

MODELS: Boeing S-307

T.C. NUMBER: 719

I - Model S-307, 39 PCLM (Approved 3/13/40)

Engines	4 Wright Cyclones GR-1820G-102 with two 4-1/2 N dampers and either 16:11 or 3:2 reduction gear ratio																																
Fuel	90 minimum octane aviation gasoline																																
Engine limits	Maximum continuous, (S.L.) 36.7 in. Hg., 2200 rpm (900 hp) (To 6000 ft.) 35.0 in. Hg., 2200 rpm (900 hp) Take-off (one minute), 43. in. Hg., 2350 rpm (1100 hp) or 43. in. Hg., 2200 rpm (1100 hp)																																
Airspeed limits (T.I.A.S.)	Level flight or climb - 230 mph (200 knots) Glide or dive - 262 mph (228 knots) Flaps extended - 126 mph (110 knots)																																
C.G. range	(321.4) (21.0 percent MAC) to (336.1) (29.2 percent MAC) (See NOTE 4.)																																
Weight limits	Landing 41,000 lbs. (See NOTE 2) Take-off 45,000 lbs. (See NOTE 2) Both may be increased 246 lbs. when complete de-icer installed.																																
No. seats	39 maximum day type, 31 maximum sleeper type (16 in berths). Minimum crew 3 (2 pilots at (113) and 1 flight engineer at (147)).																																
Maximum baggage	Maximum capacity of compartments:																																
	<table><thead><tr><th></th><th>Lbs.</th><th>Kg.</th><th>Cu.Ft.</th></tr></thead><tbody><tr><td>Rear main cargo compartment</td><td>3200</td><td>1450</td><td>200</td></tr><tr><td>Forward main cargo compartment</td><td>2690</td><td>1220</td><td>168</td></tr><tr><td>Forward auxiliary cargo compartment</td><td>700</td><td>317</td><td>44</td></tr><tr><td>Linen closet - forward - L.H. side</td><td>125</td><td>57</td><td>7.7</td></tr><tr><td>Coat compartment - aft center</td><td>100</td><td>45</td><td></td></tr><tr><td>3 compartments at 20 lbs. (9 kgs.) each between passenger seats on R.H. side of cabin</td><td>60</td><td>27</td><td></td></tr><tr><td>5 compartments aft of seats on R.H. side of cabin: 25 lbs. (11 kgs.) each in fore and aft compartments and 50 lbs. (23 kgs.) each in center compartments</td><td>200</td><td>91</td><td></td></tr></tbody></table>		Lbs.	Kg.	Cu.Ft.	Rear main cargo compartment	3200	1450	200	Forward main cargo compartment	2690	1220	168	Forward auxiliary cargo compartment	700	317	44	Linen closet - forward - L.H. side	125	57	7.7	Coat compartment - aft center	100	45		3 compartments at 20 lbs. (9 kgs.) each between passenger seats on R.H. side of cabin	60	27		5 compartments aft of seats on R.H. side of cabin: 25 lbs. (11 kgs.) each in fore and aft compartments and 50 lbs. (23 kgs.) each in center compartments	200	91	
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Fuel capacity	1700 gallons (two tanks at 425 gallons each and four tanks at 212.5 gallons each in wing)																																
Oil capacity	100 gallons (four tanks at 25 gallons each, one in each nacelle)																																
Control surface movements	Not available																																
Serial Nos. eligible	1995 and up																																
Required equipment	Items 101, 102(a) and 103																																

II - Model S-307 Conversion in accordance with Airline Training, Inc., Homestead, FL, data or equivalent, 64 PCLM (Approved 4/6/50)

Engines	4 Wright Cyclones GR-1820G-102 with two 4-1/2 N dampers and either 16:11 or 3:2 reduction gear ratio
Fuel	90 minimum octane aviation gasoline
Engine limits	Maximum continuous, (S.L.) 36.7 in. Hg., 2200 rpm (900 hp) (To 6000 ft.) 35.0 in. Hg., 2200 rpm (900 hp) Take-off (one minute), 43 in. Hg., 2350 rpm (1100 hp) or

Airspeed limits (T.I.A.S.)	43 in. Hg., 2200 rpm (1100 hp) Maximum - never exceed 256 mph (222 knots) Climb or level flight - 192 mph (167 knots) Maneuvering 137.5 mph (119.5 knots) Flaps extended - 126 mph (110 knots)
C.G. range (See NOTE 4)	(Flight) (321.4) (21.0 percent MAC) to (336.1) (29.2 percent MAC) (Landing) (322.7) (21.7 percent MAC) to (332.8) (27.4 percent MAC)
Usable ceiling	See approved Flight Manual
Weight limits	Landing 45,000 lbs. (See NOTE 2) Take-off 50,000 lbs. (See NOTE 2)
No. seats	58 passengers Minimum crew 3 (two pilots at (113) and one flight engineer at (147)).
Maximum baggage	Forward belly compartment 2690 lbs. (240) Rear belly compartment 2400 lbs. (465)
Fuel capacity	1700 gallons total (2 main tanks in wing 425 gallons each (331.6), 2 inboard auxiliary tanks in wing 212.5 gallons each (341.6), 2 outboard auxiliary tanks in wing 212.5 gallons each (373.8))
Oil capacity	200 gallons total (1 50 gallon tank in each inboard nacelle (276), 1 50 gallon tank in each outboard nacelle (281))
Control surface movements	Wing flaps - 43.5 degrees Aileron - up 15 degrees, down 12 degrees Aileron trim tab - up 13.5 degrees, down 12 degrees Elevator - up 23.5 degrees, down 20 degrees Elevator trim tab - up 12.5 degrees, down 31 degrees Elevator servo tab down elevator - neutral tab - up elevator - 1-1/4" displacement Rudder - 25-1/4" right, 25-1/4" left Rudder trim tab - 4" right, 4" left
Serial Nos. eligible	2002 and 2003
Required equipment	Items 101, 102(b), 103, 104, 105, 601

Specifications Pertinent to All Models:

MAC	179.5 in. L.E. MAC (283.66)
Leveling means	Lugs on left-hand compression strut in accessory compartment under cabin floor between spars
Datum	50 in. forward of nose of fuselage
Certification basis	Type Certificate No. 719
Production basis	None
Export eligibility	Eligible for export to all countries except as follows, subject to the provisions of ASR 312 (NOP 2-4): (a) Canada Landplane - eligible Skiplane - not eligible

EQUIPMENT:

Propellers and Propeller Accessories (except De-Icing Equipment)

101. Propellers - Hamilton Standard hubs 23E50, blades 6153A-1E to 6153A-20 inclusive. Diameter 11'6-3/8" maximum, 11'3-3/8" minimum. For interchangeable blade models see Prop. Spec. No. 603 (NOTE 6). Minimum low pitch setting 16 degrees.

Engines and Engine Accessories - Fuel and Oil System

102. (a) Fuel dump valve installation per BAC Drawing No. 15-5633.
(b) Fuel dump installations which provide for complete dumping of right and left main tank fuel installed in accordance with Airline Training, Inc. approved data.
104. Four electrically driven Chandler-Hill vane type fuel pumps, Model AN-4101CH or equivalent, installed in accordance with Airline Training, Inc. approved data.
105. Residual fuel and oil for Model S-307. Weight and arm not determined. Necessary to fill all oil and fuel tanks, operate all engines and drain tanks before weighing.

Interior Equipment (Propeller, Wing and Windshield)

103. CAA Approved Flight Manual (current issue) (Airplane Operating Manual is equivalent)

De-Icing Equipment (Propeller, Wing and Windshield)

201. De-Icer installation

A. Wing and control surface -
Goodrich C-102

- | | | |
|--|---------|-------|
| (1) Boots and attachments - wing (removable) | 84 lbs. | (303) |
| (2) Boots and attachments - empennage (removable) | 33 lbs. | (788) |
| (3) Valves, fittings, etc. (removable) | 16 lbs. | (292) |
| (4) Wing, fuselage and empennage lines, valves, and fittings (fixed) | 95 lbs. | (367) |

B. Propeller

- | | | |
|--|---------|-------|
| (1) 4 slinger rings (Hamilton Standard 52903) (removable) | 12 lbs. | (191) |
| (2) 2 motor driven pumps (Eclipse M3454) (removable) | 10 lbs. | (315) |
| (3) One 10 gallon tank (removable) | 6 lbs. | (332) |
| (4) 2 fuselage ice protection plates (removable) | 27 lbs. | (180) |
| (5) 10 gallons de-icer fluid (removable) | 75 lbs. | (332) |
| (6) Miscellaneous lines, fittings, brackets and valves (fixed) | 7 lbs. | (229) |

Miscellaneous (Not listed above)

601. Wing slots in accordance with BAC Drawings 15-6395 and 15-6396

NOTE 1. Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter.

NOTE 2. A. If provisions other than Item 102(a) or (b) are made for dumping, the fuel dump valves shall be made positively inoperative.

B. If Item 102(a) or (b) is installed, the aircraft operation record shall incorporate one of the following statements, as the case may be:

- (1) Non-Air Carrier. "Fuel shall not be dumped except in accordance with the provision of CAR 60.900 and with flaps retracted."
- (2) Air Carrier.
 - (a) With authorized weight in excess of maximum landing weight: "Landing shall not be made at a weight in excess of maximum landing weight except in accordance with CAR 61.7811. Fuel shall not be dumped except in accordance with CAR 61.7811 and with flaps retracted, and then only if the pilot deems it safer than landing at a weight in excess of maximum landing weight."
 - (b) With authorized weight not in excess of maximum landing weight: "Fuel shall not be dumped except in accordance with CAR 61.7811 and with flaps retracted."

NOTE 3. The following placard shall be placed on the instrument panel in full view of the pilot: "This airplane shall be operated in accordance with the CAA Approved Operating Manual for Boeing Model S-307 which shall be carried in the pilot's compartment at all times."

NOTE 4. When elevator hydraulic boost is disconnected, the forward C.G. limit shall be 24.3 percent (25 percent, wheel down) for take-off and landing and 21 percent in flight.