



ON TRACK



Articles of Interest for the Professional Aviator ICP Flight - Central Flying School

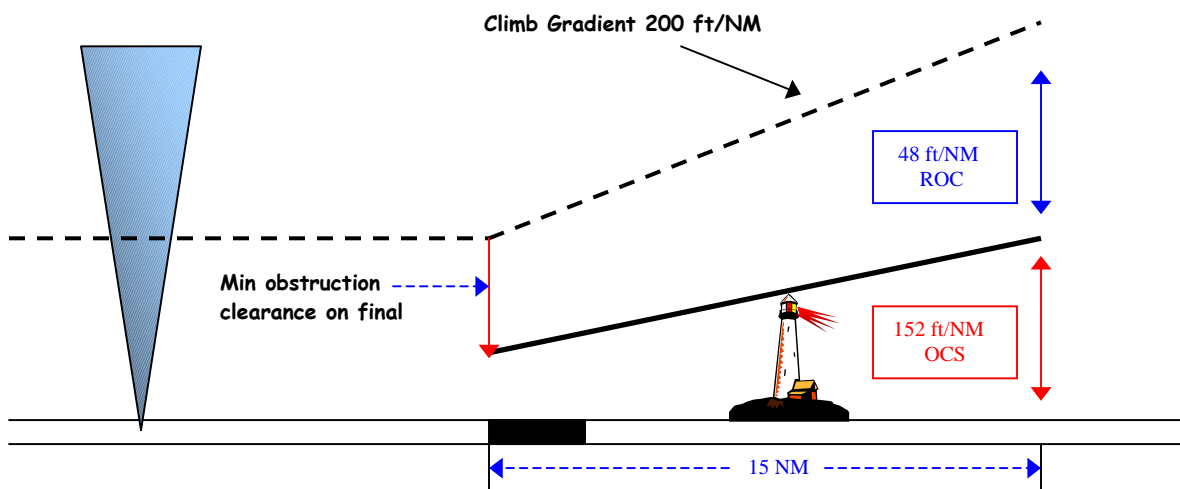
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Ref: TP 308/GPH 209 ADVISORY CIRCULAR 2/02 (Amendment)

General

The obstacle clearance concept of the climb maneuver for instrument procedures is to gain sufficient altitude to supply at least the minimum required obstacle clearance ROC for the subsequent level surface segments of the procedure. The obstacle evaluation method for a climb maneuver is the application of a rising obstacle clearance surface (OCS) below the minimum climbing flight path. The vertical distance between the climbing flight path and the OCS is ROC. The ROC and OCS slope values are dependent on an assumed minimum climb performance (gradient) of 200 ft/NM (equivalent of a vertical climb angle). Whether the climb is for departure or missed approach is immaterial. The amount of ROC increases as the aircraft climbs until the point en route or initial segment ROC (1000/1500/2000 feet as appropriate) is realized. After this point, application of a sloping surface for obstacle clearance purposes is not required since en route or initial segment level OCS would apply.

MISSED APPROACH SEGMENT



Missed Approach Segment

This segment is included in all instrument approach procedures. It provides a safe and efficient procedure to return the aircraft to a minimum IFR altitude that will enable safe maneuvering for a subsequent phase of flight specified by further clearance and/or instructions. In the interest of flight safety the approach designer will attempt to keep the missed approach procedure as simple as possible. Whenever practical, the approach course will be a continuation of the final approach course. There will be times that high terrain, airspace structure, navigation facilities or noise abatement requirements will dictate the need for a more complex procedure. It is important to note that "Turning Missed Approaches" are drawn exactly the same way whether or not the missed approach procedure states "Left climbing turn to 3000" or "Immediate left climbing turn to 3000". The insertion of the word 'Immediate' is made solely to illustrate the designer's desire to ensure the pilot enters the turn as soon as possible.

Obstruction Clearance

Obstruction clearance is provided initially at the missed approach point by an amount equal to the obstruction clearance provided in the final segment of the approach type just flown. As the aircraft commences a climb, a missed approach surface also climbs at a rate of 40:1, or 152 ft/NM. No obstacle may penetrate the 40:1 missed approach surface. Consistent with safety of flight a required obstacle clearance (ROC) of 48 ft/NM is required on top of the 152 ft/NM OCS. A pilot shall fly the missed approach as dictated by the aircraft operating instructions while ensuring that a vertical speed of at least **200 ft/NM** is maintained. Where the 40:1 surface reaches a height of 1,000 feet below the missed approach altitude further application of the surface is not required.

Climb Gradient

Although all missed approach profiles require the aircraft to climb at a minimum rate of 200 ft/NM, due to local conditions an increased climb gradient may be published. This increased gradient permits the use of the lowest approach limits while still providing obstacle clearance on a missed approach.

CAUTION: If an aircraft is unable to meet a published increased climb gradient, and if higher approach limits are not provided and utilized, the missed approach obstruction clearance will not be valid.

End of Missed Approach

Aircraft shall be assumed to be in the initial approach or en route environment upon reaching minimum obstacle clearance altitude (MOCA) or minimum en route altitude (MEA). Thereafter the initial approach or the en route obstacle clearance criteria apply.

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