

## **AERONAUTICAL CIRCULAR CIVIL AVIATION AUTHORITY – MACAO, CHINA**

**SUBJECT:**

**Airborne Collision Avoidance System Requirement**

**EFFECTIVE DATE:**

01 July 2015

**CANCELLATION:**

Nil

**GENERAL:**

The President of Civil Aviation Authority – Macao, China, in exercise of his power under Paragraph 89 of the Air Navigation Regulation of Macao (ANRM) and Article 35 of the Statutes of Civil Aviation Authority, approved by the Decree-Law 10/91/M, established this Aeronautical Circular (AC).

### **1 Applicability**

This AC is applicable to all Macao registered turbine-engined aeroplanes required to be equipped with Airborne Collision Avoidance System (ACAS) under Article 12, and Fifth Schedule, Scale Z of the ANRM.

### **2 Introduction**

- 2.1 The ANRM requires that all turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5700 kg or authorized to carry more than 19 passengers shall be equipped with ACAS II and the system shall operate in accordance with the relevant provisions of ICAO Annex 10, Volume IV. This AC supplements the ANRM in regard to the equipage of ACAS.
- 2.3 ICAO Annex 10 Volume IV Chapter 4 defines the term of ACAS, which is internationally equivalent to Traffic Alert and Collision Avoidance System (TCAS) and prescribes the standards and recommended practices for the system. The TCAS is an aircraft system based on secondary surveillance radar (SSR) transponder signals which operate independently of ground-based equipment to

provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

- 2.3 In the amendment 85 of Annex 10, the requirement for ACAS has been updated to introduce a new functional requirement for monitoring own aircraft's vertical rate during an resolution advisory by implementing a new version of the collision avoidance system logic, commonly referred to TCAS Version 7.1. FAA and EASA have also released a new Technical Standard Order (TSO) TSO-C119c and ETSO-C119c respectively corresponding to the new standard of TCAS II Version 7.1.

### **3 Compliance**

- 3.1 Before 1 January 2017, all applicable aeroplanes identified in Paragraph 1 of this AC shall be equipped with ACAS complying with either TCAS II Version 7.0 or 7.1.
- 3.2 New ACAS installations on or after 1 January 2014 shall comply with TCAS II Version 7.1.
- 3.3 With effect from 1 January 2017 all applicable aeroplanes identified in Paragraph 1 of this AC shall be equipped with ACAS complying with TCAS II Version 7.1.

### **4 Additional Information**

- 4.1 ICAO Annex 10 – Aeronautical Telecommunications Volume IV Chapter 4.

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