

Issue 4 to Supplement 8.5  
is approved under the authority of DOA ref. EASA. 21J.140 (Mod C712)

## 8.5 RAVEN-AEROSTAR 'BOTTOM ENDS'

### 8.5.1 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.

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 4 of this supplement consists of four pages.

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

### 8.5.2 LIMITATIONS

#### 8.5.2.2 Weather

3. If the basket model TWH is fitted, the balloon must not be flown free in surface winds greater than 8 knots (4.1 m/sec). The atmosphere must be stable.

#### 8.5.2.9 Weight Range

4. The applicable Maximum Take-off Masses where Raven-Aerostar baskets and burners are installed are given in Table 8.5.1 (Single Burners) and 8.5.2 (Double Burners). The Maximum Take-off Mass for the envelope type listed in Section 2, Table 1 of the base flight manual must not be exceeded.

**TABLE 8.5.1 : MTOM SINGLE BURNERS**

| Basket Model | Basket Drawing | MTOM (kg) |
|--------------|----------------|-----------|
| ELS          | (D-)52440      | 545       |
| RWS          | (D-)52131      | 667       |
| RW           | (D-)14530      | 667       |
| CW           | (D-)13860      | 667       |
| CWS          | (D-)51620      | 667       |

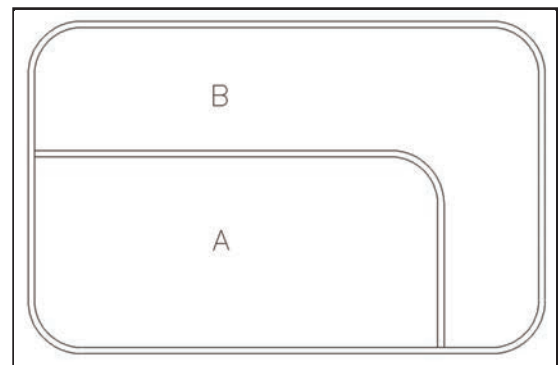
**TABLE 8.5.2 : MTOM DOUBLE BURNERS**

| Basket Model | Basket Drawing | MTOM (kg) |
|--------------|----------------|-----------|
| RWS          | (D-)52131      | 817       |
| RW           | (D-)14530      | 667       |
| CW           | (D-)13860      | 908       |
| CWS          | (D-)51620      | 908       |
| TW           | (D-)51076      | 1516      |
| TWH          | (D-)51077      | 1203      |
| TWX          | 100HC4         | 1516      |

**8.5.2.15 BASKETS**

**8.5.2.15.6 Raven TWH Basket**

1. The maximum number of occupants permitted in compartment A is 3.
2. Lap straps must be worn by each occupant of compartment A.



▲ **Figure 1 : TWH Basket Plan View**

**8.5.2.18 EQUIPMENT INTERCHANGEABILITY**

1. The burners and baskets manufactured by Raven-Aerostar which may be used in combination with Cameron envelopes are listed in Section 8.5.9 of this supplement.
2. Only burner frames with four attachment points can be used.

**8.5.3 EMERGENCY PROCEDURES**

**8.5.3.11 PILOT LIGHT FAILURE**

Check that the pilot light valves are open at both the burner and cylinder, then relight the pilot light with igniter.

If the pilot light cannot be re-lit within two or three actuations of the igniter, open the metering valve to allow a slow fuel flow, and ignite the metering valve (to provide a pilot light), then land as soon as practicable, If re-light from any source is not possible, see Section 3.8 "Preparation for a Hard Landing"

Before any subsequent flight, identify and Correct the cause of the problem. and repair any resulting damage.

**8.5.4 NORMAL PROCEDURES**

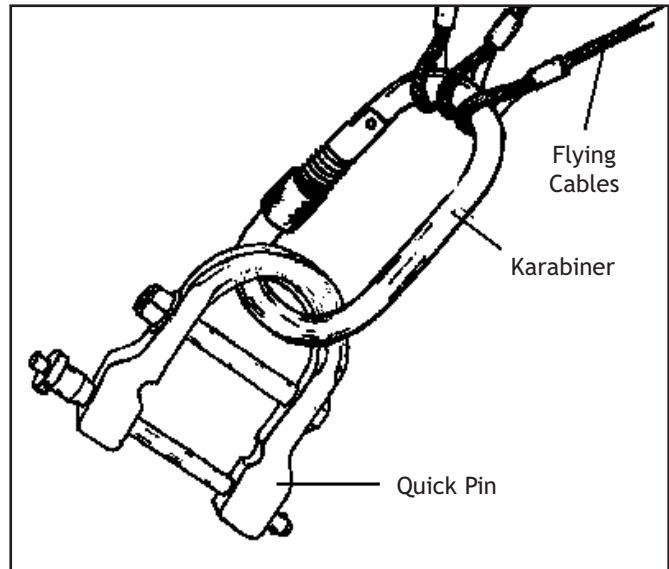
**8.5.4.2.4 ENVELOPE RIGGING**

The envelope karabiners with the appropriate number of flying cables must be attached to the Quick Pins. Refer to figure 2.

**8.5.5 WEIGHT CALCULATIONS**

No change.

**8.5.6 BALLOON AND SYSTEMS DESCRIPTION**



▲ **Figure 2 : Envelope Attachment**

**8.5.6.5.6 Raven-Aerostar Basket Model TWH**

The model TWH basket is designed to carry up to 3 passengers with special needs in a dedicated compartment. Each position within the compartment has a 5 point harness attached to the basket structure.

**8.5.7 BALLOON MAINTENANCE, HANDLING AND CARE**

Refer to the applicable Raven-Aerostar Flight Manual.

**8.5.9 EQUIPMENT LIST**

**Table 6: Raven-Aerostar Baskets (Additional)**

| Basket Category | Basket Model | Basket Drawing | Basket Description      | Applicable Cylinders | Applicable Burner Frames |
|-----------------|--------------|----------------|-------------------------|----------------------|--------------------------|
| B               | ELS          | (D-)52440      | Aurora                  | 1,2,3                | Integral                 |
| C               | RWS          | (D-)52131      | Classic                 | 1,2,3                | Integral                 |
| C               | RW           | (D-)14530      | -                       | 1,2,3                | Integral                 |
| E               | CW           | (D-)13860      | Classic Limited         | 1,2,3                | Integral                 |
| E               | CW-S         | (D-)51620      | Classic Limited-Stretch | 1,2,3                | Integral                 |
| F               | TW           | (D-)51076      | Classic IX              | 1,2,3                | Integral                 |
| G               | TWH          | (D-)51077      |                         | 1,2,3                | Integral                 |
| G               | TWX          | 100HC4         |                         | 1,2,3                | Integral                 |

**Note:** D- Prefix is added to baskets supplied and certified by Raven Europe where US equivalent exists.

**Table 7: Raven-Aerostar Cylinders (Additional)**

| Cylinder Category | Drawing Number  | Cylinder Material | Cylinder Model |
|-------------------|-----------------|-------------------|----------------|
| 2                 | 51977 (D-51692) | Stainless Steel   | V-15           |

**Note:** (D-)51692 is Aerostar Spec No. (quoted in Fiche de Navigabilité No. 177, Ed. 9), 51977 is Aerostar Part No. (stamped on cylinder)

**Table 8: Raven-Aerostar Burners (Additional)**

| Burner Category | Drawing Number | Burner Description (Original) | Burner Description (Raven Europe) |
|-----------------|----------------|-------------------------------|-----------------------------------|
| A               | (D-)52370-02   | Aurora Single                 | Aurora                            |
| A               | (D-)17398      | HP II Single                  | HP5-S or HP V Single              |
| A               | (D-)52370-01   | HP III Single                 | HP6-S or HP VI Single             |
| B               | (D-)17395      | HP II Dual                    | HP5-D or HP V Dual                |
| B               | (D-)52350(-1)  | HP III Dual                   | HP6-D or HP VI Double             |
| B               | (D-)52350(-2)  | -                             | HP6-E or HP VI Double             |

**Note:** D- Prefix and numerical suffix is added to burners supplied and certified by Raven Europe.