DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

652
REVISION 1

LOCKHEED 12-B

July 23, 2012

AIRCRAFT SPECIFICATION NO. 652

This data sheet which is part of Type Certificate No. 652 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder	Lockheed Martin Aeronautics Company 86 South Cobb Drive Marietta, GA 30063
Type Certificate Holder Record	Lockheed Aircraft Corporation Burbank, California

Model 12-B Designation 8 PCLM

Engines	2 Wright R-975E-3
Placard limits	Maximum, except takeoff 34-5 in. Hg, 2,200 rpm (420 hp) Takeoff (one minute) 36.5 in. Hg. 2,250 rpm (450 hp)
Propellers	2 controllable metal (Ham Std., hubs 2D30, blades 6095-8; low pitch setting $16^{o)}$ 152 lbs. (-84) (Maximum permissible propeller diameter 9 ft. 0 in.)
Placard speeds	(a) Never exceed 275 mph. (b) Cruising 216 mph. (c) Flaps extended 125 mph.
Placard ceiling	5,500 ft. Usable in standard air at 8,650 lbs. at an indicated airspeed of 96 mph with either engine inoperative and the inoperative propeller idling in high pitch (1,100 rpm). The operating engine at full throttle at 2,200 rpm.
Fuel capacity	200 gals. [4 tanks in wing: 2 fwd. of spar at 49 gals. each 62 lbs. (-15) and 2 aft of spar at 51 gals. Each 60 lbs. (+17)]
Oil capacity	14 gals. (2 tanks at 7 gals. each) 25 lbs. (-37)
No. passengers	6 (See item 19) (Crew 2, -43)
Baggage	450 lbs. [nose compt, 200 lbs. (-101) and aft of cabin compt. 250 lbs. (+111)] (See NOTE 1)
Weights	Empty Use actual (approx. 5,800 lbs. (-10.77) as 8 PCLM with Class I items only) Standard 8,650 lbs. (See NOTES 1 and 6) Provisional 9,200 lbs. (See NOTES 1 and 6)
C. G. limits	(-16.3 and (+1.6) Level for weighing on base line of main cabin windows.

Specification basis Approved Type Certificate No. 652

Serial Numbers 1228 and up eligible

EQUIPMENT: (Values in inches shown in parenthesis after each item represent horizontal arms to C.G. of the item, measured (minus) ahead and (plus) to the rear of the spar center line on under side of wing) (*Means net increase)

Class I: Required equipment which must be installed unless replaced by either Class II or III equivalent items (such items than to be marked "required" on the airworthiness certificate) subject to inspection and C.G. check.

1. 2 Engine ring cowls	75 lbs.	(-65)
2. 2 Exhaust collector rings	105 lbs.	(-44)
3. 2 Oil radiators (UAP 6")	28 lbs.	(-41)
4. 2 retracting landing lights in wing, 1 warning light in nose	8 lbs.	(-19)
5. 2 flares and brackets (3 min.)	50 lbs.	(-88)
6. 2 starters (electric)	64 lbs.	(-48)
7. Battery (Exide 6-FHM-13-1	75 lbs.	(-81)
8. Generator (25 amp.)	21 lbs.	(-54)
9. Pressure fire extinguisher system (Alfite, 5 lb. bottle under co-pilot's seat, or at rear of nose baggage compt).	23 lbs.	(-43)
10. 30x13-6 wheels (Goodyear 6HBM)	62 lbs.	(-18)
11. 30X13-6 tires (HD 6-ply) and plain tubes	86 lbs.	(-28)
12. Shock struts (Aerol SP-350L-12	89 lbs.	(-28)
13. 13.25 in. streamline tail wheel and tire	10 lbs.	(+290)
14. Tail wheel shock strut (Aerol 300L)	20 lbs.	(+282)
15. Instruments and Panel	50 lbs.	(-72)
16. Wheel fenders	5 lbs.	(-20)
17. (a) Residual fuel and oil in system	15 lbs.	(-34)
(b) Old type dump valves and controls (Lockheed dwg. Nos. 68002, 68004) (see NOTE 6)		
18. (a) Heater and ventilator	32 lbs.	(+35)
(b) Toilet equipment	16 lbs.	(+131)
19. Six standard passenger seats at 20 lbs. each (-11, -11, +31, +31, +64, +64) (See items 21 and 77)		

Class II: Optional equipment which may be installed or removed, subject to inspection and check of C.G. limits.

21. Standard passengers chair removed; deduct 20 lbs. each (Roman numerals in parenthesis signify Number of seats removed) (See items 19 and 77)		
22. Extra fire extinguisher	7 lbs.	(-50)
23. Cockpit partition and door assembly	25 lbs.	(-50)
24. Constant speed propeller control (Low pitch setting 11^{o} or 11 $1/2^{o}$ for 6095-8 blades	20 lbs	(-64)
25. Exhaust gas analyzer (Cambridge)	12 lbs.	(-45)
26. Pesco vacuum pumps (two)	10 lbs.	(-59)
27. Vacuum pumps (two) (Eclipse or Romec)	14 lbs.	(-59)
28. Couch – three place	81 lbs.	(+42)
29. Card table	8 lbs,	(+140)
30. Buffet and refrigerator (See NOTE 1b)	42 lbs.	(-17)
31. Omitt 32. ed		
32. Abrasion Strips (tail surfaces (L.E.)	5 lbs.	(+250)
33. Generator, 50 amp.	36 lbs.	(+54)
34. (a) Antenna reel (H & K)	10 lbs.	(+290)
(b) Antenna	5 lbs.	(+20)
35. Automatic pilot (Sperry)	100 lbs.	(-64)
36. Battery (Prestolite R-1213-G	91 lbs.	(-81)
37. Radio receiver (RCA)	25 lbs.	(-14) or (-43)
39. Omitted		
41. Radio (complete 2-way W.E.)	160 lbs.	(-29)
42. Omitted		

43. Omitted		
44. Omitted		
45. Omitted		
46. Oil immersion heaters	6 lbs.	(-37)
47. De-icing equipment (fixed portion 30 lbs., removable 65 lbs.) (See NOTE 4)	95 lbs.	(-13)
48. Radio compass and loop	45 lbs.	(-24)
49. Extra antennae	10 lbs.	(+50)
50. Abrasion strips on lower fins	2 lbs.	(+270)
51. Carpet (cabin)	23 lbs.	(+50)
52. Radio Receivers (2 TCA (AVR-7)	46 lbs.	(-40)
53. (a) Radio transmitter (RCA (AVT-12)	80 lbs.	(+85)
(b) Radio transmitter (RCA AVT-12)	80 lbs.	(-17)
(c) Radio transmitter (RCA (AVT-12)	80 lbs.	(-85)
55. Radio compass and loop (RCA AVR-8 series)	63 lbs.	(-22)
56. Radio (complete 2-way W. E.) (one receiver	137 lbs.	(-31)
58. Two electric fans (cabin)	4 lbs.	(+50)
59. Brake Controls dual set – co-pilot	4 lbs.	(-74)
60. Omitted		
61. Omitted		
62. 30x13-6 cactus proof tire liners	20 lbs.	(-28)
63. Omitted		
64. Tail wheel lock	3 lbs	(-50)
65. Two foot rests	15 lbs.	(+37)
66. Loading step	4 lbs.	(+88)
67. Propeller spinners	16 lbs.	(-84)
68. Omitted		
69. Omitted		
70. Cactus proof tail wheel and tire liner	8 lbs.	(+290)
71. Antenna reel and fairlead	7 lbs.	(-47)
72. Omitted		
73. Special cabin upholstery	10 lbs.	(+20)
74. Omitted		
75. Cannon tuning unit	4 lbs.	(+295)
76. Revised brake control system in accordance with data submitted June 18, and June 21, 1937	No weight change	
77. Standard Model 14 chair installed at 53 lbs. each (Roman numerals in parenthesis signify number of seats installed) (See items 19 and 21)		
78. Propeller spinners (Heavier type)	22 lbs.	(-84)
79. Closeable dump valves, controls and discharge chutes (See NOTE 6)	14 lbs.*	(+8)
80. Heavy type nose baggage compt. Flooring	10 lbs.*	(-101)
81. Revised empennage assembly with dynamically balanced rudders (Lockheed Dwg. No. 63012)	55 lbs.*	(+273)
82. Aileron 100% static balance (Lockheed Dwg. 62002G)	23 lbs.*	(+26)
85. Miscellaneous items as noted in approved weight and balance report.		
86. Zeiss special camera installation	10 lbs.	(+87)

Class III: Optional equipment which may be installed or removed subject to inspection only, except when the airplane is already equipped for the effect on C.G. limits of the Class III item installation. (Note that when any Class II item is installed, with Class III items are in effect Class II items)

38. (a) Fuel capacity increased 49 gals. (One fuselage tank Lockheed Dwg. No. 69350	40 lbs.	(-16)
(b) Oil capacity 19 gals. ($9\frac{1}{2}$ gals. Tanks, Lockheed Dwg. Nos. 64331 or 63429 in each nacelle Replacing standard 7 gal. tanks)	No weight change	
40. Radio cabinet	20 lbs.	(-15)
54. Fuel capacity increased 96 gals.	80 gals.	(-16)
57. Map case	16 lbs.	(-15)
84. Wing fuel tank installation (Lockheed Dwg. No. 68007 (4 tanks in wing: 2 fwd. of spar at 49 gals. And 2 aft of spar at 50 gals.) Net increase	62 lbs.	(+0.5)

NOTE 1. (a) Weight and balance report including list of equipment included in certificated weight empty, and loading schedule when necessary must be submitted for each aircraft with original inspector's report and each subsequent report covering change in equipment. (This note applies when standard weight exceeds 8,450 lbs.

(b) When item 30 is installed, baggage may be increased 45 lbs. (capacity of refrigerator).

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 changes in equipment.

NOTE 2. Omitted.

NOTE 3. Eligible for export, at standard weight, as follows subject to inspection for required equipment: (August 1, 1939)
(a) Canada
- Landplane – eligible.
- Skiplane – not eligible.
(b) All other countries except Australia.

NOTE 4. Include weight of de-icer, when carried, in empty weight- no deduction – and add asterisk by standard weight value referring to the following note to be added to airworthiness certificate: "Standard weight may be increased 52 lbs. when complete de-icer is installed."

NOTE 5. Same as Model 12-A (ATC 616) except for change in engines.

NOTE 6. A. If provisions other than Item 79 are made for dumping, the fuel dump valves shall be made positively Inoperative.
B. If Item 79 (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 Civil Air Regulation 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 Civil Air Regulation 61.7811. Fuel shall not be dumped except in accordance with Civil Air Regulation 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 Civil Air Regulation 61.7811.

INSPECTORS MUST REPORT COMPLIANCE WITH THE FOLLOWING SPECIAL NOTES IN ACCORDANCE WITH DI-15:

SPECIAL NOTE 1. (Annual inspection required – February 7, 1938, revised August 1, 1939)

Make sure that the old type bronze flap actuating screw and steel nut have been replaced with new type steel screw and bronze nut. (This note applies to Serial Nos. 1228 to 1247, inclusive, only.) New parts have been furnished all owners.

SPECIAL NOTE 2. (Annual inspection required – February 7, 1938, revised August 1, 1939)

In all airplanes up to and including serial No. 1240, ascertain that a new fuselage bulkhead or bulkhead reinforcements (two in latter case – one left – one right – in vicinity of stabilizer front spar bulkhead joint) have been installed in the plane of the fuselage-stabilizer front spar bulkhead joint) have been installed in the plane of the fuselage-stabilizer front spar attachment.

The stabilizer front spar must also be reinforced by plates connecting the open ends of the new bulkhead or bulkhead reinforcement.

The stabilizer rear spar must be reinforced in a similar manner to front spar by the addition of reinforcing plates (one left, one right).

Installation instructions Nos. 4, 5, 6, and 7, together with reinforcement parts covering “Bulkhead Replacement” or “Bulkhead Reinforcement” and also “Stabilizer Front and Rear Spar Reinforcement” were forwarded to owners by the manufacturer.

SPECIAL NOTE 3. (Annual inspection required – August 9, 1938, revised August 1, 1939)

In airplanes serial Nos. 1201 to 1250, inclusive, it is necessary to reinforce the front spars and forward rib flanges of the ailerons in the vicinity of the counter weight attachments. The reinforcement should be fabricated and installed in accordance with Lockheed Dwg. No. 62211.

SPECIAL NOTE 4. (Inspection required on regular itinerary – May 18, 1939, revised June 24, 1939)

In all airplanes up to and including serial No. 1271, ascertain that braces in accordance with Lockheed Dwg. No. 61143 have been added to the rear spar and flap actuating mechanism. Braces consist of additional extrusion on front face of spar opposite first roller bracket for flap tube, a brace tube to the first roller from the top of the spar, and two brace tubes to the thrust bearing just inboard of the actuating screw.

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