

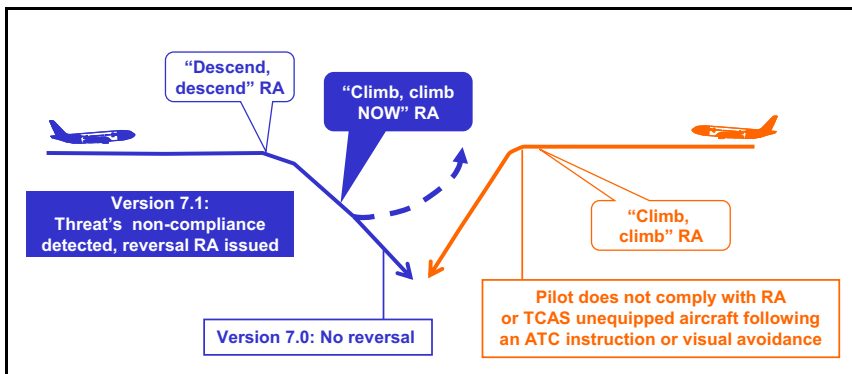
Subject: TCAS 7.1 Installation

Introduction

The current TCAS 7.0 is being upgraded with TCAS 7.1. Installation begins January 25, 2015 and all aircraft will be modified by December 1, 2015. Modified aircraft can be identified by an EP-19 in the aircraft logbook. TCAS 7.1 improves reversal logic and adds a new "Level Off" alert. The changes do not introduce any display differences. Complying with a TCAS alert remains unchanged; always follow the RA, even if contradictory to ATC instructions.

Improved Reversal Logic

TCAS 7.1 improves reversal logic and allows either aircraft to detect if the other is climbing or descending simultaneously. With this determination, a reversal RA will be issued.

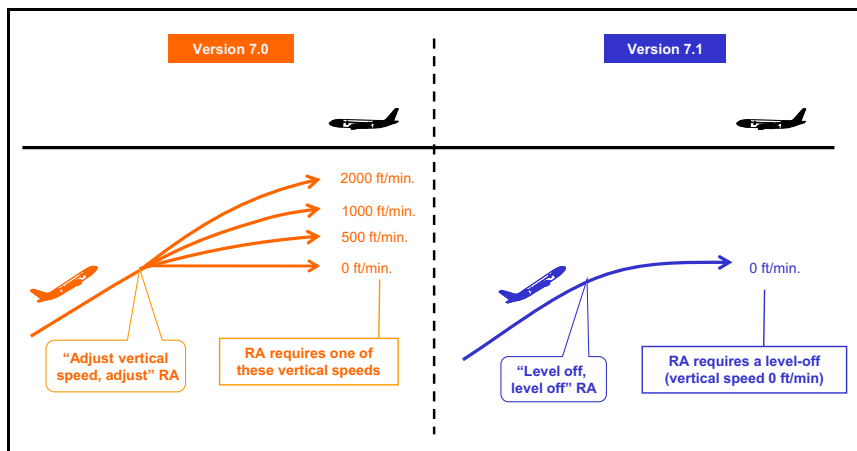


*Graphic courtesy of Eurocontrol

Figure 1: TCAS 7.1 Improved Reversal Logic

Level Off Alert

The current “Adjust Vertical Speed” RA directs the crew to reduce vertical speed to 2000, 1000, 500, or 0 fpm. Operational monitoring has revealed that in some cases crews increased their vertical speed instead of reducing it, consequently, causing a deterioration of the situation. TCAS 7.1 replaces several “Adjust Vertical Speed” alerts with a “Level Off” RA. The level off should be achieved promptly, not at the next flight level.



*Graphic courtesy of Eurocontrol

Figure 2: TCAS 7.1 Level Off Alert

Conclusion

By December 1, 2015 all 777s will be upgraded with TCAS 7.1. The upgrade enhances safety when encountering a TCAS event. There are no procedural changes and crews should follow all RAs, even if contradictory to ATC instructions. The information in this bulletin will be incorporated in the next Volume 2 revision.

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