

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

<p>A15SO Revision 14  Adams Balloons LLC  A50S A55 A55S A-60S LD S A-B  October 27, 2016</p>
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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: Andrew Philip Richardson DBA  
Adams Balloons LLC  
3900 2<sup>nd</sup> Street NW  
Albuquerque, New Mexico 87107

Type Certificate Holder Record: John A. McNeely transferred Type Certificate A15SO to Michael D. McGrath on July 30, 2005.  
Michael D. McGrath transferred Type Certificate A15SO to Andrew Philip Richardson on March 3, 2015.

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

Air Heater Adams Drawing No. 5, 5-2, or 5-2-A.

Fuel Propane

Maximum Weight 1250 pounds. (This weight includes the weight of the envelope.)

Allowable Envelope Temperature 250°

Fuel Capacity One, Two Three, or Four Ten-Gallon Worthington Aluminum Propane Cylinders, Model 4E20.

Serial Numbers Eligible 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.

Air Heater Adams Drawing No. 5, 5-2 or 5-2-A

Fuel Propane

Maximum Weight 1500 pounds (This weight includes the weight of the envelope).

Allowable Envelope Temperature 250° F

Fuel Capacity One, Two, Three or Four Ten-Gallon Worthington Aluminum Propane Cylinders, Model 4E20.

Serial Numbers Eligible S/N 019 and up.

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Notes: Added Notes 2-6, corrected misspelling on page 1.

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 4E20.
<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 4E20.
<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 4E20.
<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. Air

<u>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 4E20.
<u>Serial Numbers Eligible</u>	S/N 167 and up.

DATA PERTINENT TO ALL MODELS

Certification Basis 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.

Production Basis 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.

Export Eligibility 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 21.335. The applicable procedures are contained in Advisory Circular No. 21-2L.

Equipment 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:

1. Burner lighter or sparker.
2. FAA Approved Balloon Flight Manuals

<u>Model</u>	<u>Approved Date</u>
A50S	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

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.

Each hot air balloon envelope must have an individual registration number. An individual envelope is eligible for a Standard Airworthiness Certificate when mated with any approved combination of basket and burner assembly. Changes to an eligible combination must be endorsed by logbook entry by the Pilot-in-Command or by a FAA Certificated Repairman.

When the balloon owner receives the new balloon envelope, it must be assembled to an eligible bottom end. The installation of the burners, baskets, and fuel tanks is recorded into the logbook and endorsed by the owner/operator or by an FAA Certificated Repairman.

The envelope owner must register the balloon in accordance with applicable requirements.

NOTE 3.

Due to the similarity of design, certain baskets, burners and fuel cylinders manufactured by Cameron Balloons may be used in conjunction with an Adams Balloons envelope.

This installation is subject to the operations and limitations given in the approved Adams Balloons "Balloon Flight Manual Supplement", Document Number 001.

The approved Model specific Flight Manual Supplement is required equipment and must be carried onboard the aircraft.

For detailed instructions on how to mate the Cameron Balloons baskets, burners and fuel cylinders to an Adams Balloons envelope you must reference the flight manual supplement.

## NOTE 4.

**Eligible Cameron baskets:**

Any size specified in Drawing 301-3FSH\*\*, 301-3FSR\*\*, 301-3FWH\*\*, 301-3FWR\*\*, 301-4FSH\*\*, 301-4FSR\*\*, 301-4FWH\*\*, 301-4FWR\*\*, 301-5FSH\*\*, 301-5FSR\*\*, 301-5FWH\*\*, 301-5FWR\*\*, 301-6FSH\*\*, 301-6FSR\*\*, 301-6FWH\*\*, 301-6FWR\*\*, CB300\*\*\*\*, or Drawing CBUS300\*\*\*\*, or Drawing CB301\*\*\*, or Drawing CBUS301\*\*\*, or Drawing CBUS301-5, or Drawing CB301-7, or Drawing CBUS301-7, or Drawing CB301-8, or Drawing CB301-9, or Drawing CB302, or Drawing CBUS302, or Drawing CB302-1, or Drawing CBUS302-1, or Drawing CB302-2, or Drawing CBUS302-2 or Drawing CB302-3, or Drawing CBUS302-3, or Drawing CB302-4, or Drawing CBUS302-4, or Drawing CB310-1A, or Drawing CB310-2A, or Drawing CB310-3A, or Drawing CB310-4A, or Drawing CB310-5A, or Drawing CB754, or Drawing CB755, or Drawing CB860, or Drawing CB862, or Drawing CB991, or Drawing CBUS1056, or Drawing CB3004, or Drawing CB3022, or Drawing CB3042, or Drawing CB3084, or Drawing CB3288 or Drawing CBUS3319\*, or Drawing CB8000\*\*, or Drawing CB8001\*\*, or Drawing CB8002\*\*, or Drawing CB8003\*\*, or Drawing CB8005\*\*, or Drawing CB8006\*\*, or Drawing CB8007\*\*, or Drawing CB8008\*\*, or Drawing CB8010\*\*, or Drawing CB8012\*\*, or Drawing CB8013\*\*, or Drawing CB8014\*\*, or Drawing CB8016\*\*, or Drawing CB8017\*\*, or Drawing CB8018\*\*, or Drawing CB8019\*\*, or Drawing CB8021\*\*, or Drawing CB8022\*\*, or Drawing CB8045\*\*.

All baskets having at least one inner partition must be operated with all FlexiRigid poles properly installed.

\* Basket CBUS3319 issue A is limited to a Maximum Gross Weight of 3,200 lbs.

\* When a wheelchair is carried on board basket CBUS3319 issue A, at least one functioning turning vent in the envelope is required for free flight.

\*\* Baskets are limited to a Maximum Gross Weight of 4,200 lbs.

\*\*\* Baskets CB301 and CBUS301 are part numbers for FlexiRigid burner support system baskets (Aristocrat baskets). CB301 and CBUS301 have four different sizes listed on them. In the logbook and flight manual, the basket part numbers have a suffix of either -2, -3, -4, or -6 (i.e. CB301-4). These dash numbers represent the following size Aristocrat baskets: -2 = 42x44, -3 = 42x52, -4 = 42x58 and -6 = 46x62.

\*\*\*\* Baskets CB300 and CBUS300 are part numbers for flexible suspension system baskets. CB300 and CBUS300 have five different sizes listed on them. In the logbook and flight manual, the basket part numbers have a suffix of either -1, -2, -3, -4, or -5 (i.e. CB300-4). These dash numbers represent the following size baskets: -1 = 27x30, -2 = 40x40, -3 = 40x48, -4 = 40x54 and -5 = 50x64.

## NOTE 5.

**Eligible Cameron Burners (When Cameron Baskets are Installed):**

Cameron single burners: Drawings CB391, CBUS391, CB2130-1, CB2130-2, CBUS10010.

Cameron double burners: Drawings CB205, CB392, CBUS392, CB579, CBUS579, CB579-1, CB579-2, CB2075-1, CB2075-2, CB2059, CB2702, CB2832, CBUS10011, CBUS10014, CBUS10017.

## NOTE 6.

**Eligible Cameron Master Tanks (When Cameron Baskets are Installed):**

P/N CB250 Master (10 gallon or 8 gallon capacity, each at 80 percent fill),  
 P/N CB497 when fitted with vapor outlet and regulator (10 gallon capacity, at 80 percent fill),  
 P/N CB599 when fitted with vapor outlet and regulator (11 gallon capacity, at 80 percent fill),  
 P/N CB2385 when fitted with vapor outlet and regulator (11 gallon capacity, at 80 percent fill),  
 P/N CB2900 when fitted with vapor outlet and regulator (11.9 gallon capacity, at 80 percent fill),  
 P/N CB2902 when fitted with vapor outlet and regulator (14.3 gallon capacity, at 80 percent fill),  
 P/N CB426 when fitted with vapor outlet and regulator (15 gallon capacity, at 85 percent fill),  
 P/N CB2380 when fitted with vapor outlet and regulator (15 gallon capacity, at 85 percent fill),  
 P/N CB2387 when fitted with vapor outlet and regulator (15 gallon capacity, at 85 percent fill),  
 P/N CBUS1050 when fitted with vapor outlet and regulator (15 gallon capacity, at 83 percent fill),  
 P/N CB2901 when fitted with vapor outlet and regulator (15.9 gallon capacity, at 80 percent fill),  
 P/N CB2903 when fitted with vapor outlet and regulator (19 gallon capacity, at 80 percent fill),  
 P/N CB959 when fitted with vapor outlet and regulator (20 gallon capacity, at 81.8 percent fill),

P/N CB2383 when fitted with vapor outlet and regulator (20 gallon capacity, at 81.8 percent fill),  
P/N CBUS1060 when fitted with vapor outlet and regulator (20 gallon capacity, at 83 percent fill).

Eligible Cameron Standard tanks:

P/N CB250 Standard (10 gallon or 8 gallon capacity, each at 80 percent fill),  
P/N CB497 when not fitted with vapor outlet and regulator (10 gallon capacity, at 80 percent fill),  
P/N CB599 when not fitted with vapor outlet and regulator (11 gallon capacity, at 80 percent fill),  
P/N CB2385 when not fitted with vapor outlet and regulator (11 gallon capacity, at 80 percent fill),  
P/N CB2900 when not fitted with vapor outlet and regulator (11.9 gallon capacity, at 80 percent fill),  
P/N CB2902 when not fitted with vapor outlet and regulator (14.3 gallon capacity, at 80 percent fill),  
P/N CB426 when not fitted with vapor outlet and regulator (15 gallon capacity, at 85 percent fill),  
P/N CB2380 when not fitted with vapor outlet and regulator (15 gallon capacity, at 85 percent fill),  
P/N CB2387 when not fitted with vapor outlet and regulator (15 gallon capacity, at 85 percent fill),  
P/N CBUS1050 when not fitted with vapor outlet and regulator (15 gallon capacity, at 83 percent fill),  
P/N CB2901 when not fitted with vapor outlet and regulator (15.9 gallon capacity, at 80 percent fill),  
P/N CB2903 when not fitted with vapor outlet and regulator (19 gallon capacity, at 80 percent fill),  
P/N CB959 when not fitted with vapor outlet and regulator (20 gallon capacity, at 81.8 percent fill),  
P/N CB2383 when not fitted with vapor outlet and regulator (20 gallon capacity, at 81.8 percent fill),  
P/N CBUS1060 when not fitted with vapor outlet and regulator (20 gallon capacity, at 83 percent fill).

P/N CB426, CB497, CB599, CB2380, CB2387, CBUS1050, CB2900, and CB2901 tanks may be used only with baskets with Serial No. 8800 and up.

P/N CB959, CB2383, CBUS1060, and CB2903 tanks may be used only with basket part numbers 301-3FSH, 301-3FWH, 301-4FSH, 301-4FWH, 301-5FSH, 301-5FWH, 301-6FSH, 301-6FWH, CBUS301-5, CB302, CBUS302, CB302-1, CBUS302-1, CB302-2, CBUS302-2, CB302-3, CBUS302-3, CB302-4, CBUS302-4, CB754, CB755, CB860, CB862, CBUS1056, CB3004, CB3022, CB3042, CB3084, CB3288, CBUS3319, CB8005, CB8006, CB8007, CB8008, CB8016, CB8017, CB8018, CB8019, and CB991 having Serial No. 9300 and up.

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