

Statement regarding the use of Rotation Vents – Task 28

To: Event Director – Eugenijus Komars

From: Edoardo Barbieri, Competition Number 3

Subject: Clarification on the use of rotation vents according to rule 3.1.3 and Flight Manual MV04ar30

During the final approach of Task 28, I operated the rotation vents solely to orient the basket, not to produce any horizontal propulsion or advantage.

My balloon configuration includes five cylinders; one side of the basket carries three tanks, and the opposite side houses the instrument bench and the flight computer. This layout makes it impossible to throw the physical marker safely from certain sides without rotating the basket.

On that morning, the wind conditions were extremely variable near the ground: at only 10 ft AGL, the desired wind direction was available; within 100 ft, the wind direction changed by more than 150°; my approach was flown on approximately 200°, and the surface wind was towards north (~360°).

This required the basket to be rotated by at least 180° to align the throwing side correctly with the target. The rotation was a direct consequence of the wind shear and not obtained through any form of propulsion.

According to rule 3.1.3 of AXMER 2025:

“The use of vents which are designed to propel a balloon is prohibited. Turning vents may only be operated in flight for the purpose of orienting the basket.”

I strictly complied with this rule. The rotation vents were used exclusively for orientation, within seconds, and without measurable horizontal movement or acceleration. This can be verified by comparing track files of pilot **Ismail Keremoglu (Turkey, No. 12)** and pilot **Kenneth Karlstrom (United Kingdom, No. 11)**, who were flying in the same approach — no directional deviation or gain is observed.

Furthermore, the Flight Manual (MV04ar30, §6.2.5.4) states: “Rotation vents are fitted to rotate the balloon about the vertical axis. This is achieved by venting air through a panel about the equator of the envelope.”

The rotation vents are positioned around the equator of the envelope and are designed to act purely on the vertical rotational axis. There is no evidence or description that they produce any forward thrust or propulsion.

Excessive or rapid rotation near the target area would only cause disorientation and instability, making accurate marker throwing more difficult and unsafe. For this reason, I performed slow and gentle rotations well before the marker throw, ensuring the basket was correctly oriented without disturbing the flight path. There are video recordings showing my balloon rotating very slowly during the approach.

I am fully capable of maintaining altitude precisely without using the rotation vents; their limited use in this task was only to orient the basket safely, as explicitly permitted under rule 3.1.3.

Conclusion

- The rule prohibits rotation vents for propulsion, not for orientation.
- The Flight Manual confirms that these vents operate purely around the vertical axis and do not generate thrust.
- My use was limited, slow, and necessary to ensure a safe and correct basket orientation.
- The behaviour can be visually and digitally verified through videos and track logs showing no horizontal gain or irregular movement.

Respectfully submitted,

Edoardo Barbieri

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