DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

590
REVISION 1

LOCKHEED ELECTRA
10-E, 12 PCLM

June 15, 2012

This data sheet which is part of Type Certificate No. 590 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

(Same as Model 10A except engines and nacelles)

Engines	2 P&W Wasps S3H1
Placard limits	Maximum, except takeoff Below 4,000 feet pressure alt. 30-1/2 in. Hg., 2,000 rpm (450 hp) 4, 000 ft. pressure alt. and up 29 in. Hg., 2,000 rpm (450 hp) Takeoff (one minute) 34-1/2 in. Hg., 2,200 rpm (550 hp)
Placard speeds	Level flight or climb – 210 mph True Ind. Glide or dive – 261 mph True Ind. Flaps extended – 125 mph True Ind.
Placard ceiling	(a) 9,500 ft. absolute (density altitude) at 10,500 lbs. with either engine inoperative with propeller (Item 61) idling at 700 rpm (6101A-12 blades) (b) 0 ft. usable ceiling (density altitude) at 10,500 lbs. with either propeller brakes (see Item 63) (Data on usable ceiling not available)
Fuel capacity	250 gallons (6 tanks in wing – 2 main 81 gallons each, 2 auxiliary forward of spar at 16 gallons each, 2 reserve rear of spar 28 gallons each)
Oil capacity	17 gallons (one 8-1/2 gallon tank in each nacelle)
No. passengers	10
Baggage	Maximum capacity of compartments. Compartment in nose 300 lbs. (-97 ½): compartment in each wing stub 25 lbs. (+20 ½
Maximum weight	10,500 lbs. (See NOTE 2)
C.G. limits	(-11.65) and (+2.9)
Spec. basis	Type Certificate No. 590 (Aero Bulletin 7A requirements)
Serial Numbers	1008 and 1041 and up eligible per NOTE A

EQUIPMENT: (Data is centerline of the center section spar) (*Denotes net increase)

Class I:

1. 2 Engine ring cowls	93 lbs.	(-70)
2. 2 Exhaust collector rings	87 lbs.	(-60)
3. 2 Oil radiators (UAP 7")	38 lbs.	(-54)
4. 2 Landing lights and 1 warning light (in wing)	25 lbs.	
5. Position lights		
6. Flares (two 3-minute) and brackets	50 lbs.	(-85)
8. 2 Starters (electric)		
9. Battery (exide 6XT-13-12V)	64 lbs.	(-58)
10. Generator (50 amp)	36 lbs.	(-61)
11. Pressure fire extinguisher system	35 lbs.	(-45)
12. 35 x 15-6 wheels (Goodyear 6HBM)	68 lbs.	(-23)
13. 35 x 15-6 (Goodyear) heavy duty 6 ply tires and plain tubes (wheels must be placarded for those tires)	109 lbs.	(-23)
14. Retracting landing gear, electric worm drive 12.5:1 gear and EDC No. 45040 electric motor (100 amp. fuse required)	275 lbs.	(-20)
15. Shock struts (Aerol SP-400E)	96 lbs.	(-23)
16. Wing split training edge flaps, electric operated (30 amp. fuse required)	75 lbs.	(+55)
17. Rudder equipped with trailing edge tab (single) and spring type bungee	3 lbs.	
18. Elevator equipped with balance weights (external 12 lbs.; auxiliary flap 3 lbs.; tabs 2 lbs.)	17 lbs.	(+310)
20. Ventilating system	20 lbs.	(+85)
21. Cabin heaters	40 lbs.	(+45)
22. Toilet equipment	15 lbs.	(+180)
23. Container and 1 gallon water	12 lbs.	(+168)
25. 2 baggage straps (nose compartment)	4 lbs.	(-98)
26. 16 x 7-3 tail wheel	12 lbs.	(+313)
27. Tail wheel strut (Aerol 300ET)	17 lbs.	(+300)
28. Instruments with panel	56 lbs.	(-74)
61. (a) Propellers – Hamilton Standard hubs 12D40, blades 6101A-12 to 6101A-14, inclusive. Diameter 9'1" maximum, 8' 10-5/8" minimum. Low pitch setting 11 degrees	175 lbs. ea.	(-93.5)

Class II:

31. 2 Wheel fenders	8 lbs.	(-20)
32. Rudder lock in cockpit	1 lb.	(-65)
33. Control wheel lock	2 lbs.	(-29)
34. Tail wheel centering lock control	3 lbs.	(-70)
35. Abrasion strips on lower fins	2 lbs.	(+284)
36. Abrasion strips on tail surfaces (complete)	5 lbs.	(+270)
37. De-icer installation (fixed portion 58 lbs., removable 58 lbs.) (See NOTE 2)	113 lbs *	(-24)
38. Small type generator (25 amp.) (K & K)	28 lbs.	(-61)
39. Heavy duty battery	70 lbs.	(-32)
40 2 Cactus-proof tire liners	22 lbs.	(-23)
43. Tail wheel tire liner	3 lbs.	(+313)
44. Standard passenger seats removed Deduct 20 lbs. each. (NOTE: Number of seats removed will be noted by addition of Roman numeral after Item 44. "44(V)" represents five seats removed 100 lbs.)		
45. Two heavy gage 81 gallon fuel tanks (Lockheed No. 47534 replacing standard 81 gallon fuel tanks)	26 lbs.*	
46, Rudders equipped with fixed trimming tabs (replacing adjustable tabs) and 3 lbs. spring type bungee	No change in weights	
47. Landing gear (Knuckle type) retracting mech. With 12.5:1 gear ratio and EDC No. 45040 electric motor (140 amp. Fuxe required) (replaces standard worm and sector type)	275 lbs.	(-20)
48. Fuel capacity increased 49 gallons (1 tank in fuselage, Lockheed No. 43826)	40 lbs.*	(+26)
49. Oil capacity 22 gallons (11 gallon tank, Lockheed No. 45859, in each nacelle replacing standard 7-1/2 gallon tanks)	10 lbs.	(-44)
50. Couch, 3 place, leather covered	130 lbs.	(+40)
58. Oil immersion heaters	6 lbs.	(-44)

61. (b) Constant speed propeller control	20 lbs.*	(-65)
63. Air Associates (Quick) propeller brake installation (Hamilton Standard constant speed 12D40, Propeller)	62 lbs.	(-87)
66. Lockheed Model 10 ski and ski gear (Lockheed Drawing 45204) 624 lbs.; tail ski and gear (Lockheed Drawing 45205) 51 lbs.; and original portion of landing gear structure retained 11 lbs.	686 lbs.	

Class III:

62. New beaded (hydrocompressed) type wing ribs (Lockheed Drawing No. 40200K)	No weight change	
64. Fuel dump valve and chute nstallation (FAA Drawings E-1, E-2, E-3, E-4, E-5, E-6, E-7, and E-8) (see NOTE 4)	19 lbs.	(+2)

NOTE A. Each aircraft manufactured after 10/7/41 must, prior to original certification, satisfactorily pass:

(a) An inspection for workmanship, materials and conformity before any covering, metal priming or final finish is applied. All woodwork may be varnished.

(b) A final inspection of the completed aircraft.

(c) A check of flight characteristics.

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. Maximum weight may be increased 63 lbs. when complete de-icer is installed.

NOTE 3. Eligible for export as follows, subject to provisions of MOP 2-4:
(a) Canada
- Landplane – eligible.
- Skiplane – not eligible. However, structure complies with Canadian requirements for ski installation when iIem 66 is installed.

(b) All other countries except Australia and New Zealand.

NOTE 4. A. If provisions other than Item 64 are made for dumping, the fuel dump valves must be made positively inoperative.

B. If Item 64 is installed, the airworthiness certificate shall incorporate one of the following statements, as case may be:

(1) Non-Air Carrier. "Fuel shall not be dumped except in accordance with the provisions of Civil Air Regulations 60.900."

(2) Air Carrier. "Fuel shall not be dumped except in accordance with Civil Air Regulations 61.7811."

NOTE 5. Placard lavatory door as follows: "This room not to be occupied during take-off and landing."

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