



EASA Safety Information Bulletin

SIB No.: 2012-13
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- Subject:** Improved protection of balloon basket occupants during firm landings
- Ref. Publication:** [1] Energy absorption of gas and hot air balloon baskets taking account of the effective operating conditions, (*abstract*), German Federal Ministry of Transport, FE-No. L-5/2004-50.0305/2005, September 2007
- [2] Evaluation of and possible improvements to current methods for protecting hot-air balloon passengers during landing, UK Civil Aviation Authority, [Paper 2006/06](#), February 2007; or [Balloon Notice 1/2007](#)
- [3] Safety recommendation - 2010-052, Air Accidents Investigation Branch, UK, [Annual Safety Report 2011](#)
- Applicability:** All balloon baskets, when used for carrying occupants who are not familiar with firm balloon landings (e.g. passenger flights).
- Description:** Balloon passengers who are not familiar with the dynamics of firm balloon landings at higher wind speeds might underestimate the magnitude of the second landing impact, despite the previous briefing by the pilot.
- However, there are a number of simple means to enhance the occupant safety. EASA has identified a number of actions that, if properly implemented, would likely prevent incidents or accidents affecting balloon passengers, unfamiliar with firm landings.
- At this time, the safety concern described in this SIB has not been determined to be an unsafe condition that would warrant Airworthiness Directive (AD) action under [EC 1702/2003](#), Part 21A.3B.
- Recommendation(s):** Pilots and balloon operators are recommended to emphasise during the pre-flight information and pre-landing briefing about firm landings, particularly to flying passengers who are unfamiliar with firm landings.

This is information only. Recommendations are not mandatory.

Owners and operators should check the energy absorbing capabilities of on-board equipment, basket walls and floor.

The following recommendations are derived from research reports [1] and [2] and should be implemented by pilots and balloon operators:

- Passengers should wear sturdy ankle-high shoes.
- Passengers should wear close-fitting clothes without rigid objects in their pockets.
- Frail passengers should receive a detailed briefing about correct position of their body during the impact phase (n.b. second impact) and the possible consequences of ignoring such advice.
- A basket floor foam mat (density approx. 45 kg/m³) should be installed.
- Fuel cell foam jackets (density approx. 30 kg/m³) should be installed.

Balloon manufacturers are encouraged to offer solid handles or grip bars to allow the passengers a facilitated posture of their bodies.

Contact:

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