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Flight Manual Supplement

*for use of the hot air balloon s/n up to 2199
fitted with a parachute/paralite*

Type:

Model:

Serial No.

Registration:

This manual is initially approved by EASA under major change approval number:
10082693, dated 30 August 2023
Subsequent revisions are approved either by EASA or by authority of DOA, no. EASA.21J.277 as
detailed on page 2.

**This balloon is to be operated in compliance with information and limitations contained herein.
The Flight Manual has to be placed in the basket during flight.**

0.1 Record of Revisions

Any revision of the present Supplement, must be recorded in the following table. The new or amended text in the revised page will be indicated by a black vertical line in the outer margin, and the Revision No. and the date will be shown on the bottom of the page.

All changes to this Flight Manual Supplement which were made before the date of the issue stated on the title page have been incorporated into this Manual.

Revision Number	Affected Section	Affected Pages	Date of Issue	Approval	Date of Approval

0.2 List of Effective Pages

Section	Page	Date of Issue
0	I, II	30 August 2023
1	RW-1	30 August 2023
2	RW-1	30 August 2023
3	RW-1,2	30 August 2023
4	RW-3,4	30 August 2023
5	RW-4	30 August 2023
6	RW-5,6	30 August 2023
7	RW-7	30 August 2023
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SECTION 1 - GENERAL

1.1 Introduction

This Supplement to the Flight Manual provides information for the parachute and paralite deflation system where RED line has been replaced by RED-WHITE line - including descriptive data as well as emergency and normal procedures. The arrangement and numbering of sections in this Supplement is the same as in the Flight Manual. If any section is influenced, only the different or additional information is stated in this Supplement, all other remain without any change.

List of envelopes with replaced control line:

Serial No.	Model	Deflation System	Date of change

SECTION 2 - OPERATIONAL LIMITATIONS

No change

SECTION 3 - EMERGENCY PROCEDURES

3.2 Collision with Obstacle

3.2.4. Collision with a Low Obstacle - Basket Remains on the Ground

When the obstacle is of approximate balloon height or lower (tree, house, car, fence...), proceed as follows:

Priorities: Get the basket as low as possible, preferably on the ground.

Prior to the contact:

1. Vent to descend and lay the envelope before the obstacle.
2. Passengers are briefed to adopt correct emergency position for collision.
3. Shut all cylinder valves.
4. Prevent the balloon from lifting off again by opening the deflation system by the red-white line.
5. Prevent passengers from leaving the basket until so instructed.
6. Inform your crew and the ATC if necessary.

3.6 Non-standard Landing

3.6.1. Fast Landing

Landing in a relatively high surface wind

Priorities: Primarily avoid persons from falling out of the basket or their injury from loose objects. Make a **tangential contact to the ground** with little vertical speed.

1. Select a suitable landing field, maintain desired landing trajectory.
2. If a RV is fitted, rotate the balloon, so the balloon lands on the longer side of the basket.
3. Passengers to adopt correct emergency position for fast landing. Prepare them for being dragged on the ground after landing.
4. Descend gently.
5. Consider possibility to stop the envelope with a convenient obstacle (tree, bushes...)
6. Switch off the pilot flames on all burner units.
7. Open the deflation system completely by the red-white line.
8. Prevent people from leaving basket until so instructed.

3.8.2 Fire on the Ground

1. Shut off liquid fuel valves on all cylinders. In case the fire occurs on the cylinder in use, close shut off valve with the use of fire blanket.
2. Open main burner valves to vent fuel with the use of fire resistant cloth.
3. Use fire extinguisher to extinguish the fire.
4. Open the DS with red-white line.

SECTION 4 - NORMAL PROCEDURES

4.3 Preparation, Assembling the Balloon and TAKE-OFF

4.3.10 Pre-Take-off check

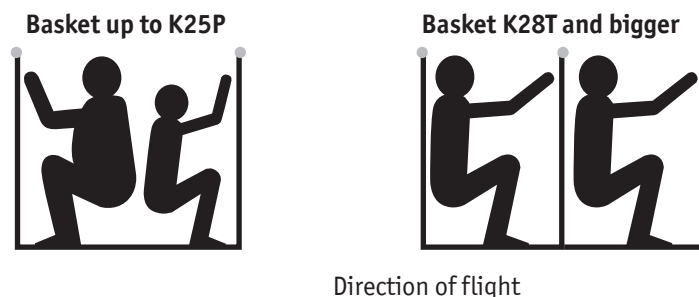
Heating	Heat as appropriate to keep the envelope upright and pressurized.
Venting	Release velcro tabs by pulling the red-white line, check function of the venting and correct seal after releasing the line.
Rip panel only	Check the correct seal. The locks secured.
DS control lines	Free to move, not entangled, attached to the envelope carabiner of in the basket, within pilot's reach.
RV	Check function.
Crown line	Fixed in pilot's vicinity.
Envelope	No unacceptable damage.
Carabiners	Closed and locked.
Burners	All burners working correctly.
Pilot flames	Correct function of the pilot burner - flame only around the upper part, not blowing from the lower holes.
Fuel system	Hoses connected, cylinder turned on as required. No leaks.
Radios and Instruments	Altimeter correctly set, instruments turned on, thermometer working. Radio checked.
Ignition sources	Within easy reach.
Positioning	Ground crew move the basket downwind to the full length of the quick release rope, then hold the basket on the ground.
Map	Map(s) showing the intended flight path present.

4.5 Landing

4.5.3 Landing

Landing position

- Stay low in the basket and bend knees. Heads always below the upper rim of the basket.
- Stow all objects (cameras etc.), hold on the rope handles with both hands.
- Place as many passengers as possible to the rear side of the basket
- In open baskets heavier persons need to be placed first in the direction of flight. Sideways position is the most favorable but difficult to achieve due to limited space. If the sideways position is not possible, the persons placed first should also be oriented backwards to the direction of flight.
- In case of a passenger travelling inside of the pilot's compartment - use the rope handle for securing. It is allowed to use rope handle with one hand and the rim of the fuel tank with the other hand, if this would offer more stable position (considering the number and distribution of the fuel tanks and other factors).



Landing position	Passengers must adopt landing position. Pilot must ensure passengers adopted correct landing position.
Final Approach	Descend to a height of approximately 1 m (3 ft) above ground, make a final burn to slow the descent if appropriate.
Drop Line (if needed)	In case the drop line is needed: Check the attachment and drop to the chase crew, if it is safe so.
Burner Shutoff	Turn off all burners and pilot flames when no further heating is required. Shut off all fuel supplies on the cylinders and vent all hoses.
Venting	Pull the red-white line just prior to touchdown.
Touchdown	Inform passengers just prior to the contact with the ground.
Venting	Keep venting until the balloon stops safely.

WARNING *It is MANDATORY to maintaining the flight trajectory parallel to the surface during the final approach. Not levelling the flight before touchdown is extremely dangerous and leads to injuries.*

4.5.4 Actions After Landing

1. All persons remain in the basket.
2. The pilot verifies the terrain is suitable for packing and access of the retrieve crew or consider walking the inflated balloon to a more convenient place if necessary.
3. Passengers leave basket on pilot’s instructions.
4. Turn the balloon so that the scoop is facing down wind. Detach the crown line. Instruct the crew where to lay the envelope.
5. Open the DS completely by the red-white line and deflate the envelope. Crown crew pulls the crown line down-wind, stabilizing the envelope and helping to lay it in the desired direction, clear of burners and obstacles. Other crew members can help to keep the envelope from draping over trees or bushes and assist it in coming down.
6. Empty the envelope of air by folding it into a long line and expelling the air towards the crown.

SECTION 5 - WEIGHT

No change

SECTION 6 - BALLOON AND SYSTEMS DESCRIPTION

6.4 Envelope Deflation Systems and Equipment

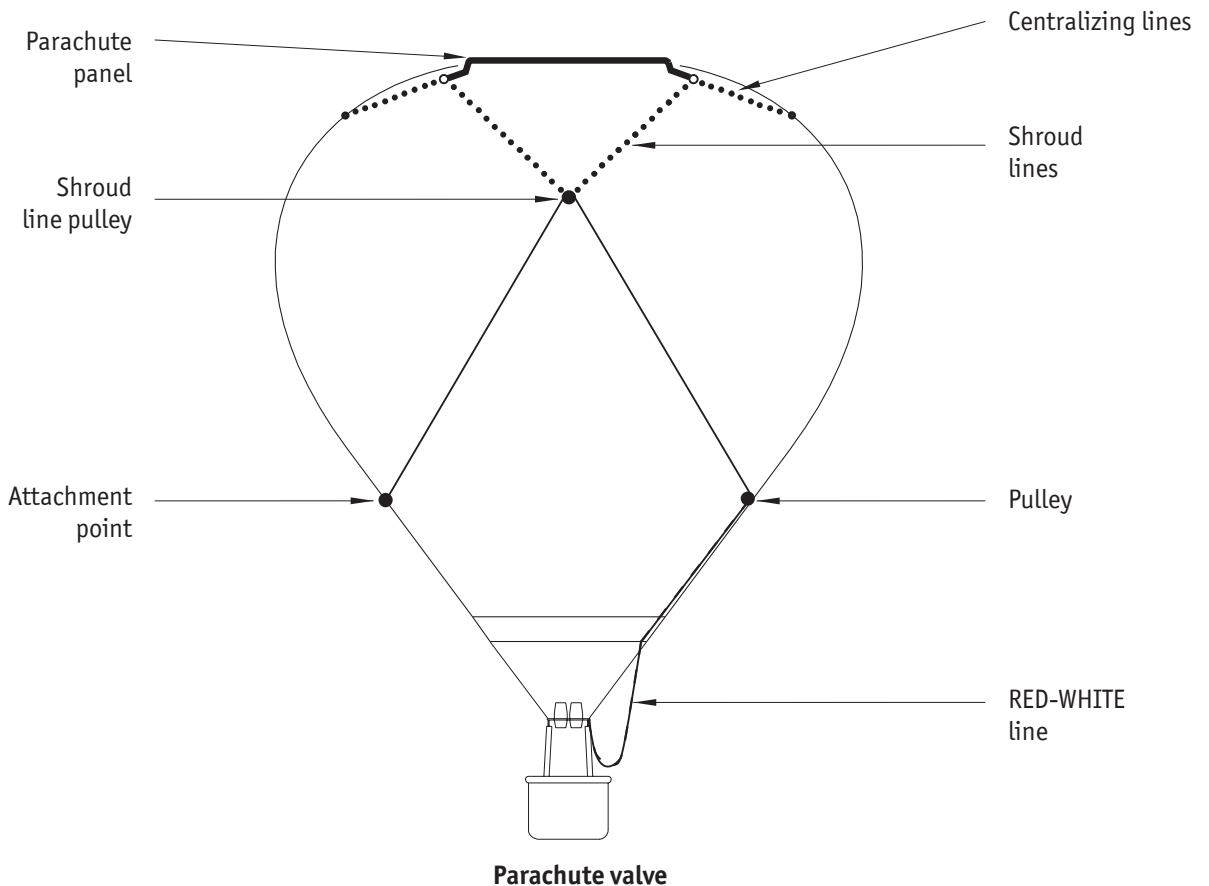
All deflation systems have control lines that are operated by the pilot in order to open vent panel and release hot air from the envelope. The line to be used inflight is coloured red-white and the vent panel will automatically reseal itself after releasing the red-white line.

6.4.1 Parachute

The Parachute is a simple deflation taking form of a circular parachute-style panel, sealing a circular opening (vent aperture) in the top of the envelope from the inside. The Parachute panel is held in position by inner overpressure and centered by centralizing lines which join its edge to the inside surface of the envelope.

Velcro tabs are sewn at the edge of vent aperture and to the Parachute.

The RED-WHITE line is used for venting. When released the Parachute resets itself by internal overpressure.



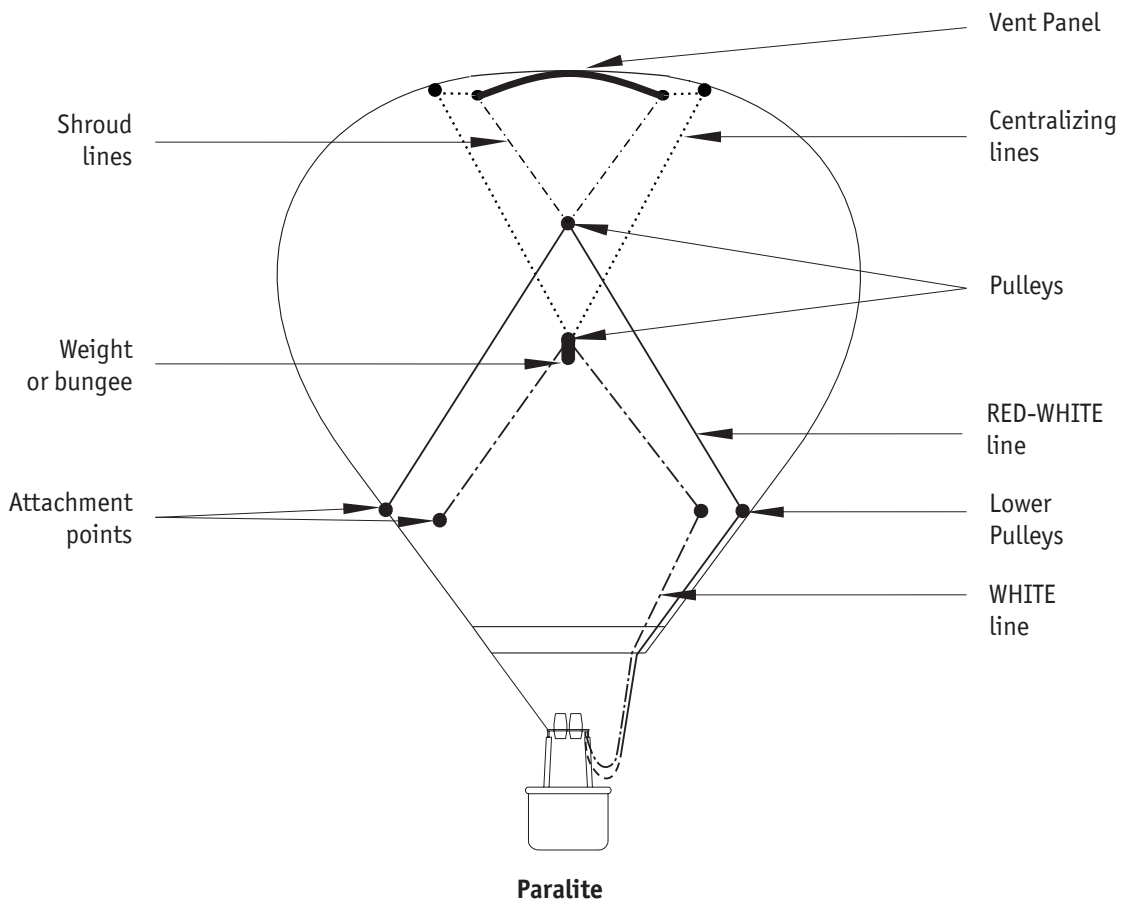
Parachute controls:

	Desired action	Control motion required
In-flight venting and deflation	Open parachute	Pull and hold RED-WHITE line
	Close parachute	Release RED-WHITE line - Parachute closes itself

6.4.2 Paralite

The Paralite deflation system is very similar to the parachute except the centralizing lines are free to travel in pulleys at the vent aperture edge. At the other ends the centralizing lines are connected together to a weight that provides for an easier resetting of the vent panel.

Two activation lines are fitted. The RED-WHITE line is used for venting. When released the Paralite resets itself by internal overpressure and action of the weight. The WHITE line is used only for a proper closing of the vent if necessary.



Paralite controls:

	Desired action	Control motion required
In-flight venting and deflation	Open paralite	Pull and hold RED-WHITE line
	Close paralite	Release RED-WHITE line - Paralite closes itself Pull WHITE line if necessary

NOTE	<i>It is possible to have bungee (elastic rope) instead of a weight attached to the white line. For the system to work, it is necessary to keep the white line taut. Determine the correct length by pulling the white line to the point where the vent panel seals the vent hole. At this length, make a loop on the white line and use a carabiner to secure the taut white line to the basket structure.</i>
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SECTION 7 - BALLOON HANDLING, CARE AND MAINTENANCE

No change

SECTION 8 - EQUIPMENT LIST

No change

SECTION 9 - APPENDICES

No change

LET US HELP YOU!

In case that you have any suggestion, difficulty, problem or comment, please contact our technical department at:

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