



Datum	The envelope datum is taken at the envelope nose, without nose cone, thus the longitudinal and vertical arms are referred to in envelope station (Env. STA).  The car datum (Car STA) is taken at the forward face of the inverted lateral "T" on the floor (below the instrument panel), which is located 7 inches aft of the car nose at floor level, exclusive of the hand rail..
Maximum Weight	See FAA Approved Airship Flight Manual, Report No. 40B-SH
Minimum Crew	1 pilot
No. of Seats	5, [2 at Env. STA 647 (Car STA 26), 3 at Env. STA 685 (Car STA 64)]
Fuel Capacity	75.9 US gallons total at Env. STA 706 (Car STA 85) 70.5 US gallons usable at Env. STA 706 (Car STA 85) See Note 1 for data on weight and balance
Oil Capacity	6 US quarts at Env. STA 683 (Car STA 62) (3 US quarts usable at Env. STA. 683 (Car STA 62)) Each engine See Note 1 for data on weight and balance
Maximum Operating Altitude	7,500 ft.
Serial Numbers Eligible	A40B-17, A40B-18, A40B-19 and subsequent.

## II. Model Aeros 40D Airship, Approved January 30, 2007

Envelope:	Volume	100,032 cu. ft.
	Maximum Pressure	3.0 in. H <sub>2</sub> O (W.G.)
	Minimum Pressure	0.5 in. H <sub>2</sub> O (W.G.)
Lifting Gas:	Helium gas only	
Engine	Two (2) Continental IO-240-B engines Type Certificate No. E7SO.	
Fuel	100LL minimum grade aviation gasoline.	
Engine Limits	2800 rpm for all operations (125 hp)	
Propeller and Propeller Limits	Two (2) MT Propeller Company, MTV-7-D/LD170-12, electric, two position (forward and reverse), 3 blade, laminated wood composite structure propellers Diameter: not over 67.0 in., not under 65.0 in. No further reduction permitted  Pitch settings at 30 in. station: Forward: $8.7^{\circ} \pm 2^{\circ}$ Reverse: $-15.3^{\circ} \pm 2^{\circ}$  Static rpm at permissible throttle setting: Forward: not over 2400, not under 2300 Reverse: not over 2400, not under 2300 No additional tolerance permitted  See NOTE 5	

Airspeed Limits	<p>Maximum level Flight Speed 51 m.p.h. IAS  Maximum Operating Limit Speed 51 m.p.h. IAS  Design Speed for Maximum Gust Intensity 37 m.p.h. IAS</p>
Center of Gravity (C.G.) Range	See FAA Approved Airship Flight Manual, Report No. 40D-SH
Datum	<p>The envelope datum is taken at the envelope nose, without nose cone, thus the longitudinal and vertical arms are referred to in envelope station (Env. STA).</p> <p>The car datum (Car STA) is taken at the forward face of the inverted lateral "T" on the floor (below the instrument panel), which is located 7 inches aft of the car nose at floor level, exclusive of the hand rail.</p>
Maximum Weight	See FAA Approved Airship Flight Manual, Report No. 40D-SH
Minimum Crew	1 pilot
No. of Seats	5, (2 at Car STA 93), 3 at Car STA 153)
Fuel Capacity	<p>75.9 US gallons total at Car STA 85  70.5 US gallons usable at Car STA 85  See Note 1 for data on weight and balance</p>
Oil Capacity	<p>6 US quarts at Car STA 62  (3 US quarts usable at Car STA 62)  Each engine  See Note 1 for data on weight and balance</p>
Maximum Operating Altitude	10,000 ft
Serial Numbers Eligible	A40D-20, A40D21, A40D22 and subsequent
<u>Data Pertinent to all Models</u>	
Certification Basis	<p>14 CFR part 21, § 21.17(b) , Amendment 21-70, effective September 9,1992</p> <p>Compliance with 14 CFR part 21, § 21.17(b) has been shown utilizing the provisions of Advisory Circular 21.17-1A, change 1, dated October 30, 1992. The airworthiness requirements met under this provision are the Airship Design Criteria (ADC), FAA P-8110-2, dated November 2, 1987, as amended by Change 1, dated July 24, 1992 and Change 2, dated February 6, 1995. See Note 6</p> <p>Application for Type Certificate dated October 17, 1997</p> <p>Type Certificate No. S00007LA issued June 21, 2000</p> <p>Noise Control Act Finding dated March 2, 2000  Finding of No Significant Impact (FONSI) dated March 2, 2000</p>
Production Basis	<p>The following Serial Numbers were produced under Type Certificate only: A40B-17, A40B-18, A40B-19, A40D-20, A40D-21. 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.</p> <p>The following Serial Numbers were produced under Production Certificate number PC725NM: A40D-22 and subsequent.</p>
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations

(see Certification Basis) must be installed in the airship for certification.

In addition to the above required equipment, the following equipment is also required:

For Aeros 40B:

FAA-Approved Airship Flight Manual, Report 40B-SH, dated June 15, 2000, or later FAA approved revision; and Ground Handling Manual for the Airship Aeros 40B, Revision New, dated January 30, 2001, or later FAA accepted revision.

For Aeros 40D:

FAA-Approved Airship Flight Manual, Report 40D-SH, dated January 30, 2007, or later FAA approved revision; and Ground Handling Manual for the Airship Aeros 40D, Document No. D110 Revision 1, dated January 5, 2007, or later FAA accepted revision.

See Note 4.

NOTES:

Note 1

A current weight and balance report, including a list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each airship at the time of original certification. The certificated empty weight and the corresponding center of gravity location must include full oil (11.3 lbs. at Car STA 62) and unusable fuel (32.4 lbs. at Car STA 85).

Note 2

The placards specified in the Approved Airship Flight Manual must be displayed at the appropriate locations.

Note 3

Aeros 40B:

Maintenance and inspection of this airship must be carried out in accordance with Model Aeros 40B "Sky Dragon", Instructions for Continued Airworthiness, Document No. B100, Revision New, dated April 20, 2001, or later FAA accepted revision.

Aeros 40D:

Maintenance and inspection of this airship must be carried out in accordance with Model Aeros 40D "Sky Dragon", Instructions for Continued Airworthiness, Document No. D100, dated August 20, 2006, or later FAA accepted revision.

Components which are life limited and special inspection requirements are listed in Chapter 4 of the Instructions for Continued Airworthiness and must be replaced and inspected as indicated therein.

Note 4

Aeros 40B approved for day and night VFR.

Aeros 40D approved for day and night VFR

Aeros 40D also approved for IFR when modified in accordance with the equipment requirements specified for IFR in FAA approved Worldwide Aeros Corp., Master Drawing List, Airship Model Aeros 40D "Sky Dragon", Document No.D102, Rev. B, dated January 25, 2007 or later FAA approved revision.

Note 5

MT propeller Data Sheet No. P-20BO provides information on the propeller. The electric pitch control components are described in Worldwide Aeros Corp. drawing numbers A40B-06-28-00 and A40B-06-28-01. See WAC Specification WAC 40B-010 for propeller pitch adjustment procedure.

Note 6

ADC Para. 3.24, change 2, specifies a longitudinal load on the landing gear of  $.25n W_1$ . A longitudinal load of  $.25n W_{SH}$  was used in the design of the landing gear and supporting structure.

Note 7

Propellers must be marked in accordance with WAC Specification WAC 40B-011.

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