



Initial Airworthiness Special Condition

Additional requirements for launch restraints for balloons

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SUBJECT : **Additional requirements for launch restraints for balloons**

REQUIREMENTS incl. Amdt. : **CS 31HB.28 Amdt. 1**

ASSOCIATED IM/MoC¹ : Yes / No

ADVISORY MATERIAL :

INTRODUCTORY NOTE:

The following Special Condition (SC) has been classified as important and as such shall be subject to public consultation in accordance with EASA Management Board decision 12/2007 dated 11 September 2007, Article 3 (2.) which states:

"2. Deviations from the applicable airworthiness codes, environmental protection certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency."

IDENTIFICATION OF ISSUE:

Occurrence reporting has shown an increase in break-aways during balloon rigging and inflation. Therefore, EASA is considering additional requirements for launch restraints for balloons.

The launch restraint assures a safe inflation of the balloon during the rigging and take-off phase. The objective is to prevent excessive premature movement or break-away due to gusts, before sufficient lift has been generated and the crew is ready for launch.

In this case the balloon is secured to the ground or chase vehicle by a restraint which can be released by the pilot from the basket by means of a quick-release device.

Considering all the above, as well as existing requirements for tether operations CS 31HB.28 and 31HB.67 the following Special Condition is proposed in line with existing requirements and AMC:

¹ In case of SC, the associated Interpretative Material and/or Means of Compliance may be published for awareness only and they are not subject to public consultation.

Special Condition to CS 31HB.28 Amdt 1**Launch Restraint**

1. The effects of the loads associated with the use of a launch restraint system on the balloon's components (particularly the burner frame/load frame or basket structure) and any additional equipment (if required) must be considered in the design
2. The launch restraint,
 - a. Must be as short as practical.
 - b. Must be of sufficient strength to support normal operating conditions up to the maximum wind limitations.

If the launch restraint design features a weak link, failure of the weak link must not lead to a break-away of the balloon

3. The quick-release device,
 - a. Must be easily accessible to the pilot,
 - b. Must be able to disconnect the launch restraint under all operating conditions
 - c. Must not cause any risk of hitting or injuring occupants.

Means of Compliance

The associated Means of Compliance is published for awareness only and is not subject to public consultation.

- MOC to 1: AMC 31HB.27(e) is considered an acceptable means of compliance to design and test the attachment point(s) of the launch restraint to the balloon structure (e.g. burner frame, carabiners, fire balloons specific design).
- MOC to 2: If the design features a weak link,
 - a) it should be built in parallel to a primary load path of the launch restraint, to indicate to the pilot and chase crew when wind limitations have been exceeded.
 - b) it should be rated to allow operation up to 1.2 times the maximum operating (wind) limitations.
- MOC to CS 31HB.81 and 31HB.82: The launch restraint and its adequate anchor points should be described in both the Operation Instructions and Instructions for Continued Airworthiness. The launch restraint should be listed in the minimum equipment list and its use described under normal and emergency procedures. The Instructions for Continued Airworthiness should contain sufficient information to identify and maintain suitable equipment.