

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

A00008DE
Liberty Aerospace Incorporated XL-2 February 19, 2004

**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  
1383 General Aviation Drive  
Melbourne, FL 32935

**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

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 1490 lbs with a straight line taper to 85.37 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.

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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
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 $0^{\circ}$ DOWN $30^{\circ} + 1.0^{\circ}, -1.0^{\circ}$
Additional Limitations:	Airframe life limit: 225 Flight hours  Operations: Day visual flight rules (VFR) only  FADEC Limitations: Flight is prohibited if any FADEC HAS channel lamps (cylinder icons) or annunciators are illuminated.  Environmental Limitations: Takeoff prohibited when the OAT is below $14^{\circ}\text{F}$ ( $-10^{\circ}\text{C}$ ).
Design Data:	The airplane shall be manufactured in accordance with the latest FAA approved revision of Master Drawing List:, Document No. 135A-900-005, or other FAA approved data.
Serial Nos. Eligible	0001 and on
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 5.  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

Production Basis	None. Prior to original certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials, conformity with the approved technical data, and a check of the flight characteristics.
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations 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"><li>1. The latest FAA approved revision of the Airplane Flight Manual</li><li>2. Stall Warning indicator.</li><li>3. Cylinder head temperature gage.</li></ol>

### NOTES

NOTE 1	Current weight and balance report, together with 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), document number 135A-970-005 or later FAA approved revisions must be displayed in the airplane in the appropriate locations.
NOTE 3	Exterior colors are to be limited to those specified in AFM (Liberty Aerospace Incorporated Document 135A-970-005) or Instructions for Continued Airworthiness (Liberty Aerospace Incorporated Document 135A-970-006). Registration marks shall be located above the structural bond line and shall be 10 inches in height.
NOTE 4	Major structural repairs must be accomplished in accordance with FAA approved Liberty Aerospace repair methods or other methods approved by the FAA.
NOTE 5	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 6	Back-up battery source is to be utilized for the FADEC power source only.
NOTE 7	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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