MODELS: Lockheed 14-H, 14-H2, 14 PCLM

T.C. NUMBER: ATC 657

I - Specifications Pertinent to All Models:

Propellers	2 controllable metal, constant speed (Hamilton Standard hubs 3E50, blades 6111-12; low pitch setting 18 degrees) 695 lbs. (-110)
Placard speeds	Level flight or climb - 240 mph True Ind. Glide or dive - 284 mph True Ind. Flaps extended - 115 mph True Ind.
Placard ceiling (See Item 243 and NOTE 10)	(a) 9350 ft. (usable) in standard air at an indicated airspeed of 113 mph at 15650 lbs. with either engine inoperative and the inoperative propeller idling in high pitch. (b) 12000 ft. (usable) in standard air at an indicated airspeed of 118 mph at 15650 lbs. with either engine inoperative and the inoperative propeller fully feathered.
Fuel capacity	644 gallons (4 tanks in center section wing; 2 front tanks at 150 gallons each (-20.5) and 2 rear tanks not including fuel system at 172 gallons each (+22.5))
Oil capacity	44 gallons (1 tank in each nacelle at 22 gallons each (-52.5) not including capacity of oil system)
No. passengers	11 (See Item 114) (Standard crew 2, pilots at -52.5) (See Item 210
Baggage	Maximum capacity of compartments (See NOTES 1 and 9) No. 1 - Nose compartment 1500 lbs. (-133) No. 2 - Forward belly compartment 800 lbs. (-68.5) No. 3 - Mid. belly compartment 400 lbs. (-20.5) No. 4 - Rear belly compartment 700 lbs. (+30.5) Ballast compartment 350 lbs. (+230.5)
C.G. limits	(-0.3) and (+6.6) level for weighing on main cabin floor or window line. MAC is 115.84 in. (L.E. MAC is 32.75 in forward of spar center line.
Certification basis	Approved Type Certificate No. 657
Serial Nos.	1416 and 1503 only eligible. Approval expired 1/24/41. Army surplus Hudson type are not eligible under the terms of this specification.

EQUIPMENT:
(Datum is spar center line on under side of wing) (* Means net increase)

Class I:

101.	Two engine ring cowls (Lockheed 54022)	112 lbs.	(-89)
102.	Two exhaust collector rings	103 lbs.	(-60)
103.	Two oil radiators (UAP 9")	50 lbs.	(-41)
104.	Two vacuum pumps (Pesco 207, Type B-3)	10 lbs.	(-76)
105.	Two starters (Eclipse E-160)	60 lbs.	(-68)
106.	Generator (Eclipse E-5)	34 lbs.	(-75)
107.	Battery (Exide 6-FHM-13)	75 lbs.	(-47)
108.	(a) Pressure fire extinguisher (Lux type 36-1)	25 lbs.	(-58)
	(b) Lux fire extinguisher hand type	8 lbs.	(+177)
109.	Shock strut (Aerol XY-450L)	277 lbs.	(-28.5)
110.	15.00-16 wheels (Goodyear 16HBM)	123 lbs.	(-28.5)
111.	(a) 15.00-16 tires (Goodyear) 8-ply HD	171 lbs.	(-28.5)
	(b) 15.00-16 tire tubes, plain	29 lbs.	(-28.5)
112.	18 in. streamline tail wheel and 6-ply tire (Goodyear)	17 lbs.	(+327)
113.	Tail wheel shock strut (Aerol B250L)	27 lbs.	(+314)
114.	Eleven standard passenger chairs 53 lbs. each (-16.5, +26.5, +26.5, +61.5, +65.5, +96.5, +104.5, +131.5, +143.5, +166.5) (Roman numerals in parenthesis		

		following item number signify number of seats removed) (See NOTE 9)		
115.		Ventilating system	57 lbs.	(+57)
116.		Instruments and panel (Refer to West Coast Branch for itemized list dated 3/1/38)	56 lbs.	(-83)
117.		Heating system (Lockheed 57005)	61 lbs.	(+57)
118.		Constant speed propeller control (Type 1A1)	20 lbs.	(-60)
119.		Automatic mixture control (NAY-9C, G or H-23)	40 lbs.	(-70)
Class II:				
200.		Miscellaneous items as noted in approved weight and balance report.		
201.		Two retracting landing lights (in wing)	11 lbs.	(-12)
202.		Two flares and brackets (International)	50 lbs.	(+277)
203.		Two retractable oil radiator scoops (includes thermostatic control)	9 lbs.	(-68)
204.	(a)	Lavatory equipment including 3 gallons water	62 lbs.	(+211)
	(b)	1/2 gallon water, bottle, and brackets	7 lbs.	(+94)
205.	(a)	Two flashlights in cockpit	3 lbs.	(-69)
	(b)	Extra cabin door lock	3 lbs.	(+188)
206.	(a) and (b)	Automatic pilot lines and brackets Automatic pilot mechanism	80 lbs.	(-65)
207.	(a)	2-1/2 gallon propeller anti-icer fluid tank and lines	6 lbs.	(-110)
	(b)	Propeller anti-icer pump	5 lbs.	(-107.5)
	(c)	Spinners and slinger rings	24 lbs.	(-107.5)
	(d)	Propeller anti-icer fluid (3 gallons)	24 lbs.	(-103)
	(e)	Slinger rings (for hydromatic propeller)	6 lbs.	(-104)
208.	(a)	Extra, two, "pint" fire extinguishers (Pyrene)	10 lbs.	(-60)
	(b)	Extra "quart" fire extinguisher (Pyrene)	8 lbs.	(-60)
209.		Landing gear strut recess flaps	16 lbs.	(-25)
210.		Folding type stewardess chair (See NOTE 2a)	16 lbs.	(+177)
211.		15.00-16 cactus proof tire liners	25 lbs.	(-28.5)
212.		18 in. cactus proof tail wheel tire liner	5 lbs.	(+327)
213.		Plexiglass fuselage nose replacing standard metal nose	5 lbs.*	(-180)
214.		Ten standard passenger chairs 53 lbs. each (replacing Item 114) (-16.5, -16.5, +26.5, +26.5, +65.5, +65.5, +104.5, +104.5, +143.5, +143.5) (Roman numerals in parenthesis following the item number signify number of seats removed.)		
215.		Dump valve installation (Lockheed Drawings 58019 and 58077) (See NOTE 7)	18 lbs.*	(+8)
216.	(a)	Radio compass (RCA AVR8E)	68 lbs.	(-147.5)
	(b)	Hand reel and antenna (trailing)	12 lbs.	(-57)
	(c)	Radio receivers	50 lbs.	
		(1) (RA2)	23 lbs.	(+252)
		(2) (RA4)	15 lbs.	(+252)
		(3) (WE17A)	12 lbs.	(-55.5)
	(d)	Radio transmitters (TA2)	47 lbs.	(+252)
	(e)	Radio power units (JBX-3)	49 lbs.	(-55.5)
	(f)	Wiring, etc., and compass loop	92 lbs.	(-12)
	(g)	Dipole antenna	5 lbs.	(-44)
	(h)	Vee antenna	16 lbs.	(-20)
	(i)	Two spare trailing type antenna	2 lbs.	(+234)
	(j)	Radio receivers	56 lbs.	
		(1) (RA2)	23 lbs.	(+252)
		(2) (RA4)	15 lbs.	(+252)
		(3) (RA6)	18 lbs.	(-55.5)
217.	(a)	Cabin carpet (service)	38 lbs.	(+65)
	(b)	Cabin carpet (Deluxe, heavy type)	57 lbs.	(+65)
	(c)	Leather lavatory bench covering	5 lbs.	(+232)
	(d)	Leather upholstery on interior cabin bulkheads	4 lbs.	(+65)
	(e)	Upholstery (Laidlow replacing linen)	20 lbs.	(+65)
	(f)	Four blankets in cabin parcel nets	7 lbs.	(+67)
218.	(a)	Auxiliary instruments and panel (refer to West Coast Branch for		

	itemized list dated 3/1/38)	10 lbs.	(-83)
	(b) Extra Sperry horizon indicator	5 lbs.	(-83)
219.	Emergency exit left hand side of cabin	5 lbs.*	(+88)
220.	(a) Abrasion string L.E. lower fin only	3 lbs.	(+290)
221.	(a) De-icer boots and removable equipment (wing) (See NOTE 8)	44 lbs.	(-22)
	(b) De-icer boots and removable equipment (stabilizer) (See NOTE 8)	11 lbs.	(+268)
	(c) De-icer boots and removable equipment (fin) (See NOTE 8)	11 lbs.	(+300)
222.	Tool kit (lockheed)	17 lbs.	(+232)
223.	Fuel exhaust analyzer (Cambridge)	12 lbs.	(-42)
224.	Fuel flowmeter (Bowser)	29 lbs.	(-57)
225.	Two engine ring cowls (Lockheed 53525 replacing Lockheed 54022)	103 lbs.	(-89)
226.	(a) Magazines, writing material, literature, etc.	13 lbs.	(+67)
	(b) 10 chairs head rest covers	1 lb.	(+18)
	(c) Tool kit in No. 4 cargo compartment	18 lbs.	(+56)
227.	Inconel exhaust collector ring (Lockheed 53506B)	14 lbs.*	(-60)
228.	Hamilton Standard hydromatic propeller installation, hubs 23E50, blades 6139A-12 (Lockheed Drawing 53507)	145 lbs.*	(-87)
229.	(a) Elevator balance weight installed (Lockheed 56000F)	39 lbs.	(+293)
	(b) Elevator balance weight brackets (Lockheed 56000F)	3 lbs.	(+293)
230.	Revised stabilizer with .025" replacing .020" metal cover (Lockheed Drawings 53083, 86, 87, 88, 90, 91)	5 lbs.*	(+323)
231.	Bulkhead reinforcement, fuselage station 456 (Lockheed Drawing 50124E)	12 lbs.	(+268)
232.	Addition of bronze and steel plates to Goodyear brake assembly	7 lbs.*	(-28)
233.	Brake fluid gravity tank and fluid (Drawing 42402)	2 lbs.	(-88)
234.	Fuselage structural changes to accommodate camera (Lockheed Drawing 55560)	10 lbs.	(+85)
235.	Hamilton Standard slinger ring installation for hydromatic propellers (Hamilton Standard Part No. 52769)	6 lbs.	(-104)
236.	Auxiliary battery	11 lbs.	(-32)
237.	Structural increase (consisting of changes in shock strut, side strut and drag strut per Drawings 55007D, 55053D and 55008C; also tail bulkhead fitting 50480A, stringer 19A and 20A extended per Drawing 50050G, windshield revisions per Drawings 50565A and 50801, window frame gussets per Drawing 50050G, new emergency exit per Drawing 50063, and miscellaneous center section and wing increases per Drawing 51000F)	56 lbs.	(-5)
238.	Zinc chromate primer (interior)	20 lbs.	(+20)
239.	New flap actuating cylinder, maximum operating pressure 650 p.s.i. (Lockheed Drawing 51851)	4 lbs.*	(+67.5)
240.	Fuselage reinforcements in No. 1 baggage compartment (Lockheed Service Bulletin No. 14-38)	6 lbs.	(-104)
241.	Radio operator's seat installation (Lockheed Drawing 55450)	21 lbs.	(-30.5)
242.	Toe brake installation (Lockheed Drawing 55380)	38 lbs.*	(-88)
243.	Fixed wing slots installation (All placard ceilings reduced 130 ft. when this item is installed.)	25 lbs.	(-7)
Class III:			
301.	(a) De-icer installation (wing and tail fixed portion) (See NOTE 8)	25 lbs.	(0)
302.	Emergency wheel lowering device (independent oildraulic system manually operated)	8 lbs.	(0)

NOTE 1. Weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be submitted for each aircraft with original inspector's report and each subsequent report covering change in equipment.

NOTE 2. (a) Stewardess' seat not to be occupied by passengers. Placard accordingly.
(b) Placard lavatory door as follows: "This room not to be occupied during take-off and landing."

NOTE 3. Eligible for export, at standard weight, as follows subject to inspection for equipment specified in Chapter XII of Inspection Handbook (6/6/39):
(a) Canada
- Landplane
- Skiplane - not eligible. However, structure complies with Canadian ski gear requirements provided that the geometry of the ski gear is in accordance with Lockheed Report No. 954.
(b) All other countries.

NOTE 4. The following placards must be installed in locations noted: (In lieu of posting such placards, and subject to the approval of the Chief, Air Carrier Inspection Section, definite instructions must be issued by the operator to assure compliance therewith.)
(a) At fuel selector valve: "All fuel (to within 2 or 3 gallons) shall be used from each tank in the order listed below before using fuel from succeeding tank: Right Front, Left Rear, Left Front, Right Rear."
(b) At fuel filler caps: "In filling fuel tanks, care must be observed to ascertain that tanks are full in the following order: Right rear, left front, left rear, right front."

NOTE 5. Tab ranges are limited as follows: Rudder tab, trim travel move to right 25 degrees; servo travel move to right 6 degrees 10 feet; rudder tab, trim travel move to left 25 degrees; servo travel move to left 6 degrees 5 feet; elevator tab, trim travel up 25 degrees; servo travel down 11 degrees 30 feet; elevator tab, trim travel down 25 degrees; servo travel up 5 degrees 30 feet; aileron, trim travel (L.H. tab only) up 26 degrees; down 24 degrees 30 feet as measured from a neutral position 5 degrees down from chord plane of aileron. Servo travel down 17 degrees. Servo travel up 1 degres.

NOTE 6. Relief valve in hydraulic flap operation system must be set to open at from 850 lbs. per sq. inch to 1000 per sq. inch, unless Item number 239 is installed.

NOTE 7. A. If provisions other than item 215 are made for dumping, the fuel dump valves shall be made positively inoperative.
B. If item 215 (which complies with EI-11c) is installed, the airworthiness certificate shall incorporate one of the following statements, as the case may be:
(1) Non-Airline Carrier. "Fuel shall not be dumped except in accordance with the provisions of CAR 60.900."
(2) Airline Carrier
(a) With authorized weight in excess of standard - "Landing shall not be made at a weight in excess of standard except in accordance with CAR 61.7811. Fuel shall not be dumped except in accordance with CAR 61.7811 and then only if the pilot deems it safer than landing at a weight in excess of standard."
(b) With authorized weight not in excess of standard - "Fuel shall not be dumped except in accordance with CAR 61.7811."

NOTE 8. Standard (and provisional) weight may be increased 93 lbs. when complete de-icer is installed.

NOTE 9. When airplanes of the subject models are operated as cargo carriers, no passengers may be carried. If no passenger seats are installed, the cabin may be divided into baggage compartments having a combined maximum total capacity of 2700 lbs. provided each compartment is conspicuously placarded as follows:
(a) "Load cargo so that its center of gravity rests directly over the center of gravity of the compartment."
(b) "The maximum permissible load density is 145 lbs. per linear foot of compartment length."

NOTE 10. When Goodrich propeller deicing strips are installed (the strips must not extend beyond the outside diameter of the engine cowl) the placard ceilings are reduced 1000 feet below the usable ceilings shown.

II - Model 14-H, Designation 14 PCLM

Engines	2 Pratt & Whitney Hornets S1EG
Placard limits	
Fuel (See NOTE 4)	Maximum, except takeoff
87 minimum octane	Below 1000 ft. 36.0 in. Hg., 2275 rpm (800 hp)
	Below 3000 ft. 35.5 in. Hg., 2275 rpm (800 hp)

	Above 3000 ft. 35.0 in. Hg., 2275 rpm (800 hp)
	Takeoff (one minute)
87 minimum octane	40.5 in. Hg., 2500 rpm (850 hp)
Weights	Empty - Use actual (approximately 10270 lbs. (-4.65) as 13 PCLM with Class I items only)
	Standard - 15650 lbs. (See NOTE 7)
	Standard (as cargo carrier airplane) - 17500 lbs. (See NOTE 9)
	Provisional - 17500 lbs. (See NOTE 7)

III - Model 14-H2, Designation 14 PCLM

(Same as Model 14-H except engines 12 lbs.* (-89) when S1E2-G engines are installed and 36 lbs.* (-88) when S1E3-G engines are installed.)

Engines	2 Pratt & Whitney Hornets S1E2-G or S1E3-G
Placard limits	
Fuel (See NOTE 4)	Maximum, except takeoff
87 minimum octane	Sea level 36.5 in. Hg., 2250 rpm (800 hp)
	Straight line manifold pressure variation with altitude to 5500 ft. 34.5 in.Hg., 2250 rpm (800 hp)
	Takeoff (one minute)
87 minimum octane	Sea level 41.0 in.Hg., 2300 rpm (900 hp) or 39.5 in.Hg., 2500 rpm (885 hp)
Weights	With S1E2-G engines
	Empty - Use actual (approximately 10280 lbs. (-4.75) as 13 PCLM with Class I items only)
	Standard - 15650 lbs. (See NOTE 7)
	Standard (as cargo carrier airplane) - 17500 lbs. (See NOTE 9)
	Provisional - 17500 lbs. (See NOTE 7)
	With S1E3-G engines
	Empty - Use actual (approximately 10304 lbs. (-4.94) as 13 PCLM with Class I items only)
	Standard - 15650 lbs. (See NOTE 7)
	Standard (as cargo carrier airplane) - 17500 lbs. (See NOTE 9)
	Provisional - 17500 lbs. (See NOTE 7)