CAMERON BALLOONS

FAA APPROVED

BALLOON FLIGHT MANUAL SUPPLEMENT

FOR ALL CAMERON U.S. BALLOONS

MODELS 42,000 CU. FT. THROUGH 275,000 CU. FT.

REGISTRATION NUMBER _____

SERIAL NUMBER _____

This supplement must be attached to the FAA Approved Cameron Balloons Flight Manual when the aircraft is modified by the installation of Firefly (The Balloon Works) basket, burner and fuel tanks.

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 model specific Cameron Balloons Flight Manual.

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DATE: JUN 10 2014.

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REVISION LOG

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

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This manual supplement describes the installation of a Firefly (The Balloons Works) basket, burner and fuel tanks built under Type Certificates A14SO to a Cameron Balloons model built under Type Certificates B1GL, B2GL, B3GL, or B4GL. All bottom end equipment must be approved for use in a Firefly (The Balloons Works) balloon.

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 Instruction for Continued Airworthiness", Issue III Revision F Dated November 01, 2012 or the most recent subsequent edition.

   2.0.2: The maintenance and determination of airworthiness of the Gondola (basket), Burner, Instruments and Fuel Cylinders is in accordance with "Instructions for Continued Airworthiness for FireFly (The Balloon Works) Balloons, Revision B" March, 1988, or the most recent subsequent edition.

   2.0.3: Any service bulletin or airworthiness directive issued by FireFly (The Balloon Works) 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 FireFly (The Balloon Works) balloon. Airworthiness directives and service bulletins from FireFly (The Balloon Works) applying to the envelope are not applicable to this balloon.

2. **Replace Section 2.4: MAXIMUM GROSS WEIGHT**

   2.4.1: The volume of the envelope, the power of the burner, and the certification basis of the gondola (basket) determine the maximum gross weight of a balloon.

   The maximum gross weight for the Cameron Envelope Models when used with the FireFly (The Balloon Works) gondola (basket), burner and fuel cylinders is listed in Section 2.18.

   2.4.5: Before EACH flight in which the FireFly (The Balloon Works) gondola (basket), burner and fuel cylinders are flown, the log book must show the installation of the gondola (basket), burner and fuel cylinders by part number and serial number. If the balloon is flown regularly with the same gondola (basket), burner and fuel cylinders, the entry need be made once, and each subsequent change from Cameron or FireFly (The Balloon Works) equipment, using the same set of equipment need say only "equipped as per entry on (DATE)" referring back to date entered for first installation.

   2.4.6: Minimum fuel pressure: 100 psig on the balloon fuel system pressure gauge. This is equivalent to an ambient temperature of 62°F for pure propane.

3. 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 (basket).

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.

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

2.13.1: The envelope is connected to the carabiners (20 & 24 Cable Models Require Double Carabiners). The carabiners then loop around the gondola (basket) suspension rope. Envelope cables are divided into three groups, and are attached to the gondola (basket) suspension ropes as follows:

8 Cable Models:

Cables # 7 and 8 attach onto suspension rope on center TOP corner (over tank #1)

Cables # 1, 2 and 3 attach onto suspension rope on pilots RIGHT during inflation (over tank #2)

Cables # 4, 5 and 6 attach onto suspension rope on pilot's LEFT during inflation (over tank #3)

12 Cable Models:

Cables #9, 10, 11 and 12 attach onto suspension rope on center TOP corner (over tank #1)

Cables # 1, 2, 3 and 4 attach onto suspension rope on pilots RIGHT during inflation (over tank #2)

Cables # 5, 6, 7 and 8 attach onto suspension rope on pilot's LEFT during inflation (over tank #3)

16 Cable Models:

Cables # 11, 12, 13, 14, 15 and 16 attach onto suspension rope on center TOP corner (over tank #1)

Cables # 1, 2, 3, 4 and 5 attach onto suspension rope on pilots RIGHT during inflation (over tank #2)

Cables # 6, 7, 8, 9 and 10 attach onto suspension rope on pilot's LEFT during inflation (over tank #3)

20 Cable Models:

Cables # 14, 15, 16, 17, 18, and 19 attach onto suspension rope on center TOP corner (over tank #1)

Cables # 20, 1, 2, 3, 4, 5, and 6 attach onto suspension rope on pilots RIGHT during inflation (over tank #2)

Cables # 7, 8, 9, 10, 11, 12, and 13 attach onto suspension rope on pilot's LEFT during inflation (over tank #3)

24 or 12 V'd Cable Models:

Cables # 16, 17, 18, 19, 20, 21, 22, and 23 attach onto suspension rope on center TOP corner (over tank #1)

Cables # 24, 1, 2, 3, 4, 5, 6, and 7 attach onto suspension rope on pilots RIGHT during inflation (over tank #2)

Cables # 8, 9, 10, 11, 12, 13, 14, and 15 attach onto suspension rope on pilot's LEFT during inflation (over tank #3)

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

One or two carabiners may be used in each corner. Connect the flying wires or flying wires carabiner to the carabiner that is already attaching the burner frame and basket wire, as shown in fig. 4.2.4.1a. Care should be taken to see that the flying wires are not crossed or twisted at this point. Screw the carabiner gates closed, and then back off 1/4 turn.

Do not lay out the complete envelope before connecting the flying wires to the basket.

5. Add Sections 2.15 through 2.17: APPROVED FIREFLY (THE BALLOON WORKS) GONDOLAS (BASKETS), BURNERS, AND CYLINDERS

2.15: FireFly (The Balloon Works) s, size 3.9, 4.0, 4.5, 4.9, 4.9DB, S5.0, S5.0DB, 5.0, 5.0DB, 5.9, 6.0, 4860DB, 5468, 6072, 6072T, 6096 or 60120 may be used with this envelope. If the FireFly (The Balloon Works) gondola (basket) is used, then the burner and cylinders must be FireFly (The Balloon Works) components.

2.16: FireFly (The Balloon Works) burner T3-017 single or double or F1 Mirage single or double must be used when the FireFly (The Balloon Works) gondola (basket) is used. Fire II is a mandatory requirement on FireFly (The Balloon Works) burners used with the Cameron envelope.

2.17: FireFly (The Balloon Works) cylinders, part numbers 3329, 3329-1, 3329-2, 3035, 3035-1, 3035-2, 3258, 3661-1, 3661-2, B3G661-1, B3G661-2, or C6G001 must be used with FireFly (The Balloon Works) gondola (basket) and burner. There must be at least one part number 3229 cylinder, to provide the pilot light, for each burner. At least one tank 3229 must be fitted with Fire 2.

6. Add Section 2.18: MAXIMUM GROSS WEIGHT

2.18: 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 gondola (basket). The maximum gross weight of this model is the maximum gross weight of the envelope or the maximum gross weight gondola (basket), which ever is least.

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

See Section 2.20 for Eligible Burners Per Envelope Volume

See Section 2.17 for Eligible Fuel Tanks

MODEL	GROSS WEIGHT (lbs./kgs.) PER ENVELOPE VOLUME (cu. ft.)									
	42,000	**56,000**	**60,000**	**65,000**	**70,000**	**77,000**	**80,000**	**84,000**	**90,000**	**100,000**
3.9	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. 672.7 kg.	1600 lb. 672.7 kg.	1680 lb. 672.7 kg.	1800 lb. 818.2 kg.	2000 lb. 909.1kg.
4.0	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. 772.7 kg.	2000 lb. 909.1 kg.
4.5	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. 772.7 kg.	2000 lb. 909.1 kg.
4.9	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.
4.9 DB	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.
S5.0	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.
S5.0 DB	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.
5.0	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.
5.0 DB	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.
5.9	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.
6.0	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.
4860 DB	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.
5468	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.
6072	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.
6072 T	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.
6096	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.
60120	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 225,000 cu. ft.
Type Certificates B1GL, B2GL, B3GL, B4GL & B1EU
See Section 2.20 for Eligible Burners Per Envelope Volume
See Section 2.17 for Eligible Fuel Tanks

MODEL	GROSS WEIGHT (lbs./kgs.) PER ENVELOPE VOLUME (cu. ft.)									
	105,000	**120,000**	**133,000**	**140,000**	**145,000**	**150,000**	**160,000**	**180,000**	**210,000**	**225,000**
3.9	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.
4.0	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.
4.5	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.
4.9	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.
4.9 DB	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg	3285 lb. 1493 kg.	3285 lb. 1493 kg.	3285 lb. 1493 kg.
S5.0	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1364 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.
S5.0 DB	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg.	3285 lb. 1493 kg.	3285 lb. 1493 kg.	3285 lb. 1493 kg.
5.0	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	12450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.	2450 lb. 1114 kg.
5.0 DB	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg.	3600 lb. 1636 kg.	3940 lb. 1791kg.	3940 lb. 1791kg.
5.9	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg.	3600 lb. 1636 kg.	3940 lb. 1791kg.	3940 lb. 1791kg.
6.0	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg.	3600 lb. 1636 kg.	3940 lb. 1791kg.	3940 lb. 1791kg.
4860 DB	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 7909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.
5468	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209kg.	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.
6072	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	12000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.
6072 T	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.
6096	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg.	3600 lb. 1636 kg.	3940 lb. 1791kg.	3940 lb. 1791kg.
60120	2100 lb. 954.5 kg.	2400 lb. 1091 kg.	2660 lb. 1209 kg.	2800 lb. 1273 kg.	2900 lb. 1318 kg.	3000 lb. 1364 kg.	3200 lb. 1456 kg.	3600 lb. 1636 kg.	3940 lb. 1791kg.	3940 lb. 1791kg.

All models 250,000 cu. ft. through 275,000 cu. ft.
Type Certificates B1GL, B2GL, B3GL, B4GL & B1EU
See Section 2.20 for Eligible Burners Per Envelope Volume
See Section 2.17 for Eligible Fuel Tanks

MODEL	GROSS WEIGHT (lbs./kgs.) PER ENVELOPE VOLUME (cu. ft.)									
	250,000	**275,000**								
3.9	2450 lb. 1114 kg.	2450 lb. 1114 kg.								
4.0	2450 lb. 1114 kg.	2450 lb. 1114 kg.								
4.5	2450 lb. 1114 kg.	2450 lb. 1114 kg.								
4.9	2450 lb. 1114 kg.	2450 lb. 1114 kg.								
4.9 DB	3285 lb. 1493 kg.	3285 lb. 1493 kg.								
S5.0	2450 lb. 1114 kg.	2450 lb. 1114 kg.								
S5.0 DB	3285 lb. 1493 kg.	3285 lb. 1493 kg.								
5.0	2450 lb. 1114 kg.	2450 lb. 1114 kg.								
5.0 DB	3940 lb. 1791kg.	3940 lb. 1791kg.								
5.9	3940 lb. 1791kg.	3940 lb. 1791kg.								
6.0	3940 lb. 1791kg.	3940 lb. 1791kg.								
4860 DB	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.								
5468	2800 lb. 1273 kg.	2800 lb. 1273 kg.								
6072	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.								
6072 T	2000 lb. 909.1 kg.	2000 lb. 909.1 kg.								
6096	3940 lb. 1791kg.	3940 lb. 1791kg.								
60120	3940 lb. 1791kg.	3940 lb. 1791kg.								

7. Add Section 2.19: APPROVED FIREFLY (THE BALLOON WORKS) GONDOLAS (BASKETS) AND FUEL CYLINDER COMPATIBILITY

2.19: Gondola (basket) models 3.9 and 4.9 may contain; one, two, three or four 10-gallon FAA approved propane cylinders. One P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1, 3035-2 or 3258. Models 3.9 and 4.9 may alternately contain one or two 15-gallon FAA approved propane cylinders P/N 3661-2 installed in corners two or three only.

Gondola (basket) models 4.0 and 4.5 may contain; one, two or three 10-gallon FAA approved propane cylinders. One P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1, 3035-2 or 3258. Models 4.0 and 4.5 may alternately contain one, two or three 15-gallon FAA approved propane cylinders P/N 3661-1 installed in corner one and P/N 3661-2 in the other corners.

Gondola (basket) models 5.0 and S5.0 may contain one, two, three, four, five or six 10-gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1, 3035-2 or 3258.

Gondola (basket) model 4.9DB (two burners installed) may contain two, three or four 10-gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1 or 3035-2 . Model 4.9DB may alternately contain one or two 15-gallon FAA approved propane cylinders P/N 3661-2 installed in corners 2 or 3 only.

Gondola (basket) model 5.0DB and S5.0DB (two burners installed) may contain six 10-gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1, 3035-2.

Gondola (basket) model 5.9: Six or seven 10-gallon FAA approved propane cylinders, two P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1 or 3035-2.

Gondola (basket) model 6.0: Seven, eight or nine 10 gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed in corner one. The remaining cylinders must be P/N 3035, 3035-1 or 3035-2. The size 6.0 gondola (basket) may alternately contain one or two 15 gallon FAA approved propane cylinders, P/N 3661-2 installed in corner 2 or 3 only.

Gondola (basket) model 4860DB: Four, five or six 10 gallon FAA approved propane cylinders. One P/N 3229, 3229-1 or 3229-2 must be installed in corners one and three. The remaining cylinders may be P/N C6G001 or P/N 3035, 3035-1 or 3035-2. The 4860DB gondola (basket) may alternatively contain four, five or six 15 gallon FAA approved propane cylinders, a P/N B3G661-1 or P/N 3661-1 in corner one and three and P/N B3G661-2 or P/N 3661-2 in the other corners.

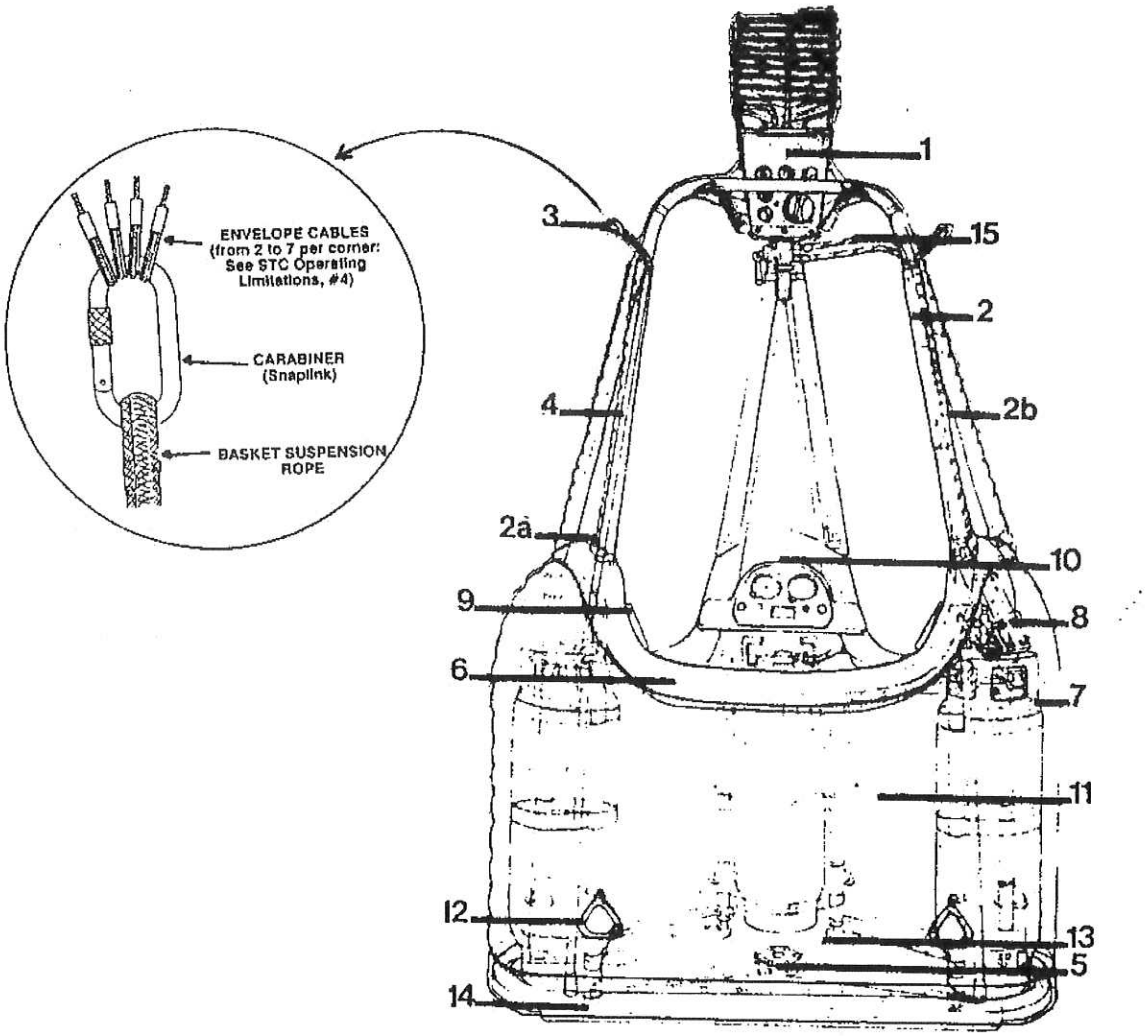
Gondola (basket) Models 6072 or 6072T: Six, seven or eight 10 gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed in corner one or two. The remaining cylinders must be P/N C6G001 or P/N 3035, 3035-1 or 3035-2. The 6072 and 6072T gondolas (baskets) may alternatively contain six, seven or eight 15 gallon FAA approved propane cylinders, two P/N B3G661-1 or P/N 3661-1 in corner one or two and P/N B3G661-2 or P/N 3661-2 in the other corners.

Gondola (basket) Models 6096 or 60120: Six, seven or eight 10 gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed in corner one or two. The remaining cylinders must be P/N C6G001 or P/N 3035, 3035-1 or 3035-2. The 6096 and 60120 gondola (baskets) may alternatively contain six, seven or eight 15 gallon FAA approved propane cylinders. Two P/N B3G661-1 or P/N 3661-1 in corner one or two and P/N B3G661-2 or P/N 3661-2 in the other corners.

Gondola (basket) Models Model 5468: Three, four, five or six 10 gallon FAA approved propane cylinders. Two P/N 3229, 3229-1 or 3229-2 must be installed between corners two and three. The remaining cylinders must be P/N C6G001 or P/N 3035, 3035-1 or 3035-2.

8. Add Section 2.20: Eligible Firefly (The Balloon Works) Burners Per Envelope Volume

ENVELOPE VOLUME (cu. ft.)	ELIGIBLE BURNER MODEL	CONFIGURATION
42,000	T3-017	Single
	F1 Mirage	Single
56,000	T3-017	Single
60,000	F1 Mirage	Single
65,000		
70,000	T3-017	Double
77,000	F1 Mirage	Double
80,000		
84,000	1 T3-017 & 1 F1 Mirage	Double
90,000		
100,000		
105,000	T3-017	Double
120,000	F1 Mirage	Double
133,000		
140,000	1 T3-017 & 1 F1 Mirage	Double
145,000		
150,000		
160,000		
180,000		
210,000		
225,000		
250,000		
275,000		



1. Burner
2. Burner Support Uprights
2a. Support Uprights attachment pin
2b. Fuel Hoses (under covering)
3. Basket Suspension Rope
4. (Optional) burner support covering
5. Anchor plate for basket suspension ropes
6. Padded top rail
7. Tank #1 (must be P/N 3229)
8. Fire II actuation location
9. (Optional) glove box
10. Instrument cluster
11. Wicker walls
12. Carrying handle
13. Wooden floor
14. Scuff leather
15. Fuel lines

FIG. 1: INSTALLATION OF ENVELOPE

SECTION 3: EMERGENCY PROCEDURES

1. Replace Section 3.1: FUEL SYSTEM EITHER NOT FUNCTIONING OR LEAKING (General Approach)

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 practical 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 practical. Since fuel system and burner failures may be related to contaminants in the fuel, a failure in one of the burner or fuel system components could be followed later on the same flight by a failure in a different component.

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 valve 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 practical.

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.

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 valve(s) is open at the tank, then re-light the pilot light with igniter.

3.13.2: If the pilot light cannot be re-lit within two or three seconds, open the Fire II valve to allow a slow fuel flow and ignite Fire II, then land as soon as practical.

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 and 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. **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 practical.

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

9. **Replace Section 3.17: FUEL EXHAUSTION IN A FUEL PATH**

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

10. **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 (Fire II), land as soon as practical.

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

11. **Delete Section 3.19: LEAK IN CROSSFIRE VALVE**

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

SECTION 4: NORMAL PROCEDURES

1. **Replace Section 4.2.4: CONNECTING GONDOLA (BASKET) TO THE BURNER**

   Install burner spring hooks onto three burner support brackets which connect the rattan uprights. Fuel hoses should be Velcro attached onto an upright with matching Velcro.

2. **Replace Section 4.2.5: CONNECT AND INSPECT FUEL SYSTEM**

   Connect cylinders to fuel hoses. Check for fuel leaks BEFORE IGNITING PILOT LIGHTS OR MAIN BURNER by turning on each tank one at a time and sniffing around tank fittings and burner fittings to detect smell of propane, and by looking for condensation around fittings.

3. Replace Section 4.2.6: ENVELOPE CONNECTION

4.2.6.a: The gondola (basket) suspension ropes must pass OVER the pin located just below the rattan upright separation point (just below #3 on the Installation Instructions, page 7 of this Flight Manual Supplement).

4.2.6.b: 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 steel cables if any discoloration or kinking has occurred on any of the cables.

4.2.6.c: 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" in the Cameron Balloons Flight Manual for Model Z-90. A duplicate set of these instructions is provided with each Kevlar cable replacement kit provided by Cameron Balloons.

4.2.6.d: Refer to Operating Limitations Item #4 (Section 2.13) in this Flight Manual Supplement for specific numbers to attach to specific gondola (basket) suspension ropes.

4.2.6.e: The red line should be attached on the RIGHT (on pilot's right side during inflation) #2 gondola (basket) suspension rope carabiner. The rotation vent lines, if fitted, should be attached on the #2 (Right) and #3 (Left) gondola (basket) suspension rope carabiners as appropriate. The side vent line, if fitted, should be attached on the #3 (Left) gondola (basket) suspension rope carabiner.

4.2.6.f: 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 metal pins over which the gondola (basket) suspension ropes rest. 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 – FIREFLY (THE BALLOON WORKS) BOTTOM END

Cameron Balloons US Envelope Models with FireFly (The Balloon Works) Bottom End

CAMERON ENVELOPE

with thermistor wire, scoop, crown line, suspension cables and snaplinks (carabiners)

Part Number _____ _____Lbs. or

Serial Number _____ _____Kgs.

CAMERON ENVELOPE BAG

_____Lbs. or

_____Kgs.

FIREFLY (THE BALLOON WORKS) BURNER

with fuel hoses

Model _____ _____Lbs. or

Serial Number _____ _____Kgs.

FIREFLY (THE BALLOON WORKS) GONDOLA (BASKET)

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

Model _____ _____Lbs. or

Serial Number _____ _____Kgs.

FIREFLY (THE BALLOON WORKS) FUEL CYLINDERS

with padded covers

Serial Number	Model/Part Number	Pounds	Kilograms

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