

MODELS: Beechcraft 18S (Army C-45C) and B18S (Army F-2 - See NOTE 7), 11 PCLM (Approved 11/2/39 and 4/17/40 respectively)

T.C. NUMBER: 710

(Same as 18D, T.C. 684, except engine installation, revised oil and heating system, revised tail surfaces and control system and minor structural changes.)

Engines	2 Pratt & Whitney Wasps Jr. SB with one 4-1/2N and one 9N damper each (See Item 301) (See NOTE 7 and Item 111 for Army F-2)
Fuel (See NOTE 4)	87 minimum octane aviation gasoline for take-off 80 minimum octane aviation gasoline for maximum except take-off
Engine limits	Maximum continuous (Sea level) 34.5 in. Hg., 2200 rpm (400 hp) (Straight line manifold pressure variation with altitude to 5000 ft.) 33.5 in. Hg., 2200 rpm (400 hp) Take-off (one minute) 36.5 in. Hg., 2300 rpm (450 hp)
Airspeed limits (T.I.A.S.)	Level flight or climb - 211 mph Glide or dive - 253 mph Flaps extended - 117 mph
Usable ceiling	(a) 11000 ft. at 7500 lbs. in standard air at indicated airspeed of 95 mph with either engine inoperative and the inoperative propeller idling at 680 rpm and the operating engine at full throttle (b) (9525 ft. with de-icers installed but not operating)
Propeller limits	Maximum permissible diameter 100 inches
C.G. range	Forward (+2.5) at 5900 lbs. and (+5.6) at 7500 lbs. with straight line variation between Aft (+15.1)
Datum	Centerline at the wing main beam at the fuselage
Maximum weight	7500 lbs. (See NOTE 5)
No. seats	11 (See Items 114, 115, and 208 for location)
Maximum baggage	Maximum capacity of compartments: Nose compartment 600 lbs. (-74) (See NOTE 2) Rear compartment 300 lbs. (+141)
Fuel capacity	210 gallons (four tanks in wings, two at 80 gallons each (+24) and two at 25 gallons each (+53)) (See Item 302)
Oil capacity	17 gallons (8-1/2 gallon tank in each nacelle, 8 lbs. each (-10)) (See Item 224)
Control surface movements	Not available
Serial Nos. eligible	18S: 222, 225 and up; B18S: 375 and up (Nos. 222, 224 and up eligible when B18S nameplate is installed)
Required equipment	Items 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115
Specifications Pertinent to All Models	
Certification basis	Type Certificate No. 710 (CAR 4a)
Production basis	None (See NOTE A)
Export eligibility	Eligible for export to all countries except as follows, subject to provisions of MOP 2-4: (a) Canada - Landplane - eligible. - Skiplane - not eligible.

EQUIPMENT:

Propellers and Propeller Accessories (Except De-Icing Equipment)

111. Propellers - constant speed metal, Hamilton Standard hubs 2D30, blades 6095A-15, 6095A-16, 6167A-15, 6167A-16, 6101A-21 or 6101A-22. Diameter 8' 3-1/8" maximum, 8' 7/8" minimum. For interchangeable blade models see Prop. Spec. No. 206 (NOTE 6).
Pitch settings:
(18S and B18S) High 28 degrees, low 13 degrees; (F-2) High 29 degrees, low 14 degrees. 157 lbs. each (-66)
112. Two propeller governors 5 lbs. each (-36)

Engines and Engine Accessories - Fuel and Oil System

101. Two engine ring cowls 47 lbs. (-52)
104. Two oil radiators (G. & O. E-703-1) 12 lbs. each (-25)
109. Bonding and shielding 30 lbs. (-58)
110. Fuel pumps
(a) Wobble (Type D-2) 4 lbs. (-22)
(b) Two engine drive (Pesco 400 series or Romec RD-3080) 3 lbs. each (-38)
6 lbs. each (-40)
113. Two carburetor heaters 6 lbs. each (-40)
205. Auxiliary 50 gallon fuel tank in nose baggage compartment (See NOTE 2) 35 lbs. (-64)
212. Mixture analyzer:
(a) Indicator 2 lbs. (-42)
(b) Two cells and tubing (Cambridge) 5 lbs. each (-11)
(c) Two cells and tubing (Breeze) 8 lbs. each (-11)
215. Two starters (Eclipse E80) 20 lbs. each (-32)
224. Two 6-1/2 gallon oil tanks (one in each nacelle)
301. Engine - P & W Wasp Jr. SB-2, SB-3 (engine limits same as SB) Use actual weight increase
302. Two 78 gallon fuel tanks (replacing standard 80 gallon tanks) No weight change

Landing Gear

102. 5 inch wheels (Goodyear 5HBM) with 29x13-5 H.D. tires (Stencil on landing gear fork must state, "Use Heavy Duty Tires only.") (See NOTE 5) 122 lbs. (-9)
103. 12x5-3 tail wheel with H.D. tire (wheel must be placarded for H.D. tire) 9 lbs. (+261)
210. Dual brake installation (Drawing 187480) 4 lbs. (-44)

Electrical Equipment

105. Landing gear operating motor (Electric Specialty, Type HCA3, modified) 14 lbs. (-15)
106. Wing flap operating motor (Dumore 4289, modified) 5 lbs. (-8)
107. Two generators (Eclipse) 15 amp 15 lbs. each (-37)
108. Two batteries (Exide 6TS-13-1) 36 lbs. each (-18)
203. Generators
(a) Eclipse 50 amp 32 lbs. (-37)
(b) Eclipse 25 amp 20 lbs. (-37)
206. Battery (in right and/or left wing leading edge near fuselage (-18) or aft main spar in cabin (+7))
(a) Reading 6-ARL-11 46 lbs. each
(b) Reading 6-ARL-9 56 lbs. each
(c) Exide 6XT-13 64 lbs. each
(d) Exide 6-TS-7-1 26 lbs. each
216. Two landing lights (Grimes ST-1220) 5 lbs. each (+36)
220. Electric fan installation (2) 4 lbs. (+5)

Interior Equipment

114. Two pilot's seats 16 lbs. each (-15)
115. Four standard or parachute passenger seats with safety belts (Drawing 18051-1) 17 lbs. each (+37, +86)
or (+34, +79,
+45, +92)
202. Flares
(a) Wiley A-8 18 lbs. (-52) or (+16)
(b) International 3 Min. 23 lbs. (-52) or (+16)
207. Pressure fire extinguisher (type, number, weight, and location must be shown on weight and balance report)
208. Seats (Drawing 18051, arrangements (2))

	to (7) No. and location will be shown on weight and balance report.		
	(2) 6 seats (+22, +54, +86) 17 lbs. each		
	(3) 6 seats (locations and weights as in (2)) with 1 extra chair (+13 lbs. at +115)		
	(4) 6 seats (+22, +54, +86, +25, +59, +92) 17 lbs. each		
	(5) 6 seats (locations and weights as in (2)) with 2 folding chairs (7 lbs. each at +118)		
	(6) 3-place couch (39 lbs. with safety belts, at +41) (left side) (+15, +41, +67), with from 1 to 5 seats at any of the following locations: (+22, +25, +54, +59, +86, +92, +115, +118)		
	(7) 2, 3 or 4-place couch (40 lbs. with safety belts as required) (left side) (+12, +32, +52, +72) with from 1 to 5 seats at any of the following locations: (+22, +25, +45, +54, +59, +86, +92, +113, +115, +118)		
209.	Vacuum pumps		
	(a) Eclipse AP-8 and accessories	8 lbs. each	(-36)
	(b) or (c) Romec or Pesco	5 lbs. each	(-36)
211.	Toilet equipment	7 lbs.	(+106) or (+1
214.	Parachutes (back pack 24 ft. will fit standard seat)	16 lbs. each	
217.	Cabin heater	10 lbs.	(-18)
218.	Camera installation equipment (Drawing I18045)		
	(a) Operator's seat	17 lbs.	(+45)
	(b) Camera and supports	97 lbs. maximum	(+13)
	(c) Structural revisions	14 lbs.	(0)
223.	Photographic version		
	(a) Fuselage alteration includes camera wells in roof, floor, and door, and rerouting of control cables (Drawings 18400P and 187000P)	No weight change	
	(b) Camera installation	352 lbs.	(+66)
	(c) Photographer's chair and safety belt	20 lbs.	(+100)
401.	Retractable entry step per "Installation Procedure and Dwg. 62149 and 50" for kit installation by the Reed Co., Municipal Airport, 3200 Dewey St., Santa Monica, CA		
	Flight step	9.5 lbs.	(+112)
	Power Unit	5.5 lbs.	(+127)
De-Icing Equipment (Propeller, Wing and Windshield)			
219.	Surface de-icers (See NOTE 6)		
	(a) 2 wing de-icer boots (removable)	14 lbs. each	(+12)
	(b) 2 stabilizer boots (removable)	4 lbs. each	(+244)
	(c) De-icer installation (fixed portion)	47 lbs.	(0)
222.	Propeller anti-icer		
	(a) Anti-icer fluid tank, pump and lines	11 lbs.	(-10)
	(b) 2 spinners and slinger rings Spartan (I-189002)	11 lbs.	(-66)
	Lockheed (I-189001)	12 lbs.	(-66)
	Air Associates (I-189680)	10 lbs.	(-66)
	(c) Anti-icer fluid	20 lbs.	(-5)
Miscellaneous (not listed above)			
221.	Twin venturi installation (18439)	2 lbs.	(-38)

NOTE 1. Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system).

NOTE 2. When auxiliary 50 gallon fuel tank (Item 205) is installed:
 (a) Forward baggage is 300 lbs. maximum (-85)
 (b) Placard as follows (unless otherwise substantiated):
 At rear fuel valve - "Use Nose Tank First."

At nose filler cap - "Fill Wing Tanks First."

NOTE 3. Placard lavatory door as follows: "This room not to be occupied during take-off and landing."

NOTE 4. One fuel tank filler should be marked "87 octane minimum" and the others marked "80 octane minimum." Tank selector valve placard should designate the 87 octane tank and state that 87 octane must be used for take-off.

NOTE 5. Airplanes not equipped with H.D. tires and appropriate stencil are eligible at maximum weight of 6700 lbs.

NOTE 6. Maximum weight may be increased 45 lbs. when complete de-icer (Item 219) is installed.

NOTE 7. Airplanes of the Army Model F-2 are eligible for certification as Model B18S under the limitations and provisions of this spec. F-2 airplanes are the same as Model B18S except for Army type equipment such as generators, batteries, pumps, oxygen system (high pressure), camera installations, radio, oil dilution system, hopper type oil tank and engine (P&W R-985-19). All items of equipment not listed on the spec. or bearing a different designation from that listed should be listed as special equipment.

NOTE A. Prior to original certification of each aircraft manufactured subsequent to August 7, 1945, a CAA representative must perform a detailed inspection for workmanship, materials, and conformity with the approved technical data and a check of the flight characteristics.