

Revision No. 2 to Supplement ref. 8.61
is approved under the authority of DOA ref. EASA. 21J.140 (C476 Iss. 2)

8.61 KAVANAGH 'BOTTOM ENDS' WITH CAMERON ENVELOPES

8.61.1 GENERAL INFORMATION

This supplement shall be inserted in the Flight Manual, in Section 8: 'Supplements' with the revisions record sheet amended accordingly.

Information contained herein supplements, or in the case of conflict, supersedes that contained in the basic Flight Manual. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Hot Air Balloon Flight Manual.

All references to the Kavanagh Flight Manual refers to Flight manual Issue 1 or later EASA approved revision.

Throughout this supplement the term "Cameron" refers to envelopes, burners and cylinders manufactured by Cameron, Lindstrand Hot Air Balloons Limited, Sky and Thunder & Colt.

Issue 1 of this supplement has five pages.

There are no additional continued airworthiness instructions associated with this supplement.

8.61.2 LIMITATIONS

8.61.2.4 MINIMUM BURNER REQUIREMENTS

1. The following table sets out the minimum burner requirements based on envelope volume using a Kavanagh Series 3 burner in one of four configurations:

Envelope Volume	Burner Configuration	
	KBS3	
56,000 ft ³ (1585m ³) - 90,000 (2549m ³)	Single	
105,000 ft ³ (2973m ³) - 210,000 ft ³ (5947 m ³)	Double	
240,000 ft ³ (6796m ³) - 260,000 ft ³ (7362 m ³)	Triple	
300,000 ft ³ (8495 m ³) - 350,000 ft ³ (9911 m ³)	Triple	
400,000 ft ³ (11327 m ³) - 450,000 ft ³ (12743 m ³)	Quad	

Note: For Kavanagh bottom ends fitted with a Cameron burner consult the basic Hot Air Balloon Flight Manual.

8.61.2.3 FUEL

3. There must be one cylinder fitted for supply of regulated vapour for each vapour supply hose fitted to the burner.
4. All fuel cylinders must be secured by a minimum of two approved cylinder straps.
5. Main burners must not be operated on vapour fuel supply.

2.3.1 Fuel Pressures

1. The normal operating range of the Series 3 burner is 3.4-15 bar (50-218 psi).

8.61.2.15 BASKETS

6. The maximum number of occupants, maximum Gross Certified Weight (GCW) and approved envelope volume of each variant of Kavanagh basket is given in Table 6.
7. Where a partitioned basket is used, an approved pilot restraint harness must be fitted.
8. Where cushioned flooring is fitted to a basket, all drain holes must remain clear.
9. The maximum number of occupants in the pilot compartment of a partitioned basket is limited to 2 crew.

Note: The limitation of a maximum of 6 occupants per compartment (2.15.1) applies to open baskets and partitioned baskets.

8.61.2.18 EQUIPMENT INTERCHANGEABILITY

1. The burners, baskets and cylinders manufactured by Kavanagh Balloons which may be used in combination with Cameron envelopes are listed in Section 8.61.9 of this supplement.

8.61.3 EMERGENCY PROCEDURES

No Change

8.61.4 NORMAL PROCEDURES

No Change.

8.61.5 WEIGHT CALCULATIONS

No Change

8.61.6 BALLOON AND SYSTEMS DESCRIPTION

8.61.6.3 Burner

Refer to applicable Kavanagh balloons Flight Manual.

8.61.6.5 BASKET

Refer to applicable Kavanagh balloons Flight Manual.

8.61.7 BALLOON MAINTENANCE, HANDLING AND CARE

8.61.7.4.3 Cylinders

Note: The use - including handling, transportation and filling - of transportable gas cylinders manufactured prior to 2004 could be prohibited by legislation (e.g. ADR, RID, ADN) in many countries unless the cylinder has been reassessed for conformity against accepted design/manufacturing standards (e.g. pi-marked).

The owner/operator of the cylinder is responsible for establishing if compliance is required and ensuring that compliance is maintained. Cameron Balloons Ltd. is unable to provide advice on this matter and local guidance should be sought in the country of operation.

8.61.9 EQUIPMENT LIST

Tables 6, 7 and 8 list the Kavanagh baskets, cylinders and burners which may be used with Cameron envelopes.

Table 6: Kavanagh Balloons Baskets (additional)

Basket Category	Drawing Number	Basket Description	Applicable Cylinders	Applicable Burner Frames	Max. GCW (kg)	Approved Envelope Volume
C	KLW1010 KLW1110 KLW1210	56-77OL	1,1a, 2	KLF7661, KLF7676	650	56-77
C	KOB1010 KOB1110 KOB1210	56-77O	1,1a, 2	KLF7661, KLF7676	650	56-77
E	KLW1410 KLW1510	77-140O	1,1a, 2, 3	KLF7661, KLF7676	1400	77-140
E	KOB1610 KOB1810	77-140O	1,1a, 2, 3	KLF7661, KLF7676	1400	77-140

Table 6: Kavanagh Balloons Baskets (continued)

Basket Category	Drawing Number	Basket Description	Applicable Cylinders	Applicable Burner Frames	Max. GCW (kg)	Approved Envelope Volume
F	KMT1812 KMT2012 KST1812	120T	1,1a, 2, 3	KLF7661, KLF7676	1400	120-160
G	KST2012 KST2014	140T	1,1a, 2, 3	KLF7676, KLF1010	1400	120-160
H	KST2212 KST2214	160T	1,1a, 2, 3	KLF1010	1400	120-160
H	KST2415 KST2515	160-210T	1,1a, 2, 3	KLF1010	1800	160-210
L	KST2715 KST2816	160-300T	1,1a, 2, 3	KLF1210	2200	160-300
O	K4DT2715 K4DT2815 K4DT2915 K4DT3215	160-300TT	1,1a, 2, 3	KLF1210	2200	160-300
O	K8DT3615	350TT	1,1a, 2, 3	K8LF2010	2800	240-350
P	K8DT4015 K8DT4315 K8DT5015	400TT	1,1a, 2, 3	K8LF2010	3700	350-450

* Key: OB = Open; LW = Lightweight; ST = Single-T partition; DT = double T partition.

Table 7: Kavanagh Balloons Cylinders (additional)

Cylinder Category	Part Number	Cylinder Description
2	55L-KP3629	Stainless Steel 55L
3	76L-KP3628	Stainless Steel 76L
3	82L-KP3630	Stainless Steel 82L

Note: Kavanagh fuel cylinders [part numbers 55L-KP3629; 76L-KP3628 and 82L-KP3630] must be fitted with KA5030 vapour regulator assemblies (i.e. those using Bullfinch Tinyreg, model FG1510/11) when used in EASA member States.

Table 8: Kavanagh Balloons Burners (additional)

Burner Category	Part Number	Burner Description
A	KBS3-1	Series 3, Single
B	KBS3-2	Series 3, Double
C	KBS3-3	Series 3, Triple
D	KBS3-4	Series 3, Quad