

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A00008DE Revision 2 LIBERTY XL-2 April 2, 2007

TYPE CERTIFICATE DATA SHEET NO. A00008DE

This data sheet which is part of Type Certificate No. A00008DE prescribes conditions and limitations under which the product for which the type certificate was issued meets the Airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Liberty Aerospace Incorporated
1 Aerospace Drive
Melbourne, FL 32901

I. Model XL-2, 2PCLM (Normal Category), Approved February 19, 2004

Engine	Teledyne Continental IOF-240-B, Type Certificate Data Sheet (TCDS) E7SO. Engines controlled by Full Authority Digital Electronic Control (FADEC).		
Fuel	100/100LL minimum grade aviation gasoline RH95/130 (China)		
Engine Limits	For all operations: Maximum engine speed 2800 RPM (125 hp) Minimum engine speed 825 RPM		
Propeller and Propeller Limits	Sensenich Corp W69EK7-63G, TCDS P00001NY Diameter: 69 inches Number of blades: 2		
Airspeed Limits	VNE	Never Exceed Speed	162 KIAS
	VNO	Maximum Structural Cruising Speed	125 KIAS
	VA	(1653 lbs) Maneuvering Speed	100 KIAS
	VFE	Maximum Flap Extension Speed	80 KIAS
C.G. Range	Forward limits: 82.20 inches aft of datum up to 1554 lbs with a straight line taper to 83.48 inches at 1653 lbs. Aft Limits: 86.75 inches aft of datum up to 1653 lbs.		
Datum	Station 0 (STN 0) is located 70.75 inches forward of vertical rollover hoop (forward face of opening). Water line 0 (WL 0) located 50.0 inches below airplane centerline through nose cone.		

Page No.	1	2	3
Rev. No.	2	2	2

Empty wt. C.G. Range	None.		
Leveling Means	Door sill as defined in AFM		
Maximum Weight	1653 lbs		
No. of Seats	2 at 79.78 inches aft of datum		
Maximum baggage	100 lb. at 118 inches aft of datum		
Fuel Capacity	29.5 gallons at 101.80 inches aft of datum 28 gallons usable. (See NOTE 1)		
Oil Capacity	6 quarts at 34.5 inches aft of datum		
Maximum Operating Altitude	12,500 feet		
Control Surface Movements	Stabilator	Leading edge UP $5^{\circ} \pm 0.5^{\circ}$	Leading edge DOWN $13^{\circ} \pm 0.5^{\circ}$
	Ailerons	UP $25^{\circ} \pm 0.5^{\circ}$	DOWN $19^{\circ} \pm 0.5^{\circ}$
	Rudder	LEFT $30^{\circ} \pm 0.5^{\circ}$	RIGHT $30^{\circ} \pm 0.5^{\circ}$
	Flaps	UP 0°	DOWN $30^{\circ} \pm 1.0^{\circ}$
Additional Limitations:	See NOTE 3		
	FADEC Limitations: Flight is prohibited if any FADEC Health Status Annunciator (HSA) channel lamps (cylinder icons) or annunciators are illuminated.		
Design Data:	The airplane shall be manufactured in accordance with the latest FAA approved revision of Liberty Aerospace, Inc. Master Drawing List, Document Number 135A-900-005, or other FAA approved data.		
Serial Nos. Eligible	0007 and subsequent		
Certification Basis	Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 thru 23-55 (Normal Category) and FAR 36 as amended thru 36-24, FAR 21 amended thru 21-57		
	Special Condition (23-119-SC) for Installation of Full Authority Digital Engine Control (FADEC) and the protection of the system from the effects of High Intensity Radiated Fields (HIRF). See NOTE 6.		
	Findings of Equivalent Levels of Safety as follows: ACE-02-06, 14 CFR Part 23.777(d) and 23.781(b), Single Power Lever ACE-03-03, 14 CFR Part 23.1143(g) and 23.1147(b), Throttle and mixture cable failures		
	Exemptions: Exemption number 7865 granted for 14 CFR Part 23.562, Emergency landing dynamic condition		
	Type Certificate Number A00008DE issued February 19, 2004		
	Application for Type Certificate dated October 26, 2000		

Production Basis	Production Certificate Number PC344CE was issued to Liberty Aerospace on April 6, 2006 for production of S/N 0017 and subsequent. S/N's 0007 through 0016 built by Liberty Aerospace under Type Certificate A00008DE.
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.</p> <p>In addition to the above required equipment, the following equipment are also required:</p> <ol style="list-style-type: none">1. Airplane Flight Manual, Liberty Aerospace, Inc. Document Number 135A-970-005, Revision D, dated October 31, 2005, or later FAA approved revision.2. Stall Warning indicator.3. Cylinder head temperature gage.
NOTE 1	Current weight and balance report, including a list of equipment included in certificated empty weight, must be provided for each aircraft at the time of the original certification. The certified empty weight and corresponding center of gravity location must include unusable fuel of 1.5 gallons (9.3 lb) at 101.80 inches aft of the datum.
NOTE 2	All placards specified in the FAA Approved Airplane Flight Manual (AFM), Liberty Aerospace, Inc. Document Number 135A-970-005, Revision D, or later FAA approved revision, must be displayed in the airplane in the appropriate locations.
NOTE 3	Instructions for Continued Airworthiness, maintenance information, and replacement times are contained in Liberty Aerospace, Inc. Maintenance Manual Document Number 135A-970-006. See Chapter 04 of the Maintenance Manual for mandatory Airworthiness Limitations which take precedence over any limitations shown in this TCDS.
NOTE 4	Exterior colors are to be limited to those specified in Instructions for Continued Airworthiness Chapter 04 (Liberty Aerospace Inc. Maintenance Manual Document Number 135A-970-006). Registration marks shall be located above the structural bond line and shall be 10 inches in height.
NOTE 5	Major structural repairs must be accomplished in accordance with FAA approved Liberty Aerospace repair methods or other methods approved by the FAA.
NOTE 6	Installation of additional flight-critical electronic equipment, such as an Electronic Flight Instrument System (EFIS), will require review by the FAA Aircraft Certification Service to determine whether aircraft-level lightning and/or High Intensity Radiated Field (HIRF) testing is required.
NOTE 7	The second battery is to be utilized as a power source for FADEC and attitude and turn coordinator gyros only.
NOTE 8	Any change to the canopy transparency will require review by the FAA Aircraft Certification Service to determine compliance with 14 CFR 23.807(c).

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