



सत्यमेव जयते

GOVERNMENT OF INDIA

OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP SAFDARJANG AIRPORT, NEW DELHI

CIVIL AVIATION REQUIREMENTS
SECTION 9 – AIR SPACE AND
AIR TRAFFIC MANAGEMENT
SERIES 'R', PART I
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EFFECTIVE: FORTHWITH

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SUBJECT: ESTABLISHMENT OF MINIMUM FLIGHT ALTITUDES.

1. INTRODUCTION

- 1.1 ICAO Annex.6, Part I in para. 4.2.6 relating to Minimum Flight Altitudes requires an operator to be permitted to establish minimum flight altitudes for those routes flown for which minimum flight altitudes have been established by the State flown over or the responsible State, provided they shall not be less than those established by that State. Further, the operator is required to specify the method by which it is intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the State flown over or the responsible State, and shall include such method in the Operations Manual.
- 1.2 The minimum flight altitude for each ATS route segment both international and domestic have been determined by Airports Authority of India and published in the AIP, India (RAC 3-2.1 to RAC 3-2.70). The published routes in AIP India also contain the minimum flight altitude, which provides minimum 1000 feet clearance from the highest obstacle within the route width of 20 nautical miles.
- 1.3 This Civil Aviation Requirement lays down the requirements for establishing the minimum flight altitudes for ATS routes by the Airports Authority of India and for determining minimum flight altitudes by the Operators where such minimum flight altitudes are established by the Airports Authority of India and also where such minimum flight altitudes are not established.

- 1.4 This CAR is for guidance and compliance by the Airports Authority of India responsible for air traffic management over Indian airspace and by all Operators conducting flights to, through, within and overflying Indian airspace .
- 1.5 This CAR is issued in exercise of powers conferred under Rule 133A of the Aircraft Rules 1937.
- 1.6 This CAR is issued in supersession of CAR Section 4 Series H Part I, Issue I dated 16th August 1999.

2. REQUIREMENTS

- 2.1 Airports Authority of India responsible for air traffic management over Indian airspace shall determine the minimum flight altitudes for all of the international and domestic ATS routes established in Indian airspace and publish the same.
- 2.2 Operators can also establish minimum flight altitudes for those routes, flown by them, for which minimum flight altitudes have been determined and published by the Airports Authority of India. Such minimum flight altitudes determined by the operator shall not be less than the minimum flight altitudes as determined and published by the Airports Authority of India.
- 2.3 For operation on routes to be flown, where the minimum flight altitude has not been determined and published by Airports Authority of India or by the responsible State in which the route flown over lies, the concerned operator while establishing the minimum flight altitude for such routes shall take into account the probable effects of the following factors on the safety of operation:
 - 2.3.1 Accuracy and reliability with which the position of the aeroplane can be determined.
 - 2.3.2 The inaccuracies in the indications of the altimeters used.
 - 2.3.3 The Characteristics of the terrain e.g. sudden changes in the elevation.
 - 2.3.4 The probability of encountering unfavorable meteorological conditions e.g. severe turbulence, down draughts, extreme cold temperature operations like Srinagar, Leh etc.
 - 2.3.5 Possible inaccuracies in the aeronautical charts, and
 - 2.3.6 Airspace and altitude restrictions.
- 2.4 Where the minimum flight altitude is determined by the operator for routes where such minimum flight altitudes are NOT determined by Airports Authority of India

or the responsible State in which the route to be flown over lies, such minimum flight altitudes shall not be lower than as prescribed below:-

- 2.4.1 For IFR flights over high terrain or in mountainous areas and at 7000 feet and above, at a level which is at least 600 metres (2000 feet) above the highest obstacle within 10 nm of the estimated position of the aircraft in the route.
- 2.4.2 For IFR flights elsewhere than as specified in 2.4.1 at a level which is at least 450 metres (1500 feet) above the highest obstacle located within 10 nm of the estimated position of the aircraft in the route.
- 2.4.3 For VFR flights as specified in the Aircraft Rules 1937 in Section 3, Schedule IV.
- 2.5 While determining the minimum flight altitudes, as at para 2.4 above, the operators shall ensure that the estimated position of the aircraft in the route takes into account the navigational accuracy which can be achieved on the relevant route segment having regard to the navigational facilities available on the ground and in the aircraft.
- 2.6 In determining the minimum flight altitudes, the operators shall specify the method by which it is intended to determine the minimum flight altitudes and these shall be approved by the DGCA.
- 2.7 Where the operator determines the minimum flight altitude, the method utilized for such determination and the minimum flight altitudes for the routes shall be included in the Operations Manual of the operator.

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