

## **ULTRAMAGIC FLIGHT MANUAL SUPPLEMENT 39**

### **ULTRAMAGIC 'TEKNO' BASKETS**

*The technical content of this document is approved under the authority of the  
DOA ref. EASA.21J.351*

#### **39.1 GENERAL INFORMATION**

This supplement details the instructions and limitations necessary to ensure the safe operation, maintenance and continued airworthiness of CT-01, CT-02 and CT-03 Ultramagic 'Tekno' Baskets.

The section indexes on this supplement are preceded with the §39.X, and the suffix is kept in line with the Ultramagic Flight Manual. The content of this supplement replaces or appends the information contained on the Flight Manual for the balloon or parts to which this supplement is intended.

#### **39.2 OPERATIONAL LIMITATIONS**

The following limitations are additional to those already stated in the Flight Manual.

##### **39.2.3.1 Acceptable Damage**

Add the following:

Damages or cuts on the fabric walls are allowed unless the consistency of the walls is jeopardized or passing holes larger than 5 cm diameter are present.  
No cracks or damages are allowed on the steel structure.  
Any crack longer than 15 cm and 3 mm depth (two cross-banded veneers) or more in the plywood floor is not allowed.

##### **39.2.4 Minimum Equipment**

Amend point 1: 1 kg dry powder fire extinguisher conforming to EN3

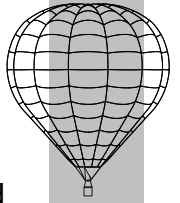
##### **39.2.6 Loading**

Applicable loading parameters are listed on section 39.5 of this supplement.

##### **39.2.7 Crew**

**S  
3  
9  
-  
'  
T  
E  
K  
N  
O  
'  
B  
A  
S  
K  
E  
T  
S**

Maximum number of occupants is described on section 39.D.



### 39.2.13 Fuel cylinders

2. For cylinders installed inside the basket, the cross-harness supplied must be fitted to each cylinder. These should be fixed so as not to allow any up and down as well as lateral movement, as shown in the following Figure 1:

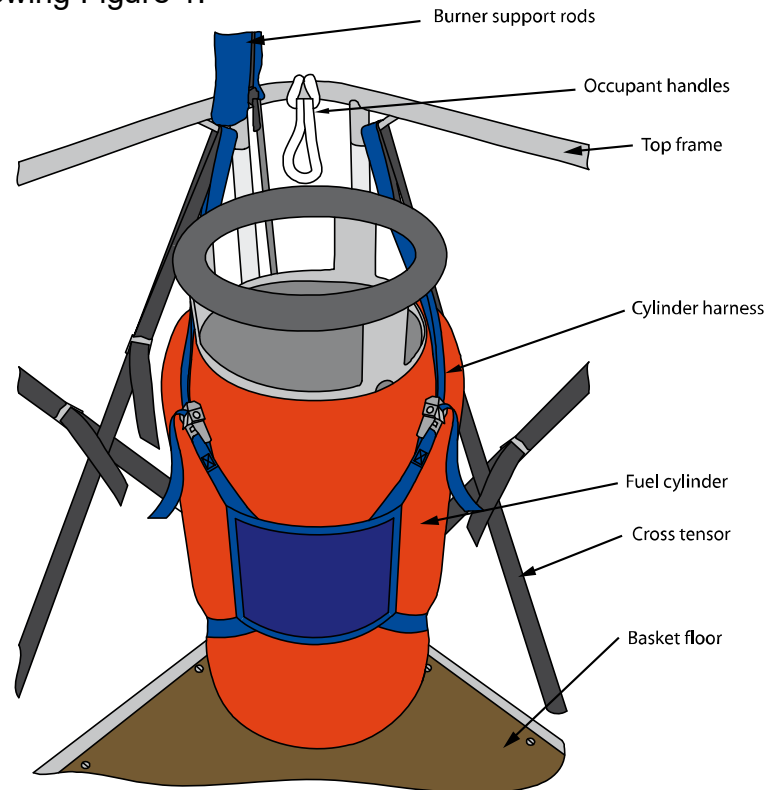


Figure 1 – Cylinder installation inside the basket

When optional external fittings for fuel cylinders are installed, 2 or 4 cylinders may be carried in pairs on the short sides of the basket. Each pair of cylinders must be fitted using two horizontal straps, two support brackets and the two suspension straps provided on the basket top frame, as shown on Figure 2.

**NOTE:** Only M-20, M-20D, M-30, M-30D or Worthington cylinders, or a combination of them, may be installed externally to the 'Tekno' basket. Only cylinders of the same type may be mounted together externally on the same side of the basket.

**CAUTION:** Do not fly with the optional external fittings if no cylinders are being carried outside the basket.

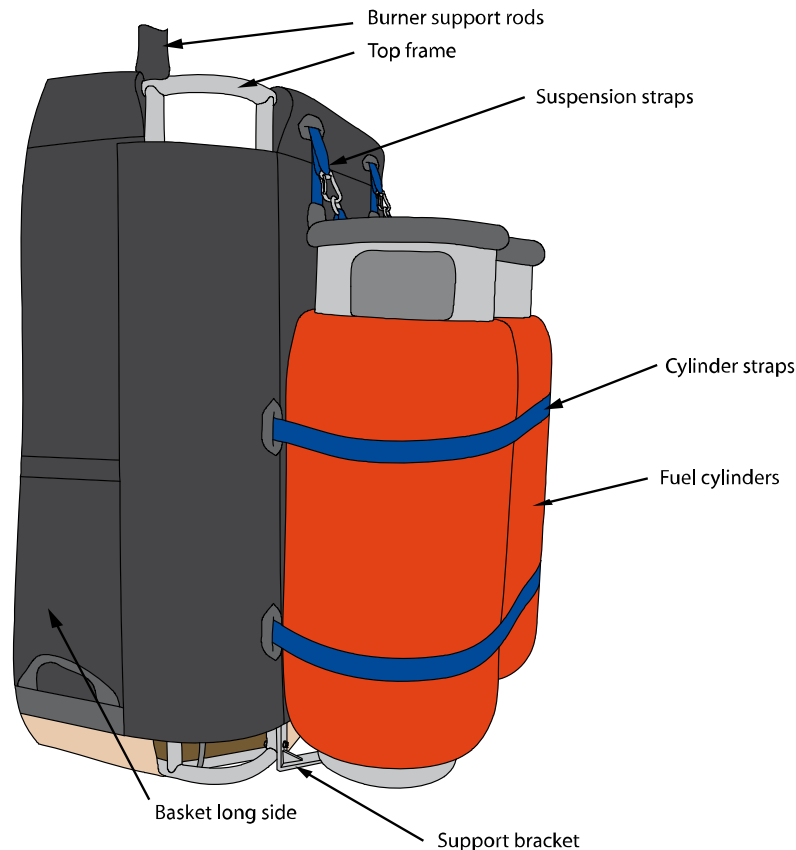


Figure 2 – Cylinder installation outside the basket (optional fitting - accessory)

#### 39.2.14 Tethered Flight

Tethered flight is not allowed if the wind speed in surface is above 10 knots (5 m/s or 18.5 km/h).

### 39.3 EMERGENCY PROCEDURES

No change.

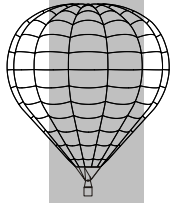
### 39.4 STANDARD PROCEDURES

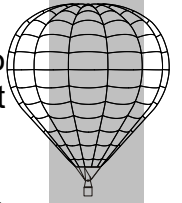
The following procedures are additional to those already contained in the Flight Manual.

#### 39.4.5.1.4 Basket

Proceed as per 39.4.5.5 and refer after to 39.D for specific pre-flight checks.

#### 39.4.5.5 Mounting the 'Tekno' Basket





The 'Tekno' basket is supplied with a transportation bag specially designed to protect the components during handling and storage, as well as to allow a neat organisation of its parts. When the basket must be mounted, proceed as follows:

- Deploy the body of the basket over a flat surface. Make sure that the basket floor is underneath.
- Take 8 white rods from the bag and fit each end in the sockets of the basket bottom structure.
- Lift up the top frame and position the upper end of the rods in its sockets.
- With the main structure up, unfold the wall panels out of the basket, and put the fuel cylinders into the basket.
- A set of 8 tapes fitted with buckles is provided.
- Pass each tape in diagonal joining two opposite corner eyelets, leaving them a bit loose. Make sure that their buckles are not entangled. Repeat the operation with all the tapes. Finally tighten firmly the 8 tapes.
- Using the harness arrangement provided, attach firmly the cylinders to the corners as per 39.2.13(2), paying attention to the balance of the basket. Secure the two carbine hooks to the bottom corner brackets.
- Lift the panels up and attach them around the top frame by means of the two Velcro tapes provided. Make sure the panel and the fixings are tight.
- Unfold the corner covers of each straight panel and tighten them over the walls of the long side by using the Velcro bands.

**CAUTION:** The whole structure must remain inside the boundary formed by the fabric walls, with the exception of the external fitting for fuel cylinders.

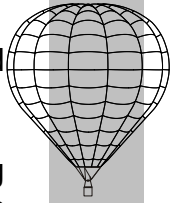
**CAUTION:** Do not manipulate the Velcro tapes or bands while refueling the cylinders of the basket as it could build-up electrostatic charge.

- Proceed with the rigging as per section 4.5.2 of the Flight Manual.

#### 39.4.11.5 Installation of external cylinders (optional)

If the 'Tekno' basket is provided with external fittings for fuel cylinders, pilot must install 2 or 4 cylinders on them. To install the fuel cylinders refer to Figure 2 and proceed as follows:

- Make sure that the cylinder support brackets located at the basket bottom edge are not damaged and are firmly secured to the basket sockets.
- Place each cylinder over a bracket checking that the bracket hook joins the cylinder bottom ring.



- For CT-02 external fuel cylinders fitment, place and secure the padded spacer provided.
- Secure all cylinder suspension straps rigging their Carbine hook to the ring placed at the end of the strap. Make sure that the cylinder top ring is engaged.
- Fasten the horizontal straps around the cylinders installed on one side of the basket. Note that these straps must be passed through the holes of the basket corners, lacing the cylinders to the adjacent wall and nylon rods.

NOTE: Observe the limitations listed on 39.2.13.

Information regarding to the assembly or removal of the external support brackets may be found on Supplement 18 to the Ultramagic Maintenance Manual.

#### 39.4.11.6 Folding the 'Tekno' Basket

To fold the basket after flight, proceed in reverse order to the steps of 39.4.5.5. If the basket has suffered a hard landing, follow section 6.7.3 of the Maintenance Manual and Supplement applicable before next flight.

**39.5 LOADING****39.5.2 Table of Empty Weight and Maximum Lift**

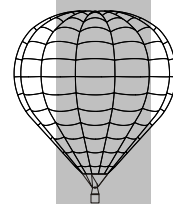
For the calculations in the Load Chart of chapter 5 of the Flight Manual will be used the following characteristics:

Model	V	Pv			Lmax		
		CT-01	CT-02	CT-03	CT-01	CT-02	CT-03
S-50	1 415	99	120	102	500	500	500
S-70	1 982	113	135	116	515	650	559
S-90	2 550	N/A	167	149	N/A	768	593
S-105	2 950	N/A	176	156	N/A	777	602
S-130	3 680	N/A	193	173	N/A	794	619
H-31	900	98	N/A	N/A	307	N/A	N/A
H-42	1 200	107	128	110	416	416	416
H-56	1 590	123	144	126	527	549	549
H-65	1 840	132	153	135	536	638	584
H-77	2 200	137	158	140	541	756	589
V-56	1 590	126	147	129	530	549	549
V-65	1 840	132	153	135	536	638	584
V-77	2 180	136	157	139	540	756	589
V-90	2 550	N/A	169	151	N/A	770	595
V-105	2 950	N/A	181	163	N/A	782	607
M-42	1 200	112	133	115	414	414	414
M-56	1 590	123	144	126	527	550	550
M-56C	1 590	127	148	130	531	550	550
M-56Z	1 590	150	164	153	549	549	549
M-60Z	1 700	152	166	155	553	588	599
M-65	1 840	133	154	136	537	638	585
M-65C	1 840	137	158	140	541	635	589
M-65Z	1 840	167	181	170	568	636	620
M-70Z	1 980	170	184	173	571	686	623
M-74Z	2 100	176	190	179	566	710	618
M-77	2 200	135	156	138	539	756	587
M-77C	2 200	141	162	144	545	756	593
M-90	2 550	N/A	171	153	N/A	772	597
M-105	2 950	N/A	183	165	N/A	784	609
M-120	3 400	N/A	193	175	N/A	794	619
M-130	3 680	N/A	206	188	N/A	807	632
Z-90	2 550	N/A	167	149	N/A	768	593
G-90	2 550	N/A	185	174	N/A	835	662

V = volume [m³]

Pv = Empty weight (without any cylinder) [Kg]

Lmax = Maximum authorised Lift [Kg]



### 39.5.4 Table of Compatibility

Envelopes listed on 39.5.2, excluding those combinations listed as non-applicable, are considered compatible with the CT-01, CT-02 and CT-03 'Tekno' Baskets.

'Tekno' baskets are approved for flight using the following burners:

- MK-21 Single
- BMK-008 Single
- MK-21 Double (only CT-02 and CT-03)
- BMK-008 Double (only CT-02 and CT-03)
- MK-32 Double (only CT-02 and CT-03)

## 39.6 BALLOON AND SYSTEMS DESCRIPTION

### 39.6.3 Dimensions and Weights

See following table corresponding to mass and dimensions:

BASKET	CT-01	CT-02	CT-03
Length* (m)	1,0	1,2	1,2
Width (m)	0,8	1,0	0,8
Wall height (m)	1,1	1,1	1,1
Empty Mass* (kg)	35	49	38
Min Karabiners Strength (kN)	0,9	2,5	0,9

\* Fuel cylinders, burner and burner frame not included

## 39.7 BALLOON HANDLING, MAINTENANCE AND CARE

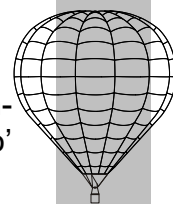
Follow instructions as per Maintenance Manual and its Supplement nr. 18.

## 39.8 OTHER MANUFACTURERS EQUIPMENT

No change.

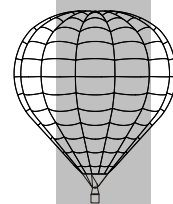
## 39.C QUICK REFERENCE PRE-FLIGHT CHECKLIST

Replace Basket pre-flight checklist with the following:



**Basket**

1. ☐ Check the general condition of the basket for damage.
2. ☐ Ensure that the basket wires are free of damage and twists.
3. ☐ Ensure that the burner frame and poles fit correctly and are free of damage.
4. ☐ Ensure that the attachment points are secure and that all karabiners are screw-locked.
5. ☐ Make sure that cross-tensor tapes are correctly fitted and tightened.
6. ☐ Check that wall panels are firmly closed and tightened.
7. ☐ If fitted, check that external fuel cylinders are mounted as per 39.4.11.5.

**39.D MINIMUM BASKET SPACE REQUIREMENTS**

Consider the following table

Basket Specs.				Capacity		
Model	Width	Length	Max Load	Cylinders Inside	Cylinders Outside*	Maximum Occupants
CT-01 Tekno	0.8 m	1.0 m	401 kg	Up to 4	0, 2 or 4	1
				Up to 2	0, 2 or 4	2
				0	2 or 4	3
CT-02	1,0 m	1,2 m	581 kg	Up to 4	0, 2 or 4	2
				Up to 3	0, 2 or 4	3
				Up to 1	2 or 4	4
CT-03	0,8 m	1,2 m	450 kg	Up to 4	0, 2 or 4	1
				Up to 2	0, 2 or 4	2
				0	2 or 4	3

\* If optional fittings are installed