



# LINDSTRAND BALLOONS LTD

## FLIGHT MANUAL SUPPLEMENT NO. 1.32

### SPECIAL SHAPED ENVELOPE - LBL TULIPS

#### SECTION 1 - OPERATIONAL LIMITATIONS

##### 1.1.6 Wind Speed

Add the following:

The maximum surface wind speed for take off and landing of the Lindstrand Balloons Ltd Tulips special shaped hot air balloon, is 10 knots.

##### 1.1.8 Ascent/Descent Speed

Add the following:

The maximum recommended rate of climb and descent for the LBL Tulips special shaped balloon is 3.55 m/s (700 ft/min).

##### 1.5.1 Maximum Weight

#### TABLE 1

Add the following:

Balloon Type	Nominal Volume		FAI Class	Maximum Weight		Envelope Weight	
	cu.m.	cu.ft.		kg	lbs	kg	lbs
LBL Tulips	3400	120,000	AX9	1200	2640	488	1074

##### 1.5.3 Payload Calculation

Add the following:

Calculation of the payload for the LBL Tulips special shaped balloon is identical to the procedure described. The conversion of the lift per unit volume figure, found from the load charts, into a gross lift figure is achieved by multiplying by the nominal volume given above.



## SECTION 2 - NORMAL PROCEDURES

### 2.2.2 Cold Inflation

Add the following:

Ensure that the 72 deflation vents are closed. These are situated as follows:

Numbers 1 - 24 are situated in the heart of each tulip.

Numbers 1 - 8 are situated on the outer skin of the leaves, approximately two thirds high.

There are 24 long vents in the bowl of each tulip flowering head.

There are a further 16 small deflation slots, 1 on the tip of each leaf and a further 10 slots in the highest outer petal of the tulips, on the upper side of the balloon when laid over for inflation.

### 2.2.7 Hot Inflation

Add the following:

When hot inflating the LBL Tulips special shaped envelope, it is important to hold the crown line down for as long as possible and to keep the inflation fans running. The heating should be achieved by using long duration burns and long pauses between burns. This is to get as much hot air into the Tulips' appendages as possible, to counteract their weight.