



REPUBLIC of SAN MARINO CIVIL AVIATION AUTHORITY

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Information Circular No. 06

ACAS II VERSION 7.1 REQUIREMENTS FOR EUROPE

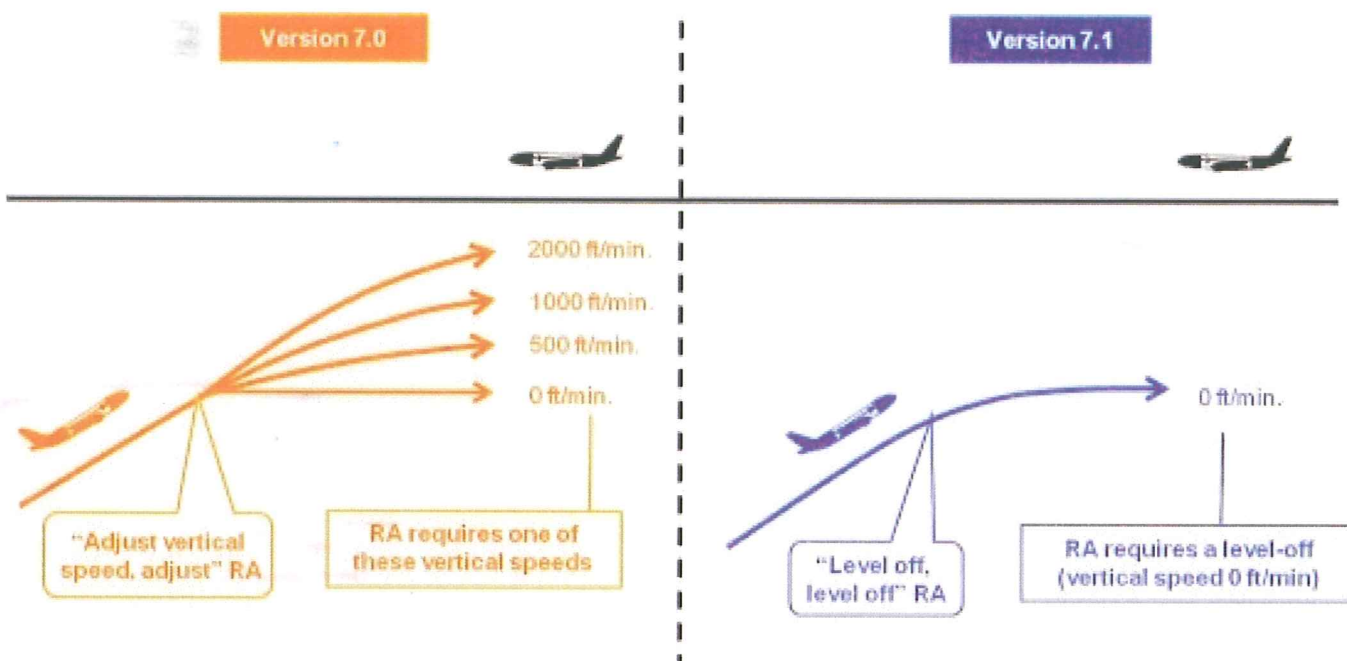
The carriage of ACAS II version 7.1 within European Union airspace will come into effect from 01 December 2015 for;

- (a) all turbine powered aeroplanes with a maximum certificated take-off mass exceeding 5 700 kg;
or
- (b) aeroplanes authorised to carry more than 19 passengers;

Since its introduction in Europe in 2000, ACAS II version 7.0 has been the subject of monitoring and there have been a number of cases in which ACAS II version 7.0 failed to reverse a RA when two converging aircraft remained within 100 feet.

To prevent incorrect pilot responses, in version 7.0 the “Adjust vertical speed, adjust” RAs has been replaced by a new “Level off, level off” RA which requires a reduction of vertical rate to 0 ft/min. The level off is to be achieved promptly, not at the next standard flight level (e.g. FL200, FL210, etc.).

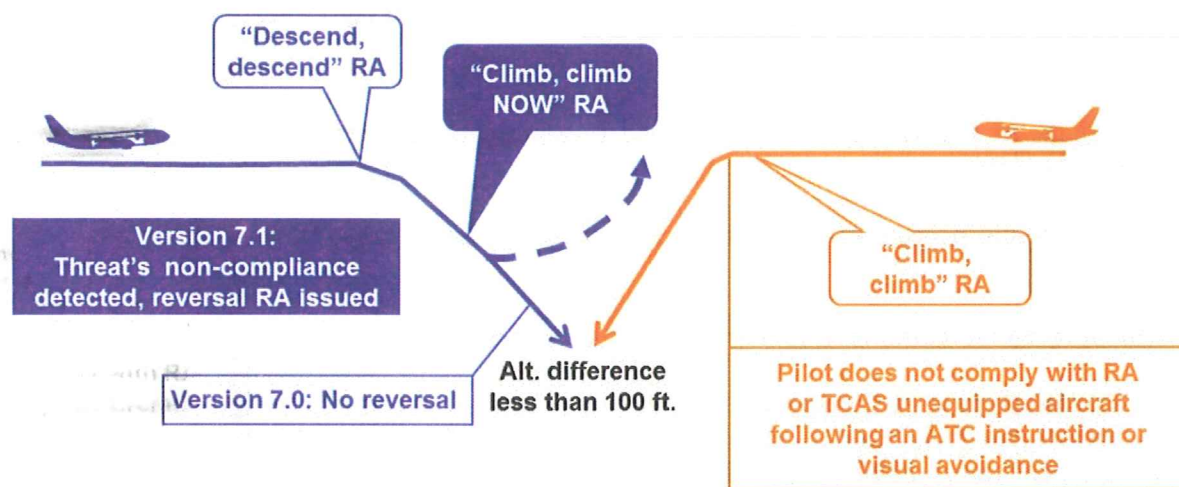
Additionally, the “Level off, level off” RA will minimise the altitude deviations induced by ACAS (level busts while “flying the green arc”), thus reducing the impact on ATC operations.



An additional feature has been added to the ACAS II version 7.1 logic which monitors RA compliance in coordinated encounters (i.e. when both aircraft are ACAS II equipped). When it is detected that an aircraft is not responding correctly to a RA, a reversal RA will be issued to the aircraft which manoeuvres in accordance with the RA.

When only one aircraft is ACAS II equipped, the ACAS version 7.1 will recognise the situation and will issue a reversal if the unequipped threat aircraft moves in the same vertical direction as the ACAS II equipped aircraft.

Although the reversal logic change is transparent to flight crews, it will, nevertheless, bring significant safety improvements.



Operators are reminded that they are required to establish ACAS II operational procedures and training programmes so that the flight crew is appropriately trained in the avoidance of collisions and competent in the use of ACAS II equipment.

Refer also to <http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/ACAS/training-tcas71-pilots-july2014.pdf> for pilot overview on ACAS II, version 7.1.

Yours truly,

Eng. Marco Conti
Director General
19 October 2015