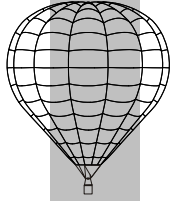


SUPPLEMENT 19 – Other Manufacturers Equipment

Issue 11 to FM Supplement 19 is approved under the authority of DOA ref. EASA. 21J.351.



19.1 General Information

Ultramagic envelopes are approved for use with other manufacturers equipment as listed in section 19.8 of this Supplement. There is a uniformity of interface between the Ultramagic envelope ranges and the load frames, basket, burners and cylinders listed which allows this use. Ultramagic allow this use based on a number of requirements having been met and listed at section 8.1 of the Flight Manual.

19.2 Limitations of use

Fantasy

19.2.2 Meteorological Limitations.

Maximum demonstrated surface winds;
 (a) Take off - 11km/hr (7mph)
 (b) Landing – 19km/hr (12mph)

19.2.5 Fuel

CAUTION: Care should be exercised when pressures drop below 80 p.s.i. The best operating range is 100 – 120 p.s.i.

WARNING: Do not open both burner valves on the single burner at the same time.

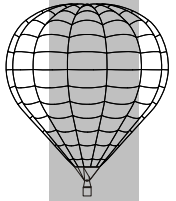
WARNING: At least 2 full fuel tanks equipped with fuel quantity gauges must be fitted for takeoff with one tank connected to either side of fuel system for redundancy. Ends of fuel lines not in use **MUST** be capped.

NOTE: The maximum number of fuel tanks that can be carried in Fantasy baskets is four. The Fantasy E – type basket 46” x 70” is designed for use with 15 gal. Stainless steel tanks only, and will only accommodate 3 of these tanks.

19.2.6 Loading

The maximum take off mass is limited when using Fantasy baskets and Burners as shown in the following table. This figure must not be exceeded or the limit determined with the use of the load chart in Flight Manual section 5.2, whichever is the lower.

| Envelope Volume (ft ³) | Burner Type or Basket type | Maximum take off Mass (kg) |
|------------------------------------|--------------------------------------------------------------------|----------------------------|
| 56,000 | All applicable | 500 |
| 65,000 | All applicable | 500 |
| 77,000 | All applicable | 659 |
| 90,000 | All applicable | 682 |
| 105,000 | Single or dual A-type burner (round) | 682 |
| 105,000 | Dual F-type burner (square) only | 818 |
| 120,000 | Dual F-type burner (square) only | 909 |
| 120,000 | Dual F-type burner (square) with 46” x 70” T partition basket only | 1090 |



Raven

19.2.6 Loading

The maximum take off mass is limited by certain basket types as shown in the following table. This figure must not be exceeded or the limit determined with the use of the load chart in Flight Manual section 5.2, whichever is the lower.

| Envelope Volume [m ³] | Basket Type | Maximum Take-Off Mass [kg] |
|-----------------------------------|---------------------------------------|----------------------------|
| 900 | ELS & ELSS | 363 |
| 1600 | ELS & ELSS | 522 |
| 1600 | RWS | 500 |
| 1850 | ELS&ELSS | 522 |
| 1850 | RWS | 560 |
| 1850 | CW , CW-AFX & RWS | 636 |
| 2200 | ELS & ELSS | 545 |
| 2200 | RWSW, RWSW-AFX, CW, CW-AFX & RWS | 652 |
| 2550 | ELS & ELSS | 545 |
| 2550 | RWSW, RWSW-AFX, CW, CW-AFX, CWS & RWS | 750 |
| 3000 | RWSW, RWSW-AFX, CW, CW-AFX, CWS & RWS | 818 |
| 3400 - 3700 | CWS & RWS | 909 |
| 3400 - 3700 | RB5 & RB6 | 1011 |
| 3700 - 5100 | CWS | 909 |
| 3700 - 5100 | RB5 | 1045 |
| 3700 - 5100 | RB6 | 1136 |
| 3700 - 5100 | RB8 | 1204 |
| 6000 | RB6 | 1272 |
| 6000 | RB8 | 1568 |
| 7000 | RB6, RB8, TWX & NC5 | 1516 |
| 5100-7000 | RB12 | 1564 |

Kubíček

19.2.12 Burners

WARNING: Only burners with independent back up may be used. The back up must consist of a functional independent whisper burner in addition to the main burner.

CAUTION: Burners are only tested up to the Maximum Flight Altitude of 14,000 ft.

19.3 Emergency procedures

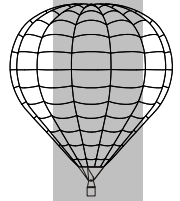
Fantasy

19.3.2 Pilot Light Failure

If the pilot light should go out for any reason, it should be relit if possible. If this is not possible then proceed as follows.

Dual Burners:

- Transfer control to the functioning burner.



- Shut down faulty burner and drain line.
- Land as soon as possible.

Single F-Type Burner:

- Cylinder Fuel Valve – closed
- Burner main valve – locked or held open.
- Cylinder Fuel Valve – fractionally open, to allow a small amount of fuel to the burner.
- Main Burner – ignite with sparker, match or other source of ignition lighting several inches above the main jets.
- Cylinder Fuel Valve – Open fully to obtain normal burn.
- Cylinder Fuel Valve – Close to fractional setting to turn burner off but to maintain a pilot light setting.
- Land as soon as possible.

Single FX/2 Burner:

If operating on Red fuel system when failure occurs proceed as follows:

- By-Pass Valve (Black) – lock open.
- Fuel Valve (Black) – open very slightly
- By Pass burner (Black) – ignite with sparker, match or other source of ignition several inches above by-pass jets.
- Adjust Fuel Valve – to maintain a pilot flame about 12 inches high.
- Operate Red Fuel System – as required to obtain normal burn.
- Land as soon as possible.

NOTE: The Red by-pass burner can be used as a back up pilot light when operating on the Black fuel system. However the same procedure applies which is –
Land as soon as possible.

WARNING: Continuous operation of a propane valve at very low settings will result in some freezing and should only be practised for the shortest periods of time required to achieve a safe landing as soon as is possible.

WARNING: The above procedures should be practised on the ground until proficiency in manually igniting the liquid by-pass burner and main burner, is attained.

Raven

19.3.2 Pilot Light Failure

Ensure that the pilot light valves are turned on at the cylinder and the burner and attempt to relight the pilot light with the igniter.

If after two to three attempts the pilot light cannot be re-lit then carry out the following procedure.

Open the metering valve to allow a slow fuel flow and immediately ignite to provide a temporary pilot light.

Land as soon as possible.

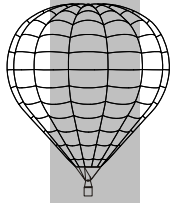
If no re-light at all is possible prepare for an emergency landing, see Section 3.7 Emergency landing.

19.4 Standard Procedures

19.4.5.4 Envelope

Fantasy

Fantasy "E" and "F" type series gondola connections also have 4 Karabiner connection to the envelope but without a burner frame lug attachment point. In this case the Ultramagic envelope Karabiners must be attached to a "slave" Fantasy Karabiner attached to the Fantasy Gondola as shown in the applicable Flight Manual gondola connections for "F" type series connections.

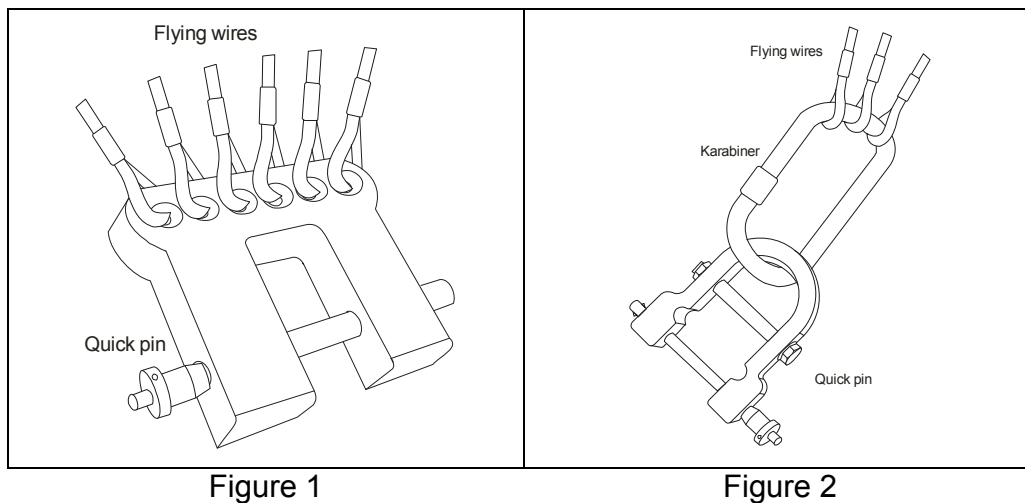


Raven

Raven Aerostar have the following attachment system.

See figure 1. for envelope attachment for 2 point attachment bottom ends.

See figure 2. for envelope attachment for 4 point attachment bottom ends.



19.5 Loading

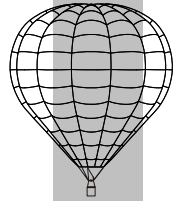
No change

19.6 Balloon and Systems Description

Refer to applicable manufacturer Flight Manual.

19.7 Balloon Handling, Maintenance and Care

Refer to applicable manufacture Maintenance Manual.

19.8 Other manufacturers equipment**CAMERON**

| Basket Model / Size (cm) | Type | Empty Weight (Kg) | UM Envelope size range |
|--------------------------|------|-------------------|------------------------|
| Voyager / Voyager II | Open | 45 | 31-56 |
| Concept 60 | Open | 50 | 42-105 |
| Concept 80 | Open | 56 | 50-145 |
| 66 x 79 | Open | 35 | 31-70 |
| 112 x 112 | Open | 45 | 31-65 |
| 112 x 124 | Open | 60 | 56-77 |
| 112 x 147 | Open | 65 | 56-105 |
| 122 x 157 | Open | 70 | 77-160 |
| 122 x 189 | Open | 95 | 120-160 |
| 122 x 208 | ST | 100 | 120-160 |
| 135 x 195 | P | 100 | 120-180 |
| 144 x 230 | ST | 165 | 160-210 |
| 170 x 236 | ST | 180 | 160-250 |
| 170 x 282 | ST | 185 | 210-250 |
| 170 x 266 | DT | 195 | 180-250 |
| 155 x 326 | DT | 220 | 250-355 |
| 165 x 305 | ST | 220 | 210-425 |
| 170 x 305 | DT | 225 | 210-425 |
| 170 x 347 | DT | 245 | 250-425 |
| 165 x 410 | DT | 310 | 300-425 |

| Burner Type | Weight (Kg) | UM Envelope size range |
|-------------------------|-------------|------------------------|
| Mk4 Single | 17 | 42-90 |
| Mk4 Double | 24 | 42-160 |
| Mk4 Super Double | 24 | 42-160 |
| Mk4 Super Triple | 44 | 120-250 |
| Mk4 Super Quad | 55 | 180-425 |
| Mk3 Double | 23 | 56-160 |
| Mk4 Single Shadow | 17 | 31-77 |
| Mk4 Super Shadow Double | 24 | 42-210 |
| Mk4 Super Shadow Triple | 44 | 120-300 |
| Mk4 Super Shadow Quad | 55 | 180-425 |
| Stealth Double | 24 | 42-180 |
| Stealth Triple | 45 | 120-250 |
| Stealth Quad | 56 | 180-425 |
| Sirocco Double | 24 | 56-160 |
| Sirocco Triple | 46 | 105-250 |
| Sirocco Quad | 55 | 250-425 |

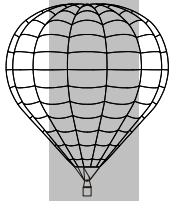
| Cylinder Type | Empty Weight (Kg) | Fuel Capacity (Kg) | Basket range |
|---------------|-------------------|--------------------|--------------|
| CB901 | 3.5 | 2.5 | All |
| Worthington | 14 | 20 | All |
| CB 497 | 16 | 20 | All |
| CB 599 | 17 | 22 | All |
| CB 426 | 22 | 28 | All |
| CB 959 | 25 | 36 | All |
| CB 2380S | 13 | 29 | All |
| CB 2383S | 14 | 37 | All |
| CB 2385S | 10 | 23 | All |
| CB 2387S | 13 | 27 | All |
| CB 2088 | 22 | 28 | All |
| CB 2900 | 21 | 23 | All |
| CB 2901 | 23 | 30 | All |
| CB 2902 | 24 | 27 | All |

CB 2903

27

36

All

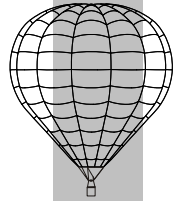


THUNDER & COLT

| Basket Size (inches) | Type | Empty Weight (Kg) | UM Envelope size range |
|----------------------|------|-------------------|------------------------|
| 40 x 40 | Open | 48 | 31-77 |
| 40 x 48 | Open | 57 | 56-90 |
| 40 x 54 | Open | 67 | 65-145 |
| 40 x 60 | Open | 69 | 65-145 |
| 48 x 68 | Open | 105 | 105-160 |
| 48 x 85 | P | 132 | 120-180 |
| 60 x 87 | ST | 160 | 160-210 |
| 60 x 90 | ST | 170 | 180-250 |
| 60 x 102 | ST | 206 | 180-250 |
| 60 x 98 | DT | 252 | 180-250 |
| 60 x 118 | DT | 284 | 180-425 |
| 60 x 126 | DT | 415 | 180-425 |
| 60 x 137 | DT | 430 | 210-425 |

| Burner Type | Weight (Kg) | UM Envelope size range |
|-----------------------------|-------------|------------------------|
| C2 Single / Single Plus | 13 | 31-77 |
| C2 Double | 17 | 42-160 |
| C2 Triple | 25 | 120-210 |
| C2 Triple + CLF | 26 | 180-300 |
| C2 Quad | 28 | 180-425 |
| Magnum/Stratus Double | 22 | 56-210 |
| Magnum/Stratus Double + CLF | 23 | 90-210 |
| Magnum/Stratus Triple | 28 | 105-250 |
| Magnum/Stratus Triple +CLF | 31 | 150-300 |
| Magnum/Stratus Quad | 37 | 180-425 |

| Cylinder Type | Empty Weight (Kg) | Fuel Capacity (Kg) | Basket range |
|---------------|-------------------|--------------------|--------------|
| Worthington | 14 | 20 | All |
| V 20 | 14 | 20 | All |
| V 30 | 18 | 30 | All |
| V 40 | 20 | 40 | All |



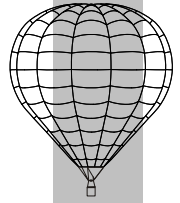
LINDSTRAND

| BASKET No. | Basket Size (cm) | Type | Empty Weight (Kg) | UM Envelope size range |
|------------|------------------|------|-------------------|------------------------|
| 01 | 110 x 115 | Open | 69 | 42-90 |
| 02 | 110 x 130 | Open | 75 | 56-105 |
| 03 | 110 x 155 | Open | 88 | 65-120 |
| 04 | 100 x 85 | Open | 50 | 25-42 |
| 05 | 98 x 113 | Open | 61 | 42-77 |
| 06 | 100 x 125 | Open | 68 | 56-105 |
| 07 | 100 x 137 | Open | 70 | 56-105 |
| 08 | 125 x 145 | Open | 91 | 77-120 |
| 09 | 96 x 102 | Open | 55 | 42-90 |
| 10 | 125 x 125 | Open | 80 | 105-120 |
| 11 | 122 x 165 | Open | 101 | 90-160 |
| 12 | 122 x 185 | ST | 117 | 90-160 |
| 13 | 122 x 205 | ST | 130 | 120-180 |
| 14 | 122 x 220 | ST | 138 | 120-180 |
| 15 | 122 x 260 | DT | 152 | 120-210 |
| 20 | 152 x 205 | ST | 150 | 150-210 |
| 21 | 152 x 240 | ST | 175 | 180-250 |
| 22 | 152 x 270 | ST | 200 | 180-300 |
| 23 | 152 x 260 | DT | 230 | 180-250 |
| 24 | 152 x 300 | DT | 255 | 180-425 |
| 25 | 152 x 350 | DT | 302 | 180-425 |
| 26 | 152 x 390 | DT | 320 | 250-425 |
| 27 | 152 x 430 | DT | 430 | 355-425 |
| 29 | 152 x 325 | DT | 279 | 180-425 |
| 30 | 152 x 280 | DT | 285 | 180-300 |
| 31 | 140 x 270 | DT | 210 | 160-300 |
| 32 | 140 x 300 | DT | 230 | 180-425 |
| 33 | 140 x 390 | DT | 295 | 180-425 |
| 34 | 140 x 240 | DT | 186 | 120-250 |
| 35 | 140 x 240 | ST | 172 | 120-250 |
| 36 | 140 x 270 | ST | 196 | 100-425 |
| 37 | 140 x 340 | DT | 257 | 180-425 |
| 41 | 135 x 285 | ST | 245 | 180-300 |

| Burner No. | Burner Type | Weight (Kg) | UM Envelope size range |
|------------|-------------------------------|-------------|------------------------|
| 1 | Jetstream Single | 17 | 42-90 |
| 2 | Jetstream Double | 22 | 42-210 |
| 3 | Jetstream Double + CLF | 25 | 120-250 |
| 4 | Jetstream Triple | 31 | 120-300 |
| 5 | Jetstream Triple + CLF | 35 | 160-425 |
| 6 | Jetstream Quad | 42 | 180-425 |
| 7 | Jetstream Supersingle | 18 | 42-90 |
| 8 | Jetstream Series 2 Double | 23 | 42-210 |
| 10 | Jetstream Series 2 Triple | 32 | 120-300 |
| 12 | Jetstream Series 2 Quad | 43 | 180-425 |
| 13 | Jetstream Series 2 Super Quad | 77 | 500 |

| Cylinder Type | Empty Weight (Kg) | Fuel Capacity (Kg) | Basket range |
|---------------|-------------------|--------------------|--------------|
| Worthington | 14 | 20 | All |
| V20 | 14 | 20 | All |
| V30 | 18 | 30 | All |
| V40 | 20 | 40 | All |
| T30 | 10 | 30 | All |

- A single 5 Ton Lindstrand Karabiner (and the corresponding tether ring) may be used on UM envelopes of size 210 and over, when fitted with the appropriate flying wires and all Lindstrand Flight Manual limitations are met.

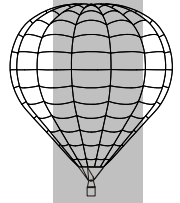


BALLOON WORKS

| N° | Basket Size (inches) | Type | Empty Weight (Kg) | UM Envelope size range |
|------|----------------------|-----------|-------------------|------------------------|
| 3100 | 49 x 53.5 | Triangle | 136 | 56 - 77 |
| 3101 | 45 x 61 | Trapeze | 136 | 56 - 77 |
| 3102 | 56 x 61 | Triangle | 146 | 56 - 90 |
| 3103 | 60 x 61 | Trapeze | 171 | 56 - 90 |
| 3104 | 59 x 65 | Hexagon | 186 | 77 - 240 |
| 3105 | 65 x 73 | Hexagon | 201 | 105 - 240 |
| 3106 | 75 x 80 | Hexagon | 240 | 105 - 240 |
| 3107 | 77 x 85 | Hexagon | 245 | 105 - 240 |
| 3108 | 48 x 40 | Rectangle | 145 | 56 - 77 |
| 3109 | 48 x 60 | Rectangle | 171 | 77 - 105 |
| 3110 | 72 x 60 | Rectangle | 420 | 105 - 210 |
| 3111 | 96 x 60 | Rectangle | 544 | 180 - 240 |
| 3112 | 120 x 60 | Rectangle | 660 | 210 - 300 |

| Burner Type | Weight (Kg) | UM Envelope size range |
|---------------|-------------|------------------------|
| T-3 | | 56 - 120 |
| Mirage | | 56 - 120 |
| Mirage Double | | 105 - 240 |

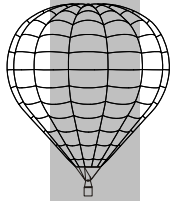
| Cylinder Type | Empty Weight (Kg) | Fuel Capacity (Kg) | Basket range |
|---------------|-------------------|--------------------|--------------|
| Worthington | 14 | 20 | All |



KUBICEK

| Basket Size (m) | Type | Empty Weight (Kg) | UM Envelope size range |
|--------------------|------------------------|-------------------|------------------------|
| 0.88 x 0.88 | K7(open) | 50 | 31-56 |
| 0.88 x 1.16 | K10(open) | 60 | 56-77 |
| 1.16 x 1.16 | K12(open) | 80 | 65-90 |
| 1.16 x 1.16 | K12a(open) | 80 | 65-90 |
| 1.16 x 1.35 | K15(open) | 85 | 65-105 |
| 1.16 x 1.45 | K16(open) | 90 | 90-130 |
| 1.16 x 1.55 | K18(open) | 100 | 90-130 |
| 1.23 x 1.28 | J1(open) | 72 | 90-105 |
| 1.23 x 1.40 | J2(open) | 76 | 90-130 |
| 1.27 x 2.10 | K25P(single partition) | 140 | 120-180 |
| 1.66 x 2.60 | K40Y (Y partition) | 250 | 180-250 |
| 1.60 x 2.40 | K32T (T partition) | 210 | 180-250 |
| 1.60 x 2.50 | K32TT (TT partition) | 210 | 180-250 |
| 1.60 x 3.00 | K50TT (TT partition) | 300 | 180-250 |
| 1.60 x 3.80 / 3.90 | K60 / K60X | 350 / 378 | 250-425 |
| 1.60 x 4.40 | K70 | 400 | 250-425 |
| 1.60 x 4.80 | K80 | 450 | 300-500 |

| Burner Type | Weight (Kg) | UM Envelope size range |
|---------------------|-------------|------------------------|
| H3 | 16 | 42-90 |
| H3-D | 20 | 42-160 |
| HB2 | 24 | 42-160 |
| Komet Duo (K10-K18) | 21 | 42-160 |
| Komet Duo (K25P) | 24 | 42-160 |
| H4 Triple | 42 | 105-250 |
| Shadow Triple | 44 | 105-250 |
| Ignis Double | 23 to 43 | 65-180 |
| Ignis Triple | 41 to 59 | 145-250 |
| Ignis Quadruple | 56 to 102 | 210-425 |

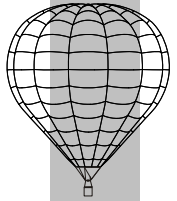


SCHROEDER FIRE

| Basket Size (cm) | Type | Empty Weight (Kg) | UM Envelope size range |
|------------------|--------|-------------------|------------------------|
| 1.07 x 0.95 | I/2 | 50 | 56-65 |
| 1.25 x 1.00 | II/3 | 53 | 56-77 |
| 1.30 x 1.15 | III/4 | 62 | 56-90 |
| 1.45 x 1.15 | IV/5 | 68 | 77-120 |
| 1.55 x 1.20 | V/5 | 77 | 90-130 |
| 1.75 x 1.25 | VI/6 | 86 | 105-160 |
| 1.80 x 1.40 | VII/7 | 146 | 145-210 |
| 2.15 x 1.40 | VIII/8 | 152 | 145-210 |
| 2.35 x 1.40 | VIII/9 | 206 | 160-250 |
| 2.50 x 1.70 | IX/11 | 225 | 210-300 |
| 2.75 x 1.75 | X/13 | 265 | 250-300 |

| Burner Type | Weight (Kg) | UM Envelope size range |
|------------------|-------------|------------------------|
| Optima I single | 17 | 56-65 |
| Optima II double | 24 | 56-150 |
| Optima IV double | 24 | 56-150 |
| FB V double | 24 | 56-150 |
| FB 6 double | 24 | 56-160 |
| Optima IV triple | 34 | 130-160 |
| FB V triple | 34 | 130-250 |
| FB 6 triple | 34 | 130-250 |
| FB V quad | 43 | 210-300 |
| FB 6 quad | 43 | 210-300 |

| Cylinder Type | Empty weight (Kg) | Fuel capacity (Kg) | Basket range |
|---------------|-------------------|--------------------|--------------|
| V 20 | 14 | 20 | All |
| V 30 | 18 | 30 | All |
| VA 50 | 15 | 21 | All |
| VA 70 | 18 | 30 | All |

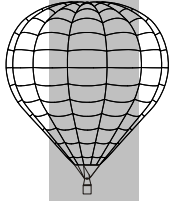


FANTASY

| Basket Size (in.) | Type | Weight (lbs) <small>inc. Instruments fire extinguisher and straps</small> | UM Envelope size range |
|-------------------|-------------------------|------------------------------------------------------------------------------|------------------------|
| 47" x 47" | Fantasy (F) | 146 | 65 - 90 |
| 47" x 56" | Fantasy (F) | 170 | 65 - 120 |
| 42" x 42" | Mirage | 140 | 56 - 77 |
| 42" x 50" | E - Type | 154 | 56 - 90 |
| 42" x 56" | E - Type | 164 | 65 - 120 |
| 46" x 70" | E - Type T partition | 224 | 105- 120 |

| Burner Type | Basket Type applicability | Burner Weight (lbs) | UM Envelope size range |
|-----------------|--------------------------------------------------------------------|---------------------|------------------------|
| A - Type Single | 47 x 47 F | 20 | 56 - 90 |
| F - Type Single | 47 x 47 F 47 x 56 F 42 x 42 Mirage 42 x 50 E 42 x 56 E | 20 | 56 - 105 |
| A - Type Dual | 47 x 56 F | 35 | 56 - 105 |
| F - Type Dual | 47 x 56 F 42 x 50 F 42 x 56 E 46 x 70 E | 35 | 56 - 120 |

- All UM envelopes to join with a non-rectangular basket (*), must carry special wires to attach to 3 points according to TN010. In that case for balloons of size 160 and over will carry 2 karabiners each corner.
- Special Wires just can be fitted by Ultramagic or a qualified organization authorized by Ultramagic.

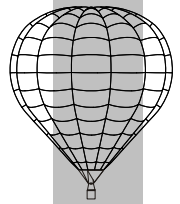


SKY

| Basket Size (cm) | Type | Empty Weight (Kg) | UM Envelope size range |
|------------------|------------|-------------------|------------------------|
| 107 x 129 | Simple | 60 | 56-90 |
| 119 x 155 | Simple | 80 | 77-130 |
| 129 x 160 | Simple | 90 | 90-145 |
| 129 x 180 | Simple, ST | 100 | 105-145 |
| 157 x 207 | ST | 160 | 140-180 |
| 157 x 247 | ST,DT | 180 | 160-250 |
| 157 x 287 | ST,DT | 230 | 200-425 |
| 157 x 307 | DT | 260 | 180-300 |
| 157 x 327 | DT | 280 | 200-425 |
| 157 x 355 | DT | 300 | 200-425 |
| 157 x 407 | DT | 350 | 200-425 |
| 157 x 420 | DT | 400 | 300-425 |

| Burner Type | Weight (Kg) | UM Envelope size range |
|----------------|-------------|------------------------|
| Mistral double | 22 | 56-210 |
| Mistral triple | 35 | 180-300 |
| Mistral quad | 44 | 250-425 |

| Cylinder Type | Empty Weight (Kg) | Fuel Capacity (Kg) | Basket range |
|---------------|-------------------|--------------------|--------------|
| V-30 | 18 | 30 | All |
| V-40 | 20 | 40 | All |

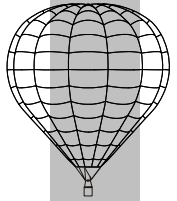


RAVEN - AEROSTAR

| Basket Size (cm) | Type | Empty Weight (Kg) | UM Envelope size range |
|------------------|----------------------|-------------------|------------------------|
| 102 X 80 | ELS | 40 | 65-90 |
| 121 X 80 | ELSS | 54 | 65-90 |
| 122 X 107 | RWS, RWSW & RWSX-AFX | 60 | 77-105 |
| 145 X 119 | CW & CW-AFX | 95 | 65-140 |
| 168 X 119 | CWS | 101 | 90 - 170 |
| 173 X 119 | RB5 | 132 | 130 - 170 |
| 178 X 127 | RB6 | 148 | 130 - 250 |
| 193 x 127 | TWX | 148 | 130 - 250 |
| 231 X 127 | RB8 | 179 | 160 - 250 |
| 230 x 160 | NC5 | 175 | 160 - 250 |
| 246 x 141 | RB12 | 193 | 180 - 250 |

| Burner Type | Type | Weight (Kg) | UM Envelope size range |
|-------------|--------|-------------|------------------------|
| Aurora S | Single | 11 | 31 - 90 |
| HPIII S | Single | 12 | 65 - 105 |
| HPIII D | Dual | 21 | 65 - 170 |
| HPIII T | Triple | 30 | 160 - 170 |
| HP6D/HP5D | Double | 21 | 56 - 250 |
| HP6S/HP5S | Single | 12 | 56 - 105 |
| HP6E/HP5E | Double | 22 | 56 - 250 |
| HP6T | Triple | 30 | 160 - 250 |

| Cylinder Type | Full weight (Kg) | Fuel capacity (US gallons at 85% fill)) | Basket range |
|------------------------------------|------------------|-----------------------------------------|----------------------------------------------------|
| 15 gallons stainless steel (V-15) | 50.5 | 15 | Refer to applicable Aerostar - Raven Flight Manual |
| 18 gallons stainless steel (V-18) | 57.5 | 18 | Refer to applicable Aerostar - Raven Flight Manual |
| 20 gallons stainless steel (H-20) | 63.0 | 20 | Refer to applicable Aerostar - Raven Flight Manual |
| 23.5gallons stainless steel (V-23) | 74.0 | 23.5 | Refer to applicable Aerostar - Raven Flight Manual |
| 25 gallons stainless steel (H-25) | 79.3 | 25 | Refer to applicable Aerostar - Raven Flight Manual |
| 10 gallons aluminum (V-10) | 35 | 10 | Refer to applicable Aerostar - Raven Flight Manual |



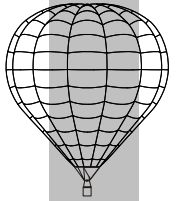
ALTISPH'AIR / AAC / CHAIZE

| Basket Size (cm) Length x Width x Height | Type | Empty Weight (Kg) | UM Envelope size range |
|---------------------------------------------|-------------------|-------------------------|------------------------|
| 1.10 x 1.11 x 1.15 | A101 | 70 | 42 - 90 |
| 1.30 x 1.10 x 1.15 | A201 | 76 | 65 - 130 |
| 1.30 x 1.20 x 1.15 | A201C | 80 | 65 - 130 |
| 1.50 x 1.10 x 1.15 | A301 | 80 | 77 - 160 |
| 1.50 x 1.10 x 1.15 | A302 | 85 | 77 - 160 |
| 1.50 x 1.10 x 1.15 | A303 T-separation | 88 | 90 - 160 |
| 1.70 x 1.30 x 1.20 | A401 | 92 | 105 - 180 |
| 1.70 x 1.30 x 1.20 | A403 | 110 | 105 - 180 |
| 1.70 x 1.30 x 1.20 | A403 T-separation | 115 | 105 - 180 |
| 2.00 x 1.50 x 1.20 | A501 | 125 | 120 - 250 |
| 2.00 x 1.50 x 1.20 | A503 | 135 | 120 - 250 |
| 2.00 x 1.50 x 1.20 | A503 T-separation | 145 | 120 - 250 |

- See General Notes below

Notes :

- Dimensions of the basket are external in the base.
- ST means Single Partition and DT Double Partition.
- UM envelope sizes are given in thousands of cubic feet, so 65 mean 65000 ft³.



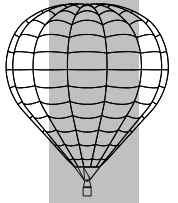
19.8.2 OTHER MANUFACTURERS EQUIPMENT. NON-BASKET BALLOONS

The following table gives a list of non - basket bottom end systems which may be used with Ultramagic envelopes.

Other manufacturers Duo and Sky Chariot bottom end equipment includes as a system the specific burner and/or cylinder models inherent to the manufacturers design and as detailed by that associated manufacturer. As such their use is therefore permitted.

In all cases, it is required to follow applicable bottom end manufacturer's supplement.

| Manufacturer | Type | Empty Weight (Kg) without cylinder | UM Envelope size range | Rotation vents required (Y/N) |
|---------------------|----------------------------------|-----------------------------------------------|-------------------------------|--------------------------------------|
| Cameron | Skyhopper | 15 kg | 31 - 42 | Yes |
| Cameron | Skyhopper Millenium | 15 kg | 31 - 42 | Yes |
| Cameron | Duo Airchair / Duo Airchair MKII | 24 kg | 31 - 77 | Yes |
| Lindstrand | Cloudhopper | 15 kg | 31 - 42 | No |
| Cameron/T&C | Cloudhopper | 15 kg | 31 - 42 | No |
| Cameron/T&C | Single Skychariot | 15 kg | 31 - 42 | Yes |
| Cameron/T&C | Two seat Skychariot | 24 kg | 31 - 77 | Yes |



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