

MODELS: Waco UKS-7, VKS-7 (Army UC-72D), VKS-7F

T.C. NUMBER: 648

I - Model UKS-7, 5 PCL-SB (Approved 6/8/37)

(Same as UKS-6, ATC 528, except wing fittings, landing gear moved forward 4 inches, fixed trim tab added to rudder, miscellaneous changes in fuselage and controls)

Engine	Continental W670K or W670K1
Fuel	65 minimum octane aviation gasoline
Engine limits	Maximum, except take-off 2175 rpm (225 hp) (K); or 2200 rpm (230 hp) (K1) Take-off (one minute) 2175 rpm (225 hp) (K); or 2200 rpm (230 hp) (K1)
Airspeed limits	Level flight or climb - 140 mph True Ind. Glide or dive - 168 mph True Ind.
Propeller limits	Maximum permissible diameter 102 inches
C.G. range	Landplane (-14.4) to (-2.5) Seaplane (-12.7) to (-3.7)
Maximum weight	Landplane 3250 lbs. Seaplane 3540 lbs.
No. seats	5 (2 at -3), (3 to +27)
Maximum baggage	100 lbs. (+45)
Fuel capacity	70 gallons (two 35 gallon tanks in upper wing) (-11.5)
Oil capacity	5 gallons (-44)
Control surface movement	Not available
Serial numbers eligible	4551 and up
Required equipment	Landplane: Items 101(a), 102, 103(a), 104(a), 105(a), 106, 107, 108(a), 109, 110. Seaplane: Items 101(a), 102, 103(a), 104(a), 107, 108(a), 110, 151, 152.

II - MODEL VKS-7 (Army UC-72D), 5 PCL-SB (Approved 6/8/37)

(Same as UKS-7 except engine installation)

Engine	Continental W670M or W670M1
Fuel	80 minimum octane aviation gasoline
Engine limits	Maximum, except take-off 2200 rpm (240 hp) (M); or 2200 rpm (250 hp) (M1) Take-off (one minute) 2200 rpm (240 hp) (M) or 2200 rpm (250 hp) (M1)
Airspeed limits	Level flight or climb - 140 mph True Ind. Glide or dive - 168 mph True Ind.
Propeller limits	Maximum permissible diameter 102 inches
C.G. range	Landplane (-14.4) to (-2.5) Seaplane (-12.7) to (-3.7)
Maximum weight	Landplane 3250 lbs. Seaplane 3540 lbs.
No. seats	5 (2 at -3), (3 at +27)
Maximum baggage	100 lbs. (+45)
Fuel capacity	70 gallons (two 35 gallon tanks in upper wing) (-11.5)
Oil capacity	5 gallons (-44)
Control surface movements	Not available
Serial numbers eligible	4551 and up and all AAF numbers of Model UC-72D. Use manufacturer's number when available.
Required equipment	Landplane: Items 101(a), 102, 103(a), 104(a), 105(a), 106, 107, 108(a), 109, 110. Seaplane: Items 101(a), 102, 103(a), 104(a), 107, 108(a), 110, 151, 152.

III - MODEL VKS-7F, 5 PCIF (Approved 7/28/42)

(Same as VKS-7 except addition of split flaps on lower surface of upper wing, Flettner rudder tab, miscellaneous changes to structure and control system)

Engine	Continental W670M
Fuel	80 minimum octane aviation gasoline
Engine limits	Maximum, except take-off -- in.Hg., 2200 rpm (240 hp) Take-off (one minute) -- in.Hg., 2200 rpm (240 hp)
Airspeed limits	Level flight or climb - 140 mph True Ind. Glide or dive - 168 mph True Ind. Flaps extended - 102 mph True Ind.
Propeller limits	Maximum permissible diameter 102 inches
C.G. range	(-14.5) to (-3.6)
Maximum weight	3250 lbs.
No. seats	5 (2 at -3), (3 at +27)
Maximum baggage	100 lbs. (+45)

Fuel capacity	70 gallons (two 35 gallon tanks in upper wing) (-11.5)
Cil capacity	3-1/2 gallons (-44)
Control surface movement	Not available
Serial numbers eligible	5279 and 6101 and up
Required equipment	Items 101(b), 102, 103(b), 104(b), 105(b), 106, 107, 108(a), 109, 110 and 111

SPECIFICATIONS PERTINENT TO ALL MODELS:

Datum	Leading edge of lower wing
Leveling means	Lower surface of upper wing at strut points must be level
Certification basis	Type Certificate No. 648 (Aero. Bulletin 7A)
Production basis	None (See NOTE A)
Export eligiblity	Eligible for export as follows, subject to inspection for equipment specified in MOP 2-4: (a) Canada - Landplane - Seaplane (UKS-7 and VKS-7 only) - Maximum weight 3430 lbs. - Skiplane - Not eligible. However, structure complies with Canadian requirements for ski installation when equipped with special axle per Waco Drawing 20243. (b) All other countries except Australia and New Zealand.

EQUIPMENT:

Propellers and Propeller Accessories

108.	Propeller - Curtiss Model 55501 - Diameter 8'0" maximum, 7'10" minimum. (Must be installed with blades at right angles to engine crankthrow (either 90 or 270 degree position). Restrict engine operation to 2000 rpm maximum and placard tachometer accordingly.)	51 lbs.	(-79)
305.	(a) Adjustable metal propeller	+27 lbs.	(-79)
	(b) Hamilton Standard propeller, hub 2B20, blades 6135A-6 or 6135A-7. Diameter 8'6-1/8" maximum, 8'3-7/8" minimum. Pitch range 10 degrees to 14.5 degrees.) (VKS-7F only)	+51 lbs.	(-79)

Engine and Engine Accessories - Fuel and Oil System

101.	(a) Engine ring cowl	27 lbs.	(-63)
	101 or		
317.	(b) Engine ring cowl (Drawing 21992)	34 lbs.	(-63)
102.	Starter (Eclipse E-80)	20 lbs.	(-51)
107.	Oil cooker	5 lbs.	(-65)
201.	Large starter	+10 lbs. maximum	(-53)
204.	Oil heater	3 lbs.	
208.	15 gallon fuel tank (1 or 2 in lower wing)	17 lbs. each	
209.	(a) 6-1/2 gallon oil tank (UKS-7 or VKS-7 only)	No weight change	
	(b) 5 gallon oil tank (VKS-7F only)	No weight change	
309.	Engine shielding	11 lbs.	(-75)

Landing Gear and Floats

105.	7.50-10 wheels (Hayes 750M) with		
	(a) 8.50-10 4-ply tires (Models UKS-7 and VKS-7 only)	63 lbs.	(-28)
	320 or		
105.	(b) 7.50-10 4-ply tires	60 lbs.	(-28)
106.	10x3 tail wheel	5 lbs.	(+183)
109.	Wheel cuffs	4 lbs.	(-28)
	111 or		
316.	Wide type landing gear - tread 103-1/2 inches		
151.	Edo 38-3430 floats with water rudders (UKS-7 or VKS-7 only)	+318 lbs.	(-6)
	213 or		
301.	Wheel streamlines	21 lbs.	(-24)
215.	Skis (eligible on any airplane of these models provided the propeller installation meets the minimum 9 inch ground clearance. The maximum weight for the skiplane will be the same as for the corresponding landplane or		

		Use actual weight change	
that shown in parenthesis after each ski model, whichever is less)			
	(a) Federal SC-5 (maximum 2500 lbs.)		
302.	Cactus proof tubes	+5 lbs.	(-28)
312.	Tail wheel lock	Neglect weight increase	
319.	Steerable tail wheel (Drawing 22727 or Drawing 23143)	+6 lbs.	(+178)
<b>Electrical Equipment</b>			
103.	Generator		
	(a) Eclipse G-1	21 lbs.	(-52)
	(b) Eclipse G-2	21 lbs.	(-52)
104.	(a) Battery - Reading ARL-11	35 lbs.	(-44)
	(b) Battery and box - Reading R-33-L	33 lbs.	(-44)
202.	Large generator	+6 lbs.	maximum (-54)
214.	Battery - Exide 6-TS-13	41 lbs.	(-44)
308.	Landing lights (Grimes retractable) (UKS-7 or VKS-7)	11 lbs.	(+7)
	(VKS-7F only)	11 lbs.	(-18)
<b>Interior Equipment</b>			
110.	Control column - throw-over type	11 lbs.	(-24)
205.	Leather upholstery	+12 lbs.	(+7)
206.	Litter installation	+25 lbs.	(+97)
207.	Rear parachute type seats		
211.	Sound proofing		
303.	"Y" type control column	+3 lbs.	(-24)
307.	Flares		
	(a) Three 1-1/2 minute	17 lbs.	(+70)
	(b) Five one minute	13 lbs.	(+70)
312.	Cabin ventilators	3 lbs.	(-13)
314.	Cabin heater (UKS-7 or VKS-7 only)	5 lbs.	(-51)
315.	Front parachute type seats	+30 lbs.	(-2.5)
318.	Revised windshield (UKA-7 or VKS-7 only)		
<b>Miscellaneous (not listed above):</b>			
401.	Cabin heater (Models VKS-7 and VKS-7F only) (Surface Combustion Co. Model AGU-15N-L2) (See Waco Drawing 23719)	+15 lbs.	(+27)
152.	Seaplane type vertical tail surface (replacing landplane type) (UKS-7 or VKS-7 only)	+10 lbs.	(+185)
210.	Extra door and wing walk	+16 lbs.	(+19)
212.	Airbrakes (UKS-7 or VKS-7 only)	+10 lbs.	
321.	Bonding (VKS-7F only)	6 lbs.	(-3)

NOTE A. Each aircraft manufactured subsequent to 1/11/49, must prior to original certification, satisfactorily pass:

- (a) An inspection for workmanship, materials and conformity during construction.
- (b) A final inspection of the completed aircraft.
- (c) Check of flight characteristics.