

MODELS: Boeing 247-D (Army C-73), 13 PCLM

T.C. NUMBER: ATC 558

Engines	2 P&W Wasps S1H1-G or S3H1 or R-1340-AN-1
Fuel	87 minimum octane (CFR) aviation gasoline for S1H1-G engines 80 minimum octane (CFR) aviation gasoline for S3H1 or R-1340-AN-1 engines
Placard limits	For Wasp S1H1-G: Maximum except take-off, (straight line manifold pressure variation with altitude to 8000 ft.) 33.0 in. Hg., 2200 rpm (550 hp) (Sea level) 35.0 in. Hg., 2200 rpm (550 hp) Take-off (one minute), 35.5 in. Hg., 2200 rpm (550 hp) or 34.0 in. Hg., 2100 rpm (510 hp) For Wasp S3H1 and R-1340-AN-1: Maximum except take-off, (straight line manifold pressure variation with altitude to 5000 ft.)

32.5 in.Hg., 2200 rpm (550 hp)  
 (Sea level) 34.0 in.Hg., 2200 rpm (550 hp)  
 Take-off (one minute), 34.0 in.Hg., 2200 rpm (550 hp)  
**Propellers** See Items 113(a), (b) and 212.  
**Placard speeds** Level flight or climb - 180 mph True Ind.  
 Glide or dive - 220 mph True Ind. (See NOTE 1.)  
**Placard ceiling** With S1H1-G engines and either Item 113(a) or 212:  
 (a) 4600 ft. absolute (density altitude) either  
 engine inoperative with inoperative controllable  
 propeller idling in high pitch.  
 (b) 0 ft. (absolute) in standard air with either  
 propeller braked in high pitch, blade down with  
 the remaining engine at maximum, except take-off  
 hp and 2250 rpm with a carburetor air temperature  
 of 100 degrees F.  
 (c) 8200 ft. (usable) at an indicated airspeed of  
 96 mph and 14084 lbs. (with de-icers installed  
 but not operating) in standard air, with either  
 engine inoperative, inoperative propeller fully  
 feathered, operative engine at maximum, except  
 take-off, power, mixture setting for best fuel-air  
 ratio, carburetor air intake on "Cold Air" and  
 wings level.  
**Fuel capacity** With S3H1 or R-1340-AN-1 engines and Item 113(b)  
 See Part I of Approved CAA Operating Manual.  
 273 gallons (3 tanks: one main in left wing -  
 136-1/2 gallons (+38.5), one main in right wing -  
 66-1/2 gallons (+22), one auxiliary in right  
 wing - 70 gallons (+54.5))  
**Oil capacity** 20 gallons  
**No. passengers** 10  
**Baggage** 2400 lbs. (forward compartment 1400 lbs., rear  
 compartment 1000 lbs.)  
**Standard weight** 14000 lbs. (See NOTES 1 and 6)  
**C.G. limits** (+11.50) (22 percent MAC) and (+20.86) (28.5 percent  
 MAC), L.E. MAC (-20.27)  
**Spec. basis** Approved Type Certificate No. 558  
**Serial Nos.** 1946 and up manufactured prior to 9/30/39 and all  
 (See NOTE 8.) AAF Nos. eligible. Approval expired as of  
 9/30/39.

**EQUIPMENT:** (Datum is front spar centerline) (See NOTE 3.)

**Class I:**

- |      |  |             |
|------|--|-------------|
| 101. | Two engine ring cowls  | 72-81 lbs.  |
| 102. | Two landing lights   | 27 lbs.     |
| 103. | Two flares   | 42-47 lbs.  |
| 104. | Generator  | 44 lbs.     |
| 105. | 15.00-16 wheels and tires with<br>hydraulic brakes   | 282 lbs.    |
| 106. | Pressure fire extinguisher   | 26 lbs.     |
| 107. | Battery  | 65-76 lbs.  |
| 108. | Two starters   | 43 lbs.     |
| 109. | Starter cranks   | 4 lbs. each |
| 110. | Toilet equipment   | 8 lbs.      |
| 111. | Water container (filled)   | 11 lbs.     |
| 112. | 16x7-3 tail wheel and tire   | 12 lbs.     |
| 113. | <b>Propellers</b>  |             |
|      | (a) For use with S1H1-G engines only.<br>Controllable metal; Hamilton<br>Standard hubs 50039 or 3D40, blades<br>6101A-0 to 6101A-2, inclusive.<br>(Diameter 10' 3/4" maximum,<br>9' 10-1/8" minimum.); low pitch<br>setting 24 degrees with 550 take-<br>off hp and 20.5 degrees with 510<br>take-off hp. (See Item 207(a).) |             |
|      | (b) For use with S3H1 or R-1340-AN-1<br>engines only. Constant speed;<br>Hamilton Standard 12D40 hubs and<br>6101A-12 to 6101A-14 blades,<br>inclusive. (Diameter 9'1" maximum,<br>8'10-5/8" minimum.); low pitch<br>setting 11.5 degrees; high pitch<br>setting 27 degrees.   |             |
| 114. | Propeller accessories (required with<br>Item 113(b) only) 2 propeller governors;<br>Hamilton Standard model 1M12-A or<br>1M12-G  |             |
| 115. | Approved Operating Manual (required to<br>be carried in pilot's compartment only)  |             |

when S3H1 or R-1340-AN-1 engines and 12D40/6101A-12 to -14 propellers are installed.) (See NOTE 10.)

Class II:	
201.	Two engine covers 14 lbs.
202.	Radio equipment
	(a) Two-way complete 127 lbs.
	(b) Stand-by receiver 18 lbs.
	(c) Dynamotor 30 lbs.
203.	Heating and ventilating:
	(a) Air heater 83 lbs.
	(b) Liquid heater 93 lbs.
	(c) Heating and ventilating system 124 lbs.
204.	Vacuum pumps 10 lbs.
205.	Soundproofing and carpet 87 lbs.
206.	Automatic pilot installation 97 lbs.
207.	Propeller accessories:
	(a) Constant speed controls with Item 113(a) (low pitch setting 17 degrees) 10 lbs.
	(b) Brakes (Air Associates HC-950) 122 lbs.
208.	Stewardess equipment 10 lbs.
209.	Tools and first aid kit 32 lbs.
210.	De-icer installation (See NOTE 6):
	(a) De-icer equipment - fixed 89 lbs.
	(b) De-icer equipment - removable
	(1) Wing and tail 20 lbs.
	(2) Two propeller spinners 8 lbs.
	(3) Two propeller slingers 23 lbs.
	(4) Propeller de-icer fluid (2-1/2 gallons)
211.	Miscellaneous items as noted in approved weight and balance report
212.	Propellers. For use with S1H1-G engines only. Hamilton Standard hydromatic (full feathering), hubs 23D40, blades 6183A-0 to 6183A-2, inclusive. For interchangeable blade models see Prop. Spec. No. 719 (NOTE 6). Diameter 10' 1/2" maximum, 9' 9-7/8" minimum; low pitch setting 18 degrees. 65 lbs.* (-54)

Class III:  
None

NOTE 1. When standard weight is reduced to 13650 lbs., the glide or dive speed may be increased to 230 mph True Ind.

NOTE 2. Weight of stewardess is 135 lbs.

NOTE 3. Weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be submitted with original inspector's report and each subsequent report covering changes in such equipment.

NOTE 4. Fabric covered rudder has fabric covered trim tab balancing tab. Metal covered rudder with aerodynamic balance has metal covered trim tab only. Metal covered rudder with aerodynamic balance removed has metal covered trim tab and balancing tab. Model 247-D fin, Boeing Drawing 15-2777, must be installed or Model 247 fin, Boeing Drawing 15-2502, must be altered in accordance with Boeing Drawing 15-2777 except that trailing edge fairing may be extended in accordance with United Air Lines Drawing 6U-27. Rudder must conform with Boeing Drawing 15-2503, revision J, except that deviation shown on United Air Lines Drawing 3U-33 may be employed. Fabric or metal covered elevator has metal covered trim tab only.

NOTE 5. Hostess jump seat in rear is not to be used by passenger.

NOTE 6. Standard weight may be increased 84 lbs. when complete de-icer is installed.

NOTE 7. Eligible for export to all countries except Canada, Great Britain, Australia and New Zealand (6/24/41).

NOTE 8. The following serial numbers, converted from Model 247 (Approved Type Certificate No. 500) also eligible: 1682, 1686 through 1700, 1702, 1704, 1706 through 1710, 1712, 1714 through 1726, 1728 through 1737, 1740 and 1741.

NOTE 9. Aircraft equipped with S3H1 or R-1340-AN-1 engines require the following modifications prior to certification:

- (1) Add a 3-inch diameter flexible blast tube running from between cylinders 3 and 4 and discharging so that cooling air is directed along the front side of the oil tank.
- (2) Add a scoop around the oil cooler inlet extending 3 inches forward from the leading edge of the wing.
- (3) Add a rearward facing scoop over the oil cooler air outlet. This scoop should cover two-thirds of the length of the air outlet opening and should be 4 inches high at its rear end.

NOTE 10. The following placard should be placed on the instrument panel in full view of the pilot when the S3H1 or R-1340-AN-1 engines and 12D40/6101A-12 to -14 propellers are installed: "This airplane shall be operated in accordance with Part I of the CAA Approved Operating Manual for the Boeing 247-D airplane."