

European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

A-1 Series

Normal Airship

Type Certificate Holder:
American Blimp Corporation
Hillsboro, OR, U.S.A.

Manufacturer:
American Blimp Corporation
Hillsboro, OR, U.S.A.

Variants:

A-1-50
A-1-70

Issue 1: 22 December 2011

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SECTION 1

I. General

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|---------------------------------|--|
| 1. Data Sheet No. EASA.AS.001 | Issue Date: 22 December 2011 |
| 2. Type/Variant or Model | A-1 Series |
| 3. Airworthiness Category | Normal Category |
| 4. Type Certificate Holder | American Blimp Corporation
1900 N.E. 25th Avenue, Suite 5
Hillsboro, Oregon 97124
U.S.A. |
| 5. Manufacturer | American Blimp Corporation
1900 N.E. 25th Avenue, Suite 5
Hillsboro, Oregon 97124
U.S.A. |
| 6. FAA Type Certification Date | A-1-50: 3 October 1997
A-1-70: 25 March 2005 |
| 7. FAA Application Date | 29 June 1995 |
| 8. EASA Type Certification Date | 22 December 2011 |
| 9. TCDS History | The A-1 series was neither type certified nor registered in an EASA Member State before. Therefore no 'grandfather rules' were applicable. |

II. Certification Basis

- | | |
|---|--|
| 1. Reference Date for Determining the Applicable Requirements | 29 June 1995 |
| 2. Certification Basis | Airship Design Criteria (ADC), FAA P-8110-2, dated 2 November 1987, as amended by Change 1, dated 24 July 1992 and Change 2, dated 6 February 1995 |
| 3. Airworthiness Requirements | none |
| 4. Elected to Comply Requirements | none |
| 5. Special Conditions | none |
| 6. Exemptions | none |
| 7. Equivalent Level of Safety Findings | none |
| 8. Environmental Standards | not applicable |

III. Technical Characteristics and Operational Limitations

- | | |
|---------------------------|--|
| 1. Type Design Definition | Drawing List, Document #10A150 Rev BE, dated 2 Dec 2011, and later EASA approved revisions |
| 2. Description | Airship with pressurised envelope; external suspension system; water ballast trim system; two engines mounted on each side of gondola with forward thrust propellers; four fins in king-cross configuration; mechanical wire control system for the aerodynamic surfaces and valves; steel tube framework gondola with one cabin |

door; single ballonnet with manually operated air valves, two and manually operated helium valves on top of the envelope.

3. Equipment

The required basic equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airship.

In addition to the above required basic equipment, the following equipment is required and approved for use:

- A-1 EASA Equipment List #304052 Rev IR, or later EASA approved revision
- Latest FAA-approved Airship Flight Manual, Document 301030, Rev. 14, or later approved revision

4. Dimensions

		A-1-50	A-1-70
Envelope volume	m ³	4 245	4 811
	cu. ft	150 000	170 000
Ballonet	m ³	1 104	1 254
Length	m	49.5	53.6
Diameter	m	13.1	13.1
Height	m	16.8	16.8
Fin, vertical span	m	14	14
Fin, horizontal span			

5. Powerplant

5.1 Engine

- Type designation : Textron-Lycoming IO-360-B1G6
- EASA accepted TC : FAA 1E10
- Number of engines : 2
- Maximum permissible : 2 700 min⁻¹
RPM
- Maximum permissible : 2 700 min⁻¹
continuous RPM

5.2 Propeller

- Type designation : MT-Propeller MTV 25()
- EASA accepted TC : LBA 32.130/97
- Number of propellers : 2
- Propeller data : 1.7 m five-bladed, pitched,
wood composite with erosion
protection

6. Fluids

6.1 Fuels

- Propulsion : Main engine tank : 570.8 ltr
Engine
- Fuel : AVGAS 100LL

6.2 Lubricants

- Propulsion : see Airship Maintenance Manual
engine

7. Air Speeds

- Manoeuvring Speed V_A : 74 km/h
(46 mph)
- Maximum Level Speed V_H : 88.5 km/h

		(55 mph)
	Never Exceed Speed V_{NE}	: 96.5 km/h (60 mph)
	Limitations see Airship Flight Manual	
	Deflection angle of control surface	
	All control surfaces	: $\pm 30^\circ$
8. Maximum Mass	Maximum airship EQ (norm condition) mass	: 4 938 kg
	Maximum gondola mass	: 4 080 kg
	Maximum static heaviness	
	Take-off and landing	A-1-50 : 340 kg A-1-70 : 272 kg
	Maximum static lightness	: -205 kg
9. Minimum Flight Crew	1 Pilot	
10. Occupants	Maximum	: 10 Occupants
	Pilot seat	: 1 Pilot
	Passenger seats max.	: 9 Passengers
11. Payload	Gondola payload max.	: for A-1-50: 628 kg for A-1-70: 1 125 kg
12. Life Limit Parts	See Airship Maintenance Manual	
13. Lifting gas	Helium	
	Maximum permissible lifting gas pressure	: 498 Pa
	Minimum lifting gas pressure	: 324 Pa
14. Datum	The theoretical bow is 26 inches aft of the nose mooring probe. All station measurements are shown in inches. Gondola datum is airship gore station 739.	
15. Maximum Operating Altitude	Standard configuration	: 3 048 m

IV. Operating and Service Instructions

1. Operating Instructions
 - American Blimp Corporation Airship Flight Manual, Document 301030, latest EASA approved issue or revision
 - American Blimp Corporation Ground Handling Manual, 301001, Revision E, dated March 24, 2005, or later FAA-approved revisions
 - MT Propeller : Operation and Installation Manual E-504 Revision 30, July 07, 2010, or its latest valid issue
 - Lycoming Engine : Lycoming Operator's Manual 60297-12, October 2005, Revision 60297-12-5, or its latest valid issue
2. Service Instructions
 - American Blimp Corporation Instructions for Continued Airworthiness, Document 301032, Revision 7, dated 14 March 2005, or later EASA accepted revisions
 - MT Propeller : - Overhaul Manual E-519 Revision 34, July 07, 2020, or its latest valid issue
- Blade Overhaul Manual E-1290 Revision 18, August 25, 2011, or its

	latest valid issue
- Lycoming Engine	: Lycoming Overhaul Manual Direct Drive Models, 60294-7, Dec 1974, Revision 60294-7-13, or its latest valid issue

V. Notes

1. The Certification is eligible from serial-no. 101 through 106, 108 and on
2. American Blimp Corporation Ground Handling Manual, 301001, Revision E, dated 24 March 2005, or later FAA-approved revisions is to be made available to the operator's flight and ground crews.
3. The Auxiliary Power Unit (Generator System) is limited to non-flight safety electrical services the failure or malfunction of which will pose no safety hazard (e.g. only advertising lighting, etc.)
4. Current Weight and Balance Report together with 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 certified empty weight must include unusable fuel of 7.6 kg (16.8 lbs.) at gondola station 237.5.
5. Option: Installation of Model A-1-70 Lightsign per American Blimp Corporation Drawing "Lightsign Installation" Drawing Number 137000, Rev. B, dated January 13, 2006 or later FAA-approved revision. Operational Limitations: Operate per American Blimp Corporation Flight Manual Supplement AFMS-18, dated March 7, 2006, or later FAA-approved revision.
6. Certified for Day- / Night-VFR flights
7. Certified for commercial passenger transport

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