

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A-804
Revision 13
LAND-AIR
(TEMCO)
(LUSCOMBE)
11A
11E
December 17, 2002

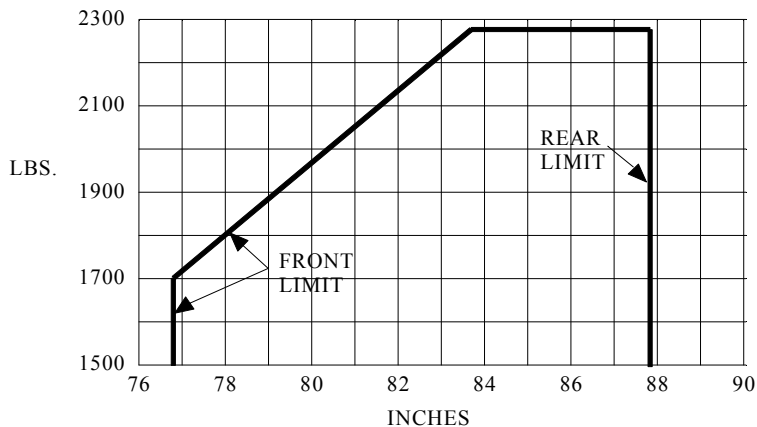
AIRCRAFT SPECIFICATION NO. A-804

Type Certificate Holder Luscombe Aircraft Corporation
5333 North Main Street
Altus, OK 73521

I. Model 11A, 4 PCL (Normal Category), approved October 4, 1948

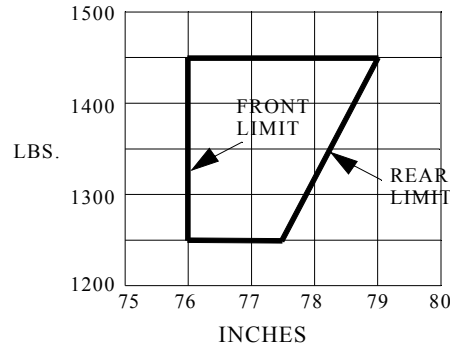
Engine	Continental E165-2 (see Item 106 for optional engines)	
Fuel	80 min. octane aviation gasoline	
Engine Limits	For all operations, 2050 rpm (165 hp)	
Propeller Limits	Static rpm at maximum permissible throttle setting, not over 1825, not under 1725. No additional tolerance permitted. Diameter, not over 80 in., not under 78.5	
Airspeed Limits	Maneuvering	114 mph (99 knots) True Ind.
	Maximum structural cruising	145 mph (126 knots) True Ind.
	Never exceed	180 mph (157 knots) True Ind.
	Flaps extended	100 mph (87 knots) True Ind.
C.G. Range	(+83.7) to (+87.9) at 2280 lbs. (+76.9) to (+87.9) at 1700 lbs. or less	

Straight line variation between points given.



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Empty Weight C.G. Range (+76.0) to (+79.0) at 1450 lbs. empty weight
 (+76.0) to (+77.5) at 1250 lbs. empty weight
 Straight line variation between points given.
 When empty weight C.G. falls within this range, computation of critical fore and aft C.G. positions is unnecessary. Range is not valid for nonstandard arrangements.



Maximum Weight	2280 lbs.				
No. of Seats	2 (+86) and 2 (+122)				
Maximum Baggage	100 lbs. (+123)				
Fuel Capacity	40 gal. (Two 20 gal. tanks in wings) (+86)				
Oil Capacity	2.5 gal. (+35)				
Control Surface Movements	Ailerons	Up	15 ± 1	Down	9 ± 1
	Elevators	Up	29 ± 1	Down	13 ± 1
	Rudder	Right	15 + 0	Left	15 + 0
			- 1		- 1
	Wing Flaps			Down	35 ± 1
	Elevator Tabs	Up	12 ± 1	Down	40 ± 1

The airplane control system must be rigged and maintained in accordance with the Rigging Instructions of Luscombe Model 11A Flight Manual, Section II.

Serial Nos. eligible 11-104 and up manufactured prior to October 29, 1956.

Required equipment In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed:
 1, 102, 103, 104, 105, 201(a), 202(a), 204(a), 402(a)
 For night flying, cabin dome light and instrument lights or equivalent to provide illumination of all placards and instruments are required in addition to equipment required by Part 43.

Specifications

Datum	100 in. forward of vertical bulkhead forming the rear frame of main door.
Leveling means	Floor at front seat attaching angles.
Certification basis	Type Certificate No. 804 (CAR 3, Normal Category)
Export eligibility	Eligible for export to all countries subject to the provisions of MOP 2-4 except as follows: Canada - Landplane eligible Skiplane not eligible

Equipment A plus (+) or minus (-) sign preceding the weight of an item indicates net weight change when that item is installed. Approval for the installation of all items of equipment listed herein has been obtained by the aircraft manufacturer except those items preceded by an asterisk (*). The asterisk denotes that approval has been obtained by someone other than the aircraft manufacturer. An item marked with an asterisk may not have been manufactured under a CAA monitored or approved quality control system, and therefore attention should be paid to workmanship and conformity with pertinent data called for in this specification.

Propellers and Propeller Accessories

1. Propeller - Sensenich Model 80EY80 or any other fixed pitch wood propeller rated for required hp and rpm and meeting the propeller limits under Section 1. 22 lbs. (+5)
2. Propeller - Hartzell automatic two-position, Hub Model HC-42XF-2, blades model 8428-1
Diameter: Not over 83 in., not under 81.5 in.
Blade angle at 30" station: Low 15, high 22.2
Propeller to be installed and operated in accordance with the above limitations and approved Hartzell service instructions. CAA Approved Flight Manual Revision pages 1.1 and 6.1, dated April 21, 1949, must be inserted in Item 402(a) when this propeller is installed. 59 lbs. (+5)
3. Spinner - Hartzell Propeller (Luscombe Dwg. 11-6402) 2 lbs. (+5)
4. Propeller - Hartzell automatic two-position, Hub Model HC-42XF-2, Blades 8433-1
(Eligible only on E-185-2 engine with dampered crankshaft identified by the letter "D" after the engine serial number.)
Diameter: Not more than 83 in., not less than 81.5 in.
Blade angle at 30" station: Low 17; high 24.
Counterweight length 3.490".
Low rpm (high pitch) to high rpm (low pitch) latch operation - not less than 1550 rpm
Item 402(b) required when this propeller is installed. 59 lbs. (+5)

Engine and Engine Accessories - Fuel and Oil System

101. Starter (Delco-Remy #1109660) Solenoid type 21 lbs. (+42)
102. Oil radiator - (Harrison #7434) 7 lbs. (+43)
103. Carburetor air heater 1 lb. (+23)
104. Kay exhaust muffler system 12 lbs. (+30)
105. Carburetor air filter 1 lb. (+18)
106. Continental E185-2 engine No change
Fuel: 80 Octane minimum
Engine limits: For all operations 2300 rpm (185 hp). When the E185-2 engine is installed, the airplane fuel system and oil cooling system must comply with Luscombe Dwgs. 11-6601C (Arrangement 2), 11-1702C, and 11-6701C.

Landing Gear

201. 2 Main wheel-brake assemblies, 6.00-6 Type III 14 lbs. (+65)
 - (a) Goodyear Model L6HBD
Wheel Assembly #511413-M
Brake Assembly #9520292
202. (a) 2 Main Wheel 4-ply-rating tires, 7.00-6 Type III (with regular tubes) 19 lbs. (+65)
204. Tail Wheel Assembly
 - (a) Maule, Model SFS-12, steerable 5 lbs. (+266)
Tire size 6.00 X 2.50
 - *(b) Scott, Model 3200, steerable 8 lbs. (+266)
Tire size 8.50 X 2.50

Electrical Equipment

301. Generator, 12 volt (Delco-Remy #1101879)	14 lbs. (+42)
302. Battery - Willard Manifold Venti Type AW-12-25 12 volt 25 amph. hr.	
(a) With Item 1 installed	22 lbs. (+46)
(b) With Item 2 installed	22 lbs. (+152)
303. Voltage regulator (Delco-Remy #1118200)	2 lbs. (+49)
304. Battery Solenoid - Cutler Hammer (#6042-H109A)	1 lb. (+49)
305. 2 Landing lights - Luscombe Dwg. #11-8105 with G.E. Lamp #4509	2 lbs. (+13)

Interior Equipment

401. Cabin heater Luscombe Dwg. 11-8602	2 lbs. (+49)
402. (a) FAA Approved Airplane Flight Manual dated May 26, 1948	
*(b) Airplane Operation Limitations Supplement to Item 402(a) for Hartzell Snap-O-Matic propeller on Luscombe 11A, dated October 10, 1949.	

II. Model 11E, 4 PCL (Normal Category) Approved December 17, 2002:

Changes to the Model 11A include engine change, electrical system changed to a 24 volt system, landing gear configuration changed from conventional to tricycle, installation of a composite cowl, installation of a modified windshield, change from hydraulically driven flaps to electrically driven, installation of electrically driven elevator trim in lieu of the mechanical trim, installation of a new interior including three point seat belts.

Engine	One, Teledyne Continental IO-360-ES, TCDS E1CE, Rated 185 HP	
Fuel	100/100LL minimum grade aviation gasoline	
Engine Limits	For all operations, 2550 RPM (185 HP)	
Propeller	McCauley Model 1B235/EFC7667	
Spinner	McCauley Model D4245	
Propeller Limits	Static RPM at full throttle: Not over 2200 rpm, except that 2250 rpm is permissible when airfield pressure altitude is above 5000 ft; not under 2100 rpm	
	Diameter: Not over 76 inches; not under 74 inches	
Airspeed Limits	Maneuvering	114 mph (99 knots) Calibrated
	Maximum structural cruising	150 mph (130 knots) Calibrated
	Never Exceed	180 mph (157 knots) Calibrated
C.G. Range	Forward Limits	Linear variation from 83.7 inches aft of Reference datum at 2280 lbs to 78.3 inches aft of datum at 1819 lbs; 78.3 inches aft of datum at 1817 lbs or less.
	Aft Limit	87.9 inches aft of datum
Empty Weight C.G. Range	None	
Reference Datum	100 in. forward of vertical bulkhead forming the rear frame of main door.	
Leveling Means	Two leveling screw heads which protrude at same waterline on right side of fuselage located directly below right rear cabin window.	
Maximum Weight	2280 lbs.	
No. of Seats	4 (2 at 86 inches aft of datum and 2 at 122 inches aft of datum)	
Maximum Baggage	100 lbs. at 128 inches aft of datum	

Fuel Capacity 42 gallons total; 40 gallons useable
(Two 21 gallon tanks in wings at +86.8 inches aft of datum)
See NOTE 1 for data on weight and balance.

Oil Capacity 2.0 gallons total; 1.25 gallons useable
(+25 inches aft of datum)
See NOTE 1 for data on weight and balance.

Control Surface Movements	Ailerons	Up	$15^{\circ} \pm 1^{\circ}$	Down	$9^{\circ} \pm 1^{\circ}$
	Elevators	Up	$29^{\circ} \pm 1^{\circ}$	Down	$13^{\circ} \pm 1^{\circ}$
	Rudder	Right	$15^{\circ} \pm 1^{\circ}$	Left	$15^{\circ} \pm 1^{\circ}$
	Elevator Tab	Up	$12^{\circ} \pm 1^{\circ}$	Down	$40^{\circ} \pm 1^{\circ}$

The airplane control system must be rigged and maintained in accordance with the rigging instructions of Luscombe Model 11E drawings.

Serial Nos. Eligible 11E00996
See NOTE 4 For ineligible serial numbers.

Certification Basis CAR 3 dated December 15, 1946, as amended by 3-1 through 3-4 and the following sections of Part 23 effective February 1, 1965:

Section 23.75 as amended through Amendment 23-7.

Section 23.561(b)(2) as amended through Amendment 23-36.

Section 23.853 as amended through Amendment 23-34

Section 23.1143 as amended through Amendment 23-29.

Section 23.1147 as amended through Amendment 23-33.

Section 23.1307 as amended through Amendment 23-23.

Section 23.1309 as amended through Amendment 23-14.

Sections 23.1, 23.2, 23.3, 23.21, 23.33, 23.51, 23.65, , 23.77, 23.671, 23.673, 23.683, 23.685, 23.689, 23.697, 23.699, 23.781, 23.905, 23.907, 23.925, 23.951, 23.959 23.961, 23.963, 23.969, 23.971, 23.973, 23.975, 23.977, 23.991, 23.993, 23.995, 23.997, 23.999, 23.1011, 23.1017, 23.1019, 23.1021, 23.1023, 23.1041, 23.1043 23.1047, 23.1091, 23.1105, 23.1121, 23.1123, 23.1125, 23.1141, 23.1145, 23.1149, 23.1163, 23.1165, 23.1183, 23.1191, 23.1193, 23.1301, 23.1327, , 23.1357, 23.1367, 23.1381, 23.1385, 23.1387, 23.1389, 23.1391, 23.1393, 23.1395, 23.1397, 23.1413, 23.1529, 23.1547, 23.1549, and 23.1589 as amended through 23-46.

Sections 23.901, 23.903, 23.943, 23.955, 23.965, 23.967, 23.1093, 23.1103, 23.1303, 23.1305, 23.1311, 23.1321, 23.1322, 23.1323, 23.1325, 23.1337, 23.1351, 23.1353, 23.1361, 23.1365, 23.1383, 23.1401, 23.1431, 23.1543, 23.1545, 23.1555, 23.1581, 23.1583, 23.1585, and 23.1587 as amended through 23-54.

Part 36 of the Federal Aviation Regulations effective December 1, 1969, plus any amendments in effect at the time of certification.

Equivalent Level of Safety Findings ELOS #ACE-02-09 Rev. A dated December 5, 2002 - CAR 03.135-N Spins

Date of Application for Amended Type Certificate for the Luscombe 11E was August 12, 1994.
Type Certificate No. A-804 was provisionally amended July 25, 2002 for the Luscombe 11E.
Type Certificate No. A-804 was amended December 17, 2002 for the Luscombe 11E.

Production Basis	None. Prior to original certification of each aircraft, and FAA representative must perform a detailed inspection for workmanship, materials, conformity with the approved technical data, and a check of the flight characteristics.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.
Design Data	The airplane shall be manufactured in accordance with the latest FAA approved revision of Luscombe Master Drawing List, Document No. 11E-MDL .

NOTE 1. A current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The certificated empty weight and corresponding center of gravity location must include unusable fuel of 12 lbs. at 86.8 inches aft of datum and full oil of 16.7 lbs. at 25 inches aft of datum.

NOTE 2. The placards specified in the latest FAA approved revision of the "FAA Approved Flight Manual for the Luscombe 11E," Document No. AFM-LAC-1, must be displayed.

NOTE 3. In accordance with FAR 23.1529, Instructions for Continued Airworthiness acceptable to the Administrator must be available at delivery of first aircraft or issuance of a standard certificate of airworthiness.

NOTE 4. Serial Numbers 11E00995 through 11E00999 are not eligible for standard certificate of airworthiness.

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