



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

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Attachment 5 – Delta Air Lines A319/320/321 Operations Manual A321 Differences [Excerpt]

OPERATIONAL FACTORS

DCA17LA145



A319/320/321
Operations Manual
Volume 1
Delta Air Lines, Inc.

Revision Number: 19
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Differences

A321 Differences

Chapter DF

Section 11

Introduction

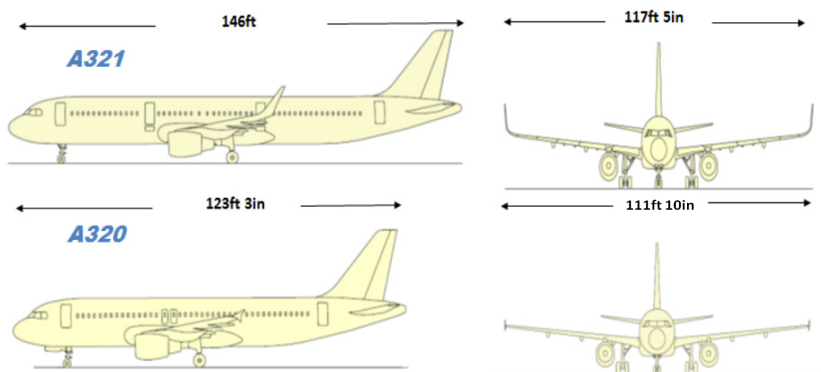
All of the aircraft in this group have essentially the same exterior and interior configuration.

Reference the information and graphics on the following pages of this Differences section for limitations, revised operating procedures, dimensions, turning radius, exterior doors, emergency doors, evacuation slides, exterior lighting locations, flight deck and cabin emergency equipment locations, and flight deck instruments and displays.

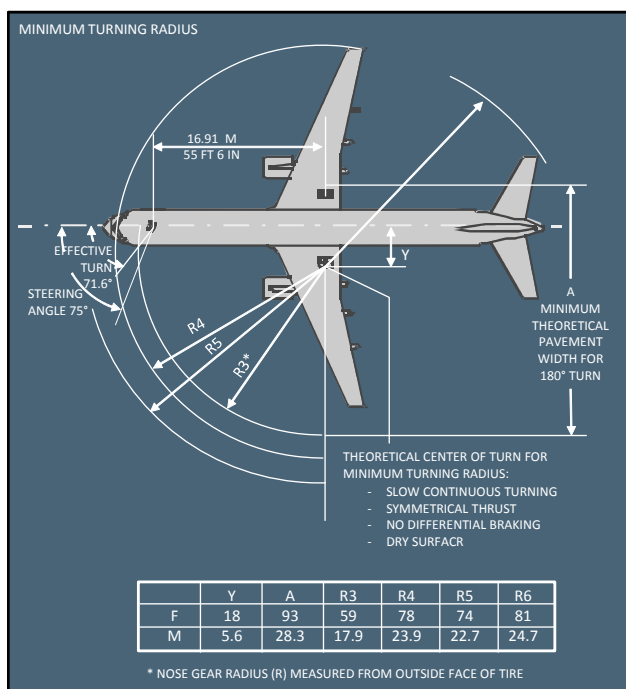
General

Dimensions

The A321 is 23 feet longer than the A320, and is equipped with sharklets, which are 8 feet in length.



The A321 requires a minimum pavement width of 93 feet to perform a 180° turn.



Cabin Seating

The A321 will be configured to carry a total of 192 passengers:

First	Economy Comfort	Coach
20	29	143

Air Conditioning/Press

Air Conditioning System Controllers (ACSC):

The pack regulators and the zone controller have been replaced with two dual-lane ACSC which control the operation of the following:

- ACSC 1 - Air conditioning pack 1 and flight deck trim air valve.
- ACSC 2 - Air conditioning pack 2 and the Fwd and Aft cabin trim air valves.

Note: Lanes are similar to Zone Regulator channels on the A320.

Fire Protection

Cargo Compartment Smoke Detectors: Cargo compartment smoke detection and protection is identical to the A320 with the exception of the number of smoke detectors in each compartment:

- Forward cargo compartment has a total of 4 smoke detectors located in 2 cavities.
- Aft cargo compartment has 6 smoke detectors located in 3 cavities.

Flight Control

Flap configuration differences: The A321 is equipped double-slotted flaps versus single-slotted on the A320. This permits a slightly lower deck angle for takeoff and landing.

Flap/Slat Speeds Limits:

Configuration	A320 max (kts)	A321 max (kts)
1	230	235
1+F	215	225
2	200	215
3	185	195
FULL	177	190

ECAM Audio Indicators

Audio Indicators	Meaning	Duration	Audio Indicator Cancellation
“Go Around Windshear Ahead” (Synthetic voice)	Windshear ahead detected during the landing phase.	Permanent	Nil
“Windshear” (twice) (Synthetic voice)	Windshear detected during the takeoff phase.		
“Monitor Radar Display” (Synthetic voice)	Windshear ahead detected caution message	Permanent	Nil
Auto Call Out	Height announcement at 2500’ AGL	Permanent	Nil
“Pitch, Pitch” (Synthetic voice)	Aircraft pitch attitude is becoming excessive during the flare and landing	One Time	Nil
“Stop Rudder Input” (Synthetic voice)	Inappropriate rudder pedal inputs detected in cruise at high speed	Message repeated at least TWO TIMES	Nil

The pilot can cancel any audio indicator, by pressing:

- The EMER CANC pb on the ECAM control panel.
- The MASTER WARN pushbutton, except for OVERSPEED or L/G NOT DOWN warnings.