



Federal Aviation Administration

Memorandum

Date: OCT 17 2007

To: Tom Accardi, Director, Technical Operations Aviation Systems
Standards, AJW-3

From: John W. McGraw, Manager, Flight Technologies and Procedures
Division, AFS-400

Prepared by: Flight Procedure Standards Branch, AFS-420

Subject: Interim Guidance for the Computation of Distance from Landing Touchdown
Point (LTP) to Glideslope Intercept for Instrument Landing System (ILS)
Approaches

PURPOSE

This memorandum provides a standardized method to locate glide slope intercept fixes given any specified altitude on ILS approaches procedures.

DISCUSSION

Calculation of the glide slope intercept locations on an extended ILS final course must account for the curvature of the earth beneath the straight-line glide slope. Traditional plane geometry (flat earth) calculations do not accurately identify the point of glide slope interception. Fixes calculated considering earth curvature may be used to achieve required vertical separation between aircraft flying simultaneous approaches.

POLICY

Locate the glide slope intercept fix at the distance calculated using the attached tool - (SimulsCalcsecure.pdf). This file is a functional calculator that can be used as a stand-alone tool.

Please address questions concerning this policy to Mr. Harry Hodges, Acting Manager, AFS-420, at (405) 954-4164.

Attachment

cc:
AFS-400/405/410/420/430/440
AIR-130, AJR-37

Distance from LTP to Glidepath Intercept		
$D_{\text{intercept}} = r \cdot \left(\frac{\pi}{2} - \theta \cdot \frac{\pi}{180} - a \sin \left(\frac{\cos \left(\theta \cdot \frac{\pi}{180} \right) \cdot (r + LTP_{\text{elev}} + TCH)}{r + \text{Altitude}_{\text{intercept}}} \right) \right)$		
LTP Elevation	<input type="text"/>	Click Here To Calculate
TCH	<input type="text"/>	
Glidepath Angle (θ)	<input type="text"/>	
Intercept Altitude	<input type="text"/>	Clear All Values
D _{intercept} (feet)	<input type="text"/>	
D _{intercept} (NM)	<input type="text"/>	

Use this calculator to calculate the distance from LTP/FTP to the point where the ILS glidepath intersects the specified MSL altitude.