

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A15SO
Revision 9

Michael D. McGrath
(John A. McNeely, Sr.)
(Adams Balloon Loft)

A50S	A55
A55S	A-60S
LD-S	A-B

October 10, 2005

TYPE CERTIFICATE DATA SHEET NO. A15SO

This data sheet which is part of Type Certification No. A15SO prescribes conditions under which the product for which the type certificate was issued meets the Airworthiness requirements of the Federal Aviation Requirements:

Type Certificate Holder: Michael D. McGrath
 8502 Wium Road
 Cary, Illinois 60013

Type Certificate Holder Record: See Note 2.

I. - Model A50S Hot Air Balloon. Approved December 23, 1974.

<u>Air Heater</u>	Adams Drawing No. 5, 5-2, or 5-2-A.
<u>Fuel</u>	Propane
<u>Maximum Weight</u>	1250 pounds. (This weight includes the weight of the envelope.)
<u>Allowable Envelope Temperature</u>	250°
<u>Fuel Capacity</u>	One, Two Three, or Four Ten-Gallon Worthington Aluminum Propane Cylinders, Model LE-43-04.
<u>Serial Numbers Eligible</u>	S/N 006 and up.

II. - Model A55 Hot Air Balloon. Approved December 8, 1976.

The Model A55 is the same as the Model A50S except the envelope is 5 feet larger in the diameter and 4 feet and 8½ inches larger in the height than the Model A50S.

<u>Air Heater</u>	Adams Drawing No. 5, 5-2 or 5-2-A
<u>Fuel</u>	Propane
<u>Maximum Weight</u>	1500 pounds (This weight includes the weight of the envelope).
<u>Allowable Envelope Temperature</u>	250° F
<u>Fuel Capacity</u>	One, Two, Three or Four Ten-Gallon Worthington Aluminum Propane Cylinders, Model LE-43-04.
<u>Serial Numbers Eligible</u>	S/N 019 and up.

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III. - Model A55S Hot Air Balloon, Approved September 14, 1976.

The Model A55S is the same as the Model A50S except the envelope is 5 feet larger in the diameter and 8 feet and 5 inches larger in the height than the Model A50S.

<u>Air Heater</u>	Adams Drawing No. 5, 5-2 or 5-2-A
<u>Fuel</u>	Propane
<u>Maximum Weight</u>	1500 pounds (This weight includes the weight of the envelope).
<u>Allowable Envelope Temperature</u>	250° F
<u>Fuel Capacity</u>	One, Two Three or Four Ten-Gallon Worthington Aluminum Propane Cylinders, Model LE-43-04.
<u>Serial Numbers Eligible</u>	S/N 008 and up.

IV. - Model LD-S Hot Air Balloon, Approved January 25, 1978.

The Model LD-S envelope is 7 feet and 6 inches smaller in the diameter and 9 feet and 3 inches smaller in the height than the Model A50S. The Model LD-S gondola is approximately one-half the size of the Model A50S gondola.

<u>Air Heater</u>	Adams Drawing No. 5, 5-2 or 5-2-A
<u>Fuel</u>	Propane
<u>Maximum Weight</u>	700 pounds (This weight includes the weight of the envelope.)
<u>Allowable Envelope Temperature</u>	250° F.
<u>Fuel Capacity</u>	One or Two Ten-Gallon Worthington Aluminum Propane Cylinders, Model LE-43-04.
<u>Serial Numbers Eligible</u>	S/N 020 and up.

V. - Model A-B Hot Air Balloon, Approved August 8, 1983.

The Model A-B is 14 feet larger in the diameter and 7 feet and 9 inches larger in the height than the Model A50S. The Model A-B gondola is approximately one and one-half times larger than the Model A50S gondola.

<u>Air Heater</u>	Adams Drawing No. 5-2 or 5-2-A.
<u>Fuel</u>	Propane
<u>Maximum Weight</u>	2000 pounds (This weight includes the weight of the envelope.)
<u>Allowable Envelope Temperature</u>	250°F
<u>Fuel Capacity</u>	Four, Five or Six Ten-Gallon Worthington Aluminum Propane Cylinders, Model LE-43-04.
<u>Serial Numbers Eligible</u>	S/N 119 and up.

VI. - Model A-60S Hot Air Balloon, Approved May 14, 1986.

The Model A-60S envelope is eleven (11) feet larger in the height and diameter than the Model A50S.

<u>Air Heater</u>	Adams Drawing No. 5-2 or 5-2-A
<u>Fuel</u>	Propane

<u>Maximum Weight</u>	2000 pounds (This weight includes the weight of the envelope.)
<u>Allowable Envelope Temperature</u>	250° F
<u>Fuel Capacity</u>	One, Two, Three or Four Ten-Gallon Worthington Aluminum Propane Cylinders, Model LE-43-04.
<u>Serial Numbers Eligible</u>	S/N 167 and up.

DATA PERTINENT TO ALL MODELS

<u>Certification Basis</u>	Part 31 of the Federal Aviation Regulations dated July 1, 1964, as amended by 31-1 and 31-2. Application for Type Certificate, dated 12, 1974. Type Certificate No. A15SO issued December 23, 1974, reissued October 31, 1985, and March 15, 1989, and amended September 14, 1976, December 8, 1976, January 25, 1978, and August 8, 1983.														
<u>Production Basis</u>	None. Prior to original airworthiness certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials, and conformity with the approved technical data, and a check of the flight characteristics.														
<u>Export Eligibility</u>	Balloon will be eligible for issuance of Export Certificate of Airworthiness subject to compliance with Federal Aviation Regulation Part 21, Subpart L, Sections 21.321 through 21.339. The applicable procedures are contained in Advisory Circular No. 21-2C.														
<u>Equipment</u>	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for certification. In addition, the following equipment must be installed: <ol style="list-style-type: none"> 1. Burner lighter or sparker. 2. FAA Approved Balloon Flight Manuals <table style="margin-left: 40px;"> <thead> <tr> <th><u>Model</u></th> <th><u>Approved Date</u></th> </tr> </thead> <tbody> <tr> <td>A50SO</td> <td>12/23/74 or 2/6/85</td> </tr> <tr> <td>A55S</td> <td>9/14/76 or 2/8/85</td> </tr> <tr> <td>A55</td> <td>12/8/76 or 2/7/85</td> </tr> <tr> <td>LD-S</td> <td>1/25/78</td> </tr> <tr> <td>A-B</td> <td>8/8/83</td> </tr> <tr> <td>A-60S</td> <td>5/14/86</td> </tr> </tbody> </table>	<u>Model</u>	<u>Approved Date</u>	A50SO	12/23/74 or 2/6/85	A55S	9/14/76 or 2/8/85	A55	12/8/76 or 2/7/85	LD-S	1/25/78	A-B	8/8/83	A-60S	5/14/86
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Maintenance and Inspection

1. The annual inspection must include inspection of fabric condition. The fabric should be tested in several areas, with particular attention to upper portion which is subject to the higher operating temperatures. The envelope material strength is adequate if the material withstands without tearing 30 pounds tension uniformly distributed along one inch and applied perpendicular to the direction of the weave.
2. The following maintenance must be performed on the Rego 7553S series throttle or trigger valves at each 100 hours time in service or at each annual inspection, whichever comes first:
 - a. Remove the valve actuating lever rollpin P/N 75535-8 from actuating lever. (Be careful to remove any burrs in the stem area around the rollpin hole before removing the valve stem, P/N 75535-1, from the bonnet, P/N 7553-5.) Replace the "O" ring stem seal with a new Rego "O" ring, P/N 1421-7. Lubricate the new "O" ring with a suitable lubricant before reassembly.

- b. Check the torque of the valve seat retaining screw to 10 to 12 in-lbs in the loosening direction. If it turns, the screw must be removed, cleaned of lubricant and reinstalled using MIL-S-22473 high strength thread locking compound, such as two ton epoxy by Devon or Loctite 271 or equivalent. Recheck torque after thread locking compound has cured.

CAUTION: Do not permit the thread locking compound to adhere to the rubber seating surface.

- c. Reinstall valve actuating lever on the valve body with rollpin, P/N 75535-8. Install a number six machine screw and stop nut or a 3/32 inch stainless steel cotter pin or a 0.040 inch diameter safety wire through the hole in the rollpin, holding the actuating handle to the valve body and secure.
3. The following maintenance must be conducted on Model A50S, Serial Number 015, which is modified by STC's SL898SO and SL906SO:
 - a. Conduct pull test on deflation valve to determine if pull force is not less than 25 pounds after each 10 hours tether or free flight. Replace Velcro if pull test is less than 25 pounds.
 - b. Replace all Velcro after each 100 hours tether or free flight.

NOTE 1.

- A. Prior to shipment of a balloon envelope (and necessary attaching system), produced for use with a burner/basket assembly that is eligible for use with that envelope, the production approval holder must determine that the envelope and necessary attaching system conforms to the type design and is in a condition for safe operation. A statement of conformity, FAA Form 8130.9, may be used for this purpose. This envelope, in combination with an eligible burner/basket assembly, may be registered and is eligible for issuance of a standard airworthiness certificate when the applicant for such certificate shows, and the Administrator finds, that the envelope, burner and basket combination conforms to the type design and is in a condition for safe operation.
- B. Balloon burner/basket assemblies specifically designed for quick removal and installation from one envelope to another can be accomplished by the pilot/owner who holds at least a private pilot certificate. Appropriate entries must be made in the balloon records noting the removal and/or installation of burner/basket assemblies.
- C. Appropriate entries into balloon records of burner/basket assembly removals and installations must be made by certificated mechanics if the pilot/owner is not eligible to accomplish this task.

NOTE 2.

John A. McNeely transferred Type Certificate A15SO to Michael D. McGrath on July 30, 2005.

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