

Beech Aircraft Corporation

# OVERHAUL SPECIFICATION

EXHAUST SYSTEM, SHROUD, AND INTENSIFIER TUBE AIR INTAKE


\* MODEL C-45G AND C-45H

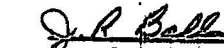
Overhaul Specification 9501

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TITLE EXHAUST SYSTEM, SHROUD, AND INTENSIFIER TUBE AIR INTAKE -

MODEL C-45G AND C-45H ISSUED 4-28-53

WRITTEN BY T. R. Taylor REVISED 1-20-54

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 1889200L and 1889200R exhaust system, the 1889213 shroud installation, and the 54-189216 intensifier tube air intake 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 Drawings 1889200L, 1889200R, 1889213, and 54-189216.

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.

<u>Page</u>	<u>Date</u>	<u>Description of Revision</u>	<u>Serial Effectivity</u>
* 1	1-25-54	To note revision	Record Change
2			
3			
4			
5			
6			
* 7	1-25-54	Change Par. 4.1.1 to establish 2.482 minimum length of 1889204	Record Change

2. APPLICABLE PUBLICATIONS

2.1 Specifications:

2.1.1 Federal.-  
 QQ-P-416

Plating, Cadmium (Electro-Deposited)

2.1.2 Beech.-  
 FS 370A  
 FS 1111

Finish Specification for Model C-45G and C-45H  
 Acidizing

FS 2330  
 OS 7002  
 OS 7008  
 OS 7010

Pickling and Passivating Stainless Steel  
 Cleaning Procedures for Reconditioned Aircraft  
 General Acceptable Quality Standards  
 Removing Corrosion from Aluminum Parts

3. REQUIREMENTS

3.1 Parts Involved:

3.1.1 Parts Not Used.- All parts listed on Drawings 18S9200L, 18S9200R, 18S9213, and 54-189216 which are not listed in Paragraph 3.1.2 of this specification will not be reused in Model C-45G and C-45H aircraft and will be disposed of at the direction of the customer.

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 incorporate changes in accordance with applicable engineering drawings to assure an operationally safe and serviceable aircraft.

3.1.2.1 Engine Exhaust System 18S9200L and 18S9200R.-

18S9204 Exhaust stack elbow adapter  
 No. 513 Nut, Pratt and Whitney Wasp Jr.  
 46A1135-52A Nut

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3.1.2.1.1 Exhaust Tail Pipe Bracket Assembly 189210.-  
 18S9212-5 Exhaust tail pipe bracket shackle assembly  
 189212 Exhaust tail pipe bracket  
 189213 Upper tail pipe bracket clamp assembly

3.1.2.2 Shroud Assembly 18S9213-8.-  
 18S9213-4 Sheet  
 6191-8Z Nut

3.1.2.3 Intensifier Tube Air Intake 54-189216.-  
 189217 Elbow  
 189218 Deflector

3.1.2.3.1 Inlet Assembly 189220.-  
 D179585 Plug  
 189219 Inlet  
 189229 Flange

3.1.3 Parts to be Supplied New.- All parts called out on Drawings 18S9200L, 18S9200R, 189210, 18S9213, 54-189216, and 189220 will be supplied new except those parts listed in Paragraph 3.1.2 of this specification.

3.2 Cause 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 18S9213-8 assemblies that have -2 sheets with cracks or medium to heavy corrosion.
- (b) Scrap 18S9213-2 sheets with rivet holes over .203.
- (c) Scrap 18S9204-2 flanges that are cracked.

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3.3 Reconditioning Operations:

3.3.1 Exhaust System 18S920QL and 18S920OR:

3.3.1.1 Exhaust Stack Elbow Adapter 18S920L.-

- (a) Clean in accordance with OS 7002.
- (b) Inspect for nonrepairable conditions.
- (c) Make repairs as necessary as authorized herein.
- (d) Sand or shot blast.
- (e) Reface both ends to 250 micro-inch finish.
- (f) Pickle and passivate in accordance with PS 4330.

3.3.1.2 Exhaust Tail Pipe Bracket Assembly 189210.-

- (a) Clean in accordance with OS 7002.
- (b) Disassemble.
- (c) Inspect for nonrepairable conditions.
- (d) Sand blast.
- (e) Cadmium plate in accordance with Specification QQ-P-416.
- (f) Reassemble, using new parts as needed, to conform to Drawing 189210.

3.3.1.3 Nuts 4641135-524 and Pratt and Whitney No. 513.-

- (a) Inspect for serviceability.

3.3.2 Shroud Assembly 18S9213-8.-

- (a) Clean in accordance with OS 7002.
- (b) Inspect for nonrepairable conditions.
- (c) Disassemble.
- (d) Make repairs as necessary as authorized herein.
- (e) Reassemble, using new parts as needed, to conform to Drawing 18S9213.

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3.3.3 Intensifier Tube Air Intake 54-189216:

3.3.3.1 Heat Intensifier Elbow Assembly 189217 and Intensifier Tube Air Inlet Assembly 189220.-

- (a) Clean in accordance with OS 7002.
- (b) Remove corrosion in accordance with OS 7010.
- (c) Inspect for nonrepairable conditions.
- (d) Make repairs as necessary as authorized herein.

3.3.3.2 Intensifier Tube Gas Deflector 189218.-

- (a) Clean in accordance with OS 7002.
- (b) Inspect for serviceability.
- (c) Sand blast.

3.4 Authorized Repairs:

3.4.1 Exhaust System 18S9200L and 18S9200R:

3.4.1.1 Exhaust Stack Elbow Adapter 18S9204.-

- (a) Bent or warped flanges will be straightened at red heat.
- (b) Broken welds around the flange will be rewelded to conform to original print.

3.4.1.2 Exhaust Tail Pipe Bracket Assembly 189210.-

- (a) Elongated <sup>.200</sup>.193 lower holes in the 189210 bracket will be redrilled to <sup>.265</sup>.257 diameter to accommodate an AN4-13 bolt.

NOTE: The 189211 clamp, which is supplied new and delivered blank, will be drilled at assembly with the 189212 bracket.

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3.4.1.2 Exhaust Tail Pipe Bracket Assembly 189210.- (Continued)

- (b) When the  $\begin{matrix} .200 \\ .193 \end{matrix}$  upper hole in the 189210 bracket is elongated, a new  $\begin{matrix} .200 \\ .193 \end{matrix}$  hole will be drilled through the 189212 bracket and the 189213 bracket clamp, 90° from the original hole. In the event a second hole has already been drilled and is also elongated, the 189212 bracket shall be reworked as stated above in Paragraph (a).
- (c) If the No. 30 hole (Ref. 189210) in the 18S9212-5 shackle is mislocated, a new hole shall be drilled to the 3/16-inch dimension. Drill the new hole at 90° to the original hole.
- (d) When the 1-41/64-inch dimension on the 189212-2 tube is not maintained, add AN960-816 washers to bring this dimension to print tolerance. A maximum of three added washers may be used on any one assembly.

3.4.1.3 Nuts 46A1135-524 and Pratt and Whitney No. 513.- No repairs are authorized.

3.4.2 Shroud Assembly 18S9213-8.-

- (a) Broken or cracked 6191-82 nuts will be replaced with new nuts. Rotate the new nut 60° from the old location if the rivet holes are oversize.
- (b) Oversize 1/64 holes in the 18S9213-2 sheet up to .203 diameter will require AN441-5 or AN441-6 rivets. Use one AN960L washer to each rivet. Place the washers on the driven ends of the rivets on the inside surface of the 18S9213-2 sheet.

3.4.3 Intensifier Tube Air Intake 54-189216:

3.4.3.1 Heat Intensifier Elbow Assembly 189217 and Intensifier Tube Air Inlet Assembly 189220.-

- (a) Bent parts will be straightened to best shop procedures.
- (b) Cracks and/or elongated holes will be repaired by welding and then reworked to original print. Use welding rod conforming to Specification QQ-A-566.
- (c) Newly welded parts will be acidized in accordance with PS 1111.

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AND-C-45E ISSUED 4-28-53

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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.

4.1.1 The thickness of the 1889204-2 flange may be .140 inch minimum after refacing.

4.1.2 The length of 1889204 adapter may be 2.482 minimum after refacing.