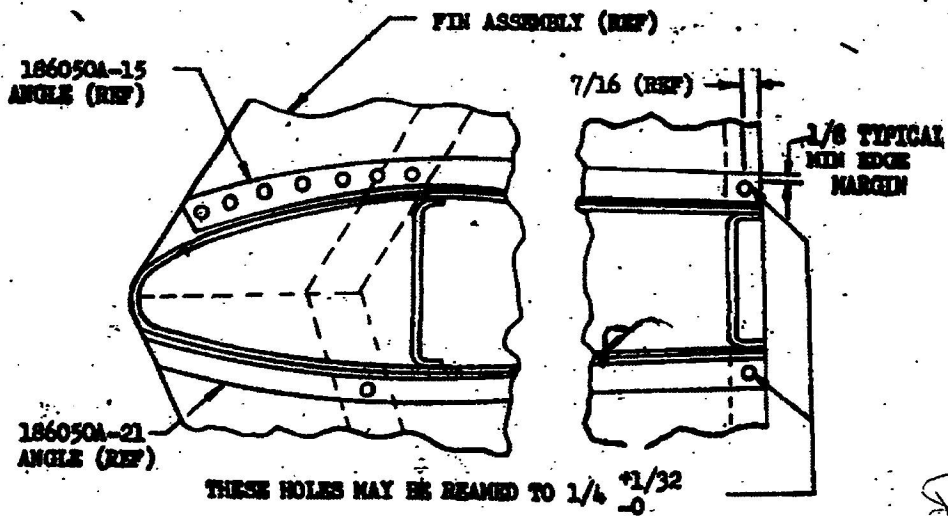
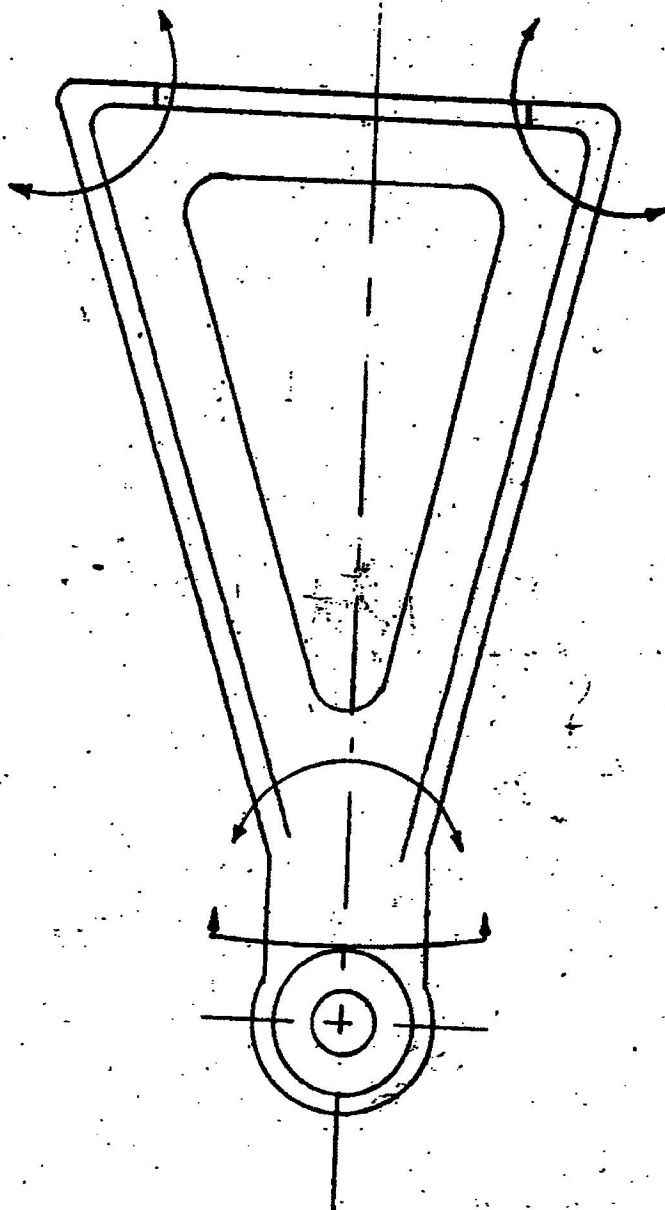


Figure 3

WRITTEN BY <i>F. M. Polk</i>		DATE ISSUED 2-25-53		OVERHAUL SPECIFICATION FIN ASSEMBLY - MODEL C-450	
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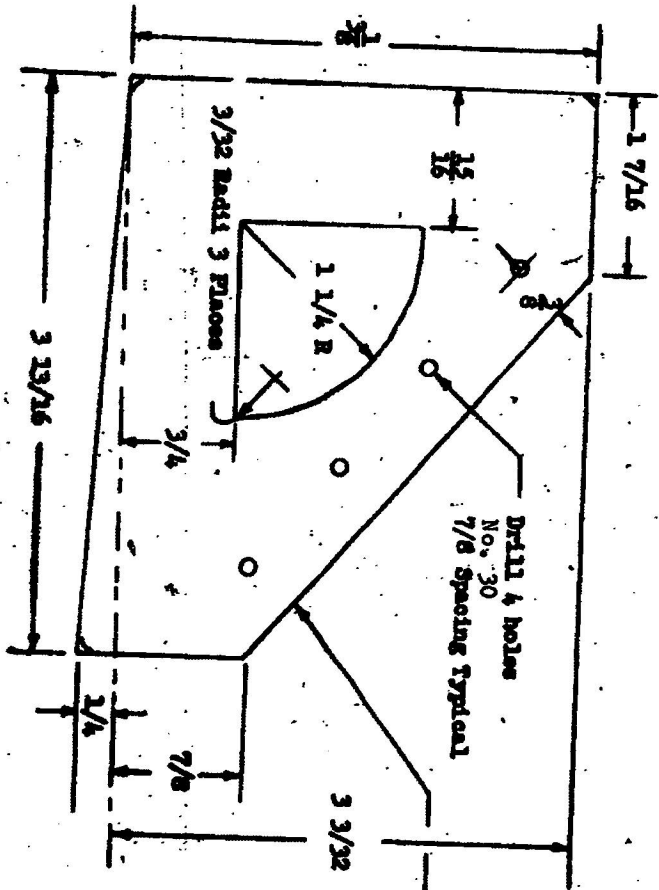


186060 OR 186061
HINGE

Figure 4

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OS 6001-2
 .032 Sheet 24ST Aluminum Alclad
 Fed QQ-A-362 Temp. T-3

FIGURE 5

