



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memorandum

Subject: **INFORMATION:** Engineering Brief No. 81
Use Of Guidance For Runway Centerline To Parallel
Taxiway/Taxilane Centerline Separation For Boeing
747-8

Date:

MAR 1 2 2010

From: Manager, Airport Engineering Division, AAS-100

Reply to
Attn. of:

To: All Regions
Attn: Airport Engineering Division, AAS-100

Engineering Brief No. 81, "Use Of Guidance For Runway Centerline To Parallel Taxiway/Taxilane Centerline Separation For Boeing 747-8," is attached. Approval authority for modifications to standards (MoS) that comply with specific conditions of this engineering brief is delegated to the Airports Regional Division Manager.

Our analysis shows the Boeing 747-8, an ADG VI airplane, can operate with existing design standard ADG V runway centerline to parallel taxiway/taxilane centerline separations as long as the tail height is within the ADG V limit of 66 feet. The engineering brief's guidance is only applicable to runway centerline to taxiway/taxilane centerline separation design standards.

Regional coordination of all proposed MoSs is not required with the other regional-lines-of-business. Upon completion, Airports Regional Division Managers will submit to AAS-100, Airport Engineering Division, as per ORDER 5300.1 a copy of the issued MoS.

Attachment

ENGINEERING BRIEF 81

Use Of Guidance For Runway Centerline To Parallel Taxiway/Taxilane Centerline Separation For Boeing 747-8

A. PURPOSE

This Engineering Brief provides guidance on the operation of the Boeing 747-8, an Airplane Design Group (ADG) VI aircraft, where the runway centerline to parallel taxiway/taxilane centerline distance is less than ADG VI standards. FAA Airports Regional Division Managers may approve modifications to runway to taxiway/taxilane centerline separation standards for operation of the Boeing 747-8, for existing facilities only, that comply with the ADG V runway centerline to parallel taxiway/taxilane centerline distances. However, new construction must meet ADG VI standards.

B. BACKGROUND

Table 2-2 of Advisory Circular (AC) 150/5300-13, *Airport Design*¹, provides the separation standards for runway centerline to parallel taxiway/taxilane centerline according to Airplane Design Groups [ADG]. This AC defines the term "ADG" and creates six categories of ADGs: ADG I through ADG VI. Runway centerline to parallel taxiway/taxilane centerline separation is determined by the landing and takeoff flight path profiles and the physical characteristics of airplanes. Engineering Brief 81 addresses the introduction of a specific airplane, the Boeing 747-8, into the National Airspace System at existing airports.

The relevant B747-8 physical characteristics for this Engineering Brief are Wingspan 224' – 5" and Tail Height 64' – 2".

C. DESIGN STANDARDS

FAA Advisory Circular 150/5300-13 establishes the following standards for separation between a runway centerline and a parallel taxiway/taxilane centerline for:

ADG V as:

400 feet plus elevation adjustment for approach visibility minimums down to ½ statute mile,
and
500 feet plus adjustment for elevation for approach visibilities less than ½ statute mile.

ADG VI as:

500 feet plus elevation adjustment for visibility minimums down to ¾ statute mile,
500 feet plus elevation adjustment for down to ½ statute mile, and
550 feet plus elevation adjustment for less than ½ statute mile visibilities.

These separation design standards for ADGs V and VI were specifically developed and based on the tail height of the design aircraft.

Our analysis shows the Boeing 747-8 can operate with existing design standard ADG V runway centerline to parallel taxiway/taxilane separations as long as the tail height is within the ADG V limit of 66 feet. This guidance is only applicable to runway centerline to taxiway/taxilane centerline separation design standards.

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3/12/2010

D. COORDINATION

Airports Regional Division Managers will submit to AAS-100 as per ORDER 5300.1 a copy of the modification-to-standard. No further coordination with other regional lines of business is required for issuing the approval.

A handwritten signature in cursive script that reads "Rick Marinelli".

Rick Marinelli
Manager, Airport Engineering Division