

IBAC Bulletin 14- 02

Subject: Airborne Collision Avoidance System ACAS II (aka TCAS II) Version 7.1

ICAO Annex 6 Part I (International Air Transport Operations –Aeroplanes) and Annex 6 Part II (International General Aviation Operations – Aeroplanes) include standards for the carriage of ACAS II. These standards include the following:

“6.18.4 An airborne collision avoidance system shall operate in accordance with the relevant provisions of Annex 10 Volume IV”

Excerpt from Annex 10 Volume IV (Amendment 85).

“4.3.5.3.1 New ACAS installations after 1 January 2014 shall monitor own aircraft’s vertical rate to verify compliance with the RA sense. If non-compliance is detected, ACAS shall stop assuming compliance, and instead shall assume the observed vertical rate.

Note 1.— This overcomes the retention of an RA sense that would work only if followed. The revised vertical rate assumption is more likely to allow the logic to select the opposite sense when it is consistent with the non-complying aircraft’s vertical rate.

*Note 2.— Equipment complying with RTCA/DO-185 or DO-185A standards (also known as TCAS Version 6.04A or TCAS Version 7.0) **do not comply** with this requirement.*

Note 3.— Compliance with this requirement can be achieved through the implementation of traffic alert and collision avoidance system (TCAS) Version 7.1 as specified in RTCA/DO-185B or EUROCAE/ED-143.

4.3.5.3.2 Recommendation.— All ACAS should be compliant with the requirement in 4.3.5.3.1.

4.3.5.3.3 After 1 January 2017, all ACAS units shall comply with the requirements stated in 4.3.5.3.1.

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Notwithstanding the dates prescribed in the foregoing, Eurocontrol subsequently issued a mandate which is cited below.

“ACAS II Version 7.1

Eurocontrol Mandate

This issue focuses on a **forthcoming change to TCAS II – the introduction of the new version 7.1**. A regulatory decision regarding implementation was published in the Official Journal of the European Union on 20 December 2011: **all existing TCAS II version 7.0 installations must be upgraded before 1 December 2015 and new aircraft must be equipped with version 7.1 from 1 March 2012 to operate in European airspace.**

The EU Implementing Rule sets an earlier equipage requirements than those published in ICAO Annex 10 (2014 new installations, 2017 existing units).

The development of version 7.1 was initiated by EUROCONTROL following the discovery of two safety issues with the current TCAS II version. Development was undertaken jointly by the RTCA in the United States and by EUROCAE in Europe with support and contributions from several other organizations, including airlines and ANSPs.

This bulletin explains the reasons behind the implementation of version 7.1 and introduces the new RA – the “Level off, level off” RA. It answers questions that pilots or controllers may have about the new version and provides references to additional training resources.”

Posted by:

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