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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 16638.3-2008

Replacing GB/T 16638.3-1996

Aerodynamics - Concepts, quantities and symbols - Part 3: Aircraft geometry

空气动力学 概念、量和符号 第3部分：飞机几何特性

Issued on: July 18, 2008 **Implemented on: January 1, 2009**

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Foreword

GB/T 16638 "Aerodynamics - Concepts, quantities and symbols" is divided into four parts.

--- Part 1. aerodynamics common terms;

--- Part 2. Axis systems and aircraft motion state quantity;

--- Part 3. aircraft geometrical properties;

--- Part 4. aerodynamic aircraft, moments, their coefficients and derivative. This section GB/T 16638 Part 3. This part of the aerodynamics of common terms used in our country for many years has been collection and screening, and as far as possible with the international most countries Habits consistent air aircraft dynamics in this section some of the terminology and symbols with the national standard GB/T 14410-2008 "flying force Learn concepts, quantities and symbols "in harmony. This Part replaces GB/T 16638.3-1996 "Aerodynamics - Concepts, quantities and symbols - Part 3. Aircraft geometric properties." Section compared with the GB/T 16638.3-1996 The main changes are as follows:

a) increase the front wing edge of the wing, winglets, all horizontal tail, spoiler, tabs and other definitions;

b) amend the definition of the airfoil arc. This part is proposed by the China Aviation Industry Corporation. This part of the jurisdiction of the China Aviation Industry Corporation. This section is drafted. Beijing University of Aeronautics and Astronautics, China Aviation Technology Institute Comprehensive, China Aviation Industry Research Institute of air power, in State Aviation Industry Development Research Center. The main drafters of this section. Chen Yan Qing, Zhou Li Fu, Chen, Wang Zhichuan, Hao Weidong, Jiao Zhiqiang, Shao arrows, YANGTZA, Zhang Xi Jin, Fan Jiechuan, Medicine]. This part of the standard replaces the previous editions are.

--- GB/T 16638.3-1996. Aerodynamics - Concepts, quantities and symbols Part 3. Aircraft geometric properties

1 Scope

GB/T 16638.3-2008 is the Chinese national standard on aerodynamics - concepts, quantities and symbols - part 3: aircraft geometry, in the field of aircraft and space vehicle engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 18 July 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2009. Classification: ICS 49.020, CCS V04. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This section provides the aerodynamics relevant to describe the geometry of the aircraft of the most basic concepts, terminology and symbols. This section applies to fixed-wing aircraft, other aircraft can use the reference.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 16638.2-2008 Aerodynamics - Concepts, quantities and symbols - Part 2. Axis systems and aircraft motion state quantity

3 Terms, definitions and symbols The following terms, definitions and symbols apply to this section. No terms are defined or explained symbols and units

3.1.1 Aircraft reference plane aircraftreferenceplane Also known as the aircraft symmetry plane. The main parts of the aircraft relative to this surface It is a symmetrical arrangement. Z R R x0

3.1.2 Airplane reference point aircraftreferencepoint At a fixed point within the aircraft appropriately selected reference plane. Advisable The center of gravity (centroid) or front-end points. OR

3.1.3 Aircraft Guides aircraftreferenceline Fixed to the inner surface of the reference plane by a straight plane reference point line. Generally constructed baseline aircraft.

3.1.4 Airplane reference shaft aircraftreferenceaxis system Fixed to a right hand on the

plane orthogonal axis system, the original Point as a reference point O, R and x0 longitudinal axis parallel to the reference line, the forward direction; The horizontal axis perpendicular to the reference plane R y, pointing to the right; the vertical axis z R located in the reference Within the test surface, vertical x0 R point to the next. O x0 R y R z R

3.1.5 Airplane reference area aircraftreferencearea When the aerodynamic coefficients and various dimensionless quantity used in the definition of aircraft area. In a given file, and it should provide a unique value. Wing area is usually taken as the reference area. Units of m 2 (m2)

3.1.6 Airplane reference length aircraftreferencelength Used to define various aircraft aerodynamic moment coefficients and dimensionless quantity length. For a given file in the same kind of amount, to be elected Take a uniform value. Typically, the amount of longitudinal movement of the average take wing Aerodynamic chord; on the amount of lateral movement takes wing span. In meters (m)