

AOPA

Providing Minimum IFR Altitude to Pilots

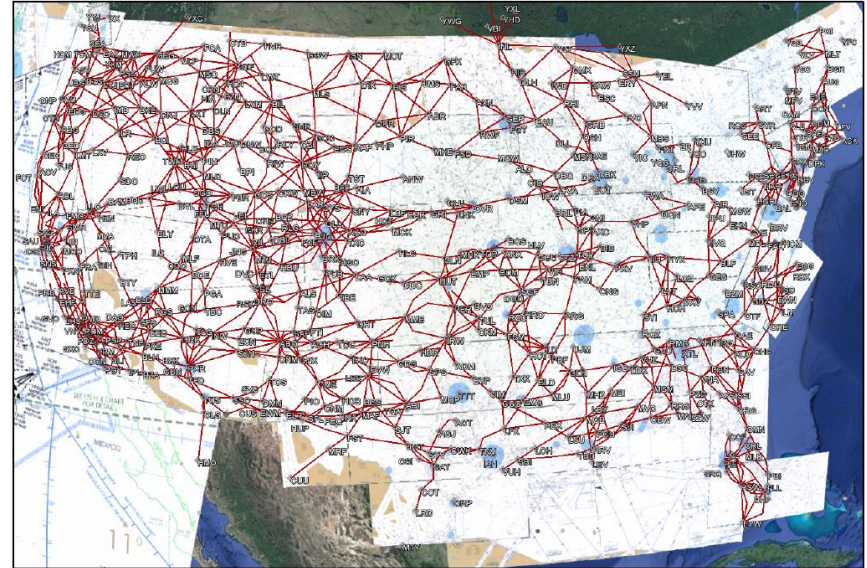
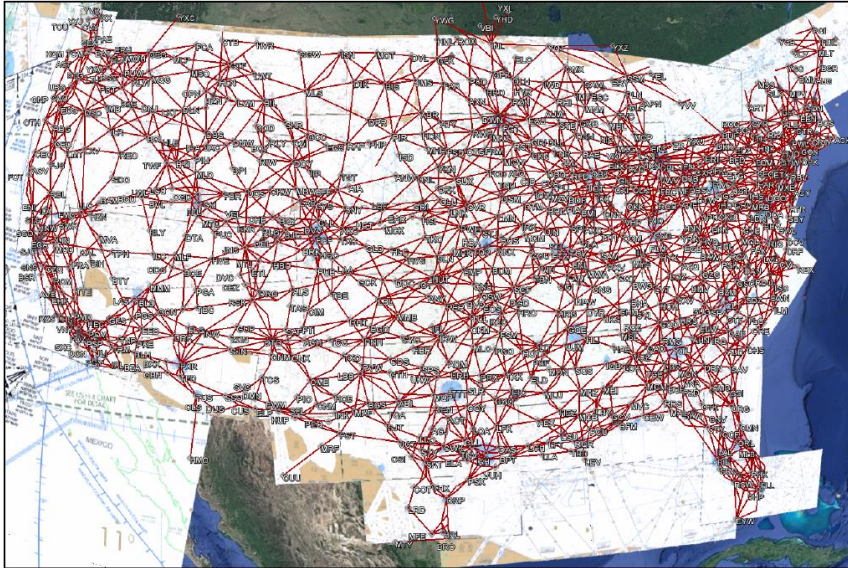
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Introduction



Transitioning to a PBN NAS requires the removal of the bulk of the ground-based route structure. Removing routes limits a pilots ability to know how low they can go for normal operations – something many operators need to know to stay clear of icing and due to performance limitations.



FAR 91.177 Requirement



§91.177 Minimum altitudes for IFR operations.

(a) Operation of aircraft at minimum altitudes. Except when necessary for takeoff or landing, or unless otherwise authorized by the FAA, no person may operate an aircraft under IFR below—

(1) The applicable minimum altitudes prescribed in parts 95 and 97...

(2) (2) If no applicable minimum altitude is prescribed in parts 95 and 97 of this chapter, then—

(i) In the case of operations over an area designated as a mountainous area in part 95 of this chapter, an altitude of 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or

(ii) In any other case, an altitude of 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown.

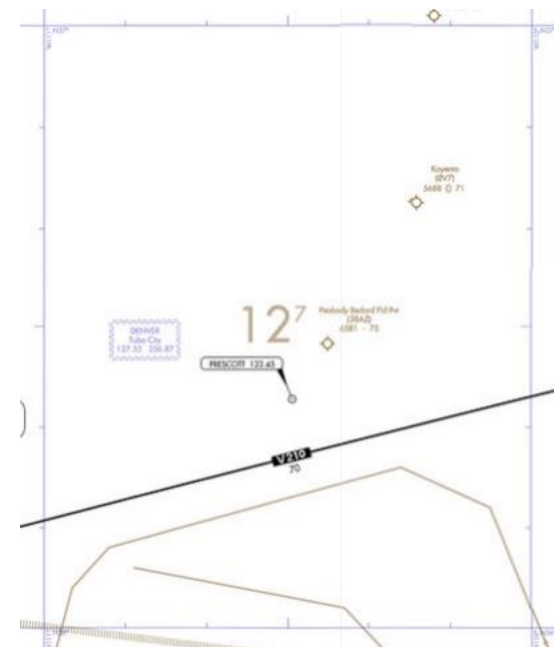
Definition of OROCA



Instrument Procedures Handbook

An off-route obstruction clearance altitude (OROCA) is an off-route altitude that provides obstruction clearance with a 1,000-foot buffer in non-mountainous terrain areas and a 2,000-foot buffer in designated mountainous areas within the United States. This altitude may not provide signal coverage from ground-based NAVAIDs, ATC radar, or communications coverage.

OROCAs are intended primarily as a pilot tool for emergencies and SA. OROCA depicted on en route charts do not provide the pilot with an acceptable altitude for terrain and obstruction clearance for the purposes of off-route, random RNAV direct flights in either controlled or uncontrolled airspace. OROCA are not subject to the same scrutiny as MEAs, minimum vectoring altitude (MVAS), MOCAs, and other minimum IFR altitudes. Since they do not undergo the same obstruction evaluation, airport airspace analysis procedures, or flight inspection, ***they cannot provide the same level of confidence as the other minimum IFR altitudes.***



Problem Overview – IFR Enroute Low Altitude Charts



Need to address gap between FAR 91.177 requirement and what is provided to pilots

Goal: Provide minimum altitude to pilot for off route navigation

- OROCA not for navigation
- MEA no longer will be provided in many areas

Goal: Address flight planning gaps

- Pilot compliance with FAR 91.177
- Compliance with temporary obstructions

Considerations

- Enroute charts have no ICAO requirement to show minimum altitudes (OROCA or Grid MORA); area charts do
- ATC should not need to learn anything new or change procedures
- Product should be for navigation and for entire NAS

History of OROCA – Decision not to allow it for operational use



- Initiated by the military – eventually charting begins in 1994
- ALPA brings issue to IPG in 1996 – requests OROCA for navigation
- FAA closed RD in 2003 for the following reasons:
 - OROCA not flight checked (neither is MIA but it is for navigation)
 - Radar required for off-route so would be mitigation (this requirement was removed in 2014, FAAO 7110.65, 4-4-1)
 - Concerns by air traffic
- Other issues noted
 - OROCA not part of OE/AAA process between charting cycle (must be addressed)
 - No NOTAM for OROCA value changes (must be addressed)
 - Existing grid size too large (CONUS is fine, Alaska should be changed)

See ACF IPG issue [96-01-155](#)

Recommendations



1. The FAA should provide for the continuous evaluation of OROCA values via the Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) program under Order 7400.2.
2. The FAA must issue NOTAMs for those OROCA values that change off-cycle. These NOTAMs should be associated with an ARTCC and identify the impacted grid square using lat/long.
3. The existing OROCA grid size should be maintained for CONUS and the Alaska grid size should be changed to be the same size as CONUS (1 degree x 1 degree).
4. The FAA should update the AIM and Instrument Procedures Handbook to inform pilots that OROCA values assure compliance with FAR 91.177 but are not an altitude ATC will clear an aircraft to fly except incidentally.

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Thank you!