Certification Directorate
General Aviation and VTOL Department

Report

EU/US BASA Supporting SSD List for CS 31GB/HB/TGB

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1 Executive Summary

This report provides the list of Significant Standard Difference (SSDs) between the CS 31GB/HB/TGB amendment levels and the corresponding (by applicability date) 14CFR FAR31 amendment levels

These lists are provided to support the implementation of TIP Revision 7 of the EU/US Bilateral for products certified under the CS 31GB/HB/TGB or FAR 31 Airworthiness codes.

The lists identify the differences that exist between the comparison of CS 31GB/HB/TGB and FAR 31 for each amendment pair as a list of Significant Standard Differences. These are requirement pairs where the applicant is required to provide additional information in support of the EASA validation process to ensure compliance has been demonstrated to the EASA Certification Basis as the Validating Authority, in addition to the compliance demonstration for the FAA Certification Basis, as the Certifying Authority.

CS 31GB Amendment 0 was issued on the 5th December 2011, until today EASA has never validated an FAA approved Gas Balloon. EASA considers FAR 31 not adequate for Gas Balloons and no equivalent FAR requirements exist. In case of a validation of a Gas Balloon please contact EASA for guidance.

CS 31TGB Amendment 0 was issued on the 5th July 2013. EASA understands that FAA does not consider Tethered Gas Balloons as aeronautical products.

2 Significant Standard Differences

The following tables identify the list of Significant Standard Differences that need to be considered when conducting an EASA validation of a US FAA certification approval. The lists are presented for each amendment pair of CS 31GB/HB/TGB and FAR 31.

The tables are presented in Amendment Pairs based on the chronological issue date of each Amendment. The method for use is to establish the reference application date, as per the requirements of Part 21 and the provisions in the TIP. The table below can then be used to identify the applicable amendment pair.

Once the amendment pair is established then the tables under Section 2.1 to 2.12 can be utilised to identify the appropriate SSD lists based on the FAA Certification Basis. Please note the list are compiled based on the changes that were introduced with each amendment revision and therefore need to be treated as a compound list to ensure full identification of the SSDs for each amendment pair.

Release Date	CS 31HB Amendment Level	FAR 31 Amendment Level
26th February 2009	Amendment 0	Up to and Including Amendment 7
5th December 2011	Amendment 1	Amendment 7

2.1 CS 31HB Amendment 0/ FAR 31 up to Amendment 7

CS 31HB Amendment 0 was issued on the 26th February 2009, this corresponds with FAR 31 Amendment 7, issued on the 24th May 1996. Before the establishment of EASA, on the 1st March 2002, member states used a variety of airworthiness standards (BCAR, FAR, LFHB, etc) no standard differences have been established for these codes with FAR 31.

Item	CS 23 Requirement	Detail
SUBPART B-FLIGHT:		
1	**31HB.17**	**Performance: climb** No SSD exists if compliance to AMC 31HB.17 Performance: climb is shown. AMC defines “Conditions of the test”, which are not defined in the FAR.
SUBPART C-STRUCTURE:		
2	**31HB.23**	**Load factors** CS 31HB.23(b) landing load factor exists in CS requirement, no FAR equivalent.
3	**31HB.27**	**Strength and proof of strength** CS 31HB.27(c) through (f) no FAR equivalent requirements.
4	**31HB.28**	**Tethered flight loads** CS 31HB.28 no FAR equivalent requirements.
5	**31HB.30**	**Restraint harness** CS 31HB.30 no FAR equivalent requirements.
SUBPART D-DESIGN AND CONSTRUCTION:		

Item	CS 23 Requirement	Detail
6	**31HB.33**	**Materials** CS 31HB.33(b) "Envelope materials must be shown not to support continued burning if ignited by the heater when the balloon is inflated or in flight." Requirements has no FAR equivalent.
7	**31HB.44**	**Protection of envelope against tearing** CS 31HB.44 no FAR equivalent requirements.
8	**31HB.45**	**Fuel cells** CS 31HB.45(b) through (f) no FAR equivalent requirements.
9	**31HB.46**	**Pressurized fuel system** CS 31HB.46(b) through (e) no FAR equivalent requirements.
10	**31HB.47**	**Heater system** CS 31HB.47(c)(1)(3) no FAR equivalent requirements. CS 31HB.47(f) SSD exists as FAR 31.19 allows single failures leading to uncontrolled descents, EASA requirement is more stringent.
11	**31HB.49**	**Control system** CS 31HB.49(c) through (e) no FAR equivalent requirements.
12	**31HB.51**	**Disposable ballast** CS 31HB.51 no FAR equivalent requirements.
13	**31HB.55**	**Rapid deflation means** CS 31HB.55(b) no FAR equivalent requirements.
14	**31HB.57**	**Control cords** CS 31HB.57(b) through (d) no FAR equivalent requirements.
15	**31HB.59**	**Baskets** CS 31HB.59(c) through (l) no FAR equivalent requirements.
16	**31HB.63**	**Occupant restraint** CS 31HB.63(b) no FAR equivalent requirements.
17	**31HB.67**	**Tethered flight** CS 31HB.67 no FAR equivalent requirements.
SUBPART F-EQUIPMENT		
18	**31HB.72**	**Miscellaneous equipment** CS 31HB.72 no FAR equivalent requirements.

2.2 CS 31HB Amendment 1/ FAR 31 Amendment 7

With the publication of CS 31HB Amendment 1 on the 5th December 2011 the following new SSDs were identified with FAR 31 Amendment 7.

Item	CS 23 Requirement	Detail
SUBPART C-STRUCTURE:		
19	**31HB.27**	**Strength and proof of strength** CS 31HB.27(g) no FAR equivalent requirements.