

# Beech Aircraft Corporation

Wichita, Kansas

SPECIFICATION

SPEC. NO. GS 371A

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MODEL C-45G RECONDITIONED AIRPLANES

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### MODEL C-45G RECONDITIONED AIRPLANES

#### 1. SCOPE

1.1 The Model C-45G airplanes are completely reconditioned Beech Model C18S airplanes with new fuselages and wing center sections except as noted in Paragraph 3.18. This specification outlines the procedure for reconditioning the airplanes.

#### 2. APPLICABLE SPECIFICATIONS AND OTHER PUBLICATIONS

2.1 Beech specifications.- PS 375 shall be complied with from the time of receiving the airplanes until they are delivered to the Air Force.

#### 2.2 Technical order compliance.-

2.2.1 Mandatory.- Compliance with all Technical Orders listed in Technical Order 01-90CD-01 and cumulative supplements is mandatory when:

- (1) They have not been previously accomplished or have not been accomplished in a satisfactory manner.
- (2) They are pertinent to the aircraft or installed equipment.
- (3) They have not been specifically waived.
- (4) They prescribe Air Force policies, use of materials, procedures for overhaul or disassembly and reassembly.

2.2.2 Limited application.- Requirements of technical orders which describe overhaul procedures are not applicable if the related item is not to be overhauled during this modification and reconditioning.

2.2.3 Waived.- Technical Orders 16-1-41 and O2A-1-88 are waived.

#### 2.3 Aircraft forms.-

2.3.1 Applicable forms.- The Government will furnish for each aircraft; aircraft, engine, and propeller records. These records will include the following USAF forms: I, a new 60A, 60B, 61 and a new 263C as a minimum which are to be completed by the contractor in accordance with the applicable technical orders. To indicate the work accomplished under the contract, the Form I, Part II and new Form 60A will indicate that aircraft was reconditioned and converted to C-45G type aircraft by the contractor and that all inspection time, replacement time, and airframe time will be returned to zero.

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2.3.2 Technical orders.- All technical orders complied with will be entered and signed off in the new AF Form 60A in accordance with Technical Order 00-20A-1.

2.3.3 Inspection system.- The Form I, Parts II, IV, and V will be accomplished in accordance with Sections VII, VIII, and XIV of Technical Order 00-20A-1.

2.3.4 Aircraft Checkers report.- The equipment for the new 263C and the entries on the Form 263C are to be in accordance with Technical Order 00-35D-263 and Specification 40135B. Where conflict exists Technical Order 00-35D-263 will govern.

2.3.5 Model designation.- Upon completion of each aircraft, the aircraft is to be reclassified and redesignated from C-45A, C-45B or T-7 to C-45G type aircraft in accordance with AFR 65-60 and reported on the 110 report under new designation in accordance with AFR 65-110.

2.3.6 Weight and balance.- Each aircraft will be weighed in accordance with Technical Order 01-1B-40 and 01-1B-50 and a new weight and balance book supplied with each aircraft.

2.3.7 "G" file.- Each aircraft will be equipped with a complete "G" files as prescribed in Technical Order 01-1-10.

**3. REQUIREMENTS**

3.1 Definition of "Reconditioned".- Reconditioned as used herein entails the disassembly, repair, rework and/or replacement of any item, component, or assembly necessary to insure an operationally safe and serviceable aircraft in accordance with the requirements set forth herein. Repair or replacement of parts and assemblies is to be made solely on a basis of functional or airworthiness requirements except for those items which are noted herein to be replaced 100 percent. Appearance alone is not to be a factor nor are the original manufacturing tolerances unless they affect operation or airworthiness. Customers' modifications or nonconformity with the present status of drawings is not to be the sole cause for rejection; however, conformity of reconditioned parts and assemblies to specific drawing revisions or portions thereof is required when set forth elsewhere in this specification or when the drawing change carries a serial effectivity applicable to the airplane configurations covered by this specification. All new fabricated parts are to conform to the latest drawing changes.

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3.2 Process and finish.- Remove corrosion and refinish the exterior and interior surfaces of the skin in accordance with MP-1004 and MP1115. Subsequent to operations required by this specification, finish parts in accordance with Beech Specification FS 370.

3.3 Magnaflux.- Magnetically inspect all reconditioned structural steel parts in accordance with Specification AN-I-32.

3.4 Electrical equipment.- Make a functional check on all electrical equipment and recondition as necessary. Install all new wiring in the fuselage and wing center section and inspect in accordance with Technical Orders 01-1-68 and 01-1-68A.

3.5 Radio equipment.- Make a functional check on all radio equipment and recondition as necessary.

### 3.6 Structure.-

3.6.1 Aluminum.- Inspect all aluminum structure and recondition as necessary using engineering information based on Technical Order 01-90-3.

3.6.2 Steel.- Remove the removable structural steel parts, (strip of paint, magnaflux, and recondition as necessary using engineering information based on Technical Order 01-90-3. Eliminate all corrosion and refinish the parts. Do not replace parts unless the corrosion or damage results in low or negative margins of safety.

3.6.3 Bolts.- Replace the wing hinge bolts and bushings. Replace all attaching nut plates and bolts for fin and stabilizer installations. Retorque all attaching bolt and nut installations not replaced in accordance with Technical Order 01-90CD-2. Visually inspect all other bolt and nut installations throughout the aircraft which are not replaced. Retorque all bolts found loose and replace all missing bolts.

3.6.4 Wings and empennage.- Inspect the wings, wing tips, and empennage, including the fillets and attaching devices, and recondition as necessary.

3.6.4.1 Rework the horizontal stabilizer to agree with the latest drawing revisions. Inspect the horizontal stabilizer attaching fittings, recondition as necessary, and rework to agree with the latest drawing revisions. Inspect the vertical to horizontal stabilizer stress point attaching fittings and recondition or replace as necessary.

3.6.4.2 Inspect the rudder and elevator attaching brackets and hinge bearings and recondition or replace as necessary.

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3.6.4.3 Inspect the landing-light actuating bracket mounting flange and recondition as necessary.

3.7 Cowl flaps.- Inspect the cowl flaps, structure, and mechanism and recondition as necessary.

3.8 Control surfaces.- Inspect all control surfaces and recondition as necessary. Recover all fabric control surfaces with new material.

3.9 Flight and engine controls.- Install new control cables and new flexible engine controls throughout the aircraft. Inspect all pulleys, pulley hangers and brackets, bell cranks, guides, fairleads, rubbing blocks, bearings, and the trim tab operating mechanisms and recondition as necessary. Adjust the wing flap retracting mechanism in accordance with Technical Order 01-90CD-2.

3.10 Instruments.- Inspect the instruments and recondition as necessary. Make the dial markings conform to drawing call-outs. Modify all reconditioned and Government-furnished instruments in accordance with Technical Order 05-1-83, except as follows:

- (1) Do not modify instruments which mount with 1032 nuts.
- (2) Do not install nuts on instruments which have the mounting nuts installed in the panel. See installation drawings.

3.10.1 Instrument plumbing.- Inspect the components of the pilot and static pressure system and the instrument plumbing, recondition as necessary, and rework to agree with the latest drawing revisions. Replace all hoses with new hose.

### 3.11 Landing gear.-

3.11.1 Shock absorbers.- Replace the shock absorbers with a new type as shown on engineering drawings. Winterize in accordance with Technical Order 03-25E-1 and 03-30-4.

3.11.2 Wheels.- Replace the wheels, tires, and tubes with a new type as shown on engineering drawings.

3.11.3 Brakes.- Replace the brakes, master cylinders, pedals, supporting devices, brake lines, and hose with a new type as shown on engineering drawings.

3.11.4 Main landing gear.- Disassemble the gear box, replace the bronze worm gear with the latest type as shown on engineering drawings, inspect all other components, and recondition as necessary. Inspect the landing gear motor

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3.11.4 Main landing gear, cont.- and recondition as necessary. Replace all landing gear universals. Install new retracting shock cords and chains. Incorporated a dynamic braking relay in the landing-gear retracting system as shown on engineering drawings. Inspect the landing gear cross shaft and recondition as necessary.

3.11.5 Tail gear.- Inspect the tail-wheel slide tube and recondition as necessary. Replace the slide with a new type as shown on engineering drawings. Inspect the tail-wheel retracting chain and recondition as necessary.

3.12 Fuel and oil systems.- Inspect the components of the fuel and oil systems, recondition as necessary, and rework to agree with current engineering drawings. Install new hose throughout the systems. Install nose fuel tanks in accordance with engineering drawings.

3.13 Power plant.- Inspect the engine mount assembly, cowling, wrapper sheets, former ring, heater muffs, and inner cowling and recondition or replace as necessary. Install new collector ring and tail pipe assemblies. Inspect the engines to determine whether they will be returned to the Air Force for overhaul or replacement or retained here for inspection and reconditioning. The engine together with the carburetor, magnetos, spark plugs, and ignition harness are returned to the Air Force if:

- (1) The aircraft and engine have been in extended storage for a period exceeding one year.
- (2) The engine has accumulated over 400 flying hours since new or overhauled.
- (3) Excessive metal particles are found in the oil sump or screens.
- (4) The engine has more than three cylinders to be replaced because of a low compression test.
- (5) The condition of the engine warrants its return as determined by the Air Force plant representative.

Give engines that are not returned to the Air Force a major inspection and correct all discrepancies. Replace unserviceable spark plugs.

3.14 Propellers.- Inspect the propellers to determine whether they will be returned to the Air Force for replacement or retained here and reinstalled on aircraft. Aero-Products propellers that are in a serviceable condition and have less than 300 hours are retained here. All other propellers are returned to the Air Force. Install the propellers retained here and the replacement propellers received from the Air Force in accordance with current engineering drawings.

3.15 Firewall.- Install new firewall and firewall seals.

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3.16 Engine fire extinguishers.- Inspect the components of the fire extinguisher system, recondition, and rework to agree with the latest drawing revisions.

3.17 Automatic pilot.- Inspect the components of the automatic pilot installation, recondition, and rework to agree with the latest drawing revisions. Replace all high and medium pressure hose with new hose.

3.18 Fuselage and center section.- The following parts of the fuselage and center section are to be reconditioned and used as applicable:

Cabin door assembly  
Nose baggage door assembly  
Landing gear doors  
No. 9 bulkhead door:

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