Beech Aircraft Corporation

OVERHAUL SPECIFICATION

INNER COWL, BAFFLES, AND ENGINE SEALS -

MODEL C-45G AND C-45H

Overhaul Specification 9811

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TITLE INNER COWL, BAFFLES, AND ENGINE SEALS - MODEL C-45G AND C-45H

ISSUED 4-29-53

WRITTEN BY T. R. Taylor

REVISED 4-14-54

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 84-186910 engine inner cowling assembly, the 189110 engine baffles installation, and the engine seals (segment assemblies) as installed in aircraft received for overhaul, and instructions for modifications required to adapt them for installation in C-45G and C-45H aircraft in accordance with Drawing 694-186910 engine inner cowl assembly, Drawing 189110 engine baffles installation and Drawing 694-189001 engine seals installation.

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 the pages revised by the current revision.

Page	Date	Description of Revision	Serial Effectivity
* 1	4-14-54	Note Revision	Record change
2	4-29-53		
3	4-29-53		
4	1-20-54	Revise Para. 3.2(a) to scrap inner cowls made from non-corrosion-resistant steel	AF-704
5	2-18-54	Change Para. 3.3.1 to permit flexibility in reconditioning procedures	Record change
6	4-29-53		
* 7	4-14-54	Add Step (j) Para. 3.4.1	Record change
8	2-18-54	Add Para. 4.2.1(f) to authorize use of reconditioned inner cowls with discoloration due to heat and carbon	Record change
9	4-29-53		

E.3300

2. APPLICABLE PUBLICATIONS

2.1 Specifications:

2.1.1 Beech.-

PS 3701	Finish Specification for Model C-45G and C-45H Aircraft
OS 7002	Cleaning Procedures for Reconditioned Aircraft
OS 7008	General Acceptable Quality Standards

3. REQUIREMENTS

3.1 Parts Involved:

3.1.1 Parts Not Used.- The parts listed below will not be reused and will be disposed of at the direction of the customer.

3.1.1.1 Engine Inner Cowling Assembly 84-185910.-

84-185896	Seal
84-185022	Angle
84-185910-18	Kearsarge strip
84-185910-19	Kearsarge strip
No. 100	Dzus spring

3.1.1.2 Segment Assemblies 84-185880, 84-185881, 84-185882, 84-185883, 84-185884, 84-185885, and 84-185886.-

84-185887	Seal
84-185888	Seal
84-185889	Seal
84-185890	Seal
84-185891	Seal

3.1.1.2 Segment Assemblies 84-185880, 84-185881, 84-185882, 84-185883, 84-185884, 84-185885, and 84-185886.- (Continued)

84-185892	Seal
84-189893	Seal
84-189894	Seal
84-189895	Seal

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, and modifications to assure an operationally safe and serviceable aircraft.

3.1.2.1 Engine Inner Cowling Assembly 84-185910.- All parts will be reconditioned except those parts listed in Paragraph 3.1.1.1 of this specification.

3.1.2.2 Engine Baffles Installation 189110.- All parts will be reconditioned.

3.1.2.3 Segment Assemblies 84-185880, 84-185881, 84-185882, 84-185883, 84-185884, 85-185885, and 84-185886.- All parts except those parts listed in Paragraph 3.1.1.2 of this specification will be reconditioned.

3.1.3 Parts to be Supplied New:

3.1.3.1 Engine Inner Cowling Assembly 84-185910.-

694-185896-2	Seal
694-185896-4	Seal
694-185910-38	Kearsarge strip
694-185910-39	Kearsarge strip
49389-1	Fastener
S5-200	Dzus spring

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3.1.3.2 Segment Assemblies 84-185880, 84-185881, 84-185882, 84-185883, 84-185884, 84-185885, and 84-185886.-

404-189010	Seal
84-185887	Seal
84-185888	Seal
84-185889	Seal
84-185890	Seal
84-185891	Seal
84-185892	Seal
84-185893	Seal
84-185894	Seal
84-185895	Seal
684-185899	Seal

3.2 Causes for Rejection.- The specific conditions listed below and 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.

(a) Scrap 84-185910 inner cowlings made from mild steel.

(b) Scrap 84-185910 inner cowlings that will require more than 15 man-hours labor to recondition.

(c) Scrap 84-185910 inner cowlings with damage to the carburetor shield cutout that cannot be repaired in accordance with Paragraph 3.4.1(d) of this specification.

(d) Scrap segment assemblies that have segments that are badly corroded or that have cracks progressing inward from the outside edges.

3.3 Reconditioning Operations:

E-3380

TITLE: [illegible] - [illegible]

DATE 4-29-53

WRITTEN BY R. P. Taylor DATED 2-15-54

3.3.1 Engine Inner Cowling Assembly 6-165210.-

(a) Inspect for unacceptable conditions.

(b) Clean in accordance with CS 7002.

(c) Remove old paint.

(d) Repair as necessary as authorized herein.

(e) Install new seals, bearings strips, and hex fasteners in accordance with Drawing 6J-165210.

3.3.2 Engine Baffles 165107, 165108, and 165109.-

(a) Inspect for unacceptable conditions.

(b) Clean in accordance with CS 7002.

(c) Repair as necessary as authorized herein.

(d) Paint with black enamel (baked) in accordance with FS 370A.

3.3.3 Support Assemblies 6J-165230, 6J-165231, 6J-165232, 6J-165233, 6J-165234, 6J-165235, and 6J-165236.-

(a) Inspect for unacceptable conditions.

(b) Clean in accordance with CS 7002.

(c) Remove all seals as listed in Paragraph 3.1.1.2.

(d) Remove mild corrosion and foreign material by buffing with a soft wire brush.

(e) Repair as necessary as authorized herein.

(f) Install new seals in accordance with latest drawings.

3.4 Authorized Repairs:

3.4.1 Engine Inner Cowling Assembly 6J-165210.-

(a) All cracks over 1 inch in length, except in the seal and carburetor outward flanges, will be stop drilled with a No. 30 drill and a reinforcement added. The reinforcement shall

3.4.1 Engine Inner Cowling Assembly 8A-18710.- (Continued)

(a) (Continued)

be of the same material as the part being patched and shall be formed to fit over beads and to match contour of the cowl. Use AN470AD3 rivets spaced approximately 3/4 inch. Maintain two rivet diameters edge distance.

(b) Cracks in areas other than in beads, radii and flanges, of 1 inch or less in length, will be repaired by drilling or filing a round hole of sufficient diameter to clean out the crack. Install a Cam plug to fit the hole. Flatten ears of the plug after installation.

(c) Seal attaching flanges requiring repair will be reinforced with a strip of the same thickness and the same material as the flange. The strip will be 5/8-inch wide and of sufficient length to extend 1-1/2 inches beyond the damaged area. Cut the strip to match the seal attaching flange radius. (Reference R-1-1/2-inch radius). Attach with AN426AD3 rivets flushed on the surface to which the seal is attached. Space rivets approximately 3/4 inch, maintaining two rivet diameters edge distance.

(d) Carburetor air-box flange holes, elongated beyond allowable tolerances (Paragraph 4.2.1), and flange and radius cracks will be repaired by adding a patch made from .025 stainless (18-8) steel. Elongated holes will be reinforced with a strip 5/8-inch wide and of sufficient length to extend 1/2-inch beyond the damaged holes. Cracks will be patched with a reinforcement formed to the contour of the cowl and of sufficient size to extend 1/2-inch beyond the limits of the crack. Place one row of AN426AD3 or AN470AD3 rivets, spaced 1-2-inch maximum - 3/8-inch minimum, along all edges of the reinforcement. Maintain an edge distance of two rivet diameters. Rivets will be flush on the inside surface of the flange.# Stop drill all cracks before installing reinforcement.

e Any number of engine mount bolt holes that are cracked or damaged may be reinforced with .025 maximum thickness (18-8) stainless steel. The size of the reinforcement shall be sufficient to extend approximately 3 inches inward towards the segment radius from the inner edge of the mounting flange. The width shall be approximately equal to the length. Form reinforcement to fit cowl contour. Rivet with AN426AD3 or AN470AD3 rivets spaced 3/4-inch maximum - 3/8-inch minimum. Flush rivets in the mounting flange area on both sides that would interfere with mounting bosses.

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3.4.1 Engine Inner Cowling Assembly 84-185910.- (Continued)

(f) Replace 84-185910-24 and -25 orifices that are damaged and corroded to the extent that repair is impractical. Remove orifices that are attached by spotwelds by sawing around flush with the surface of the inner cowl segment. Install 694-185910-26 or 694-185910-27 orifice with AN470AD3 rivets spaced approximately 3/4-inch. Remove orifices that are attached with rivets by drilling out rivets. Install 694-185910-26 or -27 orifice with AN470AD3 rivets. Pick up old holes in inner cowl.

(g) Mislocated wrapper sheet attachments in 84-185910-15 and 84-185910-17 stiffeners are to be relocated to latest drawing information. Add 1-3/8- by 3-inch flat strip or 1-3/8- by 3/4- by 3-inch angle reinforcement to each mislocated hole. Form to fit the cowl contour and angle. Center the reinforcement over the old holes. Attach with AN470AD3 rivets spaced approximately 3/4-inch. Maintain 2 rivet diameters edge distance. Install new 85-200 Duus springs.

(h) Segments with holes on or adjacent to beads will be repaired with 03 9811-1 plate as illustrated in Figure 1.

(i) In cases where the cowl flap actuating rod rubs the edge of the hole in the inner cowl, the hole may be elongated a maximum of 1/4-inch to provide clearance. Install an S-104-22 metal grommet. If more than 1/4-inch elongation is necessary, the hole may be enlarged as required to provide sufficient clearance from the cowl flap actuating rod and reinforced with a doubler of .016 corrosion-resistant steel (18-8). Extend doubler approximately 3/4-inch beyond limits of hole and form to fit inner cowl. Attach doubler with AN456AD3 rivets spaced approximately 1 inch with 1/4-inch edge distance. Cut 1 5/16-inch diameter hole in doubler to align with cowl flap actuating rod.

(j) Add 03 9811-2 and 03 9811-3 angle clips when necessary to reinforce cracks at lower ends of carburetor box cutout attaching flanges. 03 9811-2 and 03 9811-3 angle clips are identical to NAS CO 74744-1 and NAS CO 74744-2 respectively.

3.4.2 Engine Baffles 189107, 189108, and 189109.-

(a) Baffles with extra holes that interfere with the required holes for the air ducts will be repaired by welding a plug in the holes. Make plugs from 61S-O aluminum alloy conforming to Specification QQ-A-327, Condition A. Cut to fit inside hole. Weld plugs to baffle and fill all unused screw holes with weld metal. Use weld with Type I QQ-R-566 aluminum alloy welding rod. Remove excessive weld on forward surface.

(b) Small cracks and ragged edges will be repaired by welding as stated above.

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3.4.3 Segment Assemblies 84-185880, 84-185881, 84-185882, 84-185883, 84-185884, 84-185885, and 84-185886.

(a) Cracks up to 3/16 inch in length on the edges of all segment holes will be stop-drilled with a No. 50 drill.

(b) Extra holes up to 3/16-inch diameter will be plugged with AN470AD rivets.

(c) All holes in segments except rivet holes that are damaged will not be rounded out to a smooth contour providing the hole is not elongated more than 1/8 inch.

4. INSPECTION

4.1 General.- The parts will be inspected to the general acceptable quality standards of Overhaul Specification 7008 and the specific quality standards listed below.

4.2 Acceptable Quality Standards:

4.2.1 Inner Cowling 84-185910.-

(a) The 84-185910 assemblies will be acceptable when the over-all width of the carburetor cutout does not exceed a maximum of 9-23/32 inches.

(b) Holes in the side flanges of the carburetor cutout may be elongated to 1/32 inch in any one direction, providing the width of the hole does not exceed .200.

(d) A maximum of two engine mount bolt holes .463 .453 on any one inner cowl assembly may be elongated to .531 without rework.

(e) Double end elongated attaching holes for the 694-185896-2 and 694-185896-4 seals are acceptable provided that the 49380-1 fasteners are secure.

(f) Discoloration resulting from heat and carbon is acceptable, providing it does not remain as a result of inadequate cleaning.

Overhaul Specification 9811 supersedes the following:

CD A56959A	MRB 74744A
MRB 78104	MRB 78082
MRB 74743	

[illegible] OS 9611-1 [illegible]
[illegible] 3-1/32-[illegible] R

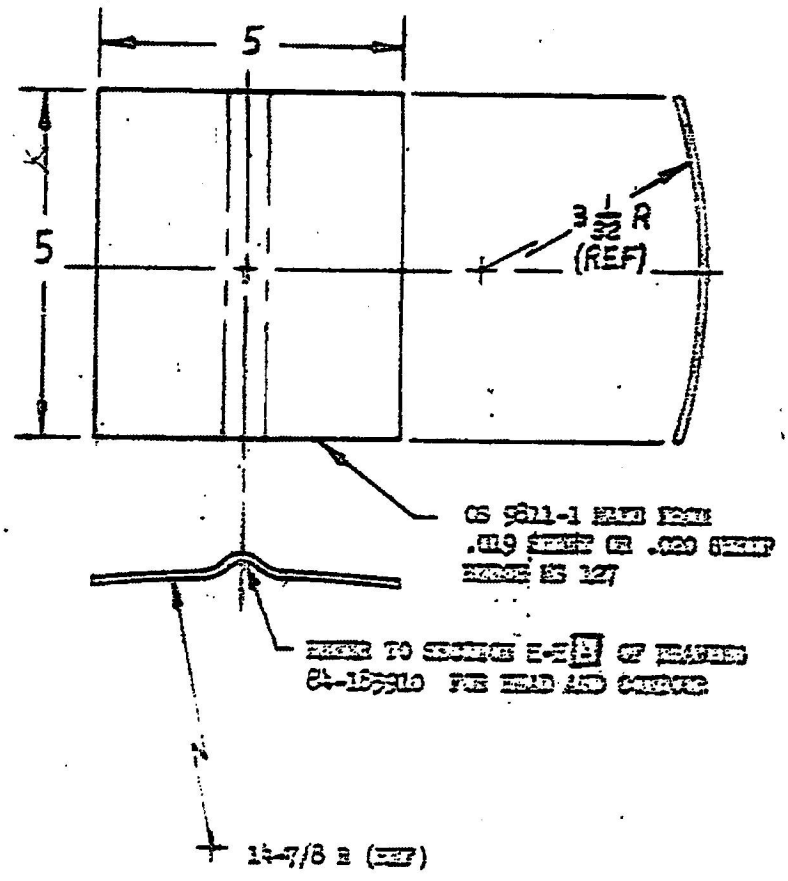

FIG. 1

[illegible] K. Fitzpatrick	[illegible] 4-23	OVERHAUL OPERATION [illegible] COIL, [illegible], AND [illegible] SEATS - [illegible] C-5R AND C-5E		
PROJECT ENGINEER [illegible]				
APPROVED [illegible]	[illegible]	Curtiss-Wright CORPORATION Clifton L. [illegible]	ENGINEERING SPECIFICATION NO. 9611	PAGE 9
APPROVED [illegible]				