CAMERON
BALLOONS

FAA APPROVED

BALLOON FLIGHT MANUAL SUPPLEMENT

FOR ALL CAMERON U.S. MODEL BALLOONS

MODELS 42,000 CU. FT. THROUGH 400,000 CU. FT.

REGISTRATION NUMBER _____

SERIAL NUMBER _____

This supplement must be attached to the FAA Approved Balloon Flight Manual when the balloon is modified by the installation of Aerostar/Raven Gondola, Burner and Fuel Tanks as specified in this Flight Manual Supplement.

The information contained herein supplements or supersedes the basic manual only in those areas listed. For limitations, procedures and performance information not contained in this supplement, consult the Balloon Flight Manual from the specific model Cameron Balloon.

FAA APPROVED: R D M Elray .
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FAA Central Region

DATE: JUN 1 0 2014 .

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LOG of REVISION

REV.	PAGES	DESCRIPTION	APPROVED BY	DATE
A	All	Flight Manual Supplement to Add Aerostar Bottom End to Cameron Envelopes, All Volumes	RDM'Elroy	JUN 10 2014

*Approved by Manager, Chicago Aircraft Certification Office, Central Region

NOTE: Revised text is indicated by a vertical black line along left margin.

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This manual supplement describes the installation of an Aerostar gondola, burner and fuel tanks built under Aerostar/Raven Type Certificate, A15CE, to a Cameron Balloons model built under Type Certificates B1GL, B2GL, B3GL and B4GL.

Section 1: GENERAL **No Change**

Section 2: OPERATING LIMITATIONS

1. Add Section 2.0, MAINTENANCE.

2.0.1: The maintenance and determination of airworthiness of the envelope is in accordance with "*Cameron Balloons Instructions for Continued Airworthiness*", Dated November 01, 2012 revision F or the most recent subsequent edition.

2.0.2: The maintenance and determination of airworthiness of the Gondola, Burner, Instruments and Fuel Tanks is in accordance with the "*Instructions for Continued Airworthiness for Aerostar (Raven) HOT AIR BALLOONS (ACAI)*" Rev. E Dated February 04, 2013, or the most recent subsequent edition.

2.0.3: Any service bulletin or airworthiness directive issued by Aerostar which involves any part used on this balloon shall be considered mandatory for compliance on this balloon according to the same terms that the service bulletin or airworthiness directive is required for compliance on a Raven/Aerostar balloon. Aerostar Airworthiness directives and service bulletins applying to the envelope are not applicable to this balloon.

2.0.4 Before EACH flight in which the Aerostar/Raven gondola, burners and fuel tanks are exchanged from the Cameron basket, burners and fuel tanks, the log book must show the installation of the gondola, burners and fuel tanks by part number and serial number. If the balloon is flown regularly with the same gondola, burner and fuel tanks, the entry need be made once, and each subsequent flight with the same equipment need say only 'equipped as per entry on (DATE)" referring back to date entered for the first installation.

2. Replace Section 2.3: BURNERS

2.3.1 The **BURNER** part number is engraved on the burner next to the burner serial number.

2.3.2 ELIGIBLE BURNERS:

MODEL	PART NUMBER
HP II Single	17398
HP III Single	52370-01
Aurora Single	52370-02
Dual Inlet Rally Single	51464
HP II Dual	17395
Rally HP II Dual	17399
HP II Convertible Dual	17400
HP III Dual	52350
HP III Triple	52950

If a balloon is equipped with a Rally Dual-Inlet burner assembly 51464 or HP II single burner assembly 17398 Rev. L or later, or HP III single burner assembly 52370, one 51477 or one 51977-1 or one 07752-5 or one 53037-2 fuel tank is required.

The 51477, 51977-1, 07752-5 and 53037-2 fuel tanks may be used only with the Rally Dual-Inlet burner, HP II single burner, Rev L or later, and HP III single burner.

If the balloon is equipped with an HP III Triple burner assembly (52950) a minimum of three vertical fuel tanks with three independent burner hoses must be used.

3. Replace Section 2.4: MAXIMUM GROSS WEIGHT

2.4.1: The maximum gross weight of a balloon is determined by the volume of the envelope, the power of the burner, and the certification basis of the basket.

2.4.2 The **GONDOLA** part number and serial number are on the I.D. plate mounted in the basket.

2.4.3 ELIGIBLE GONDOLAS and MAXIMUM GROSS WEIGHTS

All models 42,000 cu. ft. through 100,000 cu. ft. Type Certificates B1GL, B2GL, B3GL, B4GL

See Section 2.15 for Eligible Fuel Tanks

See Section 2.16 for Eligible Burners Per Envelope Volume

MODEL &	GROSS WEIGHT (lbs./kgs.) PER ENVELOPE VOLUME (cu. ft.)									
PART #	42,000	56,000	60,000	65,000	70,000	77,000	80,000	84,000	90,000	100,000
RW 14530	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.
ELS 52440	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.
ELSS 53095	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.
CW_V 15325	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RWSW-AFX 53130	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
CW-AFX 53160	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RB5 52805	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
CW 13860	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
CW-S 51620	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RWS 52131	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RWSW 53030	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
TW 51076	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RB6 52428	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RB8 52430	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.
RB12 52430-02	840 lb. 381.8 kg.	1120 lb. 509.1 kg.	1200 lb. 545.5 kg.	1300 lb. 590.9 kg.	1400 lb. 636.4 kg.	1540 lb. 700.0 kg.	1600 lb. 727.3 kg.	1680 lb. 763.6 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1 kg.

All models 105,000 cu. ft. through 210,000 cu. ft.
Type Certificates B1GL, B2GL, B3GL, B4GL
See Section 2.15 for Eligible Fuel Tanks
See Section 2.16 for Eligible Burners Per Envelope Volume

MODEL &	GROSS WEIGHT (lbs./kgs.) PER ENVELOPE VOLUME (cu. ft.)								
PART #	105,000	120,000	133,000	140,000	145,000	150,000	160,000	180,000	210,000
RW 14530	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.
ELS 52440	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.
ELSS 53095	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.
CW_V 15325	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.
RWSW-AFX 53130	2100 lb. 954.5 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.
CW-AFX 53160	2100 lb. 954.5 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.
RB5 52805	2100 lb. 954.5 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.
CW 13860	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.
CW-S 51620	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.
RWS 52131	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.
RWSW 53030	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.
TW 51076	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.
RB6 52428	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.
RB8 52430	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.
RB12 52430-02	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.

All models 225,000 cu. ft. through 400,000 cu. ft.
Type Certificates B1GL, B2GL, B3GL, B4GL
See Section 2.15 for Eligible Fuel Tanks
See Section 2.16 for Eligible Burners Per Envelope Volume

MODEL	GROSS WEIGHT (lbs./kgs.) PER ENVELOPE VOLUME (cu. ft.)								
PART #	**225,000**	**250,000**	**275,000**	**300,000**	**315,000**	**340,000**	**375,000**	**400,000**	
RW 14530	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	1480 lb. 672.7 kg.	
ELS 52440	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	
ELSS 53095	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	1700 lb. 772.7 kg.	
CW_V 15325	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	2100 lb. 954.5 kg.	
RWSW-AFX 53130	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	
CW-AFX 53160	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	2250 lb. 1028 kg.	
RB5 52805	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	2370 lb. 1077 kg.	
CW 13860	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	
CW-S 51620	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	
RWS 52131	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	
RWSW 53030	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	2500 lb. 1136 kg.	
TW 51076	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	2800 lb. 1273 kg.	
RB6 52428	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	2870 lb. 1305 kg.	
RB8 52430	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	
RB12 52430-02	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	3470 lb. 1577 kg.	
RB12 w/ Triple Burner 52430-02	3800 lb. 1727 kg.	3800 lb. 1727 kg.	3800 lb. 1727 kg.	3800 lb. 1727 kg.	3800 lb. 1727 kg.	3800 lb. 1727 kg.	3800 lb. 1727 kg.	3800 lb. 1727 kg.	

4. Replace Section 2.10: TETHERED OPERATION

2.10.1: Tether lines must be attached onto the carabiners which connect the envelope to the burner/gondola.

2.10.2: Tether operation is prohibited in winds exceeding 10 MPH at the surface.

2.10.3: If top tether lines are used, the top lines may be attached to the aluminum crown ring only by using a rope or fibrous attachment device. NO METAL OR HARD PLASTIC fitting, which could scratch or otherwise damage the crown ring may be attached directly to the crown ring.

5. Replace Section 2.12: FUEL TANKS AND MANIFOLD SYSTEM

2.12.1 The FUEL TANK part number and serial number are on the I.D. Plate located on the fuel tank collar.

2.12.2 ELIGIBLE FUEL TANKS – NOT ALL FUEL TANKS ARE CERTIFIED FOR EACH GONDOLA SEE SECTION 2.15.1 FOR APPLICABILITY

MODEL	PART NUMBER
H-20	07752
H-25	53052
V-10	09738, 15326 or 51477
V-15	51977
V-18	53037
V-23	52427

6. Replace Section 2.13: ENVELOPE CONNECTION TO THE BURNER FRAME

2.13.1: The envelope is connected to the A-Blocks, which fit onto the burner/gondola. Envelope cables are divided into four groups, and will fit onto the burner corner A-Blocks as follows:

2.13.2: FOR 4-POINT HOOK-UP Cameron Part NO. CBUS1034 or standard Aerostar A-Blocks may be used (SEE Figure 2.13)(All models except CW-AFX and RWSW-AFX which use carabiners only). Cameron Carabiners attach the envelope cables to the four Cameron Part No. CBUS1034 or Aerostar A-blocks (or carabiners on CW-AFX & RWSW-AFX only) in the following sequence:

8 Cable Model	12 Cable Model
Cables # 8 & 1 Upper Right Block	Cables # 11, 12 & 1 Upper Right Block
Cables # 2 & 3 Lower Right Block	Cables # 2, 3, & 4 Lower Right Block
Cables # 4 & 5 Lower Left Block	Cables # 5, 6 & 7 Lower Left Block
Cables # 6 & 7 Upper Left Block	Cables # 8, 9 & 10 Upper Left Block
16 Cable Model	**20 Cable Model**
Cables # 14, 15, 16 & 1 Upper Right Block	Cables # 17, 18, 19, 20 & 1 Upper Right Block
Cables # 2, 3, 4& 5 Lower Right Block	Cables # 2, 3, 4, 5 & 6 Lower Right Block
Cables # 6, 7, 8 & 9 Lower Left Block	Cables # 7, 8, 9, 10 & 12 Lower Left Block
Cables # 10, 11, 12 & 13 Upper Left Block	Cables # 13, 14, 15 & 16 Upper Left Block
24 Cable Model	**12 V'd Cable Model**
Cables # 20, 21, 22, 23, 24 & 1 Upper Right Block	Cables # 20 & 21, 22 & 23, 24 & 1 Upper Right Block
Cables # 2, 3, 4, 5, 6 & 7 Lower Right Block	Cables # 2 & 3, 4 & 5, 6 & 7 Lower Right Block
Cables # 8, 9, 10, 11, 12 & 13 Lower Left Block	Cables # 8 & 9, 10 & 11, 12 & 13 Lower Left Block
Cables # 14, 15, 16, 17, 18 & 19 Upper Left Block	Cables # 14 & 15, 16 & 17, 18 & 19 Upper Left Block

As viewed from behind the burner with the gondola on its side ready for inflation and looking into the envelope mouth.

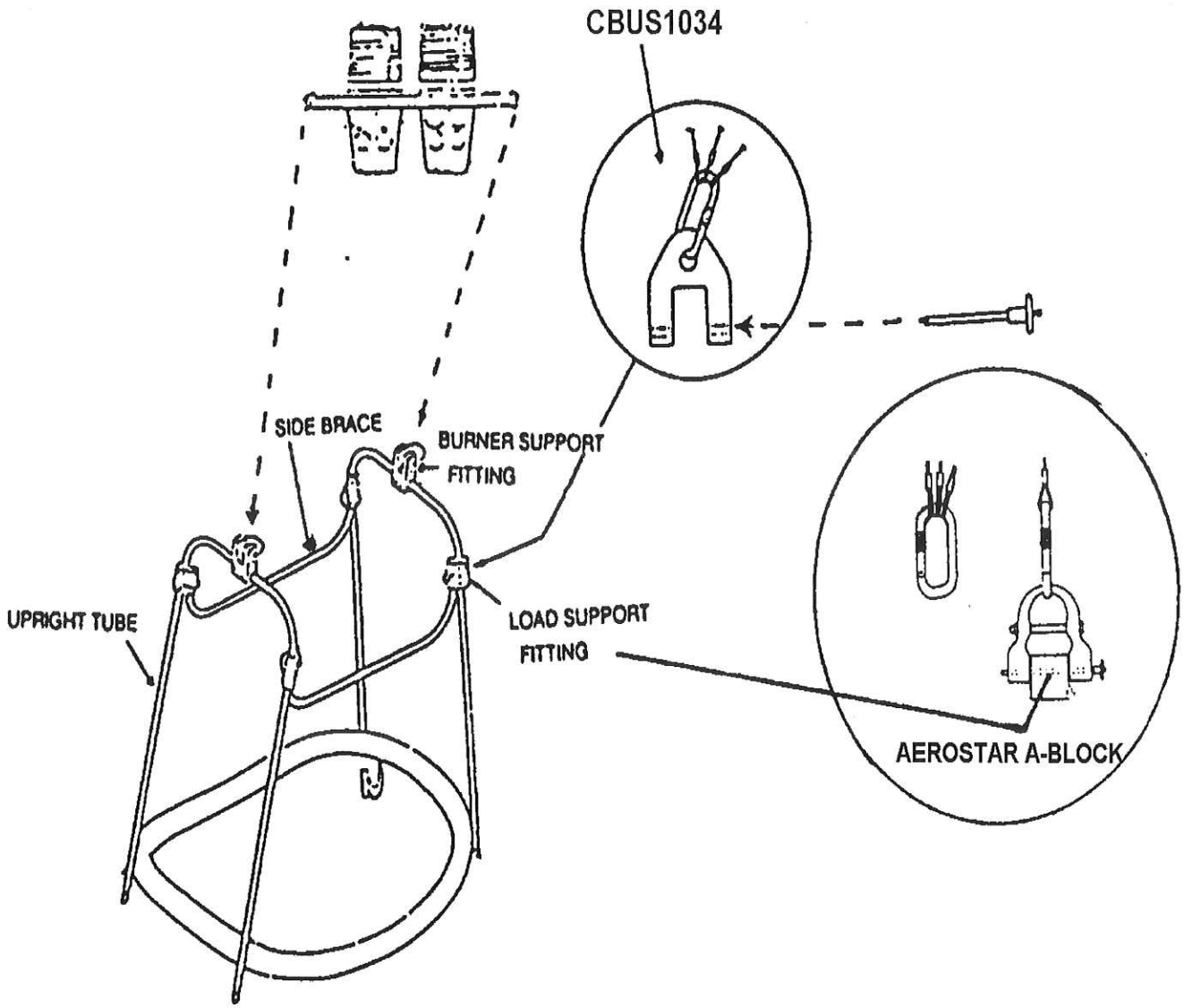
CBUS1034
SIDE BRACE
BURNER SUPPORT
FITTING
UPRIGHT TUBE
LOAD SUPPORT
FITTING
AEROSTAR A-BLOCK

Figure 2.13

7. Add Section 2.15: BASKET FUEL CAPACITY AND FUEL TANK APPLICABILITY.

2.15 BASKET FUEL CAPACITY AND FUEL TANK APPLICABILITY.

MODEL	FUEL CAPACITY AND FUEL TANK APPLICABILITY
RW	two H-20; or two or three or four V-10 orV-15
ELS	one H-20 with dual liquid feed; or one H-20 and one V-15 one of which must have dual liquid feed; or two V-15 one of which must have a dual liquid feed
ELSS	one H-25 with dual liquid feed; or one H-25 with dual liquid feed and one V-15; or two V-15 one of which must have a dual liquid feed
CW-V	two H-20; or two or three or four V-10 orV-15
RWSW-AFX	one H-20 and one or two V-15 or V-18; or two or three or four V-15 or V-18
CW-AFX	two H-20; or one H-20 and one or two V-10 or V-15 or V-18; or two or three or four V-10 or V-15 or V-18
RB5	three V-15; or two V-18 and one V-15
CW	two H-20; or one H-20 and one or two V-10 or V-15 or V-18; or two or three or four V-10 or V-15 or V-18
CW-S	two H-20; or one H-20 and one or two V-10 or V-15 or V-18; or two or three or four V-10 or V-15 or V-18
RWS	two or three or four V-10 or V-15
RWSW	one H-20 and one or two V-15 or V-18; or two or three or four V-15 or V-18
TW	six V-10; or four V-15
RB6	two V23: or two V-23 and one or two V-15 or V-18; or three or four V-15 or V-18 When used with a triple burner, a minimum of three tanks is required.
RB8	three V-23; or two V-23 and one or two or three V-15 or V-18; or three or four or five V-15 or V-18
RB12	three V-23; or two V-23 and one or two or three V-15 or V-18; or three or four or five V-15 or V-18

8. Add Section 2.16: BASKET FUEL CAPACITY AND FUEL TANK APPLICABILITY.

2.16 ELIGIBLE BURNERS PER ENVELOPE VOLUME

ENVELOPE VOLUME (cu. ft.)	MODEL	PART NUMBER
42,000	HP II Single Rally HP II HP III Single Aurora Single	17398 17399 52370-01 52370-02
56,000 60,000 65,000 70,000 77,000 80,000 84,000 90,000 100,000	HP II Single HP II Double Rally HP II HP II Convertible Dual Inlet Rally HP III Single HP III Dual Aurora Single	17398 17395 17399 17400 51464 52370-01 52350 52370-02
105,000 120,000 133,000 140,000 145,000 150,000	HP II Double Rally HP II HP II Convertible HP III Dual	17395 17399 17400 52350
160,000 180,000 210,000 225,000 250,000 275,000	HP II Double Rally HP II HP II Convertible HP III Dual HP III Triple	17395 17399 17400 52350 52950
300,000 315,000 340,000 375,000 400,000	HP III Triple	52950

If a balloon is equipped with a Rally Dual-Inlet burner assembly 51464 or HP II single burner assembly 17398 Rev. L or later, or HP III single burner assembly 52370, one 51477 or one 51977-1 or one 07752-5 ore one 53037-2 fuel tank is required.

The 51477, 51977-1, 07752-5 and 53037-2 fuel tanks may be used only with the Rally Dual-Inlet burner, HP II single burner, Rev L or later, and HP III single burner.

If the balloon is equipped with an HP III Triple burner assembly 52950, a minimum of three vertical fuel tanks with three independent burner hoses must be used.

SECTION 3: EMERGENCY PROCEDURES

1. Replace Section 3.1: FUEL SYSTEM EITHER NOT FUNCTIONING OR LEAKING

3.1.1: Two general kinds of fuel system problems can occur: a failure of controlled and adequate fuel flow to the burner orifices, or fuel discharge from any place other than the burner orifices (a fuel leak). Each of these types of failure requires a distinct and separate type of response.

3.1.2: The generally correct response to **a failure of controlled and adequate fuel flow to the burner** orifices is to continue flight using an alternate isolated fuel flow path, if available, and to land as soon as possible.

3.1.3: The generally correct response to **a leak** is to close the shutoff valve(s) at the tank(s) feeding the leak, bleed through the burner the fuel remaining in the shut down fuel flow path, extinguish any fire, and, as a precaution, land the balloon as soon as practicable using an alternate fuel flow path, if available.

3.1.4: If either failure of controlled, adequate fuel flow or a leak is encountered in any fuel flow path, the balloon should be landed as soon as practicable. Since fuel system and burner failures may be related to contaminants in the fuel, a failure in one of the fuel system or burner components could be followed later on the same flight by a failure in a component in the remaining system.

2. Replace Section 3.5: FIRE IN THE AIR

3.5.1: Close all tank liquid and vapor shutoff valves, if any, which are feeding the fire.

3.5.2: Extinguish fire with fire extinguisher.

3.5.3: Verify location of any leak.

3.5.4: If another isolated fuel path is available and useable without risk of fire or explosion, open the tank liquid and vapor valves controlling fuel flow through this fuel flow path, light the pilot light, and follow Section 3.18 "Reduced Number of Fuel Paths Usable"., otherwise follow Section 3.8 "Preparation for a Hard Landing".

3.5.5: Investigate cause of problem and correct before next flight.

3. Replace Section 3.10: BLAST VALVE STUCK CLOSED

3.10.1: If another fuel flow path is available, follow Section 3.18 "Reduced Number of Fuel Paths Usable".

3.10.2: If no alternative fuel flow path is available, follow Section 3.8 "Preparation for a Hard Landing".

3.10.3: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

4. Replace Section 3.11: BLAST VALVE STUCK OPEN

3.11.1: Close liquid shutoff valve at tank feeding the valve.

3.11.2: If another isolated fuel flow path is available and usable, follow Section 3.18 "Reduced Number of Fuel Paths Usable".

3.11.3: If no other isolated fuel path is available and usable, maintain flight control by opening and closing tank liquid shutoff valve instead of the blast valve, and land as soon as practicable.

3.11.4: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

5. Replace Section 3.12: BLAST VALVE LEAKING FUEL

3.12.1: Close liquid shutoff valve at tank(s) feeding the leaking blast valve. Open blast valve long enough to empty fuel line, then re-close.

3.12.2: If another isolated fuel flow path is available and usable, follow Section 3.18 "Reduced Number of Fuel Paths Usable".

3.12.3: If no other isolated fuel path is available and usable:

3.12.3.a: Close tank(s) liquid shutoff valve, empty fuel hose through the burner by opening the blast valve.

3.12.3.b: If blast valve can be locked open, leave blast valve in locked open position; if lanyard fitted to blast valve handle, pull the lanyard to full open.

3.12.3.c: If the liquid does not exit through the blast valve stem, or if the stem leak is small, maintain flight control by opening and closing tank liquid shutoff valve instead of the blast valve.

3.12.3.d: NOTE: When this procedure is used, the blast valve stem will usually leak only while the tank liquid valve is open and the burner is operating. The induction of air by the burner will probably draw most, if not all, of the leaking fuel into the burner where it will be burned harmlessly.

3.12.4: If flight without a dangerous leak is not possible, turn off all fuel and follow Section 3.8 "Preparation for a Hard Landing".

3.12.5: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

6. Replace Section 3.13: FAILURE OF PILOT FLAME

3.13.1: Check that the pilot light valves are open at both the burner and tank, then re-light the pilot light with ignitor.

3.13.2: If the pilot light cannot be re-lite within two or three actuation's of the ignitor, open the metering valve to allow a slow fuel flow, and ignite metering valve, then land as soon as practicable.

3.13.3: If re-light from any source is not possible, see Section 3.8 "Preparation for a Hard Landing".

3.13.4: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

7. Replace Section 3.14: LEAK FROM STEM OF TANK LIQUID SHUTOFF VALVE

3.14.1: Open leaking tank liquid shutoff valve fully and snugly to seat the built-in stem "back seal". If this does not stop the leak, close the tank, bleed the line through the blast valve.

3.14.2: If alternative fuel flow is available, turn off leaking tank and follow 3.18, "Reduced Number of Fuel Paths Usable".

3.14.3: If no alternative fuel system is available, follow Section 3.8 "Preparation for a Hard Landing".

3.14.4: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

8. Delete Section 3.15: LEAK FROM STEM OF TANK VAPOR SHUTOFF VALVE

9. Replace Section 3.16: LEAK IN FUEL SYSTEM

3.16.1: If any leak occurs not described above, the correct procedure is to first eliminate the leak and then to land the balloon as soon as practicable.

3.16.4: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

10. Replace Section 3.17: FUEL EXHAUSTION IN A FUEL PATH

Follow procedure in Section 3.18 "Reduced Number of Fuel Paths Usable."

11. Replace Section 3.18: REDUCED NUMBER OF FUEL PATHS USABLE (AT LEAST ONE USABLE)

3.18.1: Maintain flight control using an alternate, usable fuel flow, land as soon as practicable.

3.18.2: Before any subsequent flight, identify and correct the cause of the problem, and repair any resulting damage.

12. Delete Section 3.19: LEAK IN CROSSFIRE VALVE

13. Delete Section 3.20: LEAK IN PILOT LIGHT SHUTOFF VALVE AT BURNER

SECTION 4: NORMAL PROCEDURES

1. Delete Section 4.2.4: CONNECTING BASKET TO THE BURNER

For details on connecting Raven/Aerostar gondola and burner, refer to Raven/Aerostar Flight Manual which applies to the gondola and burner being used with the Cameron envelope.

2. Delete Section 4.2.5: CONNECT AND INSPECT FUEL SYSTEM

For details on connecting Raven/Aerostar burner and fuel system, refer to Raven/Aerostar Flight Manual which applies to the basket and burner being used with the Cameron envelope.

3. Replace Section 4.2.6: ENVELOPE CONNECTION

4.2.6.a: **CABLE INSPECTION**: Prior to connecting the envelope cables, inspect each cable for visible damage. This inspection is mandatory before every flight for Kevlar cables, and should be completed on the stainless cables if any discoloration or kinking has occurred on any of the cables.

4.2.6.b: Kevlar cables must be replaced before flight if the creamy-yellow braided core is exposed or damaged, or the flexibility of the polyester cover is noticeably reduced. When replacing Kevlar cables, follow the detailed replacement procedure in Appendix E: "Instructions for field Replacing of Kevlar Envelope Cables". A duplicate set of these instructions is provided with each Kevlar cable replacement kit provided by Cameron Balloons.

4.2.6.c: Refer to Section 2.13.2 in this Flight Manual Supplement for specific numbers to attach to specific burner block locations.

4.2.6.d: The red line should be attached on the Right Upper Block carabiner. The rotation vent lines should be attached on the appropriate Lower locations (Left and/or Right). The side vent line should be attached at the Upper Left carabiner.

4.2.6.e: Attach the thermistor cable, if fitted, or install the Weston dial thermometer.

4. Replace FIG. 4.15: ATTACHING SCOOP AT BURNER

The scoop attachment clips should be hooked around the CROSSBAR that acts as the cross bracing of the Raven/Aerostar gondola. Adjust the shock cord to create a firm downward pull on the scoop.

SECTION 5: PERFORMANCE No Change

SECTION 6: WEIGHT AND EQUIPMENT

1. ADD SECTION 6.1 – WEIGHT AND EQUIPMENT – AEROSTAR BOTTOM END

Cameron Balloons U.S. ALL Models with Aerostar Bottom End

CAMERON ENVELOPE with scoop, crown line, suspension cables and snaplinks (carabiners)

Part Number _____ _____Lbs. or

Serial Number _____ _____Kgs.

ENVELOPE CARRYING BAG _____Lbs. or

_____Kgs.

AEROSTAR BURNER with fuel hoses

Model _____ _____Lbs. or

Serial Number _____ _____Kgs.

AEROSTAR GONDOLA with upper carriage, covers, instruments, fire extinguisher and documents in case

Model _____ _____Lbs. or

Serial Number _____ _____Kgs.

AEROSTAR FUEL TANKS

Serial Number	Model/Part Number	Pounds	Kilograms
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____