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**Flight dynamics — Vocabulary —
Part 11:
Control system**

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Foreword

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Flight dynamics — Vocabulary —

Part 11: Control system

1 Scope

This document establishes the terms and definitions of the basic concepts applied in science, engineering and manufacturing in the field of flight control systems of aircraft (airplane and helicopter).

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 Basic concepts

3.1.1 system

combination of components, parts, and elements that are interconnected to perform one or more specific functions

3.1.2 control system

set of mechanical or electronic devices that manages, commands, directs or regulates the behaviour of other devices or *systems* (3.1.1) by controlling the output

3.1.3 flight control system

complex of mechanical and electronic devices of aircraft (airplane and helicopter) providing its stability and controllability to allow the pilot to control the movement and attitude of aircraft at all stages and the modes of flight by changing the external forces or moments acting on aircraft

3.1.4 automatic flight control system AFCS

type of flight control system (3.1.3) which provides aircraft control by measuring controlled variables and comparing them with reference input to reach the goal defined over measured values in terms of quality

Note 1 to entry: The AFCS is composed of several sub-systems that work together to provide automatic flight control. The main components of the AFCS are the *autothrottle system* (3.3.9), *flight director system* (3.3.10), *autopilot system* (3.3.11), *flight management system (FMS)* (3.3.12).

Note 2 to entry: The crew can select whether to put the aircraft under *autopilot* (3.3.9) or manual control mode. Under the autopilot mode, the aircraft *flight control surfaces* (3.1.7) move automatically; under the manual control mode, the pilot follows the displayed *flight director* (3.3.10) commands to achieve the desired status.

3.1.5

effector

control effector

external device that directly changes forces and/or moments acting on aircraft to control aircraft position and attitude

3.1.6

inceptor

control inceptor

cockpit controller

cockpit device for enabling pilot input through direct linkage or a *flight control system* (3.1.3) or computer to *control effectors* (3.1.5)

3.1.7

control surface

flight control surface

aerodynamic control surface

movable airfoil that provides reactive force when in motion relative to the surrounding air for guiding or controlling an aircraft in flight

3.1.8

primary flight control surface

primary control

control surface (3.1.7) used as *effector* (3.1.5) providing force or moment for aircraft stability or manoeuvring control

3.1.9

secondary flight control surface

secondary control

control surface (3.1.7) used to modify an aerodynamic characteristic of aircraft

3.1.10

actuator

device for producing motion of *effector* (3.1.5) and/or force acting on effector

3.1.11

sensor

physical device for detection of *inceptor* (3.1.6) positions, feedback measurements or scheduling information

3.1.12

longitudinal control

control of airplane's pitching about the lateral axis

3.1.13

lateral control

control of airplane's rolling about the longitudinal axis

3.1.14

directional control

control of airplane's yawing about the normal or vertical axis

3.1.15

control effectiveness

measure of the effect of utilizing a *control effector* (3.1.5), either moment, moment coefficient, or angular acceleration produced for a given *control surface* (3.1.7) deflection