



NEW NON-PRECISION INSTRUMENT APPROACH PROCEDURE CONSTANT ANGLE DESCENT PROFILE DEPICTION

Background

Controlled Flight Into Terrain (CFIT) initiatives proposed by the international aviation industry and supported by ICAO are intended to address some of the critical aspects of non-precision instrument approach procedures. A study of worldwide CFIT accidents reveals that a large percentage of CFIT accidents occurred in the final approach phase of flight, with the majority of this percentage occurring on non-precision approach procedures. It is widely accepted that, in addition to other operational benefits, the performance of a constant angle descent during an approach to landing is helpful in reducing the potential for a CFIT accident.

Some countries such as Australia, Iceland and Switzerland have begun providing new profile descent information for non-precision approaches. This is being done to assist pilots in flying a constant angle descent. Approach path angles and procedure altitudes (recommended altitudes) are provided by the governing authority, as well as altitude/distance reference tables that can be used by both VNAV and non-VNAV equipped operators. "Segment minimum altitudes" are also provided, which represent the minimum obstacle clearance altitudes for each segment of the approach.

Action

Beginning with the 16 APR 04 revision, for countries that provide approach procedure profile (descent) information described above, Jeppesen will modify its approach charts to show the vertical approach path in the profile view (thick line) as a constant angle descent flight path. The profile view will also include the state-provided altitude/distance reference table, approach path angle (VNAV angle), the associated procedure altitudes (recommended altitudes) and "segment minimum altitudes" (see example).

As affected approach charts are revised, the so-called "dive and drive" stair-step portrayal typically shown as a series of descents to minimum altitudes will be replaced by the constant angle descent flight path depiction according to the procedure altitudes (recommended altitudes) that have been provided. This change in depiction will be made to Jeppesen charts as conforming countries provide the applicable descent information. At this time, the new combination of information and associated profile depiction applies only to a few countries around the world. If and when the concept expands to other countries, Jeppesen will expand the charting application accordingly.

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Terminology

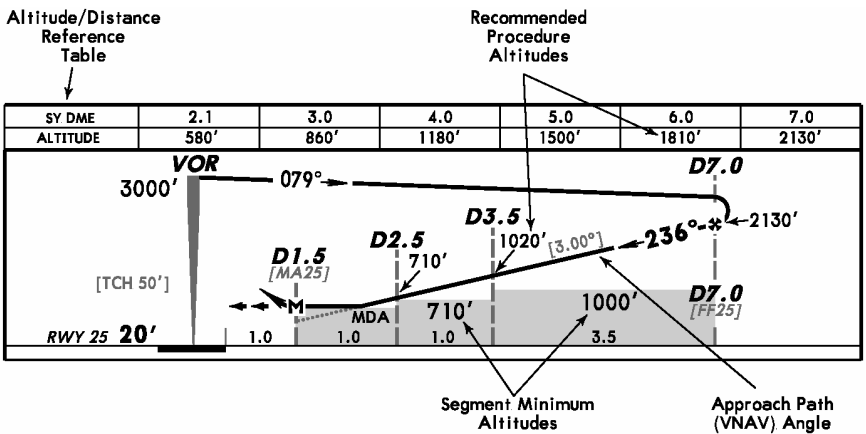
Procedure Altitude (Recommended Altitude): Procedure altitudes are recommended flight altitudes and have been developed in coordination with Air Traffic Control requirements. Procedure altitudes are established to accommodate a stabilized vertical descent profile based upon a prescribed descent angle for the final approach course. In some cases the angle may also apply to the intermediate approach segment. Procedure altitudes will never be less than the segment minimum altitude.

Segment Minimum Altitude (Minimum IFR Altitude): Segment minimum altitudes provide required obstacle clearance for a given segment of the approach. It is a minimum IFR altitude established by the procedure designer and meant to be a "do not descend below" altitude. Segment minimum altitudes must not be violated. Segment minimum altitudes, when explicitly specified as such by a country in addition to procedure or recommended altitudes, will be depicted in the final approach segment of the profile view as screened blocks.

NOTE: Procedure (recommended) altitudes are developed to provide guidance to the pilot for the appropriate altitudes to fly, with emphasis on a stabilized constant angle descent. The minimum IFR altitudes ensure the pilot has the option to utilize lower minimum IFR altitudes should the need arise, such as to avoid icing conditions.

Altitude/Distance Reference Table: Based on the given approach path (VNAV) angle, the associated reference table provides altitude information for the specified DME distances or GPS "To-To" distances. The table allows for a constant angle descent to be flown, with or without VNAV equipment. When provided by the governing authority, Jeppesen will include an altitude/distance reference table at the top of the profile view. The distance/altitude table will be aligned to the direction of the approach in the profile view.

EXAMPLE:



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