

## **1.0 SCOPE AND INTRODUCTION**

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### **1.3 A Brief Description of the 737 Family of Airplanes**

## 1.0 SCOPE AND INTRODUCTION

### 1.1 Scope

This document provides, in a standardized format, airplane characteristics data for general airport planning. Since operational practices vary among airlines, specific data should be coordinated with the using airlines prior to facility design. Boeing Commercial Airplanes should be contacted for any additional information required.

Content of the document reflects the results of a coordinated effort by representatives from the following organizations:

- Aerospace Industries Association
- Airports Council International - North America
- Air Transport Association of America
- International Air Transport Association

The airport planner may also want to consider the information presented in the "Commercial Aircraft Design Characteristics – Trends and Growth Projections," available from the US AIA, 1250 Eye St., Washington DC 20005, for long-range planning needs. This document is updated periodically and represents the coordinated efforts of the following organizations regarding future aircraft growth trends:

- International Coordinating Council of Aerospace Industries Associations
- Airports Council International - North America
- Air Transport Association of America
- International Air Transport Association

## **1.2 Introduction**

This document conforms to NAS 3601. It provides characteristics of the Boeing Model 737 airplanes for airport planners and operators, airlines, architectural and engineering consultant organizations, and other interested industry agencies. Airplane changes and available options may alter model characteristics. The data presented herein reflect typical airplanes in each model category.

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### **1.3 A Brief Description of the 737 Family of Airplanes**

The 737 is a twin-engine airplane designed to operate over short to medium ranges from sea level runways of less than 6,000 ft (1,830 m) in length.

Significant features of interest to airport planners are described below:

- Underwing-mounted engines provide eye-level assessability. Nearly all system maintenance may be performed at eye level.
- Optional airstairs allow operation at airports where no passengers loading bridges or stairs are available.
- Auxiliary power unit can supply energy for engine starting, air conditioning, and electrical power while the airplane is on the ground or in flight.
- Servicing connections allow single-station pressure fueling and overwing gravity fueling.
- All servicing of the 737 is accomplished with standard ground equipment.

#### **737-100**

The 737-100 is the standard short body version of the 737 family. It is 94 ft (28.63 m) long from nose to the tip of the horizontal stabilizer.

#### **737-200**

The 737-200 is an extended body version of the 737 family and is 100 ft 2 in (30.53 m) long. Two sections were added to the 737-100 fuselage; a 36-in section forward of the wing and a 40-in section aft of the wing. All other dimensions are the same as the 737-100.

#### **Advanced 737-200**

The advanced 737-200 is a high gross weight airplane that has significant improvements over the 737-200, which result in improved performance, e.g. longer range, greater payload, and shorter runway requirement. The advanced 737-200 has dimensions identical to the 737-200.

### **737-200C, Adv 737-200C**

The convertible version differs from the passenger model in that it has an 86 by 134-in (2.18 by 3.40 m) main deck cargo door, increased floor strength, and additional seat tracks. Either of two cargo handling systems, the cargo (C) or quick change (QC) can be installed to allow conversion from a passenger configuration to a cargo or a mixed passenger/cargo configuration, and vice-versa.

### **737-200 Executive Airplane**

The 737-200 and Adv 737-200 were also delivered with an executive interior. The interior comes in a variety of configurations depending on customer requirements. Some airplanes were delivered without any interior furnishings for customer installation of special interiors.

### **737-300**

The 737-300 is a second-generation stretched version of the 737 family of airplanes and is 109 ft 7 in long. Two sections were added to the 737-200 fuselage; a 44-in section forward of the wing and a 60-in section aft of the wing. Wing and stabilizer spans are also increased. The 737-300 incorporates new aerodynamic and engine technologies in addition to the increased payload and range. The -300 can seat as many as 149 passengers in an all-economy configuration.

### **737-300 With Winglets**

Winglets are installed on some 737-300 airplanes as an after-market airline option. Data for this airplane is included for dimensional information only.

### **737-400**

The 737-400 is 120 inches longer than the -300. Two sections were added to the -300 fuselage; a 72-in section forward of the wing and a 48-in section aft of the wing. The -400 can seat as many as 168 passengers in all-economy configuration.

### **737-500**

The 737-500 is the shortened version of the 737-300. The -500 is 101 ft 9 in long and can seat up to 132 passengers in an all-economy configuration.

### **737-600**

The 737-600, along with the 737-700, -800, and -900 is the latest derivative in the 737 family of airplanes. This airplane has the same fuselage as the 737-500 and fitted with new wing, stabilizer, and tail sections. This enables the airplane to fly over longer distances. The 737-600 is 102 ft 6 in long and can carry up to 130 passengers in an all-economy configuration.

### **737-700**

The 737-700 has the same fuselage as the 737-300 and is fitted with the new wing, stabilizer, and tail sections. The 737-700 is 110 ft 4 in long and can carry up to 148 passengers in an all-economy configuration.

### **737-800**

The 737-800 has a slightly longer fuselage than the 737-400 and is fitted with the new wing, stabilizer, and tail sections. The 737-800 is 129 ft 6 in long and can carry up to 184 passengers in an all-economy configuration.

### **737-900**

The 737-900 is a derivative of the -800 and is 96 inches longer than the -800. Two sections were added to the -800 fuselage; a 54-in section forward of the wing and a 42-in section aft of the wing. The -900 can seat as many as 189 passengers in all-economy configuration.

### **737 BBJ**

The Boeing Business Jet is a 737-700 airplane that is delivered without any interior furnishings. The customer installs specific interior configurations. This 737-700 model airplane is equipped with a 737-800 landing gear configuration and has weight and performance capabilities as the -800. One unique feature of the 737 BBJ is the addition of winglets to provide improved cruise performance capabilities.

### **737 BBJ2**

The Boeing Business Jet Two is a 737-800 airplane that is delivered without any interior furnishings. The customer installs specific interior configurations. Like the 737 BBJ, the BBJ2 is equipped with winglets to provide improved cruise performance capabilities.

### **737-600, -700, -800, -900 With Winglets**

The 737-700, -800, and -900 airplanes are also delivered with winglets. Interior configurations are similar to the base airplane models. Like the BBJ airplanes, the winglets provide improved cruise performance capabilities. Winglets are installed on some 737-600 airplanes as an after-market airline option. Data for this airplane is included for dimensional information only.

### **737-900ER, -900ER With Winglets**

The 737-900ER airplanes are long-range derivatives of the 737-900 and -900 with winglets and designed for higher capacity seating. Additional exit doors are installed aft of the wing to provide exit capability for the additional passenger capacity. The 737-900ER and -900ER with winglets are capable of carrying up to 215 passengers with the additional exit doors.

### **Engines**

The 737-100 and -200 airplanes were equipped with JT8D-7 engines. The -9, -5, -17, and -17R engines reflect successive improvements in noise reduction, thrust, and maintenance costs. Other optional engines include the -9A, -15A, -17A, and -17AR.

The 737-300, -400, and -500 airplanes are equipped with new high bypass ratio engines (CFM56-3) that are economical to operate and maintain. These are quiet engines that meet FAR 36 Stage 3 and ICAO Annex 16 Chapter 3 noise standards. With these higher thrust engines and modified flight control surfaces, runway length requirement is reduced.

The 737-600, -700, -800, and -900 airplanes are equipped with advanced derivatives of the 737-300, -400, and -500 engines. These engines (CFM56-7) generate more thrust and exhibit noise characteristics that are below the current noise standards.

### **737 Gravel Runway Capability**

The optional gravel runway capability allows the 737-200 to operate on remote unimproved runways. The gravel kit includes gravel deflectors for the nose and main gears, vortex dissipators for each engine nacelle, and special protective finishes. Low-pressure tires are also required for operation on low strength runways.

The special environment of the gravel runway dictates changes in operating procedures and techniques for maximum safety and economy. Boeing Commercial Airplanes and the FAA have specified procedural changes for operating the 737-200 on gravel runways. Organizations interested in operational details are referred to the using airline or to Boeing.

## **Passenger Cabin Interiors**

Early 737s were equipped with hatrack-type overhead stowage. Later models were equipped with a “wide-body look” interior that incorporates stowage bins in the sidewall and ceiling panels to simulate a superjet interior. More recent configurations include carryall compartments and the advanced technology interior. These interiors provide more stowage above the passenger seats.

## **Integral Airstairs**

Optional airstairs allow passenger loading and unloading at airports where there are no loading bridges or stairs. The forward airstairs are mounted under the cabin floor just below the forward entry door. The aft airstairs are mounted on a special aft entry door and are deployed when the door is opened. The aft airstairs option is available only on the 737-100 and 737-200 airplanes.

## **Auxiliary Fuel Tanks**

Optional auxiliary fuel tanks installed in the lower cargo compartments, provide extra range capability. Although this option increases range, it decreases payload.

## **Document Page Applicability**

Several configurations have been developed for the 737 family of airplanes to meet varied airline requirements. Configurations shown in this document are typical and individual airlines may have different combinations of options. The airlines should be consulted for specific airplane configuration.

## **Document Applicability**

This document contains information on all 737 models.

Information on the 737-100, -200, 200C, Adv 737-200, and Adv 737-200C formerly contained in Document D6-58325, Revision D, 737 Airplane Characteristics for Airport Planning is now included in this document. Document D6-58325 is superseded and should be discarded.

Information on the 737-300, -400, and -500 model airplanes formerly contained in Document D6-58325-2 Revision A, 737-300/400/500 Airplane Characteristics for Airport Planning is now included in this document. Document D6-58325-2 is superseded and should be discarded.

Information on the 737-600, -700, -800, and -900 model airplanes formerly contained in Document D6-58325-3, 737-600/700/800/900 Airplane Characteristics for Airport Planning is now included in this document. Document D6-58325-3 is superseded and should be discarded.



Information on the 737-700, -800, and -900 model airplanes with winglets formerly contained in Document D6-58325-5, 737-700/800/900 (With Winglets) Airplane Characteristics for Airport Planning is now included in this document. Document D6-58325-5 is superseded and should be discarded.

Information on the Boeing Business Jet airplanes formerly contained in Document D6-58325-4, 737-  
BBJ Airplane Characteristics for Airport Planning is now included in this document. Document D6-  
58325-4 is superseded and should be discarded.

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