

## **ULTRAMAGIC FLIGHT MANUAL SUPPLEMENT 39**

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

Issue 7 to US FM Supplement 39 is EASA approved under the authority of 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 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 (2.2 lb) dry powder fire extinguisher conforming to EN3 or equivalent (ANSI/UL711)

##### **39.2.6 Loading**

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

##### **39.2.7 Crew**

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 attached so as not to allow any up and down as well as lateral movement, as shown in the following Figure 1:

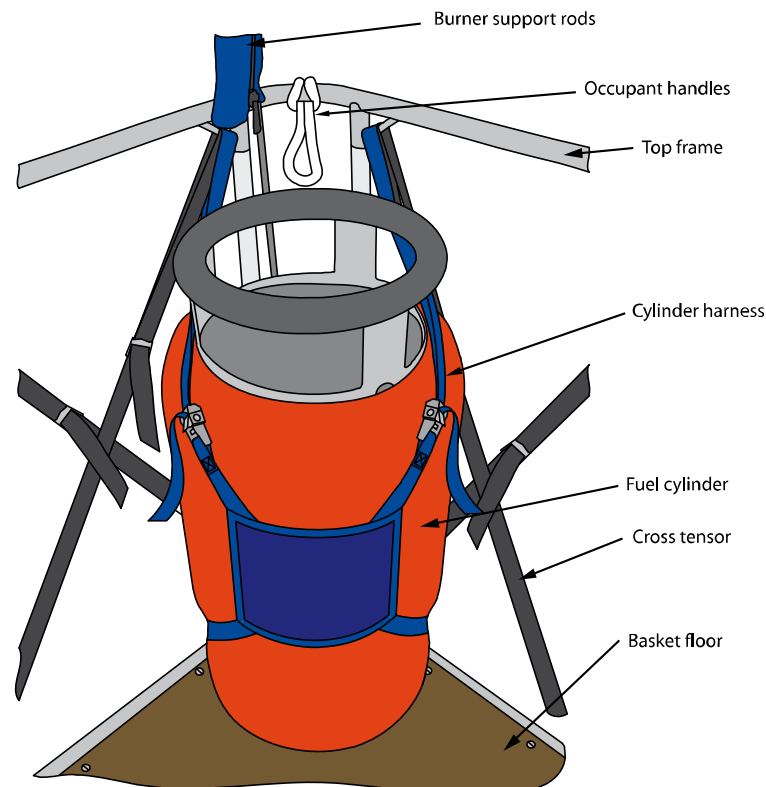
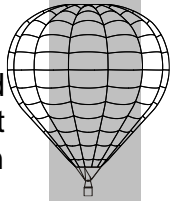


Figure 1 – Cylinder installation inside the basket

When optional external attachments 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 attached 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.



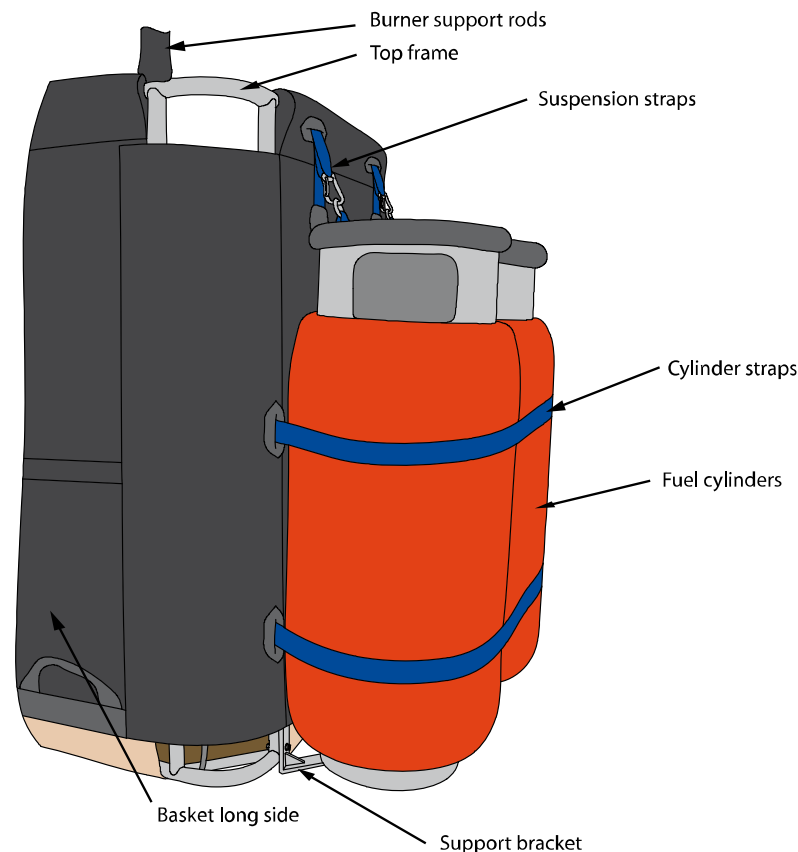


Figure 2 – Cylinder installation outside the basket (optional fitting - accessory)

### 39.2.14 Tethered Flight

Tethered flight is not allowed if the wind speed on the 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 in addition to those already contained in the Flight Manual.

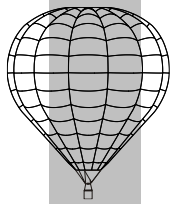
### 39.4.5.1.4 Basket

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

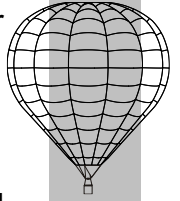
### 39.4.5.2 Rigging the basket and burner

Add the following:

A single stainless steel karabiner with working load of 900 kg (1984 lb) may be used on each corner of the burner frame to attach the flying wires from the



envelope. Those karabiners shall be properly engraved and must be supplied or approved by Ultramagic.



#### Installation of external cylinders (optional)

If the 'Tekno' basket is provided with external attachments for fuel cylinders, pilot may install up to 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 attachment, place and secure the padded spacer provided.
- Secure all cylinder suspension straps through their Carbine hook to the ring placed at the end of the strap. Make sure that the cylinder top ring is secured.
- 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 the assembly or removal of the external support brackets may be found in Supplement 18 to the Ultramagic Maintenance Manual.

#### 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 organization 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.

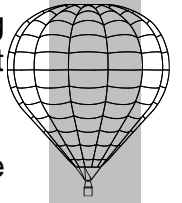
- Pass each tape diagonally joining two opposite corner eyelets, leaving them a bit loose. Make sure that their buckles are not entangled. Repeat the operation with all the tapes. Finally firmly tighten the 8 tapes.
- Using the harness arrangement provided, attach firmly the cylinders to the corners 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.

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

#### 39.4.11.5 Folding the 'Tekno' Basket

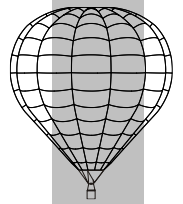
To fold the basket after flight, proceed in reverse order of the steps in 39.4.5.5. If the basket has suffered a hard landing, follow section 6.7.3 of the Maintenance Manual and Supplement applicable before next flight.



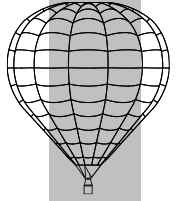
**39.5 LOADING****39.5.2 Table of Empty Weight and Maximum Lift**

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	1415	99/218	120/264	102/225	500/1102	500/1102	500/1102
S-70	1982	113/249	135/297	116/256	515/1135	650/1433	559/1232
S-90	2550	N/A	167/368	149/328	N/A	768/1693	593/1307
S-105	2950	N/A	176/388	156/344	N/A	777/1713	602/1327
S-130	3680	N/A	193/425	173/381	N/A	794/1750	619/1365
H-31	900	98/216	N/A	N/A	307/676	N/A	N/A
H-42	1200	107/236	128/282	110/243	416/917	416/917	416/917
H-56	1590	123/271	144/317	126/278	527/1161	549/1210	549/1210
H-65	1840	132/291	153/337	135/298	536/1181	638/1406	584/1288
H-77	2200	137/302	158/348	140/309	541/1192	756/1666	589/1299
V-56	1590	126/277	147/324	129/284	530/1168	549/1210	549/1210
V-65	1840	132/291	153/337	135/298	536/1181	638/1406	584/1288
V-77	2180	136/299	157/346	139/306	540/1190	756/1666	589/1299
V-90	2550	N/A	169/372	151/333	N/A	770/1697	595/1312
V-105	2950	N/A	181/399	163/359	N/A	782/1724	607/1338
M-42	1200	112/246	133/293	115/254	414/912	414/912	414/913
M-56	1590	123/271	144/317	126/278	527/1161	550/1212	550/1213
M-56c	1590	127/279	148/326	130/287	531/1170	550/1212	550/1213
M-56z	1590	150/331	164/362	153/337	549/1210	549/1210	549/1210
M-60z	1700	152/335	166/366	155/342	553/1219	588/1296	599/1321
M-65	1840	133/293	154/339	136/300	537/1183	638/1406	585/1290
M-65c	1840	137/302	158/348	140/309	541/1192	635/1399	589/1299
M-65z	1840	168/370	182/401	170/375	569/1254	636/1402	620/1367
M-70z	1980	171/377	185/408	173/381	572/1261	686/1512	623/1373
M-74z	2100	165/364	191/421	179/395	566/1248	710/1565	618/1362
M-77	2200	135/297	156/343	138/304	539/1188	756/1666	587/1294
M-77c	2200	141/310	162/357	144/317	545/1201	756/1666	593/1307
M-90	2550	N/A	171/377	153/337	N/A	772/1701	597/1316
M-105	2950	N/A	183/403	165/364	N/A	784/1728	609/1343
M-120	3400	N/A	193/425	175/386	N/A	794/1750	619/1365
M-130	3680	N/A	206/454	188/414	N/A	807/1779	632/1393
Z-90	2550	N/A	167/368	149/328	N/A	768/1693	593/1307
B-26	740	77/170	N/A	N/A	330/727	N/A	N/A
B-40	1150	83/183	N/A	86/190	375/827	N/A	375/827
B-50	1420	88/194	102/225	91/201	450/992	450/992	450/992
B-55	1550	90/198	104/229	93/205	491/1082	500/1102	500/1102
B-60	1720	92/203	106/234	95/209	493/1087	525/1157	525/1157
B-70	1980	97/214	111/245	100/220	498/1098	600/1323	550/1213



V = volume [m<sup>3</sup>]  
 Pv = Empty weight (without any cylinder) [Kg/lb]  
 Lmax = Maximum authorised Lift [Kg/lb]



### 39.5.4 Table of Compatibility

Envelopes listed on 39.5.2 are considered compatible with the CT-01, CT-02 and CT-03 'Tekno' Baskets.

'Tekno' basket is 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:

<b>BASKET</b>	<b>CT-01</b>	<b>CT-02</b>	<b>CT-03</b>
Length* (m/ft)	1,0/3,3	1,2/3,9	1,2/3,9
Width (m/ft)	0,8/2,6	1,0/3,3	0,8/2,6
Wall height (m/ft)	1,1/3,6	1,1/3,6	1,1/3,6
Empty Mass* (kg/lb)	35/77	49/108	38/84
Min Karabiners Strength (kN/lbf)	0,9/202	2,5/562	0,9/202

\* Fuel cylinders, burner and burner frame not included

## 39.7 BALLOON HANDLING, MAINTENANCE AND CARE

Follow instructions as per Maintenance Manual and Supplement 18.

## 39.8 OTHER MANUFACTURERS EQUIPMENT

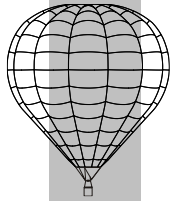
No change.

**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 attached and tightened.
6.  Check that wall panels are firmly closed and tightened.
7.  If installed, 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 (2,6 ft)	1.0 m (3,3 ft)	401 kg (884 lb)	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 (3,3 ft)	1,2 m (3,9 ft)	581 kg (1281 lb)	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 (2,6 ft)	1,2 m (3,9 ft)	450 kg (992 lb)	Up to 4	0, 2 or 4	1
				Up to 2	0, 2 or 4	2
				0	2 or 4	3

\* If optional attachments are installed

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